



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

Project: Weld County, CO NAD 83
Site: Critter Creek 15 SW Pad
Well: Critter Creek 15-6302D
Wellbore: OH
Design: Plan 1



Azimuths to True North
Magnetic North: 8.28°



Magnetic Field
Strength: 52792.3snT
Dip Angle: 67.20°
Date: 4/20/2018
Model: HDGM

Plan: Plan 1 (Critter Creek 15-6302D/OH)

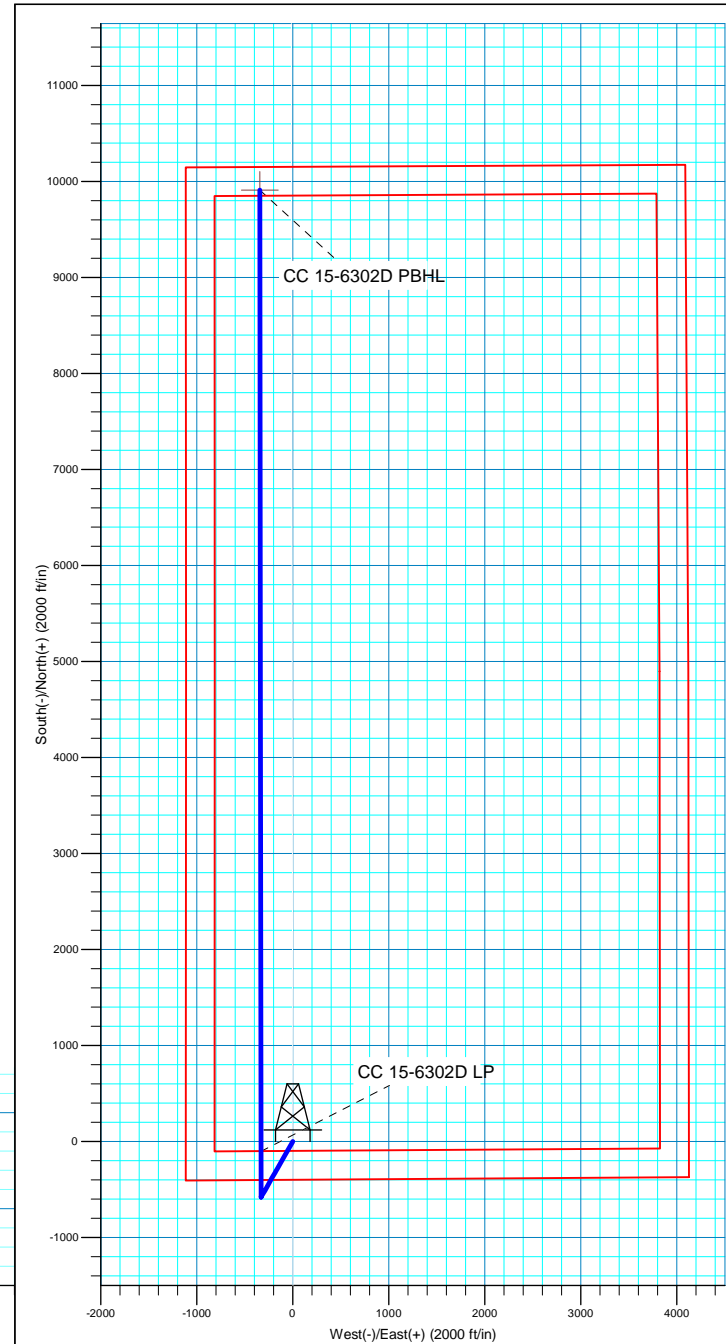
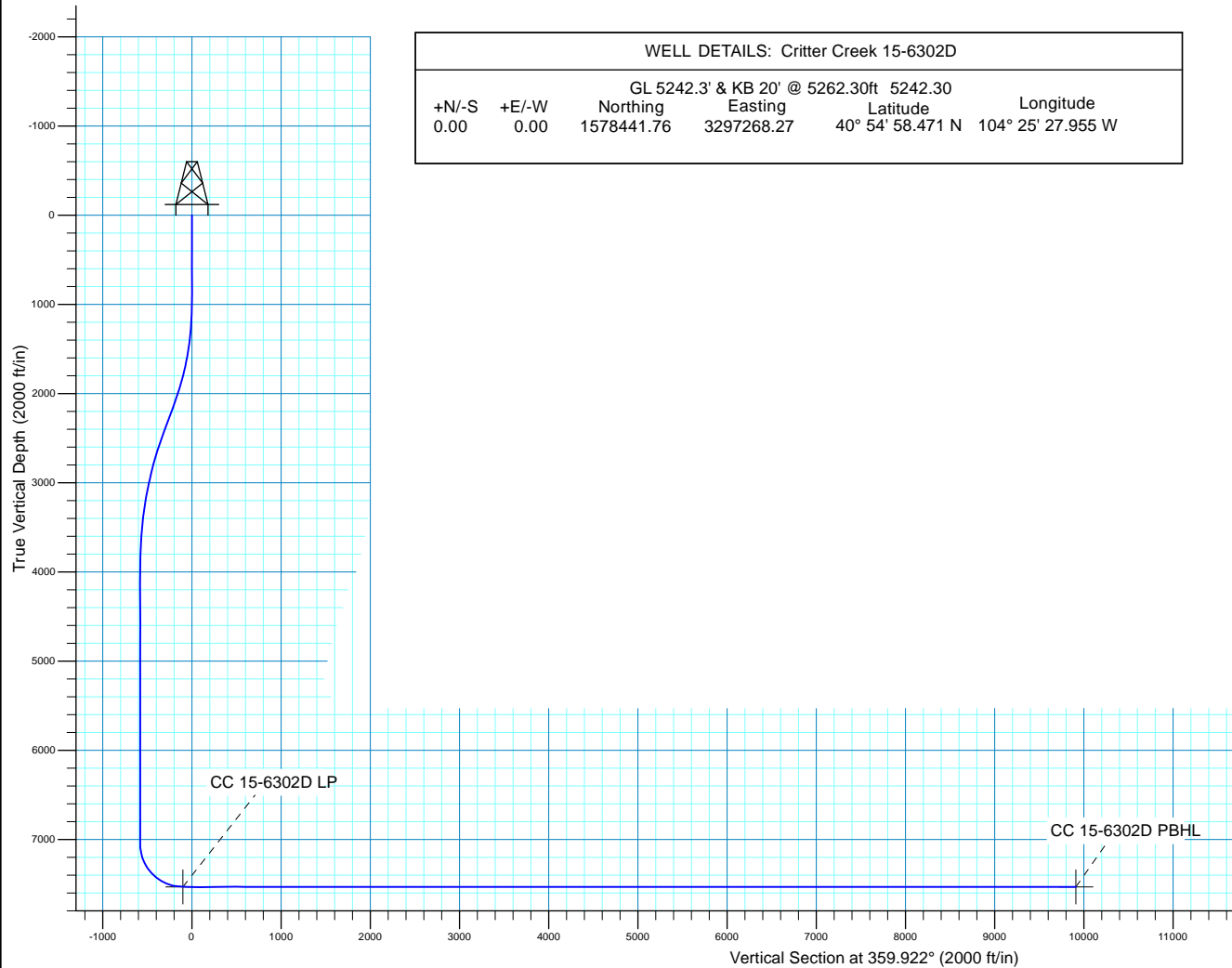
Created By: Seth Burstad

