ATS-12-211

OCD-ARTESIA

Form 3160-3
(February 2005)

FORM APPROVED
OMB No 1004-0137
Expires March 31, 2007 EA353

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5 Lease Serial No.
USA NMNM 0107697

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.
Spica 25 Federal 4H [39137]

2 Name of Operator
Devon Energy Production Co., LP [229137]

9. API Well No.
30-015-40105

3a. Address **20 North Broadway, OKC, OK 73102**

3b. Phone No. *(include area code)* **(405)-552-7802**

10 Field and Pool, or Exploratory
Williams Sink; B.S. [97650]

4 Location of Well *(Report location clearly and in accordance with any State requirements *)*
At surface **SWSW 400' FSL & 340' FWL Lot M**
At proposed prod zone **SESE 400' FSL & 340' FEL Lot P**

11 Sec , T R M or Blk and Survey or Area
Sec 25-T19S-R31E

14 Distance in miles and direction from nearest town or post office*
Approximately 15 miles southeast of Loco Hills, NM.

12 County or Parish **Eddy** | 13 State **NM**

15 Distance from proposed* location to nearest property or lease line, ft (Also to nearest drig unit line, if any) **340'**

16 No. of acres in lease **2321.52 acres**

17 Spacing Unit dedicated to this well **160**

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

19 Proposed Depth ~~PH: 9765'~~ **MTVD 9375' MD 13730'** → **PH: 9765'**

20 BLM/BIA Bond No on file **CO-1104** NM8000801

21 Elevations (Show whether DF, KDB, RT, GL, etc.) **3497.4' GL**

22. Approximate date work will start* **01/15/2012**

23 Estimated duration **45 days**

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No 1, must be attached to this form

1. Well plat certified by a registered surveyor
2. A Drilling Plan
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office)
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above)
5. Operator certification
6. Such other site specific information and/or plans as may be required by the BLM.

25 Signature | Name *(Printed/Typed)* **Stephanie A. Ysasaga** | Date **12/15/2011**

Title **Sr. Staff Engineering Technician**

Approved by *(Signature)* /s/ James A. Amos | Name *(Printed/Typed)* | Date MAR 19 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)

Capitan Controlled Water Basin

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SEE ATTACHED FOR
CONDITIONS OF APPROVAL

Approval Subject to General Requirements & Special Stipulations Attached

Operators Representative:

The Devon Energy Production Company, L.P. representatives responsible for ensuring compliance of the surface use plan are listed below.

Steven Jones
Operations Engineer Advisor

Devon Energy Production Company, L.P.
20 North Broadway, Suite 1500
Oklahoma City, OK 73102-8260

(405) 552-7994 (office)
(405) 596-8041 (cell)

Jerry Matthews
Superintendent

Devon Energy Production Company, L.P.
Post Office Box 250
Artesia, NM 88211-0250

(575) 748-0161 (office)
(575) 746-9072 (cell)

Certification

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

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

Executed this _15th__ day of _December___ , 2011.
Printed Name: Stephanie A. Ysasaga
Signed Name: _____
Position Title: Sr. Staff Engineering Technician
Address: 20 North Broadway, OKC OK 73102
Telephone: (405)-552-7802
Field Representative (if not above signatory): Jerry Matthews (see above)
Address (if different from above):
Telephone (if different from above):
E-mail (optional):

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

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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	
30-015-40105	97650	Williams Sink; Bone Spring	
Property Code	**Property Name**		**Well Number**
39137	SPICA "25" FEDERAL		4H
OGRID No.	**Operator Name**		**Elevation**
6137	DEVON ENERGY PRODUCTION COMPANY, L.P.		3497.4

Surface Location

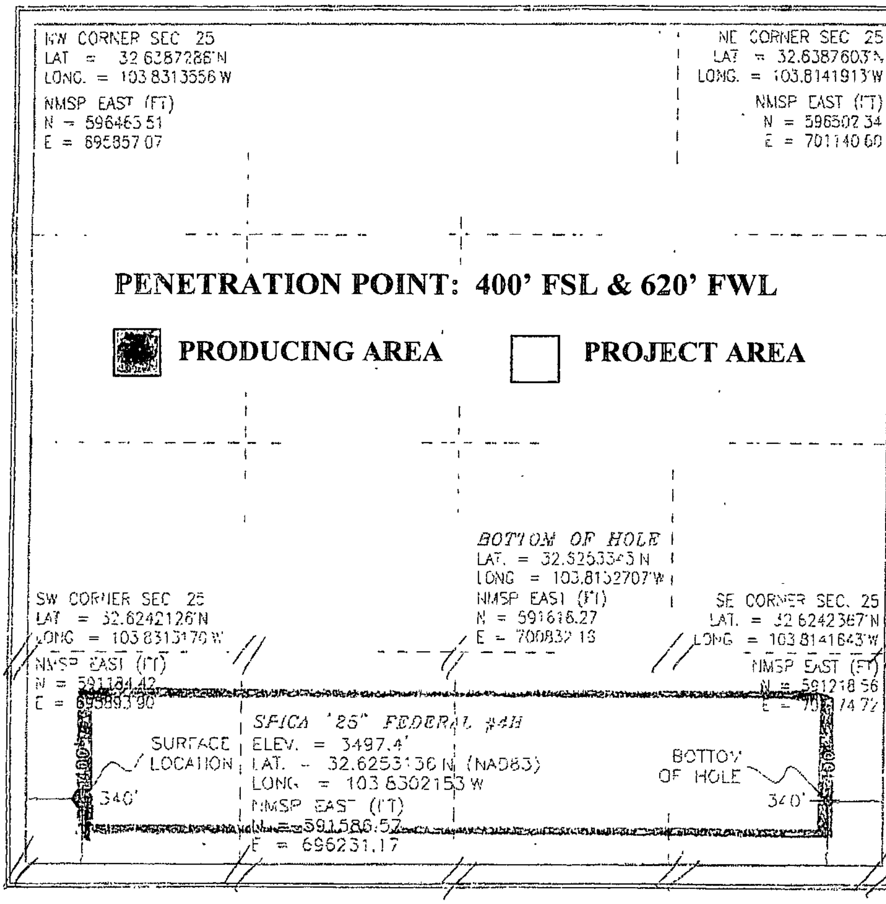
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	25	19 S	31 E		400	SOUTH	340	WEST	EDDY

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
P	25	19 S	31 E		400	SOUTH	340	EAST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
160			

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



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: [signature] Date: 11/15/2011

Printed Name: STEPHANIE A. YSASAGA

SURVEYOR CERTIFICATION

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

OCTOBER 18 2011

Date of Survey

Signature and Seal of Professional Surveyor

Certificate Number: FILIMON F. JARAMILLO PLS 12797

SURVEY NO. 604

DRILLING PROGRAM

Devon Energy Production Company, LP
Spica 25 Federal 4H
Surface Location: 400' FSL & 340 FWL, Unit M, Sec 25 T19S R31E, Eddy, NM
Bottom hole Location: 400' FSL & 330' FEL, Unit P, Sec 25 T19S 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.	Quaternary Alluvium	95'	Fresh Water
b.	Rustler	825'	Barren
c.	Salado	1120'	Barren
d.	Base Salado	2320'	Barren
e.	Tansil Dolomite	2400'	Barren
f.	Yates	2515'	Barren
g.	Seven Rivers	2715'	Barren
h.	Capitan	2815'	Barren
i.	B/Capitan	4360'	Barren
j.	Delaware	4570'	Oil
k.	Bone Springs	7210'	Oil
l.	1st Bone Spring Ss	8245'	Oil
m.	2nd Bone Spring Lime	8735'	Oil
n.	2nd Bone Spring Ss	9135'	Oil
o.	2nd Bone Spring Upr Ss	9215'	Oil
p.	2nd Bone Spring Upr Base	9295'	Oil
q.	2nd Bone Spring Middle Ss	9315'	Oil
r.	2nd Bone Spring Middle Ss Base	9415'	Oil
s.	3rd Bone Spring Lm	9615'	Oil
t.	Pilot Hole	9765'	
u.	Total Depth	TVD 9375' MD 13730'	

No other formations are expected to yield oil, gas or fresh water in measurable volumes. The surface fresh water sands will be protected by setting 20" casing at 875' and circulating cement back to surface. The fresh water sands will be protected by setting 13 3/8" casing at 2600' and 9 5/8" casing at 4500' and circulating cement to surface. The Delaware intervals will be isolated by setting 5 ½" casing to total depth and circulating cement above the base of the 9 5/8" casing. All casing is new and API approved.

NOTE: THIS WELL WILL BE DRILLED WITH A PILOT HOLE (PH)

3. Casing Program:

Hole Size	Hole Interval	OD Csg	Casing Interval	Weight	Collar	Grade
26"	0' – ~~875'~~ 955	20"	0' – ~~875'~~ 955	94#	BTC	J/K-55
17 1/2"	~~0'~~ -2600'	13 3/8"	0'-2600'	68#	BTC	J/K-55
12 ¼"	2600'-4500'	9 5/8"	0'-4500'	40#	LTC	J-55
8 ¾"	4500'–8300'	5 ½"	0'-8300'	17#	LTC	HCP-110
8 ¾"	8300'- 13730'	5 ½"	8300-13730'	17#	BTC	HCP-110

An 8-3/4" pilot hole will be drilled to 9,765' MD, and plugged back to KOP with approx 500 sx Class H, 15.6 ppg, 1.16 cf/sk cement.

Design Parameter Factors:

Casing Size	Collapse Design Factor	Burst Design Factor	Tension Design Factor
20"	2.46	10.01	31.42
13 3/8"	1.44	2.55	3.82
9 5/8" 40# J-55	1.25	1.92	2.95
5 1/2" 17# P-110 HC LTC	1.64	2.02	1.55
5 ½" 17# P-110HC BTC	1.84	2.27	5.22

The maximum possible collapse load that the intermediate casing will experience will result from evacuated casing with the pore pressure exerting a collapse load at TD. The pore pressure is estimated to be 9.0 ppg for this calculation. This results in a collapse design factor of 1.22 for 9-5/8" 40# J-55 LT&C casing at a depth of 4,500 ft. While running the intermediate casing, the casing will never be completely evacuated. There is no potential for the intermediate casing to be used as a production string.

4. Cement Program: (Note: All cement volumes are calculated with 25% excesses.)

a. 20" Surface

Lead: 1300 sacks Class C Cement + 1% bwoc Calcium Chloride + 0.125 lbs/sack Cello Flake + 4% bwoc Bentonite + 81% Fresh Water, 13.5 ppg. **Yield:** 1.73 cf/sk

Tail: 300 sacks Class C Cement + 2% bwoc Calcium Chloride + 0.125 lbs/sack Cello Flake + 56% Fresh Water, 14.8 ppg. **Yield:** 1.35 cf/sk. **TOC @ surface.**

b. 13 3/8" Intermediate

Lead: 1800 sacks (60:40) Poz Class C Cement + 5% bwoc Calcium Chloride + 0.125 lbs/sack Cello Flake + 4% bwoc Bentonite + 89% Fresh Water, 12.6 ppg. **Yield:** 1.73 cf/sk

Tail: 450 sacks (60:40) Class C Cement + 5% bwoc Calcium Chloride + 0.125 lbs/sack Cello Flake + 66% Fresh Water, 13.8 ppg. **Yield:** 1.38 cf/sk.. **TOC @ surface.**

c. 9 5/8" Intermediate

1st Stage

Lead: 600 sacks (60:40) Poz (Fly Ash):Class C Cement + 5% bwow Sodium Chloride + 0.125 lbs/sack Cello Flake + 6% bwoc Bentonite + 90% Fresh Water, 12.6 ppg. Yield: 1.73 cf/sk

Tail: 300 sacks (60:40) Poz Class C Cement + 5% bwow Sodium Chloride + 0.125 lbs/sack Cello Flake + 0.4% bwoc Sodium Metasilicate + 4% bwoc MPA-5 + 66% Water, 13.8 ppg. Yield: 1.38 cf/sk. **TOC @ surface**

DV tool and ECP at 2,650' (approx 50' above the reef top)

2nd Stage

Lead: 700 sacks (60:40) Poz (Fly Ash):Class C Cement + 5% bwow Sodium Chloride + 0.125 lbs/sack Cello Flake + 6 bwoc Bentonite + 90% Fresh Water, 12.6 ppg. Yield: 1.73 cf/sk.

