

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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

RECEIVED

Lease Serial No.

USA NMNM 66864

6. If Indian, Allottee or Tribe Name

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

8. Well Name and No.

Carracas 27B # 16H

9. API Well No

30-039-31056

10. Field and Pool, or Exploratory Area

Basin Fruitland Coal

11. County or Parish, State

Rio Arriba NM

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.

JUL 18 2011

Farmington Field Unit
Bureau of Land Management

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)

SHL: (M) Sec.26, T32N, R04W 1,044' FSL & 748' FWL

BHL: (M) Sec.27, T32N, R04W 1,000' FSL & 100' FWL

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.)

Energen Resources would like to change the entry point of the coal to the new location according to the attached reports.

CONDITIONS OF APPROVAL
Adhere to previously issued stipulations.



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

Andrew Soto

Title Drilling Engineer

Signature

Date 7/15/11

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

Title

Petr. Eng.

Date

7/19/11

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

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.

NMOC

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 & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102
Revised October 12, 2005
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

☒ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-039-31056	² Pool Code 71629	³ Pool Name Basin Fruitland Coal
⁴ Property Code 35664	⁵ Property Name Carracas 27B	⁶ Well Number 16H
⁷ OGRID No. 162928	⁸ Operator Name ENERGEN RESOURCES CORPORATION	⁹ Elevation 7,058'

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
M	26	32N	04W		1,044'	South	748'	West	San Juan

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
M	27	32N	04W		1,000'	South	100'	West	Rio Arriba

¹² Dedicated Acres	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ 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.

27 BHL 100' 1,000' Entry Point 100' 1,033' SHL 748' 1,044'				¹⁷ OPERATOR CERTIFICATION <i>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</i>  7/15/11 Signature _____ Date _____ Andrew Soto Printed Name	
				¹⁸ SURVEYOR CERTIFICATION <i>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.</i> August 3, 2009 Date of Survey _____ Original Survey Conducted and Recorded By: David R. Russell 10201 Certificate Number _____	

7/15/2011



Operations Plan

Well Name:

Carracas 27B 16H

Job Type:

Dept:

Drilling and Completions

General Information

Project:	2011 - CARRACAS
Area:	Carracas
Surface Location	1044' FSL 748' FWL
S-T-R	Sec. 26, T32, R4
Bottom Hole Location	1000 FSL 100 FWL
S-T-R	Sec.27, T32N, R4W
County/State:	RIO ARRIBA / NM
Elevations	7058
Total Depth	
Formation Objective	

Formation Tops

Formation Name	Depth (TVD ft.)
SAN JOSE	Surface
NACIMIENTO	2148
OJO_ALAMO	3400
KIRTLAND	3528
FRUITLAND	3811
FRUITLAND_COAL_TOP	3964
FRUITLAND_COAL_BASE	3977
PICTURED CLIFFS	4062

Drilling

Projected KOP is 3,128' TVD with 6.75°/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.

7/15/2011

ENERGEN

R E S O U R C E S

Logging Program

		Top	Base	
Log Type	Hole	Depth	Depth	Notes

IPZIG

Production

Casing, Tubing and Casing Equipment

	Start	End				
String	Depth	Depth	Wellbore	Size	Weight	Grade
Casing-Surface	0	200	12.250000"	9.625"	32.3 lb/ft	H-40
Casing-Intermediate	0	4462	8.750000"	7"	23.0 lb/ft	J-55
Casing-Production	4462	9513	6.250000"	4.5"	11.6 lb/ft	J-55

Casing-Surface
Casing-Intermediate
Casing-Production

Cementing	Notes
Casing-Surface	107 sks Type V with 2.0 % CaCl ₂ and ¼ #/sk Flocele (15.6 ppg, 1.18 ft ³ /sk 126 ft ³ of slurry, 100% excess to circulate to surface). WOC 12 hours. Pressure test surface casing to 750 psi for 30 min.
Casing-Intermediate	Depending on wellbore conditions, cement may consist of 250 sks PRB II with 5 #/sk Gilsonite, and ¼ #/sk Flocele (12.3 ppg, 2.24 ft ³ /sk) and a tail of 100 sks PRB II with 5 #/sk Gilsonite and ¼ #/sk Flocele (13.5 ppg, 1.81 ft ³ /sk). (739 ft ³ of slurry, 20% open hole excess to circulate to surface). WOC 12 hours. Test casing to 1500 psi for 30 min.
Casing-Production	Open hole completion, no cement.

