

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
SUNDRY NOTICES AND REPORTS ON WELLSFORM APPROVED
OMB NO. 1004-0135
EXPIRES: March 31, 2007Do not use this form for proposals to drill or to re-enter an
abandoned well. Use Form 3160-3 (APD) for such proposals.

SUBMIT IN TRIPLICATE

RECEIVED

MAR 10 2010

NMOCD ARTESIA

1a. Type of Well ☐ Oil Well ☒ Gas Well ☐ Other _____

2. Name of Operator

DEVON ENERGY PRODUCTION COMPANY, LP

3. Address and Telephone No.

20 N. Broadway, Oklahoma City, Ok 73102-8260 405-235-3611

4. Location of Well (Report location clearly and in accordance with Federal requirements)*

660' FSL 1310' FWL P SEC 9 T23S R31E

BHL: 660 FNL & 1310 FEL

PP:869 FSL & 1310 FEL

5. Lease Serial No.

NM-77046

6. If Indian, Allottee or Tribe Name

7. Unit or CA Agreement Name and No.

8. Well Name and No.

North Pure Gold 9 Federal 18N

9. API Well No.

30-015-37616

10. Field and Pool, or Exploratory

Upper Penn Shale

11. County or Parish State

Eddy

NM

12. CHECK APPROPRIATE BOX(S) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION

- ☒
- Notice of Intent
-
- ☐
- Subsequent Report
-
- ☐
- Final Abandonment Notice

TYPE OF ACTION

- | | | | |
|--|---|--|---|
| <input type="checkbox"/> Acidize | <input type="checkbox"/> Deepen | <input type="checkbox"/> Production (Start/Resume) | <input type="checkbox"/> Water Shut-Off |
| <input type="checkbox"/> Alter Casing | <input type="checkbox"/> Fracture Treat | <input type="checkbox"/> Reclamation | <input type="checkbox"/> Well Integrity |
| <input type="checkbox"/> Casing Repair | <input type="checkbox"/> New Construction | <input type="checkbox"/> Recomplete | <input type="checkbox"/> Other _____ |
| <input checked="" type="checkbox"/> Change Plans | <input type="checkbox"/> Plug and Abandon | <input type="checkbox"/> Temporarily Abandon | |
| <input type="checkbox"/> Convert to Injection | <input type="checkbox"/> Plug Back | <input type="checkbox"/> Water Disposal | |

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work and approximate duration thereof. If the proposal deepens directionally or recompletes horizontally, give subsurface location and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirement, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

Devon Energy Production Company L. P. respectfully requests to deviate from the original APD to change from a vertical Morrow well to an Upper Penn Shale horizontal. See attached changes: (Cementing Procedures, C-102, Directional Survey, Geo Prog & BOP schematic).

Casing Program

Hole Size	Hole Interval	OD Csg	Casing Interval	Wt	Collar	Grade
26"	0' - 675'	20"	0' - 675' 600' ^{500' COA}	94#	BTC	H-40
17 1/2"	675' - 4180'	13 3/8"	0' - 4180'	68#	BTC	HCK-55
12 1/4"	4,180' - 11,250'	9 5/8"	0' - 11,250'	40#	LTC	HCP-110
8 3/4"	11,250' - 13,400' PH					
8 3/4"	12,300' - 16,700'	5 1/2"	0' - 16,700'	23#	Vam Top	EC-P110

Design Parameter Factors:

Casing Size	Collapse Design Factor	Burst Design Factor	Tension Design Factor
20"	2.7	8.18	15.4
13 3/8"	1.22	1.65	4.77
9 5/8"	1.68	1.67	1.91
5 1/2"	1.63	1.67	2.18

14. I hereby certify that the foregoing is true and correct

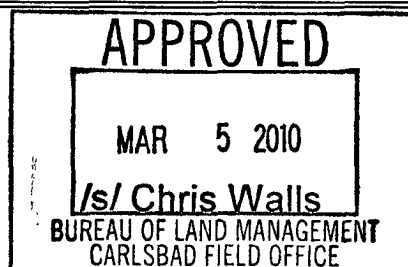
Signed Name Judy A. Barnett X8699
Title Regulatory AnalystDate 2/16/2010

(This space for Federal or State Office use)

Approved by _____ Title _____ Date _____
Conditions of approval, if any: _____

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

*See Instruction on Reverse Side

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

D. S. 3-11-10

2/16/10

Page 2

**NORTH PURE GOLD 9 FEDERAL 18H
SEC9-T23S-R31E EDDY NM_PILOT HOLE (PH)**

The Collapse SF for the 9 5/8" casing is derived using a 9 lb fluid gradient behind the casing and a minimum of a 9 lb fluid gradient in the casing. This casing will not be evacuated.

Mud Program

<u>Depth</u>	<u>Mud Wt.</u>	<u>Visc</u>	<u>Fluid Loss</u>	<u>Type System</u>
0' – 675'	8.4 – 8.8	32 – 34	N/C	FW/Gel
675' – 4,180'	9.7 – 10.0	28 – 30	N/C	Brine
4,180' – 11,250'	9.0 – 9.3	28-30	NC -40	Fresh
11,250' – 13,400'PH	10.5 – 14.0	40 – 60	12 – 8cc	Fresh
12,300-16,700'	14.0-15.0	40-60		80/20 Oil Base

BOP DESIGN: Will consist of a (10M system) triple ram type (10M psi WP) preventor and a bag-type (Hydril) preventor (10M psi WP) and a rotation head. All units will be hydraulically operated and the ram type preventor will be equipped with blind rams on top and two sets of pipe rams on bottom. A 3M Annular BOP will be installed on the 20" surface casing and utilized continuously until total depth (~4200') is reached. The mentioned 10M preventer will be installed on the 13 3/8" casing. All BOP's will be tested with independent testers before drilling out the associated casing shoes. Prior to drilling out the 13 3/8" casing shoe, the BOP's and Hydril will be tested as per BLM Drilling Operations Order #2.

Pipe rams will be operated and checked each 24-hour period and each time the drill pipe is out of the hole. These functional tests will be documented on the daily driller's log. A 2" kill line and 3" choke line will be incorporated in the drilling spool below the ram-type BOP. Other accessory BOP equipment will include a Kelly cock, floor safety valve, choke lines and choke manifold having 10000 psi WP rating.

2/16/10

Page 3

**NORTH PURE GOLD 9 FEDERAL 18H
CEMENTING PROGRAM and WHIPSTOCK PROGRAM**

Cement plug for the Pilot Hole:

Plug Geometry:

Plug 12,400' to 13,400' 420 sx Class H +R-3, Yield 1.18 cf/sx

An 8 3/4" Open Hole Whipstock with a packer type anchor will be set @ ~12,300' after the cement plug has been set. Directional tools will be run and KOP will be ~12,300'. The lateral will be drilled from ~13,300' MD to 16,700' MD.

