AFS-10-575

OCD-ARTESIA

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NMOCD ARTESIA

Form 3160-3
(April 2004)

FORM APPROVED
OMB No. 1004-0137
Expires March 31, 2007 EA 10-768

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
SH:NMNM-036379; NMNM037489

6. If Indian, Allotee or Tribe Name

1a. Type of work: ☑ DRILL ☐ REENTER

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

1b. Type of Well: ☐ Oil Well ☑ Gas Well ☐ Other ☑ Single Zone ☐ Multiple Zone

8. Lease Name and Well No. (300635)
Cotton Draw Unit 117H

2. Name of Operator
Devon Energy Production Company, LP (6137)

9. API Well No.
30-015-38434

3a. Address **20 North Broadway, Oklahoma City, Oklahoma 73102-8260**

3b. Phone No. *(include area code)*
405-228-8699

10. Field and Pool, or Exploratory
WILDCAT **Upper Penn Shale** (GAS) (97810)

4. Location of Well *(Report location clearly and in accordance with any State requirements.)*
At surface **W/2 E/2 160 FSL & 1980 FEL** (UL O)
At proposed prod. zone **W/2 E/2 660 FNL & 1980 FEL**

NORTHODOX LOCATION
PP: 483 FSL & 1980 FEL
becomes orthodox @approx. 13100' MD

11. Sec., T. R. M. or Blk. and Survey or Area
SEC 34 T24S R31E

14. Distance in miles and direction from nearest town or post office*
Approximately

12. County or Parish
Eddy County

13. State
NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) **330'**

16. No. of acres in lease
1436.56 Acres

17. Spacing Unit dedicated to this well
320 Acres

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. **See attached map.**

19. Proposed Depth
13,587 MD 17,500 TD

20. BLM/BIA Bond No. on file
CO-1104

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
3443 ' GL

22. Approximate date work will start*

23. Estimated duration
45 days

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, shall be attached to this form:

1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification
6. Such other site specific information and/or plans as may be required by the authorized officer.

25. Signature: Judy A. Barnett
Name *(Printed/Typed)*: **Judy A. Barnett**
Date: **05/18/2010**

Title: **Regulatory Analyst**

Approved by *(Signature)*: **/s/ Don Peterson**
Name *(Printed/Typed)*:
Date: **SEP 9 2010**

Title: **FIELD MANAGER**
Office: **CARLSBAD FIELD OFFICE**

Application approval 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.
Conditions of approval, if any, are attached.

APPROVAL FOR TWO YEARS

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)

Carlsbad Controlled Water Basin

NMOCD
OCD CONDITION OF APPROVAL of Drilling:
Intent to drill ONLY -- CANNOT produce until the Non-Standard Location has been approved by OCD Santa Fe office.

Approval Subject to General Requirements & Special Stipulations Attached

KZ

SEE ATTACHED FOR CONDITIONS OF APPROVAL

DRILLING PROGRAM

Devon Energy Production Company, LP

Cotton Draw Unit 117H

Surface Location: 160' FSL & 1980' FEL, Unit O, Sec 34 T24S R31E, Eddy, NM

Bottom Hole Location: 660' FNL & 1980' FEL, Unit B, Sec 34 T24S R31E, Eddy, NM

1. Geologic Name of Surface Formation

a. Permian

2. Estimated Tops of Geological Markers & Depths of Anticipated Fresh Water, Oil or Gas:

a.	Fresh Water	200'	
b.	Rustler	599'	
c.	Salado	994'	
d.	Castile	2800'	
e.	Bell Canyon	4407'	
f.	Cherry Canyon	5296'	Oil
g.	Brushy Canyon	6621'	Oil
h.	1st Bone Spring Lime	8203'	Oil
i.	1st Bone Spring Ss	9306'	Oil
j.	2nd Bone Spring Lime	9711'	Oil
k.	2nd Bone Spring Ss	9903'	Oil
l.	3rd Bone Spring Lime	10,388'	Oil
m.	3rd Bone Spring Ss	11,163'	Oil
n.	Wolfcamp	11,603'	Oil
o.	Upper Penn Shale	13,201'	Gas/Oil
p.	Strawn	13,582'	Gas/Oil

See COA

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 20"casing at ~~650'~~ and circulating cement back to surface. Fresh water sands will be protected by setting 13 3/8" casing at ~~4200'~~ and circulating cement to surface. The Bone Spring intervals will be isolated by setting 5 ½" casing to total depth and circulating cement above the base of the 9 5/8" casing.

per operator 8/20/0 DW

Casing Program:

Hole Size	Hole Interval	OD Csg	Casing Interval	Weight	Collar	Grade
26"	0' - ~~650'~~ 1000'	20"	0'-650'	106.5#	BT&C	J-55
17 ½"	~~650'~~ - ~~4200'~~ 4335'	13 3/8""	0'-4200'	68#	BT&C	HCL-80
12 ¼"	~~4200'~~ 4335'- 11,500'	9 5/8"	0'-11,500'	40#	BT&C	HCP-110
8 ¾"	11,500'-13,500' PH					
8 ¾"	11,500-17,500'	5 ½"	0-17,500'	23#	Vam Top	HEC-P110

Design Parameter Factors:

Casing Size	Collapse Design Factor	Burst Design Factor	Tension Design Factor
20"	3.7	10.1	20.2
13 3/8"	1.3	2.3	5.4
9 5/8"	1.7	1.4	2.7
5 ½"	1.6	1.7	2.2

The collapse SF for the 9 5/8" is derived using a 9 lb fluid gradient behind the casing and a minimum of a 9 lb fluid gradient in the casing. This casing will not evacuated.

