ATS-12-187

OCD-ARTESIA

Form 3160-3
(April 2004)

FORM APPROVED
OMB No 1004-0137
Expires March 31, 2007 BA 324

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5 Lease Serial No.
NMNM-89057

6 If Indian, Allotee 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
Snapping 10 Federal 4H [38187]

2 Name of Operator
Devon Energy Production Company, LP [6137]

9 API Well No.
30-015-39867

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
Jennings; Bone Spring, West [97860]

4 Location of Well *(Report location clearly and in accordance with any State requirements)*
At surface **SE/4 SW /4 200 FSL & 2215 FWL**
At proposed prod zone **NE/4/ NW/4 330 FNL & 1670 FWL**
NON-STANDARD LOCATION

11 Sec , T R M or Blk and Survey or Area
SEC 10 T26S R31E

14 Distance in miles and direction from nearest town or post office*
Approximately 25 miles southeast 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
2160 Acres

17 Spacing Unit dedicated to this well
E/2, E/2 W/2 ~~480~~ 320 Acres

18 Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft **See Attached Map**

19 Proposed Depth
TVD 8950' ~~13,043'~~ 13827' MD

20 BLM/BIA Bond No on file
CO-1104 NMB000801

21 Elevations (Show whether DF, KDB, RT, GL, etc)
3240 ' 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 Judy A. Barnett | Name *(Printed Typed)* **Judy A. Barnett** | Date **12/06/2011**

Title **Regulatory Specialist**

Approved by *(Signature)* /s/ Don Peterson | Name *(Printed/Typed)* | Date JAN 23 2012

Title **FIELD MANAGER** | Office **CARLSBAD FIELD OFFICE**

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

APPROVAL FOR TWO YEARS

Title 18 U S C Section 1001 and Title 43 U S C Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction

(Instructions on page 2)

RECEIVED
JAN 25 2012
NMOCD ARTESIA

Carlsbad Controlled Water Basin

SEE ATTACHED FOR CONDITIONS OF APPROVAL

Approval Subject to General Requirements & Special Stipulations Attached

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

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 October 15,2009
Submit one copy to appropriate District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name	
30-015-39867	97860	Jenning; Bone Spring; West	
Property Code	Property Name		Well Number
38187	SNAPPING "10" FEDERAL		4H
OGRID No.	Operator Name		Elevation
6137	DEVON ENERGY PRODUCTION COMPANY, L.P.		3240.5

Surface Location

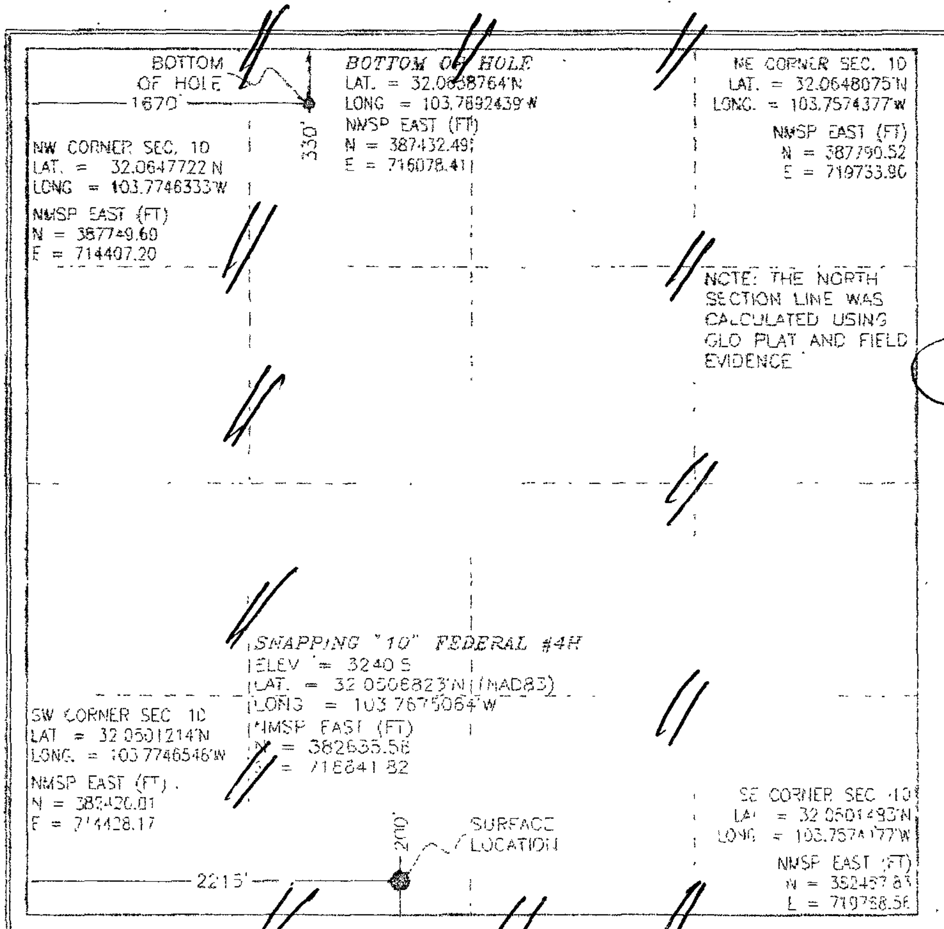
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	10	26 S	31 E		200	SOUTH	2215	WEST	EDDY

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
C	10	26 S	31 E		330	NORTH	1670	WEST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
~~480~~ 320			

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.



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] 12/06/11
Signature Date

Printed Name
Judy A. Barnett Regulatory Specialist

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.

NOVEMBER 15, 2011
Date of Survey

[signature and seal: FILIMON F. JARAMILLO, NEW MEXICO, 12797, REGISTERED LAND SURVEYOR]
Signature and Seal of Professional Surveyor

Certificate Number: FILIMON F. JARAMILLO, PLS 12797
SURVEY NO. 696

DRILLING PROGRAM

Devon Energy Production Company, LP

Snapping 10 Federal 4H

Surface Location: 200' FSL & 2215' FWL, Unit N, Sec 10 T26S R31E, Eddy, NM

Bottom Hole Location: 330' FNL & 1670' FWL, Unit C, Sec 10 T26S R31E, Eddy, NM

1. Geologic Name of Surface Formation

a. Quaternary

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

a.	Fresh Water	310'	
b.	Rustler	1670'	
c.	Top of Salt	2050'	
d.	Base Salt	3895'	
e.	Delaware/Lamar	4110'	
f.	Bell Canyon	4142'	Oil
g.	Cherry Canyon	5105'	Oil
h.	Brushy Canyon	6425'	Oil
i.	Bone Spring	8125'	Oil & Gas

No other formations are expected to yield oil, gas or fresh water in measurable volumes. The surface fresh water sands will be protected by setting 13 3/8" casing at 1,700' and circulating cement back to surface. The salt will be protected by setting 9 5/8" casing at 4000' and circulating cement to surface. The Bone Springs intervals will be isolated by setting 5 ½" casing to total depth and circulating cement above the base of the 9 5/8" casing.

Casing Program:

	Hole Size	Hole Interval	OD Csg	Casing Interval	Weight	Collar	Grade
See COA	17 ½"	0' –1,700'	13 3/8"	0'-1,700'	54.5#	ST&C	J-55
	12 ¼"	1,700'-~~4000~~'	9 5/8"	0'-4,000' 1050	40#	LT&C	J-55
	8 ¾"	4,000-7,800'	5 ½"	0 – 7,800'	17#	LT&C	HCP-110
	8 ¾"	7,800'-13,043'	5 ½"	7,800'-13,043'	17#	BT&C	HCP-110

All casing is new and API approved.

Design Parameter Factors:

Casing Size	Collapse Design Factor	Burst Design Factor	Tension Design Factor
13 3/8"	1.44	3.5	5.6
9 5/8" 40#	1.23	1.90	3.25
5 ½" 17#	2.35	2.91	2.01
5 ½" 17#	2.16	2.67	6.37

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

13 3/8" Surface

Lead: 1360 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. 350 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**· 860 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**: 400 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:** 580 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**: 1220 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 31 cf/sk **DV TOOL @ ~6,000'** **2ND Stage** **Lead** 400 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 **TOC @ 3,600'** **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 for All Strings.	
Surface:	0'
Intermediate·	0'
Production.	3,600'

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

Pressure Control Equipment:

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

The BOP system used to drill the production hole will consist of a 13-5/8" Cameron Type U Double Ram and Annular preventer. The BOP system will be tested as per BLM Onshore Oil and Gas Order No. 2 a 3M system will be installed 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 5,000 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.

