12-212

OCD-ARTESIA

Form 3160-3
(February 2005)

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5 Lease Serial No. **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. **Regulus 26 Federal 4H** [39119]

2 Name of Operator **Devon Energy Production Co., LP** [6137]

9 API Well No. 30-15-40041

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

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

10 Field and Pool, or Exploratory **Hackberry; Bone Spring, NW** [97088]

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

At surface **SWSW 400' FSL & 340' FEL Lot P**

At proposed prod zone **SESE 400' FSL & 340' FWL Lot M**

11 Sec, T R. M or Blk and Survey or Area **Sec 26-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 drlg. 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 **MTVD 9260' MD 13519'**

20. BLM/BIA Bond No. on file **PH: 9585' CO-1104**

21 Elevations (Show whether DF, KDB, RT, GL, etc) **3492.3' 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/ Don Peterson** | Name *(Printed/Typed)* | Date **MAR 1 2 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

RECEIVED
MAR 13 2012
NMOCD ARTESIA

Approval Subject to General Requirements & Special Stipulations Attached

SEE ATTACHED FOR CONDITIONS OF APPROVAL

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

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

Form C-102
Revised October 15,2009
Submit one copy to appropriate District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number	2 Pool Code	3 Pool Name
30-015-40041	97020	HACKBERRY; BONE SPRING, NW

4 Property Code	5 Property Name	6 Well Number
39114	REGULUS "26" FEDERAL	4H

7 OGRID No.	8 Operator Name	9 Elevation
6137	DEVON ENERGY PRODUCTION COMPANY, L.P.	3492.3

10 Surface Location

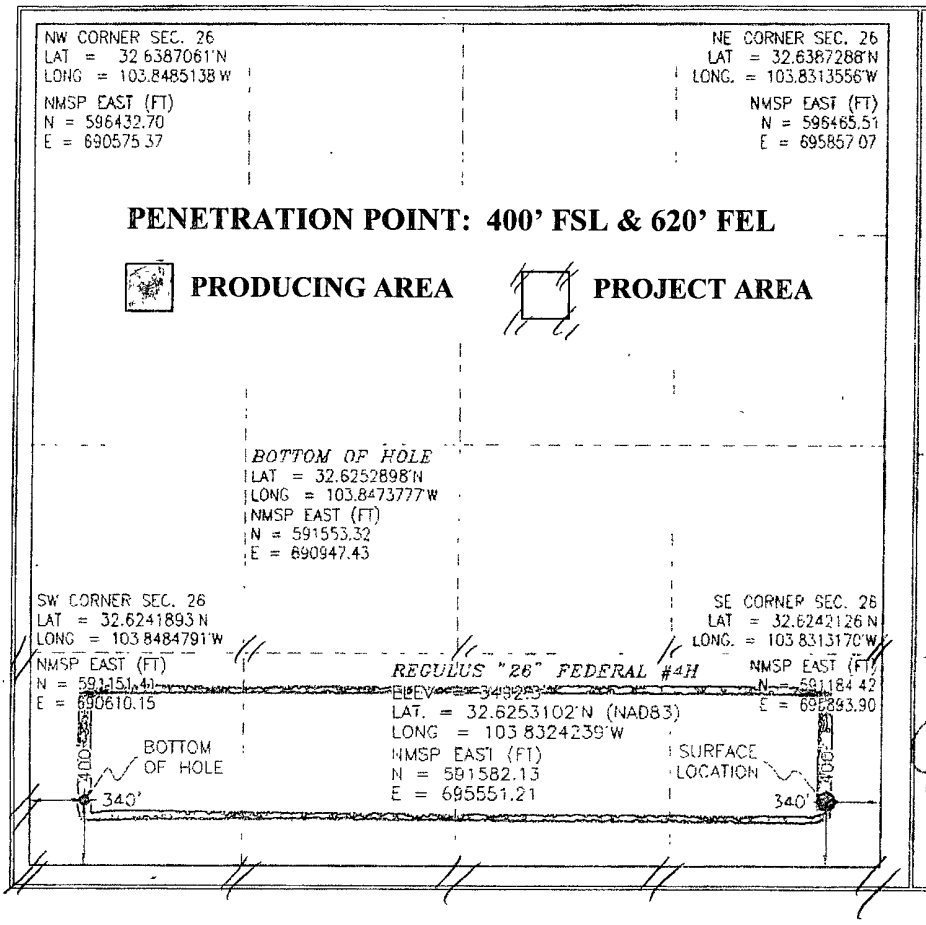
UL or lot no	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	26	19 S	31 E		400	SOUTH	340	EAST	EDDY

11 Bottom Hole Location If Different From Surface

UL or lot no	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	26	19 S	31 E		400	SOUTH	340	WEST	EDDY

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

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



17 OPERATOR CERTIFICATION

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

Signature Date

Printed Name **STEPHANIE A. YSASAGA**

18 SURVEYOR CERTIFICATION

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

OCTOBER 18, 2011

Date of Survey

Signature and Seal of Professional Surveyor

Certificate Number EDMUND E. JARAMILLO PLS 12797

NEW MEXICO 12797 REGISTERED LAND SURVEYOR

DRILLING PROGRAM

Devon Energy Production Company, LP
Regulus 26 Federal 4H
Surface Location: 400' FSL & 340' FEL, Unit M, Sec 26 T19S R31E, Eddy, NM
Bottom hole Location: 400' FSL & 340' FWL, Unit P, Sec 26 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	8350'	Oil
m.	2nd Bone Spring Lime	8650'	Oil
n.	2nd Bone Spring Ss	9040'	Oil
o.	2nd Bone Spring Upr Ss	9115'	Oil
p.	2nd Bone Spring Upr Ss Base	9175'	Oil
q.	2nd Bone Spring Middle Ss	9180'	Oil
r.	2nd Bone Spring Middle Ss Base	9280'	Oil
s.	3rd Bone Spring Lm	9435'	Oil
t.	Pilot Hole	9585'	
u.	Total Depth	TVD 9260' MD 13519'	

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
See COA 26"	0'-~~875'~~ 935	20"	0' -875'	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'- 13519'	5 ½"	8300'- 13519'	17#	BTC	HCP-110

Max TVD: 9,260'

An 8-3/4" pilot hole will be drilled to 9,585', and plugged back to KOP with approx 450 sx Cl 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 LTC	1.25	1.92	2.95
5 1/2" 17# P-110HC 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' – 800'	8.4-9.0	30-34	N/C	Fresh Water
800'– 2600'	9.8-10.0	28-32	N/C	Brine
2600'-4500'	8.4-9.0	28-30	N/C	Fresh Water
4200'–13519'	8.6-9.0	28-32	N/C-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:

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)
Regulus 26 Fed 4H
Regulus 26 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 Regulus 26 Fed 4H
Company:	Devon Energy Production Co, LP	**TVD Reference:**	WELL @ 3512.00ft (Original Well Elev)
Project:	Eddy Co , New Mexico (Nad 83)	**MD Reference:**	WELL @ 3512 00ft (Original Well Elev)
Site:	Regulus 26 Fed 4H	**North Reference:**	Grid
Well:	Regulus 26 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 *Regulus 26 Fed 4H, Sec. 26, T-19S, R-31E*

Site Position:		**Northing:**	591,582 13 usft	**Latitude:**	32° 37' 31 117 N
From:	Map	**Easting:**	695,551.21 usft	**Longitude:**	103° 49' 56.726 W
Position Uncertainty:	0.00 ft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0 27 °

Well Regulus 26 Fed 4H

Well Position	**+N/-S**	0 00 ft	**Northing:**	591,582 13 usft	**Latitude:**	32° 37' 31.117 N
	+E/-W	0.00 ft	**Easting:**	695,551.21 usft	**Longitude:**	103° 49' 56 726 W
Position Uncertainty		0.00 ft	**Wellhead Elevation:**	3,512.00 ft	**Ground Level:**	3,492.00 ft

Wellbore Lateral #1

Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	IGRF2010	12/14/2011	7 68	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	269.64

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	
8,587 21	0.00	0.00	8,587 21	0.00	0.00	0 00	0 00	0 00	0 00	
9,473 05	88.58	269.64	9,160 00	-3 50	-558.79	10 00	10 00	0.00	269 64	
13,519 37	88 58	269 64	9,260 00	-28.81	-4,603 79	0 00	0 00	0 00	0.00	PBHL - TD (R26F4I