3. Cement Program:

See COA

20" Surface — **Lead**: w/ 1020 sx Class C + 2% bwoc Calcium Chloride + 0.25#/sx CF + 4% bwoc Bentonite + 81.3% FW, 13.50 ppg Yld: 1.75 cf/sx. **Tail:** w/300 sx Class C + 2% bwoc Calcium Chloride + 0.125 #/sx CF + 56.3% FW. 14.80 ppg, Yld: 1.35 cf/sx. **TOC** @ surface.

13 3/8" Intermediate — **Lead**: w/ 2470 sx (35:65) Poz (Fly Ash): Class C + 5% bwow Sodium Chloride + 0.125#/sx CF + 6% bwoc Bentonite + 0.2% bwoc FL 52A + 107.8% FW, 12.50 ppg, Yld: 2.04 cf/sx. **TOC @** surface. **Tail**: w/ 430 sx 60:40 POZ (Fly Ash): Class C + 5% bwow Sodium Chloride +0.125#/sx CF + 4% bwoc MPA-5 + 65.4% FW, 13.80 ppg Yld: 1.37 cf/sx.

9 5/8" Intermediate	**1st Stage** **Lead:** w/ 1235 sx (35:65) Poz (Fly Ash): Class H + 2% bwow Sodium Chloride + 0.2% bwoc R-3 + 0.125#/sx CF+ 6% bwoc Bentonite + 0.4% bwoc FL-52A + 104.3% FW, 12.50 ppg, Yld: 1.98 cf/sx. **Tail:** w/850 sx (15:61:11) Poz Fly Ash Class C: CSE-2 +1% bwow Potassium Chloride + 0.75% bwoc EC-1 + 0.125#/sx CF + 0.4% bwoc CD-32 + 2#/sx LCM-1 + 0.6% bwoc FL-25 + 0.6% bwoc FL-52A + 0.15% bwoc R-3 + 73.3% FW, 13.30 ppg, Yld: 1.56 cf/sx **2nd Stage . DV TOOL @ 5,500'** **Lead:** w/380 sx 35:65 Poz (Fly Ash):Class C + 5% bwow Sodium Chloride + 0.125#/sx CF + 6% bwoc Bentonite + 0.4% bwoc FL-52A + 107.7% FW, 12.50 ppg. Yld: 2.04 cf/sx. **Tail:** w/ 150 sx (60:40) Poz (Fly Ash) Class C + 5% bwow Sodium Chloride + 0.125#/sx CF + 0.1% bwoc Sodium Metasilicate + 4% bwoc MPA-5 + 65.4% FW, 13.80 ppg. Yld: 1.37 cf/sx. **TOC @ 3600'.**
5 ½" Production	Lead: w/ 2395 sx Premium Plus H + 0.8% bwoc FL-63 + 1% bwoc CD-32 + 0.7% bwoc Sodium Metasilicate + 0.5% bwoc BA-11 + 0.4% bwoc R-21 + 41% FW, 16.00 ppg. Yld: 1.13 cf/sx. **TOC @ ~~3600~~ 11,000'.** Per operator 8/20/10 DW **Plug Back & Whipstock Plug**: **Plug 1:** 12,500'-13,200' w/ 300 sx Premium Plus H + 1% bwoc CD-32 + 0.05% bwoc ASA-301 + 0.15% bwoc R-21 + 33.1% FW, 17.00 ppg. Yld: .99 cf/sx

An 8 ¾" Open Hole Whipstock with a packer type anchor will be set @ ~12,400' after the cement plug has been set. Directional tools will be run and KOP will be ~12,500'. The lateral will be drilled from ~13,200' MD to 17,500' MD.

The above cement volumes could be revised pending the caliper measurement from the open hole logs. The top of cement is designed to reach approximately 500' above the 9 5/8" casing shoe. All casing is new and API approved.

Pressure Control EquipmentBOP DESIGN: Will consist of a (10M system) triple ram type (10M psi WP) preventor and a bag-type (Hydril) preventor (10M psi WP) and a rotation head. All units will be hydraulically operated and the ram type preventor will be equipped with blind rams on top and 5" drill pipe rams on bottom. A 3M Annular BOP will be installed on the 20" surface casing and utilized continuously until total depth (~4200') is reached. The mentioned 10M preventer will be installed on the 13 3/8" casing. All BOP's will be tested with independent testers before drilling out the associated casing shoes. Prior to drilling out the 13 3/8" casing shoe, the BOP's and Hydril will be tested as per BLM Drilling Operations Order #2.