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect
0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00
1000.00	0.00	0.000	1000.00	0.00	0.00	0.00	0.00	0.00
2167.65	23.35	209.613	2135.59	-204.03	-115.97	2.00	209.61	-203.87
2467.69	23.35	209.613	2411.05	-307.43	-174.74	0.00	0.00	-307.19
4024.56	0.00	0.000	3925.17	-579.47	-329.36	1.50	180.00	-579.02
7153.93	0.00	0.000	7054.54	-579.47	-329.36	0.00	0.00	-579.02
7903.93	90.00	359.922	7532.00	-102.01	-330.01	12.00	359.92	-101.56
17916.80	90.00	359.922	7532.00	9910.85	-343.69	0.00	0.00	9911.31

WELL DETAILS: Critter Creek 15-6302D

GL 5242.3' & KB 20' @ 5262.30ft 5242.30					
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	1578441.76	3297268.27	40° 54' 58.471 N	104° 25' 27.955 W





HighPoint Resources

Weld County, CO NAD 83
Crittter Creek 15 SW Pad
Crittter Creek 15-6302D

OH

Plan: Plan 1

Standard Planning Report

20 April, 2018



Database:	Casper District	Local Co-ordinate Reference:	Well Critter Creek 15-6302D
Company:	HighPoint Resources	TVD Reference:	GL 5242.3' & KB 20' @ 5262.30ft
Project:	Weld County, CO NAD 83	MD Reference:	GL 5242.3' & KB 20' @ 5262.30ft
Site:	Critter Creek 15 SW Pad	North Reference:	True
Well:	Critter Creek 15-6302D	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 1		

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 15 SW Pad, Site Center : Critter Creek 15-6104BE			
Site Position:		Northing:	1,578,441.59 usft	Latitude:	40° 54' 58.471 N
From:	Lat/Long	Easting:	3,297,253.35 usft	Longitude:	104° 25' 28.150 W
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence:	0.69 °

