



Revised Conditions of Approval

COG Operating LLC
Biscuit Hills SWD 1
API 3001528142

April 2, 2012

Accepted for record
NMOCD

OCD Artesia

TCS
4/9/2012

Operator has requested that they not be required to plug the portion below the injection interval (CIBP at 9600') at this time, but be allowed to plug it when well is plugged.

Conditions for above request:

1. **Operator will not be approved to transfer, assign, sell or otherwise convey this wellbore to any other entity without addressing the required plug below the CIBP at 9600'.**
2. **Operator will address the required plug below the CIBP at 9600' even if they have to drill a relief hole using a coiled tubing unit around the CIBP and re-enter the wellbore below the CIBP.**
3. Operator approved to test tubing in well prior to pulling the tubing. If a tubing leak is the problem, operator shall address the plug required below the CIBP at 9600' while tubing is out of the hole.
4. If the casing has a leak, operator shall submit an NOI with exact details on repair. This will include at least the depth of repair; depth retainer set, the amount and type of cement, and casing test pressure. In addition, operator shall address the plug required below the CIBP at 9600'. There is no retainer to pull in step 16 of operator's proposal. Is it the RBP?
5. This wellbore is not properly plugged back to the targeted disposal formation. Down hole plugs shall be **addressed when well is plugged** and are detailed beginning with step 10.
6. BLM contact phone numbers: 575-200-7902/575-361-2822. If no answer, leave a voice mail with the API#, workover purpose, and a call back phone number. Make arrangements 24 hours before plug back procedures to be witnessed.
7. Surface disturbance beyond the existing pad must have prior approval.
8. A closed loop system is required. The operator shall properly dispose of drilling contents at an authorized disposal site. Tanks are required for all operations, no excavated pits.
9. H₂S monitoring equipment to be used on location and functional.
10. A minimum of 5000 (5M) BOPE is to be used. All blowout preventer (BOP) and related equipment (BOPE) shall comply with reasonable well control requirements. A two ram system with a blind ram and a pipe ram designed for the size of the work string shall be adequate. Tapered work strings will require an additional pipe ram. The manifold shall comply with Onshore Oil and Gas Order #2 Attachment I 5000 (5M) Diagrams of Choke Manifold Equipment). The accumulator system shall have an immediately available power source to close the rams and retain 200 psi above pre-charge. The pre-charge test shall follow requirements in Onshore Order #2.
11. All waste (i.e. trash, salts, chemicals, sewage, gray water, etc.) created as a result of work over operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area. Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.
12. Provide BLM with an electronic copy (Adobe Acrobat Document) cement bond log record from 8300' or below to top of cement. Less than 500' between the proposed top perforation and top of cement or lack of a 500' overlap above next casing shoe may require correction. The CFO BLM on call engineer may be reached at 575-706-2779.

- ✓ 13. Minimum requirement for mud placed between plugs is 25 sacks of salt water gel per 100 barrels in 9 lb/gal brine.
14. The BLM PET witness is to run tbg tally and agree to cement placement. Sample each plug for cement curing time and tag and/or pressure test (with WOC time of 4 hours) as requested by BLM PET witness.
15. The CIBP at 9600' is to be removed.
16. Tag the CIBP at 11350' with open ended tbg.
17. Spot a minimum of a 80 sack Class "H" (mixed 15.6lb/gal, 1.18ft³/sx, and 5.2g/sx) cement plug on the CIBP at 11350'. Cover the top of the Morrow formation at 11231' and the DV Tool at 10800'. After a minimum WOC time of 4 hours tag the plug at 10670' or higher. Any plug that requires a tag or pressure test will have a minimum WOC time of 4 hours.
18. Set CIBP at 9600' and cap with 35' of Class H cement. Cement shall be tagged to verify cement on CIBP as bailing cement is often ineffective.

Well with a Packer – Operations

- 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.
- 2) 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.
- 3) 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.
- 4) At least 24 hours before the test: In Eddy County email Paul R. Swartz pswartz@blm.gov, (phone 575-200-7902). If there is no response phone 575-361-2822. Note the contact notification method, time, & date in your subsequent report.
- 5) 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.
- 6) Use of tubing internal protection, tubing on/off equipment just above the packer, a profile nipple, and an in line tubing check valve below the packer or between the on/off tool and packer are "Best Management Practices". 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.
- 7) **Submit the original subsequent sundry with three copies to BLM Carlsbad.**
- 8) 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. Submit a subsequent report (Sundry Form 3160-5) describing the installed automation equipment within 30 days.
- 9) Unexplained significant variations of rate or pressure to be reported within 5 days of notice.

- 10) The casing/tubing annulus is required to be monitored for communication with injection fluid or loss of casing integrity. A BLM inspector may request verification of the annular fluid level at any time.
- 11) A "Best Management Practice" is to maintain the annulus full of packer fluid at atmospheric pressure. Equipment that will display on site a continuously open to the air fluid level will achieve this goal.
- 12) Loss of packer fluid above five barrels per month indicates a developing problem. Notify BLM Carlsbad Field Office, Petroleum Engineering within 5 days.
- 13) A suggested format for monthly records documenting that the casing annulus is fluid filled is available from the BLM Carlsbad Field Office.
- 14) Gain of annular fluid requires notification within 24 hours. Cease injection and maintain a production casing pressure of 0psia. Notify the BLM's authorized officer ("Paul R. Swartz" <pswartz@blm.gov>, cell phone 575-200-7902). If there is no response phone 575-361-2822.
- 15) 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.
- 16) 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 equipment: internally corrosive protected tubing, tubing on/off equipment just above the packer, and an in-line tubing check valve below the packer or between the on/off tool and packer. The setting depths and descriptions of each are to be included in the subsequent sundry. Operator shall list (by date) descriptions of daily activity of any previously unreported wellbore workover.

NM Fed Regs & Forms - http://www.blm.gov/nm/st/en/prog/energy/oil_and_gas.html