



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 15-6401B
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 15-6401B/OH)

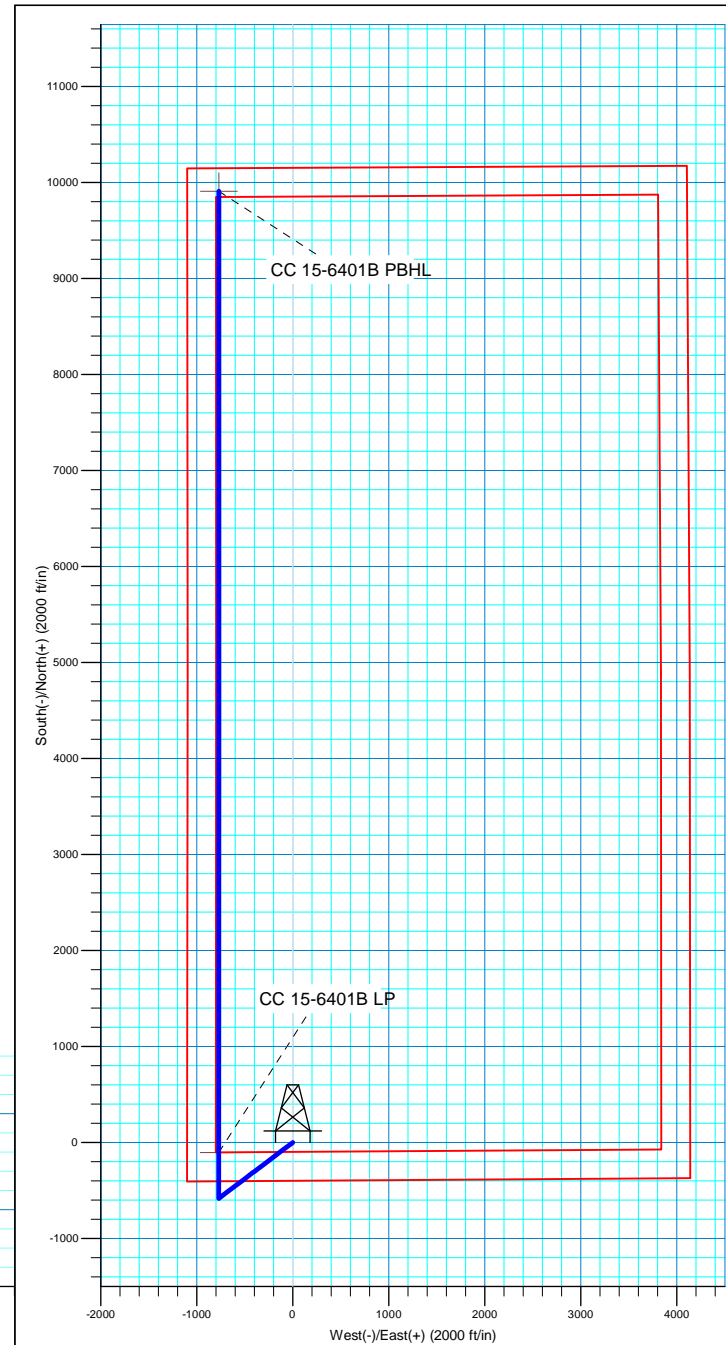
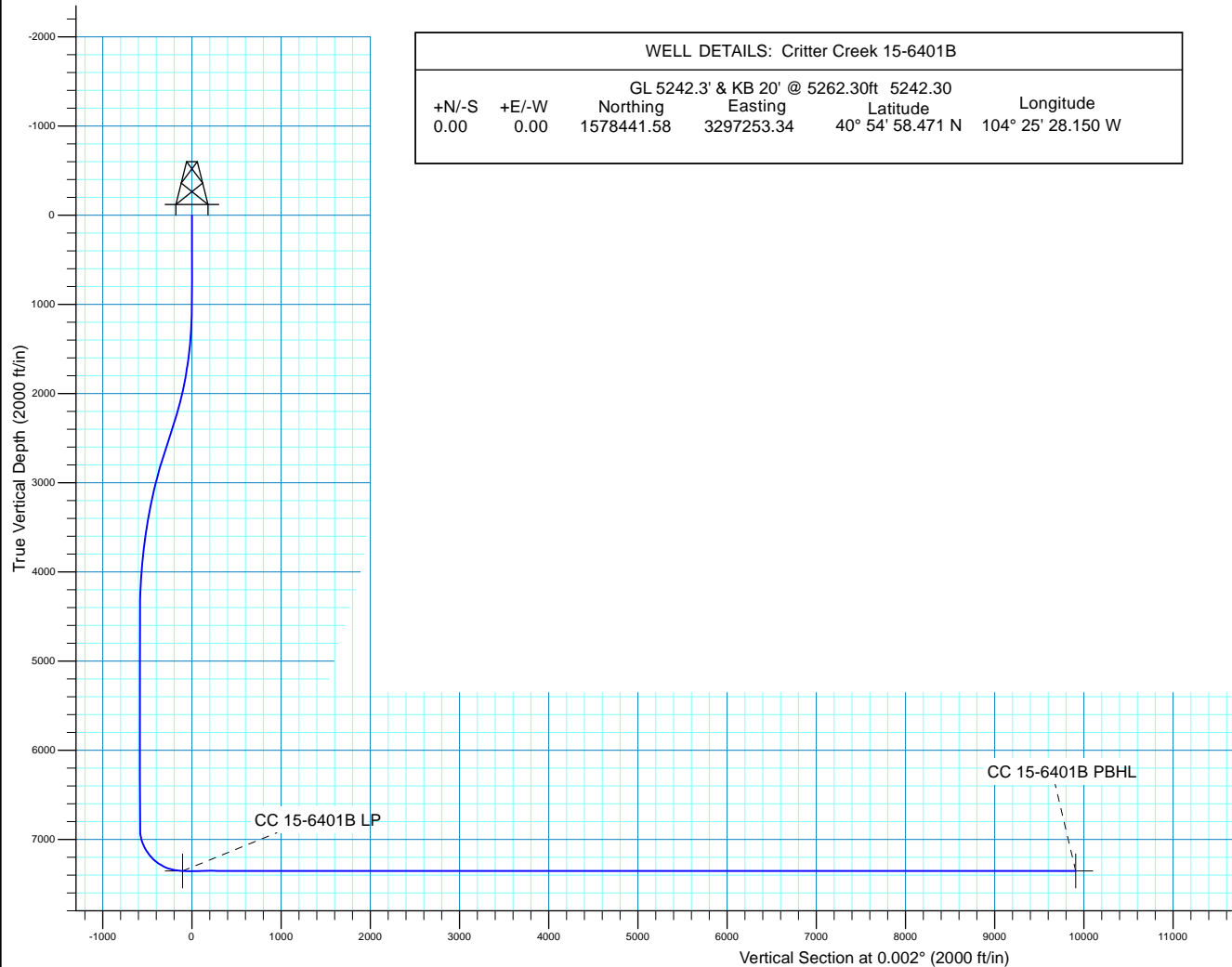
Created By: Seth Burstad