Other Information

- 1) Open hole completion, no cement.
- 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) Primary Objective formation has an Est BHP of: psi
- 5) This gas is dedicated.

Energen Resources

Rio Arriba County

Sec27 T32N-R4W - 27B

Carracas 27B #16

Wellbore #1

Plan: Design #2

Standard Survey Report

15 July, 2011

RECEIVED

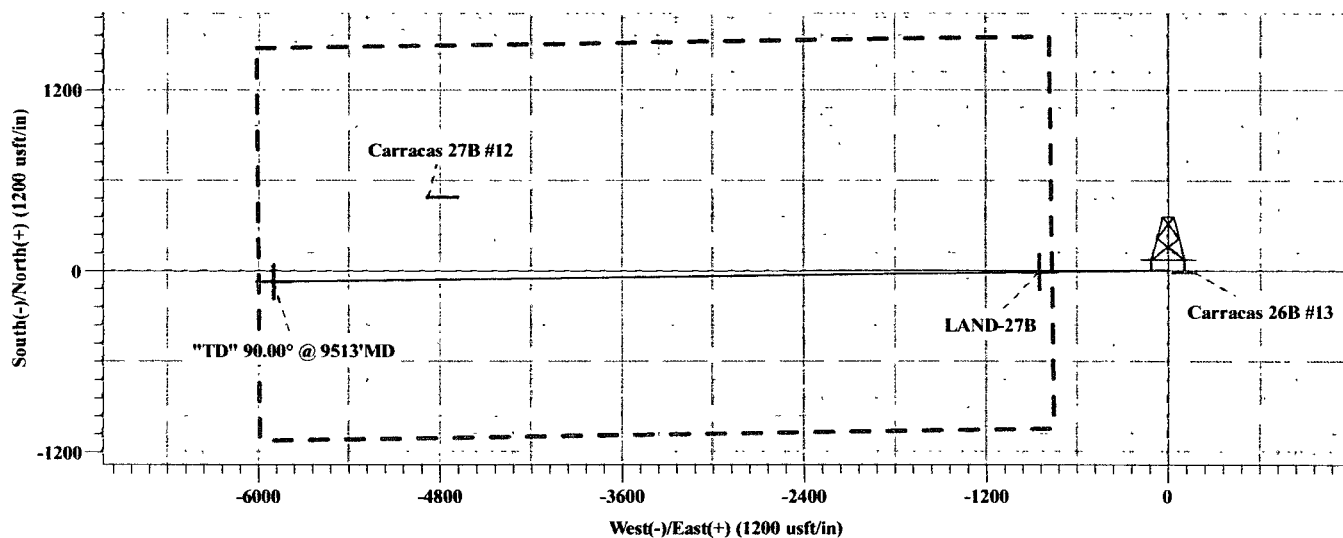
JUL 18 2011

**Farmington Field Office
Bureau of Land Management**

Carracas 27B #16
Sec27 T32N-R4W - 27B
GL: 7058' KB: 15'

