

ATS-11-172

OCD Artesia

Form 3160-3
(April 2004)

SECRETARY'S POTASH

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 298

Lease Serial No.
NM 036379; NMNM012121 SHL

6. If Indian, Allottee 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.
Cotton Draw Unit 125H

2. Name of Operator
Devon Energy Production Company, LP

9. API Well No.

30-015-38608

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

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

10. Field and Pool, or Exploratory
Cotton Draw, Wolfcamp, GAS

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

At surface NW/4 NE/4 160 FNL & 1345 FEL (Unit B)

At proposed prod. zone SW/4 SE/4 330 FSL & 1650 FEL Unit O PP:160 FNL & 1345 FEL

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

SEC 35 T24S R31E

14. Distance in miles and direction from nearest town or post office*
Approximately 21 miles east of Loving, NM.

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
1280 Acres

17. Spacing Unit dedicated to this well
E/2 320 Acres

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

19. Proposed Depth
17,908 MD 13,300 TVD

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

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
3502' 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
Title
Regulatory Analyst

Name (Printed/Typed)
Judy A. Barnett

Date
12/15/2010

Approved by (Signature)
/s/ Jesse J. Juen

Name (Printed/Typed)
/s/ Jesse J. Juen

Date
MAR 15 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.

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.

RECEIVED
MAR 22 2011
NMOCD ARTESIA

CARLSBAD CONTROLLED WATER BASIN

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

KZ 3/31/11

APPROVAL SUBJECT TO
GENERAL REQUIREMENTS
AND SPECIAL STIPULATIONS
ATTACHED

DRILLING PROGRAM

Devon Energy Production Company, LP

Cotton Draw Unit 125H

Surface Location: 160' FNL & 1345' FEL, Unit B, Sec 35 T24S R31E, Eddy, NM

Bottom Hole Location: 330' FSL & 1650' FEL, Unit O, Sec 35 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. Quaternary	475'	Fresh Water
b. Rustler	640'	
c. Salado	1033'	
d. Castile	2827'	
e. Bell Canyon	4416'	
f. Cherry Canyon	5388'	
g. Brushy Canyon	6641'	Oil
h. 1 st Bone Spring Lime	8268'	Oil
i. 1 st Bone Spring Ss	9987'	Oil
j. 3 rd Bone Spring Lime	10,455'	Oil
k. 3 rd Bone Spring Ss	11,203'	Oil
l. Wolfcamp	11,651'	Oil/Gas
m. Upper Penn Shale	13,222'	Oil/Gas
n. Strawn	13,577'	Oil/Gas
Total Depth	17,908' MD TVD = 13,300'	

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 ~~680'~~^{820'} and circulating cement back to surface. Fresh water sands will be protected by setting 13 3/8" casing at ~~4200'~~^{4580'} and circulating cement to surface. The Wolfcamp intervals will be isolated by setting 9 5/8" casing to total depth and circulating cement above the base of the 13 3/8" casing.

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>
26"	0-680'	20"	0-680'	106.6#	BTC	J-55
17 1/2"	680-4200'	13 3/8"	0'-4200'	68#	BTC	HCL-80
12 1/4"	4200-11650'	9 5/8"	0'-11650'	40#	BTC	HCP110
8 3/4"	11650-13700'PH					
8 3/4"	0-17,908'	5 1/2"	0-17,908'	23#	Vam Top	HECP-110

Design Parameter Factors:

<u>Casing Size</u>	<u>Collapse Design Factor</u>	<u>Burst Design Factor</u>	<u>Tension Design Factor</u>
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 1/2"	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 be evacuated

CEMENTING PROGRAM and WHIPSTOCK PROGRAM

NOTE: All cement volumes have 25% excess included.

Cement plug for the Pilot Hole:

Plug Geometry: Plug ~12,500-13,700' 525 sacks Class H +R-3, Yield 1.18 cuft/sk

An 8 3/4" Open Hole Whipstock w/ packer type anchor will be set @ ~12,500' and run w/ 1200' of 2 7/8" tubing for tailpipe. The cement will be pumped down the drill pipe and through the Whipstock and the tailpipe. The Whipstock will be cemented in place w/ ~150' of cement left on top of the Whipstock. Directional tools will be run and KOP will be ~12,700'. The lateral will be drilled from ~14,000' MD to 17,908' MD.

Cement Program:

20" Surface

Lead: 745 sks Class C w/2% CC and 4% gel **Yield** 1.75 cf/sk
Tail: 300 sacks Class C w/2% CC and .125 lb/sk Cello
Yield: 1.35 cf/sk

13 3/8"

See
COA

Lead: 2360 sacks (35:65) Poz (Fly Ash):Premium Plus C Cement + 5% bwow Sodium
Yield: 2.04 cf/sack. TOC @ surface.
Tail: 430 sacks Premium Plus C Cement + 2% bwoc Calcium Chloride + 0.125 lbs/sack Cello Flake + 56.3%
Fresh Water **Yield:** 1.35 cf/sack.

9 5/8" Intermediate

Lead: 1100 sacks (35:65) Poz (Fly Ash):Premium Plus C Cement + 5% bwow Sodium Chloride + 0.125
lbs/sack Cello Flake + 6% bwoc Bentonite + 107.8% Fresh Water
Yield: 2.04 cf/sack.
Tail: 850 sacks Premium Plus Super C Cement + 5% bwow Sodium Chloride + 0.125 lbs/sack Cello Flake +
0.4% bwoc Sodium Metasilicate + 4% bwoc MPA-5 + 64.7% Fresh Water **Yield:** 1.56 cf/sack.
2 Stage DV Tool @ 5500'
2nd Stage Lead: 550 sacks 35:65 Poz: Class H with 6% gel and 2% SC **Yield:** 1.98 cu/sk
Tail: 150 sacks 60:40 Pox Class C with 1% KCL and .125 lb/sk Cello **Yield:** 1.56 cu/sk

5 1/2" Production

2250 sacks Premium Plus H + 0.35% bwoc R-3 + 0.4% bwoc CD-32 + 1.4%
Yield: 1.13 cf/sack.

TOC for All Strings:

Surface:	0'
1 st Intermediate:	0'
2 nd Intermediate:	3500'
Production:	11000'

The above cement volumes could be revised pending the caliper measurement from the open hole logs.
All casing is new and API approved.