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Site Regulus 26 Fed 4H
Company:	Devon Energy Production Co, LP	**TVD Reference:**	WELL @ 3512 00ft (Original Well Elev)
Project:	Eddy Co., New Mexico (Nad 83)	**MD Reference:**	WELL @ 3512 00ft (Original Well Elev)
Site:	Regulus 26 Fed 4H	**North Reference:**	Grid
Well:	Regulus 26 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)
8,587 21	0 00	0 00	8,587 21	0 00	0 00	0 00	0.00	0.00	0.00
KOP: Build 10° / 100'									
8,600 00	1 28	269 64	8,600 00	0 00	-0.14	0 14	10 00	10 00	0 00
8,650.00	6.28	269 64	8,649.87	-0.02	-3 44	3 44	10 00	10 00	0 00
8,650 21	6.28	269.64	8,650.09	-0 02	-3 46	3 46	0 00	0 00	0 00
2nd Bone Spring Lime									
8,700.00	11 28	269 64	8,699 27	-0 07	-11 07	11 07	10 04	10.04	0 00
8,750 00	16 28	269 64	8,747.82	-0 14	-22.97	22.97	10 00	10.00	0.00
8,800 00	21 28	269 64	8,795 14	-0.24	-39 06	39 06	10 00	10.00	0 00
8,850 00	26.28	269 64	8,840.88	-0 37	-59 21	59.21	10.00	10 00	0 00
8,900.00	31 28	269 64	8,884.69	-0 52	-83 28	83.28	10.00	10.00	0.00
8,950.00	36 28	269.64	8,926.24	-0 70	-111 07	111.07	10 00	10 00	0 00
9,000.00	41 28	269.64	8,965 21	-0 89	-142 37	142 37	10 00	10 00	0 00
9,050.00	46.28	269 64	9,001 30	-1.11	-176 95	176.96	10 00	10 00	0 00
9,100 00	51 28	269 64	9,034 23	-1.34	-214.55	214.55	10 00	10 00	0.00
9,118 69	53 15	269.64	9,045.68	-1 44	-229 32	229 32	10 00	10 00	0 00
2nd Bone Spring Ss									
9,150.00	56.28	269.64	9,063.77	-1.59	-254 87	254 88	10 00	10 00	0 00
9,200 00	61 28	269 64	9,089.68	-1 86	-297 62	297 62	10 00	10.00	0 00
9,250 00	66 28	269 64	9,111 76	-2 14	-342 46	342 46	10 00	10 00	0 00
9,283 26	69.60	269 64	9,124.25	-2 34	-373 28	373 29	10 00	10 00	0 00
2nd Bone Spring Upr Ss									
9,300.00	71.28	269.64	9,129.86	-2 43	-389.05	389 06	10.00	10 00	0 00
9,350 00	76 28	269 64	9,143 82	-2.73	-437 04	437.05	10 00	10.00	0.00
9,400.00	81.28	269 64	9,153 55	-3.04	-486.07	486.08	10 00	10 00	0 00
9,450 00	86.28	269 64	9,158 96	-3 35	-535.76	535 77	10 00	10 00	0 00
9,473 05	88 58	269 64	9,160 00	-3.50	-558.79	558.80	10 00	10 00	0.00
EOC: Hold I: 88.58° @ A: 269.64°									
9,500 00	88 58	269.64	9,160.66	-3 67	-585.73	585 74	0 00	0 00	0.00
9,600.00	88.58	269 64	9,163 13	-4 29	-685.69	685 71	0 00	0 00	0 00
9,700 00	88 58	269.64	9,165 61	-4 92	-785.66	785 68	0 00	0 00	0 00
9,800 00	88 58	269 64	9,168 08	-5.54	-885.63	885 65	0.00	0 00	0 00
9,900 00	88 58	269 64	9,170 55	-6 17	-985.60	985 62	0 00	0.00	0.00
10,000.00	88 58	269.64	9,173.02	-6.79	-1,085 56	1,085 59	0 00	0 00	0 00
10,100 00	88.58	269.64	9,175.49	-7 42	-1,185 53	1,185 56	0 00	0.00	0 00
10,200 00	88 58	269.64	9,177 96	-8 04	-1,285 50	1,285 52	0 00	0.00	0.00
10,300 00	88 58	269 64	9,180 43	-8 67	-1,385 47	1,385 49	0.00	0.00	0 00
10,400.00	88.58	269 64	9,182 91	-9 30	-1,485.43	1,485 46	0 00	0 00	0 00
10,500 00	88 58	269.64	9,185 38	-9 92	-1,585 40	1,585 43	0 00	0 00	0 00
10,600 00	88 58	269 64	9,187.85	-10 55	-1,685.37	1,685.40	0 00	0 00	0 00
10,700 00	88 58	269 64	9,190 32	-11 17	-1,785.34	1,785.37	0 00	0 00	0 00
10,800.00	88.58	269 64	9,192 79	-11 80	-1,885.30	1,885.34	0 00	0 00	0.00
10,900.00	88.58	269.64	9,195.26	-12 42	-1,985 27	1,985.31	0.00	0.00	0 00
11,000.00	88 58	269.64	9,197.73	-13 05	-2,085 24	2,085 28	0 00	0 00	0.00
11,100.00	88.58	269 64	9,200.21	-13 67	-2,185.21	2,185 25	0 00	0 00	0 00
11,200 00	88 58	269 64	9,202.68	-14.30	-2,285 17	2,285 22	0 00	0 00	0 00
11,300 00	88.58	269.64	9,205 15	-14.93	-2,385 14	2,385 19	0 00	0.00	0.00
11,400.00	88.58	269.64	9,207 62	-15 55	-2,485.11	2,485.16	0 00	0 00	0 00
11,500.00	88 58	269 64	9,210 09	-16.18	-2,585.08	2,585 13	0 00	0.00	0 00
11,600 00	88.58	269 64	9,212 56	-16 80	-2,685 04	2,685 10	0 00	0.00	0 00
11,700.00	88 58	269 64	9,215 03	-17.43	-2,785 01	2,785 07	0 00	0 00	0 00
11,800.00	88.58	269.64	9,217 51	-18 05	-2,884 98	2,885 04	0.00	0.00	0.00
11,900.00	88.58	269 64	9,219.98	-18 68	-2,984.95	2,985.01	0 00	0.00	0 00
12,000 00	88 58	269 64	9,222.45	-19 31	-3,084 91	3,084 97	0.00	0.00	0.00

Database:	EDM 5000 1 Single User Db	**Local Co-ordinate Reference:**	Site Regulus 26 Fed 4H
Company:	Devon Energy Production Co, LP	**TVD Reference:**	WELL @ 3512 00ft (Original Well Elev)
Project:	Eddy Co., New Mexico (Nad 83)	**MD Reference:**	WELL @ 3512 00ft (Original Well Elev)
Site:	Regulus 26 Fed 4H	**North Reference:**	Grid
Well:	Regulus 26 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	88 58	269 64	9,224 92	-19.93	-3,184 88	3,184 94	0.00	0.00	0 00
12,200 00	88 58	269 64	9,227.39	-20 56	-3,284 85	3,284.91	0 00	0.00	0.00
12,300 00	88 58	269 64	9,229 86	-21 18	-3,384 82	3,384.88	0 00	0 00	0 00
12,400.00	88 58	269 64	9,232 34	-21 81	-3,484.78	3,484 85	0 00	0 00	0 00
12,500.00	88.58	269.64	9,234 81	-22 43	-3,584.75	3,584 82	0 00	0 00	0 00
12,600 00	88 58	269 64	9,237.28	-23.06	-3,684 72	3,684.79	0 00	0 00	0 00
12,700.00	88 58	269 64	9,239.75	-23 68	-3,784 69	3,784 76	0.00	0.00	0.00
12,800 00	88.58	269 64	9,242.22	-24 31	-3,884 65	3,884 73	0.00	0 00	0 00
12,900 00	88 58	269 64	9,244.69	-24 94	-3,984 62	3,984 70	0 00	0.00	0 00
13,000.00	88 58	269 64	9,247.16	-25 56	-4,084 59	4,084 67	0 00	0.00	0 00
13,100.00	88 58	269.64	9,249 64	-26 19	-4,184.56	4,184 64	0 00	0 00	0.00
13,200.00	88 58	269 64	9,252.11	-26 81	-4,284.52	4,284 61	0.00	0 00	0 00
13,300.00	88 58	269 64	9,254 58	-27 44	-4,384 49	4,384.58	0 00	0 00	0 00
13,400 00	88 58	269 64	9,257 05	-28.06	-4,484 46	4,484 55	0 00	0 00	0 00
13,500 00	88 58	269 64	9,259 52	-28 69	-4,584 43	4,584 52	0 00	0.00	0.00
13,519 37	88.58	269 64	9,260.00	-28 81	-4,603 79	4,603.88	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 (R26F4H) - plan hits target center - Point	0 00	0.00	9,260 00	-28.81	-4,603.79	591,553.32	690,947 43	32° 37' 31.043 N	103° 50' 50.560 W

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
750 00	750 00	Rustler		1 42	269 64
1,030 00	1,030 00	Salado		1.42	269.64
2,240 00	2,240 00	Tansil Dolomite		1.42	269 64
2,355 00	2,355.00	Yates		1 42	269 64
2,550 00	2,550 00	Seven Rivers		1 42	269 64
2,650 00	2,650.00	Capitan		1.42	269 64
4,050.00	4,050 00	B/Capitan		1.42	269 64
4,550 00	4,550 00	Delaware		1 42	269 64
7,040 00	7,040 00	Bone Spring		1.42	269.64
8,350.00	8,350 00	1st Bone Spring Ss		1 42	269 64
8,650 21	8,650 09	2nd Bone Spring Lime		1 42	269.64
9,118 69	9,045 68	2nd Bone Spring Ss		1 42	269 64
9,283 26	9,124.25	2nd Bone Spring Upr Ss		1 42	269.64

