



Bill Barrett Corporation

Bill Barrett Corp.

Montezuma Co., CO (NAD83)

Sec.28-T38N-R16W

KOSKIE 16H-28-38-16

Wellbore #1

Plan: Design #3

Standard Planning Report

29 March, 2012



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well KOSKIE 16H-28-38-16
Company:	Bill Barrett Corp.	TVD Reference:	WELL @ 6928.30usft
Project:	Montezuma Co., CO (NAD83)	MD Reference:	WELL @ 6928.30usft
Site:	Sec.28-T38N-R16W	North Reference:	True
Well:	KOSKIE 16H-28-38-16	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #3		

Project	Montezuma Co., CO (NAD83)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Southern Zone		

Site		Sec.28-T38N-R16W			
Site Position:		Northing:	1,325,220.289 usft	Latitude:	37° 31' 6.780 N
From:	Lat/Long	Easting:	2,097,589.536 usft	Longitude:	108° 36' 43.409 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16"	Grid Convergence:	-1.91 °

Well	KOSKIE 16H-28-38-16					
Well Position	+N/-S	-0.01 usft	Northing:	1,325,220.278 usft	Latitude:	37° 31' 6.780 N
	+E/-W	0.00 usft	Easting:	2,097,589.535 usft	Longitude:	108° 36' 43.409 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	6,913.80 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	03/16/12	10.26	63.95	50,984

Design	Design #3			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	5,938.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	353.02

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
5,938.00	93.00	314.10	5,661.41	355.99	-316.57	0.00	0.00	0.00	0.00	
6,515.76	95.11	337.17	5,620.01	828.37	-639.75	4.00	0.36	3.99	84.01	
7,272.44	91.37	7.26	5,576.25	1,568.17	-740.47	4.00	-0.49	3.98	96.06	Koskie 16H-28-38-16
9,485.08	91.37	7.26	5,523.35	3,762.43	-460.79	0.00	0.00	0.00	0.00	Koskie 16H-28-38-16