20"	Surface	Lead: 745 sx Cl C w/2% CC and 4% gel Yield 1.75 cf/sk Tail: 300 sx Cl C w/2% CC and .125 lb/sx CF Yield: 1.35 cf/sx
13 3/8"	Intermediate	Lead: 2360 sx (35:65) Poz (Fly Ash):Premium Plus C + 5% bwow Sodium Yield: 2.04 cf/sx. TOC @ surface. Tail: 430 sx Premium Plus C + 2% bwoc Calcium Chloride + 0.125 lbs/sx CF + 56.3% FW Yield: 1.35 cf/sx.
9 5/8"	Intermediate	Lead: 1100 sx (35:65) Poz (Fly Ash):Premium Plus C + 5% bwow Sodium Chloride + 0.125 lbs/sx CF + 6% bwoc Bentonite + 107.8% FW Yield: 2.04 cf/sx. Tail: 850 sx Premium Plus Super C Cement + 5% bwow Sodium Chloride + 0.125 lbs/sx CF + 0.4% bwoc Sodium Metasilicate + 4% bwoc MPA-5 + 64.7% FW Yield: 1.56 cf/sx. 2 Stage DV Tool @ 5500' 2nd Stage Lead: 450 sx 35:65 Poz: Cl H + 6% gel and 2% SC Yield 1.98 cf/sx Tail: 150 sx 60:40 Pox Cl C + 1% KCL and .125 lb/sx CF Yield: 1.56 cf/sx
5 1/2"	Production	1950 sx Premium Plus H + 0.35% bwoc R-3 + 0.4% bwoc CD-32 + 1.4% bwoc FL-63 + 0.2% bwoc Sodium Metasilicate + 20 lbs/sx ASCA-1 + 52.9% FW Yield: 1.13 cf/sx.

TOC for All Strings:

Surface:	0'
Intermediate:	0'
Intermediate:	3600'
Production:	3000'

DISTRICT I

1625 N. French Dr., Hobbs, NM 88240

DISTRICT II

1801 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 15, 2009

Submit one copy to appropriate
District Office

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number	Pool Code	Pool Name UPPER PENN SHALE
Property Code	Property Name NORTH PURE GOLD "9" FEDERAL	Well Number 18H
OGRID No. 6137	Operator Name DEVON ENERGY PRODUCTION COMPANY, L.P.	Elevation 3371'

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	9	23 S	31 E		660	SOUTH	1310	EAST	EDDY

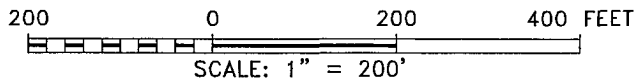
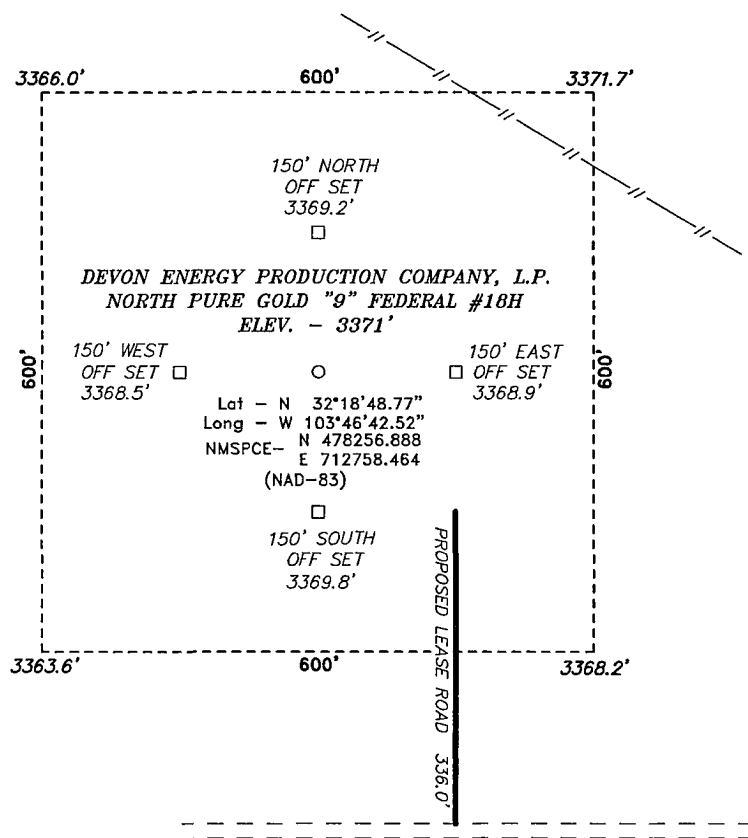
Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	9	23 S	31 E		660	NORTH	1310	EAST	EDDY
Dedicated Acres .320	Joint or Infill	Consolidation Code	Order No.						

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

<p>N 482558 8400 E 708748 6090</p> <p>N 482868 5740 E 711395 6700</p> <p>N 482884 5740 E 714042 2450</p> <p>N 480218 2220 E 708764 5880</p> <p>N 480244 4020 E 714057 3410</p> <p>N 477576 7210 E 708782 4250</p> <p>N 477590 0650 E 711425 6890</p> <p>N 477603 8970 E 714071 7980</p> <p>PROPOSED BOTTOM HOLE LOCATION Lat - N 32°19'27.95" Long - W 103°46'42.54" NMSPC - N 482216.633 E 712736.042 (NAD-83)</p> <p>SURFACE LOCATION Lat - N 32°18'48.77" Long - W 103°46'42.52" NMSPC - N 478256.888 E 712758.464 (NAD-83)</p> <p>PP: 869 FSL & 1310 FEL</p> <p>3366.0' 3371.7'</p> <p>3363.6' 3368.2'</p> <p>660'</p> <p>1310'</p> <p>3959.8'</p> <p>B.H.</p> <p>S.L.</p>	<p>OPERATOR CERTIFICATION</p> <p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.</p> <p>Signature _____ Date _____</p> <p>Judy A. Barnett 2/11/10</p> <p>Printed Name _____ Regulatory Analyst</p> <p>SURVEYOR CERTIFICATION</p> <p>I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.</p> <p>Date Surveyed _____</p> <p>Signature & Seal of Professional Surveyor _____</p> <p>GARY L. JONES OCTOBER 2009 NEW MEXICO PROFESSIONAL LAND SURVEYOR 7977</p> <p>Certificate No. Gary L. Jones 7977</p> <p>BASIN SURVEYS</p>
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SECTION 9, TOWNSHIP 23 SOUTH, RANGE 31 EAST, N.M.P.M.,
EDDY COUNTY, NEW MEXICO.



Directions to Location:

FROM THE MILE MARKER 13 OF HWY 18; GO 100' WEST TO LEASE ROAD, ON LEASE ROAD GO NORTH 0.6 MILES TO THE NPG 17 #2 LOCATION, AND CONTINUE NORTH 0.7 MILES THENCE EAST 0.6 MILES TO THE NPG 9 #9 LOCATION, CONTINUE EAST 0.15 MILES TO PROPOSED LEASE ROAD..

