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APPLICATION FOR PERMIT	TO DRILL OR R	EENTER		_	
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1b Type of Well Oil Well X Gas Well Other	XSu	gle Zone Multup	le Zone	8 Lease Name and We White City 14 Fee	100000
2 Name of Operator	n 10	2		9 API Well No	
Cimarex Energy Co. of Colorado	268	<u>5</u> (include area code)		30-015- 5 10 Field and Pool, or H	
PO Box 140907		,		· · ·	1 2
Irving, TX 75014 4 Location of Well (<i>Report location clearly and in accordance</i>	972-401-31 with any State req			White City, Penn 11 Sec, T R M or Blk	
At Surface 1650' FNL & 690' FWL At proposed prod Zone 1650' FNL & 690' FWI	Carlsbad	Controlled Wat	er Basin	14-25S-26E	
At proposed prod Zone 1650' FNL & 690' FWL 14 Distance in miles and direction from nearest town or post of	ffice*			12 County or Parish	13 State
19 miles South of Carlsbad, NM				Eddy	NM
15 Distance from proposed*	16 No of acres	in lease	17 Spacin	g Unit dedicated to this we	
location to nearest property or lease line, ft (Also to nearest drig unit line if anv) 690'		2560		All 14-25S-26E 640	
any) 690' 18 Distance from proposed location*	19 Proposed D			BIA Bond No on File	· · · · · · · · · · · · · · · · · · ·
to nearest well, drilling, completed, applied for, on this lease, ft					
2940'		12250'		NM-257:	5
21 Elevations (Show whether DF; KDB, RT, GL, etc)	22 Approxima	te date work will start	* 2	23 Estimated duration	- ^
3363' GR	11	/10/2007		35-45	days
	24 A	ttachments			
The following, completed in accordance with the requirements of C	Onshore Oil and O	as Order No 1, shall l	be attached to	this form	
 Well plat certified by a registered surveyor A Drilling Plan A Surface Use Plan (if the location is on National Forest Syster SUPO shall be filed with the appropriate Forest Service Office) 		Item 20 above 5 Operator Cert	e) ification	s unless covered by an exis	c x
	·	authorized off	•		
25 Signature	Name (P	rinted/Typed)			Date
Zeno Farres	Zeno	Farris			09.10.07
Title					
Manager Operations Administration	Name (P	inted/Typed)			Date F(19 2007
Approved By (Signature) /S/ Don Peterson		/s/ Don Pet	erson		
FIELD MANAGER	Office			D OFFICE	
Application approval does not warrant or certify that the applicant holds leg conduct operations thereon Conditions of approval, if any, are attached	al or equitable title t	o those rights in the subje		vould entitle the applicant to APPROVAL FOF	TWO YEARS
Title 18 USS Section 1001 and Title 43 USC Section 1212, make it a cm			make to any dej		
States any false, fictutious, or fraudulent statements or representations as to * (Instructions on page 2)	any matter within its	Juriscicuon	· ····	APPROVAL SU	IBIECT TO
SEE ATTACHED FOR CONDITIONS OF APPROVAL				GENERAL RFC	UIREMENTS STIPULATIONS



7

Cimarex Energy Co. of Colorado 5215 North O'Connor Blvd • Suite 1500 • Irving, TX 75039 • (972) 401-3111 • Fax (972) 443-6486 Mailing Address P O Box 140907 • Irving, TX 75014-0907 *A wholly-owned subsidiary of Cimarex Energy Co , a NYSE Listed Company, "XEC"*

STATEMENT ACCEPTING RESPONSIBILITY FOR OPERATIONS

Bureau of Land Management 620 East Greene Street Carlsbad, NM 88220 Attn: Ms. Linda Denniston

•4

Cimarex Energy Co. of Colorado accepts all applicable terms, conditions, stipulations, and restrictions concerning operations conducted on the leased land, or portion thereof, as described below:

Lease No .: NM-19423 All 10-25S-26E 640 acres County: Eddy County, NM Formation(s): Morrow Bond Coverage: Statewide BLM Bond BLM Bond File No.: NM-2575 . eno - A Authorized Signature: 7 Representing Cimarex Energy Co of Colorado

Name: Zeno Farris

Title: Manager Operations Administration

Date: September 10, 2007

DISTRICT I 1825 N. French Dr. Robbs, NM 88240 DISTRICT II

1301 W Grand Avenue, Artesia, NM 88210

DISTRICT III 1000 Rio Brazos Rd., Aztec, NM 87410

DISTRICT IV 1220 S. SL. Francis Dr., Santa Fe, NM 87505 OIL CONSERVATION DIVISION

