

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RECEIVED

FORM APPROVED
OMB NO. 1004-0137
Expires July 31, 2010

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.

MAY 09 2011

Farmington Field Office

SUBMIT IN TRIPLICATE - Other instructions on page 2

1. Type of Well

☐ Oil Well ☒ Gas Well ☐ Other

2. Name of Operator

Energen Resources Corporation

3a. Address

2010 Afton Place, Farmington, NM 87401

3b. Phone No. (include area code)

(505) 325-6800

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

Surface: 990' FSL, 820' FWL Sec. 21, T32N, R04W (M) SW/SW

BHL: 700' FSL, 500' FWL Sec. 20 - 32N - 4W (M) SW/SW

5. Lease Serial No.

NMNM 28277

6. If Indian, Allottee or Tribe Name

7. If Unit or CA/Agreement, Name and/or No.

8. Well Name and No.

Arboles 20A # 10

9. API Well No.

30-039-30291

10. Field and Pool, or Exploratory Area

Basin Fruitland Coal

11. County or Parish, State

Rio Arriba NM

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

TYPE OF SUBMISSION

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

TYPE OF ACTION

- | | | | |
|---|---|--|---|
| ☐ Acidize | ☐ Deepen | ☐ Production (Start/Resume) | ☐ Water Shut-Off |
| ☐ Alter Casing | ☐ Fracture Treat | ☐ Reclamation | ☐ Well Integrity |
| ☐ Casing Repair | ☐ New Construction | ☐ Recomplete | ☒ Other |
| ☐ Change Plans | ☐ Plug and Abandon | ☐ Temporarily Abandon | BHL Change |
| ☐ Convert to Injection | ☐ Plug Back | ☐ Water Disposal | |

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleate horizontally, give subsurface locations 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 recompleation 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 requirements, including reclamation, have been completed, and the operator has determined that the final site is ready for final inspection.)

Energen Resources would like to change the bottom-hole location of the subject well to the new location plotted on the attached C-102.

From: 1,000' FSL, 2,500' FEL Sec. 20, T32N, R04W, (O)

TO: 700' FSL, 500' ~~FEL~~ FWL Sec. 20, T32N, R04W, (M)

A new operations plan and well design has also been attached.

CONDITIONS OF APPROVAL

Adhere to previously issued stipulations.

14. I hereby certify that the foregoing is true and correct
Name (Printed/Typed)

Andrew Soto

Signature

Title

Drilling Engineer

Date

5/9/2011

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

Troy L. Salyers

Title

Petroleum Engineer

Date

5/10/2011

Conditions of approval, if any, are attached. Approval of this notice 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.

Office

FFO

Title 18 U.S.C. Section 1001, and Title 43 U.S.C. Section 1212, makes 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.

DISTRICT I
1825 N. French Dr., Hobbs, N.M. 88240

State of New Mexico
Energy, Minerals & Natural Resources Department

Form C-102
Revised July 10, 2010

DISTRICT II
1301 W. Grand Avenue, Artesia, N.M. 88210

**Submit one copy to appropriate
District Office**

DISTRICT III
1000 Rio Brazos Rd., Aztec, N.M. 87410

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

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-039-30291	² Pool Code 71629	³ Pool Name BASIN FRUITLAND COAL
⁴ Property Code	⁵ Property Name ARBOLES 20A	⁶ Well Number 10
⁷ OGRID No. 162928	⁸ Operator Name ENERGEN RESOURCES CORPORATION	⁹ Elevation 7396'

