Form 3160-5
(June 2015)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

HOBBS OCD
OCD Hobbs
MAR 19 2018
RECEIVED

FORM APPROVED
OMB NO. 1004-0137
Expires: January 31, 2018

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.

SUBMIT IN TRIPLICATE - Other instructions on page 2

5. Lease Serial No.
NMNM0557256

6. If Indian, Allottee or Tribe Name

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

1. Type of Well
☒ Oil Well ☐ Gas Well ☐ Other

8. Well Name and No.
ELLIOTT EM 20 FEDERAL 4

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

9. API Well No.
30-025-41444-00-S1

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

3b. Phone No. (include area code)
Ph: 432-818-1062

10. Field and Pool or Exploratory Area
WANTZ

4. Location of Well *(Footage, Sec., T., R., M., or Survey Description)*
Sec 20 T22S R37E SENW 2310FNL 2310FWL
32.224176 N Lat, 103.111009 W Lon

11. County or Parish, State
LEA COUNTY, NM

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

TYPE OF SUBMISSION	TYPE OF ACTION			
☒ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☐ Subsequent Report	☐ Alter Casing	☐ Hydraulic Fracturing	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☒ Recomplete	☐ Other
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
	☐ Convert to Injection	☐ Plug Back	☐ 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 must 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 must be filed once testing has been completed. Final Abandonment Notices must 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 is seeking BLM approval to recomplete this Abo well to the Drinkard formation mid-January, per the attached procedure, WBD's and e-mail from Chris Walls concerning perforations.

Provide plat (C-102) to compliment
Drinkard formation to NMOCD Dist 1 office

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

Electronic Submission #399157 verified by the BLM Well Information System
For APACHE CORPORATION, sent to the Hobbs
Committed to AFMSS for processing by PRISCILLA PEREZ on 01/08/2018 (18PP0419SE)

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

Signature (Electronic Submission) — Date 12/28/2017

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By CHRISTOPHER WALLS — Title PETROLEUM ENGINEER — Date 03/09/2018

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 Hobbs

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 to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on page 2)

**** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ****

EM Elliott Federal 20 #4

AFE: 11-17-2068

Work Objective: Recomplete Drinkard

Day 1: RU SU. NU BOP. PU workstring and bit. RIH to ±6590' and tag for fill. Establish circulation and drill out cement on CIBP to 6637'. **DO NOT DRILL OUT CIBP.** POOH w/workstring and bit.

Day 2/3: MIRU WL Unit. Perforate as follows:

NOTE: Please use perfs highlighted in yellow as those are correlated to the CBL ran 10/14/2014.

Porosity Log	SPF	CBL/RBL	Adjustment
Drinkard	Drinkard	Drinkard	Drinkard
6424'	1	6424.5'	0.5'
6435'	1	6435.5'	0.5'
6439'	1	6439.5'	0.5'
6449'	1	6449.5'	0.5'
6453'	1	6453.5'	0.5'
6459'	1	6459.5'	0.5'
6467'	1	6467.5'	0.5'
6471'	1	6471.5'	0.5'
6479'	1	6479.5'	0.5'
6485'	1	6485.5'	0.5'
6490'	1	6490.5'	0.5'
6497'	1	6497.5'	0.5'
6500'	1	6500.5'	0.5'
6509'	2	6509.5'	0.5'
6522'	2	6522.5'	0.5'
6539'	2	6539.5'	0.5'
6549'	2	6549.5'	0.5'
6571'	2	6571.5'	0.5'
6573'	2	6573.5'	0.5'
6605'	2	6605.5'	0.5'
6609'	2	6609.5'	0.5'
6611'	2	6611.5'	0.5'

RIH w/workstring and packer. Acidize Drinkard w/5000 gals 15% NEFE HCl and 62 ball sealers. Record ISIP, 5 minutes, 10 minutes, 15 minutes. Release packer and RIH to make sure wellbore is clear of obstructions. Swab back load.

Release packer and POOH. Prep surface for frac.

Day 4: Frac well as per attached pump schedule and Cudd's recommendations. Record ISIP, 5 minutes, 10 minutes, and 15 minutes.