Well	Critter Creek 15-6302D, 400' FSL 1115' FWL Sec 15 T11N R63W					
Well Position	+N/-S	-0.01 ft	Northing:	1,578,441.76 usft	Latitude:	40° 54' 58.471 N
	+E/-W	14.93 ft	Easting:	3,297,268.27 usft	Longitude:	104° 25' 27.955 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	0.00 ft	Ground Level:	5,242.30 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	4/20/2018	8.28	67.20	52,792

Design	Plan 1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	359.922

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,000.00	0.00	0.000	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,167.65	23.35	209.613	2,135.59	-204.03	-115.97	2.00	2.00	0.00	209.61	
2,467.69	23.35	209.613	2,411.05	-307.43	-174.74	0.00	0.00	0.00	0.00	
4,024.56	0.00	0.000	3,925.17	-579.47	-329.36	1.50	-1.50	0.00	180.00	
7,153.93	0.00	0.000	7,054.54	-579.47	-329.36	0.00	0.00	0.00	0.00	
7,903.93	90.00	359.922	7,532.00	-102.01	-330.01	12.00	12.00	-0.01	359.92	
17,916.80	90.00	359.922	7,532.00	9,910.85	-343.69	0.00	0.00	0.00	0.00	CC 15-6302D PBHL

Database:	Casper District	Local Co-ordinate Reference:	Well Critter Creek 15-6302D
Company:	HighPoint Resources	TVD Reference:	GL 5242.3' & KB 20' @ 5262.30ft
Project:	Weld County, CO NAD 83	MD Reference:	GL 5242.3' & KB 20' @ 5262.30ft
Site:	Critter Creek 15 SW Pad	North Reference:	True
Well:	Critter Creek 15-6302D	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 1		

Planned 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
100.00	0.00	0.000	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.000	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.000	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.000	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.000	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.000	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.000	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.000	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.000	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.000	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
1,100.00	2.00	209.613	1,099.98	-1.52	-0.86	-1.52	2.00	2.00	0.00
1,200.00	4.00	209.613	1,199.84	-6.07	-3.45	-6.06	2.00	2.00	0.00
1,300.00	6.00	209.613	1,299.45	-13.64	-7.75	-13.63	2.00	2.00	0.00
1,400.00	8.00	209.613	1,398.70	-24.24	-13.78	-24.22	2.00	2.00	0.00
1,500.00	10.00	209.613	1,497.47	-37.84	-21.51	-37.81	2.00	2.00	0.00
1,522.90	10.46	209.613	1,520.00	-41.37	-23.52	-41.34	2.00	2.00	0.00
Fox Hills-Pierre contact									
1,600.00	12.00	209.613	1,595.62	-54.43	-30.93	-54.38	2.00	2.00	0.00
1,700.00	14.00	209.613	1,693.06	-73.98	-42.05	-73.92	2.00	2.00	0.00
1,800.00	16.00	209.613	1,789.64	-96.48	-54.84	-96.41	2.00	2.00	0.00
1,900.00	18.00	209.613	1,885.27	-121.90	-69.28	-121.80	2.00	2.00	0.00
2,000.00	20.00	209.613	1,979.82	-150.20	-85.37	-150.08	2.00	2.00	0.00
2,100.00	22.00	209.613	2,073.17	-181.36	-103.08	-181.22	2.00	2.00	0.00
2,167.65	23.35	209.613	2,135.59	-204.03	-115.97	-203.87	2.00	2.00	0.00
Start 300.04 hold at 2167.65 MD									
2,200.00	23.35	209.613	2,165.29	-215.18	-122.30	-215.01	0.00	0.00	0.00
2,300.00	23.35	209.613	2,257.10	-249.64	-141.89	-249.45	0.00	0.00	0.00
2,400.00	23.35	209.613	2,348.90	-284.10	-161.48	-283.88	0.00	0.00	0.00
2,467.69	23.35	209.613	2,411.05	-307.43	-174.74	-307.19	0.00	0.00	0.00
Start Drop -1.50									
2,500.00	22.87	209.613	2,440.77	-318.45	-181.00	-318.21	1.50	-1.50	0.00
2,600.00	21.37	209.613	2,533.40	-351.19	-199.61	-350.92	1.50	-1.50	0.00
2,700.00	19.87	209.613	2,627.00	-381.80	-217.01	-381.51	1.50	-1.50	0.00
2,800.00	18.37	209.613	2,721.48	-410.27	-233.19	-409.96	1.50	-1.50	0.00
2,900.00	16.87	209.613	2,816.78	-436.59	-248.15	-436.25	1.50	-1.50	0.00
3,000.00	15.37	209.613	2,912.85	-460.72	-261.87	-460.37	1.50	-1.50	0.00
3,100.00	13.87	209.613	3,009.61	-482.66	-274.34	-482.29	1.50	-1.50	0.00
3,200.00	12.37	209.613	3,107.00	-502.40	-285.55	-502.01	1.50	-1.50	0.00
3,300.00	10.87	209.613	3,204.95	-519.90	-295.50	-519.50	1.50	-1.50	0.00
3,318.38	10.59	209.613	3,223.00	-522.88	-297.19	-522.47	1.50	-1.50	0.00
Pierre A									
3,400.00	9.37	209.613	3,303.39	-535.18	-304.18	-534.76	1.50	-1.50	0.00
3,500.00	7.87	209.613	3,402.26	-548.20	-311.59	-547.78	1.50	-1.50	0.00
3,600.00	6.37	209.613	3,501.48	-558.98	-317.71	-558.55	1.50	-1.50	0.00
3,700.00	4.87	209.613	3,601.00	-567.49	-322.55	-567.05	1.50	-1.50	0.00
3,800.00	3.37	209.613	3,700.74	-573.73	-326.10	-573.29	1.50	-1.50	0.00
3,900.00	1.87	209.613	3,800.63	-577.70	-328.36	-577.26	1.50	-1.50	0.00
4,000.00	0.37	209.613	3,900.61	-579.40	-329.32	-578.95	1.50	-1.50	0.00
4,024.56	0.00	0.000	3,925.17	-579.47	-329.36	-579.02	1.50	-1.50	0.00
Start 3129.37 hold at 4024.56 MD									
4,100.00	0.00	0.000	4,000.61	-579.47	-329.36	-579.02	0.00	0.00	0.00

