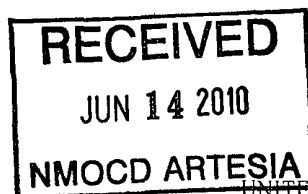


Form 3160-3
(April 2004)



OCD-ARTESIA

ATS-10-541

RM

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
APPLICATION FOR PERMIT TO DRILL OR REENTER

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

EA10-748

1a Type of work <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5 Lease Serial No NMNM-54856
1b Type of Well <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		6 If Indian, Allottee or Tribe Name
2 Name of Operator Devon Energy Production Company, LP		7 If Unit or CA Agreement, Name and No
3a Address 20 North Broadway Oklahoma City, Oklahoma City 73102-8260		8 Lease Name and Well No Dickens 29 Federal Com 211
3b Phone No. (include area code) 405-552-7802		9 API Well No 70-015-37965
4 Location of Well (Report location clearly and in accordance with any State requirements *) At surface NESE 1900' FSL & 180' FEL At proposed prod zone NWSE 1650' FSL & 330' FWL		10 Field and Pool, or Exploratory DEG CANYON Wolfcamp
11 Sec, T, R, M or Blk and Survey or Area Sec 29-T16S-R28E		12 County or Parish Eddy County
13 State NM		14 Distance in miles and direction from nearest town or post office* Approximately 11 miles northeast of Artesia, 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: 1100' BHL: 580'	19 Proposed Depth TVD 6,550' MD 11,073'	20 BLM/BIA Bond No on file CO-1104
21 Elevations (Show whether DF, KDB, RT, GL, etc) 3569' 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 | 4 Bond to cover the operations unless covered by an existing bond on file (see item 20 above) |
| 2 A Drilling Plan | 5 Operator certification |
| 3 A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office) | 6 Such other site specific information and/or plans as may be required by the authorized officer |

25 Signature 	Name (Printed/Typed) Stephanie A. Ysasaga	Date 05/06/2010
Title Sr. Staff Engineering Technician		
Approved by (Signature) Is/ Don Peterson	Name (Printed/Typed)	Date JUN 9 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 USC Section 1001 and Title 43 USC Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction

*(Instructions on page 2)

Well becomes orthodox @ approx. 6450' - MB

Roswell Controlled Water Basin

KZ

Approval Subject to General Requirements
& Special Stipulations Attached

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

DISTRICT I
1625 N. French Dr., Hobbs, NM 88249
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

Form C-102
Revised October 12, 2005

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

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number 30-015-37965	Pool Code 17970	Pool Name WOLFCAMP; DOG CANYON; WOLFCAMP
Property Code 3822D	Property Name DICKENS 29 FEDERAL COM	Well Number 2H
OGRID No. 6137	Operator Name DEVON ENERGY PRODUCTION COMPANY LP	Elevation 3569'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
I	29	16 S	28 E		1900	SOUTH	180	EAST	EDDY

Bottom Hole Location If Different From Surface

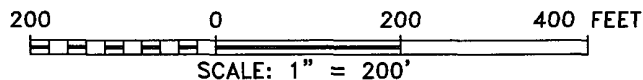
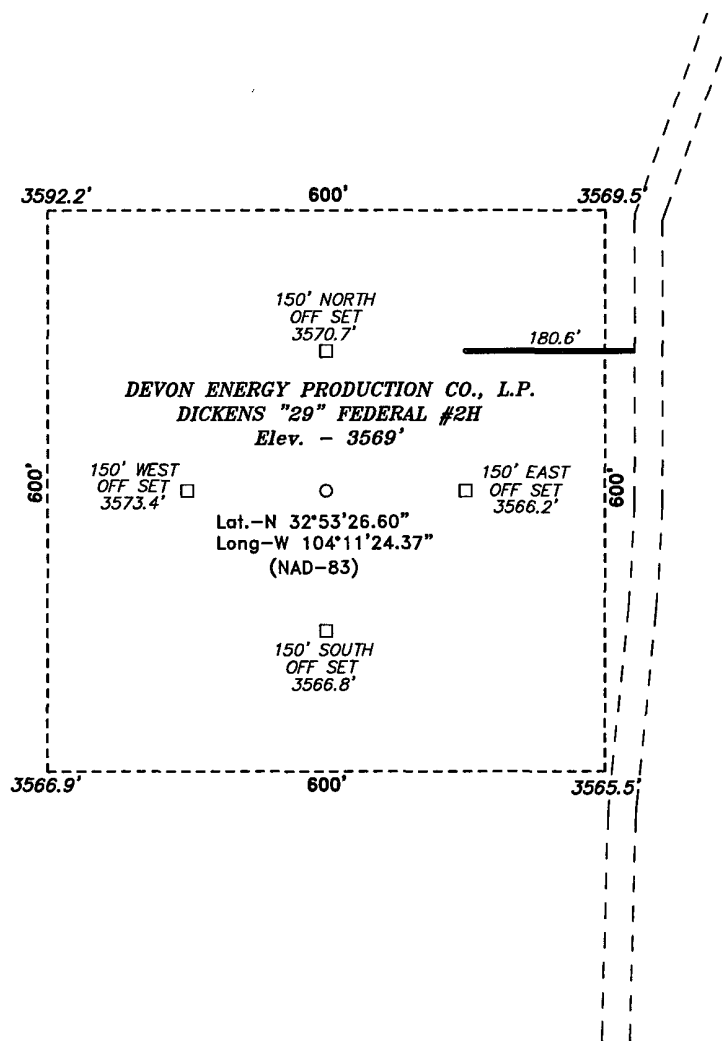
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
L	29	16 S	28 E		1650	SOUTH	330	WEST	EDDY

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

<p>GRID N: 691303.787 GRID E: 580273.947 LATITUDE: 32°54'01.279" LONGITUDE: -104°12'23.258"</p> <p>PROJECT AREA PRODUCING AREA</p> <p>GRID N: 685593.945 GRID E: 580261.420 LATITUDE: 32°53'34.435" LONGITUDE: -104°12'23.484"</p> <p>GRID N: 685582.117 GRID E: 580348.547 LATITUDE: 32°53'07.602" LONGITUDE: -104°12'23.861"</p>	<p>SURFACE LOCATION Lat - N32°53'26.60" Long - W104°11'24.37" SPC- N.: 687808.420 E.: 585303.011 (NAD-83)</p> <p>ENTRY POINT Lat - N32°53'26.39" Long - W104°11'27.66" SPC- N.: 687787.041 E.: 585022.377 (NAD-83)</p> <p>BOTTOM HOLE LOCATION Lat - N32°53'23.94" Long - W104°12'19.62" SPC- N.: 687533.846 E.: 580592.014 (NAD-83)</p>	<p>GRID N: 691330.583 GRID E: 585495.393 LATITUDE: 32°54'01.448" LONGITUDE: -104°11'22.054"</p> <p>GRID N: 685518.702 GRID E: 580455.280 LATITUDE: 32°53'34.624" LONGITUDE: -104°11'22.216"</p> <p>GRID N: 685508.381 GRID E: 585475.877 LATITUDE: 32°53'07.805" LONGITUDE: -104°11'22.388"</p>	<p>OPERATOR CERTIFICATION</p> <p>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.</p> <p><i>[Signature]</i> 11/13/25/10 Signature Date STEPHANIE A. YSASAGA Printed Name</p> <p>SURVEYOR CERTIFICATION</p> <p>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.</p> <p>NOVEMBER 25, 2008 Date <i>[Signature]</i> Signature Professional Surveyor 6841</p> <p>Certificate No. Gary L. Jones 7977</p> <p>BASIN SURVEYS</p>
--	---	---	---

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 1.9 MILES TO PROPOSED LEASE ROAD.

DEVON ENERGY PROD. CO., L.P.

REF: DICKENS "29" FEDERAL #2H / WELL PAD TOPO

THE DICKENS "29" FEDERAL #2H LOCATED 1900' FROM
THE SOUTH LINE AND 180' FROM THE EAST LINE OF
SECTION 29, TOWNSHIP 16 SOUTH, RANGE 28 EAST,
N.M.P.M., EDDY COUNTY, NEW MEXICO.

