

Cimarex Energy Co.

Eddy County (NM83E)

Sec 14-T25S-R26E

White City 14 Federal #7

Wellbore #1

Survey: MWD Surveys

Standard Survey Report

15 June, 2009

Quantum Drilling Motors

Survey Report

Company:	Cimarex Energy Co.	Local Co-ordinate Reference:	Well White City 14 Federal #7
Project:	Eddy County (NM83E)	TVD Reference:	WELL @ 0.0ft (Original Well Elev)
Site:	Sec 14-T25S-R26E	MD Reference:	WELL @ 0.0ft (Original Well Elev)
Well:	White City 14 Federal #7	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 2003.16 Single User Db

Project	Eddy County (NM83E)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Sec 14-T25S-R26E		
Site Position:		Northing:	410,644.04 ft
From:	Map	Easting:	561,282.04 ft
Position Uncertainty:	0.0 ft	Slot Radius:	"
		Latitude:	32° 7' 44.123 N
		Longitude:	104° 16' 8.052 W
		Grid Convergence:	0.03 °

Well	White City 14 Federal #7		
Well Position	+N/-S	0.0 ft	Northing: 413,339.97 ft
	+E/-W	0.0 ft	Easting: 564,914.60 ft
Position Uncertainty	0.0 ft	Wellhead Elevation:	ft
		Latitude:	32° 8' 10.779 N
		Longitude:	104° 15' 25.784 W
		Ground Level:	0.0 ft

Wellbore	Wellbore #1		
Magnetics	Model Name	Sample Date	Declination (°)
	IGRF200510	2008/11/24	8.18
			Dip Angle (°)
			60.06
			Field Strength (nT)
			48,792

Design	Wellbore #1		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
		Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)
	0.0	0.0	0.0
			Direction (°)
			183.15

Survey Program	Date 2009/06/15		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name
100.0	7,335.0	MWD Surveys (Wellbore #1)	MWD
			Description
			MWD - Standard

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.48	158.47	100.0	-0.4	0.2	0.4	0.48	0.48	0.00
First GYRO Survey									
200.0	1.07	284.67	200.0	-0.5	-0.6	0.6	1.41	0.59	126.20
300.0	1.60	297.01	300.0	0.3	-2.7	-0.2	0.60	0.53	12.34
400.0	1.64	301.02	399.9	1.7	-5.2	-1.4	0.12	0.04	4.01
500.0	1.57	303.05	499.9	3.2	-7.6	-2.8	0.09	-0.07	2.03
600.0	1.62	304.98	599.8	4.7	-9.9	-4.2	0.07	0.05	1.93
700.0	1.75	322.83	699.8	6.8	-12.0	-6.1	0.54	0.13	17.85
800.0	1.76	321.24	799.8	9.2	-13.9	-8.4	0.05	0.01	-1.59
900.0	1.98	322.88	899.7	11.8	-15.9	-10.9	0.23	0.22	1.64
1,000.0	2.50	305.96	999.6	14.4	-18.7	-13.4	0.84	0.52	-16.92
1,100.0	2.49	303.74	1,099.5	16.9	-22.2	-15.7	0.10	-0.01	-2.22

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Design:	Wellbore #1	Database:	EDM 2003.16 Single User Db

