ATS-10-794

OCD-ARTESIA

Form 3160-3
(April 2004)

FORM APPROVED
OMB No. 1004-0137
Expires March 31, 2007 EA 10-1177

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No. NMNM-54856

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. 37787
Dickens 29 Federal 4H

2. Name of Operator
Devon Energy Production Company, LP (6137)

9. API Well No. 30-015-38285

3a. Address 20 North Broadway
Oklahoma City, Oklahoma City 73102-8260

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

10. Field and Pool, or Exploratory
Dog Canyon; Wolfcamp (17970)

4. Location of Well (Report location clearly and in accordance with any State requirements.*)
At surface NENE 840' FNL & 330' FEL
At proposed prod. zone NWNW 990' FNL & 330' FWL

11. Sec., T. R. M. or Blk. and Survey or Area
Sec 29-T16S-R28E

14. Distance in miles and direction from nearest town or post office*
Approximately 11 miles northeast of Artesia, NM.

12. County or Parish
Eddy County

13. State
NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 330'

16. No. of acres in lease
1120 acres

17. Spacing Unit dedicated to this well
160 acres

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. SL: 1600' BHL: 762'

19. Proposed Depth pilot hole 7000' lateral 6600'
TVD 6550' 10920' MD

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

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
3599' GL

22. Approximate date work will start*
06/15/2010

23. Estimated duration
45 days

24. Attachments

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

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

25. Signature — Name (Printed/Typed) Stephanie A. Ysasaga — Date 08/16/2010

Title: Sr. Staff Engineering Technician

Approved by (Signature) /s/ Don Peterson — Name (Printed/Typed) — Date NOV - 3 2010

Title: FIELD MANAGER — Office: CARLSBAD FIELD OFFICE

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

APPROVAL FOR TWO YEARS

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

*(Instructions on page 2)

RECEIVED
NOV 04 2010
NMOCD ARTESIA

Kz 11/2/10

SEE ATTACHED FOR CONDITIONS OF APPROVAL

Roswell Controlled Water Basin

APPROVAL SUBJECT TO GENERAL REQUIREMENTS AND SPECIAL STIPULATIONS ATTACHED

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

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

Form C-102
Revised October 12, 2005

Submit to Appropriate District Office
State Lease – 4 Copies
Fee Lease – 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
30-015-38285	17970	~~WOLFCAMP~~; DOG CANYON; WOLFCAMP

Property Code	Property Name	Well Number
37787	DICKENS "29" FEDERAL	4H

OGRID No.	Operator Name	Elevation
6137	DEVON ENERGY PRODUCTION COMPANY LP	3599'

Surface Location

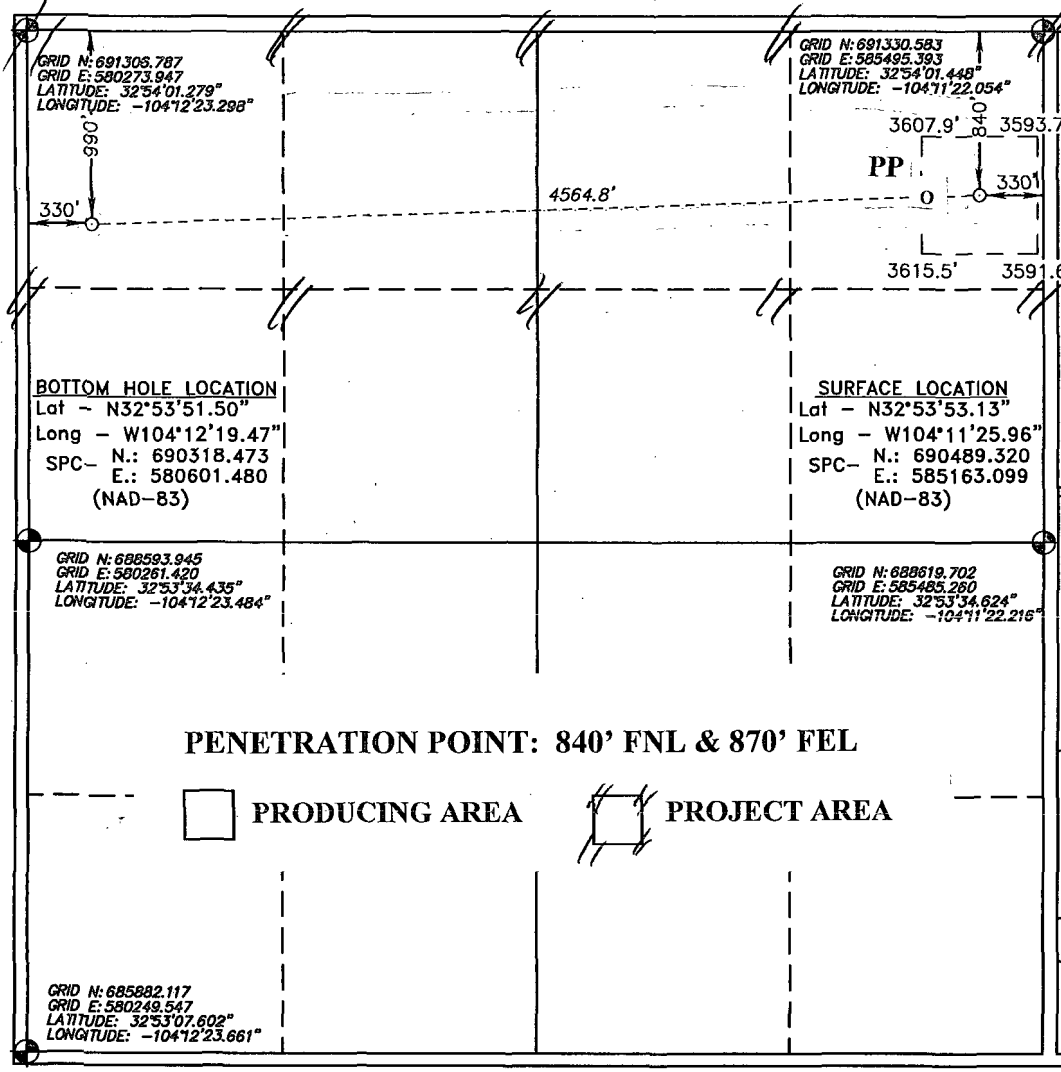
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	29	16 S	28 E		840	NORTH	330	EAST	EDDY

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
D	29	16 S	28 E		990	NORTH	330	WEST	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 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

STEPHANIE A. YSASAGA
Printed Name

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 supervison, and that the same is true and correct to the best of my belief.

NOVEMBER 25, 2008
Date Surveyed

Signature & Seal of Professional Surveyor

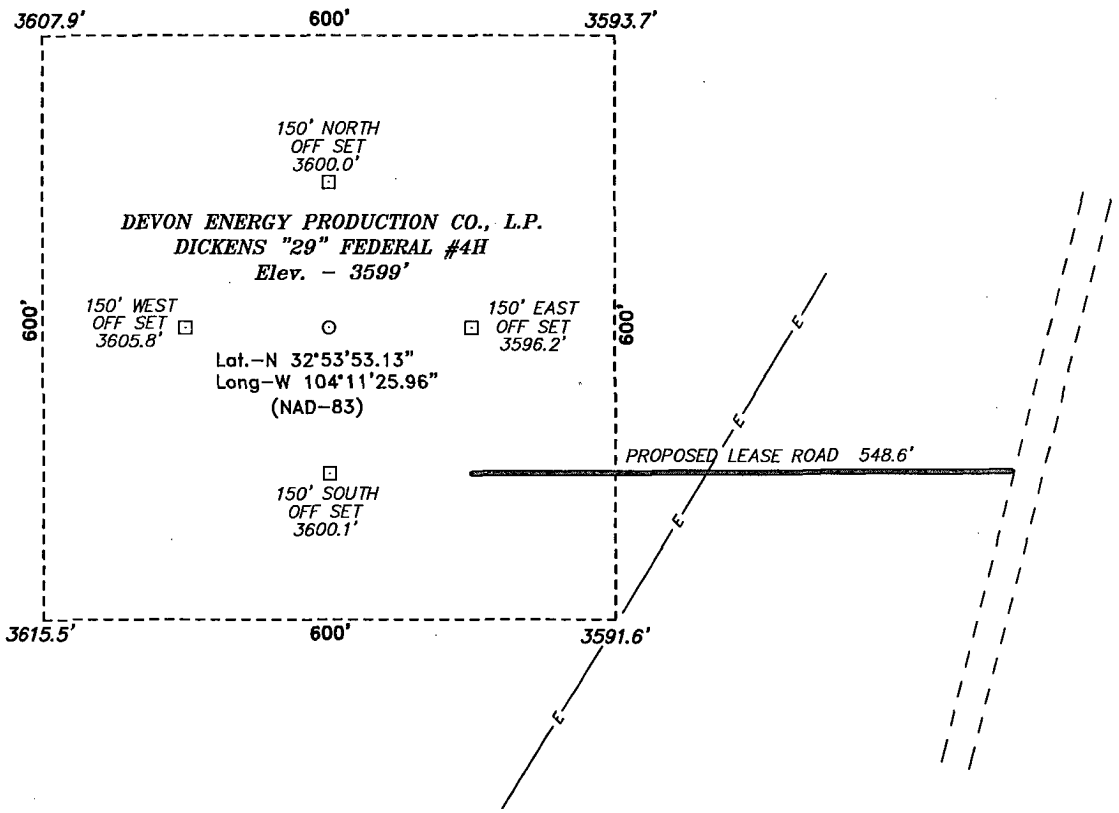
GARY L. JONES NEW MEXICO 7977

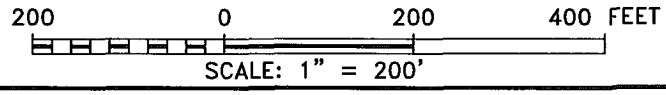
W.O. 08-11-0708

Certificate No. Gary L. Jones 7977

BASIN SURVEYS

SECTION 29, TOWNSHIP 16 SOUTH, RANGE 28 EAST, N.M.P.M.,
EDDY COUNTY, NEW MEXICO.





Directions to Location:

FROM MILE MARKER 117 OF STATE HWY 82, GO WEST 0.4 MILES TO CO. RD. SOUTHERN UNION (202), GO NORTH 4.2 MILE JUST PAST BOOSTER SITE THENCE 1.0 MILES NORTHEAST; THENCE 1.0 MILES EAST; THENCE NORTHEAST 1.09 MILES TO PROPOSED LEASE ROAD.

BASIN SURVEYS P.O. BOX 1786 - HOBBS, NEW MEXICO

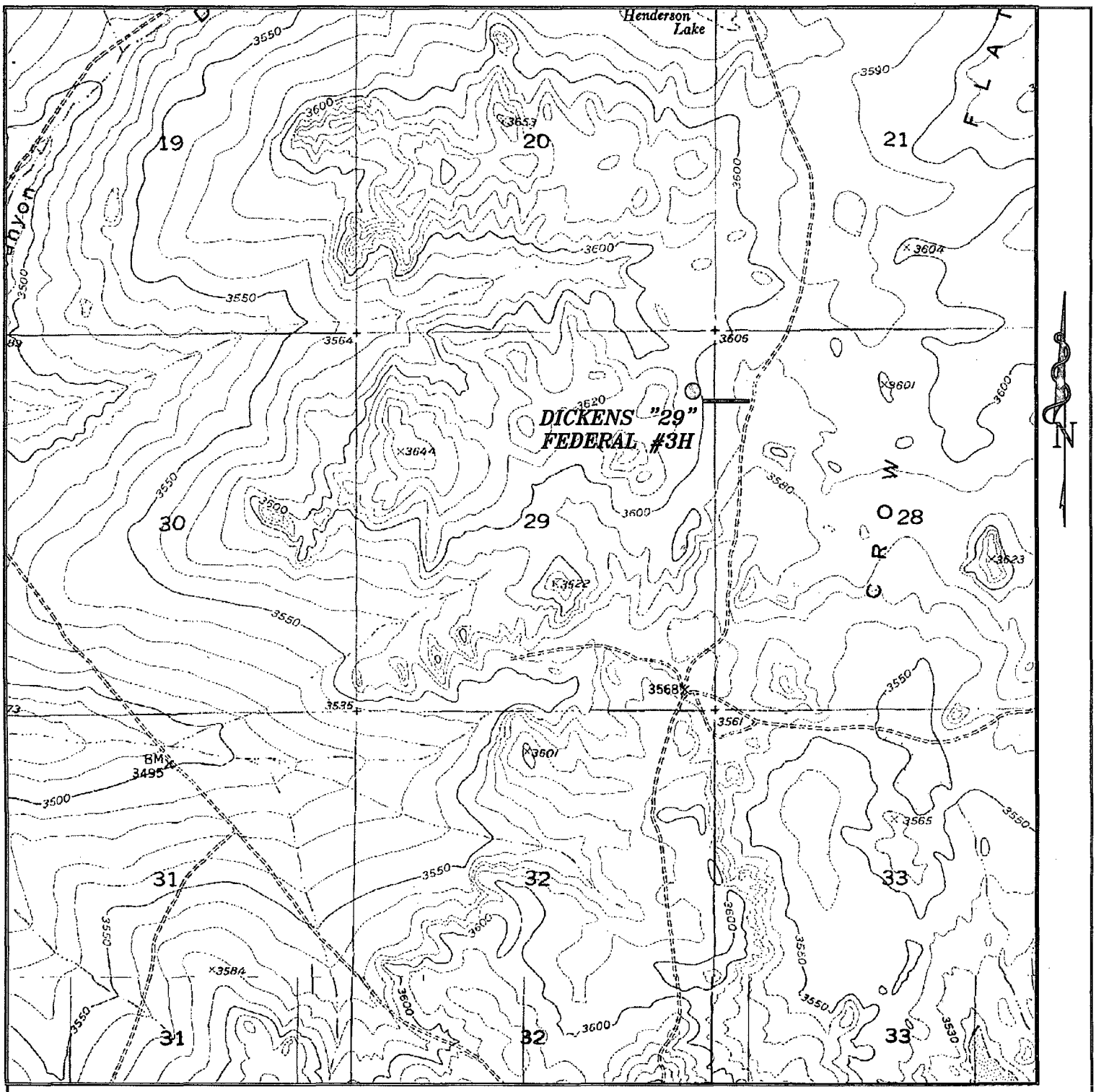
W.O. Number: 20842	Drawn By: J. M. SMALL
Date: 12-01-2008	Disk: 20842 JMS

DEVON ENERGY PROD. CO., L.P.