¹⁰ Surface Location

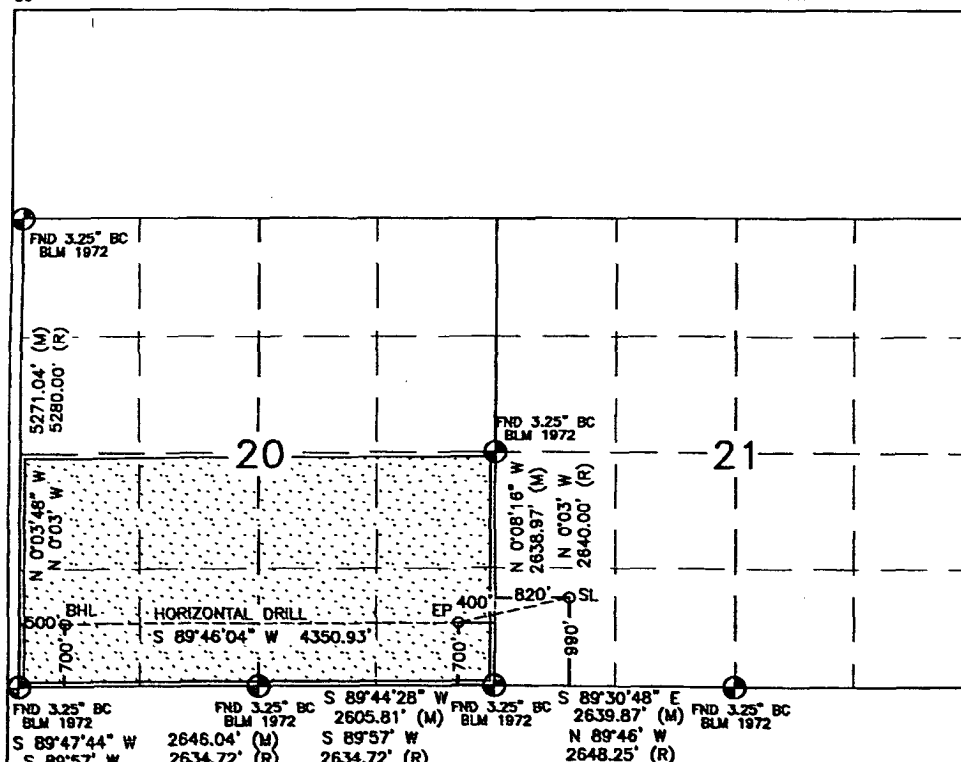
UL or lot no. M	Section 21	Township 32N	Range 4W	Lot Idn	Feet from the 990'	North/South line SOUTH	Feet from the 820'	East/West line WEST	County RIO ARRIBA
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11 Bottom Hole Location If Different From Surface

UL or lot no. M	Section 20	Township 32N	Range 4W	Lot Idn	Feet from the 700'	North/South line SOUTH	Feet from the 500'	East/West line WEST	County RIO ARRIBA
²³ Dedicated Acres 320.0 Acres - (S/2)			²⁴ Joint or Infill		²⁵ Consolidation Code		²⁶ 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

16



17 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 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.

Signature

Date _____

Andrew Soto
Printed Name

Printed Name _____

asoto@energy.com
E-mail Address

18 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 supervision, and that the same is true and correct to the best of my belief.

MAY 16, 2007

Date of Survey

Signature and Seal of Professional Surveyor:

DAVID R. RUSSELL
NEW MEXICO

DAVID RUSSELL

Certificate Number

10201

BOTTOM HOLE LOCATION
LAT. 36.96687° N
LONG. 107.28533° W
DATUM (NAD 1983)

ENTRY POINT
LAT. 36.96691° N
LONG. 107.27045° W
DATUM (NAD 1983)

SURFACE LOCATION
LAT. 36.96769° N
LONG. 107.26627° W
DATUM (NAD 1983)

5/9/2011



OPERATIONS PLAN

WELL NAME.....Arboles 20A #10
JOB TYPE.....Horizontal OPE FTC
DEPT.....Drilling and Completions
PREPARED BY.....Andrew Soto

GENERAL INFORMATION

Surface Location	900' FSL & 820' FWL
S-T-R	(M) Sec. 21, T32N, R04W
Bottom Hole Location	700' FSL & 500' FWL
S-T-R	(M) Sec. 20, T30N, R04W
County, State	Rio Arriba, New Mexico
Elevations	7396' GL
Total Depth	8,880' +/- (MD); 4,185' (TVD)
Formation Objective	Basin Fruitland Coal

FORMATION TOPS

San Jose	Surface
Nacimiento	2,409' (TVD)
Ojo Alamo Ss	3,589' (TVD), 3,686' (MD)
Kirtland Sh	3,715' (TVD), 3,780' (MD)
Fruitland Fm	4,069' (TVD), 4,342' (MD)
Top Coal	4,185' (TVD), 4,713' (MD)
Bottom Coal	4,203' (TVD)
Total Depth	4,203' (TVD), 4,185' (MD)

DRILLING

~~4,185'~~ ~~8,880'~~

Surface: 12 1/4" wellbore will be drilled with a fresh water mud system (spud mud).

