Submit 1 Copy To Appropriate District Office
District I
1625 N. French Dr , Hobbs, NM 88240
District II
1301 W Grand Ave , Artesia, NM 88210
District III
1000 Rio Brazos Rd , Aztec, NM 87410
District IV
1220 S St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources

HOBBS OCD

OIL CONSERVATION DIVISION
JUN 22 2012
1220 South St. Francis Dr.
Santa Fe, NM 87505

RECEIVED

Form C-103
October 13, 2009

WELL API NO. 30-025-36741	
5. Indicate Type of Lease STATE ☐ FEE ☒	
6. State Oil & Gas Lease No.	
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.)	7. Lease Name or Unit Agreement Name HARRY LEONARD NCT-E
1. Type of Well: Oil Well ☒ Gas Well ☐ Other	8. Well Number 7
2. Name of Operator CHEVRON U.S.A. INC.	9. OGRID Number 4323
3. Address of Operator 15 SMITH ROAD, MIDLAND, TEXAS 79705	10. Pool name or Wildcat PENROSE SKELLY GRAYBURG
4. Well Location Unit Letter H: 1330 feet from the NORTH line and 1070 feet from the EAST line Section 16 Township 21S Range 37E NMPM County LEA	
[redacted]	11. Elevation *(Show whether DR, RKB, RT, GR, etc.)* [redacted]

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

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
PERFORM REMEDIAL WORK ☐	PLUG AND ABANDON ☐	REMEDIAL WORK ☐	ALTERING CASING ☐
TEMPORARILY ABANDON ☐	CHANGE PLANS ☐	COMMENCE DRILLING OPNS. ☐	P AND A ☐
PULL OR ALTER CASING ☐	MULTIPLE COMPL ☐	CASING/CEMENT JOB ☐	
DOWNHOLE COMMINGLE ☐			
OTHER INTENT TO SONIC HAMMER, ACIDIZE, SCALE SQZ		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 SONIC HAMMER, ACIDIZE & SCALE SQUEEZE THE SUBJECT WELL.

PLEASE FIND ATTACHED, THE INTENDED PROCEDURE, WELLBORE DIAGRAM, & C-144 INFO.

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 06-21-2012

Type or print name DENISE PINKERTON E-mail address: leakejd@chevron.com PHONE: 432-687-7375

For State Use Only

APPROVED BY: [signature] TITLE Staff Mgr DATE 6-25-2012

Conditions of Approval (if any):

JUN 26 2012

Harry Leonard E #7 **6.18.2012**
Penrose Skelly, Grayburg Reservoir
T21S, R37E, Sec.16
Lat - N 32.48247273° Long - W 103.1629073°
Job: Sonic Hammer, Acidize & Scale Squeeze

- **Caliper elevators and tubular EACH DAY prior to handling tubing/tools. Note in JSA when and what items are callipered within the task step that includes that work.**

Procedure:

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 MOC

1. Verify that well does not have pressure or flow. If well has pressure, note tubing and casing pressures on wellview report. Bleed down well; if necessary, kill with cut brine fluid (8.6 ppg).

2. MI & RU workover unit.

3. Unseat pump, POOH with rods and pump. Examine rods for wear/pitting/paraffin. Do not hot water unless necessary. ND wellhead, unset TAC, NU BOP. POOH and LD 1 jt, PU 5-1/2" packer and set ~ @ 25', test BOP pipe rams to 250 psi/1000 psi. Note testing pressures on wellview report. Release and LD packer.

4. PU tubing and tag for fill (TAC 3,665', Bottom Perfs 3,984', EOT 4,142', PBTD 4,239'). POOH while scanning 2-7/8" prod tubing. LD all non-yellow band joints. If fill is tagged:
   A. Above 4,239' continue to step 5.
   B. Below 4,239' continue to step 6.

   Note: Strap pipe out of the hole to verify depths and note them on Wellview report.
   Send scan log report to hccf@chevron.com.

5. PU and RIH with 4-3/4" MT bit, 4 (3-1/2") drill collars on 2-7/8" 6.5# L-80 WS. RU power swivel and clean out to 4,239'. POOH with 2-7/8" WS and bit. LD bit & BHA.
   Note: If circulation cannot be obtained RU foam/air unit (continue w/ supplemental procedure on back).

