

OCD-ARTESIA

UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

Month - Year MAR - 5 2007 OCD - ARTESIA, NIM

FORM APPROVED OMB No. 1004-0137 Expires March 31, 2007

5.	Lease Serial No.
	NMNM-101600

6. If Indian, Allotee or Tribe Name

1a. Type of work:  DRILL  REENTE	R		7 If Unit or CA Agree	ement, Name and No.
lb. Type of Well: ☐Oil Well ☐Other	✓ Single Zone Multi	ple Zone	8. Lease Name and W Acme 15 Feder	2 (D : )
2. Name of Operator  Devon Energy Production Company, LP	6137		9. API Well No.	- 3 5460
20 North Broadway	3b. Phone No. (include area code)		10. Field and Pool, or E	* .
Oklahoma City, Oklahoma City 73102-8260	405-552-7802		Lusk; Morrow	190621
4. Location of Well (Report location clearly and in accordance with any	State requirements.*)		11. Sec., T. R. M. or Bl	k. and Survey or Area
At surface NWNE 890' FNL & 1650' FEL			Lot B Sec 15 T	10S R31F
At proposed prod. zone NWNE 890' FNL & 1650' FEL			Edi B See 13 1	1751612
14. Distance in miles and direction from nearest town or post office*			12. County or Parish	13. State
Approximately 35 miles northeast of Carlsbad, NM			Eddy County	NM
15. Distance from proposed* location to nearest	16. No. of acres in lease	17. Spacin	ng Unit dedicated to this w	ell
property or lease line, ft. (Also to nearest drig. unit line, if any)	120	320		
18. Distance from proposed location*	19. Proposed Depth	20. BLM/	BIA Bond No. on file	
to nearest well, drilling, completed, applied for, on this lease, ft.	12,725'	CO-1	104	
21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approximate date work will sta	art*	23. Estimated duration	
3542'	01/15/2007		45 days	
	24. Attachments			
The following, completed in accordance with the requirements of Onshore	Oil and Gas Order No.1, shall be	attached to th	nis form:	
1. Well plat certified by a registered surveyor.	4. Bond to cover 1 Item 20 above).		ons unless covered by an o	existing bond on file (see
<ol> <li>A Drilling Plan.</li> <li>A Surface Use Plan (if the location is on National Forest System I</li> </ol>	1			
SUPO shall be filed with the appropriate Forest Service Office).		specific inf	formation and/or plans as	may be required by the
25. Signature	Name (Printed/Typed)			Date
# / / / /	Stephanie A. Ysasa	ga		01/09/2007
Title Sr. Staff Engineering Technician				
Approved by (Signature) James Siovall	Name (Printed/Typed)	es Sto	1	FEB 2 6 200
ACTING FIELD MANAGER	Office CARLSBA	DFIE	LD OFFICE	
Application approval does not warrant or certify that the applicant holds	legal or equitable title to those right	nts in the sul	bject lease which would en	title the applicant to
conduct operations thereon. Conditions of approval, if any, are attached.	APPRO	VAL	FOR 1 YEAR	
Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a cri States any false, fictitious or fraudulent statements or representations as to	me for any person knowingly and			agency of the United

SEE ATTACHED FOR CONDITIONS OF APPROVAGE

CAPITAN CONTROLLED WATER BASIN

APPROVAL SUBJECT TO GENERAL REQUIREMENTS AND SPECIAL STIPULATIONS **ATTACHED** 

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

Form 3160-5 (August 1999)

# UNITED STATES DEPARTMENT OF THE INTER BUREAU OF I AND MANAGEN

FORM APROVED OMB NO. 1004-0135

EXPIRES:	NOVEMBER 30, 2	(
ages Carial No.		-

SUNDRY NOTICES AND REPORTS  Do not use this form for proposals to drill or to re-en an abandoned well. Use Form 3160-3 (APD) to with proposals	5. Lease Serial No.  NMNM-101600  6. If Indian, Allottee or Tribe Name	
SUBMIT IN TRIPLICATE	7. Unit or CA Agreement Name and No.	
1a. Type of Well Oil Well Gas Well Other	8 Well Name and No.	-
2. Name of Operator  DEVON ENERGY PRODUCTION COMPANY, LP	Acme 15 Federal Com 3  9. API Well No.	-
3. Address and Telephone No.		-
20 North Broadway, Ste 1500, Oklahoma City, OK 73102 405-552-7802	10. Field and Pool, or Exploratory	
4. Location of Well (Report location clearly and in accordance with Federal requirements)*	Lusk; Morrow (Gas) 12. County or Parish 13. State	-
Lot B Sec 15 -T19S-R31E NWNE 890' FNL & 1650' FEL	Eddy NM	