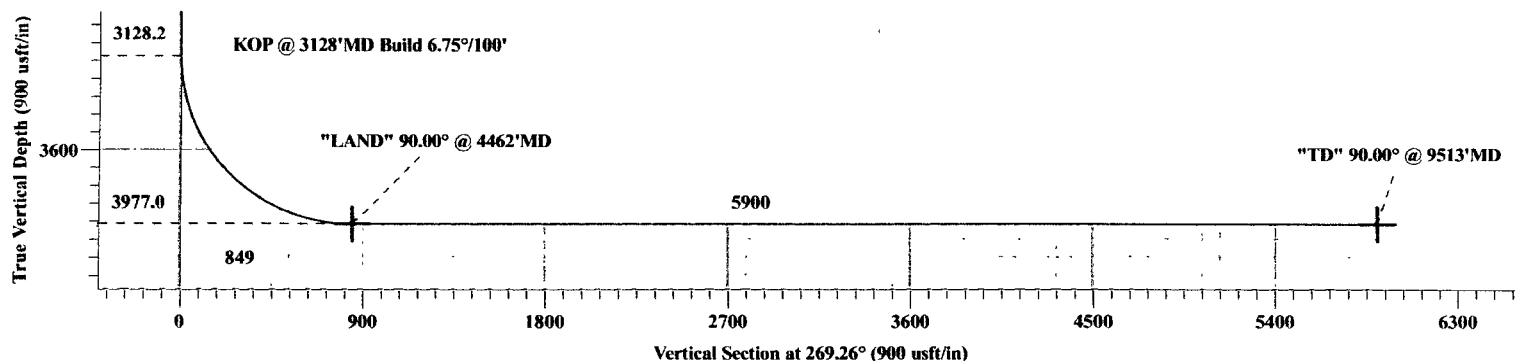
WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
LAND-27B	3977.0	-10.9	-848.8	2167824.36	1353106.59	Point
TD-27B	3977.0	-75.8	-5899.7	2167811.39	1348055.27	Point



WELL DETAILS: Carracas 27B #16

Northing	Easting	7058.0	Latitude	Longitude
2167826.53	1353955.45	36° 57' 12.456 N	107° 13' 49.476 W	



SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	V Sect	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
3128.2	0.00	0.00	3128.2	0.0	0.0	0.00	0.00	0.0	
4461.5	90.00	269.26	3977.0	-10.9	-848.8	6.75	269.26	848.8	
9512.9	90.00	269.26	3977.0	-75.8	-5899.7	0.00	0.00	5900.2	TD-27B

Plan: Design #2 (Carracas 27B #16/Wellbore #1)

Created By: Frank C. Scardino

Date: 7/14/2011

Survey Report

Company: Energen Resources
 Project: Rio Arriba County
 Site: Sec27 T32N-R4W - 27B
 Well: Carracas 27B #16
 Wellbore: Wellbore #1
 Design: Design #2

Local Co-ordinate Reference: Site Sec27 T32N-R4W - 27B
 TVD Reference: WELL @ 7073.0usft (Original Well Elev)
 MD Reference: WELL @ 7073.0usft (Original Well Elev)
 North Reference: True
 Survey Calculation Method: Minimum Curvature
 Database: EDM 5000.1 Single User Db

Project	Rio Arriba County		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Central Zone		

Site	Sec27 T32N-R4W - 27B		
Site Position:		Northing:	2,167,826.53 usft
From:	Lat/Long	Easting:	1,353,955.45 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	36° 57' 12.456 N
		Longitude:	107° 13' 49.476 W
		Grid Convergence:	-0.59 °

Well	Carracas 27B #16		
Well Position	+N-S	0.0 usft	Northing:
	+E-W	0.0 usft	Easting:
Position Uncertainty	0.0 usft	Wellhead Elevation:	usft
		Latitude:	36° 57' 12.456 N
		Longitude:	107° 13' 49.476 W
		Ground Level:	7,058.0 usft

Wellbore	Wellbore #1		
Magnetics	Model Name	Sample Date	Declination
	IGRF2010	07/13/11	9.68
			Dip Angle
			63.74
			Field Strength
			50,915

Design	Design #2		
Audit Notes:			
Version:	Phase:	PROTOTYPE	Tie On Depth:
Vertical Section:	Depth From (TVD)	+N-S	+E-W
	(usft)	(usft)	(usft)
	0.0	0.0	0.0
			Direction
			(°)
			269.26

Survey Tool Program	Date: 07/14/11		
From	To	Survey (Wellbore)	Tool Name
(usft)	(usft)		
0.0	9,512.9	Design #2 (Wellbore #1)	MWD
			Description
			MWD - Standard

