Flowline needs ROW permit.

ATS-09-1612 KM

OCD-ARTESIA 0987

RECEIVED
NOV - 9 2009
NMOCD ARTESIA

Form 3160-3
(April 2004)

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5 Lease Serial No	NMNM-54856
6. If Indian, Allotee or Tribe Name	
7 If Unit or CA Agreement, Name and No.	
8 Lease Name and Well No.	Dickens 29 Federal 1H
9. API Well No.	30 015 37385
10. Field and Pool, or Exploratory	Wolfcamp
11 Sec , T R. M. or Blk and Survey or Area	Sec 29, T16S R28E Unit P
12. County or Parish	Eddy County
13. State	NM

1a. Type of work: ☑ DRILL ☐ REENTER

1b. Type of Well: ☑ Oil Well ☐ Gas Well ☐ Other ☑ Single Zone ☐ Multiple Zone

2 Name of Operator: **Devon Energy Production Company, LP**

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

3b. Phone No. *(include area code)*: **405-552-8198**

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

At surface: **170 FSL & 790 FEL, Unit P**

At proposed prod zone: ~~330~~ 360 **FSL & 330 FWL, Unit M**

UNORTHODOX LOCATION

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)	170'	16. No. of acres in lease: 1,120 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: 524' BHL: 1660'	19. Proposed Depth: 10,475' MD 6,570' TVD	20 BLM/BIA Bond No. on file: CO-1104
21. Elevations (Show whether DF, KDB, RT, GL, etc.): 3578' GL		22 Approximate date work will start*: 01/01/2010	23. Estimated duration: 30 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)*: Norvella Adams	Date: 08/31/2009
Title: Sr. Staff Eng. Tech		
Approved by *(Signature)*: /s/ Don Peterson	Name *(Printed/Typed)*: /s/ Don Peterson	Date: NOV 05 2009
Title: FOR 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)

Well becomes orthodox at 7,000' MD

Roswell Controlled Water Basin

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

Approval Subject to General Requirements & 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
30-015-37385	17970	Wolfcamp Dog Canyon ✓

Property Code	Property Name	Well Number
37787	DICKENS "29" FEDERAL	1H

OGRID No.	Operator Name	Elevation
6137	DEVON ENERGY PRODUCTION COMPANY LP	3578'

Surface Location

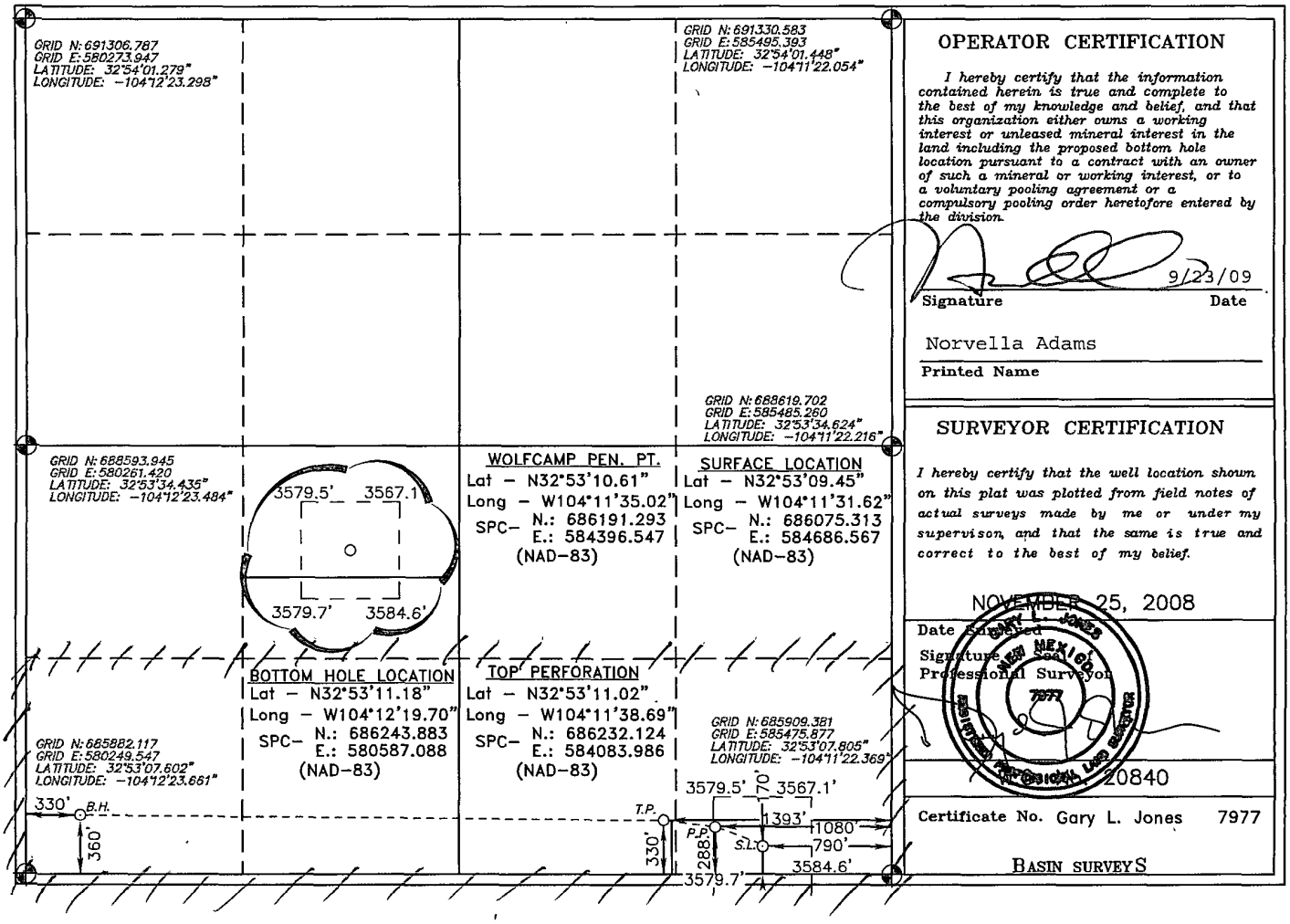
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	29	16 S	28 E		170	SOUTH	790	EAST	EDDY

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
M	29	16 S	28 E		360	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



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.

9/23/09
Signature Date

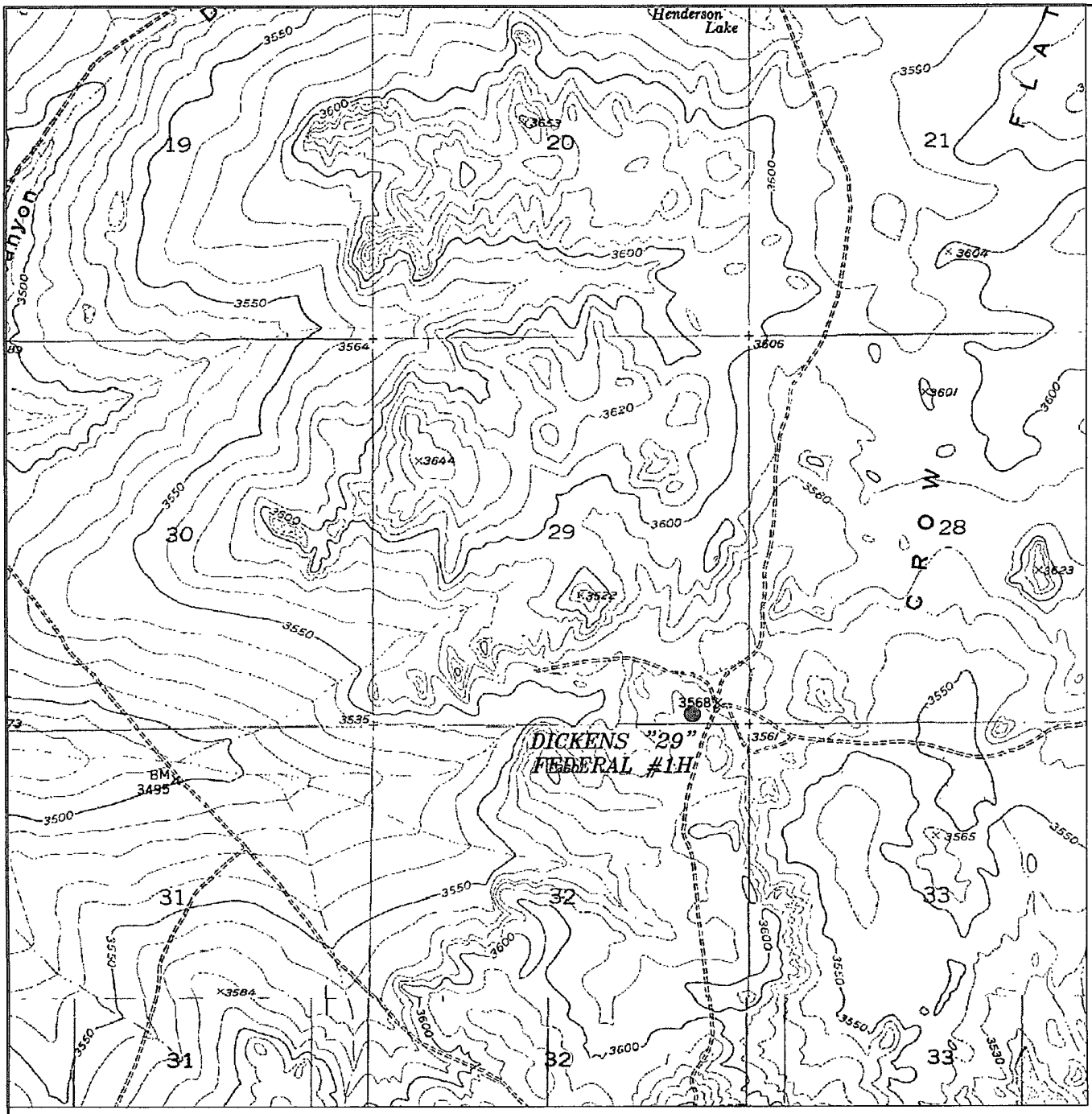
Norvella Adams
Printed Name

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 REGISTERED PROFESSIONAL LAND SURVEYOR
20840
Certificate No. Gary L. Jones 7977

