

OCD-ARTESIA

Form 3160-3
(April 2004)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

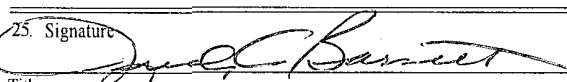
FORM APPROVED
OMB No. 1004-0137
Expires March 31, 2007 **EA-222**

1a. Type of work: ☒ DRILL ☐ REENTER		5. Lease Serial No. SHL NMNM-012121; NMNM036379 BHL	
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 Company, LP		7. If Unit or CA Agreement, Name and No.	
3a. Address 20 North Broadway Oklahoma City, Oklahoma City 73102-8260		8. Lease Name and Well No. Cotton Draw Unit 155H	
3b. Phone No. (include area code) 405-228-8699		9. API Well No. 30-014-38607	
4. Location of Well (Report location clearly and in accordance with any State requirements) At surface (42B) NW/4 NE/4 200 FNL 1980 FEL At proposed prod. zone SW/4 SE/4 200 FSL 1980 FEL		10. Field and Pool, or Exploratory Poker Lake East; Delaware	
11. Sec., T. R. M. or Blk. and Survey or Area SEC 35 T24S R31E		12. County or Parish Eddy County	
13. State NM		14. Distance in miles and direction from nearest town or post office* Approximately 20 miles east of Loving, 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 1280 Acres	
17. Spacing Unit dedicated to this well 160 Acres		18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. See attached map.	
19. Proposed Depth 12,859' MD 8270 TVD		20. BLM/BIA Bond No. on file CO-1104	
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3498' GL		22. Approximate date work will start* 45 days	
23. Estimated duration			

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, shall 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 shall 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 authorized officer.

25. Signature 	Name (Printed/Typed) Judy A. Barnett	Date 12/01/2010
Title Regulatory Analyst		

Approved by (Signature) /s/ Jesse J. Juen	Name (Printed/Typed) /s/ Jesse J. Juen	Date MAR 07 2011
Title FOR STATE DIRECTOR	Office NM STATE 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.

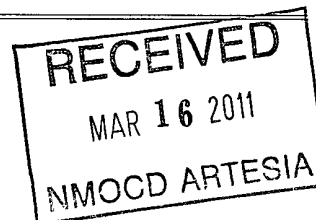
APPROVAL FOR TWO YEARS

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

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.



**SEE ATTACHED FOR
CONDITIONS OF APPROVAL**

KZ 3/31/11

**Approval Subject to General Requirements
& Special Stipulations Attached**

DRILLING PROGRAM

Devon Energy Production Company, LP

Cotton Draw Unit 155H

Surface Location: 200' FNL & 1980' FEL, Unit B, Sec 35 T24S R31E, Eddy, NM

Bottom Hole Location: 200' FSL & 1980' FEL; Unit O, Sec 35 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:**

a. Rustler	664'	
b. Salt	1120'	
c. Base of Salt	4161'	
d. Delaware/Lamar	4390'	
e. Bell Canyon	4422'	Oil
f. Cherry Canyon	5376'	Oil
g. Brushy Canyon	6715'	Oil
h. Total Depth	12,859'	

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 17 1/2" casing at ~~750'~~ and circulating cement back to surface. Fresh water sands will be protected by setting 9 5/8" casing at 4375' and circulating cement to surface. The Delaware 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.

Casing Program:

	<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>
See COA	17 1/2"	0 - 750'	13 3/8"	0' - 750'	48#	STC	H-40
	12 1/4"	750 - 4375'	9 5/8"	0' - 4375'	40#	LTC	J-55
	8 3/4"	4375-7500'	5 1/2"	0-7500'	17#	LTC	N-80
	8 3/4"	7500-12859'	5 1/2"	7500-12,859' 5359'	17#	BTC	N-80

Design Parameter Factors:

<u>Casing Size</u>	<u>Collapse Design</u>	<u>Burst Design</u>	<u>Tension Design</u>
	<u>Factor</u>	<u>Factor</u>	<u>Factor</u>
13 3/8"	2.35	5.28	9.58
9 5/8" 40#	1.23	1.70	2.91
5 1/2" 17#	1.79	2.21	1.60
5 1/2" 17#	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.

Cement Program: *See COA*
13 3/8"

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

1st Stage

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'

2nd Stage

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'**

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 Equipment BOP DESIGN:

The BOP system used to drill the intermediate hole will consist of a 13-5/8" 3M Double 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 Double 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. 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. See attached.

