EA-12-1320 12-1009

Form 3160-3
(August 2007)

OCD Artesia

FORM APPROVED
OMB No. 1004-0137
Expires July 31, 2010

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
NM014768; NM17097

6. If Indian, Allotee or Tribe Name

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

1a. Type of work: ☑ DRILL ☐ REENTER

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

8. Lease Name and Well No.
Cerf 10 Fed Com 4H

2. Name of Operator
Devon Energy Production, Company L. P. 6137

9. API Well No.
30-015-41059

3a. Address
333 W. Sheridan
Oklahoma City, OK 73102

3b. Phone No. (include area code)
405-235-3611

10. Field and Pool, or Exploratory
Avalon; Cedar Hills-Bone Spring; EAST 53137

4. Location of Well (Report location clearly and in accordance with any State requirements.*)
At surface A 1320 FNL & 300 FEL
At proposed prod. zone H 1980 FNL & 330 FEL SEC 10

11. Sec., T. R. M. or Blk. and Survey or Area
SEC 9 T21S R273

14. Distance in miles and direction from nearest town or post office*
4 Miles north of Carlsbad, NM

12. County or Parish
Eddy

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
280 ac

17. Spacing Unit dedicated to this well
160

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

19. Proposed Depth
6587' TVD 11,599' MD

20. BLM/BIA Bond No. on file
CO-1104; NMB-000801

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
3211' GL

22. Approximate date work will start*

23. Estimated duration
45 days

24. Attachments

Pad drilled w/ Cerf 10 Fed 3H

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.
2. A Drilling Plan.
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).
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 BLM.

25. Signature
Name (Printed/Typed) Judy A. Barnett
Date 09/05/2012

Title
Regulatory Specialist

Approved by (Signature) /s/ Don Peterson
Name (Printed/Typed) /s/ Don Peterson
Date FEB - 1 2013

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.

(Continued on page 2)

*(Instructions on page 2)

Capitan Controlled Water Basin

RECEIVED
FEB 05 2013
NMOCD ARTESIA

SEE ATTACHED FOR CONDITIONS OF APPROVAL

Approval Subject to General Requirements & Special Stipulations Attached

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102
Revised August 1, 2011
Submit one copy to appropriate District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number	2 Pool Code	3 Pool Name
30-015-41059	3713	~~Cedar Hills~~ Avalon; Bone Spring, EAST

4 Property Code	5 Property Name	6 Well Number
39695	CERF 10 FEDERAL COM	4H

OGRID	8 Operator Name	9 Elevation
6137	DEVON ENERGY PRODUCTION COMPANY, L.P.	3211.2

10 Surface Location

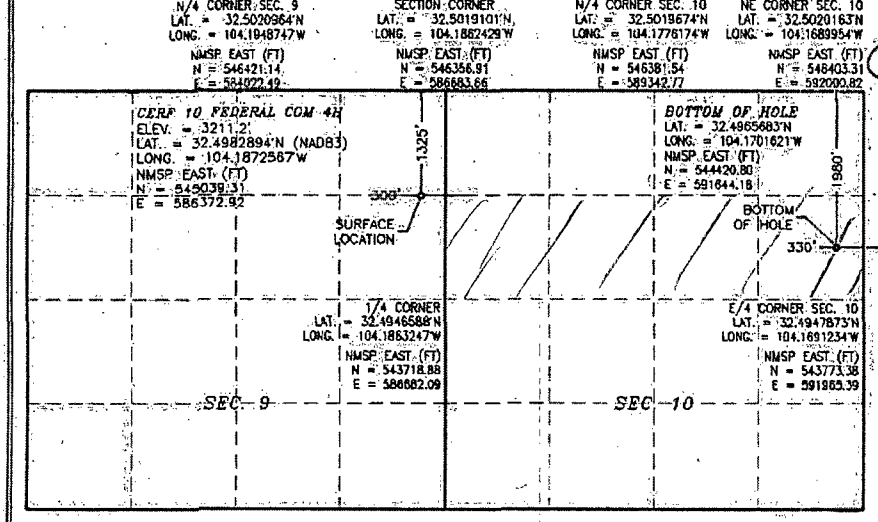
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
H	9	21 S	27 E		1325	NORTH	300	EAST	EDDY

11 Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
H	10	21 S	27 E		1980	NORTH	330	EAST	EDDY

12 Dedicated Acres	13 Joint or Infill	14 Consolidation Code	15 Order No.
160			

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.



17 OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Signature Date: 10-22-12

Judy A. Barnett, Regulatory Specialist
Printed Name

Judith.Barnett@dvn.com
E-mail Address

18 SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

OCTOBER 12, 2012
Date of Survey

FILIMON F. JARAMILLO — NEW MEXICO — REGISTERED PROFESSIONAL SURVEYOR

Signature and Seal of Professional Surveyor:
Certificate Number: FILIMON F. JARAMILLO PLS 12797
REGISTERED LAND SURVEYOR NO. 10624

Certification

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access road proposed herein; that I am familiar with the conditions that presently exist; that I have full knowledge of State and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or Devon Energy Production Company, L.P. am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

I hereby also certify that I, or Devon Energy Production Company, L.P. have made a good faith effort to provide the surface owner with a copy of the Surface Use Plan of Operations and any Conditions of Approval that are attached to the APD.

Executed this _20th__ day of __July, 2012.
Printed Name: Judy A. Barnett
Signed Name: Judy A Barnett
Position Title: Regulatory Specialist
Address: 333 W. Sheridan, OKC OK 73102
Telephone: (405)-228-8699
Field Representative (if not above signatory):
Address (if different from above):
Telephone (if different from above):

DRILLING PROGRAM

Devon Energy Production Company, LP

Cerf 10 Federal Com 4H

Surface Location: 1320' FNL & 300' FEL, Unit A, Sec 9 T21S R27E, Eddy, NM

Bottom Hole Location: 1980' FNL & 330' FEL, Unit H, Sec 10 T21S R27E, 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	30'	FW
b.	Salado	197'	Barren
c.	Base Salado	317'	Barren
d.	Capitan	797'	Barren
e.	Capitan Base	2452'	Barren
f.	Delaware	2727'	Oil
g.	Bone Spring Lm	5112'	Oil
h.	1st Bone Spring Ss	6327'	Oil
i.	1st Bone Spring Ss Upper	6327'	Oil
j.	1st Bone Spring Ss Mid	6392'	Oil
k.	1st Bone Spring Ss Mid B	6427'	Oil
l.	2nd Bone Spring Lime	6547'	Oil
Total Depth		11,480'	

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 175' and circulating cement back to surface. Fresh water sands will be protected by setting 13 3/8" casing at 750' and 9 5/8" at 2900'. The Bone Spring will be isolated by setting the 5 ½" casing to total depth. All casing is new and API approved.

Casing Program: **(all cement volumes based on at least 25% excess)**

Hole Size	Hole Interval	OD Csg	Casing Interval	Weight	Collar	Grade
26"	0 – 175'	20"	0'-175'	94#	BT&C	J/K-55
17 ½"	175- 750'	13 3/8"	0'-750'	68#	BT&C	J/K-55
12 ¼"	750 – 2900'	9 5/8"	0'-2900'	40#	LT&C	J-55
8 ¾"	2900– 5700'	5 ½"	0'-5700'	17#	LT&C	HCP110
8 ¾"	5700-11,480	5 ½"	5700-11,480'	17#	BT&C	HCP110

MAX TVD 6592'

Design Parameter Factors:

Casing Size	Collapse Design Factor	Burst Design Factor	Tension Design Factor
20"	6.36	25.79	47.66
13 3/8"	1.98	4.44	8.94
9 5/8"	1.34	2.34	3.77
5 ½"	3.22	3.99	4.59
5 ½"	2.78	3.45	2.91

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 **10.0 ppg** for this calculation. This results in a collapse design factor of **1.34** for **9.625" 36#** J-55 ST&C casing at a depth of **2,900**ft. While running the intermediate casing, the casing will never be completely evacuated. There is no potential for the intermediate casing to be used as a production string.

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

20" Surface — **Lead** w/ 400sx + 2% bwoc Calcium Chloride + 0.125#/sx CF + + 56.3% FW. 14.8 ppg. **Yld** 1.35 cf/sx. **TOC** @ surface.