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 driller's 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 10000 psi WP rating.

Proposed Mud Circulation System

Depth	Mud Wt.	Visc	Fluid Loss	Type System
0' – ~~650'~~ 1000'	8.4-8.8	32-34	NC	FW/Gel
~~650'~~ – ~~4200'~~ 4335'	9.7-10.0	28-30	NC	Brine
~~4200'~~–11,500'	9.0-9.3	28-30	NC-40	FW
11,500-13,500	10.5-12.0	40-60	12-8cc	FW
11,600-17,500'	12.0-14.0	40-60		80/20 Oil Base

1000' 4335'

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

4. 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 20" casing shoe until the 5 1/2" casing is cemented. Breathing equipment will be on location upon drilling the 20" shoe until total depth is reached.

5. **Logging, Coring, and Testing Program:**
   a. Drill stem tests will be based on geological sample shows.
   b. If a drill stem test is anticipated; a procedure, equipment to be used and safety measures will be provided via sundry notice to the BLM.

c. 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.

6. 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 5500 psi and Estimated BHT 170°. No H2S is anticipated to be encountered.

7. Anticipated Starting Date and Duration of Operations:

a. Road and location construction will begin after the BLM has approved the APD. Anticipated spud date will be as soon after BLM approval and as soon as a rig will be available. Move in operations and drilling is expected to take 32 days. If production casing is run then an additional 30 days will be needed to complete well and construct surface facilities and/or lay flow lines in order to place well on production.

Fluid Technology

ContiTech Beattie Corp.
Website: www.contitechbeattie.com

Monday, June 14, 2010

RE: Drilling & Production Hoses
Lifting & Safety Equipment

To Helmerich & Payne,

A Continental ContiTech hose assembly can perform as intended and suitable for the application regardless of whether the hose is secured or unsecured in its configuration. As a manufacturer of High Pressure Hose Assemblies for use in Drilling & Production, we do offer the corresponding lifting and safety equipment, this has the added benefit of easing the lifting and handling of each hose assembly whilst affording hose longevity by ensuring correct handling methods and procedures as well as securing the hose in the unlikely event of a failure; but in no way does the lifting and safety equipment affect the performance of the hoses providing the hoses have been handled and installed correctly. It is good practice to use lifting & safety equipment but not mandatory.

Should you have any questions or require any additional information/clarifications then please do not hesitate to contact us.

ContiTech Beattie is part of the Continental AG Corporation and can offer the full support resources associated with a global organization.

Best regards,

Robin Hodgson
Sales Manager
ContiTech Beattie Corp

ContiTech Beattie Corp,
11535 Brittmoore Park Drive,
Houston, TX 77041
Phone: +1 (832) 327-0141
Fax: +1 (832) 327-0148
www.contitechbeattie.com

devon

Project: Eddy Co., New Mexico (Nad 83)
Site: Cotton Draw Unit 117H
Well: Cotton Draw Unit #117H
Wellbore: Lateral #1
Design: Design #1

CUDD DRILLING & MEASUREMENT SERVICES

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	12687.04	0.00	0.00	12687.04	0.00	0.00	0.00	0.00	0.00	
3	13587.04	90.00	0.00	13260.00	572.96	0.00	10.00	0.00	572.96	
4	17474.08	90.00	0.00	13260.00	4460.00	0.00	0.00	0.00	4460.00	PBHL - TD(CDU#117H)

ANNOTATIONS

TVD	MD	Annotation
12687.04	12687.04	KOP - Build 10°/100'
13260.00	13587.04	EOC - Hold I:90° @ A:0.00°

PROJECT DETAILS: Eddy Co., New Mexico (Nad 83)

Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Eastern Zone
System Datum: Mean Sea Level

WELLBORE TARGET DETAILS (MAP CO-ORDINATES AND LAT/LONG)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PBHL - TD(CDU#117H)	13260.00	4460.00	0.00	399592.84	719073.20	32° 5' 50.135 N	103° 45' 33.724 W	Point

WELL DETAILS: Cotton Draw Unit #117H

Ground Level
3515.00
WELL @ 3540.00ft (Original Well Elev)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	395132.85	719073.20	32° 5' 6.000 N	103° 45' 34.000 W	

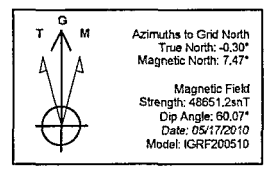
Plan: Design #1 (Cotton Draw Unit #117H/Lateral #1)