Intermediate: 8 3/4" wellbore will be drilled with a LSND mud system. Weighting materials will be drill cuttings and if needed barite. Mud density is expected to range from 8.4 ppg to 9.3 ppg.

Production: 6 1/4" wellbore will be drilled with a fresh water or brine water system depending on reservoir characteristics. Anticipated BHP can be as high as 1,100 psi.✓

Projected KOP is 2,900' TVD with 4.79°/100' doglegs.

Blowout Control Specifications:

A 3,000 psi minimum double ram or annulus BOP stack will be used following nipple up of casing head. A 2" nominal, 2000 psi minimum choke manifold will also be used. An upper Kelly Cock valve handle and drill string valve should be available to fit each drill string and be available on the rig floor during drilling operations. **Pressure test BOP to 250 psi for 15 min and 2,000 psi for 15 min.** ✓

Logging Program:

Open hole logs: None

Mudlogs: 3,294' TVD, 3300' MD to TD

Surveys: Surface to KOP every 500' and a minimum of every 200' for directional.

5/9/2011

CASING, TUBING & CASING EQUIPMENT

String	Start Depth	End Depth	Wellbore	Size	Wt	Grade
Surface	0	200'	12 1/4"	9 5/8"	32.3 lb/ft	H-40 ST&C
Intermediate	0	4,930'	8 3/4"	7"	23 lb/ft	J-55 LT&C
TVD	0	4,203'				
Prod. Liner	4,830'	8,880'	6-1/4"	4-1/2"	11.6 lb/ft	J-55 LT&C
TVD	4,198'	4,185'				
Tubing	0	4,700'	none	2-3/8"	4.7 lb/ft	J-55

Surface Casing: Texas Pattern Guide Shoe on bottom of first joint and an insert float valve on top of first joint. Casing centralization with a minimum of 3 standard bow spring centralizers to achieve optimal standoff.

Intermediate Casing: Self fill float shoe with self fill float collar on bottom and top of first joint. Casing centralization with double bow spring and centralizers to optimize standoff. Two turbolating centralizers at the base of the Ojo Alamo are recommended.

Production Liner: Bull nose guide shoe on bottom of first joint, H-Latch liner drop off tool on top of last joint.

WELLHEAD

11" 3000 x 9 5/8" weld/slip on casing head. 9 5/8" x 7" x 2 3/8" 3000 psi Flanged Wellhead .

CEMENTING

Surface Casing: 107 sks Type V with 2.0 % CaCl₂ and ¼ #/sk Flocele (15.6 ppg, 1.18 ft³/sk 126 ft³ of slurry, 100% excess to circulate to surface). WOC 12 hours. Pressure test surface casing to 750 psi for 30 min.

Intermediate Casing: Circulate hole at least 1 1/2 hole volumes of mud and reduce funnel viscosity to aid in hole cleanout. Depending on wellbore conditions, cement may consist of a pre-flush with 5 bbls H2O + 20 bbls Mud Flush + 5 bbls H2O and follow with Lead with 581 sks San Juan PRB II with 5#/sk Gilsonite and 1/4 #/sk Flocele (12.3 ppg, 2.24 ft³/sk, 202 ft³) and a tail of 100 sks San Juan PRB II with 5#/sk Gilsonite and 1/4 #/sk Flocele (13.5 ppg, 1.81 ft³/sk, 181 ft³). Circulate 100% excess to surface. Test casing to 1,500 psi for 30 min. $V_T = 1482 \text{ Ft}^3$

Production Liner: NO CEMENT, Open Hole Completion ✓

Set slips with full string weight

If cement does not circulate, run temperature survey in 8 hrs. to determine TOC.

5/9/2011

OTHER INFORMATION

- 1) This well will be an open hole completion lined with an uncemented pre-drilled liner.
- 2) If lost circulation is encountered, sufficient LCM will be added to the mud system to maintain well control. The intermediate string may need to be cemented in multiple stages with a slurry design deviated from that listed above.
- 3) If high reservoir pressures or water flows are encountered slurry design may need to be deviated to from those listed above to satisfy wellbore and formation conditions. The Arboles 20A #1R well in the west half of section 20 will be turned to TA'd during drilling operations. ✓
- 4) No abnormal temperatures or pressures are anticipated.
- 5) This gas is dedicated.

