ATS-09-287
RM

MAY 12 2009

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Form 3160-3
(April 2004)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a Type of work ☑ DRILL ☐ REENTER	5. Lease Serial No. **NMNM-97133**
	6. If Indian, Allotee or Tribe Name
	7 If Unit or CA Agreement, Name and No
1b Type of Well: ☑ Oil Well ☐ Gas Well ☐ Other ☑ Single Zone ☐ Multiple Zone	8. Lease Name and Well No. **Black Jack 1 Federal 4H** <367347
2. Name of Operator **Devon Energy Production Company, LP**	9 API Well No. 30-015-37065
3a Address **20 North Broadway Oklahoma City, Oklahoma City 73102-8260** / 3b. Phone No. *(include area code)* **405-228-8699**	10. Field and Pool, or Exploratory **Sand Dunes South; Delaware** <53818 7
4. Location of Well *(Report location clearly and in accordance with any State requirements.*)* At surface **SE/4 SW/4 330' FSL & 2230' FWL** **PP:480 FSL & 2222' FWL** At proposed prod zone **330' FNL & 1980' FWL**	11 Sec, T. R. M or Blk and Survey or Area **SEC 1 T24S R30E**
14. Distance in miles and direction from nearest town or post office* **Approximately 15 miles east of Loving, NM.**	12. County or Parish **Eddy County** / 13. State **NM**

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig unit line, if any) **330'**	16 No. of acres in lease **640 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 **1200'**	19 Proposed Depth ~~7600'~~ 7930 TVD **12,360' MD**	20 BLM/BIA Bond No on file **CO-1104**
21. Elevations (Show whether DF, KDB, RT, GL, etc.) **3483 ' GL**	22 Approximate date work will start*	23. Estimated duration **45 days**

24. Attachments

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

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

25. Signature Judy A. Barnett	Name *(Printed/Typed)* **Judy A. Barnett**	Date **01/20/2008**
Title **Regulatory Analyst**		
Approved by *(Signature)* /s/ Linda S. C. Rundell	Name *(Printed/Typed)* /s/ Linda S. C. Rundell	Date MAY 07 2009
Title STATE DIRECTOR	Office NM STATE 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)*

CARLSBAD CONTROLLED WATER BASIN

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

APPROVAL SUBJECT TO
GENERAL REQUIREMENTS
AND SPECIAL STIPULATIONS
ATTACHED

DISTRICT I
1625 N. French Dr., Hobbs, NM 88240

DISTRICT II
1301 W. Grand Avenue, Artesia, NM 88210

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

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

Form C-102
Revised October 12, 2005

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
30-015-37065	53818	SAND DUNES SOUTH; DELAWARE

Property Code	Property Name	Well Number
36734	BLACK JACK "1" FEDERAL	4H

OGRID No.	Operator Name	Elevation
6137	DEVON ENERGY PRODUCTION COMPANY LP	3483'

Surface Location

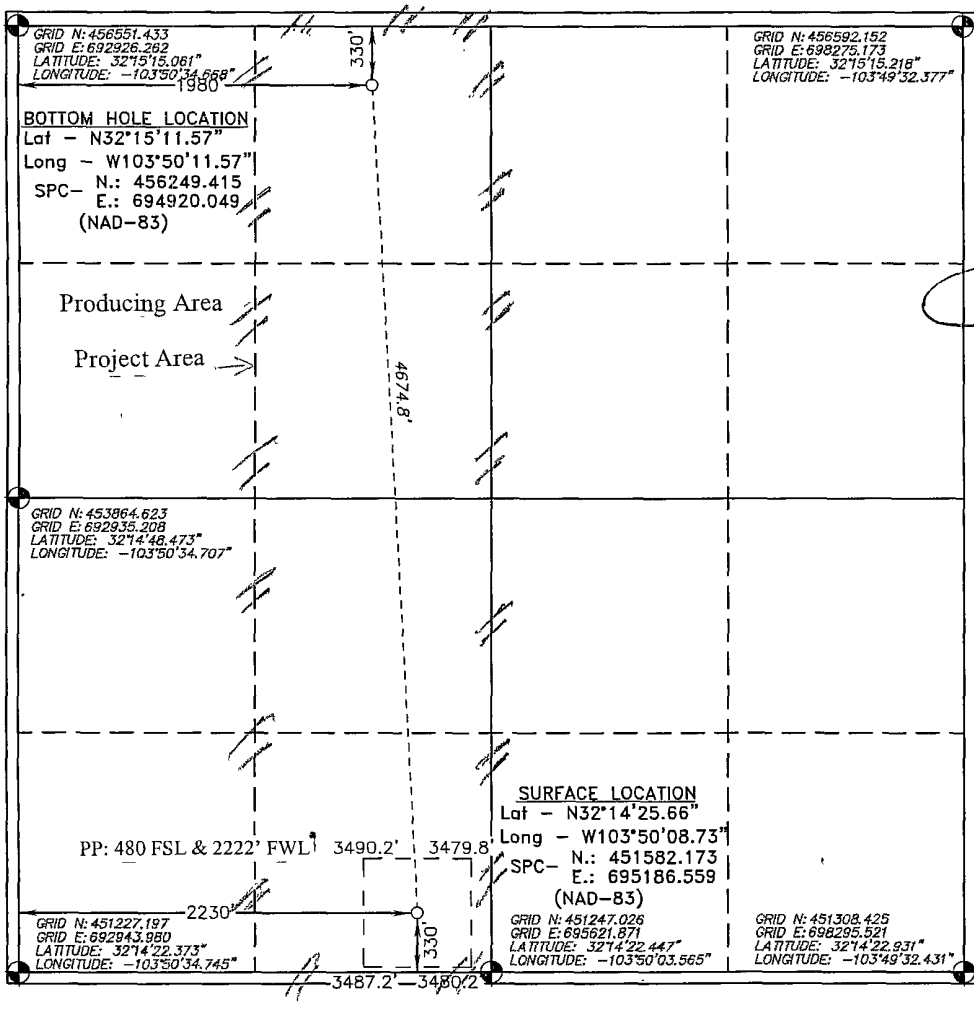
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	1	24 S	30 E		330 ✓	SOUTH	2230 ✓	WEST	EDDY

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
C	1	24 S	30 E		330 ✓	NORTH	1980 ✓	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.

Judy A. Barnett 1/06/09
Signature Date

Judy A. Barnett
Printed Name

Regulatory Analyst

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.

OCTOBER 8, 2008
Date Surveyed

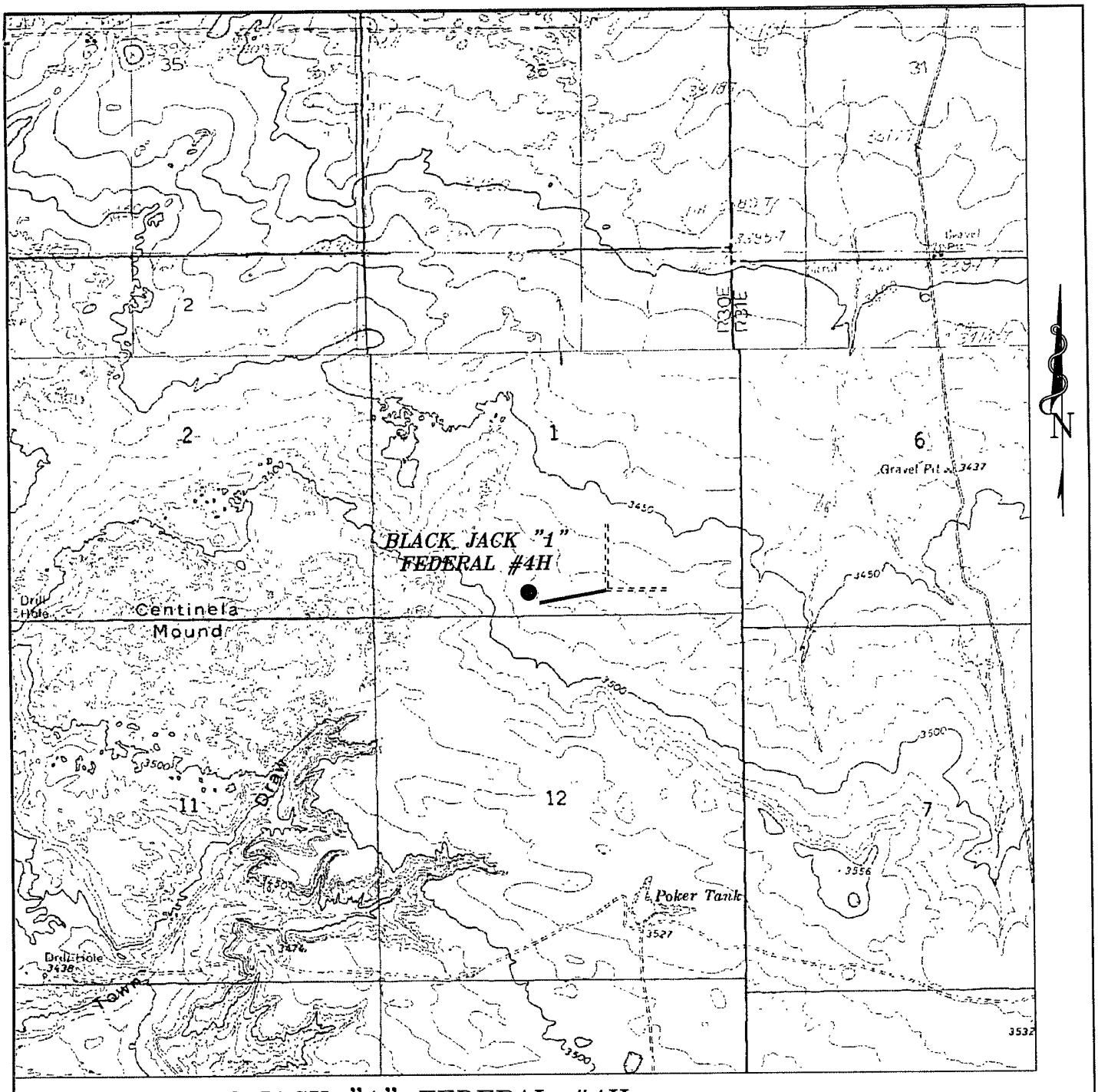
Signature & Seal of Professional Surveyor

NEW MEXICO 7977 REGISTERED PROFESSIONAL LAND SURVEYOR

W.O.