4. Location of Well (Report location clean)		12. County or Paris	sh 13. State			
Lot B Sec 15 -T19S-R31E NWN	E 890' FNL & 1650' FEL			Eddy	NM	
CHECK A	PPROPRIATE BOX(s) TO IND	CATE NATURE OF NOTION	CE. REPORT	OR OTHER DATA		
TYPE OS SUBMISSION			OF ACTION			
✓ Notice of Intent ☐ Subsequent Report	Acidize Alter Casing Casing Repair Change Plans	Deepen Fracture Treat New Construction Plug and Abandon	Reclamati	te	Water Shut-Off     Well Integrity     Other Change to     Original APD	
Final Abandonment Notice	_ ~	Plug Back	Water Dis	posal	J. 1. 3. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.	
Final Abandonment Notice Change Plans Plug and Abandon Temporarily Abandon Original APD  13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work and approximate duration thereof. If the proposal deepen directionally or recomplete horizontally, give subsurface location 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 BLMBIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleted 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 requirement, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection)  Devon Energy Production Company, L.P. respectfully requests a variance to test the stack to 1200 psi (70 % of the burst rating of the 13-3/8" 48# H-40) when NU on the 13-3/8" surface casing. BOPE will be tested per onshore order #2 when NU on the 8-5/8" intermediate casing.						
14. I hereby certify that the topegoing is tru	ue and correct					
Signed	Name Title	Stephanie A. Ysa Sr. Staff Engineering T		Date	1/9/2007	
(This space for rederal or State office use Approved by Conditions of approval, if any:	ACTING	ELD MANAGER	<b>?</b>	FEI Date	B 2 6 2007	

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

# **Additional Operator Remarks:**

Devon Energy Production Company, LP proposes to drill a Morrow well to 12,725' for commercial quantities of oil and gas. If the well is deemed noncommercial, the wellbore will be plugged and abandoned per Federal regulations. Devon Energy Production Co., LP plans to drill the well per the attached Drilling and Surface Use Plan.

# **Directions To Location:**

From the Junction of Co. Rd 222 (Shugart) and Co. Rd. 248 (Lusk Plant), proceed southeast Co. Rd. 248 for 0.4 mile to proposed location.

# Access Road:

Will use existing road.

# H2S:

No H2S is anticipated to be encountered.

DISTRICT I 1825 N. French Dr., Hobbs, NM 88240 DISTRICT II 1301 W. Grand Avenue, Artesia, NM 88210

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-102 Revised October 12, 2005

