

DISTRICT I  
1625 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

*API Number		*Pool Code		*Pool Name BASIN FRIUTLAND COAL	
*Property Code		*Property Name CARRACAS 8B			*Well Number 16H
*OGRID No. 162928		*Operator Name ENERGEN RESOURCES CORPORATION			*Elevation 6183'

<sup>10</sup> Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
L	9	32N	4W	8	2095'	SOUTH	119'	WEST	RIO ARRIBA

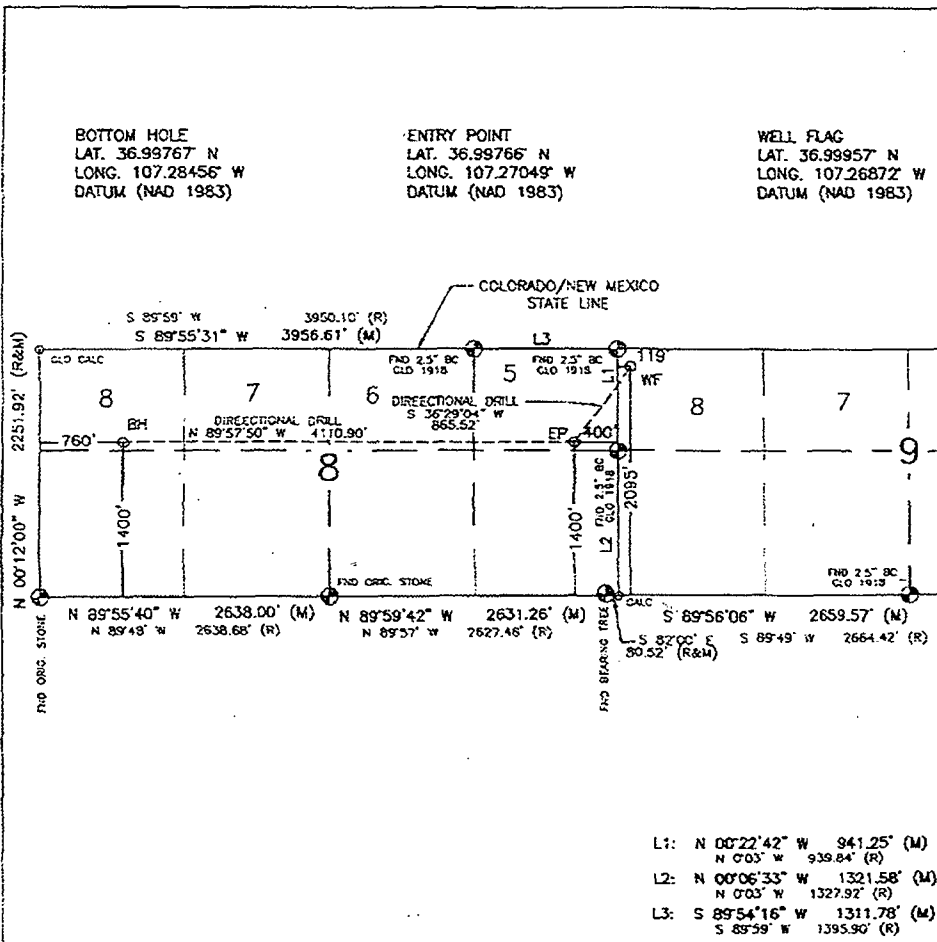
<sup>11</sup> Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
L	8	32N	4W	8	1400'	SOUTH	760'	WEST	RIO ARRIBA

<sup>12</sup> Dedicated Acres	<sup>13</sup> Joint or Infill	<sup>14</sup> Consolidation Code	<sup>15</sup> 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

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<sup>17</sup> 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 voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Signature \_\_\_\_\_ Date \_\_\_\_\_

Printed Name \_\_\_\_\_

E-mail Address \_\_\_\_\_

<sup>18</sup> 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.