Certificate No. Gary L. Jones 7977

BASIN SURVEYS



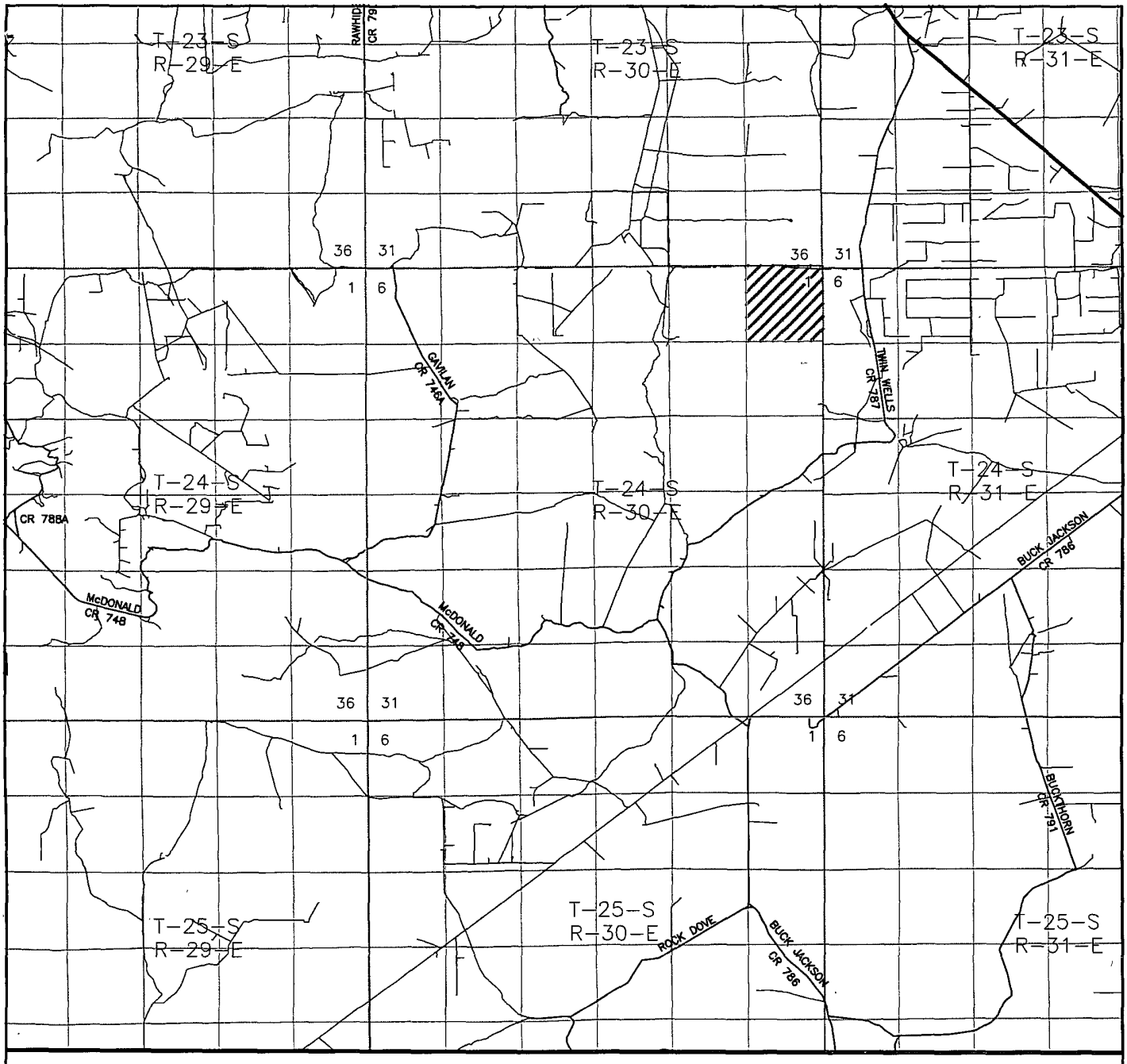
BLACK JACK "1" FEDERAL #4H
Located at 330' FSL AND 2230' FWL
Section 1, Township 24 South, Range 30 East,
N.M.P.M., Eddy County, New Mexico.

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 20549
Survey Date:	10-08-2008
Scale:	1" = 2000'
Date:	10-15-2008

DEVON ENERGY PROD. CO., L.P.



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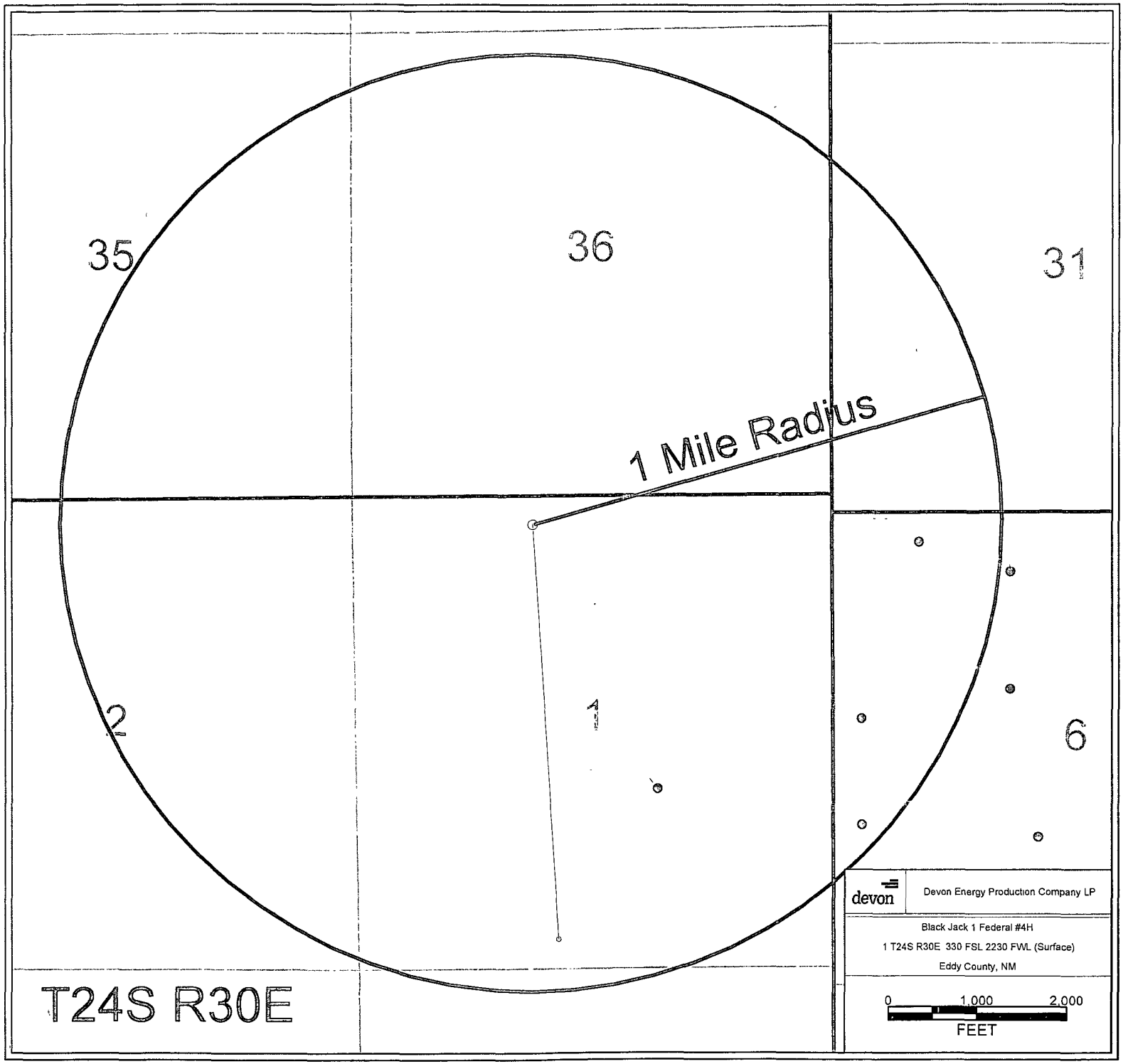
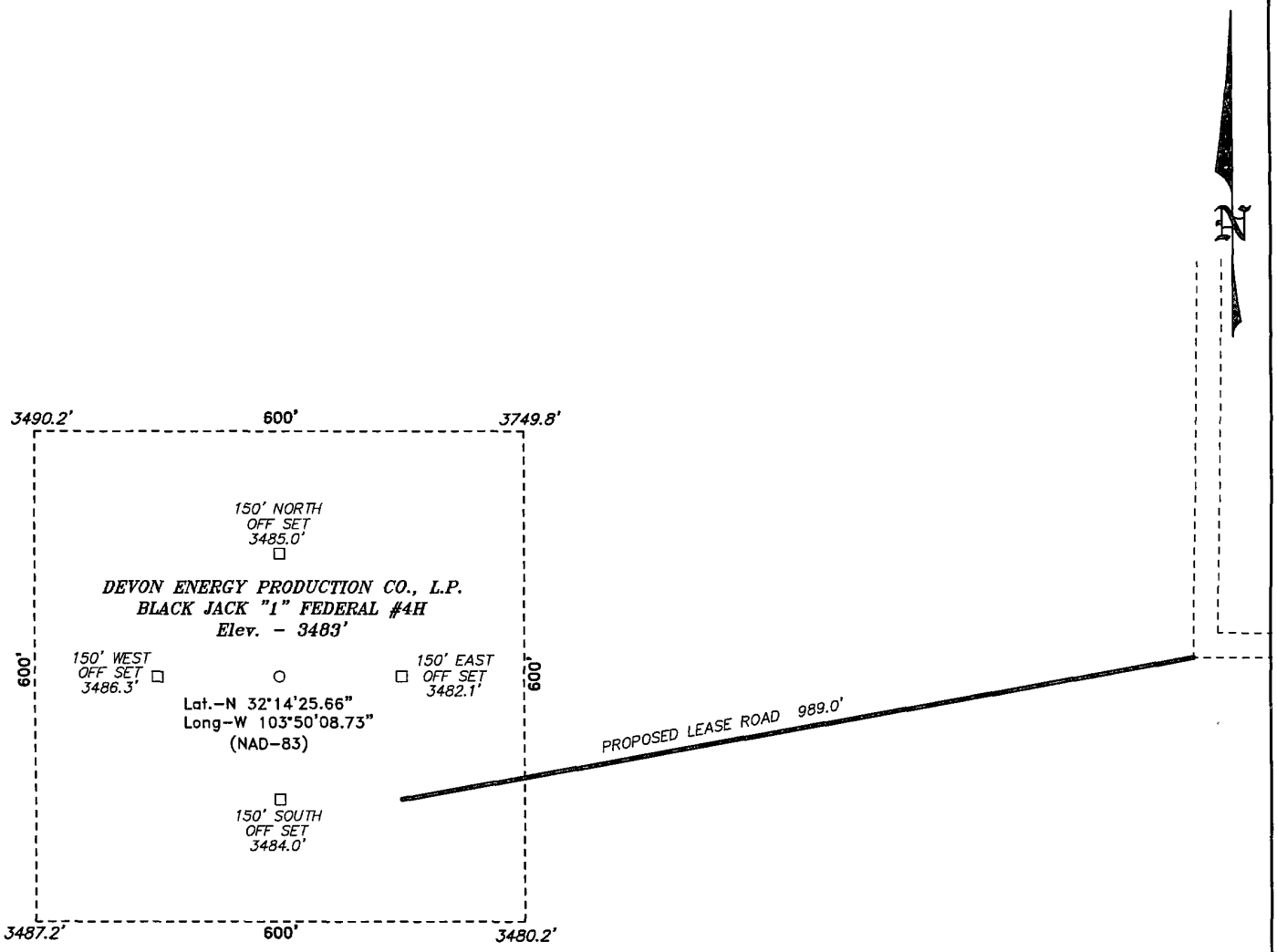
Hobbs, New Mexico 88241
(575) 393-7316 - Office
(575) 392-2206 - Fax
basinsurveys.com