13 3/8"Intermediate — Lead: 388 sacks Class C Cement + 2% bwoc Calcium Chloride + 0.125 lbs/sack Cello Flake + 4% bwoc Bentonite + 81.4%Fresh Water, 13.5 ppg, Yld 1.75 cf/sx. 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: 825 sacks (60:40) Poz (Fly Ash):Class C Cement + 5% bwow Sodium Chloride + 0.125 lbs/sack Cello Flake + 3 lbs/sack LCM-1 + 1% bwoc Sodium Metasilicate + 0.4% bwoc R-3 + 0.25% bwoc FL-52 + 89.5% Fresh Water, 12.6 ppg Yld 1.74 cf/sk Tail: 300 sacks (60:40) Poz (Fly Ash):Class C Cement + 5% bwow Sodium Chloride + 0.125 lbs/sack Cello Flake + 0.5% bwoc Sodium Metasilicate + 4% bwoc MPA-5 + 0.5% bwoc BA-10A + 65.3% Fresh Water, 13.8 ppg Yield: 1.38 cf/sk. TOC @ surface

5 ½" Production — Lead: 1080 sacks (35:65) Poz (Fly Ash):Class C Cement + 5% bwow Sodium Chloride + 0.125 lbs/sack Cello Flake + 0.4% bwoc FL-52 + 6% bwoc Bentonite + 107.7% Fresh Water, 12.5 ppgYield: 2.04 cf/sk Tail: 1550 sacks (50:50) Poz (Fly Ash):Class C Cement + 5% bwow Sodium Chloride + 0.4% bwoc CD-32 + 0.4% bwoc FL-25 + 0.4% bwoc FL-52 + 0.4% bwoc Sodium Metasilicate + 57.2% Fresh Water, 14.2 ppgYield: 1.28 cf/sk TOC @ Surface

Pressure Control Equipment

The BOP system used to drill the **17-1/2"** hole will consist of a **20" 2M Annular preventer**. The BOP system will be tested as per BLM Onshore Oil and Gas Order No. 2 as a **2M system** prior to drilling out the casing shoe.

The BOP system used to drill the **12-1/4" and 8-3/4"** holes 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 casing shoe.

The pipe rams will be operated and checked as per Onshore Order No 2. 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.

Proposed Mud Circulation System

Depth	Mud Wt.	Visc	Fluid Loss	Type System
0 - 175'	8.4-9.4	32-34	NC	FW
175-750'	9.8-10.0	28	NC	Brine
750-2900'	8.3-8.4	28-29	NC	FW
2900-11,480'	8.3-8.6	28-29	NC	FW

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

4. **Auxiliary Well Control and Monitoring Equipment**:
   a. A Kelly cock will be in the drill string at all times.
   b. A full opening drill pipe stabbing valve having the appropriate connections will be on the rig floor at all times.
   c. Hydrogen Sulfide detection equipment will be in operation after drilling out the 20" casing shoe until the 5 1/2" casing is cemented. Breathing equipment will be on location upon drilling the 13 3/8" shoe until total depth is reached.

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

c. The open hole electrical logging program will be:
   i. Total Depth to Intermediate Casing Dual Laterolog-Micro Laterolog with SP and Gamma Ray. Compensated Neutron – Z Density log with Gamma Ray and Caliper.
   ii. Total Depth to Surface Compensated Neutron with Gamma Ray
   iii. No coring program is planned
   iv. Additional testing will be initiated subsequent to setting the 5 ½" production casing. Specific intervals will be targeted based on log evaluation, geological sample shows and drill stem tests.

6. Potential Hazards:

a. No abnormal pressures or temperatures are expected. There is no known presence of H2S in this area. If H2S is encountered the operator will comply with the provisions of Onshore Oil and Gas Order No. 6 No lost circulation is expected to occur. All personnel will be familiar with all aspects of safe operation of equipment being used to drill this well. Estimated BHP 3800 psi and Estimated BHT 140°. No H2S is anticipated to be encountered.

7. Anticipated Starting Date and Duration of Operations:

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

devon

Devon Energy, Inc.

Eddy County (NAD83)
Cerf 10 Federal
#4H
OH

Plan: Plan #2

PathfinderX & Y Report

28 August, 2012

PATHFINDER®
A Schlumberger Company

Company:	Devon Energy, Inc.	**Local Co-ordinate Reference:**	Well #4H
Project:	Eddy County (NAD83)	**TVD Reference:**	KB = 26.2 @ 3237.2usft (H&P 300)
Site:	Cerf 10 Federal	**MD Reference:**	KB = 26.2 @ 3237.2usft (H&P 300)
Well:	#4H	**North Reference:**	Grid
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan #2	**Database:**	EDM 5000.1 Single User Db

Project Eddy County (NAD83)

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

Site Cerf 10 Federal

Site Position:		**Northing:**	545,094.310 usft	**Latitude:**	32.498441
From:	Map	**Easting:**	586,373.400 usft	**Longitude:**	-104.187255
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.08 °

Well #4H

Well Position	**+N/-S**	0.0 usft	**Northing:**	545,044.330 usft	**Latitude:**	32.498303
	+E/-W	0.0 usft	**Easting:**	586,372.950 usft	**Longitude:**	-104.187257
Position Uncertainty		0.0 usft	**Wellhead Elevation:**	usft	**Ground Level:**	3,211.0 usft

Wellbore OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	7/12/2012	7.75	60.33	48,649

Design Plan #2

Audit Notes:

Version:		**Phase:**	PLAN	**Tie On Depth:**	0.0

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	96.75

Survey Tool Program Date 8/28/2012

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.0	11,558.1	Plan #2 (OH)	Pathfinder	Pathfinder MWD

Company:	Devon Energy, Inc.	Local Co-ordinate Reference:	Well #4H
Project:	Eddy County (NAD83)	TVD Reference:	KB = 26.2 @ 3237.2usft (H&P 300)
Site:	Cerf 10 Federal	MD Reference:	KB = 26.2 @ 3237.2usft (H&P 300)
Well:	#4H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan #2	Database:	EDM 5000.1 Single User Db

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
0.0	0.00	0.00	0.0	-3,237.2	0.0	0.0	0.0	0.00	545,044.33	586,372.95
100.0	0.00	0.00	100.0	-3,137.2	0.0	0.0	0.0	0.00	545,044.33	586,372.95
197.0	0.00	0.00	197.0	-3,040.2	0.0	0.0	0.0	0.00	545,044.33	586,372.95
Salado										
200.0	0.00	0.00	200.0	-3,037.2	0.0	0.0	0.0	0.00	545,044.33	586,372.95
300.0	0.00	0.00	300.0	-2,937.2	0.0	0.0	0.0	0.00	545,044.33	586,372.95
317.0	0.00	0.00	317.0	-2,920.2	0.0	0.0	0.0	0.00	545,044.33	586,372.95
Base Salado										
400.0	0.00	0.00	400.0	-2,837.2	0.0	0.0	0.0	0.00	545,044.33	586,372.95
500.0	0.00	0.00	500.0	-2,737.2	0.0	0.0	0.0	0.00	545,044.33	586,372.95
600.0	0.00	0.00	600.0	-2,637.2	0.0	0.0	0.0	0.00	545,044.33	586,372.95
700.0	0.00	0.00	700.0	-2,537.2	0.0	0.0	0.0	0.00	545,044.33	586,372.95
797.0	0.00	0.00	797.0	-2,440.2	0.0	0.0	0.0	0.00	545,044.33	586,372.95
Capitan										
800.0	0.00	0.00	800.0	-2,437.2	0.0	0.0	0.0	0.00	545,044.33	586,372.95
900.0	0.00	0.00	900.0	-2,337.2	0.0	0.0	0.0	0.00	545,044.33	586,372.95
1,000.0	0.00	0.00	1,000.0	-2,237.2	0.0	0.0	0.0	0.00	545,044.33	586,372.95
1,100.0	0.00	0.00	1,100.0	-2,137.2	0.0	0.0	0.0	0.00	545,044.33	586,372.95
1,200.0	0.00	0.00	1,200.0	-2,037.2	0.0	0.0	0.0	0.00	545,044.33	586,372.95
1,300.0	0.00	0.00	1,300.0	-1,937.2	0.0	0.0	0.0	0.00	545,044.33	586,372.95
1,400.0	0.00	0.00	1,400.0	-1,837.2	0.0	0.0	0.0	0.00	545,044.33	586,372.95
1,500.0	0.00	0.00	1,500.0	-1,737.2	0.0	0.0	0.0	0.00	545,044.33	586,372.95
1,600.0	0.00	0.00	1,600.0	-1,637.2	0.0	0.0	0.0	0.00	545,044.33	586,372.95
1,700.0	0.00	0.00	1,700.0	-1,537.2	0.0	0.0	0.0	0.00	545,044.33	586,372.95
1,800.0	0.00	0.00	1,800.0	-1,437.2	0.0	0.0	0.0	0.00	545,044.33	586,372.95
1,900.0	0.00	0.00	1,900.0	-1,337.2	0.0	0.0	0.0	0.00	545,044.33	586,372.95
2,000.0	0.00	0.00	2,000.0	-1,237.2	0.0	0.0	0.0	0.00	545,044.33	586,372.95
2,100.0	0.00	0.00	2,100.0	-1,137.2	0.0	0.0	0.0	0.00	545,044.33	586,372.95

Company:	Devon Energy, Inc.	**Local Co-ordinate Reference:**	Well #4H
Project:	Eddy County (NAD83)	**TVD Reference:**	KB = 26.2 @ 3237.2usft (H&P 300)
Site:	Cerf 10 Federal	**MD Reference:**	KB = 26.2 @ 3237.2usft (H&P 300)
Well:	#4H	**North Reference:**	Grid
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan #2	**Database:**	EDM 5000.1 Single User Db