Created By: Mike Starkey Date: 16:07, May 17 2010

Checked: _____ Date: _____

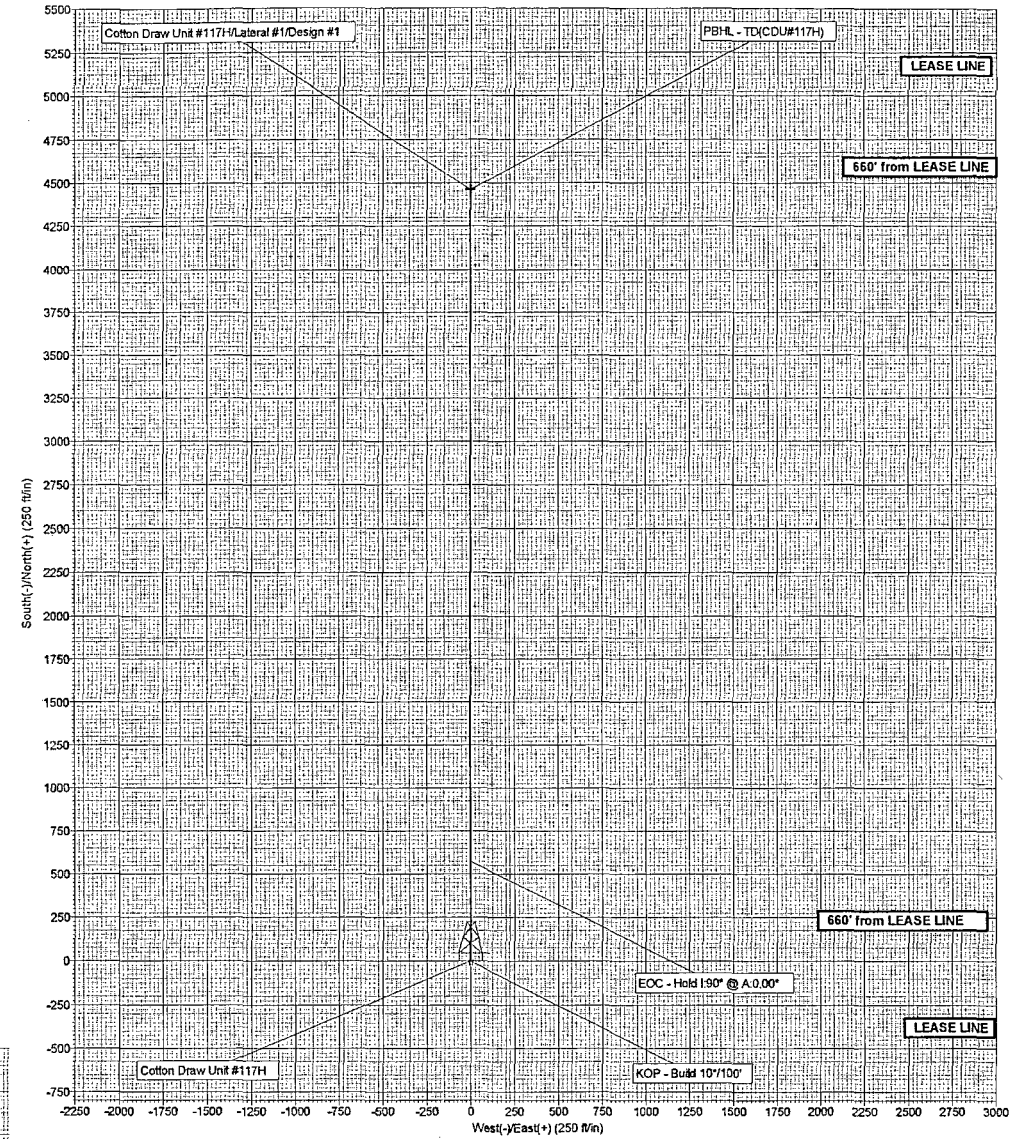
Reviewed: _____ Date: _____

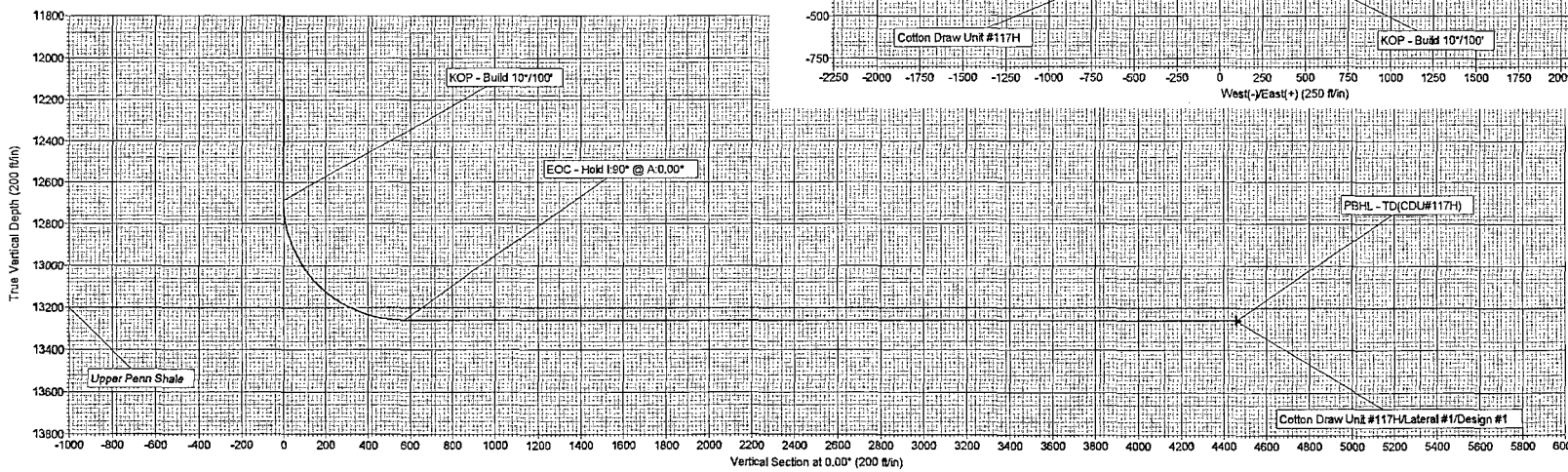
Approved: _____ Date: _____



Azimuths to Grid North
True North: -0.30°
Magnetic North: 7.47°

Magnetic Field
Strength: 48651.2snT
Dip Angle: 60.07°
Date: 05/17/2010
Model: IGRF200510





Company:	Devon Energy	**Local Co-ordinate Reference:**	Site Cotton Draw Unit 117H
Project:	Eddy Co., New Mexico (Nad 83)	**TVD Reference:**	WELL @ 3540.00ft (Original Well Elev)
Site:	Cotton Draw Unit 117H	**MD Reference:**	WELL @ 3540.00ft (Original Well Elev)
Well:	Cotton Draw Unit #117H	**North Reference:**	Grid
Wellbore:	Lateral #1	**Survey Calculation Method:**	Minimum Curvature
Design:	Design #1	**Database:**	EDM 2003.21 Single User Db

Project Eddy Co., New Mexico (Nad 83)

Map System:	US State Plane 1983	**System Datum:**	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site Cotton Draw Unit 117H, Sec 34, T-24S, R-31E

Site Position:		**Northing:**	395,132.85 ft	**Latitude:**	32° 5' 6.000 N
From:	Lat/Long	**Easting:**	719,073.20 ft	**Longitude:**	103° 45' 34.000 W
Position Uncertainty:	0.00 ft	**Slot Radius:**	"	**Grid Convergence:**	0.30 °

Well Cotton Draw Unit #117H

Well Position	**+N/-S**	0.00 ft	**Northing:**	395,132.85 ft	**Latitude:**	32° 5' 6.000 N
	+E/-W	0.00 ft	**Easting:**	719,073.20 ft	**Longitude:**	103° 45' 34.000 W
Position Uncertainty		0.00 ft	**Wellhead Elevation:**	3,545.00 ft	**Ground Level:**	3,515.00 ft

Wellbore Lateral #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	05/17/10	7.78	60.07	48,651

Design Design #1

Audit Notes:

Version:		**Phase:**	PLAN	**Tie On Depth:**	0.00

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	0.00

Survey Tool Program **Date** 05/17/10

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.00	12,500.00	Design #1 (Lateral #1)	NS-GYRO-MS	North sensing gyrocompassing m/s
12,500.00	17,474.08	Design #1 (Lateral #1)	CUDD MWD	MWD - Standard CUDD MWD

