

OCD-ARTESIA

Form 3160-3
(February 2005)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

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

EA407

5. Lease Serial No.
SHL: NM042625 BHL: NM046525

6. If Indian, Allottee or Tribe Name

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

8. Lease Name and Well No.
Cotton Draw Unit

9. API, Well No.
153H 30-015-38535

10. Field and Pool, or Exploratory
Cotton Draw, Delaware, S

11. Sec., T. R. M. or Blk. and Survey or Area

Sec 3-25S-31E

12. County or Parish
Eddy

13. State
NM

1a. Type of work: ☒ DRILL ☐ REENTER

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

2. Name of Operator
Devon Energy Production Co., LP

3a. Address **20 North Broadway
OKC, OK 73102**

3b. Phone No. (include area code)
(405)-228-8973

4. Location of Well (Report location clearly and in accordance with any State requirements.)

At surface **200' FNL & 1980' FEL Unit B**

At proposed prod. zone **400' FSL & 1980' FEL Unit O**

14. Distance in miles and direction from nearest town or post office*
Approximately 19 miles east of Malaga, NM

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

200'

16. No. of acres in lease
SHL: 158.38 BHL: 80.00

17. Spacing Unit dedicated to this well
W/2 E/2 or 160 acres

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

19. Proposed Depth
TVD: 8238' MD: 12,637'

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

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
3445' GL

22. Approximate date work will start*
05/10/2011

23. Estimated duration
45 days

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, must 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 System Lands, the SUPO must be filed with the appropriate Forest Service Office).
- Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
- Operator certification
- Such other site specific information and/or plans as may be required by the BLM.

25. Signature **Spence Laird**
Title **Regulatory Analyst**

Name (Printed/Typed)
Spence Laird

Date
01/12/2011

Approved by (Signature) **/s/ Don Peterson**

Name (Printed/Typed)

Date
FEB 17 2011

Title **FIELD MANAGER**

Office

CARLSBAD FIELD OFFICE

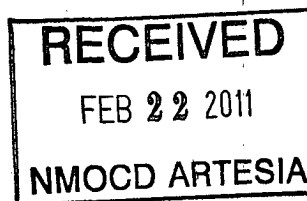
Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
Conditions of approval, if any, are attached.

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)

**SEE ATTACHED FOR
CONDITIONS OF APPROVAL**



Carlsbad Controlled Water Basin

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

DRILLING PROGRAM

Devon Energy Production Company, LP

Cotton Draw Unit 153H

Surface Location: 200' FNL & 1980' FEL, Unit B, Sec 3 T25S R31E, Eddy, NM

Bottom hole Location: 400' FSL & 1980' FEL, Unit O, Sec 3 T25S R31E, Eddy, NM

1. Geologic Name of Surface Formation

a. Quaternary Alluvium

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

Geologic Formation	Depth (TVD)	O/G/W	Penetration Point
a. Fresh Water	300'	Water	200' FNL & 1980' FEL
b. Rustler	587'	Water	200' FNL & 1980' FEL
c. Salt	960'	Barren	200' FNL & 1980' FEL
d. Base Salt	4058'	Barren	200' FNL & 1980' FEL
e. Delaware/Lamar	4277'	Oil	200' FNL & 1980' FEL
f. Bell Canyon	4316'	Oil	200' FNL & 1980' FEL
g. Cherry Canyon	5220'	Oil	200' FNL & 1980' FEL
h. Brushy Canyon	6520'	Oil	200' FNL & 1980' FEL
i. Horizontal Landing Depth	8193'	Oil/Gas	700' FNL & 1980' FEL
j. Approx. Total Lateral Depth	8238'	Oil/Gas	400' FSL & 1980' FEL

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 ~~650'~~^{650.670'} and circulating cement back to surface. The fresh water sands will be protected by setting 9 5/8" casing at 4275' and circulating cement to surface. The pay intervals will be isolated by setting 5 1/2" casing to total depth and circulating cement above the base of the 9 5/8" casing. All casing is new and API approved.