FEBRUARY 7, 2011

Date of Survey

Signature and Seal of Professional Surveyor:

*David Russell*

DAVID RUSSELL

Certificate Number

10201

ENERGEN EX. NO. 1  
NMOCD CASE # 14653  
MAY 26, 2011

# **Energen Resources**

**Carson National Forest**

**8B; Sec 8 T 32N R4W**

**Carracas 8B #16H**

**Wellbore #1**

**Plan: Design #1**

## **APD Report**

**31 March, 2011**

Project: Carson National Forest

Location: 8B; Sec 8; T1N R4W

Well: Carracas 8B #16H

Wellbore: Wellbore #1

Design #1 (Carracas 8B #16H/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

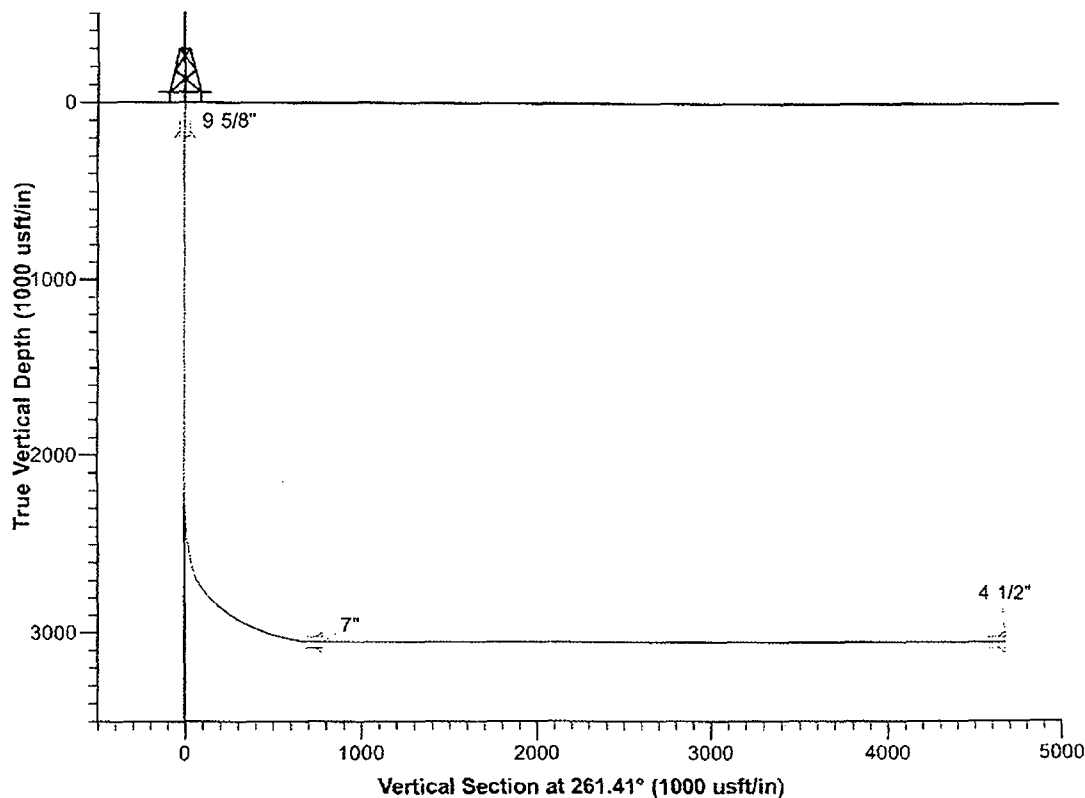
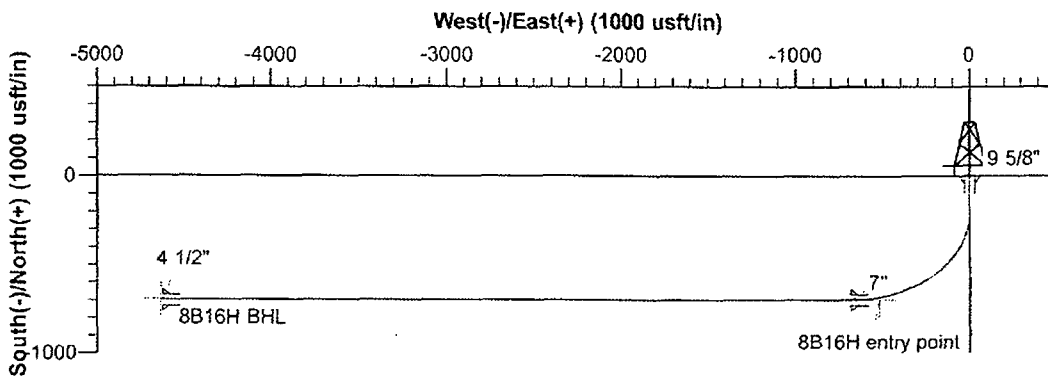