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Project:	Montezuma Co., CO (NAD83)	MD Reference:	WELL @ 6928.30usft
Site:	Sec.28-T38N-R16W	North Reference:	True
Well:	KOSKIE 16H-28-38-16	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #3		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.31	218.22	100.00	-0.21	-0.17	-0.19	0.31	0.31	0.00
200.00	0.02	309.28	200.00	-0.41	-0.35	-0.37	0.31	-0.29	91.06
300.00	0.26	212.29	300.00	-0.59	-0.48	-0.53	0.26	0.24	-96.99
400.00	0.17	350.83	400.00	-0.64	-0.63	-0.56	0.40	-0.09	138.54
500.00	0.08	333.41	500.00	-0.43	-0.68	-0.35	0.10	-0.09	-17.42
600.00	0.11	221.82	600.00	-0.44	-0.78	-0.34	0.16	0.03	-111.59
700.00	0.58	236.01	700.00	-0.79	-1.26	-0.64	0.47	0.47	14.19
800.00	0.50	257.99	799.99	-1.17	-2.11	-0.90	0.22	-0.08	21.98
900.00	0.52	210.38	899.99	-1.65	-2.76	-1.30	0.41	0.02	-47.61
1,000.00	0.71	240.28	999.98	-2.35	-3.53	-1.90	0.37	0.19	29.90
1,100.00	0.82	272.75	1,099.97	-2.62	-4.78	-2.02	0.44	0.11	32.47
1,200.00	0.44	232.89	1,199.97	-2.82	-5.81	-2.09	0.56	-0.38	-39.86
1,300.00	0.33	296.20	1,299.97	-2.92	-6.37	-2.13	0.41	-0.11	63.31
1,400.00	0.44	212.09	1,399.96	-3.12	-6.83	-2.27	0.52	0.11	-84.11
1,500.00	0.35	267.18	1,499.96	-3.46	-7.34	-2.54	0.37	-0.09	55.09
1,600.00	0.16	293.64	1,599.96	-3.42	-7.77	-2.45	0.22	-0.19	26.46
1,700.00	0.08	119.70	1,699.96	-3.40	-7.84	-2.42	0.24	-0.08	-173.94
1,800.00	0.40	320.48	1,799.96	-3.17	-8.00	-2.17	0.48	0.32	-159.22
1,900.00	0.04	170.06	1,899.96	-2.93	-8.22	-1.91	0.44	-0.36	-150.42
1,917.00	0.18	118.95	1,916.96	-2.95	-8.20	-1.93	0.93	0.82	-300.65
2,016.00	0.10	356.80	2,015.96	-2.94	-8.06	-1.94	0.25	-0.08	-123.38
2,089.00	0.20	106.40	2,088.96	-2.91	-7.95	-1.92	0.34	0.14	150.14
2,152.00	0.40	90.90	2,151.96	-2.95	-7.62	-2.00	0.34	0.32	-24.60
2,214.00	0.50	109.00	2,213.96	-3.04	-7.15	-2.15	0.28	0.16	29.19
2,277.00	0.40	95.30	2,276.96	-3.15	-6.67	-2.31	0.23	-0.16	-21.75
2,339.00	0.50	115.70	2,338.95	-3.28	-6.21	-2.50	0.30	0.16	32.90
2,403.00	0.50	90.80	2,402.95	-3.41	-5.68	-2.69	0.34	0.00	-38.91
2,466.00	0.50	98.50	2,465.95	-3.45	-5.13	-2.80	0.11	0.00	12.22
2,529.00	0.40	99.30	2,528.95	-3.53	-4.64	-2.94	0.16	-0.16	1.27
2,593.00	0.40	77.90	2,592.94	-3.52	-4.20	-2.98	0.23	0.00	-33.44
2,655.00	0.40	75.50	2,654.94	-3.42	-3.78	-2.93	0.03	0.00	-3.87
2,718.00	0.70	66.50	2,717.94	-3.21	-3.22	-2.80	0.49	0.48	-14.29
2,781.00	0.50	56.10	2,780.94	-2.90	-2.64	-2.56	0.36	-0.32	-16.51
2,845.00	0.80	51.90	2,844.93	-2.47	-2.05	-2.20	0.47	0.47	-6.56
2,909.00	0.80	43.60	2,908.93	-1.87	-1.39	-1.69	0.18	0.00	-12.97
2,969.00	0.80	52.10	2,968.92	-1.31	-0.77	-1.21	0.20	0.00	14.17
3,032.00	0.90	48.30	3,031.91	-0.71	-0.06	-0.70	0.18	0.16	-6.03
3,095.00	1.00	43.80	3,094.91	0.01	0.69	-0.07	0.20	0.16	-7.14
3,158.00	0.80	40.10	3,157.90	0.75	1.36	0.58	0.33	-0.32	-5.87
3,222.00	0.90	43.10	3,221.89	1.45	1.99	1.20	0.17	0.16	4.69
3,285.00	1.00	32.40	3,284.88	2.28	2.62	1.94	0.32	0.16	-16.98
3,348.00	1.10	37.20	3,347.87	3.23	3.28	2.80	0.21	0.16	7.62
3,412.00	1.10	37.70	3,411.86	4.20	4.03	3.68	0.01	0.00	0.78
3,476.00	1.10	37.00	3,475.85	5.18	4.77	4.56	0.02	0.00	-1.09
3,538.00	1.10	43.70	3,537.84	6.08	5.54	5.36	0.21	0.00	10.81
3,600.00	1.20	34.50	3,599.82	7.05	6.32	6.23	0.34	0.16	-14.84
3,664.00	1.30	32.30	3,663.81	8.21	7.09	7.29	0.17	0.16	-3.44
3,728.00	1.20	30.90	3,727.79	9.40	7.82	8.38	0.16	-0.16	-2.19
3,791.00	1.20	29.60	3,790.78	10.54	8.49	9.43	0.04	0.00	-2.06
3,855.00	1.30	26.30	3,854.76	11.78	9.14	10.58	0.19	0.16	-5.16
3,918.00	1.10	21.20	3,917.75	12.98	9.67	11.71	0.36	-0.32	-8.10
3,981.00	1.00	16.90	3,980.74	14.07	10.05	12.74	0.20	-0.16	-6.83
4,044.00	1.00	4.40	4,043.73	15.14	10.25	13.79	0.35	0.00	-19.84

