



Survey Certification

7327 West Barton Road
Casper, WY 82604
(307)-472-6621 Fax (307) 472-5439

Operator	HighPoint Resources
Well Name & No.	Critter Creek 16-5906B
API #	05-123-47310
County & State	Weld County, CO
SDI Job #	OP.014466
Rig	Savanna 802
Survey Date	11-Nov-2018

I, Seth M. Burstad, having personal knowledge of all the facts, hereby certify that the attached directional survey run from a measured depth of 1501.5 feet to a measured depth of 7516 feet is true and correct as determined from all available records.

Seth M. Burstad

Signature

13-Nov-2018

Date

Seth M. Burstad

Rockies Region Well Planner
Scientific Drilling - Rocky Mountain District



Project: Weld County, CO NAD 83
Site: Critter Creek 16 SE Pad
Well: Critter Creek 16-5906B
Wellbore: OH
Design: OH



WELL DETAILS: Critter Creek 16-5906B

GL 5251.3' & KB 20' @ 5271.30ft (Savanna 802) 5251.30
Northing 1578433.27 Easting 3295119.29 Latitude 40° 54' 58.644 N Longitude 104° 25' 55.945 W

Design: OH (Critter Creek 16-5906B/OH)

Created By: Seth Burstad

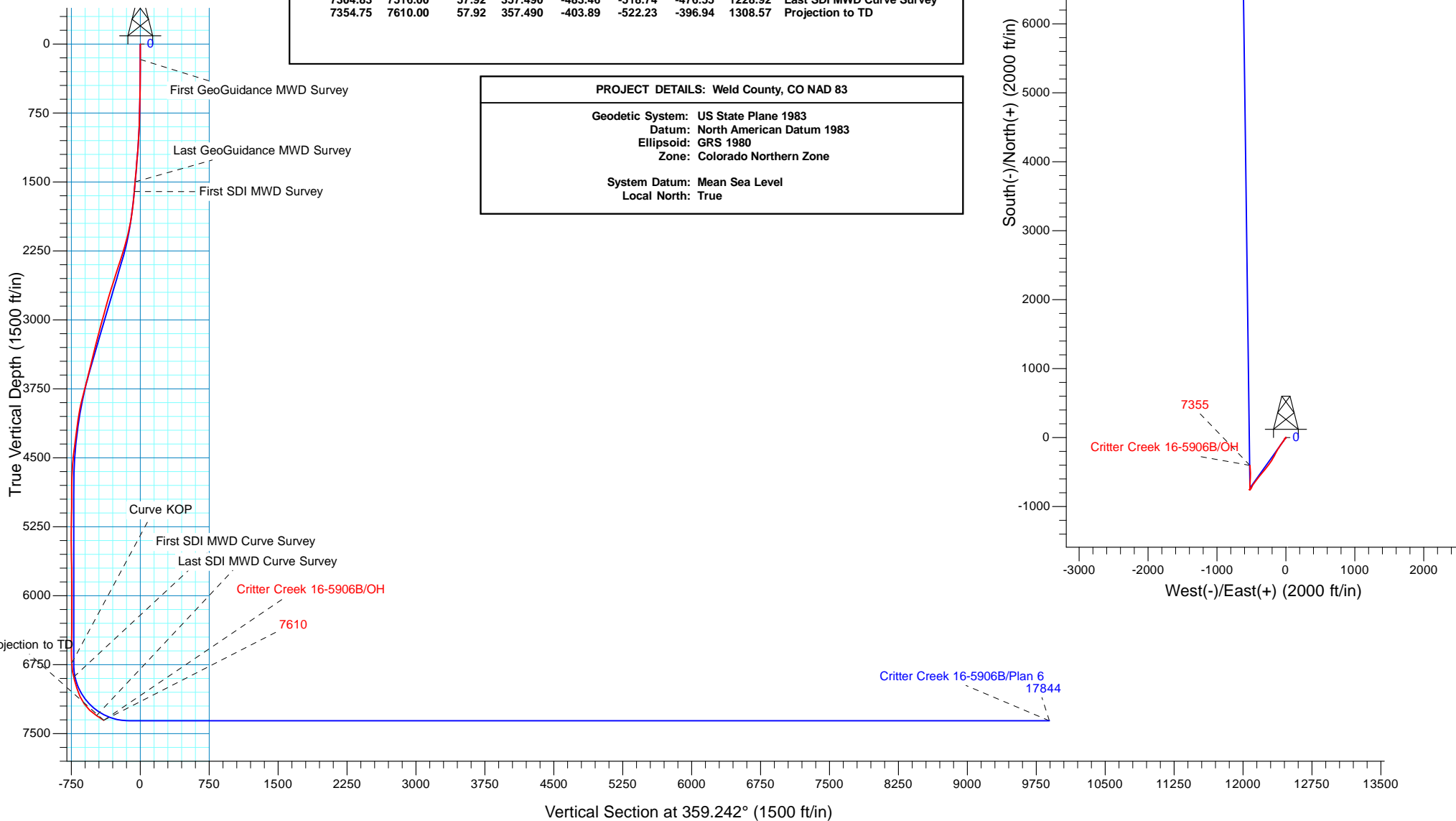
ANNOTATIONS

TVD	MD	Inc	Azi	+N/-S	+E/-W	Vsect	Departure	Annotation
169.49	169.50	1.10	86.240	0.11	1.62	0.09	1.63	First GeoGuidance MWD Survey
1498.65	1501.50	6.42	215.250	-56.81	-41.23	-56.26	74.50	Last GeoGuidance MWD Survey
1604.52	1608.00	6.01	215.010	-66.24	-47.87	-65.60	86.03	First SDI MWD Survey
6734.97	6862.00	1.67	27.474	-754.20	-522.85	-747.22	957.84	Curve KOP
6884.99	7014.00	14.21	355.999	-731.92	-523.53	-724.93	981.15	First SDI MWD Curve Survey
7304.83	7516.00	57.92	357.490	-483.46	-518.74	-476.55	1228.92	Last SDI MWD Curve Survey
7354.75	7610.00	57.92	357.490	-403.89	-522.23	-396.94	1308.57	Projection to TD

PROJECT DETAILS: Weld County, CO NAD 83

Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: Colorado Northern Zone

System Datum: Mean Sea Level
Local North: True





HighPoint Resources

Weld County, CO NAD 83

Critter Creek 16 SE Pad

Critter Creek 16-5906B

OH

Design: OH

Standard Survey Report

13 November, 2018