Pressure Control Equipment BOP DESIGN:

Will consist of a (10M system) triple ram type (10M psi WP) preventer and a bag-type (Hydril) preventer (10M psi WP) and a rotation head. All units will be hydraulically operated and the ram type preventer 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'~~^{4300'}) is reached. The 20" BOP will be utilized as a 2000 psi BOP and tested as per 2000 psi BOP requirements (1000 psi). The mentioned 10M preventer will be installed on the 13 3/8" casing. The 17 1/2" hole section and the 12 1/4" hole section will be tested as 5000 psi requirements. **The 8 3/4" hole will be the only hole section to be tested and drilled with 10000 psi requirements.** 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. 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.

See COA

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' - 680' 800'	8.4-8.8	32-34	NC	FW/Gel
680' 4200' - 4200' 4300'	9.7-10.0	28-30	NC	Brine
4200' 4200' - 11,650'	9.0-9.3	28-30	NC-40	Fresh
11650-13700'	10.5-13.0	40-60	12-8cc	Fresh
PH				
11,650-17,908'	13.0-14.0	40.60		80/20 Oil Base

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

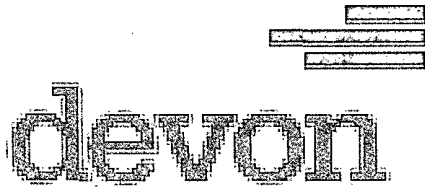
3. Auxiliary Well Control and Monitoring Equipment:
 - a. A Kelly cock will be in the drill string at all times.
 - b. A full opening drill pipe stabbing valve having the appropriate connections will be on the rig floor at all times
 - c. Hydrogen Sulfide detection equipment will be in operation after 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.
4. 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.

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 8200 psi and Estimated BHT 205°. 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.



Devon Energy

Eddy Co., New Mexico (Nad 83)

Cotton Draw #125H

Cotton Draw #125H

Lateral #1

Plan: Design #1

Standard Survey Report

06 December, 2010





Project: Eddy Co., New Mexico (Nad 83)
Site: Cotton Draw #125H
Well: Cotton Draw #125H
Wellbore: Lateral #1
Design: Design #1



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	12707.00	0.00	0.00	12707.00	0.00	0.00	0.00	0.00	0.00	
3	13016.20	37.10	248.50	12985.04	-35.43	-89.94	12.00	248.50	40.88	
4	13016.64	37.10	248.50	12985.38	-35.53	-90.18	0.00	0.00	40.99	
5	13660.93	90.00	179.84	13300.00	-601.92	-303.52	12.00	-72.69	519.60	PP (CD#125H)
6	17908.17	90.00	179.84	13300.00	-4749.14	-291.94	0.00	0.00	4758.10	PBHL - TD (CD#125H)

ANNOTATIONS

TVD	MD	Annotation
12707.00	12707.00	KOP - Build & Turn 12°/100°
13300.00	13060.93	EOC - Hold 190.0° @ A-179.84°

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)

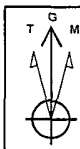
Name	TVD	+N-S	+E-W	Northing	Easting	Latitude	Longitude	Shape
PBHL - TD (CD#125H)	13300.00	-4749.14	-281.94	425152.34	723260.22	32° 10' 2.841 N	103° 44' 43.428 W	Point
PP (CD#125H)	13300.00	-501.92	-303.52	429399.55	723248.84	32° 10' 44.870 N	103° 44' 43.293 W	Point

WELL DETAILS: Cotton Draw #125H

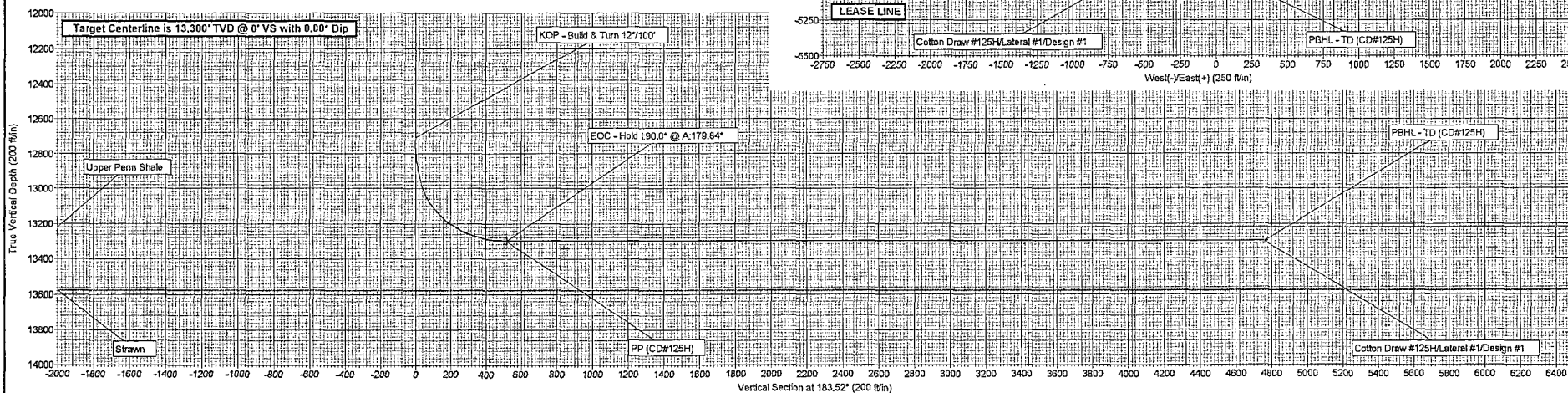
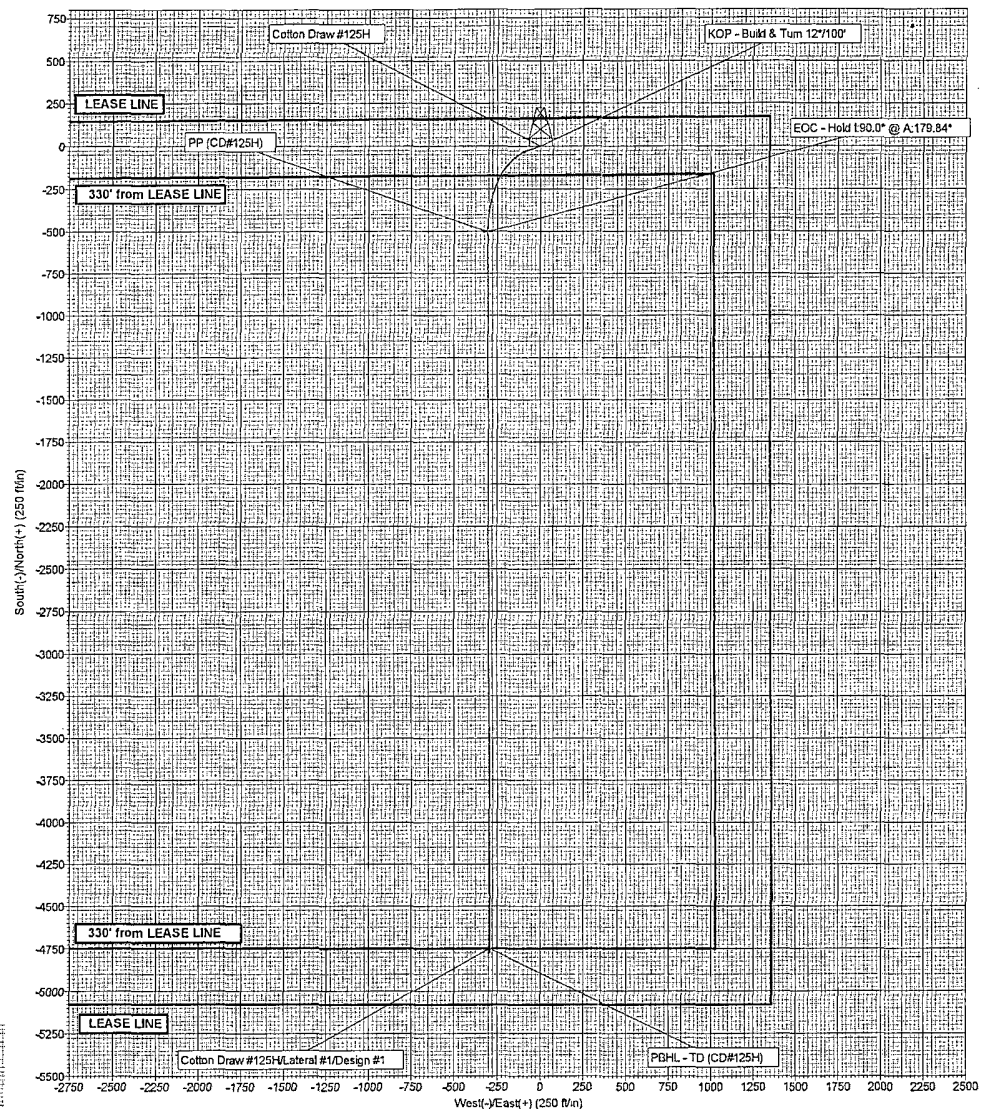
Ground Level						
3502.00						
WELL @ 3527.00ft (Original Well Elev)						
+N-S	+E-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	429901.47	723552.16	32° 10' 48.821 N	103° 44' 39.729 W	

