# **UNITED STATES** DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

OCD Artes/a
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FORM APPROVED OMB NO 1004-0135 Expires July 31, 2010

Lease Serial No NMNM124659

# 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.

6. If Indian, Allottee or Tribe Name

7 If Unit or CA/Agreement, Name and/or No

SUBMIT IN TRIPLICATE - Other instructions on reverse side.				reement, Name and/or No
Type of Well     ☐ Gas Well ☐ Other				lo. DERAL 1
2 Name of Operator Contact: TERRI STATHEM CIMAREX ENERGY COMPANY OF C@-Mail. tstathem@cimarex.com				. 00.04
CIMAREX ENERGY COMPAI			30-015-38226	
3a Address 600 NORTH MARIENFELD STREET SUITE 600 MIDLAND, TX 79701  3b Phone No. (incl Ph: 432-620-19				Prone Johng
4 Location of Well (Footage, Sec., 7	, R, M, or Survey Description)		11. County or Paris	h, and State
Sec 6 T20S R30E NWNW 15	0FNL 660FWL		EDDY COUN	TY, NM
12. CHECK APPI	ROPRIATE BOX(ES) TO	INDICATE NATURE OF	NOTICE, REPORT, OR OTH	ER DATA
TYPE OF SUBMISSION		· TYPE O	F ACTION '	
Notice of Intent	Acidize	Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
_	Alter Casing	Fracture Treat	Reclamation ·	☐ Well Integrity
☐ Subsequent Report	Casing Repair	☐ New Construction	Recomplete	Other
☐ Final Abandonment Notice	Change Plans	Plug and Abandon	☐ Temporarily Abandon	
	Convert to Injection	Plug Back ·	□ Water Disposal	
Please see attached procedure  Please see Attached procedure  Please see Attached procedure	SEE ATTAC	e diagrams for your review	and approval.	2012
14 I hereby certify that the foregoing is	true and correct			TT COINT
	Electronic Submission #13 For CIMAREX ENER mitted to AFMSS for process			
Signature (Electronic S		Date 05/30/2		
	THIS SPACE FOR	R FEDERAL OR STATE	OFFKEPSEROVED	
Approved By		Title	2012	Date
Conditions of approval, if any, are attache certify that the applicant holds legal or equivich would entitle the applicant to conditions.	uitable title to those rights in the s uct operations thereon	ubject lease Office	JUN 5 2012	
Fitle 18 U.S.C. Section 1001 and Title 43 States any false, fictitious or fraudulent	U.S.C. Section 1212, make it a constatements or representations as to	rime for any person knowingly and any matter within its jurisdiction	nd will的是关系。 ····································	por agency of the United

# Burton 6 Fed #1 Return well to Production

Well Data:

TD 11,795' (MD) & 8410 (TVD)

PBTD 11,749 (MD)

Casing 16" 65# H-40 BTC @ 330'.

11 34" @ 1605'.

8 5/8" 32# J-55 & K-55 @ 3502' 5 ½" 17# P-110 BT&C @ 11,784'.

KOP's 8080' (OH), 2<sup>nd</sup> lateral window 8007-8017

Perfs 8454-9111, 9330-9987, 10206-10863, & 11080 – 11739.

Open Hole 7 7/8" hole drilled to 8555' TD.