BASIN SURVEYS

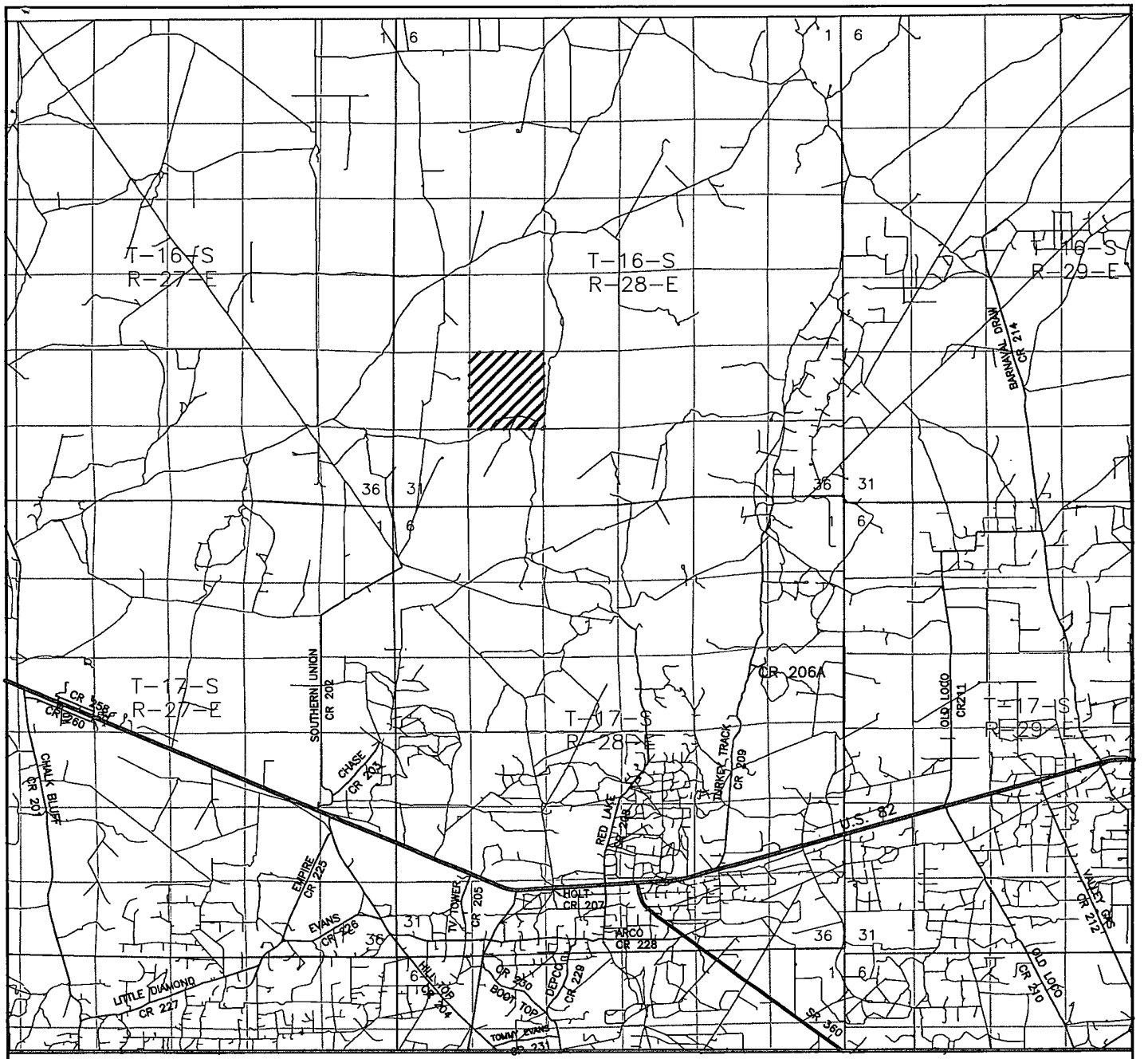


DICKENS "29" FEDERAL #1H
Located at 170' FSL AND 790' FEL
Section 29, Township 16 South, Range 28 East,
N.M.P.M., Eddy County, New Mexico.

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 20840
Survey Date:	11-25-2008
Scale:	1" = 2000'
Date:	12-01-2008

DEVON ENERGY PROD. CO., L.P.



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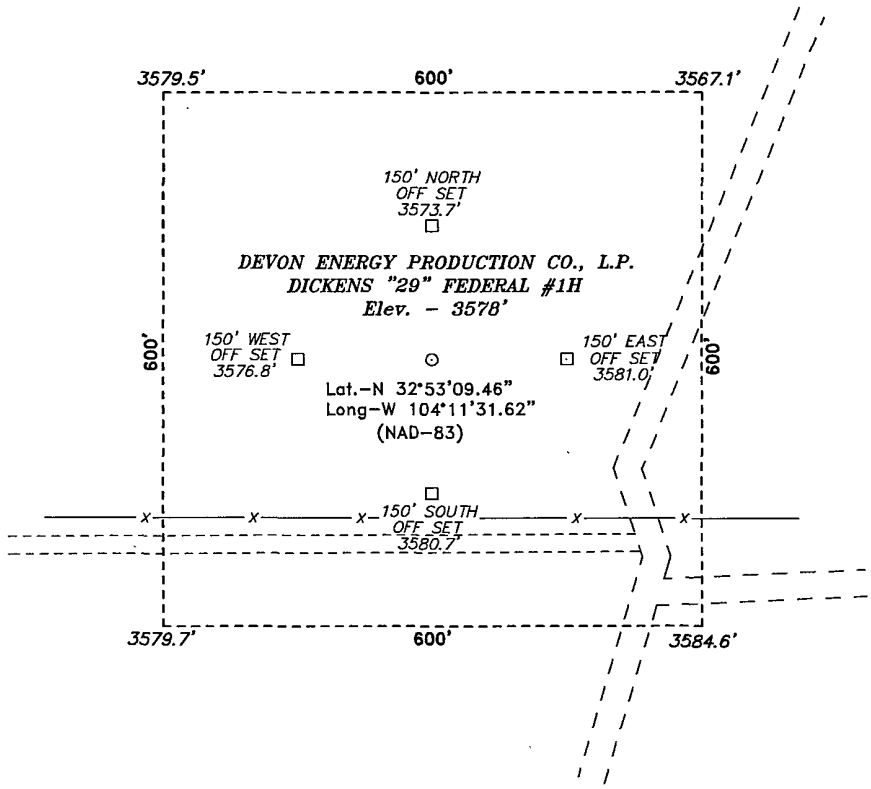
DEVON ENERGY PROD. CO., L.P.

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



200 0 200 400 FEET

SCALE: 1" = 200'

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.

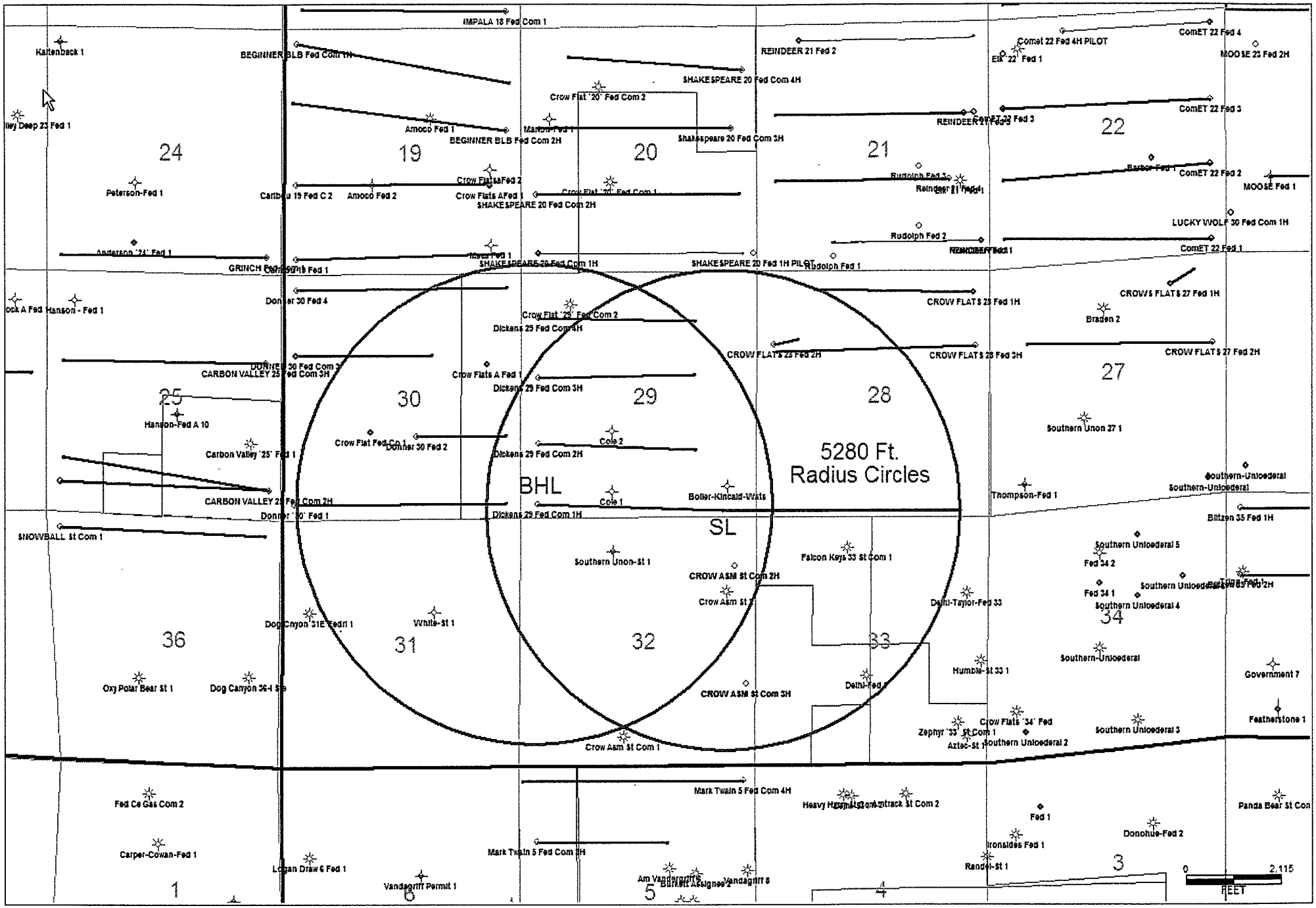
DEVON ENERGY PROD. CO., L.P.