4. **Proposed Mud Circulation System**

Depth	Mud Wt.	Visc	Fluid Loss	Type System
0' – 1,700'	8.4-9.0	30-34	NC	FW
1,700'– 4000'- 4050	9.8-10.0	28-32	NC	Brine
4000'–13,043'	8.6–9.0	28-32	N/C-12	FW

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

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

6. **Logging, Coring, and Testing Program:** See COA
   a. Drill stem tests will be based on geological sample shows.
   b. If a drill stem test is anticipated; a procedure, equipment to be used and safety measures will be provided via sundry notice to the BLM.
   c. The open hole electrical logging program will be:
      i. Total Depth to Intermediate Casing — Dual Laterolog-Micro Laterolog with SP and Gamma Ray. Compensated Neutron – Z Density log with Gamma Ray and Caliper.
      ii. Total Depth to Surface — Compensated Neutron with Gamma Ray
      iii. No coring program is planned
      iv. Additional testing will be initiated subsequent to setting the 5 ½" production casing. Specific intervals will be targeted based on log evaluation, geological sample shows and drill stem tests.

7. **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 4500 psi and Estimated BHT 140°. No H2S is anticipated to be encountered.

8. **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
Snapping "10" Federal
#4H
OH

Plan: Plan #1

Pathfinder X & Y Report

30 November, 2011

PATHFINDER®
A Schlumberger Company

devon

Pathfinder

Pathfinder X & Y Report

PATHFINDER
A Schlumberger Company

Company:	Devon Energy, Inc.	**Local Co-ordinate Reference:**	Well #4H
Project:	Eddy County	**TVD Reference:**	KB = 26 5 @ 3267 0usft (H&P 416)
Site:	Snapping "10" Federal	**MD Reference:**	KB = 26 5 @ 3267 0usft (H&P 416)
Well:	#4H	**North Reference**	Grid
Wellbore:	OH	**Survey Calculation Method**	Minimum Curvature
Design	Plan #1	**Database:**	EDM 5000.1 Single User Db

Project Eddy County

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

Site Snapping "10" Federal

Site Position		**Northing**	387,446 800 usft	**Latitude**	32° 3' 50 009 N
From.	Map	**Easting:**	717,755 300 usft	**Longitude:**	103° 45' 49 790 W
Position Uncertainty	0 0 usft	**Slot Radius**	13-3/16 "	**Grid Convergence**	0 30 °

Well #4H

Well Position	**+N/-S**	0 0 usft	**Northing:**	382,635 560 usft	**Latitude**	32° 3' 2 456 N
	+E/-W	0 0 usft	**Easting**	716,641.820 usft	**Longitude**	103° 46' 3.023 W
Position Uncertainty		0 0 usft	**Wellhead Elevation.**	usft	**Ground Level:**	3,240 5 usft

Wellbore OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	11/30/2011	7 60	60.00	48,484

Design Plan #1

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	353 30	

Survey Tool Program **Date** 11/30/2011

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0 0	13,626 5	Plan #1 (OH)	Pathfinder	Pathfinder MWD

devon

Pathfinder

Pathfinder X & Y Report

PATHFINDER
A Schlumberger Company

Company:	Devon Energy, Inc.	**Local Co-ordinate Reference:**	Well #4H
Project:	Eddy County	**TVD Reference:**	KB = 26 5 @ 3267 0usft (H&P 416)
Site:	Snapping "10" Federal	**MD Reference:**	KB = 26 5 @ 3267 0usft (H&P 416)
Well:	#4H	**North Reference**	Grid
Wellbore:	OH	**Survey Calculation Method**	Minimum Curvature
Design:	Plan #1	**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	-3,267 0	0.0	0.0	0 0	0.00	382,635.56	716,641 82
100 0	0 00	0 00	100.0	-3,167 0	0 0	0 0	0.0	0 00	382,635 56	716,641 82
200 0	0.00	0.00	200 0	-3,067 0	0.0	0.0	0.0	0 00	382,635.56	716,641 82
300 0	0.00	0.00	300.0	-2,967.0	0.0	0.0	0.0	0 00	382,635.56	716,641 82
400 0	0 00	0.00	400 0	-2,867 0	0.0	0 0	0.0	0 00	382,635 56	716,641 82
500 0	0 00	0 00	500 0	-2,767 0	0.0	0 0	0 0	0 00	382,635 56	716,641 82
600.0	0 00	0 00	600.0	-2,667 0	0.0	0.0	0 0	0 00	382,635.56	716,641 82
700 0	0 00	0 00	700 0	-2,567 0	0.0	0 0	0.0	0 00	382,635 56	716,641 82
800.0	0 00	0.00	800.0	-2,467.0	0 0	0 0	0 0	0.00	382,635 56	716,641 82
900 0	0 00	0 00	900.0	-2,367.0	0.0	0 0	0.0	0 00	382,635.56	716,641 82
1,000 0	0 00	0 00	1,000.0	-2,267 0	0.0	0 0	0 0	0 00	382,635 56	716,641 82
1,100 0	0.00	0.00	1,100.0	-2,167.0	0 0	0.0	0.0	0 00	382,635 56	716,641.82
1,200.0	0 00	0.00	1,200.0	-2,067 0	0 0	0.0	0.0	0 00	382,635 56	716,641 82
1,300 0	0 00	0.00	1,300 0	-1,967 0	0 0	0.0	0.0	0 00	382,635 56	716,641 82
1,400 0	0 00	0 00	1,400.0	-1,867 0	0 0	0.0	0.0	0.00	382,635 56	716,641 82
1,500 0	0 00	0 00	1,500 0	-1,767 0	0.0	0.0	0.0	0 00	382,635 56	716,641 82
1,600 0	0 00	0.00	1,600 0	-1,667 0	0 0	0 0	0.0	0 00	382,635 56	716,641 82
1,700 0	0 00	0.00	1,700 0	-1,567 0	0.0	0.0	0.0	0 00	382,635 56	716,641 82
1,800 0	0 00	0 00	1,800.0	-1,467 0	0.0	0 0	0 0	0 00	382,635 56	716,641 82
1,900 0	0 00	0.00	1,900 0	-1,367 0	0.0	0 0	0.0	0 00	382,635 56	716,641 82
2,000.0	0 00	0 00	2,000.0	-1,267 0	0 0	0 0	0 0	0 00	382,635 56	716,641 82
2,100 0	0 00	0.00	2,100.0	-1,167 0	0.0	0 0	0.0	0 00	382,635 56	716,641 82
2,200 0	0 00	0 00	2,200.0	-1,067 0	0.0	0 0	0 0	0 00	382,635 56	716,641 82
2,300 0	0 00	0.00	2,300 0	-967 0	0.0	0 0	0 0	0 00	382,635 56	716,641 82
2,400.0	0 00	0 00	2,400 0	-867 0	0 0	0.0	0 0	0 00	382,635.56	716,641 82
2,500.0	0 00	0.00	2,500 0	-767 0	0 0	0.0	0.0	0 00	382,635 56	716,641 82
2,600.0	0 00	0 00	2,600 0	-667 0	0 0	0.0	0 0	0 00	382,635 56	716,641 82