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
2434.95	28.70	232.917	2375.70	-212.20	-280.75	2.00	232.92	-212.21
2735.00	28.70	232.917	2638.89	-299.08	-395.70	0.00	0.00	-299.10
4648.27	0.00	0.000	4473.15	-582.02	-770.04	1.50	180.00	-582.05
7051.66	0.00	0.000	6876.54	-582.02	-770.04	0.00	0.00	-582.05
7801.66	90.00	0.002	7354.00	-104.55	-770.03	12.00	0.00	-104.58
17814.89	90.00	0.002	7354.00	9908.68	-769.71	0.00	0.00	9908.65

WELL DETAILS: Critter Creek 15-6401B

GL 5242.3' & KB 20' @ 5262.30ft 5242.30						Longitude
+N/-S	+E/-W	Northing	Easting	Latitude		
0.00	0.00	1578441.58	3297253.34	40° 54' 58.471 N	104° 25' 28.150 W	





HighPoint Resources

Weld County, CO NAD 83
Crittter Creek 15 SW Pad
Crittter Creek 15-6401B

OH

Plan: Plan 1

Standard Planning Report

20 April, 2018



Database:	Casper District	Local Co-ordinate Reference:	Well Critter Creek 15-6401B
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 15-6401B	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 15-6401B, 400' FSL 1100' FWL Sec 15 T11N R63W					
Well Position	+N/-S	-0.01 ft	Northing:	1,578,441.59 usft	Latitude:	40° 54' 58.471 N
	+E/-W	0.00 ft	Easting:	3,297,253.35 usft	Longitude:	104° 25' 28.150 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)	+N/-S	+E/-W	Direction
	(ft)	(ft)	(ft)	(°)
	0.00	0.00	0.00	0.002

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	
2,434.95	28.70	232.917	2,375.70	-212.20	-280.75	2.00	2.00	0.00	232.92	
2,735.00	28.70	232.917	2,638.89	-299.08	-395.70	0.00	0.00	0.00	0.00	
4,648.27	0.00	0.000	4,473.15	-582.02	-770.04	1.50	-1.50	0.00	180.00	
7,051.66	0.00	0.000	6,876.54	-582.02	-770.04	0.00	0.00	0.00	0.00	
7,801.66	90.00	0.002	7,354.00	-104.55	-770.03	12.00	12.00	0.00	0.00	
17,814.89	90.00	0.002	7,354.00	9,908.67	-769.71	0.00	0.00	0.00	0.00	CC 15-6401B PBHL

