

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

As Drilled

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 July 16, 2010

Submit one copy to appropriate

District Office

☒ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-039-30602	² Pool Code 71629	³ Pool Name Basin Fruitland Coal
⁴ Property Code 35597	⁵ Property Name Carracas 30B	⁶ Well Number 13R
⁷ OGRID No. 162928	⁸ Operator Name Energen Resources Corporation	⁹ Elevation 7248

¹⁰ Surface Location

UL or lot no. P	Section 30	Township 32N	Range 4W	Lot Idn	Feet from the 990'	North/South line SOUTH	Feet from the 915'	East/West line EAST	County RIO ARRIBA
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¹¹ Bottom Hole Location If Different From Surface

UL or lot no. L	Section 30	Township 32N	Range 4W	Lot Idn 3	Feet from the 1878'	North/South line SOUTH	Feet from the 478'	East/West line WEST	County RIO ARRIBA
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¹² Dedicated Acres 320 S/2	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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RCVD OCT 6 '10
OIL CONS. DIV.

DIST. 3

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.

Producing Interval: From 7" Intermediate Casing Pt. @ 1192' FSL, 1754' FEL; To TD of well @ BHL 30	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. <i>[Signature]</i> 10-04-2010 Signature Date DEVIN MILLS Printed Name DMILLS@ENERGEN.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. JUNE 26, 2008 Date of Survey Signature and Seal of Professional Surveyor: DAVID RUSSELL Certificate Number

5120'

A

REV OCT 6 '10
OIL CONS. DIV.
DIST. 3

Energen Resources

Rio Arriba County, NM

Sec. 30-T32N-R4W

Carracas 30B #13R

Plan #1

Design: Pathfinder MWD and Sperry MWD Survey

Sperry Drilling Services

Standard Report

10 August, 2010

Well Coordinates: 2,167,927.78 N, 1,336,504.72 E (36° 57' 11.63" N, 107° 17' 24.47" W)

Ground Level: 7,248.00 ft

Local Coordinate Origin:

Centered on Well Carracas 30B #13R

Viewing Datum:

KB @ 7263.00ft (D&J 1)

TVDs to System:

N

North Reference:

True

Unit System:

