

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

EA380

1a. Type of work: ☒ DRILL ☐ REENTER		5. Lease Serial No. SHL: NM037489 BHL: NM036379
1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone		6. If Indian, Allottee or Tribe Name
2. Name of Operator Devon Energy Production Co., LP		7. If Unit or CA Agreement, Name and No.
3a. Address 20 North Broadway OKC, OK 73102		8. Lease Name and Well No. Cotton Draw Unit
3b. Phone No. (include area code) (405)-228-8973		9. API Well No. 150H 30-015-38536
4. Location of Well (Report location clearly and in accordance with any State requirements.) At surface 330' FNL & 660' FEL Unit A At proposed prod. zone 200' FSL & 660' FEL Unit P		10. Field and Pool, or Exploratory
14. Distance in miles and direction from nearest town or post office* Approximately 19 miles east of Malaga, NM.		11. Sec., T. R. M. or Blk. and Survey or Area Sec 34-24S-31E
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: 807.88 BH: 628.68	12. County or Parish Eddy
17. Spacing Unit dedicated to this well E/2 E/2 or 160 acres	13. State NM	
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. See attached map	19. Proposed Depth TVD: 8245' MD: 12,660'	20. BLM/BIA Bond No. on file CO-1104
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3495' 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:

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

25. Signature <i>Spence Laird</i>	Name (Printed/Typed) Spence Laird	Date 01/12/2011
Title Regulatory Analyst		

Approved by (Signature) <i>/s/ Don Peterson</i>	Name (Printed/Typed) Don Peterson	Date FEB 17 2011
Title FIELD MANAGER		Office CARLSBAD FIELD OFFICE

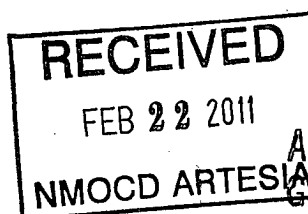
Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

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 APPROVALAPPROVAL SUBJECT TO
GENERAL REQUIREMENTS
AND SPECIAL STIPULATIONS
ATTACHED

Carlsbad Controlled Water Basin

DRILLING PROGRAM

Devon Energy Production Company, LP

Cotton Draw Unit 150H

Surface Location: 330' FNL & 660' FEL, Unit A, Sec 34 T24S R31E, Eddy, NM

Bottom Hole Location: 200' FSL & 660' FEL, Unit P, Sec 34 T24S 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	330' FNL & 660' FEL
b. Rustler	595'	Water	330' FNL & 660' FEL
c. Salt	1070'	Barren	330' FNL & 660' FEL
d. Base Salt	4165'	Barren	330' FNL & 660' FEL
e. Delaware/Lamar	4384'	Oil	330' FNL & 660' FEL
f. Bell Canyon	4413'	Oil	330' FNL & 660' FEL
g. Cherry Canyon	5354'	Oil	330' FNL & 660' FEL
h. Brushy Canyon	6638'	Oil	330' FNL & 660' FEL
i. Horizontal Landing Depth	8228'	Oil/Gas	830' FNL & 660' FEL
j. Approx. Total Lateral Depth	8245'	Oil/Gas	220' FSL & 660' 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'~~ ^{755'} and circulating cement back to surface. The fresh water sands will be protected by setting 9 5/8" casing at 4375' 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 COA

<u>Hole Size</u>	<u>Hole Interval</u>	<u>OD Csg</u>	<u>Casing Interval</u>	<u>Weight</u>	<u>Collar</u>	<u>Grade</u>
17-1/2"	0 - 650' ^{755'}	13-3/8"	0 - 650' ^{755'}	48#	STC	H-40
12-1/4"	755' ^{650'} - 4,375	9-5/8"	0 - 4,375	40#	LTC	J-55
8-3/4"	4,375 - 7,500	5-1/2"	0 - 7,500	17#	LTC	N-80
8-3/4"	7,500 - 12,660	5-1/2"	7,500 - 12,660	17#	BTC	N-80