Database:	EDM 5000 1 Single User Db	**Local Co-ordinate Reference:**	Site Regulus 26 Fed 4H
Company:	Devon Energy Production Co, LP	**TVD Reference:**	WELL @ 3512 00ft (Original Well Elev)
Project:	Eddy Co , New Mexico (Nad 83)	**MD Reference:**	WELL @ 3512 00ft (Original Well Elev)
Site:	Regulus 26 Fed 4H	**North Reference:**	Grid
Well:	Regulus 26 Fed 4H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Lateral #1		
Design:	Design #1		

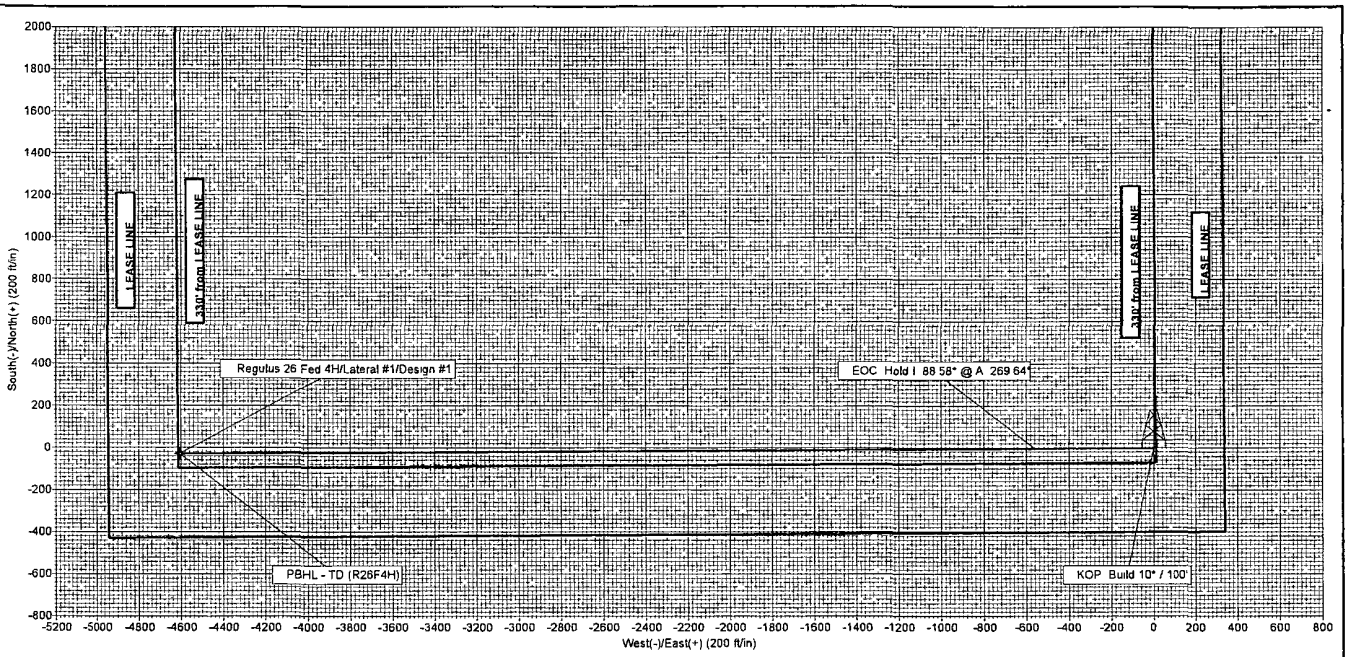
Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
8,587 21	8,587 21	0.00	0 00	KOP Build 10° / 100'
9,473.05	9,160 00	-3 50	-558.79	EOC Hold I· 88 58° @ A· 269.64°

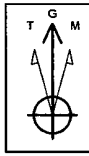
devon

Project Eddy Co , New Mexico (Nad 83)
Site Regulus 26 Fed 4H
Well Regulus 26 Fed 4H
Wellbore Lateral #1
Design Design #1

EUDD
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 2snT
Dip Angle 60 50°
Date 12/14/2011
Model IGRF2010

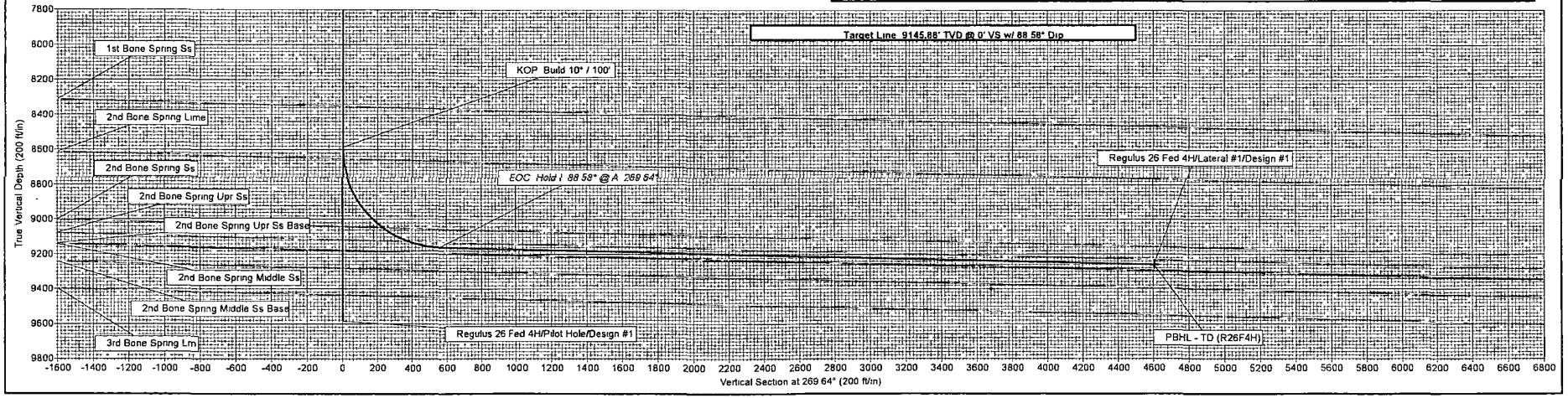
WELL DETAILS Regulus 26 Fed 4H						
Ground Level 3492 00						
WELL @ 3512 00ft (Original Well Elev)						
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0 00	0 00	591582 13	695551 21	32° 37' 31 117 N	103° 49' 56 726 W	

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	8587 21	0 00	0 00	8587 21	0 00	0 00	0 00	0 00	0 00	
3	9473 05	88 58	269 64	9160 00	-3 50	-558 79	10 00	269 64	558 80	
4	13519 37	88 58	269 64	9260 00	-28 81	-4603 79	0 00	0 00	4603 88	PBHL - TD (R26F4H)

Plan Design #1 (Regulus 26 Fed 4H/Lateral #1)			
Created By Eric Minchew		Date 9 42, December 14 2011	
Checked		Date	
Reviewed		Date	
Approved		Date	

ANNOTATIONS		
TVD	MD	Annotation
8587 21	8587 21	KOP Build 10° / 100'
9160 00	9473 05	EOC Hold I 88 58° @ A 269 64°

WELLBORE TARGET DETAILS (MAP CO-ORDINATES AND LAT/LONG)								
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PBHL - TD (R26F4H)	9260 00	-28 81	-4603 79	591553 32	690947 43	32° 37' 31 043 N	103° 50' 56 0 W	Point



Devon Energy Production Co, LP
Regulus 26 Fed 4H - Design #1

Eddy Co., New Mexico (Nad 83)
Regulus 26 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
8587.21	0.000	0.000	8587.21	0.00 N	0.00 E	0.00	0.00
8600.00	1.279	269.641	8600.00	0.00 S	0.14 W	0.14	10.00
8650.00	6.279	269.641	8649.87	0.02 S	3.44 W	3.44	10.00
8700.00	11.279	269.641	8699.27	0.07 S	11.07 W	11.07	10.00
8750.00	16.279	269.641	8747.82	0.14 S	22.97 W	22.97	10.00
8800.00	21.279	269.641	8795.14	0.24 S	39.06 W	39.06	10.00
8850.00	26.279	269.641	8840.88	0.37 S	59.21 W	59.21	10.00
8900.00	31.279	269.641	8884.69	0.52 S	83.28 W	83.28	10.00
8950.00	36.279	269.641	8926.24	0.70 S	111.07 W	111.07	10.00
9000.00	41.279	269.641	8965.21	0.89 S	142.37 W	142.37	10.00
9050.00	46.279	269.641	9001.30	1.11 S	176.95 W	176.96	10.00
9100.00	51.279	269.641	9034.23	1.34 S	214.55 W	214.55	10.00
9150.00	56.279	269.641	9063.77	1.59 S	254.87 W	254.88	10.00
9200.00	61.279	269.641	9089.68	1.86 S	297.62 W	297.62	10.00
9250.00	66.279	269.641	9111.76	2.14 S	342.46 W	342.46	10.00
9300.00	71.279	269.641	9129.86	2.43 S	389.05 W	389.06	10.00
9350.00	76.279	269.641	9143.82	2.73 S	437.04 W	437.05	10.00
9400.00	81.279	269.641	9153.55	3.04 S	486.07 W	486.08	10.00
9450.00	86.279	269.641	9158.96	3.35 S	535.76 W	535.77	10.00
9473.05	88.584	269.641	9160.00	3.50 S	558.79 W	558.80	10.00
9500.00	88.584	269.641	9160.66	3.67 S	585.73 W	585.74	0.00
9600.00	88.584	269.641	9163.13	4.29 S	685.69 W	685.71	0.00
9700.00	88.584	269.641	9165.60	4.92 S	785.66 W	785.68	0.00
9800.00	88.584	269.641	9168.08	5.54 S	885.63 W	885.65	0.00

