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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 July 18, 2013

SUNDRY NOTICES AND REPORTS ON WELLS (DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)		WELL API NO. 30-025-26051
1. Type of Well: Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/>		5. Indicate Type of Lease STATE <input type="checkbox"/> FEE <input checked="" type="checkbox"/>
2. Name of Operator CHEVRON U.S.A. INC.		6. State Oil & Gas Lease No.
3. Address of Operator 15 SMITH ROAD, MIDLAND, TEXAS 79705		7. Lease Name or Unit Agreement Name MARK
4. Well Location Unit Letter: A 430 feet from NORTH line and 960 feet from the EAST line Section 3 Township 22S Range 37E NMPM County LEA		8. Well Number 11 OGRID Number 4323
11. Elevation (Show whether DR, RKB, RT, GR, etc.)		10. Pool name or Wildcat GRAYBURG/BLINEBRY/ABO

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 ☐
CLOSED-LOOP SYSTEM ☐
OTHER: ACIDIZE & SCALE SQUEEZE

SUBSEQUENT REPORT OF:

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

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 U.S.A. INC. INTENDS TO ACIDIZE & SCALE SQUEEZE DHC ZONES GRAYBURG, BLINEBRY, & ABO.

PLEASE FIND ATTACHED, THE INTENDED PROCEDURE & WELLBORE DIAGRAM.

DURING THIS PROCESS WE PLAN TO USE THE CLOSED LOOP SYSTEM WITH A STEEL TANK AND HAUL TO THE REQUIRED DISPOSAL, PER THE OCD RULE 19.15.17.

Spud Date:

DHC-2439-A

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: 12/13/2013

Type or print name: DENISE PINKERTON

E-mail address: leakejd@chevron.com

PHONE: 432-687-7375

For State Use Only

APPROVED BY:

TITLE

Petroleum Engineer

DATE

DEC 18 2013

Conditions of Approval (if any):

DEC 18 2013

Mark #11 – [30-025-26051]

Wantz field

T22S, R37E, Section 3

N 32° 25' 37.2714", W -103° 8' 42.576" (NAD27)

Job: Acidize & Scale Squeeze DHC (Grayburg / Blinbry / Abo)

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

It should be noted, the anticipated maximum amount of H₂S that an individual could be exposed to on location is as follows for given Radius of Exposure:

100 PPM ROE = $0.001589 \times 8300 \text{ PPM} \times 191 \text{ MCF}^{0.6258} = 134 \text{ FEET}$

500 PPM ROE = $0.0004546 \times 8300 \text{ PPM} \times 191 \text{ MCF}^{0.6258} = 61 \text{ FEET}$

PREWORK:

1. Utilize the rig move check list.
2. Check anchors and verify that pull test has been completed in the last 24 months.
3. Ensure location and distance to power lines are in accordance with MCA SWP. Complete an electrical variance and electrical variance RUMS if necessary.
4. Ensure that location is of adequate build and construction.
5. Ensure that elevators and other lifting equipment are inspected.
6. For wells to be worked on or drilled in an H₂S field/area, include the anticipated maximum amount of H₂S that an individual could be exposed to along with the ROE calculations for 100' and 500'.
7. 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.
8. Scout location and mark off anything that might be hazardous to daily operations.

Reminders:

1. 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.**
2. When NU anything over an open wellhead (BOP, EPA, etc.) ensure the hole is covered to avoid dropping anything downhole.
3. Ensure well is secure/shut in with blind rams between job stages (nothing in well).
4. If pumping any cement, plugging back a well or changing producing intervals, contact OCD.
5. If the possibility of trapped pressure exists, check for possible obstructions by:
 - Pumping through the fish/tubular – this is not guaranteed with an old fish as the possibility of a hole above the obstruction could yield inconclusive results.
 - Dummy run – make a dummy run through the fish/tubular with sandline, slickline, e-line or rods to verify no obstruction. Prior to making any dummy run contact RE and discuss.

If unable to verify that there is no obstruction above the connection to be broken, or if there is an obstruction:

 - Hot Tap at the connection to check for pressure and bleed off.

Observe and watch for signs/indicators of pressure as connection is being broken. Use mud bucket (with seals removed) and clear all non-essential personnel from the floor.
6. Hold safety meetings with all personnel on location prior to any major or abnormal operation.