REF: DICKENS "29" FEDERAL #1H / WELL PAD TOPO

THE DICKENS "29" FEDERAL #1H LOCATED 170' FROM THE SOUTH LINE AND 790' 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: 20840	Drawn By: J. M. SMALL		
Date: 12-01-2008	Disk: 20840 JMS	Survey Date: 11-25-2008	Sheet 1 of 1 Sheets


5280 Ft.
Radius Circles
BHL
SL
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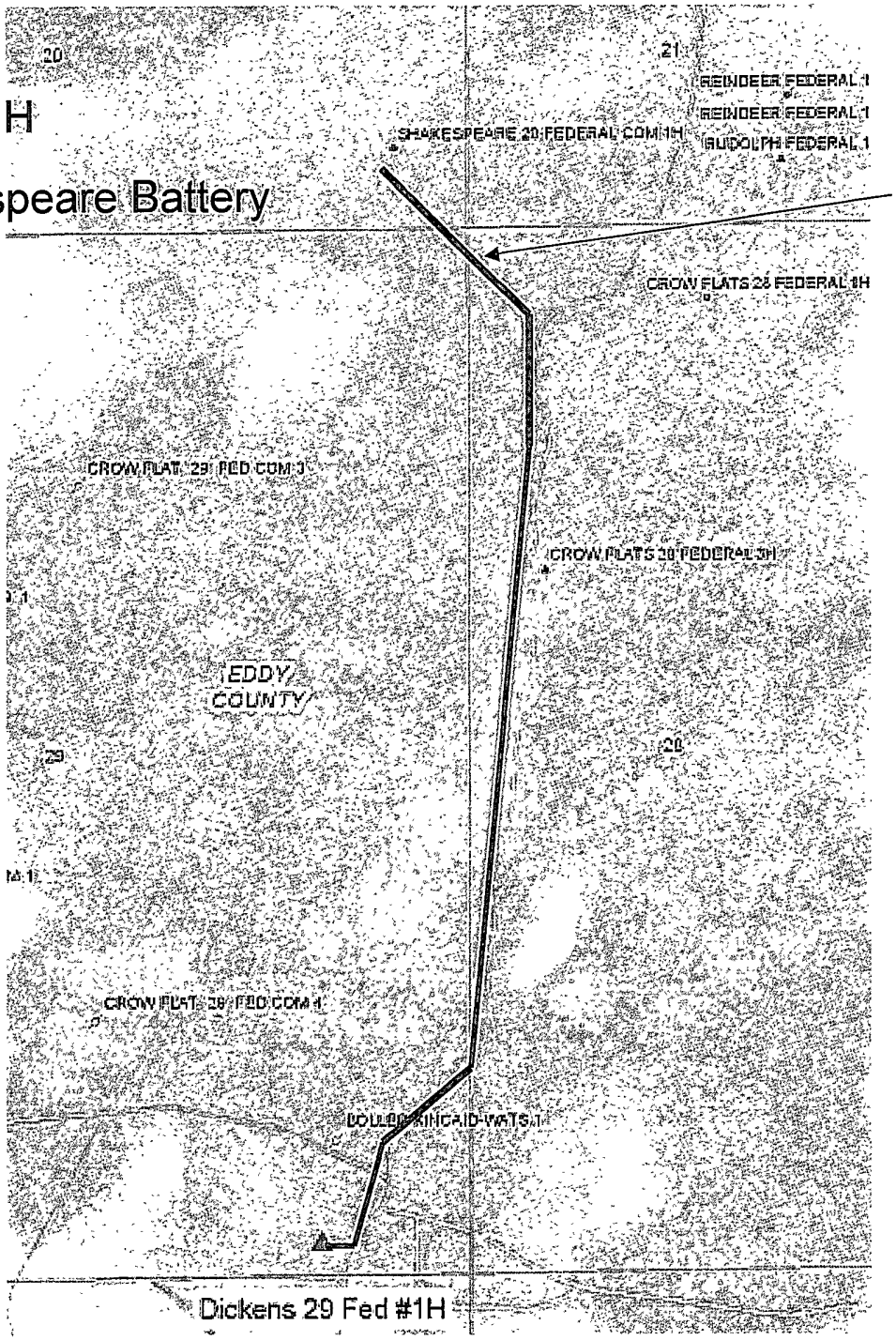
IMPALA 18 Fed Com 1
BEGINNER BLB Fed Com 1H
BEGINNER BLB Fed Com 2H
SHAKESPEARE 20 Fed Com 4H
SHAKESPEARE 20 Fed Com 3H
SHAKESPEARE 20 Fed Com 2H
SHAKESPEARE 20 Fed Com 1H
SHAKESPEARE 20 Fed 1H PILOT
REINDEER 21 Fed 2
REINDEER 21 Fed 3
REINDEER 21 Fed 1
Comet 22 Fed 4H PILOT
ComET 22 Fed 4
ComET 22 Fed 3
ComET 22 Fed 2
ComET 22 Fed 1
MOOSE 23 Fed 2H
MOOSE Fed 1
LUCKY WOLF 30 Fed Com 1H
CROW FLATS 23 Fed 1H
CROW FLATS 23 Fed 2H
CROW FLATS 23 Fed 3H
CROW FLATS 27 Fed 1H
CROW FLATS 27 Fed 2H
Braden 2
Dickens 29 Fed Com 4H
Dickens 29 Fed Com 3H
Dickens 29 Fed Com 2H
Dickens 29 Fed Com 1H
CARBON VALLEY 25 Fed Com 3H
CARBON VALLEY 25 Fed Com 2H
Donner 30 Fed 4
Donner 30 Fed 2
Donner 30 Fed 1
Cole 2
Cole 1
Boller-Kincaid-Wells 1
Crow Flats A Fed 1
Crow Flat Fed Com 1
Hanson-Fed A 10
Carbon Valley 25 Fed 1
Southern Union 27 1
Thompson-Fed 1
Southern-Unioederal
Bitzen 35 Fed 1H
SNOWBALL St Com 1
Southern Union-St 1
Falcon Keys 33 St Com 1
CROW ASM St Com 2H
CROW ASM St Com 3H
Crow Asm St 1
Crow Asm St Com 1
Delhi-Taylor-Fed 33
Delhi-Fed 1
Humble-St 33 1
Southern Unioederal 5
Fed 34 2
Fed 34 1
Southern Unioederal 4
Southern-Unioederal
Government 7
Featherstone 1
Southern Unioederal 3
Southern Unioederal 2
Crow Flats '34' Fed
Zephyr '33' St Com 1
Aztec-St 1
Oxy Polar Bear St 1
Dog Canyon 36-1 St
Dog Canyon 31E Fedri 1
White-St 1
Mark Twain 5 Fed Com 4H
Mark Twain 5 Fed Com 3H
Heavy Hammerstone Intrack St Com 2
Fed Ce Gas Com 2
Carper-Cowan-Fed 1
Logan Draw 6 Fed 1
Vandagriff Permit 1
Am Vandagriff 5
Vandagriff 5
Ironsides Fed 1
Randel-St 1
Donohue-Fed 2
Panda Bear St Con
Fed 1
0
2,115
FEET

Dickens 29 Fed #1H

Flowline to Shakespeare Battery

~6500'



Exisitng Shakespeare 20 FC #1H ROW.

DRILLING PROGRAM

Devon Energy Production Company, LP
Dickens 29 Federal 1H
Surface Location: 170' FSL & 790' FEL, Unit P, Sec 29 T16S R28E, Eddy, NM
Bottom Hole Location: ~~330' FSL~~ 360' FSL & 330' FWL, Unit M, Sec 29 T16S R28E, Eddy, NM

1. **Geologic Name of Surface Formation**

   a. Ochoa

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

a.	Queen	1090'	Oil and Gas
b.	San Andres	1866'	Oil and Gas
c.	Glorieta	3300'	Oil and Gas
d.	Abo	5345'	Oil and Gas
e.	Wolfcamp	6560'	Oil and Gas

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 300' and circulating cement back to surface. The 1st intermediate hole will be drilled to 1900' where a casing string will be set and cemented to surface. A pilot hole will be drilled from 1,900' to 6,770' TVD. The pilot hole will be plugged back to the horizontal KOP, ~6,047'. The lateral will be drilled from ~6,047' to ~10,475' MD with a TVD of ~6620'. A 2nd interemediate string will be set at the end of the curve with cement to 1,400'. The Wolfcamp intervals will be isolated by setting 4 ½" casing to total depth which will overlap 100' into the 7" casing but will not be cemented. A 7 stage open hole isolation tool (Peak) will be used. Note: the exact lateral depth and directional path will be based on results from the pilot hole.

3. **Casing Program:**

Hole Size	Hole Interval	OD Csg	Casing Interval	Weight	Collar	Grade
17 1/2"	0- ~~300'~~ 590'	13 3/8"	0'- 300'	48#	ST&C	H-40
12 1/4"	300-1900'	9 5/8"	0-1900'	36#	LT&C	J-55
8 3/4"	1900-6770'	7"	0-6720'	26#	BT&C	P-110
6 1/8"	6720-10,475'	4 1/2"	6620-10,475'	11.6#	BT&C	P-110

See COA

Design Parameter Factors:

Casing Size	Collapse Design Factor	Burst Design Factor	Tension Design Factor
13 3/8"	4.71	1.68	2.51
9 5/8"	2.44	2.09	2.86
7"	2.06	3.16	2.60
4 ½"	1.42	2.49	2.39

Kick Off Point:

A pilot hole will be drilled from 1,900' to 6,770' TVD. The pilot hole will be plugged back to the horizontal KOP, ~6,047'.