#### Procedure:

1. Set rig anchors. MIRU PU. Offload 8300' 2 7/8 L-80 work string, NUBOP.

- 2. TIH w/ retrieving tool for Weatherford RBP. Release RBP @ 7805' & pooh.
- 3. MU & RIH w/ fishing assembly for whipstock. POOH w/ whipstock.
- 4. RIH w/ tubing and tag top of plug @ 9160'. Pick up to next full joint of tubing.
- 5. Break circulation and spot 150 sack cement plug from end of tubing up into the 5 ½" casing (minimum 30' above window (8007-8017).
- 6. Pull tubing to 7500' and circulate clean and pull tubing.
- 7. Close BOP and Pressure up to 200 psi. Leave well shut in for minimum of 24 hours to allow cement to cure.
- 8. MU and RIH w/ bit, stiff string centralizers, and collars for 5 ½" 17# csg. MIRU reverse unit. Drill out cement. Monitor returns at 7950' for cement quality. Continue to drill out across window carefully to stay in vertical hole section. Test cement plug to 1000 psi for 30 minutes. Report results to office.
- 9. Continue in hole to CIBP @ 8020'. Drill out CIBP. Pooh and lay down stiff string centralizers. RIH w/ bit and collars (note KOP of original lateral @ 8080' plug set at 39 deg Incl). Tag cement @ 8278' and drill down to top of next CIBP @ 8330'. Pooh w/ bit. RIH w/ shoe w/ diamonds and wires (or pkr plucker design). Cut over CIBP attempting to catch it in the shoe. Pooh laying down BHA.
- 10. MU and RIH w/ 3800' of 2 3/8 Hydril tbg (bit or mill to be determined on success of retrieving CIBP @ 8330'), crossover, & 2 7/8 L-80 tbg. MIRU foam air unit. Clean out horizontal section of 5 ½ csg to PBTD of 11,749'. Short trip as needed to maintain circulation and prevent sand from collecting in curve.
- 11. Pooh laying down 2 3/8 Hydril work string.

See attached Weatherford Installation Procedure for complete description of step 12.

- 12. Run in with 50' casing patch and position 7987 8037' and install patch.
- 13. Pooh laying down 2 7/8" workstring.
- 14. PU & RIH w/ production tbg and rods as originally pulled prior to plugging back. Restore well to production.



### **DRILLING PROGNOSIS Cimarex Energy Company**

Burton 6 Federal #1H Reentry Well:

Sec 6, T20S-R30E Location: County, State **Eddy County, NM** 

N32º 36' 33.38" W104º 01' 03.69" Lat / Long: 150 FNL, 660 FWL

660 FSL 690 FWL

Surface Location: **Bottomhole Loc:** E-Mail:

SEC A: 11" 5M x 8-5/8" SOW SEC B: 11" 5M X 7-1/16" 10M

**Xmas Tree** Tubing: Superintendent: Engineer:

Wellhead:

AFE#

API: 30-015-38226 Field: Burton

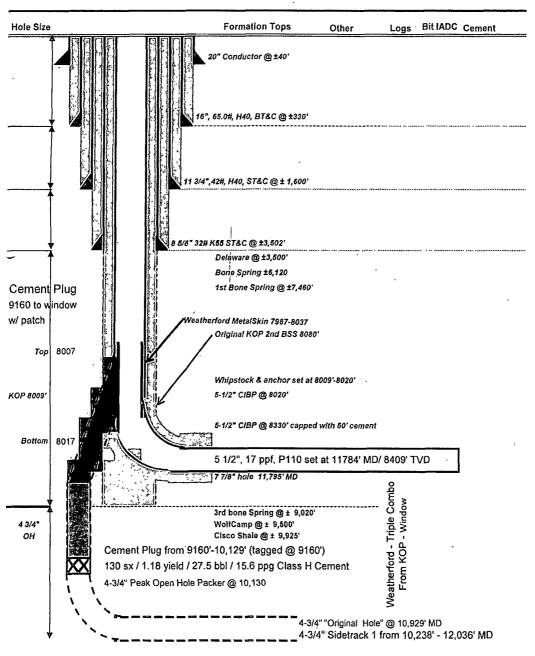
**Objective:** TVD/MD:

Ground Elevation: 3323'

Cementing: Mud: Motors: OH Logs Liner Hanger

Offset Wells:

Rig:





### **DRILLING PROGNOSIS Cimarex Energy Company**

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Xmas Tree Tubing:

Superintendent: Engineer:

AFE# API:

30-015-38226

Field:

Burton

Objective:

TVD/MD:

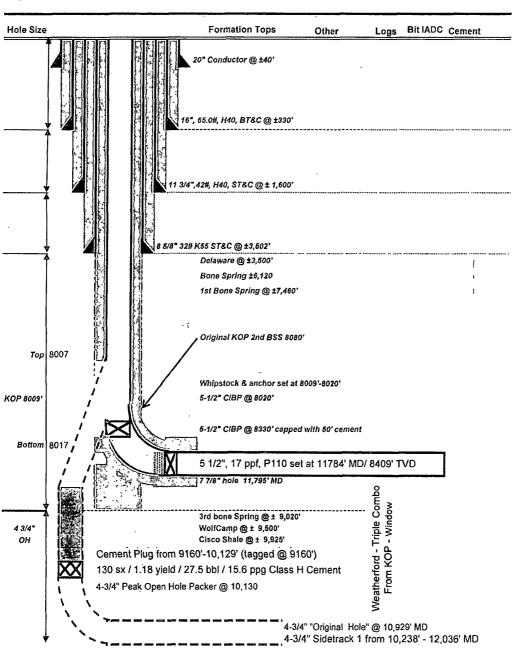
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Rig:

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#### General Pre-job Requirements – 4.25" x 5.50" MetalSkin Cased-hole Liner (MCL)

- 1. Make clean-out trip w/bit, scraper, brushes and junk basket assembly. If tight spots are encountered, rig up power swivel and reverse unit and run bit on bottom with a tandem full gauge 5-blade spiral/watermelon mill assembly from twice the length of the liner to at least 25' below setting depth and across any tight spots encountered until completely clean.
- 2. Hydro-test the necessary length of workstring required to run MCL to TD to at least 5,000 psi prior to running the liner. This will clean out workstring and insure hydraulic integrity.
- 3. Run caliper log to verify inside diameter of casing down to and across the depth where the 4.25" MCL will be set
- 4. Run xx ft of Wash Pipe with a full gauge guide shoe (for the drift of 5.50" casing) to confirm passage of MCL thru any doglegs or other obstructions. (Can be reviewed and discussed on actual sizes available)
- 5. Conduct pre-job review with operator and service personnel. Evaluate the proposed operations plan based on the results of the caliper log and wash pipe run.

#### Liner Make-up and Handling Procedures:

#### Care & Handling -

Both pipe and connection are very sensitive to any shock loads due to the thin wall thickness especially close to the internal and external seal of the connection. Extreme care should be taken in handling so as not to damage either the pipe or the connection.

- It is mandatory to handle pipe using soft handling procedures
- Protectors should not be removed during any movement of the pipe
- Specific lifting subs have to be used
- Do not stack pipe on top of other pipe without separating with something softer than metal
- Slips should be fitted with non-directional inserts if available
- When unloading or loading pipe, use soft strap on center point
- 1. Rig up 2-7/8" flat top side door tubing elevators, 4.25" bowl, and 4.25" casing slips.
- 2. Pick up the first joint (anchor joint) of 4.25" MetalSkin casing expansion cone and GS-spear receiver sub FODC-OR pin up, with 2 7/8" lift sub and lower into well inspecting casing for any damage. Set in low-marking slips. Secure low to non-marking safety clamp. Unscrew lift sub.



- 3. Pick up 2nd joint of 4.25" MetalSkin casing. Install o-ring into groove of 1<sup>st</sup> joint and lubricate pin. Stab box end onto pin of first joint using the stabbing guide and make up left hand thread with non-marking wrenches to +/- 1,100 ft-lbs as scribed on connection.
- 4. Lower the liner into the well and inspect the casing as it is being lowered. Set in the slips when the connection is at a good working height and install safety clamp.
- 5. Continue to pick up and run the required footage of casing. (if applicable)
- 6. The last 2 joints installed are the top isolation seal joint and a 2' top cap with a beveled top. (if running multiple joints versus a single integral joint)
- 7. Secure casing in slips, install safety clamp and rig up false rotary table (cap plate to be supplied by WFT-MCL).

#### **Running Inner-String**

- 8. Rig up 2-7/8" elevators, bowl and slips. Pick up 2-7/8" EUE inner-string with GS-Spear and 2-7/8" inner-string of tubing with debris sub and lower into the 4.25" casing.
- 9. Continue into the hole until the required number of joints for space-out is picked up.
- 10. Pick up the 10' extension bar and the profile sub using the pick up sub back to 2-7/8" (or 2-3/8") shank. Slide the adjustable liner stop over the end of the 2" OD extension rod. Make up the 1-1/8" Rod Box x 2-7/8" EUE Pin crossover onto the bottom of the 2" extension bar.
- 11. Make up the assembly in the elevators to the 2-7/8" inner string.
- 12. Torque up all connections.
- 13. Remove the 2-7/8" bowl and slips.
- 14. Lower assembly with elevators until the profile on the extension sub is just above the top of the bowl plate. Slide the c-plate thru the profile in the extension joint and slack off.
- 15. Pick up the hydraulic jack setting tool and latch into 2-3/8" elevators.
- 16. Pick up out of the c-plate and lower until the GS-spear latches into the spear sub receiver.
- 17. Verify latch in by picking up slowly out of the casing slips
- 18. Make up split bushing over extension bar if required and space out the adjustable liner stop.