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
2,200.0	0.00	0.00	2,200.0	-1,037.2	0.0	0.0	0.0	0.00	545,044.33	586,372.95
2,300.0	0.00	0.00	2,300.0	-937.2	0.0	0.0	0.0	0.00	545,044.33	586,372.95
2,400.0	0.00	0.00	2,400.0	-837.2	0.0	0.0	0.0	0.00	545,044.33	586,372.95
2,452.0	0.00	0.00	2,452.0	-785.2	0.0	0.0	0.0	0.00	545,044.33	586,372.95
Capitan Base										
2,500.0	0.00	0.00	2,500.0	-737.2	0.0	0.0	0.0	0.00	545,044.33	586,372.95
2,600.0	0.00	0.00	2,600.0	-637.2	0.0	0.0	0.0	0.00	545,044.33	586,372.95
2,700.0	0.00	0.00	2,700.0	-537.2	0.0	0.0	0.0	0.00	545,044.33	586,372.95
2,727.0	0.00	0.00	2,727.0	-510.2	0.0	0.0	0.0	0.00	545,044.33	586,372.95
Delaware										
2,800.0	0.00	0.00	2,800.0	-437.2	0.0	0.0	0.0	0.00	545,044.33	586,372.95
2,900.0	0.00	0.00	2,900.0	-337.2	0.0	0.0	0.0	0.00	545,044.33	586,372.95
3,000.0	0.00	0.00	3,000.0	-237.2	0.0	0.0	0.0	0.00	545,044.33	586,372.95
3,100.0	0.00	0.00	3,100.0	-137.2	0.0	0.0	0.0	0.00	545,044.33	586,372.95
3,200.0	0.00	0.00	3,200.0	-37.2	0.0	0.0	0.0	0.00	545,044.33	586,372.95
3,300.0	0.00	0.00	3,300.0	62.8	0.0	0.0	0.0	0.00	545,044.33	586,372.95
3,400.0	0.00	0.00	3,400.0	162.8	0.0	0.0	0.0	0.00	545,044.33	586,372.95
3,500.0	0.00	0.00	3,500.0	262.8	0.0	0.0	0.0	0.00	545,044.33	586,372.95
3,600.0	0.00	0.00	3,600.0	362.8	0.0	0.0	0.0	0.00	545,044.33	586,372.95
3,700.0	0.00	0.00	3,700.0	462.8	0.0	0.0	0.0	0.00	545,044.33	586,372.95
3,800.0	0.00	0.00	3,800.0	562.8	0.0	0.0	0.0	0.00	545,044.33	586,372.95
3,900.0	0.00	0.00	3,900.0	662.8	0.0	0.0	0.0	0.00	545,044.33	586,372.95
4,000.0	0.00	0.00	4,000.0	762.8	0.0	0.0	0.0	0.00	545,044.33	586,372.95
4,100.0	0.00	0.00	4,100.0	862.8	0.0	0.0	0.0	0.00	545,044.33	586,372.95
4,200.0	0.00	0.00	4,200.0	962.8	0.0	0.0	0.0	0.00	545,044.33	586,372.95
4,300.0	0.00	0.00	4,300.0	1,062.8	0.0	0.0	0.0	0.00	545,044.33	586,372.95
4,400.0	0.00	0.00	4,400.0	1,162.8	0.0	0.0	0.0	0.00	545,044.33	586,372.95

Company:	Devon Energy, Inc.	**Local Co-ordinate Reference:**	Well #4H
Project:	Eddy County (NAD83)	**TVD Reference:**	KB = 26.2 @ 3237.2usft (H&P 300)
Site:	Cerf 10 Federal	**MD Reference:**	KB = 26.2 @ 3237.2usft (H&P 300)
Well:	#4H	**North Reference:**	Grid
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan #2	**Database:**	EDM 5000.1 Single User Db

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
4,500.0	0.00	0.00	4,500.0	1,262.8	0.0	0.0	0.0	0.00	545,044.33	586,372.95
4,600.0	0.00	0.00	4,600.0	1,362.8	0.0	0.0	0.0	0.00	545,044.33	586,372.95
4,700.0	0.00	0.00	4,700.0	1,462.8	0.0	0.0	0.0	0.00	545,044.33	586,372.95
4,800.0	0.00	0.00	4,800.0	1,562.8	0.0	0.0	0.0	0.00	545,044.33	586,372.95
4,900.0	0.00	0.00	4,900.0	1,662.8	0.0	0.0	0.0	0.00	545,044.33	586,372.95
5,000.0	0.00	0.00	5,000.0	1,762.8	0.0	0.0	0.0	0.00	545,044.33	586,372.95
5,100.0	0.00	0.00	5,100.0	1,862.8	0.0	0.0	0.0	0.00	545,044.33	586,372.95
5,112.0	0.00	0.00	5,112.0	1,874.8	0.0	0.0	0.0	0.00	545,044.33	586,372.95
Bone Spring Lm										
5,200.0	0.00	0.00	5,200.0	1,962.8	0.0	0.0	0.0	0.00	545,044.33	586,372.95
5,300.0	0.00	0.00	5,300.0	2,062.8	0.0	0.0	0.0	0.00	545,044.33	586,372.95
5,400.0	0.00	0.00	5,400.0	2,162.8	0.0	0.0	0.0	0.00	545,044.33	586,372.95
5,500.0	0.00	0.00	5,500.0	2,262.8	0.0	0.0	0.0	0.00	545,044.33	586,372.95
5,600.0	0.00	0.00	5,600.0	2,362.8	0.0	0.0	0.0	0.00	545,044.33	586,372.95
5,700.0	0.00	0.00	5,700.0	2,462.8	0.0	0.0	0.0	0.00	545,044.33	586,372.95
5,800.0	0.00	0.00	5,800.0	2,562.8	0.0	0.0	0.0	0.00	545,044.33	586,372.95
5,839.5	0.00	0.00	5,839.5	2,602.3	0.0	0.0	0.0	0.00	545,044.33	586,372.95
5,850.0	1.05	120.77	5,850.0	2,612.8	0.0	0.1	0.1	10.00	545,044.28	586,373.03
5,900.0	6.05	120.77	5,899.9	2,662.7	-1.6	2.7	2.9	10.00	545,042.70	586,375.69
5,950.0	11.05	120.77	5,949.3	2,712.1	-5.4	9.1	9.7	10.00	545,038.90	586,382.08
6,000.0	16.05	120.77	5,997.9	2,760.7	-11.4	19.2	20.4	10.00	545,032.90	586,392.14
6,050.0	21.05	120.77	6,045.3	2,808.1	-19.6	32.9	34.9	10.00	545,024.77	586,405.80
6,100.0	26.05	120.77	6,091.1	2,853.9	-29.8	50.0	53.2	10.00	545,014.55	586,422.96
6,150.0	31.05	120.77	6,135.0	2,897.8	-42.0	70.5	75.0	10.00	545,002.33	586,443.49
6,200.0	36.05	120.77	6,176.7	2,939.5	-56.1	94.3	100.2	10.00	544,988.20	586,467.22
6,250.0	41.05	120.77	6,215.8	2,978.6	-72.1	121.0	128.7	10.00	544,972.26	586,493.99
6,300.0	46.05	120.77	6,252.0	3,014.8	-89.7	150.6	160.1	10.00	544,954.64	586,523.58

Company:	Devon Energy, Inc.	Local Co-ordinate Reference:	Well #4H
Project:	Eddy County (NAD83)	TVD Reference:	KB = 26.2 @ 3237.2usft (H&P 300)
Site:	Cerf 10 Federal	MD Reference:	KB = 26.2 @ 3237.2usft (H&P 300)
Well:	#4H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan #2	Database:	EDM 5000.1 Single User Db