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
1,200.0	1.93	5.13	1,199.5	19.8	-23.9	-18.4	2.31	-0.56	61.39
1,300.0	2.30	33.73	1,299.4	23.1	-22.6	-21.9	1.10	0.37	28.60
1,400.0	2.02	39.42	1,399.3	26.2	-20.4	-25.0	0.35	-0.28	5.69
1,500.0	3.32	65.18	1,499.2	28.7	-16.7	-27.8	1.74	1.30	25.76
1,600.0	4.19	74.98	1,599.0	30.9	-10.5	-30.3	1.08	0.87	9.80
1,700.0	3.82	78.68	1,698.8	32.5	-3.7	-32.3	0.45	-0.37	3.70
1,800.0	2.49	81.95	1,798.6	33.5	1.7	-33.5	1.34	-1.33	3.27
1,900.0	2.02	80.84	1,898.5	34.0	5.6	-34.3	0.47	-0.47	-1.11
2,000.0	1.55	81.49	1,998.5	34.5	8.7	-35.0	0.47	-0.47	0.65
2,100.0	1.56	78.04	2,098.5	35.0	11.4	-35.6	0.09	0.01	-3.45
2,200.0	1.25	87.13	2,198.4	35.3	13.8	-36.1	0.38	-0.31	9.09
2,300.0	1.16	84.73	2,298.4	35.5	15.9	-36.3	0.10	-0.09	-2.40
2,400.0	1.08	85.08	2,398.4	35.7	17.8	-36.6	0.08	-0.08	0.35
2,500.0	0.85	96.68	2,498.4	35.7	19.5	-36.7	0.30	-0.23	11.60
2,600.0	0.73	116.85	2,598.4	35.3	20.8	-36.4	0.30	-0.12	20.17
2,700.0	0.56	124.58	2,698.4	34.7	21.8	-35.9	0.19	-0.17	7.73
2,720.0	0.74	118.76	2,718.4	34.6	22.0	-35.8	0.96	0.90	-29.10
Last GYRO Survey									
2,798.0	3.20	176.10	2,796.3	32.2	22.6	-33.4	3.68	3.15	73.51
First MWD Survey									
2,830.0	12.60	166.50	2,828.0	27.9	23.4	-29.1	29.56	29.37	-30.00
2,862.0	23.60	170.20	2,858.3	18.2	25.3	-19.5	34.55	34.37	11.56
2,895.0	32.20	175.60	2,887.5	2.9	27.1	-4.3	27.14	26.06	16.36
2,927.0	38.90	172.70	2,913.5	-15.6	29.1	14.0	21.59	20.94	-9.06
2,959.0	45.20	181.30	2,937.3	-37.0	30.1	35.3	26.64	19.69	26.87
2,991.0	52.90	188.80	2,958.2	-61.0	27.9	59.4	29.84	24.06	23.44
3,022.0	58.00	180.80	2,975.8	-86.4	25.8	84.9	26.86	16.45	-25.81
3,054.0	63.10	190.00	2,991.6	-114.1	23.1	112.7	29.66	15.94	28.75
3,085.0	69.40	189.30	3,004.1	-142.1	18.4	140.8	20.43	20.32	-2.26
3,116.0	74.70	188.40	3,013.6	-171.2	13.9	170.2	17.32	17.10	-2.90
3,147.0	82.90	184.00	3,019.6	-201.4	10.6	200.5	29.89	26.45	-14.19
3,176.0	83.10	186.40	3,023.2	-230.0	8.0	229.3	8.24	0.69	8.28
3,207.0	88.00	184.30	3,025.6	-260.8	5.1	260.1	17.19	15.81	-6.77
3,237.0	92.90	183.80	3,025.3	-290.7	3.0	290.1	16.42	16.33	-1.67
3,267.0	93.50	182.70	3,023.7	-320.6	1.3	320.1	4.17	2.00	-3.67
3,298.0	92.60	182.80	3,022.0	-351.6	-0.2	351.0	2.92	-2.90	0.32
3,327.0	93.10	182.60	3,020.6	-380.5	-1.6	380.0	1.86	1.72	-0.69
3,357.0	92.50	182.50	3,019.1	-410.4	-2.9	410.0	2.03	-2.00	-0.33
3,388.0	93.20	182.40	3,017.6	-441.3	-4.2	440.9	2.28	2.26	-0.32
3,418.0	91.10	181.80	3,016.4	-471.3	-5.3	470.9	7.28	-7.00	-2.00
3,448.0	88.80	181.80	3,016.5	-501.3	-6.3	500.9	7.67	-7.67	0.00
3,478.0	87.80	181.90	3,017.4	-531.3	-7.2	530.9	3.35	-3.33	0.33
3,509.0	88.20	181.90	3,018.4	-562.2	-8.3	561.8	1.29	1.29	0.00
3,539.0	88.40	181.70	3,019.3	-592.2	-9.2	591.8	0.94	0.67	-0.67
3,569.0	89.00	182.10	3,020.0	-622.2	-10.2	621.8	2.40	2.00	1.33
3,598.0	88.20	181.10	3,020.7	-651.2	-11.0	650.8	4.42	-2.76	-3.45
3,629.0	88.00	180.90	3,021.8	-682.1	-11.5	681.7	0.91	-0.65	-0.65
3,659.0	87.40	180.70	3,023.0	-712.1	-12.0	711.7	2.11	-2.00	-0.67
3,689.0	88.60	181.10	3,024.0	-742.1	-12.4	741.6	4.22	4.00	1.33
3,719.0	90.00	180.60	3,024.4	-772.1	-12.9	771.6	4.96	4.67	-1.67
3,750.0	90.60	180.00	3,024.2	-803.1	-13.0	802.6	2.74	1.94	-1.94
3,780.0	90.70	179.70	3,023.9	-833.1	-13.0	832.5	1.05	0.33	-1.00
3,810.0	89.50	179.00	3,023.8	-863.1	-12.6	862.5	4.63	-4.00	-2.33
3,841.0	89.40	178.70	3,024.1	-894.1	-12.0	893.4	1.02	-0.32	-0.97