Database:	Casper District	Local Co-ordinate Reference:	Well Critter Creek 15-6401B
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 15-6401B	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	232.917	1,099.98	-1.05	-1.39	-1.05	2.00	2.00	0.00
1,200.00	4.00	232.917	1,199.84	-4.21	-5.57	-4.21	2.00	2.00	0.00
1,300.00	6.00	232.917	1,299.45	-9.46	-12.52	-9.46	2.00	2.00	0.00
1,400.00	8.00	232.917	1,398.70	-16.81	-22.24	-16.81	2.00	2.00	0.00
1,500.00	10.00	232.917	1,497.47	-26.24	-34.72	-26.24	2.00	2.00	0.00
1,522.90	10.46	232.917	1,520.00	-28.69	-37.96	-28.70	2.00	2.00	0.00
Fox Hills-Pierre contact									
1,600.00	12.00	232.917	1,595.62	-37.75	-49.94	-37.75	2.00	2.00	0.00
1,700.00	14.00	232.917	1,693.06	-51.31	-67.89	-51.31	2.00	2.00	0.00
1,800.00	16.00	232.917	1,789.64	-66.92	-88.53	-66.92	2.00	2.00	0.00
1,900.00	18.00	232.917	1,885.27	-84.54	-111.86	-84.55	2.00	2.00	0.00
2,000.00	20.00	232.917	1,979.82	-104.17	-137.83	-104.18	2.00	2.00	0.00
2,100.00	22.00	232.917	2,073.17	-125.78	-166.42	-125.79	2.00	2.00	0.00
2,200.00	24.00	232.917	2,165.21	-149.34	-197.58	-149.35	2.00	2.00	0.00
2,300.00	26.00	232.917	2,255.84	-174.82	-231.30	-174.83	2.00	2.00	0.00
2,400.00	28.00	232.917	2,344.94	-202.20	-267.51	-202.20	2.00	2.00	0.00
2,434.95	28.70	232.917	2,375.70	-212.20	-280.75	-212.21	2.00	2.00	0.00
Start 300.05 hold at 2434.95 MD									
2,500.00	28.70	232.917	2,432.75	-231.04	-305.67	-231.05	0.00	0.00	0.00
2,600.00	28.70	232.917	2,520.47	-259.99	-343.98	-260.00	0.00	0.00	0.00
2,700.00	28.70	232.917	2,608.18	-288.95	-382.29	-288.96	0.00	0.00	0.00
2,735.00	28.70	232.917	2,638.89	-299.08	-395.70	-299.10	0.00	0.00	0.00
Start Drop -1.50									
2,800.00	27.72	232.917	2,696.16	-317.61	-420.21	-317.62	1.50	-1.50	0.00
2,900.00	26.22	232.917	2,785.28	-344.96	-456.40	-344.98	1.50	-1.50	0.00
3,000.00	24.72	232.917	2,875.56	-370.89	-490.71	-370.91	1.50	-1.50	0.00
3,100.00	23.22	232.917	2,966.93	-395.39	-523.12	-395.41	1.50	-1.50	0.00
3,200.00	21.72	232.917	3,059.33	-418.44	-553.62	-418.46	1.50	-1.50	0.00
3,300.00	20.22	232.917	3,152.70	-440.02	-582.17	-440.04	1.50	-1.50	0.00
3,374.65	19.10	232.917	3,223.00	-455.17	-602.21	-455.19	1.50	-1.50	0.00
Pierre A									
3,400.00	18.72	232.917	3,246.98	-460.12	-608.77	-460.15	1.50	-1.50	0.00
3,500.00	17.22	232.917	3,342.10	-478.73	-633.38	-478.75	1.50	-1.50	0.00
3,600.00	15.72	232.917	3,437.99	-495.83	-656.01	-495.85	1.50	-1.50	0.00
3,700.00	14.22	232.917	3,534.59	-511.41	-676.62	-511.43	1.50	-1.50	0.00
3,800.00	12.72	232.917	3,631.83	-525.46	-695.21	-525.48	1.50	-1.50	0.00
3,900.00	11.22	232.917	3,729.65	-537.97	-711.76	-537.99	1.50	-1.50	0.00
4,000.00	9.72	232.917	3,827.99	-548.93	-726.26	-548.95	1.50	-1.50	0.00
4,100.00	8.22	232.917	3,926.76	-558.33	-738.70	-558.36	1.50	-1.50	0.00
4,200.00	6.72	232.917	4,025.91	-566.18	-749.08	-566.20	1.50	-1.50	0.00
4,300.00	5.22	232.917	4,125.36	-572.45	-757.38	-572.48	1.50	-1.50	0.00
4,348.82	4.49	232.917	4,174.00	-574.95	-760.68	-574.97	1.50	-1.50	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 15-6401B	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)	
Parkman										
4,400.00	3.72	232.917	4,225.05	-577.16	-763.61	-577.18	1.50	-1.50	0.00	