Design Parameter Factors:

<u>Casing Size</u>	<u>Collapse Design Factor</u>	<u>Burst Design Factor</u>	<u>Tension Design Factor</u>
13-3/8"	2.35	5.28	9.58
9-5/8" 40# J-55 LTC	1.23	1.70	2.91
5-1/2" 17# 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 1.26 for the 9-5/8" 40# J-55 LTC casing at a depth of 4,375 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 <u>2nd Stage</u> Lead: 350 sacks Class C Cement + 1% bwow 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% bwow 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 @ 3,875 ft

TOC for All Strings:

Surface: 0
Intermediate: 0
Production: 3,875 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 - 650 755	8.4 - 9.0	30 - 34	N/C	FW
650 - 4,375'	9.8 - 10.0	28 - 32	N/C	Brine
4,375 - 12,660'	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 Kelly cock will be in the drill string at all times.
- A full opening drill pipe stabbing valve having the appropriate connections will be on the rig floor at all times.
- 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 ½" 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 #150H

EDDY COUNTY, NM

WELL FILE: PLAN 1

JANUARY 10, 2011

Weatherford International, Ltd.

P.O. Box 61028

Midland, TX 79711 USA

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www.weatherford.com



Cotton Draw #150H
Eddy Co., New Mexico

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.00	0.00	179.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	7655.05	0.00	179.90	7655.05	0.00	0.00	0.00	0.00	0.00	0.00
3	8552.68	89.76	179.90	8228.00	-570.59	0.97	10.00	179.90	570.59	Pbhl
4	12660.30	89.76	179.90	8245.00	-4678.17	7.93	0.00	0.00	4678.18	Pbhl

WELL DETAILS

Name	+N/-S	+E/-W	North	East	Latitude	Longitude	Slot
#150H	0.00	0.00	429702.94	718952.92	32°10'48.094N	103°45'33.273W	N/A

KB ELEV: 3520
GL ELEV: 3495

TARGET DETAILS

Name	TVD	+N/-S	+E/-W	North	East	Shape	Point
Pbhl	8245.00	-4678.17	7.93	425024.77	718960.85	Point	

FIELD DETAILS

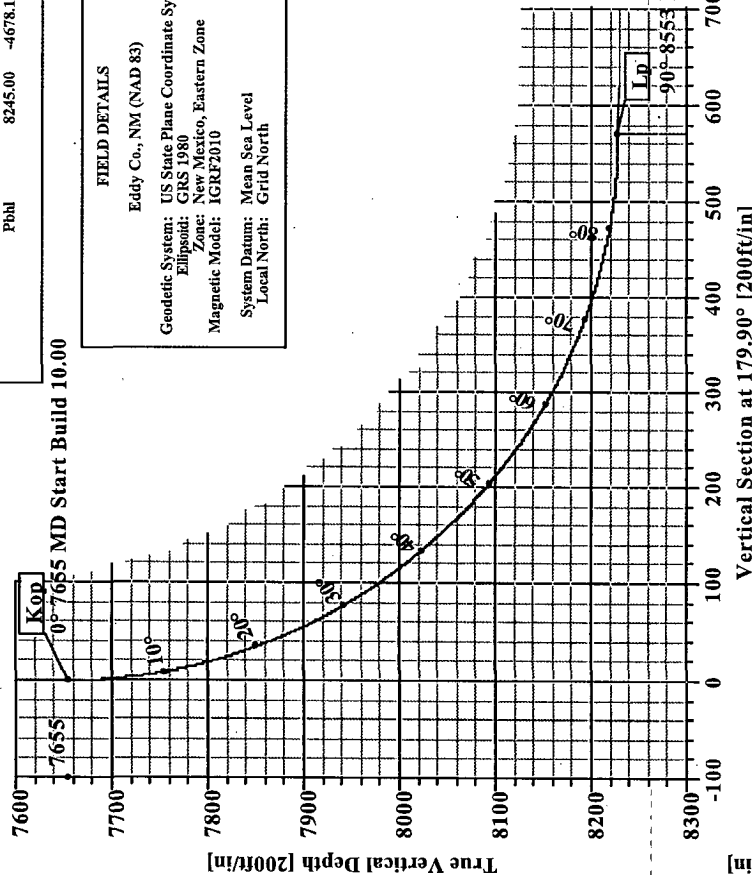
Eddy Co., NM (NAD 83)
Geodetic System: US State Plane Coordinate System 1983
Ellipsoid: GRS 1980
Zone: New Mexico, Eastern Zone
Magnetic Model: IGRF2010
System Datum: Mean Sea Level
Local North: Grid North