Azimuths to True North  
 Magnetic North: 9.72°

Magnetic Field  
 Strength: 51006.6snT  
 Dip Angle: 63.80°  
 Date: 3/29/2011  
 Model: IGRF200510

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	2100.0	0.00	0.00	2100.0	0.0	0.0	0.00	0.00	0.0	
3	2633.5	46.00	180.00	2578.0	-202.9	0.0	8.62	180.00	30.3	
4	3716.6	90.00	270.00	3057.0	-698.9	-689.5	8.31	90.00	786.2	
5	7654.3	90.00	270.00	3057.0	-698.9	-4627.2	0.00	0.00	4679.7	8B16H BHL



**Energen**  
APD Report

**Company:** Energen Resources  
**Project:** Carson National Forest  
**Site:** 8B; Sec 8 T 32N R4W  
**Well:** Carracas 8B #16H  
**Wellbore:** Wellbore #1  
**Design:** Design #1

**Local Co-ordinate Reference:** Site 8B; Sec 8 T 32N R4W  
**TVD Reference:** WELL @ 6197.0usft (Original Well Elev)  
**MD Reference:** WELL @ 6197.0usft (Original Well Elev)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM 5000.1 Single User Db

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

**Site** 8B; Sec 8 T 32N R4W

<b>Site Position:</b>		<b>Northing:</b>	2,184,731.55 usft	<b>Latitude:</b>	36° 59' 58.452 N
<b>From:</b>	Lat/Long	<b>Easting:</b>	1,342,941.07 usft	<b>Longitude:</b>	107° 16' 7.392 W
<b>Position Uncertainty:</b>	0.0 usft	<b>Slot Radius:</b>	13-3/16 "	<b>Grid Convergence:</b>	-0.61 "

**Well** Carracas 8B #16H

<b>Well Position</b>	<b>+N/-S</b>	0.0 usft	<b>Northing:</b>	2,184,731.55 usft	<b>Latitude:</b>	36° 59' 58.452 N
	<b>+E/-W</b>	0.0 usft	<b>Easting:</b>	1,342,941.07 usft	<b>Longitude:</b>	107° 16' 7.392 W
<b>Position Uncertainty</b>		0.0 usft	<b>Wellhead Elevation:</b>	usft	<b>Ground Level:</b>	6,183.0 usft

**Wellbore** Wellbore #1

<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF200510	3/29/2011	9.72	63.80	51,007

**Design** Design #1

**Audit Notes:**

<b>Version:</b>	<b>Phase:</b>	PROTOTYPE	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>
	0.0	0.0	0.0	261.41

**Survey Tool Program** Date 3/31/2011

<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
0.0	7,654.3	Design #1 (Wellbore #1)	MWD	MWD - Standard

**Energen**  
APD Report

**Company:** Energen Resources  
**Project:** Carson National Forest  
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**Wellbore:** Wellbore #1  
**Design:** Design #1