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

W.O. Number: 21891 Drawn By: J. SMALL

Date: 11-02-2009 Disk: JMS 21891

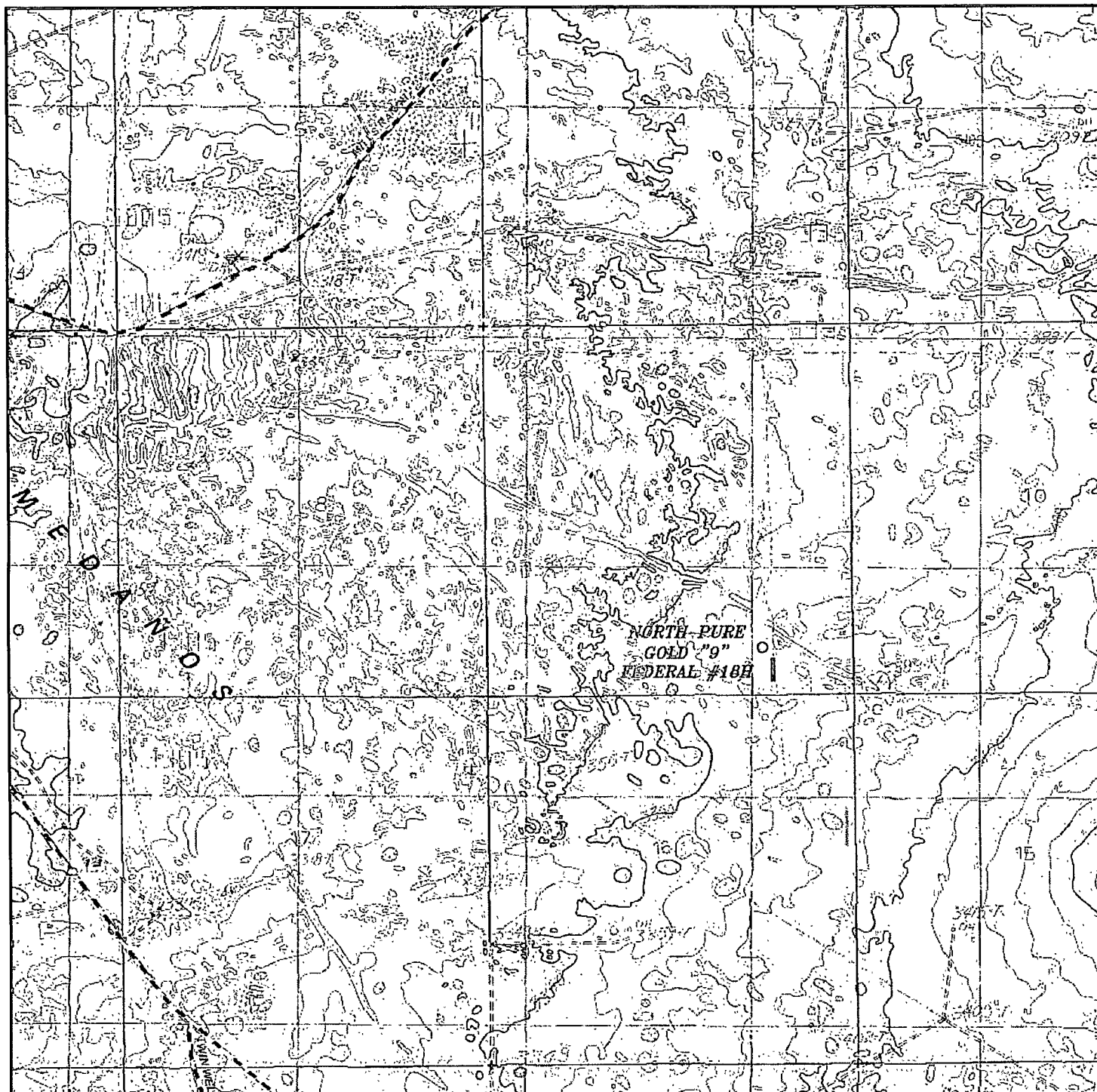
DEVON ENERGY PRODUCTION COMPANY, L.P.

REF: NORTH PURE GOLD "9" FEDERAL #18H / WELL PAD TOPO

THE NORTH PURE GOLD "9" FEDERAL #18H LOCATED 660'
FROM THE SOUTH LINE AND 1310' FROM THE EAST LINE OF

SECTION 9, TOWNSHIP 23 SOUTH, RANGE 31 EAST,
N.M.P.M., EDDY COUNTY, NEW MEXICO.

Survey Date: 11-02-2009 Sheet 1 of 1 Sheets



NORTH PURE GOLD "9" FEDERAL #18H
Located 660' FSL and 1310' FEL
Section 9, Township 23 South, Range 31 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

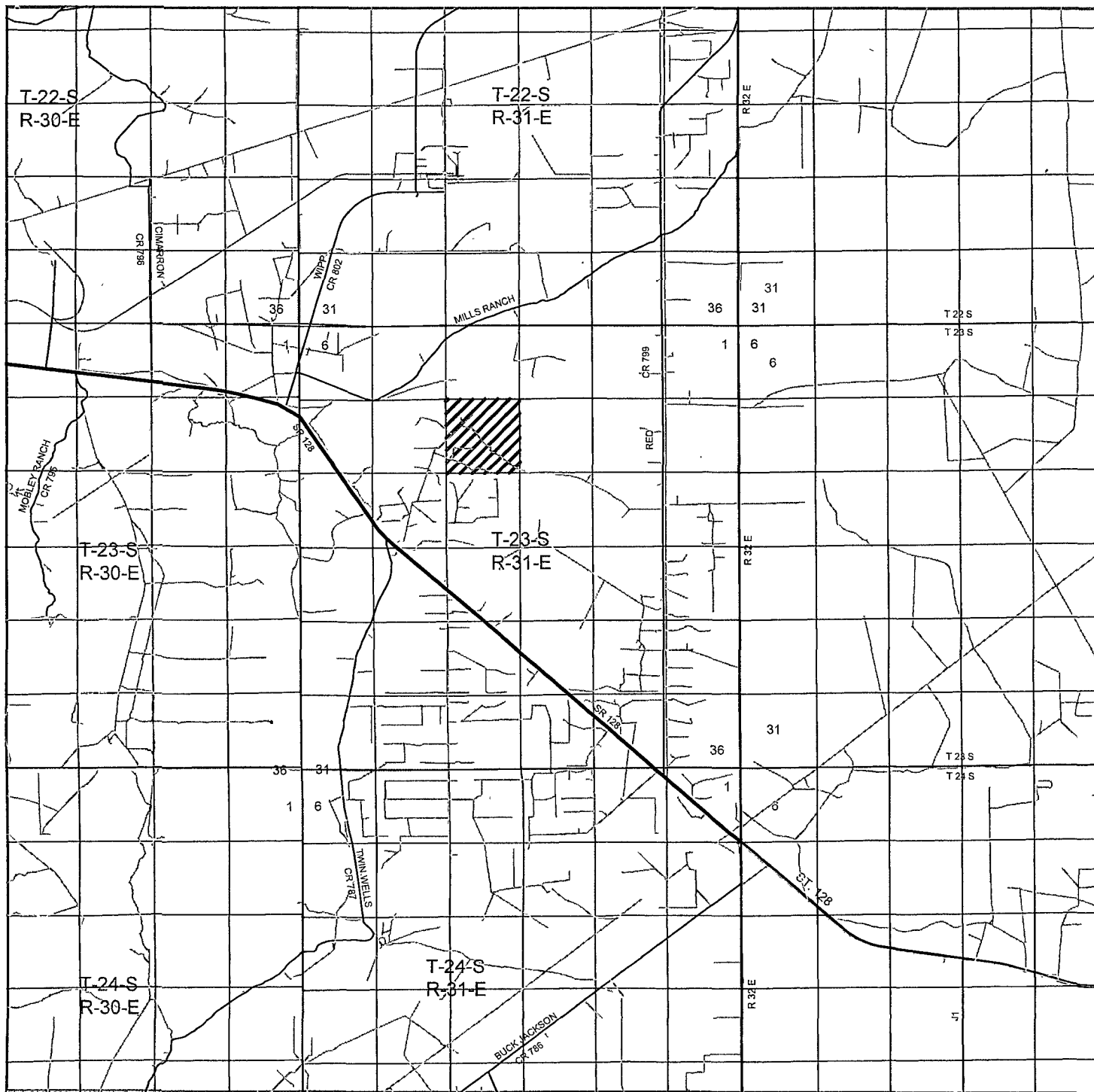
W.O. Number: JMS 21891

Survey Date: 10-30-2009

Scale: 1" = 2000'

Date: 11-02-2009

DEVON ENERGY
PRODUCTION
COMPANY, L.P.



NORTH PURE GOLD "9" FEDERAL #18H
 Located 660' FSL and 1310' FEL
 Section 9, Township 23 South, Range 31 East,
 N.M.P.M., Eddy County, New Mexico.