Day 5: Flow back frac if possible. If/when well dies, RIH w/workstring and bit. Cleanout wellbore to 6637'. PU above perfs and swab back well for 1 hr. RIH and verify no sand production. POOH laying down workstring.

NOTE: If sand influx is severe, swabbing may continue for additional days. Also, if circulation is not able to be easily established, please shut down and wait until a foam air unit can be rigged up.

Day 6: PU and RIH w/production tubing. RIH w/pump and rods. POP.

Apache Corporation

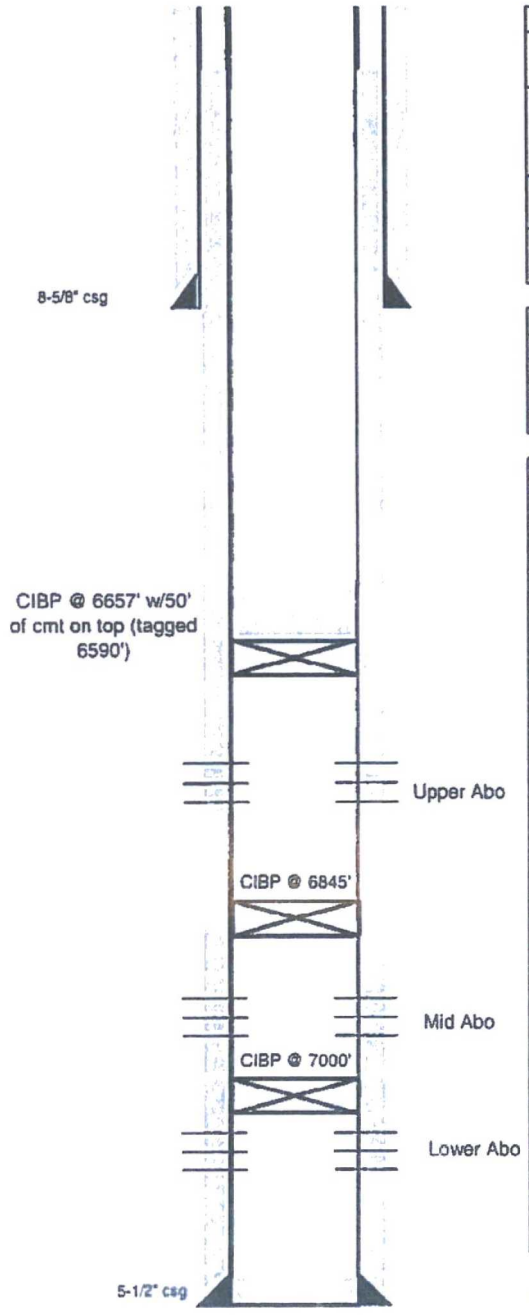
CURRENT

Work Objective Well is currently TA'd as of 11/4/2015

Region Office Permian / Midland
District /Field Office NW / Eunice South
AFE Type

Start Date	TBD	End Date	TBD
Lease	EM Elliott 20 Federal	KB	11'
Well Name	EM Elliott 20 Federal	Well No.	#4
Field	Eunice South	TD @	7524'
County	LEA	PBTD @	6590'
State	NEW MEXICO	ETD @	N/A
AFE #	TBD	API #	30-025-41444
Gross AFE	TBD	Spud Date	9/11/2014
Apache WI	50.000000%	Comp. Date	11/6/2014

Description	O.D.	Grade	Weight	Depth	Cmt Sx	TOC
Surface Csg	8-5/8"	J-55	24#	1205'	425	Circulated to surface
Inter Csg						
Prod Csg	5-1/2"	L-80	17#	7524'	850 (1st stg) 1010 (2nd stg)	Circ (1st stg) Circ (2nd stg) 36' CBL
Casing Liner						



Date	Zone	Actual Perforations	JSPF	Total Perfs
10/14/2014	Lower Abo	7200', 07', 10', 16', 23', 28', 33',37', 40', 45', 47', 49', 53', 55', 57', 61', 63', 72', 79', 81', 83', 85' & 95'	1	~23
10/17/2014	Upr & Mid Abo	6707', 09', 11', 16', 18', 20', 22', 24', 26', 28', 30', 32', 37', 41', 43', 45', 53', 55', 57', 60', 67', 73', 75', 77', 85', 91', 97', 6857', 63', 65', 77', 84', 97', 6901', 03', 05', 08', 13', 15', 18', 7021', 23', 25', 53', 80', 82', 89', 99', 7102', 10', 12', 14', 23' & 28'	1	~54

