

Cimarex Energy Co., Inc.

Eddy Co., New Mexico

Pintail "23" Federal Com #3H

Pintail "23" Federal Com #3H

OH

30-015-36335

Survey: Gyro Survey #1

Standard Survey Report

05 September, 2008

Black Viper Energy

Survey Report

Company:	Cimarex Energy Co., Inc.	Local Co-ordinate Reference:	Well Pintail "23" Federal Com #3H
Project:	Eddy Co., New Mexico	TVD Reference:	KB Elev @ 3311.00ft (KB Elev Unit Rig #40)
Site:	Pintail "23" Federal Com #3H	MD Reference:	KB Elev @ 3311.00ft (KB Elev Unit Rig #40)
Well:	Pintail "23" Federal Com #3H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 2003.14 Server Db

Project:	Eddy Co., New Mexico		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site:	Pintail "23" Federal Com #3H		
Site Position:	From:	Map	
Position Uncertainty:	0.00 ft	Slot Radius:	"
		Northing:	406,036.10 ft
		Easting:	562,308.10 ft
		Latitude:	32° 6' 58.507 N
		Longitude:	104° 15' 56.166 W
		Grid Convergence:	0.04 °

Well:	Pintail "23" Federal Com #3H, Sec 23, T-25-S, R-26-E		
Well Position:	+N/-S	0.00 ft	Northing:
	+E/-W	0.00 ft	Easting:
Position Uncertainty:	0.00 ft	Wellhead Elevation:	3,311.00 ft
		Ground Level:	3,291.00 ft
		Latitude:	32° 6' 58.507 N
		Longitude:	104° 15' 56.166 W

Wellbore:	OH		
Magnetics:	Model Name	Sample Date	Declination
	IGRF200510	8/16/2008	8.22
			60.04
			48,780

Design:	OH		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(ft)	(ft)	(ft)
	0.00	0.00	0.00
			53.34

Survey Program	Date: 8/17/2008		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name
100.00	2,710.00	Gyro Survey #1 (OH)	NS-GYRO-MS
			Description
			North sensing gyrocompassing m/s

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)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.35	46.72	100.00	0.21	0.22	0.30	0.35	0.35	0.00
200.00	0.42	31.67	200.00	0.73	0.64	0.95	0.12	0.07	-15.05
300.00	0.44	1.72	299.99	1.43	0.84	1.53	0.22	0.02	-29.95
400.00	0.38	353.16	399.99	2.14	0.81	1.93	0.09	-0.06	-8.56
500.00	0.24	343.19	499.99	2.67	0.71	2.17	0.15	-0.14	-9.97
600.00	0.32	335.33	599.99	3.12	0.54	2.29	0.09	0.08	-7.86
700.00	0.54	335.26	699.99	3.81	0.22	2.45	0.22	0.22	-0.07
800.00	0.83	339.36	799.98	4.91	-0.23	2.75	0.29	0.29	4.10
900.00	1.14	342.75	899.96	6.54	-0.78	3.28	0.32	0.31	3.39
1,000.00	1.33	344.44	999.94	8.61	-1.39	4.03	0.19	0.19	1.69
1,100.00	1.38	8.79	1,099.91	10.91	-1.51	5.30	0.57	0.05	24.35
1,200.00	1.73	32.06	1,199.88	13.38	-0.53	7.57	0.71	0.35	23.27