Company:	HighPoint Resources	Local Co-ordinate Reference:	Well Critter Creek 16-5906B
Project:	Weld County, CO NAD 83	TVD Reference:	GL 5251.3' & KB 20' @ 5271.30ft (Savanna 802)
Site:	Critter Creek 16 SE Pad	MD Reference:	GL 5251.3' & KB 20' @ 5271.30ft (Savanna 802)
Well:	Critter Creek 16-5906B	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Casper District

Project	Weld County, CO NAD 83		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site	Critter Creek 16 SE Pad, Site Center : Critter Creek 16-5708B				
Site Position:		Northing:	1,578,436.56 usft	Latitude:	40° 54' 58.651 N
From:	Lat/Long	Easting:	3,295,329.88 usft	Longitude:	104° 25' 53.202 W
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence:	0.69 °

Well	Critter Creek 16-5906B, 430' FSL 1034' FEL Sec 16 T11N R63W					
Well Position	+N/-S	0.00 ft	Northing:	1,578,433.26 usft	Latitude:	40° 54' 58.644 N
	+E/-W	0.00 ft	Easting:	3,295,119.29 usft	Longitude:	104° 25' 55.945 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	0.00 ft	Ground Level:	5,251.30 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	5/21/2018	8.28	67.20	52,778

Design	OH				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.00	0.00	0.00	359.242	

Survey Program	Date	11/13/2018			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
169.50	1,501.50	Survey #1 - Surface (OH)	OWSG MWD	OWSG MWD - Standard	
1,608.00	7,610.00	Survey #2 - Intermediate (OH)	OWSG MWD	OWSG 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)	
0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
169.50	1.10	86.240	169.49	0.11	1.62	0.09	0.65	0.65	0.00	
First GeoGuidance MWD Survey										
213.50	0.22	94.590	213.49	0.13	2.13	0.10	2.01	-2.00	18.98	
257.50	0.73	249.380	257.49	0.02	1.95	0.00	2.12	1.16	351.80	
302.50	0.92	238.500	302.48	-0.27	1.37	-0.29	0.55	0.42	-24.18	
346.50	1.10	250.680	346.47	-0.59	0.67	-0.60	0.63	0.41	27.68	
390.50	1.22	235.570	390.46	-1.00	-0.11	-0.99	0.74	0.27	-34.34	
434.50	1.58	237.370	434.45	-1.59	-1.01	-1.57	0.82	0.82	4.09	
479.50	1.35	235.780	479.44	-2.22	-1.97	-2.19	0.52	-0.51	-3.53	