3. Casing Program:

See
COP

Hole Size	Hole Interval	OD Csg	Casing Interval	Weight	Collar	Grade
17-1/2"	0 - 650' ^{650.670'}	13-3/8"	0 - 650' ^{650.670'}	48#	STC	H-40
12-1/4"	650.670' ^{4,275} - 4,275	9-5/8"	0 - 4,275	40#	LTC	J-55
8-3/4"	4,275 - 7,500	5-1/2"	0 - 7,500	20#	LTC	N-80
8-3/4"	7,500 - 12,637	5-1/2"	7,500 - 12,637	17#	BTC	N-80

Design Parameter Factors:

Casing Size	Collapse Design Factor	Burst Design Factor	Tension Design Factor
13-3/8"	2.35	5.28	9.58
9-5/8" 40# J-55 LTC	1.28	1.70	2.91
5-1/2" 20# N-80 LTC	1.79	2.21	1.60
5-1/2" 17# N-80 BTC	1.56	1.92	4.95

NOTE REGARDING COLLAPSE DESIGN FACTOR FOR INTERMEDIATE CASING: The maximum possible collapse load that the intermediate casing will experience will result from evacuated casing with the pore pressure exerting a collapse load at TD. The pore pressure is estimated to be 9.0 ppg for this calculation. This results in a collapse design factor of 1.28 for the 9-5/8" 40# J-55 LTC casing at a depth of 4,275 ft. While running the intermediate casing, the casing string will never be completely evacuated. There is no potential for the intermediate casing to be used as a production string.

4. Cement Program: (Cement volumes based on at least 25% excess)

13-3/8" Surface	Lead: 600 sacks Class C Cement + 2% bwoc Calcium Chloride + 0.125 lbs/sack Cello Flake + 4% bwoc Bentonite + 81.4% Fresh Water, 13.5 ppg Yield: 1.75 cf/sk TOC @ surface Tail: 250 sacks Class C Cement + 2% bwoc Calcium Chloride + 0.125 lbs/sack Cello Flake + 56.3% Fresh Water, 14.8 ppg Yield: 1.35 cf/sk
9-5/8" Intermediate	Lead: 1,200 sacks (35:65) Poz (Fly Ash):Class C Cement + 5% bwow Sodium Chloride + 0.125 lbs/sack Cello Flake + 6% bwoc Bentonite + 107.8% Fresh Water, 12.5 ppg Yield: 2.04 cf/sk TOC @ surface Tail: 300 sacks (60:40) Poz (Fly Ash):Class C Cement + 5% bwow Sodium Chloride + 0.125 lbs/sack Cello Flake + 0.4% bwoc Sodium Metasilicate + 4% bwoc MPA-5 + 64.7% Water, 13.8 ppg Yield: 1.37 cf/sk
5-1/2" Production	<u>1st Stage</u> Lead: 500 sacks (35:65) Poz (Fly Ash):Class H Cement + 5% bwow Sodium Chloride + 0.3% bwoc CD-32 + 0.5% bwoc FL-25 + 2% bwoc Bentonite + 0.6% bwoc Sodium Metasilicate + 0.5% bwoc FL-52A + 102.5% Fresh Water, 12.5 ppg Yield: 2.01 cf/sk Tail: 1,400 sacks (50:50) Poz (Fly Ash):Class H Cement + 1% bwow Sodium Chloride + 0.2% bwoc R-3 + 0.125 lbs/sack Cello Flake + 0.5% bwoc BA-10A + 4% bwoc MPA-5 + 58.3% Fresh Water, 14.2 ppg Yield: 1.28 cf/sk DV TOOL at 6,000 ft

2nd Stage

Lead: 350 sacks Class C Cement + 1% bwoc Calcium Chloride + 0.125 lbs/sack Cello Flake + 157.8% Fresh Water, 11.4 ppg

Yield: 2.88 cf/sk

Tail: 100 sacks (60:40) Poz (Fly Ash):Class C Cement + 1% bwoc Sodium Chloride + 0.2% bwoc R-3 + 0.125 lbs/sack Cello Flake + 0.5% bwoc BA-10A + 4% bwoc MPA-5 + 63.2% Fresh Water, 13.8 ppg

Yield: 1.37cf/sk

TOC @ 3,775 ft

TOC for All Strings:

Surface: 0
Intermediate: 0
Production: 3,775 ft

ACTUAL CEMENT VOLUMES WILL BE ADJUSTED BASED ON FLUID CALIPER AND CALIPER LOG DATA.

