

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

**SUNDRY NOTICES AND REPORTS ON WELLS**  
*Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.*

**OCD-HOBBS** APPROVED  
OMB No. 1004-0135  
Expires: July 31, 2010

5. Lease Serial No.  
NMLC031741A

6. If Indian, Allottee or Tribe Name

7. If Unit or CA/Agreement, Name and/or No.  
**NM120042x**

8. Well Name and No.  
HAWK A 03 *West bl. by Drinkard Unit #21*

9. API Well No.  
30-025-06440-00-0153

10. Field and Pool, or Exploratory Multiple--See Attached

11. County or Parish, and State  
LEA COUNTY, NM

**SUBMIT IN TRIPLICATE - Other instructions on reverse side.**

1. Type of Well  
 Oil Well  Gas Well  Other **WIW**

2. Name of Operator  
APACHE CORPORATION ✓ Contact: REESA FISHER  
E-Mail: Reesa.Fisher@apachecorp.com

3a. Address  
303 VETERANS AIRPARK LANE SUITE 3000  
MIDLAND, TX 79705

3b. Phone No. (include area code)  
Ph: 432-818-7062

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)  
Sec 9 T21S R37E SWNW 1980FNL 660FWL ✓

**WBDOS OCD**  
**FEB 16 2016**  
**RECEIVED**

12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input checked="" type="checkbox"/> Recomplete	<input type="checkbox"/> Other
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

Apache would like to deepen this well, run a liner and recomplete in the Drinkard part of this formation, per the following procedure. Also attached are before and after WBD's.

**WITNESS**

**SEE ATTACHED FOR  
CONDITIONS OF APPROVAL**

**SUBJECT TO LIKE  
APPROVAL BY STATE**

14. I hereby certify that the foregoing is true and correct.

**Electronic Submission #326416 verified by the BLM Well Information System  
For APACHE CORPORATION, sent to the Hobbs  
Committed to AFMSS for processing by PRISCILLA PEREZ on 01/04/2016 (16PP0085SE)**