4. Cement Program: (Note yields; and dv tool depths if multiple stages) See COA

a. 13 3/8"	Surface	Lead with 100 sx (35:65) Poz Premium Plus C cement + 5% NaCl + ¼ lbs/sx Celloflake + 4% Bentonite + 0.8% Sodium Metasilicate + 5% MPA-5; Yields 1.96 cf/sx. Tail with 200 sx Premium Plus C cement + 2% $CaCl_2$ + ¼ lbs/sx Celloflake; Yields 1.35 cf/sx. TOC = 0.
b. 9 5/8"	Intermediate I	Lead with 405 sx (35:65) Poz Premium Plus C + 5% NaCl + ¼ lbs/sx Cello Flake + 3 lbs/sx LCM-1 + 4% Bentonite; + 0.8% Sodium Metasilicate + 5% MPA-5; Yields 1.97 cf/sx. Tail with 250 sx Premium Plus C + 2% $CaCl_2$; Yields 1.34 cf/sx. TOC = 0.
8 ¾" Pilot Hole		Plug from 6047'- 6770'; 375 sx Class H cement. Yields 1.07 cf/sx.
c. 7"	Intermediate II	Lead with 495 sx (35:65) Poz Premium Plus C cement + 3% NaCl + ¼ lbs/sx Celloflake + 6% Bentonite + 0.4% FL-52A; Yields 2.00 cf/sx. Tail with 200 sx (60:40) Poz Premium Plus C cement + 1% NaCl + ¼ lbs/sx Celloflake + 0.75% BA-10A + 0.2% FL-52A + 4% MPA-5; Yields 1.34 cf/sx. TOC = 1400'.
d. 4 1/2"	Production	No cement. An open hole 7 stage isolation tool (Peak) will be used

The above cement volumes could be revised pending the caliper measurement from the open hole logs. The top of cement is designed to reach the surface. All casing is new and API approved.

5. Pressure Control Equipment:

The blow out prevention system will consist of a bag type (hydril) preventer, a double ram preventer stack, and a rotating head. A 3k hydril and rotating head will be rigged up on the 13 3/8" surface casing. The annular will be tested ~~to 1000 psi with the rig pumps~~. The 3k hydril and rotating head will be utilized to setting depth of 9 5/8" intermediate casing. Before drilling out the 9 5/8" intermediate shoe, the 5k hydril and ram stack will be nippled up with 4.5" pipe rams installed and used continuously until TD. Once the 7" casing is set, 3.5" pipe rams will be used in the BOPE. **Prior to drilling out the 9 5/8" and 7" casing shoes the 5k BOPE will be tested to the standards set in the BLM Drilling Operations Order #2.**

See COA

The ram system 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 hydril, other BOP accessories include a kelly cock, floor safety valve, choke lines, and choke manifold rated at 5000 psi WP.

6. **Proposed Mud Circulation System**

Depth	Mud Wt.	Visc	Fluid Loss	Type System
See COA 0' – ~~300'~~ 590'	8.9	34	NC	Fresh Water
~~300'~~ – 1900'	9.5	28	NC	Brine
1900'- 6770'	8.8	28	NC	Fresh Water/Cut Brine
6720'-10475'	8.8	34	NC – 12cc	Fresh Water/Cut Brine

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 7" casing shoe until the 4 1/2" casing is set. Breathing equipment will be on location upon drilling the 7" 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. A H2S contingency plan will be provided. 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°.

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 30 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 #1H
Dickens 29 Fed #1H

Lateral #1

Plan: Design #1

Standard Planning Report

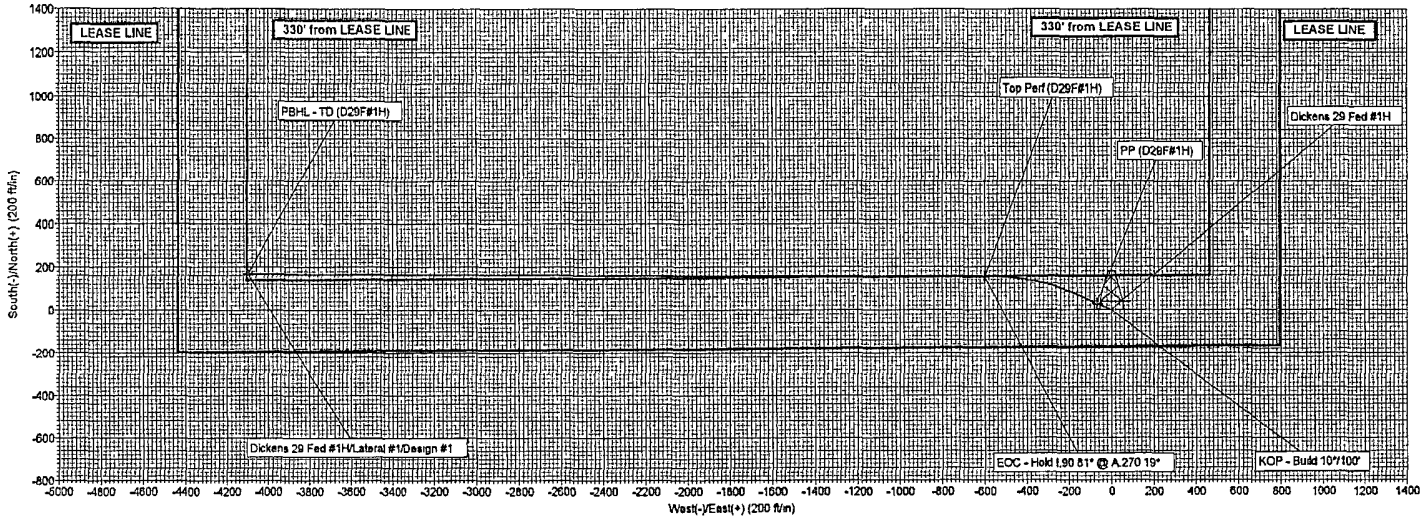
23 September, 2009

CUDD
DRILLING & MEASUREMENT
SERVICES

devon

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

CUDD DRILLING & MEASUREMENT SERVICES



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

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PP (D29F#1H)	6308.95	29.45	-68.11	686104.76	584618.46	32° 53' 9.750 N	104° 11' 32.422 W	Point
PBHL - TD (D29F#1H)	6570.00	168.57	-4099.49	686243.88	580587.09	32° 53' 11.177 N	104° 12' 19.697 W	Point
Top Perf (D29F#1H)	6620.00	157.07	-602.58	686232.38	584083.99	32° 53' 11.020 N	104° 11' 38.588 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	6028.00	0.00	0.00	6028.00	0.00	0.00	0.00	0.00	0.00	
3	6531.90	50.39	293.38	6469.41	82.41	-190.62	10.00	293.38	193.84	
4	6532.38	50.39	293.38	6469.71	82.56	-190.95	0.00	0.00	194.18	
5	6988.86	90.82	270.19	6620.00	157.07	-602.58	10.00	-33.41	608.53	Top Perf (D29F#1H)
6	10486.14	90.82	270.19	6570.00	168.57	-4099.49	0.00	0.00	4102.95	PBHL - TD (D29F#1H)

WELL DETAILS Dickens 29 Fed #1H

Ground Level
3578.00
WELL @ 3593.00ft (Original Well Elev)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	686075.31	584686.57	32° 53' 9.458 N	104° 11' 31.623 W	

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

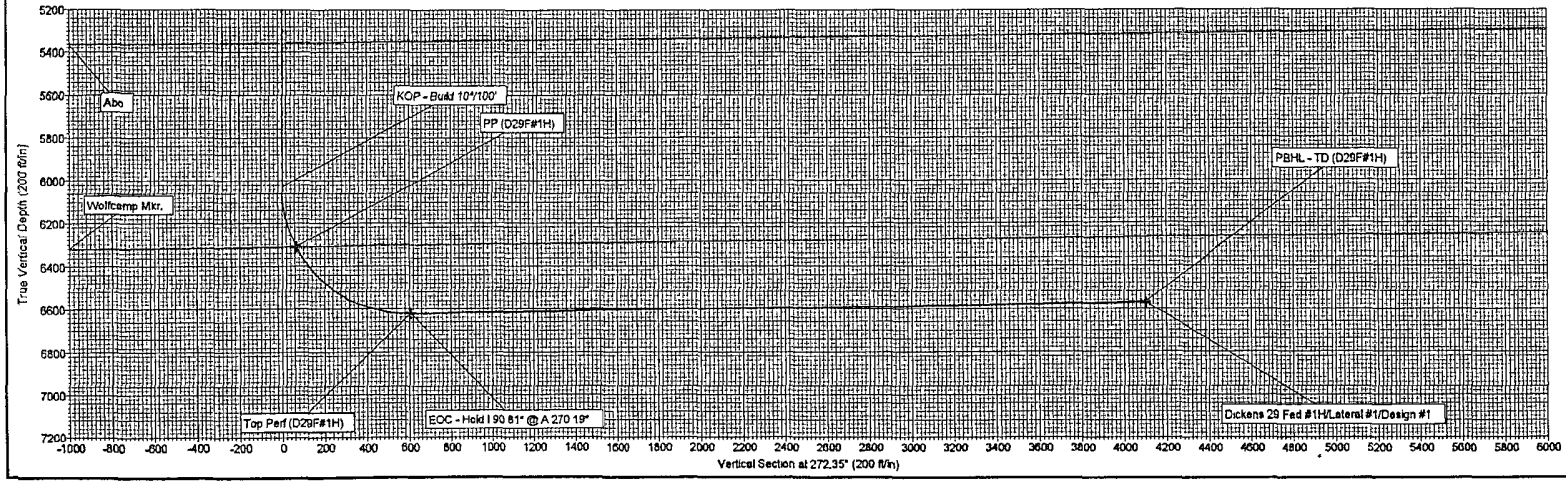
Geodetic System:	US State Plane 1983
Datum:	North American Datum 1983
Ellipsoid:	GRS 1980
Zone:	New Mexico Eastern Zone
System Datum:	Mean Sea Level

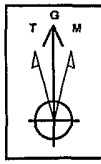
ANNOTATIONS

TVD	MD	Annotation
6028.00	6028.00	KOP - Build 10°/100'
6620.00	6988.86	EOC - Hold 90.81° @ A.270.19°

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

Created By: Mike Starkey — Date: 9:40, September 23 2009
Checked: _____ Date: _____
Reviewed: _____ Date: _____
Approved: _____ Date: _____





Azimuths to Grid North
True North: -0.08°
Magnetic North: 8.05°

Magnetic Field
Strength: 49156.0snT
Dip Angle: 60.75°
Date: 8/17/2009
Model: IGRF200510