Energen Resources

Carson National Forest

20A; Sec. 21 T 32N R4W

Arboles 20A #10 ✓

Wellbore #1

Plan: Design #1

APD Report

09 May, 2011

Project: Carson National Forest

Site: 20A; Sec. 21 T 32N R4

Well: Arboles 20A #10

Wellbore: Wellbore #1

Design: Design #1 (Arboles 20A #10/Wellbore #1)

PROJECT DETAILS: Carson National Forest

Geodetic System: US State Plane 1983

Datum: North American Datum 1983

Ellipsoid: GRS 1980

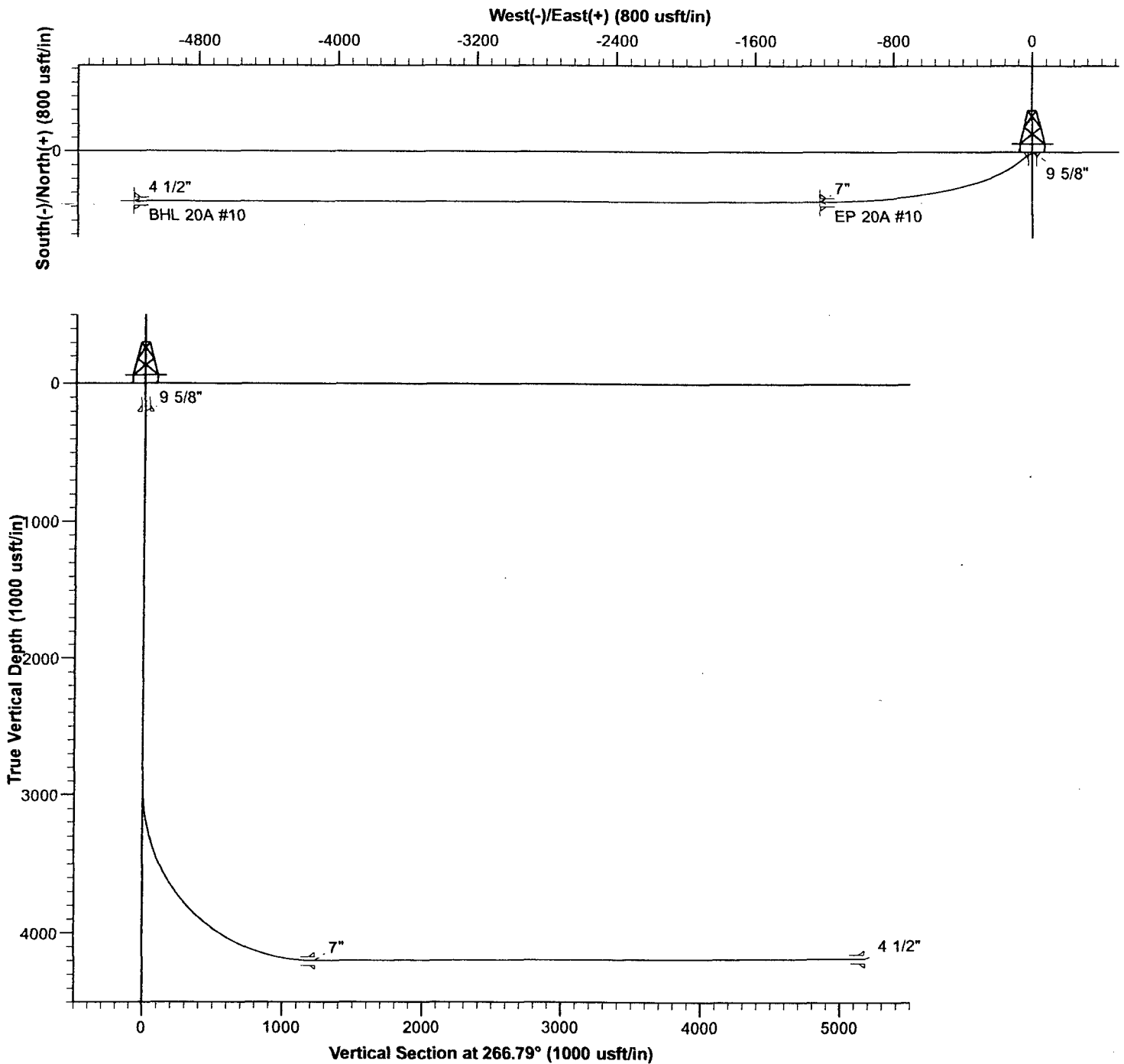
Zone: New Mexico Central Zone

System Datum: Mean Sea Level



Azimuths to True North
Magnetic North: 9.70°

Magnetic Field
Strength: 50968.5nT
Dip Angle: 63.77°
Date: 5/9/2011
Model: IGRF200510



Energen

APD Report

Company: Energen Resources Project: Carson National Forest Site: 20A; Sec. 21 T 32N R4W Well: Arboles 20A #10 Wellbore: Wellbore #1 Design: Design #1	Local Co-ordinate Reference: TVD Reference: WELL @ 7410.0usft (Original Well Elev) MD Reference: WELL @ 7410.0usft (Original Well Elev) North Reference: True Survey Calculation Method: Minimum Curvature Database: EDM 5000.1 Single User Db	Site 20A; Sec. 21 T 32N R4W WELL @ 7410.0usft (Original Well Elev) WELL @ 7410.0usft (Original Well Elev) True Minimum Curvature EDM 5000.1 Single User Db
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Project:	Carson National Forest	System Datum:	Mean Sea Level
Map System:	US State Plane 1983		