Tail: 200 sacks (60:40)Poz Class C Cement + 5% bwow Sodium Chloride + 0.125 lbs/sack Cello Flake + 0.4% bwoc Sodium Metasilicate + 4% bwoc MPA-5 + 66% Water, 13.8 ppg. Yield: 1.38 cf/sk. **TOC @ surface**

c. 5 ½" Production

1st Stage

Lead: 900 sacks (35:65) 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**: 2.00 cf/sk

Tail: 1,200 sacks (50:50) Poz Class H Cement + 1% bwow Sodium Chloride + 0.2% bwoc R-3 + 0.125 lbs/sack Cello Flake + 0.5% bwoc BA-10A + 4% bwoc MPA-5 + 58.3% Fresh Water, 14.2 ppg. **Yield**: 1.28 cf/sk

DV TOOL at ~5,000 ft

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

Tail: 200 sacks (60:40) Poz Class C + 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**: 1.38 cf/sk. **TOC @ 2,500'** (approx 200' above reef top)

TOC for All Strings:	
Surface:	0'
Intermediate 1:	0'
Intermediate 2:	0'
Production:	2,500' (approx 200' above reef top)

The above cement volumes could be revised pending the caliper measurement from the open hole logs. Actual cement volumes will be adjusted bases on fluid caliper and caliper log data.

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

The BOP system used to drill the **12-1/4" and 8-3/4"** holes will consist of a **13-5/8" 3M Triple Ram and Annular preventer.** The BOP system will be tested as per BLM Onshore Oil and Gas Order No. 2 as a 3M system prior to drilling out the casing shoe.

The pipe rams will be operated and checked as per Onshore Order No 2. A 2" kill line and 3" choke line will be incorporated into the drilling spool below the ram BOP. In addition to the rams and annular preventer, additional BOP accessories include a kelly cock, floor safety valve, choke lines, and choke manifold rated at **3,000 psi WP**.

Devon requests a variance to use a flexible line with flanged ends between the BOP and the choke manifold (choke line). The line will be kept as straight as possible with minimal turns.

6. **Proposed Mud Circulation System**

Depth	Mud Wt.	Visc	Fluid Loss	Type System
0'–875'455	8.4-9.0	30-34	N/C	Fresh Water
875'–2600'	9.8-10.0	28-32	N/C	Brine
2600'-4500'	8.4-9.0	28-30	N/C	Fresh Water
4500'–13730'	8.6-9.0	28-32	NC-12	Fresh Water

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

7. **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.

8. **Logging, Coring, and Testing Program:** See COA

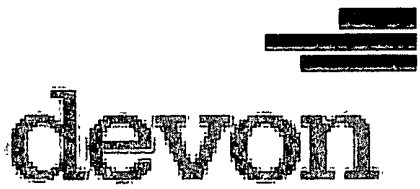
a. Drill stem tests will be based on geological sample shows.
b. If a drill stem test is anticipated; a procedure, equipment to be used and safety measures will be provided via sundry notice to the BLM.
c. The open hole electrical logging program will be:
    i. Total Depth to Intermediate Casing — Dual 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.

9. **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. Possible lost circulation is expected to occur. All personnel will be familiar with all aspects of safe operation of equipment being used to drill this well. Estimated BHP 3800 psi and Estimated BHT 140°. No H2S is anticipated to be encountered.

10. **Anticipated Starting Date and Duration of Operations:**

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



Devon Energy Production Co, LP

Eddy Co., New Mexico (Nad 83)
Spica 25 Fed 4H
Spica 25 Fed 4H

Lateral #1

Plan: Design #1

Standard Planning Report

14 December, 2011

devon

CUDD Drilling and Measurement

Planning Report

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Site Spica 25 Fed 4H
Company:	Devon Energy Production Co, LP	**TVD Reference:**	WELL @ 3515 00ft (Original Well Elev)
Project:	Eddy Co , New Mexico (Nad 83)	**MD Reference:**	WELL @ 3515.00ft (Original Well Elev)
Site:	Spica 25 Fed 4H	**North Reference:**	Grid
Well:	Spica 25 Fed 4H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Lateral #1		
Design:	Design #1		

Project	Eddy Co , New Mexico (Nad 83)		
Map System:	US State Plane 1983	**System Datum:**	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site Spica 25 Fed 4H, Sec 25, T-19S, R-31E

Site Position:		**Northing:**	591,586 57 usft	**Latitude:**	32° 37' 31.129 N
From:	Map	**Easting:**	696,231.17 usft	**Longitude:**	103° 49' 48.775 W
Position Uncertainty:	0 00 ft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.27 °

Well Spica 25 Fed 4H

Well Position	**+N/-S**	0.00 ft	**Northing:**	591,586.57 usft	**Latitude:**	32° 37' 31 129 N
	+E/-W	0.00 ft	**Easting:**	696,231 17 usft	**Longitude:**	103° 49' 48.775 W
Position Uncertainty		0 00 ft	**Wellhead Elevation:**	3,515.00 ft	**Ground Level:**	3,495.00 ft

Wellbore Lateral #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	12/14/2011	7 67	60 50	48,779

Design Design #1

Audit Notes:

Version:		**Phase:**	PLAN	**Tie On Depth:**	0 00
Vertical Section:	**Depth From (TVD) (ft)**	**+N/-S (ft)**	**+E/-W (ft)**	**Direction (°)**	
	0 00	0.00	0 00	89.63	

Plan Sections

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0 00	0.00	0 00	0 00	0 00	0.00	0.00	0 00	0 00	0 00	
8,802 14	0.00	0 00	8,802 14	0 00	0.00	0 00	0 00	0.00	0 00	
9,712 84	91.07	89 63	9,375 00	3 77	583 64	10.00	10 00	0 00	89 63	
13,730 98	91 07	89 63	9,300 00	29.70	4,601 00	0 00	0 00	0 00	0.00	PBHL - TD (S25F4I

devon

CUDD Drilling and Measurement

Planning Report

Database:	EDM 5000 1 Single User Db	**Local Co-ordinate Reference:**	Site Spica 25 Fed 4H
Company:	Devon Energy Production Co, LP	**TVD Reference:**	WELL @ 3515.00ft (Original Well Elev)
Project:	Eddy Co , New Mexico (Nad 83)	**MD Reference:**	WELL @ 3515.00ft (Original Well Elev)
Site:	Spica 25 Fed 4H	**North Reference:**	Grid
Well:	Spica 25 Fed 4H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Lateral #1		
Design:	Design #1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,802 14	0.00	0 00	8,802 14	0 00	0 00	0 00	0.00	0 00	0 00
KOP: Build 10° / 100'									
8,850 00	4 79	89 63	8,849 94	0 01	2 00	2 00	10.00	10 00	0 00
8,900 00	9 79	89 63	8,899.53	0.05	8.34	8 34	10.00	10 00	0 00
8,950.00	14.79	89 63	8,948.36	0 12	18.97	18.97	10.00	10 00	0 00
9,000 00	19.79	89.63	8,996 09	0 22	33 82	33 83	10.00	10 00	0 00
9,050.00	24 79	89 63	9,042 34	0.34	52.78	52 78	10 00	10 00	0 00
9,100 00	29 79	89.63	9,086 76	0 49	75 69	75 69	10 00	10 00	0 00
9,150.00	34 79	89 63	9,129 02	0 66	102 39	102.39	10 00	10 00	0 00
9,154 90	35 28	89 63	9,133 04	0 68	105 21	105 21	10 00	10 00	0 00
2nd Bone Spring Ss									
9,200 00	39 79	89 63	9,168 79	0 86	132 67	132 67	10 00	10 00	0 00
9,250 00	44 79	89 63	9,205.77	1 07	166.30	166.30	10 00	10 00	0 00
9,258 54	45 64	89 63	9,211 78	1 11	172 36	172 36	10 00	10 00	0 00
2nd Bone Spring Upr Ss									
9,300.00	49 79	89 63	9,239 67	1 31	203.03	203 03	10 00	10 00	0.00
9,350 00	54 79	89 63	9,270.25	1 57	242 57	242.57	10.00	10 00	0 00
9,385 70	58 36	89 63	9,289 91	1 76	272.35	272.36	10.00	10.00	0 00
2nd Bone Spring Upr Ss Base									
9,400.00	59.79	89 63	9,297 26	1 84	284.62	284 63	10 00	10 00	0.00
9,424 81	62 27	89.63	9,309.28	1.98	306 32	306 33	10 00	10 00	0.00
2nd Bone Spring Middle Ss									
9,450 00	64 79	89 63	9,320 51	2.12	328.87	328 88	10 00	10 00	0 00
9,500.00	69.79	89 63	9,339 81	2.42	374 98	374 98	10 00	10 00	0.00
9,550 00	74 79	89 63	9,355.02	2 73	422.59	422 60	10.00	10 00	0.00
9,600 00	79 79	89 63	9,366 02	3 04	471.35	471 36	10 00	10 00	0 00
9,650 00	84.79	89.63	9,372.73	3.36	520.88	520 89	10 00	10.00	0.00
9,700 00	89 79	89 63	9,375.10	3 68	570 80	570 82	10 00	10 00	0 00
9,712 84	91 07	89 63	9,375 00	3.77	583 64	583 66	10.00	10 00	0 00
EOC: Hold I: 91.07° @ A: 89.63°									
9,800 00	91 07	89 63	9,373 37	4 33	670.79	670 80	0 00	0 00	0 00
9,900 00	91 07	89 63	9,371 51	4 98	770 77	770 78	0.00	0 00	0 00
10,000 00	91.07	89 63	9,369.64	5 62	870 75	870 77	0 00	0 00	0 00
10,100 00	91 07	89 63	9,367 77	6 27	970.73	970 75	0.00	0 00	0 00
10,200 00	91 07	89 63	9,365 91	6 91	1,070 71	1,070 73	0.00	0 00	0 00
10,300 00	91 07	89 63	9,364 04	7 56	1,170.69	1,170 71	0 00	0 00	0 00
10,400 00	91 07	89.63	9,362 17	8 20	1,270.67	1,270 70	0 00	0 00	0 00
10,500 00	91 07	89 63	9,360.31	8 85	1,370 65	1,370 68	0 00	0 00	0 00
10,600 00	91 07	89 63	9,358.44	9 49	1,470 63	1,470.66	0 00	0 00	0 00
10,700 00	91.07	89 63	9,356 57	10 14	1,570.61	1,570 64	0 00	0 00	0.00
10,800 00	91 07	89 63	9,354.71	10 78	1,670 59	1,670 63	0 00	0 00	0 00
10,900 00	91 07	89 63	9,352 84	11 43	1,770 57	1,770.61	0 00	0 00	0 00
11,000.00	91 07	89 63	9,350 97	12 07	1,870.55	1,870 59	0 00	0 00	0 00
11,100 00	91 07	89 63	9,349.11	12 72	1,970.53	1,970 57	0 00	0.00	0 00
11,200 00	91.07	89 63	9,347.24	13 37	2,070 51	2,070 56	0 00	0 00	0 00
11,300 00	91 07	89 63	9,345 37	14.01	2,170.49	2,170.54	0 00	0 00	0 00
11,400 00	91.07	89 63	9,343.51	14 66	2,270.48	2,270 52	0 00	0 00	0 00
11,500 00	91 07	89 63	9,341 64	15 30	2,370.46	2,370.50	0 00	0.00	0 00
11,600 00	91.07	89 63	9,339 78	15 95	2,470 44	2,470 49	0 00	0 00	0.00
11,700 00	91 07	89 63	9,337.91	16 59	2,570 42	2,570.47	0.00	0 00	0 00
11,800 00	91 07	89 63	9,336.04	17 24	2,670.40	2,670 45	0 00	0 00	0 00
11,900.00	91 07	89 63	9,334 18	17 88	2,770.38	2,770.44	0 00	0 00	0 00
12,000.00	91 07	89 63	9,332.31	18 53	2,870.36	2,870 42	0 00	0 00	0 00

