

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

MAY 02 2011

Do not use this form for proposals to drill or to re-enter an
abandoned well. Use Form 3160-3 (APD) for such proposals.

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)

611' FNL, 1059' FEL Sec.24, T32N, R04W (A)

5. Lease Serial No.

NMNM 30584

6. If Indian, Allottee or Tribe Name

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

NMNM-112654

8. Well Name and No.

Carracas 13 B # 16H

9. API Well No.

30-039-30950

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 | |
| ☐ 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 recompleat 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 recompleat 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.)

The Surface location of the Carracas 13B #16H will be changed from 1702' FNL and 1805' FEL to 611' FNL and 1059' FEL. The BHL will be changed as well to 600' FNL and 1000' FWL, a communitization agreement for this is in the approval process. The new drilling plan, plat and 12 point surface use plan are attached.

Surface location not changing

* Hold C-104 for NSL order and approval from SF

CONDITIONS OF APPROVAL

Adhere to previously issued stipulations.

Hold C104

for Directional Survey
and "As Drilled" plat

BLM'S APPROVAL OR ACCEPTANCE OF THIS
ACTION DOES NOT RELIEVE THE LESSEE AND
OPERATOR FROM OBTAINING ANY OTHER
AUTHORIZATION REQUIRED FOR OPERATIONS
ON FEDERAL AND INDIAN LANDS

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

Name (Printed/Typed)

Devin Mills

Title Drilling Engineer

Signature

Date 04/27/11

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

Troy L. Salyers

Title

Petroleum Engineer

Date

8/10/2011

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.

NLMJCD

DISTRICT_1
1625 N. French Dr., Hobbs, N.M. 88240

State of New Mexico
Energy, Minerals & Natural Resources Department

Form C-102
Revised July 16, 2010

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

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

OIL CONSERVATION DIVISION

1220 South St. Francis Dr.
Santa Fe, NM 87505

Submit one copy to appropriate
District Office

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

*API Number 30-039-30950		*Pool Code 71629	*Pool Name BASIN FRUITLAND COAL
*Property Code 35643	*Property Name CARRACAS 13 B		*Well Number 16
*OGRID No. 162928	*Operator Name ENERGEN RESOURCES CORPORATION		*Elevation 6961'

¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	24	32N	4W		611'	NORTH	1059'	EAST	RIO ARRIBA

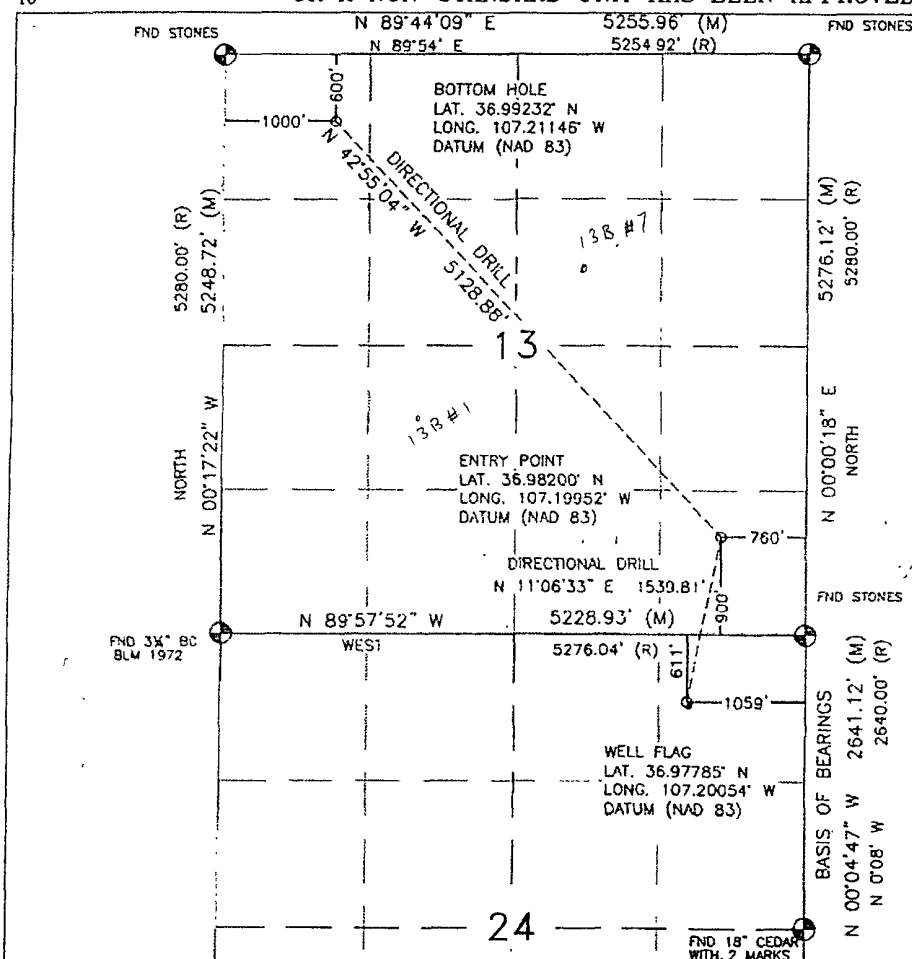
¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	13	32N	4W		600'	NORTH	1000'	WEST	RIO ARRIBA

