

OCD-ARTESIA

ATS-12-171

Form 3160-3
(April 2004)UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

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

1a Type of work <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5 Lease Serial No. NMNM-89057
1b Type of Well: <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		6 If Indian, Allottee or Tribe Name
2 Name of Operator Devon Energy Production Company, LP		7 If Unit or CA Agreement, Name and No
3a Address 20 North Broadway Oklahoma City, Oklahoma City 73102-8260		8 Lease Name and Well No Snapping 10 Federal 2H [3889]
3b. Phone No (include area code) 405-228-8699		9 API Well No 30-015-39865
4 Location of Well (Report location clearly and in accordance with any State requirements *) At surface SE/4 SW/4 200 FSL & 2315 FWL At proposed prod zone NW/4/ NE/4 330 FSL & 2485 FEL UNORTHODOX LOCATION		10 Field and Pool, or Exploratory Jennings; Bone Spring, West [99860]
14 Distance in miles and direction from nearest town or post office* Approximately 25 miles southeast of Loving, NM.		11 Sec, T R M or Blk and Survey or Area SEC 10 T26S R31E
15 Distance from proposed* location to nearest property or lease line, ft (Also to nearest drg 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 Acres
18 Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft See Attached Map	19 Proposed Depth TVD 8960' MD 13,627'	20 BLM/BIA Bond No on file CO-1104 NM BCC 0801 per operator required by NM OCP due to 3 wells on pad.
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 | 4 Bond to cover the operations unless covered by an existing bond on file (see Item 20 above) |
| 2 A Drilling Plan | 5 Operator certification |
| 3 A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office) | 6 Such other site specific information and/or plans as may be required by the authorized officer |

25 Signature <i>Judy A. Barnett</i>	Name (Printed/Typed) Judy A. Barnett	Date 12/06/2011
Title Regulatory Specialist		

Approved by: (Signature) Is/ 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

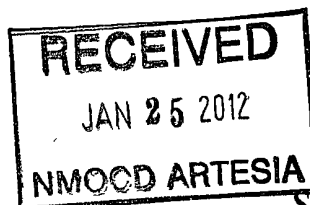
APPROVAL FOR TWO YEARS

Title 18 USC Section 1001 and Title 43 USC 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)

NSL

Carlsbad Controlled Water Basin

Approval Subject to General Requirements
& Special Stipulations AttachedSEE ATTACHED FOR
CONDITIONS OF APPROVAL

1625 N. French Dr., Hobbs, NM 88240

1301 W. Grand Avenue, Artesia, NM 88210

1000 Rio Bravo Rd. Aztec, NM 87410

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 PLAN

API Number 36015-39865	Pool Code 97860	Pool Name Jennings; Bone Spring, West
Property Code 38187	Property Name SNAPPING "10" FEDERAL	Well Number 2H
OGRIID No. 6137	Operator Name DEVON ENERGY PRODUCTION COMPANY, L.P.	Elevation 3240.5

¹¹ Surface Location

U.L. 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	2315	WEST	EDDY

" Bottom Hole Location If Different From Surface

U or lot no	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
B	10	26 S	31 E		330	NORTH	2485	EAST	EDDY

Dedicated Acres 480	Joint or Infill	Consolidation Code	Order No. NSL-
------------------------	-----------------	--------------------	-------------------

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.

NW CORNER SEC. 10
LAT. = 32.0647722' N
LONG. = 103.7746333' W

NE CORNER SEC. 10
LAT. = 32.0648075' N
LONG. = 103.7574377' W

SW CORNER SEC. 10
LAT. = 32.0501214' N
LONG. = 103.7746546' W

SE CORNER SEC. 10
LAT. = 32.0501483' N
LONG. = 103.7574177' W

BOTTOM OF HOLE
LAT. = 32.0638842' N
LONG. = 103.7654082' W

SURFACE LOCATION
LAT. = 32.0506827' N (NAD83)
LONG. = 103.7671835' W

NOTE: THE NORTH SECTION LINE WAS CALCULATED USING GLO PLAT AND FIELD EVIDENCE

SNAPPING "10" FEDERAL #2H

OPERATOR CERTIFICATION

that I am certain that the information contained herein is true and complete to the best of my knowledge and belief, and that this representation either owns a working interest or an undivided mineral interest in the tract including the property described hereinafter, and has a right to drill this well of this location, and as a condition to the execution of such a mineral or working interest or as a condition including agreement in a company pooling, order the following order of the court:

[Signature] 12/06/11

Printed name
Judy A. Barnett

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 10 2011

Type of Survey

Signature and Seal of Professional Surveyor
Certificate Number: THOMONT JARAMILLO PLS 1279



Devon Energy, Inc.

Eddy County

Snapping "10" Federal

#2H

OH

Plan: Plan #1

Pathfinder X & Y Report

30 November, 2011

PATHFINDER[®]
A Schlumberger Company



Pathfinder
Pathfinder X & Y Report

PATHFINDER
A Schlumberger Company

Company: Devon Energy, Inc.
Project: Eddy County
Site: Snapping "10" Federal
Well: #2H
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference: Well #2H
TVD Reference: KB = 26.5 @ 3267 0usft (Original Well Elev)
MD Reference: KB = 26 5 @ 3267 0usft (Original Well Elev)
North Reference: Grd
Survey Calculation Method: Minimum Curvature
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	#2H					
Well Position	+N/-S	0 0 usft	Northing	382,636 250 usft	Latitude	32° 3' 2 458 N
	+E/-W	0 0 usft	Easting	716,741 750 usft	Longitude	103° 46' 1.862 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
	IGRF200510	11/30/2011	(°) 7 60	(°) 60 00	(nT) 48,484

Design:	Plan #1			
Audit Notes:				
Version:	Phase	PLAN	Tie On Depth.	0 0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(usft)	(usft)	(usft)	(°)
	0 0	0 0	0 0	6 05

Survey Tool Program		Date	11/30/2011		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0 0	13,627 4	Plan #1 (OH)	Pathfinder	Pathfinder MWD	



