Form 3160-3 (July 1992)

If earthen pits are used in association with the drilling of this well, an OCD pit permit must be obtained prior to pit construction.

# JBMIT II

## FORM APPROVED

OMB NO. 1004-0136

Expires: February 28, 1995

DEPA	RTMENT OF THE IN	TERIOR	rever	5. LI	EASE DESIGNATIO	ON AND SERIAL NO.
BUF	REAU OF LAND MANAGE	MENT			C-028784-B	
Al	PPLICATION FOR PERMIT 1	O DRILL C	R DEEPEN	6. IF	INDIAN, ALLOTTE	S OR TRIBE NAME
1a. TYPE OF WORK						
1b. TYPE OF WELL	DRILL X	DEEPEN		1. (	NIT AGREEMENT	NAME
OIL	GAS X	SINGLE	MULTIPU			
WELL 2. NAME OF OPERATOR	WELL OTHE	R ZONE	ZONE		ARM OR LEASE N	·
Cimarex Energy (	Co. of Colorado 1626	8.9	Month	- Year K	eely 26 Feder	ral No. 2 35864
3. ADDRESS AND TELEPH	JONE NO		MAR 2	2007		
P.O. Box 140907	Irving TX 75014 972-401-3111		OCD -ARTI	SSIA, NM / 30	-015- S	OR WILDCAT
4. LOCATION OF WELL	Irving TX 75014 972-401-3111 (Report location clearly and in accordance with the second secon	th any State require	ementa oswell per	Sa	nd Tank; Mo	
1240 FSL & 1833	1150 FSL \$	1825	FF	Ted Water 11.	SEC. T.,R.,M., BLO	
11-1	1 ///		(/)	Ba	<b>D</b> YAREA	
per attack	DIRECTION FROM NEAREST TOWN OR POST OFFI	L, 03/	06/07			6-17S-29E
2 miles Northeast		<b></b>			ddni i or paris ddv	NM
15. DISTANCE FROM PRO LOCATION TO NE		16, NO. OF AC	RES IN LEASE			
PROPERTY OR LEA				TO THIS WELL	2575	tewide Tujon
(Also to nearest drig. uni	805'	1264.5		32	0 3 tA	Teal de 3/4/07
18. DISTANCE FROM PROF TO NEAREST WELL,	POSED LOCATION* DRILLING COMPLETED,		19. PROPOSED DEPTH	20. ROTA	RY OR CABLE TOO	DLS
OR APPLIED FOR, O	N THIS LEASE, FT.					
04 5 5 4 5 0 10 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	2080'		11300'		tary	
21. ELEVATIONS (Show what 3567' GR	· · · · · · · · · · · · · · · · · · ·			<del>)</del>	PPROX. DATE WO -01-07	JRK WILL START
23		SING AND CE	MENTING PROGRA		<u> </u>	
SIZE OF HOLE	GRADE, SIZE OF CASING	WEIG	SHT PER FOOT	SETTING	DEPTH	QUANTITY OF CEMENT
1 <u>7-1/2"</u>	H-40 13-3/8"	48 #	•	350' - 500'	k	500 sx circulate
12-1/4"	J-55 9-5/8"	40 #		4715'		1700 sx circulate
8-3/4"	P-110 5-1/2"	17#		11300'		1460 sx TOC 8550'
*Set surface casing 2	25' into the top of the Rustler, wh	ich is estima	ted to be between 3	50' and 500'.		
From the base of the	surface pipe through the running	of production	on casing, the well	will be equippe	ed with a 500	0 - psi BOP
system. We are requ	nesting a variance for the 13-3/8"	surface casir	ng and BOP testing	from Onshore	Order No. 2,	, which states
all casing strings hel	ow the conductor shall be pressur	re tested to 0	22 psi per foot or 1	500#, whicher	ver is greater.	but not to
	nanufacturer's stated maximum in					
		-		-		<del>-</del>
	e we do not anticipate any pressur	_				test the
	OP system to 1000# psi and use		-			
If proposal is to drill or de-	ESCRIBE PROPOSED PROGRAM: epen directionally, give pertinent data on sub	p. op oom .u .	to deepen, give data on per and measured and true			
SIGNED =	ZenoFanis	TITLE	Mgr. Ops. Admir	n	DATE	02-07-07

\*See Instructions On Reverse Side

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the APPRO United States any first first proof fraudulent statements or representations as to any matter within its jurisdiction.

GENERAL REQUIREMENTS AND SPECIAL STIPULATIONS **ATTACHED** 

**/s/ Jame**s Stovall

PERMIT No.