13 Dedicated Acres	15 Joint or Infill	14 Consolidation Code	16 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 released 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 80/ku Date 4-9-11

Printed Name DEVIN MILLER

DMILLS@ENERGEN.CO
E-mail Address

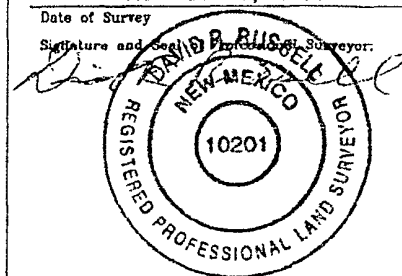
18 SURVEYOR CERTIFICATION

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.

AUGUST 11, 2009

Date of Survey _____

Signature and Seal of the Surveyor.



DAVID RUSSELL

Certificate Number

10201

OPERATIONS PLAN

WELL NAME.....Carracas 13B #16H
JOB TYPE.....Horizontal Fruitland Coal
DEPT.....Drilling and Completions
PREPARED BY.....Devin Mills

GENERAL INFORMATION

Surface Location	611 FNL 1059 FEL
S-T-R	(E) Sec.24, T32N, R04W
Bottom Hole Location	600 FNL 1000 FWL
S-T-R	(E) Sec.13, T32N, R04W
County, State	Rio Arriba, New Mexico
Elevations	6961' GL
Total Depth	9080' +/- (MD); 2733' (TVD)
Formation Objective	Fruitland Coal

FORMATION TOPS

San Jose	Surface
Nacimiento	1099' (TVD)
Ojo Alamo Ss	2349' (TVD)
Kirtland Sh	2492' (TVD)
Fruitland Fm	2765' (TVD)
Top Coal Interval	2718' (TVD)
Base Coal Interval	2733' (TVD)
Total Depth	2733' (TVD), 9080' (MD)

DRILLING

Surface: 12-1/4" wellbore will be drilled with a Low Solids Non-Dispersed mud system.

Intermediate: 8-3/4" wellbore will be drilled with a Lignosulfate Dispersed mud system. Weighting materials will be drill cuttings and if needed barite. Mud density is expected to range from 8.4 ppg to 9.1 ppg.

Production: 6-1/4" wellbore will be drilled with a CaCl brine. Anticipated BHP is 950 psi.

Projected KOP is 2196' TVD with 5.72°/100' doglegs.

Blowout Control Specifications:

A 3000 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 2000 psi for 15 min.**

Logging Program:

Open hole logs: none

Mudlogs: 2349' TVD to TD

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

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 TVD	0 0	3960 2733	8-3/4"	7"	23 lb/ft	J-55 LT&C
Prod. Liner TVD	3900 2733	9080 2733	6-1/4"	4-1/2"	11.6 lb/ft	L/N-80 LT&C
Tubing	0	3700	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 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.