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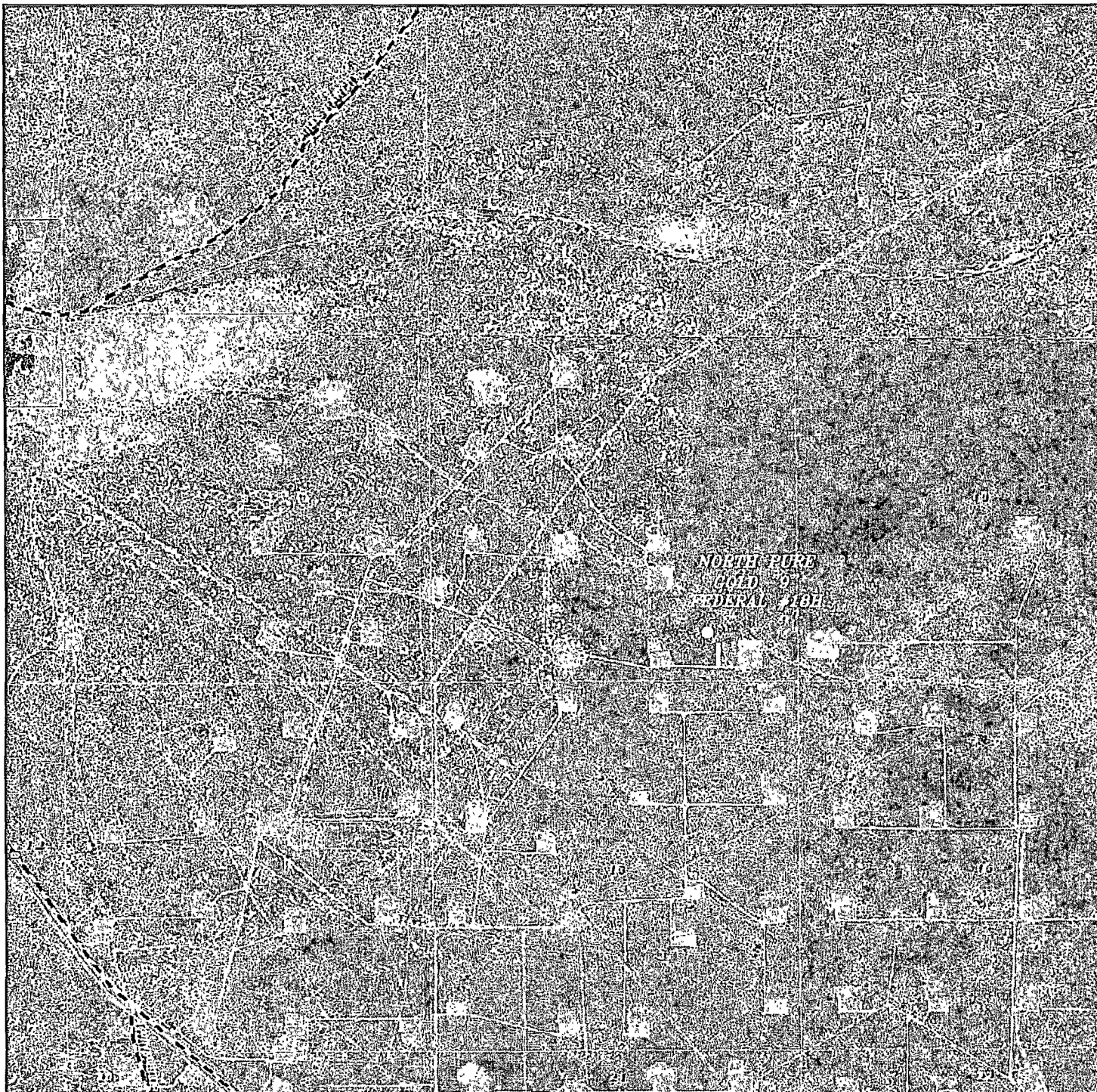
W.O. Number: JMS 21891

Survey Date: 10-30-2009

Scale: 1" = 2 Miles

Date: 11-02-2009

DEVON ENERGY
PRODUCTION
COMPANY, L.P.



NORTH PURE GOLD "9" FEDERAL #18H
Located 660' FSL and 1310' FEL
Section 9, Township 23 South, Range 31 East,
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Scale: 1" = 2000'

YELLOW TINT - USA LAND
BLUE TINT - STATE LAND
NATURAL COLOR - FEE LAND

DEVON ENERGY
PRODUCTION
COMPANY, L.P.



Project Eddy Co., New Mexico (Nad 83)
Site North Pure Gold 9 Fed #18H
Well: North Pure Gold 9 Fed #18H
Wellbore: Lateral #1
Design: Design #1

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	12394.04	0.00	0.00	12394.04	0.00	0.00	0.00	0.00	0.00	
3	12394.04	90.00	0.00	12397.00	572.96	0.00	10.00	0.00	572.96	
4	16681.06	90.00	0.00	12967.00	3960.00	0.00	0.00	0.00	3960.00	PBHL - TD (NPG9#18H)

ANNOTATIONS

TVD	MD	Annotation
12394.04	12394.04	KOP - Build 10°/100'
12967.00	12394.04	EOC - Hold 190.0° @ A.0°

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

Name	TVD	+N/S	+E/W	Northing	Easting	Latitude	Longitude	Shape
PBHL - TD (NPG9#18H)	12967.00	3960.00	0.00	479365.13	725425.00	32° 18' 59.186 N	103° 44' 14.743 W	Point