Procedure:

1. MI & RU Workover unit.
2. Verify that well does not have pressure/flow. If well has pressure, record tubing and casing pressures on WellView report. Bleed down well; if necessary, kill with cut brine fluid (8.6 ppg).
3. Unseat pump, POOH with rods and pump. Examine rods for wear/pitting/paraffin and capture any samples for analysis. Do not hot water unless necessary.
4. ND wellhead, unset TAC, NU 7-1/16" 5,000 psi BOP [*Blinds on bottom, 2-7/8" pipe rams on top*]. NU EPA equipment and RU rig floor.
5. POOH & LD 1 joint 2-7/8" tbg, PU 5-1/2" packer and set @ ~ 25'. Close and test BOP pipe rams to 500psi (low)/ 1000psi (high). Record testing pressures on WellView report (Time log and safety/inspections). Release and LD packer.
6. PU tubing and carefully run back in hole to tag for fill.
Depths: (TAC 6,487', Bottom Perfs 7,223', EOT 7,232', PBSD 7,257')
7. RU Scanners and POOH while scanning all 2-7/8" 6.5# J-55 production tubing. LD all non-yellow band joints. If fill is tagged:
 - a. Above 7,250', contact production engineer and verify if the cleanout is necessary. If so, proceed to step #8.
 - b. Below 7,250', skip to step #9.

Note: Strap pipe out of the hole to verify depths and note them on WellView report. Send scan report to KXHO@chevron.com (Jay Stockton).

- **Caliper elevators and tubular EACH DAY prior to handling tubing/rods/tools. Note in JSA & WellView when and what items are callipered within the task step that includes that work.**
8. PU and RIH with 4-3/4" Milled Tooth (MT) Bit, 6 (3-1/2') OD drill collars on 2-7/8" 6.5# J-55 production tubing (pulled from wellbore). RU power swivel and C/O to 7,257' with foam/air unit (**continue to supplemental procedure and in accordance with attached SOG**). POOH with 2-7/8" tbg and bit. LD bit and BHA. Secure well.
 9. PU and RIH with 5-1/2" RBP w/ ball catcher and 5-1/2" treating packer on 2-7/8" 6.5# J-55 tubing. Hydrotest tubing to 6,000 psi while RIH. Set RBP below lowermost perf at +/- 7,250'. PUH and set packer at +/- 6,520'.
 10. MI and RU Petroplex equipment. **Set up exclusion zone around stim unit & treating iron.** Titrate acids and verify concentration (15% NEFE HCl ± 1.5%) report results in daily work summary. Pressure test lines to 6,000 psi. Treat perf interval (6,630' – 7,223') [Abo formation] with 5,000 gals of 15% NEFE HCl acid at 5 BPM while dropping 16 frac balls (J122 1.3 SG) every 10 bbls. Do not exceed 5,000 psi tubing pressure. Monitor casing pressure not to exceed 300 psi. Acid Components are listed below (**see Table A**).

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

Table A

11. Displace acid to bottom with 55 bbls 2% KCl water. Shut well in for 1 hr (or per Petroplex recommendation) to allow time for acid to spend downhole.
12. Scale squeeze lowest perf interval (6,630' – 7,223') with 2 drums (110 gals) of Baker SWC-358 scale inhibitor chemical mixed in 13 bbls 2% KCl. Displace scale squeeze with 100 bbls of 2% KCl water. Pump at a max rate of 5 BPM. Do not exceed 5,000 psi.
13. Release packer. RIH and latch onto RBP at +/- 7,250'.
14. PUH to +/- 5,990' and set RBP. PUH and set packer at +/- 5,230'.
15. MI & RU Petroplex. Titrate acids and verify concentration (15% NEFE HCl \pm 1.5%) report results in daily work summary. Pressure test lines to 6,000 psi. Treat perf interval (5,342' – 5,926') [Blinebry formation] with 3,500 gals of 15% NEFE HCl acid at 5 BPM while dropping 6 frac balls (J122 1.3 SG) every 15 bbls. Bull head acid to formation. Do not exceed 5,000 psi tubing pressure. Monitor casing pressure not to exceed 300 psi.
16. Flush acid with 55 bbls 2% KCl water. Shut well in for 1 hr (or per Petroplex recommendation) to allow time for acid to spend.
17. Scale squeeze middle perf interval (5,342' – 5,926') with 2 drums (110 gals) of Baker SWC-358 scale inhibitor chemical mixed in 13 bbls 2% KCl. Displace scale squeeze with 100 bbls of 2% KCl water. Pump at a max rate of 5 BPM. Do not exceed 5,000 psi.
18. Release packer. RIH and latch onto RBP at +/- 5,990'.
19. PUH to +/- 4,000' and set RBP. POOH and LD 2-7/8" tubing and BHA.
20. Contact sonic tool representative to be on-site during this part of job. PU and RIH with Sonic Hammer tool and 2-7/8" production tubing to +/- 3,860' or enough to cover the bottom stimulation interval with a whole stand. Hydrotest tubing to 6,000 psi. Stand back tubing to top perforations (@ 3,650'). Install stripper head and stand pipe with sufficient treating line to move tools vertically ~ 50 ft. RU pressure gauges to allow monitoring of tubing and casing pressures during job.
21. MI and RU Petroplex equipment. Titrate acids and verify concentration (15% NEFE HCl \pm 1.5%).
22. Treat all intervals from 3,640' to 3,860' with ~20 bbl of 8.6 ppg cut brine water per interval (**see Table 1**). 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 intervals with brine water.