6. Contact sonic tool rep to be on site during job. PU and RIH with Sonic Hammer tool and work string to 3,984' or enough to cover the bottom perforations with a whole stand. Hydrotest tubing to 6,000 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.

7. MI & RU Petroplex. Titrate acids and verify concentration (HCl ±1.5%). Treat all intervals from 3,734' to 3,984' with 50 bbls of 8.6 ppg cut brine water per interval (refer to Table A). 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.

8. Follow the brine water wash with 6,000 gals 15% NEFE HCl of total acid for all intervals. Spot 3 bbls of acid outside tubing, shut in casing, pump 1,200 gallons of acid @ 5 BPM over first treating interval from 3,734'-3,790', monitor casing pressure not exceeding 500 psi. Flush tubing with brine water after every acidized interval, make a connection and continue with remaining interval. Refer to Table A.

Table A: Perforation Intervals for acid.

Interval	Depth	Interval (Ft.)	Acid Volume (gal)
1	3734' - 3790'	56	1,200
2	3790' - 3838'	48	1,200
3	3838' - 3873'	35	1,200
4	3873' - 3932'	59	1,200
5	3932' - 3984'	52	1,200
			6,000

9. 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.

10. Scale squeeze will with a total of 300 bbls 8.6 ppg brine water and 4 drums (220 gallons) Baker SCW-358 Scale Inhibitor Chemical. Continue moving uphole with Sonic Hammer. Pump at max rate of 5 BPM per pump schedule. Ensure top of tubing is flushed with brine water before making a connection.

Table B: Scale Sqz 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	3984' - 3932'	5	10	44	11.0
2	Pump Brine while moving from	3984' - 3932'	5	40		51
3	Pump Chemical/brine while moving from	3984' - 3932'	5	10	44	62
4	Pump Brine while moving from	3984' - 3932'	5	12		73
5	Move pipe to next interval of	3932' - 3873'				73
6	Pump Brine while moving from	3932' - 3873'	5	28		102
7	Pump Chemical/brine while moving from	3932' - 3873'	5	10	44	113
8	Pump Brine while moving from	3932' - 3873'	5	11		124
9	Move pipe to next interval of	3873' - 3838'				124
10	Pump Brine while moving from	3873' - 3838'	5	29		153
11	Pump Chemical/brine while moving from	3873' - 3838'	5	10	44	164
12	Pump Brine while moving from	3873' - 3838'	5	11		175
13	Move pipe to next interval of	3838' - 3790'				175
14	Pump Brine while moving from	3838' - 3790'	5	29		204
15	Pump Chemical/brine while moving from	3838' - 3790'	5	10	44	215
16	Pump Brine while moving from	3838' - 3790'	5	11		226
17	Move pipe to next interval of	3790' - 3734'				226
18	Pump Brine while moving from	3790' - 3734'	5	79		305

11. Ensure Sonic Hammer is above all perforations. Do not exceed 500 psi casing pressure or 5 BPM while pumping scale squeeze or casing flush. RD and release pump truck.

12. Run back in the hole and tag for fill. If fill entry was indentified @ 4,239' or above, clean-out to 4,239' following steps 5 or 6.

13. POOH & LD 2-7/8" WS and Sonic Hammer tool.

14. RIH with 2-7/8" production tubing hydrotesting to 6,000 psi. Set TAC per ALCR recommendation. ND BOP. NU WH. RIH with rods and pump per ALCR. Hang well on. RD and release workover unit.

15. Turn well over to production.

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.
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, 4 (3-1/2") drill collars on 2-7/8" 6.5# L-80 WS.
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.