Submit to Appropriate District Office

BASIN SURVEYS

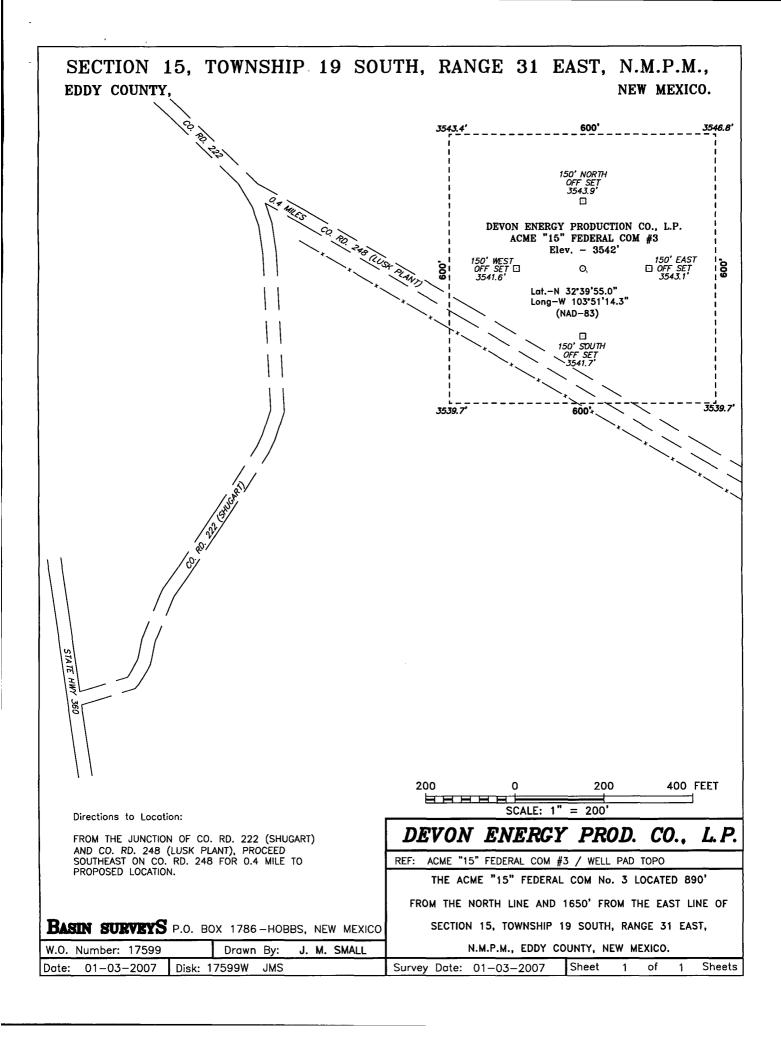
State Lease - 4 Copies Fee Lease - 3 Copies

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

DISTRICT IV 1220 S. St. Francis Dr., Santa Fe, NM 67505 OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

☐ AMENDED REPORT

		1	WELL LO	CATION	AND ACREA	GE DEDICATI	ON PLAT		
API	Number		<u>Š</u>	Pool Code		LU	Pool Name SK; MORRO	W (GAS) , (	Ne sT
Property	Code			ACME	Property Nam. "15" FEDEI			Well Nu	
ogrid n 6137	o.		DEVO	N ENERO	Operator Name SY PRODUCT	ON COMPANY	LP	Elevat 354	
				_	Surface Loca	ation			
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
В	15	19 S	31 E		890	NORTH	1650	EAST	EDDY
			Bottom	Hole Loc	eation If Diffe	rent From Sur	face		
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
Dedicated Acre	s Joint of	r Infill Co	nsolidation (	Code Or	der No.	L		1	<u> </u>
320									
NO ALLO	WABLE W					NTIL ALL INTER APPROVED BY '		EEN CONSOLIDA	ATED
BML	ose	BLM L NMNM 1003- Lat - N32'3 Long - W10 (NAD-E	3 (3) (9)55.0" (3°51'14.3"	33 34 34 34 34 40 40 40 40 40 40 40 40 40 40 40 40 40	5543.4' \$\tilde{9}\$ 3546.8' \$\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	NMNM- 101600 	I hereby ce contained herei the best of my this organizatio interest or unla land including location pursua owner of such or to a rhunda compulsion pool the division.  Signature  STEPHA  Frinted Nam  SURVEYO	NIF A. YSA	nation lete to , and that cing in the hole an interest, or a entered by  08/07  Date  SAGA
	 				   		actual surveys supervison an correct to the  JANU  Date Survey Signature Professional  W.:	made by me or not that the same is the best of my believed JAP	under my



# **DRILLING PROGRAM**

# Devon Energy Production Company, LP Acme 15 Federal Com 3

Surface Location: 890' FNL & 1650' FEL, Unit B, Sec 15 T19S R31E, Eddy, NM Bottom hole Location: 890' FNL & 1650' FEL, Unit B, Sec 15 T19S R31E, Eddy, NM