Company:	Devon Energy, Inc.	**Local Co-ordinate Reference:**	Well #4H
Project:	Eddy County	**TVD Reference:**	KB = 26 5 @ 3267 0usft (H&P 416)
Site:	Snapping "10" Federal	**MD Reference**	KB = 26 5 @ 3267 0usft (H&P 416)
Well:	#4H	**North Reference:**	Grid
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan #1	**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)
2,700.0	0 00	0 00	2,700.0	-567 0	0 0	0 0	0.0	0 00	382,635.56	716,641 82
2,800 0	0 00	0 00	2,800.0	-467 0	0 0	0 0	0 0	0 00	382,635 56	716,641 82
2,900 0	0 00	0 00	2,900.0	-367 0	0 0	0 0	0 0	0 00	382,635 56	716,641 82
3,000 0	0 00	0.00	3,000.0	-267 0	0 0	0 0	0 0	0 00	382,635 56	716,641 82
3,100 0	0 00	0.00	3,100 0	-167 0	0.0	0.0	0.0	0 00	382,635 56	716,641 82
3,200.0	0 00	0.00	3,200 0	-67 0	0.0	0.0	0 0	0 00	382,635 56	716,641 82
3,300.0	0 00	0.00	3,300.0	33.0	0.0	0 0	0.0	0.00	382,635 56	716,641 82
3,400 0	0 00	0 00	3,400 0	133 0	0.0	0.0	0.0	0 00	382,635 56	716,641 82
3,500.0	0 00	0.00	3,500 0	233 0	0 0	0.0	0.0	0 00	382,635 56	716,641 82
3,600 0	0 00	0 00	3,600 0	333 0	0 0	0.0	0.0	0 00	382,635 56	716,641 82
3,700 0	0 00	0 00	3,700.0	433 0	0 0	0.0	0 0	0 00	382,635 56	716,641 82
3,800 0	0.00	0.00	3,800 0	533 0	0 0	0 0	0 0	0.00	382,635.56	716,641.82
3,900 0	0 00	0 00	3,900.0	633 0	0 0	0.0	0.0	0 00	382,635 56	716,641 82
4,000 0	0 00	0 00	4,000.0	733 0	0 0	0 0	0 0	0 00	382,635 56	716,641 82
4,100 0	0 00	0 00	4,100.0	833 0	0 0	0.0	0.0	0.00	382,635 56	716,641 82
4,200 0	0 00	0 00	4,200.0	933 0	0 0	0 0	0 0	0 00	382,635 56	716,641 82
4,300 0	0.00	0 00	4,300.0	1,033 0	0 0	0.0	0 0	0 00	382,635 56	716,641.82
4,400 0	0.00	0 00	4,400 0	1,133 0	0.0	0 0	0 0	0 00	382,635 56	716,641 82
4,500 0	0 00	0 00	4,500 0	1,233 0	0.0	0 0	0 0	0 00	382,635 56	716,641 82
4,600.0	0 00	0 00	4,600.0	1,333 0	0.0	0 0	0 0	0 00	382,635 56	716,641 82
4,700 0	0 00	0 00	4,700 0	1,433 0	0 0	0 0	0.0	0 00	382,635 56	716,641 82
4,800 0	0 00	0 00	4,800 0	1,533 0	0 0	0.0	0.0	0 00	382,635 56	716,641 82
4,900.0	0 00	0 00	4,900 0	1,633 0	0.0	0.0	0.0	0 00	382,635 56	716,641 82
5,000 0	0 00	0 00	5,000 0	1,733 0	0 0	0.0	0.0	0 00	382,635 56	716,641.82
5,100 0	0 00	0.00	5,100 0	1,833 0	0.0	0.0	0 0	0 00	382,635 56	716,641 82
5,200 0	0 00	0.00	5,200.0	1,933 0	0.0	0.0	0 0	0 00	382,635 56	716,641.82
5,300 0	0 00	0 00	5,300 0	2,033 0	0 0	0.0	0.0	0 00	382,635 56	716,641 82

Company:	Devon Energy, Inc.	**Local Co-ordinate Reference:**	Well #4H
Project	Eddy County	**TVD Reference**	KB = 26.5 @ 3267 0usft (H&P 416)
Site	Snapping "10" Federal	**MD Reference**	KB = 26 5 @ 3267 0usft (H&P 416)
Well	#4H	**North Reference**	Grid
Wellbore	OH	**Survey Calculation Method**	Minimum Curvature
Design:	Plan #1	**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)
5,400 0	0 00	0.00	5,400 0	2,133 0	0.0	0 0	0.0	0 00	382,635 56	716,641 82
5,500.0	0.00	0 00	5,500.0	2,233 0	0 0	0.0	0.0	0.00	382,635 56	716,641 82
5,600 0	0 00	0 00	5,600.0	2,333 0	0.0	0 0	0.0	0 00	382,635 56	716,641 82
5,700 0	0 00	0 00	5,700.0	2,433 0	0.0	0 0	0 0	0.00	382,635 56	716,641 82
5,800.0	0 00	0 00	5,800 0	2,533 0	0.0	0.0	0.0	0 00	382,635 56	716,641 82
5,900.0	0 00	0 00	5,900 0	2,633 0	0.0	0.0	0 0	0 00	382,635 56	716,641 82
6,000 0	0 00	0.00	6,000 0	2,733.0	0 0	0.0	0.0	0 00	382,635 56	716,641 82
6,100 0	0 00	0.00	6,100 0	2,833 0	0 0	0.0	0.0	0 00	382,635 56	716,641 82
6,200 0	0 00	0.00	6,200 0	2,933 0	0 0	0 0	0.0	0 00	382,635 56	716,641 82
6,300 0	0 00	0.00	6,300 0	3,033 0	0 0	0 0	0.0	0 00	382,635.56	716,641.82
6,400 0	0 00	0.00	6,400.0	3,133 0	0.0	0 0	0.0	0 00	382,635 56	716,641 82
6,500 0	0 00	0 00	6,500.0	3,233 0	0.0	0 0	0 0	0 00	382,635 56	716,641 82
6,600 0	0 00	0 00	6,600.0	3,333 0	0.0	0.0	0 0	0 00	382,635.56	716,641.82
6,700 0	0 00	0 00	6,700 0	3,433 0	0 0	0.0	0 0	0 00	382,635 56	716,641 82
6,800.0	0.00	0.00	6,800 0	3,533 0	0 0	0.0	0 0	0 00	382,635.56	716,641 82
6,900.0	0 00	0 00	6,900 0	3,633 0	0.0	0 0	0.0	0 00	382,635 56	716,641 82
7,000 0	0 00	0 00	7,000 0	3,733 0	0 0	0 0	0.0	0 00	382,635 56	716,641 82
7,100 0	0 00	0.00	7,100.0	3,833 0	0.0	0 0	0.0	0 00	382,635 56	716,641.82
7,200 0	0 00	0.00	7,200.0	3,933 0	0 0	0 0	0.0	0 00	382,635 56	716,641 82
7,300 0	0 00	0 00	7,300 0	4,033 0	0.0	0 0	0 0	0 00	382,635 56	716,641 82
7,400 0	0 00	0.00	7,400 0	4,133 0	0.0	0 0	0.0	0 00	382,635 56	716,641 82
7,500 0	0 00	0.00	7,500.0	4,233 0	0.0	0 0	0 0	0 00	382,635 56	716,641 82
7,600 0	0 00	0.00	7,600.0	4,333 0	0.0	0.0	0 0	0 00	382,635 56	716,641 82
7,700 0	0 00	0 00	7,700.0	4,433 0	0.0	0.0	0 0	0 00	382,635 56	716,641 82
7,800 0	0 00	0.00	7,800.0	4,533 0	0 0	0 0	0 0	0 00	382,635 56	716,641 82
7,900 0	0 00	0.00	7,900.0	4,633 0	0.0	0.0	0 0	0 00	382,635 56	716,641 82
8,000 0	0 00	0 00	8,000.0	4,733 0	0.0	0 0	0 0	0 00	382,635 56	716,641 82