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' - 750'	8.4-9.0	30-34	NC	FW
750' - 4375'	9.8-10.0	28-32	NC	Brine
4375' - 12,859'	8.6-9.0	28-32	NC	FW

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

3. 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 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.

4.
*
See
COA

Logging, Coring, and Testing Program:

- Drill stem tests will be based on geological sample shows.
- 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.

See *
COA

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.

5. 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 4405 psi and Estimated BHT 145°. No H₂S is anticipated to be encountered.

6. 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.

7.

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.

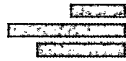
The BLM will be contacted 24 hours prior to commencing drilling operations. The surface casing will be run and cemented back to surface as per the approved APD. The well will be secured with a cap welded onto the surface casing. Another rig will be on location to drill the remainder of the wellbore within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



Weatherford®

Drilling Services

Proposal



devon

COTTON DRAW UNIT #155H

EDDY COUNTY, NM

WELL FILE: PLAN 1

NOVEMBER 12, 2010

Weatherford International, Ltd.

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Midland, TX 79711 USA

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Weatherford International Ltd.

WFT Plan Report - X & Y's

**Weatherford®**

Company: Devon Energy	Date: 11/12/2010	Time: 08:03:24	Page: 1
Field: Eddy Co., NM (NAD 83)	Co-ordinate(NE) Reference: Well: Cotton Draw Unit #155H, Grid North		
Site: Cotton Draw Unit #155H	Vertical (TVD) Reference: SITE 3524.0		
Well: Cotton Draw Unit #155H	Section (VS) Reference: Well (0.00N,0.00E,179.84Azi)		
Wellpath: 1	Survey Calculation Method: Minimum Curvature	Db: Sybase	

Plan: Plan #1	Date Composed: 11/12/2010
	Version: 1
Principal: Yes	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 #155H

Site Position:	Northing: 429857.47 ft	Latitude: 32 10 49.411 N
From: Map	Easting: 722917.19 ft	Longitude: 103 44 47.137 W
Position Uncertainty: 0.00 ft		North Reference: Grid
Ground Level: 3499.00 ft		Grid Convergence: 0.31 deg

Well: Cotton Draw Unit #155H

Slot Name:

Well Position: +N/-S 0.00 ft	Northing: 429857.47 ft	Latitude: 32 10 49.411 N
+E/-W 0.00 ft	Easting: 722917.19 ft	Longitude: 103 44 47.137 W
Position Uncertainty: 0.00 ft		

Wellpath: 1

Current Datum: SITE	Height 3524.00 ft	Drilled From: Surface
Magnetic Data: 4/15/2011		Tie-on Depth: 0.00 ft
Field Strength: 48613 nT		Above System Datum: Mean Sea Level
Vertical Section: Depth From (TVD)		Declination: 7.68 deg
ft	+N/-S ft	Mag Dip Angle: 60.12 deg
		+E/-W ft
		Direction deg
8172.00	0.00	0.00 179.84

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	179.84	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
7697.04	0.00	179.84	7697.04	0.00	0.00	0.00	0.00	0.00	0.00	
8597.04	90.00	179.84	8270.00	-572.96	1.58	10.00	10.00	0.00	179.84	
12859.08	90.00	179.84	8270.00	-4834.98	13.35	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	179.84	7600.00	0.00	0.00	0.00	0.00	429857.47	722917.19	
7697.01	0.00	179.84	7697.01	0.00	0.00	0.00	0.00	429857.47	722917.19	Kop
7697.04	0.00	179.84	7697.04	0.00	0.00	0.00	0.00	429857.47	722917.19	
7700.00	0.30	179.84	7700.00	-0.01	0.00	0.01	10.00	429857.46	722917.19	
7800.00	10.30	179.84	7799.45	-9.23	0.03	9.23	10.00	429848.24	722917.22	
7900.00	20.30	179.84	7895.78	-35.57	0.10	35.57	10.00	429821.90	722917.29	
8000.00	30.30	179.84	7986.08	-78.25	0.22	78.25	10.00	429779.22	722917.41	
8100.00	40.30	179.84	8067.59	-135.95	0.38	135.95	10.00	429721.52	722917.57	
8200.00	50.30	179.84	8137.85	-206.94	0.57	206.94	10.00	429650.53	722917.76	
8300.00	60.30	179.84	8194.71	-289.04	0.80	289.04	10.00	429568.43	722917.99	
8400.00	70.30	179.84	8236.45	-379.78	1.05	379.78	10.00	429477.69	722918.24	
8500.00	80.30	179.84	8261.80	-476.38	1.32	476.38	10.00	429381.09	722918.51	
8597.04	90.00	179.84	8270.00	-572.96	1.58	572.96	10.00	429284.51	722918.77	Lp
8600.00	90.00	179.84	8270.00	-575.91	1.59	575.92	0.00	429281.56	722918.78	
8700.00	90.00	179.84	8270.00	-675.91	1.87	675.92	0.00	429181.56	722919.06	
8800.00	90.00	179.84	8270.00	-775.91	2.14	775.92	0.00	429081.56	722919.33	
8900.00	90.00	179.84	8270.00	-875.91	2.42	875.92	0.00	428981.56	722919.61	