Application approval does not warrant or certify that is CONDITIONS OF APPROVAL, IF ANY:

SEE ATTACHED FOR CONDITIONS OF APPROVAL

TITLE FIELD MANAGER

**APPROVAL DATE** 

APPROVAL FOR 1 YEAR

MAR 20 2007

DATE

DISTRICT I 1635 R. French Dr., Hobbe, NM 86240 DISTRICT II 1301 W. Grand Avenue, Artesia, NM 86210

## State of New Mexico Energy, Minerals and Natural Resources Department

Form C-102 Revised October 12, 2005

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

DISTRICT III 1000 Rio Brazos Rd., Astec, NM 87410 DISTRICT IV

1286 S. St. Francis Dr., Santa Fe, NK 87504

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

WELL LOCATION AND ACREAGE DEDICATION PLAT

O AMENDED REPORT

API Number	84872	84872 Sand Tank; Morro			
Property Code	Property 1 KEELY "26"	Well Number			
OGRID No. 162683	Operator 1 CIMAREX ENERGY CO		Elevation 3564		

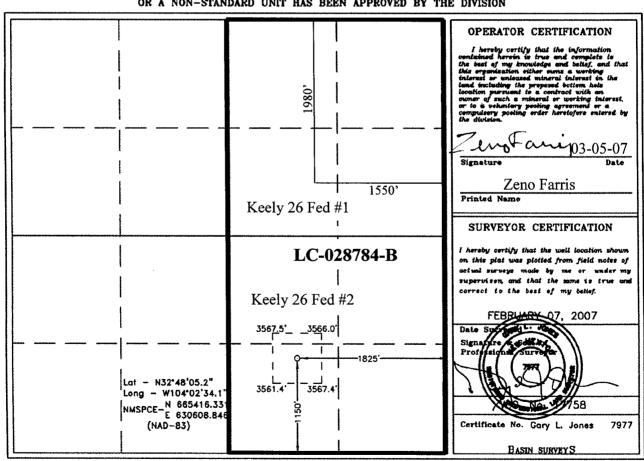
#### Surface Location

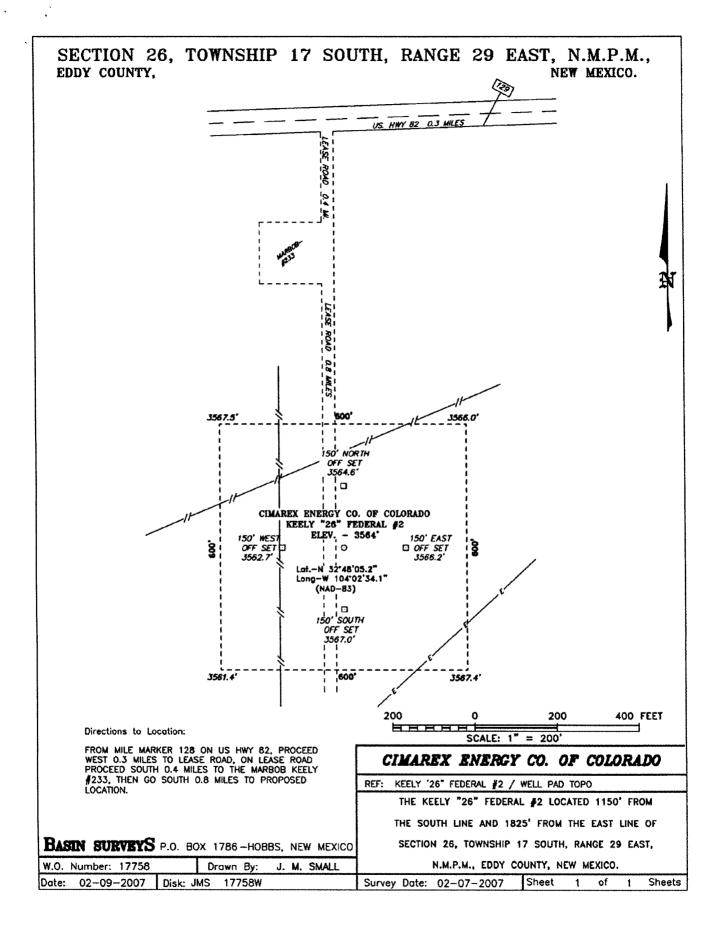
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County	ĺ
0	26	17 S	29 E		1150	SOUTH	1825	EAST	EDDY	

#### Bottom Hole Location If Different From Surface

	UL or lot No.	Section Town	ship Rang	Lot Id	n Feet from	the	North/South line	Feet from the	East/West line	County
	Dedicated Acres	Joint or laft	l Consolidati	on Code	Order No.		L	I		L
-	320	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





#### **Application to Drill**

Cimarex Energy Co. of Colorado Keely 26 Federal No. 2 Unit O Section 26 T17S-R29E 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:

1240' FSL & 1835' FEL

2 Elevation above sea level:

GR 3567'

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.