Company:	Devon Energy, Inc.	**Local Co-ordinate Reference:**	Well #4H
Project	Eddy County	**TVD Reference:**	KB = 26 5 @ 3267 0usft (H&P 416)
Site	Snapping "10" Federal	**MD Reference:**	KB = 26.5 @ 3267.0usft (H&P 416)
Well:	#4H	**North Reference:**	Grid
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan #1	**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)
8,100 0	0.00	0 00	8,100.0	4,833.0	0.0	0.0	0.0	0.00	382,635.56	716,641.82
8,200.0	0 00	0.00	8,200.0	4,933 0	0.0	0 0	0.0	0 00	382,635 56	716,641.82
8,300 0	0 00	0.00	8,300.0	5,033 0	0.0	0.0	0.0	0.00	382,635 56	716,641 82
8,357.0	0.00	0.00	8,357.0	5,090 0	0 0	0.0	0.0	0 00	382,635 56	716,641.82
8,400.0	4 30	326 01	8,400 0	5,133 0	1 3	-0 9	1 4	10 00	382,636.90	716,640 92
8,450.0	9.30	326 01	8,449 6	5,182 6	6 2	-4.2	6.7	10 00	382,641.80	716,637 61
8,500.0	14.30	326.01	8,498.5	5,231.5	14 7	-9.9	15 8	10 00	382,650 28	716,631.90
8,550.0	19 30	326 01	8,546 4	5,279 4	26.7	-18 0	28 6	10.00	382,662 26	716,623.82
8,600.0	24.30	326.01	8,592.8	5,325.8	42 1	-28 4	45 1	10 00	382,677.65	716,613.44
8,650.0	29.30	326 01	8,637 4	5,370 4	60.8	-41.0	65.1	10.00	382,696 33	716,600 84
8,700.0	34 30	326.01	8,679 9	5,412 9	82 6	-55 7	88 5	10 00	382,718.17	716,586 12
8,750 0	39.30	326.01	8,719.9	5,452 9	107 4	-72 4	115 2	10 00	382,743.00	716,569 38
8,800 0	44 30	326 01	8,757 2	5,490 2	135 1	-91 1	144 8	10 00	382,770 62	716,550 75
8,850 0	49 30	326 01	8,791 4	5,524 4	165 3	-111 4	177 1	10.00	382,800 83	716,530 38
8,900 0	54 30	326 01	8,822 3	5,555.3	197.8	-133.4	212 1	10 00	382,833 40	716,508 42
8,950 0	59 30	326 01	8,849.7	5,582 7	232 5	-156 8	249 2	10 00	382,868 08	716,485.04
9,000 0	64 30	326 01	8,873 3	5,606 3	269 0	-181 4	288 4	10.00	382,904 61	716,460 41
9,050.0	69 30	326.01	8,893.0	5,626 0	307 1	-207 1	329 2	10 00	382,942 70	716,434 73
9,100.0	74 30	326.01	8,908.6	5,641.6	346.5	-233 6	371 4	10 00	382,982 07	716,408 19
9,150.0	79 30	326.01	8,920.0	5 653.0	386 9	-260 8	414 6	10 00	383,022 42	716,380 98
9,200.0	84 30	326.01	8,927.1	5,660 1	427.9	-288 5	458 6	10 00	383,063 44	716,353 32
9,254 3	89 73	326 01	8,930.0	5,663 0	472 8	-318 8	506 8	10 00	383,108 38	716,323.02
9,300.0	89 73	327.84	8,930.2	5,663 2	511 1	-343 7	547.7	4 00	383,146.67	716,298 08
9,400.0	89 72	331 84	8,930.6	5,663.6	597 6	-394 0	639 4	4 00	383,233 12	716,247 85
9,500.0	89 72	335 84	8,931.1	5,664 1	687 3	-438 1	733 7	4 00	383,322 85	716,203.76
9,600.0	89 72	339.84	8,931.6	5,664 6	779 9	-475 8	830 1	4 00	383,415 44	716,166 05
9,700.0	89 72	343 84	8,932 1	5,665 1	874 9	-506 9	928 0	4 00	383,510 44	716,134 89

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Pathfinder

Pathfinder X & Y Report

PATHFINDER
A Schlumberger Company

Company:	Devon Energy, Inc.	**Local Co-ordinate Reference:**	Well #4H
Project:	Eddy County	**TVD Reference:**	KB = 26 5 @ 3267 0usft (H&P 416)
Site:	Snapping "10" Federal	**MD Reference:**	KB = 26 5 @ 3267 0usft (H&P 416)
Well:	#4H	**North Reference:**	Grid
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan #1	**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)
9,800.0	89 73	347 84	8,932 6	5,665 6	971.8	-531 4	1,027.2	4 00	383,607 38	716,110.42
9,900.0	89 73	351 84	8,933.1	5,666 1	1,070 2	-549.0	1,127 0	4 00	383,705 79	716,092 79
10,000 0	89 73	355 84	8,933.5	5,666 5	1,169 6	-559 8	1,226 9	4 00	383,805 19	716,082 05
10,104 1	89.74	0.00	8,934.0	5,667 0	1,273 6	-563 5	1,330 7	4 00	383,909 19	716,078 28
10,200 0	89 74	0 00	8,934 4	5,667 4	1,369 5	-563 5	1,425 9	0 00	384,005 10	716,078 28
10,300 0	89 74	0.00	8,934 9	5,667 9	1,469 5	-563 5	1,525 2	0 00	384,105 10	716,078.29
10,400.0	89.74	0 00	8,935 3	5,668.3	1,569 5	-563 5	1,624 6	0 00	384,205 10	716,078 29
10,500 0	89 74	0 00	8,935 8	5,668.8	1,669 5	-563 5	1,723 9	0 00	384,305 10	716,078 29
10,600.0	89 74	0.00	8,936 3	5,669 3	1,769 5	-563 5	1,823 2	0 00	384,405 09	716,078 30
10,700 0	89.74	0 00	8,936 7	5,669 7	1,869 5	-563.5	1,922.5	0 00	384,505.09	716,078.30
10,800 0	89 74	0 00	8,937.2	5,670 2	1,969 5	-563 5	2,021 8	0 00	384,605.09	716,078 30
10,900.0	89 74	0.00	8,937.6	5,670 6	2,069.5	-563 5	2,121.1	0 00	384,705 09	716,078 31
11,000 0	89.74	0 00	8,938.1	5,671.1	2,169 5	-563.5	2,220.5	0 00	384,805.09	716,078 31
11,100.0	89 74	0 00	8,938 5	5,671 5	2,269 5	-563 5	2,319 8	0 00	384,905 09	716,078 32
11,200 0	89 74	0 00	8,939.0	5,672 0	2,369.5	-563.5	2,419 1	0.00	385,005 09	716,078 32
11,300 0	89 74	0 00	8,939.4	5,672 4	2,469.5	-563 5	2,518 4	0 00	385,105 09	716,078.32
11,400 0	89 74	0 00	8,939 9	5,672 9	2,569 5	-563 5	2,617.7	0 00	385,205 09	716,078.33
11,500 0	89 74	0 00	8,940.3	5,673 3	2,669 5	-563 5	2,717.0	0 00	385,305.09	716,078 33
11,600 0	89 74	0 00	8,940.8	5,673 8	2,769 5	-563 5	2,816 3	0 00	385,405 08	716,078 33
11,700 0	89 74	0 00	8,941 2	5,674 2	2,869 5	-563 5	2,915 7	0 00	385,505 08	716,078 34
11,800 0	89 74	0 00	8,941 7	5,674 7	2,969 5	-563 5	3,015 0	0 00	385,605 08	716,078 34
11,900 0	89 74	0 00	8,942 2	5,675 2	3,069.5	-563 5	3,114 3	0 00	385,705 08	716,078 35
12,000 0	89 74	0 00	8,942 6	5,675 6	3,169 5	-563 5	3,213 6	0 00	385,805 08	716,078 35
12,100 0	89 74	0.00	8,943 1	5,676 1	3,269 5	-563 5	3,312 9	0 00	385,905.08	716,078 35
12,200 0	89 74	0 00	8,943.5	5,676 5	3,369 5	-563 5	3,412 2	0 00	386,005 08	716,078 36
12,300 0	89 74	0.00	8,944.0	5,677 0	3,469.5	-563.5	3,511 6	0 00	386,105.08	716,078 36
12,400 0	89 74	0 00	8,944.4	5,677 4	3,569 5	-563.5	3,610.9	0.00	386,205 08	716,078.36

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Pathfinder

Pathfinder X & Y Report

PATHFINDER
A Schlumberger Company

Company:	Devon Energy, Inc	**Local Co-ordinate Reference:**	Well #4H
Project:	Eddy County	**TVD Reference:**	KB = 26 5 @ 3267 0usft (H&P 416)
Site:	Snapping "10" Federal	**MD Reference:**	KB = 26 5 @ 3267 0usft (H&P 416)
Well:	#4H	**North Reference:**	Grid
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design	Plan #1	**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)
12,500 0	89 74	0.00	8,944.9	5,677.9	3,669.5	-563 5	3,710 2	0 00	386,305 08	716,078 37
12,600 0	89 74	0 00	8,945 3	5,678.3	3,769 5	-563.4	3,809 5	0 00	386,405 07	716,078 37
12,700.0	89 74	0.00	8,945 8	5,678 8	3,869.5	-563 4	3,908 8	0 00	386,505 07	716,078 38
12,800 0	89 74	0.00	8,946 2	5,679.2	3,969.5	-563.4	4,008 1	0.00	386,605.07	716,078 38
12,900 0	89 74	0.00	8,946.7	5,679 7	4,069 5	-563 4	4,107.5	0 00	386,705 07	716,078 38
13,000 0	89 74	0 00	8,947 2	5,680 2	4,169 5	-563 4	4,206 8	0 00	386,805 07	716,078 39
13,100 0	89 74	0.00	8,947 6	5,680.6	4,269 5	-563 4	4,306 1	0.00	386,905 07	716,078 39
13,200 0	89.74	0 00	8,948.1	5,681 1	4,369 5	-563 4	4,405 4	0 00	387,005 07	716,078 39
13,300 0	89 74	0.00	8,948.5	5,681 5	4,469.5	-563 4	4,504.7	0 00	387,105.07	716,078.40
13,400 0	89 74	0.00	8,949.0	5,682 0	4,569 5	-563 4	4,604 0	0 00	387,205 07	716,078 40
13,500 0	89 74	0 00	8,949.4	5,682 4	4,669.5	-563 4	4,703 3	0 00	387,305 06	716,078 41
13,600 0	89 74	0.00	8,949.9	5,682 9	4,769.5	-563 4	4,802 7	0.00	387,405 06	716,078 41
13,627 4	89 74	0.00	8,950.0	5,683 0	4,796 9	-563.4	4,829 9	0 00	387,432 49	716,078 41