4,500.00	2.22	232.917	4,324.92	-580.29	-767.74	-580.31	1.50	-1.50	0.00	
4,600.00	0.72	232.917	4,424.88	-581.84	-769.80	-581.86	1.50	-1.50	0.00	
4,648.27	0.00	0.000	4,473.15	-582.02	-770.04	-582.05	1.50	-1.50	0.00	
Start 2403.39 hold at 4648.27 MD										
4,700.00	0.00	0.000	4,524.88	-582.02	-770.04	-582.05	0.00	0.00	0.00	
4,800.00	0.00	0.000	4,624.88	-582.02	-770.04	-582.05	0.00	0.00	0.00	
4,900.00	0.00	0.000	4,724.88	-582.02	-770.04	-582.05	0.00	0.00	0.00	
5,000.00	0.00	0.000	4,824.88	-582.02	-770.04	-582.05	0.00	0.00	0.00	
5,100.00	0.00	0.000	4,924.88	-582.02	-770.04	-582.05	0.00	0.00	0.00	
5,200.00	0.00	0.000	5,024.88	-582.02	-770.04	-582.05	0.00	0.00	0.00	
5,300.00	0.00	0.000	5,124.88	-582.02	-770.04	-582.05	0.00	0.00	0.00	
5,400.00	0.00	0.000	5,224.88	-582.02	-770.04	-582.05	0.00	0.00	0.00	
5,500.00	0.00	0.000	5,324.88	-582.02	-770.04	-582.05	0.00	0.00	0.00	
5,600.00	0.00	0.000	5,424.88	-582.02	-770.04	-582.05	0.00	0.00	0.00	
5,700.00	0.00	0.000	5,524.88	-582.02	-770.04	-582.05	0.00	0.00	0.00	
5,800.00	0.00	0.000	5,624.88	-582.02	-770.04	-582.05	0.00	0.00	0.00	
5,900.00	0.00	0.000	5,724.88	-582.02	-770.04	-582.05	0.00	0.00	0.00	
6,000.00	0.00	0.000	5,824.88	-582.02	-770.04	-582.05	0.00	0.00	0.00	
6,100.00	0.00	0.000	5,924.88	-582.02	-770.04	-582.05	0.00	0.00	0.00	
6,200.00	0.00	0.000	6,024.88	-582.02	-770.04	-582.05	0.00	0.00	0.00	
6,300.00	0.00	0.000	6,124.88	-582.02	-770.04	-582.05	0.00	0.00	0.00	
6,400.00	0.00	0.000	6,224.88	-582.02	-770.04	-582.05	0.00	0.00	0.00	
6,500.00	0.00	0.000	6,324.88	-582.02	-770.04	-582.05	0.00	0.00	0.00	
6,600.00	0.00	0.000	6,424.88	-582.02	-770.04	-582.05	0.00	0.00	0.00	
6,700.00	0.00	0.000	6,524.88	-582.02	-770.04	-582.05	0.00	0.00	0.00	
6,800.00	0.00	0.000	6,624.88	-582.02	-770.04	-582.05	0.00	0.00	0.00	
6,900.00	0.00	0.000	6,724.88	-582.02	-770.04	-582.05	0.00	0.00	0.00	
7,000.00	0.00	0.000	6,824.88	-582.02	-770.04	-582.05	0.00	0.00	0.00	
7,051.66	0.00	0.000	6,876.54	-582.02	-770.04	-582.05	0.00	0.00	0.00	
Start DLS 12.00 TFO 0.00										
7,100.00	5.80	0.002	6,924.80	-579.58	-770.04	-579.60	12.00	12.00	0.00	
7,200.00	17.80	0.002	7,022.50	-559.16	-770.04	-559.19	12.00	12.00	0.00	
7,300.00	29.80	0.002	7,113.83	-518.88	-770.04	-518.91	12.00	12.00	0.00	
7,400.00	41.80	0.002	7,194.79	-460.49	-770.04	-460.52	12.00	12.00	0.00	
7,419.42	44.13	0.002	7,209.00	-447.25	-770.04	-447.28	12.00	12.00	0.00	
Sharon Springs										
7,458.65	48.84	0.002	7,236.00	-418.82	-770.03	-418.84	12.00	12.00	0.00	
Niobrara A Chalk										
7,496.90	53.43	0.002	7,260.00	-389.04	-770.03	-389.07	12.00	12.00	0.00	
Niobrara A Marl										
7,500.00	53.80	0.002	7,261.84	-386.54	-770.03	-386.57	12.00	12.00	0.00	
7,501.97	54.04	0.002	7,263.00	-384.95	-770.03	-384.98	12.00	12.00	0.00	
Nio B1 Chalk										
7,559.71	60.97	0.002	7,294.00	-336.29	-770.03	-336.31	12.00	12.00	0.00	
Nio B1 Marl										
7,599.89	65.79	0.002	7,312.00	-300.38	-770.03	-300.41	12.00	12.00	0.00	
Niobrara B Chalk										
7,600.00	65.80	0.002	7,312.05	-300.27	-770.03	-300.30	12.00	12.00	0.00	
7,700.00	77.80	0.002	7,343.22	-205.45	-770.03	-205.48	12.00	12.00	0.00	
7,703.75	78.25	0.002	7,344.00	-201.79	-770.03	-201.81	12.00	12.00	0.00	