5 Proposed drilling depth:

11300'

6 Estimated tops of geological markers:

San Andres	2600
Yeso	4100
Wolfcamp	7500
Lower Wolfcamp	9050
Strawn LS	10200
Atoka Clastics	10360
Morrow Clastics	10845
Miss Unconformity	11100

#### 7 Possible mineral bearing formation:

Morrow	Gas
Atoka	Gas
Wolfcamp	Oil

#### 8 Casing program:

	Hole Size	Interval	Casing OD	Weight	Thread	Collar	Grade
_	17-1/2"	0-500'	13-3/8"	48	8-R	ST&C	H-40
	12-1/4"	0-4715'	9-5/8"	40	8-R	LT&C	J-55
	8-3/4"	0-11300'	5-1/2"	17	8-R	LT&C	P-110

#### **Application to Drill**

Cimarex Energy Co. of Colorado Keely 26 Federal No. 2 Unit O Section 26 T17S-R29E Eddy County, NM

#### 9 Cementing & Setting Depth:

	13 3/8"	Surface	Set 500' of 13 3/8" H-40 48# ST&C casing. Cement with 500 Sx. Of Premium Plus + additives, circulate cement to surface.
See A DA	9 5/8"	Intermediate	Set 4715' of 9 5/8" J-55 40# LT&C casing. Cement with 1700 Sx. Of Class Premium Plus + additives, circulate cement to surface.
COR	5 1/2"	Production	Set 11300' of 5 1/2" P-110 17# LT&C casing. Cement with 1460 Sx. of Class POZ/C Cement + additives. Estimated top of cement 8550'.

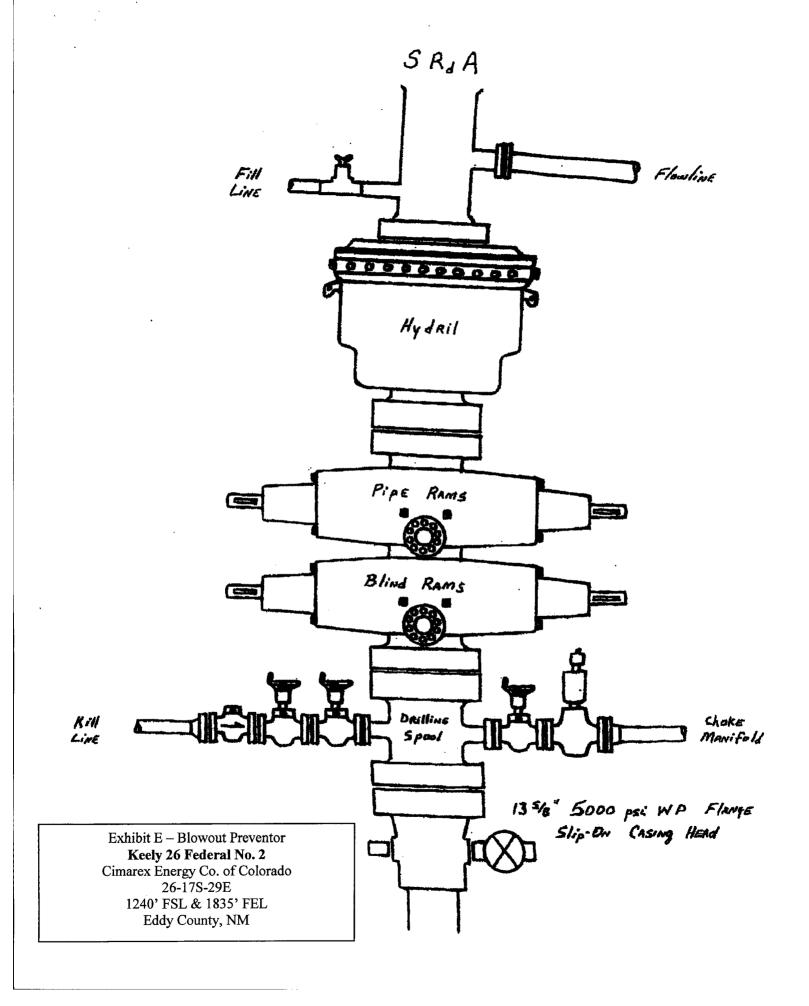
#### 10 Pressure control Equipment:

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 9 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.