**Local Co-ordinate Reference:** Site 8B; Sec 8 T 32N R4W  
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**MD Reference:** WELL @ 6197.0usft (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)	DLog (°/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
<b>9 5/8"</b>						
1,104.0	0.00	0.00	0.0	0.0	0.0	0.00
<b>Naclmiento</b>						
2,100.0	0.00	0.00	0.0	0.0	0.0	0.00
2,200.0	8.62	180.00	1.1	-7.5	0.0	8.62
2,300.0	17.24	180.00	4.5	-29.9	0.0	8.62
2,360.6	22.47	180.00	7.5	-50.5	0.0	8.62
<b>Ojo Alamo</b>						
2,400.0	25.87	180.00	9.9	-66.6	0.0	8.62
2,500.0	34.49	180.00	17.4	-116.8	0.0	8.62
2,535.5	37.55	180.00	20.6	-137.7	0.0	8.62
<b>Kirtland</b>						
2,600.0	43.11	180.00	26.8	-179.4	0.0	8.62
2,633.5	46.00	180.00	30.3	-202.9	0.0	8.62
2,700.0	46.26	187.66	40.6	-250.7	-3.2	8.31
2,800.0	47.58	198.90	67.8	-321.5	-20.0	8.31
2,900.0	49.95	209.50	108.5	-389.9	-50.9	8.31
3,000.0	53.21	219.26	161.9	-454.3	-95.1	8.31
3,049.9	55.12	223.80	193.0	-484.6	-122.0	8.31
<b>Fruitland</b>						
3,100.0	57.20	228.14	226.9	-513.5	-151.9	8.31
3,200.0	61.76	236.21	302.0	-566.1	-219.9	8.31
3,300.0	66.76	243.59	385.7	-611.1	-297.8	8.31
3,400.0	72.07	250.42	476.3	-647.5	-383.9	8.31
3,484.0	76.71	255.84	556.3	-671.0	-461.3	8.31
<b>Fruitland Coal</b>						

**Energen**  
APD Report

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 Design: Design #1

Local Co-ordinate Reference: Site 8B; Sec 8 T 32N R4W  
 TVD Reference: WELL @ 6197.0usft (Original Well Elev)  
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 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)
3,500.0	77.60	256.84	571.9	-674.6	-476.5	8.31
3,548.7	80.36	259.87	619.6	-684.3	-523.3	8.31
<b>8B16H entry point</b>						
3,600.0	83.28	263.00	670.4	-691.8	-573.5	8.31
3,700.0	89.04	269.01	769.7	-698.8	-672.9	8.31
3,715.0	89.91	269.90	784.6	-698.9	-687.9	8.31
<b>7"</b>						
3,716.6	90.00	270.00	786.2	-698.9	-689.5	8.31
3,800.0	90.00	270.00	868.6	-698.9	-772.9	0.00
3,900.0	90.00	270.00	967.5	-698.9	-872.9	0.00
4,000.0	90.00	270.00	1,066.4	-698.9	-972.9	0.00
4,100.0	90.00	270.00	1,165.3	-698.9	-1,072.9	0.00
4,200.0	90.00	270.00	1,264.1	-698.9	-1,172.9	0.00
4,300.0	90.00	270.00	1,363.0	-698.9	-1,272.9	0.00
4,400.0	90.00	270.00	1,461.9	-698.9	-1,372.9	0.00
4,500.0	90.00	270.00	1,560.8	-698.9	-1,472.9	0.00
4,600.0	90.00	270.00	1,659.7	-698.9	-1,572.9	0.00
4,700.0	90.00	270.00	1,758.5	-698.9	-1,672.9	0.00
4,800.0	90.00	270.00	1,857.4	-698.9	-1,772.9	0.00
4,900.0	90.00	270.00	1,956.3	-698.9	-1,872.9	0.00
5,000.0	90.00	270.00	2,055.2	-698.9	-1,972.9	0.00
5,100.0	90.00	270.00	2,154.1	-698.9	-2,072.9	0.00
5,200.0	90.00	270.00	2,252.9	-698.9	-2,172.9	0.00
5,300.0	90.00	270.00	2,351.8	-698.9	-2,272.9	0.00
5,400.0	90.00	270.00	2,450.7	-698.9	-2,372.9	0.00
5,500.0	90.00	270.00	2,549.6	-698.9	-2,472.9	0.00
5,600.0	90.00	270.00	2,648.4	-698.9	-2,572.9	0.00