9900.00	88.584	269.641	9170.55	6.17 S	985.60 W	985.62	0.00
10000.00	88.584	269.641	9173.02	6.79 S	1085.56 W	1085.59	0.00
10100.00	88.584	269.641	9175.49	7.42 S	1185.53 W	1185.56	0.00
10200.00	88.584	269.641	9177.96	8.04 S	1285.50 W	1285.52	0.00
10300.00	88.584	269.641	9180.43	8.67 S	1385.47 W	1385.49	0.00
10400.00	88.584	269.641	9182.91	9.30 S	1485.43 W	1485.46	0.00
10500.00	88.584	269.641	9185.38	9.92 S	1585.40 W	1585.43	0.00
10600.00	88.584	269.641	9187.85	10.55 S	1685.37 W	1685.40	0.00
10700.00	88.584	269.641	9190.32	11.17 S	1785.34 W	1785.37	0.00
10800.00	88.584	269.641	9192.79	11.80 S	1885.30 W	1885.34	0.00
10900.00	88.584	269.641	9195.26	12.42 S	1985.27 W	1985.31	0.00
11000.00	88.584	269.641	9197.73	13.05 S	2085.24 W	2085.28	0.00
11100.00	88.584	269.641	9200.21	13.67 S	2185.21 W	2185.25	0.00
11200.00	88.584	269.641	9202.68	14.30 S	2285.17 W	2285.22	0.00
11300.00	88.584	269.641	9205.15	14.93 S	2385.14 W	2385.19	0.00
11400.00	88.584	269.641	9207.62	15.55 S	2485.11 W	2485.16	0.00
11500.00	88.584	269.641	9210.09	16.18 S	2585.08 W	2585.13	0.00
11600.00	88.584	269.641	9212.56	16.80 S	2685.04 W	2685.10	0.00
11700.00	88.584	269.641	9215.03	17.43 S	2785.01 W	2785.07	0.00
11800.00	88.584	269.641	9217.51	18.05 S	2884.98 W	2885.04	0.00
11900.00	88.584	269.641	9219.98	18.68 S	2984.95 W	2985.01	0.00
12000.00	88.584	269.641	9222.45	19.31 S	3084.91 W	3084.97	0.00
12100.00	88.584	269.641	9224.92	19.93 S	3184.88 W	3184.94	0.00
12200.00	88.584	269.641	9227.39	20.56 S	3284.85 W	3284.91	0.00
12300.00	88.584	269.641	9229.86	21.18 S	3384.82 W	3384.88	0.00
12400.00	88.584	269.641	9232.33	21.81 S	3484.78 W	3484.85	0.00
12500.00	88.584	269.641	9234.81	22.43 S	3584.75 W	3584.82	0.00
12600.00	88.584	269.641	9237.28	23.06 S	3684.72 W	3684.79	0.00
12700.00	88.584	269.641	9239.75	23.68 S	3784.69 W	3784.76	0.00
12800.00	88.584	269.641	9242.22	24.31 S	3884.65 W	3884.73	0.00
12900.00	88.584	269.641	9244.69	24.94 S	3984.62 W	3984.70	0.00
13000.00	88.584	269.641	9247.16	25.56 S	4084.59 W	4084.67	

0.00						
13100.00	88.584	269.641	9249.64	26.19 S	4184.56 W	4184.64
0.00						
13200.00	88.584	269.641	9252.11	26.81 S	4284.52 W	4284.61
0.00						
13300.00	88.584	269.641	9254.58	27.44 S	4384.49 W	4384.58
0.00						
13400.00	88.584	269.641	9257.05	28.06 S	4484.46 W	4484.55
0.00						
13500.00	88.584	269.641	9259.52	28.69 S	4584.43 W	4584.52
0.00						
13519.37	88.584	269.641	9260.00	28.81 S	4603.79 W	4603.88
0.00						

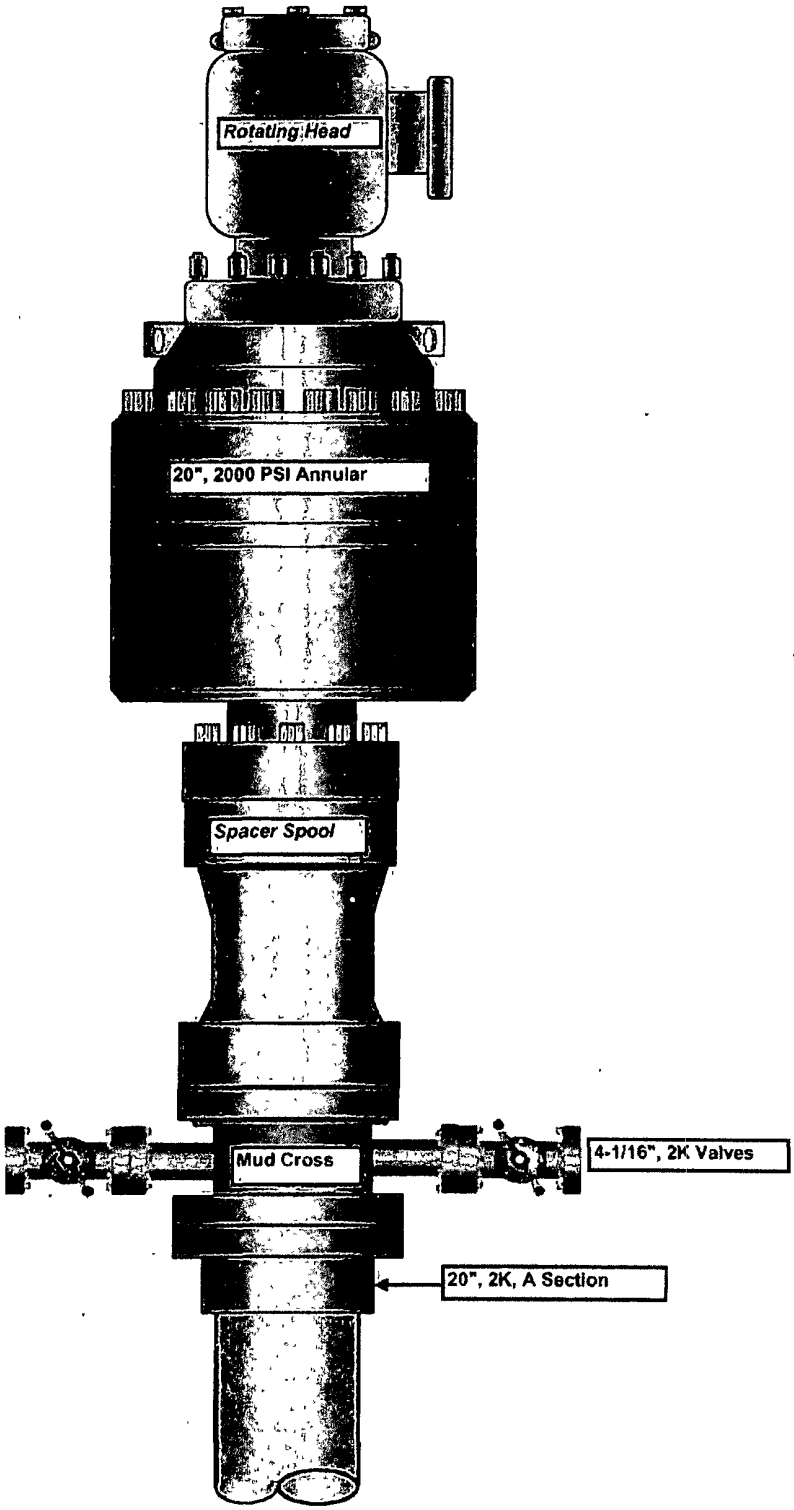
All data are in feet unless otherwise stated. Directions and coordinates are relative to Grid North.
Vertical depths are relative to WELL. Northings and Eastings are relative to Site.