WELL DETAILS North Pure Gold 9 Fed #18H

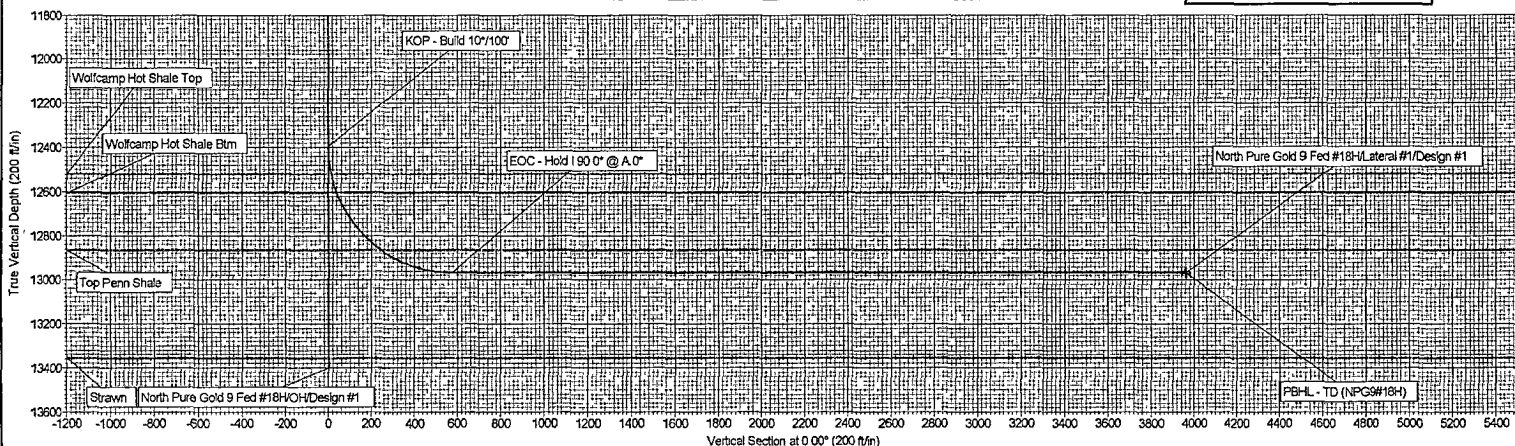
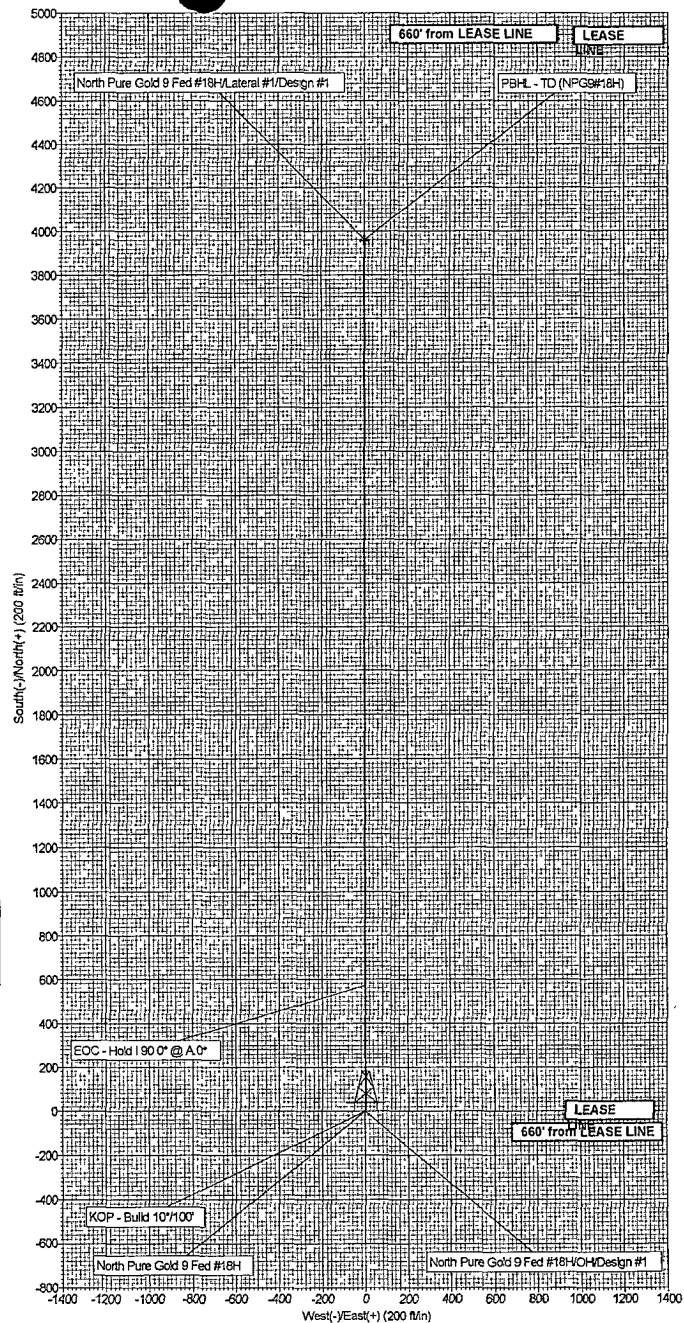
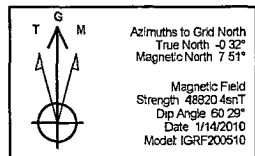
Ground Level 3371.00							
WELL @ 3391.00ft (Original Well Elev)							
+N/S	+E/W	Northing	Easting	Latitude	Longitude	Slot	
0.00	0.00	475405.13	725425.00	32° 18' 20.000 N	103° 44' 15.000 W		

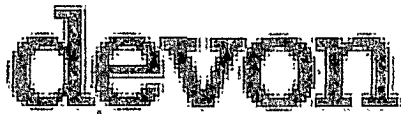
PROJECT DETAILS Eddy Co., New Mexico (Nad 83)

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 (North Pure Gold 9 Fed #18H-Lateral #1)

Created By Mike Starkey Date 17 50, January 14 2010
Checked _____ Date _____
Reviewed _____ Date _____
Approved _____ Date _____





Devon Energy

Eddy Co., New Mexico (Nad 83)

North Pure Gold 9 Fed #18H

North Pure Gold 9 Fed #18H

Lateral #1

Plan: Design #1

Standard Planning Report

14 January, 2010



Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Site North Pure Gold 9 Fed #18H
Company:	Devon Energy	TVD Reference:	WELL @ 3391.00ft (Original Well Elev)
Project:	Eddy Co., New Mexico (Nad 83)	MD Reference:	WELL @ 3391.00ft (Original Well Elev)
Site:	North Pure Gold 9 Fed #18H	North Reference:	Grid
Well:	North Pure Gold 9 Fed #18H	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	North Pure Gold 9 Fed #18H, Sec9, T-23S, R-31E				
Site Position:		Northing:	475,405.13ft	Latitude:	32° 18' 20.000 N
From:	Lat/Long	Easting:	725,425.00ft	Longitude:	103° 44' 15.000 W
Position Uncertainty:	0.00 ft	Slot Radius:	"	Grid Convergence:	0.32 °

Well	North Pure Gold 9 Fed #18H					
Well Position	+N/-S	0.00 ft	Northing:	475,405.13 ft	Latitude:	32° 18' 20.000 N
	+E/-W	0.00 ft	Easting:	725,425.00 ft	Longitude:	103° 44' 15.000 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	3,391.00 ft	Ground Level:	3,371.00 ft

Wellbore	Lateral #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	1/14/2010	7.83	60.29	48,820

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	0.00

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	
12,394.04	0.00	0.00	12,394.04	0.00	0.00	0.00	0.00	0.00	0.00	
13,294.04	90.00	0.00	12,967.00	572.96	0.00	10.00	10.00	0.00	0.00	
16,681.08	90.00	0.00	12,967.00	3,960.00	0.00	0.00	0.00	0.00	0.00	PBHL - TD (NPG9#18H)

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Site North Pure Gold 9 Fed #18H
Company:	Devon Energy	TVD Reference:	WELL @ 3391.00ft (Original Well Elev)
Project:	Eddy Co., New Mexico (Nad 83)	MD Reference:	WELL @ 3391.00ft (Original Well Elev)
Site:	North Pure Gold 9 Fed #18H	North Reference:	Grid
Well:	North Pure Gold 9 Fed #18H	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
11,568.00	0.00	0.00	11,568.00	0.00	0.00	0.00	0.00	0.00	0.00
Wolfcamp									
12,394.04	0.00	0.00	12,394.04	0.00	0.00	0.00	0.00	0.00	0.00
KOP - Build 10°/100'									
12,518.99	12.49	0.00	12,518.00	13.57	0.00	13.57	10.00	10.00	0.00
Wolfcamp Hot Shale Top									
12,612.24	21.82	0.00	12,607.00	41.05	0.00	41.05	10.00	10.00	0.00
Wolfcamp Hot Shale Btm									
12,950.40	55.64	0.00	12,867.00	249.55	0.00	249.55	10.00	10.00	0.00
Top Penn Shale									
13,294.04	90.00	0.00	12,967.00	572.96	0.00	572.96	10.00	10.00	0.00
EOC - Hold 1.90.0° @ A-0°									
16,681.08	90.00	0.00	12,967.02	3,960.00	0.00	3,960.00	0.00	0.00	0.00
PBHL - TD (NPG9#18H)									

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
11,568.00	11,568.00	Wolfcamp		0.00	
12,518.99	12,518.00	Wolfcamp Hot Shale Top		0.00	
12,612.24	12,607.00	Wolfcamp Hot Shale Btm		0.00	
12,950.40	12,867.00	Top Penn Shale		0.00	
	13,354.00	Strawn		0.00	