Pathfinder
Pathfinder X & Y Report



Company: Devon Energy, Inc.
Project: Eddy County
Site: Snapping "10" Federal
Well: #2H
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference: Well #2H
TVD Reference: KB = 26 5 @ 3267 0usft (Original Well Elev)
MD Reference: KB = 26 5 @ 3267 0usft (Original Well Elev)
North Reference: Grd
Survey Calculation Method: Minimum Curvature
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	382,636.25	716,741.75	
100.0	0.00	0.00	100.0	-3,167.0	0.0	0.0	0.0	0.00	382,636.25	716,741.75	
200.0	0.00	0.00	200.0	-3,067.0	0.0	0.0	0.0	0.00	382,636.25	716,741.75	
300.0	0.00	0.00	300.0	-2,967.0	0.0	0.0	0.0	0.00	382,636.25	716,741.75	
400.0	0.00	0.00	400.0	-2,867.0	0.0	0.0	0.0	0.00	382,636.25	716,741.75	
500.0	0.00	0.00	500.0	-2,767.0	0.0	0.0	0.0	0.00	382,636.25	716,741.75	
600.0	0.00	0.00	600.0	-2,667.0	0.0	0.0	0.0	0.00	382,636.25	716,741.75	
700.0	0.00	0.00	700.0	-2,567.0	0.0	0.0	0.0	0.00	382,636.25	716,741.75	
800.0	0.00	0.00	800.0	-2,467.0	0.0	0.0	0.0	0.00	382,636.25	716,741.75	
900.0	0.00	0.00	900.0	-2,367.0	0.0	0.0	0.0	0.00	382,636.25	716,741.75	
1,000.0	0.00	0.00	1,000.0	-2,267.0	0.0	0.0	0.0	0.00	382,636.25	716,741.75	
1,100.0	0.00	0.00	1,100.0	-2,167.0	0.0	0.0	0.0	0.00	382,636.25	716,741.75	
1,200.0	0.00	0.00	1,200.0	-2,067.0	0.0	0.0	0.0	0.00	382,636.25	716,741.75	
1,300.0	0.00	0.00	1,300.0	-1,967.0	0.0	0.0	0.0	0.00	382,636.25	716,741.75	
1,400.0	0.00	0.00	1,400.0	-1,867.0	0.0	0.0	0.0	0.00	382,636.25	716,741.75	
1,500.0	0.00	0.00	1,500.0	-1,767.0	0.0	0.0	0.0	0.00	382,636.25	716,741.75	
1,600.0	0.00	0.00	1,600.0	-1,667.0	0.0	0.0	0.0	0.00	382,636.25	716,741.75	
1,700.0	0.00	0.00	1,700.0	-1,567.0	0.0	0.0	0.0	0.00	382,636.25	716,741.75	
1,800.0	0.00	0.00	1,800.0	-1,467.0	0.0	0.0	0.0	0.00	382,636.25	716,741.75	
1,900.0	0.00	0.00	1,900.0	-1,367.0	0.0	0.0	0.0	0.00	382,636.25	716,741.75	
2,000.0	0.00	0.00	2,000.0	-1,267.0	0.0	0.0	0.0	0.00	382,636.25	716,741.75	
2,100.0	0.00	0.00	2,100.0	-1,167.0	0.0	0.0	0.0	0.00	382,636.25	716,741.75	
2,200.0	0.00	0.00	2,200.0	-1,067.0	0.0	0.0	0.0	0.00	382,636.25	716,741.75	
2,300.0	0.00	0.00	2,300.0	-967.0	0.0	0.0	0.0	0.00	382,636.25	716,741.75	
2,400.0	0.00	0.00	2,400.0	-867.0	0.0	0.0	0.0	0.00	382,636.25	716,741.75	
2,500.0	0.00	0.00	2,500.0	-767.0	0.0	0.0	0.0	0.00	382,636.25	716,741.75	
2,600.0	0.00	0.00	2,600.0	-667.0	0.0	0.0	0.0	0.00	382,636.25	716,741.75	



Pathfinder
Pathfinder X & Y Report



Company: Devon Energy, Inc
Project: Eddy County
Site: Snapping "10" Federal
Well: #2H
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference: Well #2H
TVD Reference: KB = 26 5 @ 3267 0usft (Original Well Elev)
MD Reference: KB = 26 5 @ 3267 0usft (Original Well Elev)
North Reference: Grd
Survey Calculation Method: Minimum Curvature
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	382,636.25	716,741.75	
2,800.0	0 00	0 00	2,800.0	-467 0	0 0	0 0	0 0	0 00	382,636.25	716,741.75	
2,900 0	0 00	0 00	2,900.0	-367 0	0 0	0 0	0 0	0 00	382,636.25	716,741.75	
3,000 0	0 00	0 00	3,000.0	-267 0	0 0	0 0	0 0	0 00	382,636.25	716,741.75	
3,100.0	0 00	0 00	3,100 0	-167 0	0 0	0 0	0 0	0 00	382,636.25	716,741.75	
3,200 0	0 00	0 00	3,200.0	-67 0	0 0	0 0	0 0	0 00	382,636.25	716,741.75	
3,300 0	0 00	0 00	3,300.0	33 0	0 0	0 0	0 0	0 00	382,636.25	716,741.75	
3,400 0	0 00	0 00	3,400.0	133 0	0 0	0 0	0 0	0 00	382,636.25	716,741.75	
3,500 0	0 00	0 00	3,500.0	233 0	0 0	0 0	0 0	0 00	382,636.25	716,741.75	
3,600.0	0 00	0 00	3,600.0	333 0	0 0	0 0	0 0	0 00	382,636.25	716,741.75	
3,700 0	0 00	0 00	3,700 0	433 0	0 0	0 0	0 0	0 00	382,636.25	716,741.75	
3,800 0	0 00	0 00	3,800.0	533 0	0 0	0 0	0 0	0 00	382,636.25	716,741.75	
3,900.0	0 00	0 00	3,900.0	633 0	0 0	0 0	0 0	0 00	382,636.25	716,741.75	
4,000 0	0 00	0 00	4,000 0	733 0	0 0	0 0	0 0	0 00	382,636.25	716,741.75	
4,100 0	0 00	0 00	4,100.0	833 0	0 0	0 0	0 0	0 00	382,636.25	716,741.75	
4,200 0	0 00	0 00	4,200.0	933 0	0 0	0 0	0 0	0 00	382,636.25	716,741.75	
4,300.0	0 00	0 00	4,300 0	1,033 0	0 0	0 0	0 0	0 00	382,636.25	716,741.75	
4,400 0	0 00	0 00	4,400 0	1,133 0	0 0	0 0	0 0	0 00	382,636.25	716,741.75	
4,500 0	0 00	0 00	4,500 0	1,233 0	0 0	0 0	0 0	0 00	382,636.25	716,741.75	
4,600 0	0 00	0 00	4,600 0	1,333 0	0 0	0 0	0 0	0 00	382,636.25	716,741.75	
4,700 0	0 00	0 00	4,700.0	1,433 0	0 0	0 0	0 0	0 00	382,636.25	716,741.75	
4,800 0	0 00	0 00	4,800 0	1,533 0	0 0	0 0	0 0	0 00	382,636.25	716,741.75	
4,900 0	0 00	0 00	4,900 0	1,633 0	0 0	0 0	0 0	0 00	382,636.25	716,741.75	
5,000 0	0 00	0 00	5,000.0	1,733 0	0 0	0 0	0 0	0 00	382,636.25	716,741.75	
5,100 0	0 00	0 00	5,100 0	1,833 0	0 0	0 0	0 0	0 00	382,636.25	716,741.75	
5,200 0	0 00	0 00	5,200.0	1,933 0	0 0	0 0	0 0	0 00	382,636.25	716,741.75	
5,300.0	0 00	0 00	5,300 0	2,033 0	0 0	0 0	0 0	0 00	382,636.25	716,741.75	