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Well:	KOSKIE 16H-28-38-16	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #3		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,107.00	0.90	341.70	4,106.72	16.16	10.14	14.81	0.61	-0.16	-36.03
4,170.00	0.80	351.50	4,169.71	17.07	9.92	15.73	0.28	-0.16	15.56
4,223.00	0.70	346.40	4,222.71	17.75	9.79	16.43	0.23	-0.19	-9.62
4,297.00	0.80	357.80	4,296.70	18.70	9.66	17.39	0.24	0.14	15.41
4,360.00	0.40	322.20	4,359.70	19.32	9.51	18.02	0.84	-0.63	-56.51
4,422.00	0.20	310.50	4,421.70	19.56	9.30	18.28	0.34	-0.32	-18.87
4,485.00	0.20	281.30	4,484.70	19.65	9.11	18.40	0.16	0.00	-46.35
4,548.00	0.40	306.70	4,547.70	19.80	8.82	18.58	0.37	0.32	40.32
4,612.00	0.40	307.90	4,611.70	20.07	8.47	18.90	0.01	0.00	1.87
4,675.00	0.30	292.40	4,674.70	20.27	8.14	19.13	0.22	-0.16	-24.60
4,739.00	0.40	304.50	4,738.69	20.46	7.80	19.36	0.19	0.16	18.91
4,803.00	0.50	311.40	4,802.69	20.77	7.41	19.72	0.18	0.16	10.78
4,866.00	0.50	330.20	4,865.69	21.19	7.06	20.18	0.26	0.00	29.84
4,928.00	0.70	327.90	4,927.69	21.75	6.73	20.77	0.32	0.32	-3.71
4,991.00	0.60	321.50	4,990.68	22.33	6.32	21.40	0.20	-0.16	-10.16
5,054.00	0.90	325.20	5,053.68	23.00	5.83	22.12	0.48	0.48	5.87
5,097.00	0.90	323.80	5,096.67	23.55	5.44	22.71	0.05	0.00	-3.26
5,118.00	1.10	337.30	5,117.67	23.87	5.26	23.05	1.47	0.95	64.29
5,152.00	1.50	333.40	5,151.66	24.57	4.94	23.78	1.20	1.18	-11.47
5,182.00	2.50	335.40	5,181.64	25.51	4.49	24.78	3.34	3.33	6.67
5,215.00	4.00	337.20	5,214.59	27.23	3.74	26.57	4.56	4.55	5.45
5,244.00	5.90	336.00	5,243.48	29.52	2.75	28.97	6.56	6.55	-4.14
5,279.00	9.10	330.01	5,278.17	33.56	0.63	33.24	9.40	9.14	-17.11
5,308.00	11.90	329.90	5,306.69	38.14	-2.02	38.10	9.66	9.66	-0.38
5,325.00	13.20	327.40	5,323.28	41.29	-3.94	41.46	8.29	7.65	-14.71
5,354.00	16.00	322.80	5,351.34	47.26	-8.14	47.90	10.44	9.66	-15.86
5,388.00	19.40	322.00	5,383.73	55.45	-14.45	56.79	10.03	10.00	-2.35
5,416.00	22.60	321.20	5,409.86	63.31	-20.69	65.35	11.47	11.43	-2.86
5,451.00	27.00	319.30	5,441.63	74.58	-30.09	77.68	12.77	12.57	-5.43
5,479.00	30.70	317.70	5,466.15	84.69	-39.05	88.81	13.50	13.21	-5.71
5,514.00	35.40	316.60	5,495.48	98.67	-52.03	104.26	13.54	13.43	-3.14
5,542.00	39.50	315.90	5,517.70	110.96	-63.81	117.90	14.72	14.64	-2.50
5,577.00	44.00	315.50	5,543.81	127.63	-80.08	136.42	12.88	12.86	-1.14
5,605.00	48.20	315.00	5,563.22	141.96	-94.29	152.37	15.05	15.00	-1.79
5,639.00	53.50	314.50	5,584.68	160.51	-113.01	173.06	15.63	15.59	-1.47
5,668.00	57.90	314.10	5,601.02	177.24	-130.15	191.74	15.22	15.17	-1.38
5,703.00	62.80	314.10	5,618.33	198.40	-151.99	215.40	14.00	14.00	0.00
5,731.00	66.60	314.10	5,630.29	216.01	-170.16	235.09	13.57	13.57	0.00
5,766.00	71.80	313.50	5,642.71	238.65	-193.77	260.43	14.94	14.86	-1.71
5,793.00	75.80	313.20	5,650.24	256.44	-212.62	280.39	14.85	14.81	-1.11
5,830.00	81.10	313.40	5,657.65	281.29	-238.99	308.26	14.33	14.32	0.54
5,859.00	84.80	313.80	5,661.21	301.14	-259.83	330.49	12.83	12.76	1.38
5,864.00	85.40	313.80	5,661.64	304.59	-263.43	334.35	12.00	12.00	0.00
5,889.00	89.00	314.10	5,662.86	321.91	-281.40	353.73	14.45	14.40	1.20
5,921.00	93.00	314.10	5,662.30	344.18	-304.37	378.62	12.50	12.50	0.00
Tie-In / Start DLS 4.00° TFO 84.01									
5,938.00	93.00	314.10	5,661.41	355.99	-316.57	391.83	0.00	0.00	0.00
6,000.00	93.26	316.57	5,658.03	400.02	-360.08	440.82	4.00	0.41	3.98
6,100.00	93.66	320.56	5,652.00	474.83	-426.13	523.11	4.00	0.40	3.99
6,200.00	94.04	324.55	5,645.28	554.03	-486.78	609.10	4.00	0.38	3.99
6,300.00	94.40	328.54	5,637.92	637.22	-541.75	698.35	4.00	0.36	3.99
6,400.00	94.74	332.54	5,629.95	724.00	-590.76	790.44	4.00	0.34	4.00
6,500.00	95.06	336.54	5,621.40	813.94	-633.58	884.92	4.00	0.32	4.00