Company:	HighPoint Resources	Local Co-ordinate Reference:	Well Critter Creek 16-5906B
Project:	Weld County, CO NAD 83	TVD Reference:	GL 5251.3' & KB 20' @ 5271.30ft (Savanna 802)
Site:	Critter Creek 16 SE Pad	MD Reference:	GL 5251.3' & KB 20' @ 5271.30ft (Savanna 802)
Well:	Critter Creek 16-5906B	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Casper District

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)
523.50	1.32	225.680	523.43	-2.87	-2.76	-2.83	0.54	-0.07	-22.95
567.50	1.19	218.210	567.41	-3.58	-3.40	-3.53	0.47	-0.30	-16.98
611.50	0.97	217.770	611.41	-4.23	-3.92	-4.18	0.50	-0.50	-1.00
656.50	1.27	221.240	656.40	-4.91	-4.48	-4.85	0.68	0.67	7.71
700.50	1.49	223.830	700.39	-5.69	-5.19	-5.62	0.52	0.50	5.89
744.50	1.85	218.470	744.37	-6.66	-6.03	-6.58	0.89	0.82	-12.18
788.50	2.29	220.760	788.34	-7.88	-7.05	-7.79	1.02	1.00	5.20
833.50	2.81	219.880	833.29	-9.41	-8.34	-9.30	1.16	1.16	-1.96
877.50	3.03	220.540	877.24	-11.12	-9.79	-10.99	0.51	0.50	1.50
919.50	3.56	220.180	919.17	-12.96	-11.35	-12.81	1.26	1.26	-0.86
963.50	3.25	222.210	963.09	-14.93	-13.07	-14.75	0.76	-0.70	4.61
995.50	3.47	221.110	995.03	-16.33	-14.32	-16.14	0.72	0.69	-3.44
1,026.50	4.39	217.770	1,025.96	-17.97	-15.66	-17.76	3.06	2.97	-10.77
1,058.50	5.27	210.820	1,057.85	-20.20	-17.17	-19.97	3.30	2.75	-21.72
1,090.50	5.05	212.710	1,089.72	-22.65	-18.68	-22.40	0.87	-0.69	5.91
1,122.50	5.14	214.600	1,121.59	-25.01	-20.25	-24.74	0.60	0.28	5.91
1,153.50	5.05	213.500	1,152.47	-27.29	-21.80	-27.00	0.43	-0.29	-3.55
1,185.50	5.32	212.360	1,184.34	-29.72	-23.37	-29.41	0.90	0.84	-3.56
1,217.50	5.36	212.890	1,216.20	-32.23	-24.97	-31.90	0.20	0.13	1.66
1,248.50	5.41	212.800	1,247.06	-34.67	-26.55	-34.32	0.16	0.16	-0.29
1,280.50	5.50	211.020	1,278.92	-37.26	-28.16	-36.88	0.60	0.28	-5.56
1,312.50	5.49	209.810	1,310.77	-39.90	-29.71	-39.50	0.36	-0.03	-3.78
1,344.50	5.98	207.920	1,342.61	-42.70	-31.25	-42.28	1.64	1.53	-5.91
1,375.50	5.89	212.800	1,373.44	-45.46	-32.87	-45.03	1.65	-0.29	15.74
1,407.50	6.46	215.880	1,405.26	-48.30	-34.81	-47.84	2.06	1.78	9.63
1,439.50	6.64	216.980	1,437.05	-51.24	-36.98	-50.75	0.69	0.56	3.44
1,470.50	6.46	218.560	1,467.85	-54.03	-39.15	-53.51	0.82	-0.58	5.10
1,501.50	6.42	215.250	1,498.65	-56.81	-41.23	-56.26	1.20	-0.13	-10.68
Last GeoGuidance MWD Survey									
1,608.00	6.01	215.010	1,604.52	-66.24	-47.87	-65.60	0.39	-0.38	-0.23
First SDI MWD Survey									
1,699.00	6.25	212.800	1,695.00	-74.31	-53.29	-73.60	0.37	0.26	-2.43
1,790.00	8.48	214.670	1,785.25	-83.99	-59.79	-83.19	2.46	2.45	2.05
1,882.00	11.62	218.250	1,875.83	-96.85	-69.38	-95.92	3.48	3.41	3.89
1,974.00	13.58	215.060	1,965.61	-112.97	-81.33	-111.88	2.26	2.13	-3.47
2,065.00	15.40	213.570	2,053.71	-131.78	-94.14	-130.53	2.04	2.00	-1.64
2,156.00	18.09	211.680	2,140.84	-153.88	-108.25	-152.43	3.02	2.96	-2.08
2,247.00	19.45	210.980	2,227.00	-178.89	-123.47	-177.24	1.51	1.49	-0.77
2,338.00	19.81	208.670	2,312.71	-205.41	-138.66	-203.56	0.94	0.40	-2.54
2,432.00	20.33	206.640	2,401.01	-233.98	-153.63	-231.93	0.92	0.55	-2.16
2,526.00	20.31	208.110	2,489.16	-262.97	-168.64	-260.71	0.54	-0.02	1.56
2,620.00	20.15	208.180	2,577.36	-291.63	-183.97	-289.17	0.17	-0.17	0.07
2,715.00	20.07	211.510	2,666.57	-319.95	-200.22	-317.27	1.21	-0.08	3.51