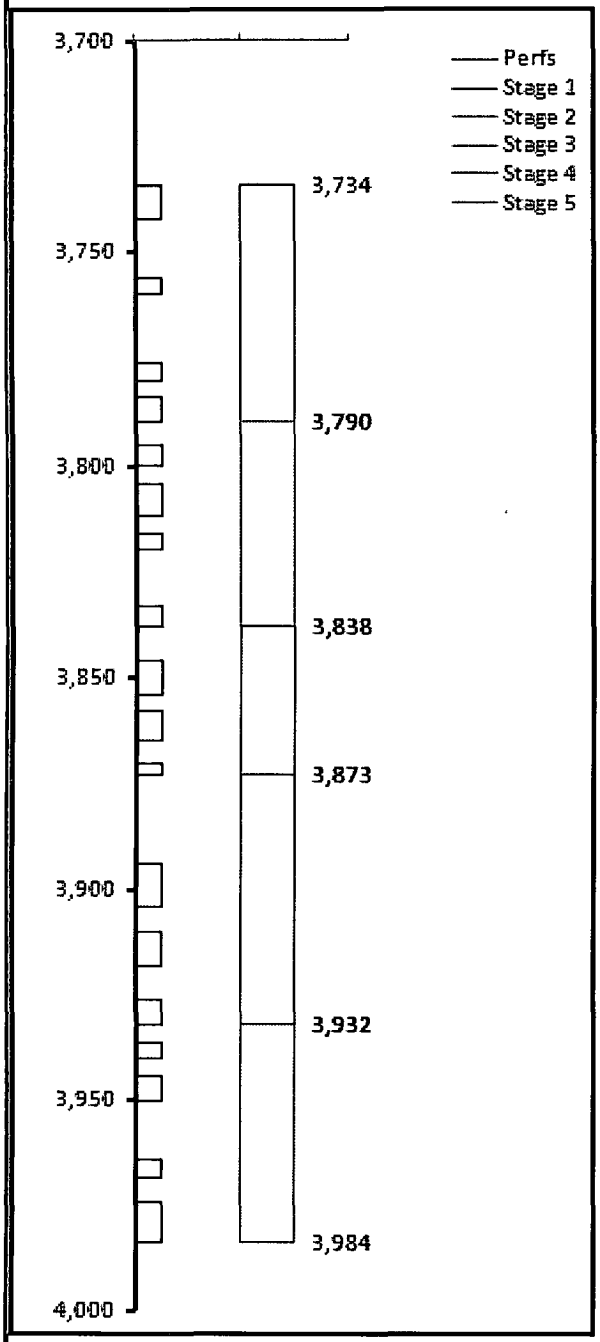
7. Clean out fill to 4,239' with low RPM's rotation and circulation, always keep pipe moving. Short trips can be beneficial to hole cleaning. Circulate well clean for at least 1 hour at the end of the day and pull up above the perforations before shut down for night. If the foam/air unit goes down, pull 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.

Harry Leonard E #7



Perfs Detail				
Top ft	Bottom ft	Interval Length ft	Status	Reservoir
3,734	3,742	8	Open	Grayburg
3,756	3,760	4	Open	Grayburg
3,776	3,780	4	Open	Grayburg
3,784	3,790	6	Open	Grayburg
3,795	3,800	5	Open	Grayburg
3,804	3,812	8	Open	Grayburg
3,816	3,820	4	Open	Grayburg
3,833	3,838	5	Open	Grayburg
3,846	3,854	8	Open	Grayburg
3,858	3,865	7	Open	Grayburg
3,870	3,873	3	Open	Grayburg
3,894	3,904	10	Open	Grayburg
3,910	3,918	8	Open	Grayburg
3,926	3,932	6	Open	Grayburg
3,936	3,940	4	Open	Grayburg
3,944	3,950	6	Open	Grayburg
3,964	3,968	4	Open	Grayburg
3,974	3,984	10	Open	Grayburg
		0		
		0		
		0		
		0		
		0		
		0		
		0		
		0		
		0		
		0		
		0		
		0		
		0		
		0		
		0		
		0		
		0		
		0		
		0		
		0		
Total				
3,734	3,984	110		

250

Sonic Hammer and Scale Sqz Design Table

Acid Volume	6,000	Gals
Scale Sqz	4	Drums
Scale Sqz	220	Gals
Brine	250	bbl
Wash Vol. per Stage	50	bbl
Scale Sqz Displacement	50	bbl

Gals Acid per ft Perf	54.55	Gal / ft
Total Acid & Scale Sqz Vol.	698	bbl
Vol Pumped per ft of Perfs	6.35	bbl/ft
S. Sqz Vol./ft perfs	2.77	bbl/ft
Acid Radius of Penetration	4.86	ft
S. Sqz Radius of Penetration	7.07	ft

