

Submit 1 Copy To Appropriate District  
Office  
District I - (575) 393-6161  
1625 N. French Dr., Hobbs, NM 88240  
District II - (575) 748-1283  
811 S. First St., Artesia, NM 88210  
District III - (505) 334-6178  
1000 Rio Brazos Rd., Aztec, NM 87410  
District IV - (505) 476-3460  
1220 S. St. Francis Dr., Santa Fe, NM  
87505

State of New Mexico  
Energy, Minerals and Natural Resources  
OIL CONSERVATION DIVISION  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

Form C-103  
Revised August 1, 2011

|                                                                                                                                                       |  |                                                                                                     |
|-------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------|
| <b>RECEIVED</b><br>OCT 10 2013<br>HOBBS OCD                                                                                                           |  | WELL API NO.<br>30-025-24763                                                                        |
| 1. Type of Well: Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/>                        |  | 5. Indicate Type of Lease<br>STATE <input checked="" type="checkbox"/> FEE <input type="checkbox"/> |
| 2. Name of Operator<br>CHEVRON U.S.A. INC.                                                                                                            |  | 6. State Oil & Gas Lease No.                                                                        |
| 3. Address of Operator<br>15 SMITH ROAD, MIDLAND, TEXAS 79705                                                                                         |  | 7. Lease Name or Unit Agreement Name<br>R.E. COLE NCT-A                                             |
| 4. Well Location<br>Unit Letter: L 1980 feet from the SOUTH line and 825 feet from the WEST line<br>Section 16 Township 22S Range 37E NMPM County LEA |  | 8. Well Number 15                                                                                   |
| 11. Elevation (Show whether DR, RKB, RT, GR, etc.)                                                                                                    |  | 9. OGRID Number 4323                                                                                |
|                                                                                                                                                       |  | 10. Pool name or Wildcat<br>GRAYBURG/SAN ANDRES                                                     |

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☐  
TEMPORARILY ABANDON ☐ CHANGE PLANS ☐  
PULL OR ALTER CASING ☐ MULTIPLE COMPL ☐  
DOWNHOLE COMMINGLE ☐

SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐ ALTERING CASING ☐  
COMMENCE DRILLING OPNS. ☐ P AND A ☐  
CASING/CEMENT JOB ☐

OTHER: SONIC HAMMER ACIDIZE, SCALE SQZ & RTP

OTHER

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 19.15.7.14 NMAC. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

CHEVRON INTENDS TO SONIC HAMMER ACIDIZE THE GRAYBURG FORMATION AND RETURN TO PRODUCTION.

PLEASE FIND ATTACHED, THE INTENDED PROCEDURE & WELLBORE DIAGRAM.

CHEVRON WILL USE THE CLOSED-LOOP SYSTEM WITH A STEEL TANK & HAUL TO THE REQUIRED DISPOSAL, PER THE OCD RULE 19.15.17.

This well was TA'd in 2009. When the well was submitted for TA the wellbore submitted did not include the Grayburg perms, along with the procedures written assumed only San Andres perms existed in the well. When they went in to TA the well, the field suspected that the open Grayburg perms was a csg leak. Asked for permission from the NMOCD to TA well above the csg leak that was actually Grayburg perforation. Chevron would like to return this well to production. Verbal approval was given to John Taxiarchou, Chevron, by E.L. Gonzales, NMOCD,

Spud Date:

Rig Release Date:

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE

*Denise Pinkerton*

TITLE: REGULATORY SPECIALIST

DATE: 10/08/2013

Type or print name: DENISE PINKERTON

E-mail address: [leakejd@chevron.com](mailto:leakejd@chevron.com)

PHONE: 432-687-7375

For State Use Only

APPROVED BY:

*E. L. Gonzales*

TITLE

*Dist. MGR*

DATE

*10-15-2013*

OCT 15 2013

RE Cole A #15  
Penrose Skelly - Grayburg  
T22S, R37E, Sec. 16  
N 32° 23' 24.036", W -103° 10' 23.916" (NAD27)  
Job: SH Acidize and RTP

8.27.2013

**PREWORK:**

1. Utilize the rig move check list, **verifying route and power line heights with FMT.**
2. Check anchors and verify that pull test has been completed in the last 24 months.
3. Ensure location of & distance to power lines (from wellhead) is in accordance with MCA SWP. Complete and electrical variance and electrical variance RUMS if necessary.
4. Ensure that location is of adequate build and construction, and will support operations.
5. Ensure that elevators and other lifting equipment are inspected. For wells to be worked on or drilled in an H<sub>2</sub>S field/area, include the anticipated maximum amount of H<sub>2</sub>S that an individual could be exposed to along with the ROE calculations for 100 ppm and 500 ppm.
6. Review JSA and hazards with rig crew. Visually inspect wellhead, casing and tubing valves. Decide whether tubing and casing valves can be used; replace as needed.
7. Scout location and mark off anything that might be hazardous to daily operations.