Liner: Open Hole Completion with 6 shots/foot pre perforated liner

WELLHEAD

11" 3000 x 9 5/8" weld/slip on casing head. 11" 3000 x 7 1/16" Christmas Tree.

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: Depending on wellbore conditions, cement may consist of 221 sks PRB II with 5 #/sk Gilsonite, and ¼ #/sk Flocele (12.3 ppg, 2.24 ft³/sk) and a tail of 100 sks PRB II with 5 #/sk Gilsonite and ¼ #/sk Flocele (13.5 ppg, 1.81 ft³/sk). (677 ft³ of slurry, 20% open hole excess to circulate to surface). WOC 12 hours. Test casing to 1500 psi for 30 min..

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.

OTHER INFORMATION

- 1) This well will be an open hole completion with 6 shots/foot pre perforated 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.
- 4) No abnormal temperatures or pressures are anticipated.
- 5) This gas is dedicated.

Energen Resources

Carson National Forest

13B; Sec 13 T 32N R4W

Carracas 13B #16

Wellbore #1

Plan: Design #1

APD Report

31 March, 2011

Project: Carson National Forest

Site: 13B; Sec 13 T 32N R4

Well: Carracas 13B #16

Wellbore: Wellbore #1

n: Design #1 (Carracas 13B #16/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