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APD Report

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**Planned Survey**

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5,700.0	90.00	270.00	2,747.3	-698.9	-2,672.9	0.00
5,800.0	90.00	270.00	2,846.2	-698.9	-2,772.9	0.00
5,900.0	90.00	270.00	2,945.1	-698.9	-2,872.9	0.00
6,000.0	90.00	270.00	3,044.0	-698.9	-2,972.9	0.00
6,100.0	90.00	270.00	3,142.8	-698.9	-3,072.9	0.00
6,200.0	90.00	270.00	3,241.7	-698.9	-3,172.9	0.00
6,300.0	90.00	270.00	3,340.6	-698.9	-3,272.9	0.00
6,400.0	90.00	270.00	3,439.5	-698.9	-3,372.9	0.00
6,500.0	90.00	270.00	3,538.3	-698.9	-3,472.9	0.00
6,600.0	90.00	270.00	3,637.2	-698.9	-3,572.9	0.00
6,700.0	90.00	270.00	3,736.1	-698.9	-3,672.9	0.00
6,800.0	90.00	270.00	3,835.0	-698.9	-3,772.9	0.00
6,900.0	90.00	270.00	3,933.9	-698.9	-3,872.9	0.00
7,000.0	90.00	270.00	4,032.7	-698.9	-3,972.9	0.00
7,100.0	90.00	270.00	4,131.6	-698.9	-4,072.9	0.00
7,200.0	90.00	270.00	4,230.5	-698.9	-4,172.9	0.00
7,300.0	90.00	270.00	4,329.4	-698.9	-4,272.9	0.00
7,400.0	90.00	270.00	4,428.3	-698.9	-4,372.9	0.00
7,500.0	90.00	270.00	4,527.1	-698.9	-4,472.9	0.00
7,600.0	90.00	270.00	4,626.0	-698.9	-4,572.9	0.00
7,650.0	90.00	270.00	4,675.5	-698.9	-4,622.9	0.00
4 1/2"						
7,654.3	90.00	270.00	4,679.7	-698.9	-4,627.2	0.00
8B16H BHL						

**Energen**  
APD Report

Company: Energen Resources  
 Project: Carson National Forest  
 Site: 8B; Sec 8 T 32N R4W  
 Well: Carracas 8B #16H  
 Wellbore: Wellbore #1  
 Design: Design #1

Local Co-ordinate Reference: Site 8B; Sec 8 T 32N R4W  
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 MD Reference: WELL @ 6197.0usft (Original Well Elev)  
 North Reference: True  
 Survey Calculation Method: Minimum Curvature  
 Database: EDM 5000.1 Single User Db

**Casing Points**

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
7,650.0	3,057.0	4 1/2"	4-1/2	6-1/4
3,715.0	3,057.0	7"	7	8-3/4
200.0	200.0	9 5/8"	9-5/8	12-1/4

**Formations**

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,104.0	1,104.0	Nacimiento		0.00	
2,360.6	2,354.0	Ojo Alamo		0.00	
3,049.9	2,850.0	Fruitland		0.00	
2,535.5	2,505.0	Kirtland		0.00	
3,484.0	3,030.0	Fruitland Coal		0.00	

Checked By: _____	Approved By: _____	Date: _____
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