W.O. Number:	JMS 20549
Survey Date:	10-08-2008
Scale:	1" = 2 MILES
Date:	10-15-2008

DEVON ENERGY PROD. CO., L.P.


35
36
31
1 Mile Radius
2
1
6
T24S R30E
devon
Devon Energy Production Company LP
Black Jack 1 Federal #4H
1 T24S R30E 330 FSL 2230 FWL (Surface)
Eddy County, NM
0
1,000
2,000
FEET

SECTION 1, TOWNSHIP 24 SOUTH, RANGE 30 EAST, N.M.P.M.,
EDDY COUNTY, NEW MEXICO.



200 0 200 400 FEET

SCALE: 1" = 200'

Directions to Location:

FROM THE JUNCTION OF HWY 128 AND TWIN WELLS, GO SOUTH 4.2 MILES TO LEASE ROAD, GO WEST 1.1 MILES TO PROPOSED LEASE ROAD.

DEVON ENERGY PROD. CO., L.P.

REF: BLACK JACK "1" FEDERAL #4H / WELL PAD TOPO

THE BLACK JACK "1" FEDERAL #4H LOCATED 330' FROM THE SOUTH LINE AND 2230' FROM THE WEST LINE OF SECTION 1, TOWNSHIP 24 SOUTH, RANGE 30 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO.

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

W.O. Number: 20549	Drawn By: J. M. SMALL		
Date: 10-15-2008	Disk: 20549 JMS	Survey Date: 10-08-2008	Sheet 1 of 1 Sheets

DRILLING PROGRAM

Devon Energy Production Company, LP
Black Jack 1 Federal 4H
Surface Location: 330 FSL & 2230 FWL, Unit N, Sec 1 T24S R30E, Eddy, NM
Bottom hole Location: 330 FNL & 1980 FWL, Unit C, Sec 1 T24S R30E, 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.	Rustler	503'	
b.	Salado	870'	
c.	Base Salt	3910'	
d.	Delaware/Lamar	4130'	Oil
e.	Bell Canyon	4165'	Oil
f.	Cherry Canyon	5060'	
g.	Brushy Canyon	6360'	
h.	Total Depth	12,360'	

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 570' and circulating cement back to surface. The fresh water sands will be protected by setting 9 5/8" casing at ~~4000'~~ and See COA circulating cement to surface. The Delaware intervals will be isolated by setting 5 ½" casing to total depth and circulating cement above the base of the 9 5/8" casing. ← See COA

Casing Program

Hole Size	Hole Interval	OD Csg	Casing Interval	Weight	Collar	Grade
17 ½"	0' – 570'	13 3/8"	0' – 570'	48#	STC	H-40
12 ¼"	570' – 4000'	9 5/8"	0' – ~~4000'~~ See COA	40#	LTC	K-55
8 ½"	4000' – 11980'	5 ½"	0' – 7350'	17#	LTC	N-80
8 ½"	4000' – 12360'	5 ½"	7350' – 12360'	17#	BTC	N-80

Design Paramcter Factors:

Casing Size	Collapse Design Factor	Burst Design Factor	Tension Design Factor
13 3/8"	2.64	1.67	2.42
9 5/8"	1.78	1.86	2.38
5 ½"	1.68	1.41	1.60

3. **Cement Program:**

   a. 13 3/8" Surface — **Lead** w/ 330sx 35:65 POZ (Fly Ash): Premium C + 0.125#/sx CF + 4% bwoc Bentonite + 5% bwow Sodium Chloride + 0.8% bwoc Sodium Metasilicate + 5% bwoc MPA-5 + 101.1% FW. Yield 1.96 cf/sx. TOC @ surface. **Tail** w/ 250sx Premium Plus C + 2% bwoc Calcium Chloride + 0.125#/sx CF + 56.3% FW. Yield 1.35 cf/sx.

b. 9 5/8" Intermediate **Lead** w/ 1125sx 35:65 POZ (Fly Ash): Premium Plus C + 5% bwow Sodium Chloride +0.125#/sx CF + 6% bwoc Bentonite + 107.8% FW. Yield 2.04 cf/sx. TOC @ surface. **Tail** w/ 300sx 60:40 POZ (Fly Ash): Premium Plus C + 5% bwow Sodium Chloride + 0.125#/sx CF + 0.4% bwoc Sodium Metasilicate + 4% bwoc MPA-5 + 64.7% FW. Yield 1.37 cf/sx.

c. 5 1/2" Production **2 Stage with DV Tool @ 7300'. Stage 1: Lead** w/ 850sx Class H + 0.2% bwoc Sodium Metasilicate + 1.4% bwoc FL-62 + 0.4% bwoc CD-32 + 0.1% bwoc ASA-301 + 20#/sx ASCA-1 + 0.35% bwoc R-3 + 52.9% FW Yield 1.42 cf/sx. **Stage 2: Lead** w/ 630 sx 35:65 Poz (Fly Ash) Premium Plus C +1% bwow Sodium Chloride + 0.125#/sx CF + 6% bwoc Bentonite + 0.4% bwoc FL-52-A + 0.4% bwoc R-3 + 103.1% FW Yield 1.96 cf/sx. **Tail** w/ 340 sx 60:40 POZ Fly Ash Premium Plus C + 1% bwow Sodium Chloride + 0.125#/sx CF + 4% bwoc MPA-5 + 0.75% bwoc BA-10A + 63.1% FW. Yield 1.34 cf/sx. ~~TOC @ 3500'~~ See COA

The above cement volumes could be revised pending the caliper measurement from the open hole logs. The top of cement is designed to reach approximately ~~500'~~ See COA above the 9 5/8" casing shoe. All casing is new and API approved.

Pressure Control Equipment:

The blowout preventor equipment (BOP) shown in Exhibit #1 will consist of a (5M system) double ram type (5000 psi WP) preventor and a bag-type (Hydril) preventor (3000 psi WP) and rotating head. Both units will be hydraulically operated and the ram type preventor will be equipped with blind rams on top and 4 ½" drill pipe rams on bottom. An annular and rotating head will be installed on the 13⅜ surface casing and utilized to setting depth of the 9⅝" intermediate casing. The annular and associated equipment will be tested to **1000 psi ~~with the rig pump~~ before drilling out the 13-3/8" casing shoe.** The BOPE will be installed on the 9⅝" intermediate casing and utilized continuously until total depth is reached. 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. See COA 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.

Proposed Mud Program

Depth	Mud Wt.	Visc	Fluid Loss	Type System
0' – 570'	8.4 – 9.4	32 – 34	N/C	FW/Gel
570' – 4000'	9.7 – 10.0	28 – 30	N/C	Brine
4000' – 8160'	8.3 – 8.6	28	NC -40	Fresh
8160' – 12360'	8.3 – 8.9	32 – 40	12 – 8cc	Fresh

See COA

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

4. **Auxiliary Well Control and Monitoring Equipment:**
   a. A Kelly cock will be in the drill string at all times.
   b. A full opening drill pipe stabbing valve having the appropriate connections will be on the rig floor at all times.
   c. Hydrogen Sulfide detection equipment will be in operation after drilling out the 13 3/8" casing shoe until the 5 1/2" casing is cemented. Breathing equipment will be on location upon drilling the 13 3/8" shoe until total depth is reached.

5. **Logging, Coring, and Testing Program:**
   a. Drill stem tests will be based on geological sample shows.
   b. If a drill stem test is anticipated; a procedure, equipment to be used and safety measures will be provided via sundry notice to the BLM.
   c. The open hole electrical logging program will be:
      i. Total Depth to Intermediate Casing — Dual Laterolog-Micro Laterolog with SP and Gamma Ray. Compensated Neutron – Z Density log with Gamma Ray and Caliper.
      ii. Total Depth to Surface — Compensated Neutron with Gamma Ray
      iii. No coring program is planned
      iv. Additional testing will be initiated subsequent to setting the 5 ½" production casing. Specific intervals will be targeted based on log evaluation, geological sample shows and drill stem tests.