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Company:	HighPoint Resources	TVD Reference:	GL 5242.3' & KB 20' @ 5262.30ft
Project:	Weld County, CO NAD 83	MD Reference:	GL 5242.3' & KB 20' @ 5262.30ft
Site:	Critter Creek 15 SW Pad	North Reference:	True
Well:	Critter Creek 15-6302D	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 1		

Planned 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)
4,200.00	0.00	0.000	4,100.61	-579.47	-329.36	-579.02	0.00	0.00	0.00
4,273.39	0.00	0.000	4,174.00	-579.47	-329.36	-579.02	0.00	0.00	0.00
Parkman									
4,300.00	0.00	0.000	4,200.61	-579.47	-329.36	-579.02	0.00	0.00	0.00
4,400.00	0.00	0.000	4,300.61	-579.47	-329.36	-579.02	0.00	0.00	0.00
4,500.00	0.00	0.000	4,400.61	-579.47	-329.36	-579.02	0.00	0.00	0.00
4,600.00	0.00	0.000	4,500.61	-579.47	-329.36	-579.02	0.00	0.00	0.00
4,700.00	0.00	0.000	4,600.61	-579.47	-329.36	-579.02	0.00	0.00	0.00
4,800.00	0.00	0.000	4,700.61	-579.47	-329.36	-579.02	0.00	0.00	0.00
4,900.00	0.00	0.000	4,800.61	-579.47	-329.36	-579.02	0.00	0.00	0.00
5,000.00	0.00	0.000	4,900.61	-579.47	-329.36	-579.02	0.00	0.00	0.00
5,100.00	0.00	0.000	5,000.61	-579.47	-329.36	-579.02	0.00	0.00	0.00
5,200.00	0.00	0.000	5,100.61	-579.47	-329.36	-579.02	0.00	0.00	0.00
5,300.00	0.00	0.000	5,200.61	-579.47	-329.36	-579.02	0.00	0.00	0.00
5,400.00	0.00	0.000	5,300.61	-579.47	-329.36	-579.02	0.00	0.00	0.00
5,500.00	0.00	0.000	5,400.61	-579.47	-329.36	-579.02	0.00	0.00	0.00
5,600.00	0.00	0.000	5,500.61	-579.47	-329.36	-579.02	0.00	0.00	0.00
5,700.00	0.00	0.000	5,600.61	-579.47	-329.36	-579.02	0.00	0.00	0.00
5,800.00	0.00	0.000	5,700.61	-579.47	-329.36	-579.02	0.00	0.00	0.00
5,900.00	0.00	0.000	5,800.61	-579.47	-329.36	-579.02	0.00	0.00	0.00
6,000.00	0.00	0.000	5,900.61	-579.47	-329.36	-579.02	0.00	0.00	0.00
6,100.00	0.00	0.000	6,000.61	-579.47	-329.36	-579.02	0.00	0.00	0.00
6,200.00	0.00	0.000	6,100.61	-579.47	-329.36	-579.02	0.00	0.00	0.00
6,300.00	0.00	0.000	6,200.61	-579.47	-329.36	-579.02	0.00	0.00	0.00
6,400.00	0.00	0.000	6,300.61	-579.47	-329.36	-579.02	0.00	0.00	0.00
6,500.00	0.00	0.000	6,400.61	-579.47	-329.36	-579.02	0.00	0.00	0.00
6,600.00	0.00	0.000	6,500.61	-579.47	-329.36	-579.02	0.00	0.00	0.00
6,700.00	0.00	0.000	6,600.61	-579.47	-329.36	-579.02	0.00	0.00	0.00
6,800.00	0.00	0.000	6,700.61	-579.47	-329.36	-579.02	0.00	0.00	0.00
6,900.00	0.00	0.000	6,800.61	-579.47	-329.36	-579.02	0.00	0.00	0.00
7,000.00	0.00	0.000	6,900.61	-579.47	-329.36	-579.02	0.00	0.00	0.00
7,100.00	0.00	0.000	7,000.61	-579.47	-329.36	-579.02	0.00	0.00	0.00
7,153.93	0.00	0.000	7,054.54	-579.47	-329.36	-579.02	0.00	0.00	0.00
Start DLS 12.00 TFO 359.92									
7,200.00	5.53	359.922	7,100.54	-577.25	-329.36	-576.80	12.00	12.00	0.00
7,300.00	17.53	359.922	7,198.34	-557.30	-329.39	-556.85	12.00	12.00	0.00
7,311.22	18.87	359.922	7,209.00	-553.80	-329.40	-553.35	12.00	12.00	0.00
Lower Sharon Springs GR Marker									
7,340.07	22.34	359.922	7,236.00	-543.64	-329.41	-543.20	12.00	12.00	0.00
Niobrara A Chalk									
7,366.33	25.49	359.922	7,260.00	-533.00	-329.42	-532.55	12.00	12.00	0.00
Niobrara A Marl									
7,400.00	29.53	359.922	7,289.86	-517.45	-329.44	-517.00	12.00	12.00	0.00
7,425.85	32.63	359.922	7,312.00	-504.11	-329.46	-503.66	12.00	12.00	0.00
Niobrara B Chalk									
7,464.92	37.32	359.922	7,344.00	-481.72	-329.49	-481.27	12.00	12.00	0.00
Niobrara B Marl									
7,500.00	41.53	359.922	7,371.09	-459.45	-329.52	-459.00	12.00	12.00	0.00
7,600.00	53.53	359.922	7,438.49	-385.82	-329.62	-385.37	12.00	12.00	0.00
7,611.12	54.86	359.922	7,445.00	-376.80	-329.64	-376.35	12.00	12.00	0.00
Niobrara M Zone									
7,700.00	65.53	359.922	7,489.11	-299.79	-329.74	-299.34	12.00	12.00	0.00
7,758.41	72.54	359.922	7,510.00	-245.28	-329.82	-244.84	12.00	12.00	0.00

