

# **Conditions of Approval**

**Sandridge Expl & Prod LLC**

**Skelly Unit 22**

**API 3001505141**

November 04, 2011

1. Prior BLM approval of a notice of intent (BLM Form 3160-5) is required for fracture treatment of injection wells. The operator will be required to tag fracture material with a tracer and run a tracer survey to verify that the fracture material is not placed out of zone. Results of the tracer to be reported on the workover subsequent sundry Form 3160-5.
2. One year after fracture stimulation an injection profile tracer survey is to be ran. Submit the survey report to this office in a subsequent sundry Form 3160-5.

## **General Conditions of Approval: Well a with Packer**

- 1) Conduct a Mechanical Integrity Test of the tubing/casing annulus after a tubing, packer or casing seal is established. Repair that seal any time more than five barrels of packer fluid is replaced within 30 days.
  - a) The minimum test pressure should be 500 psig for 30 minutes or 300 psig for 60 minutes, with 200 psig differentials between tubing and casing pressure (at test time) but no more than 70% of casing burst pressure as described by Onshore Order 2.III.B.1.h. (The tubing or reservoir pressure may need to be reduced). An alternate method for a BLM approved MIT is to have the fluid filled system open to atmospheric pressure and have a loss of less than five barrels in 30 days witnessed by a BLM authorized officer.
  - b) Document the pressure test on a calibrated recorder chart registering within 25 to 85 per cent of its full range. Greater than 10% pressure leakoff will be viewed as a failed MIT. Less than 10% pressure leakoff will be evaluated site specifically and may restrict injection approval.
  - c) Notify Paul R. Swartz at 575-234-5985 and/or 575-200-7902 at least 24 hours before the test. If there is no response, notify the BLM on call drilling phone, 575-361-2822. In Lea County call 575-393-3612.
  - d) Submit a subsequent Sundry Form 3160-5 relating the MIT activity. Include a copy of the recorded MIT pressure chart. List the name of the BLM witness, or the notified person and date of notification. NMOCD is to retain the original recorded MIT chart.
  - e) Use of tubing internal protection, on/off tubing equipment just above the packer, and a profile nipple installation is required. The setting depths and descriptions of each are to be included in the subsequent sundry. List (by date) descriptions of daily activity of any previously unreported wellbore workover
  - f) **Submit the original subsequent sundry with three copies to BLM Carlsbad.**
- 2) Compliance with a NMOCD Administrative Order is required, submit documentation of that authorization.
  - a) Approved injection pressure compliance is required.
  - b) If injection pressure exceeds the approved pressure you are required to reduce that pressure and notify the BLM within 24 hours.
  - c) When injection pressure is within 50 psig of the maximum pressure, install automation equipment that will prevent exceeding that maximum.
    - i) Submit a subsequent report (Sundry Form 3160-5) describing the installed automation equipment within 30 days.

- 3) Other unexplained significant variations of rate or pressure to be reported within 5 days of notice.
- 4) The casing/tubing annulus is required to be monitored for communication with injection fluid or loss of casing integrity.
- 5) The annulus is to be maintained full of packer fluid at atmospheric pressure. Installation of equipment that will display on site, continuous open to the air fluid level is required. A BLM inspector may request verification of this fluid level at any time.
- 6) **Submit a subsequent report (Sundry Form 3160-5)** describing the installation of packer fluid level monitoring equipment within 30 days of beginning injection.
- 7) The operator shall keep monthly records documenting that the casing annulus is fluid filled. A suggested format for these records is available from the BLM Carlsbad Field Office. Copies of those records shall be furnished at the request of a BLM authorized officer.
- 8) Loss of packer fluid above five barrels per month requires notification of the BLM authorized officer within 5 days.
  - a) Gain of annular fluid requires notification within 24 hours. Cease injection and maintain a production casing pressure of Opsia. Notify the BLM's authorized officer (Paul R Swartz at 575-200-7902). If there is no response, notify the BLM on call drilling phone, 575-361-2822. In Lea County call 575-393-3612.
- 9) Also submit to this office a (Sundry Form 3160-5) Notice of Intent (NOI) for planned well work involving a formation change, casing repair/replacement, and injection well fracture treatment for approval by BLM and NMOCD. Verbal approval for the plan may be given by a BLM authorized officer, with the NOI filed within five business days. Packer and tubing repair (normal maintenance procedures) do not require a NOI, but a subsequent sundry needs to be filed
- 10) Submit a (Sundry Form 3160-5) subsequent report (daily reports) describing all wellbore activity and Mechanical Integrity Test as per item 1) above. Include the date(s) of the well work, and the setting depths of required equipment: tubing, one on/off tool, one profile nipple, and a single packer.

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