Black Viper Energy

Survey Report

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Site:	Pintail '23' Federal Com #3H	MD Reference:	KB Elev @ 3311.00ft (KB Elev Unit Rig #40)
Well:	Pintail '23' Federal Com #3H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 2003.14 Server 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)
1,300.00	1.90	38.29	1,299.83	15.96	1.30	10.57	0.26	0.17	6.23
1,400.00	2.17	50.94	1,399.77	18.46	3.80	14.07	0.52	0.27	12.65
1,500.00	2.88	59.70	1,499.67	20.92	7.44	18.46	0.81	0.71	8.76
1,600.00	3.39	67.28	1,599.52	23.33	12.33	23.82	0.66	0.51	7.58
1,700.00	3.57	67.00	1,699.33	25.69	17.93	29.72	0.18	0.18	-0.28
1,800.00	3.09	67.63	1,799.16	27.93	23.28	35.35	0.48	-0.48	0.63
1,900.00	2.53	71.43	1,899.04	29.66	27.87	40.06	0.59	-0.56	3.80
2,000.00	1.84	74.21	1,998.97	30.80	31.51	43.66	0.70	-0.69	2.78
2,100.00	1.54	72.93	2,098.93	31.63	34.33	46.43	0.30	-0.30	-1.28
2,200.00	1.32	76.63	2,198.90	32.29	36.74	48.75	0.24	-0.22	3.70
2,300.00	1.13	77.67	2,298.87	32.77	38.82	50.71	0.19	-0.19	1.04
2,400.00	1.11	76.86	2,398.85	33.20	40.73	52.49	0.03	-0.02	-0.81
2,500.00	0.74	92.37	2,498.84	33.39	42.32	53.88	0.44	-0.37	15.51
2,600.00	0.54	105.86	2,598.83	33.24	43.42	54.67	0.25	-0.20	13.49
2,700.00	0.51	95.79	2,698.83	33.06	44.31	55.29	0.10	-0.03	-10.07
2,710.00	0.52	96.99	2,708.83	33.05	44.40	55.35	0.15	0.10	12.00

Target Name	hit/miss target	Dip Angle (°)	Dip Dir (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
PBHL#1[Pintail23FC#3H		0.00	0.00	3,006.00	1,980.05	-6.61	408,016.15	562,301.49	32° 7' 18.102 N	104° 15' 56.228 W
- survey misses by 1970.20ft at 2710.00ft MD (2708.83 TVD, 33.05 N, 44.40 E)										
- Point										

Checked By: _____ Approved By: _____ Date: _____

Cimarex Energy Co., Inc.

Eddy Co., New Mexico

Pintail "23" Federal Com #3H

Pintail "23" Federal Com #3H

Lateral #1

Survey: MWD Survey #1

Standard Survey Report

05 September, 2008

Black Viper Energy

Survey Report

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Project:	Eddy Co., New Mexico	TVD Reference:	KB Elev @ 3311.00ft (KB Elev Unit Rig #40)
Site:	Pintail "23" Federal Com #3H	MD Reference:	KB Elev @ 3311.00ft (KB Elev Unit Rig #40)
Well:	Pintail "23" Federal Com #3H	North Reference:	Grid:
Wellbore:	Lateral #1	Survey Calculation Method:	Minimum Curvature
Design:	Lateral #1	Database:	EDM 2003.14 Server Db

Project:	Eddy Co., New Mexico		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site:	Pintail "23" Federal Com #3H		
Site Position:	Map	Northings:	406,036.10 ft
From:		Easting:	562,308.10 ft
Position Uncertainty:	0.00 ft	Slot Radius:	"
		Latitude:	32° 6' 58.507 N
		Longitude:	104° 15' 56.166 W
		Grid Convergence:	0.04 °

Well:	Pintail "23" Federal Com #3H, Sec 23; T-25-S, R-26-E		
Well Position	+N/-S	0.00 ft	Northings:
	+E/-W	0.00 ft	Easting:
Position Uncertainty	0.00 ft	Wellhead Elevation:	3,311.00 ft
		Ground Level:	3,291.00 ft
		Latitude:	32° 6' 58.507 N
		Longitude:	104° 15' 56.166 W

Wellbore:	Lateral #1		
Magnetics:	Model Name	Sample Date	Declination
	IGRF200510	8/16/2008	8.22
			Dip Angle
			60.04
			Field Strength
			48,780

Design:	Lateral #1		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
		Tie On Depth:	2,710.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(ft)	(ft)	(ft)
	0.00	0.00	0.00
			Direction
			(°)
			41.98