Pathfinder
Pathfinder X & Y Report



Company: Devon Energy, Inc.
Project: Eddy County
Site: Snapping "10" Federal
Well: #2H
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:
Database:
Well #2H
KB = 26.5 @ 3267 0usft (Original Well Elev)
KB = 26.5 @ 3267 0usft (Original Well Elev)
Gnd
Minimum Curvature
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	382,636.25	716,741.75	
5,500.0	0.00	0.00	5,500.0	2,233.0	0.0	0.0	0.0	0.00	382,636.25	716,741.75	
5,600.0	0.00	0.00	5,600.0	2,333.0	0.0	0.0	0.0	0.00	382,636.25	716,741.75	
5,700.0	0.00	0.00	5,700.0	2,433.0	0.0	0.0	0.0	0.00	382,636.25	716,741.75	
5,800.0	0.00	0.00	5,800.0	2,533.0	0.0	0.0	0.0	0.00	382,636.25	716,741.75	
5,900.0	0.00	0.00	5,900.0	2,633.0	0.0	0.0	0.0	0.00	382,636.25	716,741.75	
6,000.0	0.00	0.00	6,000.0	2,733.0	0.0	0.0	0.0	0.00	382,636.25	716,741.75	
6,100.0	0.00	0.00	6,100.0	2,833.0	0.0	0.0	0.0	0.00	382,636.25	716,741.75	
6,200.0	0.00	0.00	6,200.0	2,933.0	0.0	0.0	0.0	0.00	382,636.25	716,741.75	
6,300.0	0.00	0.00	6,300.0	3,033.0	0.0	0.0	0.0	0.00	382,636.25	716,741.75	
6,400.0	0.00	0.00	6,400.0	3,133.0	0.0	0.0	0.0	0.00	382,636.25	716,741.75	
6,500.0	0.00	0.00	6,500.0	3,233.0	0.0	0.0	0.0	0.00	382,636.25	716,741.75	
6,600.0	0.00	0.00	6,600.0	3,333.0	0.0	0.0	0.0	0.00	382,636.25	716,741.75	
6,700.0	0.00	0.00	6,700.0	3,433.0	0.0	0.0	0.0	0.00	382,636.25	716,741.75	
6,800.0	0.00	0.00	6,800.0	3,533.0	0.0	0.0	0.0	0.00	382,636.25	716,741.75	
6,900.0	0.00	0.00	6,900.0	3,633.0	0.0	0.0	0.0	0.00	382,636.25	716,741.75	
7,000.0	0.00	0.00	7,000.0	3,733.0	0.0	0.0	0.0	0.00	382,636.25	716,741.75	
7,100.0	0.00	0.00	7,100.0	3,833.0	0.0	0.0	0.0	0.00	382,636.25	716,741.75	
7,200.0	0.00	0.00	7,200.0	3,933.0	0.0	0.0	0.0	0.00	382,636.25	716,741.75	
7,300.0	0.00	0.00	7,300.0	4,033.0	0.0	0.0	0.0	0.00	382,636.25	716,741.75	
7,400.0	0.00	0.00	7,400.0	4,133.0	0.0	0.0	0.0	0.00	382,636.25	716,741.75	
7,500.0	0.00	0.00	7,500.0	4,233.0	0.0	0.0	0.0	0.00	382,636.25	716,741.75	
7,600.0	0.00	0.00	7,600.0	4,333.0	0.0	0.0	0.0	0.00	382,636.25	716,741.75	
7,700.0	0.00	0.00	7,700.0	4,433.0	0.0	0.0	0.0	0.00	382,636.25	716,741.75	
7,800.0	0.00	0.00	7,800.0	4,533.0	0.0	0.0	0.0	0.00	382,636.25	716,741.75	
7,900.0	0.00	0.00	7,900.0	4,633.0	0.0	0.0	0.0	0.00	382,636.25	716,741.75	
8,000.0	0.00	0.00	8,000.0	4,733.0	0.0	0.0	0.0	0.00	382,636.25	716,741.75	



Pathfinder
Pathfinder X & Y Report



Company: Devon Energy, Inc.
Project: Eddy County
Site: Snapping "10" Federal
Well: #2H
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference
TVD Reference
MD Reference
North Reference
Survey Calculation Method:
Database:
Well #2H
KB = 26.5 @ 3267.0usft (Original Well Elev)
KB = 26.5 @ 3267.0usft (Original Well Elev)
Gnd
Minimum Curvature
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	382,636.25	716,741.75	
8,200.0	0.00	0.00	8,200.0	4,933.0	0.0	0.0	0.0	0.00	382,636.25	716,741.75	
8,300.0	0.00	0.00	8,300.0	5,033.0	0.0	0.0	0.0	0.00	382,636.25	716,741.75	
8,372.0	0.00	0.00	8,372.0	5,105.0	0.0	0.0	0.0	0.00	382,636.25	716,741.75	
8,400.0	2.80	31.49	8,400.0	5,133.0	0.6	0.4	0.6	10.00	382,636.83	716,742.11	
8,450.0	7.80	31.49	8,449.8	5,182.8	4.5	2.8	4.8	10.00	382,640.77	716,744.52	
8,500.0	12.80	31.49	8,498.9	5,231.9	12.1	7.4	12.9	10.00	382,648.39	716,749.19	
8,550.0	17.80	31.49	8,547.2	5,280.2	23.4	14.3	24.8	10.00	382,659.64	716,756.08	
8,600.0	22.80	31.49	8,594.0	5,327.0	38.2	23.4	40.4	10.00	382,674.43	716,765.14	
8,650.0	27.80	31.49	8,639.2	5,372.2	56.4	34.5	59.7	10.00	382,692.64	716,776.29	
8,700.0	32.80	31.49	8,682.4	5,415.4	77.9	47.7	82.5	10.00	382,714.15	716,789.47	
8,750.0	37.80	31.49	8,723.2	5,456.2	102.5	62.8	108.6	10.00	382,738.78	716,804.55	
8,800.0	42.80	31.49	8,761.3	5,494.3	130.1	79.7	137.8	10.00	382,766.34	716,821.44	
8,850.0	47.80	31.49	8,796.4	5,529.4	160.4	98.2	169.9	10.00	382,796.64	716,840.00	
8,900.0	52.80	31.49	8,828.4	5,561.4	193.2	118.3	204.6	10.00	382,829.43	716,860.09	
8,950.0	57.80	31.49	8,856.8	5,589.8	228.2	139.8	241.7	10.00	382,864.48	716,881.55	
9,000.0	62.80	31.49	8,881.6	5,614.6	265.3	162.5	280.9	10.00	382,901.50	716,904.23	
9,050.0	67.80	31.49	8,902.5	5,635.5	304.0	186.2	321.9	10.00	382,940.22	716,927.95	
9,100.0	72.80	31.49	8,919.3	5,652.3	344.1	210.8	364.4	10.00	382,980.35	716,952.53	
9,150.0	77.80	31.49	8,932.0	5,665.0	385.3	236.0	408.1	10.00	383,021.58	716,977.79	
9,200.0	82.80	31.49	8,940.4	5,673.4	427.3	261.8	452.6	10.00	383,063.59	717,003.52	
9,250.0	87.80	31.49	8,944.5	5,677.5	469.8	287.8	497.5	10.00	383,106.07	717,029.55	
9,270.0	89.80	31.49	8,945.0	5,678.0	486.9	298.2	515.6	10.00	383,123.12	717,039.99	
9,300.0	89.80	30.29	8,945.1	5,678.1	512.6	313.6	542.8	4.00	383,148.87	717,055.39	
9,400.0	89.80	26.29	8,945.4	5,678.4	600.7	361.0	635.4	4.00	383,236.91	717,102.77	
9,500.0	89.79	22.29	8,945.8	5,678.8	691.8	402.2	730.3	4.00	383,328.03	717,143.90	
9,600.0	89.79	18.29	8,946.1	5,679.1	785.6	436.8	827.2	4.00	383,421.81	717,178.57	