Plan: Design #1 (Cotton Draw #125H/Lateral #1)

Created By: Mike Starkey Date: 23.07, December 06 2010
Checked: _____ Date: _____
Reviewed: _____ Date: _____
Approved: _____ Date: _____



Azimuths to Grid North
True North: -0.31°
Magnetic North: 7.40°
Magnetic Field
Strength: 48657.3snT
Dip Angle: 60.15°
Date: 12/06/2010
Model: IGRF200510





CUDD Drilling & Measurement Services
Survey Report



Company: Devon Energy
Project: Eddy Co., New Mexico (Nad 83)
Site: Cotton Draw #125H
Well: Cotton Draw #125H
Wellbore: Lateral #1
Design: Design #1

Local Co-ordinate Reference: Site Cotton Draw #125H
TVD Reference: WELL @ 3527.00ft (Original Well Elev)
MD Reference: WELL @ 3527.00ft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
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 #125H, Sec 35, T-24S, R-31E			
Site Position:		Northing:	429,901.47 ft	Latitude: 32° 10' 49.821 N
From:	Map	Easting:	723,552.16 ft	Longitude: 103° 44' 39.729 W
Position Uncertainty:	0.00 ft	Slot Radius:	"	Grid Convergence: 0.31 °

Well	Cotton Draw #125H			
Well Position	+N/-S	0.00 ft	Northing:	429,901.47 ft
	+E/-W	0.00 ft	Easting:	723,552.16 ft
Position Uncertainty	0.00 ft	Wellhead Elevation:	3,527.00 ft	Ground Level: 3,502.00 ft

Wellbore	Lateral #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	12/06/10	7.71	60.15	48,657

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	183.52

Survey Tool Program	Date 12/06/10				
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.00	12,600.00	Design #1 (Lateral #1)	NS-GYRO-MS	North sensing gyrocompassing m/s	
12,600.00	17,908.17	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
640.00	0.00	0.00	640.00	0.00	0.00	0.00	0.00	0.00	0.00
Rustler									
1,033.00	0.00	0.00	1,033.00	0.00	0.00	0.00	0.00	0.00	0.00
Salado									
2,827.00	0.00	0.00	2,827.00	0.00	0.00	0.00	0.00	0.00	0.00
Castile									
4,416.00	0.00	0.00	4,416.00	0.00	0.00	0.00	0.00	0.00	0.00
Bell Canyon									
5,388.00	0.00	0.00	5,388.00	0.00	0.00	0.00	0.00	0.00	0.00
Cherry Canyon									



CUDD Drilling & Measurement Services
Survey Report



Company: Devon Energy
Project: Eddy Co., New Mexico (Nad 83)
Site: Cotton Draw #125H
Well: Cotton Draw #125H
Wellbore: Lateral #1
Design: Design #1