5. Pressure Control Equipment:

The BOP system used to drill the intermediate hole will consist of a 13-5/8" 3M Triple Ram and Annular preventer. The BOP system will be tested as per BLM Onshore Oil and Gas Order No. 2 as a **3M system** prior to drilling out the surface casing shoe.

The BOP system used to drill the production hole will consist of a 13-5/8" 3M Triple Ram and Annular preventer. The BOP system will be tested as per BLM Onshore Oil and Gas Order No. 2 as a **3M system** prior to drilling out the intermediate casing shoe.

The pipe rams will be operated and checked each 24 hour period and each time the drill pipe is out of the hole. These tests will be logged in the daily driller's log. A 2" kill line and 3" choke line will be incorporated into the drilling spool below the ram BOP. In addition to the rams and annular preventer, additional BOP accessories include a kelly cock, floor safety valve, choke lines, and choke manifold rated at **3,000 psi WP**.

See COA Devon requests a variance to use a flexible line with flanged ends between the BOP and the choke manifold (choke line). The line will be kept as straight as possible with minimal turns.

6. Proposed Mud Circulation System *See COA*

<u>Depth</u>	<u>Mud Wt.</u>	<u>Visc.</u>	<u>Fluid Loss</u>	<u>Type System</u>
0 - 650 690	8.4 - 9.0	30 - 34	N/C	FW
650 - 4,275	9.8 - 10.0	28 - 32	N/C	Brine
4,275 - 12,637	8.6 - 9.0	28 - 32	N/C	FW

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

7. 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.

8. Logging, Coring, and Testing Program: See COA

- 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 1/2" production casing. Specific intervals will be targeted based on log evaluation, geological sample shows and drill stem tests.

9. Potential Hazards:

- a. No abnormal pressures or temperatures are expected. There is no known presence of H2S in this area; therefore, no H2S is anticipated to be encountered. 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 4405 psi and Estimated BHT 145°.

10. 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.

See COA Depending on rig availability, Devon may set the surface casing using an Ashton Oilfield Services rig. The rig plat is attached. This rig will be used only to set the surface casing and will leave the location once the surface casing has been run and cemented. Another rig will drill the remainder of the wellbore. The reasons for using the smaller rig to set surface are: rig availability and economics.

The BLM will be contacted 24 hours prior to commencing drilling operations. The surface casing will be run and cemented back to surface as per the approved APD. The well will be secured with a cap welded onto the surface casing. Another rig will be on location to drill the remainder of the wellbore within 60 days after the Ashton rig has left the location.



Weatherford®

Drilling Services

Proposal



devon

COTTON DRAW UNIT #153H

EDDY COUNTY, NM

WELL FILE: PLAN 1

JANUARY 10, 2011

Weatherford International, Ltd.

P.O. Box 61028

Midland, TX 79711 USA

+1.432.561.8892 Main

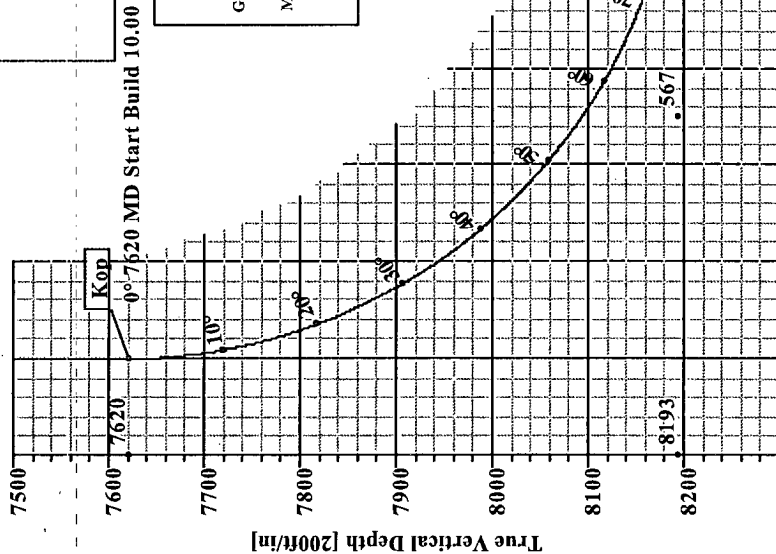
+1.432.561.8895 Fax

www.weatherford.com



Cotton Draw #153H
Eddy Co., New Mexico

KB ELEV: 3470
GL ELEV: 3445



True Vertical Depth [500ft/in]