Well Bore ID	4.892	in
Porosity	0 1	
Required Acid Penetration	3.00	ft
Gals per ft Required Acid	20.17	Gal / ft
Total Acid Required	2,219	Gals

Top Zone (MD)	Btm Zone (MD)	Perfs (ft)	Extra (ft)	Stage	Interval	Interval (ft)	Vol Acid (Gal)	Perf (%)	Vol Acid (Gal)	Rounded Vol Acid
3,734	3,790	22	0	1	3734' - 3790'	56	1,200	20.0%	1,200	1,200
3,790	3,838	22	0	2	3790' - 3838'	48	1,200	20.0%	1,200	1,200
3,838	3,873	18	0	3	3838' - 3873'	35	1,200	16.4%	982	1,000
3,873	3,932	24	0	4	3873' - 3932'	59	1,200	21.8%	1,309	1,300
3,932	3,984	24	0	5	3932' - 3984'	52	1,200	21.8%	1,309	1,300
	Totals	**110**		**5**			**6,000**	**100.0%**	**6,000**	**6,000**

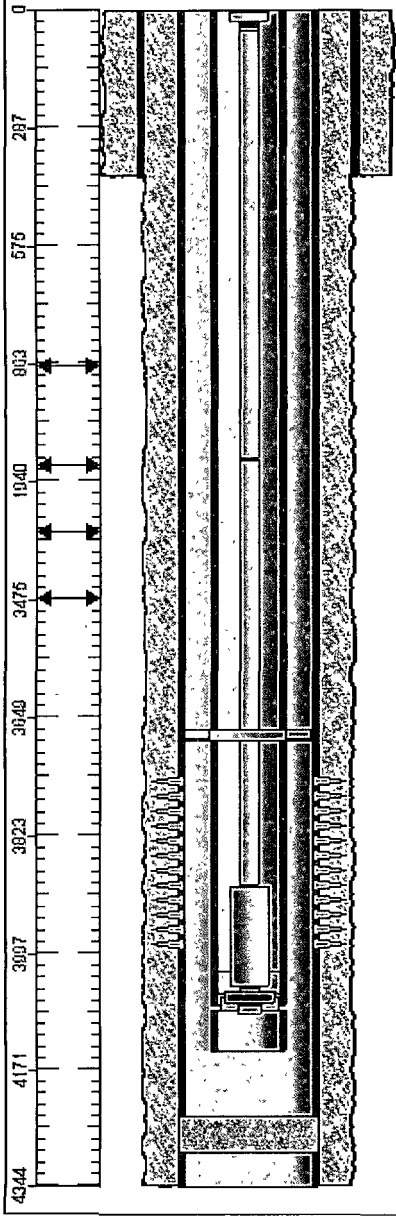
Top Zone (MD)	Btm Zone (MD)	Perfs (ft)	Extra (ft)	Stage	Interval	Interval (ft)	BrineVol Vol Brine (bbl)	ChemVol Vol Chem (Gal)	Perf (%)	Vol Brine (bbl)	Rounded Vol Brine	Vol Chem (Gal)	Rounded Vol Chem
3,932	3,984	24	0	1	3984' - 3932'	52	50	44	21.8%	55	50	48	50
3,873	3,932	24	0	2	3932' - 3873'	59	50	44	21.8%	55	50	48	50
3,838	3,873	18	0	3	3873' - 3838'	35	50	44	16.4%	41	40	36	35
3,790	3,838	22	0	4	3838' - 3790'	48	50	44	20.0%	50	50	44	45
3,734	3,790	22	0	5	3790' - 3734'	56	50	44	20.0%	50	50	44	45
	Totals	**110**		**5**			**250**	**220**	**100.0%**	**250**	**240**	**220**	**225**

Tubing OD	2.8750		Error Check
Tubing #	6.5		*total chem*
Tubing ID	2.4410		220
bbl/ft	0.0058		220
			Error Check
Max rate (bpm)	5.0		*total brine*
Concentration (gals Chem. / bbl brine)	4.2	4.7	300
SI Concentration in main Pill (%)	9.09%	10.00%	300