Planned Survey										
Measured Depth	Inclination	Azimuth	Vertical Depth	+N-S	+E-W	Vertical Section	Dogleg Rate	Build Rate	Turn Rate	
(usft)	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(°/100usft)	(°/100usft)	(°/100usft)	
3,128.2	0.00	0.00	3,128.2	0.0	0.0	0.0	0.00	0.00	0.00	
KOP @ 3128' MD Build 6.75°/100'										
3,150.0	1.47	269.26	3,150.0	0.0	-0.3	0.3	6.75	6.75	0.00	
3,200.0	4.85	269.26	3,199.9	0.0	-3.0	3.0	6.75	6.75	0.00	
3,250.0	8.22	269.26	3,249.6	-0.1	-8.7	8.7	6.75	6.75	0.00	
3,300.0	11.60	269.26	3,298.8	-0.2	-17.3	17.3	6.75	6.75	0.00	
3,350.0	14.97	269.26	3,347.5	-0.4	-28.8	28.8	6.75	6.75	0.00	
3,400.0	18.35	269.26	3,395.4	-0.6	-43.2	43.2	6.75	6.75	0.00	
3,450.0	21.72	269.26	3,442.3	-0.8	-60.3	60.3	6.75	6.75	0.00	
3,500.0	25.10	269.26	3,488.2	-1.0	-80.1	80.1	6.75	6.75	0.00	

Survey Report

Company: Energen Resources
 Project: Rio Arriba County
 Site: Sec27 T32N-R4W - 27B
 Well: Carracas 27B #16
 Wellbore: Wellbore #1
 Design: Design #2

Local Co-ordinate Reference: Site Sec27 T32N-R4W - 27B
 TVD Reference: WELL @ 7073.0usft (Original Well Elev)
 MD Reference: WELL @ 7073.0usft (Original Well Elev)
 North Reference: True
 Survey Calculation Method: Minimum Curvature
 Database: EDM 5000.1 Single User Db