Local Co-ordinate Reference: Site Cotton Draw #125H
TVD Reference: WELL @ 3527.00ft (Original Well Elev)
MD Reference: WELL @ 3527.00ft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
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)
6,641.00	0.00	0.00	6,641.00	0.00	0.00	0.00	0.00	0.00	0.00
Brushy Canyon									
8,268.00	0.00	0.00	8,268.00	0.00	0.00	0.00	0.00	0.00	0.00
1st BS Lm									
9,352.00	0.00	0.00	9,352.00	0.00	0.00	0.00	0.00	0.00	0.00
1st BS Ss									
9,744.00	0.00	0.00	9,744.00	0.00	0.00	0.00	0.00	0.00	0.00
2nd BS Lm									
9,987.00	0.00	0.00	9,987.00	0.00	0.00	0.00	0.00	0.00	0.00
2nd BS Ss									
10,455.00	0.00	0.00	10,455.00	0.00	0.00	0.00	0.00	0.00	0.00
3rd BS Lm									
11,203.00	0.00	0.00	11,203.00	0.00	0.00	0.00	0.00	0.00	0.00
3rd BS Ss									
11,651.00	0.00	0.00	11,651.00	0.00	0.00	0.00	0.00	0.00	0.00
Wolfcamp									
12,707.00	0.00	0.00	12,707.00	0.00	0.00	0.00	0.00	0.00	0.00
KOP - Build & Turn 12°/100'									
12,800.00	11.16	248.50	12,799.41	-3.31	-8.40	3.82	12.00	12.00	0.00
12,900.00	23.16	248.50	12,894.79	-14.10	-35.80	16.27	12.00	12.00	0.00
13,000.00	35.16	248.50	12,981.95	-31.93	-81.05	36.84	12.00	12.00	0.00
13,016.20	37.10	248.50	12,995.04	-35.43	-89.94	40.88	12.00	12.00	0.00
13,016.64	37.10	248.50	12,995.38	-35.53	-90.18	40.99	0.00	0.00	0.00
13,100.00	41.04	233.87	13,060.23	-60.95	-135.80	69.16	12.00	4.72	-17.55
13,200.00	47.76	219.61	13,131.81	-109.00	-186.10	120.21	12.00	6.72	-14.26
13,300.00	55.89	208.34	13,193.69	-174.19	-229.52	187.95	12.00	8.13	-11.26
13,353.81	60.64	203.19	13,222.00	-215.40	-249.35	230.29	12.00	8.82	-9.57
Upper Penn Shale									
13,400.00	64.86	199.15	13,243.15	-253.68	-264.15	269.41	12.00	9.14	-8.75
13,500.00	74.31	191.25	13,278.04	-343.98	-288.48	361.03	12.00	9.46	-7.90
13,600.00	84.03	184.07	13,296.83	-441.15	-301.45	458.81	12.00	9.71	-7.18
13,660.93	90.00	179.84	13,300.00	-501.92	-303.52	519.60	12.00	9.80	-6.94
EOC - Hold I:90.0° @ A:179.84° - PP (CD#125H)									
13,700.00	90.00	179.84	13,300.00	-540.99	-303.41	558.59	0.00	0.00	0.00
13,800.00	90.00	179.84	13,300.00	-640.99	-303.14	658.38	0.00	0.00	0.00
13,900.00	90.00	179.84	13,300.00	-740.99	-302.87	758.18	0.00	0.00	0.00
14,000.00	90.00	179.84	13,300.00	-840.99	-302.60	857.97	0.00	0.00	0.00
14,100.00	90.00	179.84	13,300.00	-940.99	-302.32	957.76	0.00	0.00	0.00
14,200.00	90.00	179.84	13,300.00	-1,040.99	-302.05	1,057.56	0.00	0.00	0.00
14,300.00	90.00	179.84	13,300.00	-1,140.99	-301.78	1,157.35	0.00	0.00	0.00
14,400.00	90.00	179.84	13,300.00	-1,240.99	-301.51	1,257.15	0.00	0.00	0.00
14,500.00	90.00	179.84	13,300.00	-1,340.99	-301.23	1,356.94	0.00	0.00	0.00
14,600.00	90.00	179.84	13,300.00	-1,440.99	-300.96	1,456.74	0.00	0.00	0.00
14,700.00	90.00	179.84	13,300.00	-1,540.99	-300.69	1,556.53	0.00	0.00	0.00
14,800.00	90.00	179.84	13,300.00	-1,640.99	-300.41	1,656.33	0.00	0.00	0.00
14,900.00	90.00	179.84	13,300.00	-1,740.99	-300.14	1,756.12	0.00	0.00	0.00
15,000.00	90.00	179.84	13,300.00	-1,840.98	-299.87	1,855.92	0.00	0.00	0.00
15,100.00	90.00	179.84	13,300.00	-1,940.98	-299.60	1,955.71	0.00	0.00	0.00
15,200.00	90.00	179.84	13,300.00	-2,040.98	-299.32	2,055.50	0.00	0.00	0.00
15,300.00	90.00	179.84	13,300.00	-2,140.98	-299.05	2,155.30	0.00	0.00	0.00
15,400.00	90.00	179.84	13,300.00	-2,240.98	-298.78	2,255.09	0.00	0.00	0.00
15,500.00	90.00	179.84	13,300.00	-2,340.98	-298.51	2,354.89	0.00	0.00	0.00
15,600.00	90.00	179.84	13,300.00	-2,440.98	-298.23	2,454.68	0.00	0.00	0.00



CUDD Drilling & Measurement Services

Survey Report



Company: Devon Energy
Project: Eddy Co., New Mexico (Nad 83)
Site: Cotton Draw #125H
Well: Cotton Draw #125H
Wellbore: Lateral #1
Design: Design #1

Local Co-ordinate Reference: Site Cotton Draw #125H
TVD Reference: WELL @ 3527.00ft (Original Well Elev)
MD Reference: WELL @ 3527.00ft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
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)
15,700.00	90.00	179.84	13,300.00	-2,540.98	-297.96	2,554.48	0.00	0.00	0.00
15,800.00	90.00	179.84	13,300.00	-2,640.98	-297.69	2,654.27	0.00	0.00	0.00
15,900.00	90.00	179.84	13,300.00	-2,740.98	-297.42	2,754.07	0.00	0.00	0.00
16,000.00	90.00	179.84	13,300.00	-2,840.98	-297.14	2,853.86	0.00	0.00	0.00
16,100.00	90.00	179.84	13,300.00	-2,940.98	-296.87	2,953.65	0.00	0.00	0.00
16,200.00	90.00	179.84	13,300.00	-3,040.98	-296.60	3,053.45	0.00	0.00	0.00
16,300.00	90.00	179.84	13,300.00	-3,140.98	-296.33	3,153.24	0.00	0.00	0.00
16,400.00	90.00	179.84	13,300.00	-3,240.98	-296.05	3,253.04	0.00	0.00	0.00
16,500.00	90.00	179.84	13,300.00	-3,340.98	-295.78	3,352.83	0.00	0.00	0.00
16,600.00	90.00	179.84	13,300.00	-3,440.98	-295.51	3,452.63	0.00	0.00	0.00
16,700.00	90.00	179.84	13,300.00	-3,540.98	-295.23	3,552.42	0.00	0.00	0.00
16,800.00	90.00	179.84	13,300.00	-3,640.98	-294.96	3,652.22	0.00	0.00	0.00
16,900.00	90.00	179.84	13,300.00	-3,740.98	-294.69	3,752.01	0.00	0.00	0.00
17,000.00	90.00	179.84	13,300.00	-3,840.98	-294.42	3,851.81	0.00	0.00	0.00
17,100.00	90.00	179.84	13,300.00	-3,940.98	-294.14	3,951.60	0.00	0.00	0.00
17,200.00	90.00	179.84	13,300.00	-4,040.98	-293.87	4,051.39	0.00	0.00	0.00
17,300.00	90.00	179.84	13,300.00	-4,140.98	-293.60	4,151.19	0.00	0.00	0.00
17,400.00	90.00	179.84	13,300.00	-4,240.98	-293.33	4,250.98	0.00	0.00	0.00
17,500.00	90.00	179.84	13,300.00	-4,340.98	-293.05	4,350.78	0.00	0.00	0.00
17,600.00	90.00	179.84	13,300.00	-4,440.98	-292.78	4,450.57	0.00	0.00	0.00
17,700.00	90.00	179.84	13,300.00	-4,540.97	-292.51	4,550.37	0.00	0.00	0.00
17,800.00	90.00	179.84	13,300.00	-4,640.97	-292.24	4,650.16	0.00	0.00	0.00
17,900.00	90.00	179.84	13,300.00	-4,740.97	-291.96	4,749.96	0.00	0.00	0.00
17,908.17	90.00	179.84	13,300.00	-4,749.14	-291.94	4,758.10	0.00	0.00	0.00