- 19. Remove casing safety clamp and pull slips. Run in hole and set assembly in 2 3/8" slips.
- 20. Pick up and make up one full length joint of 2 7/8" tubing with required crossover between 2-3/8" EUE box on top of jack with 2-3/8" EUE Pin to 2-7/8" workstring box.
- 21. Fill workstring with clean water and insert a grease plug on top of the 2 7/8" tubing joint.
- 22. Pick up the 2-3/8" EUE slide valve sub assembly (slide valve and bumper sub) on a single joint of 2-7/8" tubing and make up. Crossover required on bottom of slide valve (2-7/8" workstring pin x 2-3/8" EUE box) and on top of bumper sub (2-3/8" EUE pin x 2-7/8" workstring box)
- 23. Trip in hole with workstring to TD. Maximum RIH speed is 60 ft/min. If applicable, fill workstring up as specified by operator or just allow to auto-fill thru the slide valve
  - Note, secure all pipe remaining in the derrick and check for any loose objects that may fall during the job.
- 24. Once on depth, space out with pups and take up and down weights. Mark pipe at depth Allow enough length at surface to go 3' past bottom MCL setting depth.
- 25. RIH 2-3' past setting depth and pick back up to setting depth mark on pipe. (This closes the slide valve in the string)
- 26. Fill tubing string and monitor backside to ensure annulus is full.

#### **Expanding the MCHL with Rig Using Direct Overpull**

- 27. Rig up tubing test truck pump to pumping service line or as required between tubing connection and pump truck.
- 28. Slowly start to pump in at less than 0.5 bpm monitoring pressure. Slowly increase pressure to 4,500 psi watching pressure gauge for indication of piston in hydraulic jack functioning. At 4,500 psi, hold pressure for 1 minute and bleed off. Re-pressure the system back to 4,500 psi as in the first cycle to ensure that the tool functioned properly. Bleed off the pressure.
- 29. Verify the setting tool functioned properly and set the anchor on the bottom of the MCL. Pick up the workstring with the elevators and pull into tension with 10kips overpull. The string should be picked up a total of 5' (length of setting tool stroke) before the overpull is seen.
- 30. Once confirmed that the anchor is set, slack off, set slips and rig down service line.



- 41. Continue the sequence of applying pressure, bleeding off and picking up 5' until the entire length of the liner has been expanded.
  - Note 1. As in Step 35, expansion should continue until the string has been picked up at least 5-6' above a connection so that the string can be lowered allowing the fluid to equalize in the workstring and not break a wet connection.
  - Note 2. If the workstring is not able to be picked up the 5' length of the jack stroke, this may indicate that the expansion cone is not able to be hydraulically jacked thru the casing. If this occurs, then the rig will need to be used to apply the overpull force required to continue the expansion thru at least the restricted area. (Maximum overpull in MetalSkin tools is 120kips.)



#### Auxiliary Equipment & Services Summary -

#### **Equipment and Services to be Provided by Operator:**

- Workover rig capable of pulling at least 150kips (includes string weight)
- Transportation WFT-Pearland, TX to Operator's location or closest WFT district and return of tools and work boxes to WFT-Pearland, TX
- Transportation WFT base to operator location and return to WFT base
- Scraper/junk basket run on workstring to TD and/or power swivel, mills, pumps as required.
- · Casing caliper log.
- Washpipe/drift run to TD.