Name (Printed/Typed) REESA FISHER Title SR STAFF REGULATORY ANALYST *Ko*

Signature (Electronic Submission) Date 12/16/2015

**APPROVED**

**THIS SPACE FOR FEDERAL OR STATE OFFICE USE**

Approved By \_\_\_\_\_ Title \_\_\_\_\_ Date **JAN 29 2016**

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Office \_\_\_\_\_

**BUREAU OF LAND MANAGEMENT  
CARLSBAD FIELD OFFICE**

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

**\*\* BLM REVISED \*\* BLM REVISED \*\* BLM REVISED \*\* BLM REVISED \*\* BLM REVISED \*\***

FEB 17 2016 *cy*

Additional data for EC transaction #326416 that would not fit on the form

10. Field and Pool, continued

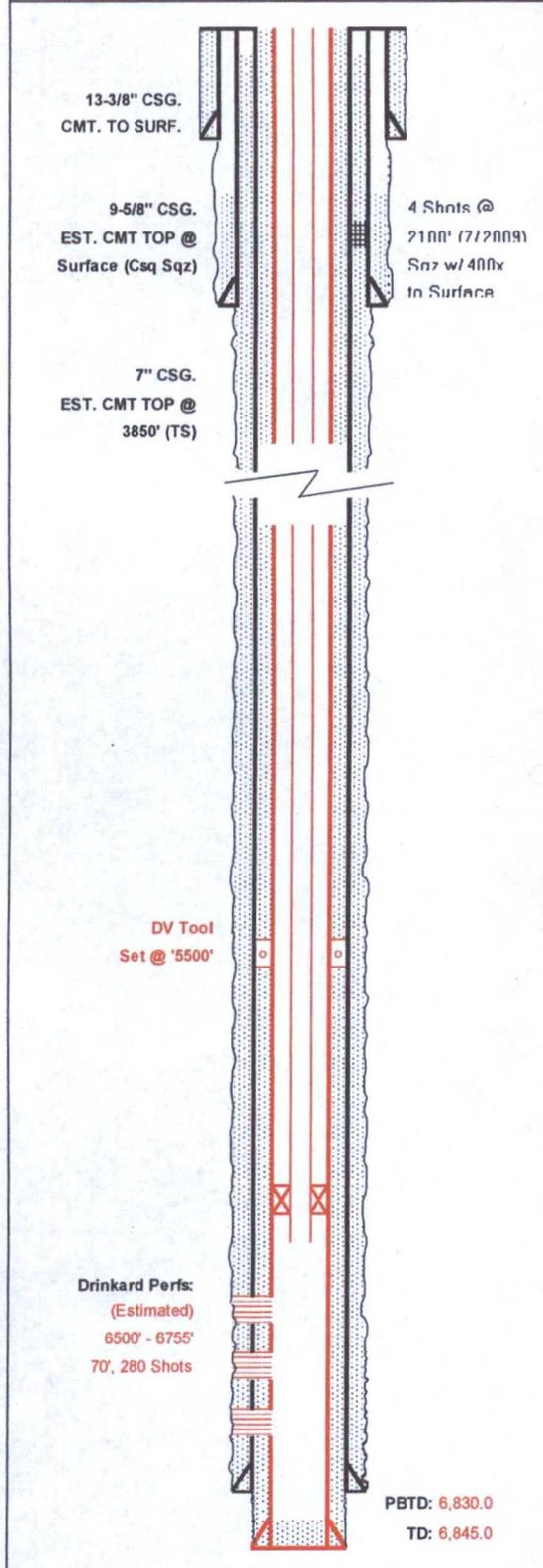
EUNICE

Proposed Wellbore Diagram

Apache Corporation  
WBDU #21W (Hawk A #3)



WELL DIAGRAM (PROPOSED CONFIGURATION)



<b>WELL NAME:</b> WBDU #21W (Hawk A #3)		<b>API:</b> 30-025-06440			
<b>LOCATION:</b> 1980' FNL / 660'FWL, Sec 9, T-21S, R-37E		<b>COUNTY:</b> Lea Co., NM			
<b>SPUD/TD DATE:</b> 2/11/1948-3/19/1948		<b>COMP. DATE:</b> 3/22/1948			
<b>PREPARED BY:</b> Bret Shapot		<b>DATE:</b> 12/3/2015			
<b>TD (ft):</b> 6,845.0	<b>KB Elev. (ft):</b> 3518.0	<b>KB to Ground (ft):</b> 10.0			
<b>PBTD (ft):</b> 6,830.0	<b>Ground Elev. (ft):</b> 3508.0				
CASING/TUBING	SIZE (IN)	WEIGHT (LB/FT)	GRADE	DEPTHS (FT)	
Surface Casing	13-3/8" (Cmt. w/ 200sx., Circ.)	48.00	H-40	0.00	224.00
Int. Casing	9-5/8" (Cmt. w/ 550sx) TOC @ Surface'	32.3 / 36	H-40	0.00	2,799.00
Prod. Casing	7" (Cmt. w/ 500 sx) TOC @ 3850' (TS)	23.00	J-55 N-80	0.00	6,684.00
Liner	4-1/2" Cmt. To surf	11.60	J-55	0.00	6,845.00
INJECTION TBG STRING					
ITEM	DESCRIPTION			LENGTH (FT)	Btm (FT)
1	2-3/8" 4.7 LB/FT J-55 IPC TBG			6,492.00	6492.00
2	2-3/8" ON/OFF TOOL W/ 1.78 F PROFILE			1.80	6493.80
3	2-3/8" X 4-1/2" NICKLE PLATED ARROW-SET PKR			6.20	6500.00
4	2-3/8" 4.7 LB/FT J-55 IPC TBG			8.00	6508.00
5	2-3/8" PROFILE NIPPLE 1.50 R			0.90	6508.90
6	2-3/8" 4.7 LB/FT J-55 IPC TBG			6.00	6,514.90
7					
8					
9					
PERFORATIONS					
Form.	Intervals	FT	SPF		
Drinkard	(Estimated) 6500' - 6755'	70	4		

DV Tool Set @ '5500'

Drinkard Perfs: (Estimated) 6500' - 6755' 70', 280 Shots

PBTD: 6,830.0  
TD: 6,845.0

**WBDU 21W (API: 30-25-06440) Proposed Procedure – November 30, 2015**

**Deepen Well, Run Liner, and recomplete in the Drinkard Formation**

**Day 1:** MIRU. Release packer and POOH w/ 2-3/8" tubing, on/off tool, and packer. PU & RIH w/ 6-1/8" bit on 2-7/8" work string.