Vertical Section at 179.82° [200ft/in]

Vertical Section at 179.82° [500ft/in]

Plan: Plan #1 (#153H/1)

Created By: Russell W. Joyner

Date: 1/10/2011

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.00	0.00	179.82	0.00	0.00	0.00	0.00	0.00	0.00	
2	7620.07	0.00	179.82	7620.07	0.00	0.00	0.00	0.00	0.00	
3	8513.82	89.37	179.82	8193.00	-566.70	1.76	10.00	179.82	566.70	Pbhl
4	12636.71	89.37	179.82	8238.00	-4689.32	14.60	0.00	0.00	4689.32	Pbhl

WELL DETAILS

Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
#153H	0.00	0.00	424625.12	7117642.60	32°09'57.914N	103°45'48.832W	N/A

TARGET DETAILS

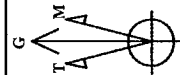
Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
Pbhl	8238.00	-4689.32	14.60	419935.80	7117657.20	Point

FIELD DETAILS

Eddy Co., NM (NAD 83)
Geodetic System: US State Plane Coordinate System 1983
Ellipsoid: GRS 1980
Zone: New Mexico, Eastern Zone
Magnetic Model: IGRF2010
System Datum: Mean Sea Level
Local North: Grid North

SITE DETAILS

Cotton Draw Unit #153H
Site Centre Northing: 424625.12
Easting: 7117642.60
Ground Level: 3445.00
Positional Uncertainty: 0.00
Convergence: 0.30



Azimuths to Grid North
True North: -0.30°
Magnetic North: 7.35°
Magnetic Field
Strength: 48569nT
Dip Angle: 60.10°
Date: 8/15/2011
Model: IGRF2010
Total Correction to Grid North: 7.35°

LEGEND

Plan #1

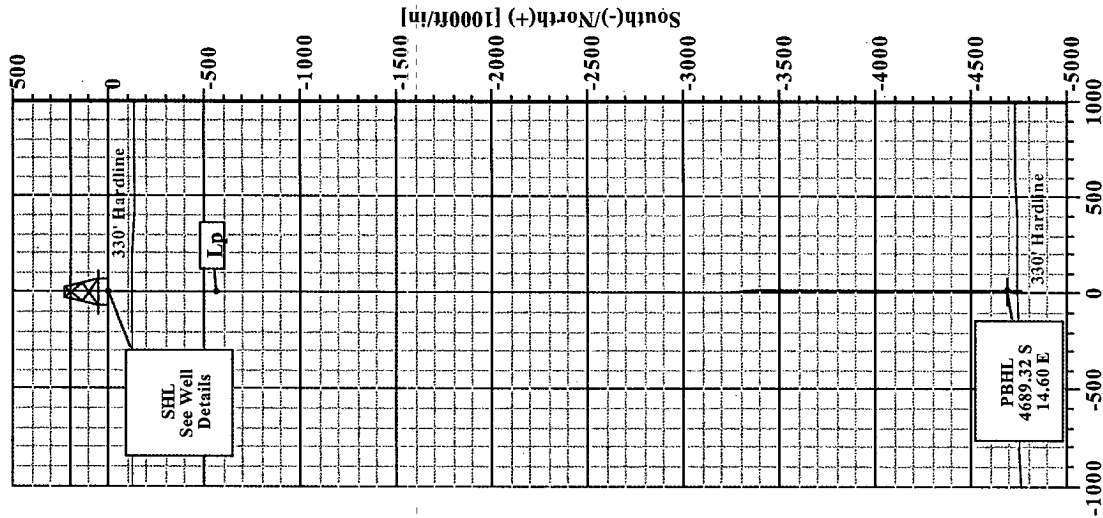


89° 8514 MD Start Hold

Weatherford

Pbhl
4689.32 S
14.60 E

89° 12637 MD TD



SHL
See Well
Details

100

330' Hardline



Company: Devon Energy	Date: 1/10/2011	Time: 09:24:01	Page: 1
Field: Eddy Co., NM (NAD 83)	Co-ordinate(NE) Reference: Well: #153H, Grid North		
Site: Cotton Draw Unit #153H	Vertical (TVD) Reference: SITE 3470.0		
Well: #153H	Section (VS) Reference: Well (0.00N,0.00E,179.82Azi)		
Wellpath: 1	Survey Calculation Method: Minimum Curvature	Db: Sybase	