Perf Intervals for Acid			
Interval (#)	Depth	Net Feet (ft)	Acid Volume (gal)
1	3,640' - 3,690'	50	1,000
2	3,695' - 3,745'	50	1,000
3	3,750' - 3,800'	50	1,250
4	3,810' - 3,860'	50	1,250
Total		200	4,500

Table 1

23. Follow the brine water wash with 4,500 gals 15% NEFE HCl of total acid for all intervals. Spot 3 bbls of acid outside outside tubing, shut in casing, pump 1,000 gals of acid @ 5 BPM over first treating interval from 3,640' – 3,690', monitor casing pressure not exceeding 500 psi on backside. Flush tubing with brine water after every acidizing interval, make a connection and continue with remaining interval. **Refer to Table 1.**
24. Shut in well for 1 hr to allow time for acid to spend. Monitor and bleed off excess pressure at surface if necessary to keep casing pressure below 500 psi. RDMO Petroplex.
25. MI & RU swabbing unit. Attempt to swab back load fluid from acid job ~107 bbls total. The intent of swabbing is primarily to clean near wellbore. If very little fluid is recovered on swab runs contact production engineer, stop swabbing and move on to scale squeeze. Swab for a maximum of one day. Report recovered fluid volumes, pressures, and/or swabbing fluid levels. RDMO swab unit.
26. MI & RU Petroplex pump trucks. Scale squeeze well with a total of 140 bbls 8.6 ppg brine water and 2 drums (110 gallons) Baker SCW-358 Scale Inhibitor Chemical. Pump down Sonic Hammer tool at a max rate of 5 BPM. For 1st stage, pump chemical as a concentrated pill of 30 gals of SCW-358 mixed with 7 bbl of 2% KCl brine, then displaced with 23 bbls of brine. Start from lowest interval of 3,860' – 3,810' and continue moving uphole until top stage of 3,690' – 3,640' is reached (**see Table 2**). Each stage should contain roughly 30 bbls of total brine used and the last stage has an additional 20 bbls for flush. Ensure top of tubing is flushed with brine water before making a connection.

Scale Squeeze Pump Schedule					
Step	Interval (ft)	Max Rate (BPM)	Volume Brine (bbl)	Volume Scale Chem (gal)	Cum Volume (bbl)
1 Pump Chemical/brine while moving from	3860' - 3810'	5	7	30	8
2 Pump Brine while moving from	3860' - 3810'	5	23		31
3 Move pipe to next interval of	3800' - 3750'				31
4 Pump Chemical/brine while moving from	3800' - 3750'	5	7	30	38
5 Pump Brine while moving from	3800' - 3750'	5	23		61
6 Move pipe to next interval of	3745' - 3695'				61
7 Pump Chemical/brine while moving from	3745' - 3695'	5	6	25	68
8 Pump Brine while moving from	3745' - 3695'	5	24		92
9 Move pipe to next interval of	3690' - 3640'				92
10 Pump Chemical/brine while moving from	3690' - 3640'	5	6	25	99
11 Pump Brine while moving from	3690' - 3640'	5	44		143