Checked By. _____ Approved By _____ Date. _____

devon

Project Eddy County
Site Snapping "10" Federal
Well #4H
Wellbore OH
Plan Plan #1 (#4H/OH)

PATHFINDER®
A Schlumberger Company

PROJECT DETAILS Eddy County	
Geodetic System	US State Plane 1983
Datum	North American Datum 1983
Ellipsoid	GRS 1980
Zone	New Mexico Eastern Zone
System Datum	Mean Sea Level
Local North	Grid

G
T M

Azimuths to Grid North
True North -0 30°
Magnetic North 7 30°

Magnetic Field
Strength 48484 2snT
Dip Angle 60 00°
Date 11/30/2011
Model IGRF200510

WELL DETAILS #4H

Ground Elevation 3240 5
RKB Elevation KB = 26 5 @ 3267 0usft (H&P 416)
Rig Name H&P 416

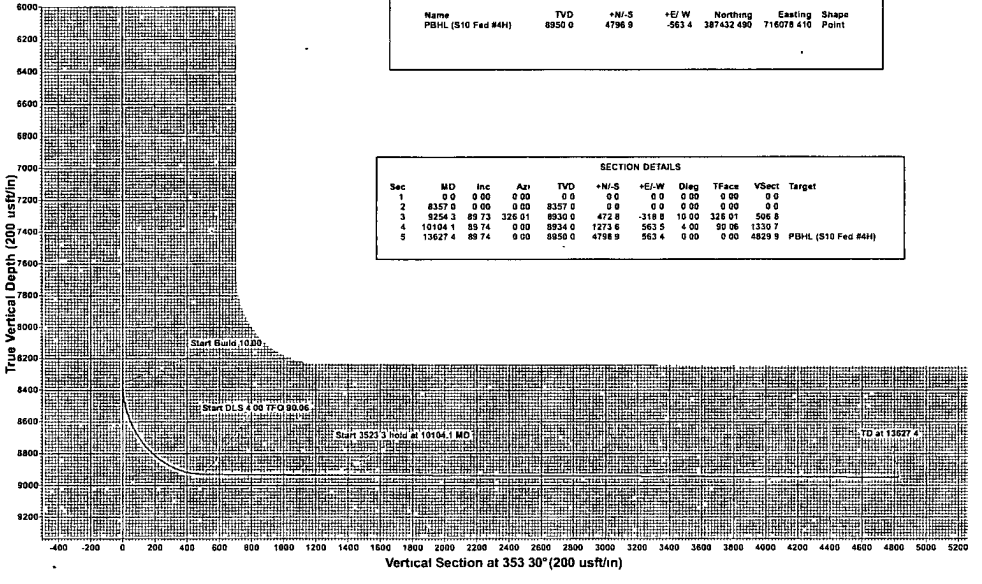
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0 0	0 0	382535 560	716641 820	32° 3' 2 458 N	103° 48' 3 023 W	

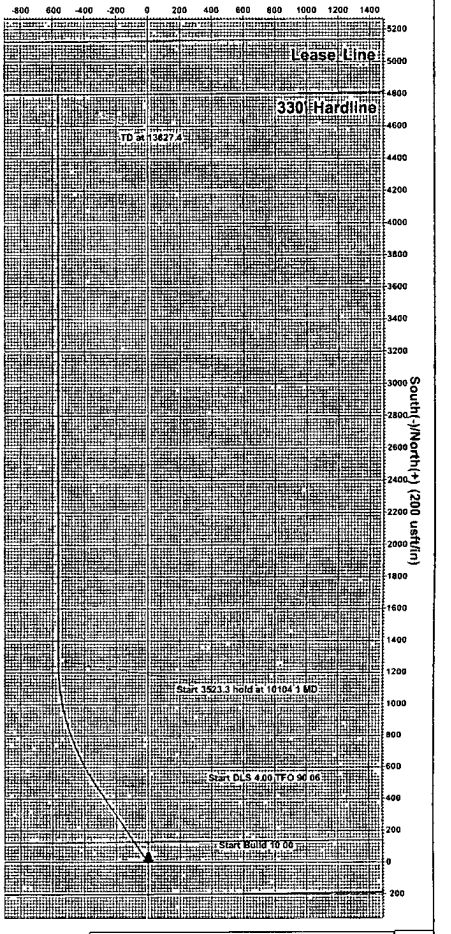
WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
PBHL (S10 Fed #4H)	8950 0	4796 9	-563 4	387432 490	716078 410	Point

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0 0	0 00	0 00	0 0	0 0	0 0	0 00	0 00	0 0	
2	8357 0	0 00	0 00	8357 0	0 0	0 0	0 00	0 00	0 0	
3	9254 3	89 73	326 01	8930 0	472 8	-318 8	10 00	326 01	506 8	
4	10104 1	89 74	0 00	8934 0	1273 6	563 5	4 00	90 06	1330 7	
5	13627 4	89 74	0 00	8950 0	4798 9	563 4	0 00	0 00	4829 9	PBHL (S10 Fed #4H)





Plan Plan #1 (#4H/OH)
Created By Sam Birtle Date 18 19 November 30 2011

devon

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

Hydrogen Sulfide (H_2S) Contingency Plan

For

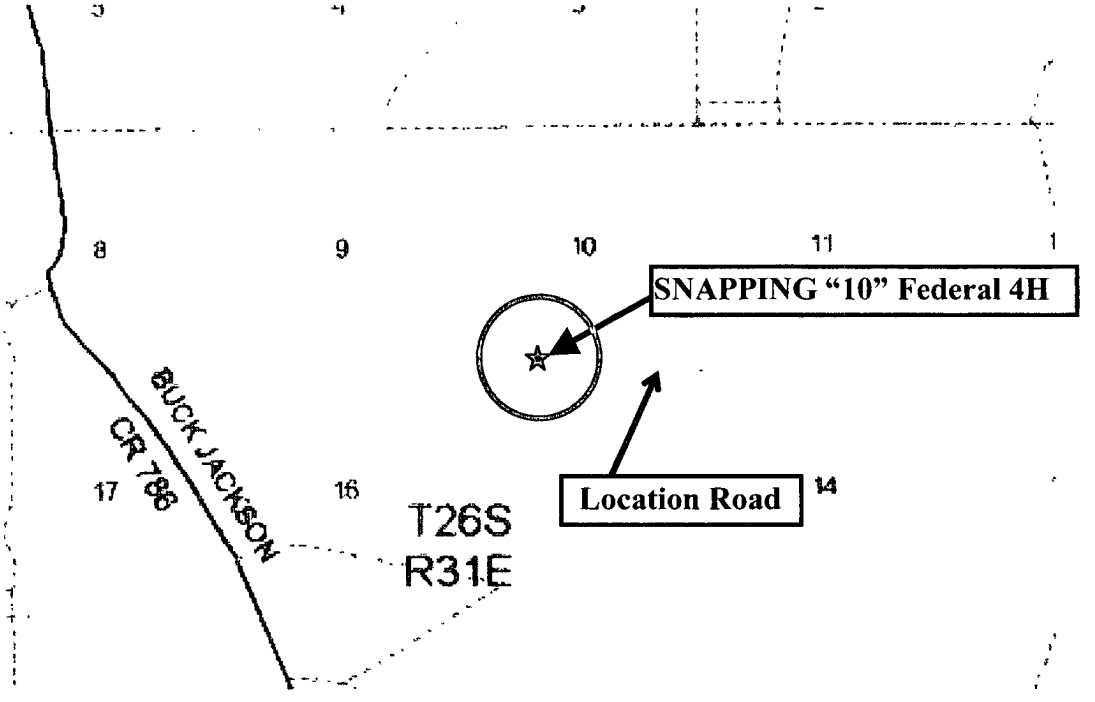
SNAPPING "10" Federal 4H

Sec-10, T-26S R-31E
200' FSL & 2215' FWL,
LAT. = 32.0506823'N (NAD83)
LONG = 103.7675064'W

Eddy County NM

SNAPPING "10" Federal 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 [illegible] 3000' ([illegible])
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 East then North on lease road. Crews should then block entrance to the location from the lease 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)