API - US Survey Feet - Custom

Geodetic Scale Factor Applied

Version: 2003.16 Build: 431

HALLIBURTON

Design Report for Carracas 30B #13R - Pathfinder MWD and Sperry MWD Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
291.00	0.53	359.37	291.00	1.35	-0.01	0.34	0.18
Surveys from 291.00ft to 4355.00ft are Pathfinder MWD Surveys							
381.00	0.09	60.63	380.99	1.80	0.04	0.39	0.55
471.00	0.09	247.14	470.99	1.80	0.04	0.39	0.20
563.00	0.18	58.70	562.99	1.85	0.10	0.35	0.29
652.00	0.18	334.15	651.99	2.05	0.15	0.34	0.27
742.00	0.09	346.45	741.99	2.25	0.08	0.46	0.10
834.00	0.18	342.06	833.99	2.45	0.01	0.57	0.10
923.00	0.09	122.95	922.99	2.55	0.03	0.58	0.29
1,013.00	0.18	216.20	1,012.99	2.40	0.01	0.57	0.23
1,104.00	0.09	348.65	1,103.99	2.35	-0.09	0.65	0.27
1,193.00	0.09	189.39	1,192.99	2.35	-0.12	0.68	0.20
1,284.00	0.18	226.83	1,283.99	2.18	-0.23	0.75	0.13
1,375.00	0.18	329.66	1,374.99	2.21	-0.41	0.93	0.31
1,466.00	0.18	131.38	1,465.99	2.24	-0.38	0.90	0.39
1,558.00	0.09	33.03	1,557.99	2.20	-0.23	0.75	0.23
1,650.00	0.18	316.22	1,649.99	2.37	-0.29	0.85	0.20
1,745.00	0.09	50.35	1,744.99	2.52	-0.33	0.93	0.22
1,841.00	0.09	193.78	1,840.99	2.50	-0.29	0.88	0.18
1,937.00	0.09	162.58	1,936.99	2.35	-0.29	0.84	0.05
2,033.00	0.18	359.99	2,032.99	2.43	-0.27	0.84	0.28
2,128.00	0.09	92.97	2,127.99	2.58	-0.19	0.80	0.22
2,223.00	0.18	175.77	2,222.99	2.42	-0.11	0.68	0.20
2,318.00	0.09	298.81	2,317.99	2.31	-0.16	0.71	0.25
2,414.00	0.18	76.71	2,413.99	2.38	-0.08	0.65	0.26
2,509.00	0.18	297.06	2,508.99	2.48	-0.07	0.66	0.36
2,605.00	0.26	342.93	2,604.99	2.76	-0.27	0.92	0.19
2,701.00	0.18	224.37	2,700.99	2.86	-0.44	1.11	0.40
2,796.00	0.09	270.34	2,795.99	2.75	-0.61	1.26	0.14
2,892.00	0.09	310.42	2,891.99	2.80	-0.75	1.40	0.06
2,923.00	0.53	275.26	2,922.99	2.83	-0.91	1.56	1.48
2,955.00	1.06	300.40	2,954.99	3.00	-1.31	1.99	1.94
2,987.00	1.49	290.55	2,986.98	3.29	-1.96	2.69	1.50
3,019.00	2.11	287.30	3,018.96	3.61	-2.91	3.69	1.96
3,051.00	2.64	288.00	3,050.93	4.02	-4.17	5.01	1.66
3,082.00	2.90	287.12	3,081.90	4.47	-5.60	6.51	0.85
3,114.00	3.25	285.63	3,113.85	4.95	-7.25	8.22	1.12
3,146.00	3.34	283.43	3,145.80	5.41	-9.03	10.06	0.48
3,177.00	3.69	277.37	3,176.74	5.75	-10.89	11.95	1.65
3,207.00	3.96	275.88	3,206.67	5.98	-12.88	13.94	0.96
3,238.00	5.45	276.75	3,237.57	6.26	-15.41	16.46	4.81
3,270.00	8.00	285.37	3,269.35	7.03	-19.07	20.20	8.55
3,302.00	10.02	285.89	3,300.95	8.38	-23.89	25.20	6.32
3,334.00	12.13	286.42	3,332.35	10.10	-29.79	31.35	6.60
3,366.00	14.51	282.38	3,363.49	11.91	-36.94	38.71	7.98
3,397.00	17.32	281.85	3,393.30	13.69	-45.25	47.21	9.08
3,429.00	19.43	281.50	3,423.67	15.73	-55.13	57.29	6.60
3,460.00	21.54	281.24	3,452.70	17.86	-65.76	68.13	6.81
3,492.00	23.04	281.15	3,482.31	20.22	-77.67	80.25	4.69

