

RM

SUNDRY NOTICES AND REPORTS ON WELLS

Do 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

APR 12 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)*
33 FSL 1920' FWL M SEC 9 T23S R31E
710/710 BHL

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 19

9. API Well No.

30-015-37617

10. Field and Pool, or Exploratory

Delaware

11. County or Parish State

Eddy NM

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

TYPE OF SUBMISSION	TYPE OF ACTION			
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<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 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' - 500'	20" See log	0' - 500' 540'	94#	BTC	H-40
17 1/2"	500' - 4000'	13 3/8"	0' - 4000'	68#	BTC	HCK-55
12 1/4"	4,000' - 11,100'	9 5/8"	0' - 11,100'	40#	BTC	HCP-110
8 1/2"	11,100' - 13,100' PH					
8 1/2"	11,900' - 16,500'	5 1/2"	0-16,500'	23#	Vam Top	HEC-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"	1.25	1.65	4.77
9 5/8"	1.68	1.87	1.91
5 1/2"	1.63	1.87	2.18

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

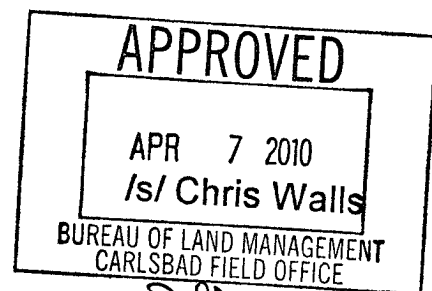
Signed Judy A. Barnett Name Judy A. Barnett X8699
Title Regulatory Analyst Date 3/18/2010

(This space for Federal or State Office use)

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

Note: 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



March 18, 2010

Page 2

NORTH PURE GOLD 9 FED #19

SEC 09-T23S-R31E

DRILLED W/ PILOT HOLE (PH)

The Collapse SF for the 9 5/8 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' – 500'	8.4 – 8.8	32 – 34	N/C	FW/Gel
500' – 4,000'	9.7 – 10.0	28 – 30	N/C	Brine
4,000' – 11,100'	9.0 – 9.3	28-30	NC -40	Fresh
11,100' – 13,100'PH	10.5 – 14.0	40 – 60	12 – 8cc	Fresh
12,000-16,500'	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 5" drill pipe rams on bottom. A 3M Annular BOP will be installed on the 20" surface casing and utilized continuously until total depth (~4000') 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.

CEMENTING PROGRAM and WHIPSTOCK PROGRAM

Cement plug for the Pilot Hole

Plug Geometry:

Plug ~12,100' to 13,100' 420 sx Cl H +R-3, Yld 1.18 ct/sx

An 8 3/4" Open Hole Whipstock with a packer type anchor will be set @ ~12,000' after the cement plug has been set. Directional tools will be run and KOP will be ~12,300'. The lateral will be drilled from ~12,700' MD to 16,500' MD.

20"	Surface	Lead: 745 sx Cl C w/2% CC + 4% gel Yld 1.75 cf/sx Tail: 300 sx Cl C w/2% CC + 0.125#/sx CF Yld: 1.35 cf/sx
13 3/8"	Intermediate	Lead: 2360 sx (35:65) Poz (Fly Ash):Premium Plus C Cement + 5% bwow Sodium Yld: 2.04 cf/sx. TOC @ surface Tail: 430 sx Premium Plus C Cement + 2% bwoc Calcium Chloride + 0.125#/sx CF + 56.3% FW Yld: 1.35 cf/sx.
9 5/8"	Intermediate	Lead: 1100 sx (35:65) Poz (Fly Ash):Premium Plus C Cement + 5% bwow Sodium Chloride + 0.125#/sx CF + 6% bwoc Bentonite + 107.8% FW Yld: 2.04 cf/sx.

Tail 850 sx Premium Plus Super C Cement + 5% bwow Sodium Chloride + 0.125#/sx
CF + 0.4% bwoc Sodium Metasilicate + 4% bwoc MPA-5 + 64.7% FW
Yld: 1.56 cf/sx.

DV Tool @ 5500'

Stage 2: Lead:w/ 450 sx 35:65 Poz: Cl H w/ 6% gel and 2% SC **Yld:** 1.98 cf/sx

Tail w/ 150 sx 60:40 Poz Cl C w/ 1% KCL +0.125#/sx **Yld:** 1.56 cf/sx

5 ½" Production

1950 sx Premium Plus H + 0.35% bwoc R-3 + 0.4% bwoc CD-32 + 1.4%
Yld: 1.13 cf/sx.

TOC for All Strings:

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

Operator Name: Devon Energy Corp
Well Name: North Pure Gold 9 Fed #19
Job Description: Surface Casing
Date: January 14, 2010



Proposal No: 215855599A

JOB AT A GLANCE

Depth (TVD)	500 ft
Depth (MD)	500 ft
Hole Size	26 in
Casing Size/Weight :	20in, 94 lbs/ft
Pump Via	20" O.D. (19.124" I.D) 94 #
Total Mix Water Required	8,734 gals
Spacer	
Fresh Water	10 bbls
Density	8.3 ppg
Lead Slurry	
Class C	745 sacks
Density	13.5 ppg
Yield	1.75 cf/sack
Tail Slurry	
Class C	300 sacks
Density	14.8 ppg
Yield	1.35 cf/sack
Displacement	
Mud	163 bbls
Density	8.8 ppg

Operator Name: Devon Energy Corp
Well Name: North Pure Gold 9 Fed #19
Job Description: Surface Casing
Date: January 14, 2010



Proposal No: 215855599A

WELL DATA

ANNULAR GEOMETRY

ANNULAR I.D. (in)	DEPTH(ft)	
	MEASURED	TRUE VERTICAL
26.000 HOLE	500	500

SUSPENDED PIPES

DIAMETER (in)		WEIGHT (lbs/ft)	DEPTH(ft)	
O.D.	I.D.		MEASURED	TRUE VERTICAL
20.000	19.124	94	500	500

Float Collar set @	460 ft
Mud Density	8.80 ppg
Mud Type	Water Based
Est. Static Temp.	80 ° F
Est. Circ. Temp.	80 ° F

VOLUME CALCULATIONS

400 ft	x	1.5053 cf/ft	with 115 % excess	=	1294.4 cf
100 ft	x	1.5053 cf/ft	with 115 % excess	=	323.9 cf
40 ft	x	1.9947 cf/ft	with 0 % excess	=	79.8 cf (inside pipe)
TOTAL SLURRY VOLUME				=	1698.0 cf
				=	303 bbls

Operator Name: Devon Energy Corp
Well Name: North Pure Gold 9 Fed #19
Job Description: Surface Casing
Date: January 14, 2010



Proposal No: 215855599A

FLUID SPECIFICATIONS

Spacer 10.0 bbls Fresh Water @ 8.34 ppg

<u>FLUID</u>	<u>VOLUME CU-FT</u>	<u>VOLUME FACTOR</u>	<u>AMOUNT AND TYPE OF CEMENT</u>
Lead Slurry	1294	/ 1.75	= 745 sacks Class C Cement + 0.25 lbs/sack Cello Flake + 4% bwoc Bentonite + 2% bwoc Calcium Chloride + 81.3% Fresh Water
Tail Slurry	404	/ 1.35	= 300 sacks Class C Cement + 2% bwoc Calcium Chloride + 0.125 lbs/sack Cello Flake + 56.3% Fresh Water

Displacement 163.4 bbls Mud @ 8.8 ppg

CEMENT PROPERTIES

	SLURRY NO. 1	SLURRY NO. 2
Slurry Weight (ppg)	13.50	14.80
Slurry Yield (cf/sack)	1.75	1.35
Amount of Mix Water (gps)	9.17	6.35
Estimated Pumping Time - 70 BC (HH:MM)	3:30	2:30