REF: DICKENS "29" FEDERAL #4H / WELL PAD TOPO

THE DICKENS "29" FEDERAL #4H LOCATED 840' FROM THE NORTH LINE AND 330' FROM THE EAST LINE OF SECTION 29, TOWNSHIP 16 SOUTH, RANGE 28 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO.

Survey Date: 11-25-2008	Sheet 1 of 1 Sheets



DICKENS "29" FEDERAL #4H

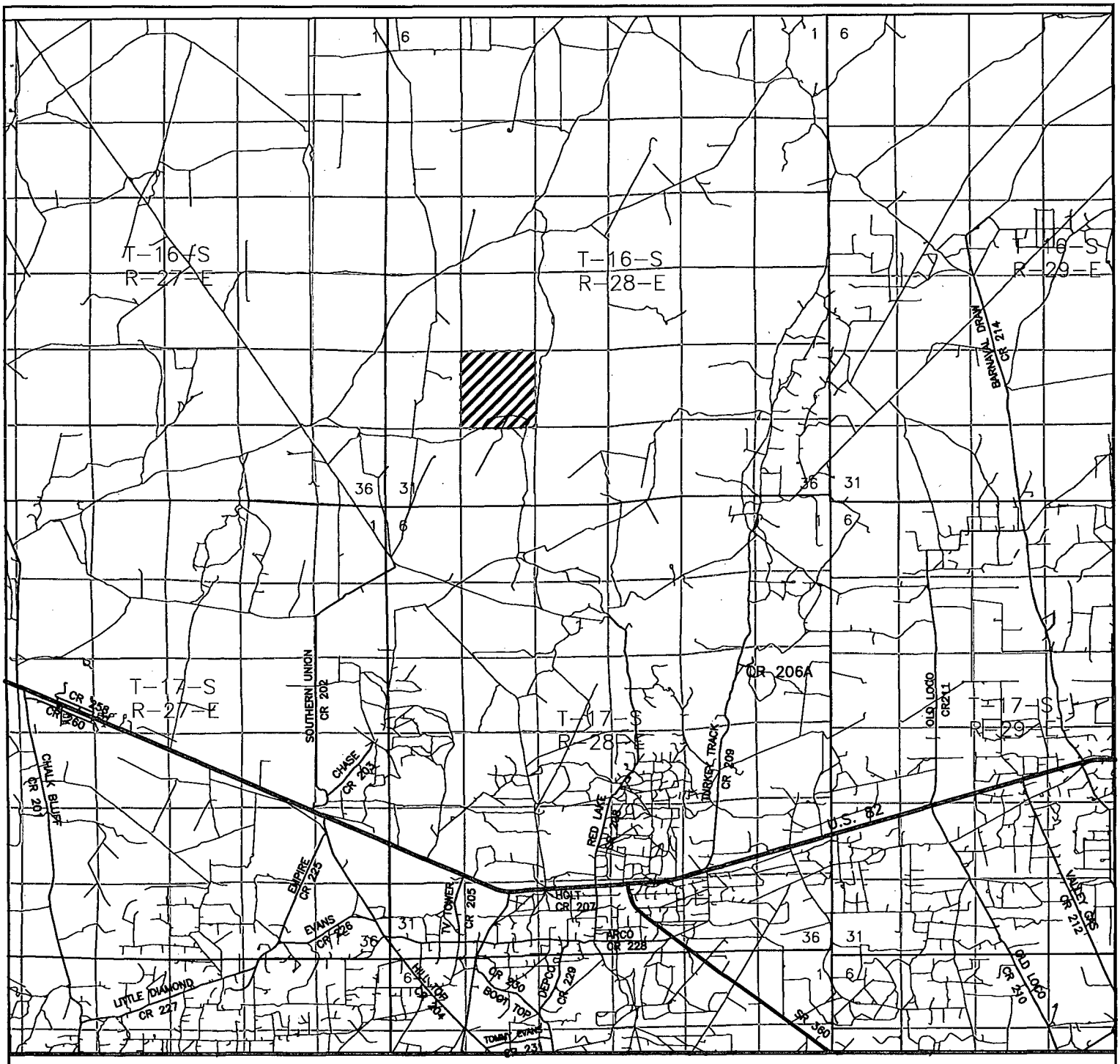
Located at 840' FNL AND 330' FEL
Section 29, Township 16 South, Range 28 East,
N.M.P.M., Eddy County, New Mexico.

basin surveys
focused on excellence in the oilfield

P.O. Box 1786
1120 N. West County Rd.
Hobbs, New Mexico 88241
(575) 393-7316 - Office
(575) 392-2206 - Fax
basinsurveys.com

W.O. Number:	JMS 20842
Survey Date:	11-25-2008
Scale:	1" = 2000'
Date:	12-01-2008

DEVON ENERGY PROD. CO., L.P.



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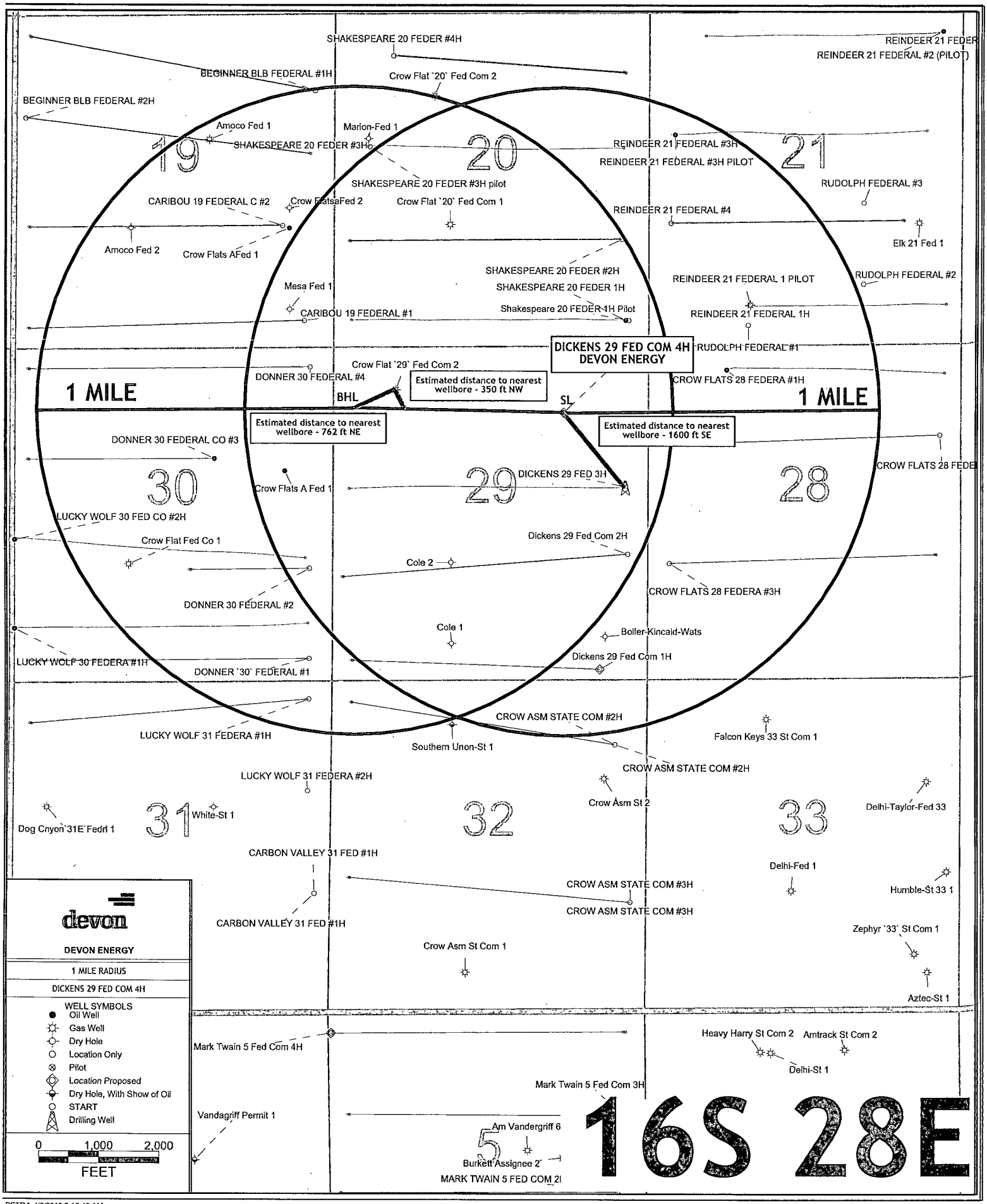


PETRA 4/6/2010 9:16:49 AM

DRILLING PROGRAM

Devon Energy Production Company, LP
Dickens 29 Federal 4H
Surface Location: 840' FNL & 330' FEL, Unit A, Sec 29 T16S R28E, Eddy, NM
Bottom hole Location: 990' FNL & 330' FWL, Unit D, Sec 29 T16S R28E, Eddy, NM

1. Geologic Name of Surface Formation

a. Permian

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

a.	Queen	1094'	
b.	San Andres	1904'	Oil
c.	Glorieta	3279'	Oil
d.	Abo	5364'	Oil
e.	Wolfcamp Mrkr	6394'	Oil
f.	Wolfcamp Pay	6529'	Oil
g.	Total Depth	TVD 6550' MD 10920'	

No other formations are expected to yield oil, gas or fresh water in measurable volumes. The surface fresh water sands will be protected by setting 13 3/8" casing at 450' and circulating cement back to surface. The fresh water sands will be protected by setting 9 5/8" casing at 2300' and circulating cement to surface.

Please note the Abo is not a productive zone; therefore no downhole commingling behind pipe will occur in the Abo and Wolfcamp. Supporting geological cross section data has been provided on the offsetting Shakespeare 20 Fed 1H and 3H (API # 30-015-37193 & 30-015-37193), which is an offset to the Dickens 29 Federal Com 4H.

The Abo is not productive; as well as the majority of the Wolfcamp. The tops listed on the APD are **geologic markers,** not the specific pay or producing intervals; we will be landing the lateral in the Wolfcamp pay. The system proposed is a general completion method (BLM approved) for this area to complete/produce with a Peak/Packer assembly which has no cement from the Peak top packer to the ECP.) Not a general completion method, every operator has individual approval,

All casing is new and API approved.

3. Casing Program:

Hole Size	Hole Interval	OD Csg	Casing Interval	Weight	Collar	Grade
17 1/2"	0'-450'	13 3/8"	0'- 450'	48#	STC	H-40
12 ¼"	450'-2300'	9 5/8"	0'- 2300'	36#	LTC	J-55
8 ¾"	2300'–5900'	5 ½"	0' - 5900'	17#	LTC	HCP110
8 ¾"	5900'- 10920'	5 ½"	5900' – 10920'	17#	BTC	HCP110

Design Parameter Factors:

Casing Size	Collapse Design Factor	Burst Design Factor	Tension Design Factor
13 3/8"	3.65	9.38	14.21
9 5/8" J-55	1.49	2.60	5.22
5 ½" LTC	2.06	2.54	1.75
5 ½" BTC	1.84	2.27	5.04

The 5-1/2" production casing will be run with a Peak Openhole Packer system in the lateral with an ECP and Port Collar at 5,900 ft. The drilling rig will rig down and move off location after running the production casing. The production casing will be cemented with a workover rig within 5 days of moving the drilling rig off location (see procedure following cement report).

4. Cement Program:

a. 13 3/8" Conductor / Surface — Cement with lead: 225 sacks (35:65) Poz (Fly Ash):Premium Plus C Cement + 5% bwow Sodium Chloride + 0.125 lbs/sack Cello Flake + 4% bwoc Bentonite + 0.8% bwoc Sodium Metasilicate + 5% bwoc MPA-5 + 101.1% Fresh Water. Yield: 1.75 cf/sack.