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3,871.0	89.50	178.50	3,024.4	-924.0	-11.3	923.3	0.75	0.33	-0.67
3,901.0	89.90	178.70	3,024.6	-954.0	-10.5	953.2	1.49	1.33	0.67
3,931.0	91.30	179.30	3,024.2	-984.0	-10.0	983.1	5.08	4.67	2.00
3,962.0	91.30	179.60	3,023.5	-1,015.0	-9.7	1,014.0	0.97	0.00	0.97
4,022.0	90.40	178.90	3,022.6	-1,075.0	-8.9	1,073.9	1.90	-1.50	-1.17
4,053.0	90.20	178.20	3,022.5	-1,106.0	-8.1	1,104.8	2.35	-0.65	-2.26
4,083.0	90.00	177.60	3,022.4	-1,136.0	-7.0	1,134.6	2.11	-0.67	-2.00
4,114.0	90.20	177.90	3,022.4	-1,167.0	-5.8	1,165.5	1.16	0.65	0.97
4,144.0	90.00	179.20	3,022.3	-1,196.9	-5.1	1,195.4	4.38	-0.67	4.33
4,175.0	89.90	180.10	3,022.4	-1,227.9	-4.9	1,226.4	2.92	-0.32	2.90
4,206.0	90.00	179.60	3,022.4	-1,258.9	-4.8	1,257.3	1.64	0.32	-1.61
4,267.0	89.70	180.60	3,022.5	-1,319.9	-4.9	1,318.2	1.71	-0.49	1.64
4,297.0	89.70	180.70	3,022.7	-1,349.9	-5.2	1,348.2	0.33	0.00	0.33
4,328.0	89.50	181.20	3,022.9	-1,380.9	-5.8	1,379.2	1.74	-0.65	1.61
4,360.0	89.70	181.30	3,023.1	-1,412.9	-6.5	1,411.1	0.70	0.62	0.31
4,391.0	89.90	182.10	3,023.2	-1,443.9	-7.4	1,442.1	2.66	0.65	2.58
4,423.0	90.20	182.10	3,023.2	-1,475.9	-8.6	1,474.1	0.94	0.94	0.00
4,454.0	90.20	182.40	3,023.1	-1,506.9	-9.8	1,505.1	0.97	0.00	0.97
4,486.0	89.80	183.30	3,023.1	-1,538.8	-11.4	1,537.1	3.08	-1.25	2.81
4,517.0	89.80	183.10	3,023.2	-1,569.8	-13.1	1,568.1	0.65	0.00	-0.65
4,549.0	90.40	184.60	3,023.2	-1,601.7	-15.2	1,600.1	5.05	1.87	4.69
4,580.0	91.60	185.20	3,022.6	-1,632.6	-17.9	1,631.1	4.33	3.87	1.94
4,612.0	91.40	185.50	3,021.8	-1,664.4	-20.9	1,663.1	1.13	-0.62	0.94
4,644.0	89.80	186.10	3,021.4	-1,696.3	-24.1	1,695.0	5.34	-5.00	1.87
4,676.0	90.00	186.20	3,021.5	-1,728.1	-27.5	1,727.0	0.70	0.62	0.31
4,708.0	90.10	186.10	3,021.5	-1,759.9	-31.0	1,758.9	0.44	0.31	-0.31
4,740.0	90.10	186.10	3,021.4	-1,791.7	-34.4	1,790.9	0.00	0.00	0.00