Plan: Plan #1	Date Composed: 1/10/2011
Principal: Yes	Version: 1
	Tied-to: From Surface

Field: Eddy Co., NM (NAD 83)

Map System: US State Plane Coordinate System 1983
Geo Datum: GRS 1980
Sys Datum: Mean Sea Level

Map Zone: New Mexico, Eastern Zone
Coordinate System: Well Centre
Geomagnetic Model: IGRF2010

Site: Cotton Draw Unit #153H

Site Position:	Northing: 424625.12 ft	Latitude: 32 9 57.914 N
From: Map	Easting: 717642.60 ft	Longitude: 103 45 48.832 W
Position Uncertainty: 0.00 ft		North Reference: Grid
Ground Level: 3445.00 ft		Grid Convergence: 0.30 deg

Well: #153H	Slot Name:
Well Position: +N/-S 0.00 ft	Northing: 424625.12 ft
+E/-W 0.00 ft	Easting: 717642.60 ft
Position Uncertainty: 0.00 ft	Latitude: 32 9 57.914 N
	Longitude: 103 45 48.832 W

Wellpath: 1	Drilled From: Surface
	Tie-on Depth: 0.00 ft
Current Datum: SITE	Above System Datum: Mean Sea Level
Magnetic Data: 8/15/2011	Declination: 7.65 deg
Field Strength: 48569 nT	Mag Dip Angle: 60.10 deg
Vertical Section: Depth From (TVD)	+E/-W
ft	ft
8238.00	0.00
	0.00
	179.82

Plan Section Information

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	TFO deg	Target
0.00	0.00	179.82	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
7620.07	0.00	179.82	7620.07	0.00	0.00	0.00	0.00	0.00	0.00	
8513.82	89.37	179.82	8193.00	-566.70	1.76	10.00	10.00	0.00	179.82	
12636.71	89.37	179.82	8238.00	-4689.32	14.60	0.00	0.00	0.00	0.00	Pbhl

Survey

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	VS ft	DLS deg/100ft	MapN ft	MapE ft	Comment
7600.00	0.00	179.82	7600.00	0.00	0.00	0.00	0.00	424625.12	717642.60	Kop
7620.07	0.00	179.82	7620.07	0.00	0.00	0.00	0.00	424625.12	717642.60	
7700.00	7.99	179.82	7699.74	-5.57	0.02	5.57	10.00	424619.55	717642.62	
7800.00	17.99	179.82	7797.06	-28.02	0.09	28.02	10.00	424597.10	717642.69	
7900.00	27.99	179.82	7889.00	-67.03	0.21	67.03	10.00	424558.09	717642.81	
8000.00	37.99	179.82	7972.76	-121.41	0.38	121.41	10.00	424503.71	717642.98	Lp
8100.00	47.99	179.82	8045.82	-189.52	0.59	189.52	10.00	424435.60	717643.19	
8200.00	57.99	179.82	8105.93	-269.27	0.84	269.27	10.00	424355.85	717643.44	
8300.00	67.99	179.82	8151.28	-358.25	1.12	358.25	10.00	424266.87	717643.72	
8400.00	77.99	179.82	8180.50	-453.76	1.41	453.76	10.00	424171.36	717644.01	
8500.00	87.99	179.82	8192.68	-552.88	1.72	552.89	10.00	424072.24	717644.32	
8513.82	89.37	179.82	8193.00	-566.70	1.76	566.70	10.00	424058.42	717644.36	
8600.00	89.37	179.82	8193.94	-652.87	2.03	652.88	0.00	423972.25	717644.63	
8700.00	89.37	179.82	8195.03	-752.87	2.34	752.87	0.00	423872.25	717644.94	
8800.00	89.37	179.82	8196.12	-852.86	2.66	852.87	0.00	423772.26	717645.26	
8900.00	89.37	179.82	8197.21	-952.86	2.97	952.86	0.00	423672.26	717645.57	
9000.00	89.37	179.82	8198.31	-1052.85	3.28	1052.85	0.00	423572.27	717645.88	