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WFT Plan Report - X & Y's

**Weatherford®**

Company: Devon Energy
Field: Eddy Co., NM (NAD 83)
Site: Cotton Draw Unit #155H
Well: Cotton Draw Unit #155H
Wellpath: 1

Date: 11/12/2010 Time: 08:03:24 Page: 2
Co-ordinate(NE) Reference: Well: Cotton Draw Unit #155H, Grid North
Vertical (TVD) Reference: SITE 3524.0
Section (VS) Reference: Well (0.00N,0.00E,179.84Azi)
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
9000.00	90.00	179.84	8270.00	-975.91	2.69	975.92	0.00	428881.56	722919.88	
9100.00	90.00	179.84	8270.00	-1075.91	2.97	1075.92	0.00	428781.56	722920.16	
9200.00	90.00	179.84	8270.00	-1175.91	3.25	1175.92	0.00	428681.56	722920.44	
9300.00	90.00	179.84	8270.00	-1275.91	3.52	1275.92	0.00	428581.56	722920.71	
9400.00	90.00	179.84	8270.00	-1375.91	3.80	1375.92	0.00	428481.56	722920.99	
9500.00	90.00	179.84	8270.00	-1475.91	4.08	1475.92	0.00	428381.56	722921.27	
9600.00	90.00	179.84	8270.00	-1575.91	4.35	1575.92	0.00	428281.56	722921.54	
9700.00	90.00	179.84	8270.00	-1675.91	4.63	1675.92	0.00	428181.56	722921.82	
9800.00	90.00	179.84	8270.00	-1775.91	4.90	1775.92	0.00	428081.56	722922.09	
9900.00	90.00	179.84	8270.00	-1875.91	5.18	1875.92	0.00	427981.56	722922.37	
10000.00	90.00	179.84	8270.00	-1975.91	5.46	1975.92	0.00	427881.56	722922.65	
10100.00	90.00	179.84	8270.00	-2075.91	5.73	2075.92	0.00	427781.56	722922.92	
10200.00	90.00	179.84	8270.00	-2175.91	6.01	2175.92	0.00	427681.56	722923.20	
10300.00	90.00	179.84	8270.00	-2275.91	6.28	2275.92	0.00	427581.56	722923.47	
10400.00	90.00	179.84	8270.00	-2375.91	6.56	2375.92	0.00	427481.56	722923.75	
10500.00	90.00	179.84	8270.00	-2475.91	6.84	2475.92	0.00	427381.56	722924.03	
10600.00	90.00	179.84	8270.00	-2575.91	7.11	2575.92	0.00	427281.56	722924.30	
10700.00	90.00	179.84	8270.00	-2675.91	7.39	2675.92	0.00	427181.56	722924.58	
10800.00	90.00	179.84	8270.00	-2775.91	7.66	2775.92	0.00	427081.56	722924.85	
10900.00	90.00	179.84	8270.00	-2875.90	7.94	2875.92	0.00	426981.57	722925.13	
11000.00	90.00	179.84	8270.00	-2975.90	8.22	2975.92	0.00	426881.57	722925.41	
11100.00	90.00	179.84	8270.00	-3075.90	8.49	3075.92	0.00	426781.57	722925.68	
11200.00	90.00	179.84	8270.00	-3175.90	8.77	3175.92	0.00	426681.57	722925.96	
11300.00	90.00	179.84	8270.00	-3275.90	9.05	3275.92	0.00	426581.57	722926.24	
11400.00	90.00	179.84	8270.00	-3375.90	9.32	3375.92	0.00	426481.57	722926.51	
11500.00	90.00	179.84	8270.00	-3475.90	9.60	3475.92	0.00	426381.57	722926.79	
11600.00	90.00	179.84	8270.00	-3575.90	9.87	3575.92	0.00	426281.57	722927.06	
11700.00	90.00	179.84	8270.00	-3675.90	10.15	3675.92	0.00	426181.57	722927.34	
11800.00	90.00	179.84	8270.00	-3775.90	10.43	3775.92	0.00	426081.57	722927.62	
11900.00	90.00	179.84	8270.00	-3875.90	10.70	3875.92	0.00	425981.57	722927.89	
12000.00	90.00	179.84	8270.00	-3975.90	10.98	3975.92	0.00	425881.57	722928.17	
12100.00	90.00	179.84	8270.00	-4075.90	11.25	4075.92	0.00	425781.57	722928.44	
12200.00	90.00	179.84	8270.00	-4175.90	11.53	4175.92	0.00	425681.57	722928.72	
12300.00	90.00	179.84	8270.00	-4275.90	11.81	4275.92	0.00	425581.57	722929.00	
12400.00	90.00	179.84	8270.00	-4375.90	12.08	4375.92	0.00	425481.57	722929.27	
12500.00	90.00	179.84	8270.00	-4475.90	12.36	4475.92	0.00	425381.57	722929.55	
12600.00	90.00	179.84	8270.00	-4575.90	12.63	4575.92	0.00	425281.57	722929.82	
12700.00	90.00	179.84	8270.00	-4675.90	12.91	4675.92	0.00	425181.57	722930.10	
12800.00	90.00	179.84	8270.00	-4775.90	13.19	4775.92	0.00	425081.57	722930.38	
12859.08	90.00	179.84	8270.00	-4834.98	13.35	4835.00	0.00	425022.49	722930.54	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			8270.00	-4834.98	13.35	425022.49	722930.54	32	10	1.565 N	103	44	47.289 W