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Central Zone		

Site	20A; Sec. 21 T 32N R4W		
Site Position:			
From:	Lat/Long	2,173,117.10 usft	Latitude: 36° 58' 3.684 N
Position Uncertainty:	0.0 usft	1,343,532.65 usft	Longitude: 107° 15' 58.572 W
		13-3/16 "	Grid Convergence: -0.61 °

Well	Arboles 20A #10		
Well Position			
From:	+N/-S	2,173,117.10 usft	Latitude: 36° 58' 3.684 N
	+E/-W	1,343,532.65 usft	Longitude: 107° 15' 58.572 W
Position Uncertainty	0.0 usft	usft	Ground Level: 7,396.0 usft

Wellbore	Wellbore #1		
Magnetics			
Model Name	IGRF200510		
Sample Date	5/9/2011		
Declination (°)	9.70	Dip Angle (°)	63.77
Field Strength (nT)			50,969

Design	Design #1		
Audit Notes:			
Version:			
Vertical Section:			
Phase:	PROTOTYPE	Tie On Depth:	0.0
Depth From (TVD) (usft)	0.0	+N/-S (usft)	0.0
		+E/-W (usft)	0.0
		Direction (°)	266.79

Survey Tool Program	Date	5/9/2011	
From (usft)	To (usft)	Survey (Wellbore)	Description
0.0	0.0	Design #1 (Wellbore #1)	

Energen

APD Report

Company: Energen Resources
 Project: Carson National Forest
 Site: 20A; Sec. 21 T 32N R4W
 Well: Arboles 20A #10
 Wellbore: Wellbore #1
 Design: Design #1

Local Co-ordinate Reference:
 TVD Reference:
 MD Reference:
 North Reference:
 Survey Calculation Method:
 Database:

Site 20A; Sec. 21 T 32N R4W
 WELL @ 7410.0usft (Original Well Elev)
 WELL @ 7410.0usft (Original Well Elev)
 True
 Minimum Curvature
 EDM 5000.1 Single User Db

