



Cimarex Energy Co., Inc.

Eddy Co., New Mexico

McGruder 13 Federal #3

McGruder 13 Federal #3

Plan #1

Survey: MWD Survey #1

Standard Survey Report

01 January, 2006





Black Viper Energy Services Survey Report



Company:	Cimarex Energy Co., Inc.	Local Co-ordinate Reference:	Well McGruder 13 Federal #3
Project:	Eddy Co. New Mexico	TVD Reference:	WELL @ 0.00ft (Original Well Elev)
Site:	McGruder 13 Federal #3	MB Reference:	WELL @ 0.00ft (Original Well Elev)
Well:	McGruder 13 Federal #3	North Reference:	Grid
Wellbore:	Plan #1	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	EDM 2003.11 Single User Db

Project:	Eddy Co. New Mexico		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Ground Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site:	McGruder 13 Federal #3			
Site Position:		Northing:	505,956.10 ft	Latitude: 32° 23' 27.538" N
From:	Map	Easting:	492,734.70 ft	Longitude: 104° 21' 24.746" W
Position Uncertainty:	0.00 ft	Slot Radius:	"	Grid Convergence: -0.01 °

Well:	McGruder 13 Federal #3			
Well Position	+N-S	0.00 ft	Northing:	505,956.10 ft
	+E-W	0.00 ft	Easting:	492,734.70 ft
Position Uncertainty	0.00 ft	Wellhead Elevation:	ft	Ground Level: 0.00 ft

Wellbore:	Plan #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	12/31/2005	8.59	60.33	49,210

Design:	Plan #1			
Audit Notes:				
Version:	1.0	Phase:	ACTUAL	Tie On Depth: 6,131.00
Vertical Section:	Depth From (TVD)	+N-S	+E-W	Direction
	(ft)	(ft)	(ft)	(°)
	0.00	0.00	0.00	52.38

Survey Program	Date: 1/1/2006			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
100.00	6,131.00	Gyro Survey #1 (OH)	GM	Gyro Multi-Shot
6,196.00	11,775.00	MWD Survey #1 (Plan #1)	MWD	Standard MWD

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)	
6,131.00	0.54	347.15	6,130.22	30.93	-37.69	-10.97	0.00	0.00	0.00	
6,196.00	0.70	10.40	6,195.21	31.62	-37.69	-10.55	0.45	0.25	35.77	
First MWD Survey										
6,260.00	1.10	43.80	6,259.21	32.45	-37.19	-9.65	1.01	0.63	52.19	
6,323.00	2.60	48.10	6,322.17	33.84	-35.71	-7.63	2.39	2.38	6.83	
6,387.00	3.80	48.30	6,386.07	36.22	-33.05	-4.06	1.88	1.88	0.31	
6,451.00	4.90	51.30	6,449.89	39.34	-29.33	0.78	1.75	1.72	4.69	
6,514.00	5.20	51.20	6,512.64	42.81	-25.00	6.33	0.48	0.48	-0.16	
6,578.00	6.70	52.20	6,576.29	46.92	-19.79	12.96	2.35	2.34	1.56	
6,672.00	6.60	52.00	6,669.66	53.61	-11.20	23.85	0.11	-0.11	-0.21	
6,737.00	8.10	53.40	6,734.13	58.64	-4.58	32.16	2.32	2.31	2.15	
6,800.00	9.70	51.40	6,796.37	64.59	3.13	41.91	2.59	2.54	-3.17	



Black Viper Energy Services

Survey Report



Company	Cimarex Energy Co., Inc.	Local Co-ordinate Reference	Well	McGruder 13 Federal #3
Project	Eddy Co., New Mexico	TVD Reference	WELL @ 0.00ft (Original Well Elev)	
Site	McGruder 13 Federal #3	MD Reference	WELL @ 0.00ft (Original Well Elev)	
Well	McGruder 13 Federal #3	North Reference	Grid	
Wellbore	Plan #1	Survey Calculation Method	Minimum Curvature	
Design	Plan #1	Database	EDM 2003.11 Single User Db	