SITE DETAILS

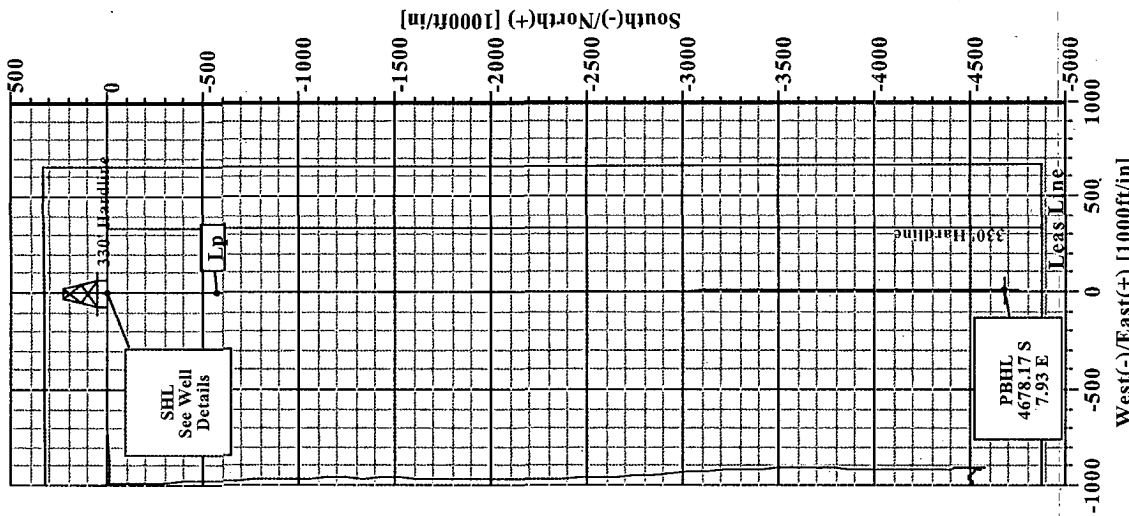
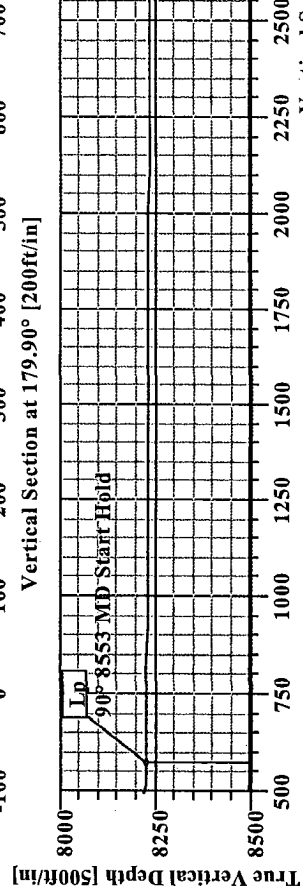
Cotton Draw Unit #150H
Site Centre Northing: 429702.94
Easting: 718952.92
Ground Level: 3495.00
Positional Uncertainty: 0.00
Convergence: 0.31

Azimuths to Grid North
True North: -0.31°
Magnetic North: 7.35°
Magnetic Field
Strength: 48586nT
Dip Angle: 60.11°
Date: 7/15/2011
Model: IGRF2010
Total Correction to Grid North: 7.35°

LEGEND
= Cotton Draw Unit #115H (I)
Plan #1



Weatherford



Plan: Plan #1 (#150H/I)

Created By: Russell W. Joyner

Date: 1/10/2011



Weatherford International Ltd.