The Dogleg Severity is in Degrees per 100 feet.
Vertical Section is from Slot and calculated along an Azimuth of 269.640° (Grid).

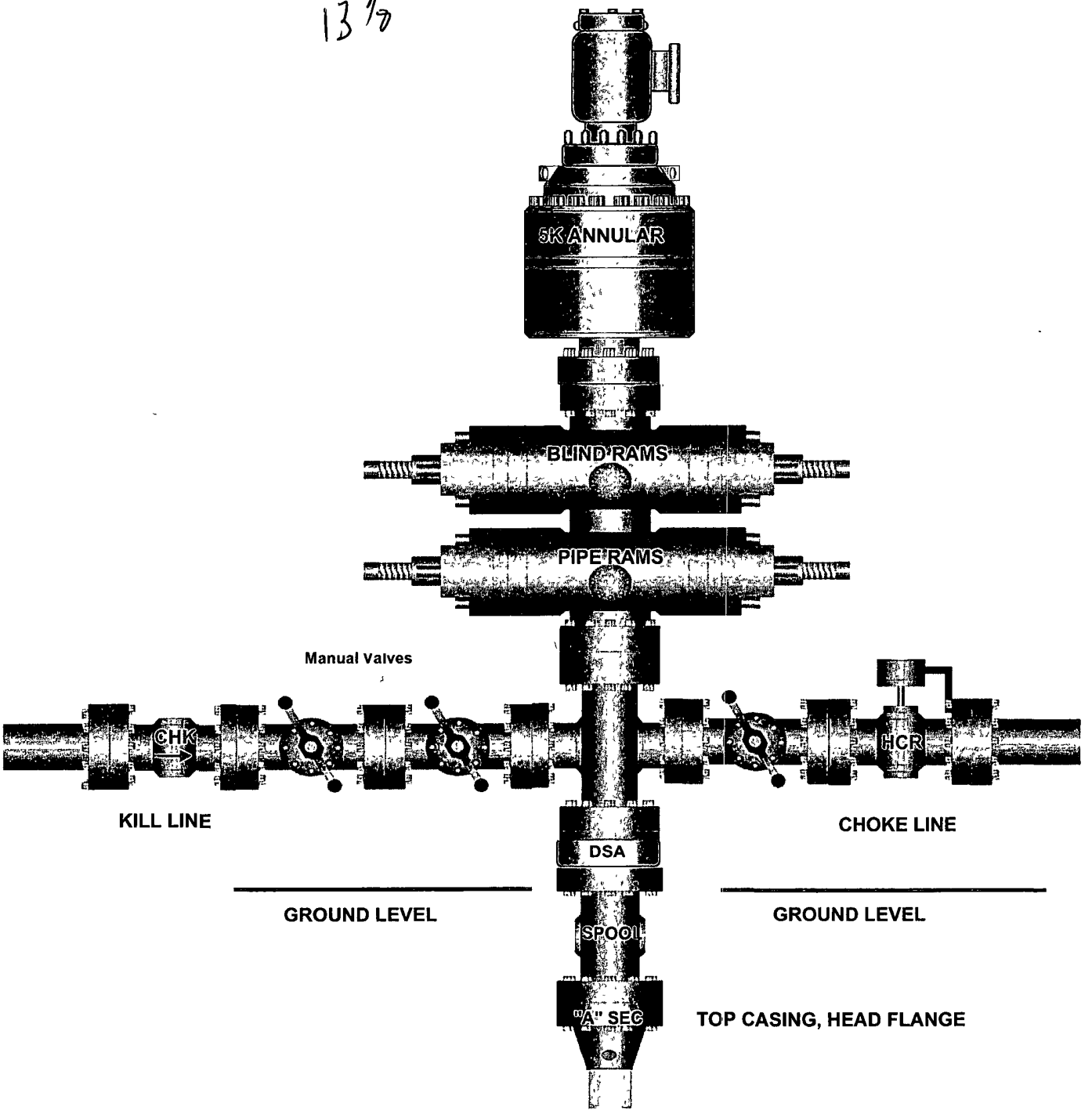
Coordinate System is North American Datum 1983 US State Plane 1983, New Mexico Eastern Zone.
Central meridian is -104.333°.
Grid Convergence at Surface is 0.270°.

Based upon Minimum Curvature type calculations, at a Measured Depth of 13519.37ft., the Bottom Hole Displacement is 4603.88ft., in the Direction of 269.640° (Grid).

20" 2K Annular



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



Attachment to Exhibit #1
NOTES REGARDING BLOWOUT PREVENTERS
Devon Energy Production Company, LP
Regulus 26 Federal 4H
Surface Location: 400' FSL & 340' FEL, Unit M, Sec 26 T19S R31E, Eddy, NM
Bottom hole Location: 400' FSL & 340' FWL, Unit P, Sec 26 T19S 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 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.

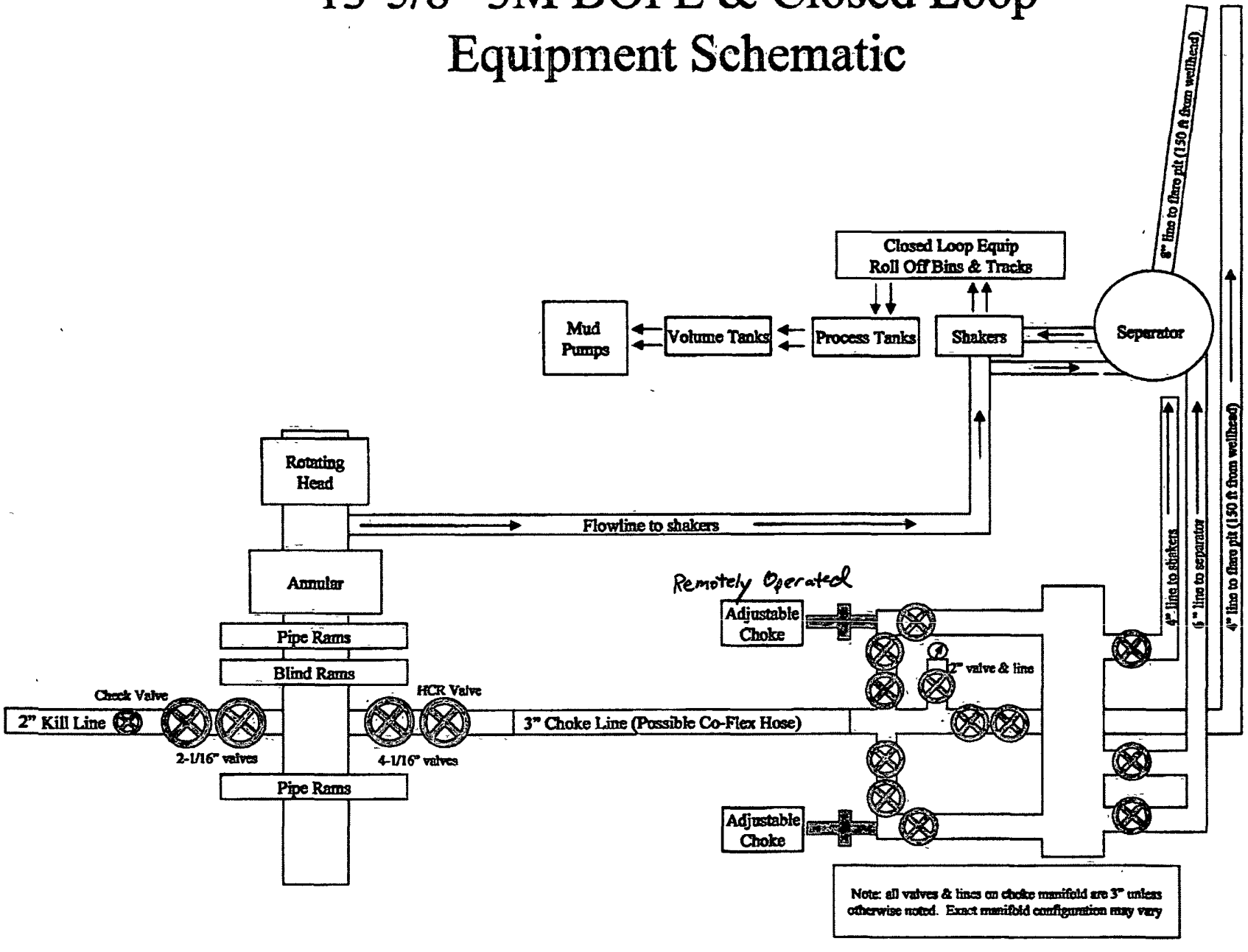
8. Will maintain a kelly cock attached to the kelly.