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)
6,863.00	11.70	51.30	6,858.27	71.90	12.26	53.60	3.17	3.17	-0.16
6,927.00	13.10	52.80	6,920.77	80.34	23.10	67.34	2.24	2.19	2.34
6,991.00	14.60	53.70	6,982.91	89.50	35.38	82.66	2.37	2.34	1.41
7,084.00	19.30	53.60	7,071.84	105.57	57.21	109.76	5.05	5.05	-0.11
7,149.00	18.90	54.20	7,133.27	118.10	74.40	131.02	0.69	-0.62	0.92
7,181.00	19.10	54.40	7,163.52	124.18	82.86	141.43	0.66	0.63	0.63
7,212.00	18.80	54.20	7,192.84	130.06	91.03	151.49	0.99	-0.97	-0.65
7,244.00	18.20	55.80	7,223.19	135.88	99.35	161.64	2.46	-1.88	5.00
7,276.00	18.60	56.40	7,253.55	141.52	107.73	171.72	1.38	1.25	1.88
7,308.00	19.20	56.60	7,283.83	147.24	116.37	182.05	1.89	1.88	0.63
7,339.00	20.10	54.60	7,313.02	153.13	124.97	192.46	3.62	2.90	-6.45
7,371.00	21.00	54.30	7,342.99	159.66	134.11	203.69	2.83	2.81	-0.94
7,403.00	21.50	54.10	7,372.81	166.44	143.52	215.28	1.58	1.56	-0.63
7,435.00	22.30	55.40	7,402.50	173.33	153.27	227.20	2.92	2.50	4.06
7,467.00	23.00	56.90	7,432.03	180.19	163.50	239.50	2.84	2.19	4.69
7,499.00	22.60	57.20	7,461.53	186.94	173.91	251.86	1.30	-1.25	0.94
7,530.00	22.30	57.80	7,490.18	193.30	183.89	263.65	1.22	-0.97	1.94
7,562.00	22.30	58.00	7,519.79	199.75	194.18	275.73	0.24	0.00	0.63
7,594.00	22.60	57.90	7,549.36	206.24	204.53	287.90	0.95	0.94	-0.31
7,626.00	22.70	57.40	7,578.90	212.83	214.94	300.17	0.68	0.31	-1.56
7,658.00	21.50	56.60	7,608.55	219.47	224.98	312.17	4.31	-3.75	-5.63
7,690.00	20.70	52.30	7,638.40	226.24	234.30	323.69	4.47	-2.50	-10.31
7,721.00	20.80	52.10	7,667.39	232.97	242.98	334.67	0.40	0.32	-0.65
7,753.00	20.40	54.30	7,697.34	239.72	251.99	345.92	2.72	-1.25	6.88
7,785.00	20.80	54.90	7,727.30	246.24	261.17	357.17	1.41	1.25	1.88
7,817.00	21.20	54.90	7,757.17	252.83	270.55	368.63	1.25	1.25	0.00
7,849.00	21.50	56.60	7,786.98	259.39	280.18	380.26	2.15	0.94	5.31