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
599.00	0.00	0.00	599.00	0.00	0.00	0.00	0.00	0.00	0.00
Rustler									
994.00	0.00	0.00	994.00	0.00	0.00	0.00	0.00	0.00	0.00
Salado									
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
Castile									
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
9 5/8" Casing									
4,407.00	0.00	0.00	4,407.00	0.00	0.00	0.00	0.00	0.00	0.00
Bell Canyon									

Company:	Devon Energy	**Local Co-ordinate Reference:**	Site Cotton Draw Unit 117H
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Site:	Cotton Draw Unit 117H	**MD Reference:**	WELL @ 3540.00ft (Original Well Elev)
Well:	Cotton Draw Unit #117H	**North Reference:**	Grid
Wellbore:	Lateral #1	**Survey Calculation Method:**	Minimum Curvature
Design:	Design #1	**Database:**	EDM 2003.21 Single User Db

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5,296.00	0.00	0.00	5,296.00	0.00	0.00	0.00	0.00	0.00	0.00
Cherry Canyon									
6,621.00	0.00	0.00	6,621.00	0.00	0.00	0.00	0.00	0.00	0.00
Brushy Canyon									
8,203.00	0.00	0.00	8,203.00	0.00	0.00	0.00	0.00	0.00	0.00
1st BS Lime									
9,306.00	0.00	0.00	9,306.00	0.00	0.00	0.00	0.00	0.00	0.00
1st BS Ss									
9,711.00	0.00	0.00	9,711.00	0.00	0.00	0.00	0.00	0.00	0.00
2nd BS Lime									
9,903.00	0.00	0.00	9,903.00	0.00	0.00	0.00	0.00	0.00	0.00
2nd BS Ss									
10,388.00	0.00	0.00	10,388.00	0.00	0.00	0.00	0.00	0.00	0.00
3rd BS Lime									
11,163.00	0.00	0.00	11,163.00	0.00	0.00	0.00	0.00	0.00	0.00
3rd BS Ss									
11,603.00	0.00	0.00	11,603.00	0.00	0.00	0.00	0.00	0.00	0.00
Wolfcamp									
12,687.04	0.00	0.00	12,687.04	0.00	0.00	0.00	0.00	0.00	0.00
KOP - Build 10°/100'									
13,324.74	63.77	0.00	13,201.00	319.72	0.00	319.72	10.00	10.00	0.00
Upper Penn Shale									
13,587.04	90.00	0.00	13,260.00	572.96	0.00	572.96	10.00	10.00	0.00
EOC - Hold I:90° @ A:0.00°									
17,474.08	90.00	0.00	13,260.00	4,460.00	0.00	4,460.00	0.00	0.00	0.00
PBHL - TD(CDU#117H)									