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Site:	Critter Creek 16 SE Pad	MD Reference:	GL 5251.3' & KB 20' @ 5271.30ft (Savanna 802)
Well:	Critter Creek 16-5906B	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Casper District

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)	
2,810.00	20.01	214.960	2,755.82	-347.17	-218.05	-344.25	1.25	-0.06	3.63	
2,904.00	19.66	216.710	2,844.25	-373.03	-236.72	-369.86	0.73	-0.37	1.86	
2,999.00	19.37	217.400	2,933.79	-398.35	-255.84	-394.93	0.39	-0.31	0.73	
3,093.00	19.08	215.280	3,022.55	-423.28	-274.18	-419.61	0.80	-0.31	-2.26	
3,187.00	18.69	214.950	3,111.49	-448.17	-291.68	-444.27	0.43	-0.41	-0.35	
3,281.00	18.00	222.360	3,200.72	-471.25	-310.10	-467.10	2.59	-0.73	7.88	
3,376.00	17.35	220.740	3,291.24	-492.83	-329.23	-488.43	0.86	-0.68	-1.71	
3,469.00	18.21	220.350	3,379.79	-514.41	-347.69	-509.76	0.93	0.92	-0.42	
3,563.00	19.02	219.240	3,468.88	-537.46	-366.89	-532.56	0.94	0.86	-1.18	
3,657.00	18.28	217.970	3,557.94	-560.95	-385.65	-555.80	0.90	-0.79	-1.35	
3,751.00	18.02	217.700	3,647.26	-584.07	-403.61	-578.68	0.29	-0.28	-0.29	
3,845.00	17.88	217.440	3,736.69	-607.04	-421.28	-601.41	0.17	-0.15	-0.28	
3,938.00	17.90	215.630	3,825.19	-629.99	-438.28	-624.14	0.60	0.02	-1.95	
4,033.00	16.02	218.340	3,916.06	-652.14	-454.92	-646.06	2.15	-1.98	2.85	
4,128.00	12.62	215.840	4,008.09	-670.84	-469.13	-664.57	3.64	-3.58	-2.63	
4,221.00	9.36	213.070	4,099.37	-685.42	-479.21	-679.02	3.55	-3.51	-2.98	
4,316.00	8.13	206.930	4,193.27	-697.88	-486.47	-691.38	1.62	-1.29	-6.46	
4,410.00	7.96	206.830	4,286.35	-709.61	-492.42	-703.04	0.18	-0.18	-0.11	
4,505.00	8.13	204.460	4,380.41	-721.60	-498.17	-714.94	0.39	0.18	-2.49	
4,599.00	8.04	206.290	4,473.48	-733.54	-503.83	-726.81	0.29	-0.10	1.95	
4,693.00	4.86	221.520	4,566.88	-742.42	-509.38	-735.62	3.81	-3.38	16.20	
4,788.00	4.37	221.130	4,661.57	-748.16	-514.43	-741.29	0.52	-0.52	-0.41	
4,882.00	2.67	231.770	4,755.39	-752.21	-518.51	-745.29	1.93	-1.81	11.32	
4,976.00	2.36	245.790	4,849.30	-754.36	-521.99	-747.39	0.73	-0.33	14.91	
5,070.00	2.28	292.750	4,943.23	-754.43	-525.48	-747.41	1.97	-0.09	49.96	
5,164.00	1.96	254.470	5,037.17	-754.14	-528.76	-747.08	1.51	-0.34	-40.72	
5,259.00	1.31	239.460	5,132.13	-755.13	-531.26	-748.03	0.81	-0.68	-15.80	
5,354.00	0.81	192.400	5,227.12	-756.33	-532.34	-749.22	1.01	-0.53	-49.54	
5,447.00	0.97	205.500	5,320.10	-757.69	-532.82	-750.57	0.28	0.17	14.09	
5,541.00	0.83	29.760	5,414.10	-757.81	-532.82	-750.70	1.91	-0.15	-186.96	
5,636.00	1.31	39.610	5,509.08	-756.38	-531.79	-749.28	0.54	0.51	10.37	
5,731.00	1.00	51.530	5,604.06	-755.03	-530.45	-747.94	0.41	-0.33	12.55	
5,824.00	1.18	61.660	5,697.05	-754.07	-528.97	-747.00	0.28	0.19	10.89	
5,918.00	1.20	69.730	5,791.03	-753.27	-527.19	-746.23	0.18	0.02	8.59	
6,013.00	0.72	69.360	5,886.01	-752.71	-525.70	-745.69	0.51	-0.51	-0.39	
6,106.00	0.33	78.760	5,979.01	-752.45	-524.89	-745.44	0.43	-0.42	10.11	
6,200.00	0.37	13.900	6,073.01	-752.11	-524.55	-745.10	0.40	0.04	-69.00	
6,294.00	0.37	352.010	6,167.01	-751.51	-524.52	-744.51	0.15	0.00	-23.29	
6,388.00	0.69	213.440	6,261.00	-751.68	-524.88	-744.67	1.06	0.34	-147.41	
6,482.00	0.77	200.480	6,355.00	-752.75	-525.41	-745.73	0.19	0.09	-13.79	
6,576.00	0.89	157.630	6,448.99	-754.01	-525.35	-747.00	0.66	0.13	-45.59	
6,670.00	0.66	101.620	6,542.98	-754.80	-524.54	-747.79	0.80	-0.24	-59.59	
6,764.00	0.31	122.900	6,636.98	-755.04	-523.80	-748.05	0.41	-0.37	22.64	
6,858.00	1.37	37.210	6,730.97	-754.29	-522.91	-747.30	1.47	1.13	-91.16	