COMPRESSIVE STRENGTH

8 hrs @ 80 ° F (psi)		500
12 hrs @ 80 ° F (psi)	400	1150
15 hrs @ 80 ° F (psi)	500	
24 hrs @ 80 ° F (psi)	700	2100
72 hrs @ 80 ° F (psi)		2700

Operator Name: Devon Energy Corp
Well Name: North Pure Gold 9 Fed #19
Job Description: Intermediate Casing
Date: January 14, 2010



Proposal No: 215855599A

JOB AT A GLANCE

Depth (TVD)	4,000 ft
Depth (MD)	4,000 ft
Hole Size	17.5 in
Casing Size/Weight :	13 3/8 in, 48 lbs/ft
Pump Via	13 3/8" O.D. (12.715" I.D) 48 #
Total Mix Water Required	29,290 gals
Spacer	
Fresh Water	20 bbls
Density	8.3 ppg
Lead Slurry	
35:65:6 Poz:Class C	2,360 sacks
Density	12.5 ppg
Yield	2.04 cf/sack
Tail Slurry	
60:40 Poz:Class C (MPA)	430 sacks
Density	13.8 ppg
Yield	1.37 cf/sack
Displacement	
Mud	622 bbls
Density	10.0 ppg

Operator Name: Devon Energy Corp
Well Name: North Pure Gold 9 Fed #19
Job Description: Intermediate Casing
Date: January 14, 2010



Proposal No: 215855599A

WELL DATA

ANNULAR GEOMETRY

ANNULAR I.D. (in)	DEPTH(ft)	
	MEASURED	TRUE VERTICAL
19.124 CASING	500	500
17.500 HOLE	4,000	4,000

SUSPENDED PIPES

DIAMETER (in)		WEIGHT (lbs/ft)	DEPTH(ft)	
O.D.	I.D.		MEASURED	TRUE VERTICAL
13.375	12.715	48	4,000	4,000

Float Collar set @	3,960 ft
Mud Density	10.00 ppg
Est. Static Temp.	112 ° F
Est. Circ. Temp.	99 ° F

VOLUME CALCULATIONS

500 ft	x	1.0190 cf/ft	with	0 % excess	=	509.5 cf
3,100 ft	x	0.6946 cf/ft	with	100 % excess	=	4310.4 cf
400 ft	x	0.6946 cf/ft	with	100 % excess	=	555.7 cf
40 ft	x	0.8818 cf/ft	with	0 % excess	=	35.3 cf (inside pipe)
TOTAL SLURRY VOLUME					=	5410.9 cf
					=	965 bbls

Operator Name: Devon Energy Corp
Well Name: North Pure Gold 9 Fed #19
Job Description: Intermediate Casing
Date: January 14, 2010



Proposal No: 215855599A

FLUID SPECIFICATIONS

Spacer 20.0 bbls Fresh Water @ 8.34 ppg

FLUID	VOLUME CU-FT	VOLUME FACTOR	AMOUNT AND TYPE OF CEMENT
Lead Slurry	4820	/ 2.04	= 2360 sacks (35:65) Poz (Fly Ash):Class C Cement + 5% bwow Sodium Chloride + 0.125 lbs/sack Cello Flake + 6% bwoc Bentonite + 0.25% bwoc FL-52A + 107.7% Fresh Water
Tail Slurry	591	/ 1.37	= 430 sacks (60:40) Poz (Fly Ash):Class C Cement + 5% bwow Sodium Chloride + 0.125 lbs/sack Cello Flake + 0.1% bwoc Sodium Metasilicate + 4% bwoc MPA-5 + 65.4% Fresh Water

Displacement 621.9 bbls Mud @ 10 ppg

CEMENT PROPERTIES

	SLURRY NO. 1	SLURRY NO. 2
Slurry Weight (ppg)	12.50	13.80
Slurry Yield (cf/sack)	2.04	1.37
Amount of Mix Water (gps)	11.24	6.43
Estimated Pumping Time - 70 BC (HH:MM)	5:30	4:00

COMPRESSIVE STRENGTH

8 hrs @ 107 ° F (psi)	500
12 hrs @ 107 ° F (psi)	1000
24 hrs @ 107 ° F (psi)	1900
72 hrs @ 107 ° F (psi)	2700
12 hrs @ 112 ° F (psi)	300
24 hrs @ 112 ° F (psi)	650
72 hrs @ 112 ° F (psi)	900

ACTUAL CEMENT VOLUME MAY VARY BASED ON CALIPER.

Operator Name: Devon Energy Corp
Well Name: North Pure Gold 9 Fed #19
Job Description: 2nd Intermediate Casing
Date: January 14, 2010



Proposal No: 215855599A

JOB AT A GLANCE

Depth (TVD)	11,100 ft
Depth (MD)	11,100 ft
Hole Size	12.25 in
Casing Size/Weight :	9 5/8 in, 53.5 lbs/ft
Pump Via	9 5/8" O.D. (8.535" I.D) 53.5 #
Total Mix Water Required	24,481 gals
Stage No: 1	Float Collar set @ 11,060 ft
Spacer	
Fresh Water	20 bbls
Density	8.3 ppg
Spacer	
Surebond III	1,000 gals
Density	9.4 ppg
Spacer	
Fresh Water	10 bbls
Density	8.3 ppg
Lead Slurry	
35:65:6 Poz:Class H	1,100 sacks
Density	12.5 ppg
Yield	1.98 cf/sack
Tail Slurry	
Super C Modified	850 sacks
Density	13.3 ppg
Yield	1.56 cf/sack
Displacement	
Displacement Fluid	783 bbls

Operator Name: Devon Energy Corp
Well Name: North Pure Gold 9 Fed #19
Job Description: 2nd Intermediate Casing
Date: January 14, 2010



Proposal No: 215855599A

JOB AT A GLANCE (Continued)

Stage No: 2	Stage Collar set @	5,500 ft
Spacer		
Fresh Water		20 bbls
Density		8.3 ppg
Lead Slurry		
35:65:6 Poz:Class C		450 sacks
Density		12.5 ppg
Yield		2.04 cf/sack
Tail Slurry		
60:40 Poz:Class C (MPA)		150 sacks
Density		13.8 ppg
Yield		1.37 cf/sack
Displacement		
Displacement Fluid		389 bbls

Operator Name: Devon Energy Corp
Well Name: North Pure Gold 9 Fed #19
Job Description: 2nd Intermediate Casing
Date: January 14, 2010



Proposal No: 215855599A

WELL DATA

ANNULAR GEOMETRY

ANNULAR I.D. (in)	DEPTH(ft)	
	MEASURED	TRUE VERTICAL
12.715 CASING	4,000	4,000
12.250 HOLE	11,100	11,100

SUSPENDED PIPES

DIAMETER (in)		WEIGHT (lbs/ft)	DEPTH(ft)	
O.D.	I.D.		MEASURED	TRUE VERTICAL
9.625	8.535	53.5	11,100	11,100

STAGE: 1 Float Collar set @ 11,060 ft
 Mud Density 9.10 ppg
 Mud Type Water Based
 Est. Static Temp. 163 ° F
 Est. Circ. Temp. 136 ° F

VOLUME CALCULATIONS

3,500 ft x 0.3132 cf/ft with 100 % excess = 2192.3 cf
 2,100 ft x 0.3132 cf/ft with 100 % excess = 1315.4 cf
 40 ft x 0.3973 cf/ft with 0 % excess = 15.9 cf (inside pipe)
 TOTAL SLURRY VOLUME = 3523.6 cf
 = 628 bbls

STAGE: 2 Stage Collar set @ 5,500 ft
 Mud Density 9.10 ppg
 Mud Type Water Based
 Est. Static Temp. 121 ° F
 Est. Circ. Temp. 107 ° F