Survey Program	Date: 9/5/2008		
From	To	Survey (Wellbore)	Tool Name
(ft)	(ft)		
100.00	2,710.00	Gyro Survey #1 (OH)	NS-GYRO-MS
2,710.00	4,850.00	MWD Survey #1 (Lateral #1)	MWD
			Description
			North sensing gyrocompassing m/s
			MWD - Standard

Survey										
Measured Depth	Inclination	Azimuth	Vertical Depth	+N/-S	+E/-W	Vertical Section	Dogleg Rate	Build Rate	Turn Rate	
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(°/100ft)	(°/100ft)	(°/100ft)	
2,710.00	0.52	96.99	2,708.83	33.05	44.40	54.27	0.00	0.00	0.00	
2,756.00	0.60	114.30	2,754.83	32.93	44.83	54.46	0.40	0.17	37.63	
First MWD Survey										
2,787.00	3.20	0.20	2,785.81	33.73	44.98	55.16	11.25	8.39	-368.07	
2,819.00	11.00	351.80	2,817.54	37.65	44.55	57.78	24.53	24.38	-26.25	
2,850.00	20.10	354.00	2,847.38	45.89	43.57	63.25	29.41	29.35	7.10	
2,882.00	26.60	355.90	2,876.74	58.52	42.48	71.91	20.45	20.31	5.94	
2,914.00	32.50	358.30	2,904.57	74.27	41.71	83.11	18.80	18.44	7.50	
2,945.00	39.60	359.90	2,929.62	92.50	41.45	96.48	23.10	22.90	5.16	
2,977.00	47.30	1.70	2,952.83	114.49	41.78	113.05	24.37	24.06	5.63	
3,008.00	54.70	1.90	2,972.33	138.55	42.54	131.44	23.88	23.87	0.65	
3,040.00	62.80	0.90	2,988.91	165.87	43.19	152.19	25.45	25.31	-3.13	