Date	Zone	Stimulation / Producing Interval	Amount
10/14/2014	Lower Abo	Acid Lwr Abo 7200' – 95' w/4,000 gals 20% FEAS2X HCL acid	
10/20/2014	Mid Abo	Acid Mid Abo 7021'-7128' w/3,000 gals 20% FEAS2X HCL acid	
10/20/2014	Mid Abo	Acid Mid Abo 6857'-6918' w/2,500 gals 20% FEAS2X HCL acid	
10/20/2014	Upr Abo	Acid Upr Abo 6707'-97' w/7,700 gals 20% FEAS2X HCL acid	

Jts	Feet	Pulled Description	Tubing		Jts	Feet	Ran Description
			PIN JT	#VALUE!			
			PS	#VALUE!			
			SN	#VALUE!			
			IPC	#VALUE!			
			TBG	#VALUE!			
			TAC	#VALUE!			
			TBG	#VALUE!			
				#VALUE!			
				#VALUE!			
			KB	11'	0	0.00	

Jts	Feet	Pulled Description	Rods	Jts	Feet	Ran Description
			Gas Anchor			
			Pump			
			TOOL			
			K-BAR			
			TOOL			
			K-BARS			
			RODS			
			RODS			
			RODS			
			SUBS			
			POLISH			
				0	0.00	

Well History / Failure

Apache Representative _____ Contract Rig/Number _____

Apache Engineer Jacob Bower Operator _____

Apache Corporation

PROPOSED

Work Objective Well is currently TA'd as of 11/4/2015 Propose to recomplete to Drinkard

Region Office Permian / Midland
District /Field Office NW / Eunice South
AFE Type

Start Date	TBD	End Date	TBD
Lease	EM Elliott 20 Federal	KB	11'
Well Name	EM Elliott 20 Federal	Well No.	#4
Field	Eunice South	TD @	7524'
County	LEA	PBTD @	6590'
State	NEW MEXICO	ETD @	N/A
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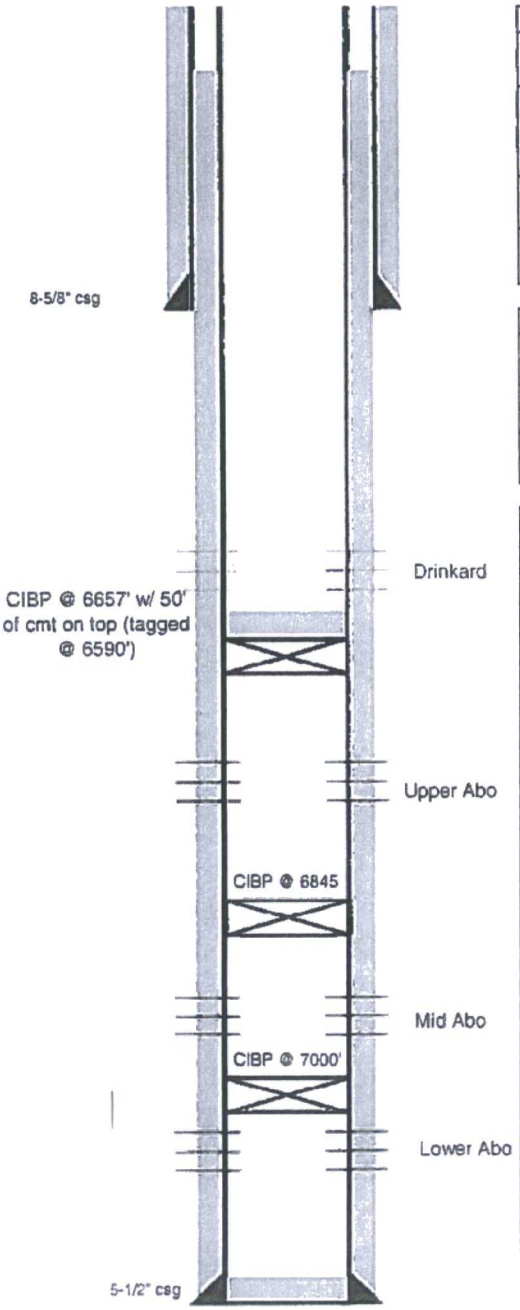
Apache WI	50.000000%	Comp. Date	11/6/2014