PBHL - TD (CD#125H)

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 (CD#125H) - plan hits target center - Point	0.00	0.00	13,300.00	-4,749.14	-291.94	425,152.34	723,260.22	32° 10' 2.841 N	103° 44' 43.428 W
PP (CD#125H) - plan hits target center - Point	0.00	0.00	13,300.00	-501.92	-303.52	429,399.55	723,248.64	32° 10' 44.870 N	103° 44' 43.293 W



CUDD Drilling & Measurement Services

Survey Report



Company: Devon Energy
Project: Eddy Co., New Mexico (Nad 83)
Site: Cotton Draw #125H
Well: Cotton Draw #125H
Wellbore: Lateral #1
Design: Design #1

Local Co-ordinate Reference: Site Cotton Draw #125H
TVD Reference: WELL @ 3527.00ft (Original Well Elev)
MD Reference: WELL @ 3527.00ft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 2003.21 Single User Db

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
640.00	640.00	Rustler		0.00	
1,033.00	1,033.00	Salado		0.00	
2,827.00	2,827.00	Castile		0.00	
4,416.00	4,416.00	Bell Canyon		0.00	
5,388.00	5,388.00	Cherry Canyon		0.00	
6,641.00	6,641.00	Brushy Canyon		0.00	
8,268.00	8,268.00	1st BS Lm		0.00	
9,352.00	9,352.00	1st BS Ss		0.00	
9,744.00	9,744.00	2nd BS Lm		0.00	
9,987.00	9,987.00	2nd BS Ss		0.00	
10,455.00	10,455.00	3rd BS Lm		0.00	
11,203.00	11,203.00	3rd BS Ss		0.00	
11,651.00	11,651.00	Wolfcamp		0.00	
13,353.81	13,222.00	Upper Penn Shale		0.00	
	13,577.00	Strawn		0.00	

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
12,707.00	12,707.00	0.00	0.00	KOP - Build & Turn 12°/100'
13,660.93	13,300.00	-501.92	-303.52	EOC - Hold 1:90.0° @ A:179.84°

Checked By: _____ Approved By: _____ Date: _____

Cotton Draw #125H_Plan #1_Report_12-06-10.txt

Devon Energy
Cotton Draw #125H - Design #1

Eddy Co., New Mexico (Nad 83)
Cotton Draw #125H

Measured Dogleg Depth Rate (ft) (°/100ft)	Incl.	Azim.	Vertical Depth (ft)	Northings (ft)	Eastings (ft)	Vertical Section (ft)
0.00	0.00	0.00	0.00	0.00 N	0.00 E	0.00
0.00						
12707.00	0.00	0.00	12707.00	0.00 N	0.00 E	0.00
0.00						
12800.00	11.16	248.50	12799.41	3.31 S	8.40 W	3.82
12.00						
12900.00	23.16	248.50	12894.79	14.10 S	35.80 W	16.27
12.00						
13000.00	35.16	248.50	12981.95	31.93 S	81.05 W	36.84
12.00						
13016.20	37.10	248.50	12995.04	35.43 S	89.94 W	40.88
12.00						
13016.64	37.10	248.50	12995.38	35.53 S	90.18 W	40.99
0.00						
13100.00	41.04	233.87	13060.23	60.95 S	135.80 W	69.16
12.00						
13200.00	47.76	219.61	13131.81	109.00 S	186.10 W	120.21
12.00						
13300.00	55.89	208.34	13193.69	174.19 S	229.52 W	187.95
12.00						
13400.00	64.86	199.15	13243.15	253.68 S	264.15 W	269.41
12.00						
13500.00	74.31	191.25	13278.04	343.98 S	288.48 W	361.03
12.00						
13600.00	84.03	184.07	13296.83	441.15 S	301.45 W	458.81
12.00						
13660.93	90.00	179.84	13300.00	501.92 S	303.52 W	519.60
12.00						
13700.00	90.00	179.84	13300.00	540.99 S	303.41 W	558.59
0.00						
13800.00	90.00	179.84	13300.00	640.99 S	303.14 W	658.38
0.00						
13900.00	90.00	179.84	13300.00	740.99 S	302.87 W	758.18
0.00						
14000.00	90.00	179.84	13300.00	840.99 S	302.60 W	857.97
0.00						
14100.00	90.00	179.84	13300.00	940.99 S	302.32 W	957.76
0.00						
14200.00	90.00	179.84	13300.00	1040.99 S	302.05 W	1057.56
0.00						
14300.00	90.00	179.84	13300.00	1140.99 S	301.78 W	1157.35
0.00						
14400.00	90.00	179.84	13300.00	1240.99 S	301.51 W	1257.15
0.00						
14500.00	90.00	179.84	13300.00	1340.99 S	301.23 W	1356.94
0.00						
14600.00	90.00	179.84	13300.00	1440.99 S	300.96 W	1456.74
0.00						
14700.00	90.00	179.84	13300.00	1540.99 S	300.69 W	1556.53
0.00						