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates				Comment
		+N/-S (ft)	+E/-W (ft)			
12,394.04	12,394.04	0.00	0.00			KOP - Build 10°/100'
13,294.04	12,967.00	572.96	0.00			EOC - Hold 1.90.0° @ A-0°

Devon Energy
North Pure Gold 9 Fed #18H - Design #1

Eddy Co., New Mexico (Nad 83)
North Pure Gold 9 Fed #18H

Measured Dogleg Depth Rate (ft) (°/100ft)	Incl.	Azim.	Vertical Depth (ft)	Northings (ft)	Eastings (ft)	Vertical Section (ft)
0.00	0.00	0.00	0.00	0.00 N	0.00 E	0.00
0.00						
12394.04	0.00	0.00	12394.04	0.00 N	0.00 E	0.00
0.00						
12400.00	0.60	0.00	12400.00	0.03 N	0.00 E	0.03
10.00						
12500.00	10.60	0.00	12499.40	9.77 N	0.00 E	9.77
10.00						
12600.00	20.60	0.00	12595.59	36.62 N	0.00 E	36.62
10.00						
12700.00	30.60	0.00	12685.67	79.77 N	0.00 E	79.77
10.00						
12800.00	40.60	0.00	12766.88	137.90 N	0.00 E	137.90
10.00						
12900.00	50.60	0.00	12836.76	209.25 N	0.00 E	209.25
10.00						
13000.00	60.60	0.00	12893.19	291.65 N	0.00 E	291.65
10.00						
13100.00	70.60	0.00	12934.45	382.60 N	0.00 E	382.60
10.00						
13200.00	80.60	0.00	12959.30	479.34 N	0.00 E	479.34
10.00						
13294.04	90.00	0.00	12967.00	572.96 N	0.00 E	572.96
10.00						
13300.00	90.00	0.00	12967.00	578.92 N	0.00 E	578.92
0.00						
13400.00	90.00	0.00	12967.00	678.92 N	0.00 E	678.92
0.00						
13500.00	90.00	0.00	12967.00	778.92 N	0.00 E	778.92
0.00						
13600.00	90.00	0.00	12967.00	878.92 N	0.00 E	878.92
0.00						
13700.00	90.00	0.00	12967.00	978.92 N	0.00 E	978.92
0.00						
13800.00	90.00	0.00	12967.00	1078.92 N	0.00 E	1078.92
0.00						
13900.00	90.00	0.00	12967.00	1178.92 N	0.00 E	1178.92
0.00						
14000.00	90.00	0.00	12967.00	1278.92 N	0.00 E	1278.92
0.00						
14100.00	90.00	0.00	12967.00	1378.92 N	0.00 E	1378.92
0.00						
14200.00	90.00	0.00	12967.00	1478.92 N	0.00 E	1478.92
0.00						
14300.00	90.00	0.00	12967.00	1578.92 N	0.00 E	1578.92
0.00						
14400.00	90.00	0.00	12967.00	1678.92 N	0.00 E	1678.92
0.00						
14500.00	90.00	0.00	12967.00	1778.92 N	0.00 E	1778.92
0.00						

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14600.00	90.00	0.00	12967.00	1878.92 N	0.00 E	1878.92
0.00						
14700.00	90.00	0.00	12967.00	1978.92 N	0.00 E	1978.92
0.00						
14800.00	90.00	0.00	12967.00	2078.92 N	0.00 E	2078.92
0.00						
14900.00	90.00	0.00	12967.00	2178.92 N	0.00 E	2178.92
0.00						
15000.00	90.00	0.00	12967.00	2278.92 N	0.00 E	2278.92
0.00						
15100.00	90.00	0.00	12967.00	2378.92 N	0.00 E	2378.92
0.00						
15200.00	90.00	0.00	12967.00	2478.92 N	0.00 E	2478.92
0.00						
15300.00	90.00	0.00	12967.00	2578.92 N	0.00 E	2578.92
0.00						
15400.00	90.00	0.00	12967.00	2678.92 N	0.00 E	2678.92
0.00						
15500.00	90.00	0.00	12967.00	2778.92 N	0.00 E	2778.92
0.00						
15600.00	90.00	0.00	12967.00	2878.92 N	0.00 E	2878.92
0.00						
15700.00	90.00	0.00	12967.00	2978.92 N	0.00 E	2978.92
0.00						
15800.00	90.00	0.00	12967.00	3078.92 N	0.00 E	3078.92
0.00						
15900.00	90.00	0.00	12967.00	3178.92 N	0.00 E	3178.92
0.00						
16000.00	90.00	0.00	12967.00	3278.92 N	0.00 E	3278.92
0.00						
16100.00	90.00	0.00	12967.00	3378.92 N	0.00 E	3378.92
0.00						
16200.00	90.00	0.00	12967.00	3478.92 N	0.00 E	3478.92
0.00						
16300.00	90.00	0.00	12967.00	3578.92 N	0.00 E	3578.92
0.00						
16400.00	90.00	0.00	12967.00	3678.92 N	0.00 E	3678.92
0.00						
16500.00	90.00	0.00	12967.00	3778.92 N	0.00 E	3778.92
0.00						
16600.00	90.00	0.00	12967.00	3878.92 N	0.00 E	3878.92
0.00						
16681.08	90.00	0.00	12967.00	3960.00 N	0.00 E	3960.00
0.00						

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

The Dogleg Severity is in Degrees per 100 feet.
Vertical Section is from Slot and calculated along an Azimuth of 0.000° (Grid).

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

Central meridian is -104.333°.

Grid Convergence at Surface is 0.318°.

Based upon Minimum Curvature type calculations, at a Measured Depth of 16681.08ft., the Bottom Hole Displacement is 3960.00ft., in the Direction of 0.000° (Grid).

GEOLOGIC PROGNOSIS

DATE: 2/11/2010
 COMPANY: DEVON ENERGY
 WELL NAME: North Pure Gold 9 Fed #18H
 SURFACE LOCATION: Sec 09-23S-31E, 660 FSL & 1310 FEL
 BOTTOM HOLE LOCATION: Sec 09-23S-31E, 660 FNL & 1310 FEL

API #: _____
 POOL: NORTH PURE GOLD
 COUNTY: EDDY
 STATE: NEW MEXICO

PRIMARY OBJECTIVE: UPPER PENN SHALE
 OTHER POTENTIAL ZONES: UPPER WOLFCAMP SHALE
 ESTIMATED BHP/BHT: 9700 psi 180degF
 DEEPEST FORMATION: STRAWN

KB(EST) _____ GL: 3371
 PILOT TD: 13,400' LATERAL TD: 16,500'

DEVON FIELD GEOLOGIST: CHARLIE WILLEY CELLULAR: 405-388-5256 ADDRESS: 20N. BROADWAY, OKLAHOA CITY, OK 73102
 OFC. PHONE: 405-552-7904 HM PHONE: _____ EMAIL: charlie.willey@devon.com

DEVON GEOLOGIST: JASON CURRIE CELLULAR: 405-209-4610 ADDRESS: 20N. BROADWAY, OKLAHOA CITY, OK 73102
 OFC. PHONE: 405-552-3319 HM PHONE: 405-728-5893 EMAIL: jason.currie@devon.com

MUDLOGGING CO. DISCOVERY LOGGING INC. (WEATHERFORD SURFACE LOGGING)
 ADDRESS: P.O. BOX 80531
 CITY: MIDLAND
 OFC. PHONE: 432-687-1823
 STATE: TEXAS 79708

MUDLOGGING PROGRAM: 2 MAN SERVICE CASING TO TD. MORNING REPORT AT 8AM OKLAHOMA CITY TIME TO JASON CURRIE.
 Lithology(major and minor constituents), Shows, Hotwire, Chromatograph C1-C5
 DRILL TIME: 2' Drill Time From Geolograph or Pason
 SAMPLES: 10' intervals - Formation Cuttings caught by Mudloggers
 CORING
 DST PROGRAM: POSSIBLE
 LOGGING PROGRAM: SCHLUMBERGER 6 LOGGING RUNS (SEE PAGE 2)
 DEPTH TO WATER
 MUD PROGRAM: NOVA MUD CO —Cut Brine w/Nitrate Marker, Chlorides > 30,000ppm

KNOWN OR POTENTIAL HAZARDS/REMARKS.