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
6,350.0	51.05	120.77	6,285.1	3,047.9	-108.9	182.8	194.3	10.00	544,935.48	586,555.77
6,400.0	56.05	120.77	6,314.8	3,077.6	-129.4	217.4	231.1	10.00	544,914.91	586,590.32
6,422.5	58.30	120.77	6,327.0	3,089.8	-139.1	233.6	248.4	10.00	544,905.22	586,606.59
1st Bone Spring Ss - 1st Bone Spring Ss Upper										
6,450.0	61.05	120.77	6,340.9	3,103.7	-151.2	254.0	270.0	10.00	544,893.09	586,626.95
6,500.0	66.05	120.77	6,363.1	3,125.9	-174.1	292.5	310.9	10.00	544,870.20	586,665.41
6,550.0	71.05	120.77	6,381.4	3,144.2	-197.9	332.4	353.4	10.00	544,846.40	586,705.38
6,585.9	74.64	120.77	6,392.0	3,154.8	-215.5	361.9	384.7	10.00	544,828.84	586,734.87
1st Bone Spring Ss Mid										
6,600.0	76.05	120.77	6,395.6	3,158.4	-222.5	373.6	397.2	10.00	544,821.87	586,746.57
6,650.0	81.05	120.77	6,405.5	3,168.3	-247.5	415.7	441.9	10.00	544,796.81	586,788.66
6,686.4	84.69	120.77	6,410.0	3,172.8	-266.0	446.7	474.9	10.00	544,778.34	586,819.69
6,700.0	84.68	120.22	6,411.3	3,174.1	-272.9	458.4	487.3	4.00	544,771.46	586,831.36
6,800.0	84.60	116.21	6,420.6	3,183.4	-319.9	546.1	579.9	4.00	544,724.40	586,919.07
6,867.7	84.56	113.49	6,427.0	3,189.8	-348.2	607.3	644.0	4.00	544,696.08	586,980.23
1st Bone Spring Ss Mid B										
6,900.0	84.55	112.19	6,430.1	3,192.9	-360.7	636.9	674.9	4.00	544,683.60	587,009.86
7,000.0	84.53	108.17	6,439.6	3,202.4	-395.1	730.3	771.7	4.00	544,649.27	587,103.27
7,100.0	84.53	104.15	6,449.1	3,211.9	-422.8	825.9	869.9	4.00	544,621.57	587,198.86
7,200.0	84.56	100.13	6,458.6	3,221.4	-443.7	923.2	968.9	4.00	544,600.63	587,296.16
7,300.0	84.61	96.12	6,468.1	3,230.9	-457.8	1,021.7	1,068.4	4.00	544,586.56	587,394.70
7,397.9	84.69	92.19	6,477.2	3,240.0	-464.8	1,118.9	1,165.8	4.00	544,579.51	587,491.88
7,400.0	84.69	92.19	6,477.4	3,240.2	-464.9	1,121.0	1,167.9	0.00	544,579.43	587,493.99
7,500.0	84.69	92.19	6,486.6	3,249.4	-468.7	1,220.5	1,267.1	0.00	544,575.63	587,593.49
7,600.0	84.69	92.19	6,495.9	3,258.7	-472.5	1,320.0	1,366.4	0.00	544,571.83	587,692.98
7,700.0	84.69	92.19	6,505.1	3,267.9	-476.3	1,419.5	1,465.7	0.00	544,568.04	587,792.48
7,800.0	84.69	92.19	6,514.4	3,277.2	-480.1	1,519.0	1,564.9	0.00	544,564.24	587,891.98

Company:	Devon Energy, Inc.	**Local Co-ordinate Reference:**	Well #4H
Project:	Eddy County (NAD83)	**TVD Reference:**	KB = 26.2 @ 3237.2usft (H&P 300)
Site:	Cerf 10 Federal	**MD Reference:**	KB = 26.2 @ 3237.2usft (H&P 300)
Well:	#4H	**North Reference:**	Grid
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan #2	**Database:**	EDM 5000.1 Single User Db

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
7,900.0	84.69	92.19	6,523.6	3,286.4	-483.9	1,618.5	1,664.2	0.00	544,560.44	587,991.48
8,000.0	84.69	92.19	6,532.9	3,295.7	-487.7	1,718.0	1,763.4	0.00	544,556.65	588,090.98
8,100.0	84.69	92.19	6,542.1	3,304.9	-491.5	1,817.5	1,862.7	0.00	544,552.85	588,190.48
8,152.6	84.69	92.19	6,547.0	3,309.8	-493.5	1,869.9	1,914.9	0.00	544,550.85	588,242.84
2nd Bone Spring Lime										
8,200.0	84.69	92.19	6,551.4	3,314.2	-495.3	1,917.0	1,961.9	0.00	544,549.05	588,289.98
8,300.0	84.69	92.19	6,560.6	3,323.4	-499.1	2,016.5	2,061.2	0.00	544,545.25	588,389.48
8,400.0	84.69	92.19	6,569.9	3,332.7	-502.9	2,116.0	2,160.4	0.00	544,541.46	588,488.98
8,500.0	84.69	92.19	6,579.1	3,341.9	-506.7	2,215.5	2,259.7	0.00	544,537.66	588,588.48
8,552.7	84.69	92.19	6,584.0	3,346.8	-508.7	2,268.0	2,312.1	0.00	544,535.66	588,640.95
Mid PT(Cref 10 Federal Com #4H)										
8,600.0	85.64	92.19	6,588.0	3,350.8	-510.5	2,315.1	2,359.0	2.00	544,533.86	588,688.01
8,700.0	87.64	92.19	6,593.8	3,356.6	-514.3	2,414.8	2,458.5	2.00	544,530.05	588,787.76
8,800.0	89.64	92.19	6,596.2	3,359.0	-518.1	2,514.7	2,558.2	2.00	544,526.23	588,887.65
8,827.8	90.19	92.19	6,596.3	3,359.1	-519.2	2,542.4	2,585.8	2.00	544,525.17	588,915.38
8,900.0	90.19	92.19	6,596.0	3,358.8	-521.9	2,614.6	2,657.8	0.00	544,522.41	588,987.58
9,000.0	90.19	92.19	6,595.7	3,358.5	-525.7	2,714.6	2,757.5	0.00	544,518.59	589,087.51
9,100.0	90.19	92.19	6,595.3	3,358.1	-529.6	2,814.5	2,857.2	0.00	544,514.77	589,187.43
9,200.0	90.19	92.19	6,595.0	3,357.8	-533.4	2,914.4	2,956.9	0.00	544,510.95	589,287.36
9,300.0	90.19	92.19	6,594.7	3,357.5	-537.2	3,014.3	3,056.6	0.00	544,507.12	589,387.28
9,400.0	90.19	92.19	6,594.3	3,357.1	-541.0	3,114.3	3,156.3	0.00	544,503.30	589,487.21
9,500.0	90.19	92.19	6,594.0	3,356.8	-544.9	3,214.2	3,255.9	0.00	544,499.48	589,587.14
9,600.0	90.19	92.19	6,593.6	3,356.4	-548.7	3,314.1	3,355.6	0.00	544,495.66	589,687.06
9,700.0	90.19	92.19	6,593.3	3,356.1	-552.5	3,414.0	3,455.3	0.00	544,491.83	589,786.99
9,800.0	90.19	92.19	6,593.0	3,355.8	-556.3	3,514.0	3,555.0	0.00	544,488.01	589,886.92
9,900.0	90.19	92.19	6,592.6	3,355.4	-560.1	3,613.9	3,654.7	0.00	544,484.19	589,986.84
10,000.0	90.19	92.19	6,592.3	3,355.1	-564.0	3,713.8	3,754.4	0.00	544,480.37	590,086.77

Company:	Devon Energy, Inc.	Local Co-ordinate Reference:	Well #4H
Project:	Eddy County (NAD83)	TVD Reference:	KB = 26.2 @ 3237.2usft (H&P 300)
Site:	Cerf 10 Federal	MD Reference:	KB = 26.2 @ 3237.2usft (H&P 300)
Well:	#4H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan #2	Database:	EDM 5000.1 Single User Db

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
10,100.0	90.19	92.19	6,591.9	3,354.7	-567.8	3,813.7	3,854.0	0.00	544,476.55	590,186.70
10,200.0	90.19	92.19	6,591.6	3,354.4	-571.6	3,913.7	3,953.7	0.00	544,472.72	590,286.62
10,300.0	90.19	92.19	6,591.3	3,354.1	-575.4	4,013.6	4,053.4	0.00	544,468.90	590,386.55
10,400.0	90.19	92.19	6,590.9	3,353.7	-579.2	4,113.5	4,153.1	0.00	544,465.08	590,486.47
10,500.0	90.19	92.19	6,590.6	3,353.4	-583.1	4,213.5	4,252.8	0.00	544,461.26	590,586.40
10,600.0	90.19	92.19	6,590.3	3,353.1	-586.9	4,313.4	4,352.5	0.00	544,457.44	590,686.33
10,700.0	90.19	92.19	6,589.9	3,352.7	-590.7	4,413.3	4,452.1	0.00	544,453.61	590,786.25
10,800.0	90.19	92.19	6,589.6	3,352.4	-594.5	4,513.2	4,551.8	0.00	544,449.79	590,886.18
10,900.0	90.19	92.19	6,589.2	3,352.0	-598.4	4,613.2	4,651.5	0.00	544,445.97	590,986.11
11,000.0	90.19	92.19	6,588.9	3,351.7	-602.2	4,713.1	4,751.2	0.00	544,442.15	591,086.03
11,100.0	90.19	92.19	6,588.6	3,351.4	-606.0	4,813.0	4,850.9	0.00	544,438.33	591,185.96
11,200.0	90.19	92.19	6,588.2	3,351.0	-609.8	4,912.9	4,950.6	0.00	544,434.50	591,285.89
11,300.0	90.19	92.19	6,587.9	3,350.7	-613.6	5,012.9	5,050.2	0.00	544,430.68	591,385.81
11,400.0	90.19	92.19	6,587.5	3,350.3	-617.5	5,112.8	5,149.9	0.00	544,426.86	591,485.74
11,500.0	90.19	92.19	6,587.2	3,350.0	-621.3	5,212.7	5,249.6	0.00	544,423.04	591,585.66
11,558.5	90.19	92.19	6,587.0	3,349.8	-623.5	5,271.2	5,308.0	0.00	544,420.80	591,644.16
PBHL(Cerf 10 Federal Com #4H)										

