

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

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 30-039-30138		² Pool Code 71629		³ Pool Name Basin Fruitland Coal	
⁴ Property Code		⁵ Property Name Carracas 35A			⁶ Well Number 16
⁷ OGRID No 162928		⁸ Operator Name Energen Resources Corporation			⁹ Elevation 6919'

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
H	35	32N	05W		1545	North	1010	East	Rio Arriba

¹¹ Bottom Hole Location If Different From Surface

UL or lot no. O	Section 35	Township 32N	Range 05W	Lot. Idn	Feet from the 809.5'	North/South line South	Feet from the 1863	East/West line East	County Rio Arriba
¹² Dedicated Acres 320		¹³ Joint or Infill		¹⁴ Consolidation Code		¹⁵ Order No.			

RCVD OCT 3 '08
OIL CONS. DIV.

DIST. 3

ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

	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 <u>Vicki Donaghey</u> 09/26/08 Signature Date Vicki Donaghey Printed Name
	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 10/06/05 Date of Survey Signature and Seal of Professional Surveyer Original survey conducted and recorded by: David R. Russell 10201 Certificate Number

ENERGEN

R E S O U R C E S

RCVD OCT 3 '08

OIL CONS. DIV.

DIST. 3

Energen Resources

Carson National Forest; S35, T32N, R5W

Middle Mesa

Carracas 35 A #16

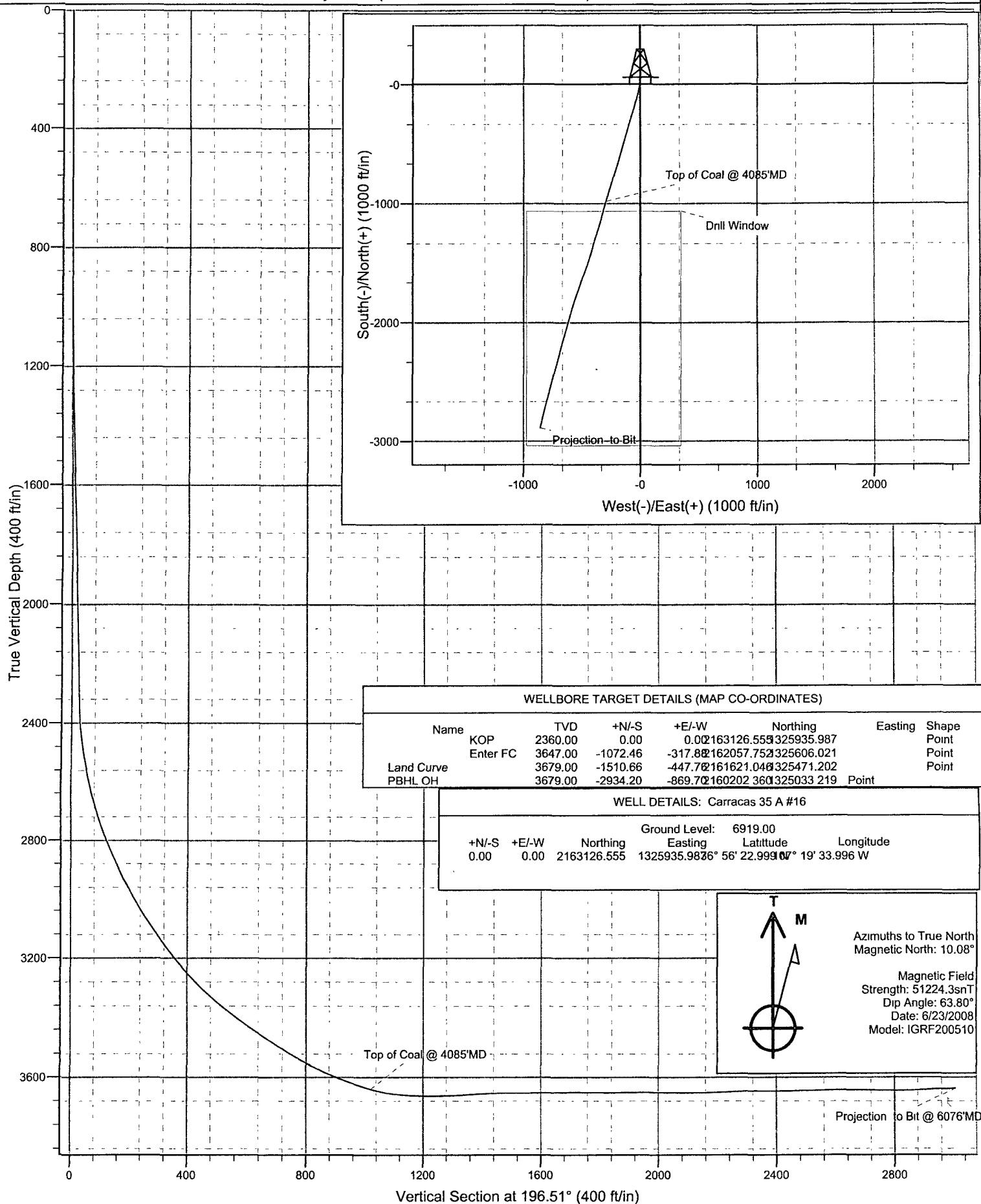
Motherbore

Survey: EOW

End of Well Survey

15 July, 2008

PATHFINDER
ENERGY SERVICES



Company: Energen Resources
 Project: Carson National Forest; S35, T32N, R5W
 Site: Middle Mesa
 Well: Carracas 35 A #16
 Wellbore: Motherbore
 Design: Motherbore

Local Co-ordinate Reference: Well Carracas 35 A #16
 TVD Reference: WELL @ 6934.00ft (L&W#1(RKB=15'))
 MD Reference: WELL @ 6934.00ft (L&W#1(RKB=15'))
 North Reference: True
 Survey Calculation Method: Minimum Curvature
 Database: EDM 2003.16 Single User Db

Project	Carson National Forest; S35, T32N, R5W		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Central Zone		