Design Report for Carracas 30B #13R - Pathfinder MWD and Sperry MWD Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)
3,524.00	24.80	280.36	3,511.56	22.64	-90.41	93.20	5.59
3,556.00	27.08	281.06	3,540.34	25.24	-104.17	107.18	7.19
3,588.00	29.28	281.85	3,568.54	28.25	-118.98	122.28	6.97
3,620.00	29.81	281.76	3,596.38	31.47	-134.42	138.05	1.66
3,651.00	31.57	282.47	3,623.04	34.80	-149.89	153.86	5.80
3,683.00	34.21	282.91	3,649.91	38.62	-166.84	171.23	8.28
3,715.00	36.32	283.70	3,676.03	42.87	-184.82	189.71	6.75
3,746.00	38.43	284.05	3,700.67	47.38	-203.08	208.52	6.84
3,778.00	39.83	284.66	3,725.49	52.39	-222.65	228.72	4.54
3,810.00	41.50	284.58	3,749.76	57.66	-242.82	249.57	5.22
3,842.00	44.14	284.31	3,773.23	63.08	-263.89	271.31	8.27
3,874.00	46.60	284.31	3,795.71	68.71	-285.95	294.08	7.69
3,905.00	49.42	283.87	3,816.45	74.31	-308.30	317.12	9.16
3,937.00	52.23	283.43	3,836.66	80.17	-332.40	341.93	8.85
3,969.00	55.40	283.70	3,855.55	86.22	-357.50	367.75	9.93
4,000.00	58.04	283.35	3,872.56	92.28	-382.70	393.66	8.57
4,031.00	60.94	283.43	3,888.29	98.47	-408.68	420.37	9.36
4,062.00	63.66	282.47	3,902.70	104.62	-435.42	447.81	9.19
4,094.00	66.30	281.85	3,916.24	110.72	-463.77	476.79	8.43
4,126.00	69.38	281.94	3,928.31	116.83	-492.77	506.41	9.63
4,158.00	72.19	281.94	3,938.84	123.08	-522.33	536.60	8.78
4,190.00	75.36	282.20	3,947.78	129.51	-552.37	567.31	9.94
4,222.00	78.44	282.12	3,955.03	136.07	-582.83	598.46	9.63
4,254.00	81.43	282.56	3,960.62	142.80	-613.61	629.95	9.44
4,257.00	81.65	282.62	3,961.06	143.45	-616.50	632.92	7.64
Top of Target Coal (Interpolated Point - Not a Survey Station)							
4,286.00	83.80	283.17	3,964.73	149.87	-644.54	661.68	7.64
4,317.00	85.74	283.35	3,967.56	156.95	-674.59	692.55	6.28
4,355.00	88.11	283.61	3,969.60	165.79	-711.49	730.49	6.27
Tie-On to Pathfinder MWD Survey							
4,399.00	88.71	285.06	3,970.82	176.68	-754.10	774.47	3.58
7" Casing Point (Interpolated Point - Not a Survey Station)							
4,488.00	89.94	288.00	3,971.86	202.00	-839.40	863.35	3.58
First Sperry MWD Survey							
4,517.00	90.12	288.35	3,971.85	211.05	-866.96	892.27	1.36
4,552.00	89.88	288.35	3,971.85	222.07	-900.18	927.16	0.69
4,584.00	90.56	286.68	3,971.72	231.70	-930.69	959.10	5.63
4,616.00	91.36	286.76	3,971.19	240.90	-961.33	991.05	2.51
4,648.00	91.85	286.93	3,970.29	250.17	-991.95	1,023.00	1.62
4,679.00	92.41	287.15	3,969.14	259.25	-1,021.57	1,053.93	1.94
4,711.00	92.65	286.95	3,967.73	268.62	-1,052.13	1,085.85	0.98
4,743.00	93.21	286.51	3,966.09	277.82	-1,082.74	1,117.76	2.22
4,775.00	92.91	284.09	3,964.38	286.26	-1,113.56	1,149.71	7.61
4,806.00	93.46	283.41	3,962.66	293.61	-1,143.62	1,180.66	2.82
4,838.00	94.95	283.60	3,960.31	301.06	-1,174.65	1,212.57	4.69
4,870.00	92.90	283.27	3,958.12	308.48	-1,205.70	1,244.49	6.49
4,901.00	92.10	283.42	3,956.77	315.63	-1,235.84	1,275.46	2.63
4,933.00	92.41	283.70	3,955.51	323.13	-1,266.92	1,307.44	1.30
4,964.00	92.90	284.50	3,954.08	330.67	-1,296.95	1,338.40	3.02
4,996.00	91.05	283.96	3,952.97	338.53	-1,327.95	1,370.38	6.02
5,028.00	90.86	284.58	3,952.44	346.42	-1,358.96	1,402.38	2.03