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

W.O. Number: 20841

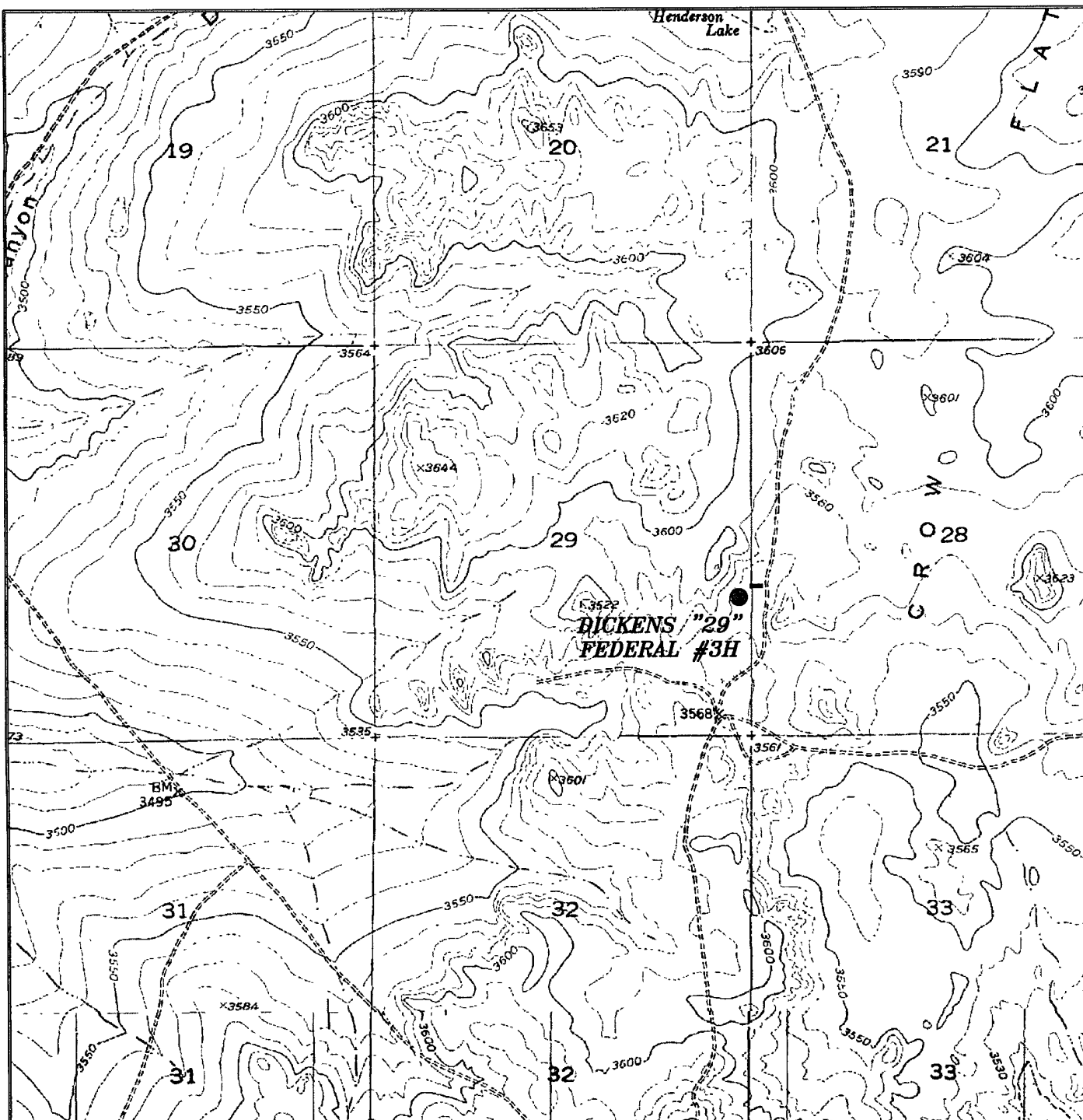
Drawn By: J. M. SMALL

Date: 12-01-2008

Disk: 20841 JMS

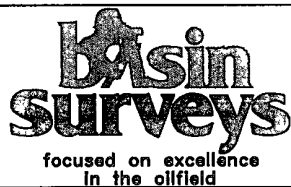
Survey Date: 11-25-2008

Sheet 1 of 1 Sheets



DICKENS "29" FEDERAL #2H

Located at 1900' FSL AND 180' FEL
 Section 29, Township 16 South, Range 28 East,
 N.M.P.M., Eddy County, New Mexico.



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

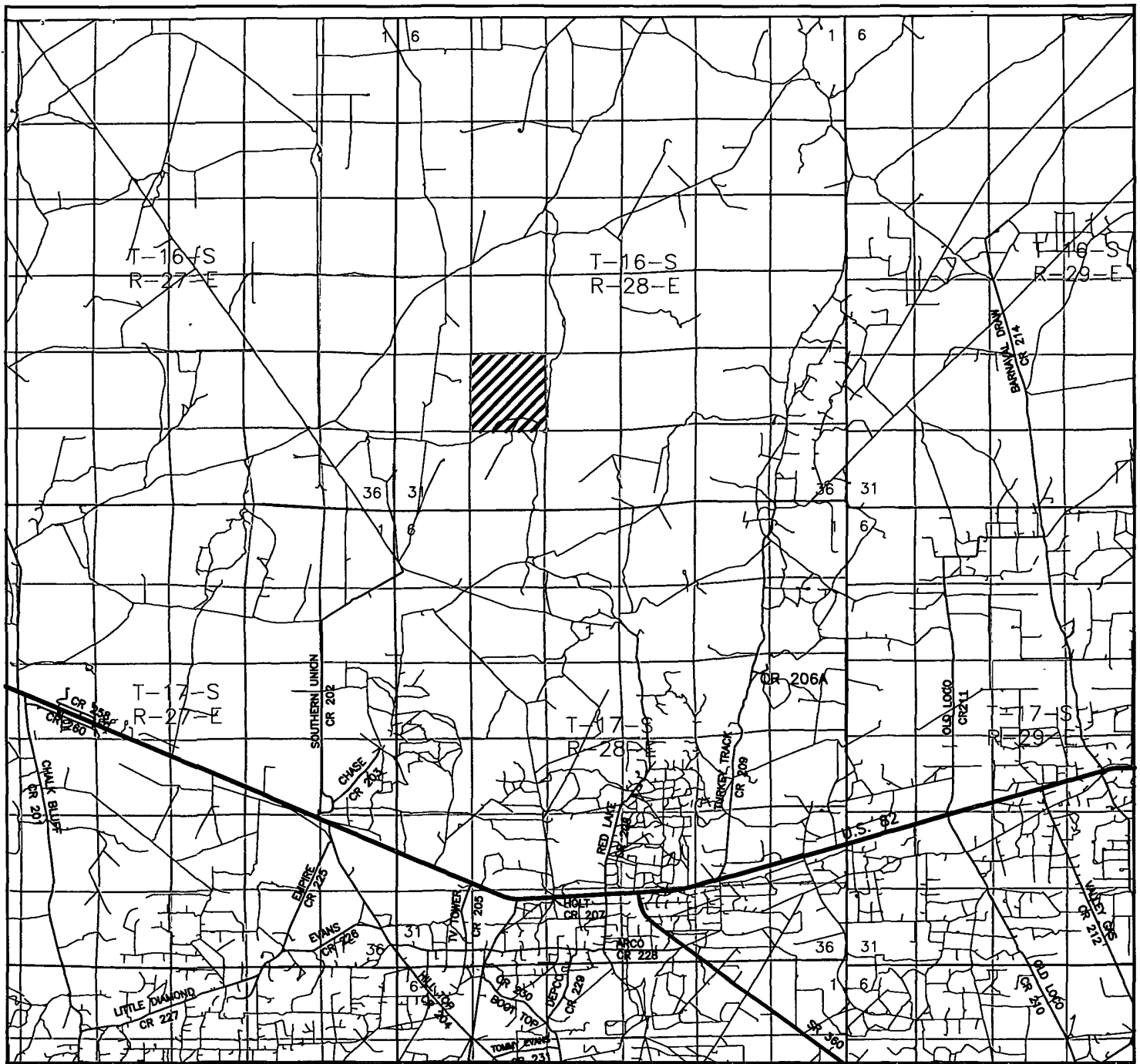
W.O. Number: JMS 20841

Survey Date: 11-25-2008

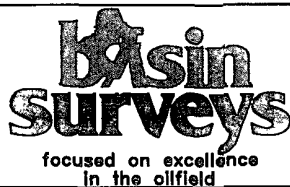
Scale: 1" = 2000'

Date: 12-01-2008

**DEVON ENERGY
 PROD. CO., L.P.**



DICKENS "29" FEDERAL #2H
 Located at 1900' FSL AND 180' FEL
 Section 29, Township 16 South, Range 28 East,
 N.M.P.M., Eddy County, New Mexico.



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W.O. Number: JMS 20841

Survey Date: 11-25-2008

Scale: 1" = 2000'

Date: 12-01-2008

**DEVON ENERGY
 PROD. CO., L.P.**

DRILLING PROGRAM

Devon Energy Production Company, LP

Dickens 29 Federal Com 2H

Surface Location: 1900' FSL & 180' FEL, Unit I, Sec 29 T16S R28E, Eddy, NM

Bottom hole Location: 1650' FSL & 330' FWL, Unit L, Sec 29 T16S R28E, 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. Queen	1018'	
b. San Andres	1818'	Oil
c. Glorieta	3264'	Oil
d. Abo	5474'	Oil
e. Wolfcamp Mrkr	6344'	Oil
f. Wolfcamp Pay	6519'	Oil
g. Total Depth	TVD 6550' MD 11073'	

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 5900' and circulating cement to surface. The Abo interval will be isolated by setting 5 1/2" casing to total depth 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 (API # 30-015-37193), which is an offset to the Mark Twain 5 Fed Com 2H.

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.

Not for Devon, individual operator

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

*approval
given for
this procedure.*

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

3. Casing Program:

<u>Hole Size</u>	<u>Hole Interval</u>	<u>OD Csg</u>	<u>Casing Interval</u>	<u>Weight</u>	<u>Collar</u>	<u>Grade</u>
<i>See COA</i> 17 1/2"	0'-450' 600'	13 3/8"	0'-450'	48#	STC	H-40
<i>See COA</i> 12 1/4"	450'-2600' 1930'	9 5/8"	0'-2600'	36#	LTC	K-55
8 3/4"	2600'-6900' PH					
	Curve & Lateral	5 1/2"	0'-5900'	17#	LTC	HCP110
8 3/4"	2600'-11073'	5 1/2"	5900-11073'	17#	BTC	HCP110

Design Parameter Factors:

<u>Casing Size</u>	<u>Collapse Design Factor</u>	<u>Burst Design Factor</u>	<u>Tension Design Factor</u>
13 3/8"	3.65	9.38	14.21
9 5/8"	1.49	2.60	5.22
5 1/2"	2.86	3.91	2.39

CEMENTING PROGRAM: This well will be drilled with a Pilot Hole to ~6900'. A cement plug will be pumped from 6900' to ~6100. The cement will be allowed to set/cure and directional tools will be run. The curve will be drilled and the lateral drilling will commence. An ECP with a Port Collar will be run in the 5 1/2" casing. The ECP with the Port Collar will be set at ~5900'.