7,880.00	21.90	55.70	7,815.78	265.77	289.70	391.70	1.68	1.29	-2.90
7,912.00	21.50	55.40	7,845.51	272.47	299.45	403.51	1.30	-1.25	-0.94
7,944.00	21.20	55.50	7,875.32	279.07	309.05	415.14	0.94	-0.94	0.31
7,976.00	21.50	56.10	7,905.12	285.62	318.69	426.77	1.16	0.94	1.88
8,008.00	22.10	56.30	7,934.83	292.23	328.56	438.63	1.89	1.88	0.63
8,040.00	21.10	56.50	7,964.58	298.75	338.37	450.38	3.13	-3.13	0.63
8,071.00	20.70	56.50	7,993.54	304.86	347.59	461.41	1.29	-1.29	0.00
8,103.00	21.60	55.60	8,023.39	311.30	357.17	472.93	2.99	2.81	-2.81
8,135.00	22.20	54.90	8,053.08	318.11	366.98	484.85	2.04	1.88	-2.19
8,167.00	22.60	54.90	8,082.66	325.12	376.95	497.04	1.25	1.25	0.00
8,198.00	21.80	54.60	8,111.37	331.88	386.52	508.74	2.61	-2.58	-0.97
8,230.00	21.50	55.00	8,141.11	338.69	396.17	520.53	1.04	-0.94	1.25
8,262.00	21.80	54.40	8,170.85	345.51	405.80	532.33	1.17	0.94	-1.88
8,294.00	21.40	54.50	8,200.60	352.36	415.38	544.10	1.26	-1.25	0.31
8,326.00	20.10	54.90	8,230.53	358.91	424.64	555.43	4.09	-4.06	1.25
8,358.00	17.90	56.90	8,260.78	364.76	433.26	565.83	7.17	-6.88	6.25
8,389.00	17.40	57.90	8,290.32	369.82	441.17	575.19	1.89	-1.61	3.23
8,421.00	17.60	57.20	8,320.84	374.99	449.29	584.77	0.91	0.63	-2.19
8,458.00	17.80	56.10	8,356.09	381.17	458.69	595.99	1.05	0.54	-2.97
8,488.00	18.20	54.00	8,384.62	386.48	466.29	605.25	2.54	1.33	-7.00
8,520.00	17.90	52.10	8,415.05	392.44	474.21	615.16	2.06	-0.94	-5.94
8,552.00	17.10	52.00	8,445.57	398.36	481.80	624.79	2.50	-2.50	-0.31
8,583.00	17.30	50.90	8,475.18	404.07	488.97	633.95	1.23	0.65	-3.55
8,615.00	17.90	51.40	8,505.68	410.14	496.50	643.62	1.93	1.88	1.56
8,647.00	18.20	53.60	8,536.11	416.17	504.37	653.54	2.33	0.94	6.88
8,677.00	19.00	52.80	8,564.54	421.91	512.03	663.11	2.80	2.67	-2.67
8,709.00	19.40	52.30	8,594.76	428.30	520.38	673.63	1.35	1.25	-1.56