Database:	Casper District	Local Co-ordinate Reference:	Well Critter Creek 15-6302D
Company:	HighPoint Resources	TVD Reference:	GL 5242.3' & KB 20' @ 5262.30ft
Project:	Weld County, CO NAD 83	MD Reference:	GL 5242.3' & KB 20' @ 5262.30ft
Site:	Critter Creek 15 SW Pad	North Reference:	True
Well:	Critter Creek 15-6302D	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 1		

Planned 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)
Ft Hays									
7,800.00	77.53	359.922	7,520.74	-205.12	-329.87	-204.67	12.00	12.00	0.00
7,806.02	78.25	359.922	7,522.00	-199.24	-329.88	-198.79	12.00	12.00	0.00
Codell									
7,900.00	89.53	359.922	7,531.99	-105.94	-330.01	-105.49	12.00	12.00	0.00
7,901.78	89.74	359.922	7,532.00	-104.15	-330.01	-103.70	12.00	12.00	0.00
Codell target - TD									
7,903.93	90.00	359.922	7,532.00	-102.01	-330.01	-101.56	12.00	12.00	0.00
Start 10012.86 hold at 7903.93 MD									
8,000.00	90.00	359.922	7,532.00	-5.94	-330.14	-5.49	0.00	0.00	0.00
8,100.00	90.00	359.922	7,532.00	94.06	-330.28	94.51	0.00	0.00	0.00
8,200.00	90.00	359.922	7,532.00	194.06	-330.42	194.51	0.00	0.00	0.00
8,300.00	90.00	359.922	7,532.00	294.06	-330.55	294.51	0.00	0.00	0.00
8,400.00	90.00	359.922	7,532.00	394.06	-330.69	394.51	0.00	0.00	0.00
8,500.00	90.00	359.922	7,532.00	494.06	-330.83	494.51	0.00	0.00	0.00
8,600.00	90.00	359.922	7,532.00	594.06	-330.96	594.51	0.00	0.00	0.00
8,700.00	90.00	359.922	7,532.00	694.06	-331.10	694.51	0.00	0.00	0.00
8,800.00	90.00	359.922	7,532.00	794.06	-331.24	794.51	0.00	0.00	0.00
8,900.00	90.00	359.922	7,532.00	894.06	-331.37	894.51	0.00	0.00	0.00
9,000.00	90.00	359.922	7,532.00	994.06	-331.51	994.51	0.00	0.00	0.00
9,100.00	90.00	359.922	7,532.00	1,094.06	-331.65	1,094.51	0.00	0.00	0.00
9,200.00	90.00	359.922	7,532.00	1,194.06	-331.78	1,194.51	0.00	0.00	0.00
9,300.00	90.00	359.922	7,532.00	1,294.06	-331.92	1,294.51	0.00	0.00	0.00
9,400.00	90.00	359.922	7,532.00	1,394.06	-332.06	1,394.51	0.00	0.00	0.00
9,500.00	90.00	359.922	7,532.00	1,494.06	-332.19	1,494.51	0.00	0.00	0.00
9,600.00	90.00	359.922	7,532.00	1,594.06	-332.33	1,594.51	0.00	0.00	0.00
9,700.00	90.00	359.922	7,532.00	1,694.06	-332.47	1,694.51	0.00	0.00	0.00
9,800.00	90.00	359.922	7,532.00	1,794.06	-332.60	1,794.51	0.00	0.00	0.00
9,900.00	90.00	359.922	7,532.00	1,894.06	-332.74	1,894.51	0.00	0.00	0.00
10,000.00	90.00	359.922	7,532.00	1,994.06	-332.88	1,994.51	0.00	0.00	0.00
10,100.00	90.00	359.922	7,532.00	2,094.06	-333.01	2,094.51	0.00	0.00	0.00
10,200.00	90.00	359.922	7,532.00	2,194.06	-333.15	2,194.51	0.00	0.00	0.00
10,300.00	90.00	359.922	7,532.00	2,294.06	-333.29	2,294.51	0.00	0.00	0.00
10,400.00	90.00	359.922	7,532.00	2,394.06	-333.42	2,394.51	0.00	0.00	0.00
10,500.00	90.00	359.922	7,532.00	2,494.06	-333.56	2,494.51	0.00	0.00	0.00
10,600.00	90.00	359.922	7,532.00	2,594.06	-333.70	2,594.51	0.00	0.00	0.00
10,700.00	90.00	359.922	7,532.00	2,694.06	-333.83	2,694.51	0.00	0.00	0.00
10,800.00	90.00	359.922	7,532.00	2,794.06	-333.97	2,794.51	0.00	0.00	0.00
10,900.00	90.00	359.922	7,532.00	2,894.06	-334.10	2,894.51	0.00	0.00	0.00
11,000.00	90.00	359.922	7,532.00	2,994.06	-334.24	2,994.51	0.00	0.00	0.00
11,100.00	90.00	359.922	7,532.00	3,094.06	-334.38	3,094.51	0.00	0.00	0.00
11,200.00	90.00	359.922	7,532.00	3,194.06	-334.51	3,194.51	0.00	0.00	0.00
11,300.00	90.00	359.922	7,532.00	3,294.06	-334.65	3,294.51	0.00	0.00	0.00
11,400.00	90.00	359.922	7,532.00	3,394.06	-334.79	3,394.51	0.00	0.00	0.00
11,500.00	90.00	359.922	7,532.00	3,494.06	-334.92	3,494.51	0.00	0.00	0.00
11,600.00	90.00	359.922	7,532.00	3,594.06	-335.06	3,594.51	0.00	0.00	0.00
11,700.00	90.00	359.922	7,532.00	3,694.06	-335.20	3,694.51	0.00	0.00	0.00
11,800.00	90.00	359.922	7,532.00	3,794.06	-335.33	3,794.51	0.00	0.00	0.00
11,900.00	90.00	359.922	7,532.00	3,894.06	-335.47	3,894.51	0.00	0.00	0.00
12,000.00	90.00	359.922	7,532.00	3,994.06	-335.61	3,994.51	0.00	0.00	0.00
12,100.00	90.00	359.922	7,532.00	4,094.06	-335.74	4,094.51	0.00	0.00	0.00
12,200.00	90.00	359.922	7,532.00	4,194.06	-335.88	4,194.51	0.00	0.00	0.00
12,300.00	90.00	359.922	7,532.00	4,294.06	-336.02	4,294.51	0.00	0.00	0.00

Database:	Casper District	Local Co-ordinate Reference:	Well Critter Creek 15-6302D
Company:	HighPoint Resources	TVD Reference:	GL 5242.3' & KB 20' @ 5262.30ft
Project:	Weld County, CO NAD 83	MD Reference:	GL 5242.3' & KB 20' @ 5262.30ft
Site:	Critter Creek 15 SW Pad	North Reference:	True
Well:	Critter Creek 15-6302D	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 1		