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	V. Sec (usft)	N/S (usft)	EW (usft)	DLag (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00
9 5/8"							
2,409.0	0.00	0.00	2,409.0	0.0	0.0	0.0	0.00
Nacimiento							
2,931.0	0.00	0.00	2,931.0	0.0	0.0	0.0	0.00
3,000.0	3.31	231.52	3,000.0	1.6	-1.2	-1.6	4.79
3,100.0	8.10	231.52	3,099.4	9.7	-7.4	-9.3	4.79
3,200.0	12.90	231.52	3,197.7	24.6	-18.8	-23.6	4.79
3,300.0	17.69	231.52	3,294.2	46.1	-35.2	-44.2	4.79
3,400.0	22.49	231.52	3,388.1	74.2	-56.5	-71.1	4.79
3,445.6	24.68	231.52	3,429.9	89.1	-67.9	-85.4	4.79
3,500.0	26.69	235.34	3,478.9	108.8	-81.9	-104.4	4.79
3,600.0	30.62	241.10	3,566.8	150.9	-107.0	-145.1	4.79
3,626.1	31.68	242.38	3,589.0	163.2	-113.4	-157.1	4.79
Ojo Alamo							
3,700.0	34.74	245.63	3,650.8	200.5	-131.1	-193.4	4.79
3,779.8	38.14	248.61	3,715.0	245.1	-149.5	-237.1	4.79
Kirtland							
3,800.0	39.01	249.29	3,730.8	257.1	-154.0	-248.8	4.79
3,900.0	43.36	252.34	3,806.0	320.4	-175.5	-311.0	4.79
4,000.0	47.79	254.92	3,876.0	389.9	-195.6	-379.5	4.79
4,100.0	52.26	257.17	3,940.2	465.2	-214.0	-453.9	4.79
4,200.0	56.78	259.15	3,998.3	545.7	-230.7	-533.6	4.79
4,300.0	61.32	260.94	4,049.7	630.8	-245.5	-618.0	4.79
4,341.5	63.21	261.64	4,069.0	667.4	-251.0	-654.3	4.79
Fruitland							
4,400.0	65.88	262.59	4,094.1	720.0	-258.3	-706.7	4.79

Energen

APD Report

Company: Energen Resources
Project: Carson National Forest
Site: 20A; Sec. 21 T 32N R4W
Well: Arboles 20A #10
Wellbore: Wellbore #1
Design: Design #1

Local Co-ordinate Reference:
 TVD Reference: Site 20A; Sec. 21 T 32N R4W
 MD Reference: WELL @ 7410.0usft (Original Well Elev)
 North Reference: True
 Survey Calculation Method: Minimum Curvature
 Database: EDM 5000.1 Single User Db

Planned Survey									
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	V. Sec (usft)	N/S (usft)	E/W (usft)	D Leg (°/100usft)		
4,500.0	70.47	264.11	4,131.3	812.7	-269.0	-798.8	4.79		
4,600.0	75.06	265.56	4,180.9	908.1	-277.6	-893.9	4.79		
4,700.0	79.66	266.94	4,182.8	1,005.6	-283.9	-991.3	4.79		
4,712.5	80.24	267.11	4,185.0	1,018.0	-284.6	-1,003.6	4.79		
Coal Top									
4,800.0	84.27	268.28	4,196.8	1,104.6	-288.1	-1,090.2	4.79		
4,900.0	88.88	269.60	4,202.8	1,204.3	-289.9	-1,189.9	4.79		
4,930.0	90.26	270.00	4,203.0	1,234.3	-290.0	-1,219.9	4.79		
7"									
4,930.1	90.26	270.00	4,203.0	1,234.3	-290.0	-1,220.0	4.79		
Coal Base - EP 20A #10									
5,000.0	90.26	270.00	4,202.7	1,304.2	-290.0	-1,289.9	0.00		
5,100.0	90.26	270.00	4,202.2	1,404.0	-290.0	-1,389.9	0.00		
5,200.0	90.26	270.00	4,201.8	1,503.8	-290.0	-1,489.9	0.00		
5,300.0	90.26	270.00	4,201.3	1,603.7	-290.0	-1,589.9	0.00		
5,400.0	90.26	270.00	4,200.9	1,703.5	-290.0	-1,689.9	0.00		
5,500.0	90.26	270.00	4,200.4	1,803.4	-290.0	-1,789.9	0.00		
5,600.0	90.26	270.00	4,199.9	1,903.2	-290.0	-1,889.9	0.00		
5,700.0	90.26	270.00	4,199.5	2,003.1	-290.0	-1,989.9	0.00		
5,800.0	90.26	270.00	4,199.0	2,102.9	-290.0	-2,089.9	0.00		
5,900.0	90.26	270.00	4,198.6	2,202.7	-290.0	-2,189.9	0.00		
6,000.0	90.26	270.00	4,198.1	2,302.6	-290.0	-2,289.9	0.00		
6,100.0	90.26	270.00	4,197.7	2,402.4	-290.0	-2,389.9	0.00		
6,200.0	90.26	270.00	4,197.2	2,502.3	-290.0	-2,489.9	0.00		
6,300.0	90.26	270.00	4,196.8	2,602.1	-290.0	-2,589.9	0.00		
6,400.0	90.26	270.00	4,196.3	2,702.0	-290.0	-2,689.9	0.00		
6,500.0	90.26	270.00	4,195.8	2,801.8	-290.0	-2,789.9	0.00		