Black Viper Energy Services
Survey Report



Company	Cimarex Energy Co., Inc.	Local Co-ordinate Reference	Well McGruder 13 Federal #3
Project	Eddy Co., New Mexico	TVD Reference	WELL @ 0.00ft (Original Well Elev)
Site	McGruder 13 Federal #3	MD Reference	WELL @ 0.00ft (Original Well Elev)
Well	McGruder 13 Federal #3	North Reference	Grid
Wellbore	Plan #1	Survey Calculation Method	Minimum Curvature
Design	Plan #1	Database	EDM 2003.11 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)
8,740.00	18.80	52.80	8,624.05	434.47	528.43	683.77	2.01	-1.94	1.61
8,772.00	18.70	53.60	8,654.36	440.63	536.67	694.06	0.86	-0.31	2.50
8,804.00	18.10	54.10	8,684.72	446.59	544.83	704.15	1.94	-1.88	1.56
8,836.00	18.20	54.30	8,715.13	452.42	552.91	714.12	0.37	0.31	0.63
8,868.00	19.00	52.90	8,745.46	458.48	561.12	724.32	2.86	2.50	-4.38
8,900.00	19.50	50.30	8,775.67	465.04	569.39	734.87	3.10	1.56	-8.13
8,932.00	20.80	47.40	8,805.71	472.29	577.68	745.87	5.12	4.06	-9.06
8,964.00	21.80	46.20	8,835.52	480.25	586.15	757.43	3.41	3.13	-3.75
8,996.00	22.20	46.70	8,865.19	488.51	594.84	769.36	1.38	1.25	1.56
9,027.00	21.20	48.90	8,894.00	496.21	603.33	780.78	4.16	-3.23	7.10
9,059.00	21.90	50.60	8,923.76	503.81	612.30	792.52	2.93	2.19	5.31
9,091.00	21.80	52.10	8,953.46	511.24	621.60	804.43	1.77	-0.31	4.69
9,123.00	21.90	54.40	8,983.16	518.37	631.14	816.33	2.69	0.31	7.19
9,154.00	22.40	55.70	9,011.87	525.06	640.72	828.01	2.26	1.61	4.19
9,186.00	22.10	55.70	9,041.49	531.89	650.73	840.11	0.94	-0.94	0.00
9,218.00	21.00	56.00	9,071.25	538.49	660.46	851.84	3.45	-3.44	0.94
9,250.00	19.80	56.50	9,101.25	544.69	669.73	862.97	3.79	-3.75	1.56
9,282.00	19.30	58.60	9,131.40	550.43	678.76	873.63	2.69	-1.56	6.56
9,314.00	19.10	59.20	9,161.62	555.87	687.77	884.08	0.88	-0.63	1.88
9,346.00	19.10	56.50	9,191.86	561.44	696.64	894.51	2.76	0.00	-8.44
9,377.00	18.50	53.10	9,221.21	567.19	704.80	904.48	4.03	-1.94	-10.97
9,409.00	19.00	50.50	9,251.51	573.55	712.88	914.77	3.04	1.56	-8.13
9,441.00	20.10	51.60	9,281.67	580.28	721.21	925.47	3.62	3.44	3.44
9,473.00	20.00	53.00	9,311.73	586.99	729.89	936.44	1.53	-0.31	4.38