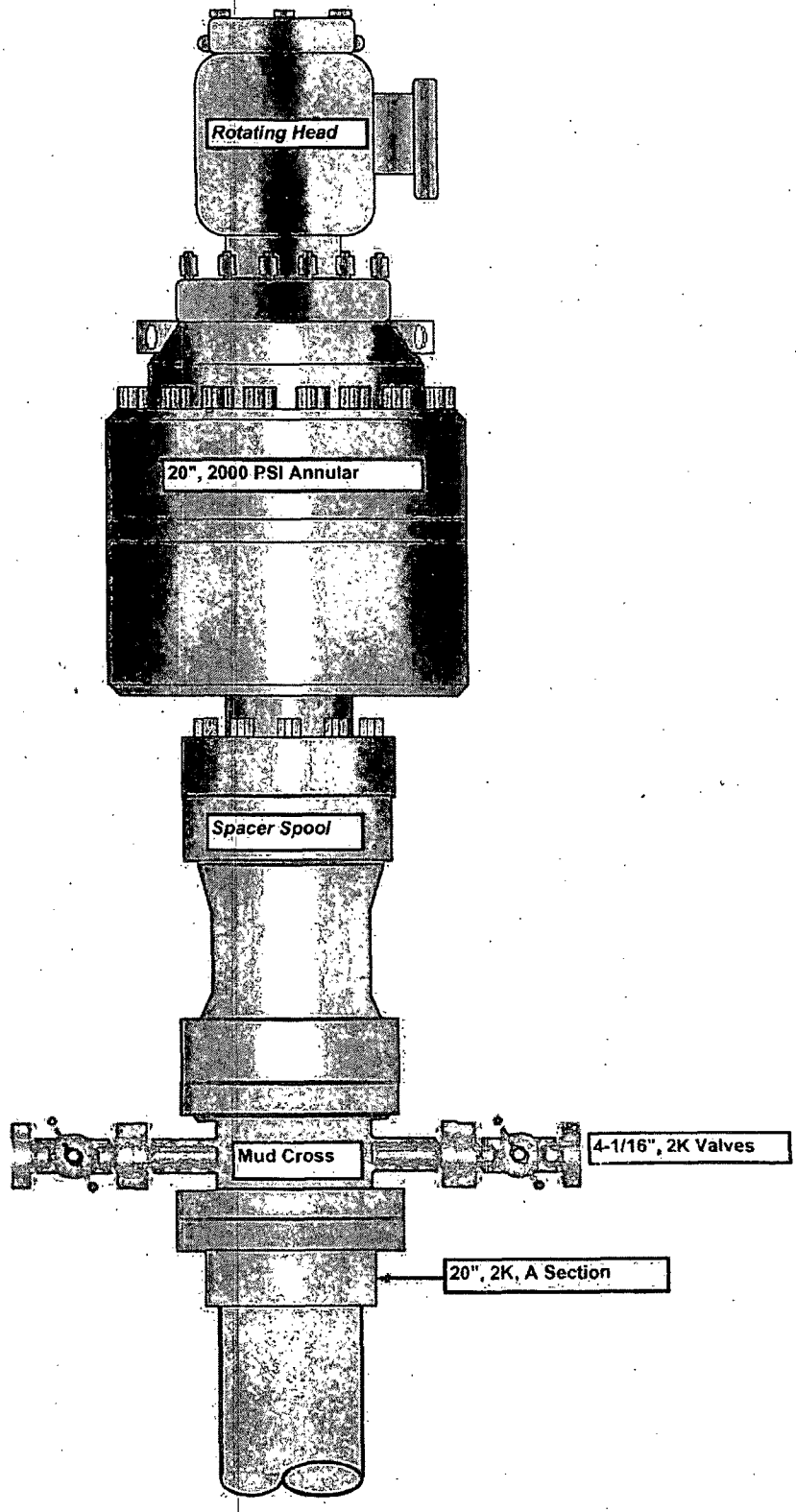
Company:	Devon Energy, Inc.	**Local Co-ordinate Reference:**	Well #4H
Project:	Eddy County (NAD83)	**TVD Reference:**	KB = 26.2 @ 3237.2usft (H&P 300)
Site:	Cerf 10 Federal	**MD Reference:**	KB = 26.2 @ 3237.2usft (H&P 300)
Well:	#4H	**North Reference:**	Grid
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan #2	**Database:**	EDM 5000.1 Single User Db

Formations

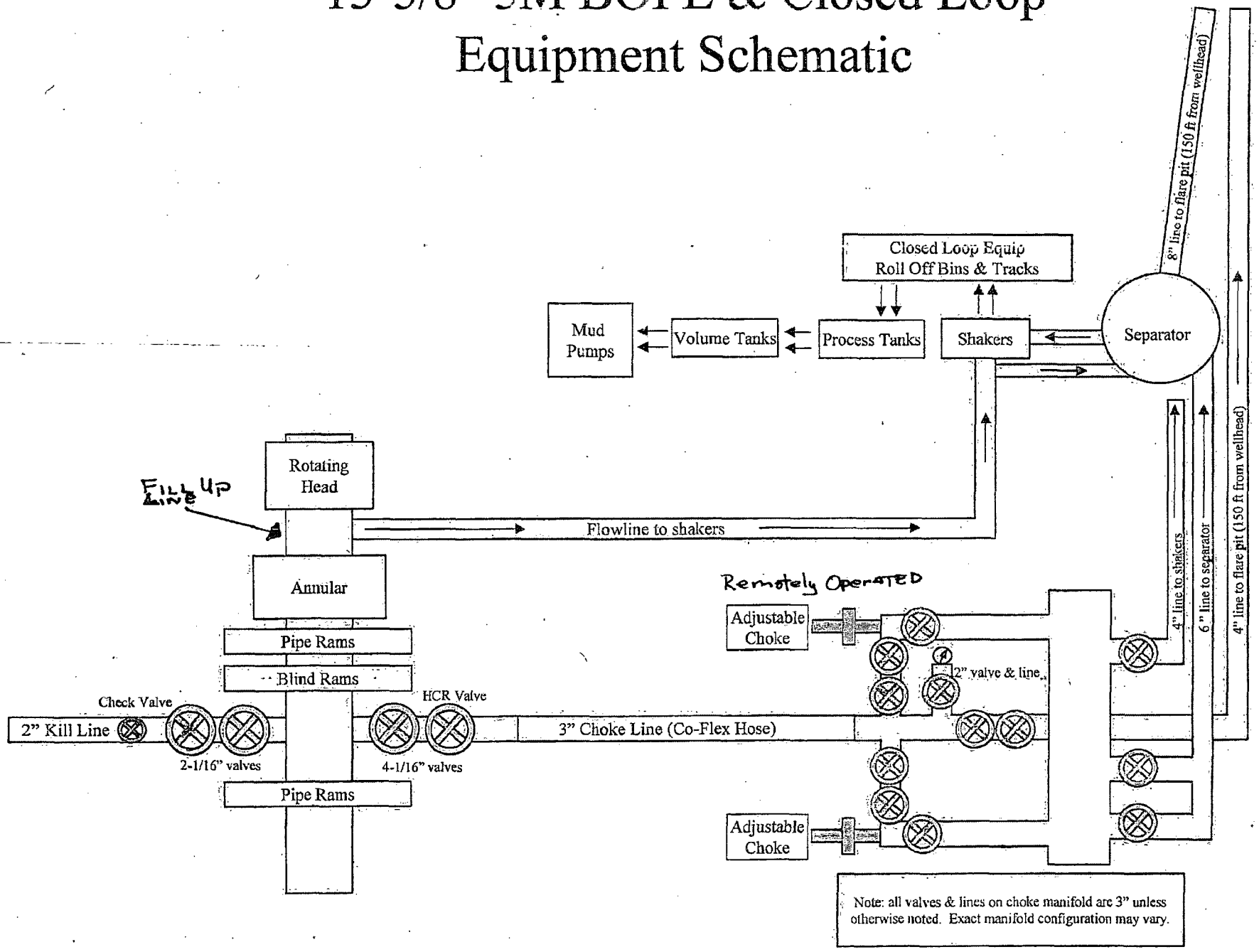
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
2,452.0	2,452.0	Capitan Base			
317.0	317.0	Base Salado			
6,867.7	6,427.0	1st Bone Spring Ss Mid B			
8,152.6	6,547.0	2nd Bone Spring Lime			
2,727.0	2,727.0	Delaware			
6,422.5	6,327.0	1st Bone Spring Ss Upper			
797.0	797.0	Capitan			
6,422.5	6,327.0	1st Bone Spring Ss			
5,112.0	5,112.0	Bone Spring Lm			
6,585.9	6,392.0	1st Bone Spring Ss Mid			
197.0	197.0	Salado			

Checked By: _____ Approved By: _____ Date: _____

20" 2K Annular



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



NOTES REGARDING BLOWOUT PREVENTERS
Devon Energy Production Company, LP
Cerf 10 Federal Com 4H
Surface Location: 1320' FNL & 300' FEL, Unit A, Sec 9 T21S R27E, Eddy, NM
Bottom Hole Location: 1980' FNL & 330' FEL, Unit H, Sec 10 T21S R27E, 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.