Database:	EDM 2003.21 Single User Db	**Local Co-ordinate Reference:**	Site Dickens 29 Fed #1H
Company:	Devon Energy	**TVD Reference:**	WELL @ 3593.00ft (Original Well Elev)
Project:	Eddy Co., New Mexico (Nad 83)	**MD Reference:**	WELL @ 3593.00ft (Original Well Elev)
Site:	Dickens 29 Fed #1H	**North Reference:**	Grid
Well:	Dickens 29 Fed #1H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Lateral #1		
Design:	Design #1		

Project Eddy Co., New Mexico (Nad 83)

Map System:	US State Plane 1983	**System Datum:**	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site Dickens 29 Fed #1H, Sec 29, T-16S, R-28E

Site Position:		**Northing:**	686,075.31 ft	**Latitude:**	32° 53' 9.458 N
From:	Map	**Easting:**	584,686.57 ft	**Longitude:**	104° 11' 31.623 W
Position Uncertainty:	0.00 ft	**Slot Radius:**	"	**Grid Convergence:**	0.08 °

Well Dickens 29 Fed #1H

Well Position	**+N/-S**	0.00 ft	**Northing:**	686,075.31 ft	**Latitude:**	32° 53' 9.458 N
	+E/-W	0.00 ft	**Easting:**	584,686.57 ft	**Longitude:**	104° 11' 31.623 W
Position Uncertainty		0.00 ft	**Wellhead Elevation:**	3,593.00 ft	**Ground Level:**	3,578.00 ft

Wellbore Lateral #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	8/17/2009	8.13	60.75	49,156

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	272 35	

Plan Sections

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0 00	0.00	0 00	0.00	0.00	0.00	
6,028.00	0 00	0.00	6,028.00	0.00	0.00	0.00	0.00	0.00	0 00	
6,531.90	50 39	293.38	6,469.41	82.41	-190.62	10.00	10.00	0.00	293.38	
6,532.38	50.39	293.38	6,469.71	82.56	-190 95	0.00	0.00	0.00	0 00	
6,988.86	90.82	270.19	6,620.00	157.07	-602.58	10.00	8.86	-5 08	-33.41	Top Perf (D29F#1H)
10,486.14	90 82	270.19	6,570.00	168.57	-4,099.49	0.00	0.00	0.00	0.00	PBHL - TD (D29F#1H

Database:	EDM 2003.21 Single User Db	**Local Co-ordinate Reference:**	Site Dickens 29 Fed #1H
Company:	Devon Energy	**TVD Reference:**	WELL @ 3593.00ft (Original Well Elev)
Project:	Eddy Co., New Mexico (Nad 83)	**MD Reference:**	WELL @ 3593.00ft (Original Well Elev)
Site:	Dickens 29 Fed #1H	**North Reference:**	Grid
Well:	Dickens 29 Fed #1H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Lateral #1		
Design:	Design #1		

Planned Survey

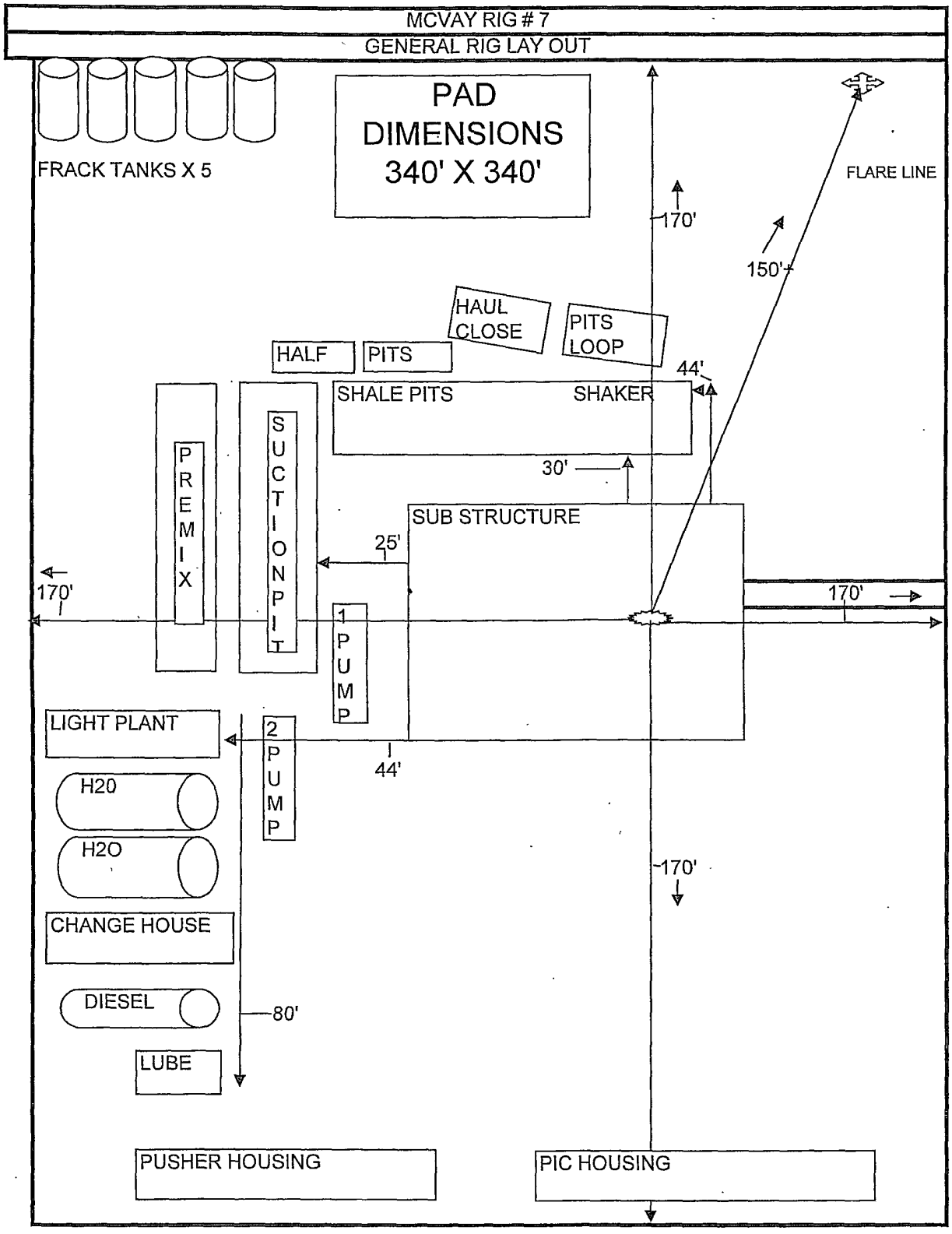
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0 00	0.00	0.00	0.00
1,090.00	0.00	0.00	1,090.00	0.00	0.00	0.00	0.00	0.00	0.00
Queen									
1,866 00	0.00	0.00	1,866.00	0 00	0.00	0 00	0 00	0.00	0.00
San Andres									
3,300.00	0.00	0.00	3,300 00	0.00	0.00	0.00	0.00	0.00	0.00
Glorieta									
5,354.00	0.00	0.00	5,354.00	0.00	0.00	0.00	0 00	0.00	0.00
Abo									
6,028.00	0.00	0.00	6,028.00	0.00	0.00	0.00	0.00	0.00	0.00
KOP - Build 10°/100'									
6,321.73	29.37	293.38	6,309.03	29.23	-67.61	68.75	10.00	10.00	0.00
Wolfcamp Mkr.									
6,322.02	29.40	293.38	6,309 28	29 29	-67.74	68.89	10.00	10.00	0.00
PP (D29F#1H)									
6,531.90	50.39	293.38	6,469.41	82.41	-190.62	193.84	10.00	10 00	0.00
6,532.38	50.39	293.38	6,469.71	82.56	-190.95	194.18	0.00	0 00	0.00
6,988.86	90.82	270.19	6,620.00	157.07	-602.58	608.53	10.00	8 86	-5.08
EOC - Hold I:90.81° @ A:270.19° - Top Perf (D29F#1H)									
10,486.14	90.82	270.19	6,570 00	168.57	-4,099.49	4,102.95	0.00	0.00	0.00
PBHL - TD (D29F#1H)									