#### **Tubulars and Handling Equipment Required:**

2-7/8" & 2-3/8" tubing elevators - side door type

2-7/8" & 2-3/8" bowl, slips

2-7/8" workstring - 145,000 lb minimum joint yield strength

2-7/8" pup joints

Crossovers as required to workstring from 2-3/8" EUE (top of setting tool, bottom of bumper sub and top slide valve)

2ea 2-3/8" EUE pin x 2-7/8" operator's workstring box

1ea 2-7/8" operators workstring pin x 2-3/8" EUE box

1ea 2-7/8" operator's workstring pin x 2-7/8" EUE box

2-7/8" slip-type elevators rated to at least 150 kips (if direct overpull expansion of casing)

4.25" bowl, low-marking slips, and low marking safety clamp

All workstring tubulars and crossovers pressure tested to 5,000+ psi, drifted and tallied.

Clean fluid to be used to fill casing, tubing string and hydraulically pressure up on pipe.

Pressure pumping service line (hard line or hose) with 5,000 psi working pressure

Pump capable of pumping at rates less than 1/2 bpm under pressure load, water or mud depending on well.

Weatherford	META	ALSKIN INSTALLA	ATION DI	AGRAM	<b>!</b>	
MetalSkin Specificat	ons Company			Dăte	e)· '	
Size	Location		Ticket Number			
Material	, Rig	4		Company	<u>'' — — — — — — — — — — — — — — — — — — </u>	
Max O.D.	Field	· · · · · · · · · · · · · · · · · · ·		eatherfor		
Run I.D.	Well		<del></del>	Distric	<del></del>	
			<u></u>			
Running Tools & MetalSkir Liner	Description	· · · · · · · · · · · · · · · · · · ·		1000	Leasth (A)	De-14 (6)
Liller .	Running Tod Assembly	· · · · · · · · · · · · · · · · · · ·	O.D. (in)	1.D. (in)'	Length (ft)	Depth (ft)
EX	Training tod Assertary					
	1. Workstring					
	XX - Crossover					
<u> </u>	2. Slide Valve Sub					
1 2	3. Bumper Sub					ļ
<i>f</i> tt	XX - Crossover 4. Single Tubing Joint					
(II)	XX - Crossover					
	5. Hydraulic Setting Tool					
3 3	6. Extension					
	7. Crossover					
	8. Internal Tubing String (10' Joint Lengths	5)				
	GS-Spear     Hinged Spacer Bushing (if required)					
<b>K</b> 2)	11. Adjustable Liner Stop					
13-4	17. BHA Cone Assembly (Cone Mandrel &	GS-Spear Sub)				
	18. Expansion Cone					· · · · · · · · · · · · · · · · · · ·
1 10	<del></del>					
	MetalSkin Cased Hoe Liner Assembly					
8						
	12. MetalSkin Top CapSub					
13	13. MetalSkin Isolation Seal Joint					
	14. MetalSkin Standard Joint .	14. MetalSkin Standard Joint				
6 4 14						
15	15. MetalSkin Standard Joints or Isdation S	eal Joints				
8	Note - additional joints can be added as rea	quired				
				<del> </del>		· · ·
1 2						
9 16	16. MetalSkin Anchor Joint					
17						
						<del>· · ·</del> ·- :-
18	]					
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### 4-1/4" x 5-1/2" MetalSkin® Cased-Hole Liner

Expandable Liner - Pre-Expansion	
Nominal Outside Diameter (in.)	4.250
Wall Thickness (in.)	0.250
Inside Diameter (in.)	3,750
Drift Drameter (in.)	3,625
Weight (lb/ft)	10.7
Grade	W\$390
Elastomer Material	HNBR
Elastomer Outside Diameter (in.)	4.500
Connection Type	4-1/4" FODC-OR
Connection Outside Diameter (in.)	4.250
Connection Torque, Optimum (ft-lb)	1,250 +/- 200

Parent Casing String: 5-1/2" OD (lb/ft)	14.0	15.5	17.0	20.0	23.0	
Outside Diameter (in.)	5.500					
Wall Thickness (in.)	0.244	0.275	0.304	0.361	0.415	
Inside Diameter (in.)	5.012	4.950	4.892	4.778	4.670	
Drift Diameter (in)	4.887	4.825	4.767	4.653	4.545	
Grade	Any					
Connection		An	y internal f	lush		