Hydrostatic Test Certificate

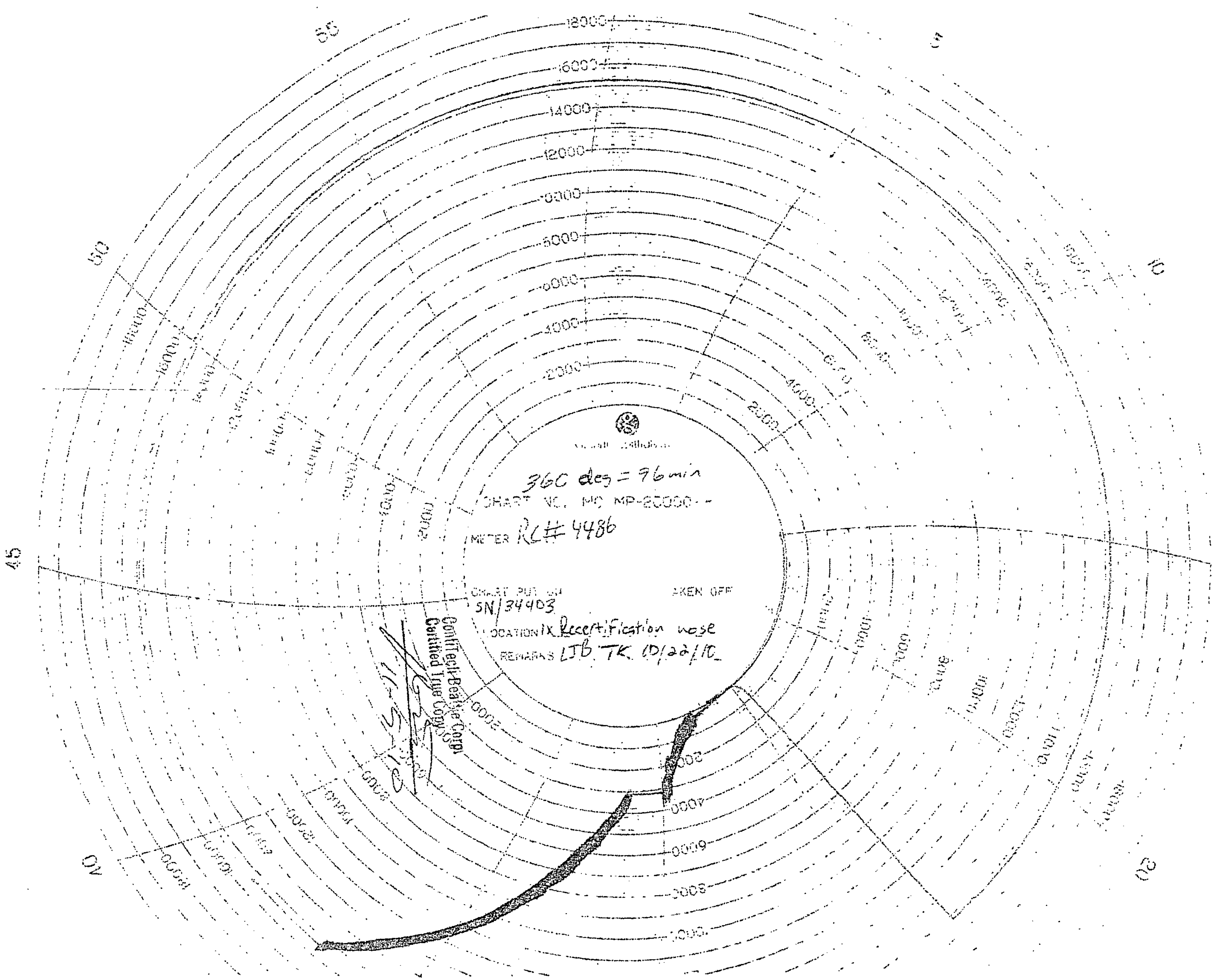
Certificate Number: 4520	**PBC No:** 10321	**Customer Name & Address**
Customer Purchase Order No:	RIG 300	HELMERICH & PAYNE INT'L DRILLING CO 1437 SOUTH BOULDER TULSA, OK 74119
Project:		

Test Centre Address	Accepted by ContiTech Beattie Inspection		Accepted by Client Inspection
ContiTech Beattie Corp. 11535 Brittmoore Park Drive Houston, TX 77041 USA	Signed: Date:	Josh Sims 10/27/10	

We certify that the goods detailed hereon have been inspected by our Quality Management System, and to the best of our knowledge are found to conform to relevant industrial standards within the requirements of the purchase order as issued to ContiTech Beattie Corporation.

These goods were made in the United States of America.

Item	Part No.	Description	Qnty	Serial Number	As-Built Length (m)	Work Press.	Test Press.	Test Time (minutes)
1		3" ID 10K Choke & Kill Hose x 35ft OAL End A: 4.1/16" 10Kpsi API Spec 6A Type 6BX Flange End B: 4.1/16" 10Kpsi API Spec 6A Type 6BX Flange Working Pressure: 10,000psi Test Pressure: 15,000psi Serial#: 49106	1	49106		10 kpsi	15 kpsi	60


360 deg = 96 min
CHART NO. MC MP-20000
METER RL# 4486
CHART PUT ON
TAKEN OFF
SN/34403
LOCATION IX Recertification hose
REMARKS LTB TK 10/22/10
ContiTech Beattie Corp.
Certified True Copy

Devon Energy Corporation
20 North Broadway
Oklahoma City, Oklahoma 73102-8260

Hydrogen Sulfide (H_2S) Contingency Plan

For

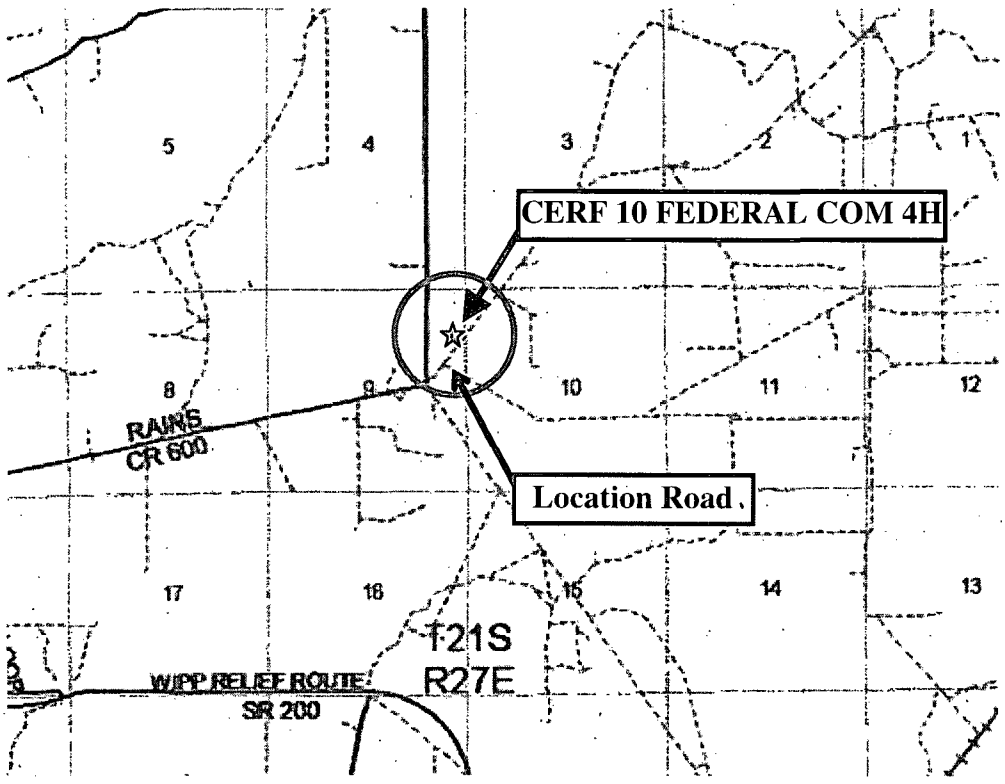
CERF 10 FEDERAL COM 4H

Sec-9, T-21S R-27E
1320' FNL & 300' FEL,
LAT. = 32.4983032'N (NAD83)
LONG = 104.1872566'W

Eddy County NM

CERF 10 FEDERAL COM 4H

This is an open drilling site. H_2S monitoring equipment and emergency response equipment will be used within 500' of zones known to contain H_2S, including warning signs, wind indicators and H_2S monitor.