Weatherford International Ltd.

WFT Plan Report - X & Y's



Weatherford®

Company:	Devon Energy	Date:	11/12/2010	Time:	08:03:24	Page:	3
Field:	Eddy Co., NM (NAD 83)	Co-ordinate(NE) Reference:	Well: Cotton Draw Unit #155H, Grid North				
Site:	Cotton Draw Unit #155H	Vertical (TVD) Reference:	SITE 3524.0				
Well:	Cotton Draw Unit #155H	Section (VS) Reference:	Well (0.00N,0.00E,179.84Azi)				
Wellpath:	1	Survey Calculation Method:	Minimum Curvature			Db:	Sybase

Casing Points

MD	TVD	Diameter	Hole Size	Name

Annotation

MD ft	TVD ft	
7697.01	7697.01	Kop
8597.04	8270.00	Lp
12859.08	8270.00	Pbhl

Formations

MD	TVD	Formations	Lithology	Dip Angle	Dip Direction

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

GeoDec v5.03

Report Date: November 12, 2010
Job Number: _____
Customer: Devon Energy
Well Name: Cotton Draw Unit #155H
API Number: _____
Rig Name: _____
Location: Eddy Co, NM
Block: _____
Engineer: R Joyner

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 429857.470 USFT	Latitude 32.1803943 DEG
East/West 722917.190 USFT	Longitude -103.7464223 DEG
Grid Convergence: .31°	
Total Correction: +7.38°	

Geodetic Location WGS84	Elevation =	0.0 Meters
Latitude =	32.18039° N	32° 10 min 49.419 sec
Longitude =	103.74642° W	103° 44 min 47.120 sec

Magnetic Declination =	7.69°	[True North Offset]
Local Gravity =	.9988 g	Checksum = 6570
Local Field Strength =	48609 nT	Magnetic Vector X = 23999 nT
Magnetic Dip =	60.12°	Magnetic Vector Y = 3238 nT
Magnetic Model =	IGRF-2010g11	Magnetic Vector Z = 42147 nT
Spud Date =	Apr 15, 2011	Magnetic Vector H = 24216 nT