Table 2

27. PU tubing to higher than top perforations. Displace tubing volume with 8.6 ppg cut brine water. Do not exceed 500 psi casing pressure or 5 BPM while pumping scale squeeze or casing flush. Release Petroplex.
28. TOH and LD 2-7/8" tubing and sonic hammer tool.
29. RIH and latch onto RBP +/- 4,000'. POH and LD tubing and RBP.
30. RIH with 2-7/8" J-55 production tubing and hydrotest to 5,000 psi. **Have the kill truck load 5 gallons biocide and 20 gallons of soap with their water on the last day of the job. After the tubing is loaded, pump the remaining down the backside.**
31. ND BOP, set TAC, NU WH. RIH with rods and pump per ALCR's recommendation/Rodstar design. **Record how much the pump was spaced-out in WellView.** Hang well on.
32. RD and release Workover unit. Turn well over to production. Clean location.

FOAM / AIR CLEANOUT PROCEDURE

- This procedure is an addition to the original procedure.
 1. Install flowback manifold with two chokes. All components on flowback manifold must be rated to at least 5,000 psi. If possible, flowback manifold components should be hydrotested before delivery. Hardline pipes from 2" casing valve to manifold to half pit with gas buster. **Set up an exclusion zone around flowback line.**
 2. Install flowback tank downwind from rig.
 3. Position Air unit upwind from Rig next to water tanks. Have vacuum truck on standby to empty halfpit. (if needed)
 4. RIH with 4-3/4" MT bit, 6 (3-1/2") drill collars on 2-7/8" 6.5# J-55 production tubing.
 5. NU stripper head with **NO Outlets** (Check stripper cap for thread type - course threads preferred). **Stripper head to be stump tested to 1,000 psi before being delivered to rig.** Check chart or test at rig.
 6. RU foam air unit. Make quality foam on surface before going down hole with foam/air. Install flapper float at surface before beginning to pump. Break circulation with foam/air. Evacuate fluid from well.

Pump high quality foam at all times. Do not pump dry air at any time. Fluid injection rates will generally be above 12 gallons per minute.

Whenever there is pressure on the stripper head, have a dedicated person continuously monitor pressure at choke manifold and have a dedicated person at accumulator ready to close annular BOP in case stripper leaks. Do not allow pressure on stripper head to exceed 500 psi. If pressure cannot be controlled below 500 psi, stop pumping, close BOP and bleed off pressure.

7. Clean out fill to 7,257' with low RPM's rotation and circulation, always keep pipe moving. Short trips can be beneficial to hole cleaning. Circulate well clean for at least 1 hour at the end of the day and pull up above the perforations before shut down for night. If the foam/air unit goes down, pull above the perforations.
8. When tripping out of hole, have special float bleed off tool available to relieve trapped pressure below float.

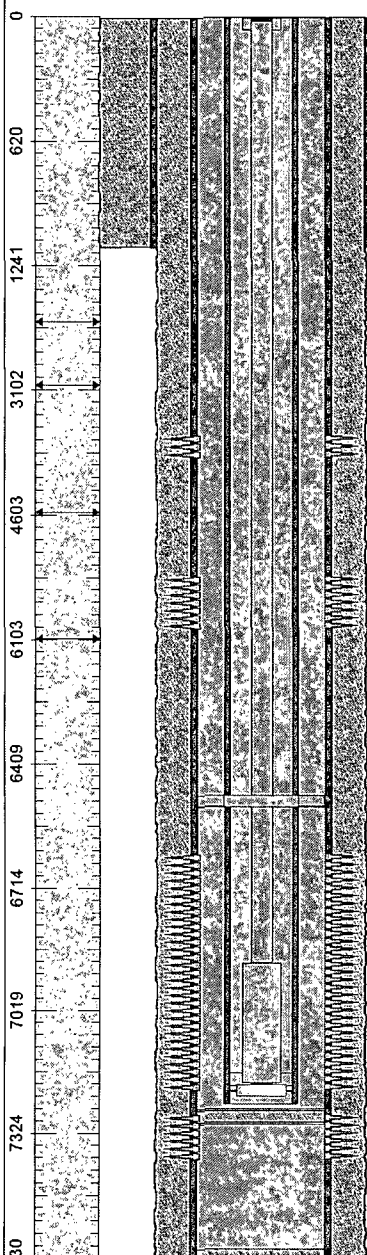
Ensure that high quality, stiff foam is pumped while circulating the fill. Stiff foam is required to prevent segregation while circulating. Monitor flow and pressures carefully when cleaning out.