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

Continental CONTITECH

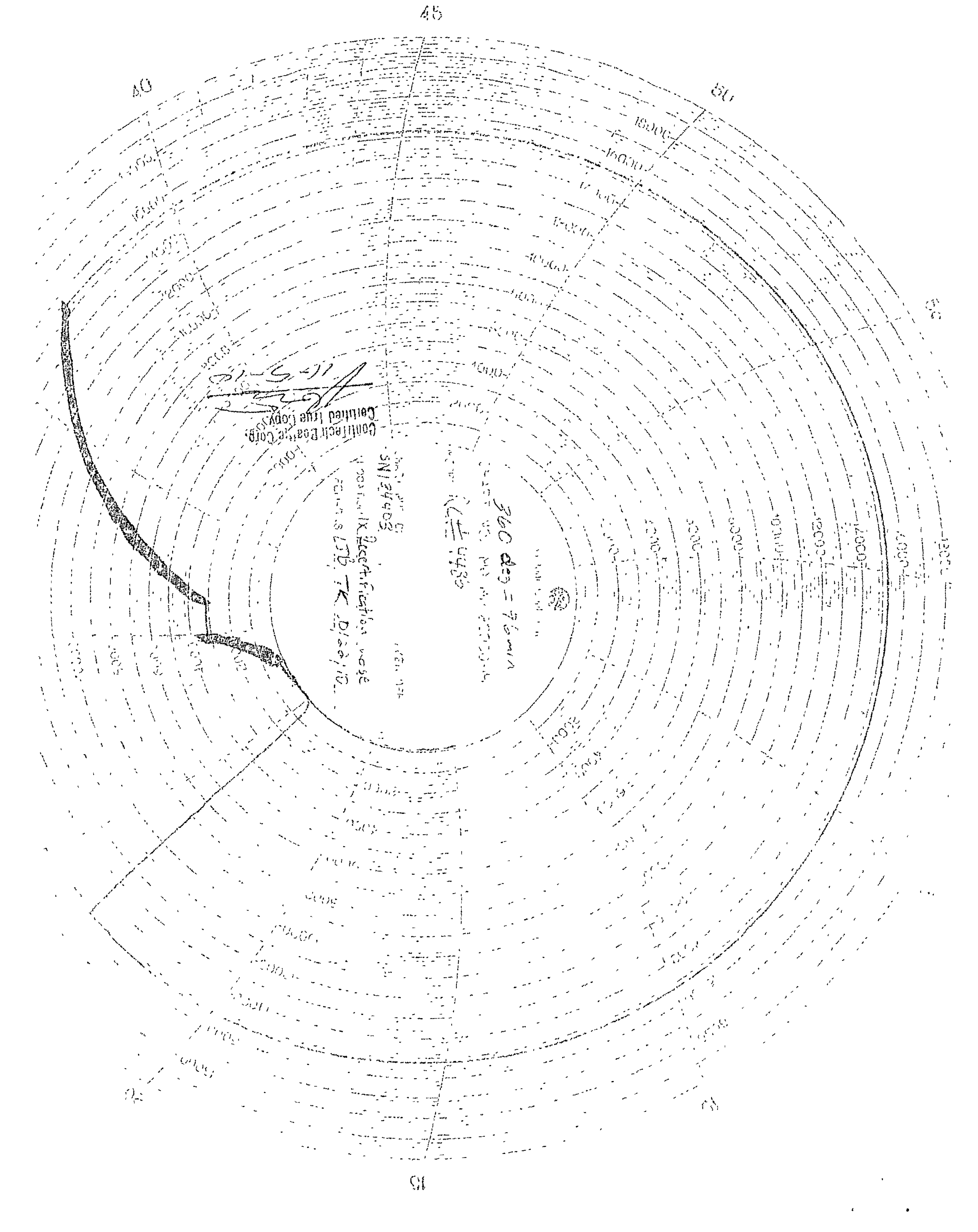
Certificate Number: 4520	PBC No: 10321	Customer Name & Address
		HELMERICH & PAYNE INT'L DRILLING CO
Customer Purchase Order No:	RIG 300	1437 SOUTH BOULDER
		TULSA, OK 74119
Project:		

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

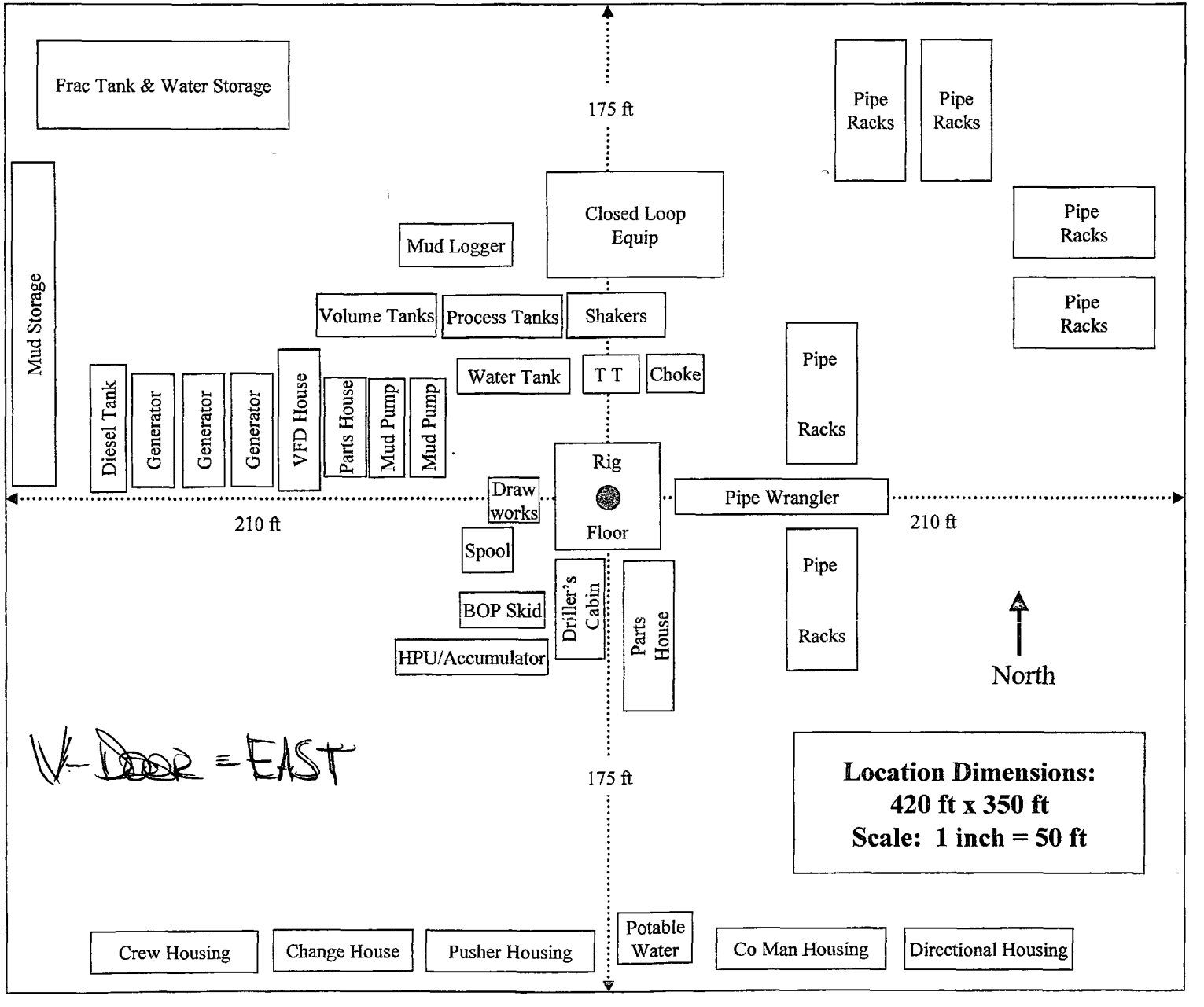
These goods were made in the United States of America