# 1. Geologic Name of Surface Formation

#### a. Quaternary

# 2. Estimated tops of geological markers:

a.	Rustler Dol	588'
b.	Salado Salt	832'
c.	Tansil Dol.	2172'
d.	Yates	2362'
e.	Capitan Dol.	2730'
f.	Cherry Canyon SS	4276'
g.	Brushy Canyon SS	5108'
ĥ.	1 <sup>st</sup> Bone Spring LS	6801'
i.	1 <sup>st</sup> Bone Spring SS	8113'
j.	2 <sup>nd</sup> Bone Spring LS	8314'
k.	2 <sup>nd</sup> Bone Spring SS	8798'
l.	3 <sup>rd</sup> Bone Spring LS	9238'
m.	3 <sup>rd</sup> Bone Spring SS	9594'
n.	Wolfcamp	10068'
0.	Penn Shale	10454'
p.	Strawn	11026'
q.	Atoka Clastics	11393'
r.	Atoka Bank LS	11617'
s.	U. Morrow LS	11784'
t.	M. Morrow Clastics	12014'
u.	L. Morrow Marker	12289'
v.	L. Morrow SS	12365'
w.	Barnett Shale	12438'
x.	Total Depth	12725'

# 3. Estimated Depths of Anticipated Fresh Water, Oil or Gas

a.	Rustler	588'	Water
b.	M. Morrow	12014'	Gas
c.	Lower Morrow	12289'	Gas

No other formations are expected to yield oil, gas or fresh water in measurable volumes. The surface fresh water sands will be protected by setting 13 3/8" casing at 600' and circulating cement back to surface. Fresh water will be protected by setting 8 5/8" casing at 4650' and circulating

cement to surface. The Morrow intervals will be isolated by setting 5 ½" casing to total depth and circulating to surface.

4. Casing Program	n:
-------------------	----

Hole Size	<u>Interval</u>	OD Csg	<b>Weight</b>	<u>Collar</u>	<u>Grade</u>
17 ½"	0' (600)	13 3/8" 8 5/8" <b>WI</b> I	A100 48#	ST&C	H-40
11"	0'-3900	8 5/8", <b>W</b> 11	1NES32#	LT&C	J-55
11"	3900'-4650'	8 5/8"	32#	LT&C	HCK-55
7 7/8"	0'-12725'	5 ½"	1 <b>7</b> #	LT&C	HCP-110

#### 5. Cement Program:

a.	13 3/8"	Surface	Cement with 300 sacks (35:65) Poz (Fly Ash): Class C Cement +
			2% bwoc Calcium Chloride + 0.25 lbs/sack Cello Flake + 6%
			bwoc Bentonite. Tail with 250 sacks Class C Cement + 2% bwoc

Calcium Chloride + 0.25 lbs/sack Cello Flake to surface.

b. 8 5/8" Intermediate Cement with 1100 sacks (35:65) Poz (Fly Ash): Class C Cement +

3% bwow Sodium Chloride + 0.25 lbs/sack Cello Flake + 5 lbs/sack LCM-1 + 6% bwoc Bentonite + 0.005 gps FP-13L. Tail with 300 sacks (60:40) Poz (Fly Ash): Class C Cement + 4% bwoc

MPA-1 + 5% bwow Sodium Chloride + 0.4% bwoc Sodium Metasilicate to surface.

c. 5 ½" Production

2 Stage Long String w/ DV @ 9,000' and TOC at 4150'.

STAGE 1

Cement Slurry: 605 sacks (15:61:11) Poz (Fly Ash): Class C Cement: CSE-2 + 1% bwow Potassium Chloride + 0.75% bwoc EC-1 + 0.25 lbs/sack Cello Flake + 0.4% bwoc CD-32 + 5 lbs/sack LCM-1 + 0.6% bwoc FL-25 + 0.6% bwoc FL-52A.

#### STAGE 2

Cement Slurry: 375 sacks (35:65) Poz (Fly Ash): Class H Cement + 0.25 lbs/sack Cello Flake + 3 lbs/sack LCM-1 + 6% bwoc Bentonite + 0.4% FL-52A. Tail with 550 sacks (60:40) Poz (Fly Ash): Class H Cement + 1% bwow Sodium Chloride + 0.75% bwoc BA-10 + 0.1% bwoc R-3 + 0.25 lbs/sack Cello Flake + 2 lbs/sack Kol Seal + 4% bwoc MPA-1.

# 6. Pressure Control Equipment:

The blowout preventor equipment (BOP) shown in Exhibit #1 will consist of a (3M system) double ram type (5000 psi WP) preventor and a bag-type (Hydril) preventor (5000 psi WP). Both units will be hydraulically operated and the ram type preventor will be equipped with blind rams on top and 4 ½" drill pipe rams on bottom. The drilling head will be installed on the 13 3/8" surface casing and utilized continuously until total depth is reached. All BOP's and associated equipment will be tested to 1200 psi with the rig pump before drilling out the 13 3/8" casing shoe (70% of 48#, H-40 casing). Prior to drilling out the 8 5/8" casing shoe, the BOP's and Hydril will be tested as per BLM Drilling Operations Order #2.