Cotton Draw #125H_Plan #1_Report_12-06-10.txt

14800.00	90.00	179.84	13300.00	1640.99 S	300.41 W	1656.33
0.00						
14900.00	90.00	179.84	13300.00	1740.99 S	300.14 W	1756.12
0.00						
15000.00	90.00	179.84	13300.00	1840.98 S	299.87 W	1855.92
0.00						
15100.00	90.00	179.84	13300.00	1940.98 S	299.60 W	1955.71
0.00						
15200.00	90.00	179.84	13300.00	2040.98 S	299.32 W	2055.50
0.00						
15300.00	90.00	179.84	13300.00	2140.98 S	299.05 W	2155.30
0.00						
15400.00	90.00	179.84	13300.00	2240.98 S	298.78 W	2255.09
0.00						
15500.00	90.00	179.84	13300.00	2340.98 S	298.51 W	2354.89
0.00						
15600.00	90.00	179.84	13300.00	2440.98 S	298.23 W	2454.68
0.00						
15700.00	90.00	179.84	13300.00	2540.98 S	297.96 W	2554.48
0.00						
15800.00	90.00	179.84	13300.00	2640.98 S	297.69 W	2654.27
0.00						
15900.00	90.00	179.84	13300.00	2740.98 S	297.42 W	2754.07
0.00						
16000.00	90.00	179.84	13300.00	2840.98 S	297.14 W	2853.86
0.00						
16100.00	90.00	179.84	13300.00	2940.98 S	296.87 W	2953.65
0.00						
16200.00	90.00	179.84	13300.00	3040.98 S	296.60 W	3053.45
0.00						
16300.00	90.00	179.84	13300.00	3140.98 S	296.33 W	3153.24
0.00						
16400.00	90.00	179.84	13300.00	3240.98 S	296.05 W	3253.04
0.00						
16500.00	90.00	179.84	13300.00	3340.98 S	295.78 W	3352.83
0.00						
16600.00	90.00	179.84	13300.00	3440.98 S	295.51 W	3452.63
0.00						
16700.00	90.00	179.84	13300.00	3540.98 S	295.23 W	3552.42
0.00						
16800.00	90.00	179.84	13300.00	3640.98 S	294.96 W	3652.22
0.00						
16900.00	90.00	179.84	13300.00	3740.98 S	294.69 W	3752.01
0.00						
17000.00	90.00	179.84	13300.00	3840.98 S	294.42 W	3851.81
0.00						
17100.00	90.00	179.84	13300.00	3940.98 S	294.14 W	3951.60
0.00						
17200.00	90.00	179.84	13300.00	4040.98 S	293.87 W	4051.39
0.00						
17300.00	90.00	179.84	13300.00	4140.98 S	293.60 W	4151.19
0.00						
17400.00	90.00	179.84	13300.00	4240.98 S	293.33 W	4250.98
0.00						
17500.00	90.00	179.84	13300.00	4340.98 S	293.05 W	4350.78
0.00						
17600.00	90.00	179.84	13300.00	4440.98 S	292.78 W	4450.57
0.00						
17700.00	90.00	179.84	13300.00	4540.97 S	292.51 W	4550.37
0.00						
17800.00	90.00	179.84	13300.00	4640.97 S	292.24 W	4650.16
0.00						
17900.00	90.00	179.84	13300.00	4740.97 S	291.96 W	4749.96

Cotton Draw #125H_Plan #1_Report_12-06-10.txt

0.00
17908.17 90.00 179.84 13300.00 4749.14 S 291.94 W 4758.10
0.00

All data are in feet unless otherwise stated. Directions and coordinates are relative to Grid North.
Vertical depths are relative to WELL. Northings and Eastings are relative to Site.

The Dogleg Severity is in Degrees per 100 feet.
Vertical Section is from Slot and calculated along an Azimuth of 183.518° (Grid).

Coordinate System is North American Datum 1983 US State Plane 1983, New Mexico Eastern Zone.

Central meridian is -104.333°.

Grid Convergence at Surface is 0.314°.

Based upon Minimum Curvature type calculations, at a Measured Depth of 17908.17ft., the Bottom Hole Displacement is 4758.10ft., in the Direction of 183.518° (Grid).

