

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

HOBBBS OCS SEP 03 2013 RECEIVED		WELL API NO. 30-025-36051
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 HERRADURA
4. Well Location Unit Letter: J 1928 feet from the SOUTH line and 2161 feet from the EAST line Section 15 Township 19S Range 38E NMPM County LEA		8. Well Number 4
11. Elevation (Show whether DR, RKB, RT, GR, etc.)		9. OGRID Number 4323
		10. Pool name or Wildcat NADINE; DRINKARD/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 ☐

OTHER: ACIDIZE, SCALE SQZ

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 INTENDS TO SCALE SQZ, AND ACIDIZE THE DRINKARD & ABO FORMATION.

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.

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

TITLE: REGULATORY SPECIALIST

DATE: 08/29/2013

Type or print name: DENISE PINKERTON

E-mail address: leakejd@chevron.com

PHONE: 432-687-7375

For State Use Only

APPROVED BY:

TITLE

Dist. MGR

DATE

9-25-2013

Conditions of Approval (if any):

SEP 25 2013

Current Wellbore Schematic

WELL (PN): HERRADURA 4(CVX) (891128)
 FIELD OFFICE: HOBBS
 FIELD: Nadine Drinkard Abo
 STATE / COUNTY: NEW MEXICO / LEA
 LOCATION: SEC 15-19S-38E, 1928 FSL & 2161 FEL
 ROUTE: HOB-NM-ROUTE 09- JUSTIN HOBBS
 ELEVATION: GL: 3,595.0 KB: 3,610.0 KB Height: 15.0
 DEPTHS: TD: 7,740.0

API #: 3002536051
 Serial #:
 SPUD DATE: 12/7/2002
 RIG RELEASE: 12/28/2002
 1ST SALES GAS:
 1ST SALES OIL: 2/1/2003
 CURRENT STATUS: PRODUCING