Design Report for Carracas 30B #13R - Pathfinder MWD and Sperry MWD Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)
5,060.00	89.63	283.95	3,952.30	354.30	-1,389.97	1,434.37	4.32
5,092.00	88.64	283.47	3,952.79	361.89	-1,421.06	1,466.37	3.44
5,123.00	90.12	282.58	3,953.12	368.87	-1,451.26	1,497.36	5.57
5,155.00	91.98	282.71	3,952.53	375.88	-1,482.47	1,529.35	5.83
5,187.00	91.67	282.72	3,951.52	382.92	-1,513.67	1,561.33	0.97
5,218.00	90.06	282.78	3,951.05	389.76	-1,543.90	1,592.32	5.20
5,250.00	89.81	283.35	3,951.08	396.99	-1,575.07	1,624.31	1.95
5,282.00	89.57	283.71	3,951.26	404.48	-1,606.19	1,656.31	1.35
5,313.00	89.14	283.76	3,951.61	411.84	-1,636.30	1,687.31	1.40
5,345.00	90.86	283.22	3,951.61	419.30	-1,667.41	1,719.31	5.63
5,377.00	90.06	283.29	3,951.35	426.64	-1,698.56	1,751.30	2.51
5,409.00	88.52	283.25	3,951.75	433.98	-1,729.70	1,783.30	4.81
5,441.00	87.71	283.13	3,952.80	441.28	-1,760.84	1,815.28	2.56
5,473.00	90.00	283.54	3,953.44	448.66	-1,791.97	1,847.27	7.27
5,505.00	91.61	283.37	3,952.99	456.10	-1,823.09	1,879.26	5.06
5,536.00	91.85	283.29	3,952.05	463.25	-1,853.24	1,910.25	0.82
5,566.00	91.79	283.17	3,951.10	470.11	-1,882.43	1,940.23	0.45
5,596.00	91.18	283.29	3,950.32	476.97	-1,911.62	1,970.22	2.07
5,626.00	91.61	282.29	3,949.59	483.61	-1,940.87	2,000.21	3.63
5,657.00	91.73	281.63	3,948.69	490.03	-1,971.18	2,031.18	2.16
5,688.00	92.66	281.84	3,947.50	496.33	-2,001.51	2,062.13	3.08
5,718.00	92.77	281.90	3,946.08	502.50	-2,030.84	2,092.08	0.42
5,748.00	92.10	281.67	3,944.80	508.62	-2,060.18	2,122.03	2.36
5,778.00	91.30	281.40	3,943.91	514.62	-2,089.56	2,151.99	2.81
5,809.00	90.00	282.03	3,943.56	520.91	-2,119.91	2,182.97	4.66
5,840.00	90.12	282.15	3,943.53	527.40	-2,150.22	2,213.96	0.55
5,871.00	93.15	283.73	3,942.65	534.34	-2,180.42	2,244.93	11.02
5,902.00	93.46	283.98	3,940.86	541.75	-2,210.47	2,275.88	1.28
5,932.00	92.78	283.32	3,939.23	548.82	-2,239.58	2,305.84	3.16
5,963.00	92.22	282.41	3,937.87	555.72	-2,269.77	2,336.80	3.44
5,994.00	91.85	281.79	3,936.77	562.21	-2,300.06	2,367.77	2.33
6,024.00	91.42	281.42	3,935.92	568.24	-2,329.43	2,397.73	1.89
6,055.00	92.90	281.12	3,934.75	574.30	-2,359.81	2,428.68	4.87
6,086.00	94.08	282.21	3,932.86	580.55	-2,390.12	2,459.60	5.18
6,115.00	94.08	282.22	3,930.80	586.67	-2,418.39	2,488.51	0.03
6,146.00	93.46	281.11	3,928.76	592.93	-2,448.68	2,519.42	4.09
6,176.00	91.67	279.88	3,927.42	598.39	-2,478.15	2,549.34	7.24
6,207.00	91.42	279.63	3,926.58	603.64	-2,508.69	2,580.25	1.14
6,238.00	91.61	279.52	3,925.76	608.79	-2,539.25	2,611.15	0.71
6,269.00	90.60	279.43	3,925.16	613.89	-2,569.82	2,642.05	3.27
6,300.00	90.68	280.89	3,924.82	619.36	-2,600.33	2,672.99	4.72
6,330.00	89.82	280.34	3,924.69	624.89	-2,629.81	2,702.94	3.40
6,361.00	89.51	280.44	3,924.87	630.48	-2,660.31	2,733.88	1.05
6,392.00	89.88	280.80	3,925.03	636.19	-2,690.77	2,764.83	1.67
6,423.00	89.44	283.15	3,925.22	642.62	-2,721.10	2,795.81	7.71
6,452.00	88.33	282.87	3,925.78	649.15	-2,749.35	2,824.80	3.95
6,483.00	89.38	284.27	3,926.40	656.42	-2,779.47	2,855.80	5.64
6,514.00	90.43	284.36	3,926.45	664.09	-2,809.51	2,886.79	3.40
6,545.00	90.74	284.61	3,926.14	671.84	-2,839.52	2,917.79	1.28
6,575.00	89.75	284.30	3,926.01	679.33	-2,868.57	2,947.79	3.46
6,607.00	88.02	283.96	3,926.63	687.14	-2,899.60	2,979.78	5.51