VOLUME CALCULATIONS

500 ft x 0.3765 cf/ft with 0 % excess = 188.3 cf
 1,171 ft x 0.3132 cf/ft with 100 % excess = 733.6 cf
 329 ft x 0.3132 cf/ft with 100 % excess = 206.0 cf
 TOTAL SLURRY VOLUME = 1127.8 cf
 = 201 bbls

Operator Name: Devon Energy Corp
Well Name: North Pure Gold 9 Fed #19
Job Description: 2nd Intermediate Casing
Date: January 14, 2010



Proposal No: 215855599A

FLUID SPECIFICATIONS

STAGE NO.: 1

Spacer 20.0 bbls Fresh Water @ 8.34 ppg
 Spacer 1,000.0 gals Surebond III @ 9.35 ppg
 Spacer 10.0 bbls Fresh Water @ 8.34 ppg

<u>FLUID</u>	<u>VOLUME CU-FT</u>	<u>VOLUME FACTOR</u>	<u>AMOUNT AND TYPE OF CEMENT</u>
Lead Slurry	2192	/ 1.98	= 1100 sacks (35:65) Poz (Fly Ash):Class H Cement + 0.3% bwoc R-3 + 2% bwow Sodium Chloride + 0.125 lbs/sack Cello Flake + 0.4% bwoc FL-52A + 6% bwoc Bentonite + 104.2% Fresh Water
Tail Slurry	1331	/ 1.56	= 850 sacks (15:61:11) Poz (Fly Ash):Class C Cement:CSE-2 + 1% bwow Potassium Chloride + 0.75% bwoc EC-1 + 0.4% bwoc CD-32 + 2 lbs/sack LCM-1 + 0.6% bwoc FL-25 + 0.6% bwoc FL-52A + 0.125 lbs/sack Cello Flake + 73.3% Fresh Water

Displacement 782.7 bbls Displacement Fluid

CEMENT PROPERTIES

	<u>SLURRY NO. 1</u>	<u>SLURRY NO. 2</u>
Slurry Weight (ppg)	12.50	13.30
Slurry Yield (cf/sack)	1.98	1.56
Amount of Mix Water (gps)	10.87	7.65
Estimated Pumping Time - 70 BC (HH:MM)	5:30	4:00
Free Water (mls) @ ° F @ 90 ° angle		0.0
Fluid Loss (cc/30min) at 1000 psi and ° F		50.0
COMPRESSIVE STRENGTH		
12 hrs @ 167 ° F (psi)	350	900
24 hrs @ 167 ° F (psi)	700	2100
72 hrs @ 167 ° F (psi)	100	2600

Operator Name: Devon Energy Corp
Well Name: North Pure Gold 9 Fed #19
Job Description: 2nd Intermediate Casing
Date: January 14, 2010



Proposal No: 215855599A

FLUID SPECIFICATIONS (Continued)

STAGE NO.: 2

Spacer 20.0 bbls Fresh Water @ 8.34 ppg

Lead Slurry 922 / 2.04 = 450 sacks (35:65) Poz (Fly Ash):Class C Cement +
6% bwoc Bentonite + 0.4% bwoc FL-52A + 5%
bwow Sodium Chloride + 0.125 lbs/sack Cello
Flake + 107.7% Fresh Water

Tail Slurry 206 / 1.37 = 150 sacks (60:40) Poz (Fly Ash):Class C Cement +
5% bwow Sodium Chloride + 0.125 lbs/sack Cello
Flake + 0.1% bwoc Sodium Metasilicate + 4%
bwoc MPA-5 + 65.4% Fresh Water

Displacement 389.2 bbls Displacement Fluid

CEMENT PROPERTIES

	SLURRY NO. 1	SLURRY NO. 2
Slurry Weight (ppg).	12.50	13.80
Slurry Yield (cf/sack)	2.04	1.37
Amount of Mix Water (gps)	11.24	6.43
Estimated Pumping Time - 70 BC (HH:MM)	4:00	3:30
Free Water (mls) @ ° F @ 90 ° angle		
Fluid Loss (cc/30min) at 1000 psi and ° F		
COMPRESSIVE STRENGTH		
12 hrs @ 106 ° F (psi)	400	
15 hrs @ 106 ° F (psi)	500	
24 hrs @ 106 ° F (psi)	750	
12 hrs @ 121 ° F (psi)		1700
24 hrs @ 121 ° F (psi)		2500

CEMENT VOLUMES WILL VARY BASED ON CALIPER.

Operator Name: Devon Energy Corp
Well Name: North Pure Gold 9 Fed #19
Job Description: Long String
Date: January 14, 2010



Proposal No: 215855599A

JOB AT A GLANCE

Depth (TVD)	12,750 ft
Depth (MD)	16,500 ft
Hole Size	8.5 in
Casing Size/Weight :	5 1/2 in, 23 lbs/ft
Pump Via	5 1/2" O.D. (4.670" I.D) 23 #
Total Mix Water Required	9,003 gals
Spacer	
MCS-3	50 bbls
Density	15.5 ppg
Cement Slurry	
Class H	1,950 sacks
Density	16.0 ppg
Yield	1.13 cf/sack
Displacement	
Displacement Fluid	349 bbls

Operator Name: Devon Energy Corp
Well Name: North Pure Gold 9 Fed #19
Job Description: Long String
Date: January 14, 2010



Proposal No: 215855599A

WELL DATA

ANNULAR GEOMETRY

ANNULAR I.D. (in)	DEPTH(ft)	
	MEASURED	TRUE VERTICAL
8.535 CASING	11,100	11,100
8.500 HOLE	16,500	12,750

SUSPENDED PIPES

DIAMETER (in)		WEIGHT (lbs/ft)	DEPTH(ft)	
O.D.	I.D.		MEASURED	TRUE VERTICAL
5.500	4.670	23	16,500	12,750

Float Collar set @ 16,460 ft
 Mud Density 15.00 ppg
 Mud Type Oil Based
 Est. Static Temp. 182 ° F
 Est. Circ. Temp. 178 ° F

VOLUME CALCULATIONS

500 ft x 0.2323 cf/ft with 0 % excess = 116.2 cf
 5,400 ft x 0.2291 cf/ft with 70 % excess = 2105.3 cf
 40 ft x 0.1189 cf/ft with 0 % excess = 4.8 cf (inside pipe)
TOTAL SLURRY VOLUME = 2226.2 cf
 = 397 bbls

Operator Name: Devon Energy Corp
Well Name: North Pure Gold 9 Fed #19
Job Description: Long String
Date: January 14, 2010



Proposal No: 215855599A

FLUID SPECIFICATIONS

Spacer 50.0 bbls MCS-3 + 383 lbs/bbl Barite, Bulk + 2 gal/bbl
 SS-2 + 13.88 lbs/bbl Bentonite @ 15.5 ppg

FLUID	VOLUME CU-FT	VOLUME FACTOR	AMOUNT AND TYPE OF CEMENT
Cement Slurry	2226	/ 1.13	= 1950 sacks Premium Plus H Cement + 0.4% bwoc R-21 + 1% bwoc CD-32 + 0.8% bwoc FL-63 + 0.5% bwoc BA-11 + 0.7% bwoc Sodium Metasilicate + 41% Fresh Water

Displacement 348.7 bbls Displacement Fluid

CEMENT PROPERTIES

SLURRY NO. 1

Slurry Weight (ppg)	16.00
Slurry Yield (cf/sack)	1.13
Amount of Mix Water (gps)	4.62
Estimated Pumping Time - 70 BC (HH:MM)	5:00
Free Water (mls) @ 178 ° F @ 90 ° angle	0.0
Fluid Loss (cc/30min) at 1000 psi and 178 ° F	40.0

COMPRESSIVE STRENGTH

12 hrs @ 187 ° F (psi)	1600
24 hrs @ 187 ° F (psi)	2400
72 hrs @ 187 ° F (psi)	3200

CEMENT VOLUMES WILL VARY BASED ON CALIPER.