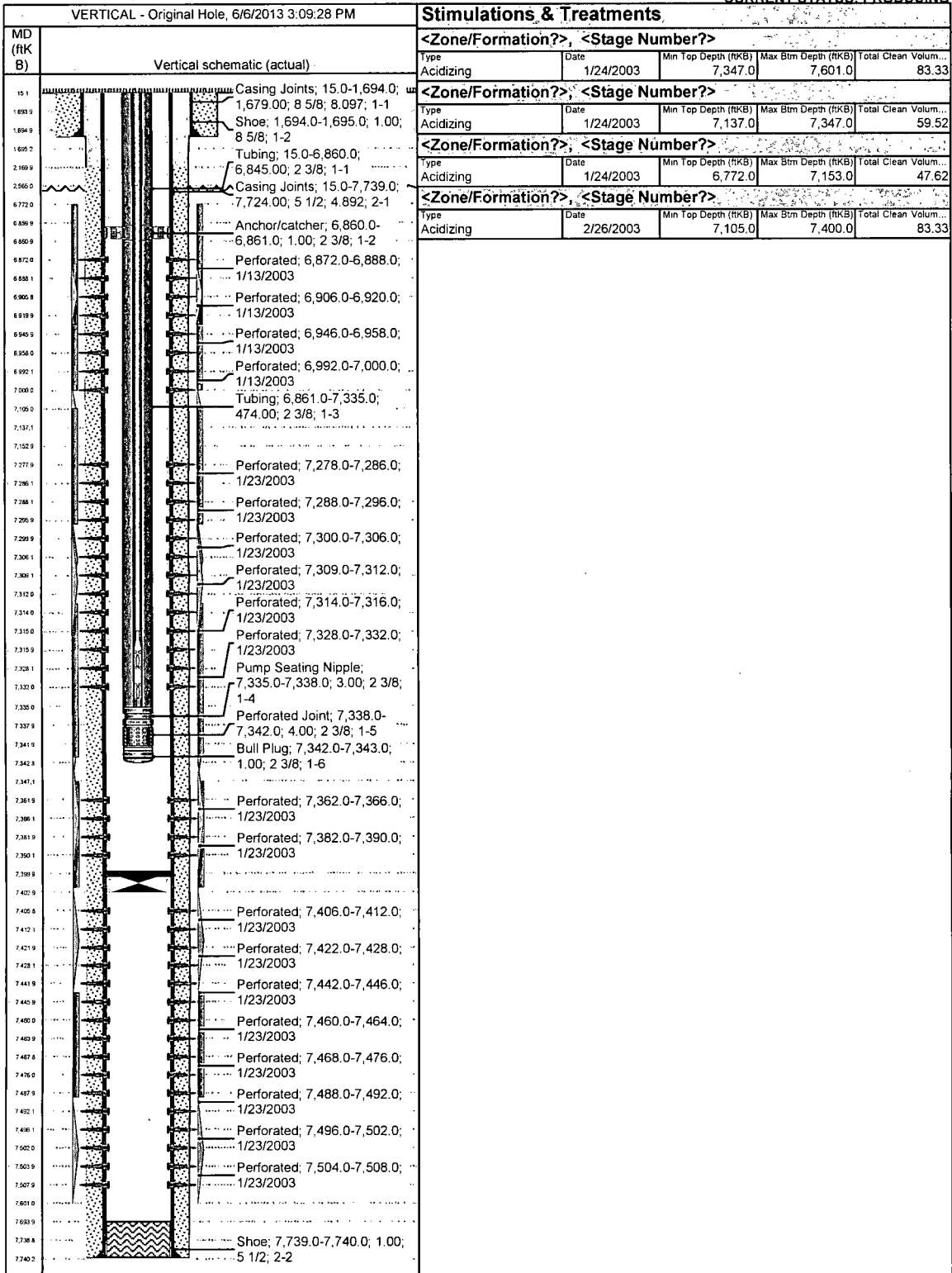
VERTICAL - Original Hole, 6/6/2013 3:09:28 PM		Deepest TVD								
MD (ftKB) B	Vertical schematic (actual)	Wellbore Name Original Hole		Max TVD (ftKB)						
		Casing String: Surface								
		Set Depth (ftKB)		Wellbore						
		1,695.0		Original Hole						
		Item Des	OD (in)	ID (in)	Drift (in)	Wt (lb/ft)	Grade	Top (ftKB)	Btm (ftKB)	
		Casing Joints	8 5/8	8.097	7.972	24.00	J-55	15.0	1,694.0	
		Shoe	8 5/8					1,694.0	1,695.0	
		Casing String: Production								
		Set Depth (ftKB)		Wellbore						
		7,740.0		Original Hole						
		Item Des	OD (in)	ID (in)	Drift (in)	Wt (lb/ft)	Grade	Top (ftKB)	Btm (ftKB)	
		Casing Joints	5 1/2	4.892	4.767	17.00	N-80	15.0	7,739.0	
		Shoe	5 1/2					7,739.0	7,740.0	
		Cement								
		Description: Surface Casing Cement		Top of Cement (ftKB): 15.0						
		Description: Production Casing Cement		Top of Cement (ftKB): 2,170.0						
		Tubing String: Tubing - Production - Run Date: 10/10/2006								
		Set Depth (ftKB)		Wellbore		Proposed Run?				
		7,343.0		Original Hole						
		Item Des	OD (in)	ID (in)	Drift (in)	Wt (lb/ft)	Grade	Top Thread	Top (ftKB)	Btm (ftKB)
		Tubing	2 3/8						15.0	6,860.0
		Anchor/catcher	2 3/8						6,860.0	6,861.0
		Tubing	2 3/8						6,861.0	7,335.0
		Pump Seating Nipple	2 3/8						7,335.0	7,338.0
		Perforated Joint	2 3/8						7,338.0	7,342.0
		Bull Plug	2 3/8						7,342.0	7,343.0
		Perforations								
		Date	Zone	Top (ftKB)	Btm (ftKB)	Shot Dens (shots/ft)	Phasing (*)			
		1/13/2003		6,872.0	6,888.0					
		1/13/2003		6,906.0	6,920.0					
		1/13/2003		6,946.0	6,958.0					
		1/13/2003		6,992.0	7,000.0					
		1/23/2003		7,278.0	7,286.0					
		1/23/2003		7,288.0	7,296.0					
		1/23/2003		7,300.0	7,306.0					
		1/23/2003		7,309.0	7,312.0					
		1/23/2003		7,314.0	7,316.0					
		1/23/2003		7,328.0	7,332.0					
		1/23/2003		7,362.0	7,366.0					
		1/23/2003		7,382.0	7,390.0					
		1/23/2003		7,406.0	7,412.0					
		1/23/2003		7,422.0	7,428.0					
		1/23/2003		7,442.0	7,446.0					
		1/23/2003		7,460.0	7,464.0					
		1/23/2003		7,468.0	7,476.0					
		1/23/2003		7,488.0	7,492.0					
		1/23/2003		7,496.0	7,502.0					
		1/23/2003		7,504.0	7,508.0					
		Stimulations & Treatments								
		<Zone/Formation?> <Stage Number?>								
		Type	Date	Min Top Depth (ftKB)	Max Btm Depth (ftKB)	Total Clean Volum...				
		Acidizing	1/14/2003	6,872.0	7,000.0	83.33				
		Additive		Sand Size	Amount	Conc (lb/gal)				
		<Zone/Formation?> <Stage Number?>								
		Type	Date	Min Top Depth (ftKB)	Max Btm Depth (ftKB)	Total Clean Volum...				
		Sand Frac	1/17/2003	6,872.0	7,000.0	1166.67				

Well History	
Date	Event
No events found.	

Current Wellbore Schematic

WELL (PN): HERRADURA 4(CVX) (891128)
 FIELD OFFICE: HOBBS
 FIELD: Nadine Drinkard Abo
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 CURRENT STATUS: PRODUCING



Well History

Date: Event:
 No events found.