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

devon

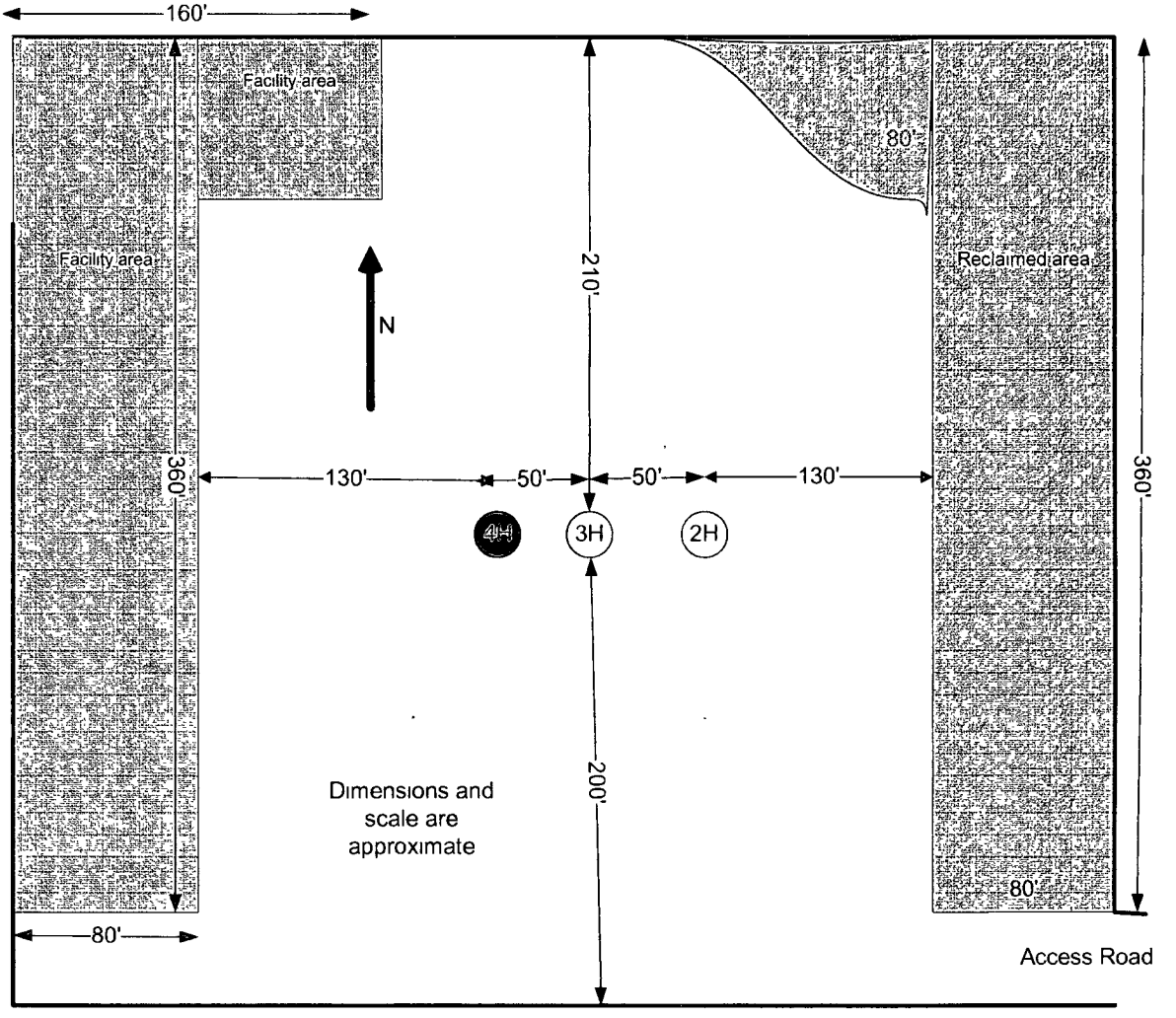
Proposed Interim Site Configuration

Devon Energy Production Co.
Snapping 10 Federal #4H
200 ' FSL & 2215 ' FWL
Sec. 10 T26S R31E
Eddy County, NM

Well to occupy a 3-well pad with wells #2H and 3H. All three wells will produce to the same facility.

Proposed Reclamation Area

50'



Original location size:
520' x 410'

PECOS DISTRICT
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Devon Energy prod Co
LEASE NO.:	NM89057
WELL NAME & NO.:	4H Snapping 10 Federal
SURFACE HOLE FOOTAGE:	200' FSL & 2215' FWL
BOTTOM HOLE FOOTAGE	330' FNL & 1670' FWL
LOCATION:	Section 10, T.26 S., R.31 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.

I. GENERAL PROVISIONS

The approval of the Application For Permit To Drill (APD) is in compliance with all applicable laws and regulations: 43 Code of Federal Regulations 3160, the lease terms, Onshore Oil and Gas Orders, Notices To Lessees, New Mexico Oil Conservation Division (NMOCD) Rules, National Historical Preservation Act As Amended, and instructions and orders of the Authorized Officer. Any request for a variance shall be submitted to the Authorized Officer on Form 3160-5, Sundry Notices and Report on Wells.

II. PERMIT EXPIRATION

If the permit terminates prior to drilling and drilling cannot be commenced within 60 days after expiration, an operator is required to submit Form 3160-5, Sundry Notices and Reports on Wells, requesting surface reclamation requirements for any surface disturbance. However, if the operator will be able to initiate drilling within 60 days after the expiration of the permit, the operator must have set the conductor pipe in order to allow for an extension of 60 days beyond the expiration date of the APD. (Filing of a Sundry Notice is required for this 60 day extension.)

III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

Any cultural and/or paleontological resource discovered by the operator or by any person working on the operator's behalf shall immediately report such findings to the Authorized Officer. The operator is fully accountable for the actions of their contractors and subcontractors. The operator shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery shall be made by the Authorized Officer to determine the appropriate actions that shall be required to prevent the loss of significant cultural or scientific values of the discovery. The operator shall be held responsible for the cost of the proper mitigation measures that the Authorized Officer assesses after consultation with the operator on the evaluation and decisions of the discovery. Any unauthorized collection or disturbance of cultural or paleontological resources may result in a shutdown order by the Authorized Officer.

IV. NOXIOUS WEEDS

The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipeline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

V. SPECIAL REQUIREMENT(S)

Stipulations/Condition of Approval for Phantom Banks Heronries: Surface disturbance will not be allowed within up to 200 meters of active heronries or by delaying activity for up to 120 days, or a combination of both. Exhaust noise from pump jack engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 ft. from the source of the noise.

VI. CONSTRUCTION

A. NOTIFICATION

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Carlsbad Field Office at (575) 234-6235 at least 3 working days prior to commencing construction of the access road and/or well pad.

When construction operations are being conducted on this well, the operator shall have the approved APD and Conditions of Approval (COA) on the well site and they shall be made available upon request by the Authorized Officer.

B. TOPSOIL

The operator shall stockpile the topsoil in a low profile manner in order to prevent wind/water erosion of the topsoil. The topsoil to be stripped is approximately 4 inches in depth. The topsoil will be used for interim and final reclamation.

C. CLOSED LOOP SYSTEM

Tanks are required for drilling operations: No Pits.

The operator shall properly dispose of drilling contents at an authorized disposal site.

D. FEDERAL MINERAL MATERIALS PIT

Payment shall be made to the BLM prior to removal of any federal mineral materials. Call the Carlsbad Field Office at (575) 234-5972.

E. WELL PAD SURFACING

Surfacing of the well pad is not required.

If the operator elects to surface the well pad, the surfacing material may be required to be removed at the time of reclamation.