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



45
40
50

H&P Flex Rig Location Layout



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

Hydrogen Sulfide (H_2S) Contingency Plan

For

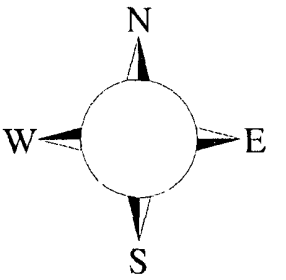
Regulus "26" Federal 4H

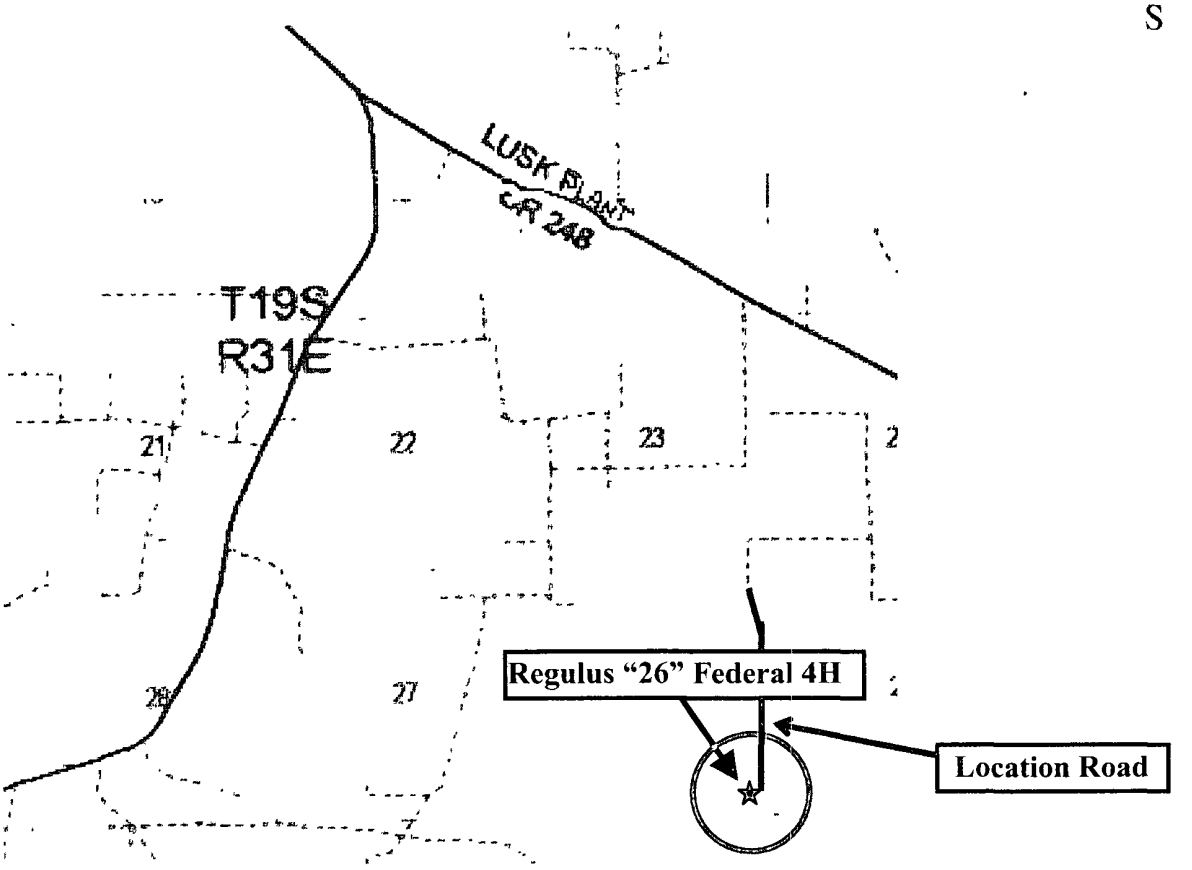
Sec-26, T-19S R-31E
400' FSL & 340' FEL,
LAT. = 32.6253102'N (NAD83)
LONG = 103.8324239'W

Eddy County NM

Regulus "26" Federal 4H

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





Assumed 100 ppm [illegible] 3000' ([illegible])
100 ppm H2S concentration shall trigger activation of this plan.

Escape

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

Assumed 100 ppm ROE = 3000'

100 ppm H_2S concentration shall trigger activation of this plan.

Emergency Procedures

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

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

Ignition of Gas Source

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

Characteristics of H_2S and SO_2

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

Contacting Authorities

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

Devon Energy Corp. Company Call List

Artesia (575)	Cellular	Office	Home
Foreman – 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

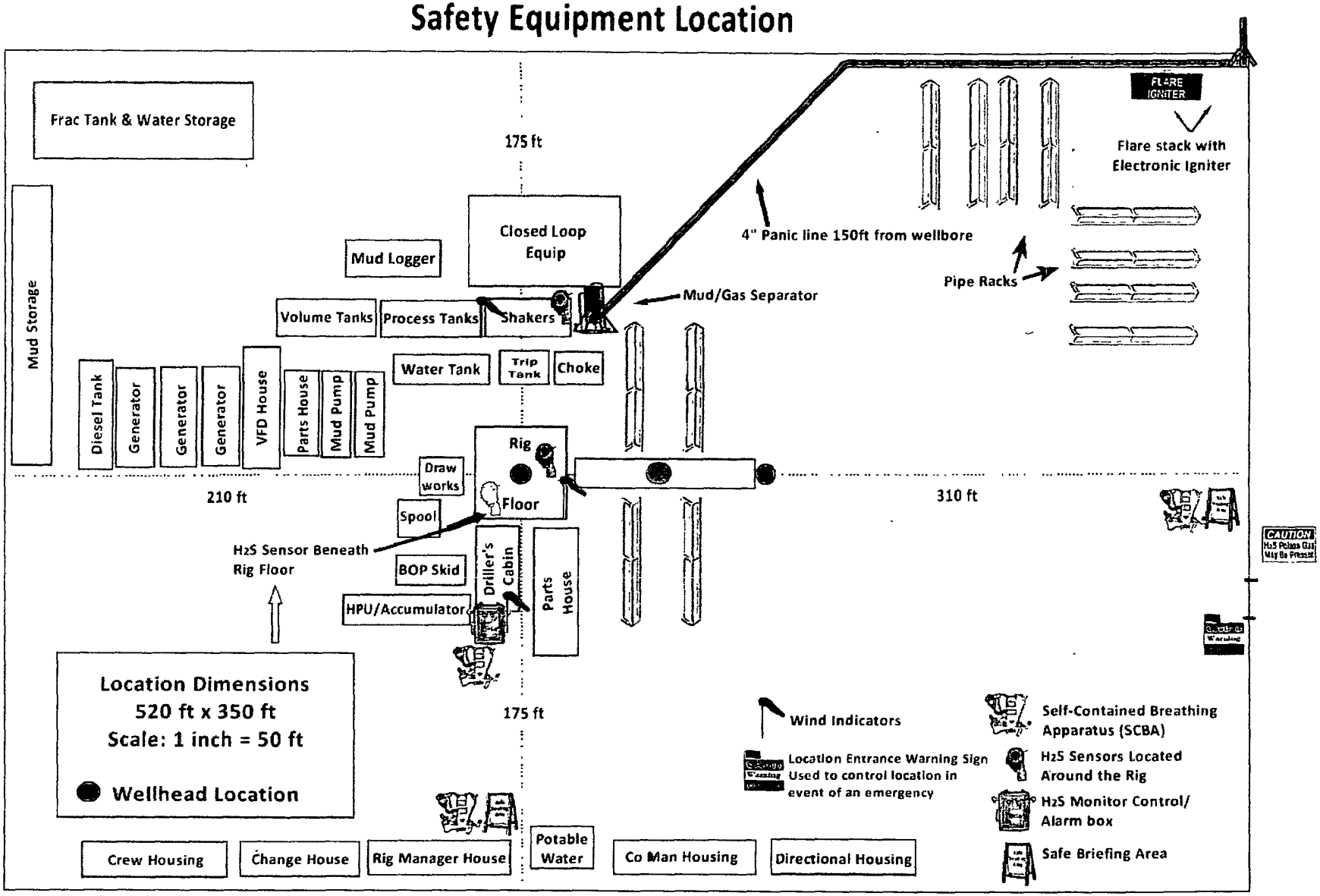
Boots & Coots IWC	1-800-256-9688 or (281) 931-8884
Cudd Pressure Control	(915) 699-0139 or (915) 563-3356
Halliburton	(575) 746-2757
B. J. Services	(575) 746-3569