Expandable Liner - Post-Expansion	14.0	15.5	17.0	20.0	23.0
Pipe Body Outside Diameter (in.)	4.845	4.782	4.722	4.607	4.520
Internal Diameter (in.)	4.369	4.303	4.240	4.120	4.028
Drift Diameter (in.)	4.244	4.178	4.115	3.995	3.903
Pipe Body Maximum Internal Pressure (psi)	5,304	5,407	5,507	5,707	5,878
Pipe Body Maximum External Pressure (psi)	3,677	3,820	3,962	4,233	4,466
Connection Maximum Internal Pressure (psi)	4,540	4,640	4,720	4,900	5,030
Connection Maximum External Pressure (psi)	3,680	3,830	3,960	4,250	4,470

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### Solid Expandable Systems

System Operating Parameters				
Expansion Method	Cone			
Maximum Expansion Rate (ft/min)	15			
Maximum Expansion Pressure (psi)	4,200			
Required Expansion Force (lb)	80,000			
Maximum Anchor Load (lb)	. 160,000			
Tensile Rating (lb)	125,000			
Connection to Workstring	2-3/8" EU			
Maximum Hole Angle (deg)	90			
Maximum Build Rate (deg/100 ft)	30			
Maximum Dogleg Severity	42			
Expanded Section (deg/100ft)	12			
Maximum Installation Length (ft)	1,100			
Maximum Temperature (°F)	275			
Sour Service	Well-specific*			

<b>₩</b> Weatherford	4.25" x 5.50" MCL Functional Technical Specifications
Rev. 3.0 Sep. 10-2010	5-6-GL-GL-SOE-00035

7、100ml,15600ml,1870年以外,1870年的第四人,1870年度



# **Conditions of Approval**

### Cimarex Energy Company Burton 6 Federal 1 API 3001538226

June 5, 2012

#### Previous approval of May 17, 2012 is rescinded.

- 1. Notify BLM 575-361-2822 a minimum of 24 hours prior to commencing plug back procedures. The procedures are to be witnessed. If no answer, leave a voice mail with the API#, workover purpose and a call back phone number. Note the contact, time and date in your subsequent report.
- 2. Surface disturbance beyond the existing pad shall have prior approval.
- 3. 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.
- 4. Functional H<sub>2</sub>S monitoring equipment shall be on location.
- 5. A minimum of 3000 (3M) BOPE is to be used. All blowout preventer (BOP) and related equipment (BOPE) shall comply with reasonable well control requirements. A two ram system with a blind ram and a pipe ram designed for the size of the work string shall be adequate. Tapered work strings will require an additional pipe ram. The manifold shall comply with Onshore Oil and Gas Order #2 Attachment I (3M) Diagrams of Choke Manifold Equipment). The accumulator system shall have an immediately available power source to close the rams and retain 200 psi above pre-charge. The pre-charge test shall follow requirements in Onshore Order #2.
- 6. 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.
  - 7. Minimum requirement for mud placed between plugs is 25 sacks of salt water gel per 100 barrels in 9 lb/gal brine.
  - 8. The BLM PET witness is to run tbg tally and agree to cement placement. Sample each plug for cement curing time and tag and/or pressure test (WOC time of 4 hours recommended) as requested by BLM PET witness.
  - 9. Operator step 5, use Class H cement mixed 15.6lb/gal, 1.18ft<sup>3</sup>/sx, and 5.2g/sx.
  - 10. Addition to Step 6 pressure test to be witnessed by a BLM PET and charted.
  - 11. Operator step 11 Perform a Mechanical Integrity Test to 500 psi after installing the casing patch. Test to be charted and witnessed by a BLM PET.

- 12. File a **subsequent sundry** Form 3160-5 within 30 days of the plug back describing the Cisco abandonment. Include an updated wellbore diagram.
- 13. Submit the BLM Form 3160-4 **Recompletion Report** within 30 days of the date all BLM approved procedures are complete.
- 14. 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.

WWI 060512

### NM Fed Regs & Forms - http://www.blm.gov/nm/st/en/prog/energy/oil and gas.html

Use of Form 3160-5 "Sundry Notices and Reports on Wells"

§ 43 CFR 3162.3-2 Subsequent Well Operations.

§ 43 CFR 3160.0-9 (c)(1) Information collection.

§ 3162.4-1 (c) Well records and reports.