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
PBHL - TD(CDU#117H) - plan hits target center - Point	0.00	0.00	13,260.00	4,460.00	0.00	399,592.84	719,073.20	32° 5' 50.135 N	103° 45' 33.724 W

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
2,900.00	2,900.00	9 5/8" Casing	9-5/8	12-1/4

Company:	Devon Energy	**Local Co-ordinate Reference:**	Site Cotton Draw Unit 117H
Project:	Eddy Co., New Mexico (Nad 83)	**TVD Reference:**	WELL @ 3540.00ft (Original Well Elev)
Site:	Cotton Draw Unit 117H	**MD Reference:**	WELL @ 3540.00ft (Original Well Elev)
Well:	Cotton Draw Unit #117H	**North Reference:**	Grid
Wellbore:	*Lateral #1*	***Survey Calculation Method:***	*Minimum Curvature*
Design:	Design #1	**Database:**	EDM 2003.21 Single User Db

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
599.00	599.00	Rustler		0.00	
994.00	994.00	Salado		0.00	
2,800.00	2,800.00	Castile		0.00	
4,407.00	4,407.00	Bell Canyon		0.00	
5,296.00	5,296.00	Cherry Canyon		0.00	
6,621.00	6,621.00	Brushy Canyon		0.00	
8,203.00	8,203.00	1st BS Lime		0.00	
9,306.00	9,306.00	1st BS Ss		0.00	
9,711.00	9,711.00	2nd BS Lime		0.00	
9,903.00	9,903.00	2nd BS Ss		0.00	
10,388.00	10,388.00	3rd BS Lime		0.00	
11,163.00	11,163.00	3rd BS Ss		0.00	
11,603.00	11,603.00	Wolfcamp		0.00	
13,324.74	13,201.00	Upper Penn Shale		0.00	

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
12,687.04	12,687.04	0.00	0.00	KOP - Build 10°/100'
13,587.04	13,260.00	572.96	0.00	EOC - Hold I:90° @ A:0.00°

Checked By: _____ Approved By: _____ Date: _____

NOTES REGARDING BLOWOUT PREVENTERS
Devon Energy Production Company, LP
Cotton Draw Unit 117H
Surface Location: 160' FSL & 1980' FEL, Unit O, Sec 34 T24S R31E, Eddy, NM
Bottom hole Location: 660' FNL & 1980' FEL, Unit B, Sec 34 T24S 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 5,000 psi working pressure.