Design Report for Carracas 30B #13R - Pathfinder MWD and Sperry MWD Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)
6,637.00	87.59	283.97	3,927.78	694.37	-2,928.69	3,009.76	1.43
6,667.00	87.03	284.30	3,929.19	701.69	-2,957.75	3,039.73	2.17
6,697.00	87.41	285.88	3,930.64	709.49	-2,986.68	3,069.68	5.41
6,728.00	88.51	286.46	3,931.75	718.12	-3,016.43	3,100.64	4.01
6,759.00	91.05	286.92	3,931.86	727.02	-3,046.13	3,131.60	8.33
6,790.00	90.68	286.37	3,931.40	735.90	-3,075.82	3,162.55	2.14
6,820.00	90.37	286.18	3,931.12	744.31	-3,104.62	3,192.53	1.21
6,850.00	89.81	286.18	3,931.07	752.67	-3,133.43	3,222.50	1.87
6,880.00	91.30	285.92	3,930.78	760.96	-3,162.26	3,252.48	5.04
6,911.00	90.68	285.45	3,930.25	769.34	-3,192.10	3,283.46	2.51
6,940.00	90.93	285.79	3,929.84	777.15	-3,220.03	3,312.44	1.46
6,971.00	91.54	284.89	3,929.17	785.35	-3,249.92	3,343.42	3.51
7,001.00	91.48	285.05	3,928.38	793.09	-3,278.89	3,373.41	0.57
7,031.00	90.43	284.71	3,927.88	800.79	-3,307.88	3,403.40	3.68
7,061.00	90.00	284.21	3,927.77	808.29	-3,336.93	3,433.39	2.20
7,092.00	92.34	284.24	3,927.14	815.90	-3,366.97	3,464.39	7.55
7,122.00	93.45	282.07	3,925.62	822.72	-3,396.14	3,494.34	8.12
7,153.00	92.90	281.52	3,923.90	829.05	-3,426.44	3,525.27	2.51
7,184.00	93.09	281.33	3,922.29	835.18	-3,456.78	3,556.20	0.87
7,214.00	93.08	281.67	3,920.67	841.15	-3,486.14	3,586.14	1.13
7,245.00	92.47	281.35	3,919.17	847.33	-3,516.48	3,617.07	2.22
7,276.00	91.85	281.22	3,918.00	853.39	-3,546.86	3,648.02	2.04
7,306.00	91.86	281.33	3,917.03	859.25	-3,576.26	3,677.97	0.37
7,336.00	91.05	281.09	3,916.27	865.08	-3,605.68	3,707.93	2.82
7,367.00	90.55	281.20	3,915.84	871.08	-3,636.09	3,738.89	1.65
7,399.00	89.26	280.59	3,915.89	877.12	-3,667.52	3,770.85	4.46
Final Sperry MWD Survey							
7,460.00	89.26	280.59	3,916.68	888.33	-3,727.47	3,831.75	0.00
Survey Projection to TD							