Plug Geometry: 400 sx Class H cement, no additives. Yield: .9 cuft/sk

4. Cement Program:

- a. 13 3/8" Conductor

Cement with lead: 190 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 610 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: 1.97 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: 1.34 cf/sack. TOC @ surface.

c. 5 1/2" Production

ECP @ 5900'

Cement though Port Collar: 1215 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.

See COA
Drilling Rig cannot
be moved.

The above cement volumes could be revised pending the caliper measurement from the open hole logs
All casing is new and API approved.

5. Pressure Control Equipment:

BOP DESIGN: Will consist of a (5M system) double ram type (5000 psi WP) preventor and a bag-type (Hydril) preventor (5000 psi WP) and rotation head. Both units will be hydraulically operated and the ram type preventor will be equipped with blind rams on top and 4 1/2" drill pipe rams on bottom. A 3M annular BOP will be installed on the 13 3/8" surface casing and utilized continuously until the total depth of the ^{intermediate} ~~surface~~ hole is reached. The 5M BOP previously mentioned will be installed on the 9 5/8" casing. All BOP's and associated equipment will be tested to 1200 psi with independent testers before drilling out the 13 3/8" casing shoe (70% of 48#, H-40 casing). Prior to drilling out the 9 5/8" casing shoe, the BOP's and Hydril will be tested as per BLM Drilling Operations Order #2. All BOPs will be tested with independent testers.

Pipe rams will be operated and checked each 24-hour period and each time the drill pipe is out of the hole. These functional tests will be documented on the daily driller's log. A 2" kill line and 3" choke line will be incorporated in the drilling spool below the ram-type BOP. Other accessory BOP equipment will include a Kelly cock, floor safety valve, choke lines and choke manifold having 5000 psi WP rating.

6. Proposed Mud Circulation System

<u>Depth</u>	<u>Mud Wt.</u>	<u>Visc</u>	<u>Fluid Loss</u>	<u>Type System</u>
0' - 450'	8.4-9.0	32-34	NC	FW/Gel
<i>See</i> <i>COA</i> 450' - 2600'	9.7-10.0	28-30	NC	Brine
2600' - 11073'	8.3-9.0	28-40	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 Kelly cock will be in the drill string at all times.
- A full opening drill pipe stabbing valve having the appropriate connections will be on the rig floor at all times.
- 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*

- Drill stem tests will be based on geological sample shows.
- 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.
- 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 2850 psi and Estimated BHT 125°. 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

Eddy Co., New Mexico (Nad 83)

Dickens 29 Fed #2H

Dickens 29 Fed #2H

Lateral #1

Plan: Design #2

Standard Survey Report

06 April, 2010





CUDD Drilling & Measurement Services
Survey Report



Company:	Devon Energy	Local Co-ordinate Reference:	Site Dickens 29 Fed #2H
Project:	Eddy Co., New Mexico (Nad 83)	TVD Reference:	WELL @ 3588.00ft (Original Well Elev)
Site:	Dickens 29 Fed #2H	MD Reference:	WELL @ 3588.00ft (Original Well Elev)
Well:	Dickens 29 Fed #2H	North Reference:	Grid
Wellbore:	Lateral #1	Survey Calculation Method:	Minimum Curvature
Design:	Design #2	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 #2H, Sec 29, T-16S, R-28E				
Site Position.		Northing.	687,808 42 ft	Latitude.	32° 53' 26 599 N
From.	Map	Easting:	585,303.00 ft	Longitude:	104° 11' 24 366 W
Position Uncertainty:	0 00 ft	Slot Radius.	"	Grid Convergence:	0 08 °

Well	Dickens 29 Fed #2H					
Well Position	+N/-S	0 00 ft	Northing:	687,808.42 ft	Latitude:	32° 53' 26 599 N
	+E/-W	0 00 ft	Easting:	585,303 00 ft	Longitude:	104° 11' 24 366 W
Position Uncertainty		0 00 ft	Wellhead Elevation:	3,588 00 ft	Ground Level:	3,569 00 ft

Wellbore	Lateral #1				
Magnetics:	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	04/06/10	8 05	60 74	49,098

Design	Design #2			
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	266 66

Survey Tool Program	Date	04/06/10		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0 00	6,000 00	Design #2 (Lateral #1)	NS-GYRO-MS	North sensing gyrocompassing m/s
6,000 00	11,073 38	Design #2 (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
1,018 00	0 00	0 00	1,018 00	0 00	0 00	0 00	0 00	0 00	0 00
Queen									
1,818.00	0 00	0 00	1,818 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									
3,264 00	0 00	0 00	3,264 00	0 00	0 00	0 00	0 00	0 00	0 00
Glorieta									
5,474 00	0 00	0 00	5,474 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 #2H
Project:	Eddy Co., New Mexico (Nad 83)	TVD Reference:	WELL @ 3588.00ft (Original Well Elev)
Site:	Dickens 29 Fed #2H	MD Reference:	WELL @ 3588 00ft (Original Well Elev)
Well:	Dickens 29 Fed #2H	North Reference:	Grnd
Wellbore:	Lateral #1	Survey Calculation Method:	Minimum Curvature
Design:	Design #2	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'									
6,361 76	33 47	266 66	6,343 04	-5 53	-94 87	95 03	10 00	10 00	0 00
Wolfcamp Marker									
6,613 31	58 62	266 66	6,516 24	-15 98	-274 21	274 67	10 00	10 00	0 00
Wolfcamp Pay									
6,934 05	90 69	266 66	6,600 00	-33 75	-578 98	579 96	10 00	10 00	0 00
EOC - Hold 1:90.69° @ A:266.66°									
11,073 38	90 69	266 66	6,550 00	-274 57	-4,711 00	4,718 99	0 00	0 00	0 00
PBHL - TD(D29F#2H)									

Design Targets									
Target Name	hit/miss/target	Dip/Angle (°)	Dip/Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude
PBHL - TD(D29F#2H)	- plan hits target center	0 00	0 00	6,550.00	-274 57	-4,711 00	687,533 85	580,592 01	32° 53' 23 942 N
	- Point								104° 12' 19 621 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	

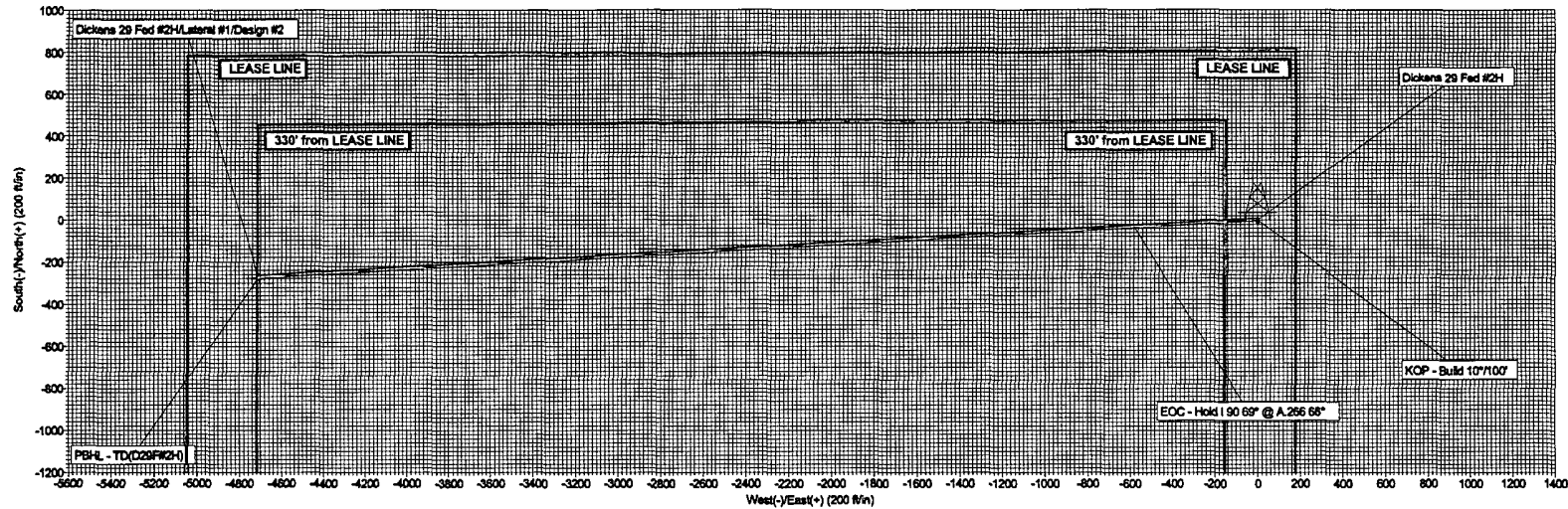
Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,018 00	1,018 00	Queen		0 69	120 00
1,818 00	1,818 00	San Andres		0 69	120 00
3,264 00	3,264 00	Glorieta		0 69	120 00
5,474 00	5,474 00	Abo		0 69	120 00
6,361 76	6,344 00	Wolfcamp Marker		0 69	120 00
6,613.31	6,519 00	Wolfcamp Pay		0 69	120 00

Plan/Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		
		+N/-S (ft)	+E/-W (ft)	Comment
6,027 00	6,027 00	0 00	0 00	KOP - Build 10°/100'
6,934 05	6,600 00	-33 74	-578 98	EOC - Hold 1 90 69° @ A 266 66°

Checked By: _____	Approved By: _____	Date: _____
-------------------	--------------------	-------------



Project: Eddy Co., New Mexico (Nad 83)
Site: Dickens 29 Fed #2H
Well: Dickens 29 Fed #2H
Wellbore: Lateral #1
Design: Design #2