WFT Plan Report - X & Y's

**Weatherford**

Company: Devon Energy	Date: 1/8/2011	Time: 16:38:36	Page: 1
Field: Eddy Co., NM (NAD 83)	Co-ordinate(NE) Reference: Well: #150H, Grid North		
Site: Cotton Draw Unit #150H	Vertical (TVD) Reference: SITE 3520.0		
Well: #150H	Section (VS) Reference: Well (0.00N,0.00E,179.90Azi)		
Wellpath: 1	Survey Calculation Method: Minimum Curvature	Db: Sybase	

Plan: Plan #1	Date Composed: 1/8/2011
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 #150H

Site Position:	Northing: 429702.94 ft	Latitude: 32 10 48.094 N
From: Map	Easting: 718952.92 ft	Longitude: 103 45 33.273 W
Position Uncertainty: 0.00 ft		North Reference: Grid
Ground Level: 3495.00 ft		Grid Convergence: 0.31 deg

Well: #150H

Slot Name:

Well Position: +N/-S 0.00 ft	Northing: 429702.94 ft	Latitude: 32 10 48.094 N
+E/-W 0.00 ft	Easting: 718952.92 ft	Longitude: 103 45 33.273 W
Position Uncertainty: 0.00 ft		

Wellpath: 1

Current Datum: SITE	Height 3520.00 ft	Drilled From: Surface
Magnetic Data: 7/15/2011		Tie-on Depth: 0.00 ft
Field Strength: 48586 nT		Above System Datum: Mean Sea Level
Vertical Section: Depth From (TVD)		Declination: 7.66 deg
ft	+N/-S ft	Mag Dip Angle: 60.11 deg
		+E/-W ft
		Direction deg
8245.00	0.00	0.00 179.90

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	179.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
7655.05	0.00	179.90	7655.05	0.00	0.00	0.00	0.00	0.00	0.00	
8552.68	89.76	179.90	8228.00	-570.59	0.97	10.00	10.00	0.00	179.90	
12660.30	89.76	179.90	8245.00	-4678.17	7.93	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	179.90	7600.00	0.00	0.00	0.00	0.00	429702.94	718952.92	
7655.05	0.00	179.90	7655.05	0.00	0.00	0.00	0.00	429702.94	718952.92	Kop
7700.00	4.50	179.90	7699.95	-1.76	0.00	1.76	10.00	429701.18	718952.92	
7800.00	14.50	179.90	7798.46	-18.24	0.03	18.24	10.00	429684.70	718952.95	
7900.00	24.50	179.90	7892.61	-51.57	0.09	51.57	10.00	429651.37	718953.01	
8000.00	34.50	179.90	7979.54	-100.74	0.17	100.74	10.00	429602.20	718953.09	
8100.00	44.50	179.90	8056.61	-164.26	0.28	164.26	10.00	429538.68	718953.20	
8200.00	54.50	179.90	8121.47	-240.20	0.41	240.20	10.00	429462.74	718953.33	
8300.00	64.50	179.90	8172.17	-326.25	0.55	326.25	10.00	429376.69	718953.47	
8400.00	74.50	179.90	8207.16	-419.79	0.71	419.79	10.00	429283.15	718953.63	
8500.00	84.50	179.90	8225.36	-517.99	0.88	517.99	10.00	429184.95	718953.80	
8552.68	89.76	179.90	8228.00	-570.59	0.97	570.59	10.00	429132.35	718953.89	Lp
8600.00	89.76	179.90	8228.20	-617.91	1.05	617.91	0.00	429085.03	718953.97	
8700.00	89.76	179.90	8228.61	-717.91	1.22	717.91	0.00	428985.03	718954.14	
8800.00	89.76	179.90	8229.03	-817.91	1.39	817.91	0.00	428885.03	718954.31	
8900.00	89.76	179.90	8229.44	-917.90	1.56	917.91	0.00	428785.04	718954.48	
9000.00	89.76	179.90	8229.85	-1017.90	1.73	1017.90	0.00	428685.04	718954.65	