CUDD Drilling and Measurement

Planning Report

Database:	EDM 5000 1 Single User Db	**Local Co-ordinate Reference:**	Site Spica 25 Fed 4H
Company:	Devon Energy Production Co, LP	**TVD Reference:**	WELL @ 3515 00ft (Original Well Elev)
Project:	Eddy Co , New Mexico (Nad 83)	**MD Reference:**	WELL @ 3515.00ft (Original Well Elev)
Site:	Spica 25 Fed 4H	**North Reference:**	Grid
Well:	Spica 25 Fed 4H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Lateral #1		
Design:	Design #1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
12,100.00	91 07	89 63	9,330 44	19.17	2,970.34	2,970 40	0 00	0 00	0 00
12,200.00	91 07	89.63	9,328 58	19 82	3,070 32	3,070 38	0 00	0.00	0.00
12,300 00	91 07	89.63	9,326 71	20 46	3,170 30	3,170.37	0 00	0 00	0 00
12,400 00	91 07	89 63	9,324.84	21.11	3,270.28	3,270 35	0 00	0 00	0 00
12,500.00	91 07	89 63	9,322 98	21 76	3,370.26	3,370 33	0.00	0.00	0 00
12,600 00	91 07	89.63	9,321 11	22.40	3,470.24	3,470.31	0.00	0 00	0 00
12,700 00	91 07	89 63	9,319 24	23.05	3,570.22	3,570 30	0.00	0 00	0 00
12,800 00	91 07	89 63	9,317 38	23 69	3,670 20	3,670 28	0.00	0 00	0 00
12,900 00	91 07	89 63	9,315 51	24 34	3,770.18	3,770 26	0.00	0.00	0 00
13,000.00	91.07	89 63	9,313.64	24.98	3,870.16	3,870 24	0 00	0.00	0 00
13,100.00	91.07	89 63	9,311 78	25 63	3,970.14	3,970 23	0 00	0 00	0 00
13,200 00	91.07	89 63	9,309 91	26 27	4,070 12	4,070 21	0.00	0 00	0.00
13,300 00	91 07	89 63	9,308 04	26 92	4,170 10	4,170.19	0 00	0 00	0.00
13,400 00	91 07	89 63	9,306.18	27.56	4,270 08	4,270.17	0.00	0.00	0 00
13,500 00	91.07	89 63	9,304 31	28 21	4,370.07	4,370 16	0.00	0 00	0 00
13,600.00	91 07	89 63	9,302 44	28 85	4,470 05	4,470 14	0.00	0 00	0.00
13,700.00	91 07	89.63	9,300 58	29 50	4,570.03	4,570.12	0 00	0 00	0.00
13,730 98	91 07	89.63	9,300 00	29.70	4,601.00	4,601 10	0 00	0 00	0.00

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PBHL - TD (S25F4H) - plan hits target center - Point	0 00	0.00	9,300 00	29 70	4,601.00	591,616 27	700,832 16	32° 37' 31.204 N	103° 48' 54 974 W

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,020 00	1,020 00	Rustler		-1 07	89.63
1,315.00	1,315 00	Salado		-1 07	89.63
2,595 00	2,595 00	Tansil Dolomite		-1 07	89 63
2,710 00	2,710 00	Yates		-1 07	89 63
2,910 00	2,910.00	Seven Rivers		-1 07	89.63
3,010 00	3,010.00	Capitan		-1 07	89 63
4,360 00	4,360 00	B/Capitan		-1 07	89 63
4,660 00	4,660 00	Delaware		-1 07	89 63
7,210 00	7,210 00	Bone Spring		-1 07	89 63
8,425 00	8,425 00	1st Bone Spring Ss		-1 07	89 63
8,735 00	8,735 00	2nd Bone Spring Lime		-1.07	89 63
9,154 90	9,133.04	2nd Bone Spring Ss		-1 07	89 63
9,258 54	9,211 78	2nd Bone Spring Upr Ss		-1.07	89 63
9,385 70	9,289 91	2nd Bone Spring Upr Ss Base		-1.07	89.63
9,424 81	9,309 28	2nd Bone Spring Middle Ss		-1.07	89.63

Database:	EDM 5000 1 Single User Db	**Local Co-ordinate Reference:**	Site Spica 25 Fed 4H
Company:	Devon Energy Production Co, LP	**TVD Reference:**	WELL @ 3515 00ft (Original Well Elev)
Project:	Eddy Co., New Mexico (Nad 83)	**MD Reference:**	WELL @ 3515 00ft (Original Well Elev)
Site:	Spica 25 Fed 4H	**North Reference:**	Grid
Well:	Spica 25 Fed 4H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Lateral #1		
Design:	Design #1		

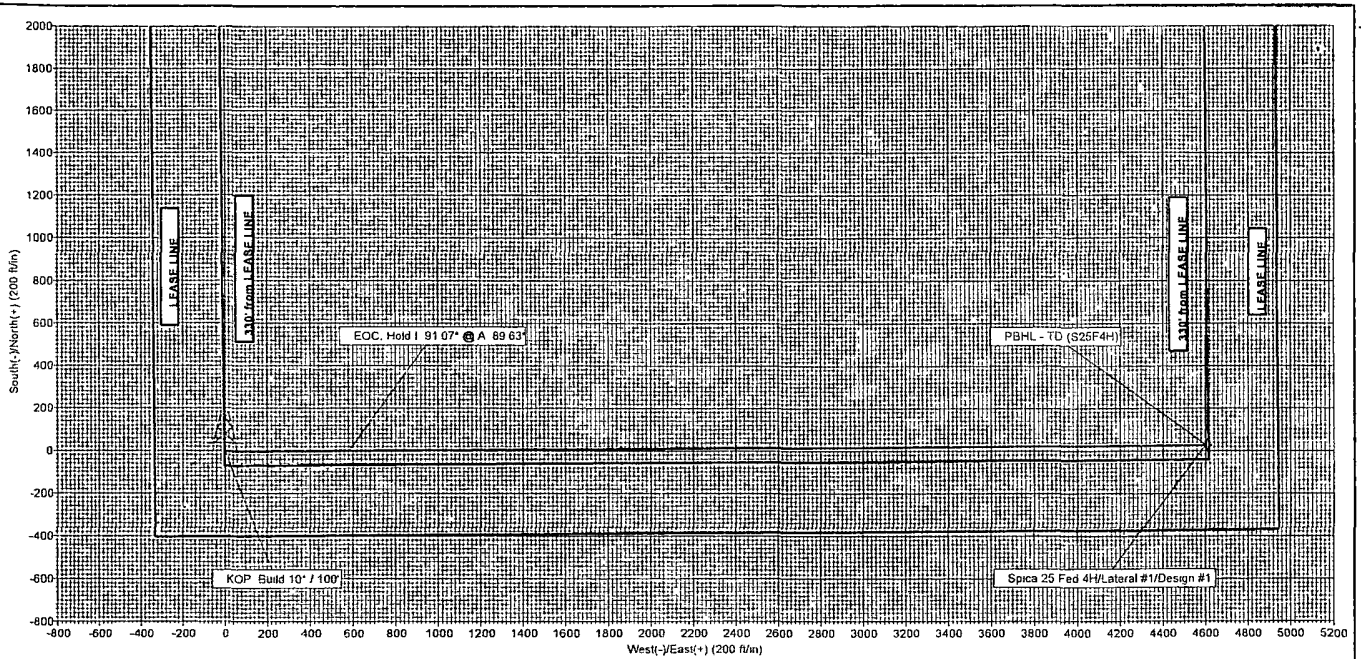
Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
8,802.14	8,802 14	0.00	0 00	KOP. Build 10* / 100'
9,712.84	9,375 00	3 77	583 64	EOC Hold I 91.07* @ A. 89 63*

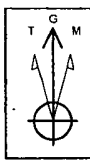
devon

Project Eddy Co , New Mexico (Nad 83)
Site Spica 25 Fed 4H
Well Spica 25 Fed 4H
Wellbore Lateral #1
Design Design #1

CUDD
DRILLING & MEASUREMENT SERVICES



PROJECT DETAILS	Eddy Co New Mexico (Nad 83)
Geodetic System	US State Plane 1983
Datum	North American Datum 1983
Ellipsoid	GRS 1980
Zone	New Mexico Eastern Zone
System Datum	Mean Sea Level



Azimuths to Grid North
True North' -0 27°
Magnetic Correction 7 40°

Magnetic Field
Strength 48779 4snT
Dip Angle 60 50°
Date 12/14/2011
Model IGRF2010

WELL DETAILS Spica 25 Fed 4H

Ground Level
3495 00
WELL @ 3515 00ft (Original Well Elev)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0 00	0 00	591586 57	696231 17	32° 37 31 129 N	103° 49' 48 775 W	

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	
2	8802 14	0.00	0 00	8802 14	0 00	0 00	0 00	0 00	0 00	
3	9712 84	91 07	89 63	9375 00	3 77	583 64	10 00	89 63	583 65	
4	13730.98	91 07	89 63	9300 00	29 70	4601 00	0 00	0 00	4601 10	PBHL - TD (S25F4H)

Plan Design #1 (Spica 25 Fed 4H/Lateral #1)

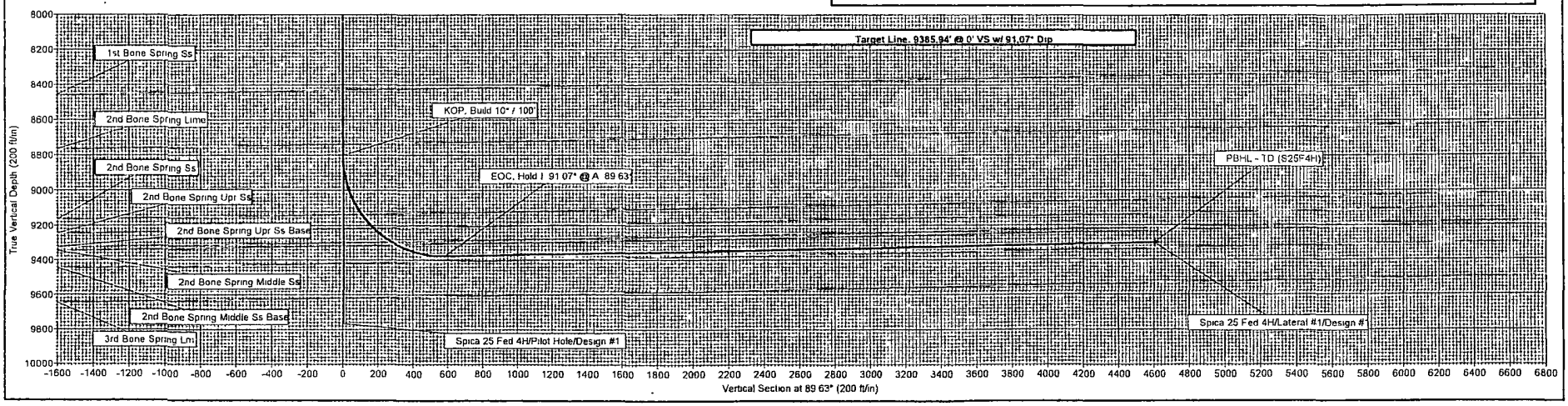
Created By Eric Minchew Date 10 05, December 14 2011
Checked _____ Date _____
Reviewed _____ Date _____
Approved _____ Date _____

ANNOTATIONS

TVD	MD	Annotation
8802.14	8802.14	KOP Build 10° / 100'
9375 00	9712.84	EOC Hold I 91 07° @ A 89 63°

WELLBORE TARGET DETAILS (MAP CO-ORDINATES AND LAT/LONG)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PBHL - TD (S25F4H)	9300 00	29 70	4601 00	591616 27	700832 16	32° 37' 31,204 N	103° 48' 54 974 W	Point