Site	Middle Mesa		
Site Position:		Northing:	2,163,126.555 ft
From:	Lat/Long	Easting:	1,325,935.987 ft
Position Uncertainty:	0.00 ft	Slot Radius:	"
		Latitude:	36° 56' 22.999 N
		Longitude:	107° 19' 33.996 W
		Grid Convergence:	-0.65 °

Well	Carracas 35 A #16		
Well Position	+N/-S	0.00 ft	Northing: 2,163,126.555 ft
	+E/-W	0.00 ft	Easting: 1,325,935.987 ft
Position Uncertainty	0.00 ft	Wellhead Elevation:	6,919.00 ft
		Latitude:	36° 56' 22.999 N
		Longitude:	107° 19' 33.996 W
		Ground Level:	6,919.00 ft

Wellbore	Motherbore		
Magnetics	Model Name	Sample Date	Declination
	IGRF200510	6/23/2008	10.08
		Dip Angle	Field Strength
		(°)	(nT)
		63.80	51,224

Design	Motherbore		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
		Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(ft)	(ft)	(ft)
	0.00	0.00	0.00
			Direction
			(°)
			196.51

Survey Program	Date 7/15/2008		
From	To	Survey (Wellbore)	Tool Name
(ft)	(ft)		
283.00	6,076.00	EOW (Motherbore)	UNKNOWN
			Description
			Unknown survey

MD	Inc	Azi	TVD	N/S	E/W	DLeg	V. Sec
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(°/100ft)	(ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
283.00	0.26	85.16	283.00	0.05	0.64	0.09	-0.23
713.00	0.26	144.23	713.00	-0.66	2.18	0.06	0.01
1,142.00	0.97	148.79	1,141.97	-4.55	4.63	0.17	3.05
1,573.00	1.49	182.82	1,572.87	-13.27	6.25	0.20	10.95
2,014.00	1.49	228.64	2,013.74	-22.78	1.66	0.26	21.37
2,308.00	1.14	225.10	2,307.66	-27.37	-3.28	0.12	27.18
2,340.00	1.41	210.28	2,339.65	-27.94	-3.70	1.33	27.84
2,372.00	2.90	199.25	2,371.63	-29.04	-4.17	4.81	29.03
2,403.00	4.84	191.98	2,402.56	-31.06	-4.70	6.44	31.12
2,435.00	6.33	189.07	2,434.40	-34.13	-5.26	4.74	34.21
2,467.00	7.74	189.02	2,466.16	-38.00	-5.87	4.41	38.10

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MD Reference: WELL @ 6934.00ft (L&W#1(RKB=15'))
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: EDM 2003.16 Single User Db