Tail: 250 sacks Premium Plus C Cement + 2% bwoc Calcium Chloride + 0.125 lbs/sack Cello Flake + 56.3% Fresh Water Yield: 1.35 cf/sack. TOC @ surface.

b. 9 5/8" Intermediate — Cement Lead 500 sacks (35:65) Poz (Fly Ash):Premium Plus C Cement + 5% bwow Sodium Chloride + 0.125 lbs/sack Cello Flake + 6% bwoc Bentonite + 107.8% Fresh Water. Yield: 2.04 cf/sack.

Tail: 250 sacks (60:40) Poz (Fly Ash):Premium Plus C Cement + 5% bwow Sodium Chloride + 0.125 lbs/sack Cello Flake + 0.4% bwoc Sodium Metasilicate + 4% bwoc MPA-5 + 64.7% Fresh Water. Yield: 1.37 cf/sack. TOC @ surface.

c. 5 ½" Production — **ECP & Port Collar set @ 5900'**
Cement though Port Collar: 1200 sacks (35:65) Poz Class C + 1% Sodium Chloride + 6% Bentonite. Yield: 1.96 cuft/sk bwoc BA-10A + 4% bwoc MPA-5 + 63.1% Fresh Water. TOC to surface.

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

Devon respectfully proposes the following procedure to cement the production casing in the subject well with a well service unit.

1. After setting and cementing 9 5/8" 36# J-55 LTC intermediate casing at 2300', NU and test 5K BOPE (including HCR and remote kill line) according to BLM Onshore Order #2. Note: TOC surface and WOC time 8 hrs before cutting casing and NU BOP.

2. Test the formation below the casing shoe according to Onshore Order 2.III.B.1.i to an equivalent mud weight equal to the expected Wolfcamp reservoir pressure (9.0 ppg EMW).

3. Drill 8 3/4" pilot vertical hole to ~~5,900'~~ 7,000' Per Operator 10-27-10 Dw. Log. Set cement plug from 7,000' to 6,082'. Drill 8 ¾" curve and lateral to proposed TD of 10,920' as per APD and COA.

4. Ream hole as necessary and clean hole with high viscosity sweeps.

5. Make short trip and POOH laying down drill pipe.

6. RIH with 5 ½" Peak open-hole packer system using 5 ½" 17# HP-110 BTC casing. Position Weatherford FO port collar with open-hole packer below at ~5,900'. Run 5 ½" 17# HP-110 LTC above port collar. Note: Place top Peak packer at legal bottom hole location which is at least 330' off lease line.

7. Displace casing with 2% KCL water. Drop 1" ball to close circulating sleeve. Hold 1,000 psig and check for leaks. Increase pressure to 1500 psig and set open-hole anchor and hold for 5 mins. Increase pressure and set all packers. Hold final pressure for 15 mins.

8. Perform 20K push-pull test on casing to confirm packers are set.

9. PU BOP and set slips on 5 ½" casing. Make rough cut on 5 ½" casing (hot work permit required). Lay down landing joint and make final cut on casing. Install 11" 5K X 7 1/16" 5K tubing head. Pressure test to 5,000 psig as per FMC and submit documentation to the BLM. Install taped blind flange (dry hole tree) with valve and pressure gauge in place. Install taped bull plug valve and gauge on 9 5/8"x 5 ½" annulus. Note: Contact BLM (575-361-2822) immediately if pressure is observed on either pressure gauge during the rig move or before well service unit is rigged up.

10. RDMO drilling rig. - Contact BLM

11. Install pressure relief valves (150 psig set-point) on the casing and casing-casing annulus and flowline to frac tank.

12. Monitor pressure with chart recorder and check pressures every 12 hours. Attach charts and readings to subsequent Sundry.

13. Notify BLM when the well service unit is rigged up. Must be within 5 days of rig move off date.

14. RU well service unit. Check for pressure. NU 5K manual BOP equipped with a blind ram and a pipe rams (see attached diagram). Pressure test to BOP 4,500 psig. Note: if pressure observed on casing or casing-casing annulus, install a hydraulic BOP.

15. PU 5 ½" RBP on 2 7/8" tubing and set at ~5950'. Spot 2 sacks sand on plug. POOH. RIH with shifting tool on tubing. Open port and establish circulation. Pump cement and circulate to surface. Note: Notify BLM 4 hours before pumping cement. If cement does not circulate, run temperature survey and contact BLM.

16. POOH with shifting tool. RIH and retrieve RBP. POOH laying down tubing.

17. RDMO well service unit.

Other Options if problems are encountered: See COA

Option 1 - Hole conditions below 9 5/8" intermediate casing deteriorate.

1. Set 7" intermediate at ~5,700' and circulate cement to surface.
2. Drill 6 1/8' hole and kick-off at ~6,000'. Drill lateral to projected TD of ~10,600'.
3. Run and set 4 ½" open-hole packer system on drill pipe and land on liner hanger.

Option 2 – Hole conditions at TD do not allow running 5 ½" open-hole packer system with rig.

1. Condition 8 ¾" hole and spot viscous mud pill in lateral.
2. Run 5 ½" float shoe, joint casing and float collar on 5 ½" casing with DV tool at ~5,900'.
3. Cement well to surface. If cement does not circulate, run temperature survey and contact BLM.

Option 3 – Well service unit not available or location condition prohibits moving rig off in timely manner.

1. After installing tubing head, NU 5K hydraulic BOP with blind rams and 2 7/8" pipe rams. Pressure test to 4,500 psig.
2. RU wireline truck and set 5 ½" RBP at ~5950'. Dump bail 2 sxs sand on top of plug. RD truck.
3. RU 2 7/8" handling tools. RIH with shifting tool on tubing. Open port and establish circulation. Pump cement and circulate to surface. Note: Notify BLM 4 hours before pumping cement. If cement does not circulate, run temperature survey and contact BLM.
4. POOH with shifting tool. RIH and retrieve RBP. POOH laying down tubing.
5. RDMO drilling rig.

5. Pressure Control Equipment:

BOP DESIGN: The BOP system used to drill the intermediate hole will consist of a 13-5/8" 5M Double 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 surface casing shoe.

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

The pipe rams will be operated and checked each 24 hour period and each time the drill pipe is out of the hole. These tests will be logged in the daily driller's log. A 2" kill line and 3" choke line will be incorporated into the drilling spool below the ram BOP. In addition to the rams and annular preventer, additional BOP accessories include a kelly cock, floor safety valve, choke lines, and choke manifold rated at 5,000 psi WP.

6. **Proposed Mud Circulation System**

Depth	Mud Wt.	Visc	Fluid Loss	Type System
0' – 450'	8.4-8.6	28-32	NC	Fresh Water
450'– 2300'	9.8-10.0	28-32	NC	Brine
2300'–10919'	8.6-9.0	28-32	NC	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 No lost circulation is expected to occur. All personnel will be familiar with all aspects of safe operation of equipment being used to drill this well. Estimated BHP 2923 psi and Estimated BHT 90°. 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

Devon Energy

Eddy Co., New Mexico (Nad 83)
Dickens 29 Fed #4H
Dickens 29 Fed #4H

Lateral #1

Plan: Design #1

Standard Survey Report

06 April, 2010

CUDD
DRILLING & MEASUREMENT
SERVICES

Company:	Devon Energy	**Local Co-ordinate Reference:**	Site Dickens 29 Fed #4H
Project:	Eddy Co., New Mexico (Nad 83)	**TVD Reference:**	WELL @ 3618.00ft (Original Well Elev)
Site:	Dickens 29 Fed #4H	**MD Reference:**	WELL @ 3618.00ft (Original Well Elev)
Well:	Dickens 29 Fed #4H	**North Reference:**	Grid
Wellbore:	Lateral #1	**Survey Calculation Method:**	Minimum Curvature
Design:	Design #1	**Database:**	EDM 2003.21 Single User Db

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 Dickens 29 Fed #4H, Sec 29, T-16S, R-28E

Site Position:		**Northing:**	690,489.32 ft	**Latitude:**	32° 53' 53.128 N
From:	Map	**Easting:**	585,163.10 ft	**Longitude:**	104° 11' 25.965 W
Position Uncertainty:	0.00 ft	**Slot Radius:**	"	**Grid Convergence:**	0.08 °

Well Dickens 29 Fed #4H

Well Position	**+N/-S**	0.00 ft	**Northing:**	690,489.32 ft	**Latitude:**	32° 53' 53.128 N
	+E/-W	0.00 ft	**Easting:**	585,163.10 ft	**Longitude:**	104° 11' 25.965 W
Position Uncertainty		0.00 ft	**Wellhead Elevation:**	3,618.00 ft	**Ground Level:**	3,599.00 ft

Wellbore Lateral #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	04/06/10	8.05	60.75	49,102

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	267.86

Survey Tool Program **Date** 04/06/10

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.00	6,000.00	Design #1 (Lateral #1)	NS-GYRO-MS	North sensing gyrocompassing m/s
6,000.00	10,919.23	Design #1 (Lateral #1)	CUDD MWD	MWD - Standard CUDD MWD

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,048.00	0.00	0.00	1,048.00	0.00	0.00	0.00	0.00	0.00	0.00
Queen									
1,848.00	0.00	0.00	1,848.00	0.00	0.00	0.00	0.00	0.00	0.00
San Andres									
1,950.00	0.00	0.00	1,950.00	0.00	0.00	0.00	0.00	0.00	0.00
9 5/8" Casing									
3,294.00	0.00	0.00	3,294.00	0.00	0.00	0.00	0.00	0.00	0.00
Glorieta									
5,504.00	0.00	0.00	5,504.00	0.00	0.00	0.00	0.00	0.00	0.00
Abo									

Company:	Devon Energy	Local Co-ordinate Reference:	Site Dickens 29 Fed #4H
Project:	Eddy Co., New Mexico (Nad 83)	TVD Reference:	WELL @ 3618.00ft (Original Well Elev)
Site:	Dickens 29 Fed #4H	MD Reference:	WELL @ 3618.00ft (Original Well Elev)
Well:	Dickens 29 Fed #4H	North Reference:	Grid
Wellbore:	Lateral #1	Survey Calculation Method:	Minimum Curvature
Design:	Design #1	Database:	EDM 2003.21 Single User Db

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
6,027.00	0.00	0.00	6,027.00	0.00	0.00	0.00	0.00	0.00	0.00
KOP - Build 10°/100'									
6,398.18	37.11	267.86	6,372.76	-4.34	-115.99	116.07	10.00	10.00	0.00
Wolfcamp Marker									
6,675.08	64.80	267.86	6,545.50	-12.32	-328.81	329.04	10.00	10.00	0.00
Wolfcamp Pay									
6,934.32	90.72	267.86	6,600.00	-21.72	-579.83	580.23	10.00	10.00	0.00
6,934.33	90.72	267.86	6,600.00	-21.72	-579.83	580.24	0.00	0.00	0.00
EOC - Hold I:90.72° @ A:267.86°									
10,919.23	90.72	267.86	6,550.00	-170.85	-4,561.63	4,564.83	0.00	0.00	0.00
PBHL - TD (D29F#4H)									

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
PBHL - TD (D29F#4H) - plan hits target center - Point	0.00	0.00	6,550.00	-170.85	-4,561.63	690,318.47	580,601.48	32° 53' 51.495 N	104° 12' 19.471 W

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
1,950.00	1,950.00	9 5/8" Casing	9-5/8	12-1/4

Formations

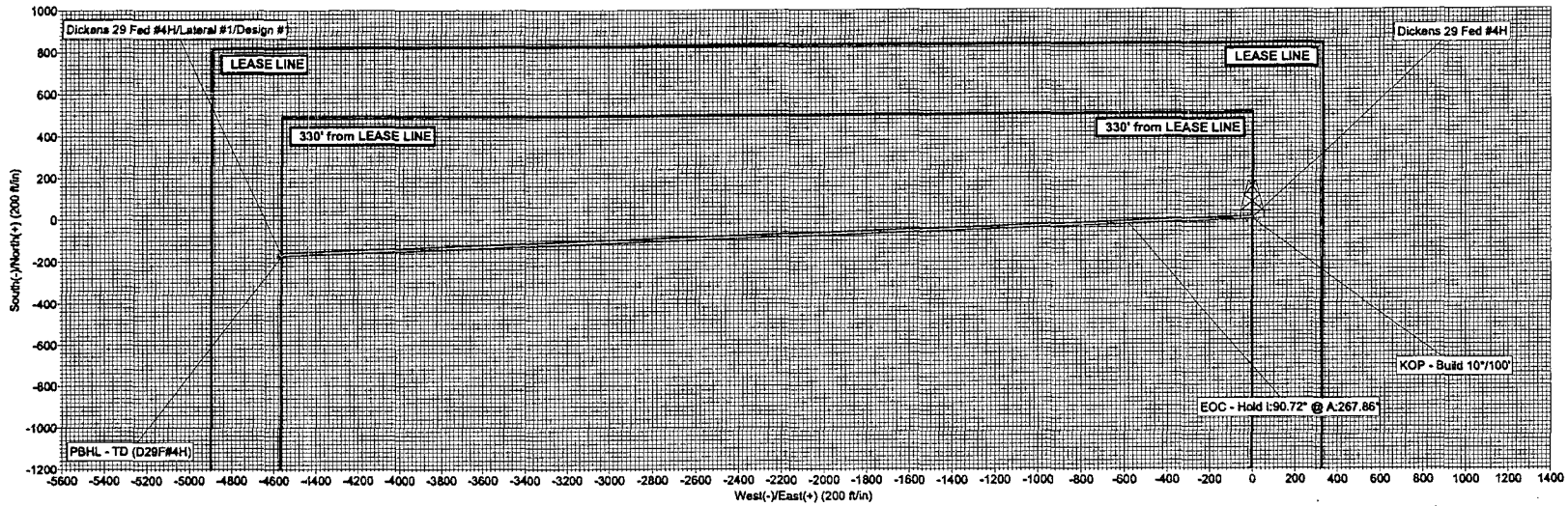
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,048.00	1,048.00	Queen		0.72	120.00
1,848.00	1,848.00	San Andres		0.72	120.00
3,294.00	3,294.00	Glorieta		0.72	120.00
5,504.00	5,504.00	Abo		0.72	120.00
6,398.18	6,374.00	Wolfcamp Marker		0.72	120.00
6,675.08	6,549.00	Wolfcamp Pay		0.72	120.00