The well pad shall be constructed in a manner which creates the smallest possible surface disturbance, consistent with safety and operational needs.

F. ON LEASE ACCESS ROADS

Road Width

The access road shall have a driving surface that creates the smallest possible surface disturbance and does not exceed fourteen (14) feet in width. The maximum width of surface disturbance, when constructing the access road, shall not exceed twenty (20) feet.

Surfacing

Surfacing material is not required on the new access road driving surface. If the operator elects to surface the new access road or pad, the surfacing material may be required to be removed at the time of reclamation.

Where possible, no improvements should be made on the unsurfaced access road other than to remove vegetation as necessary, road irregularities, safety issues, or to fill low areas that may sustain standing water.

The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing depth and type of material will be determined at the time of notification.

Crowning

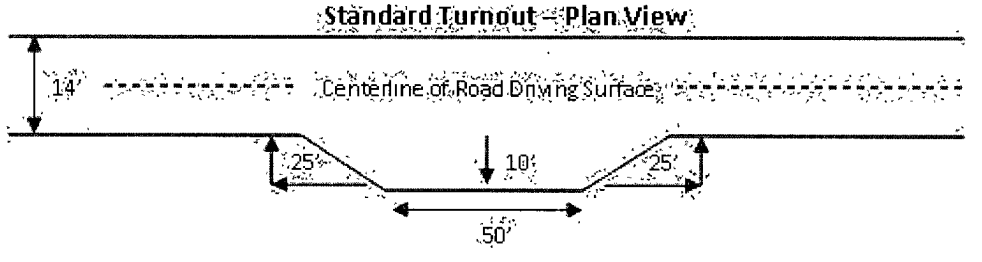
Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

Ditching

Ditching shall be required on both sides of the road.

Turnouts

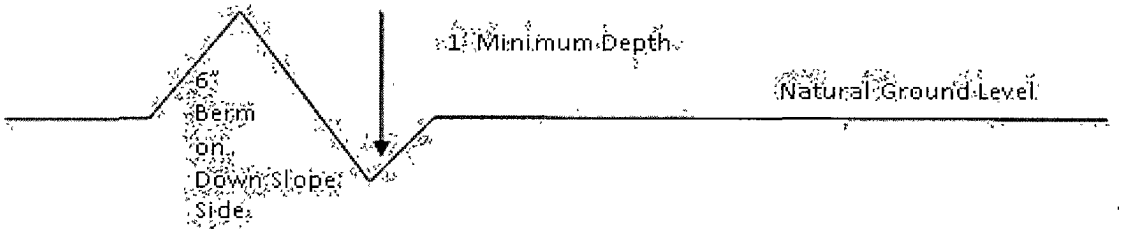
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall be constructed on all blind curves. Turnouts shall conform to the following diagram:



Drainage
Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outsloping and insloping, lead-off ditches, culvert installation, and low water crossings).

A typical lead-off ditch has a minimum depth of 1 foot below and a berm of 6 inches above natural ground level. The berm shall be on the down-slope side of the lead-off ditch.

Cross Section of a Typical Lead-off Ditch



All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval are variable for lead-off ditches and shall be determined according to the formula for spacing intervals of lead-off ditches, but may be amended depending upon existing soil types and centerline road slope (in %);

Formula for Spacing Interval of Lead-off Ditches

Example - On a 4% road slope that is 400 feet long, the water flow shall drain water into a lead-off ditch. Spacing interval shall be determined by the following formula:

$$\text{400 foot road with 4\% road slope: } \frac{400'}{4\%} + 100' = 200' \text{ lead-off ditch interval}$$

Culvert Installations
Appropriately sized culvert(s) shall be installed at the deep waterway channel flow crossing.

Cattleguards
An appropriately sized cattleguard(s) sufficient to carry out the project shall be installed and maintained at fence crossing(s).

Any existing cattleguard(s) on the access road shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattleguard(s) that are in place and are utilized during lease operations.

A gate shall be constructed and fastened securely to H-braces.

Fence Requirement

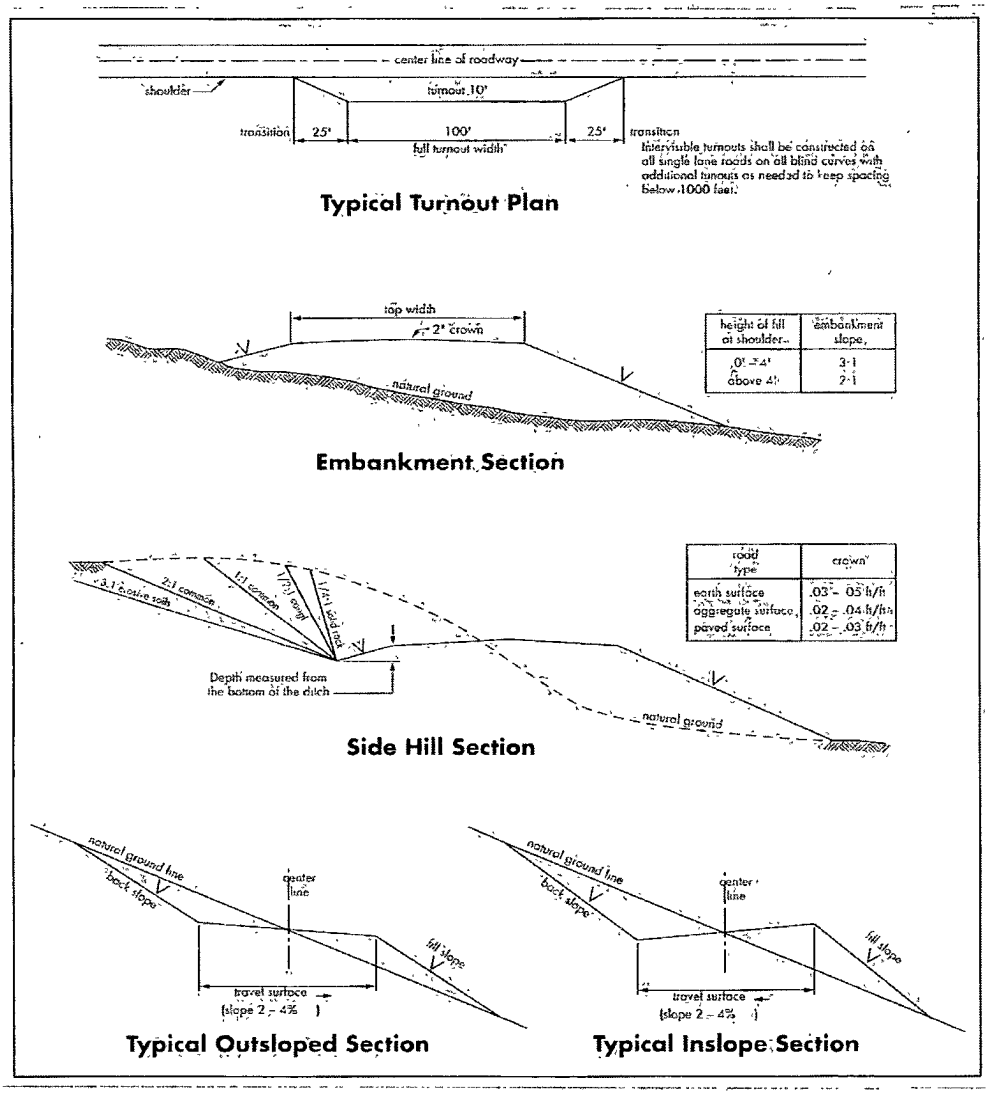
Where entry is required across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting.

The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fence(s).

Public Access

Public access on this road shall not be restricted by the operator without specific written approval granted by the Authorized Officer.

Figure 1 – Cross Sections and Plans For Typical Road Sections



VII. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

The BLM is to be notified a minimum of 4 hours in advance for a representative to witness:

a. Spudding well
b. Setting and/or Cementing of all casing strings
c. BOPE tests

☒ **Eddy County**
Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (575) 361-2822

1. **Although Hydrogen Sulfide has not been reported in the area, it is always a potential hazard. If Hydrogen Sulfide is encountered, please report measured amounts and formations to the BLM.**

2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.

3. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.

4. **The record of the drilling rate along with the CAL/GR/N well log run from TD to surface will be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.**

B. CASING

Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.).

Centralizers required on surface casing per Onshore Order 2.III.B.1.f.