Survey							
MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	DLeg (°/100ft)	V. Sec (ft)
2,499.00	9.32	189.48	2,497.81	-42.68	-6.64	4.94	42.81
2,530.00	10.64	189.11	2,528.34	-47.98	-7.50	4.26	48.14
2,562.00	11.61	190.81	2,559.74	-54.06	-8.58	3.20	54.27
2,594.00	12.49	190.99	2,591.03	-60.62	-9.84	2.75	60.92
2,626.00	13.28	193.12	2,622.23	-67.60	-11.33	2.88	68.03
2,656.00	14.77	193.34	2,651.33	-74.67	-13.00	4.97	75.29
2,688.00	15.83	194.17	2,682.20	-82.88	-15.01	3.38	83.72
2,720.00	17.24	195.55	2,712.87	-91.68	-17.35	4.57	92.83
2,752.00	18.47	197.08	2,743.33	-101.09	-20.11	4.11	102.64
2,783.00	20.05	197.63	2,772.59	-110.85	-23.16	5.13	112.86
2,816.00	21.72	197.91	2,803.42	-122.05	-26.75	5.07	124.62
2,848.00	22.86	198.30	2,833.03	-133.59	-30.52	3.59	136.75
2,879.00	24.01	197.89	2,861.48	-145.31	-34.35	3.75	149.08
2,912.00	25.15	197.22	2,891.48	-158.39	-38.49	3.56	162.80
2,943.00	26.64	196.66	2,919.37	-171.35	-42.43	4.87	176.34
2,975.00	27.96	196.08	2,947.81	-185.43	-46.57	4.21	191.02
3,007.00	28.84	196.81	2,975.96	-200.02	-50.88	2.96	206.24
3,039.00	30.16	196.96	3,003.81	-215.10	-55.45	4.13	221.99
3,071.00	31.39	196.76	3,031.30	-230.77	-60.20	3.86	238.37
3,103.00	32.71	196.79	3,058.42	-247.03	-65.10	4.13	255.35
3,134.00	34.38	197.37	3,084.26	-263.40	-70.14	5.49	272.47
3,166.00	35.17	197.28	3,110.54	-280.83	-75.57	2.47	290.72
3,198.00	36.14	198.22	3,136.54	-298.59	-81.26	3.48	309.37
3,230.00	36.84	197.45	3,162.27	-316.71	-87.09	2.61	328.40
3,262.00	38.51	197.38	3,187.60	-335.37	-92.94	5.22	347.95
3,293.00	40.10	196.90	3,211.58	-354.13	-98.73	5.22	367.59
3,325.00	41.59	196.66	3,235.79	-374.17	-104.77	4.68	388.51
3,356.00	42.91	196.96	3,258.74	-394.12	-110.79	4.31	409.36
3,388.00	44.32	197.11	3,281.90	-415.22	-117.26	4.42	431.43
3,420.00	46.08	197.35	3,304.45	-436.91	-123.99	5.53	454.13
3,452.00	47.75	196.63	3,326.31	-459.26	-130.81	5.47	477.50
3,483.00	49.33	196.57	3,346.83	-481.52	-137.45	5.10	500.73
3,515.00	50.83	196.21	3,367.37	-505.07	-144.38	4.77	525.27
3,547.00	52.06	196.34	3,387.31	-529.09	-151.39	3.86	550.30
3,579.00	53.38	196.13	3,406.69	-553.54	-158.51	4.16	575.76
3,611.00	54.87	196.16	3,425.45	-578.44	-165.72	4.66	601.69
3,643.00	55.93	196.29	3,443.62	-603.73	-173.08	3.33	628.03
3,673.00	56.01	196.56	3,460.41	-627.58	-180.11	0.79	652.89
3,705.00	56.81	196.98	3,478.11	-653.10	-187.80	2.73	679.54
3,737.00	57.60	197.61	3,495.44	-678.79	-195.80	2.97	706.44
3,769.00	58.56	197.80	3,512.36	-704.66	-204.06	3.04	733.60
3,800.00	59.44	197.58	3,528.33	-729.97	-212.13	2.90	760.16
3,832.00	60.85	198.00	3,544.26	-756.40	-220.61	4.55	787.91
3,864.00	62.78	197.61	3,559.37	-783.25	-229.23	6.13	816.10

Company: Energen Resources
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North Reference: True
Survey Calculation Method: Minimum Curvature
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Survey