6. **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 2900 psi and Estimated BHT 130°. No H2S is anticipated to be encountered.

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

devon

Devon Energy

Eddy Co., New Mexico (Nad 83)
Black Jack 1 Fed #4H
Black Jack 1 Fed #4H

Lateral #1

Plan: Design #1

Standard Planning Report

16 December, 2008

CUDD
DRILLING & MEASUREMENT
SERVICES

Database:	EDM 2003 21 Midland Server Db	**Local Co-ordinate Reference:**	Well Black Jack 1 Fed #4H
Company:	Devon Energy	**TVD Reference:**	WELL @ 3500 00ft (Original Well Elev)
Project:	Eddy Co , New Mexico (Nad 83)	**MD Reference:**	WELL @ 3500 00ft (Original Well Elev)
Site:	Black Jack 1 Fed #4H	**North Reference:**	Grid
Well:	Black Jack 1 Fed #4H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Lateral #1		
Design:	Design #1		

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

Site	Black Jack 1 Fed #4H, Sec 1, T-24S, R-30E				
Site Position:		**Northing:**	451,582.17 ft	**Latitude:**	32° 14' 25.784 N
From:	Map	**Easting:**	695,186.56 ft	**Longitude:**	103° 50' 8.615 W
Position Uncertainty:	0.00 ft	**Slot Radius:**	"	**Grid Convergence:**	0.27 °

Well	Black Jack 1 Fed #4H					
Well Position	**+N/-S**	0 00 ft	**Northing:**	451,582.17 ft	**Latitude:**	32° 14' 25 784 N
	+E/-W	0 00 ft	**Easting:**	695,186.56 ft	**Longitude:**	103° 50' 8.615 W
Position Uncertainty		0.00 ft	**Wellhead Elevation:**	3,500.00 ft	**Ground Level:**	3,483 00 ft

Wellbore	Lateral #1				
Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	IGRF200510	12/16/2008	8 00	60.23	48,899

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 (°)**	
	7,930.00	0.00	0.00	356.73	

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	
7,357.04	0.00	0.00	7,357.04	0.00	0.00	0.00	0 00	0.00	0 00	
8,257.04	90.00	356.73	7,930.00	572.03	-32 66	10.00	10 00	0.00	356.73	
12,358 94	90.00	356.73	7,930.00	4,667.25	-266 51	0 00	0 00	0 00	0 00	PBHL - TD (BJ1F#4H

Database:	EDM 2003 21 Midland Server Db	**Local Co-ordinate Reference:**	Well Black Jack 1 Fed #4H
Company:	Devon Energy	**TVD Reference:**	WELL @ 3500 00ft (Original Well Elev)
Project:	Eddy Co , New Mexico (Nad 83)	**MD Reference:**	WELL @ 3500 00ft (Original Well Elev)
Site:	Black Jack 1 Fed #4H	**North Reference:**	Grid
Well:	Black Jack 1 Fed #4H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Lateral #1		
Design:	Design #1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/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
503 00	0.00	0 00	503.00	0.00	0.00	0.00	0.00	0.00	0.00
Rustler									
870.00	0.00	0 00	870.00	0 00	0 00	0.00	0.00	0.00	0.00
Salado									
3,910 00	0.00	0 00	3,910 00	0 00	0.00	0 00	0.00	0.00	0 00
Base Salt									
4,130 00	0.00	0.00	4,130.00	0 00	0.00	0.00	0.00	0.00	0 00
Delaware/Lamar									
4,165.00	0.00	0 00	4,165.00	0.00	0.00	0.00	0.00	0 00	0.00
Bell Canyon									
5,060.00	0.00	0 00	5,060 00	0.00	0 00	0.00	0.00	0.00	0.00
Cherry Canyon									
6,360 00	0 00	0.00	6,360.00	0.00	0.00	0.00	0 00	0 00	0.00
Brushy Canyon									
7,357.04	0.00	0.00	7,357 04	0.00	0.00	0.00	0.00	0.00	0 00
KOP - Build 10°/100'									
8,257.04	90 00	356.73	7,930 00	572.02	-32 66	572.96	10 00	10.00	0 00
EOC - Hold 90°									
12,358.94	90.00	356.73	7,930 00	4,667.25	-266 51	4,674.85	0.00	0.00	0 00
PBHL - TD (BJ1F#4H) 12-16-08									

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
503.00	503.00	Rustler		0 00	
870 00	870.00	Salado		0 00	
3,910.00	3,910.00	Base Salt		0 00	
4,130.00	4,130.00	Delaware/Lamar		0.00	
4,165.00	4,165 00	Bell Canyon		0.00	
5,060 00	5,060 00	Cherry Canyon		0.00	
6,360.00	6,360.00	Brushy Canyon		0.00	

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
7,357.04	7,357.04	0.00	0.00	KOP - Build 10°/100'
8,257 04	7,930.00	572.02	-32.66	EOC - Hold 90°

devon

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

CUDD
DRILLING & MEASUREMENT SERVICES

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	7357 04	0 00	0 00	7357 04	0 00	0 00	0 00	0 00	0 00	
3	8257 04	90 00	356 73	7930 00	572 03	-32 66	10 00	356 73	572 96	
4	12358 94	90 00	356 73	7930 00	4667 25	-266 51	0 00	0 00	4674 85	PBHL - TD (BJ1F#4H) 12-16-08

ANNOTATIONS

TVD	MD	Annotation
7357 04	7357 04	KOP - Build 10°/100'
7930 00	8257 04	EOC - Hold 90°

WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
PBHL - TD (BJ1F#4H) 12-16-08	7930 00	4667 25	-266 51	Point

WELL DETAILS Black Jack 1 Fed #4H

Ground Level
3483 00
WELL @ 3500 00ft (Original Well Elev)

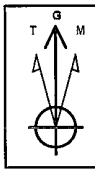
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0 00	0.00	451562 17	695188 56	32° 14' 25 784 N	103° 50' 8 615 W	

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

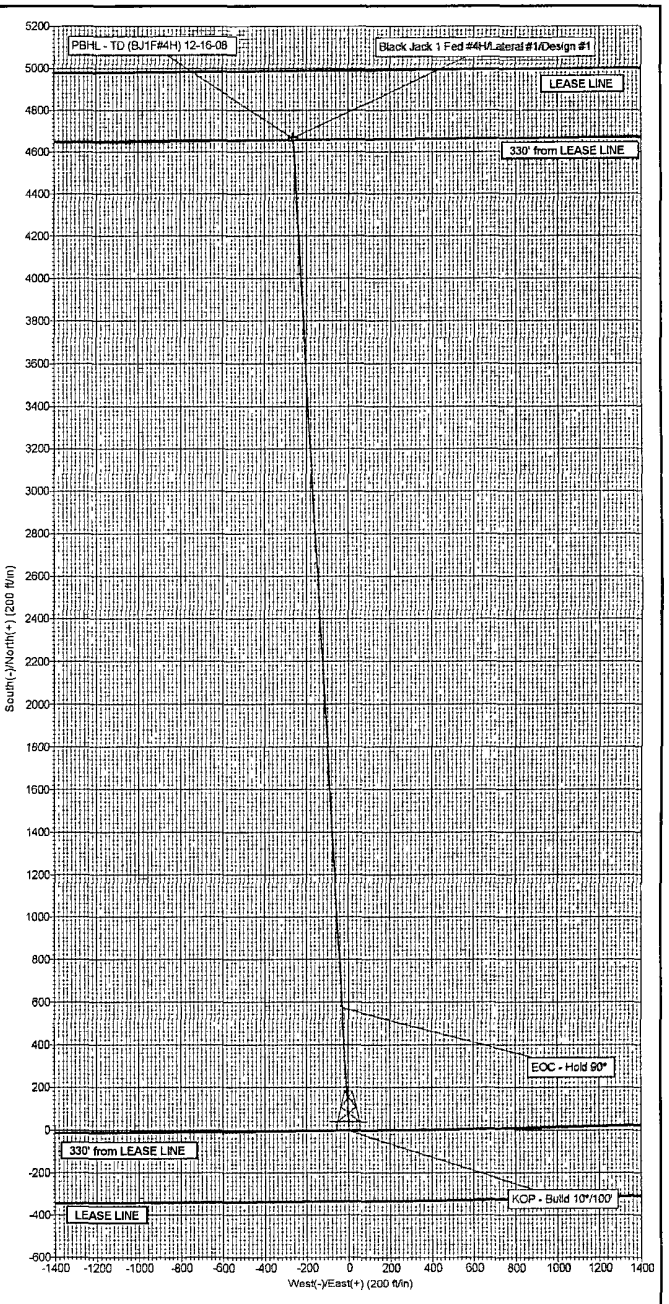
Plan Design #1 (Black Jack 1 Fed #4H/Lateral #1)