1220 South St. Francis Dr.

Santa Fe, New Mexico 87505

Submit to Appropriate District Office State Lease - 4 Copies Fee Lease - 3 Copies

1

AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT API Number Pool Code Pool Name 87280 White City; Penn (Gas) **Property** Code **Property** Name Well Number WHITE CITY "14" FEDERAL COM 3 OGRID No. Operator Name Elevation 3363' 162683 CIMAREX ENERGY CO. OF COLORADO Surface Location UL or lot No. Section Township Range Lot Idn Feet from the North/South line Feet from the East/West line County 25 S 14 26 E 1650 NORTH 690 EDDY E WEST Bottom Hole Location If Different From Surface UL or lot No. Section Lot Idn Feet from the North/South line Township Range Feet from the East/West line County Dedicated Acres Joint or Infill **Consolidation** Code Order No. 640 Y NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION **OPERATOR CERTIFICATION** I hereby certify that the information contained herem is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location pursuant to a contract with an owner of such a mineral or working interest or to a voluntary pooling agreement or a compulsory pooling order heretofore enlered by the division. 1650' 354.4 3365.9 Zeno Fanis 09-10-07 1650' Date White City 14 3363.7 3361.9 Zeno Farris Fed #1 Printed Name White City 14 Fed #3 SURVEYOR CERTIFICATION NM-19423 I hereby carlify that the well location shown SURFACE LOCATION on this plat was plotted from field notes of at - N32'07'57.23" Long - W104*16'11.75" actual surveys made by me or under my NMSPCE- N 411966.394 supervison, and that the same is true and correct to the best of my belief. (NAD-83) SEPTE 2007 Date Sur Signatur Profess vevor W.S The H Certificate No. Gary L. Jones 7977 BASIN SURVEYS





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Application to Drill Cimarex Energy Co. of Colorado White City 14 Federal No. 3 Unit E Section 14 T25S R26E Eddy County, NM

In response to questions asked under Section II B of Bulletin NTL-6, the following information is provided for your consideration

1 Location SHL 1650' FNL & 690' FWL

- ,

- 2 Elevation above sea level 3363' GR
- 3 Geologic name of surface formation Quaternery Alluvium Deposits
- 4 Drilling tools and associated equipment

Conventional rotary drilling rig using fluid as a circulating medium for solids removal

ż

5 Proposed drilling depth 12250'

6 Estimated tops of geological markers

1,605'	Cisco-Canyon	10,071'
1,819'	Strawn	10,378'
5,311'	Atoka	10,594'
6,284'	Morrow	11,181'
7,546	Middle Morrow	11,584'
8,137	Lower Morrow	11,886'
8,502		
	1,819' 5,311' 6,284' 7,546 8,137	1,819' Strawn 5,311' Atoka 6,284' Morrow 7,546 Middle Morrow 8,137 Lower Morrow

7 Possible mineral bearing formation

Morrow	Gas	Primary
Atoka	Gas	Secondary
Wolfcamp	Oil	Secondary

8 Proposed Mud Circulating System

	Dept	h	Mud Wt	Visc	Fluid Loss	Type Mud	
0	to	350	84-86	30-32	May lose circ	Fresh water gel spud mud	
350	to	2,600	84-86	28-29	May lose circ	Fresh water mud	Seecon
2,600	to	12,250	84-97	28-29	NC	Fresh water and brine, use hi-vis sweeps keep hole clean	0

Sufficient mud materials will be kept on location at all times in order to combat lost circulation, or unexpected kicks. In order to run DSTs, open hole logs, and casing, the viscosity and water loss may have to be adjusted in order to meet these needs. Mud system monitoring equipment with derrick floor indicators and visual/audio alarms shall be installed and operative prior to drilling into the Wolfcamp formation. This equipment will remain in use until production casing is run and cemented.