No known hazards

GEOLOGIC MARKERS

FORMATION	PROGNOSIS			MUDLOG				E-LOG				NOTES
	MD	Subsea	TVD	MD	Subsea	TVD	h/l/o	MD	Subsea	TVD	h/l/o	
ALLUVIUM	0	3371	0									
RUSTLER DOL.	636	2735	636									
SALADO SALT	864	2907	864									
CASTLE	2966	405	2966									
BASE OF SALT	3990	-619	3990									
BELL CANYON	4227	-856	4227									
CHERRY CANYON	5106	-1735	5106									
BRUSHY CANYON	6397	-3076	6397									
1ST BONE SPRINGS LM.	8027	-4656	8027									
AVALON SHALE LOWER TOP	8659	-5288	8659									
AVALON SHALE LOWER BOTTOM	8803	-5432	8803									
1ST BONE SPRINGS SS	9113	-5742	9113									
2ND BONE SPRINGS LM	9485	-6114	9485									
2ND BONE SPRINGS SS	9892	-6521	9892									
3RD BONE SPRINGS LM	10187	-6816	10187									
3RD BONE SPRINGS SS	10904	-7533	10904									
WOLFCAMP	11364	-7993	11364									
WOLFCAMP HOT SHALE TOP	12160	-8789	12160									
WOLFCAMP HOT SHALE BOTTOM	12318	-8947	12318									
TOP PENN SHALE	12660	-9289	12660									
STRAWN	13082	-9711	13082									
TD PILOT	13400	-10029	13400									
KOP	12187	-8776	12187									
WOLFCAMP HOT SHALE BOTTOM	12198	-8807	12318									
TOP PENN SHALE	12726	-9249	12660									
HOLD 90 DEGREES (EST.)	13066	-9349	12760									
LATERAL TD	16500	-9349	12760									

REFERENCE WELLS

WELL	LOCATION
NPG 8 Fed 10	23S 31E Sec 08 1310 FNL 1310 FEL
NPG 8 Fed 1	23S 31E Sec 08 1980 FSL 660 FEL

MUDLOG PRINT DISTRIBUTION

Mail 2 final color copies of mudlog to Jason Currie (see address above)

Mail final copies of mudlogs to partners as directed in attached Interest Owner Data Distribution sheet

DEVON ENERGY OPEN HOLE LOGGING PROGRAM

WELL NAME	North Pure Gold 9 Fed #18H	API#	0
SURFACE LOCATION	Sec 09-23S-31E, 660 FSL & 1310 FEL	COUNTY	EDDY
BOTTOM HOLE LOCATION	Sec 09-23S-31E, 660 FNL & 1310 FEL	STATE	NEW MEXICO
PRIMARY OBJECTIVE	UPPER PENN SHALE	KB (EST)	0
ESTIMATED BHP/BHT	9700 psi 180degF	GL	3371
RIG	1600 HP	PILOT TD	13,400'
RIG CONTACT		LATERAL TD	16,500'
MUD PROGRAM		DEEPEST FM.	STRAWN
CASING	BONE SPRINGS	DEVON DRILL ENG	PAT BROWN
		CELL PH	405-213-5058
		DEVON FIELD GEOL	CHARLIE WILLEY
		CELL PH	405-388-5256
		DEVON GEOLOGIST	JASON CURRIE
		CELL PH	405-209-4610

Survey

COMPANY	CUDD	CONTACT	
LOGGING ENGINEER			

Surface Location (NAD27)

Lat	N	32.3134511	
Long	W	-103.7779725	#
Footage N/S	FSL	660	
Footage E/W	FEL	1310	

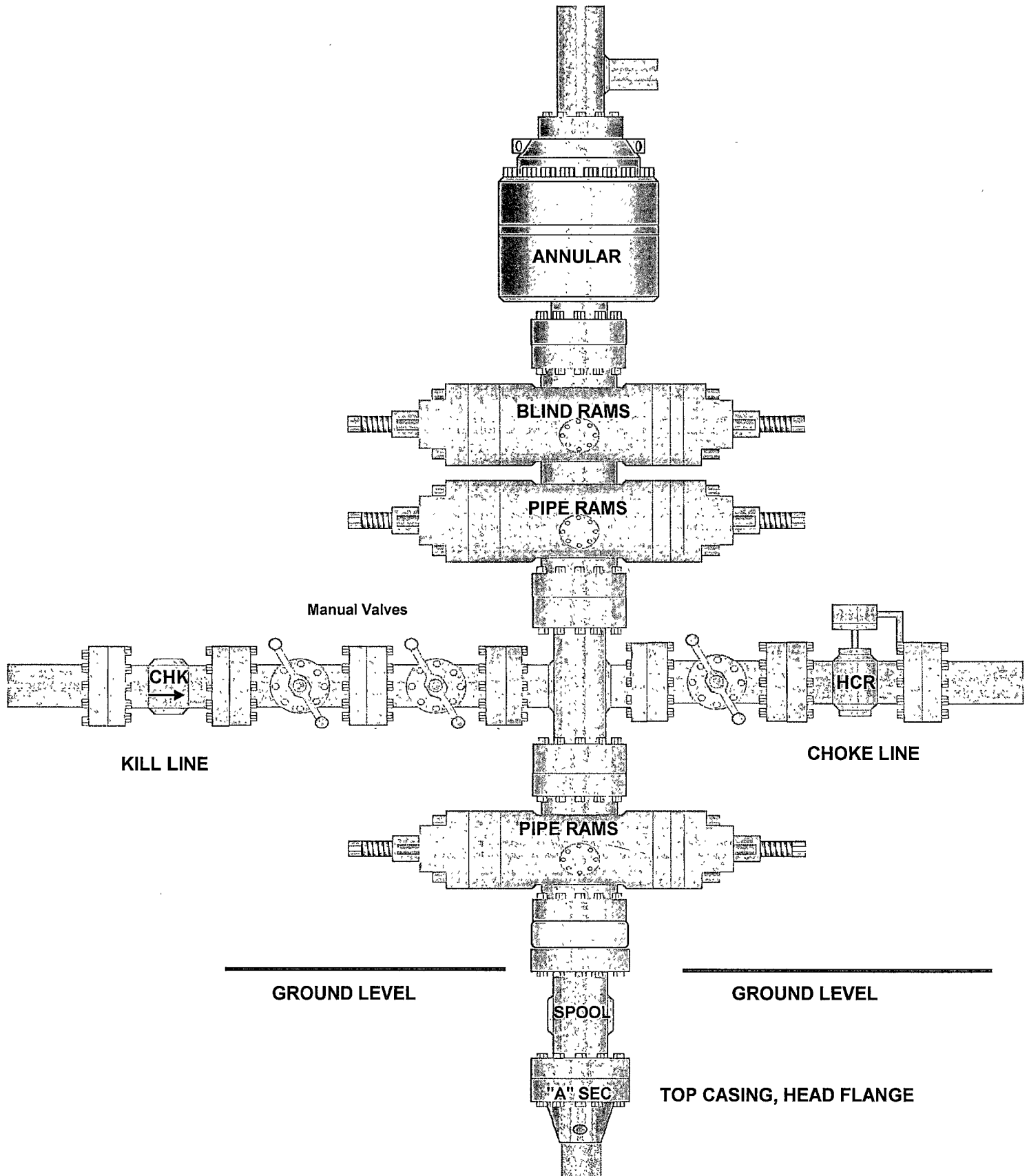
Entry Point (NAD27)