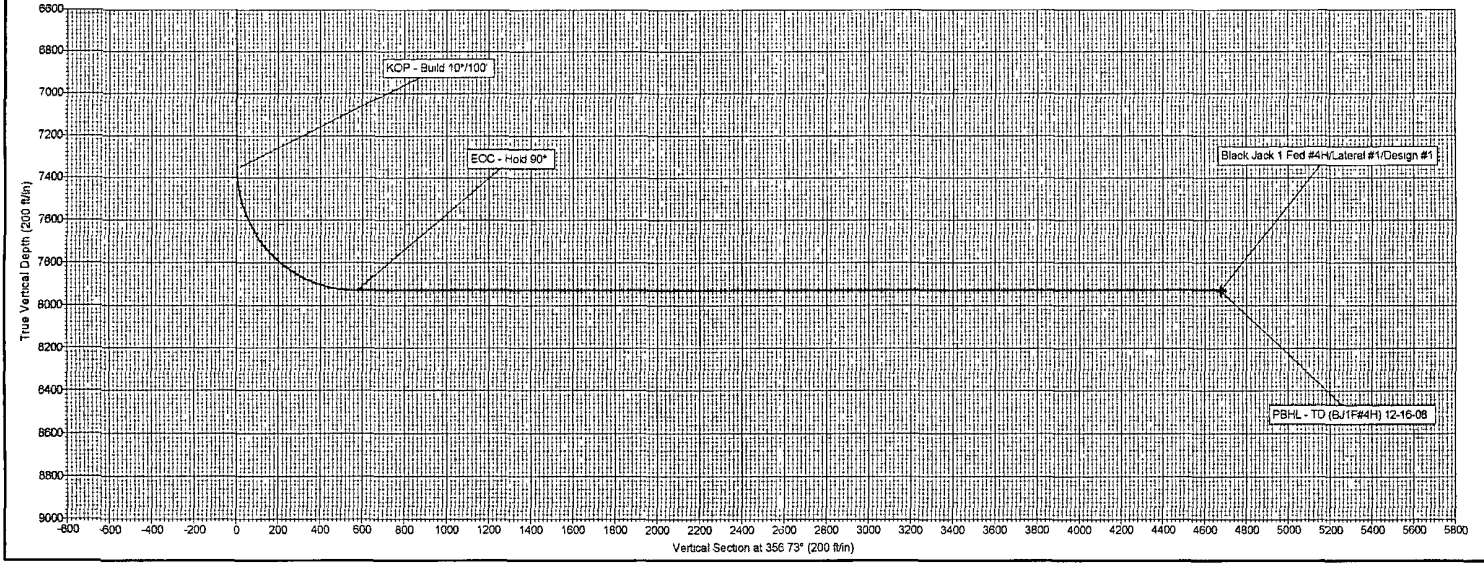
Created By Mike Starkey Date 16 11, December 16 2008
Checked _____ Date _____
Reviewed _____ Date _____
Approved _____ Date _____



Azimuths to Grid North
True North -0 26°
Magnetic North 7 73°

Magnetic Field
Strength 48699 0snT
Dip Angle 60 23°
Date 12/16/2008
Model IGRF200510





Devon Energy
Black Jack 1 Fed #4H - Design #1

Eddy Co., New Mexico (Nad 83)
Black Jack 1 Fed #4H

Measured Depth (ft)	Incl.	Azim.	Vertical Depth (ft)	Northings (ft)	Eastings (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)
0.00	0.000	0.000	0.00	0.00 N	0.00 W	0.00	0.00
7357.04	0.000	0.000	7357.04	0.00 N	0.00 W	0.00	0.00
7400.00	4.296	356.732	7399.96	1.61 N	0.09 W	1.61	10.00
7500.00	14.296	356.732	7498.52	17.71 N	1.01 W	17.74	10.00
7600.00	24.296	356.732	7592.78	50.66 N	2.89 W	50.75	10.00
7700.00	34.296	356.732	7679.88	99.45 N	5.68 W	99.62	10.00
7800.00	44.296	356.732	7757.17	162.60 N	9.28 W	162.87	10.00
7900.00	54.296	356.732	7822.31	238.19 N	13.60 W	238.58	10.00
8000.00	64.296	356.732	7873.30	323.92 N	18.50 W	324.45	10.00
8100.00	74.296	356.732	7908.61	417.20 N	23.82 W	417.88	10.00
8200.00	84.296	356.732	7927.16	515.17 N	29.42 W	516.01	10.00
8257.04	90.000	356.732	7930.00	572.03 N	32.66 W	572.96	10.00
8300.00	90.000	356.732	7930.00	614.91 N	35.11 W	615.92	0.00
8400.00	90.000	356.732	7930.00	714.75 N	40.81 W	715.92	0.00
8500.00	90.000	356.732	7930.00	814.59 N	46.51 W	815.92	0.00
8600.00	90.000	356.732	7930.00	914.43 N	52.22 W	915.92	0.00
8700.00	90.000	356.732	7930.00	1014.26 N	57.92 W	1015.92	0.00
8800.00	90.000	356.732	7930.00	1114.10 N	63.62 W	1115.92	0.00
8900.00	90.000	356.732	7930.00	1213.94 N	69.32 W	1215.92	0.00
9000.00	90.000	356.732	7930.00	1313.78 N	75.02 W	1315.92	0.00
9100.00	90.000	356.732	7930.00	1413.61 N	80.72 W	1415.92	0.00
9200.00	90.000	356.732	7930.00	1513.45 N	86.42 W	1515.92	0.00
9300.00	90.000	356.732	7930.00	1613.29 N	92.12 W	1615.92	0.00
9400.00	90.000	356.732	7930.00	1713.13 N	97.82 W	1715.92	0.00
9500.00	90.000	356.732	7930.00	1812.96 N	103.52 W	1815.92	0.00

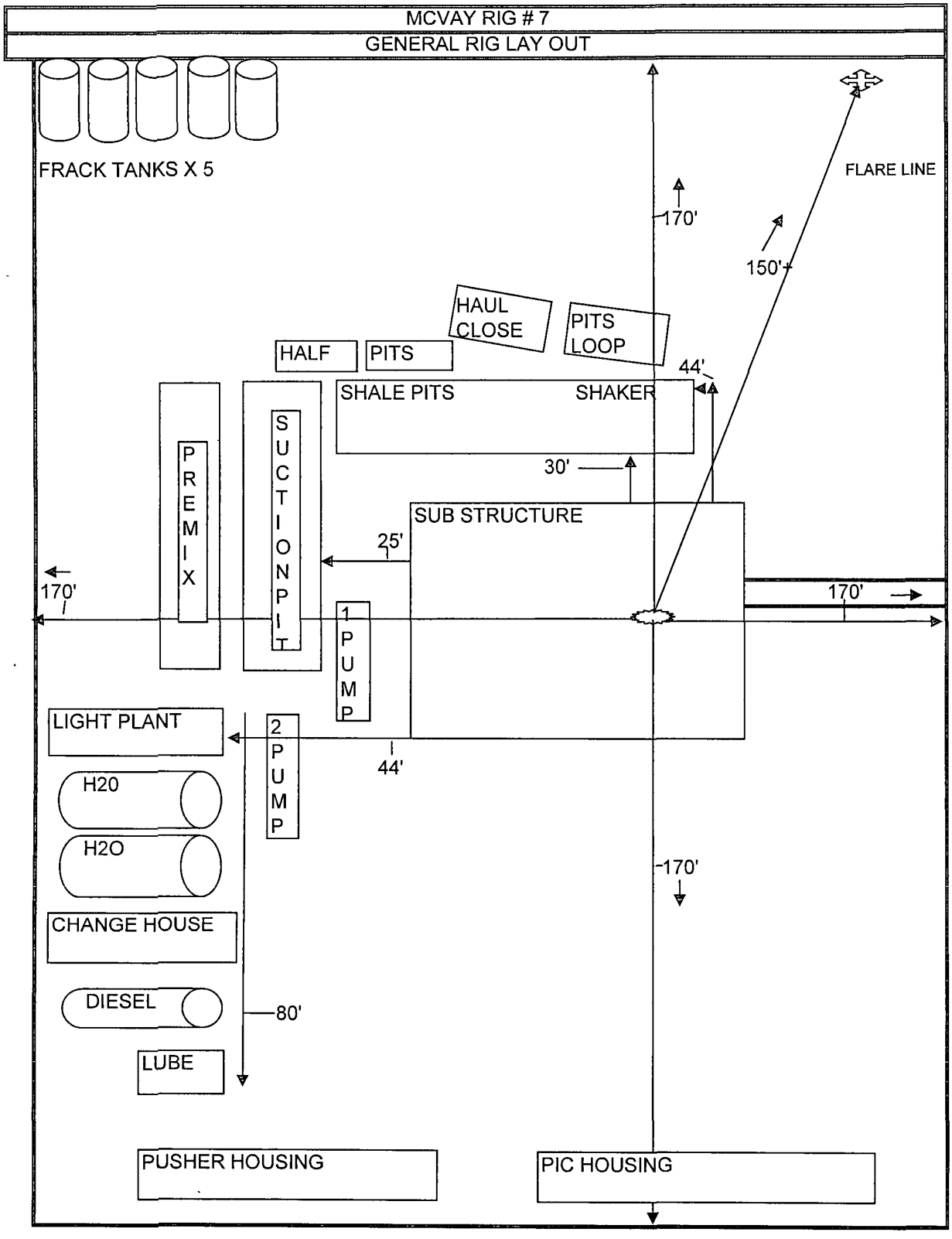
9600.00	90.000	356.732	7930.00	1912.80 N	109.23 W	1915.92	0.00
9700.00	90.000	356.732	7930.00	2012.64 N	114.93 W	2015.92	0.00
9800.00	90.000	356.732	7930.00	2112.47 N	120.63 W	2115.92	0.00
9900.00	90.000	356.732	7930.00	2212.31 N	126.33 W	2215.92	0.00
10000.00	90.000	356.732	7930.00	2312.15 N	132.03 W	2315.92	0.00
10100.00	90.000	356.732	7930.00	2411.99 N	137.73 W	2415.92	0.00
10200.00	90.000	356.732	7930.00	2511.82 N	143.43 W	2515.92	0.00
10300.00	90.000	356.732	7930.00	2611.66 N	149.13 W	2615.92	0.00
10400.00	90.000	356.732	7930.00	2711.50 N	154.83 W	2715.92	0.00
10500.00	90.000	356.732	7930.00	2811.34 N	160.53 W	2815.92	0.00
10600.00	90.000	356.732	7930.00	2911.17 N	166.23 W	2915.92	0.00
10700.00	90.000	356.732	7930.00	3011.01 N	171.94 W	3015.92	0.00
10800.00	90.000	356.732	7930.00	3110.85 N	177.64 W	3115.92	0.00
10900.00	90.000	356.732	7930.00	3210.69 N	183.34 W	3215.92	0.00
11000.00	90.000	356.732	7930.00	3310.52 N	189.04 W	3315.92	0.00
11100.00	90.000	356.732	7930.00	3410.36 N	194.74 W	3415.92	0.00
11200.00	90.000	356.732	7930.00	3510.20 N	200.44 W	3515.92	0.00
11300.00	90.000	356.732	7930.00	3610.04 N	206.14 W	3615.92	0.00
11400.00	90.000	356.732	7930.00	3709.87 N	211.84 W	3715.92	0.00
11500.00	90.000	356.732	7930.00	3809.71 N	217.54 W	3815.92	0.00
11600.00	90.000	356.732	7930.00	3909.55 N	223.24 W	3915.92	0.00
11700.00	90.000	356.732	7930.00	4009.38 N	228.94 W	4015.92	0.00
11800.00	90.000	356.732	7930.00	4109.22 N	234.65 W	4115.92	0.00
11900.00	90.000	356.732	7930.00	4209.06 N	240.35 W	4215.92	0.00
12000.00	90.000	356.732	7930.00	4308.90 N	246.05 W	4315.92	0.00
12100.00	90.000	356.732	7930.00	4408.73 N	251.75 W	4415.92	0.00
12200.00	90.000	356.732	7930.00	4508.57 N	257.45 W	4515.92	0.00
12300.00	90.000	356.732	7930.00	4608.41 N	263.15 W	4615.92	0.00
12358.94	90.000	356.732	7930.00	4667.25 N	266.51 W	4674.85	0.00

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

The Dogleg Severity is in Degrees per 100 feet.
Vertical Section is from Slot and calculated along an Azimuth of 356.730° (Grid).