Pathfinder
Pathfinder X & Y Report



Company: Devon Energy, Inc.
Project: Eddy County
Site: Snapping "10" Federal
Well: #2H
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference:

TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:
Database:

Well #2H

KB = 26 5 @ 3267 0usft (Original Well Elev)
KB = 26 5 @ 3267 0usft (Original Well Elev)
Grid
Minimum Curvature
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)	
9,700.0	89.79	14.29	8,946.5	5,679.5	881.5	464.9	925.6	4.00	383,517.77	717,206.62	
9,800.0	89.80	10.29	8,946.8	5,679.8	979.2	486.1	1,025.0	4.00	383,615.46	717,227.90	
9,900.0	89.80	6.29	8,947.2	5,680.2	1,078.1	500.6	1,124.9	4.00	383,714.40	717,242.31	
10,000.0	89.80	2.29	8,947.6	5,680.6	1,177.8	508.0	1,224.8	4.00	383,814.10	717,249.79	
10,057.2	89.80	0.00	8,947.7	5,680.7	1,235.0	509.2	1,281.8	4.00	383,871.25	717,250.93	
10,100.0	89.80	0.00	8,947.9	5,680.9	1,277.8	509.2	1,324.4	0.00	383,914.08	717,250.94	
10,200.0	89.80	0.00	8,948.2	5,681.2	1,377.8	509.2	1,423.8	0.00	384,014.08	717,250.94	
10,300.0	89.80	0.00	8,948.6	5,681.6	1,477.8	509.2	1,523.3	0.00	384,114.08	717,250.95	
10,400.0	89.80	0.00	8,948.9	5,681.9	1,577.8	509.2	1,622.7	0.00	384,214.08	717,250.95	
10,500.0	89.80	0.00	8,949.3	5,682.3	1,677.8	509.2	1,722.2	0.00	384,314.08	717,250.96	
10,600.0	89.80	0.00	8,949.6	5,682.6	1,777.8	509.2	1,821.6	0.00	384,414.08	717,250.96	
10,700.0	89.80	0.00	8,950.0	5,683.0	1,877.8	509.2	1,921.0	0.00	384,514.08	717,250.97	
10,800.0	89.80	0.00	8,950.3	5,683.3	1,977.8	509.2	2,020.5	0.00	384,614.08	717,250.97	
10,900.0	89.80	0.00	8,950.6	5,683.6	2,077.8	509.2	2,119.9	0.00	384,714.08	717,250.98	
11,000.0	89.80	0.00	8,951.0	5,684.0	2,177.8	509.2	2,219.4	0.00	384,814.07	717,250.98	
11,100.0	89.80	0.00	8,951.3	5,684.3	2,277.8	509.2	2,318.8	0.00	384,914.07	717,250.99	
11,200.0	89.80	0.00	8,951.7	5,684.7	2,377.8	509.2	2,418.3	0.00	385,014.07	717,250.99	
11,300.0	89.80	0.00	8,952.0	5,685.0	2,477.8	509.2	2,517.7	0.00	385,114.07	717,251.00	
11,400.0	89.80	0.00	8,952.4	5,685.4	2,577.8	509.3	2,617.1	0.00	385,214.07	717,251.00	
11,500.0	89.80	0.00	8,952.7	5,685.7	2,677.8	509.3	2,716.6	0.00	385,314.07	717,251.01	
11,600.0	89.80	0.00	8,953.0	5,686.0	2,777.8	509.3	2,816.0	0.00	385,414.07	717,251.01	
11,700.0	89.80	0.00	8,953.4	5,686.4	2,877.8	509.3	2,915.5	0.00	385,514.07	717,251.02	
11,800.0	89.80	0.00	8,953.7	5,686.7	2,977.8	509.3	3,014.9	0.00	385,614.07	717,251.02	
11,900.0	89.80	0.00	8,954.1	5,687.1	3,077.8	509.3	3,114.4	0.00	385,714.07	717,251.03	
12,000.0	89.80	0.00	8,954.4	5,687.4	3,177.8	509.3	3,213.8	0.00	385,814.07	717,251.04	
12,100.0	89.80	0.00	8,954.8	5,687.8	3,277.8	509.3	3,313.2	0.00	385,914.07	717,251.04	
12,200.0	89.80	0.00	8,955.1	5,688.1	3,377.8	509.3	3,412.7	0.00	386,014.07	717,251.05	