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

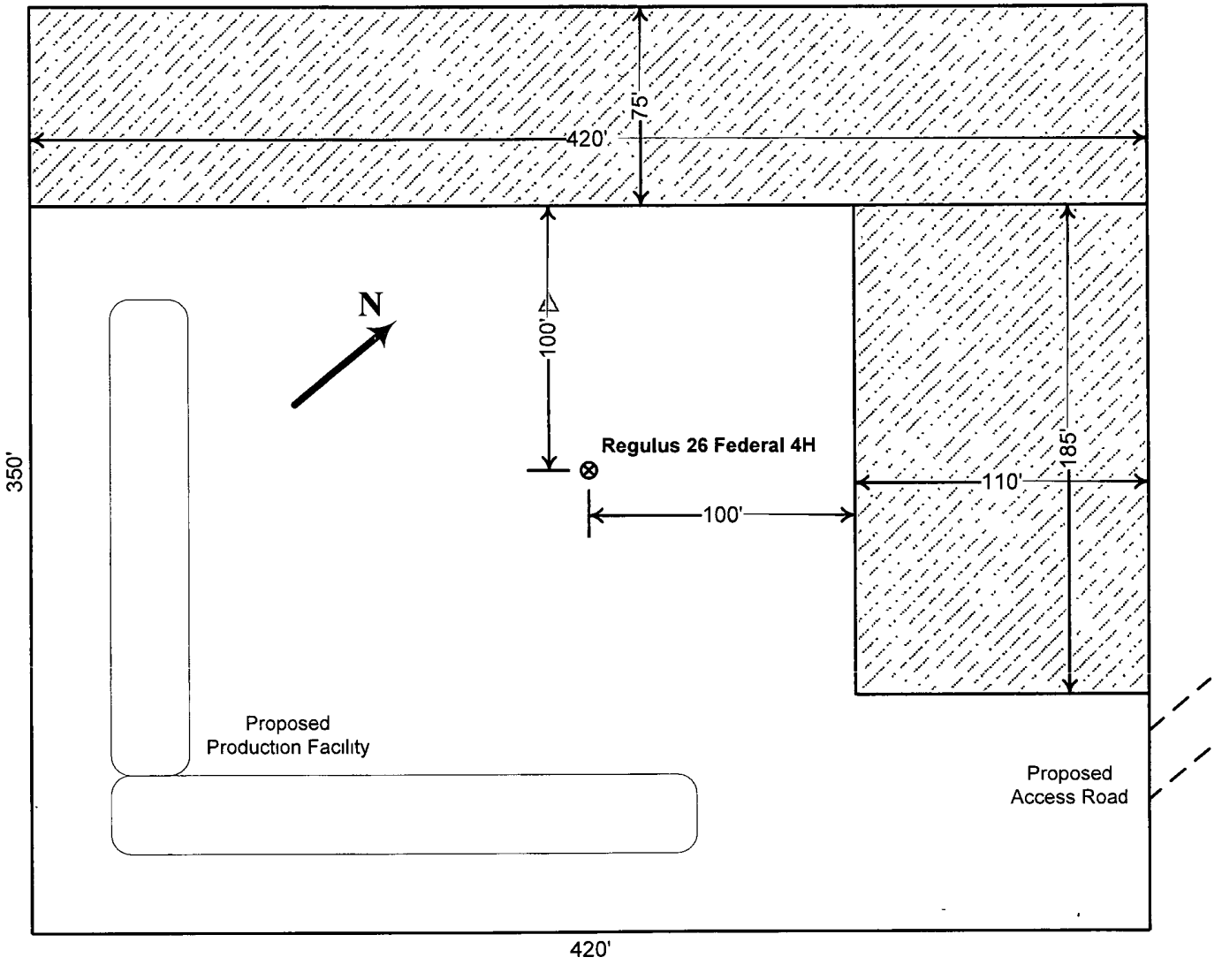
Devon Energy - 3 Well Pad
Rig Location Layout
Safety Equipment Location



devon

Proposed Interim Site Reclamation

Devon Energy Production Co.
Regulus 26 Federal 4H
400' FSL & 340' FEL
Sec. 26-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 REGULUS 26 FEDERAL
SURFACE HOLE FOOTAGE:	400' FSL & 340' FWL
BOTTOM HOLE FOOTAGE	1700' FSL & 340' FEL
LOCATION:	Section 26, 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.

Cattleguard

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).

VI. CONSTRUCTION

A. NOTIFICATION

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

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

B. TOPSOIL

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

C. CLOSED LOOP SYSTEM

Tanks are required for drilling operations: No Pits.

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

D. FEDERAL MINERAL MATERIALS PIT

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

E. WELL PAD SURFACING

Surfacing of the well pad is not required.

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

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

F. ON LEASE ACCESS ROADS

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

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

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

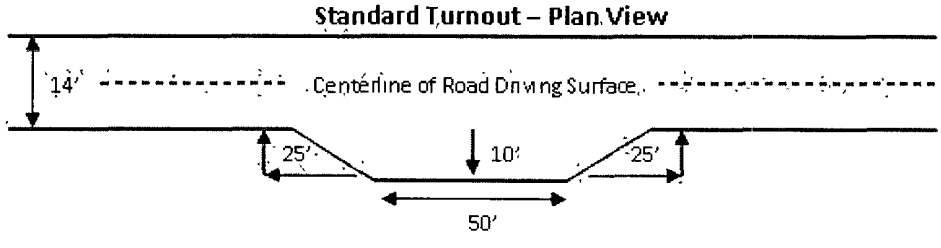
The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing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

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

Ditching

Ditching shall be required on both sides of the road.

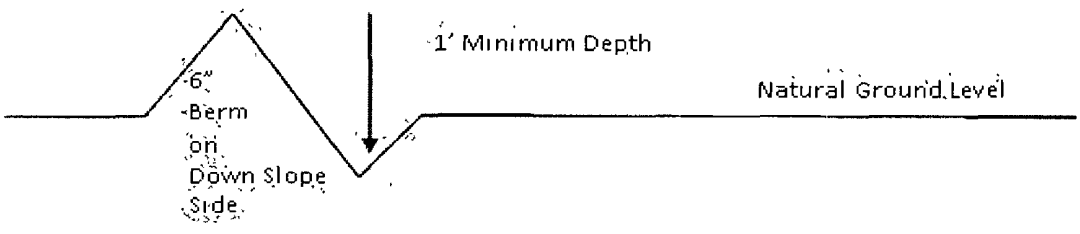
Turnouts
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall be constructed on all blind curves. Turnouts shall conform to the following diagram:



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

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

Cross Section of a Typical Lead-off Ditch



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

Formula for Spacing Interval of Lead-off Ditches

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

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

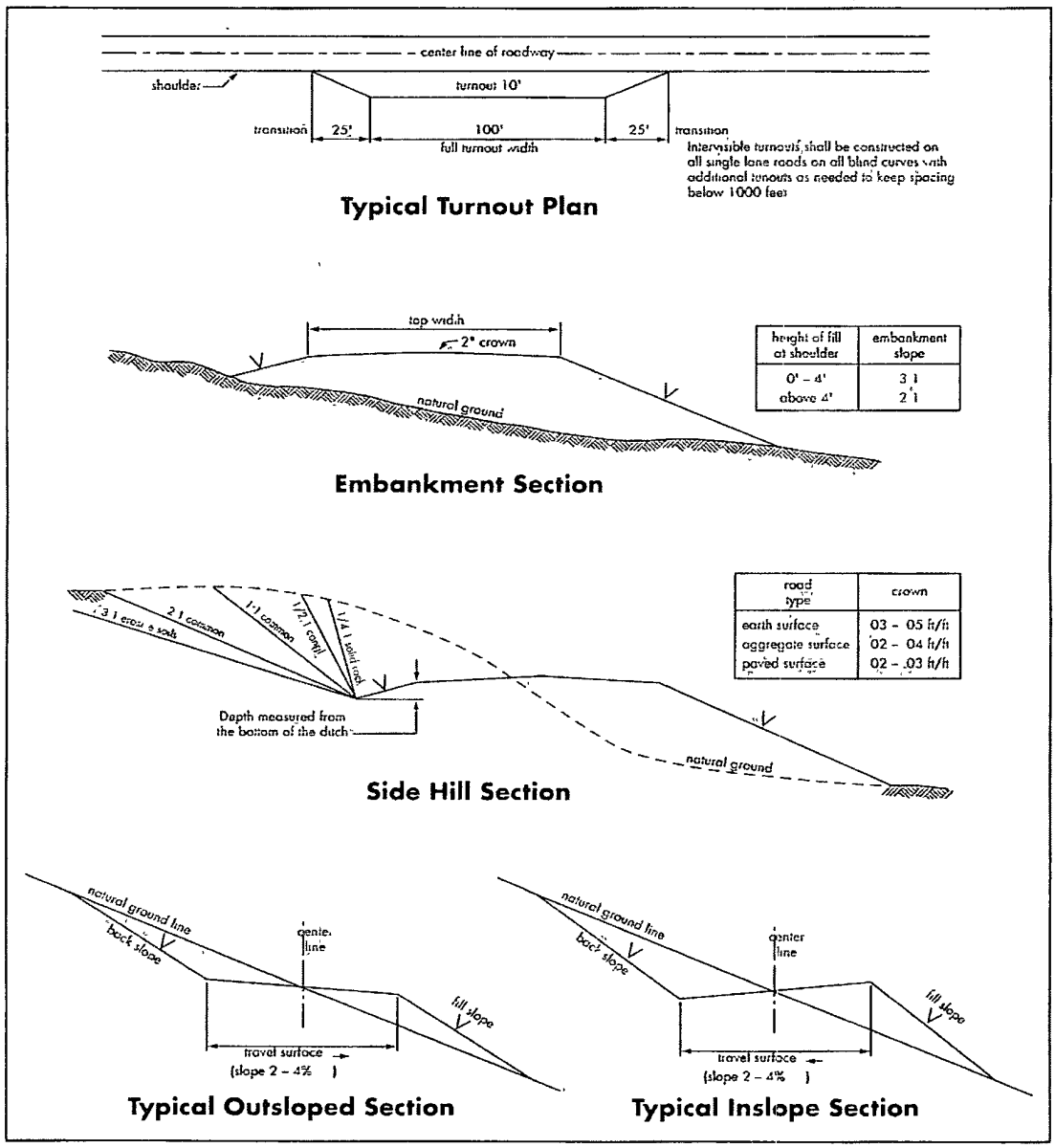
Culvert Installations

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

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 935 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.

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. 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.

3. 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.

4. 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.

CRW 030912

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).

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