Devon Energy Production Co, LP
Spica 25 Fed 4H - Design #1

Eddy Co., New Mexico (Nad 83)
Spica 25 Fed 4H

Measured Depth (ft)	Incl.	Azim.	Vertical Depth (ft)	Northings (ft)	Eastings (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)
0.00	0.000	0.000	0.00	0.00 N	0.00 E	0.00	0.00
8802.14	0.000	0.000	8802.14	0.00 N	0.00 E	0.00	0.00
8850.00	4.786	89.630	8849.94	0.01 N	2.00 E	2.00	10.00
8900.00	9.786	89.630	8899.52	0.05 N	8.34 E	8.34	10.00
8950.00	14.786	89.630	8948.36	0.12 N	18.97 E	18.97	10.00
9000.00	19.786	89.630	8996.09	0.22 N	33.82 E	33.83	10.00
9050.00	24.786	89.630	9042.34	0.34 N	52.78 E	52.78	10.00
9100.00	29.786	89.630	9086.76	0.49 N	75.69 E	75.69	10.00
9150.00	34.786	89.630	9129.02	0.66 N	102.39 E	102.39	10.00
9200.00	39.786	89.630	9168.79	0.86 N	132.67 E	132.67	10.00
9250.00	44.786	89.630	9205.77	1.07 N	166.30 E	166.30	10.00
9300.00	49.786	89.630	9239.67	1.31 N	203.03 E	203.03	10.00
9350.00	54.786	89.630	9270.25	1.57 N	242.57 E	242.57	10.00
9400.00	59.786	89.630	9297.26	1.84 N	284.62 E	284.63	10.00
9450.00	64.786	89.630	9320.51	2.12 N	328.87 E	328.88	10.00
9500.00	69.786	89.630	9339.81	2.42 N	374.98 E	374.98	10.00
9550.00	74.786	89.630	9355.02	2.73 N	422.59 E	422.60	10.00
9600.00	79.786	89.630	9366.02	3.04 N	471.35 E	471.36	10.00
9650.00	84.786	89.630	9372.73	3.36 N	520.88 E	520.89	10.00
9700.00	89.786	89.630	9375.10	3.68 N	570.80 E	570.82	10.00
9712.84	91.070	89.630	9375.00	3.77 N	583.64 E	583.65	10.00
9800.00	91.070	89.630	9373.37	4.33 N	670.79 E	670.80	0.00
9900.00	91.070	89.630	9371.51	4.98 N	770.77 E	770.78	0.00
10000.00	91.070	89.630	9369.64	5.62 N	870.75 E	870.77	0.00
10100.00	91.070	89.630	9367.77	6.27 N	970.73 E	970.75	0.00

10200.00	91.070	89.630	9365.91	6.91	N	1070.71 E	1070.73
0.00							
10300.00	91.070	89.630	9364.04	7.56	N	1170.69 E	1170.71
0.00							
10400.00	91.070	89.630	9362.17	8.20	N	1270.67 E	1270.70
0.00							
10500.00	91.070	89.630	9360.31	8.85	N	1370.65 E	1370.68
0.00							
10600.00	91.070	89.630	9358.44	9.49	N	1470.63 E	1470.66
0.00							
10700.00	91.070	89.630	9356.57	10.14	N	1570.61 E	1570.64
0.00							
10800.00	91.070	89.630	9354.71	10.78	N	1670.59 E	1670.63
0.00							
10900.00	91.070	89.630	9352.84	11.43	N	1770.57 E	1770.61
0.00							
11000.00	91.070	89.630	9350.97	12.07	N	1870.55 E	1870.59
0.00							
11100.00	91.070	89.630	9349.11	12.72	N	1970.53 E	1970.57
0.00							
11200.00	91.070	89.630	9347.24	13.37	N	2070.51 E	2070.56
0.00							
11300.00	91.070	89.630	9345.37	14.01	N	2170.49 E	2170.54
0.00							
11400.00	91.070	89.630	9343.51	14.66	N	2270.47 E	2270.52
0.00							
11500.00	91.070	89.630	9341.64	15.30	N	2370.46 E	2370.50
0.00							
11600.00	91.070	89.630	9339.78	15.95	N	2470.44 E	2470.49
0.00							
11700.00	91.070	89.630	9337.91	16.59	N	2570.42 E	2570.47
0.00							
11800.00	91.070	89.630	9336.04	17.24	N	2670.40 E	2670.45
0.00							
11900.00	91.070	89.630	9334.18	17.88	N	2770.38 E	2770.44
0.00							
12000.00	91.070	89.630	9332.31	18.53	N	2870.36 E	2870.42
0.00							
12100.00	91.070	89.630	9330.44	19.17	N	2970.34 E	2970.40
0.00							
12200.00	91.070	89.630	9328.58	19.82	N	3070.32 E	3070.38
0.00							
12300.00	91.070	89.630	9326.71	20.46	N	3170.30 E	3170.37
0.00							
12400.00	91.070	89.630	9324.84	21.11	N	3270.28 E	3270.35
0.00							
12500.00	91.070	89.630	9322.98	21.76	N	3370.26 E	3370.33
0.00							
12600.00	91.070	89.630	9321.11	22.40	N	3470.24 E	3470.31
0.00							
12700.00	91.070	89.630	9319.24	23.05	N	3570.22 E	3570.30
0.00							
12800.00	91.070	89.630	9317.38	23.69	N	3670.20 E	3670.28
0.00							
12900.00	91.070	89.630	9315.51	24.34	N	3770.18 E	3770.26
0.00							
13000.00	91.070	89.630	9313.64	24.98	N	3870.16 E	3870.24
0.00							
13100.00	91.070	89.630	9311.78	25.63	N	3970.14 E	3970.23
0.00							
13200.00	91.070	89.630	9309.91	26.27	N	4070.12 E	4070.21
0.00							
13300.00	91.070	89.630	9308.04	26.92	N	4170.10 E	4170.19

0.00						
13400.00	91.070	89.630	9306.18	27.56 N	4270.08 E	4270.17
0.00						
13500.00	91.070	89.630	9304.31	28.21 N	4370.07 E	4370.16
0.00						
13600.00	91.070	89.630	9302.44	28.85 N	4470.05 E	4470.14
0.00						
13700.00	91.070	89.630	9300.58	29.50 N	4570.03 E	4570.12
0.00						
13730.98	91.070	89.630	9300.00	29.70 N	4601.00 E	4601.10
0.00						

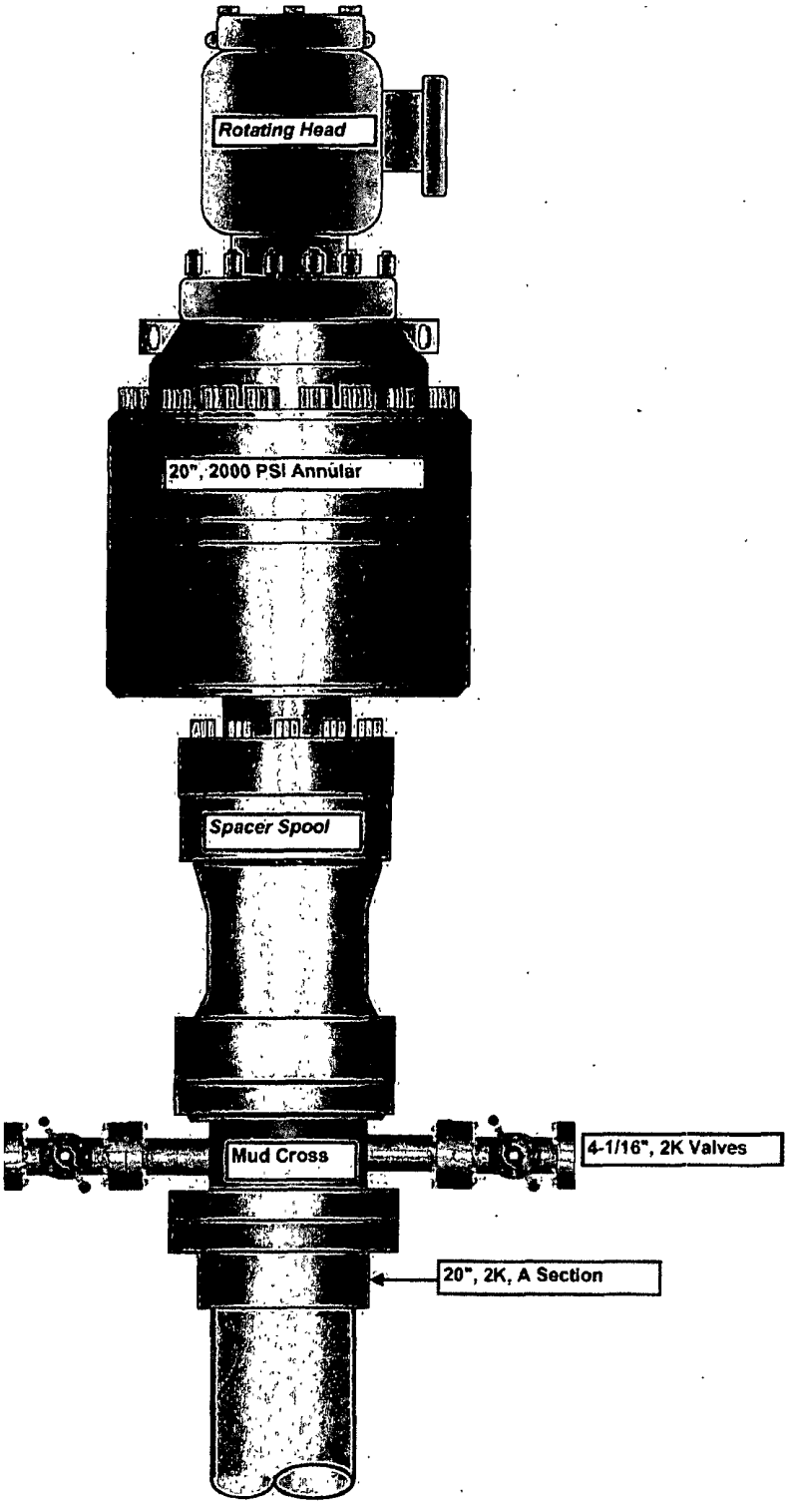
All data are in feet unless otherwise stated. Directions and coordinates are relative to Grid North.
Vertical depths are relative to WELL. Northings and Eastings are relative to Site.

The Dogleg Severity is in Degrees per 100 feet.
Vertical Section is from Slot and calculated along an Azimuth of 89.630° (Grid).