Company: Devon Energy
 Field: Eddy Co., NM (NAD 83)
 Site: Cotton Draw Unit #153H
 Well: #153H
 Wellpath: 1

Date: 1/10/2011 Time: 09:24:01 Page: 2
 Co-ordinate(NE) Reference: Well: #153H, Grid North
 Vertical (TVD) Reference: SITE 3470.0
 Section (VS) Reference: Well (0.00N,0.00E,179.82Azi)
 Survey Calculation Method: Minimum Curvature Db: Sybase

Survey

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	VS ft	DLS deg/100ft	MapN ft	MapE ft	Comment
9100.00	89.37	179.82	8199.40	-1152.84	3.59	1152.85	0.00	423472.28	717646.19	
9200.00	89.37	179.82	8200.49	-1252.84	3.90	1252.84	0.00	423372.28	717646.50	
9300.00	89.37	179.82	8201.58	-1352.83	4.21	1352.84	0.00	423272.29	717646.81	
9400.00	89.37	179.82	8202.67	-1452.82	4.52	1452.83	0.00	423172.30	717647.12	
9500.00	89.37	179.82	8203.76	-1552.82	4.83	1552.82	0.00	423072.30	717647.43	
9600.00	89.37	179.82	8204.85	-1652.81	5.15	1652.82	0.00	422972.31	717647.75	
9700.00	89.37	179.82	8205.95	-1752.80	5.46	1752.81	0.00	422872.32	717648.06	
9800.00	89.37	179.82	8207.04	-1852.80	5.77	1852.81	0.00	422772.32	717648.37	
9900.00	89.37	179.82	8208.13	-1952.79	6.08	1952.80	0.00	422672.33	717648.68	
10000.00	89.37	179.82	8209.22	-2052.78	6.39	2052.79	0.00	422572.34	717648.99	
10100.00	89.37	179.82	8210.31	-2152.78	6.70	2152.79	0.00	422472.34	717649.30	
10200.00	89.37	179.82	8211.40	-2252.77	7.01	2252.78	0.00	422372.35	717649.61	
10300.00	89.37	179.82	8212.49	-2352.77	7.33	2352.78	0.00	422272.35	717649.93	
10400.00	89.37	179.82	8213.59	-2452.76	7.64	2452.77	0.00	422172.36	717650.24	
10500.00	89.37	179.82	8214.68	-2552.75	7.95	2552.76	0.00	422072.37	717650.55	
10600.00	89.37	179.82	8215.77	-2652.75	8.26	2652.76	0.00	421972.37	717650.86	
10700.00	89.37	179.82	8216.86	-2752.74	8.57	2752.75	0.00	421872.38	717651.17	
10800.00	89.37	179.82	8217.95	-2852.73	8.88	2852.75	0.00	421772.39	717651.48	
10900.00	89.37	179.82	8219.04	-2952.73	9.19	2952.74	0.00	421672.39	717651.79	
11000.00	89.37	179.82	8220.14	-3052.72	9.50	3052.74	0.00	421572.40	717652.10	
11100.00	89.37	179.82	8221.23	-3152.71	9.82	3152.73	0.00	421472.41	717652.42	
11200.00	89.37	179.82	8222.32	-3252.71	10.13	3252.72	0.00	421372.41	717652.73	
11300.00	89.37	179.82	8223.41	-3352.70	10.44	3352.72	0.00	421272.42	717653.04	
11400.00	89.37	179.82	8224.50	-3452.69	10.75	3452.71	0.00	421172.43	717653.35	
11500.00	89.37	179.82	8225.59	-3552.69	11.06	3552.71	0.00	421072.43	717653.66	
11600.00	89.37	179.82	8226.68	-3652.68	11.37	3652.70	0.00	420972.44	717653.97	
11700.00	89.37	179.82	8227.78	-3752.68	11.68	3752.69	0.00	420872.44	717654.28	
11800.00	89.37	179.82	8228.87	-3852.67	12.00	3852.69	0.00	420772.45	717654.60	
11900.00	89.37	179.82	8229.96	-3952.66	12.31	3952.68	0.00	420672.46	717654.91	
12000.00	89.37	179.82	8231.05	-4052.66	12.62	4052.68	0.00	420572.46	717655.22	
12100.00	89.37	179.82	8232.14	-4152.65	12.93	4152.67	0.00	420472.47	717655.53	
12200.00	89.37	179.82	8233.23	-4252.64	13.24	4252.66	0.00	420372.48	717655.84	
12300.00	89.37	179.82	8234.32	-4352.64	13.55	4352.66	0.00	420272.48	717656.15	
12400.00	89.37	179.82	8235.42	-4452.63	13.86	4452.65	0.00	420172.49	717656.46	
12500.00	89.37	179.82	8236.51	-4552.62	14.17	4552.65	0.00	420072.50	717656.77	
12600.00	89.37	179.82	8237.60	-4652.62	14.49	4652.64	0.00	419972.50	717657.09	
12636.71	89.37	179.82	8238.00	-4689.32	14.60	4689.34	0.00	419935.80	717657.20	Pbhl