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Site:	Critter Creek 16 SE Pad	MD Reference:	GL 5251.3' & KB 20' @ 5271.30ft (Savanna 802)
Well:	Critter Creek 16-5906B	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Casper District

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)	
6,862.00	1.67	27.474	6,734.97	-754.20	-522.85	-747.22	9.82	7.44	-243.41	
Curve KOP										
6,953.00	10.33	356.750	6,825.39	-744.86	-522.70	-737.88	9.82	9.52	-33.76	
7,014.00	14.21	355.999	6,884.99	-731.92	-523.53	-724.93	6.37	6.36	-1.23	
First SDI MWD Curve Survey										
7,047.00	16.31	355.740	6,916.82	-723.26	-524.16	-716.26	6.37	6.36	-0.79	
7,141.00	16.09	6.320	7,007.11	-697.15	-523.71	-690.16	3.14	-0.23	11.26	
7,235.00	24.97	4.570	7,095.05	-664.36	-520.69	-657.41	9.47	9.45	-1.86	
7,329.00	34.77	1.530	7,176.47	-617.67	-518.38	-610.76	10.55	10.43	-3.23	
7,422.00	46.17	0.580	7,247.10	-557.42	-517.33	-550.52	12.28	12.26	-1.02	
7,516.00	57.92	357.490	7,304.83	-483.46	-518.74	-476.55	12.76	12.50	-3.29	
Last SDI MWD Curve Survey										
7,610.00	57.92	357.490	7,354.75	-403.89	-522.23	-396.94	0.00	0.00	0.00	
Projection to TD										

Design Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
169.50	169.49	0.11	1.62	First GeoGuidance MWD Survey	
1,501.50	1,498.65	-56.81	-41.23	Last GeoGuidance MWD Survey	
1,608.00	1,604.52	-66.24	-47.87	First SDI MWD Survey	
6,862.00	6,734.97	-754.20	-522.85	Curve KOP	
7,014.00	6,884.99	-731.92	-523.53	First SDI MWD Curve Survey	
7,516.00	7,304.83	-483.46	-518.74	Last SDI MWD Curve Survey	
7,610.00	7,354.75	-403.89	-522.23	Projection to TD	

Checked By: _____	Approved By: _____	Date: _____
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