TEST SPACER SYSTEM WITH OIL BASED MUD.

BATCH MIX SPACER SYSTEM.

Operator Name: Devon Energy Corp
Well Name: North Pure Gold 9 Fed #19
Job Description: Plug Back and Whipstock Plug
Date: January 14, 2010



Proposal No: 215855599A

JOB AT A GLANCE

Depth (TVD)	13,100 ft
Depth (MD)	13,100 ft
Hole Size	8.5 in
Casing Size/Weight :	9 5/8 in, 53.5 lbs/ft
Pump Via	Casing 4 1/2" O.D. (3.920" I.D) 13.5 #
Total Mix Water Required	3,808 gals

Plug No: 1

Spacer

Mud Clean II	15 bbls
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Cement Slurry

Class H	550 sacks
Density	15.6 ppg
Yield	1.18 cf/sack

Plug No: 2

Spacer

Mud Clean II	15 bbls
Density	8.3 ppg

Cement Slurry

Class H	250 sacks
Density	17.0 ppg
Yield	0.99 cf/sack

Operator Name: Devon Energy Corp
Well Name: North Pure Gold 9 Fed #19
Job Description: Plug Back and Whipstock Plug
Date: January 14, 2010



Proposal No: 215855599A

FLUID SPECIFICATIONS

Spacer			= 15.0 bbls Mud Clean II
PLUG NO.	VOLUME CU-FT	VOLUME FACTOR	AMOUNT AND TYPE OF CEMENT
1	649	/ 1.18	= 550 sacks Premium Plus H Cement + 0.15% bwoc R-3 + 46.4% Fresh Water
Spacer			= 15.0 bbls Mud Clean II @ 8.34 ppg
2	248	/ .99	= 250 sacks Premium Plus H Cement + 0.15% bwoc R-21 + 0.05% bwoc ASA-301 + 1% bwoc CD-32 + 33.1% Fresh Water

CEMENT PROPERTIES

	PLUG NO. 1	PLUG NO. 2
Slurry Weight (ppg)	15.60	17.00
Slurry Yield (cf/sack)	1.18	0.99
Amount of Mix Water (gps)	5.23	3.73
Estimated Pumping Time - 70 BC (HH:MM)	4:00	5:00
COMPRESSIVE STRENGTH		
12 hrs @ 185 ° F (psi)	1500	3300
24 hrs @ 185 ° F (psi)	2700	5500
72 hrs @ 185 ° F (psi)	3500	

PLUG GEOMETRY

	PLUG TOP		PLUG BOTTOM	
1	11750 ft	to	13100 ft	with 8.5 inch Open Hole PDSqT = 160 ° F PDST = 184.8 ° F
2	11250 ft	to	11750 ft	with 8.5 inch Open Hole PDSqT = 150 ° F PDST = 174 ° F

PLUG #1 - 11750' - 13100'

PUMP 550 SACK PLUG (20% EXCESS OVER TRUE HOLE).

PLUG #2 - 11250' - 11750'

PUMP 250 SACKS FOR WHIPSTOCK PLUG (20% EXCESS OVER TRUE HOLE)

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

Form C-102
Revised October 15, 2009

Submit one copy to appropriate
District Office

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

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 19H
OGRID No. 6137	Operator Name DEVON ENERGY PRODUCTION COMPANY, L.P.	Elevation 3349'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	9	23 S	31 E		710	SOUTH	710	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
D	9	23 S	31 E		660	NORTH	710	WEST	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 482858 8400 E 708748 6090</p> <p>660'</p> <p>710'</p> <p>B.H.</p> <p>PROPOSED BOTTOM HOLE LOCATION</p> <p>Lat - N 32°19'27.97" Long - W 103°47'20.69" NMSPCE- N 482201.448 E 709462.604 (NAD-83)</p> <p>N 482868 5140 E 711395 6700</p> <p>N 482884 5740 E 714042 2450</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><i>Judy A. Barnett</i> Signature Date</p> <p>Judy A. Barnett 2/11/10 Printed Name Regulatory Analyst</p>
<p>N 480218 2220 E 708764 5880</p> <p>3971.3'</p> <p>3345.6'</p> <p>3351.0'</p> <p>710'</p> <p>S.L.</p> <p>3348.1'</p> <p>3352.1'</p> <p>SURFACE LOCATION</p> <p>Lat - N 32°18'49.26" Long - W 103°47'20.63" NMSPCE- N 478290.198 E 709487.532 (NAD-83)</p> <p>N 480244 4020 E 714057 3410</p> <p>N 477576 7210 E 708762 4250</p> <p>N 477590 0650 E 711425 8890</p> <p>N 477603 8370 E 714071 7980</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>OCTOBER 13 2009 Date Surveyed Signature & Seal of Professional Surveyor 7977 Certificate No. Gary L. Jones 7977 BASIN SURVEYS</p>

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Energy, Minerals and Natural Resources Department

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Submit one copy to appropriate
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WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

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Property Code	Property Name NORTH PURE GOLD "9" FEDERAL	Well Number 19H
OGRID No. 6137	Operator Name DEVON ENERGY PRODUCTION COMPANY, L.P.	Elevation 3349'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	9	23 S	31 E		710	SOUTH	710	WEST	EDDY

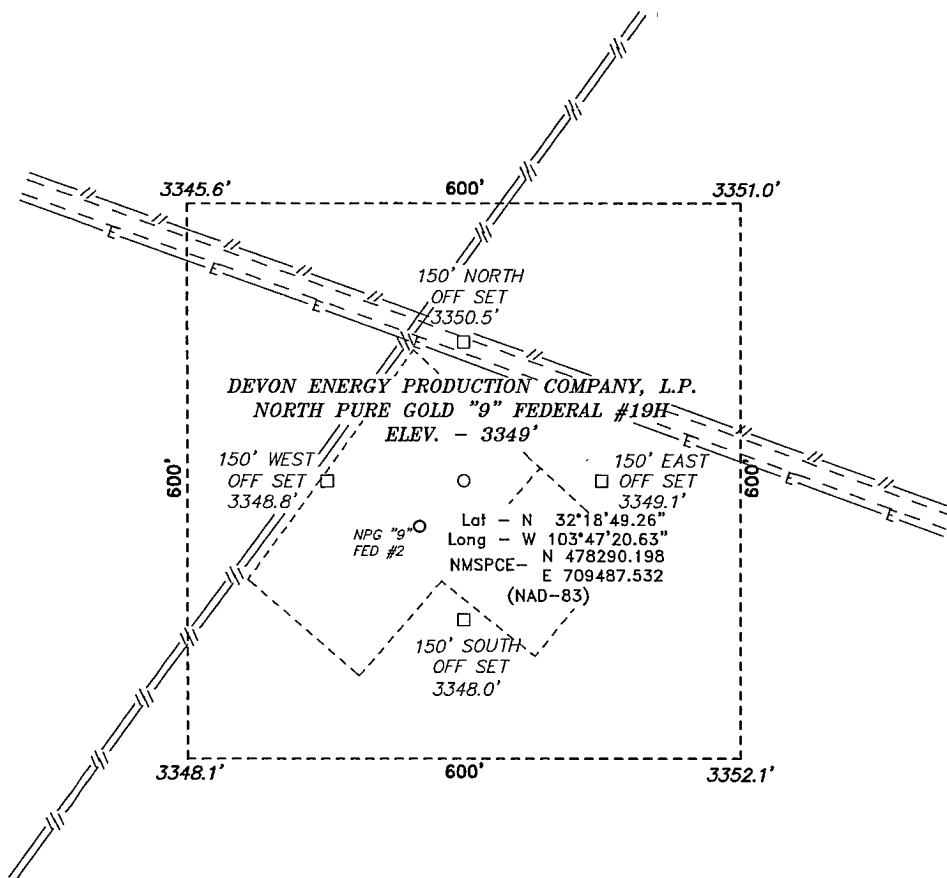
Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	9	23 S	31 E		660	NORTH	710	WEST	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