5 el COM

Pipe rams will be operated and checked each 24-hour period and each time the drill pipe is out of the hole. These functional tests will be documented on the daily drillers log. A 2" kill line and 3" choke line will be incorporated in the drilling spool below the ram-type BOP. Other accessory BOP equipment will include a Kelly cock, floor safety valve, choke lines and choke manifold having 5000 psi WP rating.

# 7. Proposed Mud Circulation System

	10 C			
Depth	Mud Wt.	<u>Visc</u>	Fluid Loss	<b>Type System</b>
0.4600	8.5-9.5	28-35	NC	Fresh Water
600'=4650'	10	28	NC	Brine Water
4650' – 10000'	8.4 - 9.8	28-30	NC	Cut Brine
10000'- 12725'	9.2 - 10.2	36-48	6 - 10 cc	Brine/Polymer

The necessary mud products for weight addition and fluid loss control will be on location at all times.

# 8. Auxiliary Well Control and Monitoring Equipment:

- a. A Kelly cock will be in the drill string at all times.
- b. A full opening drill pipe stabbing valve having the appropriate connections will be on the rig floor at all times.
- c. Hydrogen Sulfide detection equipment will be in operation after drilling out the 13 3/8" casing shoe until the 5 1/2" casing is cemented. Breathing equipment will be on location upon drilling the 13 3/8" shoe until total depth is reached.

#### 9. Logging, Coring, and Testing Program:

- a. Drill stem tests will be based on geological sample shows.
- b. The open hole electrical logging program will be:
  - i. Total Depth to Intermediate Casing Dual Laterolog-Micro Laterolog with SP and Gamma Ray. Compensated Neutron Z Density log with Gamma Ray and Caliper.
  - ii. Total Depth to Surface

Compensated Neutron with Gamma Ray

- iii. No coring program is planned
- iv. Additional testing will be initiated subsequent to setting the 5 ½" production casing. Specific intervals will be targeted based on log evaluation, geological sample shows and drill stem tests.

#### 10. Potential Hazards:

a. No abnormal pressures or temperatures are expected. There is no known presence of H2S in this area. If H2S is encountered the operator will comply with the provisions of Onshore Oil and Gas Order No. 6 No lost circulation is expected to occur. All personnel will be familiar with all aspects of safe operation of equipment being used to drill this well. Estimated BHP 5000 psi and Estimated BHT 180°. No H2S is expected to be encountered.