Formation	UPPER PENN SHALE
Depth	TVD 12660
Depth	MD 12726
Footage N/S	FSL 912
Footage E/W	FEL 1310

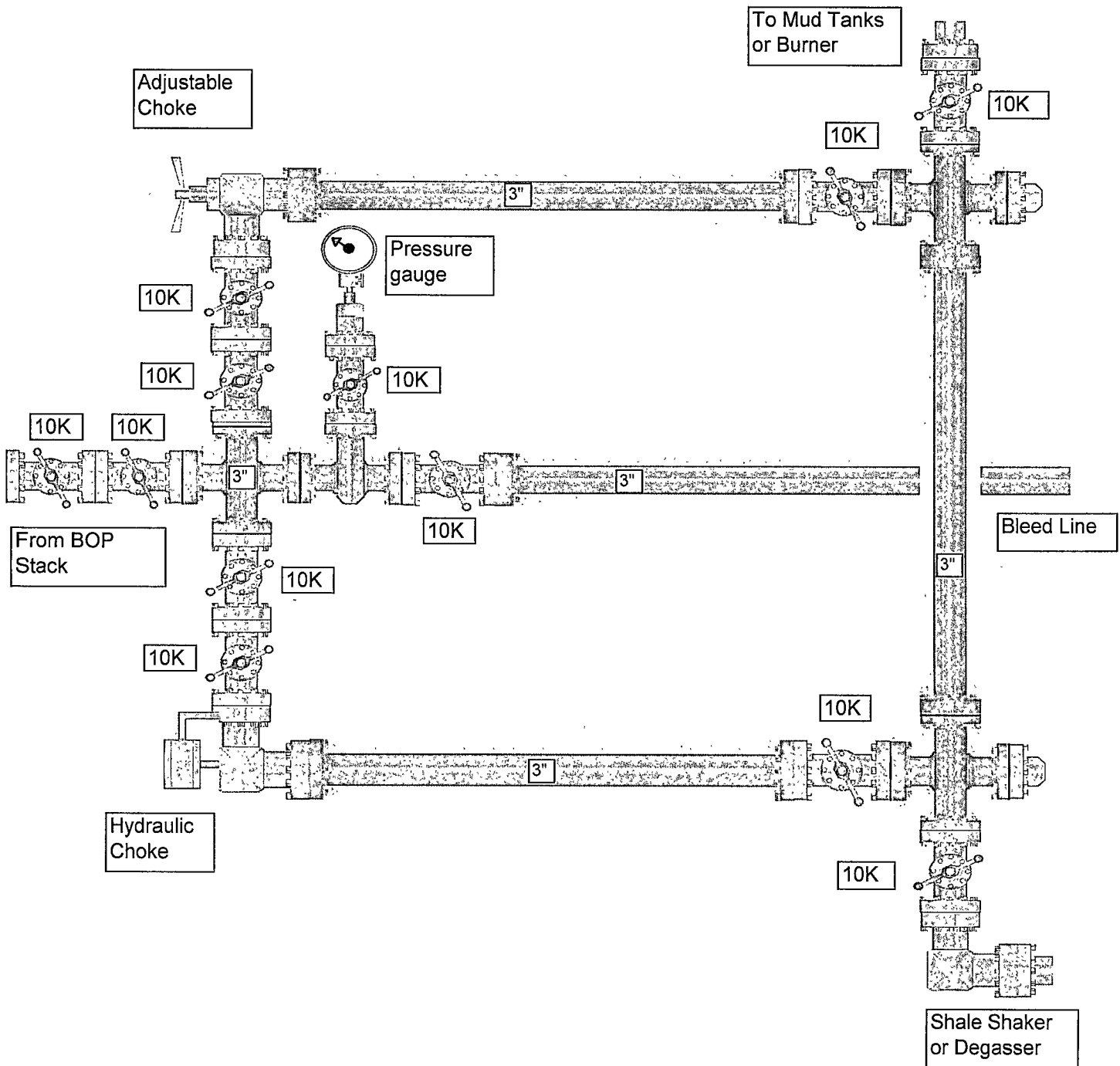
Bottom Hole (NAD27)

Lat	N	32.3245727
Long	W	-103.7779047
Footage N/S	FNL	660
Footage E/W	FEL	1310

13-5/8" x 10,000 psi BOP Stack



10,000 PSI CHOKE MANIFOLD



PECOS DISTRICT CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Devon Energy Production Company
LEASE NO.:	NM-77046
WELL NAME & NO.:	North Pure Gold 9 Federal 18
SURFACE HOLE FOOTAGE:	660' FSL & 1310' FEL
BOTTOM HOLE FOOTAGE	660' FNL & 1310' FWL
LOCATION:	Section 9, T. 23 S., R 31 E., NMPM
COUNTY:	Eddy County, New Mexico

I. 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. **Due to recent H2S encounters in the salt formation, it is recommended that monitoring equipment be onsite for potential Hydrogen Sulfide prior to drilling out the surface shoe. If Hydrogen Sulfide is encountered, please report measurements 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. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.**

B. CASING

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

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

Wait on cement (WOC) time 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.

Secretary's Potash

**Possible brine and water flows in the Salado, Castile, Delaware and Bone Spring.
Possible lost circulation in the Delaware and Bone Springs.**

1. **The 20 inch surface casing shall be set at approximately 600 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. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.**
 - b. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry.**
 - c. **Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.**

- d. If cement falls back, remedial cementing will be done prior to drilling out that string.
2. The minimum required fill of cement behind the 13-3/8 inch 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 potash. Set intermediate casing in the Lamar Limestone.

Formation below the 13-3/8" 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.

3. The minimum required fill of cement behind the 9-5/8 inch second intermediate 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.

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

- ☒ Cement should tie-back at least 500 feet into previous casing string. Operator shall provide method of verification. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to potash. Additional cement may be required as the excess calculated to be 22%.**

Pilot hole is required to have a 1,000' plug at the bottom of the hole and it must be tagged. Tag depth to be recorded and reported on subsequent sundry with casing information.

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.

Centralizers required on horizontal leg, must be type for horizontal service and minimum of one every other joint.

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

☒ Cement should tie-back at least 8,250 feet into previous casing string. Operator shall provide method of verification. **Additional cement may be required as the excess calculates to -38%.**

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.**
 - a. **For surface casing only:** If the BOP/BOPE is to be tested against casing, the wait on cement (WOC) time for that casing is to be met (see WOC statement at start of casing section). Independent service company required.
3. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the 13-3/8 inch intermediate casing shoe shall be **10,000 (10M) psi. 10M system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.**
4. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
 - a. Casing cut-off and BOP installation will not be initiated until the cement has had 4-6 hours of setup time in a water basin and 12 hours in the potash areas. This time will start after the cement plug is bumped. Testing the BOP/BOPE against a plug can commence after meeting the above conditions plus the BOP installation time.
 - b. The tests shall be done by an independent service company utilizing a test plug.
 - c. The results of the test shall be reported to the appropriate BLM office.

- d. All tests are required to be recorded on a calibrated test chart. **A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.**
- e. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug.
- f. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the **Wolfcamp** formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

D. DRILLING MUD

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 030210