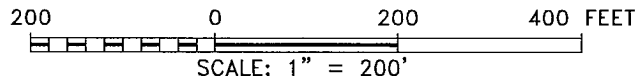
<p>N 482658 8400 E 708748 6090</p> <p>660'</p> <p>710'</p> <p>B.H.</p> <p>PROPOSED BOTTOM HOLE LOCATION Lat - N 32°19'27.97" Long - W 103°47'20.69" NMSPCE- N 482201.448 E 709462.604 (NAD-83)</p> <p>N 482668 5140 E 711395 6700</p> <p>N 482884 5740 E 714042 2450</p> <p>N 480218 2220 E 708764 5880</p> <p>3911.3'</p> <p>N 480244 4020 E 714057 3410</p> <p>3345.6'</p> <p>3351.0'</p> <p>710'</p> <p>S.L.</p> <p>3348.1'</p> <p>3352.1'</p> <p>SURFACE LOCATION Lat - N 32°18'49.26" Long - W 103°47'20.63" NMSPCE- N 478290.198 E 709487.532 (NAD-83)</p> <p>N 477576 7210 E 708782 4250</p> <p>N 477590 0650 E 711425 8890</p> <p>N 477603 8370 E 714071 7980</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>OCT 15 2009</p> <p>Date Surveyed _____</p> <p>Signature & Seal of Professional Surveyor 7977</p> <p>Certificate No. Gary L. Jones 7977</p> <p>BASIN SURVEYS</p>
---	--

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 0.3 MILES TO PROPOSED LOCATION AT THE NPG 9 #2 LOCATION.



DEVON ENERGY PRODUCTION COMPANY, L.P.

REF: NORTH PURE GOLD "9" FEDERAL #19H / WELL PAD TOPO

THE NORTH PURE GOLD "9" FEDERAL #19H LOCATED 710'

FROM THE SOUTH LINE AND 710' FROM THE WEST LINE OF

SECTION 9, TOWNSHIP 23 SOUTH, RANGE 31 EAST,

N.M.P.M., EDDY COUNTY, NEW MEXICO.

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

W.O. Number: 21892

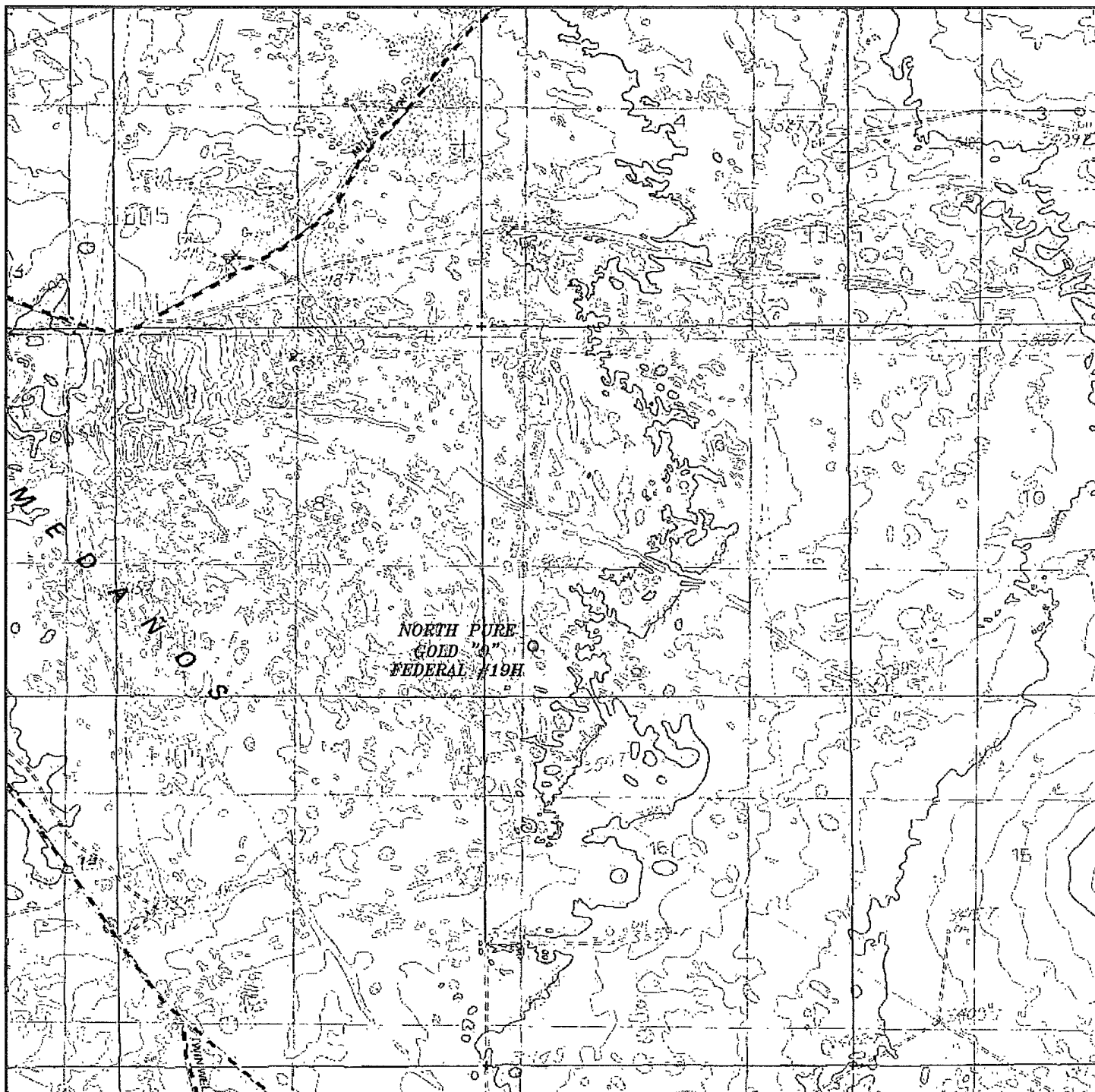
Drawn By: J. SMALL

Date: 11-02-2009

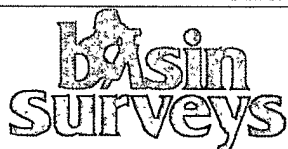
Disk: JMS 21892

Survey Date: 11-02-2009

Sheet 1 of 1 Sheets



NORTH PURE GOLD "9" FEDERAL #19H
Located 710' FSL and 710' FWL
Section 9, Township 23 South, Range 31 East,
N.M.P.M., Eddy County, New Mexico.