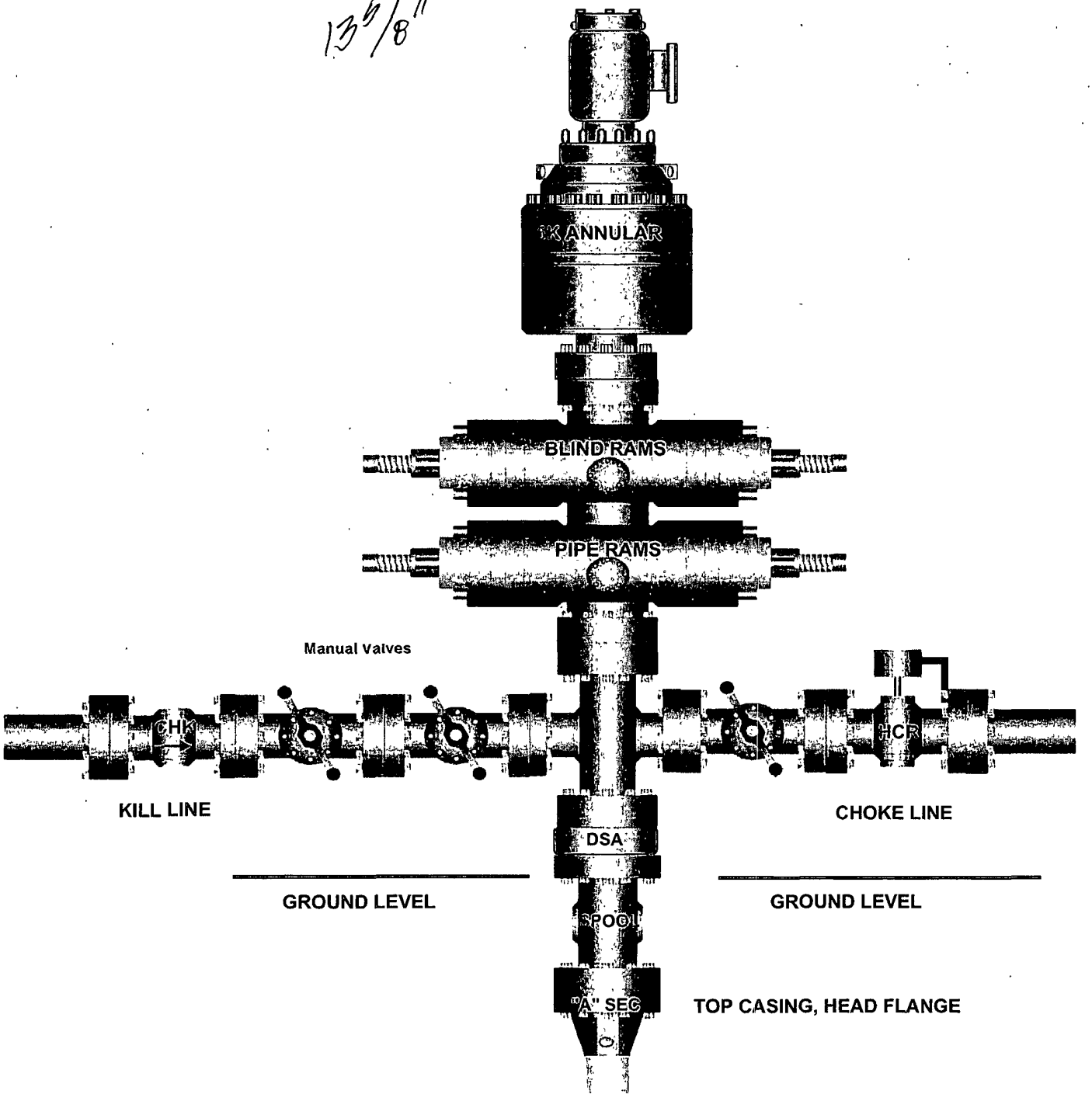
Coordinate System is North American Datum 1983 US State Plane 1983, New Mexico Eastern Zone.
Central meridian is -104.333°.
Grid Convergence at Surface is 0.271°.

Based upon Minimum Curvature type calculations, at a Measured Depth of 13730.98ft., the Bottom Hole Displacement is 4601.10ft., in the Direction of 89.630° (Grid).

20" 2K Annular



~~11~~ 13 5/8" x 5,000 psi BOP Stack



L:\Western\Drilling\Wes Handley\Drawings\BOPS\BOPs.xls

Attachment to Exhibit #1
NOTES REGARDING BLOWOUT PREVENTERS
Devon Energy Production Company, LP
Spica 25 Federal 4H
Surface Location: 400' FSL & 340 FWL, Unit M, Sec 25 T19S R31E, Eddy, NM
Bottom hole Location: 400' FSL & 330' FEL, Unit P, Sec 25 T19S R31E, Eddy, NM

Surface Protection Specialist: Randy Rust

1. Drilling nipple will be constructed so it can be removed mechanically without the aid of a welder. The minimum internal diameter will equal BOP bore.

2. Wear ring will be properly installed in head.

3. Blowout preventer and all associated fittings will be in operable condition to withstand a minimum 3000 psi working pressure.

4. All fittings will be flanged.

5. A full bore safety valve tested to a minimum 3000 psi WP with proper thread connections will be available on the rotary rig floor at all times.

6. All choke lines will be anchored to prevent movement.

7. All BOP equipment will be equal to or larger in bore than the internal diameter of the last casing string.

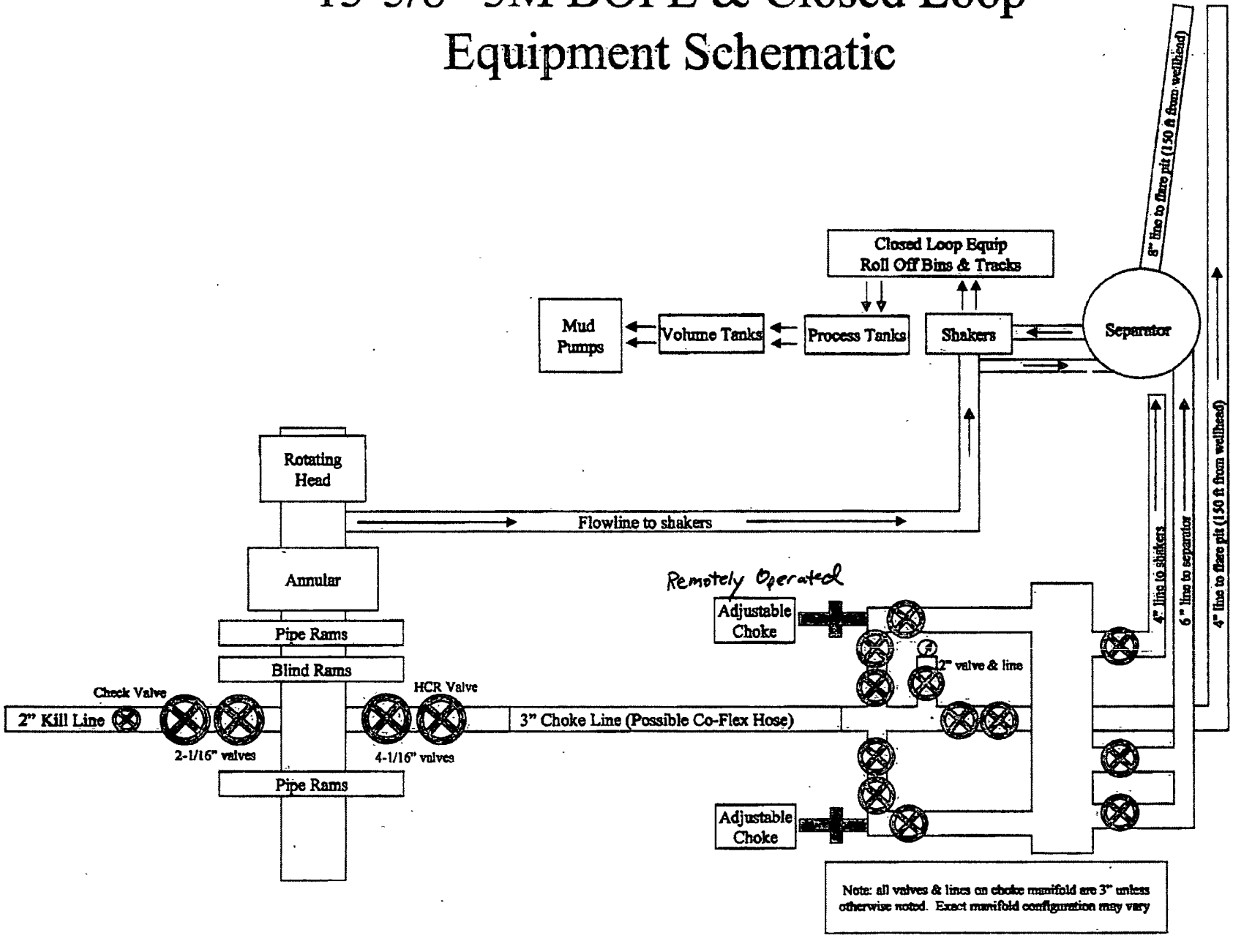
8. Will maintain a kelly cock attached to the kelly.

9. Hand wheels and wrenches will be properly installed and tested for safe operation.

10. Hydraulic floor control for blowout preventer will be located as near in proximity to driller's controls as possible.

11. All BOP equipment will meet API standards and include a minimum 40 gallon accumulator having two independent means of power to initiate closing operation.

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



Continental CONTITECH

Fluid Technology

ContiTech Beattie Corp.
Website: www.contitechbeattie.com

Monday, June 14, 2010

RE: Drilling & Production Hoses
Lifting & Safety Equipment

To Helmerich & Payne,

A Continental ContiTech hose assembly can perform as intended and suitable for the application regardless of whether the hose is secured or unsecured in its configuration. As a manufacturer of High Pressure Hose Assemblies for use in Drilling & Production, we do offer the corresponding lifting and safety equipment, this has the added benefit of easing the lifting and handling of each hose assembly whilst affording hose longevity by ensuring correct handling methods and procedures as well as securing the hose in the unlikely event of a failure; but in no way does the lifting and safety equipment affect the performance of the hoses providing the hoses have been handled and installed correctly It is good practice to use lifting & safety equipment but not mandatory

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

ContiTech Beattie is part of the Continental AG Corporation and can offer the full support resources associated with a global organization.

Best regards,

Robin Hodgson
Sales Manager
ContiTech Beattie Corp

ContiTech Beattie Corp,
11535 Brittmoore Park Drive,
Houston, TX 77041
Phone: +1 (832) 327-0141
Fax: +1 (832) 327-0148
www.contitechbeattie.com

Hydrostatic Test Certificate

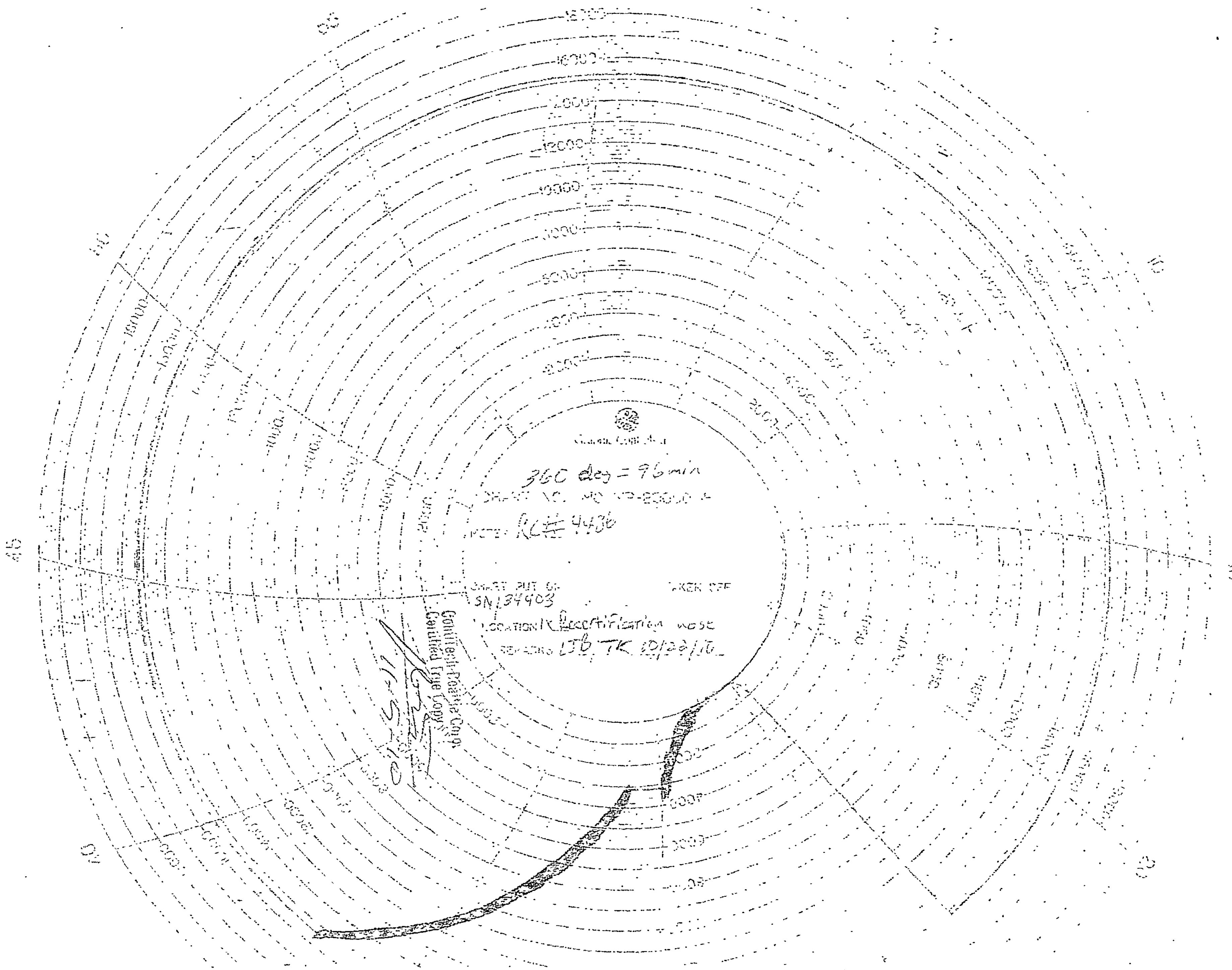
Certificate Number: 4520	PBC No: 10321	Customer Name & Address
		HELMERICH & PAYNE INT'L DRILLING CO
Customer Purchase Order No:	RIG 300	1437 SOUTH BOULDER
		TULSA, OK 74119
Project:		