9,504.00	19.20	54.60	9,340.93	593.14	738.28	946.84	3.11	-2.58	5.16
9,535.00	19.70	55.50	9,370.16	599.05	746.74	957.15	1.88	1.61	2.90
9,568.00	20.10	55.50	9,401.19	605.41	756.00	968.36	1.21	1.21	0.00
9,600.00	20.90	53.40	9,431.16	611.93	765.11	979.56	3.40	2.50	-6.56
9,632.00	20.90	53.90	9,461.06	618.69	774.30	990.97	0.56	0.00	1.56
9,664.00	20.80	54.60	9,490.96	625.35	783.55	1,002.36	0.84	-0.31	2.19
9,696.00	21.40	54.80	9,520.82	632.00	792.95	1,013.87	1.89	1.88	0.63
9,728.00	22.30	54.40	9,550.52	638.90	802.66	1,025.77	2.85	2.81	-1.25
9,759.00	22.20	56.00	9,579.21	645.60	812.29	1,037.49	1.98	-0.32	5.16
9,790.00	21.80	57.40	9,607.95	651.98	822.00	1,049.07	2.13	-1.29	4.52
9,822.00	21.80	56.50	9,637.67	658.46	831.96	1,060.91	1.04	0.00	-2.81
9,852.00	22.60	57.00	9,665.44	664.67	841.44	1,072.22	2.74	2.67	1.67
9,884.00	22.10	56.80	9,695.04	671.32	851.63	1,084.35	1.58	-1.56	-0.63
9,916.00	21.30	57.70	9,724.77	677.72	861.58	1,096.14	2.71	-2.50	2.81
9,948.00	21.40	57.30	9,754.57	683.98	871.41	1,107.74	0.55	0.31	-1.25
9,980.00	22.10	55.20	9,784.30	690.57	881.26	1,119.57	3.27	2.19	-6.56
10,012.00	22.50	53.80	9,813.90	697.62	891.15	1,131.70	2.08	1.25	-4.38
10,044.00	22.50	54.30	9,843.47	704.81	901.06	1,143.94	0.60	0.00	1.56
10,075.00	21.80	54.40	9,872.18	711.62	910.56	1,155.62	2.26	-2.26	0.32
10,107.00	21.40	55.20	9,901.93	718.41	920.18	1,167.39	1.55	-1.25	2.50
10,139.00	20.90	55.60	9,931.78	724.97	929.69	1,178.92	1.63	-1.56	1.25
10,171.00	20.70	55.10	9,961.69	731.43	939.04	1,190.27	0.84	-0.63	-1.56
10,202.00	21.90	54.30	9,990.57	737.94	948.22	1,201.52	3.98	3.87	-2.58
10,233.00	22.50	55.10	10,019.27	744.71	957.78	1,213.22	2.17	1.94	2.58
10,265.00	22.80	55.60	10,048.81	751.71	967.92	1,225.53	1.11	0.94	1.56
10,296.00	21.90	56.60	10,077.48	758.29	977.71	1,237.29	3.15	-2.90	3.23
10,328.00	21.10	57.50	10,107.25	764.67	987.55	1,248.98	2.70	-2.50	2.81
10,360.00	20.20	56.30	10,137.19	770.83	997.00	1,260.23	3.11	-2.81	-3.75
10,392.00	20.40	55.90	10,167.21	777.02	1,006.21	1,271.31	0.76	0.63	-1.25
10,423.00	21.40	55.60	10,196.17	783.25	1,015.36	1,282.35	3.24	3.23	-0.97
10,455.00	21.40	54.90	10,225.96	789.90	1,024.95	1,294.01	0.80	0.00	-2.19