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

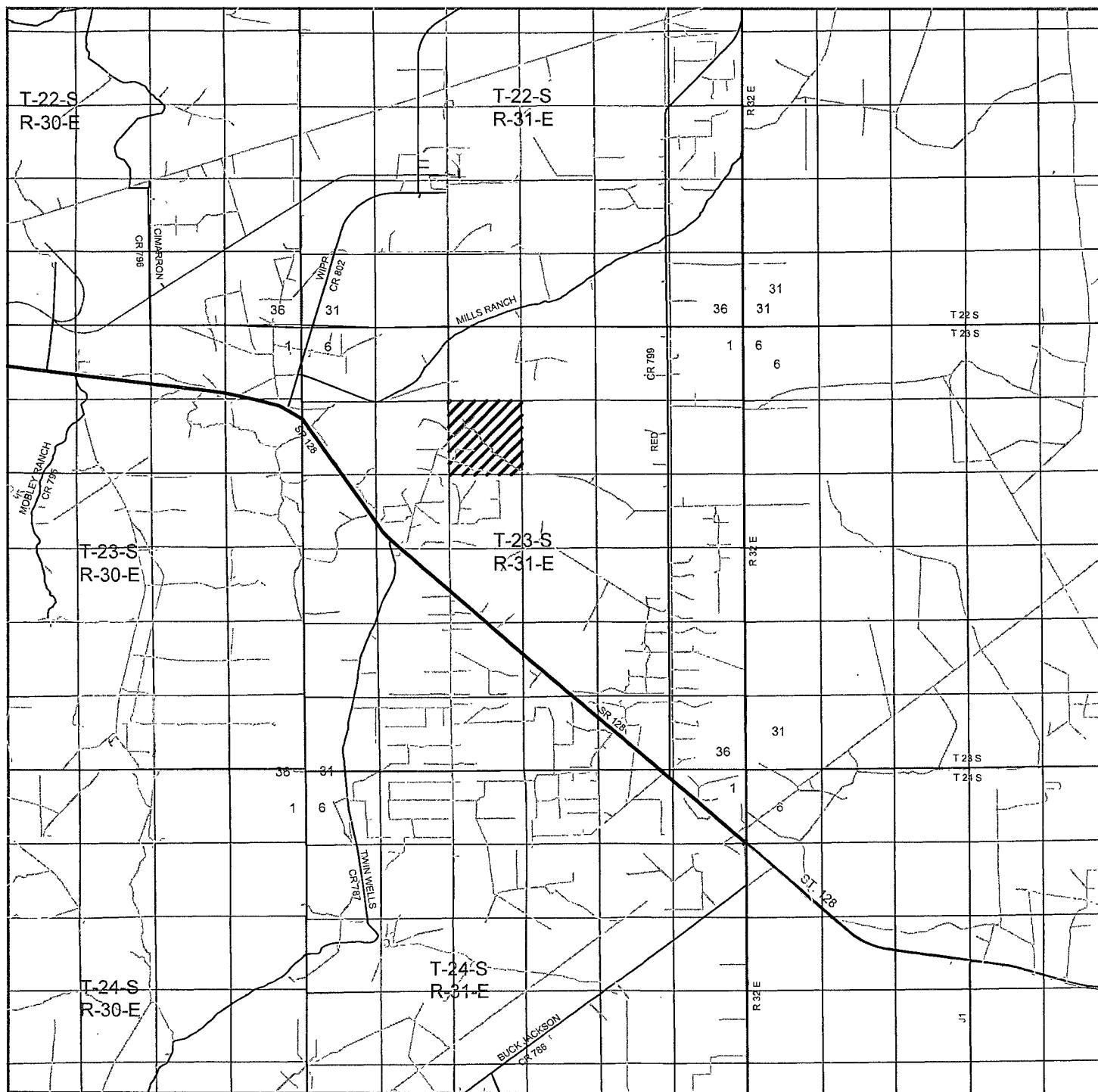
W.O. Number: JMS 21892

Survey Date: 10-30-2009

Scale: 1" = 2000'

Date: 11-02-2009

DEVON ENERGY
PRODUCTION
COMPANY, L.P.



NORTH PURE GOLD "9" FEDERAL #19H

Located 710' FSL and 710' FWL

Section 9, Township 23 South, Range 31 East,
N.M.P.M., Eddy County, New Mexico.



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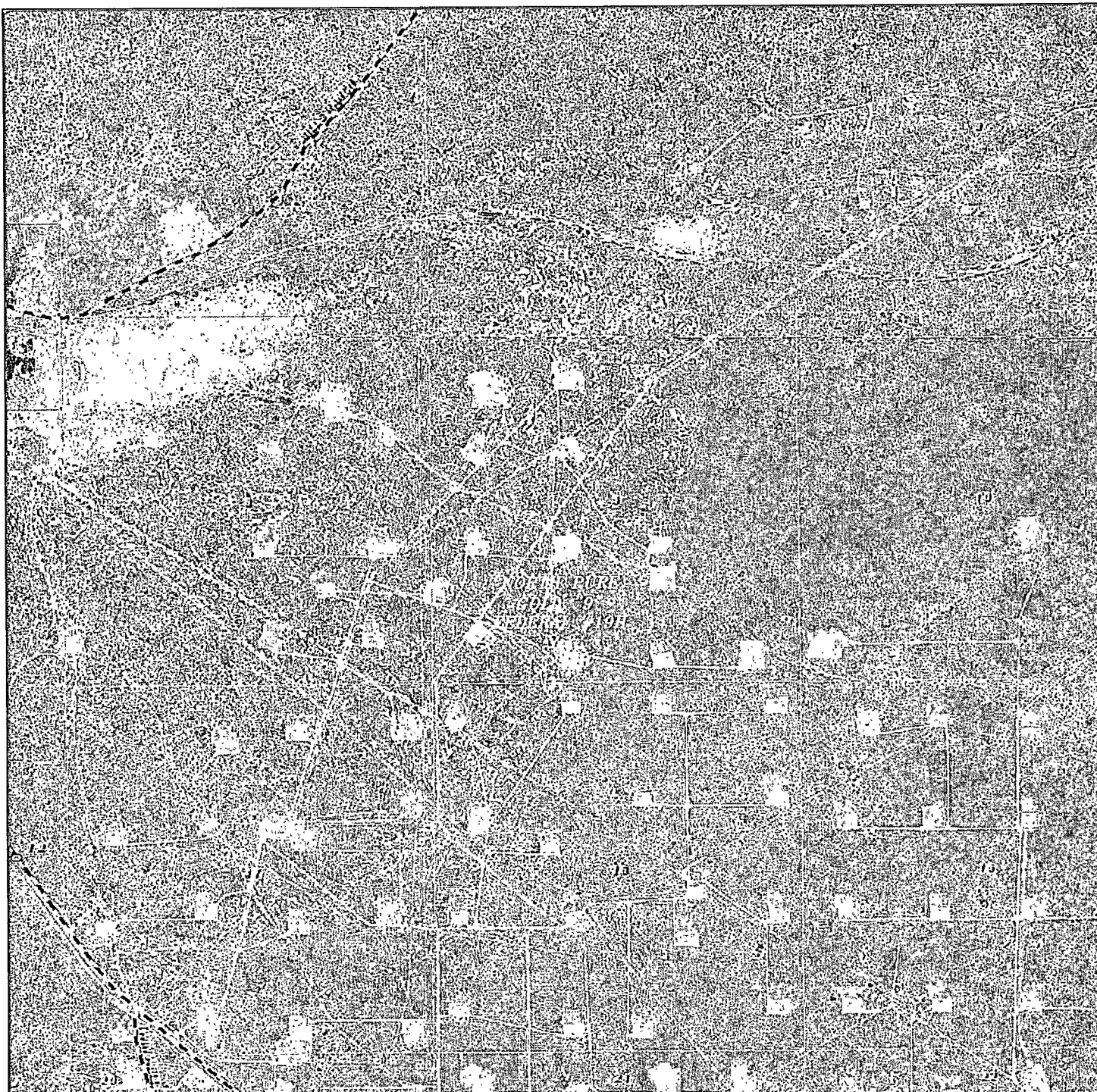
Survey Date: 10-30-2009

Scale: 1" = 2 Miles

Date: 11-02-2009



DEVON ENERGY
PRODUCTION
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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 #19H
Well: North Pure Gold 9 Fed #19H
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	12045.04	0.00	0.00	12045.04	0.00	0.00	0.00	0.00	0.00	
3	12945.04	90.00	0.00	12618.00	572.96	0.00	10.00	0.00	572.96	
4	16332.08	90.00	0.00	12618.00	3960.00	0.00	0.00	0.00	3960.00	PBHL - TD (NPG9F19)

ANNOTATIONS

TVD	MD	Annotation
12045.00	12045.00	KOP - Build 10°/100'
12618.00	12945.00	EOC - Hold 1 90.0° @ A.0.0°