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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 15-6401B	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)
Niobrara B Marl									
7,799.51	89.74	0.002	7,354.00	-106.70	-770.03	-106.73	12.00	12.00	0.00
Niobrara B Landing Target - TD									
7,800.00	89.80	0.002	7,354.00	-106.22	-770.03	-106.24	12.00	12.00	0.00
7,801.66	90.00	0.002	7,354.00	-104.55	-770.03	-104.58	12.00	12.00	0.00
Start 10013.22 hold at 7801.66 MD									
7,900.00	90.00	0.002	7,354.00	-6.22	-770.02	-6.24	0.00	0.00	0.00
8,000.00	90.00	0.002	7,354.00	93.78	-770.02	93.76	0.00	0.00	0.00
8,100.00	90.00	0.002	7,354.00	193.78	-770.02	193.76	0.00	0.00	0.00
8,200.00	90.00	0.002	7,354.00	293.78	-770.01	293.76	0.00	0.00	0.00
8,300.00	90.00	0.002	7,354.00	393.78	-770.01	393.76	0.00	0.00	0.00
8,400.00	90.00	0.002	7,354.00	493.78	-770.01	493.76	0.00	0.00	0.00
8,500.00	90.00	0.002	7,354.00	593.78	-770.00	593.76	0.00	0.00	0.00
8,600.00	90.00	0.002	7,354.00	693.78	-770.00	693.76	0.00	0.00	0.00
8,700.00	90.00	0.002	7,354.00	793.78	-770.00	793.76	0.00	0.00	0.00
8,800.00	90.00	0.002	7,354.00	893.78	-769.99	893.76	0.00	0.00	0.00
8,900.00	90.00	0.002	7,354.00	993.78	-769.99	993.76	0.00	0.00	0.00
9,000.00	90.00	0.002	7,354.00	1,093.78	-769.99	1,093.76	0.00	0.00	0.00
9,100.00	90.00	0.002	7,354.00	1,193.78	-769.98	1,193.76	0.00	0.00	0.00
9,200.00	90.00	0.002	7,354.00	1,293.78	-769.98	1,293.76	0.00	0.00	0.00
9,300.00	90.00	0.002	7,354.00	1,393.78	-769.98	1,393.76	0.00	0.00	0.00
9,400.00	90.00	0.002	7,354.00	1,493.78	-769.97	1,493.76	0.00	0.00	0.00
9,500.00	90.00	0.002	7,354.00	1,593.78	-769.97	1,593.76	0.00	0.00	0.00
9,600.00	90.00	0.002	7,354.00	1,693.78	-769.97	1,693.76	0.00	0.00	0.00
9,700.00	90.00	0.002	7,354.00	1,793.78	-769.97	1,793.76	0.00	0.00	0.00
9,800.00	90.00	0.002	7,354.00	1,893.78	-769.96	1,893.76	0.00	0.00	0.00
9,900.00	90.00	0.002	7,354.00	1,993.78	-769.96	1,993.76	0.00	0.00	0.00
10,000.00	90.00	0.002	7,354.00	2,093.78	-769.96	2,093.76	0.00	0.00	0.00
10,100.00	90.00	0.002	7,354.00	2,193.78	-769.95	2,193.76	0.00	0.00	0.00
10,200.00	90.00	0.002	7,354.00	2,293.78	-769.95	2,293.76	0.00	0.00	0.00
10,300.00	90.00	0.002	7,354.00	2,393.78	-769.95	2,393.76	0.00	0.00	0.00
10,400.00	90.00	0.002	7,354.00	2,493.78	-769.94	2,493.76	0.00	0.00	0.00
10,500.00	90.00	0.002	7,354.00	2,593.78	-769.94	2,593.76	0.00	0.00	0.00
10,600.00	90.00	0.002	7,354.00	2,693.78	-769.94	2,693.76	0.00	0.00	0.00
10,700.00	90.00	0.002	7,354.00	2,793.78	-769.93	2,793.76	0.00	0.00	0.00
10,800.00	90.00	0.002	7,354.00	2,893.78	-769.93	2,893.76	0.00	0.00	0.00
10,900.00	90.00	0.002	7,354.00	2,993.78	-769.93	2,993.76	0.00	0.00	0.00
11,000.00	90.00	0.002	7,354.00	3,093.78	-769.92	3,093.76	0.00	0.00	0.00
11,100.00	90.00	0.002	7,354.00	3,193.78	-769.92	3,193.76	0.00	0.00	0.00
11,200.00	90.00	0.002	7,354.00	3,293.78	-769.92	3,293.76	0.00	0.00	0.00
11,300.00	90.00	0.002	7,354.00	3,393.78	-769.92	3,393.76	0.00	0.00	0.00
11,400.00	90.00	0.002	7,354.00	3,493.78	-769.91	3,493.76	0.00	0.00	0.00
11,500.00	90.00	0.002	7,354.00	3,593.78	-769.91	3,593.76	0.00	0.00	0.00
11,600.00	90.00	0.002	7,354.00	3,693.78	-769.91	3,693.76	0.00	0.00	0.00
11,700.00	90.00	0.002	7,354.00	3,793.78	-769.90	3,793.76	0.00	0.00	0.00
11,800.00	90.00	0.002	7,354.00	3,893.78	-769.90	3,893.76	0.00	0.00	0.00
11,900.00	90.00	0.002	7,354.00	3,993.78	-769.90	3,993.76	0.00	0.00	0.00
12,000.00	90.00	0.002	7,354.00	4,093.78	-769.89	4,093.76	0.00	0.00	0.00
12,100.00	90.00	0.002	7,354.00	4,193.78	-769.89	4,193.76	0.00	0.00	0.00
12,200.00	90.00	0.002	7,354.00	4,293.78	-769.89	4,293.76	0.00	0.00	0.00
12,300.00	90.00	0.002	7,354.00	4,393.78	-769.88	4,393.76	0.00	0.00	0.00
12,400.00	90.00	0.002	7,354.00	4,493.78	-769.88	4,493.76	0.00	0.00	0.00
12,500.00	90.00	0.002	7,354.00	4,593.78	-769.88	4,593.76	0.00	0.00	0.00