Formations

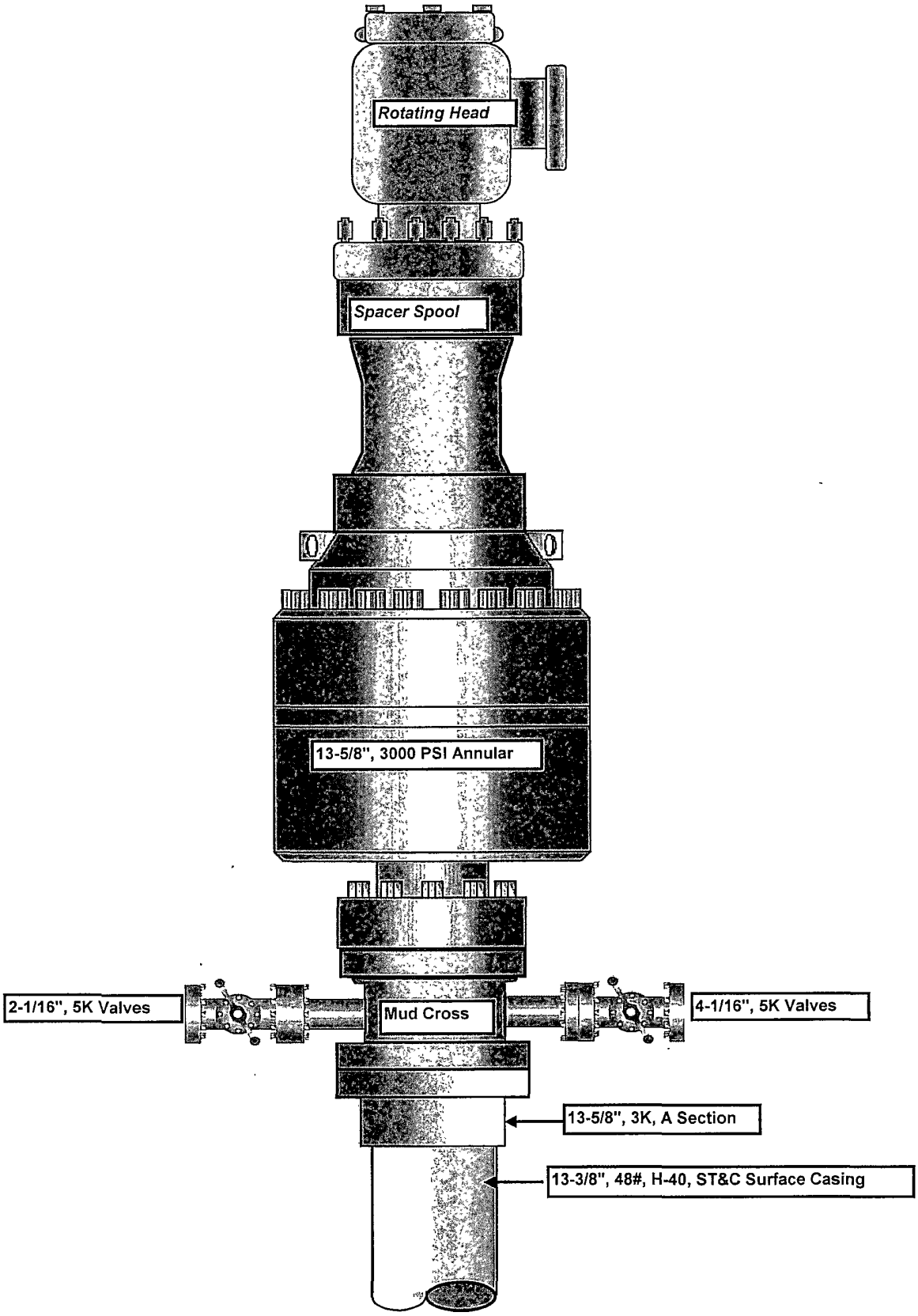
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,090.00	1,090.00	Queen		-0.81	315.00
1,866.00	1,866.00	San Andres		-0.81	315.00
3,300.00	3,300.00	Glorieta		-0.81	315.00
5,354.00	5,354 00	Abo		-0.81	315.00
6,321 73	6,310 00	Wolfcamp Mkr.		-0.81	315.00

Plan Annotations

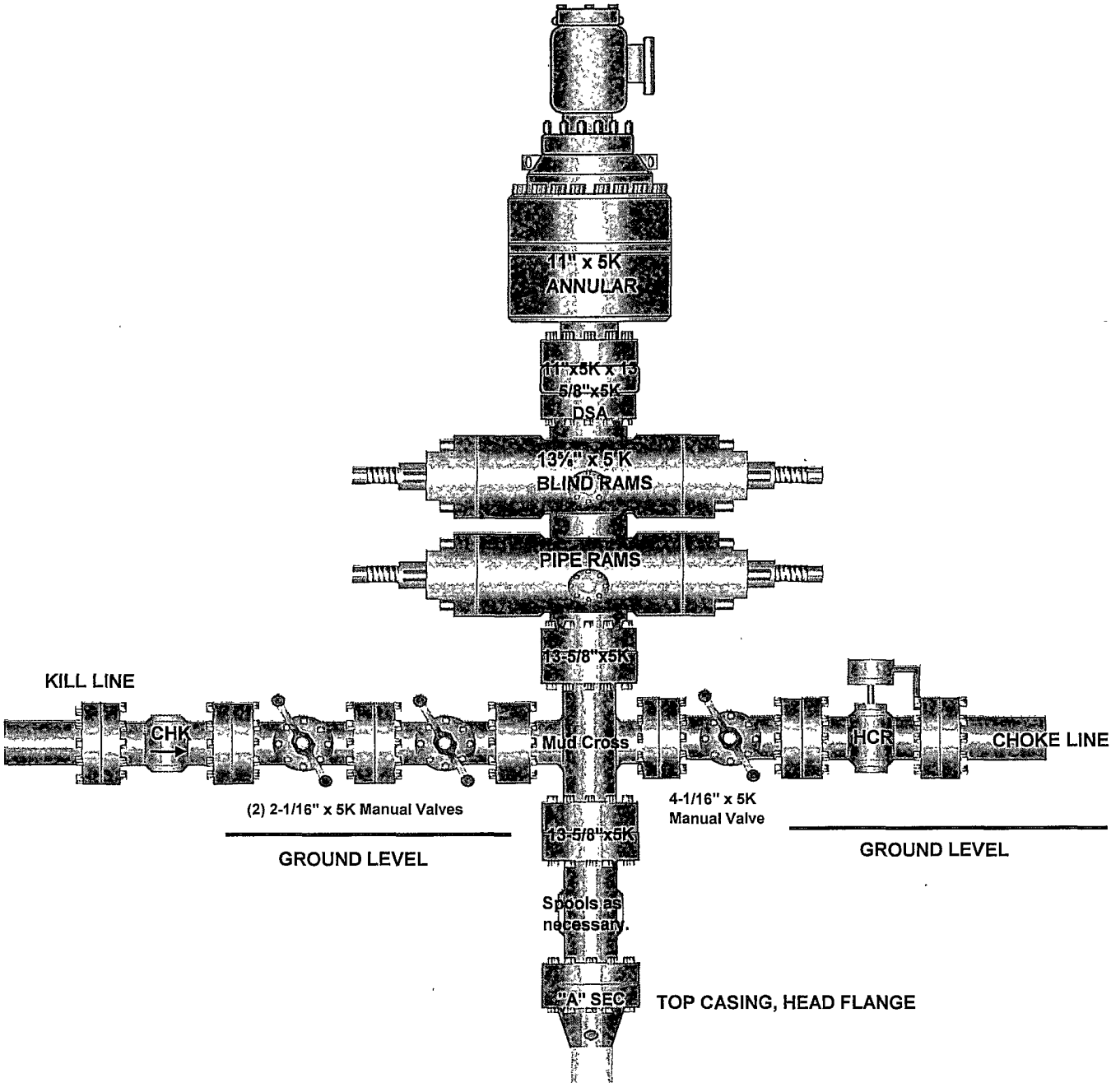
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
6,028.00	6,028.00	0.00	0.00	KOP - Build 10°/100'
6,988.86	6,620.00	157.07	-602 58	EOC - Hold I:90.81° @ A:270.19°


MCVAY RIG # 7
GENERAL RIG LAY OUT
PAD DIMENSIONS 340' X 340'
FRACK TANKS X 5
FLARE LINE
170'
150'
HAUL CLOSE
PITS LOOP
HALF PITS
44'
SHALE PITS
SHAKER
30'
PREMIX
SUCTION PIT
SUB STRUCTURE
25'
170'
170'
1 PUMP
LIGHT PLANT
2 PUMP
44'
H20
H2O
170'
CHANGE HOUSE
DIESEL
80'
LUBE
PUSHER HOUSING
PIC HOUSING