4,771.0	90.20	186.10	3,021.3	-1,822.5	-37.7	1,821.9	0.32	0.32	0.00
4,803.0	89.90	185.90	3,021.3	-1,854.4	-41.0	1,853.8	1.13	-0.94	-0.62
4,835.0	90.20	186.20	3,021.3	-1,886.2	-44.4	1,885.8	1.33	0.94	0.94
4,867.0	90.30	187.10	3,021.1	-1,918.0	-48.1	1,917.7	2.83	0.31	2.81
4,898.0	89.90	186.00	3,021.1	-1,948.8	-51.6	1,948.7	3.78	-1.29	-3.55
4,930.0	89.30	185.80	3,021.3	-1,980.6	-54.9	1,980.6	1.98	-1.87	-0.62
4,962.0	89.30	186.10	3,021.7	-2,012.4	-58.2	2,012.6	0.94	0.00	0.94
4,993.0	90.60	187.20	3,021.7	-2,043.2	-61.8	2,043.5	5.49	4.19	3.55
5,025.0	90.70	187.20	3,021.4	-2,075.0	-65.8	2,075.4	0.31	0.31	0.00
5,057.0	90.20	186.10	3,021.1	-2,106.7	-69.5	2,107.4	3.78	-1.56	-3.44
5,088.0	90.10	186.00	3,021.0	-2,137.6	-72.8	2,138.3	0.46	-0.32	-0.32
5,119.0	90.30	186.20	3,020.9	-2,168.4	-76.1	2,169.3	0.91	0.65	0.65
5,151.0	90.00	185.90	3,020.8	-2,200.2	-79.5	2,201.3	1.33	-0.94	-0.94
5,183.0	90.30	185.60	3,020.8	-2,232.1	-82.7	2,233.2	1.33	0.94	-0.94
5,214.0	90.10	185.70	3,020.7	-2,262.9	-85.7	2,264.2	0.72	-0.65	0.32
5,246.0	90.50	185.80	3,020.5	-2,294.7	-88.9	2,296.2	1.29	1.25	0.31
5,276.0	91.40	186.60	3,020.0	-2,324.6	-92.2	2,326.1	4.01	3.00	2.67
5,308.0	91.70	186.50	3,019.1	-2,356.3	-95.8	2,358.0	0.99	0.94	-0.31
5,339.0	92.10	187.10	3,018.1	-2,387.1	-99.5	2,389.0	2.33	1.29	1.94
5,371.0	91.70	187.80	3,017.0	-2,418.8	-103.6	2,420.9	2.52	-1.25	2.19
5,403.0	92.00	187.90	3,016.0	-2,450.5	-108.0	2,452.7	0.99	0.94	0.31
5,434.0	91.60	188.00	3,015.0	-2,481.2	-112.3	2,483.6	1.33	-1.29	0.32
5,466.0	90.50	187.70	3,014.4	-2,512.9	-116.6	2,515.5	3.56	-3.44	-0.94
5,498.0	90.80	187.80	3,014.1	-2,544.6	-121.0	2,547.4	0.99	0.94	0.31
5,529.0	90.40	187.80	3,013.8	-2,575.3	-125.2	2,578.3	1.29	-1.29	0.00
5,561.0	89.10	188.40	3,013.9	-2,607.0	-129.7	2,610.2	4.47	-4.06	1.87
5,593.0	89.50	188.40	3,014.3	-2,638.6	-134.4	2,642.0	1.25	1.25	0.00