Pathfinder
Pathfinder X & Y Report



Company: Devon Energy, Inc.
Project: Eddy County
Site: Snapping "10" Federal
Well: #2H
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference: Well #2H
TVD Reference: KB = 26.5 @ 3267.0usft (Original Well Elev)
MD Reference: KB = 26.5 @ 3267.0usft (Original Well Elev)
North Reference: Gnd
Survey Calculation Method: Minimum Curvature
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)
12,300.0	89.80	0.00	8,955.4	5,688.4	3,477.8	509.3	3,512.1	0.00	386,114.07	717,251.05
12,400.0	89.80	0.00	8,955.8	5,688.8	3,577.8	509.3	3,611.6	0.00	386,214.07	717,251.06
12,500.0	89.80	0.00	8,956.1	5,689.1	3,677.8	509.3	3,711.0	0.00	386,314.07	717,251.06
12,600.0	89.80	0.00	8,956.5	5,689.5	3,777.8	509.3	3,810.5	0.00	386,414.07	717,251.07
12,700.0	89.80	0.00	8,956.8	5,689.8	3,877.8	509.3	3,909.9	0.00	386,514.06	717,251.07
12,800.0	89.80	0.00	8,957.2	5,690.2	3,977.8	509.3	4,009.3	0.00	386,614.06	717,251.08
12,900.0	89.80	0.00	8,957.5	5,690.5	4,077.8	509.3	4,108.8	0.00	386,714.06	717,251.08
13,000.0	89.80	0.00	8,957.8	5,690.8	4,177.8	509.3	4,208.2	0.00	386,814.06	717,251.09
13,100.0	89.80	0.00	8,958.2	5,691.2	4,277.8	509.3	4,307.7	0.00	386,914.06	717,251.09
13,200.0	89.80	0.00	8,958.5	5,691.5	4,377.8	509.3	4,407.1	0.00	387,014.06	717,251.10
13,300.0	89.80	0.00	8,958.9	5,691.9	4,477.8	509.4	4,506.6	0.00	387,114.06	717,251.10
13,400.0	89.80	0.00	8,959.2	5,692.2	4,577.8	509.4	4,606.0	0.00	387,214.06	717,251.11
13,500.0	89.80	0.00	8,959.6	5,692.6	4,677.8	509.4	4,705.4	0.00	387,314.06	717,251.11
13,600.0	89.80	0.00	8,959.9	5,692.9	4,777.8	509.4	4,804.9	0.00	387,414.06	717,251.12
13,627.4	89.80	0.00	8,960.0	5,693.0	4,805.2	509.4	4,832.2	0.00	387,441.48	717,251.12

Checked By _____ Approved By _____ Date _____



Project: Eddy County
Site Snapping "10" Federal
Well: #2H
Wellbore OH
Plan: Plan #1 (#2H/OH)



A Schlumberger Company

West(-)/East(+) (200 usft/in)



Azimuths to Grid North
True North -0.30°
Magnetic North 7.30°

Magnetic Field
Strength 48484.3nT
Dip Angle 60.00°
Date 11/30/2011
Model IGRF200510

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

WELL DETAILS #2H

Ground Elevation 3240.5
RKB Elevation KB = 26.5 @ 3267 Duft (Original Well Elev)
Rig Name Original Well Elev

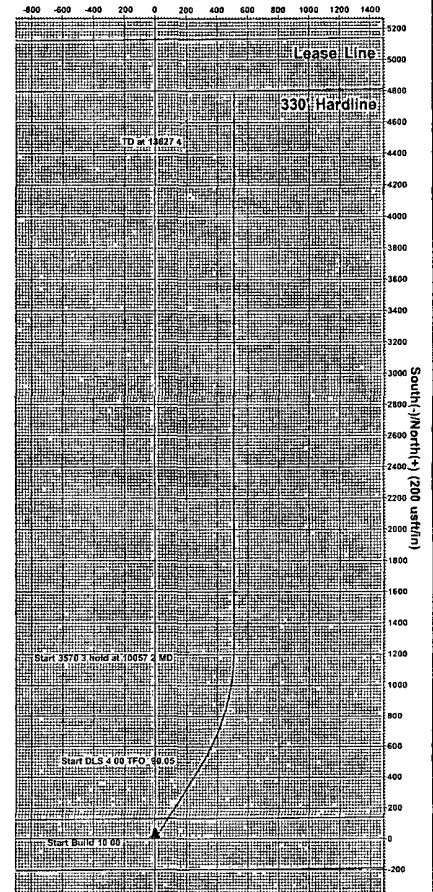
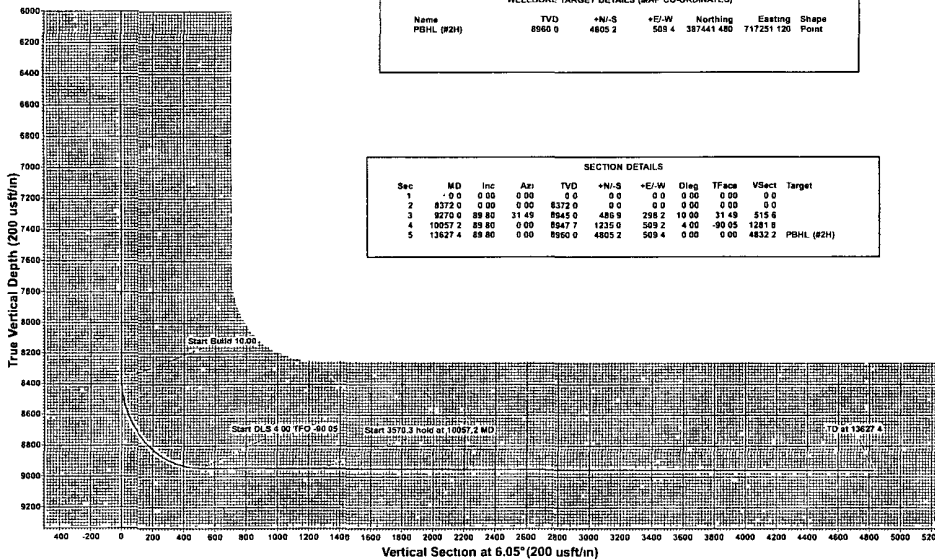
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Spot
0.0	0.0	382531.256	718741.750	32°3'2.458 N	103°48'1.882 W	

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
PBHL (#2H)	8865.0	4805.2	509.4	387441.480	717251.120	Point

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dlog	TFace	VFace	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	8372.0	0.00	0.00	8372.0	0.0	0.0	0.00	0.00	0.0	
3	9270.0	88.80	31.49	8545.0	4805.2	509.4	10.00	31.49	515.6	
4	10057.2	88.80	0.00	8547.7	1235.0	369.2	4.00	-80.05	1281.6	
5	13627.4	88.80	0.00	8960.0	4805.2	509.4	0.00	0.00	4832.2	PBHL (#2H)



Plan: Plan #1 (#2H/OH)