Application to Drill Cimarex Energy Co. of Colorado White City 14 Federal No. 3 Unit E Section 14 T25S R26E Eddy County, NM

9 Casing & Cementing Program

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Hole Size		Dept	h	Casi	ng OD 🛛	Weight	Thread	Collar	Grade
17-1/2	0	to	350	New	13-3/8	48#	8-R	STC	H-40
12-1/4	0	to	2,600	New	9-5/8	40#	8-R	LTC	J-55
8-3/4	0	to	12,250	New	4-1/2	11 6#	8-R	LTC	P-110

10 Cementing & Setting Depth.

13-3/8	Surface	Set 350 of 13-3/8 48# H-40 STC <u>Lead:</u> 340 sx Premium Plus C Type III + 0 125# Poly-E-Flake + 2% CaCl (wt 14.8, yld 1 34) TOC Surface
9-5/8	Intermediate	Set 2,600 of 9-5/8 40# J-55 LTC <u>Lead.</u> 371 sx Interfill C + 1/4# Flocele (wt 11 9, yld 2.45) <u>Tail</u> 201 sx Premium Plus + 1% CaCl2 (wt 14.8, yld 1.33) TOC Surface
4-1/2	Production	Set 12,250 of 4-1/2 11 6# P-110 LTC <u>Lead</u> : 650 sx Interfill H + 0 25% HR-7 + 5# Gilsonite + 0.25# Flocele (wt 11 9, yld 2.47) <u>Tail</u> : 370 sx Super H + 0.5% Halad-344 + 0.4% CFR-3 + 1# Salt + 5# Gilsonite + 0 125# Poly-E-Flake + 0 35% HR-7 (wt 13 2, yld 1 67) TOC 8,000 \leftarrow \leftarrow \leftarrow \leftarrow \leftarrow \leftarrow \leftarrow
	ter will be protected zones will be protecte and	by setting 13-3/8 casing at 350 and cementing to Surface

Cimarex uses the following minimum safety factors.

Burst	Collapse	Tension
1 125	1.0	1.80

Application to Drill Cimarex Energy Co. of Colorado White City 14 Federal No. 3 Unit E Section 14 T25S R26E Eddy County, NM

11 Pressure control Equipment:

Exhibit "E". A 13 3/8" 5000 PSI working pressure B.O.P. consisting of one set of blind rams and one set of pipe rams and a 5000 # annular type preventer. A choke manifold and 120 gallon accumulator with floor and remote operating stations and auxiliary power system. Rotating head below 6000'. A kelly cock will be installed and maintained in operable condition and a drill string safety valve in the open position will be available on the rig floor.

BOP unit will be hydraulically operated. BOP will be nippled up on the 8-5/8" casing and will be operated at least once a day while drilling and the blind rams will be operated when out of hole during trips. No abnormal pressure or temperature is expected while drilling. From the base of the surface pipe through the running of production casing, the well will be equipped with a 5000 psi BOP system.

We are requesting a variance for testing the 13-3/8" surface casing from Onshore Order No. 2, which states that all casing strings below the conductor shall be pressure tested to 0.22 psi per foot or 1500 psi, whichever is greater, but not to exceed 70% of the manufacturer's stated maximum internal yield. We are requesting to test the 13-3/8" casing to 1000 psi using rig pumps. The BOP will be tested to 5000 PSI by an independent service company.

12 Testing, Logging and Coring Program:

- A. Mud logging program: 1 man unit from 2600' to TD
- B. Electric logging program: CNL/LDT/CAL/GR, DLL/CAL/GR
- C. No DSTs are planned at this time.

13 Potential Hazards:

No abnormal pressures or temperatures are expected. The area has a potiential H2S hazard. An H2S drilling plan is attached. Adequate flare lines will be installed off the mud / gas separator where gas may be flared safely. All personnel will be familiar with all aspects of safe operation of equipment being used. BHP and BHT based on past RFT tests which indicate low of 4000 psi and high of 5000 psi for wells drilled in area. Pressures in Wlofcamp/Cisco zone depend on porsity of zone. Low porisity is the norm. Highest observed pressure gradient while drilling through higher porisity Wolfcamp/Cisco zones is 0.57 psi per foot. Normal observed pressure gradient in more common lower porisity Wolfcamp/Cisco zones are 0.5 psi per foot.

Estimated BHP 4500 psi Estimated BHT 185

14 Road and location construction will begin after BLM approval of APD. Anticipated spud date as soon as approved. Drilling expected to take 35-45 days

If production casing is run an additional 30 days will be required to complete and construct surface facilities.

15 Other Facets of Operations:

After running casing, cased hole gamma ray neutron collar logs will be run from total depth over possible pay intervals.