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

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

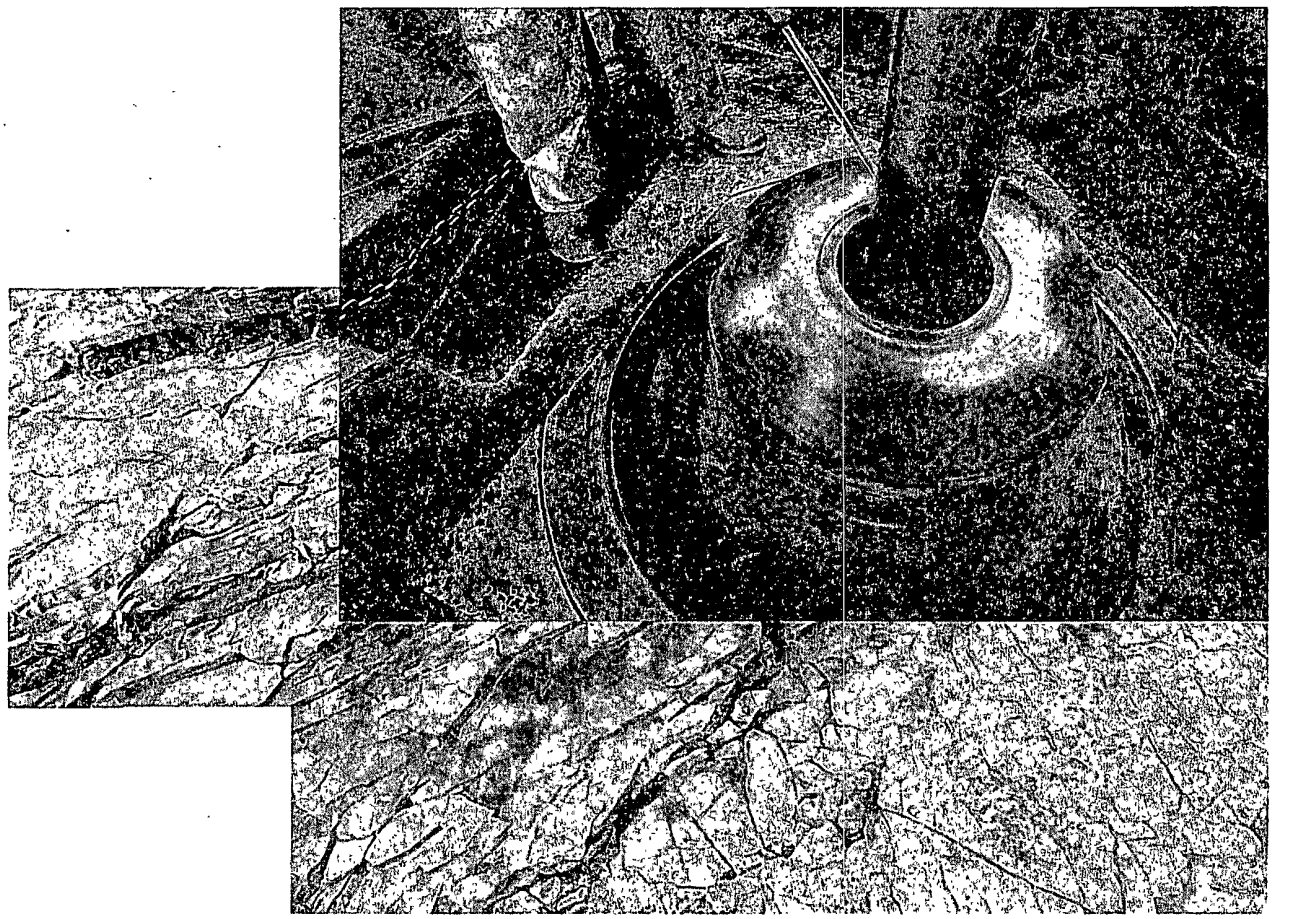
These goods were made in the United States of America.

Item	Part No	Description	Qnty	Serial Number	As-Built Length (m)	Work Press	Test Press	Test Time (minutes)
1		3" ID 10K Choke & Kill Hose x 35ft OAL End A: 4.1/16" 10Kpsi API Spec 6A Type 6BX Flange End B: 4 1/16" 10Kpsi API Spec 6A Type 6BX Flange Working Pressure 10,000psi Test Pressure: 15,000psi Serial#: 49106	1	49106		10 kpsi	15 kpsi	60


360 deg = 96 min
SN 134903
LOCATION K Recertification wrst
LJB, TK 10/22/16
CalliTech-Roanoke Corp
Certified True Copy

devon

Commitment Runs Deep



Design Plan
Operation and Maintenance Plan
Closure Plan

SENM - Closed Loop Systems
June 2008

I. Design Plan

Devon uses various high efficient closed loop systems (CLS). The CLS shown is designed to maintain drill solids at or below 5%. The equipment is arranged to progressively remove solids from the largest to the smallest size. Drilling fluids can thus be reused and savings is realized on mud and disposal costs. Dewatering may be required with the centrifuges to insure removal of ultra fine solids.

The drilling location is constructed to allow storm water to flow to a central sump normally the cellar. This insures no contamination leaves the drilling pad in the event of a spill. Storm water is reused in the mud system or stored in a reserve fluid tank farm until it can be reused. All lubricants, oils, or chemicals are removed immediately from the ground to prevent the contamination of storm water. An oil trap is normally installed on the sump if an oil spill occurs during a storm.

A tank farm is utilized to store drilling fluids including fresh water and brine fluids. The tank farm is constructed on a 20 ml plastic lined, bermed pad to prevent the contamination of the drilling site during a spill. Fluids from other sites may be stored in these tanks for processing by the solids control equipment and reused in the mud system. At the end of the well the fluids are transported from the tank farm to an adjoining well or to the next well for the rig.

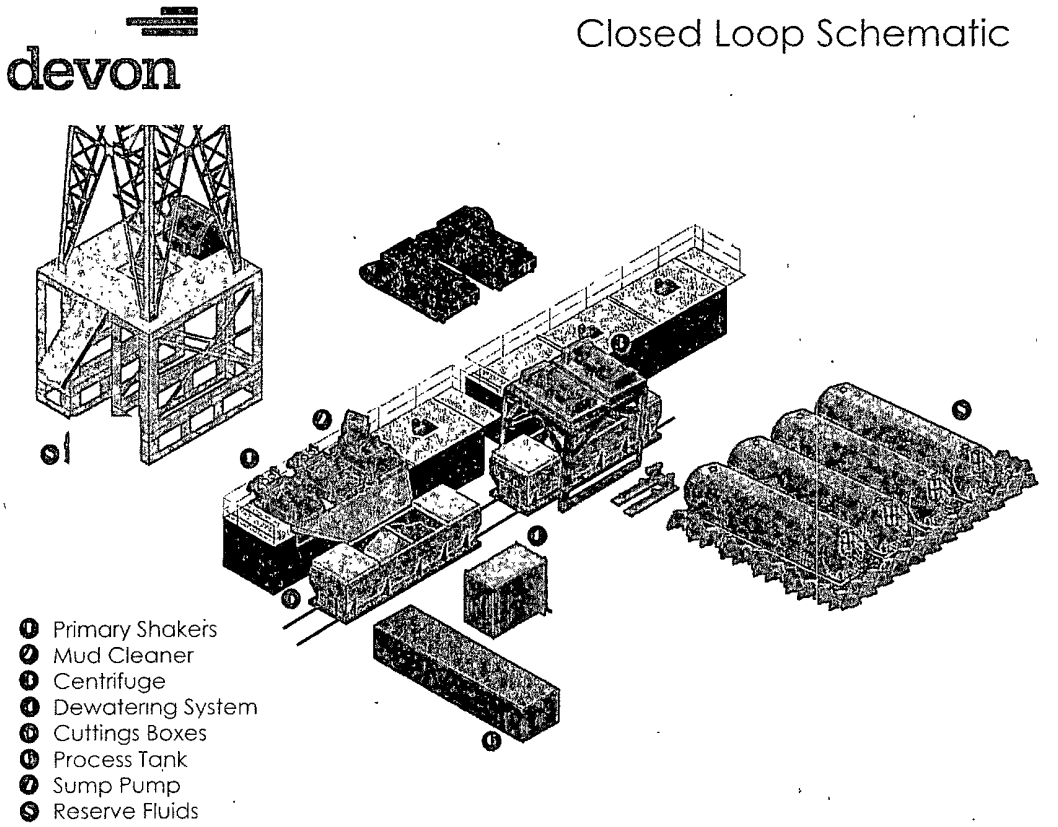
Prior to installing a closed-loop system on site, the topsoil, if present, will be stripped and stockpiled for use as the final cover or fill at the time of closure.

Signs will be posted on the fence surrounding the closed-loop system unless the closed-loop system is located on a site where there is an existing well, that is operated by Devon.

II. Operations and Maintenance Plan

Primary Shakers: The primary shakers make the first removal of drill solids from the drilling mud as it leaves the well bore. The shakers are sized to handle maximum drilling rate at optimal screen size. The shakers normally remove solids down to 74 microns.

Mud Cleaner: The Mud Cleaner cleans the fluid after it leaves the shakers. A set of hydrocyclones are sized to handle 1.25 to 1.5 times the maximum circulating rate. This ensures all the fluid is being processed to an average cut point of 25 microns. The wet discharged is dewatered on a shaker equipped with ultra fine mesh screens and generally cut at 40 microns.



Centrifuges: The centrifuges can be utilized depending on the well's anticipated solids volume. One or two centrifuges can be used depending on the well geometry or depth of well. The centrifuges are sized to maintain low gravity solids at 5% or below. They may or may not need a dewatering system to enhance the removal rates. The centrifuges can make a cut point of 8-10 microns depending on bowl speed, feed rate, solids loading and other factors.

The centrifuge system is designed to work on the active system and be flexible to process incoming fluids from other locations. This set-up is also dependant on well factors.

Dewatering System: The dewatering system is a chemical mixing and dosing system designed to enhance the solids removal of the centrifuge. Not commonly used in shallow wells. It may contain pH adjustment, coagulant mixing and dosing, and polymer mixing and dosing. Chemical flocculation binds

ultra fine solids into a mass that is within the centrifuge operating design. The dewatering system improves the centrifuge cut point to infinity or allows for the return of clear water or brine fluid. This ability allows for the ultimate control of low gravity solids.

Cuttings Boxes: Cuttings boxes are utilized to capture drill solids that are discarded from the solids control equipment. These boxes are set upon a rail system that allows for the removal and replacement of a full box of cuttings with an empty one. They are equipped with a cover that insures no product is spilled into the environment during the transportation phase.

