

# Bighorn Directional, Inc.

Nighthawk Production  
Telluride 13-2  
Lincoln County, CO



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Minimum of Curvature  
Slot Location: 1632665.36', 3587713.68'  
Plane of Vertical Section: 68.60°

Measured Depth Feet	BORE Inc Degrees	HOLE Direction Degrees	True Vertical Depth Feet	RECTANGULAR COORDINATES		LAMBERT COORDINATES		Vertical Section Feet	CLOSURES		Dogleg Severity Deg/100'
				North(-South) Feet	East(-West) Feet	Y Feet	X Feet		Distance Feet	Direction Deg	
2362.12	0.00	68.60	2362.12	0.00	0.00	1632665.4	3587713.7	0.00	0.00	0.00	0.00
KOP-Start Build											
2462.12	1.00	68.60	2462.12	0.32	0.81	1632665.7	3587714.5	0.87	0.87	68.60	1.00
2562.12	2.00	68.60	2562.08	1.27	3.25	1632666.6	3587716.9	3.49	3.49	68.60	1.00
2662.12	3.00	68.60	2661.98	2.86	7.31	1632668.2	3587721.0	7.85	7.85	68.60	1.00
2762.12	4.00	68.60	2761.80	5.09	13.00	1632670.5	3587726.7	13.96	13.96	68.60	1.00
2862.12	5.00	68.60	2861.48	7.95	20.30	1632673.3	3587734.0	21.80	21.80	68.60	1.00
End Build											
3362.12	5.00	68.60	3359.58	23.85	60.87	1632689.2	3587774.6	65.38	65.38	68.60	0.00
3862.12	5.00	68.60	3857.68	39.75	101.45	1632705.1	3587815.1	108.96	108.96	68.60	0.00
4362.12	5.00	68.60	4355.77	55.65	142.02	1632721.0	3587855.7	152.54	152.54	68.60	0.00
4862.12	5.00	68.60	4853.87	71.54	182.60	1632736.9	3587896.3	196.11	196.11	68.60	0.00
5362.12	5.00	68.60	5351.97	87.44	223.17	1632752.8	3587936.9	239.69	239.69	68.60	0.00
5862.12	5.00	68.60	5850.07	103.34	263.75	1632768.7	3587977.4	283.27	283.27	68.60	0.00
6013.27	5.00	68.60	6000.64	108.15	276.01	1632773.5	3587989.7	296.44	296.44	68.60	0.00
Start Drop											
6113.27	4.00	68.60	6100.33	111.01	283.32	1632776.4	3587997.0	304.29	304.29	68.60	1.00
6213.27	3.00	68.60	6200.14	113.24	289.00	1632778.6	3588002.7	310.39	310.39	68.60	1.00
6313.27	2.00	68.60	6300.05	114.83	293.06	1632780.2	3588006.7	314.76	314.76	68.60	1.00
6413.27	1.00	68.60	6400.01	115.78	295.50	1632781.1	3588009.2	317.37	317.37	68.60	1.00
6513.26	0.00	68.60	6500.00	116.10	296.31	1632781.5	3588010.0	318.25	318.25	68.60	1.00
Vertical											
7013.26	0.00	68.60	7000.00	116.10	296.31	1632781.5	3588010.0	318.25	318.25	68.60	0.00
7513.26	0.00	68.60	7500.00	116.10	296.31	1632781.5	3588010.0	318.25	318.25	68.60	0.00
8013.26	0.00	68.60	8000.00	116.10	296.31	1632781.5	3588010.0	318.25	318.25	68.60	0.00
8513.26	0.00	68.60	8500.00	116.10	296.31	1632781.5	3588010.0	318.25	318.25	68.60	0.00
9013.26	0.00	68.60	9000.00	116.10	296.31	1632781.5	3588010.0	318.25	318.25	68.60	0.00

TD

Final Station Closure Distance: 318.25' Direction: 68.60°

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## Horizontal Plan

1" = 200'



## Proposed Vertical

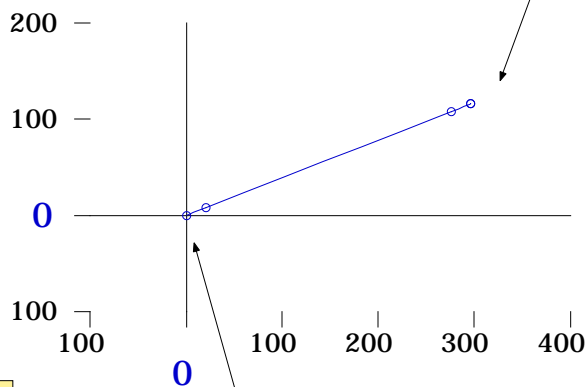
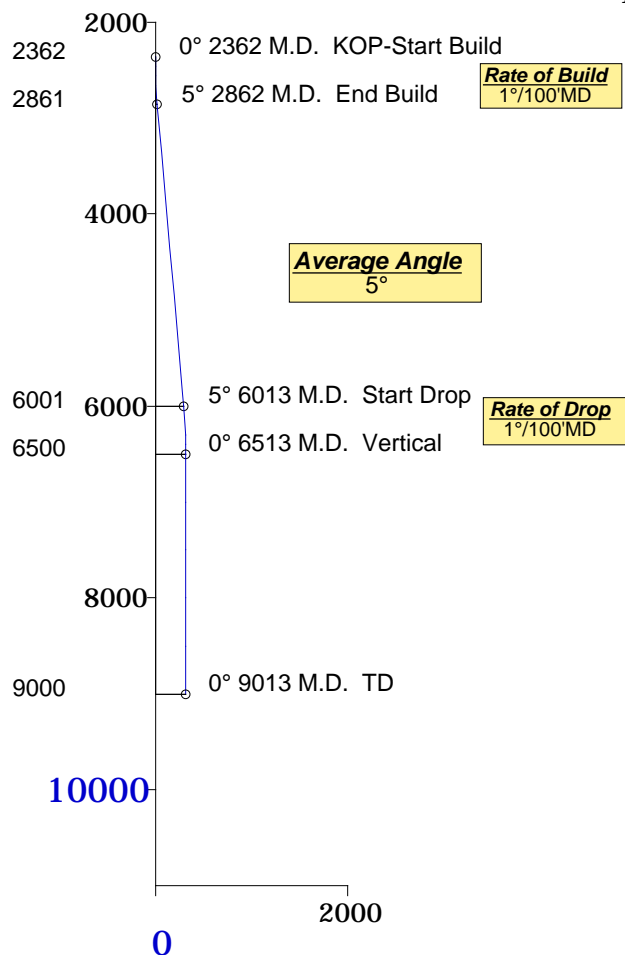
318.25' Displacement from S/L  
@ 68.6° Azimuth from S/L  
North-116.1' East-296.31' of S/L  
TVD-6500' MD-6513'  
Y=1632781.46', X=3588009.99'  
TD  
TVD-9000' MD-9013'

## Plane of Proposal

68.6° Azimuth

## Vertical Section

1" = 2000'



## Surface Location

Lat=39.55194  
Long=103.41555  
Y=1632665.36'  
X=3587713.68'  
NAD 83



Denver, Colorado  
303-463-1919

09-20-2013