Planned 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)
12,400.00	90.00	359.922	7,532.00	4,394.06	-336.15	4,394.51	0.00	0.00	0.00
12,500.00	90.00	359.922	7,532.00	4,494.06	-336.29	4,494.51	0.00	0.00	0.00
12,600.00	90.00	359.922	7,532.00	4,594.06	-336.43	4,594.51	0.00	0.00	0.00
12,700.00	90.00	359.922	7,532.00	4,694.06	-336.56	4,694.51	0.00	0.00	0.00
12,800.00	90.00	359.922	7,532.00	4,794.06	-336.70	4,794.51	0.00	0.00	0.00
12,900.00	90.00	359.922	7,532.00	4,894.06	-336.84	4,894.51	0.00	0.00	0.00
13,000.00	90.00	359.922	7,532.00	4,994.06	-336.97	4,994.51	0.00	0.00	0.00
13,100.00	90.00	359.922	7,532.00	5,094.06	-337.11	5,094.51	0.00	0.00	0.00
13,200.00	90.00	359.922	7,532.00	5,194.06	-337.25	5,194.51	0.00	0.00	0.00
13,300.00	90.00	359.922	7,532.00	5,294.06	-337.38	5,294.51	0.00	0.00	0.00
13,400.00	90.00	359.922	7,532.00	5,394.06	-337.52	5,394.51	0.00	0.00	0.00
13,500.00	90.00	359.922	7,532.00	5,494.06	-337.66	5,494.51	0.00	0.00	0.00
13,600.00	90.00	359.922	7,532.00	5,594.06	-337.79	5,594.51	0.00	0.00	0.00
13,700.00	90.00	359.922	7,532.00	5,694.06	-337.93	5,694.51	0.00	0.00	0.00
13,800.00	90.00	359.922	7,532.00	5,794.06	-338.07	5,794.51	0.00	0.00	0.00
13,900.00	90.00	359.922	7,532.00	5,894.06	-338.20	5,894.51	0.00	0.00	0.00
14,000.00	90.00	359.922	7,532.00	5,994.06	-338.34	5,994.51	0.00	0.00	0.00
14,100.00	90.00	359.922	7,532.00	6,094.06	-338.48	6,094.51	0.00	0.00	0.00
14,200.00	90.00	359.922	7,532.00	6,194.06	-338.61	6,194.51	0.00	0.00	0.00
14,300.00	90.00	359.922	7,532.00	6,294.06	-338.75	6,294.51	0.00	0.00	0.00
14,400.00	90.00	359.922	7,532.00	6,394.06	-338.89	6,394.51	0.00	0.00	0.00
14,500.00	90.00	359.922	7,532.00	6,494.06	-339.02	6,494.51	0.00	0.00	0.00
14,600.00	90.00	359.922	7,532.00	6,594.06	-339.16	6,594.51	0.00	0.00	0.00
14,700.00	90.00	359.922	7,532.00	6,694.06	-339.30	6,694.51	0.00	0.00	0.00
14,800.00	90.00	359.922	7,532.00	6,794.06	-339.43	6,794.51	0.00	0.00	0.00
14,900.00	90.00	359.922	7,532.00	6,894.06	-339.57	6,894.51	0.00	0.00	0.00
15,000.00	90.00	359.922	7,532.00	6,994.06	-339.71	6,994.51	0.00	0.00	0.00
15,100.00	90.00	359.922	7,532.00	7,094.06	-339.84	7,094.51	0.00	0.00	0.00
15,200.00	90.00	359.922	7,532.00	7,194.06	-339.98	7,194.51	0.00	0.00	0.00
15,300.00	90.00	359.922	7,532.00	7,294.06	-340.12	7,294.51	0.00	0.00	0.00
15,400.00	90.00	359.922	7,532.00	7,394.06	-340.25	7,394.51	0.00	0.00	0.00
15,500.00	90.00	359.922	7,532.00	7,494.06	-340.39	7,494.51	0.00	0.00	0.00
15,600.00	90.00	359.922	7,532.00	7,594.06	-340.53	7,594.51	0.00	0.00	0.00
15,700.00	90.00	359.922	7,532.00	7,694.06	-340.66	7,694.51	0.00	0.00	0.00
15,800.00	90.00	359.922	7,532.00	7,794.06	-340.80	7,794.51	0.00	0.00	0.00
15,900.00	90.00	359.922	7,532.00	7,894.06	-340.94	7,894.51	0.00	0.00	0.00
16,000.00	90.00	359.922	7,532.00	7,994.06	-341.07	7,994.51	0.00	0.00	0.00
16,100.00	90.00	359.922	7,532.00	8,094.06	-341.21	8,094.51	0.00	0.00	0.00
16,200.00	90.00	359.922	7,532.00	8,194.06	-341.34	8,194.51	0.00	0.00	0.00
16,300.00	90.00	359.922	7,532.00	8,294.05	-341.48	8,294.51	0.00	0.00	0.00
16,400.00	90.00	359.922	7,532.00	8,394.05	-341.62	8,394.51	0.00	0.00	0.00
16,500.00	90.00	359.922	7,532.00	8,494.05	-341.75	8,494.51	0.00	0.00	0.00
16,600.00	90.00	359.922	7,532.00	8,594.05	-341.89	8,594.51	0.00	0.00	0.00
16,700.00	90.00	359.922	7,532.00	8,694.05	-342.03	8,694.51	0.00	0.00	0.00
16,800.00	90.00	359.922	7,532.00	8,794.05	-342.16	8,794.51	0.00	0.00	0.00
16,900.00	90.00	359.922	7,532.00	8,894.05	-342.30	8,894.51	0.00	0.00	0.00
17,000.00	90.00	359.922	7,532.00	8,994.05	-342.44	8,994.51	0.00	0.00	0.00
17,100.00	90.00	359.922	7,532.00	9,094.05	-342.57	9,094.51	0.00	0.00	0.00
17,200.00	90.00	359.922	7,532.00	9,194.05	-342.71	9,194.51	0.00	0.00	0.00
17,300.00	90.00	359.922	7,532.00	9,294.05	-342.85	9,294.51	0.00	0.00	0.00
17,400.00	90.00	359.922	7,532.00	9,394.05	-342.98	9,394.51	0.00	0.00	0.00
17,500.00	90.00	359.922	7,532.00	9,494.05	-343.12	9,494.51	0.00	0.00	0.00
17,600.00	90.00	359.922	7,532.00	9,594.05	-343.26	9,594.51	0.00	0.00	0.00
17,700.00	90.00	359.922	7,532.00	9,694.05	-343.39	9,694.51	0.00	0.00	0.00