Process Tank: (Optional) The process tank allows for the holding and process of fluids that are being transferred into the mud system. Additionally, during times of lost circulation the process tank may hold active fluids that are removed for additional treatment. It can further be used as a mixing tank during well control conditions.

Sump and Sump Pump: The sump is used to collect storm water and the pump is used to transfer this fluid to the active system or to the tank for to hold in reserve. It can also be used to collect fluids that may escape during spills. The location contains drainage ditches that allow the location fluids to drain to the sump.

Reserve Fluids (Tank Farm): A series of frac tanks are used to replace the reserve pit. These are steel tanks that are equipped with a manifold system and a transfer pump. These tanks can contain any number of fluids used during the drilling process. These can include fresh water, cut brine, and saturated salt fluid. The fluid can be from the active well or reclaimed fluid from other locations. A 20 ml liner and berm system is employed to ensure the fluids do not migrate to the environment during a spill.

If a leak develops, the appropriate division district office will be notified within 48 hours of the discovery and the leak will be addressed. Spill prevention is accomplished by maintaining pump packing, hoses, and pipe fittings to insure no leaks are occurring. During an upset condition the source of the spill is isolated and repaired as soon as it is discovered. Free liquid is removed by a diaphragm pump and returned to the mud system. Loose topsoil may be used to stabilize the spill and the contaminated soil is excavated and placed in the cuttings boxes. After the well is finished and the rig has moved, the entire location is scrapped and testing will be performed to determine if a release has occurred.

All trash is kept in a wire mesh enclosure and removed to an approved landfill when full. All spent motor oils are kept in separate containers and they are removed and sent to an approved recycling center. Any spilled lubricants, pipe

dope, or regulated chemicals are removed from soil and sent to landfills approved for these products.

These operations are monitored by Solids Control service technicians. Daily logs are maintained to ensure optimal equipment operation and maintenance. Screen and chemical use is logged to maintain inventory control. Fluid properties are monitored and recorded and drilling mud volumes are accounted for in the mud storage farm. This data is kept for end of well review to insure performance goals are met. Lessons learned are logged and used to help with continuous improvement.

III. Closure Plan

A maximum 170' X 170' caliche pad is built per well. All of the trucks and steel tanks fit on this pad. All fluid cuttings go to the steel tanks to be hauled by various trucking companies to an agency approved disposal.

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

Hydrogen Sulfide (H_2S) Contingency Plan

For

Spica "25" Federal 4H

Sec-25, T-19S R-31E
400' FSL & 340' FWL,
LAT. = 32.6253136'N (NAD83)
LONG = 103.8302153'W

Eddy County NM

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 – Roger Hernandez	748-0169	748-5238	
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 – Steven Jones	(405) 552-7994	(405) 596-8041	

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

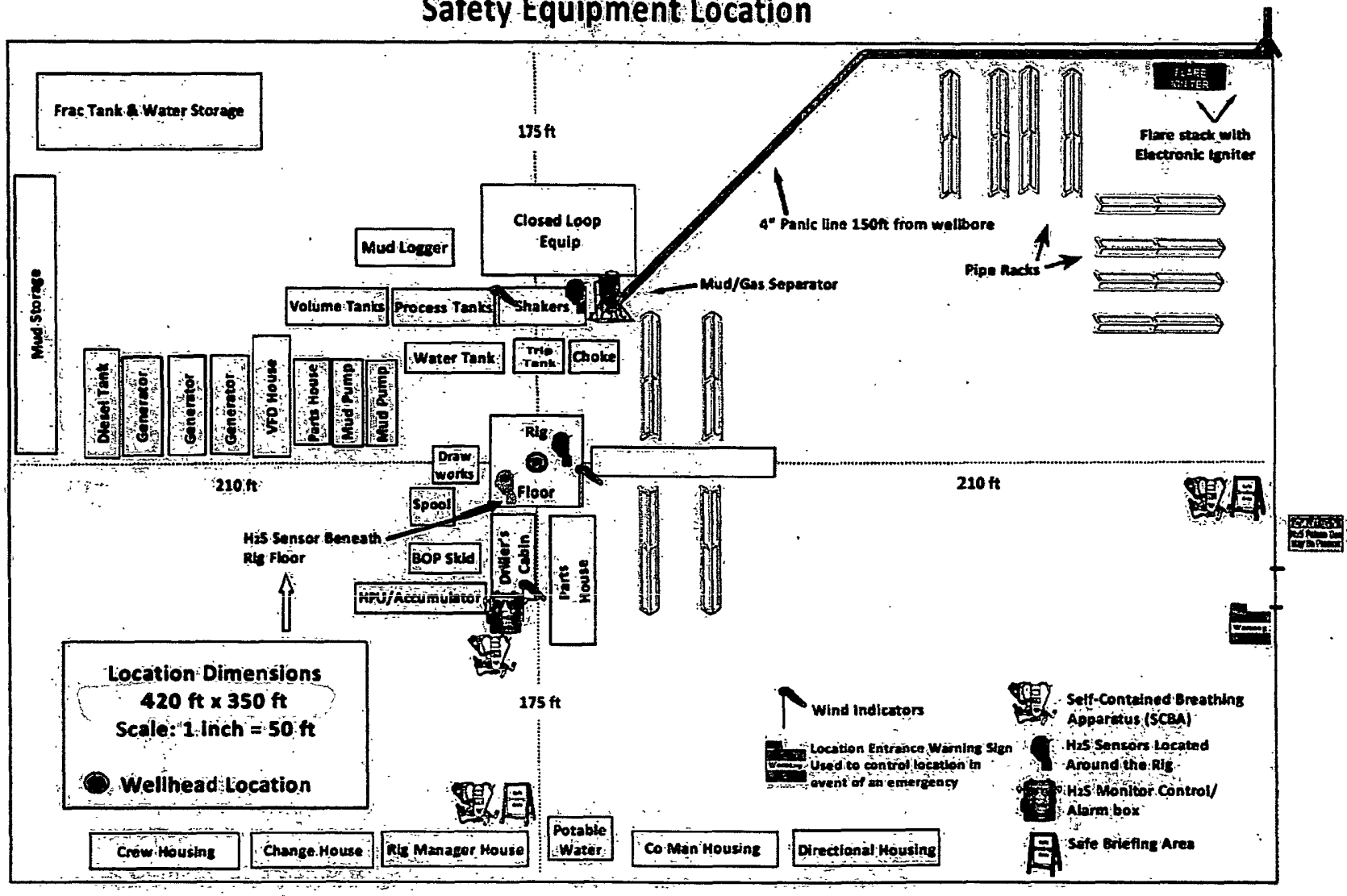
Boots & Coots IWC	1-800-256-9688 or (281) 931-8884
Cudd Pressure Control	(915) 699-0139 or (915) 563-3356
Halliburton	(575) 746-2757
B. J. Services	(575) 746-3569

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

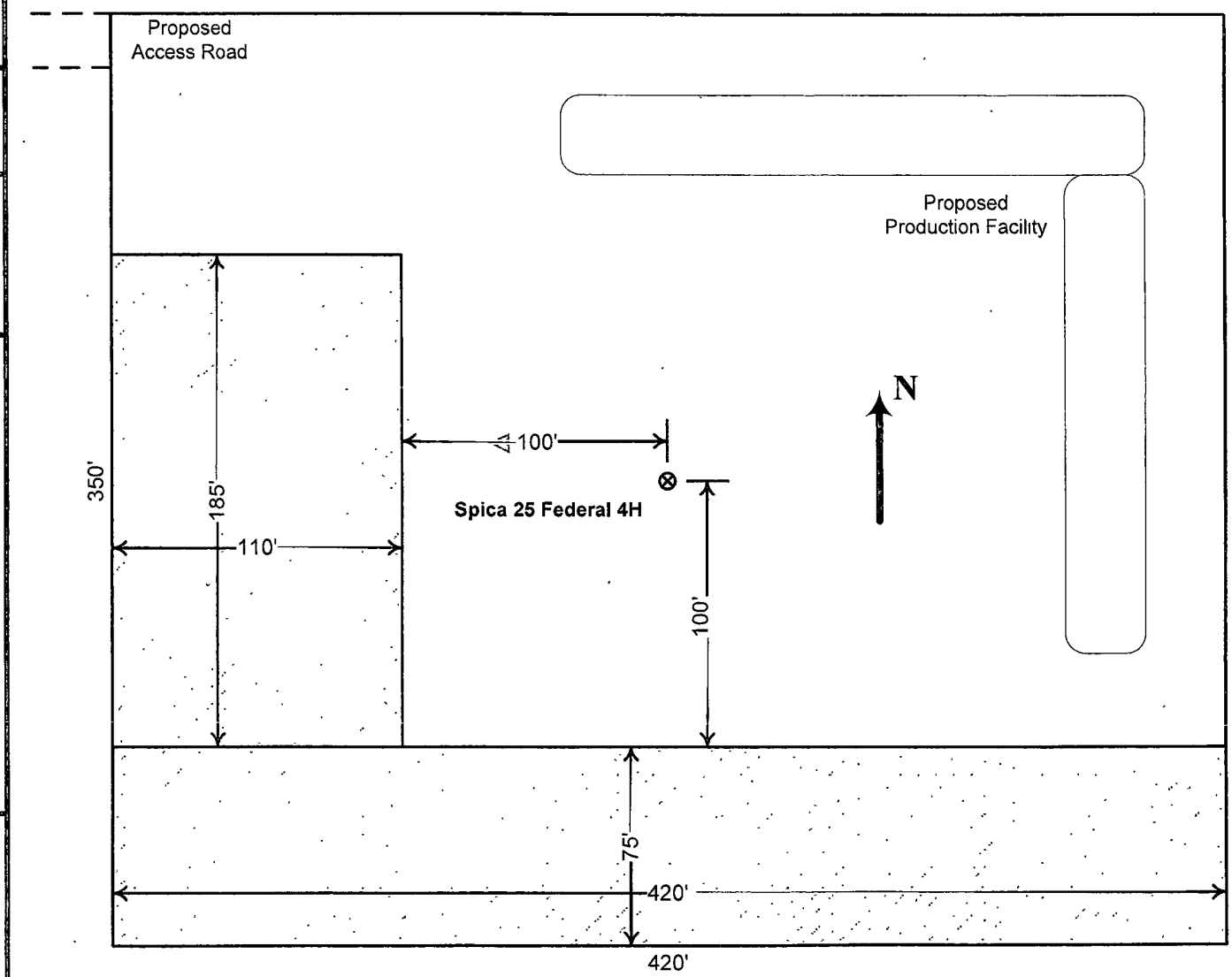
Devon Energy - Well Pad
Rig Location Layout
Safety Equipment Location



devon

Proposed Interim Site Reclamation

Devon Energy Production Co.
Spica 25 Federal 4H
400' FSL & 340' FWL
Sec. 25-T19S-R31E
Eddy County, NM



Proposed Reclamation Area

Scale: 1in = 60ft.

PECOS DISTRICT
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	DEVON ENERGY PRODUCTION COMPANY
LEASE NO.:	NM0107697
WELL NAME & NO.:	4H SPICA 25 FEDERAL
SURFACE HOLE FOOTAGE:	400' FSL & 340' FWL
BOTTOM HOLE FOOTAGE	400' FSL & 340' FEL
LOCATION:	Section 25, T.19 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)

Timing Limitation Stipulation / Condition of Approval for lesser prairie-chicken: Oil and gas activities including 3-D geophysical exploration, and drilling will not be allowed in lesser prairie-chicken habitat during the period from March 1st through June 15th annually. During that period, other activities that produce noise or involve human activity, such as the maintenance of oil and gas facilities, pipeline, road, and well pad construction, will be allowed except between 3:00 am and 9:00 am. The 3:00 am to 9:00 am restriction will not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during this period. Additionally, no new drilling will be allowed within up to 200 meters of leks known at the time of permitting. Normal vehicle use on existing roads will not be restricted. Exhaust noise from pump jack engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 feet from the source of the noise.