Description	O.D.	Grade	Weight	Depth	Cmt Sx	TOC
Surface Csg	8-5/8"	J-55	24#	1205'	425	Circulated to surface
Inter Csg						
Prod Csg	5-1/2"	L-80	17#	7524'	650 (1st stg) 1010 (2nd stg)	Circ (1st stg) Circ (2nd stg) 35' CBL
Casing Liner						



Date	Zone	Actual Perforations	JSPF	Total Perfs
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10/17/2014	Upr & Mid Abo	6707', 09', 11', 16', 18', 20', 22', 24', 26', 28', 30', 32', 37', 41', 43', 45', 53', 55', 57', 60', 67', 73', 75', 77', 85', 91', 97', 6857', 63', 65', 77', 84', 97', 6901', 03', 05', 08', 13', 15', 18', 7021', 23', 25', 53', 80', 82', 89', 99', 7102', 10', 12', 14', 23' & 28'	1	~54
TBD	Drinkard	6424', 35', 39', 49', 53', 59', 67', 71', 79', 85', 90', 97', 6500', 09', 22', 39', 49', 71', 73', 6605', 09', 11	1-2	31

Date	Zone	Stimulation / Producing Interval	Amount
10/14/2014	Lower Abo	Acid Lwr Abo 7200' – 95' w/4,000 gals 20% FEAS2X HCL acid	
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10/20/2014	Mid Abo	Acid Mid Abo 6857'-6918' w/2,500 gals 20% FEAS2X HCL acid	
10/20/2014	Upr Abo	Acid Upr Abo 6707'-97' w/7,700 gals 20% FEAS2X HCL acid	
TBD	Drinkard	Acid w/5000 gals 15% NEFE HCl and 62 balls	
TBD	Drinkard	Frac w/±1660 bbls 35# X-Link	±180,000 lbs 20/40 sand

Jts	Feet	Pulled Description	Tubing		Jts	Feet	Ran Description
			PIN JT	#VALUE!			
			PS	#VALUE!			
			SN	#VALUE!			
			IPC	#VALUE!			
			TBG	#VALUE!			
			TAC	#VALUE!			
			TBG	#VALUE!			
				#VALUE!			
				#VALUE!			
			KB	11'	0	0.00	

Jts	Feet	Pulled Description	Rods	Jts	Feet	Ran Description
			Gas Anchor			
			Pump			
			TOOL			
			K-BAR			
			TOOL			
			K-BARS			
			RODS			
			RODS			
			RODS			
			SUBS			
			POLISH			
				0	0.00	

Well History / Failure

Apache Representative _____ Contract Rig/Number _____

Fisher, Reesa

From: Fisher, Reesa
Sent: Thursday, December 28, 2017 2:26 PM
To: Fisher, Reesa
Subject: FW: Elliott E.M. Federal 20 #4 approval to recomplete uphole

From: Henkhaus, Mark
Sent: Monday, October 31, 2016 12:28 PM
To: Bower, Jacob <Jacob.Bower@apachecorp.com>; Fisher, Reesa <Reesa.Fisher@apachecorp.com>
Cc: Hill, James <James.Hill@apachecorp.com>
Subject: RE: Elliott E.M. Federal 20 #4 approval to recomplete uphole

You are good. Proceed! No sundry needed.

MARK HENKHAUS
direct 432-818-1883 | *mobile* 432-894-1857

From: Bower, Jacob
Sent: Monday, October 31, 2016 12:27 PM
To: Henkhaus, Mark <Mark.Henkhaus@apachecorp.com>; Fisher, Reesa <Reesa.Fisher@apachecorp.com>
Cc: Hill, James <James.Hill@apachecorp.com>
Subject: RE: Elliott E.M. Federal 20 #4 approval to recomplete uphole

Thanks a bunch! Now we will actually (hopefully) be able to do this work before the end of the year. Is there any official documents or anything that we need to get/wait for? Or are we good to proceed based on this email alone?