Signed: _____

Date: _____

NOTES REGARDING BLOWOUT PREVENTERS

Devon Energy Production Company, LP

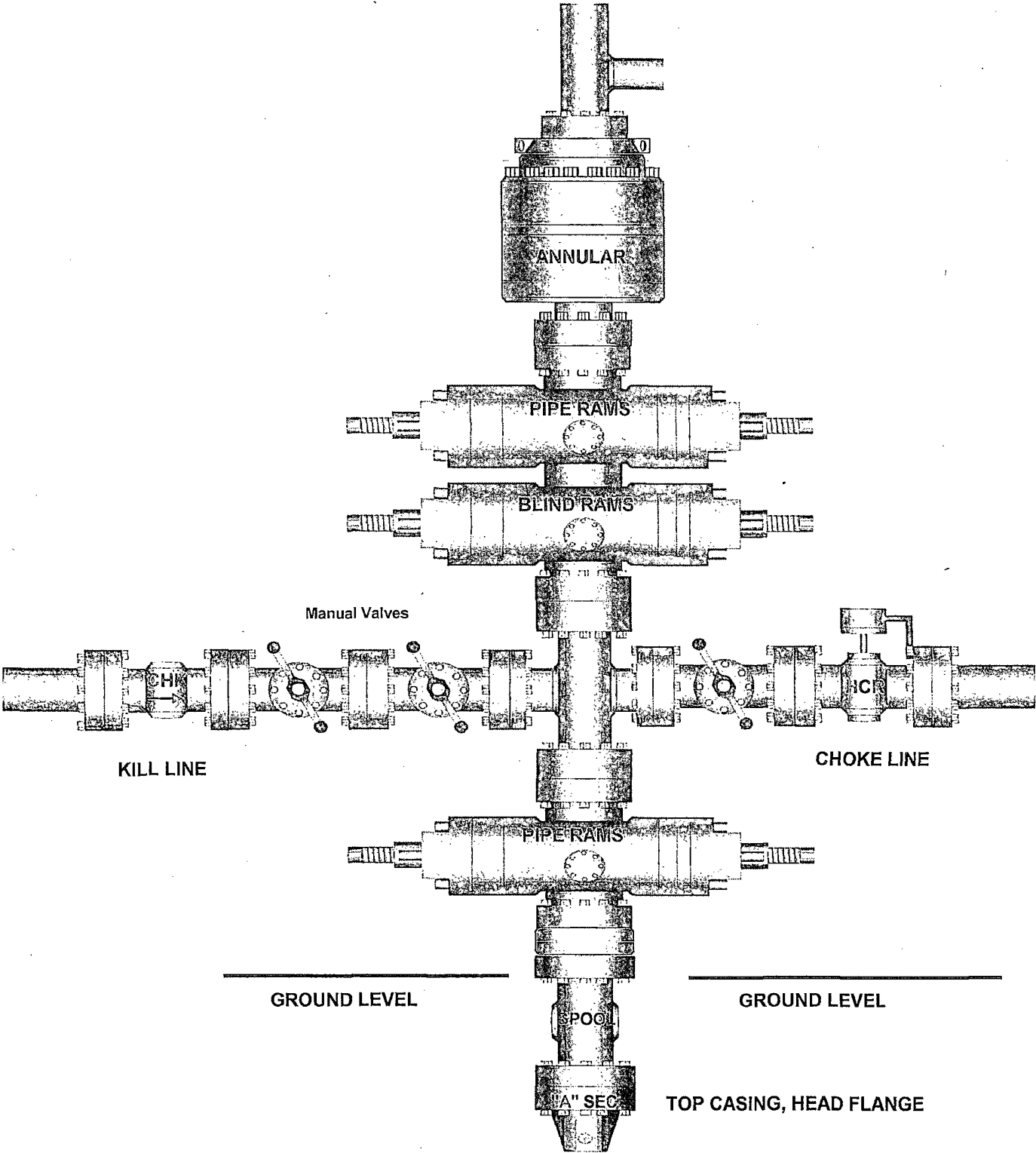
Cotton Draw Unit 155H

Surface Location: 200' FNL & 1980' FEL, Unit B, Sec 35 T24S R31E, Eddy, NM

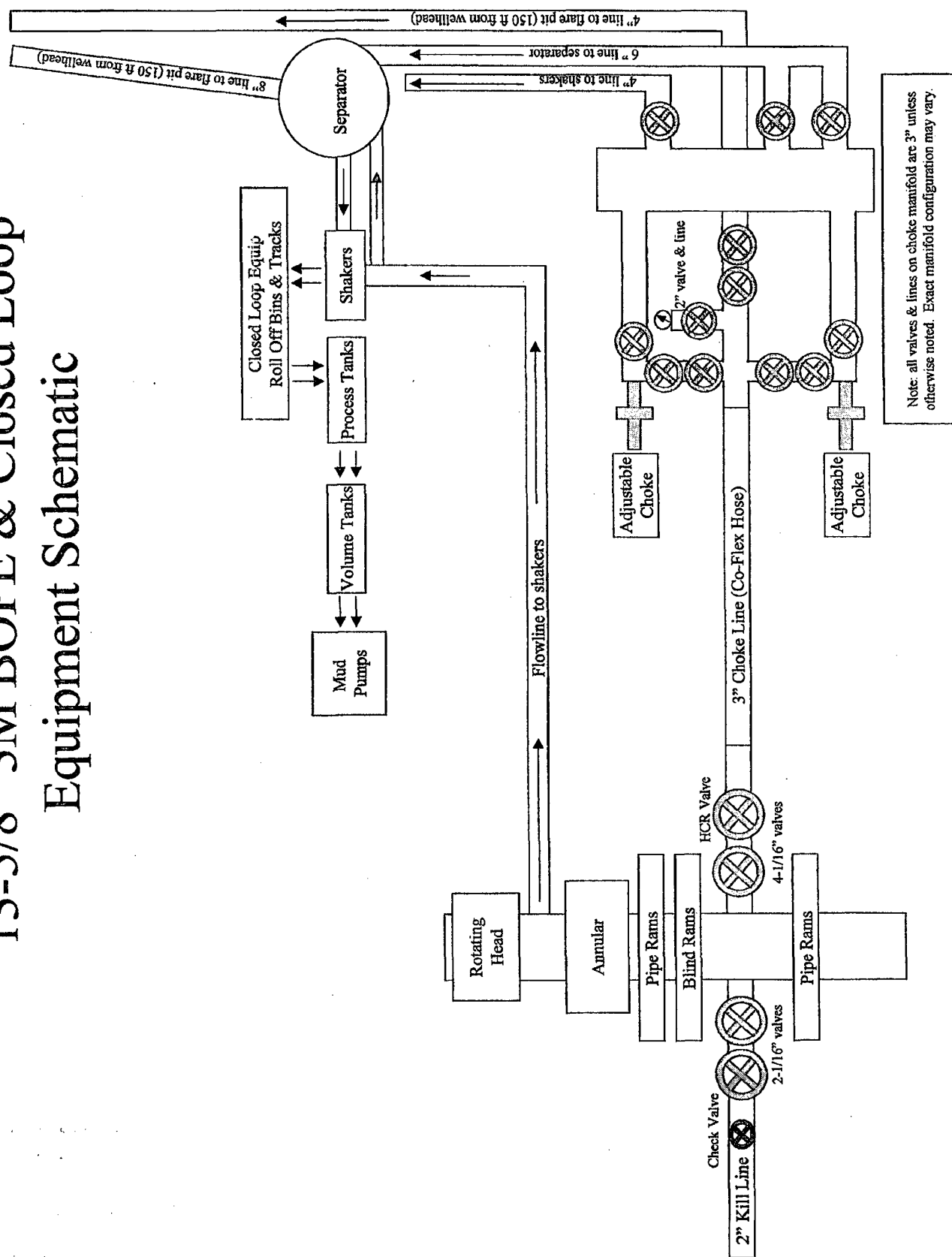
Bottom Hole Location: 200' FSL & 1980' FEL, Unit O, Sec 35 T24S R31E, Eddy, NM

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 3,000 psi working pressure.
4. All fittings will be flanged.
5. A full bore safety valve tested to a minimum 3,000 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 3,000 psi BOP Stack



13-5/8" 3M BOPE & Closed Loop Equipment Schematic





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.

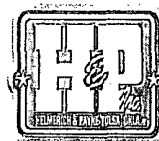
Should you have any questions or require any additional information/clarifications then please do not hesitate to contact us.

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





QUALITY DOCUMENT

PHOENIX RUBBER INDUSTRIAL LTD.