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

Name	TVD	+N-S	+E-W	Northing	Easting	Latitude	Longitude	Shape
PBHL - TD(D29F#2H)	6550.00	-274.57	-4711.00	687533.85	580592.01	32° 53' 23.942 N	104° 12' 19.621 W	Point

SECTION DETAILS

Sec	MD	Inc	Asl	TVD	+N-S	+E-W	DLag	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	6034.05	90.69	266.66	6000.00	-33.75	-578.68	10.00	266.66	579.96	
4	11073.38	90.69	266.66	6550.00	-274.57	-4711.00	0.00	0.00	4718.99	PBHL - TD(D29F#2H)

WELL DETAILS: Dickens 29 Fed #2H

Ground Level: 3559.00						
WELL @ 3588.00ft (Original Well Elev)						
+N-S	+E-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	687808.42	585303.00	32° 53' 26.590 N	104° 11' 24.366 W	

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

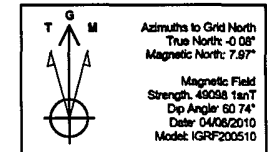
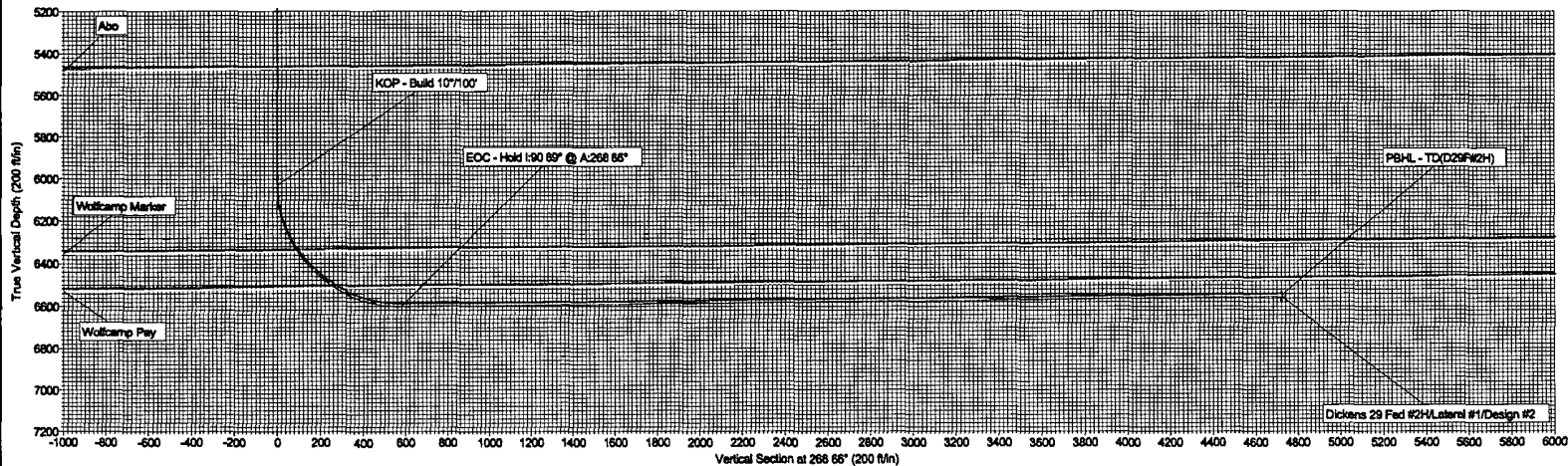
Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Eastern Zone
System Datum: Mean Sea Level

ANNOTATIONS

TVD	MD	Annotation
6027.00	6027.00	KOP - Build 10°/100'
6000.00	6034.05	EOC - Hold 190 69° @ A:266 66°

Plan: Design #2 (Dickens 29 Fed #2H/Lateral #1)

Created By: Mike Starkay Date: 10/27, April 08 2010
Checked: _____ Date: _____
Reviewed: _____ Date: _____
Approved: _____ Date: _____



Devon Energy
Dickens 29 Fed #2H - Design #1

Eddy Co., New Mexico (Nad 83)
Dickens 29 Fed #2H

Measured Dogleg Depth Rate (ft) (°/100ft)	Incl.	Azim.	Vertical Depth (ft)	Northings (ft)	Eastings (ft)	Vertical Section (ft)
0.00	0.00	0.00	0.00	0.00 N	0.00 E	0.00
0.00	6027.11	0.00	6027.11	0.00 N	0.00 E	0.00
0.00	6100.00	7.29	6099.80	0.24 S	4.62 W	4.63
10.00	6200.00	17.29	6197.39	1.35 S	25.85 W	25.89
10.00	6300.00	27.29	6289.80	3.34 S	63.68 W	63.77
10.00	6400.00	37.29	6374.23	6.13 S	116.96 W	117.12
10.00	6500.00	47.29	6448.11	9.65 S	184.07 W	184.32
10.00	6600.00	57.29	6509.20	13.78 S	262.97 W	263.33
10.00	6700.00	67.29	6555.64	18.41 S	351.26 W	351.75
10.00	6800.00	77.29	6586.03	23.39 S	446.27 W	446.89
10.00	6900.00	87.29	6599.43	28.57 S	545.11 W	545.86
10.00	6933.94	90.68	6600.03	30.35 S	578.99 W	579.79
10.00	7000.00	90.68	6599.24	33.80 S	644.96 W	645.84
0.00	7100.00	90.68	6598.05	39.04 S	744.81 W	745.83
0.00	7200.00	90.68	6596.86	44.27 S	844.67 W	845.83
0.00	7300.00	90.68	6595.67	49.50 S	944.52 W	945.82
0.00	7400.00	90.68	6594.47	54.74 S	1044.38 W	1045.81
0.00	7500.00	90.68	6593.28	59.97 S	1144.23 W	1145.80
0.00	7600.00	90.68	6592.09	65.20 S	1244.09 W	1245.80
0.00	7700.00	90.68	6590.90	70.44 S	1343.95 W	1345.79
0.00	7800.00	90.68	6589.71	75.67 S	1443.80 W	1445.78
0.00	7900.00	90.68	6588.51	80.90 S	1543.66 W	1545.78
0.00	8000.00	90.68	6587.32	86.14 S	1643.51 W	1645.77
0.00	8100.00	90.68	6586.13	91.37 S	1743.37 W	1745.76
0.00	8200.00	90.68	6584.94	96.61 S	1843.23 W	1845.76
0.00						

		Dickens 29	Fed #2H_Plan	#1_Report_03-09-10.txt		
8300.00	90.68	267.00	6583.75	101.84 S	1943.08 W	1945.75
0.00						
8400.00	90.68	267.00	6582.55	107.07 S	2042.94 W	2045.74
0.00						
8500.00	90.68	267.00	6581.36	112.31 S	2142.79 W	2145.73
0.00						
8600.00	90.68	267.00	6580.17	117.54 S	2242.65 W	2245.73
0.00						
8700.00	90.68	267.00	6578.98	122.77 S	2342.50 W	2345.72
0.00						
8800.00	90.68	267.00	6577.79	128.01 S	2442.36 W	2445.71
0.00						
8900.00	90.68	267.00	6576.59	133.24 S	2542.22 W	2545.71
0.00						
9000.00	90.68	267.00	6575.40	138.47 S	2642.07 W	2645.70
0.00						
9100.00	90.68	267.00	6574.21	143.71 S	2741.93 W	2745.69
0.00						
9200.00	90.68	267.00	6573.02	148.94 S	2841.78 W	2845.68
0.00						
9300.00	90.68	267.00	6571.83	154.17 S	2941.64 W	2945.68
0.00						
9400.00	90.68	267.00	6570.63	159.41 S	3041.50 W	3045.67
0.00						
9500.00	90.68	267.00	6569.44	164.64 S	3141.35 W	3145.66
0.00						
9600.00	90.68	267.00	6568.25	169.87 S	3241.21 W	3245.66
0.00						
9700.00	90.68	267.00	6567.06	175.11 S	3341.06 W	3345.65
0.00						
9800.00	90.68	267.00	6565.87	180.34 S	3440.92 W	3445.64
0.00						
9900.00	90.68	267.00	6564.67	185.58 S	3540.77 W	3545.63
0.00						
10000.00	90.68	267.00	6563.48	190.81 S	3640.63 W	3645.63
0.00						
10100.00	90.68	267.00	6562.29	196.04 S	3740.49 W	3745.62
0.00						
10200.00	90.68	267.00	6561.10	201.28 S	3840.34 W	3845.61
0.00						
10300.00	90.68	267.00	6559.91	206.51 S	3940.20 W	3945.61
0.00						
10400.00	90.68	267.00	6558.71	211.74 S	4040.05 W	4045.60
0.00						
10500.00	90.68	267.00	6557.52	216.98 S	4139.91 W	4145.59
0.00						
10600.00	90.68	267.00	6556.33	222.21 S	4239.77 W	4245.58
0.00						
10700.00	90.68	267.00	6555.14	227.44 S	4339.62 W	4345.58
0.00						
10800.00	90.68	267.00	6553.95	232.68 S	4439.48 W	4445.57
0.00						
10900.00	90.68	267.00	6552.75	237.91 S	4539.33 W	4545.56
0.00						
11000.00	90.68	267.00	6551.56	243.14 S	4639.19 W	4645.56
0.00						
11100.00	90.68	267.00	6550.37	248.38 S	4739.04 W	4745.55
0.00						
11131.00	90.68	267.00	6550.00	250.00 S	4770.00 W	4776.55
0.00						

All data are in feet unless otherwise stated. Directions and coordinates are
Page 2

Dickens 29 Fed #2H_Plan #1_Report_03-09-10.txt

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 267.000° (Grid).