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
6,027.00	6,027.00	0.00	0.00	KOP - Build 10°/100'
6,934.33	6,600.00	-21.72	-579.83	EOC - Hold I:90.72° @ A:267.86°

Checked By: _____ Approved By: _____ Date: _____

Project: Eddy Co., New Mexico (Nad 83)
Site: Dickens 29 Fed #4H
Well: Dickens 29 Fed #4H
Wellbore: Lateral #1
Design: Design #1



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

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PBHL - TD (D29F#4H)	6550.00	-170.85	-4561.63	690318.47	580601.48	32° 53' 51.495 N	104° 12' 19.471 W	Point

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	6027.00	0.00	0.00	6027.00	0.00	0.00	0.00	0.00	0.00	
3	6934.32	90.72	267.86	6600.00	-21.72	-579.83	10.00	267.86	580.23	
4	10919.23	90.72	267.86	6550.00	-170.85	-4561.63	0.00	0.00	4564.83	PBHL - TD (D29F#4H)

WELL DETAILS: Dickens 29 Fed #4H

Ground Level:
3599.00
WELL @ 3618.00ft (Original Well Elev)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	690489.32	585163.10	32° 53' 53.128 N	104° 11' 25.965 W	

PROJECT DETAILS: Eddy Co., New Mexico (Nad 83)

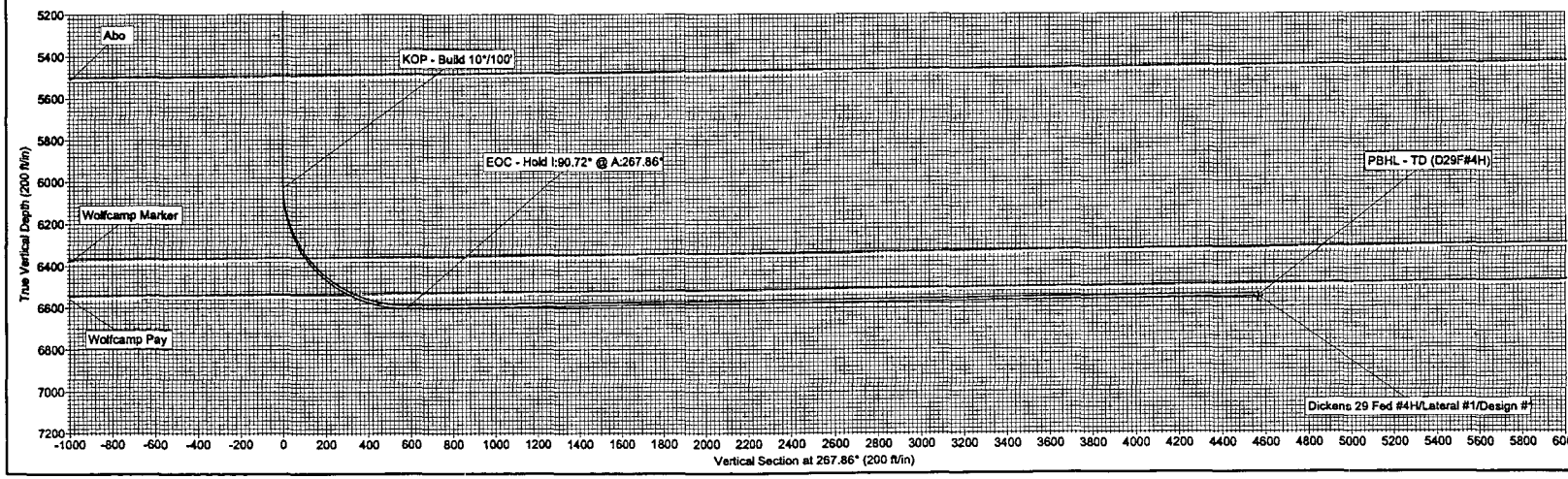
Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Eastern Zone
System Datum: Mean Sea Level

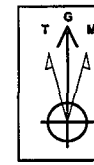
ANNOTATIONS

TVD	MD	Annotation
6027.00	6027.00	KOP - Build 10°/100'
6600.00	6934.33	EOC - Hold I:90.72° @ A:267.86°

Plan: Design #1 (Dickens 29 Fed #4H/Lateral #1)

Created By: Mike Starkey Date: 11:26, April 06 2010
Checked: _____ Date: _____
Reviewed: _____ Date: _____
Approved: _____ Date: _____





Azimuths to Grid North
True North: -0.08°
Magnetic North: 7.97°

Magnetic Field
Strength: 49102.2snT
Dip Angle: 60.75°
Date: 04/06/2010
Model: IGRF200510

Devon Energy
Dickens 29 Fed #4H - Design #1

Eddy Co., New Mexico (Nad 83)
Dickens 29 Fed #4H

Measured Depth (ft)	Incl.	Azim.	Vertical Depth (ft)	Northings (ft)	Eastings (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00 N	0.00 E	0.00	0.00
6027.00	0.00	0.00	6027.00	0.00 N	0.00 E	0.00	0.00
6100.00	7.30	267.86	6099.80	0.17 S	4.64 W	4.64	10.00
6200.00	17.30	267.86	6197.38	0.97 S	25.90 W	25.92	10.00
6300.00	27.30	267.86	6289.79	2.39 S	63.76 W	63.81	10.00
6400.00	37.29	267.86	6374.21	4.39 S	117.09 W	117.17	10.00
6500.00	47.29	267.86	6448.09	6.90 S	184.25 W	184.38	10.00
6600.00	57.29	267.86	6509.18	9.86 S	263.21 W	263.39	10.00
6700.00	67.29	267.86	6555.62	13.17 S	351.56 W	351.81	10.00
6800.00	77.29	267.86	6586.00	16.73 S	446.64 W	446.95	10.00
6900.00	87.29	267.86	6599.40	20.43 S	545.54 W	545.92	10.00
6934.33	90.72	267.86	6600.00	21.72 S	579.83 W	580.23	10.00
7000.00	90.72	267.86	6599.18	24.17 S	645.45 W	645.90	0.00
7100.00	90.72	267.86	6597.92	27.92 S	745.37 W	745.90	0.00
7200.00	90.72	267.86	6596.67	31.66 S	845.29 W	845.89	0.00
7300.00	90.72	267.86	6595.41	35.40 S	945.22 W	945.88	0.00
7400.00	90.72	267.86	6594.16	39.14 S	1045.14 W	1045.87	0.00
7500.00	90.72	267.86	6592.90	42.89 S	1145.06 W	1145.86	0.00
7600.00	90.72	267.86	6591.65	46.63 S	1244.98 W	1245.86	0.00
7700.00	90.72	267.86	6590.39	50.37 S	1344.90 W	1345.85	0.00
7800.00	90.72	267.86	6589.14	54.11 S	1444.83 W	1445.84	0.00
7900.00	90.72	267.86	6587.88	57.86 S	1544.75 W	1545.83	0.00
8000.00	90.72	267.86	6586.63	61.60 S	1644.67 W	1645.82	0.00
8100.00	90.72	267.86	6585.37	65.34 S	1744.59 W	1745.82	0.00
8200.00	90.72	267.86	6584.12	69.08 S	1844.52 W	1845.81	0.00

8300.00	90.72	267.86	6582.86	72.83 S	1944.44 W	1945.80	0.00
8400.00	90.72	267.86	6581.61	76.57 S	2044.36 W	2045.79	0.00
8500.00	90.72	267.86	6580.35	80.31 S	2144.28 W	2145.78	0.00
8600.00	90.72	267.86	6579.10	84.05 S	2244.20 W	2245.78	0.00
8700.00	90.72	267.86	6577.85	87.79 S	2344.13 W	2345.77	0.00
8800.00	90.72	267.86	6576.59	91.54 S	2444.05 W	2445.76	0.00
8900.00	90.72	267.86	6575.34	95.28 S	2543.97 W	2545.75	0.00
9000.00	90.72	267.86	6574.08	99.02 S	2643.89 W	2645.75	0.00
9100.00	90.72	267.86	6572.83	102.76 S	2743.81 W	2745.74	0.00
9200.00	90.72	267.86	6571.57	106.51 S	2843.74 W	2845.73	0.00
9300.00	90.72	267.86	6570.32	110.25 S	2943.66 W	2945.72	0.00
9400.00	90.72	267.86	6569.06	113.99 S	3043.58 W	3045.71	0.00
9500.00	90.72	267.86	6567.81	117.73 S	3143.50 W	3145.71	0.00
9600.00	90.72	267.86	6566.55	121.48 S	3243.42 W	3245.70	0.00
9700.00	90.72	267.86	6565.30	125.22 S	3343.35 W	3345.69	0.00
9800.00	90.72	267.86	6564.04	128.96 S	3443.27 W	3445.68	0.00
9900.00	90.72	267.86	6562.79	132.70 S	3543.19 W	3545.67	0.00
10000.00	90.72	267.86	6561.53	136.45 S	3643.11 W	3645.67	0.00
10100.00	90.72	267.86	6560.28	140.19 S	3743.03 W	3745.66	0.00
10200.00	90.72	267.86	6559.02	143.93 S	3842.96 W	3845.65	0.00
10300.00	90.72	267.86	6557.77	147.67 S	3942.88 W	3945.64	0.00
10400.00	90.72	267.86	6556.51	151.42 S	4042.80 W	4045.64	0.00
10500.00	90.72	267.86	6555.26	155.16 S	4142.72 W	4145.63	0.00
10600.00	90.72	267.86	6554.01	158.90 S	4242.64 W	4245.62	0.00
10700.00	90.72	267.86	6552.75	162.64 S	4342.57 W	4345.61	0.00
10800.00	90.72	267.86	6551.50	166.39 S	4442.49 W	4445.60	0.00
10900.00	90.72	267.86	6550.24	170.13 S	4542.41 W	4545.60	0.00
10919.23	90.72	267.86	6550.00	170.85 S	4561.63 W	4564.83	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.

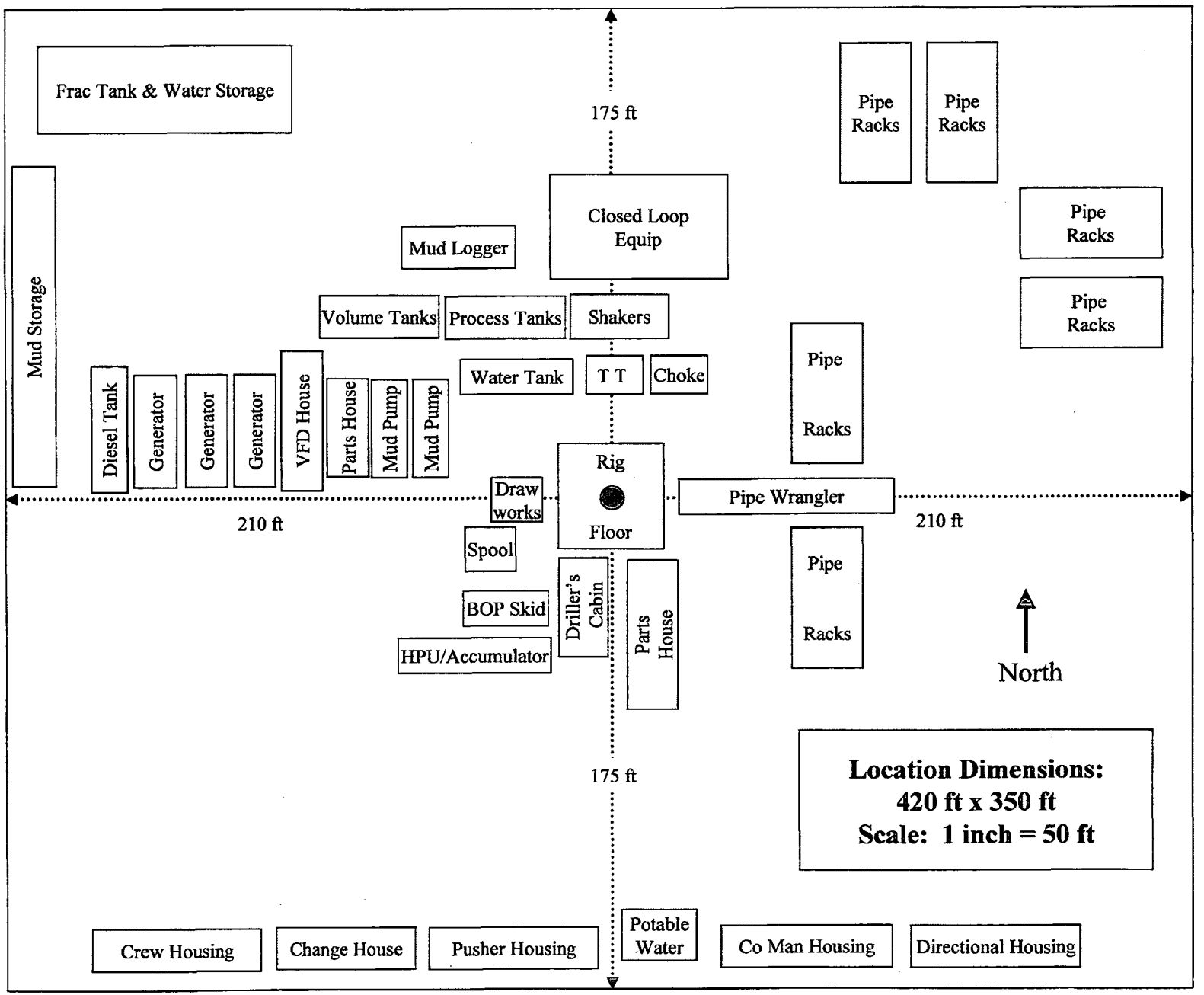
The Dogleg Severity is in Degrees per 100 feet.