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

Name	TVD	+N-S	+E-W	Northing	Easting	Latitude	Longitude	Shape
PBHL - TD (NPG9F19)	12618.00	3960.00	0.00	479355.63	723708.54	32° 18' 59.186 N	103° 44' 34.746 W	Point

WELL DETAILS North Pure Gold 9 Fed #19H

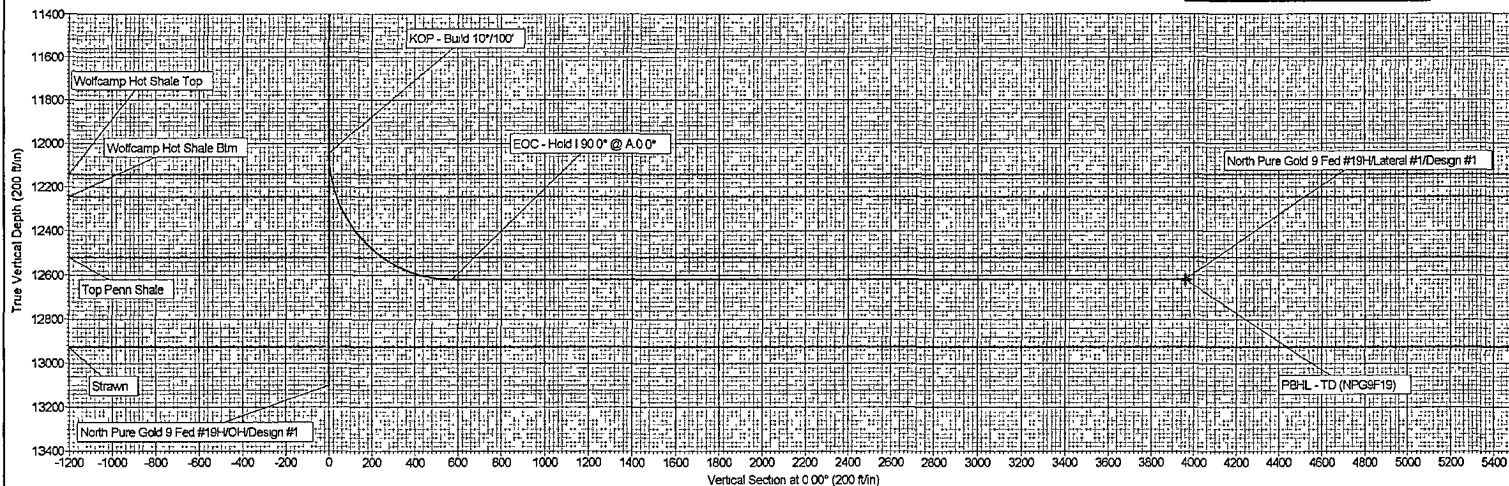
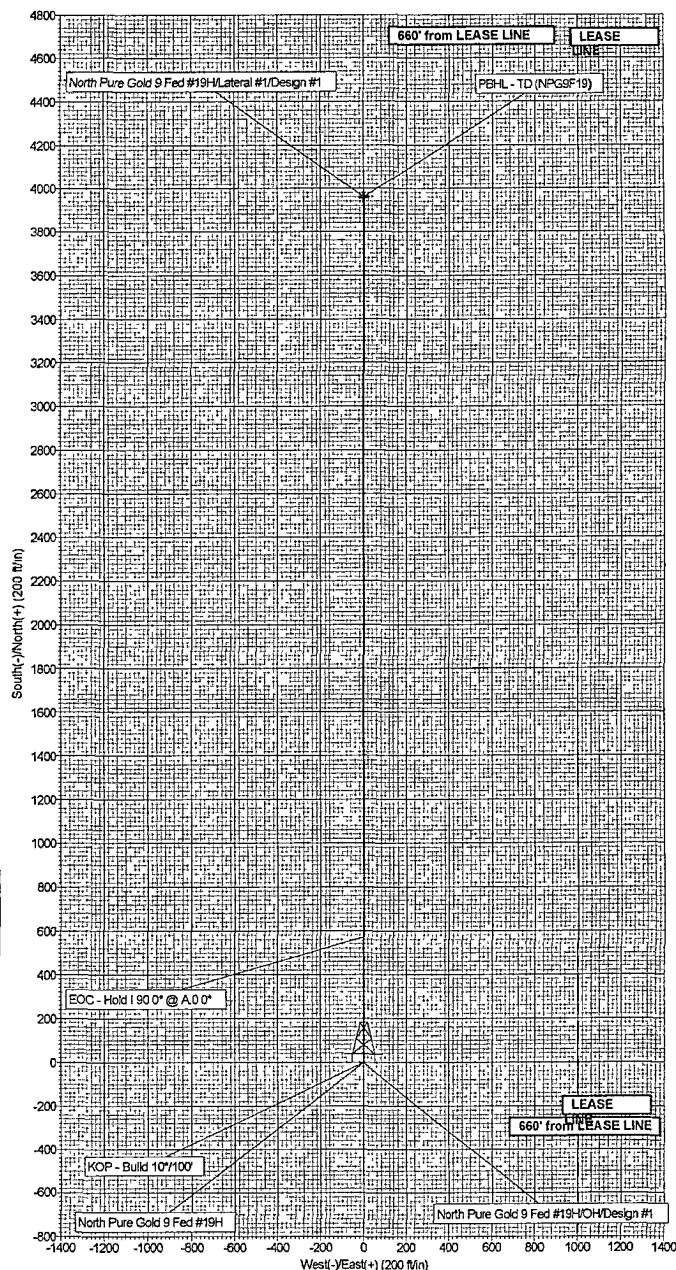
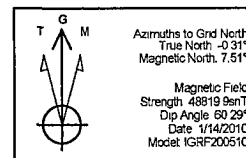
Ground Level							
3349.00							
WELL @ 3369.00ft (Original Well Elev)							
+N-S	+E-W	Northing	Easting	Latitude	Longitude	Slot	
0.00	0.00	475395.64	723708.54	32° 18' 20.000 N	103° 44' 35.000 W		

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 #19H/Lateral #1)

Created By	Mike Starkey	Date	17.55, January 14 2010
Checked		Date	
Reviewed		Date	
Approved		Date	





Devon Energy

Eddy Co., New Mexico (Nad 83)

North Pure Gold 9 Fed #19H

North Pure Gold 9 Fed #19H

Lateral #1

Plan: Design #1

Standard Planning Report

14 January, 2010





CUDD Drilling & Measurement Services

Planning Report



Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Site North Pure Gold 9 Fed #19H
Company:	Devon Energy	TVD Reference:	WELL @ 3369.00ft (Original Well Elev)
Project:	Eddy Co., New Mexico (Nad 83)	MD Reference:	WELL @ 3369.00ft (Original Well Elev)
Site:	North Pure Gold 9 Fed #19H	North Reference:	Grid
Well:	North Pure Gold 9 Fed #19H	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 #19H, Sec 9, T-23S, R-31E				
Site Position:		Northing:	475,395.64 ft	Latitude:	32° 18' 20.000 N
From:	Lat/Long	Easting:	723,708.54 ft	Longitude:	103° 44' 35.000 W
Position Uncertainty:	0.00 ft	Slot Radius:	"	Grid Convergence:	0.32 °

Well:	North Pure Gold 9 Fed #19H					
Well Position	+N/-S	0 00 ft	Northing:	475,395.64 ft	Latitude:	32° 18' 20.000 N
	+E/-W	0 00 ft	Easting:	723,708.54 ft	Longitude:	103° 44' 35.000 W
Position Uncertainty		0 00 ft	Wellhead Elevation:	3,369.00 ft	Ground Level:	3,349.00 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)	+N/-S	+E/-W	Direction
	(ft)	(ft)	(ft)	(°)
	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	
12,045.04	0.00	0.00	12,045.04	0.00	0.00	0.00	0.00	0.00	0.00	
12,945.04	90.00	0.00	12,618.00	572.96	0.00	10.00	10.00	0.00	0.00	
16,332.08	90.00	0.00	12,618.00	3,960.00	0.00	0.00	0.00	0.00	0.00	PBHL - TD (NPG9F19)