Coordinate System is North American Datum 1983 US State Plane 1983, New Mexico Eastern Zone.

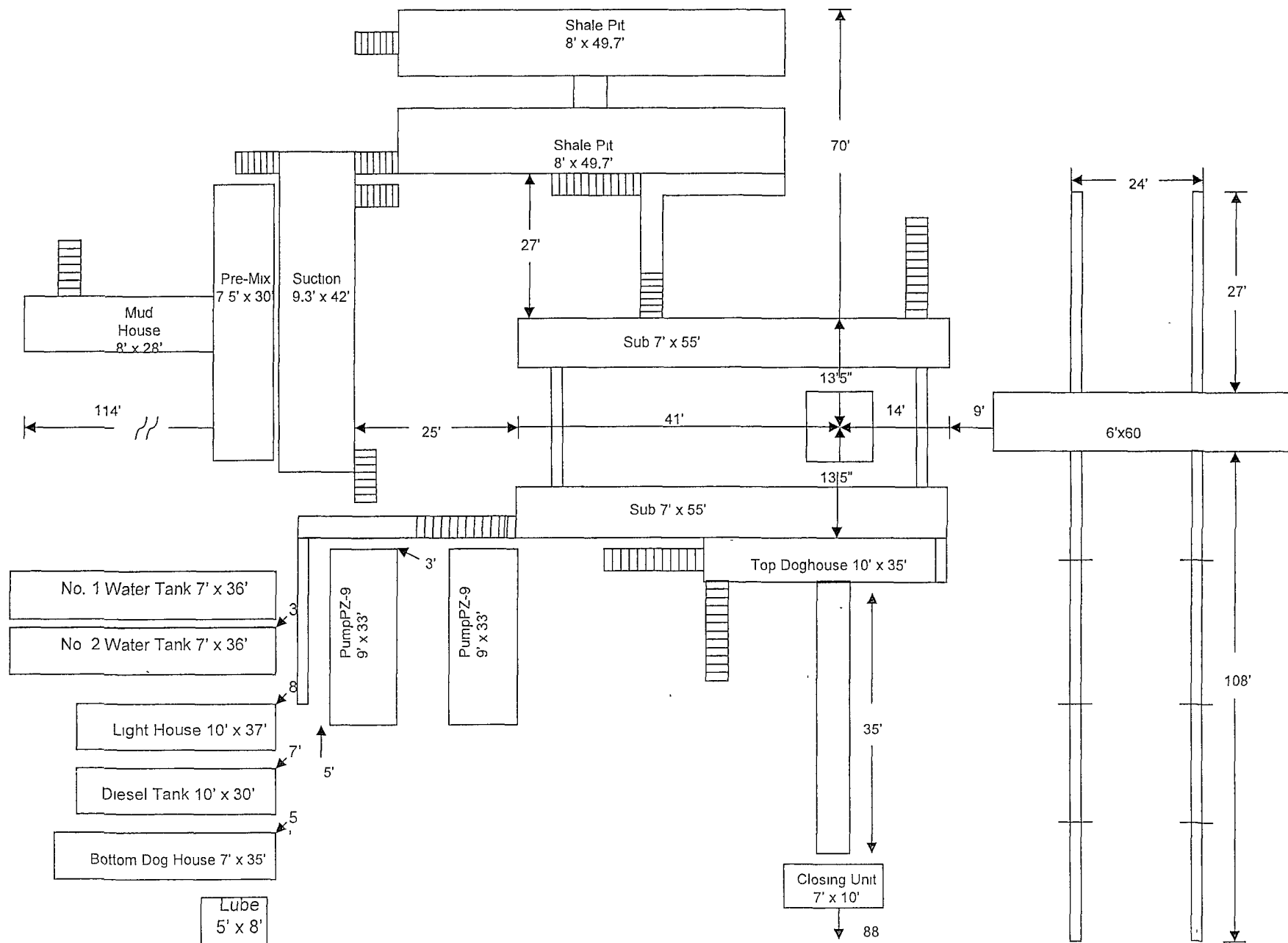
Central meridian is -104.333°.

Grid Convergence at Surface is 0.077°.

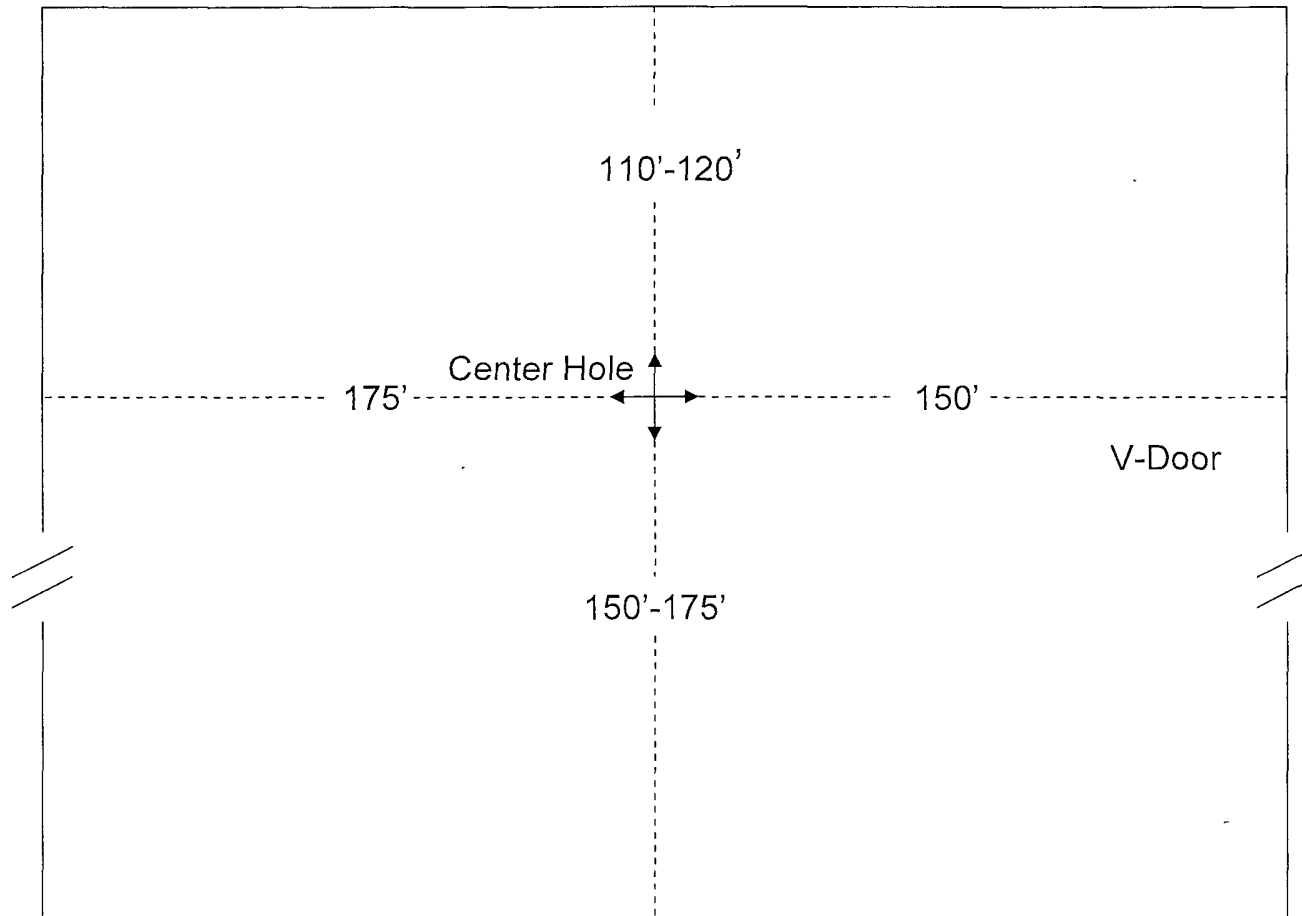
Based upon Minimum Curvature type calculations, at a Measured Depth of 11131.00ft., the Bottom Hole Displacement is 4776.55ft., in the Direction of 267.000° (Grid).

Pad Dimensions: 170' x 170'

McVay Drilling Rig No. 8



McVay Drilling Co.
Closed Loop Location Platt
Rig 8



Attachment to Exhibit #1
NOTES REGARDING BLOWOUT PREVENTERS
Devon Energy Production Company, LP