4. All fittings will be flanged.

5. A full bore safety valve tested to a minimum 5,000 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.

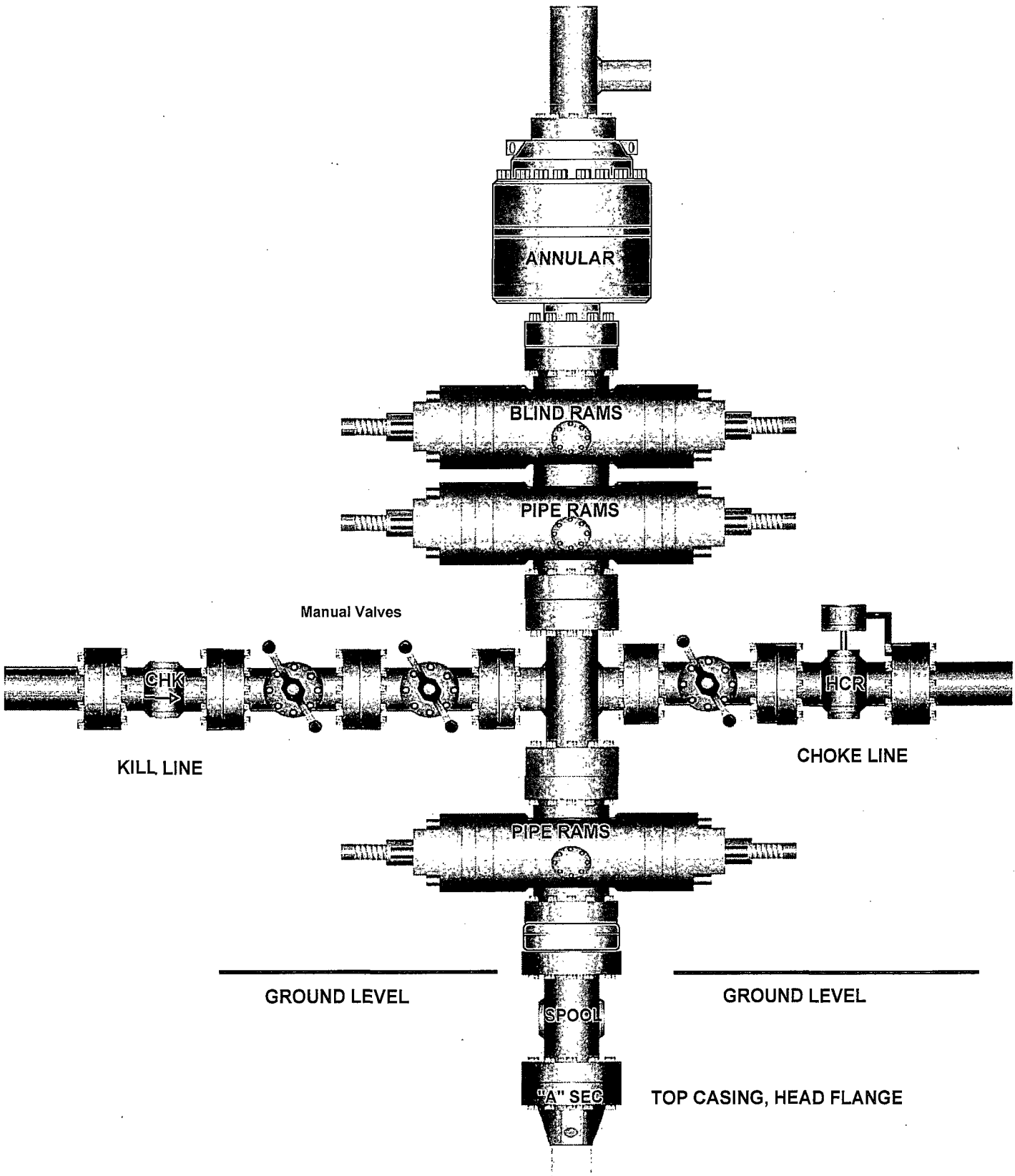
8. Will maintain a kelly cock attached to the kelly.

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.

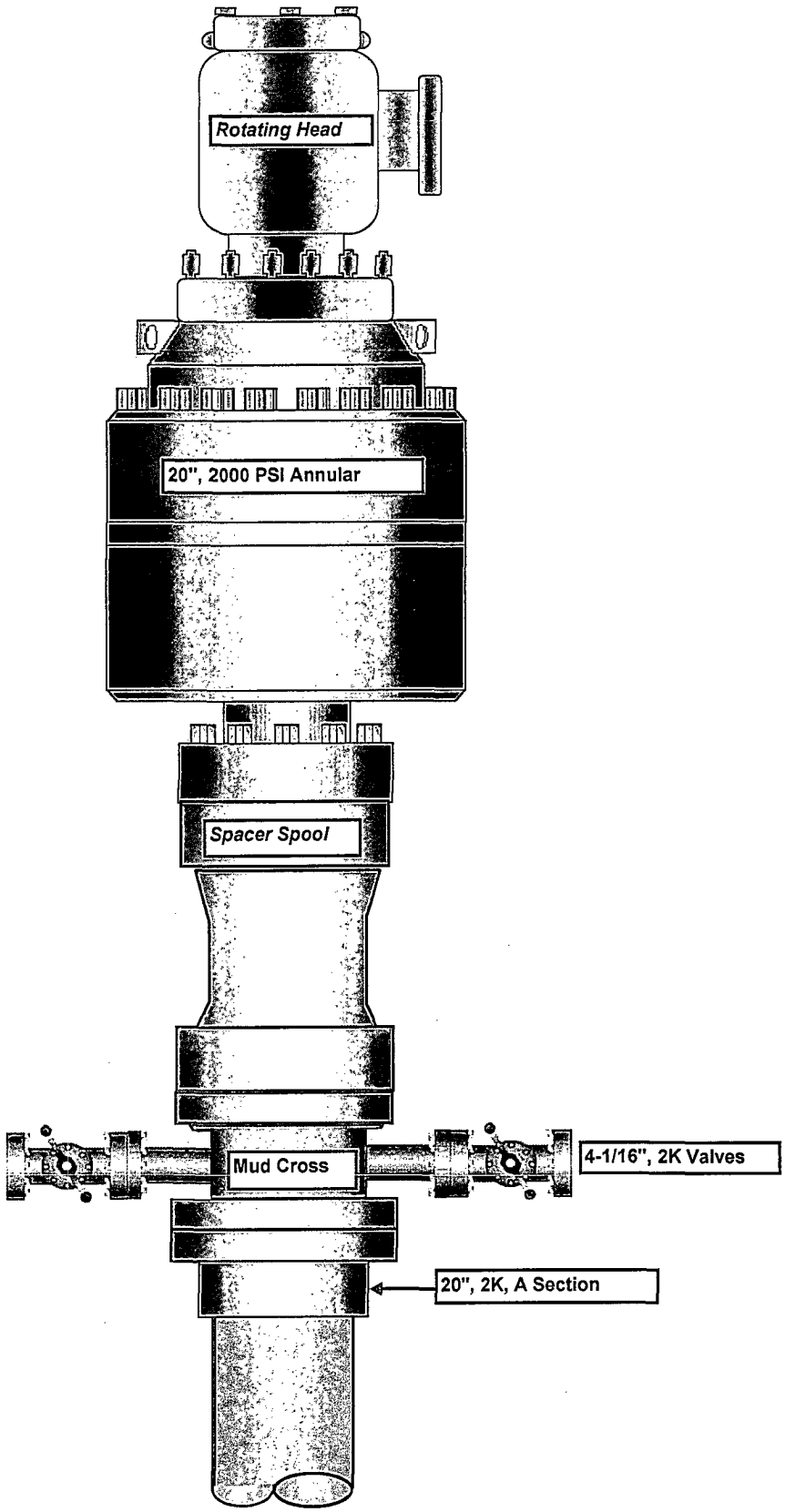
11. All BOP equipment will meet API standards and include a minimum 40 gallon accumulator having two independent means of power to initiate closing operation.