**Reminders:**

8. Caliper all lifting equipment at the beginning of each day or when sizes change. **Note in JSA and record on Elevator Change-out Log when and what items are callipered.**
9. When NU anything over an open wellhead (BOP, EPA, etc.) ensure the hole is covered to avoid dropping anything downhole.
10. Ensure well is secure/shut in with blind rams between job stages (nothing in well).
11. If pumping any cement, plugging back a well or changing producing intervals, always contact the OCD and give the details.
12. Hold safety meetings with all personnel on location prior to any major or abnormal operation.

**Procedure:**

**This procedure is meant to be followed. It is up to the WSM, Workover Engineer and Production Engineer to make decisions necessary to SAFELY do what is best for the well. In the extent that this procedure does not reflect actual operations, please contact WE, PE and Superintendent for MOC.**

- 1) Prior to MIRU, verify with PE that the well passed 300 psi pressure test on backside. (Well Passed backside pressure test 8/26/2013).
- 2) Verify that well does not have pressure or flow. If the well has pressure, note tubing and casing pressures on Wellview report. Bleed down well; if necessary, kill with cut brine fluid (8.6 ppg).
- 3) MIRU workover unit & associated surface equipment (i.e. tanks, reverse unit, pipe racks).
- 4) With downhole packer still set, ND wellhead, NU BOP dressed with 2-7/8" pipe rams on top and blind rams on btm. NU EPA equipment & RU floor.
- 5) Shut in and test BOP pipe rams to 250/500 psi. Note testing pressures on Wellview report (Time log and safety/inspections).
- 6) If test fails, release downhole packer. POOH and LD 1 jt 2-7/8" tbgr. PU 5-1/2" 15.5# rated test packer along with a joint of 2-7/8" tubing and set below WH @ ~25'. Test BOP pipe rams to 250/500 psi. Note testing pressures on Wellview report (Time log and safety/inspections). Release and LD test packer.
- 7) Once test passes, release downhole packer, TOH scanning and standing back 2-7/8" production tubing and LD packer. (Packer 3,610', Perfs 3624'-3924', EOT 3612', PBTD 4450' from SL tag 8/6/2013). Secure Well.

- 8) MIUL and strap ~130 jts 2-7/8" 6.5# L-80 tubing as workstring for sonic hammer.
- 9) Contact sonic tool rep to be on site during job. *Verify that 2 7/8" 6.5# L-80 WS is clean, inspect for excessive rust.* PU and RIH with Sonic Hammer tool, seat nipple, and work string to 3,930' or enough to cover the bottom perforations with a whole stand. Hydrotest tubing to 5,000 psi. Stand back tubing to top perforations. Install stripper head and stand pipe with sufficient treating line to move tools vertically ~ 65'. Rig up pressure gauges to allow monitoring of tubing and casing pressures.
- 10) MI & RU Petroplex and pressure test surface lines. Titrate acids and verify concentration (HCl  $\pm 1.5\%$ ) report results in daily work summary. Acid Components listed below in Table A. If well will circulate proceed to step 7)b).

| Acid Components Table A |                            |
|-------------------------|----------------------------|
| 2 gpt                   | EP-3 Non Emulsion          |
| 5 gpt                   | DX - Iron Control Additive |
| 2 gpt                   | BX - Activator ICH         |
| 2 gpt                   | I8 - Inhibitor             |

- a) **Sonic Hammer for non circulating wells.** Treat all 5 intervals from 3,624' to 3,924' with the following procedure from the top interval to the bottom interval. Shut in the annulus. Do not exceed 5,000 psi tubing pressure.
  - i) While reciprocating over the perf interval, pump 30 bbls of cut brine, followed by 15% NEFE HCL and then flush tubing with cut brine pumping at 5 BPM. Repeat with all intervals listed in Table B using the acid volumes listed for each interval.