Before rigging up power swivel to rotate, carefully inspect Kelly hose to ensure that it is in good condition. Ensure that swivel packing is in good condition.

Continue on with original procedure for completion.

Chevron U.S.A. Inc. Wellbore Diagram : MARK11DHC

Lease: OEU EUNICE FMT		Well No.: MARK 11	Field: WANTZ	
Location: 430FNL960FEL		Sec.: N/A	Blk:	Survey: N/A
County: Lea	St.: New Mexico	Refno: EQ3250	API: 3002526051	Cost Center: UCU522300
Section: 3		Township: 022 S		Range: 037 E
Current Status: ACTIVE			Dead Man Anchors Test Date: 01/03/2005	
Directions:				

Rod String Quantity (Top-Bottom Depth) Desc

1 @(12-13) 1.500 (1 1/2 in.) Spray Metal x 26-
 1 @(13-19) 0.875 (7/8 in.) N-97 (HS) x 6 Rod Sub-
 1 @(19-25) 0.875 (7/8 in.) N-97 (HS) x 6 Rod Sub-
 275 @(25-6900) 0.875 (7/8 in.) N-97 (HS) x 25 Rod-
 12 @(6900-7200) 1.500 (1 1/2 in.) K x 25 Sinkers Bar-
 1 @(7200-7204) 0.875 (7/8 in.) N-97 x 4 Rod Sub - Rod Guides-Molded (4 per rod)-
 1 @(7204-7224) Rod Pump (Insert) (NON-SERIALIZED) - 25-150-RHBC-20-5 (Bore = 1.50)-

Surface Casing (Top-Bottom Depth) Desc

@(12-1155) K-55 8.625 OD/ 24.00# Round Short 8.097 ID 7.972 Drift-
 @(12-1155) Wellbore Hole OD-12.2500 - N/A-
 @(12-1155) Cement-

Production Casing (Top-Bottom Depth) Desc

@(1155-7630) Wellbore Hole OD- 7.8750-
 @(12-7630) K-55 5.500 OD/ 15.50# Unknown Thread 4.950 ID 4.825 Drift-
 @(12-7630) Cement-
 @(3650-3860) Perforations - Open - Grayburg-
 @(3650-3860) Producing Interval (Completion) - Grayburg-
 @(5342-5926) Perforations - Open - Blinbry-
 @(5342-5926) Producing Interval (Completion) - Blinbry-
 @(6630-7223) Perforations - Open - Abo-
 @(6630-7223) Producing Interval (Completion) - Abo-
 @(7265-7271) Plug Back-Cement on Top of Bridge Plug-
 @(7271-7275) Bridge Plug-
 @(7275-7278) Bridge Plug Cast Iron 5.500-
 @(7279-7380) Perforations - Isolated - Granite Wash-
 @(7608-7618) Plug Back-Cement-

Tubing String Quantity (Top-Bottom Depth) Desc

208 @(12-6487) J-55 2.875 OD/ 6.50# T&C External Upset 2.441 ID 2.347
 1 @(6487-6490) Tubing Anchor/Catcher 2.875-
 22 @(6490-7177) J-55 2.875 OD/ 6.50# T&C External Upset 2.441 ID 2.347
 1 @(7177-7209) J-55 2.875 OD/ 6.50# T&C External Upset 2.441 ID 2.347 Drift
 - Internal Plastic Ctg-TK-99-
 1 @(7209-7221) J-55 2.875 OD/ 6.50# T&C External Upset 2.441 ID 2.347 Drift
 - Internal Plastic Ctg-TK-99-
 1 @(7221-7222) Seat Nipple - Standard (2.875) Cup Type-
 1 @(7222-7232) L-80 2.875 OD/ 6.50# T&C External Upset 2.441 ID 2.347

Wellhead Size: 6"900

Ground Elevation (MSL): 3393.00	Spud Date: 08/16/1978	Compl. Date: 04/01/2000
Well Depth Datum: Kelly Bushing	Elevation (MSL): 0.00	Correction Factor: 12.00
Last Updated by: DBDelta_V2N_022_D	Date: 09/16/2013	