Targets

Name	Description Dip.	Dir.	TVD ft	+N/-S ft	+E/-W ft	Map Northing ft	Map Easting ft	<--- Latitude ---> Deg Min Sec			<--- Longitude ---> Deg Min Sec		
Pbhl			8238.00	-4689.32	14.60	419935.80	717657.20	32	9	11.510 N	103	45	48.951 W

Casing Points

MD	TVD	Diameter	Hole Size	Name



Company: Devon Energy
Field: Eddy Co., NM (NAD 83)
Site: Cotton Draw Unit #153H
Well: #153H
Wellpath: 1

Date: 1/10/2011 Time: 09:24:01 Page: 3
Co-ordinate(NE) Reference: Well: #153H, Grid North
Vertical (TVD) Reference: SITE 3470.0
Section (VS) Reference: Well (0.00N,0.00E,179.82Azi)
Survey Calculation Method: Minimum Curvature Db: Sybase

Annotation

MD ft	TVD ft	
7620.07	7620.07	Kop
8513.82	8193.00	Lp
12636.70	8238.00	Pbhl

Formations

MD	TVD	Formations	Lithology	Dip Angle	Dip Direction

**Weatherford****Weatherford Drilling Services**

GeoDec v5.03

Report Date: January 10, 2011
Job Number: _____
Customer: Devon Energy
Well Name: Cotton Draw Unit #153H
API Number: _____
Rig Name: _____
Location: Eddy Co., NM
Block: _____
Engineer: RWJ

US State Plane 1983	Geodetic Latitude / Longitude
System: New Mexico Eastern Zone	System: Latitude / Longitude
Projection: Transverse Mercator/Gauss Kruger	Projection: Geodetic Latitude and Longitude
Datum: North American Datum 1983	Datum: North American Datum 1983
Ellipsoid: GRS 1980	Ellipsoid: GRS 1980
North/South 424625.120 USFT	Latitude 32.1660896 DEG
East/West 717642.600 USFT	Longitude -103.7635599 DEG
Grid Convergence: .30°	
Total Correction: +7.35°	

Geodetic Location WGS84	Elevation =	0.0 Meters
Latitude =	32.16609° N	32° 9 min 57.923 sec
Longitude =	103.76356° W	103° 45 min 48.816 sec

Magnetic Declination =	7.65°	[True North Offset]	
Local Gravity =	.9988 g	Checksum =	6509
Local Field Strength =	48565 nT	Magnetic Vector X =	23997 nT
Magnetic Dip =	60.10°	Magnetic Vector Y =	3224 nT
Magnetic Model =	IGRF-2010g11	Magnetic Vector Z =	42099 nT
Spud Date =	Aug 15, 2011	Magnetic Vector H =	24212 nT

Signed: _____

Date: _____

Attachment to Exhibit #1
NOTES REGARDING BLOWOUT PREVENTERS

Devon Energy Production Company, LP

Cotton Draw Unit 153H

Surface Location: 200' FNL & 1980' FEL, Unit B, Sec 3 T25S R31E, Eddy, NM

Bottom hole Location: 400' FSL & 1980' FEL, Unit O, Sec 3 T25S 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 3000 psi working pressure.
4. All fittings will be flanged.
5. A full bore safety valve tested to a minimum 3000 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" 3M BOPE & Closed Loop Equipment Schematic