Database:	Casper District	Local Co-ordinate Reference:	Well Critter Creek 15-6302D
Company:	HighPoint Resources	TVD Reference:	GL 5242.3' & KB 20' @ 5262.30ft
Project:	Weld County, CO NAD 83	MD Reference:	GL 5242.3' & KB 20' @ 5262.30ft
Site:	Critter Creek 15 SW Pad	North Reference:	True
Well:	Critter Creek 15-6302D	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 1		

Planned 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)
17,800.00	90.00	359.922	7,532.00	9,794.05	-343.53	9,794.51	0.00	0.00	0.00
17,900.00	90.00	359.922	7,532.00	9,894.05	-343.67	9,894.51	0.00	0.00	0.00
17,916.79	90.00	359.922	7,532.00	9,910.84	-343.69	9,911.30	0.00	0.00	0.00
TD at 17916.79									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
CC 15-6302D PBHL - hit/miss target - Shape - Point	0.00	0.000	7,532.00	9,910.85	-343.69	1,588,347.69	3,296,804.40	40° 56' 36.395 N	104° 25' 32.434 W
CC 15-6302D LP - plan hits target center - Point	0.00	0.000	7,532.00	-102.01	-330.01	1,578,335.76	3,296,939.52	40° 54' 57.463 N	104° 25' 32.254 W

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,522.90	1,520.00	Fox Hills-Pierre contact				
3,318.38	3,223.00	Pierre A				
4,273.39	4,174.00	Parkman				
7,311.22	7,209.00	Lower Sharon Springs GR Marker				
7,340.07	7,236.00	Niobrara A Chalk				
7,366.33	7,260.00	Niobrara A Marl				
7,425.85	7,312.00	Niobrara B Chalk				
7,464.92	7,344.00	Niobrara B Marl				
7,611.12	7,445.00	Niobrara M Zone				
7,758.41	7,510.00	Ft Hays				
7,806.02	7,522.00	Codell				
7,901.78	7,532.00	Codell target				
7,901.78	7,532.00	TD				

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
1,000.00	1,000.00	0.00	0.00	Start Build 2.00
2,167.65	2,135.59	-204.03	-115.97	Start 300.04 hold at 2167.65 MD
2,467.69	2,411.05	-307.43	-174.74	Start Drop -1.50
4,024.56	3,925.17	-579.47	-329.36	Start 3129.37 hold at 4024.56 MD
7,153.93	7,054.54	-579.47	-329.36	Start DLS 12.00 TFO 359.92
7,903.93	7,532.00	-102.01	-330.01	Start 10012.86 hold at 7903.93 MD
17,916.79	7,532.00	9,910.84	-343.69	TD at 17916.79