Herradura #4 – [30-025-36051]
 Nadine Drinkard Abo field
 T19S, R38E, Section 15
 N 32° 39' 29.304", W -103° 8' 3.1914" (NAD27)
 Job: Sonic Hammer Acidize & Scale Squeeze

*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 = $0.001589 \times 40 \text{ PPM} \times 30 \text{ MCF} \times 0.6258 = 1 \text{ FEET}$
 500 PPM ROE = $0.0004546 \times 40 \text{ PPM} \times 30 \text{ MCF} \times 0.6258 = 1 \text{ FEET}$

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. 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).
2. MI & RU Workover unit.
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. ND wellhead, unset TAC, NU BOP [*Blinds on bottom, 2-3/8" pipe rams on top*]. NU EPA equipment and RU rig floor.
4. POOH & LD 1 joint 2-3/8" tbg, PU 5-1/2" packer and set @ ~ 25'. Close and test BOP pipe rams to 250psi (low)/ 1000psi (high). Record testing pressures on WellView report (Time log and safety/inspections). Release and LD packer.
5. PU tubing and run back in hole to tag top of CIBP and for fill.
Depths: (TAC 6,860', EOT 7,343', CIBP 7,400', Bottom Perfs 7,508', PBTD 7,694')
***There is a CIBP set at 7,400' that we will want to ultimately drill thru in order to stimulate lower perforations. Then, we will want to clean out to the PBTD of 7,694'.**
6. Once top of CIBP is tagged, RU Scanners and POOH while scanning all 2-3/8" 4.7# J-55 production tubing. LD all non-yellow band joints.

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

- **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.**
7. PU and RIH with 4-3/4" Milled Tooth (MT) Bit, 4 (3-1/2') drill collars on 2-7/8" 6.5# L-80 rental Workstring. RU power swivel and proceed to drill thru CIBP and C/O to 7,650' with foam/air unit (**continue to supplemental procedure and in accordance with attached SOG**). POOH with 2-7/8" WS and bit. LD bit and BHA. Secure well.
 8. Contact sonic tool representative to be on-site during job. *Verify that WS is clean, inspect for excessive rust.* PU and RIH with Sonic Hammer tool and 2-7/8" Workstring to 7,510' or enough depth to cover the bottom stimulation interval (@ 7,508') with a whole stand. Hydrotest tubing to 5,000 psi. Stand back tubing to top perforations (@ 6,872'). Install stripper head and stand pipe with sufficient treating line to move tools vertically ~ 60'. RU pressure gauges to allow monitoring of tubing and casing pressures during job.
 9. 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. 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

10. Treat all intervals from 6,870' to 7,510' with ~20 bbls 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	6,870' - 6,925'	55	1,300
2	6,945' - 7,005'	60	900
3	7,275' - 7,335'	60	1,400
4	7,360' - 7,420'	60	800
5	7,420' - 7,480'	60	1,000
6	7,480' - 7,510'	30	600
Total		325	6,000

Table 1

11. 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 600 gals of acid @ 5 BPM over first treating interval from 7,480' – 7,510', 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.**
12. 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.
13. Scale squeeze well with a total of 230 bbls 8.6 ppg brine water mixed with 3 drums (165 gallons) Baker SCW-358 Scale Inhibitor Chemical. Pump down Sonic Hammer tool at a max rate of 5 BPM. Start from lowest interval of 7,510' – 7,480' and continue moving uphole until top stage of 6,925 – 6,870 is reached. Pump the chemical/brine mixture with 35 bbls per stage and an additional 20 bbls on the top stage to flush. Ensure top of tubing is flushed with brine water before making a connection.
14. PU workstring 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.
15. TOH and LD 2-7/8" WS and Sonic Hammer tool.

Herradura #4	KB = 15 ft								
Tubing Detail									
			Top	Bottom					
+/- 220 jts	2 3/8" 4.7# J-55 tubing jts		15	6835					
3 ft	2 3/8" x 5 1/2" TAC		6835	6838	(set above top perf of 6,872')				
+/- 16 jts	2 3/8" 4.7# J-55 tubing jts		6838	7334					
31 ft	1 jt 2 3/8" TK-99 IPC tubing		7334	7365					
1 ft	2 3/8" SN		7365	7366					
4 ft	2 3/8" Perf Tubing Sub		7366	7370					
31 ft	2 3/8" Bull Plug Mud Anchor		7370	7401					
	EOT @ +/- 7401'								
Rod Detail									
			Top	Bottom					
22 ft	1 1/4" SM Polished Rod		15	37					
98 jts	7/8" Rods*		37	2487	(use 7/8" rods subs at top of string to space out)				
186 jts	3/4" Rods*		2487	7137					
8 jts	1 1/4" K Sinker Bars		7137	7337					
16 ft	2.0"x1.25"x16' RHBC Insert Pump		7337	7353	(2 stage HVR Insert)				
10 ft	1 1/4" Gas Anchor		7353	7363					
	*use same grade rods in the wellbore								

16. See TUBING DETAIL above. RIH with 2-3/8" 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.
17. ND BOP, set TAC, NU WH. RIH with rods and pump per attached recommendation/Rodstar design and ROD DETAIL above. Hang well on.
18. RD and release Workover unit. 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. **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, 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 7,650' 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.