# Attachment to Exhibit #1 NOTES REGARDING BLOWOUT PREVENTERS

# Devon Energy Production Company, LP

#### Acme 15 Federal Com 3

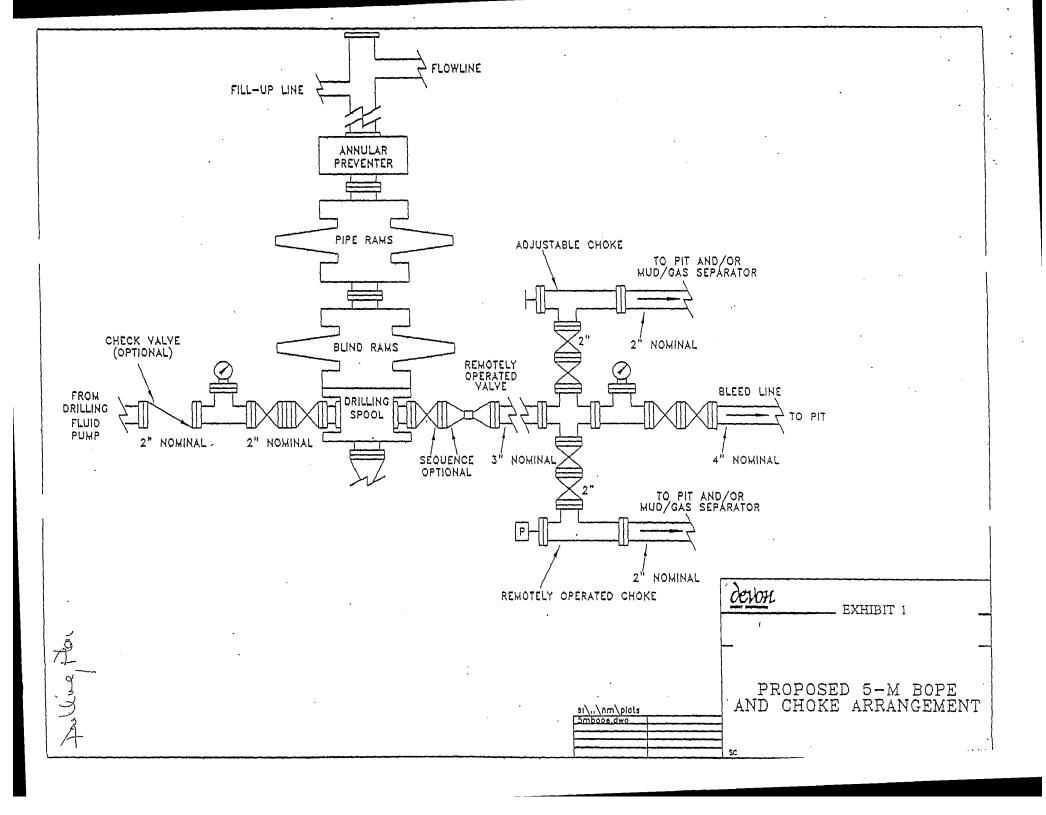
Surface Location: 890' FNL & 1650' FEL, Unit B, Sec 15 T19S R31E, Eddy, NM Bottom hole Location: 890' FNL & 1650' FEL, Unit B, Sec 15 T19S R31E, Eddy, NM

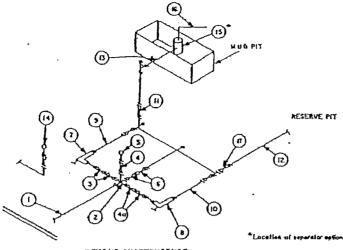
- 1. Drilling nipple will be constructed so it can be removed mechanically without the aid of a welder. The minimum internal diameter will equal BOP bore.
- 2. Wear ring will be properly installed in head.
- 3. Blowout preventer and all associated fittings will be in operable condition to withstand a minimum 5000 psi working pressure.
- 4. All fittings will be flanged.
- 5. A full bore safety valve tested to a minimum 5000 psi WP with proper thread connections will be available on the rotary rig floor at all times.
- 6. All choke lines will be anchored to prevent movement.
- 7. All BOP equipment will be equal to or larger in bore than the internal diameter of the last casing string.
- 8. Will maintain a kelly cock attached to the kelly.
- 9. Hand wheels and wrenches will be properly installed and tested for safe operation.
- 10. Hydraulic floor control for blowout preventer will be located as near in proximity to driller's controls as possible.
- 11. All BOP equipment will meet API standards and include a minimum 40 gallon accumulator having two independent means of power to initiate closing operation.

# **HYDROGEN SULFIDE DRILLING OPERATIONS PLAN**

- 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 procedures, routes and first aid.
  - f. Proper use of 30-minute pressure demand air pack.
- 2. H2S Detection and Alarm System
  - a. H2S detectors and audio alarm system to be located at bell nipple, end of blooie line (mud pit) and on derrick floor or doghouse.
- 3. Windsock and/or wind streamers
  - a. Windsock at mud pit area should be high enough to be visible
  - b. Windsock at briefing area should be high enough to be visible
  - c. There should be a windsock at entrance to location
- 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" & "E-1"
- 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. Drill stem Testing
  - a. Exhausts will be watered
  - b. Flare line will be equipped with an electric igniter or a propane pilot light in case gas reaches the surface.
  - c. If the location is near to a dwelling a closed DST will be performed.
- 8. Drilling contractor supervisor will be required to be familiar with the effects H2S has on tubular goods and other mechanical equipment.

If H2S is encountered, mud system will be altered if necessary to maintain control or formation. A mud gas separator will be brought into service along with H2S scavengers if necessary.