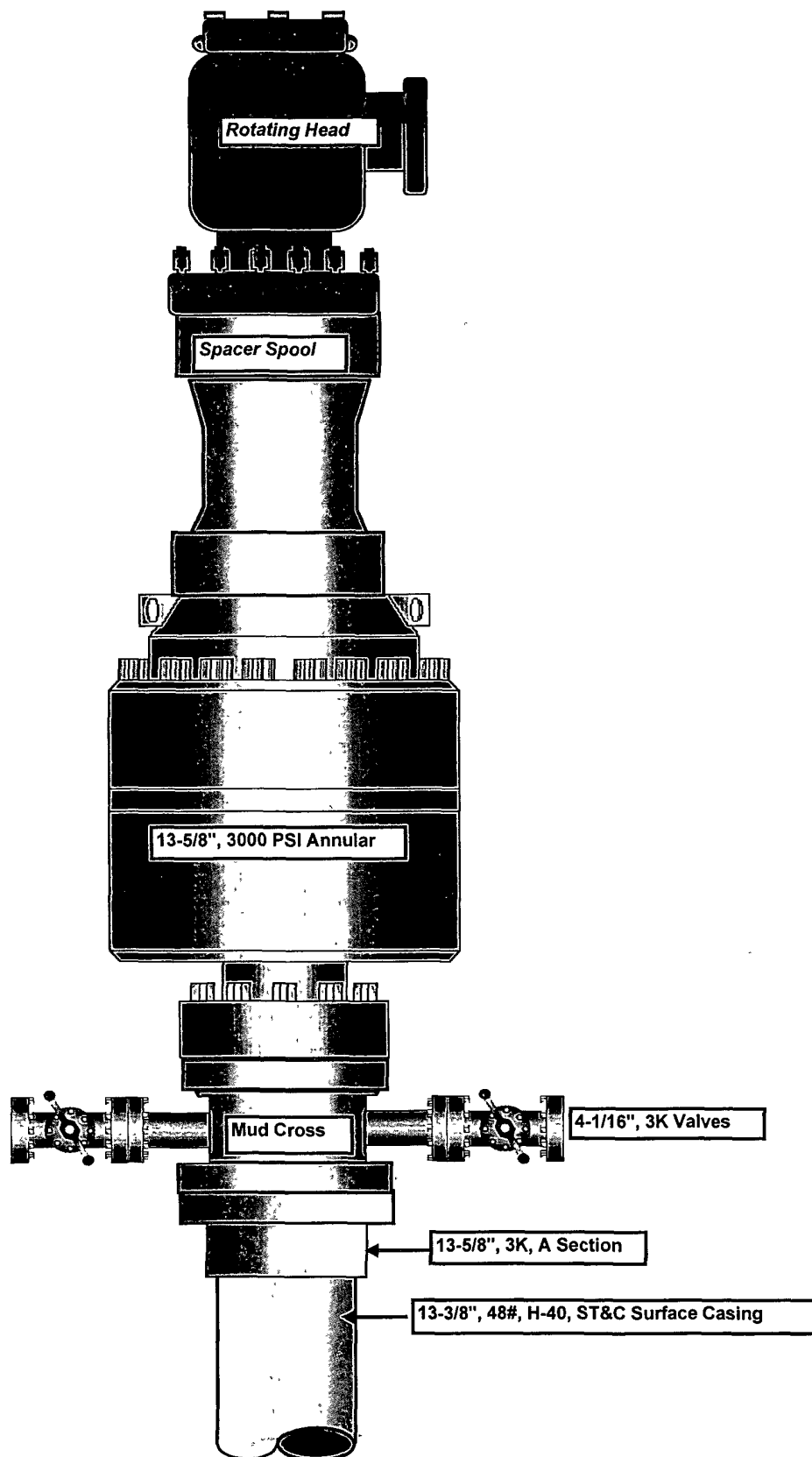
Dickens 29 Federal Com 2H

Surface Location: 1900' FSL & 180' FEL, Unit I, Sec 29 T16S R28E, Eddy, NM

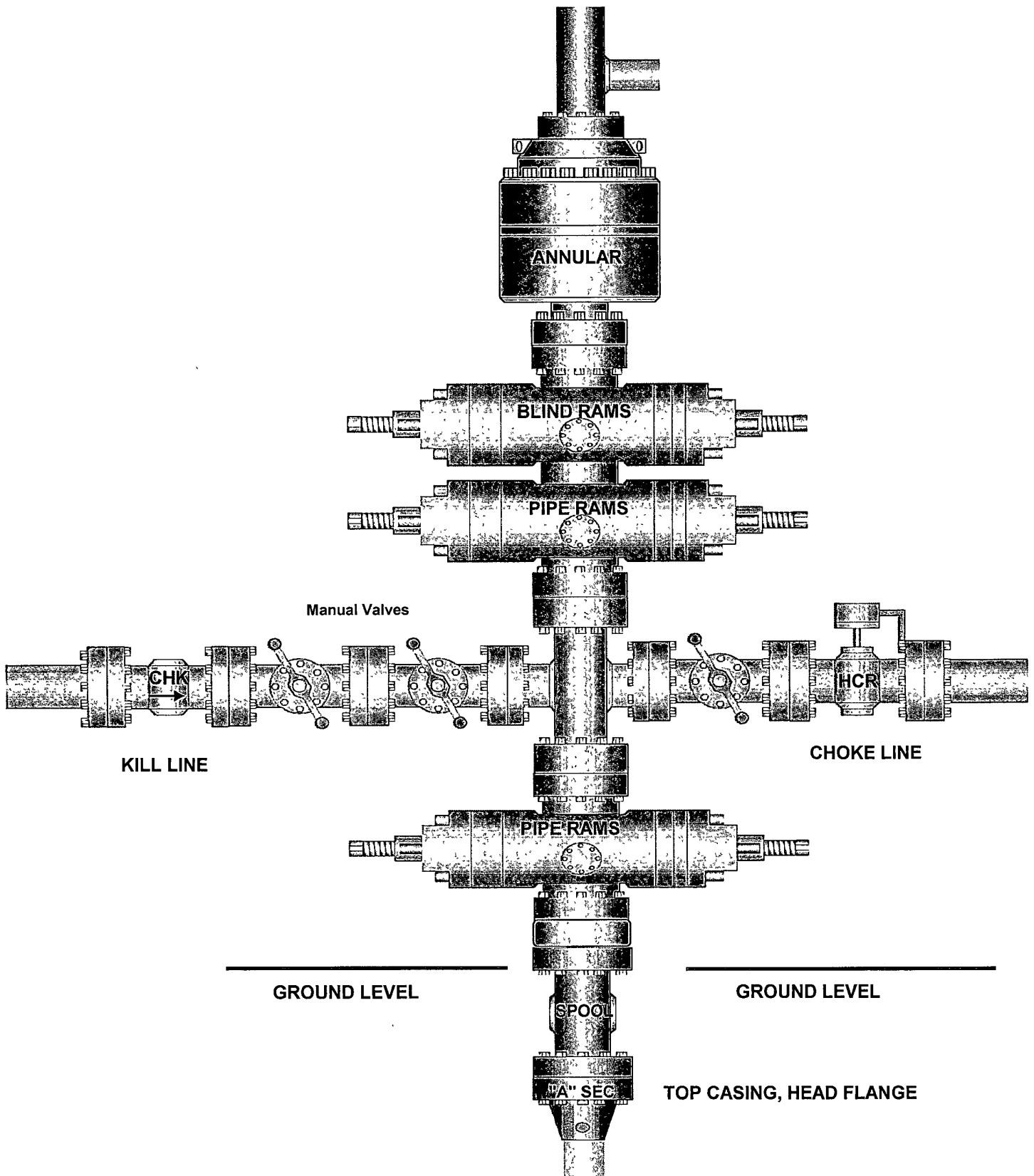
Bottom hole Location: 1650' FSL & 330' FWL, Unit L, Sec 29 T16S R28E, Eddy, NM

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.