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WFT Plan Report - X & Y's

**Weatherford**

Company: Devon Energy
Field: Eddy Co., NM (NAD 83)
Site: Cotton Draw Unit #150H
Well: #150H
Wellpath: 1

Date: 1/8/2011 Time: 16:38:36 Page: 2
Co-ordinate(NE) Reference: Well: #150H, Grid North
Vertical (TVD) Reference: SITE 3520.0
Section (VS) Reference: Well (0.00N,0.00E,179.90Azi)
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	89.76	179.90	8230.27	-1117.90	1.89	1117.90	0.00	428585.04	718954.81	
9200.00	89.76	179.90	8230.68	-1217.90	2.06	1217.90	0.00	428485.04	718954.98	
9300.00	89.76	179.90	8231.09	-1317.90	2.23	1317.90	0.00	428385.04	718955.15	
9400.00	89.76	179.90	8231.51	-1417.90	2.40	1417.90	0.00	428285.04	718955.32	
9500.00	89.76	179.90	8231.92	-1517.90	2.57	1517.90	0.00	428185.04	718955.49	
9600.00	89.76	179.90	8232.34	-1617.90	2.74	1617.90	0.00	428085.04	718955.66	
9700.00	89.76	179.90	8232.75	-1717.90	2.91	1717.90	0.00	427985.04	718955.83	
9800.00	89.76	179.90	8233.16	-1817.90	3.08	1817.90	0.00	427885.04	718956.00	
9900.00	89.76	179.90	8233.58	-1917.89	3.25	1917.90	0.00	427785.05	718956.17	
10000.00	89.76	179.90	8233.99	-2017.89	3.42	2017.90	0.00	427685.05	718956.34	
10100.00	89.76	179.90	8234.41	-2117.89	3.59	2117.90	0.00	427585.05	718956.51	
10200.00	89.76	179.90	8234.82	-2217.89	3.76	2217.89	0.00	427485.05	718956.68	
10300.00	89.76	179.90	8235.23	-2317.89	3.93	2317.89	0.00	427385.05	718956.85	
10400.00	89.76	179.90	8235.65	-2417.89	4.10	2417.89	0.00	427285.05	718957.02	
10500.00	89.76	179.90	8236.06	-2517.89	4.27	2517.89	0.00	427185.05	718957.19	
10600.00	89.76	179.90	8236.47	-2617.89	4.44	2617.89	0.00	427085.05	718957.36	
10700.00	89.76	179.90	8236.89	-2717.89	4.61	2717.89	0.00	426985.05	718957.53	
10800.00	89.76	179.90	8237.30	-2817.89	4.78	2817.89	0.00	426885.05	718957.70	
10900.00	89.76	179.90	8237.72	-2917.88	4.95	2917.89	0.00	426785.06	718957.87	
11000.00	89.76	179.90	8238.13	-3017.88	5.12	3017.89	0.00	426685.06	718958.04	
11100.00	89.76	179.90	8238.54	-3117.88	5.29	3117.89	0.00	426585.06	718958.21	
11200.00	89.76	179.90	8238.96	-3217.88	5.45	3217.89	0.00	426485.06	718958.37	
11300.00	89.76	179.90	8239.37	-3317.88	5.62	3317.89	0.00	426385.06	718958.54	
11400.00	89.76	179.90	8239.78	-3417.88	5.79	3417.88	0.00	426285.06	718958.71	
11500.00	89.76	179.90	8240.20	-3517.88	5.96	3517.88	0.00	426185.06	718958.88	
11600.00	89.76	179.90	8240.61	-3617.88	6.13	3617.88	0.00	426085.06	718959.05	
11700.00	89.76	179.90	8241.03	-3717.88	6.30	3717.88	0.00	425985.06	718959.22	
11800.00	89.76	179.90	8241.44	-3817.88	6.47	3817.88	0.00	425885.06	718959.39	
11900.00	89.76	179.90	8241.85	-3917.87	6.64	3917.88	0.00	425785.07	718959.56	
12000.00	89.76	179.90	8242.27	-4017.87	6.81	4017.88	0.00	425685.07	718959.73	
12100.00	89.76	179.90	8242.68	-4117.87	6.98	4117.88	0.00	425585.07	718959.90	
12200.00	89.76	179.90	8243.10	-4217.87	7.15	4217.88	0.00	425485.07	718960.07	
12300.00	89.76	179.90	8243.51	-4317.87	7.32	4317.88	0.00	425385.07	718960.24	
12400.00	89.76	179.90	8243.92	-4417.87	7.49	4417.88	0.00	425285.07	718960.41	
12500.00	89.76	179.90	8244.34	-4517.87	7.66	4517.87	0.00	425185.07	718960.58	
12600.00	89.76	179.90	8244.75	-4617.87	7.83	4617.87	0.00	425085.07	718960.75	
12660.30	89.76	179.90	8245.00	-4678.17	7.93	4678.18	0.00	425024.77	718960.85	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			8245.00	-4678.17	7.93	425024.77	718960.85	32	10	1.800 N	103	45	33.471 W