Design Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
291.00	291.00	1.35	-0.01	Surveys from 291.00ft to 4355.00ft are Pathfinder MWD Surveys
4,257.00	3,961.06	143.45	-616.50	Top of Target Coal (Interpolated Point - Not a Survey Station)
4,355.00	3,969.60	165.79	-711.49	Tie-On to Pathfinder MWD Survey
4,399.00	3,970.82	176.68	-754.10	7" Casing Point (Interpolated Point - Not a Survey Station)
4,488.00	3,971.86	202.00	-839.40	First Sperry MWD Survey
7,399.00	3,915.89	877.12	-3,667.52	Final Sperry MWD Survey
7,460.00	3,916.68	888.33	-3,727.47	Survey Projection to TD

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	+N/-S (ft)	+E/-W (ft)	Start TVD (ft)
Target	Carracas 30B #13R_BHL Tgt	283.85	Slot	0.00	0.00	0.00

Design Report for Carracas 30B #13R - Pathfinder MWD and Sperry MWD Survey

Survey tool program

From (ft)	To (ft)	Survey/Plan	Survey Tool
291.00	4,355.00	Pathfinder MWD Surveys	MWD
4,488.00	7,460.00	Sperry MWD Surveys	MWD

Casing Details

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
4,399.00		7" Csg	7	8-3/4

Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
Carracas 30B	0.00	0.00	3,978.00	1,009.96	-4,095.36	2,168,982.39	1,332,420.61	36° 57' 21.611 N	107° 18' 14.924 W
- actual wellpath misses target center by 392.30ft at 7460.00ft MD (3916.68 TVD, 888.33 N, -3727.47 E)									
- Point									

North Reference Sheet for Sec. 30-T32N-R4W - Carracas 30B #13R - Plan #1

All data is in US Feet unless otherwise stated. Directions and Coordinates are relative to True North Reference.

Vertical Depths are relative to KB @ 7263.00ft (D&J 1). Northing and Easting are relative to Carracas 30B #13R

Coordinate System is US State Plane 1983, New Mexico Central Zone using datum North American Datum 1983, ellipsoid GRS 1980

Projection method is Transverse Mercator (Gauss-Kruger)

Central Meridian is 106° 15' 0.000 W°, Longitude Origin: 0° 0' 0.000 E°, Latitude Origin: 0° 0' 0.000 N°

False Easting: 1,640,416.67ft, False Northing: 0.00ft, Scale Reduction: 1.00000566

Grid Coordinates of Well: 2,167,927.78 ft N, 1,336,504.72 ft E

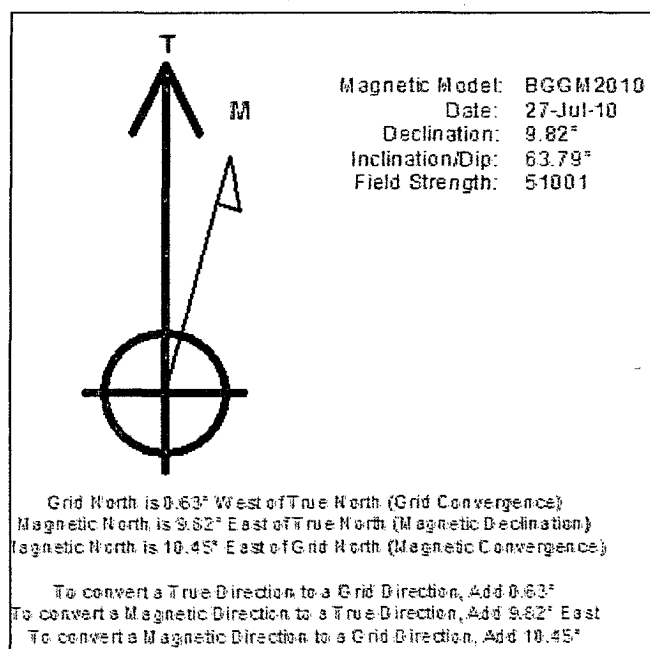
Geographical Coordinates of Well: 36° 57' 11.63" N, 107° 17' 24.47" W

Grid Convergence at Surface is: -0.63°

Based upon Minimum Curvature type calculations, at a Measured Depth of 7,460.00ft

the Bottom Hole Displacement is 3,831.86ft in the Direction of 283.40° (True).