	MINIMUM REQUIREMENTS									
			3,000 MW/	•		5,000 MWP		I	10,000 MW	P
No.	1	1.0.	NOMINAL	RATING	LD.	NOMINAL	RATING	LD.	HOMINAL	RATING
1	Line from driffing spool		3*	3,000		3,	5,000		3"	10,000
2	Cross 3"13"12"			3,000			5,000			1
	Cross 3"13"x3"13"							L		10,000
3	Velves(1) Gate □ Plug □(2)	3-1/8*		3,000	3-1/8*		\$,000	3-1/8"		10,000
4 .	Valve Gale []	1-13/16*		3,000	1-13/16*		5,000	1-13/16*		10,000
44	Values(1)	2-1/16"		3,00¢	2-1/16"		5,000	3-1/8*		10,000
5	Pressure Gauge			3,000			5,000			10,000
6	Valves Plug □(Z)	3-1/8"		3,000	3-1/8"		5,000	3-1/8"		10,000
7	Adjustable Choke(3)	2*		000,E	2*		5,000	2-		10,000
5	Adjustable Choke	1"		3,000	1*		5,000	2-		10,000
9	Line		3"	000,E		3	5,000		3~	10,000
10	Linze		2"	3,000		2"	5,000		3-	10,000
u	Valves Plug □(2)	3-176*		3,000	3-1/A*		5,000	3-1/8"		10,000
12	Lines "		3*	1,000		3*	1.000		3*	2,000
13	Lines		3.	1,000		3*	1,000		3"	2,000
14	Remote reading compound standpipe pressure pauge			000,0	-		5,000			10,000
15	Gas Separator		27:5"			2'x5'			2'15'	
16	Lime		4"	1.000		(	1,000		4"	2,030
17	Valves Plug (C2)	3-1/8"		3,000	1-1/8"		5,000	3-1/8*		10,000

- (1) Only and required in Class 3M,
- (2) Gate valves only shall be used for Class 10H.
- (3) Remote operated hydrausic choke required on \$,000 psi and 10,000 psi for drilling.

#### EQUIPMENT SPECIFICATIONS AND INSTALLATION INSTRUCTIONS

- 1. All connections in choke manifold shall be welded, studded, flanged or Cameron clamp of comparable rating.
- 2. All flanges shall be API 68 or 68X and ring gaskets shall be API RX or BX. Use only BX for 10 MWP.
- 3. All lines shall be securely anchored.
- 4. Chokes shall be equipped with tungsten carbide seats and needles, and reptacements shall be available.
- 5. Choke manifold pressure and standpipe pressure gauges shall be available at the choke manifold to assist in regulating chokes. As an alternate with automatic chokes, a choke manifold pressure gauge shall be located on the rig floor in conjunction with the standpipe pressure gauge.
- 6. Line from drilling spoot to choke manifold should be as straight as possible. Lines downstream from chokes shall make turns by large bends or 90° bends using bull plugged tees.
- 7. Discharge lines from chokes, choke bypass and from top of gas separator should yent as far as practical from the well.

#### CONDITIONS OF APPROVAL - DRILLING

Operator's Name: Well Name & No. Devon Energy Prod. Co. LP Acme 15 Federal Com # 3

Location:

890'FNL, 1650'FEL, SEC15, T19S, R31E, Eddy County, NM

Lease:

NM-101600

#### I. DRILLING OPERATIONS REQUIREMENTS:

A. The Bureau of Land Management (BLM) is to be notified a minimum of 4 hours in advance for a representative to witness:

- 1. Spudding
- 2. Cementing casing: 13.375 inch 8.625 inch 5.5 inch
- 3. BOP tests
  - Eddy County call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (505) 361-2822
  - Lea County call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (505) 393-3612
- B. A Hydrogen Sulfide (H2S) Drilling Plan is N/A. 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 at 720 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 **8.625** inch intermediate casing is **circulate cement to the surface.** 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 500 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.
- C. Minimum working pressure of the blowout preventer and related equipment (BOPE) required for drilling below the **8.625** inch casing shall be **5000** psi.
- D. 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 **BOP and BOPE nippled up on the 13.375" casing** to the reduced pressure of **1200** psi with the rig pumps is approved.

#### **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 identified the potential for lost circulation in the Artesia group and shallow Karst features.
- 2. Our geologist has identified the potential for flows in the Artesia and Salado groups

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

FWright 2/21/07