Created By: Sam B-Rite Date: 18.02 November 30 2011

NOTES REGARDING BLOWOUT PREVENTERS


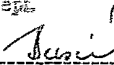
Devon Energy Production Company, LP

Snapping 10 Federal 2H

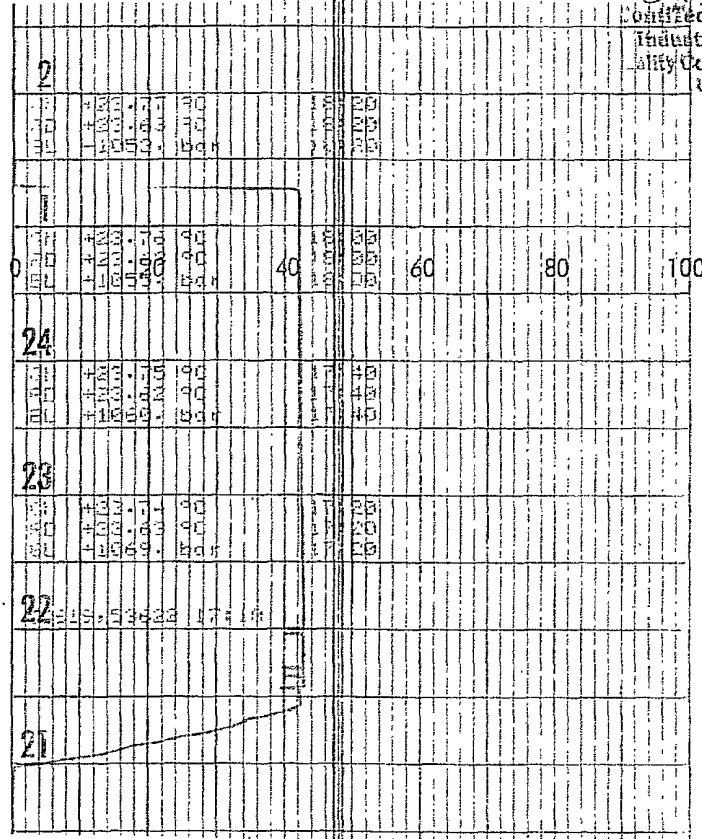
Surface Location: 200' FSL & 2315' FWL, Unit N, Sec 10 T26S R31E, Eddy, NM

Bottom Hole Location: 330' FNL & 2485' FEL, Unit B, Sec 10 T26S R31E, Eddy, NM

1. Drilling nipple will be constructed so it can be removed mechanically without the aid of a welder. The minimum internal diameter will equal BOP bore.
2. Wear ring will be properly installed in head.
3. Blowout preventer and all associated fittings will be in operable condition to withstand a minimum 5000 psi working pressure.
4. All fittings will be flanged.
5. A full bore safety valve tested to a minimum 5000 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.

QUALITY CONTROL INSPECTION AND TEST CERTIFICATE				CERT. N°: 1713	
PURCHASER: ContiTech Beattie Co.				P.O. N°: 002808	
CONTITECH ORDER N°: 426127		HOSE TYPE: 3" ID		Choke and Kill Hose	
HOSE SERIAL N°: 53622		NOMINAL / ACTUAL LENGTH: 10,67 m			
W.P. 68,96 MPa 10000 psi		T.P. 103,4 MPa 15000 psi		Duration: 60 min.	
<p>Pressure test with water at ambient temperature</p> <p style="text-align: center;">See attachment. (1 page)</p> <p>↑ 10 mm = 10 Min. → 10 mm = 25 MPa</p>					
COUPLINGS Type		Serial N°		Quality	
3" coupling with		5503 2029		AISI 4130	
4 1/16" Flange end				AISI 4130	
				Heat N°	
				N1590P	
				27566	
INFOCHIP INSTALLED				API Spec 16 C	
				Temperature rate:"B"	
All metal parts are flawless				Hose conform to NACE MR 01-75	
WE CERTIFY THAT THE ABOVE HOSE HAS BEEN MANUFACTURED IN ACCORDANCE WITH THE TERMS OF THE ORDER INSPECTED AND PRESSURE TESTED AS ABOVE WITH SATISFACTORY RESULT.					
STATEMENT OF CONFORMITY: We hereby certify that the above items/equipment supplied by us are in conformity with the terms, conditions and specifications of the above Purchaser Order and that these items/equipment were fabricated inspected and tested in accordance with the referenced standards, codes and specifications and meet the relevant acceptance criteria and design requirements.					
COUNTRY OF ORIGIN HUNGARY/EU					
Date:		Inspector		Quality Control	
25. August. 2008				ContiTech Rubber Industrial Kft. Quality Control Dept.  	

HARTMANN &



Sagor
 10/1
 ConditTech Rubber
 Industrial Kft.
 Quality Control Dept.
 (2)



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

Hydrogen Sulfide (H₂S) Contingency Plan

For

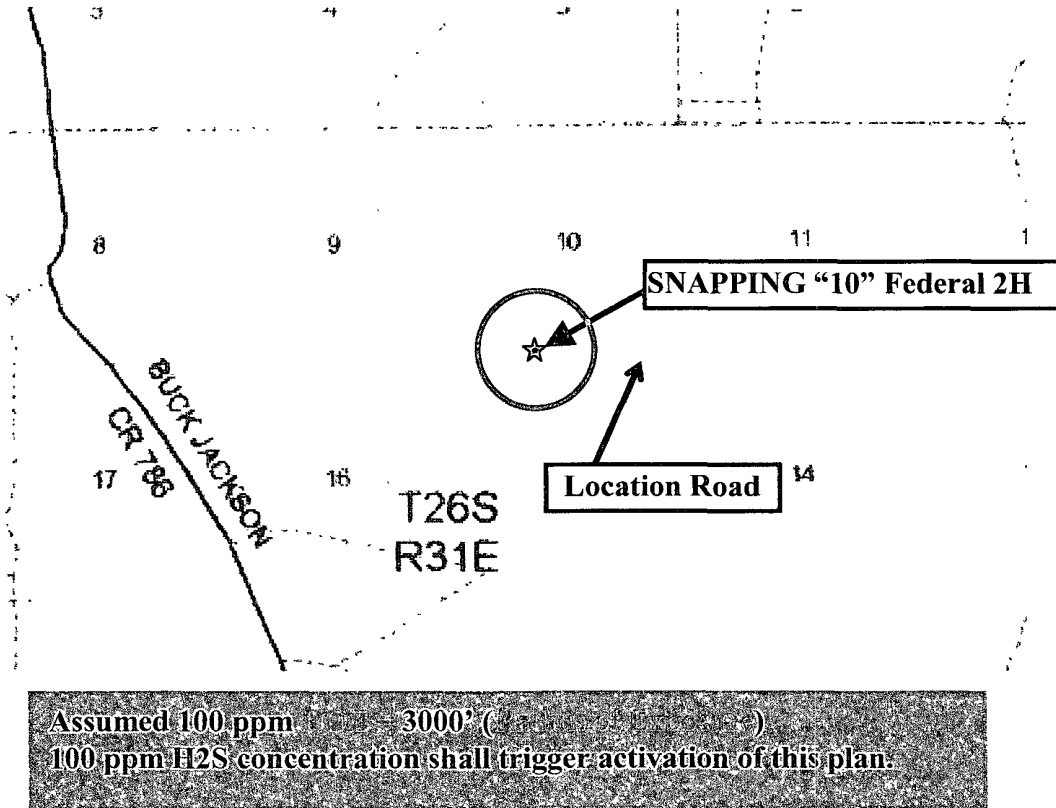
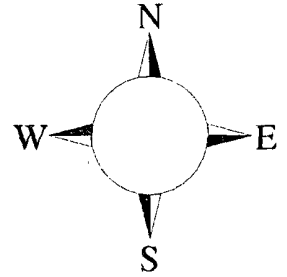
SNAPPING "10" Federal 2H

**Sec-10, T-26S R-31E
200' FSL & 2315' FWL,
LAT. = 32.0506827°N (NAD83)
LONG = 103.7671838°W**

Eddy County NM

SNAPPING "10" Federal 2H

This is an open drilling site. H₂S monitoring equipment and emergency response equipment will be used within 500' of zones known to contain H₂S, including warning signs, wind indicators and H₂S monitor.