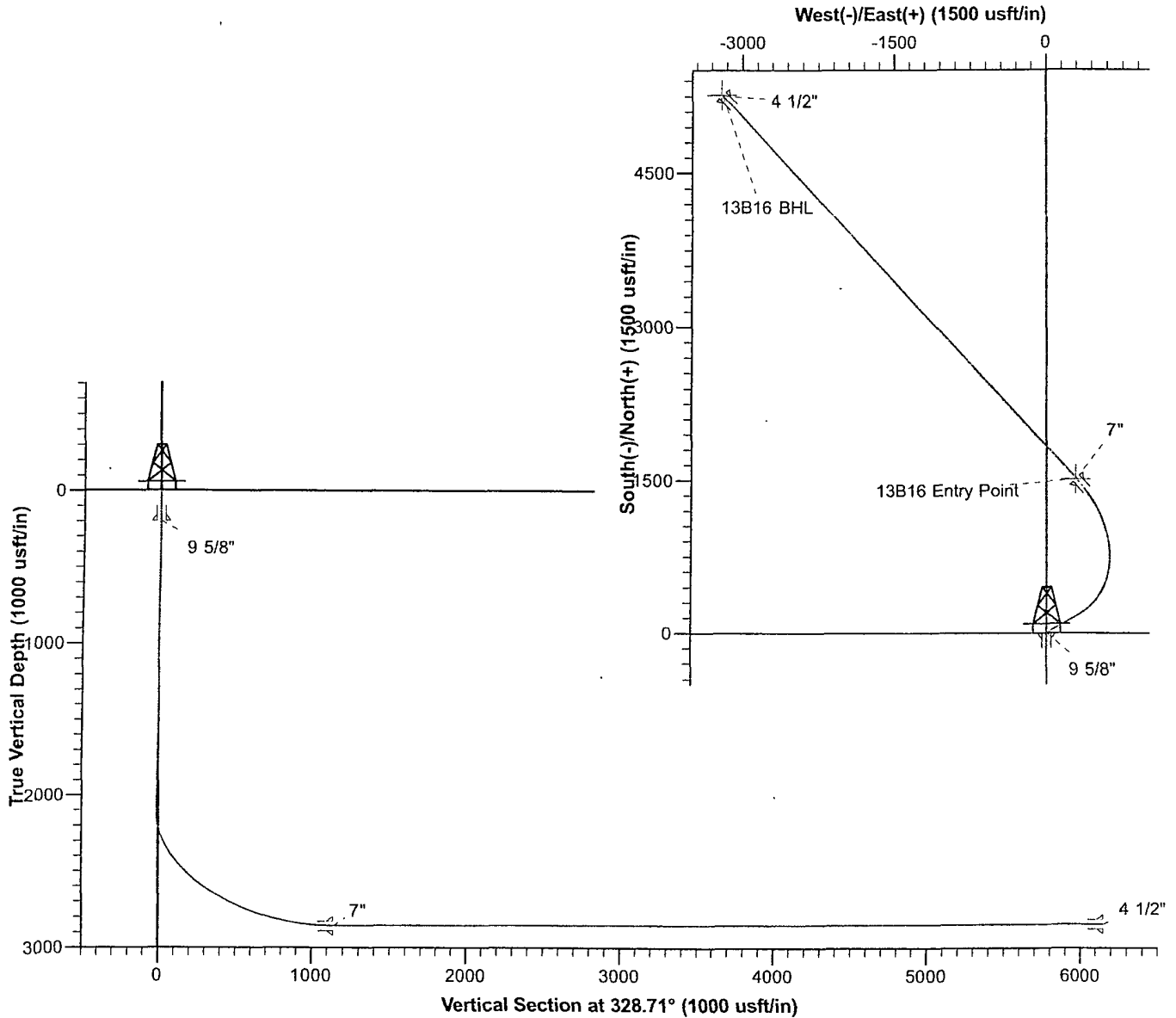


Azimuths to True North
Magnetic North. 9.69°

Magnetic Field
Strength: 50997.3snT
Dip Angle: 63.80°
Date: 3/28/2011
Model: IGRF200510

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	1320.0	-0.00	0.00	1320.0	0.0	0.0	0:00	0.00	0.0	
3	2196.4	50.12	60.79	2088.9	175.4	313.8	5.72	60.79	-13.0	
4	3956.4	90.16	317.00	2860.0	1511.0	299.0	5.72	-98.82	1136.0	13B16 Entry Point
5	9081.1	90.16	317.00	2846.0	5259.0	-3196.0	0.00	0.00	6154.0	13B16 BHL



Energen APD Report

Company: Energen Resources
Project: Carson National Forest
Site: 13B; Sec 13 T 32N R4W
Well: Carracas 13B #16
Wellbore: Wellbore #1
Design: Design #1

Local Co-ordinate Reference: Site 13B; Sec 13 T 32N R4W
TVD Reference: WELL @ 6975.0usft (Original Well Elev)
MD Reference: WELL @ 6975.0usft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

Project	Carson National Forest		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Central Zone		

Site	13B; Sec 13 T 32N R4W		
Site Position:		Northing:	2,176,617.89 usft
From:	Lat/Long	Easting:	1,362,771.85 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	36° 58' 40.260 N
		Longitude:	107° 12' 1.944 W
		Grid Convergence:	-0.57 °

Well	Carracas 13B #16		
Well Position	+N/-S	0.0 usft	Northing: 2,176,617.89 usft
	+E/-W	0.0 usft	Easting: 1,362,771.85 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:	usft
		Latitude:	36° 58' 40.260 N
		Longitude:	107° 12' 1.944 W
		Ground Level:	6,961.0 usft

Wellbore	Wellbore #1		
Magnetics	Model Name	Sample Date	Declination
	IGRF200510	3/28/2011	(°) 9.69
			Dip Angle (°) 63.80
			Field Strength (nT) 50,997

Design	Design #1		
Audit Notes:			
Version:	Phase:	PROTOTYPE	Tie On Depth: 0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0.0	0.0	0.0
			Direction (°) 328.71

Survey Tool Program	Date	3/29/2011	
From	To	Survey (Wellbore)	Tool Name
(usft)	(usft)		
0.0	9,081.1	Design #1 (Wellbore #1)	MWD
			Description
			MWD - Standard

Energen APD Report

Company: Energen Resources
Project: Carson National Forest
Site: 13B; Sec 13 T 32N R4W
Well: Carracas 13B #16
Wellbore: Wellbore #1
Design: Design #1