**Day 2:** Continue in hole and drill out well to new TD @ +/- 6845'.

**Day 3:** Continue to drill out well to TD @ +/- 6845'.

**Day 4:** Continue to drill out well to TD @ +/- 6845'. Circulate wellbore clean and POOH and LD 2-7/8" work string.

**Day 5:** RU casing crew and equipment and RIH with 4-1/2" 11.6 lb/ft LTC 8 RD J-55 casing with DV tool w/packer (set at +/- 5500'), float collar, and float shoe to +/- 6845'. Perform two stage cement job to surface as follows:

- a. Pump first stage consisting of 10 bbl fresh water flush, 40 bbl seal bond LCM spacer, and 227 sacks of 50:50 Fly Ash (Pozzolan):Class C cement + additives (weight 14.2 ppg, yield 1.31 cf/sack, volume 53.0 bbls, 100% excess slurry)
- b. Drop plug, displace with 106 bbl fresh water (confirm volumes) and bump plug. Drop dart. Open DV tool and set packer to isolate first stage cement.
- c. Pump second cement stage consisting of 20 bbl fresh water flush, lead slurry of 228 sacks 35:65 Fly Ash (Pozzolan):Class C cement + additives (weight 12.5 ppg, yield 2.13 cf/sack, 86.3 bbl, 20% excess slurry), tail slurry of 240 sacks of class C cement + additives (weight 14.8 ppg, yield 1.33 cf/sack, 57.8 bbl, 20% excess slurry)
- d. Drop DV tool plug, displace with 85 bbl fresh water (confirm volumes)

**Day 6:** WOC

**Day 7:** RIH w/ 3-1/4" bit on 2-3/8" work string. Drill out DV tool, float collar and cement to +/- 6830'. Circulate clean. POOH

**Day 8:** MIRU WL and RIH w/ GR/CBL/CCL, log well from TD to surface, POOH

PU and RIH w/ 3-1/8" TAGs loaded with SDP charges and perforate the Drinkard @ 4 SPF, 90 deg phasing (estimated 70', 280 shots), POOH

PU and RIH w/ treating packer on 2-3/8" work string

**Day 9:** Cont. RIH w/ treating packer on 2-3/8" work string. Set packer @ +/-6500'

MIRU crew. Acidize the Drinkard w/10,000 gals 15% HCl and rock salt in 3 equal stages @ +/- 10 BPM. Release packer. Wash out salt. POOH

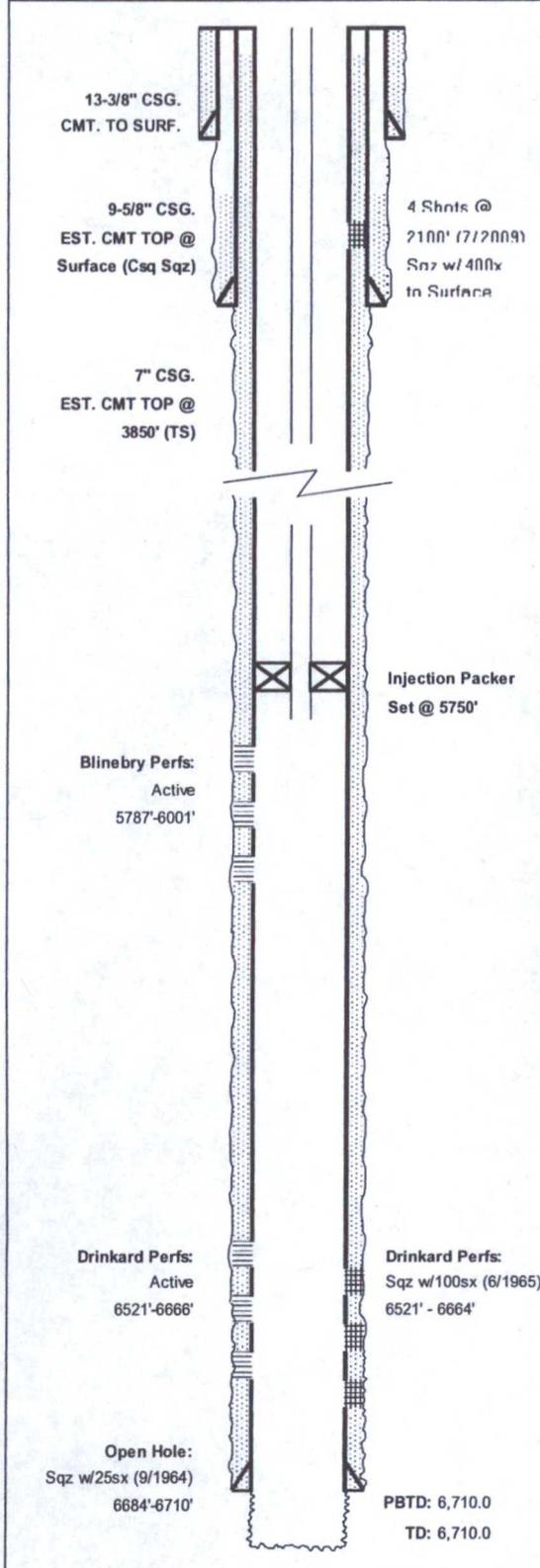
**Day 10:** PU and RIH with 4-1/2" injection packer with 2-3/8" IPC tubing subs, upper and lower profile nipples, and on/off tool on 2-3/8" work string. Set packer @ +/-6500'. Release on/off tool and pressure test casing to 500 psi. POOH and LD 2-3/8" work string

**Day 11:** PU & RIH w/2-3/8" IPC injection tubing and on/off tool. Circulate packer fluid and latch onto packer with on/off tool. ND BOPs and NU WH. Pressure test casing to 500 psi. RDMO.