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 H₂S concentration shall trigger activation of this plan.

Emergency Procedures

In the event of a release of gas containing H₂S, 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 H₂S 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 H₂S, 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 (SO₂). 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 H₂S and SO₂

Common Name	Chemical Formula	Specific Gravity	Threshold Limit	Hazardous Limit	Lethal Concentration
Hydrogen Sulfide	H ₂ S	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

<u>Artesia (575)</u>	<u>Cellular</u>	<u>Office</u>	<u>Home</u>
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

<u>Lea</u>	<u>Hobbs</u>
<u>County</u>	State Police
<u>(575)</u>	City Police
	Sheriff's Office
	Ambulance.....
	Fire Department.....
	LEPC (Local Emergency Planning Committee).....
	NMOCD
	US Bureau of Land Management

<u>Eddy</u>	<u>Carlsbad</u>
<u>County</u>	State Police
<u>(575)</u>	City Police
	Sheriff's Office
	Ambulance.....
	Fire Department.....
	LEPC (Local Emergency Planning Committee).....
	US Bureau of Land Management
	New Mexico Emergency Response Commission (Santa Fe) ...
	24 HR
	National Emergency Response Center (Washington, DC) ..

Emergency Services

	Boots & Coots IWC
	Cudd Pressure Control.....
	Halliburton
	B. J. Services.....
<i>Give</i>	Flight For Life - Lubbock, TX
<i>GPS</i>	Aerocare - Lubbock, TX
<i>position:</i>	Med Flight Air Amb - Albuquerque, NM
	Lifeguard Air Med Svc. Albuquerque, NM

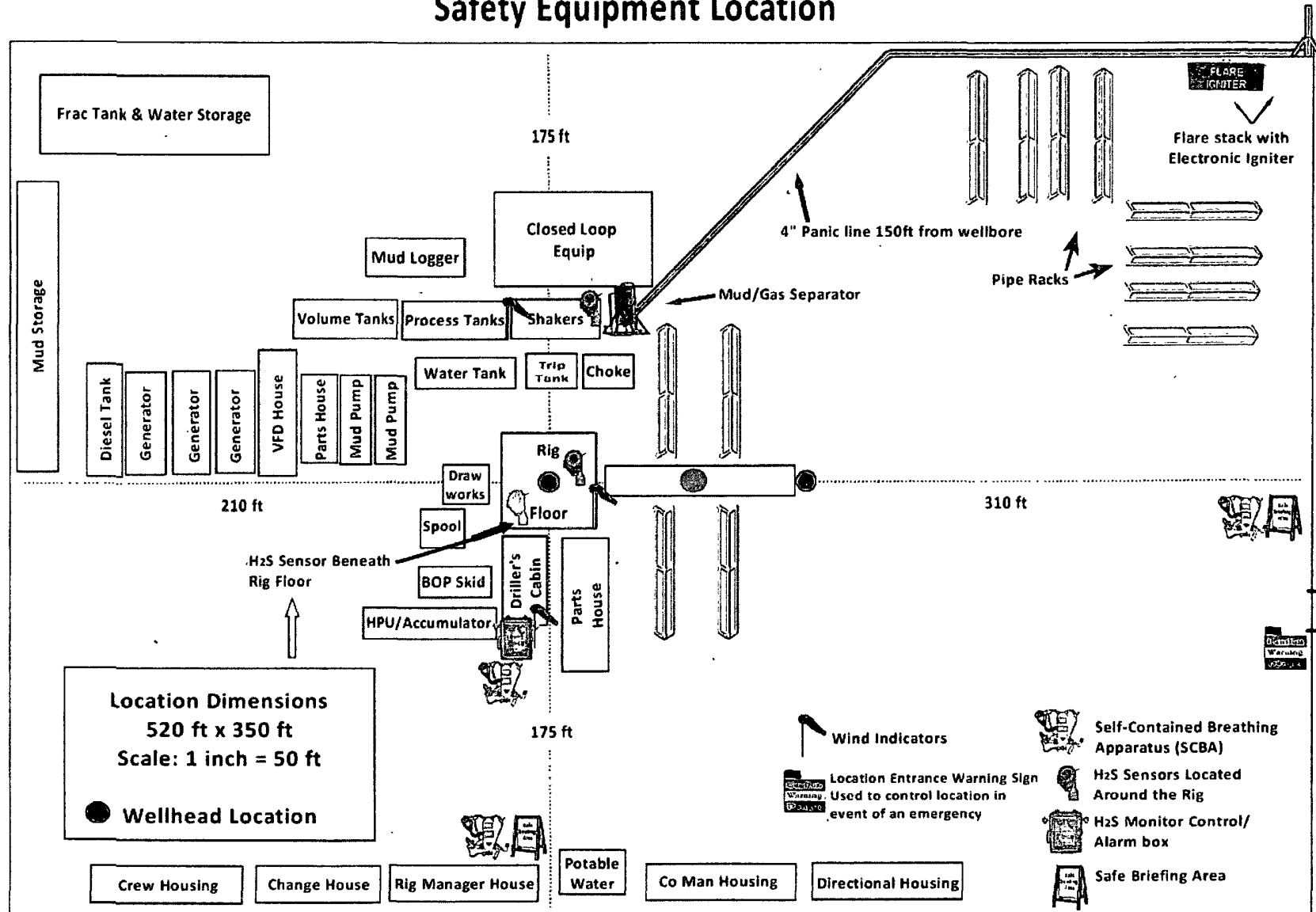
Prepared in conjunction with
Wade Rohloff



Devon Energy - 3 Well Pad

Rig Location Layout

Safety Equipment Location



PECOS DISTRICT CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Devon Energy Prod Co
LEASE NO.:	NM89057
WELL NAME & NO.:	2H Snapping 10 Federal
SURFACE HOLE FOOTAGE:	200' FSL & 2315' FWL
BOTTOM HOLE FOOTAGE:	330' FSL & 2485' FEL
LOCATION:	Section 10, T.26S., 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.