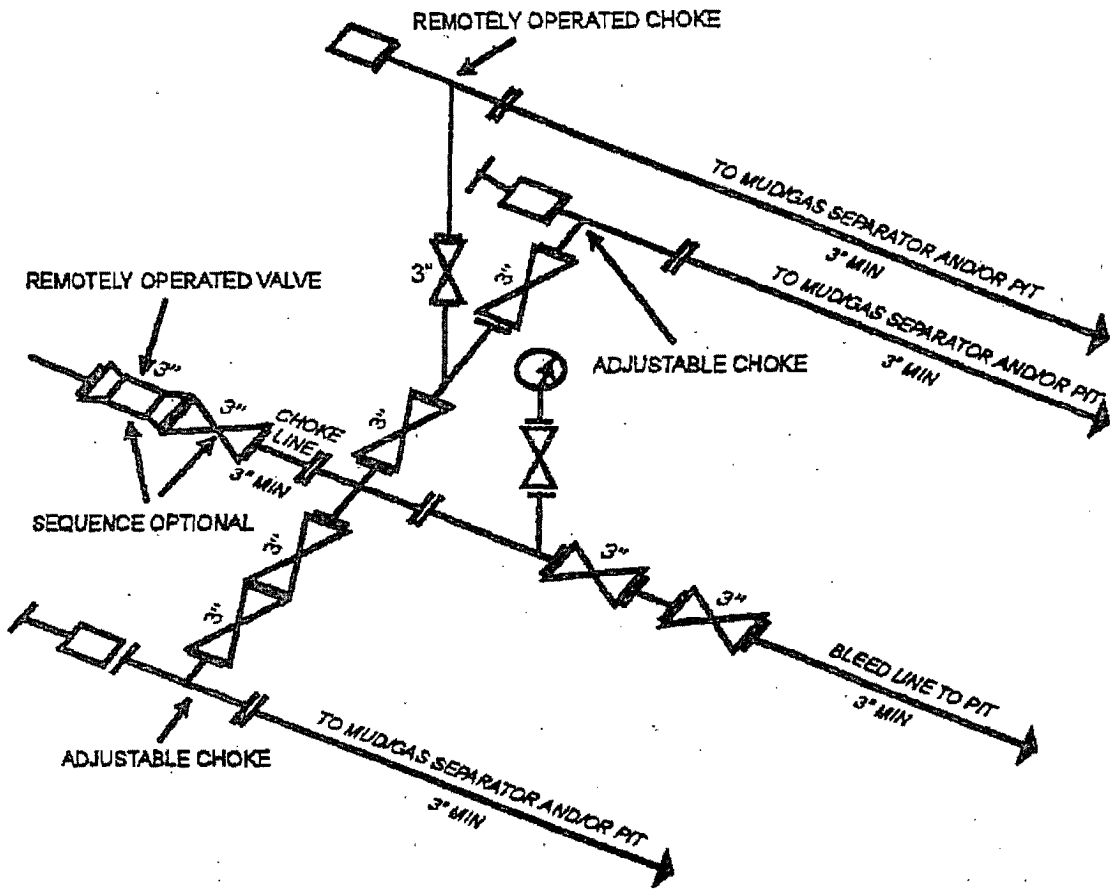
13-5/8" x 10,000 psi BOP Stack



L:\Western\Drilling\Wes Handley\Drawings\BOPS\BOPs.xls

20" 2K Annular





10M AND 15M CHOKE MANIFOLD EQUIPMENT - CONFIGURATION OF CHOKES MAY VARY

[53 FR 49661, Dec. 9, 1988 and 54 FR 39528, Sept. 27, 1989]