Magnetic Convergence at surface is: -10.45° (27 July 2010, , BGGM2010)



Project: Rio Arriba County, NM
Site: Sec. 30-T32N-R4W
Well: Carracas 30B #13R

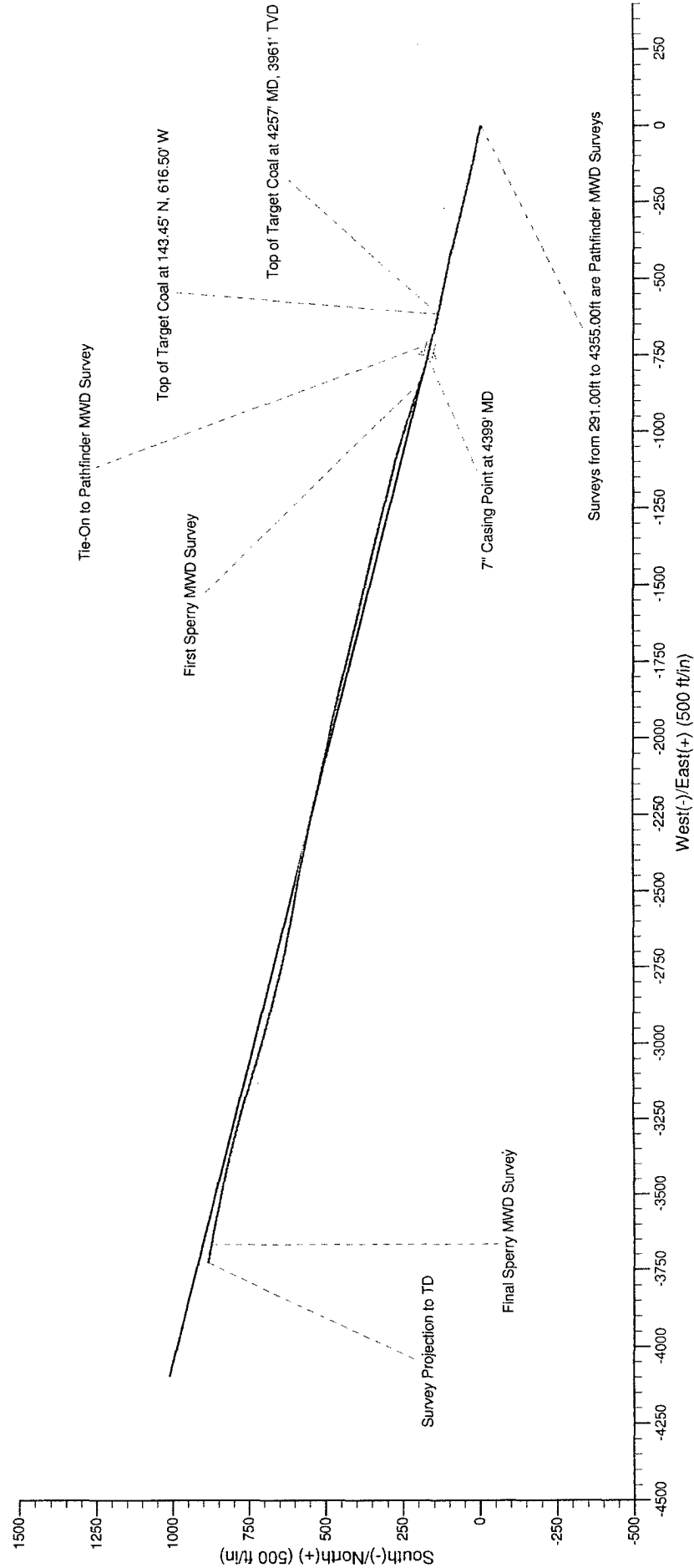
Energen Resources

HALLIBURTON

Sperry Drilling

LEGEND

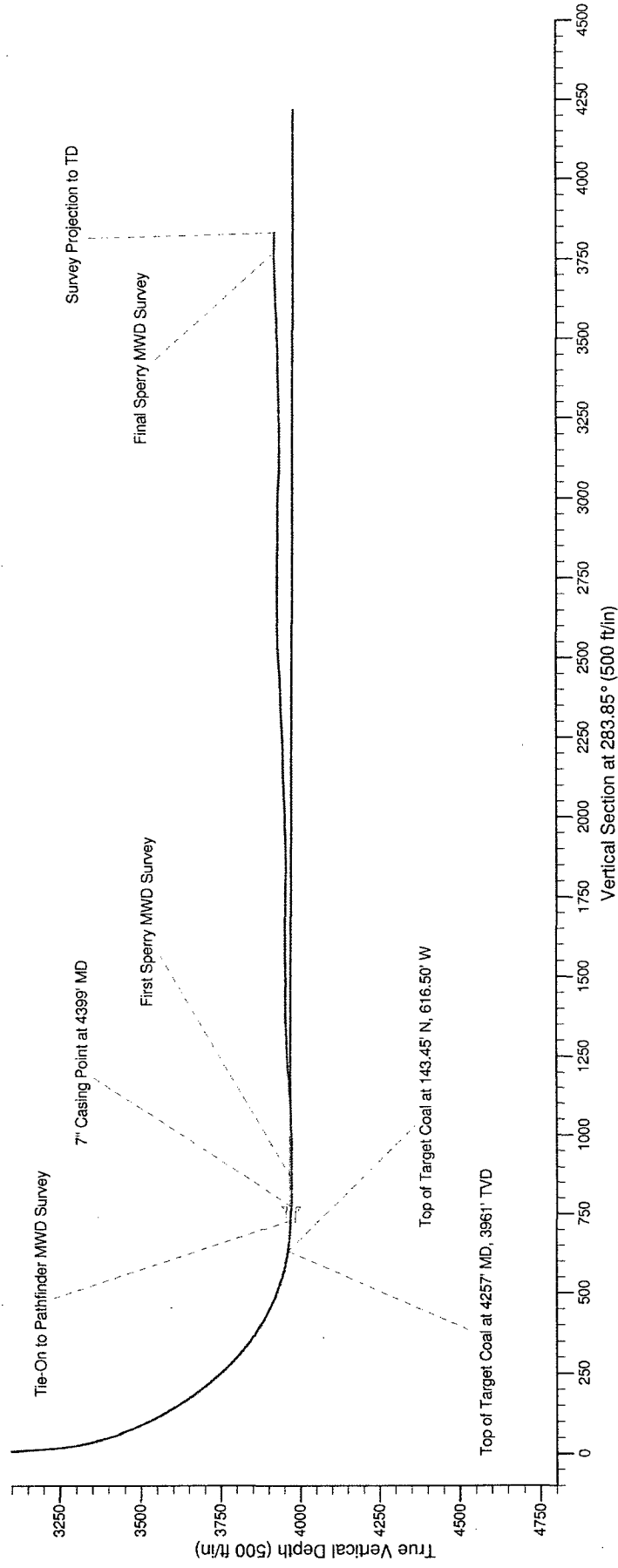
- Carracas 30B #13R, Plan #1, Plan #1 - Revision 1 Proposal V0
- Pathfinder MWD and Sperry MWD Survey



Energen Resources

Project: Rio Arriba County, NM
Site: Sec. 30-T32N-R4W
Well: Carracas 30B #13R

HALLIBURTON
Sperry Drilling



LEGEND

- Carracas 30B #13R, Plan #1, Revision 1 Proposal V0
- Pathfinder MWD and Sperry MWD Survey