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5,624.0	89.60	188.20	3,014.5	-2,669.3	-138.8	2,672.9	0.72	0.32	-0.65
5,656.0	89.70	188.10	3,014.7	-2,701.0	-143.4	2,704.8	0.44	0.31	-0.31
5,687.0	89.90	187.90	3,014.8	-2,731.7	-147.7	2,735.7	0.91	0.65	-0.65
5,719.0	90.00	187.10	3,014.9	-2,763.4	-151.9	2,767.6	2.52	0.31	-2.50
5,750.0	90.30	186.10	3,014.8	-2,794.2	-155.4	2,798.5	3.37	0.97	-3.23
5,781.0	89.90	186.80	3,014.7	-2,825.0	-158.9	2,829.5	2.60	-1.29	2.26
5,812.0	89.02	185.60	3,015.0	-2,855.8	-162.2	2,860.4	4.80	-2.84	-3.87
5,844.0	88.60	185.50	3,015.7	-2,887.7	-165.3	2,892.4	1.35	-1.31	-0.31
5,875.0	88.70	185.70	3,016.4	-2,918.5	-168.4	2,923.4	0.72	0.32	0.65
5,906.0	88.90	185.70	3,017.1	-2,949.4	-171.4	2,954.3	0.65	0.65	0.00
5,937.0	88.70	185.20	3,017.7	-2,980.2	-174.4	2,985.3	1.74	-0.65	-1.61
5,969.0	89.20	183.80	3,018.3	-3,012.1	-176.9	3,017.3	4.64	1.56	-4.37
6,000.0	90.40	182.60	3,018.4	-3,043.1	-178.6	3,048.3	5.47	3.87	-3.87
6,032.0	90.60	182.90	3,018.1	-3,075.0	-180.2	3,080.3	1.13	0.62	0.94
6,064.0	90.50	182.90	3,017.8	-3,107.0	-181.8	3,112.3	0.31	-0.31	0.00
6,095.0	90.60	182.90	3,017.5	-3,137.9	-183.4	3,143.3	0.32	0.32	0.00
6,127.0	90.50	182.40	3,017.2	-3,169.9	-184.8	3,175.3	1.59	-0.31	-1.56
6,158.0	90.60	183.10	3,016.9	-3,200.9	-186.3	3,206.3	2.28	0.32	2.26
6,190.0	90.60	183.30	3,016.6	-3,232.8	-188.1	3,238.3	0.62	0.00	0.62
6,222.0	90.90	183.50	3,016.2	-3,264.7	-190.0	3,270.3	1.13	0.94	0.62
6,254.0	90.80	183.20	3,015.7	-3,296.7	-191.9	3,302.3	0.99	-0.31	-0.94
6,285.0	89.80	182.60	3,015.5	-3,327.6	-193.4	3,333.2	3.76	-3.23	-1.94
6,317.0	89.80	182.60	3,015.6	-3,359.6	-194.9	3,365.2	0.00	0.00	0.00
6,349.0	90.20	182.60	3,015.6	-3,391.6	-196.3	3,397.2	1.25	1.25	0.00
6,380.0	88.70	181.90	3,015.9	-3,422.6	-197.6	3,428.2	5.34	-4.84	-2.26
6,412.0	87.80	180.80	3,016.9	-3,454.5	-198.3	3,460.2	4.44	-2.81	-3.44
6,444.0	87.40	180.70	3,018.2	-3,486.5	-198.7	3,492.2	1.29	-1.25	-0.31
6,475.0	87.60	180.70	3,019.6	-3,517.5	-199.1	3,523.1	0.65	0.65	0.00
6,507.0	87.70	180.40	3,020.9	-3,549.4	-199.4	3,555.0	0.99	0.31	-0.94
6,538.0	87.80	179.90	3,022.1	-3,580.4	-199.5	3,586.0	1.64	0.32	-1.61
6,570.0	87.60	179.60	3,023.4	-3,612.4	-199.4	3,617.9	1.13	-0.62	-0.94
6,601.0	87.80	179.70	3,024.7	-3,643.4	-199.2	3,648.8	0.72	0.65	0.32
6,633.0	88.10	180.20	3,025.8	-3,675.3	-199.1	3,680.7	1.82	0.94	1.56
6,668.0	88.60	180.70	3,026.8	-3,710.3	-199.4	3,715.7	2.02	1.43	1.43
6,696.0	89.90	181.10	3,027.2	-3,738.3	-199.9	3,743.7	4.86	4.64	1.43
6,728.0	89.90	181.00	3,027.2	-3,770.3	-200.4	3,775.6	0.31	0.00	-0.31
6,759.0	89.90	181.10	3,027.3	-3,801.3	-201.0	3,806.6	0.32	0.00	0.32
6,791.0	90.20	181.20	3,027.3	-3,833.3	-201.7	3,838.6	0.99	0.94	0.31
6,823.0	90.80	181.40	3,027.0	-3,865.3	-202.4	3,870.6	1.98	1.87	0.62
6,855.0	90.70	181.40	3,026.6	-3,897.3	-203.2	3,902.6	0.31	-0.31	0.00
6,886.0	90.70	181.60	3,026.2	-3,928.3	-204.0	3,933.5	0.65	0.00	0.65
6,918.0	90.20	181.60	3,025.9	-3,960.3	-204.9	3,965.5	1.56	-1.56	0.00
6,949.0	89.70	181.70	3,026.0	-3,991.2	-205.8	3,996.5	1.64	-1.61	0.32
6,981.0	90.00	181.30	3,026.0	-4,023.2	-206.6	4,028.5	1.56	0.94	-1.25
7,013.0	89.80	181.90	3,026.1	-4,055.2	-207.5	4,060.5	1.98	-0.62	1.87
7,044.0	89.70	183.30	3,026.2	-4,086.2	-208.9	4,091.5	4.53	-0.32	4.52
7,076.0	90.50	180.70	3,026.2	-4,118.2	-210.0	4,123.5	8.50	2.50	-8.12
7,108.0	91.20	182.90	3,025.7	-4,150.1	-211.0	4,155.5	7.21	2.19	6.87
7,139.0	92.50	185.70	3,024.7	-4,181.0	-213.3	4,186.4	9.95	4.19	9.03
7,171.0	91.40	182.90	3,023.6	-4,212.9	-215.7	4,218.4	9.40	-3.44	-8.75
7,208.0	91.50	182.30	3,022.7	-4,249.9	-217.4	4,255.4	1.64	0.27	-1.62
7,234.0	91.70	183.10	3,022.0	-4,275.8	-218.6	4,281.4	3.17	0.77	3.08
7,297.0	91.50	177.20	3,020.2	-4,338.8	-218.8	4,344.2	9.37	-0.32	-9.37