Vertical Section is from Slot and calculated along an Azimuth of 267.855° (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 0.078°.

Based upon Minimum Curvature type calculations, at a Measured Depth of 10919.23ft., the Bottom Hole Displacement is 4564.83ft., in the Direction of 267.855° (Grid).

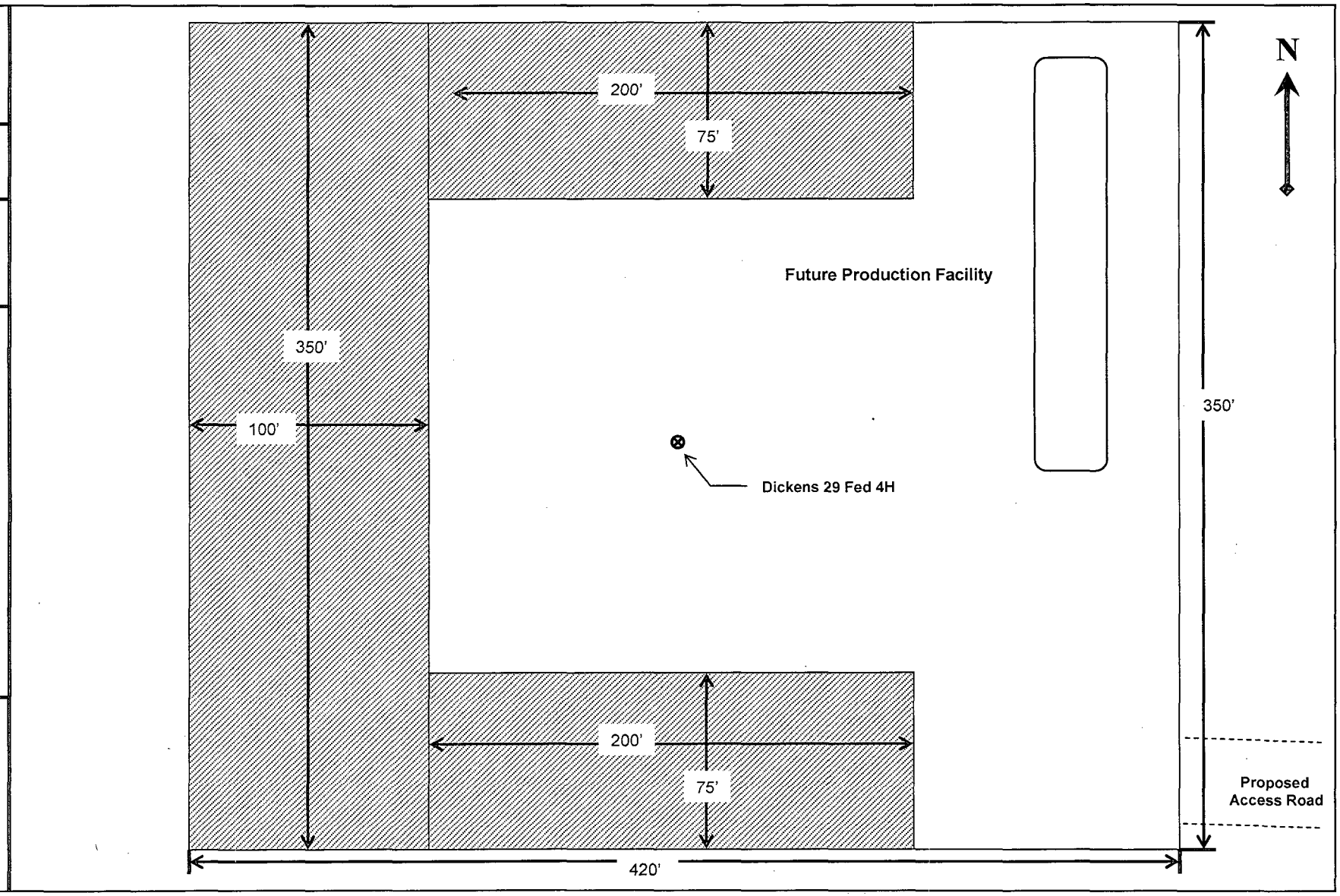
H&P Flex Rig Location Layout



devon

Proposed Interim Site Reclamation

Devon Energy Production Co.
Dickens 29 Fed 4H
840' FNL & 330' FEL
Sec. 29-T16S-R28E
Eddy County, NM



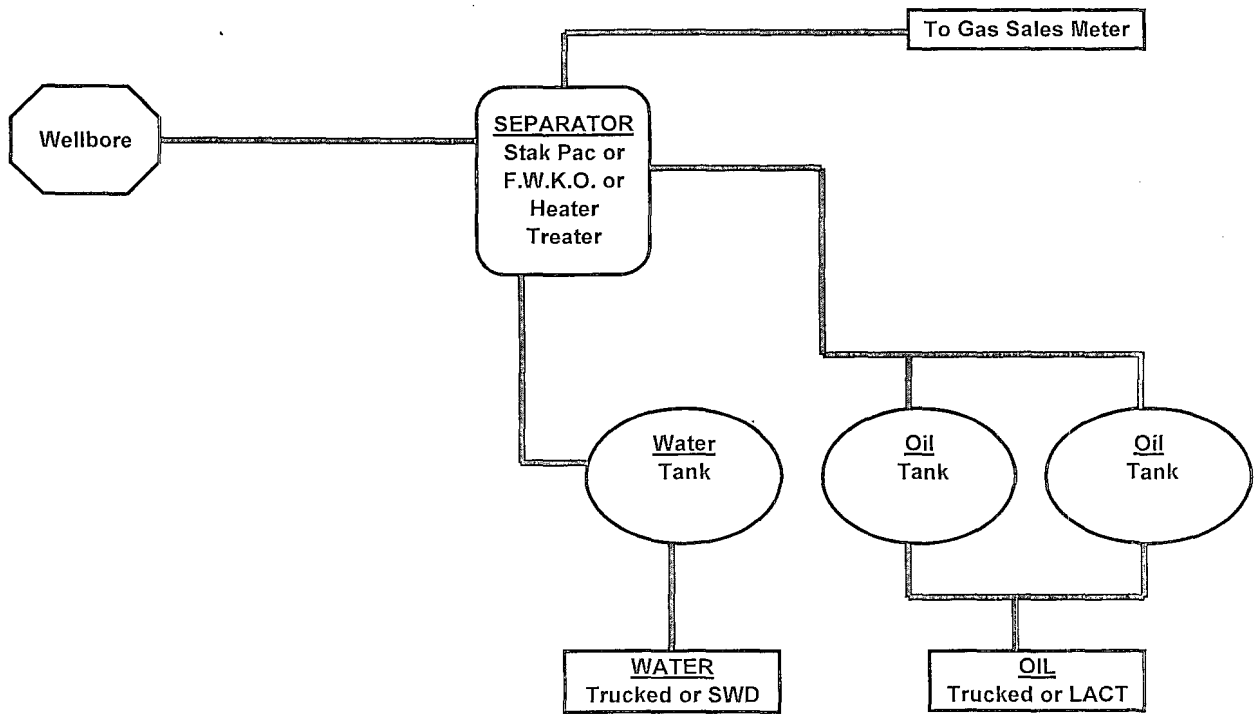
Proposed Reclamation Area

1" : 50'

GM 8/31/10

DEVON ENERGY PRODUCTION COMPANY LP

General Production Facilities Diagram



Attachment to Exhibit #1
NOTES REGARDING BLOWOUT PREVENTERS
Devon Energy Production Company, LP
Dickens 29 Federal 4H
Surface Location: 840' FNL & 330' FEL, Unit A, Sec 29 T16S R28E, Eddy, NM
Bottom hole Location: 990' FNL & 330' FWL, Unit D, Sec 29 T16S R28E, Eddy, NM

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

2. Wear ring will be properly installed in head.

3. Blowout preventer and all associated fittings will be in operable condition to withstand a minimum 5000 psi working pressure.

4. All fittings will be flanged.

5. A full bore safety valve tested to a minimum 5000 psi WP with proper thread connections will be available on the rotary rig floor at all times.

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

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

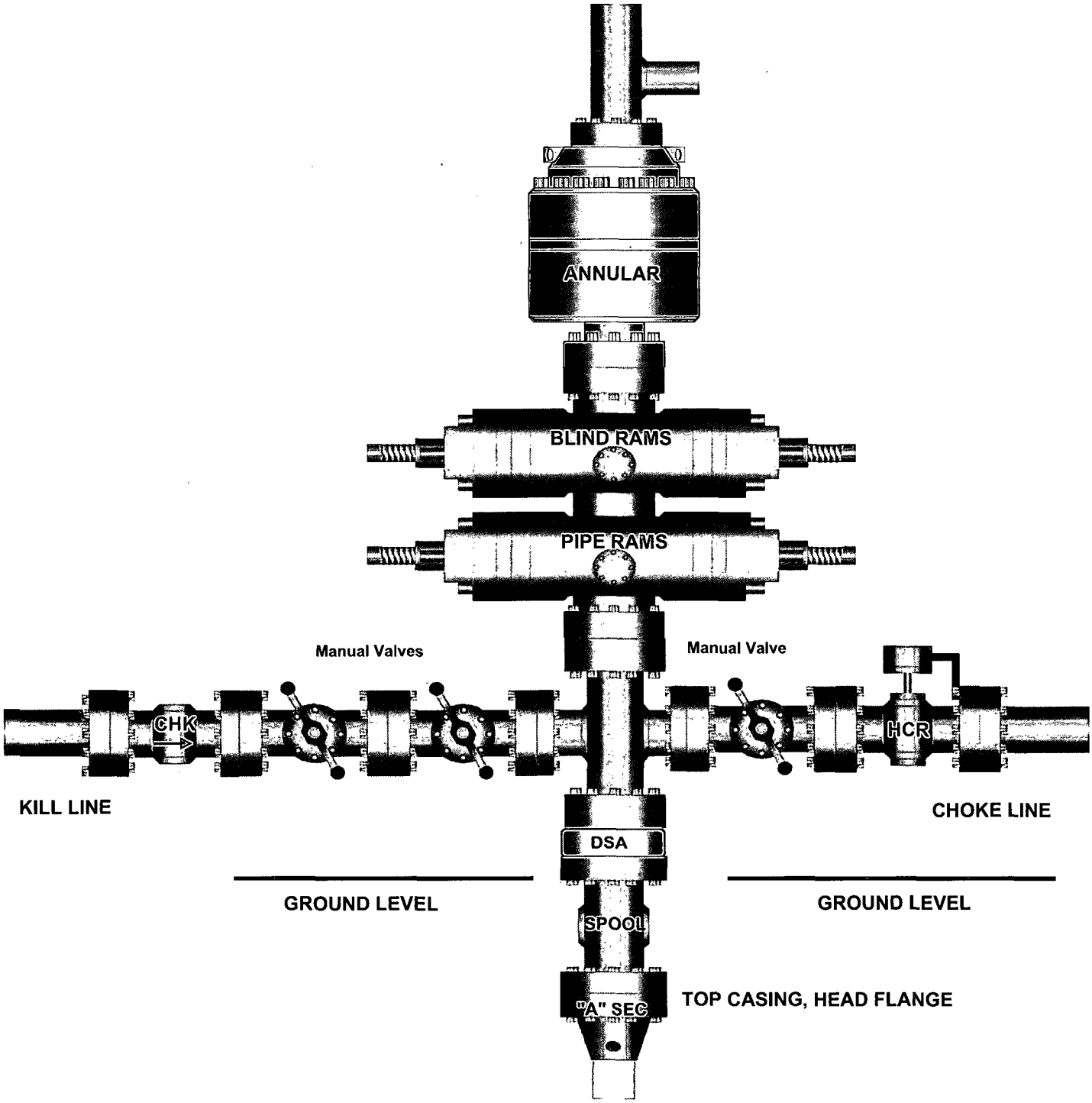
8. Will maintain a kelly cock attached to the kelly.