**Table B: Perforation Intervals for acid.**

| Interval | Depth         | Interval (Ft.) | Acid Volume (gal) |
|----------|---------------|----------------|-------------------|
| 1        | 3,624 - 3,685 | 61             | 1,500             |
| 2        | 3,685 - 3,749 | 64             | 1,350             |
| 3        | 3,749 - 3,809 | 60             | 950               |
| 4        | 3,809 - 3,870 | 61             | 600               |
| 5        | 3,870 - 3,930 | 60             | 600               |
|          |               |                | 5,000             |

- ii) R/D Petroplex Acidizing, drop Sonic Hammer circulating port opening ball, shut in well for 1 hr for the acid to spend.
  - ❖ If WSM believes that the formation may take longer to spend the acid, wait until appropriate to open circulating ports and attempt swabbing.
- iii) Pressure up the tubing to ~2000 psi to open the sonic hammer tool circulating port.
- iv) R/U swab equipment and swab well back to flowback tank until the load is recovered or returns are produced fluid and no longer spent acid.
- v) R/D swab equipment and POOH w/ tubing to top perf.
- vi) Pump 40 bbls cut brine mixed w/ 3 drums Baker SCW-358 scale inhibitor down the tubing through the circulating ports on the Sonic Hammer at a max rate of 5 bpm. Displace scale squeeze w/ 110 bbls of cut brine.
- vii) TOOH w/ sonic hammer. Proceed to step 8.

**b) Sonic Hammer treatment w/ a circulating well.**

- i) Treat interval #1 (referring to Table B) with 30 bbls of cut brine. Pump down Sonic Hammer tool at 5 BPM while reciprocating tool across intervals. Do not exceed 5,000 psi tubing pressure. Leave annulus open in circulation mode while treating.
- ii) Pick up enough pipe to reach the next interval and repeat step 7)b)i) until all intervals are washed.

**11) Table B: Perforation Intervals for acid.**

| Interval | Depth         | Interval (Ft.) | Acid Volume (gal) |
|----------|---------------|----------------|-------------------|
| 1        | 3,624 - 3,685 | 61             | 1,500             |
| 2        | 3,685 - 3,749 | 64             | 1,350             |
| 3        | 3,749 - 3,809 | 60             | 950               |
| 4        | 3,809 - 3,870 | 61             | 600               |
| 5        | 3,870 - 3,930 | 60             | 600               |
|          |               |                | 5,000             |

- i) Starting at interval #3 fill tubing w/ acid and shut in backside. Pump the volume of acid specified in Table A at 5 BPM reciprocating over the perf interval. Flush tubing with cut brine. Casing pressure should not exceed 500 psi. If necessary, bleed off or slow pumping rate.
  - ii) TOOH w/ tubing to the next interval and repeat step 7)b)iii) acidizing each interval according to Table B.
  - iii) Shut in well for 1 hr for the acid to spend. Monitor casing pressure to keep it below 500 psi. Bleed off excess pressure if necessary.
  - iv) Kill well and POOH Sonic Hammer Tool and WS. LD Sonic Hammer.
  - v) PU & RIH with 5 ½" packer and WS. Set treating packer at 5,000', above the top perf.
  - vi) RU swab crew and flowback tank.
  - vii) Swab well until returns indicate formation fluid and not spent acid, or fluid level drops enough to make swabbing non productive.
  - viii) Pump 40 bbls cut brine mixed with 3 drums of scale inhibitor (165 gals) Baker SCW-358 Scale Inhibitor Chemical down the packer. Pump at a max rate of 5 BPM.
  - ix) Displace scale squeeze with 110 bbls of cut brine.
  - x) Do not exceed 500 psi casing pressure or 5 BPM while pumping scale squeeze or casing flush. Shut in well overnight.
  - xi) Release packer. POOH packer and WS. LD 2 7/8" WS and packer.
- 12) RIH with 2-7/8" production tubing string hydrotesting to 5,000 psi. **Set TAC per ALCR/Planner recommendation and record it on WellView.**
- 13) ND BOP. NU WH. RIH with rods and pump per ALCR/Planner and record how much the pump was spaced-out on WellView. Hang well on.
- 14) RD and release workover unit. Turn well over to production (contacts on back). Clean location.