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Well:	KOSKIE 16H-28-38-16	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #3		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
Start DLS 4.00° TFO 96.06									
6,515.76	95.11	337.17	5,620.01	828.37	-639.75	900.00	4.00	0.30	4.00
6,600.00	94.74	340.54	5,612.77	906.64	-670.02	981.36	4.00	-0.43	3.99
6,700.00	94.29	344.52	5,604.89	1,001.71	-699.94	1,079.37	4.00	-0.45	3.99
6,800.00	93.82	348.50	5,597.82	1,098.69	-723.20	1,178.45	4.00	-0.47	3.98
6,900.00	93.32	352.48	5,591.59	1,197.10	-739.68	1,278.14	4.00	-0.49	3.98
7,000.00	92.82	356.46	5,586.23	1,296.47	-749.30	1,377.95	4.00	-0.51	3.97
7,100.00	92.29	0.42	5,581.77	1,396.32	-752.02	1,477.38	4.00	-0.52	3.97
7,200.00	91.76	4.39	5,578.23	1,496.15	-747.82	1,575.96	4.00	-0.53	3.97
Start 2212.65° hold at 7272.44 MD									
7,272.44	91.37	7.26	5,576.25	1,568.17	-740.47	1,646.56	4.00	-0.54	3.96
7,300.00	91.37	7.26	5,575.59	1,595.51	-736.98	1,673.27	0.00	0.00	0.00
7,400.00	91.37	7.26	5,573.20	1,694.68	-724.34	1,770.16	0.00	0.00	0.00
7,500.00	91.37	7.26	5,570.81	1,793.85	-711.70	1,867.06	0.00	0.00	0.00
7,600.00	91.37	7.26	5,568.42	1,893.02	-699.06	1,963.96	0.00	0.00	0.00
7,700.00	91.37	7.26	5,566.03	1,992.19	-686.42	2,060.85	0.00	0.00	0.00
7,800.00	91.37	7.26	5,563.64	2,091.35	-673.78	2,157.75	0.00	0.00	0.00
7,900.00	91.37	7.26	5,561.25	2,190.52	-661.14	2,254.65	0.00	0.00	0.00
8,000.00	91.37	7.26	5,558.86	2,289.69	-648.50	2,351.55	0.00	0.00	0.00
8,100.00	91.37	7.26	5,556.46	2,388.86	-635.86	2,448.44	0.00	0.00	0.00
8,200.00	91.37	7.26	5,554.07	2,488.03	-623.22	2,545.34	0.00	0.00	0.00
8,300.00	91.37	7.26	5,551.68	2,587.20	-610.58	2,642.24	0.00	0.00	0.00
8,400.00	91.37	7.26	5,549.29	2,686.37	-597.94	2,739.13	0.00	0.00	0.00
8,500.00	91.37	7.26	5,546.90	2,785.54	-585.30	2,836.03	0.00	0.00	0.00
8,600.00	91.37	7.26	5,544.51	2,884.71	-572.66	2,932.93	0.00	0.00	0.00
8,700.00	91.37	7.26	5,542.12	2,983.88	-560.02	3,029.82	0.00	0.00	0.00
8,800.00	91.37	7.26	5,539.73	3,083.05	-547.38	3,126.72	0.00	0.00	0.00
8,900.00	91.37	7.26	5,537.34	3,182.21	-534.74	3,223.62	0.00	0.00	0.00
9,000.00	91.37	7.26	5,534.95	3,281.38	-522.10	3,320.52	0.00	0.00	0.00
9,100.00	91.37	7.26	5,532.56	3,380.55	-509.46	3,417.41	0.00	0.00	0.00
9,200.00	91.37	7.26	5,530.17	3,479.72	-496.82	3,514.31	0.00	0.00	0.00
9,300.00	91.37	7.26	5,527.77	3,578.89	-484.18	3,611.21	0.00	0.00	0.00
9,400.00	91.37	7.26	5,525.38	3,678.06	-471.54	3,708.10	0.00	0.00	0.00
TD at 9485.08 - Koskie 16H-28-38-16 PBHL									
9,485.08	91.37	7.26	5,523.35	3,762.43	-460.79	3,790.55	0.00	0.00	0.00