**Day 12:** Perform MIT test for NM OCD. Place well on injection

Current Wellbore Diagram

**Apache Corporation**  
**WBDU #21W (Hawk A #3)**  
**WELL DIAGRAM (CURRENT CONFIGURATION)**



<b>WELL NAME:</b>	WBDU #21W (Hawk A #3)	<b>API:</b>	30-025-06440
<b>LOCATION:</b>	1980' FNL / 660'FWL, Sec 9, T-21S, R-37E	<b>COUNTY:</b>	Lea Co., NM
<b>SPUD/TD DATE:</b>	2/11/1948-3/19/1948	<b>COMP. DATE:</b>	3/22/1948
<b>PREPARED BY:</b>	Bret Shapot	<b>DATE:</b>	12/3/2015
<b>TD (ft):</b>	6,710.0	<b>KB Elev. (ft):</b>	3518.0
<b>PBTD (ft):</b>	6,710.0	<b>Ground Elev. (ft):</b>	3508.0
		<b>KB to Ground (ft)</b>	10.0

CASING/TUBING	SIZE (IN)	WEIGHT (LB/FT)	GRADE	DEPTHS (FT)
Surface Casing	13-3/8" (Cmt. w/ 200sx., Circ.)	48.00	H-40	0.00 224.00
Int. Casing	9-5/8" (Cmt. w/ 550sx) TOC @ Surface'	32.3 / 36	H-40	0.00 2,799.00
Prod. Casing	7" (Cmt. w/ 500 sx) TOC @ 3850' (TS)	23.00	J-55 N-80	0.00 6,684.00

**INJECTION TBG STRING**

ITEM	DESCRIPTION	LENGTH (FT)	Btm (FT)
1	179 JTS 2-3/8" IPC Tubing		
2	Baker Lok-set packer w/on-off tool		
3			
4			
5			
6			
7			
8			
9			
10			

**PERFORATIONS**

Form.	Intervals	FT	SPF
<b>Blinebry</b>	5787', 5805', 41', 57', 68', 5909', 14', 33', 54', 94', 6001'	11	1
	(Squeezed) 6521', 28', 40', 48', 60', 69', 96', 6603', 10', 20', 48', 53', 64', 62', 64'	13	1
<b>Drinkard</b>	6521', 28', 40', 48', 60', 69', 96', 6603', 10', 20', 48', 53', 64'	13	1
	6648'-56', 60'-66'	16	2
<b>Drinkard OH</b>	(Squeezed) 6684'-6710'	27	N/A

## Conditions of Approval

Apache Corporation  
West Blinebry Drinkard Unit - 21, API 3002506440  
T21S-R37E, Sec 09, 1980FNL & 660FWL  
January 29, 2016