NOTES REGARDING BLOWOUT PREVENTERS

Devon Energy Production Company, LP

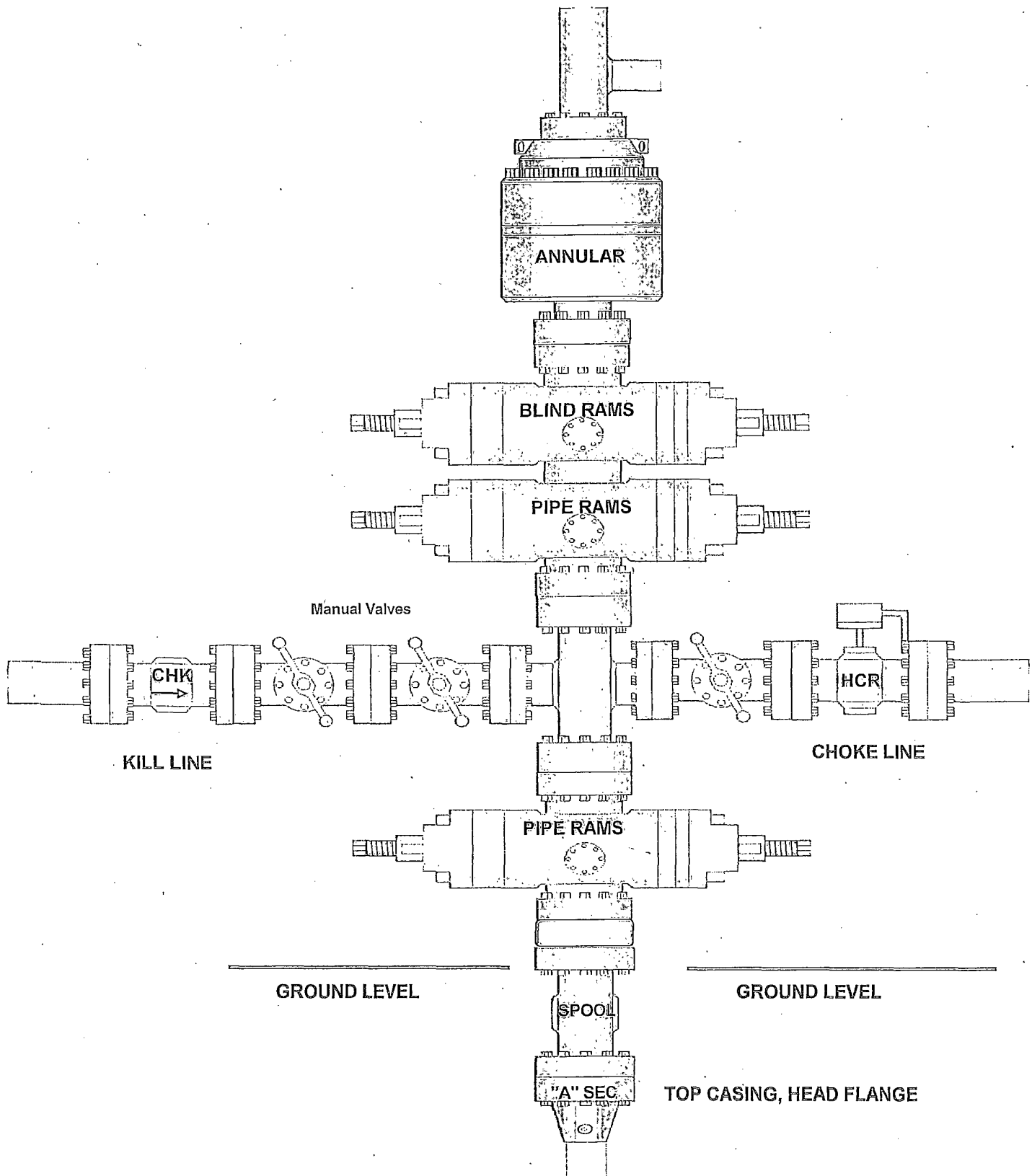
Cotton Draw Unit 125H

Surface Location: 160' FNL & 1345' FEL, Unit B, Sec 35 T24S R31E, Eddy, NM

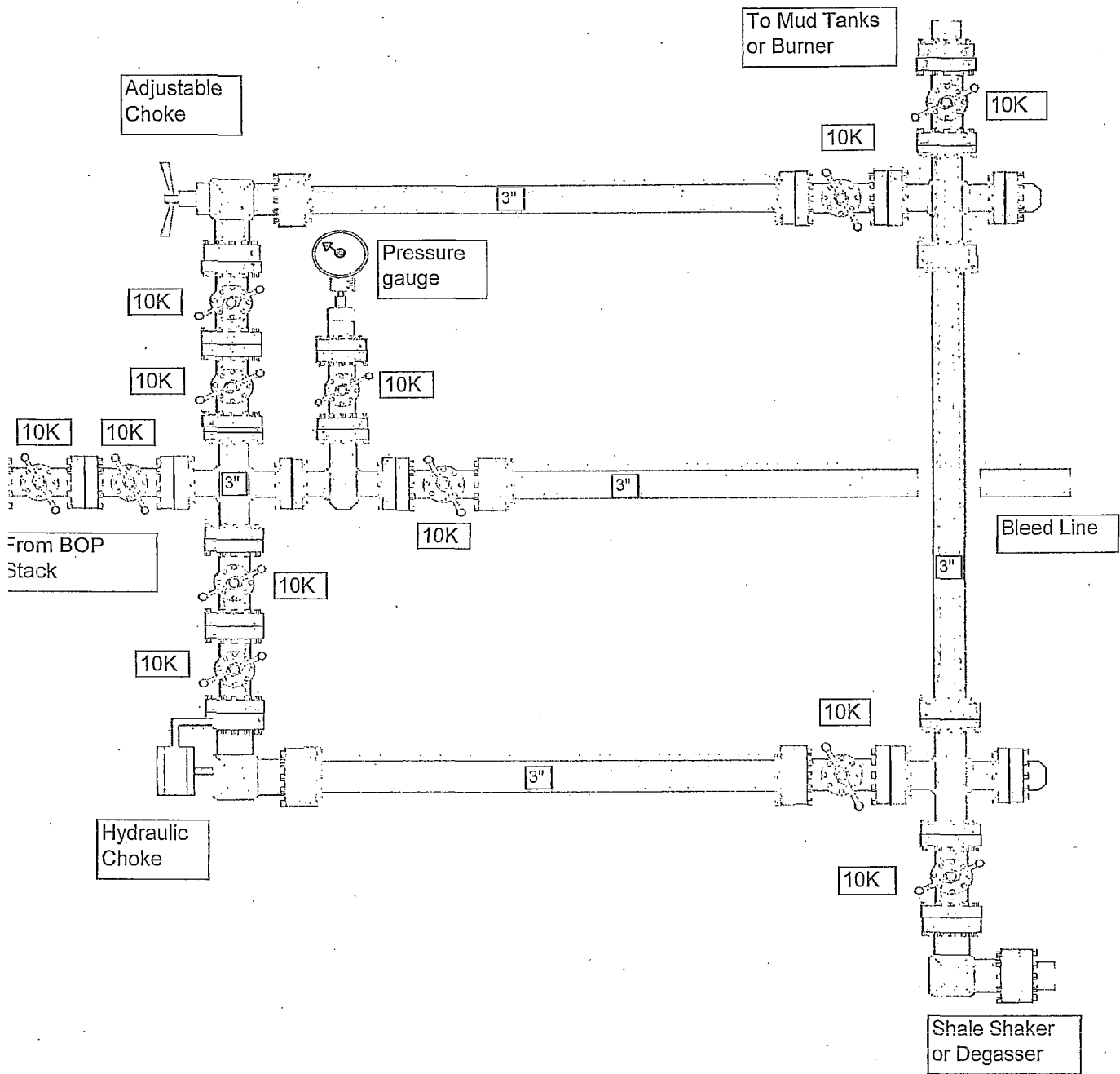
Bottom Hole Location: 330' FSL & 1650' FEL, Unit O, Sec 35 T24S R31E, Eddy, NM

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 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.