Morrow pay will be perforated and stimulated. The proposed well will be tested and potentialed as **a gas well**



See COA's Reserve lite

Rig 80

Cimarex Energy Co. of Colorado

Irving, TX

Exhibit D – Rig Layout White City 14 Federal No. 3 Cimarex Energy Co. of Colorado 1650' FNL & 690' FWL /4 102-25S-26E Eddy County, NM

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ORILLING OPERATIONS CHOKE MANIFOLD 5M SERVICE



Exhibit E1 – Choke Manifold White City 14 Federal No. 3 Cimarex Energy Co. of Colorado 1650' FNL & 690' FWL 19 \$\$\$0-25\$-26E Eddy County, NM

Hydrogen Sulfide Drilling Operations PlanCimarex Energy Co. of ColoradoWhite City 14 Federal No. 3Unit ESection 14T25S R26EEddy County, NM

- 1 All Company and Contract personnel admitted on location must be trained by a qualified H2S safety instructor to the following
 - A Characteristics of H2S
 - B Physical effects and hazards
 - C Proper use of safety equipment and life support systems
 - D Principle and operation of H2S detectors, warning system and briefing areas
 - E Evacuation procedure, routes and first aid
 - F Proper use of 30 minute pressure demand air pack
- 2 H2S Detection and Alarm Systems
 - A H2S detectors and audio alarm system to be located at bell nipple, end of flow line (mud pit) and on derrick floor or doghouse
- 3 Windsock and/or wind streamers
 - A Windsock at mudpit area should be high enough to be visible
 - B Windsock at briefing area should be high enough to be visible
- 4 Condition Flags and Signs
 - A Warning sign on access road to location
 - B Flags to be displayed on sign at entrance to location Green flag indicates normal safe condition Yellow flag indicates potential pressure and danger Red flag indicates danger (H2S present in dangerous concentration) Only emergency personnel admitted to location
- 5 Well control equipment
 - A See exhibit "E"
- 6 Communication
 - A While working under masks chalkboards will be used for communication
 - B Hand signals will be used where chalk board is inappropriate
 - C Two way radio will be used to communicate off location in case of emergency help is required In most cases cellular telephones will be available at most drilling foreman's trailer or living quarters
- 7 Drillstem Testing

No DSTs are planned at this time

Hydrogen Sulfide Drilling Operations PlanCimarex Energy Co. of ColoradoWhite City 14 Federal No. 3Unit ESection 14T25S R26EEddy County, NM

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- 8 Drilling contractor supervisor will be required to be familiar with the effects H2S has on tubular goods and other mechanical equipment
- 9 If H2S is encountered, mud system will be altered if necessary to maintain control of formation A mud gas seperator will be brought into service along with H2S scavengers if necessary

- 1 Existing Roads Area maps, Exhibit "B" is a reproduction of Eddy Co General Highway Map Exhibit "C" is a reproduction of a USGS Topographic Map, showing existing roads and proposed roads All existing roads will be maintained in a condition equal to or better than current conditions. Any new roads will be constructed to BLM specifications
 - A Exhibit "A" shows the proposed well site as staked
 - B From the junction of US Hwy 62-180 and Co Rd 772 (Means), go Southerly 4 8 miles on Co Rd 772 to Co Rd Prickpear. On Prickpear, go East, then South approx 4 0 miles to proposed lease road

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PLANNED ACCESS ROADS 2219 1' of proposed lease road will be constructed on lease

3 LOCATION OF EXISTING WELLS IN A ONE-MILE RADIUS EXHIBIT "A"

A	Water wells -	None known
в	Disposal wells -	None known
С	Drilling wells -	None known
D	Producing wells -	As shown on Exhibit "A"
Е	Abandoned wells -	As shown on Exhibit "A"

4 If on completion this well is a producer, Cimarex Energy Co of Colorado will furnish maps and/or plats showing on site facilities or off site facilities if needed This will be accompanied by a Sundry Notice

5 LOCATION AND TYPE OF WATER

Water will be purchased locally from a commercial source and trucked over the access roads or piped in flexible lines laid on top of the ground

6 SOURCE OF CONSTRUCTION

If possible, construction will be obtained from the excavation of drill site. If additional material is needed, it will be purchased from a local source and transported over the access route as shown on Exhibit "C".