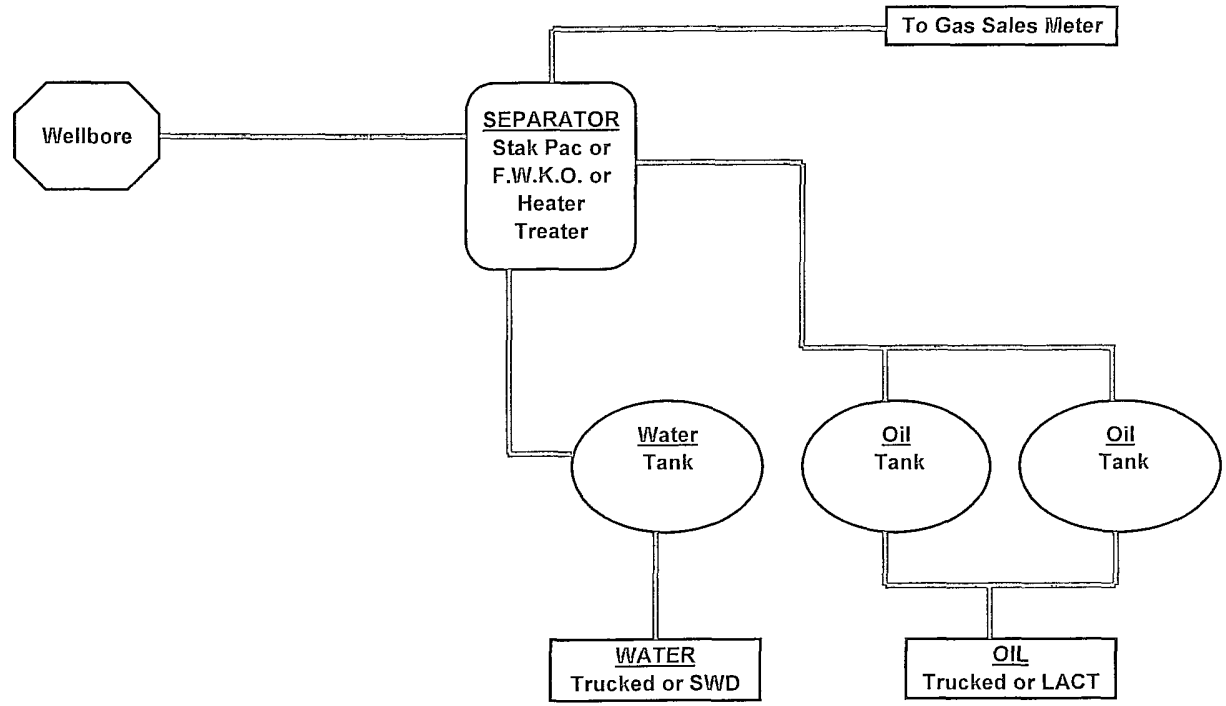
Coordinate System is North American Datum 1983 US State Plane 1983, New Mexico Eastern Zone.
Central meridian is -104.333°.
Grid Convergence at Surface is 0.265°.

Based upon Minimum Curvature type calculations, at a Measured Depth of 12358.94ft., the Bottom Hole Displacement is 4674.85ft., in the Direction of 356.730° (Grid).

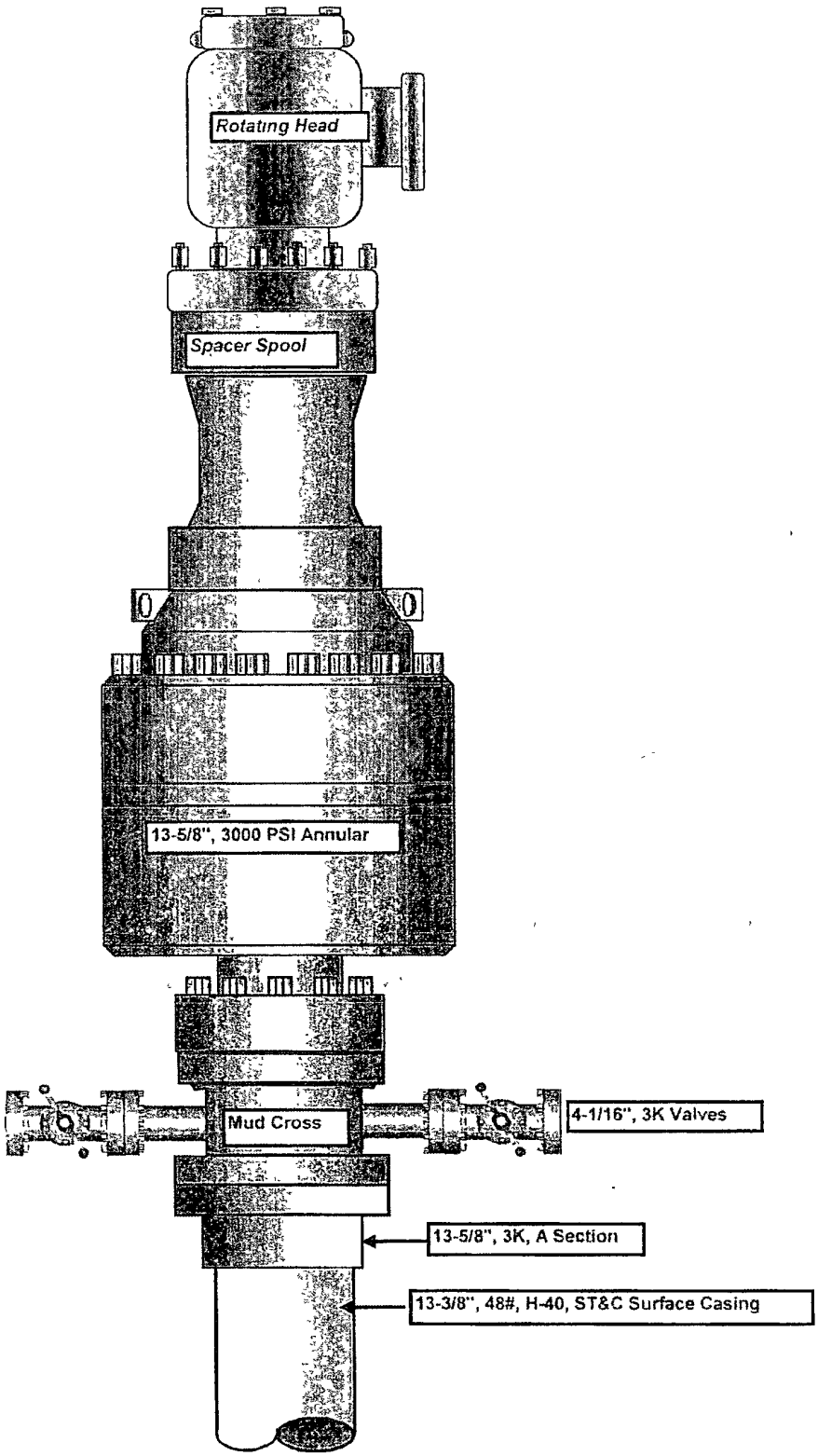

MCVAY RIG # 7
GENERAL RIG LAY OUT
FRACK TANKS X 5
FLARE LINE
170'
150'
HAUL CLOSE
PITS LOOP
HALF
PITS
44'
SHALE PITS
SHAKER
30'
SUB STRUCTURE
25'
PREMIX
SUCTION PIT
1 PUMP
170'
170'
LIGHT PLANT
2 PUMP
44'
H20
H2O
170'
CHANGE HOUSE
DIESEL
80'
LUBE
PUSHER HOUSING
PIC HOUSING