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

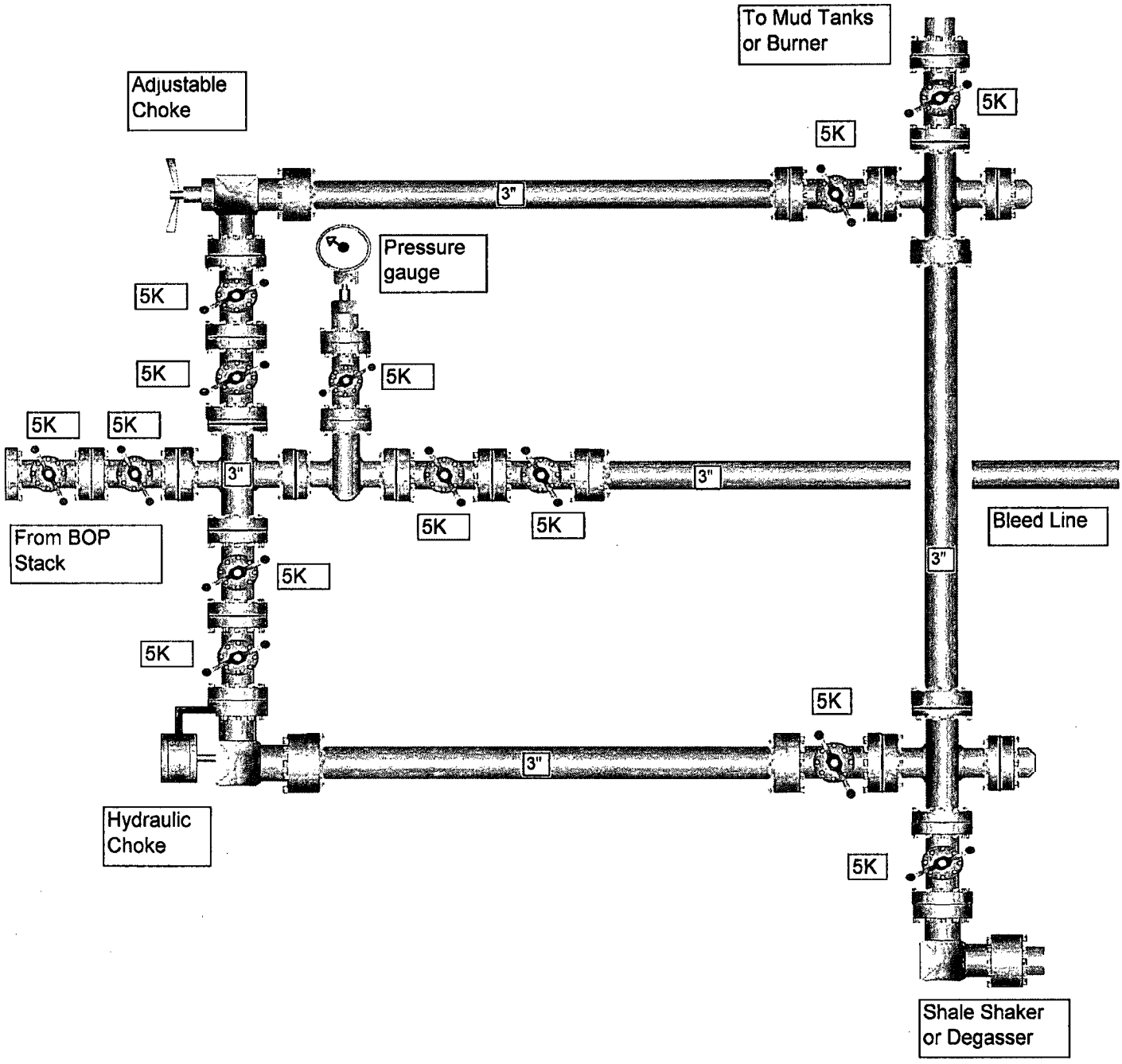
10. Hydraulic floor control for blowout preventer will be located as near in proximity to driller's controls as possible.

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

13-5/8" x 5,000 psi BOP Stack



5,000 PSI CHOKE MANIFOLD



devon

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

Hydrogen Sulfide (H_2S) Contingency Plan

For

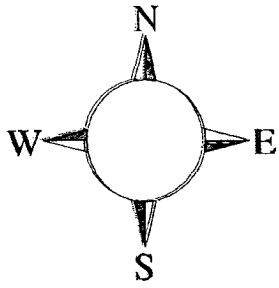
Dickens "29" Federal # 4H

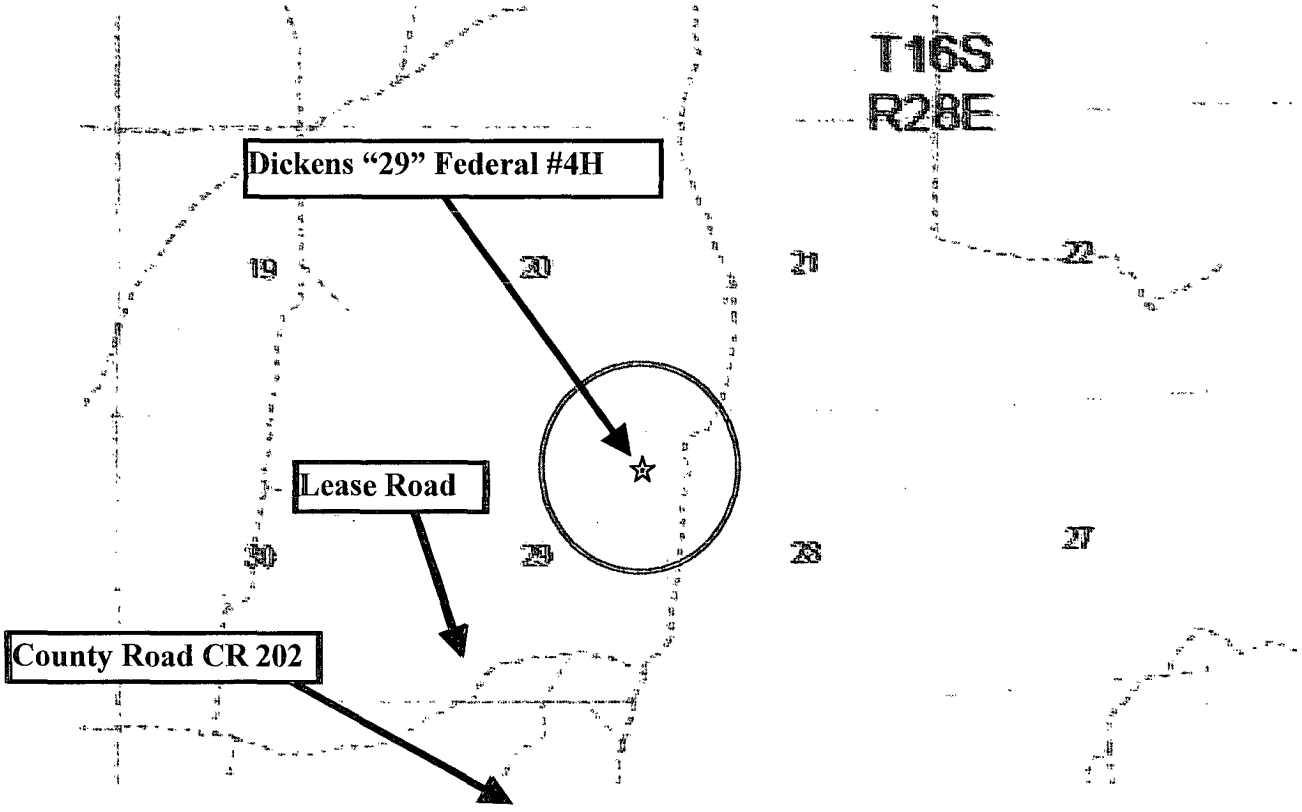
840'FNL & 330' FEL,
Sec-29, T-16S R-28E

Eddy County NM

Dickens "29" 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 ROE = 3000' (Radius of Exposure).
100 ppm H2S concentration shall trigger activation of this plan.

Escape

Crews shall escape upwind of escaping gas in the event of an emergency release of gas. Escape can be facilitated East on lease road then South to Southern Union CR202. Crews should then block entrance to the location from the lease road so as not to allow anyone traversing into a hazardous area. The blockade should be at a safe distance outside of the ROE There are no homes or buildings in or near the ROE.

Assumed 100 ppm ROE = 3000'
100 ppm H_2S concentration shall trigger activation of this plan.

Emergency Procedures

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

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

Ignition of Gas Source

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

Characteristics of H_2S and SO_2

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

Contacting Authorities

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

Devon Energy Corp. Company Call List

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

Agency Call List

Lea County (575)

Hobbs

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

Eddy County (575)

Carlsbad

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

Emergency Services

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

Give GPS position:

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

Prepared in conjunction with
Wade Rohloff of;

Compliance Services

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

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

State of New Mexico
Energy Minerals and Natural Resources
Department
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-144 CLEZ
July 21, 2008

For closed-loop systems *that only use above ground steel tanks or haul-off bins and propose to implement waste removal for closure,* submit to the appropriate NMOCD District Office.

Closed-Loop System Permit or Closure Plan Application

(that only use above ground steel tanks or haul-off bins and propose to implement waste removal for closure)

Type of action: ☒ Permit ☐ Closure

Instructions: *Please submit one application (Form C-144 CLEZ) per individual closed-loop system request. For any application request other than for a closed-loop system that only use above ground steel tanks or haul-off bins and propose to implement waste removal for closure, please submit a Form C-144.*

Please be advised that approval of this request does not relieve the operator of liability should operations result in pollution of surface water, ground water or the environment. Nor does approval relieve the operator of its responsibility to comply with any other applicable governmental authority's rules, regulations or ordinances.

1.

Operator: Devon Energy Production Co., LP OGRID #: 6137

COPY

Address: 20 North Broadway OKC, OK 73102-8260

Facility or well name: Dickens 29 Federal Com 4H

API Number: 30-015- OCD Permit Number:

U/L or Qtr/Qtr NENE Section 29 Township 16S Range 28E County: Eddy County, NM

Center of Proposed Design: Latitude Longitude NAD: ☐ 1927 ☐ 1983

Surface Owner: ☒ Federal ☐ State ☐ Private ☐ Tribal Trust or Indian Allotment

2.

☒ **Closed-loop System:** Subsection H of 19.15.17.11 NMAC

Operation: ☒ Drilling a new well ☐ Workover or Drilling (Applies to activities which require prior approval of a permit or notice of intent) ☐ P&A

☒ Above Ground Steel Tanks or ☒ Haul-off Bins

3.

Signs: Subsection C of 19.15.17.11 NMAC

☐ 12"x 24", 2" lettering, providing Operator's name, site location, and emergency telephone numbers

☒ Signed in compliance with 19.15.3.103 NMAC

4.

Closed-loop Systems Permit Application Attachment Checklist: Subsection B of 19.15.17.9 NMAC

Instructions: *Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.*

☒ Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
☒ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
☒ Closure Plan (Please complete Box 5) - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC

☐ Previously Approved Design (attach copy of design) API Number:

☐ Previously Approved Operating and Maintenance Plan API Number:

5.

Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only: (19.15.17.13.D NMAC)

Instructions: *Please indentify the facility or facilities for the disposal of liquids, drilling fluids and drill cuttings. Use attachment if more than two facilities are required.*

Disposal Facility Name: CRI Disposal Facility Permit Number: R9166

Disposal Facility Name: Disposal Facility Permit Number:

Will any of the proposed closed-loop system operations and associated activities occur on or in areas that *will not* be used for future service and operations?

☐ Yes (If yes, please provide the information below) ☒ No

Required for impacted areas which will not be used for future service and operations:

☐ Soil Backfill and Cover Design Specifications - - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
☐ Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19.15.17.13 NMAC
☐ Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC

6.

Operator Application Certification:

I hereby certify that the information submitted with this application is true, accurate and complete to the best of my knowledge and belief.

Name (Print): Stephanie A. Ysasaga Title: Sr. Staff Engineering Technician

Signature: Date:

e-mail address: Stephanie.Ysasaga@dvn.com Telephone: (405)-552-7802

7.

OCD Approval: ☐ Permit Application (including closure plan) ☐ Closure Plan (only)

OCD Representative Signature: _____ Approval Date: _____

Title: _____ OCD Permit Number: _____

8.

Closure Report (required within 60 days of closure completion): Subsection K of 19.15.17.13 NMAC

Instructions: Operators are required to obtain an approved closure plan prior to implementing any closure activities and submitting the closure report. The closure report is required to be submitted to the division within 60 days of the completion of the closure activities. Please do not complete this section of the form until an approved closure plan has been obtained and the closure activities have been completed.

☐ **Closure Completion Date:** _____

9.

Closure Report Regarding Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only:

Instructions: Please indentify the facility or facilities for where the liquids, drilling fluids and drill cuttings were disposed. Use attachment if more than two facilities were utilized.

Disposal Facility Name: _____ Disposal Facility Permit Number: _____

Disposal Facility Name: _____ Disposal Facility Permit Number: _____

Were the closed-loop system operations and associated activities performed on or in areas that *will not* be used for future service and operations?