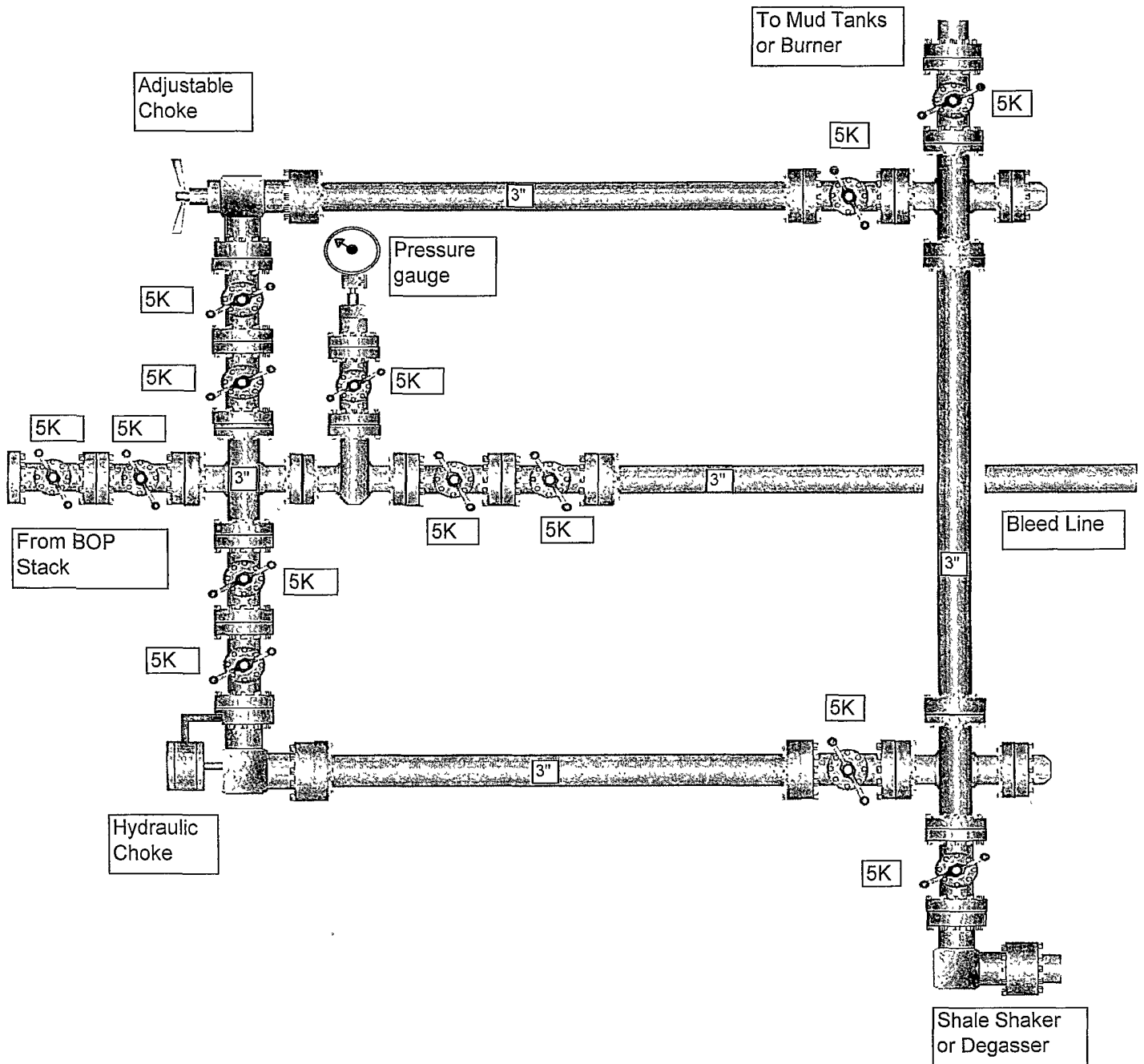
13-5/8" 3K Annular



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

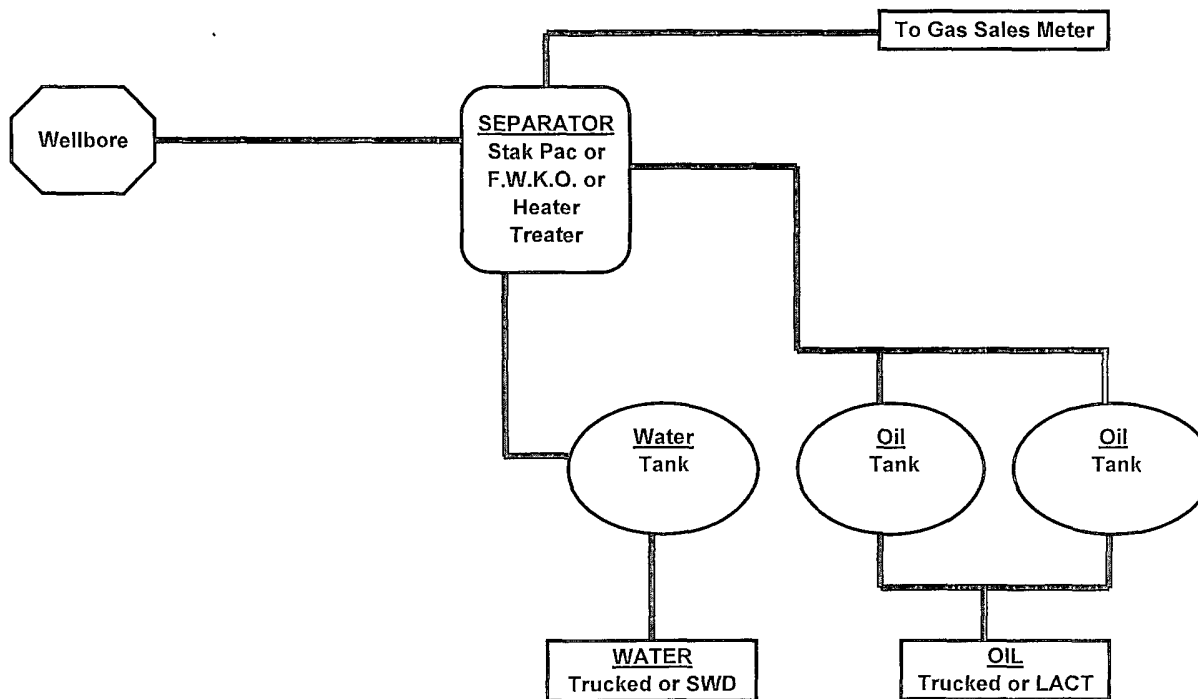


5,000 PSI CHOKE MANIFOLD



DEVON ENERGY PRODUCTION COMPANY LP

General Production Facilities Diagram





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

Hydrogen Sulfide (H₂S) Contingency Plan

For

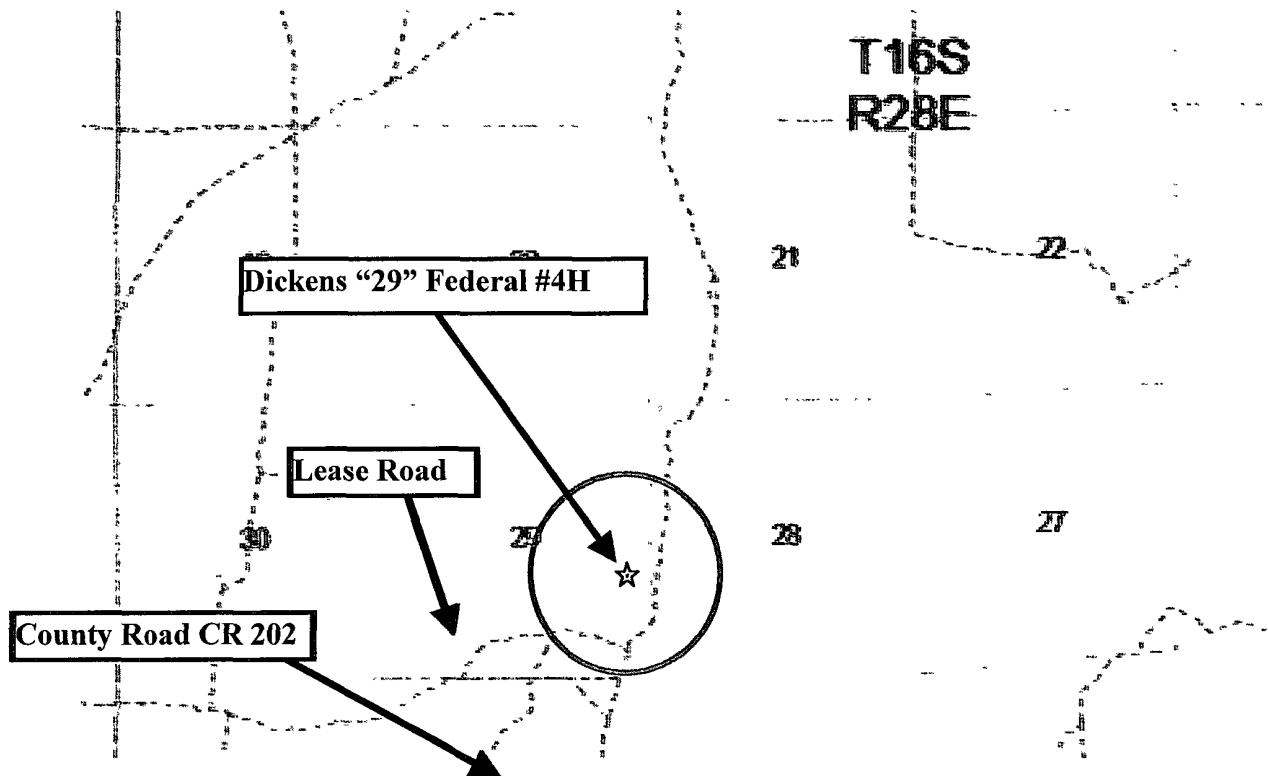
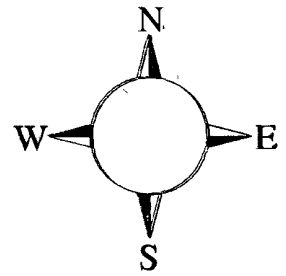
Dickens "29" Federal # 2H

**1900' FNL & 180' FEL,
Sec-29, T-16S R-28E**

Eddy County NM

Dickens "29" Federal # 2H

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



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 H₂S concentration shall trigger activation of this plan.

Emergency Procedures

In the event of a release of gas containing H₂S, the first responder(s) must

- Isolate the area and prevent entry by other persons into the 100 ppm ROE.
- Evacuate any public places encompassed by the 100 ppm ROE.
- Be equipped with H₂S monitors and air packs in order to control the release.
- Use the "buddy system" to ensure no injuries occur during the response
- Take precautions to avoid personal injury during this operation.
- Contact operator and/or local officials to aid in operation. See list of phone numbers attached.
- Have received training in the
 - Detection of H₂S, and
 - Measures for protection against the gas,
 - Equipment used for protection and emergency response.

Ignition of Gas Source

Should control of the well be considered lost and ignition considered, take care to protect against exposure to Sulfur Dioxide (SO₂). Intentional ignition must be coordinated with the NMOCD and local officials. Additionally the NM State Police may become involved. NM State Police shall be the Incident Command on scene of any major release. Take care to protect downwind whenever there is an ignition of the gas

Characteristics of H₂S and SO₂

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

Contacting Authorities

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

Devon Energy Corp. Company Call List

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

Agency Call List

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

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

Emergency Services

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

Prepared in conjunction with
Wade Rohloff of;



SURFACE USE PLAN

Devon Energy Production Company, LP

Dickens 29 Federal Com 2H

Surface Location: 1900' FSL & 180' FEL, Unit I, Sec 29 T16S R28E, Eddy, NM

Bottom hole Location: 1650' FSL & 330' FWL, Unit L, 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 1.9 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 181' 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

Don Mayberry
Superintendent

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

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

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

(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 06th day of May, 2010.

Printed Name: Stephanie A. Ysasaga

Signed Name: 

Position Title: Sr. Staff Engineering Technician

Address: 20 North Broadway, OKC OK 73102

Telephone: (405)-562-7802

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, LP
LEASE NO.:	NM54856
WELL NAME & NO.:	Dickens 29 Federal Com 2H
SURFACE HOLE FOOTAGE:	1900' FSL & 0180' FEL
BOTTOM HOLE FOOTAGE:	1650' FSL & 0330' FWL
LOCATION:	Section 29, T. 16 S., R 28 E., NMPM
COUNTY:	Eddy County, New Mexico

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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.

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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)

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

Operator shall separate top-soil from any other materials placed on location as a result of “flipping” surface materials to expose and/or extract caliche from underneath the well-pad location.