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

Site 13B; Sec 13 T 32N R4W
WELL @ 6975.0usft (Original Well Elev)
WELL @ 6975.0usft (Original Well Elev)
True
Minimum Curvature
EDM 5000.1 Single User Db

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	V. Sec (usft)	N/S (usft)	E/W (usft)	DLeg. (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.00
200.0	0.00	0.00	0.0	0.0	0.0	0.00
9 5/8"						
1,071.0	0.00	0.00	0.0	0.0	0.0	0.00
Nacimiento						
1,320.0	0.00	0.00	0.0	0.0	0.0	0.00
1,400.0	4.57	60.79	-0.1	1.6	2.8	5.72
1,500.0	10.29	60.79	-0.6	7.9	14.1	5.72
1,600.0	16.01	60.79	-1.4	19.0	33.9	5.72
1,700.0	21.73	60.79	-2.6	34.7	62.1	5.72
1,800.0	27.45	60.79	-4.1	55.0	98.4	5.72
1,900.0	33.17	60.79	-5.9	79.7	142.5	5.72
2,000.0	38.88	60.79	-8.0	108.4	193.8	5.72
2,100.0	44.60	60.79	-10.5	140.8	251.9	5.72
2,196.4	50.12	60.79	-13.0	175.4	313.8	5.72
2,200.0	50.09	60.53	-13.1	176.8	316.2	5.72
2,300.0	49.46	53.08	-10.6	218.5	380.0	5.72
2,400.0	49.32	45.55	1.8	267.9	437.5	5.72
2,500.0	49.67	38.04	23.9	324.6	488.1	5.72
2,598.2	50.48	30.79	54.9	386.6	530.6	5.72
Ojo Alamo						
2,600.0	50.50	30.66	55.5	387.8	531.3	5.72
2,700.0	51.78	23.50	96.3	457.1	566.6	5.72
2,800.0	53.48	16.63	146.0	531.7	593.8	5.72
2,827.6	54.02	14.79	161.2	553.1	599.8	5.72
Kirtland						
2,900.0	55.56	10.08	203.9	610.9	612.6	5.72
3,000.0	57.97	3.88	269.5	693.8	622.6	5.72

Energen APD Report

Company: Energen Resources
Project: Carson National Forest
Site: 13B; Sec 13 T 32N R4W
Well: Carracas 13B #16
Wellbore: Wellbore #1
Design: Design #1

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

Site 13B; Sec 13 T 32N R4W
 WELL @ 6975.0usft (Original Well Elev)
 WELL @ 6975.0usft (Original Well Elev)
 True
 Minimum Curvature
 EDM 5000.1 Single User Db

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	V. Sec (usft)	N/S (usft)	E/W (usft)	DLeg, (°/100usft)
3,100.0	60.66	358.01	342.3	779.7	624.0	5.72
3,200.0	63.59	352.46	421.3	867.8	616.6	5.72
3,300.0	66.73	347.19	506.0	957.0	600.5	5.72
3,400.0	70.04	342.17	595.3	1,046.6	575.9	5.72
3,500.0	73.48	337.36	688.5	1,135.7	543.1	5.72
3,600.0	77.03	332.72	784.6	1,223.3	502.3	5.72
3,700.0	80.66	328.22	882.6	1,308.6	453.9	5.72
3,737.0	82.01	326.57	919.1	1,339.4	434.2	5.72
Fruitland						
3,744.3	82.28	326.25	926.4	1,345.5	430.2	5.72
Coal Top						
3,800.0	84.34	323.80	981.6	1,390.8	398.5	5.72
3,900.0	88.06	319.45	1,080.5	1,469.0	336.6	5.72
3,956.4	90.16	317.00	1,136.0	1,511.0	299.0	5.72
Coal Base - 13B16 Entry Point						
3,960.0	90.16	317.00	1,139.5	1,513.6	296.5	0.00
7"						
4,000.0	90.16	317.00	1,178.7	1,542.9	269.3	0.00
4,100.0	90.16	317.00	1,276.6	1,616.0	201.1	0.00
4,200.0	90.16	317.00	1,374.5	1,689.2	132.9	0.00
4,300.0	90.16	317.00	1,472.4	1,762.3	64.7	0.00
4,400.0	90.16	317.00	1,570.4	1,835.4	-3.5	0.00
4,500.0	90.16	317.00	1,668.3	1,908.6	-71.7	0.00
4,600.0	90.16	317.00	1,766.2	1,981.7	-139.9	0.00
4,700.0	90.16	317.00	1,864.1	2,054.9	-208.1	0.00
4,800.0	90.16	317.00	1,962.0	2,128.0	-276.3	0.00
4,900.0	90.16	317.00	2,059.9	2,201.1	-344.5	0.00