Black Viper Energy Services

Survey Report



Company:	Cimarex Energy Co., Inc.	Local Co-ordinate Reference:	Well: McGruder 13 Federal #3
Project:	Eddy Co., New Mexico	TVD Reference:	WELL @ 0.00ft (Original Well Elev)
Site:	McGruder 13 Federal #3	MD Reference:	WELL @ 0.00ft (Original Well Elev)
Well:	McGruder 13 Federal #3	North Reference:	Grid
Wellbore:	Plan #1	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	EDM 2003.11 Single User Db

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)
10,487.00	22.20	54.60	10,255.67	796.76	1,034.65	1,305.88	2.52	2.50	-0.94
10,519.00	22.50	57.10	10,285.27	803.59	1,044.72	1,318.03	3.11	0.94	7.81
10,551.00	21.40	57.10	10,314.95	810.09	1,054.77	1,329.95	3.44	-3.44	0.00
10,583.00	21.10	57.10	10,344.77	816.39	1,064.50	1,341.51	0.94	-0.94	0.00
10,615.00	21.10	55.90	10,374.63	822.74	1,074.11	1,353.00	1.35	0.00	-3.75
10,646.00	21.00	54.80	10,403.56	829.07	1,083.27	1,364.12	1.31	-0.32	-3.55
10,678.00	20.30	57.10	10,433.50	835.40	1,092.61	1,375.38	3.35	-2.19	7.19
10,709.00	20.10	56.80	10,462.60	841.23	1,101.59	1,386.05	0.73	-0.65	-0.97
10,742.00	20.10	55.60	10,493.59	847.54	1,111.01	1,397.36	1.25	0.00	-3.64
10,774.00	20.20	56.30	10,523.63	853.71	1,120.14	1,408.36	0.82	0.31	2.19
10,805.00	19.60	56.70	10,552.78	859.54	1,128.94	1,418.89	1.98	-1.94	1.29
10,837.00	19.40	55.00	10,582.94	865.53	1,137.78	1,429.55	1.88	-0.63	-5.31
10,893.00	18.80	53.40	10,635.86	876.25	1,152.64	1,447.86	1.42	-1.07	-2.86
10,924.00	18.60	52.90	10,665.22	882.21	1,160.60	1,457.80	0.83	-0.65	-1.61
10,956.00	18.60	53.50	10,695.55	888.32	1,168.77	1,468.01	0.60	0.00	1.88
10,988.00	18.40	53.30	10,725.90	894.38	1,176.92	1,478.16	0.66	-0.63	-0.63
11,020.00	18.60	53.20	10,756.24	900.45	1,185.06	1,488.31	0.63	0.63	-0.31
11,052.00	18.30	54.90	10,786.60	906.40	1,193.25	1,498.43	1.92	-0.94	5.31
11,083.00	17.90	54.20	10,816.06	911.98	1,201.10	1,508.06	1.47	-1.29	-2.26
11,115.00	18.00	56.10	10,846.51	917.62	1,209.19	1,517.91	1.86	0.31	5.94
11,147.00	18.20	53.70	10,876.92	923.33	1,217.32	1,527.84	2.41	0.63	-7.50
11,179.00	17.80	55.20	10,907.36	929.08	1,225.37	1,537.72	1.91	-1.25	4.69
11,211.00	17.50	56.90	10,937.85	934.50	1,233.42	1,547.40	1.86	-0.94	5.31
11,263.00	17.60	57.80	10,987.43	942.96	1,246.62	1,563.02	0.56	0.19	1.73
11,295.00	17.10	58.20	11,017.98	948.02	1,254.71	1,572.52	1.61	-1.56	1.25
11,327.00	17.00	57.40	11,048.57	953.02	1,262.65	1,581.86	0.80	-0.31	-2.50
11,359.00	16.20	58.00	11,079.24	957.90	1,270.38	1,590.96	2.56	-2.50	1.88
11,390.00	15.10	59.50	11,109.09	962.24	1,277.52	1,599.27	3.78	-3.55	4.84
11,422.00	14.00	60.50	11,140.06	966.27	1,284.48	1,607.24	3.53	-3.44	3.13
11,453.00	13.00	59.30	11,170.20	969.89	1,290.74	1,614.41	3.35	-3.23	-3.87
11,485.00	12.40	60.50	11,201.42	973.42	1,296.83	1,621.39	2.05	-1.88	3.75
11,517.00	12.30	58.20	11,232.68	976.91	1,302.72	1,628.18	1.57	-0.31	-7.19
11,549.00	11.50	57.40	11,263.99	980.42	1,308.30	1,634.75	2.55	-2.50	-2.50
11,581.00	10.30	59.10	11,295.41	983.61	1,313.44	1,640.77	3.88	-3.75	5.31
11,613.00	10.10	59.20	11,326.91	986.52	1,318.31	1,646.39	0.63	-0.63	0.31
11,645.00	8.40	55.10	11,358.49	989.29	1,322.64	1,651.51	5.69	-5.31	-12.81
11,677.00	7.70	74.50	11,390.18	991.20	1,326.62	1,655.84	8.72	-2.19	60.63
11,709.00	6.50	81.10	11,421.94	992.06	1,330.48	1,659.41	4.53	-3.75	20.63
Last MWD Survey									
11,775.00	5.00	85.00	11,487.60	992.88	1,337.03	1,665.11	2.35	-2.27	5.91
Proj to Bit - TD									