#### 11 Proposed Mud Circulating System:

Depth	Mud Wt	Viscosity	Fluid Loss	Type Mud
0-500'	8.4 - 8.6	30 - 32	May lose circ.	Fresh water spud mud add paper to control seepage and high viscosity sweeps to clean hole.
500'-4715'	9.7 - 10.0	28 - 29	May lose circ.	Brine water. Add paper as needed to control seepage and add lime to control pH (9-10). Use high viscosity sweeps to clean hole.
4715'-8300'	8.4 - 9.9	28 - 29	NC	Brine water. Paper for seepage. Lime for PH (9 - 9.5)
8300'-10000'	8.45 - 8.9	28 - 29	NC	Cut brine. Caustic for pH control.
10000'-11300'	8.9 - 9.7	29 - 45	NC	Cut brine. Caustic for pH control.

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.



#### ORALING OPERATIONS CHOKE MANIFOLD 5M SERVICE

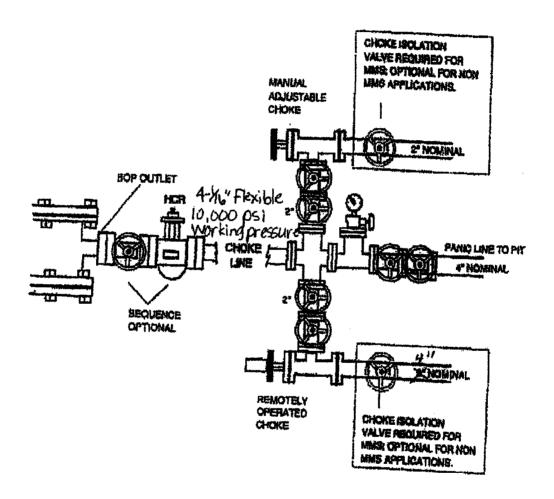


Exhibit E-1 – Choke Manifold Diagram

Keely 26 Federal No. 2

Cimarex Energy Co. of Colorado

26-17S-29E

1240' FSL & 1835' FEL

Eddy County, NM

#### **Hydrogen Sulfide Drilling Operations Plan**

Cimarex Energy Co. of Colorado Keely 26 Federal No. 2 Unit O Section 26 T17S-R29E Eddy 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
  - 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, normal safe condition. Yellow flag indicates potential pressure and danger. Red flag, 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 foremen's trailers or living quarters.
- 7 Drillstem Testing not anticipated.

### Hydrogen Sulfide Drilling Operations Plan

Cimarex Energy Co. of Colorado Keely 26 Federal No. 2 Unit O Section 26 T17S-R29E Eddy County, NM

- 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.

#### Surface Use Plan

Cimarex Energy Co. of Colorado Keely 26 Federal No. 2 Unit O Section 26 T17S-R29E Eddy County, NM

- 1 Existing Roads: Area maps, Exhibit "B" is a reproduction of Lea 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 Mile Marker 128 of US Hwy 82, go West 0.6 miles to the junction of US Hwy 82 and Co Rd 213. Go South on Co Rd 213 for 0.7 miles to lease road. On lease road, go East 0.3 miles around Marbob #127 location to lease road. On lease road, go South 0.8 miles to lease road. On lease road, go East 0.5 miles to lease road. On lease road, go North 0.1 miles to proposed location.
- 2 PLANNED ACCESS ROADS: No new lease road will be constructed.
- 3 LOCATION OF EXISTING WELLS IN A ONE-MILE RADIUS EXHIBIT "A"