Energen APD Report

Company: Energen Resources
Project: Carson National Forest
Site: 13B; Sec 13 T 32N R4W
Well: Carracas 13B #16
Wellbore: Wellbore #1
Design: Design #1

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

Site 13B; Sec 13 T 32N R4W
 WELL @ 6975.0usft (Original Well Elev)
 WELL @ 6975.0usft (Original Well Elev)
 True
 Minimum Curvature
 EDM 5000.1 Single User Db

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	V. Sec (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)
5,000.0	90.16	317.00	2,157.9	2,274.3	-412.7	0.00
5,100.0	90.16	317.00	2,255.8	2,347.4	-480.9	0.00
5,200.0	90.16	317.00	2,353.7	2,420.5	-549.1	0.00
5,300.0	90.16	317.00	2,451.6	2,493.7	-617.3	0.00
5,400.0	90.16	317.00	2,549.5	2,566.8	-685.5	0.00
5,500.0	90.16	317.00	2,647.5	2,639.9	-753.7	0.00
5,600.0	90.16	317.00	2,745.4	2,713.1	-821.9	0.00
5,700.0	90.16	317.00	2,843.3	2,786.2	-890.1	0.00
5,800.0	90.16	317.00	2,941.2	2,859.3	-958.3	0.00
5,900.0	90.16	317.00	3,039.1	2,932.5	-1,026.5	0.00
6,000.0	90.16	317.00	3,137.0	3,005.6	-1,094.7	0.00
6,100.0	90.16	317.00	3,235.0	3,078.8	-1,162.9	0.00
6,200.0	90.16	317.00	3,332.9	3,151.9	-1,231.1	0.00
6,300.0	90.16	317.00	3,430.8	3,225.0	-1,299.3	0.00
6,400.0	90.16	317.00	3,528.7	3,298.2	-1,367.5	0.00
6,500.0	90.16	317.00	3,626.6	3,371.3	-1,435.7	0.00
6,600.0	90.16	317.00	3,724.5	3,444.4	-1,503.9	0.00
6,700.0	90.16	317.00	3,822.5	3,517.6	-1,572.1	0.00
6,800.0	90.16	317.00	3,920.4	3,590.7	-1,640.3	0.00
6,900.0	90.16	317.00	4,018.3	3,663.8	-1,708.5	0.00
7,000.0	90.16	317.00	4,116.2	3,737.0	-1,776.7	0.00
7,100.0	90.16	317.00	4,214.1	3,810.1	-1,844.9	0.00
7,200.0	90.16	317.00	4,312.1	3,883.2	-1,913.1	0.00
7,300.0	90.16	317.00	4,410.0	3,956.4	-1,981.3	0.00
7,400.0	90.16	317.00	4,507.9	4,029.5	-2,049.5	0.00
7,500.0	90.16	317.00	4,605.8	4,102.7	-2,117.7	0.00
7,600.0	90.16	317.00	4,703.7	4,175.8	-2,185.9	0.00

Energen APD Report

Company: Energen Resources
Project: Carson National Forest
Site: 13B; Sec 13 T 32N R4W
Well: Carracas 13B #16
Wellbore: Wellbore #1
Design: Design #1