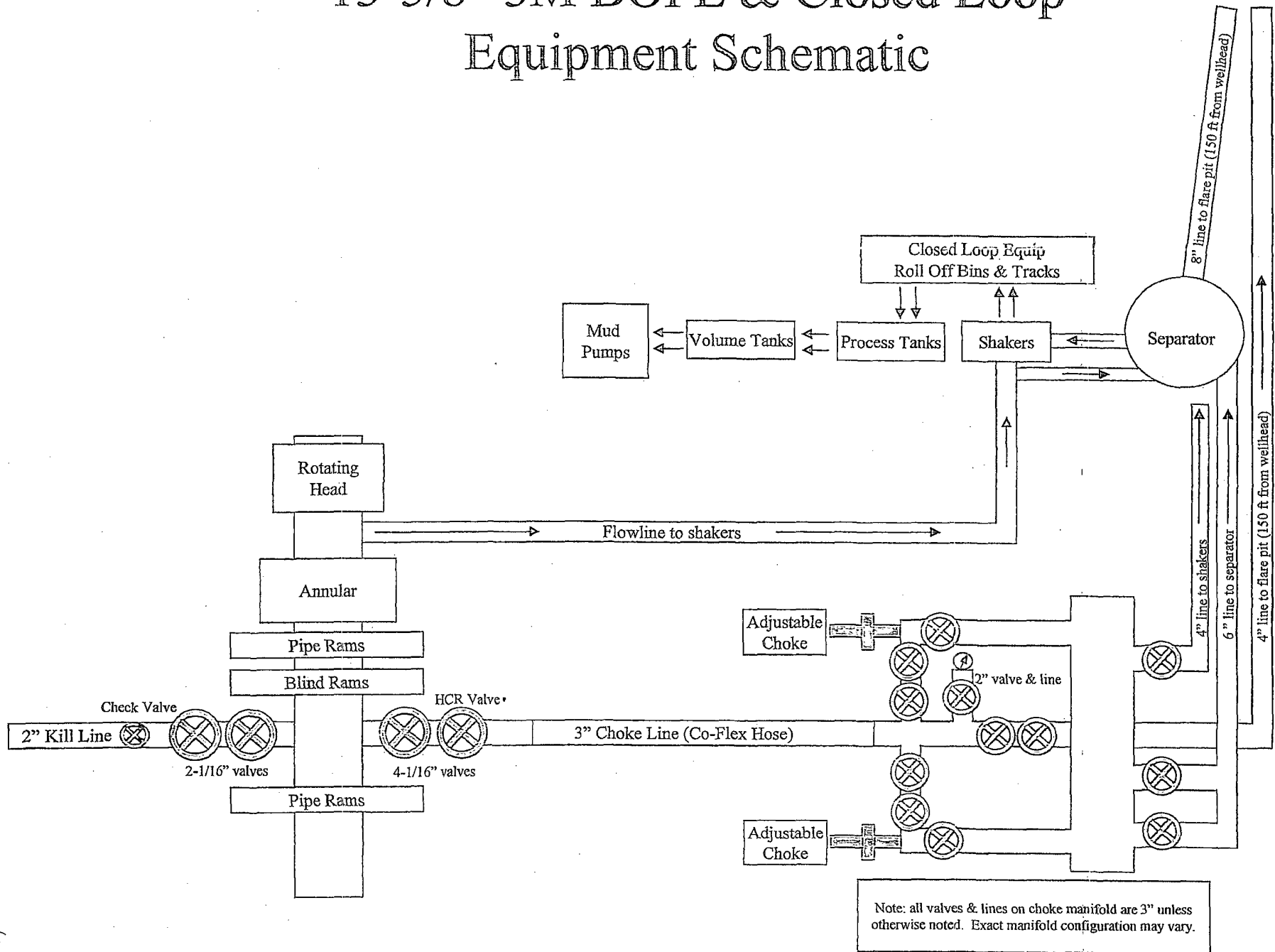
13-5/8" x 10,000 psi BOP Stack



10,000 PSI CHOKE MANIFOLD



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



new



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





PHOENIX

QUALITY DOCUMENT

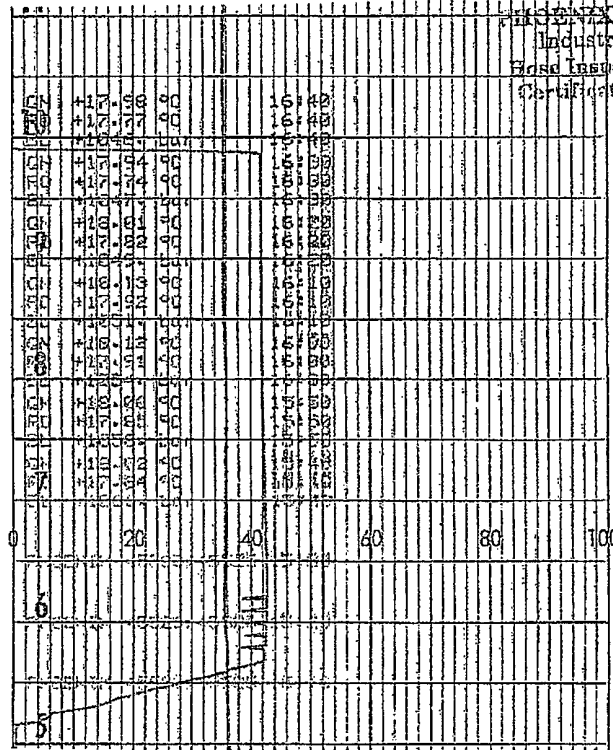
**PHOENIX RUBBER
INDUSTRIAL LTD.**

H-6726 Szeged, Budapesi út 10. Hungary H-6701 Szeged P.O.Box: 152 - Phone: (3662) 566-737, Fax: (3662) 566-736
The Court of Csongrád County as Registry Court, Registry Court reg.No.: Cg.06-C9-102502

QUALITY CONTROL INSPECTION AND TEST CERTIFICATE				CERT N°: 164	
PURCHASER: Phoenix Beattie Co.			P.O. N°: 000504		
PHOENIX ORDER N°: 327309		HOSE TYPE: 3" ID Choke and Kill Hose			
HOSE SERIAL N°: 45523		NOMINAL / ACTUAL LENGTH: 10,67 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 = 25 MPa					
COUPLINGS					
Type	Serial N°		Quality	Heat N°	
3" coupling with 4 1/16" Flange end	3147 3150		AISI 4130	93070	
			AISI 4135	42404	
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: 25. January. 2006	Inspector		Quality Control PHOENIX RUBBER Industrial Ltd. Hose Inspection and Certification Dept.		

[Signature]
RUBINSTEIN
Industrial Ltd.
Fase Inspection and
Certification De st.

14-65



DISTRICT I --- CHECKLIST FOR INTENTS TO DRILL

300635 Operator DEVON ENERGY PROD CO LP OGRID # 6137
 Well Name & # COTTON DRAW UNIT #125H Surface Type (F) (S) (P)
 Location: UL B Sect 35, Twnship 24s, RNG 31e,
0 36-24-31 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 BIG SINK, WC (GAS) Code 72122

a. Dedicated acreage 320, What Units ABGHITOP

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

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

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

Agreement Letter , Disagreement letter

3. Intent to Directional Drill Yes X, No

a. Dedicated acreage 320, What Units ABGHITOP

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 #30-0 14-38608

8. Reviewers