Casing Points

MD	TVD	Diameter	Hole Size	Name



Weatherford International Ltd.

WFT Plan Report - X & Y's



Weatherford

Company: Devon Energy	Date: 1/8/2011	Time: 16:38:36	Page: 3
Field: Eddy Co., NM (NAD 83)	Co-ordinate(NE) Reference: Well: #150H, Grid North		
Site: Cotton Draw Unit #150H	Vertical (TVD) Reference: SITE 3520.0		
Well: #150H	Section (VS) Reference: Well (0.00N,0.00E,179.90Azi)		
Wellpath: 1	Survey Calculation Method: Minimum Curvature	Db: Sybase	

Annotation

MD ft	TVD ft	
7655.05	7655.05	Kop
8552.68	8228.00	Lp
12660.30	8245.00	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 #150H
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 429702.940 USFT	Latitude 32.1800283 DEG
East/West 718952.920 USFT	Longitude -103.7592379 DEG
Grid Convergence: .31°	
Total Correction: +7.35°	

Geodetic Location WGS84	Elevation =	0.0 Meters
Latitude =	32.18003° N	32° 10 min 48.102 sec
Longitude =	103.75924° W	103° 45 min 33.257 sec

Magnetic Declination =	7.66°	[True North Offset]	
Local Gravity =	.9988 g	Checksum =	6518
Local Field Strength =	48582 nT	Magnetic Vector X =	23993 nT
Magnetic Dip =	60.11°	Magnetic Vector Y =	3227 nT
Magnetic Model =	IGRF-2010g11	Magnetic Vector Z =	42121 nT
Spud Date =	Jul 15, 2011	Magnetic Vector H =	24209 nT

Signed: _____

Date: _____

Attachment to Exhibit #1
NOTES REGARDING BLOWOUT PREVENTERS
Devon Energy Production Company, LP
Cotton Draw Unit 150H

Surface Location: 330' FNL & 660' FEL, Unit A, Sec 34 T24S R31E, Eddy, NM

Bottom Hole Location: 200' FSL & 660' FEL, Unit P, 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 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