Local Co-ordinate Reference: Site 13B; Sec 13 T 32N R4W
TVD Reference: WELL @ 6975.0usft (Original Well Elev)
MD Reference: WELL @ 6975.0usft (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) (°)	V. Sec (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)
7,700.0	90.16	317.00	4,801.6	4,248.9	-2,254.1	0.00
7,800.0	90.16	317.00	4,899.6	4,322.1	-2,322.3	0.00
7,900.0	90.16	317.00	4,997.5	4,395.2	-2,390.5	0.00
8,000.0	90.16	317.00	5,095.4	4,468.3	-2,458.7	0.00
8,100.0	90.16	317.00	5,193.3	4,541.5	-2,526.9	0.00
8,200.0	90.16	317.00	5,291.2	4,614.6	-2,595.1	0.00
8,300.0	90.16	317.00	5,389.1	4,687.7	-2,663.3	0.00
8,400.0	90.16	317.00	5,487.1	4,760.9	-2,731.5	0.00
8,500.0	90.16	317.00	5,585.0	4,834.0	-2,799.7	0.00
8,600.0	90.16	317.00	5,682.9	4,907.1	-2,867.9	0.00
8,700.0	90.16	317.00	5,780.8	4,980.3	-2,936.1	0.00
8,800.0	90.16	317.00	5,878.7	5,053.4	-3,004.3	0.00
8,900.0	90.16	317.00	5,976.7	5,126.6	-3,072.5	0.00
9,000.0	90.16	317.00	6,074.6	5,199.7	-3,140.7	0.00
9,080.0	90.16	317.00	6,152.9	5,258.2	-3,195.3	0.00
4 1/2"						
9,081.1	90.16	317.00	6,154.0	5,259.0	-3,196.0	0.00
13B16 BHL						

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
200.0	200.0	9 5/8"	9-5/8	12-1/4
3,960.0	2,860.0	7"	7	8-3/4
9,080.0	2,846.0	4 1/2"	4-1/2	6-1/4

Energen APD Report

Company: Energen Resources
Project: Carson National Forest
Site: 13B; Sec 13 T 32N R4W
Well: Carracas 13B #16
Wellbore: Wellbore #1
Design: Design #1

Local Co-ordinate Reference: Site 13B; Sec 13 T 32N R4W
TVD Reference: WELL @ 6975.0usft (Original Well Elev)
MD Reference: WELL @ 6975.0usft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: EDM 5000 1 Single User Db