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	DLeg (°/100ft)	V. Sec (ft)
3,896.00	64.98	196.91	3,573.46	-810.69	-237.76	7.15	844.83
3,928.00	66.65	197.10	3,586.57	-838.60	-246.29	5.25	874.02
3,959.00	67.97	197.19	3,598.53	-865.93	-254.72	4.27	902.62
3,991.00	69.38	197.61	3,610.16	-894.38	-263.64	4.57	932.42
4,023.00	70.79	197.90	3,621.06	-923.03	-272.81	4.49	962.50
4,055.00	72.46	197.82	3,631.15	-951.93	-282.13	5.22	992.86
4,085.00	74.35	196.77	3,639.72	-979.38	-290.67	7.15	1,021.61
Top of Coal @ 4085' MD							
4,087.00	74.48	196.70	3,640.25	-981.23	-291.23	7.15	1,023.53
4,119.00	77.56	196.08	3,647.98	-1,011.02	-299.99	9.81	1,054.58
4,150.00	80.90	195.25	3,653.78	-1,040.33	-308.21	11.09	1,085.03
4,182.00	84.42	194.90	3,657.86	-1,070.97	-316.46	11.05	1,116.75
4,273.00	89.78	196.07	3,662.47	-1,158.53	-340.72	6.03	1,207.59
4,305.00	90.13	197.24	3,662.49	-1,189.18	-349.89	3.82	1,239.58
4,337.00	90.92	197.41	3,662.20	-1,219.73	-359.42	2.53	1,271.58
4,369.00	92.59	197.94	3,661.22	-1,250.20	-369.13	5.48	1,303.56
4,401.00	93.12	197.79	3,659.62	-1,280.62	-378.93	1.72	1,335.51
4,434.00	93.91	198.04	3,657.60	-1,311.96	-389.07	2.51	1,368.44
4,466.00	93.65	195.99	3,655.49	-1,342.49	-398.41	6.44	1,400.36
4,498.00	92.07	195.58	3,653.89	-1,373.25	-407.10	5.10	1,432.32
4,530.00	91.28	196.26	3,652.96	-1,404.01	-415.88	3.26	1,464.30
4,562.00	90.22	196.60	3,652.54	-1,434.70	-424.93	3.48	1,496.30
4,595.00	89.78	197.49	3,652.54	-1,466.25	-434.60	3.01	1,529.30
4,627.00	90.22	198.94	3,652.54	-1,496.64	-444.60	4.74	1,561.28
4,659.00	90.92	199.87	3,652.22	-1,526.82	-455.23	3.64	1,593.24
4,723.00	91.01	199.95	3,651.14	-1,586.99	-477.02	0.19	1,657.12
4,755.00	91.19	199.22	3,650.53	-1,617.13	-487.75	2.35	1,689.07
4,788.00	89.52	198.37	3,650.32	-1,648.37	-498.38	5.68	1,722.04
4,820.00	89.87	199.91	3,650.49	-1,678.60	-508.87	4.94	1,754.00
4,852.00	89.08	199.32	3,650.79	-1,708.74	-519.61	3.08	1,785.95
4,884.00	89.34	200.13	3,651.23	-1,738.86	-530.41	2.66	1,817.90
4,916.00	90.40	200.09	3,651.30	-1,768.91	-541.41	3.31	1,849.84
4,948.00	90.13	199.12	3,651.15	-1,799.05	-552.15	3.15	1,881.79
4,980.00	91.10	198.24	3,650.81	-1,829.36	-562.40	4.09	1,913.76
5,012.00	91.01	197.61	3,650.22	-1,859.81	-572.25	1.99	1,945.75
5,043.00	89.34	197.16	3,650.13	-1,889.39	-581.51	5.58	1,976.74
5,074.00	89.25	196.69	3,650.51	-1,919.04	-590.53	1.54	2,007.74
5,106.00	89.43	196.41	3,650.88	-1,949.72	-599.65	1.04	2,039.74
5,139.00	89.16	196.05	3,651.28	-1,981.40	-608.87	1.36	2,072.74
5,171.00	89.08	195.98	3,651.77	-2,012.15	-617.70	0.33	2,104.73
5,203.00	90.66	196.39	3,651.85	-2,042.88	-626.62	5.10	2,136.73
5,235.00	92.24	196.47	3,651.04	-2,073.57	-635.66	4.94	2,168.72
5,268.00	91.80	196.41	3,649.87	-2,105.20	-645.00	1.35	2,201.70
5,300.00	92.51	196.19	3,648.67	-2,135.89	-653.97	2.32	2,233.67
5,332.00	92.86	195.41	3,647.17	-2,166.65	-662.68	2.67	2,265.64