Thanks,

JACOB BOWER
direct 432-818-1961 | *mobile* 918-671-2575 | *office* 6204A

From: Henkhaus, Mark
Sent: Monday, October 31, 2016 11:29 AM
To: Bower, Jacob <Jacob.Bower@apachecorp.com>; Fisher, Reesa <Reesa.Fisher@apachecorp.com>
Subject: FW: Elliott E.M. Federal 20 #4 approval to recomplete uphole

... see below.

MARK HENKHAUS
direct 432-818-1883 | *mobile* 432-894-1857

From: Henkhaus, Mark
Sent: Monday, October 31, 2016 11:28 AM
To: 'Walls, Christopher' <cwalls@blm.gov>
Subject: RE: Elliott E.M. Federal 20 #4 approval to recomplete uphole

Thanks Chris, that is super. Look forward to discussing the HZ stuff with you in Santa Fe!

MARK HENKHAUS
direct 432-818-1883 | *mobile* 432-894-1857

From: Walls, Christopher [mailto:cwalls@blm.gov]
Sent: Monday, October 31, 2016 11:23 AM
To: Henkhaus, Mark <Mark.Henkhaus@apachecorp.com>
Subject: Re: Elliott E.M. Federal 20 #4 approval to recomplete uphole

Mark,
We can go with your first preference to allow you to perforate where needed. When the well is plugged back or abandoned we will require additional cement on the CIBP to provide additional isolation for the Abo.

On Thu, Oct 13, 2016 at 7:46 AM, Rennick, Kenneth <krennick@blm.gov> wrote:

Hello Mr. Mark Henkhaus,

I would love to give a recommendation on what you are proposing. But unfortunately, I am no longer with the Carlsbad BLM office. I am actually with the Dickinson, ND field office these days.

So I have to refer you to Mr. Chris Walls and Mr. Cody Layton which I cc'ed to this message.

Please feel free to let me know if you need any additional BLM Carlsbad contact information.

Have a great day!!

Kenneth Rennick

On Wed, Oct 12, 2016 at 5:08 PM, Henkhaus, Mark <Mark.Henkhaus@apachecorp.com> wrote:

Mr. Rennick,

Please see the attached documents for reference. Apache has been reviewing the approved sundry, in which BLM authorized Apache to recomplete in this well uphole, abandoning the Abo (Abo top is 6617') and attempting a commercial completion in the Drinkard. The COAs presented with the approved sundry

(highlighted) required additional cement work which conflicts with our goal to make this an economical producing well.

The existing CIBP was set, and approximately 65 ft of cement (tagged for verification) was placed on the CIBP. The well underwent a successful MIT test.

Our recompletion prognosis shows we set the CIBP and cement a bit high—in order to complete the entire Drinkard interval, we will have to deal with the cement on the CIBP.

Apache proposes the following:

- First preference is to dress the cement on the bridge plug, and drill out to approximately 6637 ft. This will leave 20 ft of good cement on the CIBP. Drilling out the cement places the well at some risk but we are willing to accept this risk. The Abo perfs, while covered with the CIBP and 20 ft of cement, will not be sufficient per Onshore Order 2, but will be sufficient to isolate the depleted Abo. Per the attached well log, the Abo productive zone will effectively be plugged off. This option would require BLM to authorize the plugback with CIBP + 20 ft for this well.

- Second preference, would be to accomplish the steps outlined above in our first preference, but as a COA, Apache would commit to placing additional cement upon Drinkard abandonment on the existing CIBP and cement cap to bring cement at least 50 ft above the Abo top. This would comply with Onshore Order 2, but would only be done upon abandonment of the Drinkard or the entire wellbore.

- Our third preference would be to drill out the existing CIBP and cement completely, and re-set a CIBP and sufficient cement at a lower depth. This is not our preference for several reasons: first, the cost to do this is probably $20,000 or so, and will affect the economic viability of the well recompletion. Second, drilling out the entire cement and CIBP places the wellbore at considerable risk by exposing the casing to drill wear and tear. Third, it does not materially affect the isolation of the Abo, and is essentially not accomplishing anything more than the existing CIBP and cement does, as far as isolation of Abo is concerned.