Assumed 100 ppm ROE = 3000'
100 ppm H2S concentration shall trigger activation of this plan.

Escape

Crews shall escape upwind of escaping gas in the event of an emergency release of gas. Escape can be facilitated from the location entrance road, Southwest on lease road to CR600. Crews should then block both directions of the public road so as not to allow anyone traversing into a hazardous area. The blockade should be at a safe distance outside of the ROE. There are no homes or buildings in or near the ROE.

Assumed 100 ppm ROE = 3000'

100 ppm H_2S concentration shall trigger activation of this plan.

Emergency Procedures

In the event of a release of gas containing H_2S, the first responder(s) must

- **Isolate the area and prevent entry by other persons into the 100 ppm ROE.**
- **Evacuate any public places encompassed by the 100 ppm ROE.**
- **Be equipped with H_2S monitors and air packs in order to control the release.**
- **Use the "buddy system" to ensure no injuries occur during the response**
- **Take precautions to avoid personal injury during this operation.**
- **Contact operator and/or local officials to aid in operation. See list of phone numbers attached.**
- **Have received training in the**
  - **Detection of H_2S, and**
  - **Measures for protection against the gas,**
  - **Equipment used for protection and emergency response.**

Ignition of Gas Source

Should control of the well be considered lost and ignition considered, take care to protect against exposure to Sulfur Dioxide (SO_2). Intentional ignition must be coordinated with the NMOCD and local officials. Additionally the NM State Police may become involved. NM State Police shall be the Incident Command on scene of any major release. Take care to protect downwind whenever there is an ignition of the gas

Characteristics of H_2S and SO_2

Common Name	Chemical Formula	Specific Gravity	Threshold Limit	Hazardous Limit	Lethal Concentration
Hydrogen Sulfide	H_2S	1.189 Air = 1	10 ppm	100 ppm/hr	600 ppm
Sulfur Dioxide	SO_2	2.21 Air = 1	2 ppm	N/A	1000 ppm

Contacting Authorities

Devon Energy Corp. personnel must liaison with local and state agencies to ensure a proper response to a major release. Additionally, the OCD must be notified of the release as soon as possible but no later than 4 hours. Agencies will ask for information such as type and volume of release, wind direction, location of release, etc. Be prepared with all information available. The following call list of essential and potential responders has been prepared for use during a release. Devon Energy Corp. Company response must be in coordination with the State of New Mexico's 'Hazardous Materials Emergency Response Plan' (HMER)

Hydrogen Sulfide Drilling Operation Plan

I. HYDROGEN SULFIDE (H_2S) TRAINING

All personnel, whether regularly assigned, contracted, or employed on an unscheduled basis, will receive training from a qualified instructor in the following areas prior to commencing drilling operations on this well:

1. The hazards and characteristics of hydrogen sulfide (H_2S)

2. The proper use and maintenance of personal protective equipment and life support systems.

3. The proper use of H_2S detectors, alarms, warning systems, briefing areas, evacuation procedures, and prevailing winds.

4. The proper techniques for first aid and rescue procedures.

In addition, supervisory personnel will be trained in the following areas:

1. The effects of H_2S metal components. If high tensile tubular are to be used, personnel will be trained in their special maintenance requirements.

2. Corrective action and shut-in procedures when drilling or reworking a well and blowout prevention and well control procedures.

3. The contents and requirements of the H_2S Drilling Operations Plan and Public Protection Plan.

There will be an initial training session just prior to encountering a known or probable H_2S zone (within 3 days or 500 feet) and weekly H_2S and well control drills for all personnel in each crew. The initial training session shall include a review of the site specific H_2S Drilling Operations Plan and the Public Protection Plan.

II. HYDROGEN SULFIDE TRAINING

Note: All H_2S safety equipment and systems will be installed, tested, and operational when drilling reaches a depth of 500 feet above, or three days prior to penetrating the first zone containing or reasonable expected to contain H_2S.

1. **Well Control Equipment**

   A. Flare line

   B. Choke manifold

   C. Blind rams and pipe rams to accommodate all pipe sizes with properly sized closing unit

   D. Auxiliary equipment may include if applicable: annular preventer and rotating head.

2. **Protective equipment for essential personnel:**

   A. 30-minute SCBA units located in the doghouse and at briefing areas, as indicated on well site diagram. As it may be difficult to communicate audibly while wearing these units, hand signals shall be utilized.

3. **H_2S detection and monitoring equipment:**

   A. Portable H_2S monitors positioned on location for best coverage and response. These unites have warning lights and audible sirens when H_2S levels of 20 PPM are reached. These units are usually capable of detecting SO_2, which is a byproduct of burning H_2S.

4. **Visual warning systems:**

   A. Wind direction indicators as shown on well site diagram

   B. Caution/ Danger signs shall be posted on roads providing direct access to locations. Signs will be painted a high visibility yellow with black lettering of sufficient size to be reasonable distance from the immediate location. Bilingual signs will be used when appropriate..

5. **Mud program:**

   A. The mud program has been designed to minimize the volume of H_2S circulated to surface. Proper mud weight, safe drilling practices and the use of H_2S scavengers will minimize hazards when penetrating H_2S bearing zones.

6. **Metallurgy:**

   A. All drill strings, casings, tubing, wellhead, blowout preventer, drilling spool, kill lines, choke manifold lines, and valves shall be H_2S trim.

   B. All elastomers used for packing and seals shall be H_2S trim.

7. **Communication:**

   A. Radio communications in company vehicles including cellular telephones and 2-way radio

   B. Land line (telephone) communications at Office

8. **Well testing:**

   A. Drill stem testing will be performed with a minimum number of personnel in the immediate vicinity, which are necessary to safety and adequately conduct the test. The drill stem testing will be conducted during daylight hours and formation fluids will not be flowed to the surface. All drill-stem-testing operations conducted in an H_2S environment will use the closed chamber method of testing.

   B. There will be no drill stem testing.

Devon Energy Corp. Company Call List

Artesia (575)	Cellular	Office	Home
Foreman – Robert Bell	748-7448	748-0178	746-2991
Asst. Foreman –Tommy Polly	748-5290	748-0165	748-2846
Don Mayberry	748-5235	748-0164	746-4945
Montral Walker	390-5182	748-0193	936-414-6246
Engineer – Marcos Ortiz	(405) 317-0666	(405) 552-8152	(405) 381-4350

Agency Call List

Lea County (575)

Hobbs

State Police	392-5588
City Police	397-9265
Sheriff's Office	393-2515
Ambulance	911
Fire Department	397-9308
LEPC (Local Emergency Planning Committee)	393-2870
NMOCD	393-6161
US Bureau of Land Management	393-3612

Eddy County (575)

Carlsbad

State Police	885-3137
City Police	885-2111
Sheriff's Office	887-7551
Ambulance	911
Fire Department	885-2111
LEPC (Local Emergency Planning Committee)	887-3798
US Bureau of Land Management	887-6544
New Mexico Emergency Response Commission (Santa Fe)	(505)476-9600
24 HR	(505) 827-9126
National Emergency Response Center (Washington, DC)	(800) 424-8802