☐ Yes (If yes, please demonstrate compliance to the items below) ☐ No

Required for impacted areas which will not be used for future service and operations:

☐ Site Reclamation (Photo Documentation)
☐ Soil Backfilling and Cover Installation
☐ Re-vegetation Application Rates and Seeding Technique

10.

Operator Closure Certification:

I hereby certify that the information and attachments submitted with this closure report is true, accurate and complete to the best of my knowledge and belief. I also certify that the closure complies with all applicable closure requirements and conditions specified in the approved closure plan.

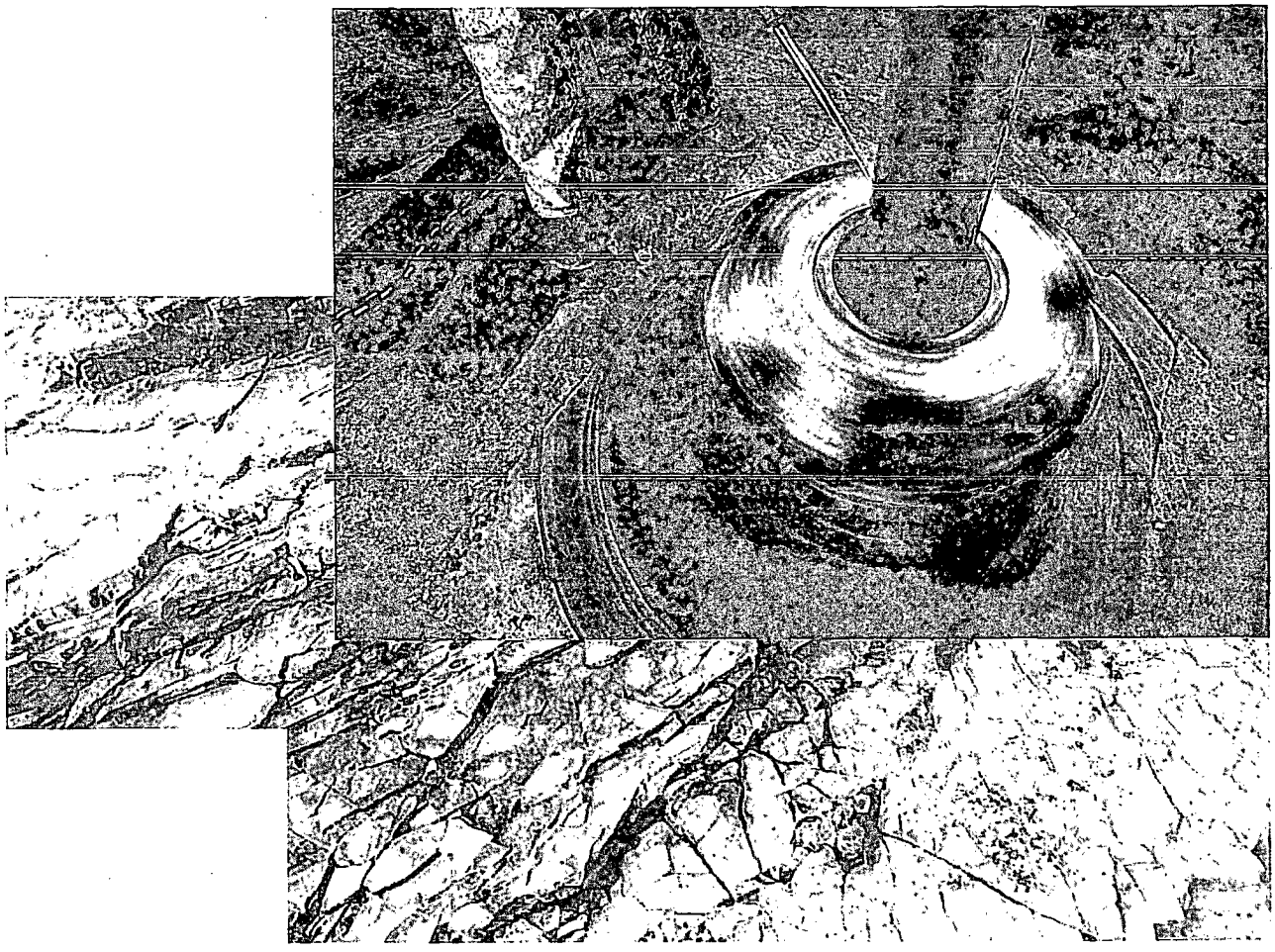
Name (Print): _____ Title: _____

Signature: _____ Date: _____

e-mail address: _____ Telephone: _____

devon

Commitment Runs Deep



Design Plan
Operation and Maintenance Plan
Closure Plan

SENM - Closed Loop Systems
June 2008

I. Design Plan

Devon uses MI SWACO closed loop system (CLS). The MI SWACO CLS 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.

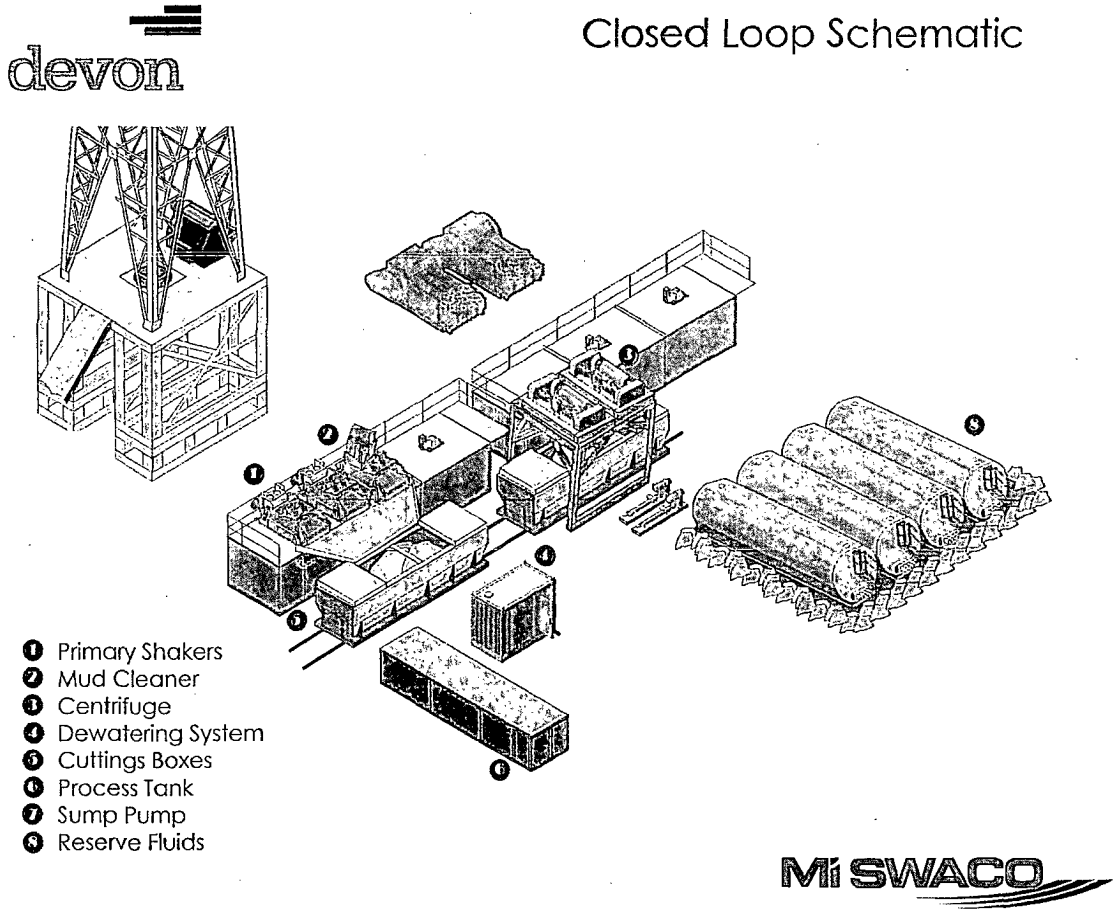
Prior to installing a closed-loop system on site, the topsoil, if present, will be stripped and stockpiled for use as the final cover or fill at the time of closure.

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 one or two in number 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 Mi Swaco 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.

A MI SWACO field supervisor manages from 3-5 wells. They are responsible for training personnel, supervising installations, and inspecting sites for compliance of MI SWACO safety and operational policy.

III. Closure Plan

A maximum 340' X 340' 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.

SURFACE USE PLAN
Devon Energy Production Company, LP
Dickens 29 Federal 4H
Surface Location: 840' FNL & 330' FEL, Unit A, Sec 29 T16S R28E, Eddy, NM
Bottom hole Location: 990' FNL & 330' FWL, Unit D, Sec 29 T16S R28E, Eddy, NM

1. **Existing Roads:**
   a. The well site and elevation plat for the proposed well are reflected on the well site layout; Form C-102. The well was staked by Basin Surveys.
   b. All roads into the location are depicted on the surveyor plats.
   c. Directions to Location: From the mile marker 117 of State Hwy 82, go west 0.4 miles to Co. Rd Southern Union (202), go north 4.2 miles just past Booster Site thence 1.0 miles northeast; thence 1.0 miles east; thence 1.09 miles to proposed lease road.
   d. Routine grading and maintenance of existing roads will be conducted as necessary to maintain their condition as long as any operations continue on this lease.
   e. If existing road is shared with other operators, Devon will share in its cost to maintain the road as required by the BLM.

2. **New or Reconstructed Access Roads:**
   a. The well site layout, Form C-102 shows approximately 549' of new access road will be constructed as follows:
   b. The maximum width of the road will be 14'. It will be crowned and made of 6" of rolled and compacted caliche. Water will be deflected, as necessary, to avoid accumulation and prevent surface erosion.
   c. Surface material will be native caliche. This material will be obtained from a BLM approved pit nearest in proximity to the location. The average grade will be approximately 2%.
   d. No cattle guards, grates or fence cuts will be required. No turnouts are planned.

3. **Location of Existing Wells:**
   1 Mile Radius Plat shows all existing and proposed wells within a one-mile radius of the proposed location. See attached plat.

4. **Location of Existing and/or Proposed Production Facilities:**
   a. In the event the well is found productive, the Dickens 29 Federal Com 3H tank battery would be utilized and the necessary production equipment will be installed at the well site.
   b. If necessary, the well will be operated by means of an electric prime mover. Electric power poles will be set along side of the access road.
   c. If the well is productive, rehabilitation plans are as follows:
      i. A closed loop system will be utilized.
      ii. The original topsoil from the well site will be returned to the location. The drill site will then be contoured as close as possible to the original state.

4. **Location and Types of Water Supply:**
This location will be drilled using a combination of water mud systems (outlined in the Drilling Program). The water will be obtained from commercial water stations in the area and hauled to location by transport truck using the existing and proposed roads shown in the C-102. On occasion, water will be obtained from a pre-existing water well, running a pump directly to the drill rig. In these cases where a poly pipeline is used to transport water for drilling purposes, proper authorizations will be secured. If a poly pipeline is used, the size, distance, and map showing route will be provided to the BLM via sundry notice.

5. **Construction Materials:**
The caliche utilized for the drilling pad and proposed access road will be from minerals that are located onsite or will be used onsite. If minerals are not available onsite, then an established mineral pit will be used to build the location and stem road.

6. **Methods of Handling Waste Material:**
   a. Drill cuttings will be disposed of in a closed loop system.
   b. All trash, junk and other waste material will be contained in trash cages or trash bins to prevent scattering. When the job is completed all contents will be removed and disposed of in an approved sanitary landfill.
   c. The supplier, including broken sacks, will pick up salts remaining after completion of well.
   d. A Porto-john will be provided for the rig crews. This equipment will be properly maintained during the drilling and completion operations and will be removed when all operations are complete.
   e. Remaining drilling fluids will be sent to a closed loop system. Water produced during completion will be put into a closed loop system. Oil and condensate produced will be put into a storage tank and sold.
   f. Disposal of fluids to be transported by the following companies:
      i. American Production Service Inc, Odessa TX
      ii. Gandy Corporation, Lovington NM
      iii. I & W Inc, Loco Hill NM
      iv. Jims Water Service of Co Inc, Denver CO

7. **Ancillary Facilities:** No campsite or other facilities will be constructed as a result of this well.

8. **Well Site Layout**
   a. The rig layout diagram shows the proposed well site layout with dimensions of the pad layout.
   b. This exhibit indicated proposed location of reserve and sump pits and living facilities.
   c. A closed loop system will be utilized.
   d. If a pit or closed loop system will be utilized, Devon will comply with the NMOCD requirements 19.15.17 and submit form C-144 CLEZ to the appropriate NMOCD District Office. An unapproved copy is provided within the APD.
   e. Topsoil Stockpiling:
      i. Standard practice is topsoil will be pushed to the high side of location to prevent water from running across location to control erosion. If a cut out is done and there are two or three high sides, we will use those there.