Use of sub-surface, on-site caliche requires a salable minerals contract prior to the start of construction.

Cultural Resources:

Historic properties in the vicinity of this project are protected by federal law. In order to ensure that they are not damaged or destroyed by construction activities, the project proponent and construction supervisors shall ensure that the following stipulations are implemented.

Date of Issue: 05/20/2010

BLM Report No.: 10-0200

Project Name: Dickens 29 Fed 2H and Fed 4H locs and accesses

1. Professional archaeological monitoring. Contact your project archaeologist, or BLM’s Cultural Resources Section at (575) 234-2228, 5917, 2236, or 5967, for assistance.

These stipulations must be given to your monitor at least 5 days prior to the start of construction.

No construction, including vegetation removal or other site prep may begin prior to the arrival of the monitor.

2. The archaeological monitor shall:

Observe all ground-disturbing activities within 100 feet of cultural site no. LA:164815

Ensure that all reroutes are adhered to avoid cultural site no.(s) LA

Other:

Site Protection and Employee Education: It is the responsibility of the project proponent and his construction supervisor to inform all employees and subcontractors that cultural and archaeological sites are to be avoided by all

personnel, vehicles, and equipment; and that it is illegal to collect, damage, or disturb cultural resources on Public Lands.

For assistance, contact BLM Cultural Resources:

Bruce Boeke (575) 234-5917 Martin Stein (575) 234-5967
George MacDonell (575) 234-2228 Lynn Robinson (575) 234-2236
Jeremy Iliff (575) 234-6231

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, siting valves 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 valves, 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: Not stipulated
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 the Carlsbad 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

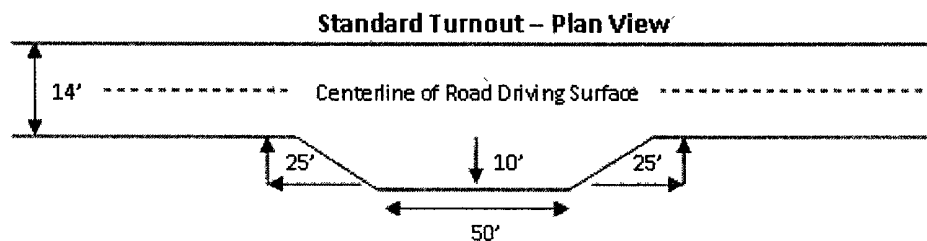
Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

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:

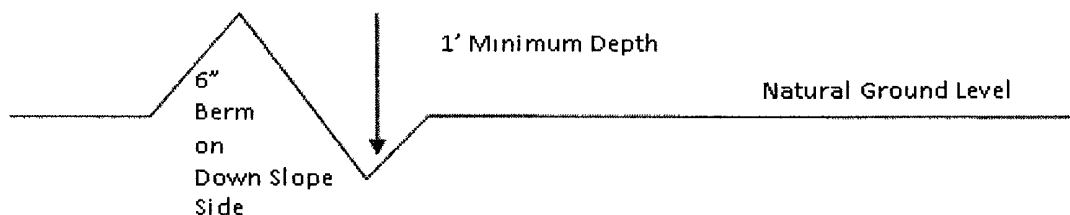


Drainage

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:

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

Culvert Installations

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

Cattleguards

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

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

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

Fence Requirement

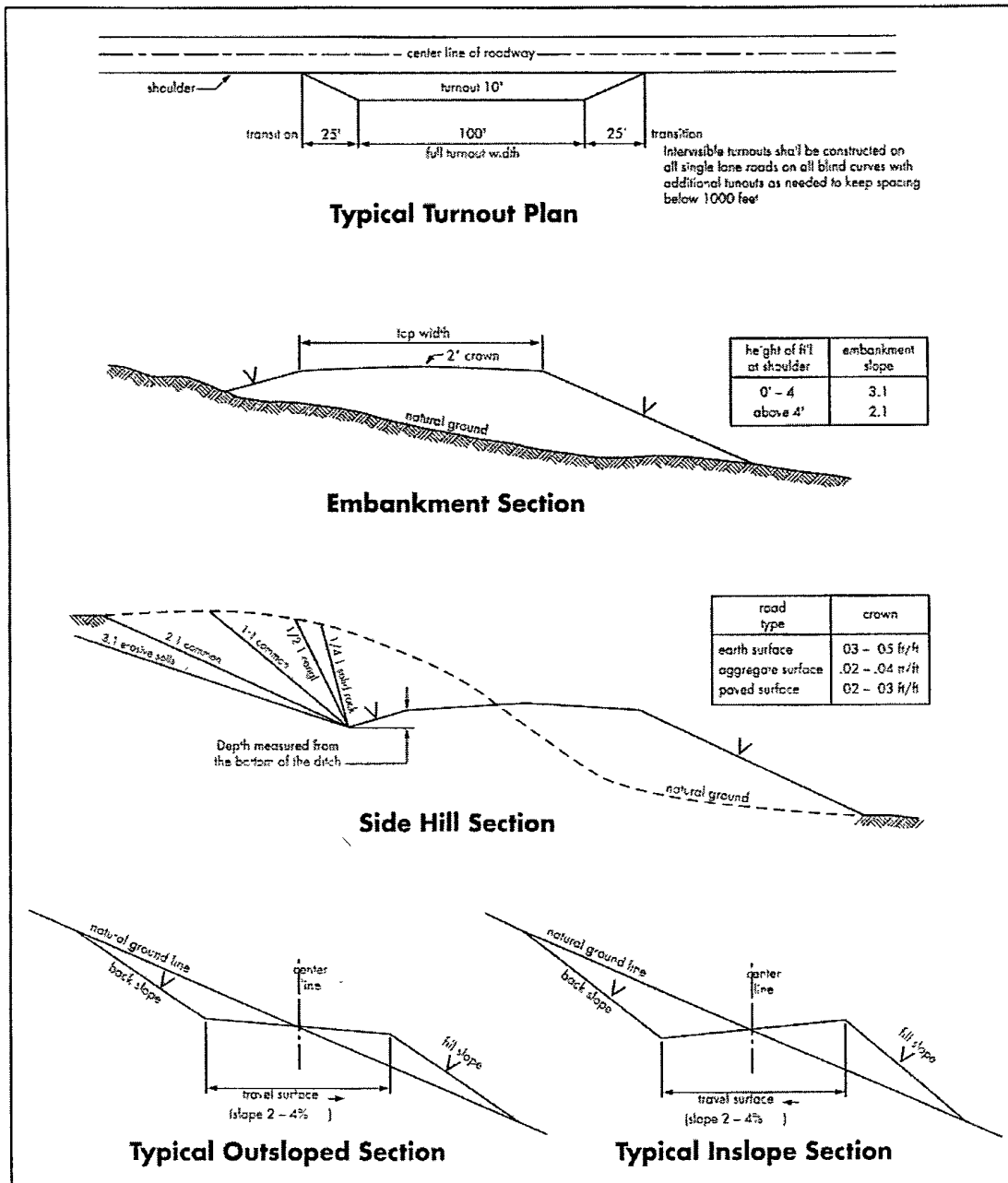
Where entry is required across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting.

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

Public Access

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

Figure 1 – Cross Sections and Plans For Typical Road Sections



VII. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

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

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

☒ **Eddy County**

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

1. **Although there are no measured amounts of Hydrogen Sulfide reported, it is always a potential hazard. If Hydrogen Sulfide is encountered, please provide measured values and formations to the BLM.**
2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval. **If the drilling rig is removed without approval – 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 CAL/GR/N well log run from TD to surface will be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies.**

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

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

High cave/karst

Possible lost circulation in the Grayburg and San Andres Formations.

Possible high pressure gas bursts in the Wolfcamp (pilot hole).

1. The 13-3/8 inch surface casing shall be set at **approximately 600 feet in the Seven Rivers formation** and cemented to the surface. **Fresh water mud is to be used to setting depth.**
 - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
 - b. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry.**
 - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
 - d. If cement falls back, remedial cementing will be done prior to drilling out that string.
2. The minimum required fill of cement behind the 9-5/8 inch intermediate casing is: **Set this casing at approximately 1930 feet, within the upper portion of the San Andres formation; ensure this casing is not set in the San Andres sand members.**
 - ☒ 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.

The Pilot hole plug method is approved with a note that the plug is to be tagged prior drilling the lateral. Report the tag depth on the subsequent report.

3. The minimum required fill of cement behind the 5-1/2 inch production casing is:
 - a. First stage below the ported collar, a packer system will be used and no cement is required.
 - b. Second stage above the external casing packer and port collar, 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 **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" 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. Casing cut-off and BOP installation will not be initiated until the cement has had a minimum of 8 hours setup time for a water basin. The casing shall remain stationary and under pressure for at least eight hours after the operator places the cement. In the potash area, the minimum time is 12 hours and the casing shall remain stationary and under pressure during this time period. Casing shall be under pressure if the operator uses some acceptable means of holding pressure or if the operator employs one or more float valves to hold the cement in place. Testing the BOP/BOPE against a plug can commence after meeting the above conditions plus the BOP installation time.
 - b. The tests shall be done by an independent service company utilizing a test plug.
 - 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.
 - f. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the **Wolfcamp** formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

D. DRILLING MUD (PILOT HOLE)

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the **Wolfcamp** formation, and shall be used until production casing is run and cemented.

E. DRILL STEM TEST

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

CRW 060810

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:

<u>Species</u>	<u>lb/acre</u>
Plains Bristlegrass (<i>Setaria magrostachya</i>)	1.0
Green Spangletop (<i>Leptochloa dubia</i>)	2.0
Side oats Grama (<i>Bouteloua curtipendula</i>)	5.0

*Pounds of pure live seed:

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