Energen

APD Report

Company: Energen Resources
Project: Carson National Forest
Site: 20A, Sec. 21 T 32N R4W
Well: Arbocles 20A #10
Wellbore: Wellbore #1
Design: Design #1

Local Co-ordinate Reference: Site 20A, Sec. 21 T 32N R4W
TVD Reference: WELL @ 7410.0usft (Original Well Elev)
MD Reference: WELL @ 7410.0usft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	V. Sec (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)
6,600.0	90.26	270.00	4,195.4	2,901.6	-290.0	-2,889.9	0.00
6,700.0	90.26	270.00	4,194.9	3,001.5	-290.0	-2,989.9	0.00
6,800.0	90.26	270.00	4,194.5	3,101.3	-290.0	-3,089.9	0.00
6,900.0	90.26	270.00	4,194.0	3,201.2	-290.0	-3,189.9	0.00
7,000.0	90.26	270.00	4,193.6	3,301.0	-290.0	-3,289.9	0.00
7,100.0	90.26	270.00	4,193.1	3,400.8	-290.0	-3,389.9	0.00
7,200.0	90.26	270.00	4,192.7	3,500.7	-290.0	-3,489.9	0.00
7,300.0	90.26	270.00	4,192.2	3,600.5	-290.0	-3,589.9	0.00
7,400.0	90.26	270.00	4,191.7	3,700.4	-290.0	-3,689.9	0.00
7,500.0	90.26	270.00	4,191.3	3,800.2	-290.0	-3,789.9	0.00
7,600.0	90.26	270.00	4,190.8	3,900.1	-290.0	-3,889.9	0.00
7,700.0	90.26	270.00	4,190.4	3,999.9	-290.0	-3,989.9	0.00
7,800.0	90.26	270.00	4,189.9	4,099.7	-290.0	-4,089.9	0.00
7,900.0	90.26	270.00	4,189.5	4,199.6	-290.0	-4,189.9	0.00
8,000.0	90.26	270.00	4,189.0	4,299.4	-290.0	-4,289.9	0.00
8,100.0	90.26	270.00	4,188.6	4,399.3	-290.0	-4,389.9	0.00
8,200.0	90.26	270.00	4,188.1	4,499.1	-290.0	-4,489.9	0.00
8,300.0	90.26	270.00	4,187.6	4,599.0	-290.0	-4,589.9	0.00
8,400.0	90.26	270.00	4,187.2	4,698.8	-290.0	-4,689.9	0.00
8,500.0	90.26	270.00	4,186.7	4,798.6	-290.0	-4,789.9	0.00
8,600.0	90.26	270.00	4,186.3	4,898.5	-290.0	-4,889.9	0.00
8,700.0	90.26	270.00	4,185.8	4,998.3	-290.0	-4,989.9	0.00
8,800.0	90.26	270.00	4,185.4	5,098.2	-290.0	-5,089.9	0.00
8,880.0	90.26	270.00	4,185.0	5,178.0	-290.0	-5,169.9	0.00
4 1/2"							
8,880.1	90.26	270.00	4,185.0	5,178.1	-290.0	-5,170.0	0.00

BHL 20A #10

Energen
APD Report

Company: Energen Resources
Project: Carson National Forest
Site: 20A; Sec. 21 T 32N R4W
Well: Arboles 20A #10
Wellbore: Wellbore #1
Design: Design #1

Local Co-ordinate Reference:
TVD Reference: WELL @ 7410.0usft (Original Well Elev)
MD Reference: WELL @ 7410.0usft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

Site 20A; Sec. 21 T 32N R4W

WELL @ 7410.0usft (Original Well Elev)

WELL @ 7410.0usft (Original Well Elev)

True

Minimum Curvature

EDM 5000.1 Single User Db

Checked By: _____

Approved By: _____

Date: _____