H-6728 Szeged, Budapesti út 10. Hungary • H-6701 Szeged, P. O. Box 152
Phone: (3662) 566-737 • Fax: (3662) 566-738

SALES & MARKETING: H-1092 Budapest, Ráday u. 42-44. Hungary • H-1440 Budapest, P. O. Box 26
Phone: (361) 456-4200 • Fax: (361) 217-2972, 456-4273 • www.laurusermerge.hu

QUALITY CONTROL INSPECTION AND TEST CERTIFICATE				CERT N° 890	
PURCHASER: Phoenix Beattie Co.				P.O. N° 1520FA-872	
PHOENIX ORDER N° 172232		HOSE TYPE: 3" ID Choke and Kill Hose			
HOSE SERIAL N° 34403		NOMINAL / ACTUAL LENGTH: 11,43 m			
W.P. 68,96 MPa 10000 psi		T.P. 103,4 MPa 15000 psi		Duration: 60 min.	
Pressure test with water at ambient temperature					
See attachment. (1 page)					
↑ 10 mm = 10 Min. → 10 mm = 16 MPa					
COUPLINGS					
Type	Serial N°		Quality		Heat N°
3" coupling with 4 1/16" Flange end	1231/a 1228		AISI 4130		80751
			AISI 4130		47438
API Spec 16 C Temperature rate: "B"					
All metal parts are flawless					
WE CERTIFY THAT THE ABOVE HOSE HAS BEEN MANUFACTURED IN ACCORDANCE WITH THE TERMS OF THE ORDER AND PRESSURE TESTED AS ABOVE WITH SATISFACTORY RESULT.					
Date: 20. June. 2002.	Inspector		Quality Control PHOENIX RUBBER Industrial Ltd. Hose Inspection and Certification Dept.		

VERIFIED TRUE COPY
PHOENIX RUBBER Q.C.

[illegible]

PHOENIX RUBBER
Industrial Ltd.
Hose Inspection and
Certification Dept.

VERIFIED TRUE COPY
PHOENIX RUBBER Q.C.

DISTRICT I --- CHECKLIST FOR INTENTS TO DRILL

300635 Operator DEVON ENERGY PROD CO LP OGRID # 6137
 Well Name & # COTTON DRAW UNIT #155H Surface Type (F) (S) (P)
 Location: UL B, Sect 35, Township 24s, RNG 31e,
0 35 24 31 Sub-surface Type (F) (S) (P)

A. Date C101 rec'd / / C101 reviewed / /

B. 1. Check mark, Information is OK on Forms:

OGRID X, BONDING FED, PROP CODE X, WELL # X, SIGNATURE SE

2. Inactive Well list as of: 3/30/11 # wells 1498 # Inactive wells 3

a. District Grant APD but see number of inactive wells:

No letter required X; Sent Letter to Operator , to Santa Fe

3. Additional Bonding as of: 3/30/11

a. District Denial because operator needs addition bonding:

No Letter required X; Sent Letter to Operator , To Santa Fe

b. District Denial because of Inactive well list and Financial Assurance:

No Letter required X; Sent Letter to Operator , To Santa Fe

C. C102 YES X, NO , Signature X

1. Pool POKER LAKE; DEL SOUTH, Code 60386

a. Dedicated acreage 160, What Units RGJO

b. SUR. Location Standard : Non-Standard Location X

c. Well shares acres: Yes , No X, # of wells plus this well #

2. 2nd. Operator in same acreage, Yes , No X

Agreement Letter , Disagreement letter

3. Intent to Directional Drill Yes X, No

a. Dedicated acreage , What Units RGJO

b. Bottomhole Location Standard , Non-Standard Bottomhole X

4. Downhole Commingle: Yes , No X

a. Pool #2 , Code , Acres

Pool #3 , Code , Acres

Pool #4 , Code , Acres

5. POTASH Area Yes , No FED

D. Blowout Preventer Yes X, No

E. H2S Yes X, No , Part FED API

F. C144 Pit Registration Yes , No X, need

G. Does APD require Santa Fe Approval:

1. Non-Standard Location: Yes X, No , NSL #

2. Non-Standard Proration: Yes , No X, NSP #

3. Simultaneous Dedication: Yes , No X, SD #

Number of wells Plus #

4. Injection order Yes , No X; PMX # or WFX #

5. SWD order Yes , NO X; SWD #

6. DHC from SF ; DHC-HOB ; Holding

7. OCD Approval Date / /

API #30-015--78607

8. Reviewers