- ☐ **General Provisions**
- ☐ **Permit Expiration**
- ☐ **Archaeology, Paleontology, and Historical Sites**
- ☐ **Noxious Weeds**
- ☒ **Special Requirements**
 - Heronries**
- ☐ **Construction**
 - Notification
 - Topsoil
 - Closed Loop System
 - Federal Mineral Material Pits
 - Well Pads
 - Roads
- ☐ **Road Section Diagram**
- ☒ **Drilling**
 - Mud logger Requirements**
 - Logging Requirements
 - Waste Material and Fluids
- ☐ **Production (Post Drilling)**
 - Well Structures & Facilities
 - Pipelines
 - Electric Lines
- ☐ **Interim Reclamation**
- ☐ **Final Abandonment & Reclamation**

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

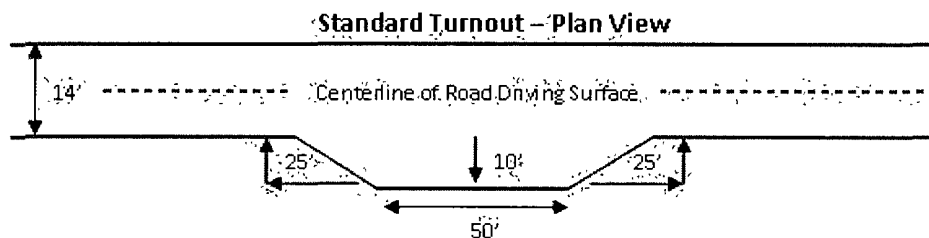
Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

Ditching

Ditching shall be required on the uphill side 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:

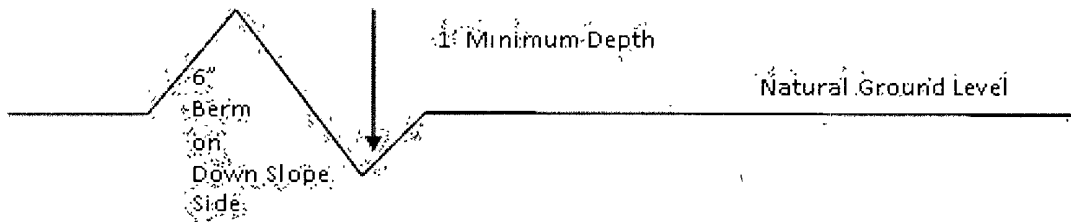


Drainage

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:

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

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

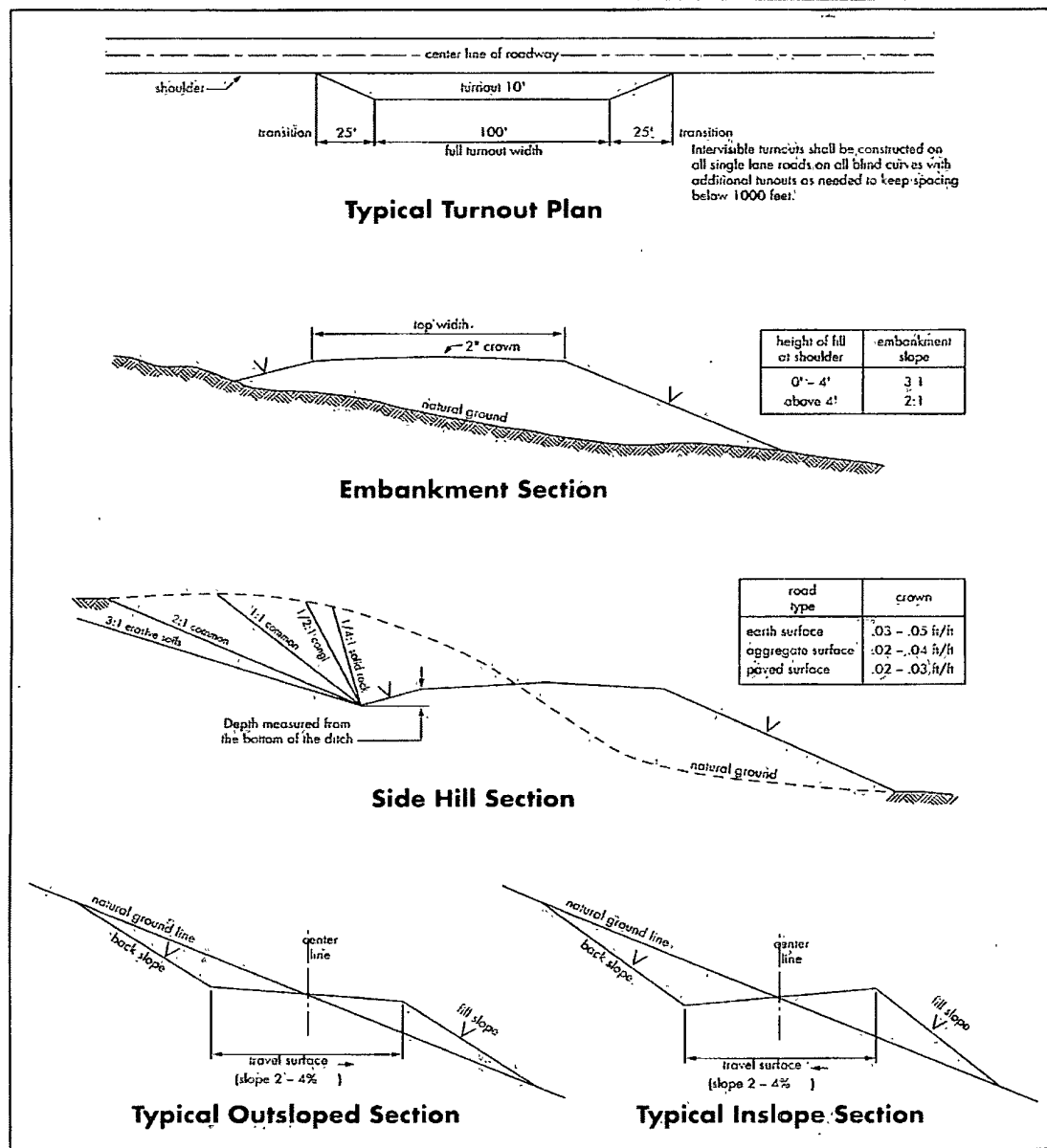
Where entry is required across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting.

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 (<i>Sporobolus cryptandrus</i>)	1.0
Sand love grass (<i>Eragrostis trichodes</i>)	1.0
Plains bristlegrass (<i>Setaria macrostachya</i>)	2.0

*Pounds of pure live seed:

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