Formations

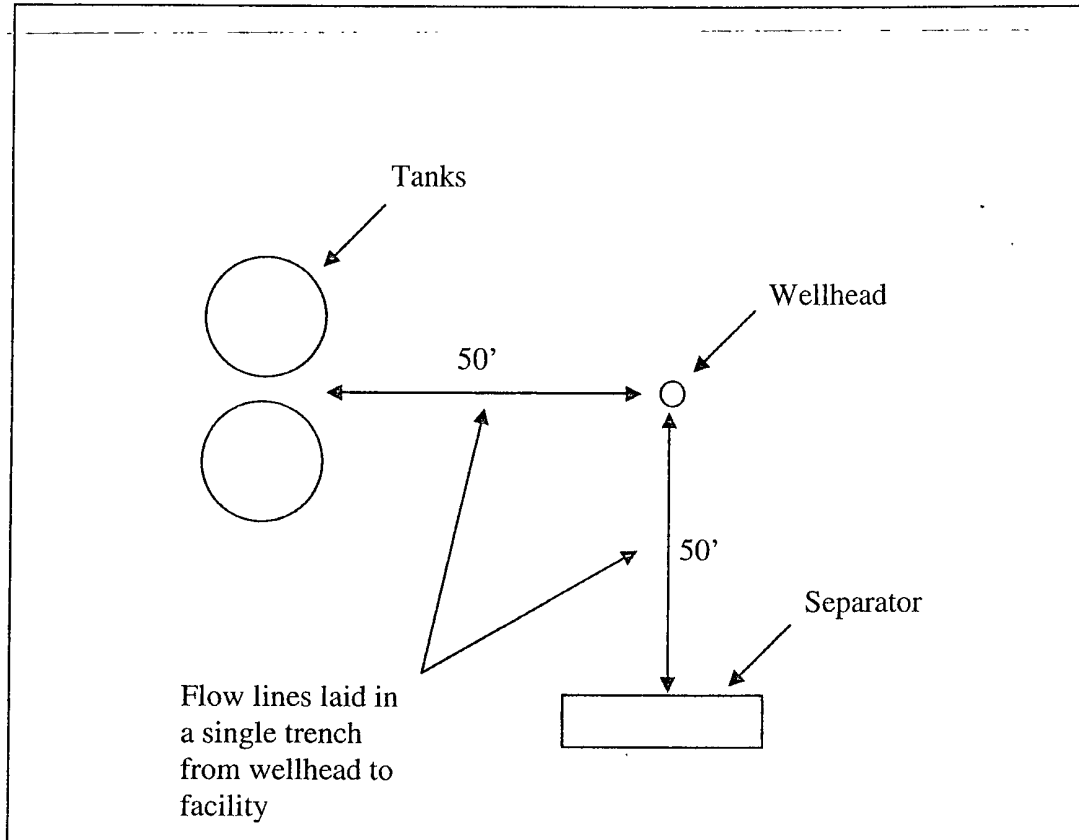
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
2,598.2	2,349.0	Ojo Alamo	sandstone	0.00	
2,598.2	2,349.0	Ojo Alamo	Sandstone	0.00	
2,827.6	2,490.0	Kirtland	shale	0.00	
2,827.6	2,490.0	Kirtland	Shale	0.00	
3,744.3	2,846.0	Coal Top	coal	0.00	
3,744.3	2,846.0	Coal Top	Coal	0.00	
3,737.0	2,845.0	Fruitland	sandstone	0.00	
3,737.0	2,845.0	Fruitland	Sandstone	0.00	
1,071.0	1,071.0	Nacimiento	shale	0.00	
1,071.0	1,071.0	Nacimiento	Shale	0.00	
3,956.4	2,860.0	Coal Base	coal	0.00	
3,956.4	2,860.0	Coal Base	Coal	0.00	

Checked By: _____	Approved By: _____	Date: _____
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EXHIBIT C

Energen Resources Corporation

Typical well pad layout with production facilities on the Carson National Forest



- 50 feet is a minimum offset to ensure facilities are on the outside of the drill rig anchors for work-over activity.

ENERGEN RESOURCES CORPORATION

CARRACAS 13 B #16
611' FNL & 1059' FEL
LOCATED IN THE NE/4 NE/4 OF SECTION 24,
T32N, R4W, N.M.P.M.,
RIO ARriba COUNTY, NEW MEXICO
GROUND ELEVATION: 6961', NAVD 88
NO NEW ACCESS

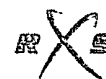


- 1) FROM INTERSECTION OF FR 218A & FR 217, GO EASTERLY ON FR 217 FOR 2.7 MILES TO INTERSECTION OF FR 217 & FR 217B.
- 2) TURN LEFT & TRAVEL THROUGH 1ST GATE, THEN 2ND GATE TRAVELING A TOTAL OF 1.0 MILE TO INTERSECTION OF FR 217 & FR 217C.
- 3) TURN LEFT ON FR 217C & GO 1.5 MILES TO INTERSECTION FR 217C AND FR 217C3.
- 4) TURN RIGHT AND TRAVEL FR 217C3 FOR 1.3 MILES TO EXISTING WELL.

WELL FLAG LOCATED AT LAT. 36.97785° N, LONG. 107.20054° W (NAD 83)

U.S.G.S. QUAD: CARRACAS CAYON
SCALE: 1" = 2000' (1:24,000)
JOB No.: ERG250_REV1
DATE: 10/04/100

NEW OR RECONSTRUCTED ROADS MUST MEET
SMA DESIGN STANDARDS
INSTALL CULVERTS AS NEEDED



Russell Surveying
1409 W. Aztec Blvd. #2
Aztec, New Mexico 87410
(505) 334-8637

EXHIBIT "A"

To Communitization Agreement dated _____ embracing
the following described land in **Rio Arriba County, New Mexico**