9. Plans for Surface Reclamation Include Both Final & Interim:

a. After concluding the drilling and/or completion operations, if the well is found non-commercial, the caliche will be removed from the pad and used for other drilling locations, repair existing roads, repair existing locations, etc. The road will be reclaimed as directed by the BLM. The original top soil will again be returned to the pad and contoured, as close as possible, to the original topography. We will use a closed loop system.
b. The location and road will be rehabilitated as recommended by the BLM.
c. If the well is deemed commercially productive, caliche from areas of the pad site not required for operations will be reclaimed. The original top soil will be returned to the area of the drill pad not necessary to operate the well. These unused areas of the drill pad will be contoured, as close as possible, to match the original topography.
d. All disturbed areas not needed for active support of production operations will undergo interim reclamation. The portions of the cleared well site not needed for operational and safety purposes will be recontoured to a final or intermediate contour that blends with the surrounding topography as much as possible. Topsoil will be respread over areas not needed for all-weather operations.

10. Surface Ownership

a. The surface is owned by the US Government and is administered by the Bureau of Land Management. The surface is multiple use with the primary uses of the region for the grazing of livestock and the production of oil and gas.
b. The proposed road routes and the surface location will be restored as directed by the BLM.

11. Other Information:

a. The area surrounding the well site is grassland. The topsoil is very sandy in nature. The vegetation is moderately sparse with native prairie grass, sagebush, yucca and miscellaneous weeds. No wildlife was observed but it is likely that deer, rabbits, coyotes, and rodents traverse the area.
b. There is no permanent or live water in the general proximity of the location.
c. There are no dwellings within 2 miles of location.
d. A Cultural Resources Examination will be completed by Southern New Mexico Archaeological Services, Inc. and forwarded to the BLM office in Carlsbad, New Mexico.

13. Bond Coverage:

Bond Coverage is Nationwide; Bond # is CO-1104

Operators Representative:

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

Greg McGowen
Operations Engineer Advisor

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

(405) 228-8965 (office)
(405) 464-9769 (cell)

Don Mayberry
Superintendent

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

(505) 748-0164 (office)
(505) 748-5235 (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 _8th_ day of _August_, 2010.
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): Don Mayberry (see above)
Address (if different from above):
Telephone (if different from above):
E-mail (optional):

PECOS DISTRICT
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	DEVON ENERGY PRODUCTION COMPANY, L.P.
LEASE NO.:	NM54856
WELL NAME & NO.:	DICKENS 29 FEDERAL 4H
SURFACE HOLE FOOTAGE:	0840' FNL & 0330' FEL
BOTTOM HOLE FOOTAGE	0990' FNL & 0330' FWL
LOCATION:	Section 29, T. 16 S., R. 28 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)

V-Door East

Cave and Karst

** Depending on location, additional Drilling, Casing, and Cementing procedures may be required by engineering to protect critical karst groundwater recharge areas.

Cave/Karst Surface Mitigation

The following stipulations will be applied to minimize impacts during construction, drilling and production.

Construction:
In the advent that any underground voids are opened up during construction activities, construction activities will be halted and the BLM will be notified immediately.

No Blasting:
No blasting will be utilized for pad construction. The pad will be constructed and leveled by adding the necessary fill and caliche.

Pad Berming:
The pad will be bermed to prevent oil, salt, and other chemical contaminants from leaving the pad. All sides will be bermed.

Tank Battery Liners and Berms:
Tank battery locations will be lined and bermed. A 20 mil permanent liner will be installed with a 4 oz. felt backing to prevent tears or punctures. Tank battery berms must be large enough to contain 1 ½ times the content of the largest tank.

Leak Detection System:
A method of detecting leaks is required. The method could incorporate gauges to measure loss, situating values and lines so they can be visually inspected, or installing electronic sensors to alarm when a leak is present. Leak detection plan will be submitted to BLM for approval.

Automatic Shut-off Systems:
Automatic shut off, check values, or similar systems will be installed for pipelines and tanks to minimize the effects of catastrophic line failures used in production or drilling.

Cave/Karst Subsurface Mitigation

The following stipulations will be applied to protect cave/karst and ground water concerns:

Rotary Drilling with Fresh Water:

Fresh water will be used as a circulating medium in zones where caves or karst features are expected. SEE ALSO: Drilling COAs for this well.

Directional Drilling:
Kick off for directional drilling will occur at least 100 feet below the bottom of the cave occurrence zone. SEE ALSO: Drilling COAs for this well.

Lost Circulation:
ALL lost circulation zones from the surface to the base of the cave occurrence zone will be logged and reported in the drilling report.

Regardless of the type of drilling machinery used, if a void of four feet or more and circulation losses greater than 70 percent occur simultaneously while drilling in any cave-bearing zone, the BLM will be notified immediately by the operator. The BLM will assess the situation and work with the operator on corrective actions to resolve the problem.

Abandonment Cementing:
Upon well abandonment in high cave karst areas additional plugging conditions of approval may be required. The BLM will assess the situation and work with the operator to ensure proper plugging of the wellbore.

Pressure Testing:
Annual pressure monitoring will be performed by the operator on all casing annuli and reported in a sundry notice. If the test results indicated a casing failure has occurred, remedial action will be undertaken to correct the problem to the BLM's approval.

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) 234-5972 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. V-DOOR DIRECTION: East

C. 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.

D. CLOSED LOOP SYSTEM

Tanks are required for drilling operations: No Pits.

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

E. FEDERAL MINERAL MATERIALS PIT

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

F. 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.

G. 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 thirty (30) 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.

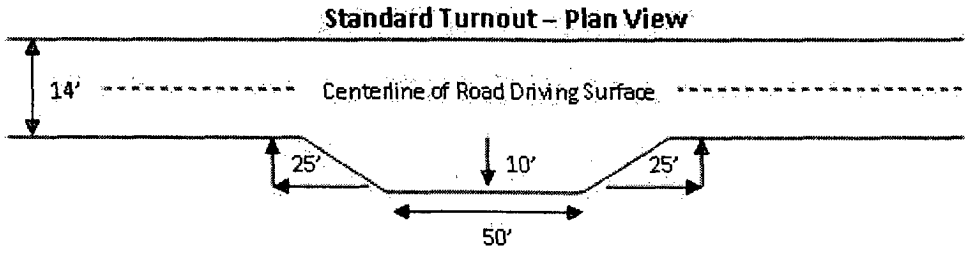
The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing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

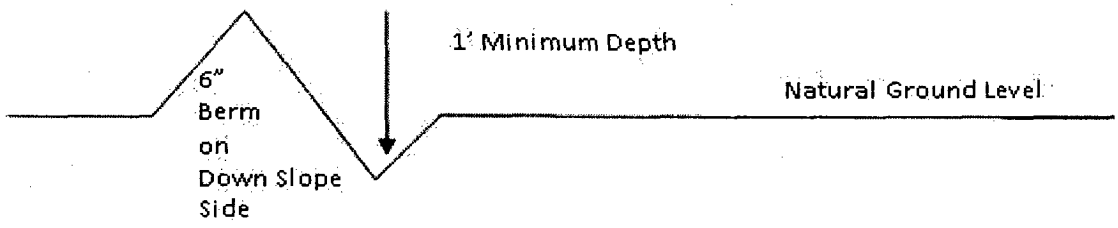
Turnouts
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall be constructed on all blind curves. Turnouts shall conform to the following diagram:



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.

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

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

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

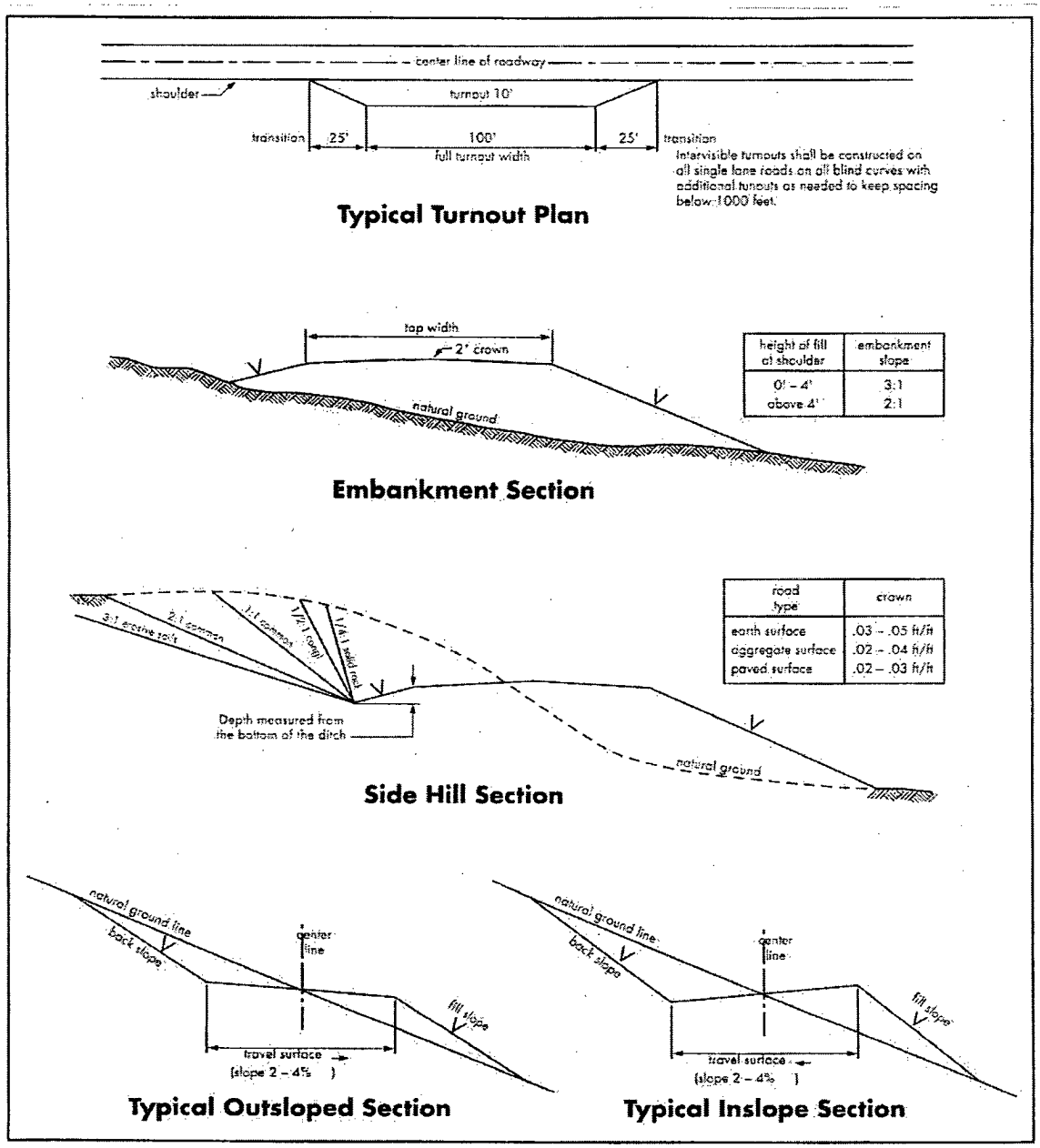
Fence Requirement

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

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

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

Figure 1 – Cross Sections and Plans For Typical Road Sections



VII. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

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

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

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

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

2. **Approval is given to move the drilling rig prior to cementing the production casing. The BLM is to be notified prior to all rig moves. If the drilling rig is moved without prior notification – an Incident of Non-Compliance will be written and will be a "Major" violation.**

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

4. **The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) will be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies.**

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.

HIGH CAVE/KARST –A MINIMUM OF TWO CASING STRINGS CEMENTED TO SURFACE IS REQUIRED IN HIGH CAVE/KARST AREAS. THE CEMENT MUST BE IN A SOLID SHEATH THEREFORE, ONE INCH OPERATIONS WILL NOT BE PERMITTED.

Possible lost circulation in the Grayburg and San Andres formations.

1. The **13-3/8** inch surface casing shall be set at **approximately 450 feet** 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 **9-5/8** inch 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 cave/karst.**

Formation below the 9-5/8" shoe to be tested according to Onshore Order 2.III.B.1.i. Test to be done as a mud equivalency test using the mud weight necessary for the pore pressure of the formation below the shoe (not the mud weight required to prevent dissolving the salt formation) and the mud weight for the bottom of the hole. Report results to BLM office.

If original plan does not work, contact the BLM. Additional approval will be required for Options 1 and 2.

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

   a. First stage to DV tool, cement shall:

   ☒ Cement not required – Packer system to be used.

   b. Second stage above DV tool, cement shall:

   ☒ Cement to surface. If cement does not circulate, contact the appropriate BLM office.

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 **3000 (3M)** psi.

3. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **9-5/8** intermediate casing shoe shall be **5000 (5M)** psi. **5M system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.**

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 or where the float does not hold, the minimum wait time before cut-off is eight hours after bumping the plug or when the cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. BOP/BOPE testing can begin after the above conditions are satisfied.

    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) prior to initiating the test.

    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.

DHW 102710

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

B. PIPELINES – not requested in APD

C. ELECTRIC LINES – not requested in APD

IX. INTERIM RECLAMATION

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

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

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

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

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

X. FINAL ABANDONMENT & RECLAMATION

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

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

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

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

Seed Mixture 3, for Shallow 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 (*Setaria magrostachya*)	1.0
Green Spangletop (*Leptochloa dubia*)	2.0
Side oats Grama (*Bouteloua curtipendula)*	5.0

*Pounds of pure live seed:

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