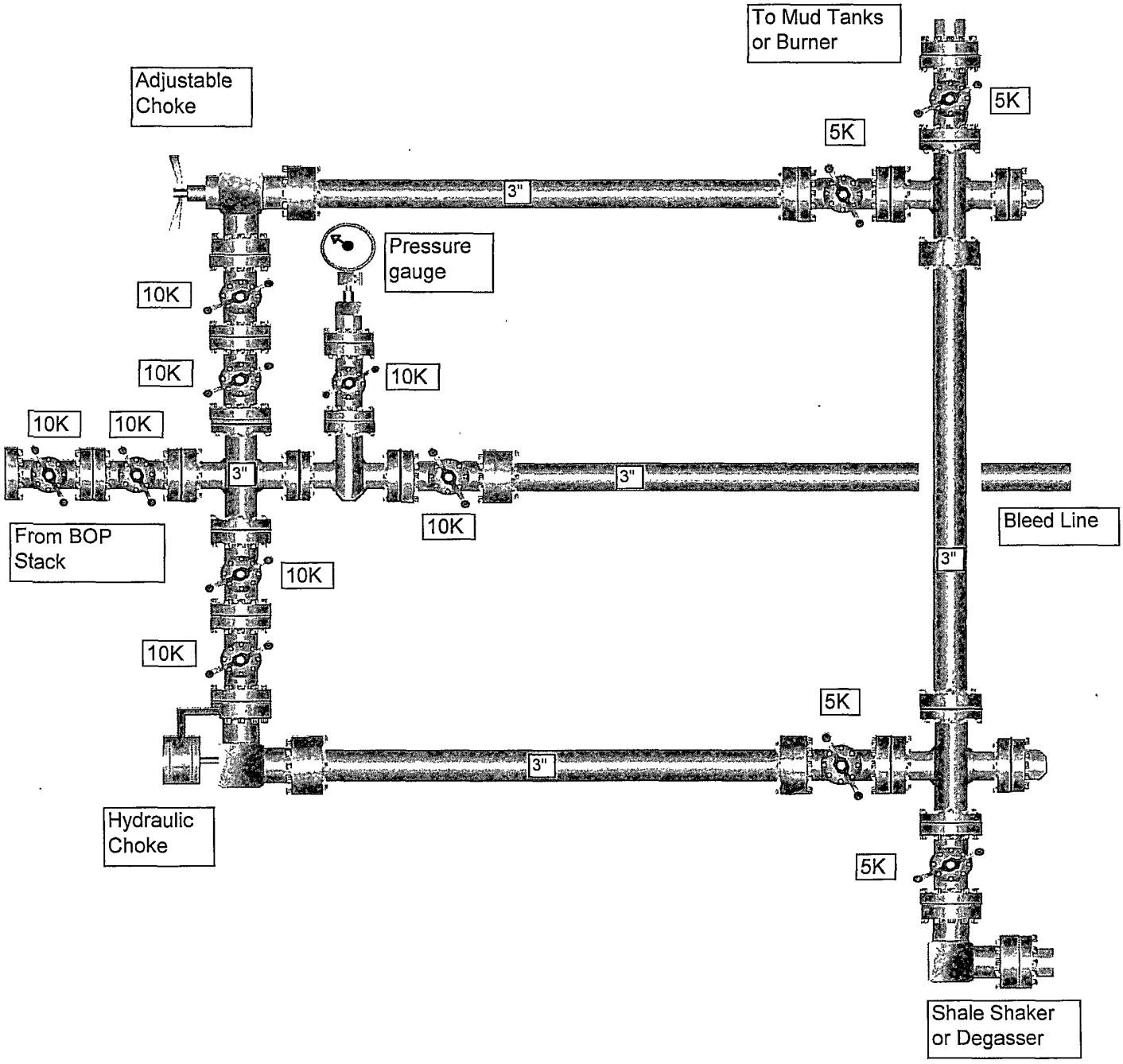
13-5/8" 3K Annular



11" x 5,000 psi BOP Stack

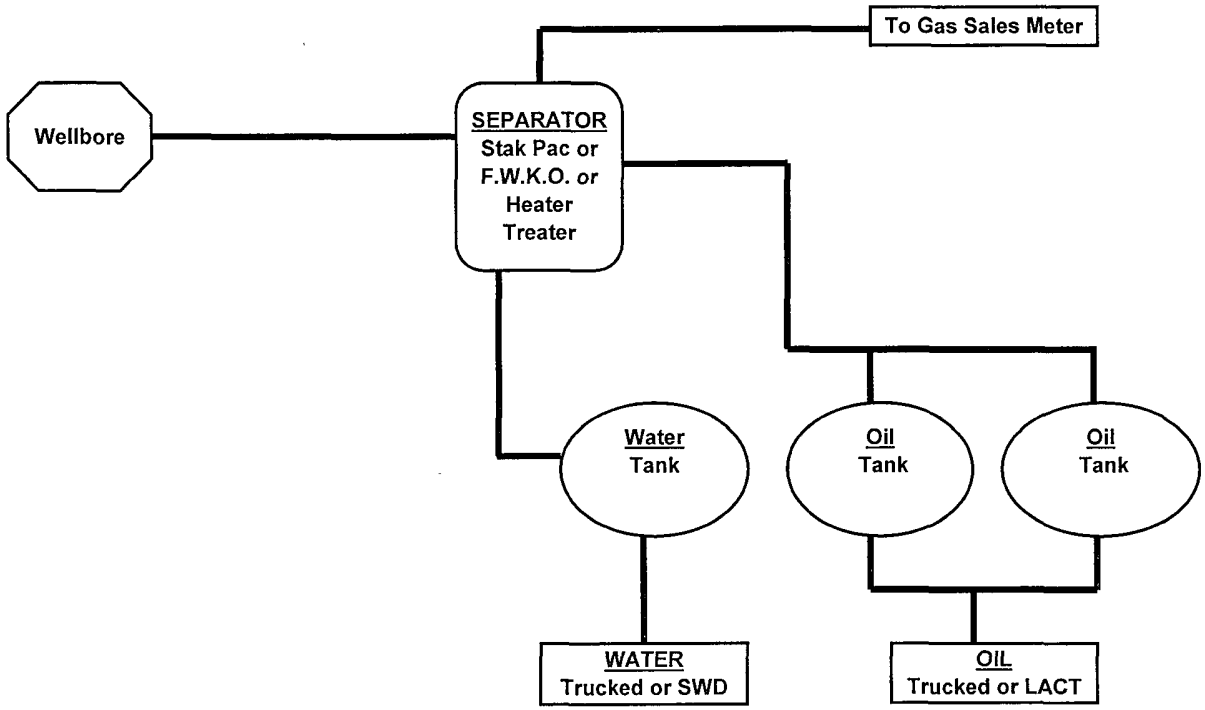


10,000 PSI CHOKE MANIFOLD



DEVON ENERGY PRODUCTION COMPANY LP

General Production Facilities Diagram



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

Hydrogen Sulfide (H_2S) Contingency Plan

For

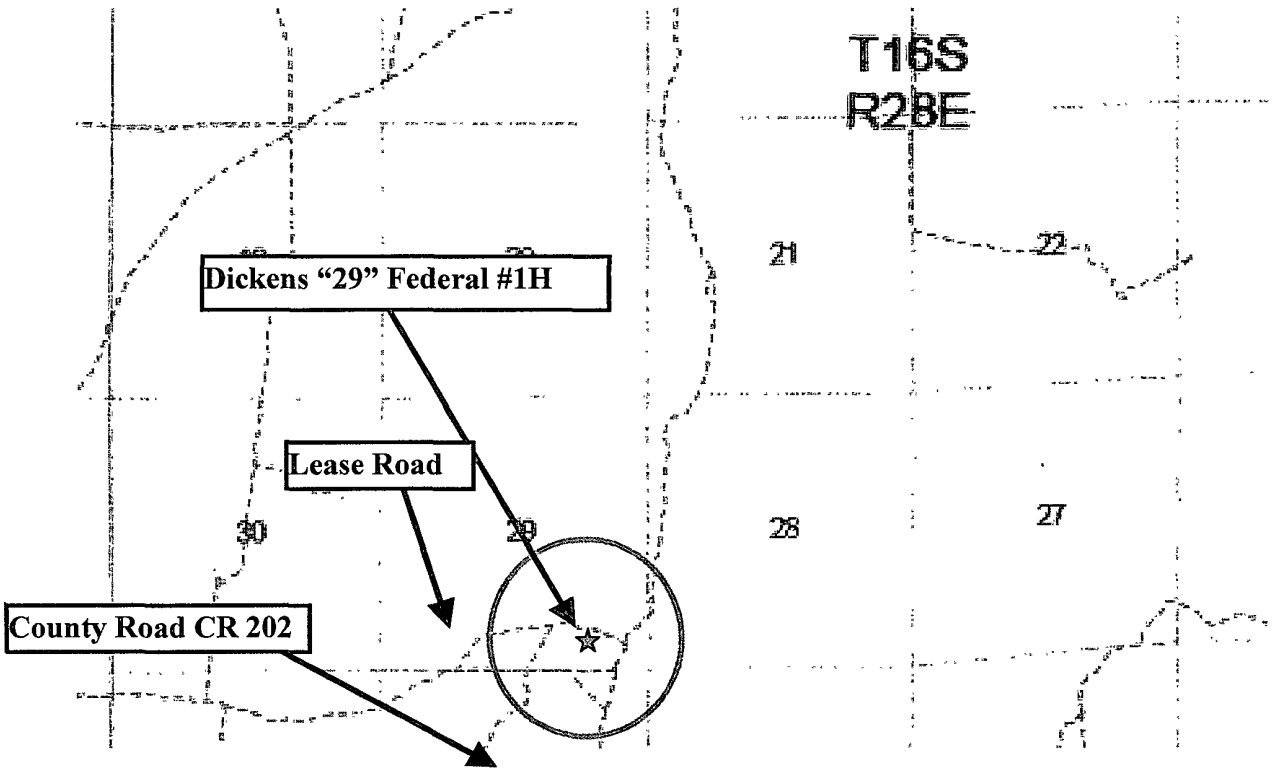
Dickens "29" Federal # 1H

170'FSL & 790' FEL,
Sec-29, T-16S R-28E

Eddy County NM

Dickens "29" Federal # 1H

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 West 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 <u>There are no homes or buildings in or near the ROE</u>.

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 – Shannon Moss	748-5232	746-5556	746-3009
Asst. Foreman –Roy White	513-1741	748-0194	885-1623
Don Mayberry	748-5235	748-0164	746-4945
Montral Walker	390-5182	748-0193	936-414-6246
Engineer – Greg McGowen	(405) 464-9769	(405) 228-8965	(405)360-8998

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
PO Box 2734 Hobbs NM 88240 (505) 631-9561

SURFACE USE PLAN

Devon Energy Production Company, LP

Dickens 29 Federal 1H

Surface Location: 170' FSL & 790' FEL, Unit P, Sec 29 T16S R28E, Eddy, NM

Bottom Hole Location: ~~330'~~ 360' FSL & 330' FWL, Unit M, 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 Exhibit 3.
   c. 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 then 1.0 mile northeast; then 1.0 mile east; then northeast 1.9 miles to proposed lease road.

2. **New or Reconstructed Access Roads:**
   a. The well site layout, Form C-102 shows the existing trail road.
   b. The maximum width of the road will be 15'. 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 1%.
   d. No cattle guards, grates or fence cuts will be required. No turnouts are planned.

3. **Location of Existing Wells:**
   One 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 Shakespeare tank battery would be utilized and the necessary production equipment will be installed at the well site. See Production Facilities Layout diagram.
   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. We intend to lay flowlines from the Dickens 29 Federal 1H to the Shakespeare tank battery. The flowlines will be laid along the main lease road that runs up to the Shakespeare Battery. See attached flowline diagram. All flow lines will adhere to API standards.
   d. 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.

5. **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.

6. **Construction Materials:**
All caliche utilized for the drilling pad and proposed access road will be obtained from an existing BLM approved pit or from prevailing deposits found under the location. All roads will be constructed of 6" rolled and compacted caliche. Will use BLM recommended use of extra caliche from other locations close by for roads, if available.

7. **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 sent to a closed loop system. Water produced during completion will be put in a closed loop system. Oil and condensate produced will be put in 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

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

9. **Well Site Layout**
   a. Exhibit D shows the proposed well site layout with dimensions of the pad layout.
   b. This exhibit indicated proposed location of a closed loop system and living facilities.
   c. A closed loop system will be used.

10. **Plans for Surface Reclamation:**
   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 transported to the original caliche

pit or used for other drilling locations. 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.

11. Surface Ownership (Use the appropriate A-C option; delete other two)

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.

12. 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, sagebrush, 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.

Marcos Ortiz
Operations Engineer

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

(405) 552-8152 (office)
(405) 317-0666 (Cellular)

Don Mayberry
Superintendent

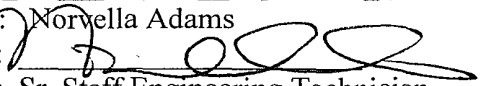
Devon Energy Production Company, L.P.
Post Office Box 250
Artesia, NM 88211-0250

(505) 748-3371 (office)
(505) 746-4945 (home)

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 _4th___ day of __September__, 2009.
Printed Name: Norvella Adams
Signed Name: 
Position Title: Sr. Staff Engineering Technician
Address: 20 North Broadway, OKC OK 73102
Telephone: (405) 552-8198
Field Representative: Robert Bell
Address: 6488 Seven Rivers Hwy, Artesia, NM
Telephone: (575)748-0169
E-mail: norvella.adams@dvn.com

PECOS DISTRICT
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Devon Energy Production Company
LEASE NO.:	NM54856
WELL NAME & NO.:	1H Dickens 29 Federal
SURFACE HOLE FOOTAGE:	170' FSL & 790' FEL
BOTTOM HOLE FOOTAGE	360' FSL & 330' FWL
LOCATION:	Section 29, T. 16S., 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)

FLOWLINE CROSSES LEASE BOUNDARIES AND WILL REQUIRE A RIGHT-OF-WAY (ROW) PERMIT.