Figure 1 is a vertical bar chart showing the distribution of 1000 random permutations across four stages. The y-axis represents the number of permutations, ranging from 3,950 to 3,600. The x-axis represents the stages. The legend indicates: Perfs (thin line), Stage 1 (thick line), Stage 2 (thick line), and Stage 3 (thick line). The data shows a decreasing trend in the number of permutations across the stages.

| Stage | Perfs | Stage 1 | Stage 2 | Stage 3 |
|-------|-------|---------|---------|---------|
| 1     | 3,930 | 3,930   | 3,930   | 3,930   |
| 2     | 3,870 | 3,870   | 3,870   | 3,870   |
| 3     | 3,809 | 3,809   | 3,809   | 3,809   |
| 4     | 3,749 | 3,749   | 3,749   | 3,749   |
| 5     | 3,685 | 3,685   | 3,685   | 3,685   |
| 6     | 3,624 | 3,624   | 3,624   | 3,624   |

[illegible]

Well: **R. E. Cole (NCT-A) # 15**Field: **Eunice Southwest - UCLB10100**  
**Penrose Skelly - UCU490600**Reservoir: **San Andres**  
**Grayburg****Location:**1980' FSL & 825' FWL  
Section: 16  
Township: 22S  
Range: 37E  
County: Lea State: NM

DHC - 3633 - (2006)

Well TA'd 10/2009 w/Pkr

**Well ID Info:**Chevno: EO0014  
API No: 30-025-24763  
L5/L6: LB10100  
Spud Date: 7/6/74  
Compl. Date: 8/2/74**Elevations:**GL: 3400'  
KB: 3412'  
DF: 3411'**Surface Csg: 8 5/8", 24#, K-55****Set: @ 1144' w/ 600 sks****Hole Size: 12 1/4"****Circ: Yes TOC: Surface****TOC By: Circulated****Blk Sqz Perfs @ 1175'**

(Sqzd w/ 300 sks on 7/13/81.

Cmt circ to surface.)

**Tbg Detail:**

|                          |         |
|--------------------------|---------|
| 114 Jts 2 7/8" 6.5# J-55 | 3610    |
| 1 - 2 7/8" SN            | 1       |
| 1 - 2 7/8" Packer        | 7.21    |
|                          | 3618.21 |

**Perfs:****Status:**

|            |          |                 |
|------------|----------|-----------------|
| 3624-31'   | 3637-41' | Grayburg - Open |
| 3647-50'   | 3664-72' | Grayburg - Open |
| 3675-80'   | 3685-90' | Grayburg - Open |
| 3693-3700' | 3709-12' | Grayburg - Open |
| 3730-40'   | 3749-52' | Grayburg - Open |
| 3760-62'   |          | Grayburg - Open |

|          |          |                   |
|----------|----------|-------------------|
| 3766-72' | 3784-86' | San Andres - Open |
| 3795-99' | 3809-11' | San Andres - Open |
| 3820-23' | 3843-45' | San Andres - Open |
| 3855-57' | 3863-65' | San Andres - Open |
| 3870-74' | 3892-93' | San Andres - Open |
| 3903-05' | 3915-17' | San Andres - Open |
| 3922-24' |          | San Andres - Open |

**CIBP @ 5376'**  
(24' cmt on top)**Csg Swedge 5520-43'**  
collapsed csg 1986**CIBP @ 6340'****COTD: 5352'**  
**PBTD: 5352'**  
**TD: 6700'**

|          |          |                     |
|----------|----------|---------------------|
| 5459-61' | 5472-74' | Blaine - Below CIBI |
| 5488-90' | 5501-03' | Blaine - Below CIBI |
| 5516-18' | 5528-30' | Blaine - Below CIBI |
| 5546-48' | 5580-82' | Blaine - Below CIBI |

|            |          |                      |
|------------|----------|----------------------|
| 6398-6400' | 6467-69' | Drinkard - Below CIB |
| 6494-96'   | 6520-22' | Drinkard - Below CIB |
| 6548-50'   | 6570-72' | Drinkard - Below CIB |

**Prod. Csg: 5 1/2", 14#, 15.5#, & 17#, K-55 & N-80****Set: @ 6700' w/ 750 sks****Hole Size: 7 7/8"****Circ: No TOC: 2330'****Updated: 4/2/2013****By: SEHE**