Table B: Scale Sqz 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	3984' - 3932'	5	10	44	11.0
2	Pump Brine while moving from	3984' - 3932'	5	40		51
3	Pump Chemical/brine while moving from	3984' - 3932'	5	10	44	62
4	Pump Brine while moving from	3984' - 3932'	5	12		74
5	Move pipe to next interval of	3932' - 3873'				74
6	Pump Brine while moving from	3932' - 3873'	5	28		102
7	Pump Chemical/brine while moving from	3932' - 3873'	5	10	44	113
8	Pump Brine while moving from	3932' - 3873'	5	12		125
9	Move pipe to next interval of	3873' - 3838'				125
10	Pump Brine while moving from	3873' - 3838'	5	28		153
11	Pump Chemical/brine while moving from	3873' - 3838'	5	10	44	164
12	Pump Brine while moving from	3873' - 3838'	5	11		176
13	Move pipe to next interval of	3838' - 3790'				176
14	Pump Brine while moving from	3838' - 3790'	5	29		204
15	Pump Chemical/brine while moving from	3838' - 3790'	5	10	44	215
16	Pump Brine while moving from	3838' - 3790'	5	11		226
17	Move pipe to next interval of	3790' - 3734'				226
18	Pump Brine while moving from	3790' - 3734'	5	79		305

Chevron U.S.A. Inc. Wellbore Diagram : HLEONARDE7



Rod String (Top-Bottom Depth) Desc
1 @(0-26) 1.500 (1 1/2 in.) Spray Metal x 26 - Spray Metal
1 @(26-30) 0.875 (7/8 in.) N-78 (D) x 4 Rod Sub
1 @(30-36) 0 875 (7/8 in) N-78 (D) x 6 Rod Sub
1 @(36-44) 0.875 (7/8 in) N-78 (D) x 8 Rod Sub
65 @(44-1669) 0.875 (7/8 in.) N-78 (D) x 25 Rod
89 @(1669-3894) 0 750 (3/4 in.) N-78 (D) x 25 Rod
6 @(3894-4044) 1.500 (1 1/2 in.) K x 25 Sinker Bar
1 @(4044-4048) 0.875 (7/8 in.) N-90 (D) x 4 Rod Sub - Rod Guides-Molded (3 per rod)
1 @(4048-4068) Rod Pump (Insert) (NON-SERIALIZED) - 25-175-RHBC-20-4 (Bore = 1.75)
1 @(4068-4069) Strainer Nipple 1.000 OD x 0.5'
Surface Casing (Top-Bottom Depth) Desc
@(0-405) Wellbore Hole OD-11.0000
@(0-405) Cement
@(0-405) Unknown 8.625 OD/ 24.00# Round Short 8.097 ID 7.972 Drift
Tubing String Quantity (Top-Bottom Depth) Desc
118 @(0-3665) J-55 2.875 OD/ 6.50# T&C External Upset 2.441 ID 2.347
1 @(3665-3668) Tubing Anchor/Catcher 2.875"
11 @(3668-4021) J-55 2.875 OD/ 6.50# T&C External Upset 2.441 ID 2.347
1 @(4021-4053) J-55 2.875 OD/ 6.50# T&C External Upset 2.441 ID 2.347 Drift - Internal Plastic Ctg-TK-99
1 @(4053-4054) Seat Nipple - Heavy Duty (2.875") Cup Type
1 @(4054-4058) J-55 2.875 OD/ 6.50# T&C External Upset 2.441 ID 2.347
1 @(4058-4079) Cavins Desander (Sand Separator) 2 3/8" x 16'
2 @(4079-4142) J-55 2.875 OD/ 6.50# T&C External Upset 2.441 ID 2.347
Production Casing (Top-Bottom Depth) Desc
@(3734-3984) Perforations - Open Penrose Skelly; Grayburg
@(3734-3984) Producing Interval 01 PR Penrose Skelly; Grayburg
@(4239-4295) Plug Back-Sand Cap
@(405-4345) Wellbore Hole OD- 7.8750
@(0-4345) Unknown 5.500 OD/ 15.50# Round Short 4.950 ID 4.825 Drift
@(0-4345) Cement