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N-S (usft)	+E-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
3,550.0	28.47	269.26	3,532.9	-1.3	-102.7	102.7	6.75	6.75	0.00
3,600.0	31.85	269.26	3,576.1	-1.6	-127.8	127.8	6.75	6.75	0.00
3,650.0	35.22	269.26	3,617.7	-2.0	-155.4	155.4	6.75	6.75	0.00
3,700.0	38.60	269.26	3,657.7	-2.4	-185.4	185.4	6.75	6.75	0.00
3,750.0	41.97	269.26	3,695.9	-2.8	-217.7	217.8	6.75	6.75	0.00
3,800.0	45.35	269.26	3,732.0	-3.2	-252.3	252.3	6.75	6.75	0.00
3,850.0	48.72	269.26	3,766.1	-3.7	-288.8	288.9	6.75	6.75	0.00
3,900.0	52.10	269.26	3,798.0	-4.2	-327.4	327.4	6.75	6.75	0.00
3,950.0	55.47	269.26	3,827.5	-4.7	-367.7	367.7	6.75	6.75	0.00
4,000.0	58.85	269.26	3,854.6	-5.3	-409.7	409.7	6.75	6.75	0.00
4,050.0	62.22	269.26	3,879.2	-5.8	-453.2	453.3	6.75	6.75	0.00
4,100.0	65.60	269.26	3,901.2	-6.4	-498.1	498.1	6.75	6.75	0.00
4,150.0	68.97	269.26	3,920.5	-7.0	-544.2	544.3	6.75	6.75	0.00
4,200.0	72.35	269.26	3,937.0	-7.6	-591.4	591.4	6.75	6.75	0.00
4,250.0	75.72	269.26	3,950.8	-8.2	-639.4	639.5	6.75	6.75	0.00
4,300.0	79.10	269.26	3,961.7	-8.8	-688.2	688.3	6.75	6.75	0.00
4,350.0	82.47	269.26	3,969.7	-9.5	-737.6	737.6	6.75	6.75	0.00
4,400.0	85.85	269.26	3,974.8	-10.1	-787.3	787.4	6.75	6.75	0.00
4,450.0	89.22	269.26	3,976.9	-10.8	-837.3	837.3	6.75	6.75	0.00
4,461.5	90.00	269.26	3,977.0	-10.9	-848.8	848.8	6.75	6.75	0.00
"LAND" 90.00° @ 4462"MD									
4,500.0	90.00	269.26	3,977.0	-11.4	-887.2	887.3	0.00	0.00	0.00
4,600.0	90.00	269.26	3,977.0	-12.7	-987.2	987.3	0.00	0.00	0.00
4,700.0	90.00	269.26	3,977.0	-14.0	-1,087.2	1,087.3	0.00	0.00	0.00
4,800.0	90.00	269.26	3,977.0	-15.3	-1,187.2	1,187.3	0.00	0.00	0.00
4,900.0	90.00	269.26	3,977.0	-16.5	-1,287.2	1,287.3	0.00	0.00	0.00
5,000.0	90.00	269.26	3,977.0	-17.8	-1,387.2	1,387.3	0.00	0.00	0.00
5,100.0	90.00	269.26	3,977.0	-19.1	-1,487.2	1,487.3	0.00	0.00	0.00
5,200.0	90.00	269.26	3,977.0	-20.4	-1,587.2	1,587.3	0.00	0.00	0.00
5,300.0	90.00	269.26	3,977.0	-21.7	-1,687.2	1,687.3	0.00	0.00	0.00
5,400.0	90.00	269.26	3,977.0	-23.0	-1,787.2	1,787.3	0.00	0.00	0.00
5,500.0	90.00	269.26	3,977.0	-24.3	-1,887.2	1,887.3	0.00	0.00	0.00
5,600.0	90.00	269.26	3,977.0	-25.5	-1,987.2	1,987.3	0.00	0.00	0.00
5,700.0	90.00	269.26	3,977.0	-26.8	-2,087.1	2,087.3	0.00	0.00	0.00
5,800.0	90.00	269.26	3,977.0	-28.1	-2,187.1	2,187.3	0.00	0.00	0.00
5,900.0	90.00	269.26	3,977.0	-29.4	-2,287.1	2,287.3	0.00	0.00	0.00
6,000.0	90.00	269.26	3,977.0	-30.7	-2,387.1	2,387.3	0.00	0.00	0.00
6,100.0	90.00	269.26	3,977.0	-32.0	-2,487.1	2,487.3	0.00	0.00	0.00
6,200.0	90.00	269.26	3,977.0	-33.3	-2,587.1	2,587.3	0.00	0.00	0.00
6,300.0	90.00	269.26	3,977.0	-34.5	-2,687.1	2,687.3	0.00	0.00	0.00
6,400.0	90.00	269.26	3,977.0	-35.8	-2,787.1	2,787.3	0.00	0.00	0.00
6,500.0	90.00	269.26	3,977.0	-37.1	-2,887.1	2,887.3	0.00	0.00	0.00
6,600.0	90.00	269.26	3,977.0	-38.4	-2,987.1	2,987.3	0.00	0.00	0.00
6,700.0	90.00	269.26	3,977.0	-39.7	-3,087.1	3,087.3	0.00	0.00	0.00

Survey Report

Company: Energen Resources
 Project: Rio Arriba County
 Site: Sec27 T32N-R4W - 27B
 Well: Carracas 27B #16
 Wellbore: Wellbore #1
 Design: Design #2

Local Co-ordinate Reference: Site Sec27 T32N-R4W - 27B
 TVD Reference: WELL @ 7073.0usft (Original Well Elev)
 MD Reference: WELL @ 7073.0usft (Original Well Elev)
 North Reference: True
 Survey Calculation Method: Minimum Curvature
 Database: EDM 5000.1 Single User Db