- 1. Operator is required to have the BLM approved NOI procedure with applicable conditions of approval on location for this workover operation.**
2. Due to being within the Lesser Prairie Chicken habitat, this workover activity will be restricted to the hours of 9:00am through 3:00am for the period of March 1 through June 15. Exceptions to these restrictions may be granted by BLM's Johnny Chopp <jchopp@blm.gov> 575.234.2227.
3. Subject to like approval by the New Mexico Oil Conservation Division.
- 4. Prior to running the 4 1/2" liner preform operations that will verify (7"x 9 5/8") annular cement coverage from 50ft or more below the 9 5/8" shoe to 50ft or more above that shoe.**
- 5. Prior to running the 4 1/2" liner preform operations that will verify annular (7"x 9 5/8" and 9 5/8"x 13 3/8") cement coverage from 50ft or more below the 13 3/8" shoe to 50ft or more above that shoe.**
- 6. Provide BLM with an electronic copy cement bond log record of the 4 1/2" csg from 6400 or below to top of cement taken with 0psig casing pressure. The CBL may be attached to a pswartz@blm.gov email. The CFO BLM on call engineer may be reached at 575-706-2779.**
7. Surface disturbance beyond the existing pad shall have prior approval.
8. A closed loop system is required. The operator shall properly dispose of drilling/circulating contents at an authorized disposal site. Tanks are required for all operations, no excavated pits.
9. Functional H<sub>2</sub>S monitoring equipment shall be on location.
10. 2000 (2M) Blow Out Prevention Equipment to be used. All BOPE and workover procedures shall establish fail safe well control. Blind ram(s) and pipe ram(s) designed to close on all workstring diameters used is required equipment. A manual BOP closure system (hand wheels) shall be available for use regardless of BOP design. Function test the installed BOPE to 500psig when well conditions allow. Related equipment, (choke manifolds, kill trucks, gas vent or flare lines, etc.) shall be employed when needed for reasonable well control requirements.
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. Before perforating, **perform a charted casing integrity test** of <sup>758</sup>1245 psig minimum. Document the pressure test on a one hour full rotation calibrated (within 6 months) recorder chart registering within 35 to 75 per cent of its full range. **Verify all annular casing vents are plumbed to the surface and open during this pressure test. Call BLM 575-393-3612 and arrange for a BLM witness of that pressure test.** Include a copy of the chart in the subsequent sundry for this workover.
13. Workover approval is good for 90 days (completion to be within 90 days of approval). A legitimate request is necessary for extension of that date.
14. File intermediate **subsequent sundry** Form 3160-5 within 30 days of any interrupted workover procedures and a complete workover subsequent sundry. Include (dated daily) descriptions of the well work.
15. Submit the BLM Form 3160-4 **Recompletion Report** within 30 days of the date all BLM approved procedures are complete. **Include formation tops on the Recompletion Report.**

#### 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 minimum 200 psig differential 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). Verify all annular casing vent valves are open to the surface during this pressure test. 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 one hour full rotation calibrated (within 6 months) recorder chart registering within 35 to 75 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) Make arrangements 24 hours before the test for BLM to witness. In Lea County phone 575-393-3612. If no answer, leave a voice mail or email with the API#, workover purpose, and a call back phone number. Note the contact, 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 is a "Best Management Practice". 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) Compliance with a NMOCD Administrative Order is required.
  - 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.
- 8) Class II (production water disposal) wells will not be permitted Stimulation Pressures or "Injectivity Tests" that exceed the NMOCD/BLM generic frac pressure which is: .2 x ft depth to the topmost injection or 50psig below the frac point as clearly indicated by a BLM accepted "Step Rate Test".
- 9) A request for increased wellhead pressures is to be accompanied by a "Step Rate Test:" that is to clearly indicate any requested wellhead pressure is +50psig below frac pressure for the wellbore's disposal formation. PRIOR to a Step Rate Test BLM – CFO is requiring a Notice of Intent.
- 10) The subsequent report is to include workover stimulation injection pressures. Report maximum/minimum injection rate (BPM) and max/min stimulation injection pressures (psig).
- 11) Unexplained significant variations of rate or pressure to be reported within 5 days of notice.
- 12) 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 a full annular fluid level at any time.
- 13) A "Best Management Practice" is to maintain the annulus full of packer fluid at atmospheric pressure. Equipment that will display on site, continuous open to the air fluid level is necessary to achieve this goal.
- 14) Loss of packer fluid above five barrels per month indicates a developing problem. Notify BLM Carlsbad Field Office, Petroleum Engineering within 5 days.
- 15) A suggested format for monthly records documenting that the casing annulus is fluid filled is available from the BLM Carlsbad Field Office. Gain of annular fluid requires notification within 24 hours. Cease injection and maintain a production casing pressure of 0 psia. Notify the BLM's authorized officer ("Paul R. Swartz" <[pswartz@blm.gov](mailto:pswartz@blm.gov)>, cell phone 575-200-7902). If there is no response phone 575-361-2822.
- 16) Gain of annular fluid requires notification within 24 hours. Cease injection and maintain a production casing pressure of 0 psia. Notify the BLM's authorized officer ("Paul R. Swartz" <[pswartz@blm.gov](mailto:pswartz@blm.gov)>, cell phone 575-200-7902). If there is no response phone 575-361-2822.

17) Submit a (BLM Form 3160-5 subsequent report (daily reports) via BLM's Well Information System; <https://www.blm.gov/wispermits/wis/SP> (email [pswartz@blm.gov](mailto:pswartz@blm.gov) for instructions) describing all wellbore activity and the Mechanical Integrity Test. Include (dated daily) descriptions of the well work, and the setting depths of installed equipment: internally corrosive protected tubing, tubing on/off equipment just above the packer. File intermediate Form 3160-5 within 30 days of any interrupted workover procedures and a complete workover subsequent sundry.