7 METHODS OF HANDLING WASTE

- A Drill cuttings will be seperated by a series of solids removal equipment and hauled to the cuttings drying area and then disposed of in the cuttings burial cell
- B All trash, junk and other waste material will be contained in trash cages or bins to prevent scattering. When the job is completed all contents will be removed and disposed of in an approved sanitary land fill
- C Salts remaining after completion of well will be picked up by supplier including broken sacks.
- D Sewage from living quarters will drain into holding tanks and be cleaned out periodically. A Porta-John will be provided for the rig crews. This equipment will be properly maintained during the drilling operations and removed upon completion of the well
- E Drilling fluids will be contained in steel pits in a closed circulating system Fluids will be cleaned and reused. Water produced during testing will be contained in the steel pits and disposed of at a state approved disposal facility Any oil or condensate produced will be stored in test tanks until sold and hauled from the site

8 ANCILLARY FACILITIES

A No camps or airstrips to be constructed

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9 WELL SITE LAYOUT

- A Exhibit "D" shows location and rig layout
- B. This exhibit indicates proposed location of the 100' X 100' cuttings drying area
- C Mud pits in the closed circulating system will be steel pits and the cuttings drying area will be surrounded by a 2' X 2' ring levee and a 2' earthen berm A 12 mil liner will cover the cuttings drying area and extend a minimum of 2' over the earthen berm where it will be anchored down A pump off system will pump any accumulated fluids in the ring levee to the rig holding tanks to be cleaned and reused.
- D After drying cuttings will be disposed of in a 50' X 50' cuttings burial cell. The bottom will be lined with a 12 mil liner. Drill cuttings will be hauled from the cuttings drying area and encapsulated in a 12 mil liner. The 12 mil liner will be folded over the cuttings and capped with a 20 mil membrane cap. The cell will be filled with 3' to 4' of top soil and leveled and contoured to conform to the original surrounding area.
- E. If the well is a producer, the cuttings burial area and those areas of the location not essential to production facilities will be reclaimed and seeded per BLM requirements.

10 PLANS FOR RESTORATION OF SURFACE

Rehabilitation of the location and cuttings burial cell will start in a timely manner after all drilling operations cease. The type of reclamation will depend on whether the well is a producer or a dry hole.

However, in either event, the drill cuttings will be allowed to dry properly, and fluid removed and disposed of in accordance with Article 7.B as previously noted. The cuttings burial area will then be leveled and contoured to conform to the original and surrounding area Drainage systems, if any, will be reshaped to the original configuration with provisions made to alleviate erosion. These may need to be modified in certain circumstances to prevent inundation of the location's pad and surface facilities. After the area has been shaped and contoured, topsoil from the spoil pile will be placed over the disturbed area to the extent possible Revegetation procedures will comply with BLM standards.

If the well is a dry hole, the pad and road area will be recountoured to match the existing terrain Topsoil will be spread to the extent possible Revegetation will comply with BLM standards

Should the well be a producer, the previously noted procedures will apply to those areas which are not required for production facilities.

11 OTHER INFORMATION

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- A. Topography consists of a sloping plane with loose tan sands. Vegetation is mainly yucca, mesquite and shin oak
- B. The wellsite is on surface owned by Department of the Interior, Bureau of Land Management The land is used mainly for farming, cattle ranching, recreational use, and oil and gas production
- C An Archaeological survey will be conducted on the location and proposed roads, and this report will be filed with the Bureau of Land Management in the Carlsbad BLM office
- D There are no know dwellings within 1 1/2 miles of this location.

Operator Certification Statement Cimarex Energy Co. of Colorado White City 14 Federal No. 3 Unit E Section 14 T25S R26E Eddy County, NM

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OPERATOR'S REPRESENTATIVE

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Cimarex Energy Co. of Colorado P.O Box 140907 Irving, TX 75014 Office Phone (972) 443-6489 Zeno Farris

CERTIFICATION. I hereby certify that the statements and plans made in this APD are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed by Cimarex Energy Co of Colorado and/or its contractors/subcontractors and is in conformity with this plan and the terms and conditions under which it is approved. This statement is subject to the provision of U.S.C. 1001 for the filing of a false statement.

NAME:	Zeno Farris
DATE	September 10, 2007
TITLE.	Manager Operations Administration

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V. SPECIAL REQUIREMENT(S)

Cave and Karst

Cave/Karst Surface Mitigation

The following stipulations will be applied to minimize impacts during construction, drilling and production.

Berming:

Any tank batteries will be constructed and bermed large enough to contain any spills that may occur.

Bermed areas will be lined with rip-stop padding to prevent tears or punctures in liners and lined with a permanent 20 mil plastic liner.

Closed Mud System with a Drying Area or Buried Cuttings Pit:

All fluids will be in steel tanks and hauled off. A 70X100 foot cuttings pit or a 150X100 foot drying area will be utilized for this location. The cuttings pit or drying area will be lined with 4 oz. felt and a layer of 20 mil. plastic. Upon completion of the well all excess fluids will be vacuumed off the cuttings pit and allowed to dry. The liner could then be folded over washed cuttings, covered with a 20 mil plastic cover and then covered with at least three feet of top soil.