Emergency Services

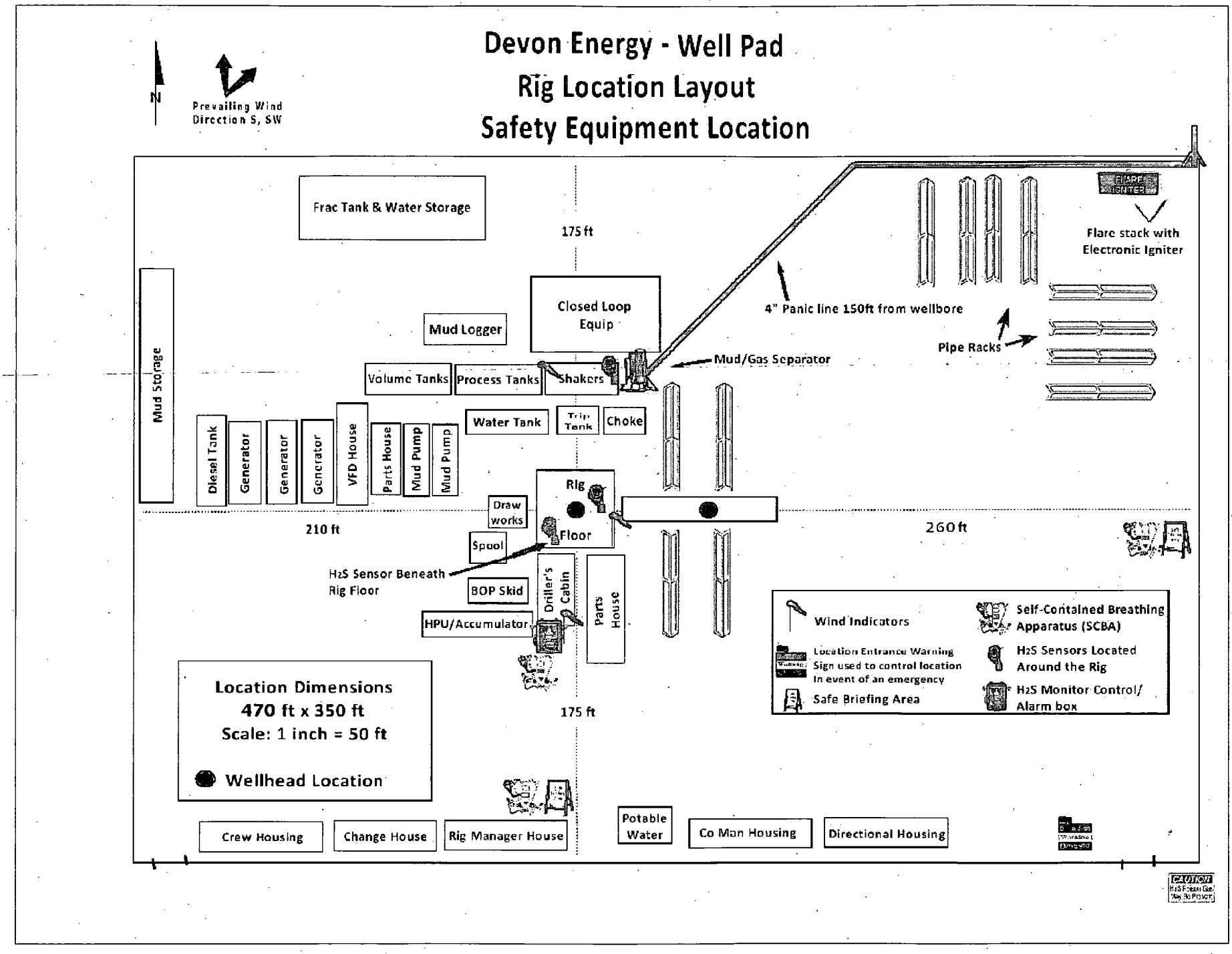
Boots & Coots IWC	1-800-256-9688 or (281) 931-8884
Cudd Pressure Control	(915) 699-0139 or (915) 563-3356
Halliburton	(575) 746-2757
B. J. Services	(575) 746-3569

Give GPS position:

Flight For Life - Lubbock, TX	(806) 743-9911
Aerocare - Lubbock, TX	(806) 747-8923
Med Flight Air Amb - Albuquerque, NM	(575) 842-4433
Lifeguard Air Med Svc. Albuquerque, NM	(575) 272-3115

Prepared in conjunction with
Wade Rohloff

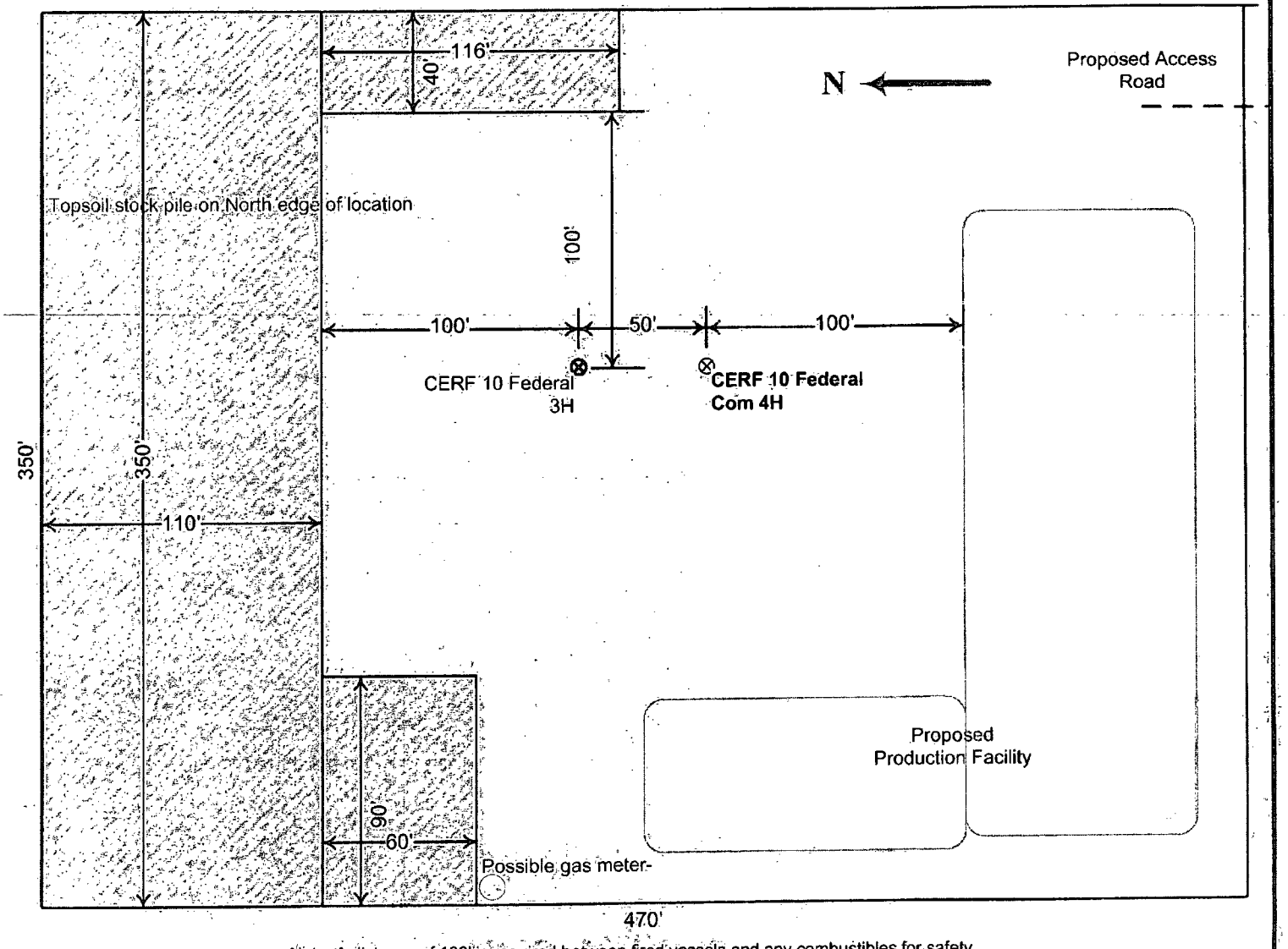
Graphic Safety LLC
GraphicSafety.com
Safety is an Art
PO Box 2734 • Hobbs NM 88240
575.631.9561 • Fax 866.352.2183


Devon Energy - Well Pad
Rig Location Layout
Safety Equipment Location
N
Prevailing Wind
Direction S, SW
Frac Tank & Water Storage
175 ft
Flare stack with
Electronic Igniter
4" Panic line 150ft from wellbore
Pipe Racks
Closed Loop
Equip
Mud Logger
Mud/Gas Separator
Mud Storage
Volume Tanks
Process Tanks
Shakers
Water Tank
Trip Tank
Choke
Diesel Tank
Generator
Generator
Generator
VFD House
Parts House
Mud Pump
Mud Pump
Rig
Draw works
Floor
Spool
210 ft
260 ft
H2S Sensor Beneath
Rig Floor
BOP Skid
Driller's Cabin
Parts House
HPU/Accumulator
Location Dimensions
470 ft x 350 ft
Scale: 1 inch = 50 ft
Wellhead Location
175 ft
Wind Indicators
Location Entrance Warning
Sign used to control location
In event of an emergency
Safe Briefing Area
Self-Contained Breathing
Apparatus (SCBA)
H2S Sensors Located
Around the Rig
H2S Monitor Control/
Alarm box
Crew Housing
Change House
Rig Manager House
Potable
Water
Co Man Housing
Directional Housing

devon

Proposed Interim Site Reclamation

Devon Energy Production Co.
CERF 10 Federal Com 4H
1320' FNL & 300' FEL
Sec. 9-T21S-R27E
Eddy County, NM



Note: A distance of 100' is required between fired vessels and any combustibles for safety purposes.

Proposed Reclamation Area

Scale: 1in = 60ft.

PECOS DISTRICT
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	DEVON ENERGY
LEASE NO.:	NM14768
WELL NAME & NO.:	4H-CERF 10 FEDERAL COM
SURFACE HOLE FOOTAGE:	1320'/N. & 300'/E.
BOTTOM HOLE FOOTAGE	1980'/N. & 330'/E. (Sec. 10)
LOCATION:	Section 9, T. 17 S., R. 27 E., NMPM
COUNTY:	Eddy County, New Mexico

TABLE OF CONTENTS

Standard Conditions of Approval (COA) apply to this APD. If any deviations to these standards exist or special COAs are required, the section with the deviation or requirement will be checked below.