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Site:	Pintail "23" Federal Com #3H	MD Reference:	KB Elev @ 3311.00ft (KB Elev Unit Rig #40)
Well:	Pintail "23" Federal Com #3H	North Reference:	Gnd
Wellbore:	Lateral #1	Survey Calculation Method:	Minimum Curvature
Design:	Lateral #1	Database:	EDM 2003.14 Server 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)	
3,072.00	70.40	0.90	3,001.61	195.22	43.65	174.31	23.75	23.75	0.00	
3,089.00	75.90	359.40	3,006.54	211.48	43.69	186.43	33.44	32.35	-8.82	
3,159.00	83.10	357.80	3,019.29	280.24	42.00	236.41	10.53	10.29	-2.29	
3,190.00	85.20	357.90	3,022.45	311.05	40.85	258.54	6.78	6.77	0.32	
3,222.00	89.10	356.90	3,024.04	342.98	39.40	281.30	12.58	12.19	-3.13	
3,253.00	89.70	357.10	3,024.36	373.93	37.77	303.22	2.04	1.94	0.65	
3,285.00	89.90	357.80	3,024.47	405.90	36.35	326.04	2.28	0.63	2.19	
3,317.00	90.90	358.20	3,024.25	437.88	35.23	349.06	3.37	3.13	1.25	
3,349.00	91.20	358.80	3,023.66	469.86	34.40	372.27	2.10	0.94	1.88	
3,380.00	90.90	358.80	3,023.10	500.85	33.75	394.87	0.97	-0.97	0.00	
3,412.00	91.40	359.00	3,022.45	532.84	33.13	418.24	1.68	1.56	0.63	
3,444.00	91.40	359.30	3,021.67	564.82	32.66	441.70	0.94	0.00	0.94	
3,476.00	91.30	359.50	3,020.92	596.81	32.32	465.26	0.70	-0.31	0.63	
3,508.00	91.30	359.60	3,020.19	628.80	32.07	488.87	0.31	0.00	0.31	
3,539.00	91.10	359.90	3,019.54	659.80	31.94	511.82	1.16	-0.65	0.97	
3,570.00	90.90	0.20	3,019.00	690.79	31.96	534.87	1.16	-0.65	0.97	
3,601.00	90.80	0.40	3,018.54	721.79	32.13	558.02	0.72	-0.32	0.65	
3,633.00	90.60	0.50	3,018.15	753.79	32.38	581.98	0.70	-0.63	0.31	
3,664.00	92.00	0.10	3,017.45	784.78	32.54	605.12	4.70	4.52	-1.29	
3,728.00	92.20	0.00	3,015.10	848.73	32.59	652.70	0.35	0.31	-0.16	
3,759.00	92.90	359.40	3,013.72	879.70	32.43	675.61	2.97	2.26	-1.94	
3,790.00	93.10	359.20	3,012.10	910.66	32.05	698.37	0.91	0.65	-0.65	
3,821.00	93.00	359.10	3,010.45	941.61	31.60	721.07	0.46	-0.32	-0.32	
3,853.00	92.80	358.80	3,008.83	973.56	31.01	744.43	1.13	-0.63	-0.94	
3,885.00	91.70	358.50	3,007.58	1,005.53	30.26	767.69	3.56	-3.44	-0.94	
3,917.00	91.70	358.00	3,006.63	1,037.50	29.28	790.80	1.56	0.00	-1.56	
3,948.00	91.20	358.00	3,005.84	1,068.47	28.20	813.10	1.61	-1.61	0.00	
3,979.00	89.80	357.40	3,005.57	1,099.44	26.95	835.29	4.91	-4.52	-1.94	
4,010.00	89.80	358.00	3,005.68	1,130.42	25.71	857.48	1.94	0.00	1.94	
4,032.00	90.20	358.00	3,005.68	1,152.41	24.94	873.31	1.82	1.82	0.00	
4,074.00	90.60	357.40	3,005.39	1,194.37	23.26	903.38	1.72	0.95	-1.43	
4,106.00	91.00	357.50	3,004.94	1,226.34	21.83	926.19	1.29	1.25	0.31	
4,138.00	92.50	356.80	3,003.96	1,258.28	20.24	948.87	5.17	4.69	-2.19	
4,168.00	93.20	357.00	3,002.47	1,288.20	18.62	970.03	2.43	2.33	0.67	
4,200.00	93.70	356.50	3,000.55	1,320.09	16.81	992.52	2.21	1.56	-1.56	
4,232.00	92.30	356.60	2,998.87	1,351.99	14.89	1,014.94	4.39	-4.38	0.31	
4,263.00	92.60	356.80	2,997.55	1,382.91	13.11	1,036.74	1.16	0.97	0.65	
4,294.00	92.80	357.20	2,996.09	1,413.83	11.48	1,058.64	1.44	0.65	1.29	
4,327.00	91.70	356.90	2,994.79	1,446.76	9.79	1,081.98	3.45	-3.33	-0.91	
4,358.00	89.50	358.10	2,994.47	1,477.73	8.44	1,104.10	8.08	-7.10	3.87	
4,390.00	88.00	359.50	2,995.16	1,509.71	7.77	1,127.42	6.41	-4.69	4.38	
4,422.00	88.10	359.70	2,996.25	1,541.69	7.54	1,151.04	0.70	0.31	0.63	
4,454.00	88.50	359.50	2,997.20	1,573.68	7.32	1,174.67	1.40	1.25	-0.63	
4,485.00	88.90	359.60	2,997.90	1,604.67	7.08	1,197.55	1.33	1.29	0.32	
4,517.00	88.90	359.80	2,998.52	1,636.66	6.91	1,221.22	0.62	0.00	0.63	
4,548.00	89.20	359.30	2,999.03	1,667.65	6.66	1,244.09	1.88	0.97	-1.61	
4,580.00	89.00	359.10	2,999.54	1,699.65	6.22	1,267.57	0.88	-0.63	-0.63	
4,611.00	88.00	358.50	3,000.35	1,730.63	5.57	1,290.17	3.76	-3.23	-1.94	
4,642.00	88.50	358.10	3,001.29	1,761.60	4.65	1,312.58	2.07	1.61	-1.29	
4,673.00	88.40	358.00	3,002.13	1,792.57	3.60	1,334.89	0.46	-0.32	-0.32	
4,705.00	88.70	358.00	3,002.94	1,824.54	2.48	1,357.91	0.94	0.94	0.00	
4,737.00	88.70	358.00	3,003.67	1,856.51	1.36	1,380.93	0.00	0.00	0.00	
4,768.00	88.20	357.90	3,004.51	1,887.48	0.25	1,403.21	1.64	-1.61	-0.32	
4,800.00	87.10	357.90	3,005.82	1,919.43	-0.92	1,426.18	3.44	-3.44	0.00	