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Survey

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	DLeg (°/100ft)	V. Sec (ft)
5,364.00	91.54	195.71	3,645.94	-2,197.45	-671.25	4.23	2,297.61
5,396.00	89.78	195.33	3,645.57	-2,228.28	-679.81	5.63	2,329.60
5,428.00	89.69	194.18	3,645.72	-2,259.22	-687.96	3.60	2,361.58
5,460.00	90.22	194.81	3,645.75	-2,290.20	-695.97	2.57	2,393.56
5,492.00	91.01	195.05	3,645.40	-2,321.12	-704.22	2.58	2,425.55
5,524.00	91.10	195.48	3,644.81	-2,351.99	-712.64	1.37	2,457.54
5,555.00	90.84	195.18	3,644.29	-2,381.88	-720.84	1.28	2,488.52
5,587.00	91.28	194.41	3,643.70	-2,412.81	-729.01	2.77	2,520.50
5,620.00	91.28	194.77	3,642.96	-2,444.74	-737.32	1.09	2,553.48
5,651.00	91.19	194.60	3,642.29	-2,474.72	-745.17	0.62	2,584.46
5,684.00	90.40	194.98	3,641.83	-2,506.63	-753.60	2.66	2,617.44
5,715.00	89.96	194.74	3,641.74	-2,536.59	-761.55	1.62	2,648.42
5,747.00	89.43	194.80	3,641.91	-2,567.53	-769.70	1.67	2,680.41
5,779.00	88.81	195.07	3,642.40	-2,598.45	-777.95	2.11	2,712.39
5,812.00	89.43	195.45	3,642.91	-2,630.28	-786.64	2.20	2,745.38
5,844.00	89.16	195.14	3,643.30	-2,661.14	-795.08	1.28	2,777.37
5,876.00	89.25	194.77	3,643.74	-2,692.06	-803.33	1.19	2,809.36
5,908.00	91.63	194.15	3,643.50	-2,723.04	-811.32	7.69	2,841.33
5,940.00	92.24	194.46	3,642.42	-2,754.03	-819.23	2.14	2,873.29
5,973.00	92.68	194.56	3,641.00	-2,785.95	-827.49	1.37	2,906.24
6,005.00	92.59	193.94	3,639.53	-2,816.93	-835.35	1.96	2,938.18
6,013.00	92.42	194.02	3,639.18	-2,824.68	-837.28	2.35	2,946.16
6,076.00	92.42	194.02	3,636.52	-2,885.75	-852.53	0.00	3,009.05

Projection to Bit

Company: Energen Resources
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Targets
Target Name

- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)		
Enter FC	0.00	0.00	3,647.00	-1,072.46	-317.88	2,162,057.752	1,325,606.021	36° 56' 12.395 N	107° 19' 37.911 W
- survey misses by 11.04ft at 4183.26ft MD (3657.98 TVD, -1072.19 N, -316.78 E)									
- Point									
PBHL OH	0.00	0.00	3,679.00	-2,934.20	-869.70	2,160,202.360	1,325,033.219	36° 55' 53.987 N	107° 19' 44.707 W
- survey misses by 66.68ft at 6076.00ft MD (3636.52 TVD, -2885.75 N, -852.53 E)									
- Point									
Land Curve	0.00	0.00	3,679.00	-1,510.66	-447.76	2,161,621.046	1,325,471.202	36° 56' 8.063 N	107° 19' 39.511 W
- survey misses by 26.60ft at 4641.01ft MD (3652.45 TVD, -1509.87 N, -449 19 E)									
- Point									
KOP	0.00	0.00	2,360.00	0.00	0.00	2,163,126.555	1,325,935.987	36° 56' 22.999 N	107° 19' 33.996 W
- survey misses by 28.80ft at 2359.32ft MD (2358.96 TVD, -28.50 N, -3.97 E)									
- Point									

Survey Annotations

Measured Depth	Vertical Depth	Local Coordinates		Comment
(ft)	(ft)	+N/-S	+E/-W	
(ft)	(ft)	(ft)	(ft)	
4,085.00	3,639.72	-979.38	-290.67	Top of Coal @ 4085'MD
6,076.00	3,636.52	-2,885.75	-852.53	Projection to Bit

Checked By: _____ Approved By: _____ Date: _____