DEVON ENERGY PRODUCTION COMPANY LP

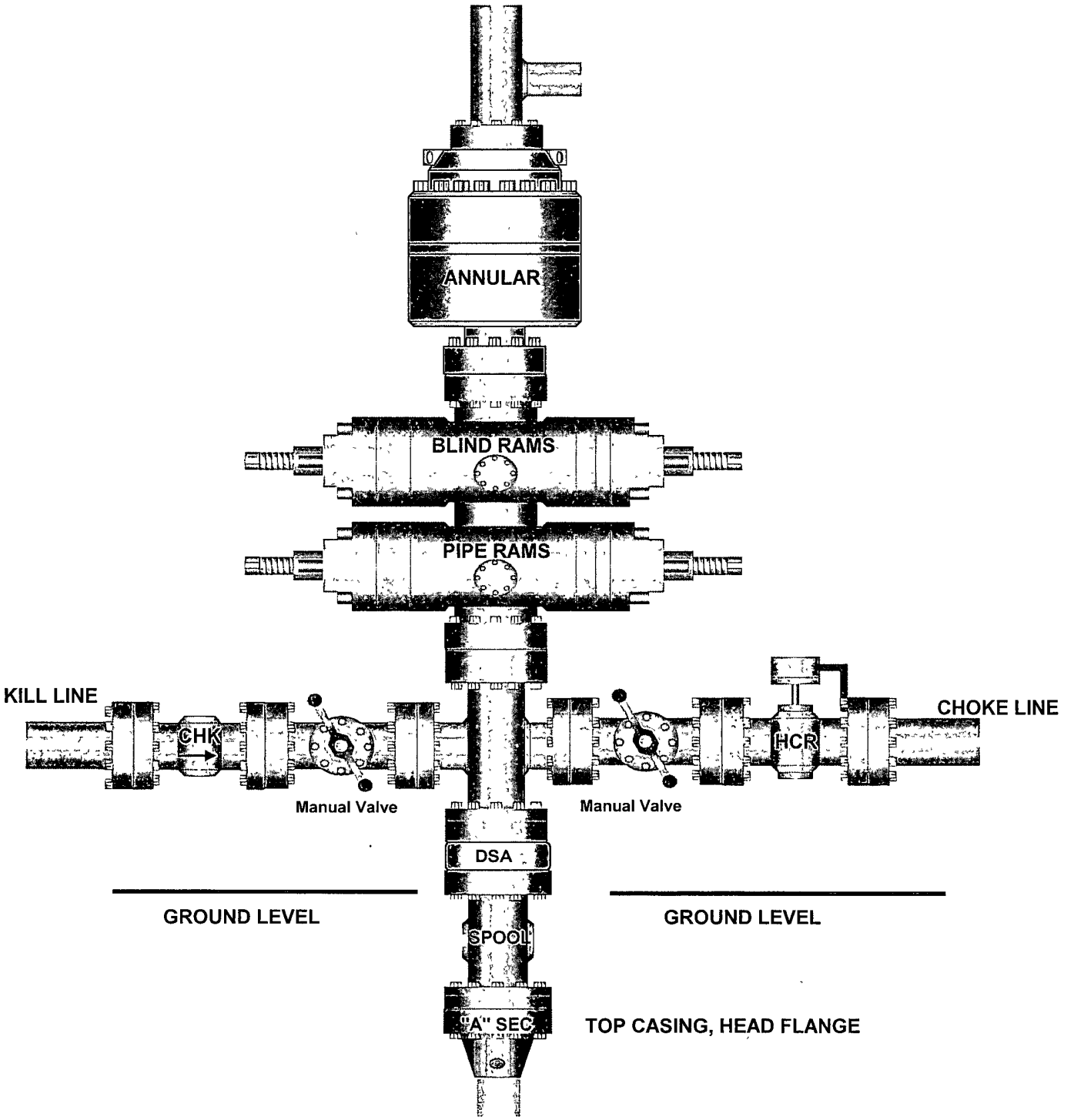
General Production Facilities Diagram

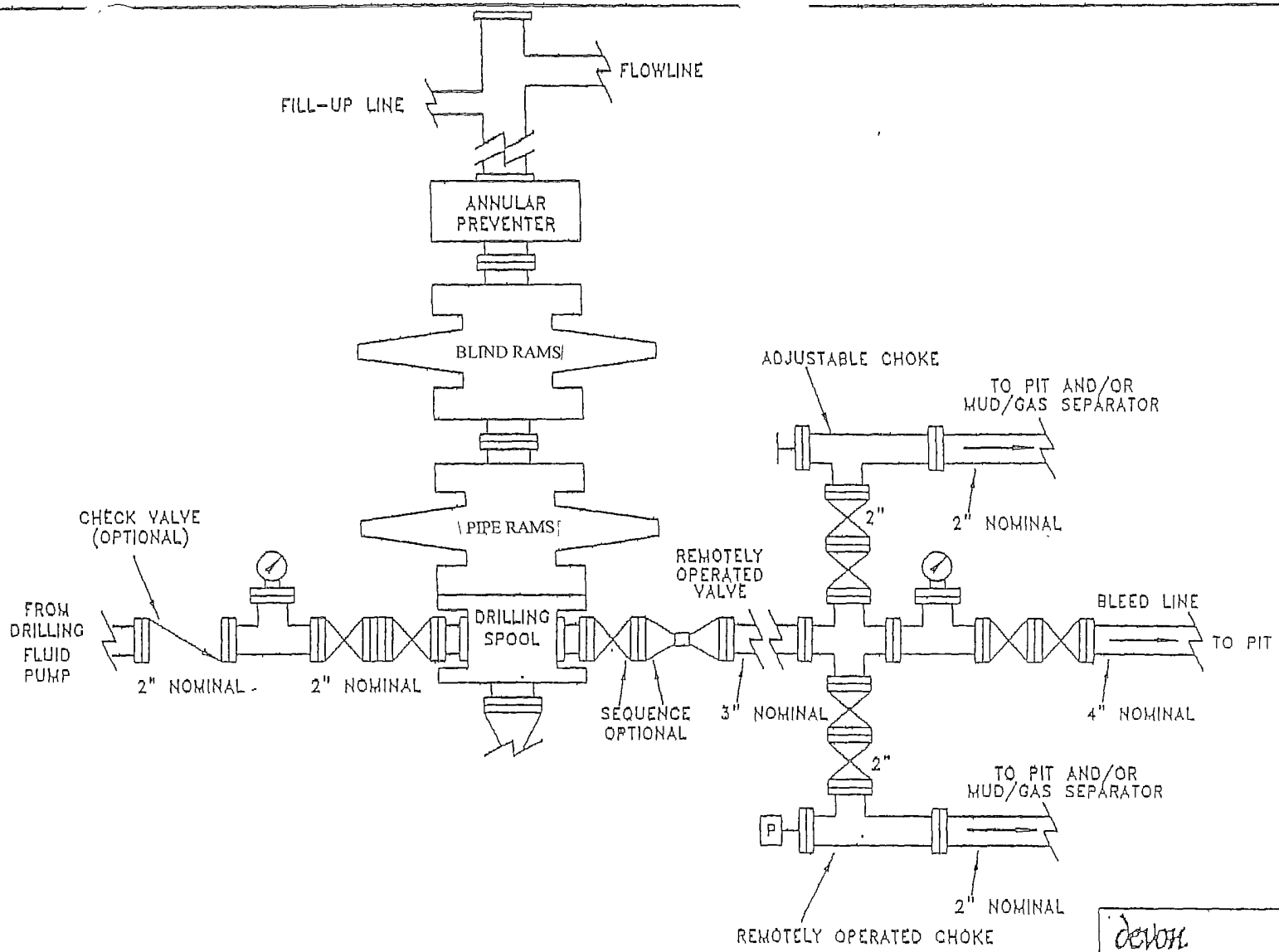


13-5/8" 3K Annular



11" x 5,000 psi BOP Stack





devon

EXHIBIT 1

PROPOSED 5-M BOPE AND CHOKE ARRANGEMENT

s:\...\nm\plots
5mbope.dwg

sc

NOTES REGARDING BLOWOUT PREVENTERS
Devon Energy Production Company, LP
Black Jack 1 Federal 4H
Surface Location: 330 FSL & 2230 FWL, Unit N, Sec 1 T24S R30E, Eddy, NM
Bottom hole Location: 330 FNL & 1980 FWL, Unit C, Sec 1 T24S R30E, 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.

HYDROGEN SULFIDE DRILLING OPERATIONS PLAN

1. All Company and Contract personnel admitted on location must be trained by a qualified H2S safety instructor to the following:
   a. Characteristics of H2S
   b. Physical effects and hazards
   c. Proper use of safety equipment and life support systems.
   d. Principle and operation of H2S detectors, warning system and briefing areas
   e. Evacuation procedures, routes and first aid.
   f. Proper use of 30-minute pressure demand air pack.

2. H2S Detection and Alarm System
   a. H2S detectors and audio alarm system to be located at bell nipple, end of blooie line (mud pit) and on derrick floor or doghouse.

3. Windsock and/or wind streamers
   a. Windsock at mud pit area should be high enough to be visible
   b. Windsock at briefing area should be high enough to be visible
   c. There should be a windsock at entrance to location

4. Condition Flags and Signs
   a. Warning Sign on access road to location
   b. Flags to be displayed on sign at entrance to location. Green flag, normal safe condition. Yellow flag indicates potential pressure and danger. Red flag, danger, H2S present in dangerous concentration. Only emergency personnel admitted to location.

5. Well Control Equipment
   a. See Exhibit "E" & "E-1"

6. Communication
   a. While working under masks chalkboards will be used for communication.
   b. Hand signals will be used where chalk board is inappropriate
   c. Two way radio will be used to communicate off location in case of emergency help is required. In most cases cellular telephones will be available at most drilling foreman's trailer or living quarters.

7. Drill stem Testing
   a. Exhausts will be watered

b. Flare line will be equipped with an electric igniter or a propane pilot light in case gas reaches the surface.
c. If the location is near to a dwelling a closed DST will be performed.

8. Drilling contractor supervisor will be required to be familiar with the effects H2S has on tubular goods and other mechanical equipment.

If H2S is encountered, mud system will be altered if necessary to maintain control or formation. A mud gas separator will be brought into service along with H2S scavengers if necessary

Escape

Crews shall escape upwind of escaping gas in the event of an emergency release of gas. Escape can be facilitated South down lease road to US Refinery road. 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.

Emergency Procedures

In the case 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. Additionally the first responder(s) must evacuate any public places encompassed by the 100 ppm ROE. First responder(s) must take care not to injure themselves during this operation. Company and/or local officials must be contacted to aid in this operation. Evacuation of the public should be beyond the 100 ppm ROE.

All responders must have training in the detection of H_2S, measures for protection against the gas, equipment used for protection and emergency response. Additionally, responders must be equipped with H_2S monitors and air packs in order to control the release. Use the "buddy system' to ensure no injuries during the 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 – Tracy Kidd	(575) 513-0628	748-0189	
Asst. Foreman – Jerry Chaney	(575) 748-7446	748-0181	
Don Mayberry	748-7180	748-5235	746-4945
Montral Walker	(575) 390-5182	(575) 748-0193	
Linda Berryman	(575) 513-0534	(575) 748-0177	

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)	(575)476-9600
24 HR	(575) 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

SURFACE USE PLAN
Devon Energy Production Company, LP
Black Jack 1 Federal 4H
Surface Location: 330 FSL & 2230 FWL, Unit N, Sec 1 T24S R30E, Eddy, NM
Bottom hole Location: 330 FNL & 1980 FWL, Unit C, Sec 1 T24S R30E, 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 the junction of Hwy 128 and Twin Wells, go south 4.2 miles to lease road, go west 1.1 miles to proposed lease road.