Black Viper Energy

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Project:	Eddy Co. New Mexico	TVD Reference:	KB Elev @ 3311.00ft (KB Elev Unit Rig #40)
Site:	Pintail "23" Federal Com #3H	MD Reference:	KB Elev @ 3311.00ft (KB Elev Unit Rig #40)
Well:	Pintail "23" Federal Com #3H	North Reference:	Grid:
Wellbore:	Lateral #1	Survey Calculation Method:	Minimum Curvature
Design:	Lateral #1	Database:	EDM 2003.14 Server 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)	
4,814.00	87.10	357.90	3,006.53	1,933.41	-1.43	1,436.22	0.00	0.00	0.00	
Last MWD Survey										
4,850.00	87.10	357.90	3,008.35	1,969.34	-2.75	1,462.05	0.00	0.00	0.00	
Proj. to Bit										

Targets										
Target Name	hit/miss target	Dip Angle (°)	Dip Dir (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
LL[Pintail23FC#3H]		0.00	0.00	0.00	0.00	0.00	406,036.10	562,308.10	32° 6' 58.507 N	104° 15' 56.166 W
- survey misses by 2709.40ft at 2710.00ft MD (2708.83 TVD, 33.05 N, 44.40 E)										
- Rectangle (sides W2,640.00 H2,640.00 D0.00)										
PBHL#1[Pintail23FC#3H]		0.00	0.00	3,006.00	1,980.05	-6.61	408,016.15	562,301.49	32° 7' 18.102 N	104° 15' 56.228 W
- survey misses by 11.63ft at 4850.00ft MD (3008.35 TVD, 1969.34 N, -2.75 E)										
- Point										
HL[Pintail23FC#3H]		0.00	0.00	0.00	0.00	0.00	406,036.10	562,308.10	32° 6' 58.507 N	104° 15' 56.166 W
- survey misses by 2709.40ft at 2710.00ft MD (2708.83 TVD, 33.05 N, 44.40 E)										
- Rectangle (sides W1,980.00 H1,980.00 D0.00)										
PBHL#2[Pintail23FC#3H]		0.00	0.00	3,016.00	1,980.05	-6.61	408,016.15	562,301.49	32° 7' 18.102 N	104° 15' 56.228 W
- survey misses by 13.72ft at 4850.00ft MD (3008.35 TVD, 1969.34 N, -2.75 E)										
- Point										
PBHL#3[Pintail23FC#3H]		0.00	0.00	3,005.00	1,980.05	-6.61	408,016.15	562,301.49	32° 7' 18.102 N	104° 15' 56.228 W
- survey misses by 11.87ft at 4850.00ft MD (3008.35 TVD, 1969.34 N, -2.75 E)										
- Point										
PBHL#1a[Pintail23FC#3H]		0.00	0.00	3,021.00	1,980.05	-6.61	408,016.15	562,301.49	32° 7' 18.102 N	104° 15' 56.228 W
- survey misses by 17.02ft at 4850.00ft MD (3008.35 TVD, 1969.34 N, -2.75 E)										
- Point										

Survey Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
2,756.00	2,754.83	32.93	44.83	First MWD Survey	
4,814.00	3,006.53	1,933.41	-1.43	Last MWD Survey	
4,850.00	3,008.35	1,969.34	-2.75	Proj. to Bit	