Black Viper Energy Services
Survey Report

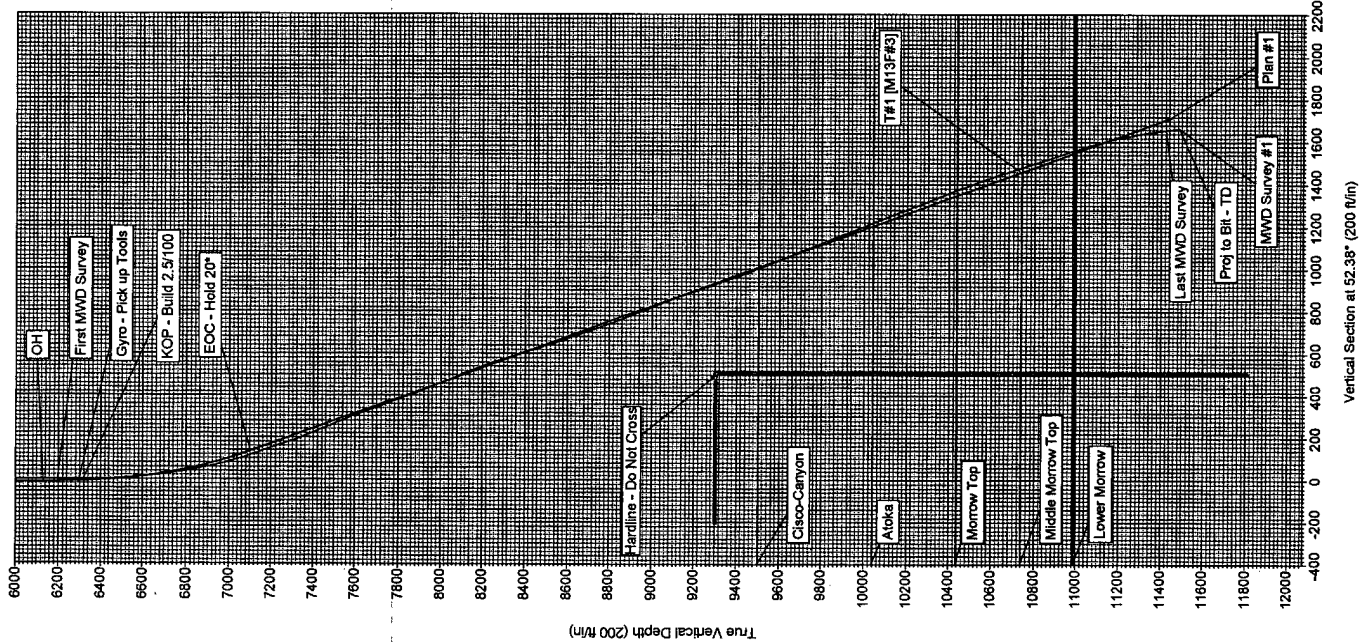


Company	Cimarex Energy Co., Inc.	Local Co-ordinate Reference	Well: McGruder 13 Federal #3
Project	Eddy Co., New Mexico	TVD Reference	WELL @ 0.00ft (Original Well Elev)
Site	McGruder 13 Federal #3	MD Reference	WELL @ 0.00ft (Original Well Elev)
Well	McGruder 13 Federal #3	North Reference	Grid
Wellbore	Plan #1	Survey Calculation Method	Minimum Curvature
Design	Plan #1	Database	EDM 2003.11 Single User Db