2. **New or Reconstructed Access Roads:**
   a. The well site layout, Form C-102 shows the existing County Road. Approximately 989'' of new access road will be constructed as follows. 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.
   b. 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%.
   c. 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 Blackjack 1 Federal 2 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. All flow lines will adhere to API standards.
   d. If the well is productive, rehabilitation plans are as follows:
      i. 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.
   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. 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 sump pits and living facilities.
   c. Mud pits in the active circulating system will be steel pits.
   d. A closed loop system will be utilized.
   e. If a pit or closed loop system is utilized, Devon will comply with the NMOCD requirements 19.15.17 and submit form C-144 to the appropriate NMOCD District Office. A copy to be provided to the BLM.

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.
   b. The location and road will be rehabilitated as recommended by the BLM.
   c. If the well is a producer, location not essential to production facilities will be reclaimed and seeded per BLM requirements.
   d. 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**
    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, sage bush, 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 the Permian Basin Cultural Resource Fund in lieu of being required to conduct a Class III Survey for cultural resources associated with their project within 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.

Jim Cromer - Operations Engineer Advisor
Devon Energy Production Company, L.P.
20 North Broadway, Suite 1500
Oklahoma City, OK 73102-8260
(405) 228-8965 (office)
(405) 464-9769 (Cellular)

Don Mayberry - Superintendent
Devon Energy Production Company, L.P.
Post Office Box 250
Artesia, NM 88211-0250
(575) 748-3371 (office)
(575) 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 _20th___ day of __January 2009.
Printed Name: Judy A. Barnett
Signed Name:
Position Title: Regulatory Analyst
Address: 20 North Broadway, OKC OK 73102
Telephone: (405)-228-8699
Field Representative (if not above signatory):
Address (if different from above):
Telephone (if different from above):

PECOS DISTRICT
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Devon Energy Production Company, LP
LEASE NO.:	NM-97133
WELL NAME & NO.:	Black Jack 1 Federal 4H
SURFACE HOLE FOOTAGE:	330' FSL & 2230' FWL
BOTTOM HOLE FOOTAGE	330' FNL & 1980' FWL
LOCATION:	Section 01, T. 24 S., R 30 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.

- ☐ **General Provisions**
- ☐ **Permit Expiration**
- ☐ **Archaeology, Paleontology, and Historical Sites**
- ☐ **Noxious Weeds**
- ☐ **Special Requirements**
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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. 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. TOPSOIL

The operator shall stockpile the topsoil of the well pad. The topsoil to be stripped is approximately 8 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.

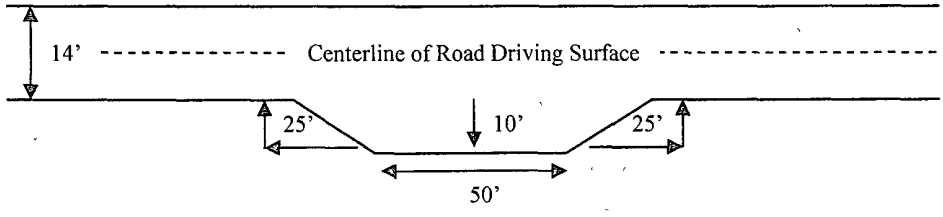
Crowning
Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

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:

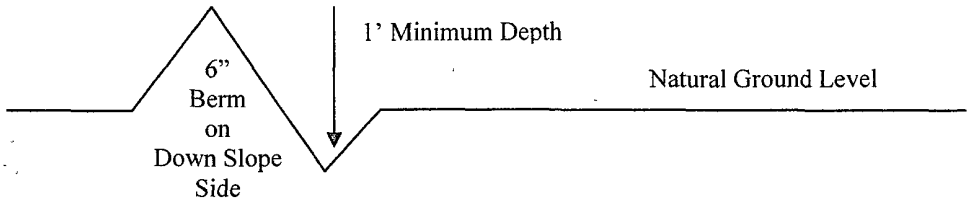
Standard Turnout – Plan View



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.

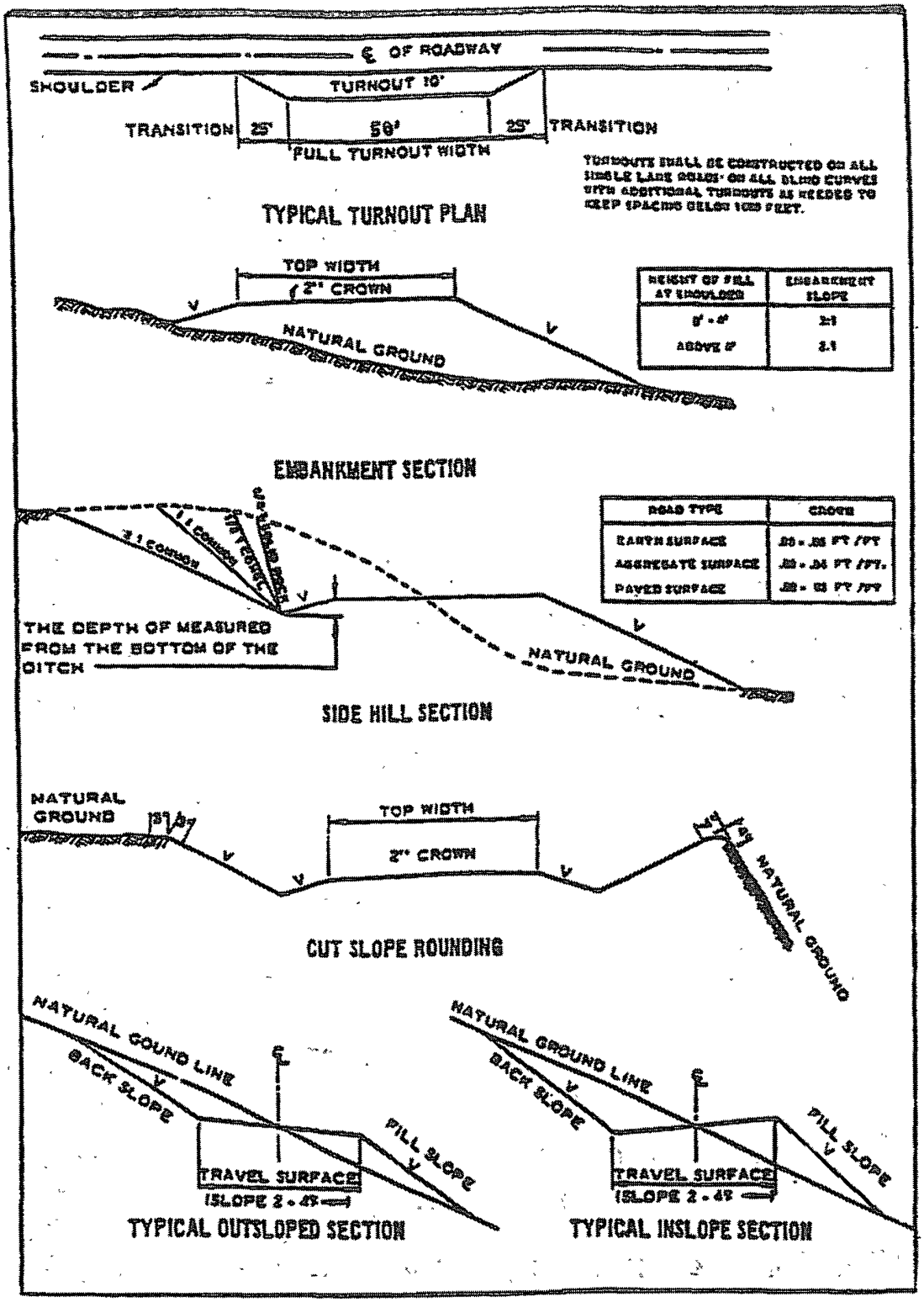
A gate shall be constructed and fastened securely to H-braces.

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



VI. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

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

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

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

1. **Although Hydrogen Sulfide has not been reported in this section, it is always a potential hazard. If Hydrogen Sulfide is encountered, please report measured amounts 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. When floor controls are required, (3M or Greater) 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. Gamma-Ray/Neutron logs shall be run from the base of the Salado formation to the surface. The logs shall be run at a speed which allows the logs to be legible and no faster than manufacturer of the logging tools recommended speed. (R-111-P area only)

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.

R-111-P potash area.
Medium potential for Karst and cave type structures.
Possible lost circulation in the Delaware and Bone Spring (if penetrated) formations.

1. The **13-3/8** inch surface casing shall be set **at approximately 570 feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt)** and cemented to the surface.

    a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with 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.

Brine water mud to setting depth of intermediate casing.

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.
    R-111-P requirement for this casing is to be set a minimum of 100' below the salt and not more than 600' below the salt. Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to R-111-P potash.

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

   a. First stage to DV tool, cement shall:

   ☒ Cement to circulate. If cement does not circulate, contact the appropriate BLM office, before proceeding with second stage cement job. **Additional cement will be required as excess cement calculates to less than 5%.**

   b. **Second stage above DV tool, cement shall:**

   ☒ **Cement to surface. If cement does not circulate, contact the appropriate BLM office. Additional cement will be required to bring cement to surface, excess cement calculates to a -6%.**

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.

5. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

C. PRESSURE CONTROL

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.

1. 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.

2. 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. **A 5M BOP stack requires a 5M annular.**

3. 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. **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. DRILL STEM TEST

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

RGH 30509

VII. 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

VIII. 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 2, for Sandy 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 see mixture will be evenly and uniformly planted over the disturbed area (smaller/heavier seeds have a tendency to drop the bottom of the drill and are planted first). The holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. The seeding will be repeated until a satisfactory stand is established as determined by the authorized officer. Evaluation of growth will not be made before completion of at least one full growing season after seeding.

Species to be planted in pounds of pure live seed* per acre:

Species	lb/acre
Sand dropseed (Sporobolus cryptandrus)	1.0
Sand love grass (Eragrostis trichodes)	1.0
Plains bristlegrass (Setaria macrostachya)	2.0

*Pounds of pure live seed:

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

(Insert Seed Mixture Here)

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.