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

V-DOOR NORTH. RESTRICT PAD TO NORTH TO 110 FT. DUE TO CLOSE PROXIMITY OF A LARGE PLAYA TO THE NORTH.

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. TOPSOIL

The operator shall stockpile the topsoil of the well pad. The topsoil to be stripped is approximately 6 inches in depth. The topsoil shall not be used to backfill the reserve pit and will be used for interim and final reclamation.

C. RESERVE PITS

Tanks are required for drilling operations: No Pits.

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

D. FEDERAL MINERAL MATERIALS PIT

If the operator elects to surface the access road and/or well pad, mineral materials extracted during construction of the reserve pit may be used for surfacing the well pad and access road and other facilities on the lease.

Payment shall be made to the BLM prior to removal of any additional federal mineral materials from any site other than the reserve pit. Call the
Carlsbad Field Office at (575) 234-5972.

E. WELL PAD SURFACING

Surfacing of the well pad is not required.

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

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

F. ON LEASE ACCESS ROADS

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

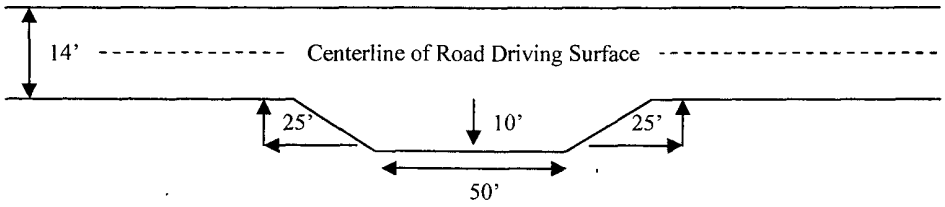
Crowning
Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

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:

Standard Turnout – Plan View

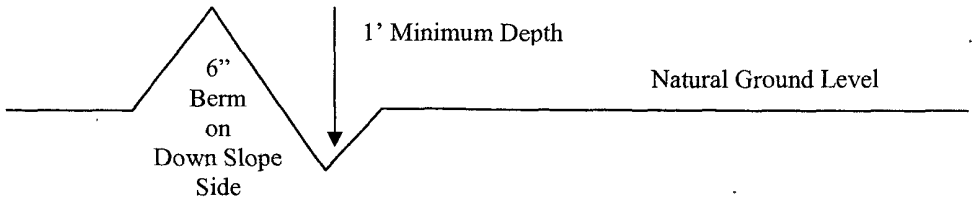


Drainage

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.

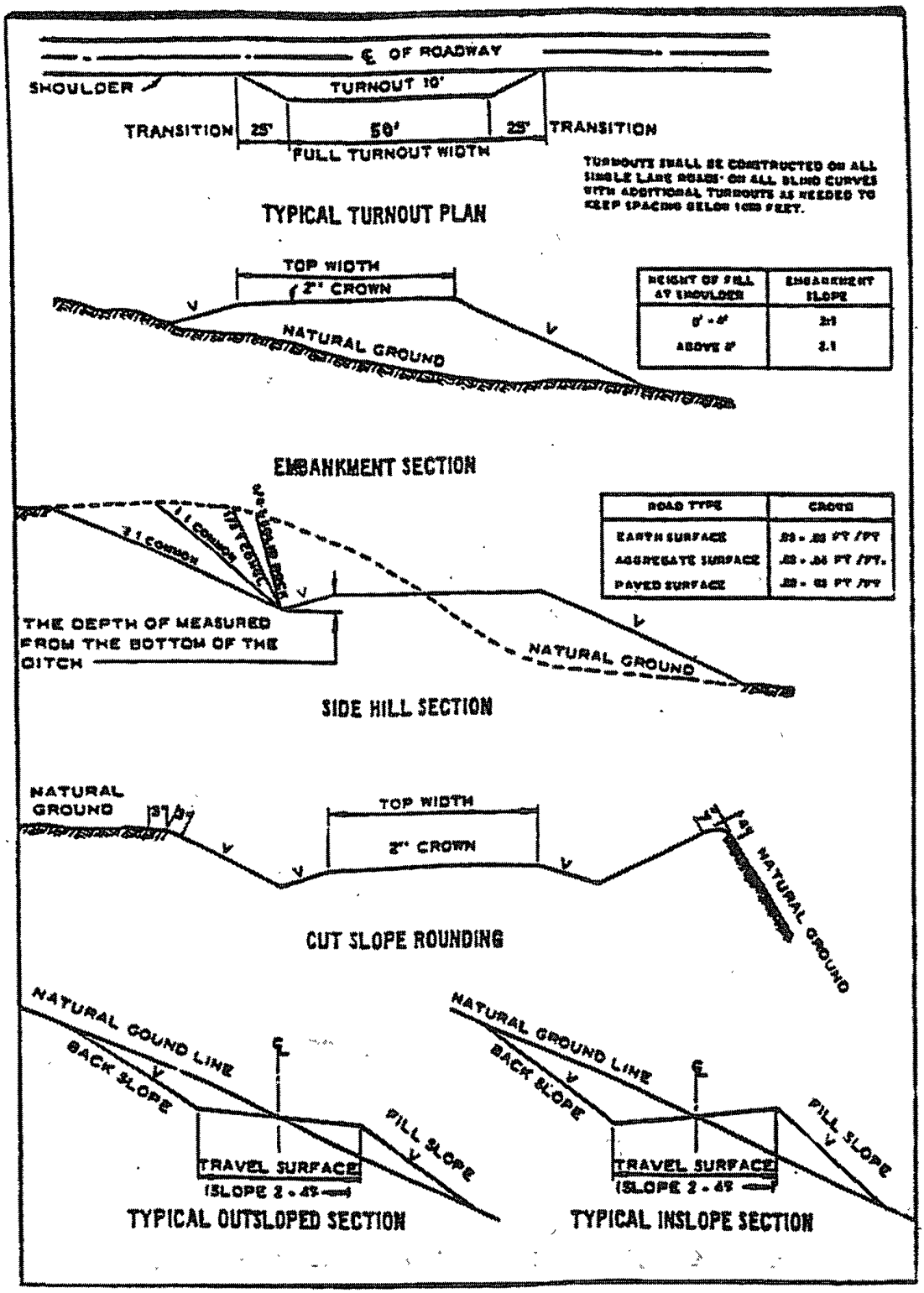
A gate shall be constructed and fastened securely to H-braces.

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 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.

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. The top and bottom of Salt are to be recorded on the Completion Report.**

B. CASING

Changes to the approved APD casing and cement program require submitting a sundry and receiving approval prior to work. Failure to obtain approval prior to work will result in an Incident of Non-Compliance being issued.

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

Wait on cement (WOC) time 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.

1. The **13-3/8** inch surface casing shall be set at **approximately 590 feet in the Seven Rivers formation** and cemented to the surface. **Additional cement may be required as the excess cement calculated to be 0%. 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 a surface log readout will be used or a cement bond log shall be run to verify the top of the cement.

    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.**

If 75% or greater lost circulation occurs while drilling the intermediate casing hole, the cement on the production casing must come to surface. If this is required, the wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst concerns.

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 first plug is to be tagged prior to setting second plug. Report the tag depth on the subsequent report.

3. The minimum required fill of cement behind the **7** inch second intermediate casing is:

   ☒ Cement should tie-back at least 500 feet into previous casing string. Operator shall provide method of verification.

Formation below the 7" 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 and the mud weight for the bottom of the hole. Report results to BLM office.

4. The minimum required fill of cement behind the **4-1/2** inch production casing is:

   ☒ Cement not required – operator is using the Peak System Iso-pack liner. The liner should tie-back at least 100 feet into previous casing string.

5. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

C. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.

2. 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.

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. The tests shall be done by an independent service company.

    b. The results of the test shall be reported to the appropriate BLM office.

    c. 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.**

    d. 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.

    e. 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.

    f. **Effective November 1, 2008, no variances will be granted on reduced pressure tests on the surface casing and BOP/BOPE. Onshore Order 2 requirements will be in effect.**

D. DRILLING MUD

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 093009

VIII. PRODUCTION (POST DRILLING)

A. WELL STRUCTURES & FACILITIES

Placement of Production Facilities
Production facilities should be placed on the well pad to allow for maximum interim recontouring and revegetation of the well location.

Containment Structures
The containment structure shall be constructed to hold the capacity of the entire contents of the largest tank, plus 24 hour production, unless more stringent protective requirements are deemed necessary by the Authorized Officer.

Painting Requirement
All above-ground structures including meter housing that are not subject to safety requirements shall be painted a flat non-reflective paint color
Shale Green, Munsell Soil Color Chart # 5Y 4/2

IX. INTERIM RECLAMATION & RESERVE PIT CLOSURE

A. INTERIM RECLAMATION

If the well is a producer, interim reclamation shall be conducted on the well site in accordance with the orders of the Authorized Officer. The operator shall submit a Sundry Notices and Reports on Wells (Notice of Intent), Form 3160-5, prior to conducting 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.

The operators should work with BLM surface management specialists to devise the best strategies to reduce the size of the location. Any reductions 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 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.

Seed Mixture 1, for Loamy 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 regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (small/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 lovegrass (Eragrostis intermedia)	0.5
Sand dropseed (Sporobolus cryptandrus)	1.0
Sideoats grama (Bouteloua curtipendula)	5.0

*Pounds of pure live seed:

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

X. FINAL ABANDONMENT & REHABILITATION REQUIREMENTS

Upon abandonment of the well and/or when the access road is no longer in service the Authorized Officer shall issue instructions and/or orders for surface reclamation and restoration of all disturbed areas.

On private surface/federal mineral estate land the reclamation procedures on the road and well pad shall be accomplished in accordance with the private surface land owner agreement.