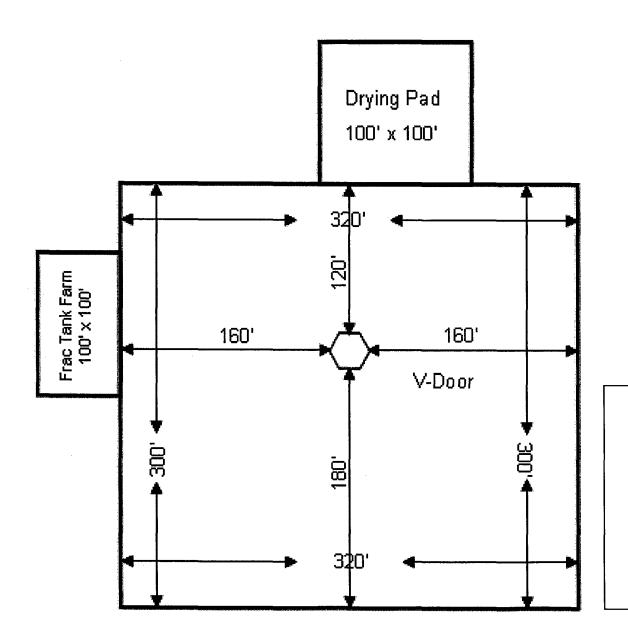
A. Water wells - None known

B. Disposal wells - None known

C. Drilling wells - None known

D. Producing wells - As shown on Exhibit "A"

E. Abandoned wells - As shown on Exhibit "A"



## **Rig 122**

Cimarex Energy Co. of Colorado

Exhibit D – Rig Layout

Keely 26 Federal No. 2

Cimarex Energy Co. of Colorado 26-17S-29E

1240' FSL & 1835' FEL

Eddy County, NM

#### CONDITIONS OF APPROVAL - DRILLING

**Operator's Name:** 

Cimarex Energy Co Keely 26 Federal # 2

Well Name & No. Location:

1150'FSL, 1835'FEL, SEC26, T17S, R29E, Eddy County, NM

Lease:

LC-028784B

#### I. DRILLING OPERATIONS REQUIREMENTS:

A. The Bureau of Land Management (BLM) is to be notified a minimum of 4 hours in advance, at the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (505) 361-2822 - for wells in Eddy County; and the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (505) 393-3612 for wells in Lea County, in sufficient time for a representative to witness:

- 1. Spudding
- 2. Cementing casing: 13.375 inch 9.625 inch 5.5 inch
- 3. BOP tests
- B. A Hydrogen Sulfide (H2S) Drilling Plan should be activated 500 feet prior to drilling into the **Grayburg** formation. A copy of the plan shall be posted at the drilling site.
- C. 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.
- D. Gamma-Ray/Neutron logs shall be run from the base of the Salado Formation to the surface; cable speed not to exceed 30 feet per minute. (R-111-P area only)
- E. If floor controls are required, (3M or Greater) 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.

#### II. CASING:

- A. The 13.375 inch surface casing shall be set above the salt, at least 25 feet into the Rustler Anhydrite @ approximately 500 feet and cement circulated to the surface.
  - 1. 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.
  - 2. Wait on Cement (WOC) time for a primary cement job will be a minimum of 12 hours for a non-water basin, 18 hours for a water basin, 24 hours in the potash area, or 500 pounds compression strength, which ever is greater. (This is to include the lead cement)
  - 3. WOC time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds of compression strength, which ever is greater.
  - 4. If cement falls back, Remedial cementing shall be completed prior to drilling out that string.
- B. The minimum required fill of cement behind the <u>9.625</u> inch intermediate casing is <u>circulate cement to the surface</u>. If cement does not circulate see A.1 thru 4.
- C. The minimum required fill of cement behind the <u>5.5</u> inch production casing is <u>cement shall extend</u> <u>upward a minimum of 200 feet above the base of the intermediate casing string.</u>
- D. 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.

#### III. PRESSURE CONTROL:

- A. 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 in API RP53.
- B. Minimum working pressure of the blowout preventer and related equipment (BOPE) required for drilling the intermediate casing well bore shall be 2000 psi. Minimum working pressure of the blowout preventer and related equipment (BOPE) required for drilling below the 9.625 inch casing shall be 5000 psi.
- C. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
- 1. The tests shall be done by an independent service company.
- 2. The results of the test shall be reported to the appropriate BLM office.
- 3. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of the independent service company test will be submitted to the appropriate BLM office.
- 4. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi in accordance with API RP 53. The test will be held for a minimum of 10 minutes if the test is done with a test plug and 30 minutes without a test plug.
- 5. BOP/BOPE must be tested by an independent service within 500 feet of the top of the **Wolfcamp** Formation. This test does not exclude the test prior to drilling out the casing shoe as per onshore order No. 2.
- 6. A variance to test the \_\_\_\_\_ to the reduced pressure of \_\_\_psi with the rig pumps is approved the BOP/BOPE must be tested by an independent service company.

#### IV. 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. Monitoring equipment shall consist of the following:

- 1. Recording pit level indicator to indicate volume gains and losses.
- 2. Mud measuring device for accurately determining the mud volumes necessary to fill the hole during trips.
- 3. Flow-sensor on the flow line to warn of abnormal mud returns from the well.

#### V. Hazards:

- 1. Our geologist has indicated that there is potential for flows in the Artesia and Salado groups.
- 2. Our geologist has indicated that there is potential for lost circulation in the Grayburg and San Andres formations.

Engineering may be contacted at 505-706-2779 for variances if necessary.

FWright 2/23/07