CUDD Drilling & Measurement Services
Planning Report



Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Site North Pure Gold 9 Fed #19H
Company:	Devon Energy	TVD Reference:	WELL @ 3369.00ft (Original Well Elev)
Project:	Eddy Co , New Mexico (Nad 83)	MD Reference:	WELL @ 3369 00ft (Original Well Elev)
Site:	North Pure Gold 9 Fed #19H	North Reference:	Grid
Well:	North Pure Gold 9 Fed #19H	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
11,245.00	0.00	0.00	11,245.00	0.00	0.00	0.00	0.00	0.00	0.00
Wolfcamp									
12,045.00	0.00	0.00	12,045.00	0.00	0.00	0.00	0.00	0.00	0.00
KOP - Build 10°/100'									
12,045.04	0.00	0.00	12,045.04	0.00	0.00	0.00	0.00	0.00	0.00
12,142.47	9.74	0.00	12,142.00	8.26	0.00	8.26	10.00	10.00	0.00
Wolfcamp Hot Shale Top									
12,248.23	20.32	0.00	12,244.00	35.65	0.00	35.65	10.00	10.00	0.00
Wolfcamp Hot Shale Btm									
12,601.40	55.64	0.00	12,518.00	249.55	0.00	249.55	10.00	10.00	0.00
Top Penn Shale									
12,945.00	90.00	0.00	12,618.00	572.92	0.00	572.92	10.00	10.00	0.00
EOC - Hold 1:90.0° @ A:0.0°									
12,945.04	90.00	0.00	12,618.00	572.96	0.00	572.96	10.00	10.00	0.00
16,332.08	90.00	0.00	12,618.00	3,960.00	0.00	3,960.00	0.00	0.00	0.00
PBHL - TD (NPG9F19)									

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
11,245.00	11,245.00	Wolfcamp		0.00		
12,142.47	12,142.00	Wolfcamp Hot Shale Top		0.00		
12,248.23	12,244.00	Wolfcamp Hot Shale Btm		0.00		
12,601.40	12,518.00	Top Penn Shale		0.00		
	12,924.00	Strawn		0.00		

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
12,045.00	12,045.00	0.00	0.00	KOP - Build 10°/100'
12,945.00	12,618.00	572.92	0.00	EOC - Hold 1:90.0° @ A:0.0°

GEOLOGIC PROGNOSIS

DATE: 2/11/2010
 COMPANY: DEVON ENERGY
 WELL NAME: North Pure Gold 9 Fed #19H
 SURFACE LOCATION: Sec 09-23S-31E, 660 FSL & 710 FWL
 BOTTOM HOLE LOCATION: Sec 09-23S-31E, 660 FNL & 710 FWL
 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
 KB(EST.): 3369 GL: 3349
 PILOT TD: 13,100' LATERAL TD: 16,500'
 DEEPEST FORMATION: STRAWN
 DEVON FIELD GEOLOGIST: CHARLIE WILEY CELLULAR: 405-388-5256 ADDRESS: 20N BROADWAY, OKLAHOA CITY, OK 73102
 OFC. PHONE: 405-552-7904 HM PHONE: _____ EMAIL: charlie.wiley@devn.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@devn.com
 MUDLOGGING CO: DISCOVERY LOGGING INC. (WEATHERFORD SURFACE LOGGING)
 ADDRESS: P.O BOX 80531 OFC PHONE: 432-687-1823
 CITY: MIDLAND 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: 300' 2" Bore Size - Wireline Core 7,600' - 12,500' (CUC)
 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	hi/lo	MD	Subsea	TVD	hi/lo	
ALLUVIUM	0	3369	0									
RUSTLER DOL.	455	2914	455									
SALADO SALT	682	2687	682									
CASTLE	2799	573	2799									
BASE OF SALT	3900	-531	3900									
BELL CANYON	4146	-777	4146									
CHERRY CANYON	5079	-1710	5079									
BRUSHY CANYON	6405	-3036	6405									
1ST BONE SPRINGS LM	8031	-4662	8031									
AVALON SHALE LOWER TOP	8637	-5268	8637									
AVALON SHALE LOWER BOTTOM	8769	-5400	8769									
1ST BONE SPRINGS SS.	9088	-5719	9088									
2ND BONE SPRINGS LM	9495	-6126	9495									
2ND BONE SPRINGS SS	9843	-6474	9843									
3RD BONE SPRINGS LM	10159	-6790	10159									
3RD BONE SPRINGS SS.	10862	-7493	10862									
WOLFCAMP	11327	7958	11327									
WOLFCAMP HOT SHALE TOP	12196	8827	12196									
WOLFCAMP HOT SHALE BOTTOM	12339	-8970	12339									
TOP PENN SHALE	12620	-9251	12620									
STRAWN	13045	9676	13045									
TD PILOT	13100	-9731	13100									
KOP	12187	-8818	12187									
WOLFCAMP HOT SHALE BOTTOM	12342	-8970	12339									
TOP PENN SHALE	12706	-6251	12620									
HOLD 90 DEGREES (EST.)	13046	-9351	12720									
LATERAL TD	16500	-9351	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

WELL NAME: North Pure Gold 9 Fed #19H
SURFACE LOCATION: Sec 09-23S-31E, 660 FSL & 710 FWL,
BOTTOM HOLE LOCATION: Sec 09-23S-31E, 660 FNL & 710 FWL,
PRIMARY OBJECTIVE: UPPER PENN SHALE
ESTIMATED BHP/BHT: 9700 psi 180degF
RIG: 1600 HP
RIG CONTACT:
MUD PROGRAM:
CASING: BONE SPRINGS

API#: 0
COUNTY: EDDY
STATE: NEW MEXICO
KB (EST): 3369 GL: 3349
PILOT TD: 13,100' LATERAL TD: 16,500'
DEEPEST FM: STRAWN
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

COMPANY: CUDD CONTACT:
LOGGING ENGINEER:

Surface Location (NAD27)

Long	W	-103.7884860
Lat	N	32.3136148
Footage N/S	FSL	660
Footage E/W	FWL	710

Entry Point (NAD27)

Formation	UPPER PENN SHALE
Depth	TVD 12620
Depth	MD 12706
Footage N/S	FSL 912
Footage E/W	FEL 710

Bottom Hole (NAD27)

Long	W	-103.7884921
Lat	N	32.3247366
Footage N/S	FNL	660
Footage E/W	FWL	710

CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Devon Energy Production Company
LEASE NO.:	NM-77046
WELL NAME & NO.:	North Pure Gold 9 Federal 19
SURFACE HOLE FOOTAGE:	710' FSL & 710' FWL
BOTTOM HOLE FOOTAGE:	660' FNL & 710' 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 540 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.

Casing is to be kept fluid filled while running into hole.

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.**

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 7,500 feet into previous casing string. Operator shall provide method of verification. **Additional cement may be required as the excess calculates to -34%.**
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 a minimum of 8 hours setup time for a water basin. The casing shall remain stationary and under pressure for at least eight hours after the operator places the cement. In the potash area, the minimum time is 12 hours and the casing shall remain stationary and under pressure during this time period. Casing shall be under pressure if the operator uses some acceptable means of holding pressure or if the operator employs one or more float valves to hold the cement in place. Testing the BOP/BOPE against a plug can commence after meeting the above conditions plus the BOP installation time.
 - b. The tests shall be done by an independent service company utilizing a test plug.

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

D. DRILLING MUD

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.

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