Wait on cement (WOC) time for a primary cement job will be a minimum 18 hours for a water basin, 24 hours in the potash area, or 500 pounds compressive strength, whichever is greater for all casing strings. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. See individual casing strings for details regarding lead cement slurry requirements.

No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

Possible lost circulation in the Delaware and Bone Spring Groups.

1. The **13-3/8** inch surface casing shall be set at **approximately 1700 feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt)** and cemented to the surface.

This well is located within a solution trough; the operator shall employ a mud logger to pick the surface casing setting depth for the first of the three wells drilled on this pad.

   a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.

   b. Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry.

   c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.

   d. If cement falls back, remedial cementing will be done prior to drilling out that string.

2. The minimum required fill of cement behind the **9-5/8** inch intermediate casing is: **Set this casing in the base of the Castile or the Lamar Limestone at approximately 4050'.**

   ☒ Cement to surface. If cement does not circulate see B.1.a, c-d above.

Centralizers required on horizontal leg, must be type for horizontal service and minimum of one every other joint.

3. The minimum required fill of cement behind the **5-1/2** inch production casing is:

    a. First stage to DV tool, cement shall:

    ☒ Cement to circulate. If cement does not circulate, contact the appropriate BLM office before proceeding with second stage cement job.

    b. Second stage above DV tool, cement shall:

    ☒ Cement should tie-back at least 400 feet into previous casing string. Operator shall provide method of verification.

4. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

C. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.

2. Variance approved to use flex line from BOP to choke manifold. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. **Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review**. If the BLM inspector questions the straightness of the hose, a BLM engineer will be contacted and will review in the field or via picture supplied by inspector to determine if changes are required (operator shall expect delays if this occurs).

3. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **3000 (3M)** psi. **Operator installing a 5M system and testing as a 3M.**

    a. **For surface casing only:** If the BOP/BOPE is to be tested against casing, the wait on cement (WOC) time for that casing is to be met (see WOC statement at start of casing section). Independent service company required.

2. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **9-5/8** intermediate casing shoe shall be **3000 (3M)** psi.

3. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.

    a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips or where the float does not hold, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).

    b. The tests shall be done by an independent service company utilizing a test plug **not a cup or J-packer**. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (18 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).

    c. The results of the test shall be reported to the appropriate BLM office.

    d. All tests are required to be recorded on a calibrated test chart. **A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.**

    e. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug.

D. WASTE MATERIAL AND FLUIDS

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area.

Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

CRW 012312

VIII. PRODUCTION (POST DRILLING)

A. WELL STRUCTURES & FACILITIES

Placement of Production Facilities
Production facilities should be placed on the well pad to allow for maximum interim recontouring and revegetation of the well location.

Containment Structures
The containment structure shall be constructed to hold the capacity of the entire contents of the largest tank, plus 24 hour production, unless more stringent protective requirements are deemed necessary by the Authorized Officer.

Painting Requirement
All above-ground structures including meter housing that are not subject to safety requirements shall be painted a flat non-reflective paint color
Shale Green, Munsell Soil Color Chart # 5Y 4/2

IX. INTERIM RECLAMATION

During the life of the development, all disturbed areas not needed for active support of production operations should undergo interim reclamation in order to minimize the environmental impacts of development on other resources and uses.

Within six (6) months of well completion, operators should work with BLM surface management specialists (Jim Amos: 575-234-5909) to devise the best strategies to reduce the size of the location. Interim reclamation should allow for remedial well operations, as well as safe and efficient removal of oil and gas.

During reclamation, the removal of caliche is important to increasing the success of revegetating the site. Removed caliche that is free of contaminants may be used for road repairs, fire walls or for building other roads and locations. In order to operate the well or complete workover operations, it may be necessary to drive, park and operate on restored interim vegetation within the previously disturbed area. Disturbing revegetated areas for production or workover operations will be allowed. If there is significant disturbance and loss of vegetation, the area will need to be revegetated. Communicate with the appropriate BLM office for any exceptions/exemptions if needed.

All disturbed areas after they have been satisfactorily prepared need to be reseeded with the seed mixture provided below.

Upon completion of interim reclamation, the operator shall submit a Sundry Notices and Reports on Wells, Subsequent Report of Reclamation (Form 3160-5).

X. FINAL ABANDONMENT & RECLAMATION

At final abandonment, well locations, production facilities, and access roads must undergo "final" reclamation so that the character and productivity of the land are restored.

Earthwork for final reclamation must be completed within six (6) months of well plugging. All pads, pits, facility locations and roads must be reclaimed to a satisfactory revegetated, safe, and stable condition, unless an agreement is made with the landowner or BLM to keep the road and/or pad intact.

After all disturbed areas have been satisfactorily prepared, these areas need to be revegetated with the seed mixture provided below. Seeding should be accomplished by drilling on the contour whenever practical or by other approved methods. Seeding may need to be repeated until revegetation is successful, as determined by the BLM.

Operators shall contact a BLM surface protection specialist prior to surface abandonment operations for site specific objectives (Jim Amos: 575-234-5909).

Seed Mixture 2, for Sandy Sites

The holder shall seed all disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)* per acre. There shall be no primary or secondary noxious weeds in the seed mixture. Seed will be tested and the viability testing of seed will be done in accordance with State law (s) and within nine (9) months prior to purchase. Commercial seed will be either certified or registered seed. The seed container will be tagged in accordance with State law(s) and available for inspection by the authorized officer.

Seed will be planted using a drill equipped with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (smaller/heavier seeds have a tendency to drop the bottom of the drill and are planted first). The holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. The seeding will be repeated until a satisfactory stand is established as determined by the authorized officer. Evaluation of growth will not be made before completion of at least one full growing season after seeding.

Species to be planted in pounds of pure live seed* per acre:

Species	lb/acre
Sand dropseed (Sporobolus cryptandrus)	1.0
Sand love grass (Eragrostis trichodes)	1.0
Plains bristlegrass (Setaria macrostachya)	2.0

*Pounds of pure live seed:
Pounds of seed **x** percent purity **x** percent germination = pounds pure live seed

38187

DISTRICT I --- CHECKLIST FOR INTENTS TO DRILL

Operator Devon OGRID # 6137
Well Name & # ~~Vega~~ Snapping 10 Federal 004H Surface Type (F) (S) (P)
Location: UL N, Sect 10, Twnship 26 s, RNG 31 e, Sub-surface Type (F) (S) (P)

A. Date C101 rec'd 1/25/2012 C101 reviewed 1/27/2012

B. 1. Check mark, Information is OK on Forms:
OGRID ✓, BONDING ✓, PROP CODE ✓, WELL # ✓, SIGNATURE ✓
2. Inactive Well list as of : 1/27/2012 # wells 1621 # Inactive wells 3
a. District Grant APD but see number of inactive wells:
No letter required ✓; Sent Letter to Operator ____, to Santa Fe ____
3. Additional Bonding as of: 1/27/2012
a. District Denial because operator needs addition bonding:
No Letter required ✓; Sent Letter to Operator ____, To Santa Fe____
b. District Denial because of Inactive well list and Financial Assurance:
No Letter required ✓; Sent Letter to Operator ____, To Santa Fe ___

C. C102 YES ✓, NO ___, Signature ✓
1. Pool Jennings; B.S. West, Code 97860
a. Dedicated acreage ______, What Units______
b. SUR. Location Standard ______: 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 ✓, No ____
a. Dedicated acreage 320, What Units ______
b. Bottomhole Location Standard ______, Non-Standard Bottomhole ______
4. Downhole Commingle: Yes_____, No_____
a. Pool #2______________, Code__________, Acres_______
Pool #3______________, Code __________, Acres _______
Pool #4______________, Code__________, Acres_______
5. POTASH Area Yes _____, No ✓,

D. Blowout Preventer Yes ____, No ✓,

E. H2S Yes ✓, No ______

F. C144 Pit Registration Yes ✓, No ______,

G. Does APD require Santa Fe Approval:
1. Non-Standard Location: Yes _____, No ✓, NSL #__________
2. Non-Standard Proration: Yes_____, No ✓, NSP # __________
3. Simultaneous Dedication: Yes _____, No ✓, SD # __________
Number of wells ________ Plus #________
4. Injection order Yes _____, No ✓; PMX #_______ or WFX #_______
5. SWD order Yes _______, NO ✓; SWD # ________
6. DHC from SF_______________; DHC-HOB_______; Holding______________

7. OCD Approval Date 1/27/2012 API #30-015-39867
8. Reviewers TCS