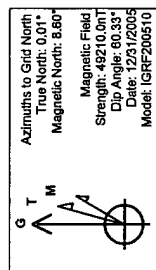
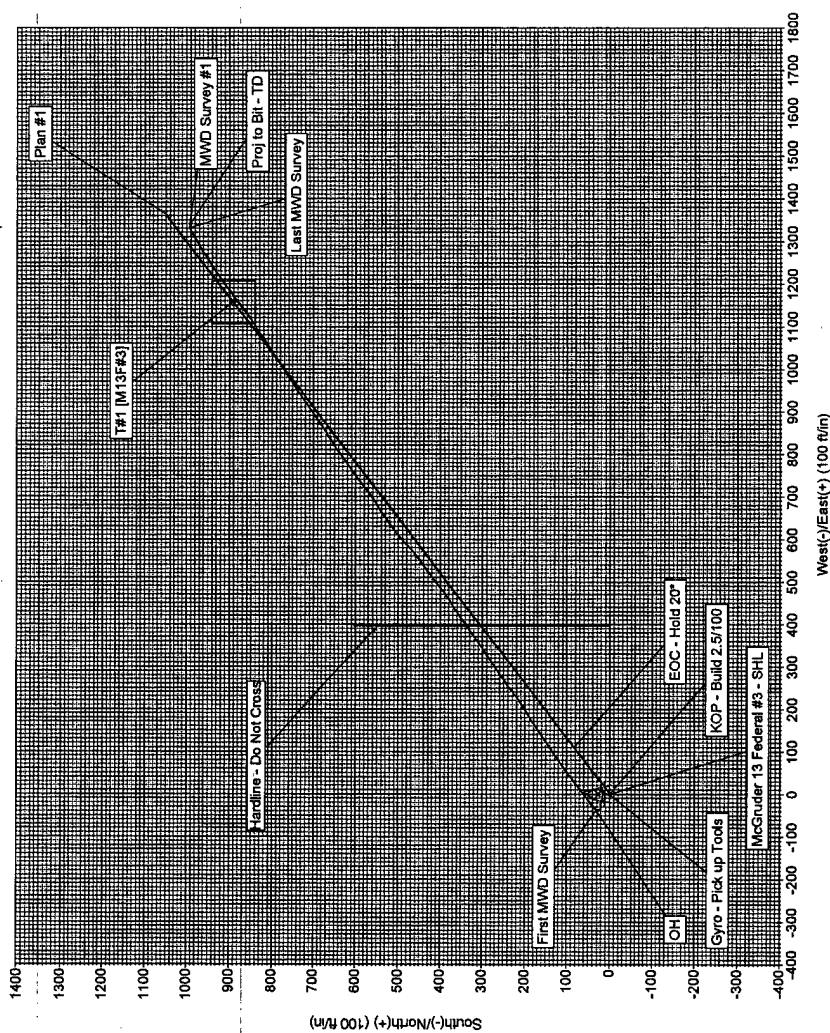
Targets									
Target Name	Hit/Miss	target	Dip Angle	Dip Dir	TVD	+N/-S	+E/-W	Northing	Easting
Shape			(°)	(°)	(ft)	ft	ft	(ft)	(ft)
Latitude Longitude									
T#1 [M3F#3]			0.00	0.00	10,736.00	891.80	1,157.00	506,847.90	493,891.70
32° 23' 36.366" N 104° 21' 11.254" W									
- survey misses by 23.08ft @ 10998.65ft MD (10736.00 TVD, 89639 N, 11702 E)									
- Rectangle (sides W100.00 H100.00 D0.00)									

Survey Annotations					
Measured Depth	Vertical Depth	Local Coordinates		Comment	
(ft)	(ft)	+N/-S	+E/-W		
		(ft)	(ft)		
6,196.00	6,195.21	31.62	-37.69	First MWD Survey	
11,709.00	11,421.94	992.06	1,330.48	Last MWD Survey	
11,775.00	11,487.60	992.88	1,337.03	Proj to Bit - TD	

Checked By: _____ Approved By: _____ Date: _____



Project: Eddy Co., New Mexico
 Site: McGruder 13 Federal #3
 Well: McGruder 13 Federal #3
 Wellbore: Plan #1
 Plan: Plan #1



Plan: Plan #1 (McGruder 13 Federal #3Plan #1)
 Created By: John Hittberg Date: 11/16/2005

ANNOTATIONS
 MD 6300.00 Gyro - Pick up Tools
 1 6300.00 Gyro - Pick up Tools
 2 6318.35 KOP - Build 2.5/100
 3 7102.21 7118.36 EOC - Hold 20°

SECTION DETAILS									
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec Target
1	6300.00	0.00	52.38	6300.00	0.00	0.00	0.00	0.00	0.00
2	6318.35	0.00	52.38	6318.35	0.00	0.00	0.00	0.00	0.00
3	7118.36	20.00	52.38	7102.21	84.38	109.47	2.50	52.38	138.21
4	10585.36	20.00	52.38	10735.00	881.80	1157.00	0.00	0.00	1480.81
5	11745.18	20.00	52.38	11450.00	1050.45	1362.93	0.00	0.00	1720.68