Cave/Karst Subsurface Mitigation

The following stipulations will be applied to protect cave/karst and ground water concerns:

Rotary Drilling with Fresh Water:

Rotary drilling techniques in cave or karst areas will include the use of fresh water as a circulating medium in zones where caves or karst features are expected. Use depth to the deepest expected fresh water as listed in the geologist report.

Fluorescent Dyes:

Nontoxic Fluorescent dyes will be added when the hole is spudded and be circulated to the bottom of the karst layers. These dyes will track the fluids if lost circulation occurs. Arrangements need to be made to have BLM witness the two dyes being injected prior to spudding the hole.

Fluorescein Dye (Acid Yellow 73):

Yellow Green (Acid Yellow 73) Fluorescein dye (32 ounces) will be in added to the drilling fluid and preflush during the drilling of the first 2500 feet of the well (to the base of the Capitan Massif).

Casing:

All casing will meet or exceed National Association of Corrosion Engineers specifications pertaining to the geology of the location and be run to American Petroleum Institute and BLM standards.

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Lost Circulation:

ALL lost circulation zones from the surface to the base of the cave occurrence zone will be logged and reported.

Regardless of the type of drilling machinery used, if a void (bit drops) of four feet or more and circulation losses greater then 75 percent occur simultaneously while drilling in any cave-bearing zone, drilling operations will immediately stop and the BLM will be notified by the operator. The BLM will assess the consequences of the situation and work with operator on corrective actions to resolve the problem.

Delayed Blasting:

Any blasting will be a phased and time delayed.

Abandonment Cementing:

Upon well abandonment the well bore will be cemented completely from 100 feet below the bottom of the cave bearing zone to the surface.

Record Keeping:

The Operator will track customary drilling activities, including the rate of penetration, pump pressure, weight on bit, bit drops, percent of mud returns, and presence of absence of cuttings returning to the surface. As part of customary record keeping, each detectable void or sudden increase in the rate of penetration not attributable to a change in the formation type should be documented and evaluated as it is encountered.

VII. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

The BLM is to be notified a minimum of 2 hours in advance for a representative to witness:

- a. Spudding well
- b. Setting and/or Cementing of all casing strings
- c. BOPE tests

Eddy County

Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (575) 361-2822

- 1. A Hydrogen Sulfide (H2S) Drilling Plan should be activated 500 feet prior to drilling into the **Delaware** formation. Hydrogen Sulfide has been reported with measurements of 1200-1500 ppm in STVs.
- 2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
- 3. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.

B. CASING

- 1. The 13-3/8 inch surface casing shall be set below useable water and above the Salt at approximately 350 feet and cemented to the surface.
 - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with a surface log readout will be used or a cement bond log shall be run to verify the top of the cement.
 - b. Wait on cement (WOC) time for a primary cement job will be a minimum 18 hours for a water basin, 24 hours in the potash area, or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement).

- c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
- d. If cement falls back, remedial action will be done prior to drilling out that string.

High cave/karst.

Possible lost circulation in the Delaware. Possible abnormal pressures in the Wolfcamp and high pressure gas in the Pennsylvanian Section.

Drill intermediate hole with brine water mud due to salt section.

2. The minimum required fill of cement behind the 9-5/8 inch intermediate casing is:

Cement to surface. If cement does not circulate see B.1.a-d above.

If 75% or greater lost circulation occurs while drilling the intermediate casing hole, the cement on the production casing must come to surface.

3. The minimum required fill of cement behind the 4-1/2 inch production casing is:

Cement should tie-back at least 200 feet into previous casing string. Operator shall provide method of verification. First stage to circulate. Additional cement will be required to meet the 200 foot requirement.

4. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

C. PRESSURE CONTROL

- 1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.
- 2. The appropriate BLM office shall be notified a minimum of 2 hours in advance for a representative to witness the tests.
 - a. The tests shall be done by an independent service company.
 - b. The results of the test shall be reported to the appropriate BLM office.

- c. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.
- d. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug.
- e. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.
- f. A variance to test only the surface casing to the reduced pressure of 1000 psi with the rig pumps is approved. The BOP will be tested to 5000 psi by an independent service company.

D. DRILLING MUD

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the **Wolfcamp** formation, and shall be used until production casing is run and cemented.

Engineer on call phone (after hours):

Carlsbad: (575) 706-2779

WWI 112607