- Our last preference, which would be if BLM does not approve the above requests, would be to forgo the Drinkard perforation in the lower Drinkard and bring cement up 50 ft above the top of the Abo on the existing CIBP and cement cap. This option will reduce the productive potential of the well and will cause Apache to revisit the economics of the recompletion. Should Apache determine the loss of the lower Drinkard may adversely affect the commercial potential of the recompletion, BLM and Apache would possibly face the loss of revenue the Drinkard will likely produce.

This last option does not place the interests of the BLM, Apache, and the US at the forefront. Because of this we hope the BLM will consider our first option above. Please review this information and I will give you a call after you've reviewed it. Hopefully you can see that our plans will adequately isolate the Abo productive

zone from the Drinkard and allow us to successfully recomplete a potential "plugger" into an economically successful asset for Apache, and for BLM.

Mark

MARK HENKHAUS

MANAGER

Permian Regulatory

direct 432-818-1883 | *mobile* 432-894-1857 | *office* 2120A

mark.henkhaus@apachecorp.com

APACHE CORPORATION

303 Veterans Airpark Ln

Midland, Texas 79705
U.S.A.

Petroleum Engineering Technician
Bureau of Land Management
99 23rd Ave W
Dickinson, ND 58601

Email: krennick@blm.gov
Phone: 701.227.7753

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Thank you,

Chris Walls
Bureau of Land Management
Carlsbad Field Office
575-234-2234

BUREAU OF LAND MANAGEMENT
Carlsbad Field Office
620 East Greene Street
Carlsbad, New Mexico 88220
575-234-5972

Permanent Abandonment of Production Zone Conditions of Approval

Failure to comply with the following Conditions of Approval may result in a Notice of Incidents of Noncompliance (INC) in accordance with 43 CFR 3163.1.

**Approved for only 20 ft on cement on CIBP at 6657' in order to perforate the productive zones in the Drinkard formation. At final abandonment or when the well is plugged back, a minimum of 25 sx of cement must be pumped on top the existing CIBP to bring the cement to at least 6507'.

1. Plugging operations shall commence within **ninety (90)** days from this approval.

If you are unable to plug back the well by the 90th day provide this office, prior to the 90th day, with the reason for not meeting the deadline and a date when we can expect the well to be plugged back. Failure to do so will result in enforcement action.

2. **Notification: Contact the appropriate BLM office at least 24 hours prior to the commencing of any plug back operations. For wells in Eddy County, call 575-361-2822.**

3. Blowout Preventers: A blowout preventer (BOP), as appropriate, shall be installed before commencing any plugging operation. The BOP must be installed and maintained as per API and manufacturer recommendations. The minimum BOP requirement is a 2M system for a well not deeper than 9,090 feet; a 3M system for a well not deeper than 13,636 feet; and a 5M system for a well not deeper than 22,727 feet.

4. Mud Requirement: Mud shall be placed between all plugs. Minimum consistency of plugging mud shall be obtained by mixing at the rate of 25 sacks (50 pounds each) of gel per 100 barrels of **brine** water. Minimum nine (9) pounds per gallon.

5. Cement Requirement: Sufficient cement shall be used to bring any required plug to the specified depth and length. Any given cement volumes on the proposed plugging procedure are merely estimates and are not final. Unless specific approval is received, no plug except the surface plug shall be less than 25 sacks of cement. Any plug that requires a tag will have a minimum WOC time of 4 hours.

In lieu of a cement plug across perforations in a cased hole (not for any other plugs), a bridge plug set within 50 feet to 100 feet above the perforations shall be capped with 25 sacks of cement. **Before pumping cement on top of CIBP, tag will be required to verify depth. Based on depth, a tag of the cement may be deemed necessary.**

Unless otherwise specified in the approved procedure, the cement plug shall consist of either **Neat Class "C"**, for up to 7,500 feet of depth or **Neat Class "H"**, for deeper than 7,500 feet plugs.

6. Subsequent Plug back Reporting: Within 30 days after plug back work is completed, file one original and three copies of the Subsequent Report, Form 3160-5 to BLM. The report should give in detail the manner in which the plug back work was carried out, the extent (by depths) of cement plugs placed, and the size and location (by depths) of casing left in the well. **Show date work was completed.**