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N-S (usft)	+E-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
6,800.0	90.00	269.26	3,977.0	-41.0	-3,187.1	3,187.3	0.00	0.00	0.00
6,900.0	90.00	269.26	3,977.0	-42.3	-3,287.0	3,287.3	0.00	0.00	0.00
7,000.0	90.00	269.26	3,977.0	-43.5	-3,387.0	3,387.3	0.00	0.00	0.00
7,100.0	90.00	269.26	3,977.0	-44.8	-3,487.0	3,487.3	0.00	0.00	0.00
7,200.0	90.00	269.26	3,977.0	-46.1	-3,587.0	3,587.3	0.00	0.00	0.00
7,300.0	90.00	269.26	3,977.0	-47.4	-3,687.0	3,687.3	0.00	0.00	0.00
7,400.0	90.00	269.26	3,977.0	-48.7	-3,787.0	3,787.3	0.00	0.00	0.00
7,500.0	90.00	269.26	3,977.0	-50.0	-3,887.0	3,887.3	0.00	0.00	0.00
7,600.0	90.00	269.26	3,977.0	-51.3	-3,987.0	3,987.3	0.00	0.00	0.00
7,700.0	90.00	269.26	3,977.0	-52.5	-4,087.0	4,087.3	0.00	0.00	0.00
7,800.0	90.00	269.26	3,977.0	-53.8	-4,187.0	4,187.3	0.00	0.00	0.00
7,900.0	90.00	269.26	3,977.0	-55.1	-4,287.0	4,287.3	0.00	0.00	0.00
8,000.0	90.00	269.26	3,977.0	-56.4	-4,387.0	4,387.3	0.00	0.00	0.00
8,100.0	90.00	269.26	3,977.0	-57.7	-4,486.9	4,487.3	0.00	0.00	0.00
8,200.0	90.00	269.26	3,977.0	-59.0	-4,586.9	4,587.3	0.00	0.00	0.00
8,300.0	90.00	269.26	3,977.0	-60.2	-4,686.9	4,687.3	0.00	0.00	0.00
8,400.0	90.00	269.26	3,977.0	-61.5	-4,786.9	4,787.3	0.00	0.00	0.00
8,500.0	90.00	269.26	3,977.0	-62.8	-4,886.9	4,887.3	0.00	0.00	0.00
8,600.0	90.00	269.26	3,977.0	-64.1	-4,986.9	4,987.3	0.00	0.00	0.00
8,700.0	90.00	269.26	3,977.0	-65.4	-5,086.9	5,087.3	0.00	0.00	0.00
8,800.0	90.00	269.26	3,977.0	-66.7	-5,186.9	5,187.3	0.00	0.00	0.00
8,900.0	90.00	269.26	3,977.0	-68.0	-5,286.9	5,287.3	0.00	0.00	0.00
9,000.0	90.00	269.26	3,977.0	-69.2	-5,386.9	5,387.3	0.00	0.00	0.00
9,100.0	90.00	269.26	3,977.0	-70.5	-5,486.9	5,487.3	0.00	0.00	0.00
9,200.0	90.00	269.26	3,977.0	-71.8	-5,586.9	5,587.3	0.00	0.00	0.00
9,300.0	90.00	269.26	3,977.0	-73.1	-5,686.8	5,687.3	0.00	0.00	0.00
9,400.0	90.00	269.26	3,977.0	-74.4	-5,786.8	5,787.3	0.00	0.00	0.00
9,500.0	90.00	269.26	3,977.0	-75.7	-5,886.8	5,887.3	0.00	0.00	0.00
9,512.9	90.00	269.26	3,977.0	-75.8	-5,899.7	5,900.2	0.00	0.00	0.00

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N-S (usft)	+E-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
TD-27B - plan hits target center - Point	0.00	0.00	3,977.0	-75.8	-5,899.7	2,167,811.39	1,348,055.27	36° 57' 11.700 N	107° 15' 2.160 W
LAND-27B - plan hits target center - Point	0.00	359.41	3,977.0	-10.9	-848.8	2,167,824.36	1,353,106.59	36° 57' 12.348 N	107° 13' 59.933 W

Survey Report

Company: Energen Resources
Project: Rio Arriba County
Site: Sec27 T32N-R4W - 27B
Well: Carracas 27B #16
Wellbore: Wellbore #1
Design: Design #2

Local Co-ordinate Reference: Site Sec27 T32N-R4W - 27B
TVD Reference: WELL @ 7073.0usft (Original Well Elev)
MD Reference: WELL @ 7073.0usft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N-S (usft)	+E-W (usft)	
3128	3128	0	0	KOP @ 3128'MD Build 6 75°/100'
4462	3977	-11	-849	"LAND" 90 00° @ 4462'MD
9513	3977	-76	-5900	"TD" 90 00° @ 9513'MD

Checked By. _____ Approved By. _____ Date: _____