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Koskie 16H-28-38-16 PE - plan hits target center - Point	0.00	0.00	5,523.35	3,762.43	-460.79	1,328,995.973	2,097,254.330	37° 31' 43.979 N	108° 36' 49.129 W

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well KOSKIE 16H-28-38-16
Company:	Bill Barrett Corp.	TVD Reference:	WELL @ 6928.30usft
Project:	Montezuma Co., CO (NAD83)	MD Reference:	WELL @ 6928.30usft
Site:	Sec.28-T38N-R16W	North Reference:	True
Well:	KOSKIE 16H-28-38-16	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #3		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,165.93	1,165.80	Entrada		-2.16	0.00	
1,906.45	1,906.30	Chinle		-2.16	0.00	
4,071.98	4,072.30	Hermosa		-2.16	0.00	
5,449.19	5,442.80	Hatch		-2.16	0.00	
5,468.72	5,460.30	Ismay		-2.16	0.00	
5,512.32	5,497.80	Hovenweep		-2.16	0.00	
5,579.28	5,550.30	Lwr Ismay		-2.16	0.00	
6,709.75	5,642.30	Gothic Top		-2.16	0.00	
6,171.32	5,667.30	Gothic +25'		-2.16	0.00	

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
5,938.00	5,661.41	355.99	-316.57	Tie-In / Start DLS 4.00° TFO 84.01	
6,515.76	5,620.01	828.37	-639.75	Start DLS 4.00° TFO 96.06	
7,272.44	5,576.25	1,568.17	-740.47	Start 2212.65' hold at 7272.44 MD	
9,485.08	5,523.35	3,762.43	-460.79	TD at 9485.08	