Last MWD Survey

Quantum Drilling Motors

Survey Report

Company:	Cimarex Energy Co.	Local Co-ordinate Reference:	Well White City 14 Federal #7
Project:	Eddy County (NM83E)	TVD Reference:	WELL @ 0.0ft (Original Well Elev)
Site:	Sec 14-T25S-R26E	MD Reference:	WELL @ 0.0ft (Original Well Elev)
Well:	White City 14 Federal #7	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 2003.16 Single User Db

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
7,335.0	91.50	177.20	3,019.2	-4,376.7	-216.9	4,382.0	0.00	0.00	0.00
Proj to TD - PBHL White City 14 Federal #7									

Targets

Target Name

- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- Shape									
PBHL White City 14 F	0.00	359.97	3,013.0	-4,635.4	-255.4	408,704.56	564,659.20	32° 7' 24.908 N	104° 15' 28.793 W
- survey misses by 261.6ft at 7335.0ft MD (3019.2 TVD, -4376.7 N, -216.9 E)									
- Point									

Survey Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
100.0	100.0	-0.4	0.2	First GYRO Survey
2,720.0	2,718.4	34.6	22.0	Last GYRO Survey
2,798.0	2,796.3	32.2	22.6	First MWD Survey
7,297.0	3,020.2	-4,338.8	-218.8	Last MWD Survey
7,335.0	3,019.2	-4,376.7	-216.9	Proj to TD

Checked By: _____ Approved By: _____ Date: _____

Cimarex Energy Co.

Project: Eddy County (NM83E)
Site: Sec 14-T25S-R26E
Well: White City 14 Federal #7
Wellbore: Wellbore #1
Design: 05-15-09
Plan Version

WELL DETAILS: White City 14 Federal #7

+N/-SE/-W Northing Easting Latitude Longitude
0.0 0.0 413339.97 564914.60 32° 8' 10.779 N 104° 15' 25.784 W

GL: 3265.0' KB ELEV: 3282.0'



Azimuths to Grid North
Total Correction: 8.14°

Magnetic Field
Strength 48792.3nT
Dip Angle 60.06°
Date 2008/11/24
Model: IGRF200510

WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting
PBHL White City 14 Federal #7	3013.0	-4635.4	-255.4	408704.56	564659.20

PLAN DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
2720.0	0.74	118.76	2718.4	34.6	22.0	0.00	0.00	-35.8	
2801.8	0.74	118.76	2800.1	34.1	22.9	0.00	0.00	-35.3	
3161.3	90.20	183.45	3028.0	-195.6	11.7	25.00	64.69	194.6	
7609.1	90.19	183.44	3013.0	-4635.4	-255.4	0.00	-134.07	4642.4	PBHL White City 14 Federal #7

ANNOTATIONS

TVD	MD	Annotation
2718.4	2720.0	Tie onto GYRO / Begin Hold
2800.1	2801.8	KOP - 25/100 @ 183.45 AZI
3028.0	3161.3	EOC - Hold to TD
3013.0	7609.2	TD at 7609.2

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
		Cherry Canyon K
		TVD HARDLINE
2854.0	2856.2	Cherry Canyon
2915.0	2922.3	Cherry Canyon M
2993.0	3032.1	Cherry Canyon M3