Ground-level Abandoned Well Marker to avoid raptor perching: Upon the plugging and subsequent abandonment of the well, the well marker will be installed at ground level on a plate containing the pertinent information for the plugged well. For more installation details, contact the Carlsbad Field Office at 575-234-5972.

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 on one side of the cattleguard 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. Once the work is completed, the fence will be restored to its prior condition, or better. The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fence(s).

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.

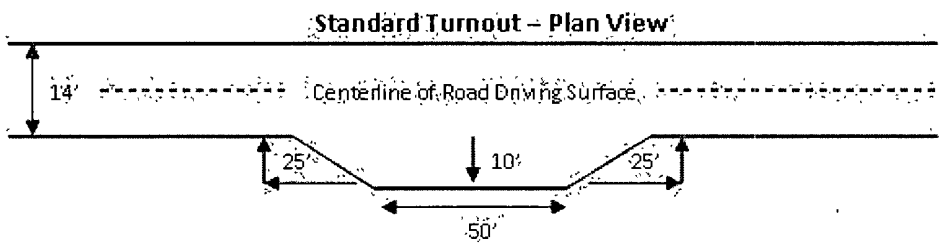
The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing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

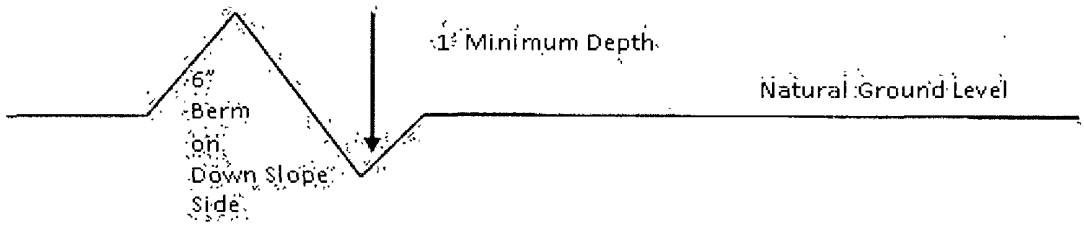
Turnouts
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall be constructed on all blind curves. Turnouts shall conform to the following diagram:



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:

400 foot road with 4% road slope: $\frac{400'}{4\%} + 100' = 200'$ 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

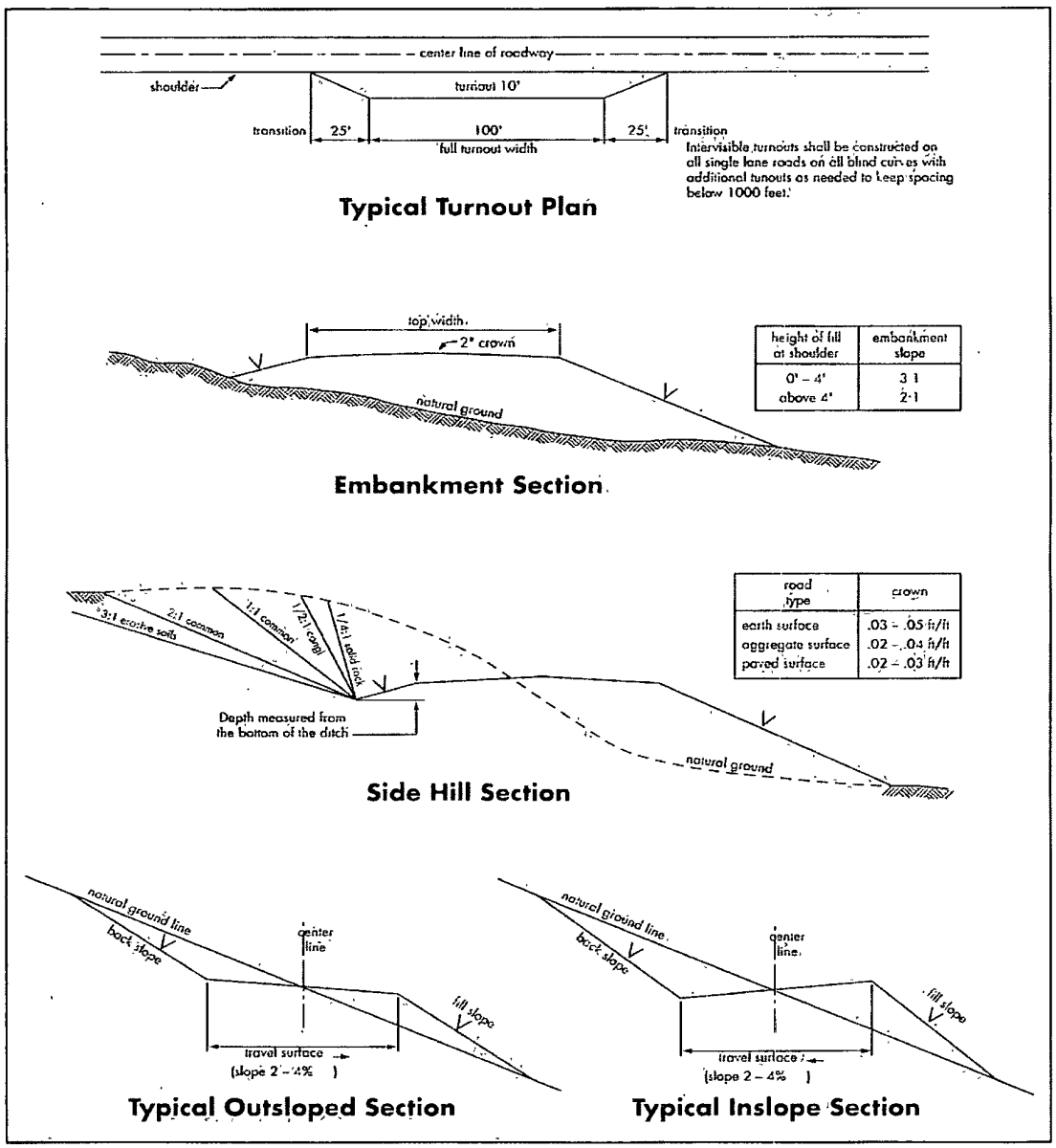
Where entry is required across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting.

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. A Hydrogen Sulfide (H2S) Drilling Plan should be activated 500 feet prior to drilling into the **Yates** formation. **As a result, the Hydrogen Sulfide area must meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, please provide measured values and formations to the BLM.**

2. 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.

3. **The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall 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 and cement program require submitting a sundry and receiving approval prior to work. Failure to obtain approval prior to work will result in an Incident of Non-Compliance being issued.

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

Wait on cement (WOC) time prior to drilling out 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. DURING THIS WOC TIME, NO DRILL PIPE, ETC. SHALL BE RUN IN THE HOLE. 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 water and brine flows in the Salado and Artesia groups.
Possible lost circulation in the Artesia group and Capitan Reef.

1. The **20** inch surface casing shall be set at **approximately 955 feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt)** and cemented to the surface.

    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 **13-3/8** inch 1st intermediate casing is:

    ☒ Cement to surface. If cement does not circulate see B.1.a, c-d above. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to Capitan Reef.**

3. The minimum required fill of cement behind the **9-5/8** inch 2nd intermediate casing is:

   ☒ Cement to surface. If cement does not circulate see B.1.a, c-d above. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to Capitan Reef.**

Positive standoff centralizers shall be utilized for the production string every other joint of casing from 100' MD above KOP or at the legal footage setback, whichever is the deeper MD, up to TOC.

The pilot hole plugging procedure is approved as written.

4. 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. Operator should have plans as to how they will achieve circulation on the next stage..

   b. Second stage above DV tool, cement shall:

   ☒ Cement should tie-back a minimum of 200 feet above the Capitan Reef. Operator shall provide method of verification.

5. 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 **2000 (2M)** psi.

    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.

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

5. 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, 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. DRILL STEM TEST

If drill stem tests are performed, Onshore Order 2.III.D shall be followed.

E. 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.

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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

STANDARD STIPULATIONS FOR SURFACE INSTALLED PIPELINES

A copy of the grant and attachments, including stipulations, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. The holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.

2. The holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.

3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the

Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, et seq.) on the Right-of-Way (unless the release or threatened release is wholly unrelated to activity of the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder on the Right-of-Way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

4. The holder shall be liable for damage or injury to the United States to the extent provided by 43 CFR Sec. 2883.1-4. The holder shall be held to a standard of strict liability for damage or injury to the United States resulting from pipe rupture, fire, or spills caused or substantially aggravated by any of the following within the right-of-way or permit area:

a. Activities of the holder including, but not limited to construction, operation, maintenance, and
termination of the facility.

b. Activities of other parties including, but not limited to:

(1) Land clearing.
(2) Earth-disturbing and earth-moving work.
(3) Blasting.
(4) Vandalism and sabotage.

c. Acts of God.

The maximum limitation for such strict liability damages shall not exceed one million dollars ($1,000,000) for any one event, and any liability in excess of such amount shall be determined by the ordinary rules of negligence of the jurisdiction in which the damage or injury occurred.

This section shall not impose strict liability for damage or injury resulting primarily from an act of war or from the negligent acts or omissions of the United States.

5. If, during any phase of the construction, operation, maintenance, or termination of the pipeline, any oil, salt water, or other pollutant should be discharged from the pipeline system, impacting Federal lands, the control and total removal, disposal, and cleaning up of such oil, salt water, or other pollutant, wherever found, shall be the responsibility of the holder, regardless of fault. Upon failure of the holder to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all damages resulting therefrom, on the Federal lands, the Authorized Officer may take such measures as he deems necessary to control and clean up the discharge and restore the area, including, where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the holder. Such action by the Authorized Officer shall not relieve the holder of any responsibility as provided herein.

6. All construction and maintenance activity will be confined to the authorized right-of-way width of **25** feet.

6. (a) Where a polyline is laid along a County Road, the operator will lay that polyline ten (10)
feet out from the center of the ditch to prevent obstructing County Maintenance activities.

7. No blading or clearing of any vegetation will be allowed unless approved in writing by the Authorized Officer.

8. The holder shall install the pipeline on the surface in such a manner that will minimize suspension of the pipeline across low areas in the terrain. In hummocky of duney areas, the pipeline will be "snaked" around hummocks and dunes rather then suspended across these features.

9. The pipeline shall be buried with a minimum of **24** inches under all roads, "two-tracks," and trails. Burial of the pipe will continue for 20 feet on each side of each crossing. The condition of the road, upon completion of construction, shall be returned to at least its former state with no bumps or dips remaining in the road surface.

10. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting of the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

11. In those areas where erosion control structures are required to stabilize soil conditions, the holder will install such structures as are suitable for the specific soil conditions being encountered and which are in accordance with sound resource management practices.

12. Excluding the pipe, all above-ground structures not subject to safety requirement shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be a color which simulates "Standard Environmental Colors" – **Shale Green**, Munsell Soil Color No. 5Y 4/2; designated by the Rocky Mountain Five State Interagency Committee.

13. The pipeline will be identified by signs at the point of origin and completion of the right-of-way and at all road crossings. At a minimum, signs will state the holder's name, BLM serial number, and the product being transported. Signs will be maintained in a legible condition for the life of the pipeline.

14. The holder shall not use the pipeline route as a road for purposes other than routine maintenance as determined necessary by the Authorized Officer in consultation with the holder. The holder will take whatever steps are necessary to ensure that the pipeline route is not used as a roadway.

15. Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the authorized officer. Holder 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 will be made by the authorized officer to determine appropriate cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the authorized officer after consulting with the holder.

16. 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, powerline 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.

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).

Ground-level Abandoned Well Marker to avoid raptor perching: Upon the plugging and subsequent abandonment of the well, the well marker will be installed at ground level on a plate containing the pertinent information for the plugged well.

Seed Mixture for LPC Sand/Shinnery 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
Plains Bristlegrass	5lbs/A
Sand Bluestem	5lbs/A
Little Bluestem	3lbs/A
Big Bluestem	6lbs/A
Plains Coreopsis	2lbs/A
Sand Dropseed	1lbs/A
Four-winged Saltbush	5lbs/A

*Pounds of pure live seed:

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