Checked By: _____	Approved By: _____	Date: _____
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Pintail 23 Fed Com #3H Lateral #1 Final Report 9-05-08.txt
 Cimarex Energy Co., Inc.
 Pintail "23" Federal Com #3H - MWD Survey #1

Eddy Co., New Mexico
 Pintail "23" Federal Com #3H

Measured Dogleg Depth Rate (ft) (°/100ft)	Incl.	Azim.	Vertical Depth (ft)	Northings (ft)	Eastings (ft)	Vertical Section (ft)
2710.00	0.520	96.990	2708.83	33.05 N	44.40 E	54.27
0.00						
2756.00	0.600	114.300	2754.83	32.93 N	44.83 E	54.46
0.40						
2787.00	3.200	0.200	2785.81	33.73 N	44.98 E	55.16
11.25						
2819.00	11.000	351.800	2817.54	37.65 N	44.55 E	57.78
24.53						
2850.00	20.100	354.000	2847.38	45.89 N	43.57 E	63.25
29.41						
2882.00	26.600	355.900	2876.74	58.52 N	42.48 E	71.91
20.45						
2914.00	32.500	358.300	2904.57	74.27 N	41.71 E	83.11
18.80						
2945.00	39.600	359.900	2929.62	92.50 N	41.45 E	96.48
23.10						
2977.00	47.300	1.700	2952.83	114.49 N	41.78 E	113.05
24.37						
3008.00	54.700	1.900	2972.33	138.55 N	42.54 E	131.44
23.88						
3040.00	62.800	0.900	2988.91	165.87 N	43.19 E	152.19
25.45						
3072.00	70.400	0.900	3001.61	195.22 N	43.65 E	174.31
23.75						
3089.00	75.900	359.400	3006.54	211.48 N	43.69 E	186.43
33.44						
3159.00	83.100	357.800	3019.29	280.24 N	42.00 E	236.41
10.53						
3190.00	85.200	357.900	3022.45	311.05 N	40.85 E	258.54
6.78						
3222.00	89.100	356.900	3024.04	342.98 N	39.40 E	281.30
12.58						
3253.00	89.700	357.100	3024.36	373.93 N	37.77 E	303.22
2.04						
3285.00	89.900	357.800	3024.47	405.90 N	36.35 E	326.04
2.28						
3317.00	90.900	358.200	3024.25	437.88 N	35.23 E	349.06
3.37						
3349.00	91.200	358.800	3023.66	469.86 N	34.40 E	372.27
2.10						
3380.00	90.900	358.800	3023.10	500.85 N	33.75 E	394.87
0.97						
3412.00	91.400	359.000	3022.45	532.84 N	33.13 E	418.24
1.68						
3444.00	91.400	359.300	3021.67	564.82 N	32.66 E	441.70
0.94						
3476.00	91.300	359.500	3020.92	596.81 N	32.32 E	465.26
0.70						
3508.00	91.300	359.600	3020.19	628.80 N	32.07 E	488.87
0.31						

	Pintail	23 Fed Com	#3H Lateral	#1 Final	Report 9-05-08.txt	
3539.00	91.100	359.900	3019.54	659.80 N	31.94 E	511.82
1.16						
3570.00	90.900	0.200	3019.00	690.79 N	31.96 E	534.87
1.16						
3601.00	90.800	0.400	3018.54	721.79 N	32.13 E	558.02
0.72						
3633.00	90.600	0.500	3018.15	753.79 N	32.38 E	581.98
0.70						
3664.00	92.000	0.100	3017.45	784.78 N	32.54 E	605.12
4.70						
3728.00	92.200	0.000	3015.10	848.73 N	32.59 E	652.70
0.35						
3759.00	92.900	359.400	3013.72	879.70 N	32.43 E	675.61
2.97						
3790.00	93.100	359.200	3012.10	910.66 N	32.05 E	698.37
0.91						
3821.00	93.000	359.100	3010.45	941.61 N	31.60 E	721.07
0.46						
3853.00	92.800	358.800	3008.83	973.56 N	31.01 E	744.43
1.13						
3885.00	91.700	358.500	3007.58	1005.53 N	30.26 E	767.69
3.56						
3917.00	91.700	358.000	3006.63	1037.50 N	29.28 E	790.80
1.56						
3948.00	91.200	358.000	3005.84	1068.47 N	28.20 E	813.10
1.61						
3979.00	89.800	357.400	3005.57	1099.44 N	26.95 E	835.29
4.91						
4010.00	89.800	358.000	3005.68	1130.42 N	25.71 E	857.48
1.94						
4032.00	90.200	358.000	3005.68	1152.41 N	24.94 E	873.31
1.82						
4074.00	90.600	357.400	3005.39	1194.37 N	23.26 E	903.38
1.72						
4106.00	91.000	357.500	3004.94	1226.34 N	21.83 E	926.19
1.29						
4138.00	92.500	356.800	3003.96	1258.28 N	20.24 E	948.87
5.17						
4168.00	93.200	357.000	3002.47	1288.20 N	18.62 E	970.03
2.43						
4200.00	93.700	356.500	3000.55	1320.09 N	16.81 E	992.52
2.21						
4232.00	92.300	356.600	2998.87	1351.99 N	14.89 E	1014.94
4.39						
4263.00	92.600	356.800	2997.55	1382.91 N	13.11 E	1036.74
1.16						
4294.00	92.800	357.200	2996.09	1413.83 N	11.48 E	1058.64
1.44						
4327.00	91.700	356.900	2994.79	1446.76 N	9.79 E	1081.98
3.45						
4358.00	89.500	358.100	2994.47	1477.73 N	8.44 E	1104.10
8.08						
4390.00	88.000	359.500	2995.16	1509.71 N	7.77 E	1127.42
6.41						
4422.00	88.100	359.700	2996.25	1541.69 N	7.54 E	1151.04
0.70						
4454.00	88.500	359.500	2997.20	1573.68 N	7.32 E	1174.67
1.40						
4485.00	88.900	359.600	2997.90	1604.67 N	7.08 E	1197.55
1.33						
4517.00	88.900	359.800	2998.52	1636.66 N	6.91 E	1221.22
0.62						
4548.00	89.200	359.300	2999.03	1667.65 N	6.66 E	1244.09

Pintail 23 Fed Com #3H Lateral #1 Final Report 9-05-08.txt

1.88	4580.00	89.000	359.100	2999.54	1699.65 N	6.22 E	1267.57
0.88	4611.00	88.000	358.500	3000.35	1730.63 N	5.57 E	1290.17
3.76	4642.00	88.500	358.100	3001.29	1761.60 N	4.65 E	1312.58
2.07	4673.00	88.400	358.000	3002.13	1792.57 N	3.60 E	1334.89
0.46	4705.00	88.700	358.000	3002.94	1824.54 N	2.48 E	1357.91
0.94	4737.00	88.700	358.000	3003.67	1856.51 N	1.36 E	1380.93
0.00	4768.00	88.200	357.900	3004.51	1887.48 N	0.25 E	1403.21
1.64	4800.00	87.100	357.900	3005.82	1919.43 N	0.92 W	1426.18
3.44	4814.00	87.100	357.900	3006.53	1933.41 N	1.43 W	1436.22
0.00	4850.00	87.100	357.900	3008.35	1969.34 N	2.75 W	1462.05
0.00							

All data are in feet unless otherwise stated. Directions and coordinates are relative to Grid North.
Vertical depths are relative to KB Elev. Northings and Eastings are relative to Well.

The Dogleg Severity is in Degrees per 100 feet.
Vertical Section is from Site and calculated along an Azimuth of 41.983° (Grid).

Coordinate System is North American Datum 1983 US State Plane 1983, New Mexico Eastern Zone.
Central meridian is -104.333°.
Grid Convergence at Surface is 0.036°.

Based upon Minimum Curvature type calculations, at a Measured Depth of 4850.00ft., the Bottom Hole Displacement is 1969.34ft., in the Direction of 41.983° (Grid).