Database:	Casper District	Local Co-ordinate Reference:	Well Critter Creek 15-6401B
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 15-6401B	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)
12,600.00	90.00	0.002	7,354.00	4,693.78	-769.87	4,693.76	0.00	0.00	0.00
12,700.00	90.00	0.002	7,354.00	4,793.78	-769.87	4,793.76	0.00	0.00	0.00
12,800.00	90.00	0.002	7,354.00	4,893.78	-769.87	4,893.76	0.00	0.00	0.00
12,900.00	90.00	0.002	7,354.00	4,993.78	-769.87	4,993.76	0.00	0.00	0.00
13,000.00	90.00	0.002	7,354.00	5,093.78	-769.86	5,093.76	0.00	0.00	0.00
13,100.00	90.00	0.002	7,354.00	5,193.78	-769.86	5,193.76	0.00	0.00	0.00
13,200.00	90.00	0.002	7,354.00	5,293.78	-769.86	5,293.76	0.00	0.00	0.00
13,300.00	90.00	0.002	7,354.00	5,393.78	-769.85	5,393.76	0.00	0.00	0.00
13,400.00	90.00	0.002	7,354.00	5,493.78	-769.85	5,493.76	0.00	0.00	0.00
13,500.00	90.00	0.002	7,354.00	5,593.78	-769.85	5,593.76	0.00	0.00	0.00
13,600.00	90.00	0.002	7,354.00	5,693.78	-769.84	5,693.76	0.00	0.00	0.00
13,700.00	90.00	0.002	7,354.00	5,793.78	-769.84	5,793.76	0.00	0.00	0.00
13,800.00	90.00	0.002	7,354.00	5,893.78	-769.84	5,893.76	0.00	0.00	0.00
13,900.00	90.00	0.002	7,354.00	5,993.78	-769.83	5,993.76	0.00	0.00	0.00
14,000.00	90.00	0.002	7,354.00	6,093.78	-769.83	6,093.76	0.00	0.00	0.00
14,100.00	90.00	0.002	7,354.00	6,193.78	-769.83	6,193.76	0.00	0.00	0.00
14,200.00	90.00	0.002	7,354.00	6,293.78	-769.82	6,293.76	0.00	0.00	0.00
14,300.00	90.00	0.002	7,354.00	6,393.78	-769.82	6,393.76	0.00	0.00	0.00
14,400.00	90.00	0.002	7,354.00	6,493.78	-769.82	6,493.76	0.00	0.00	0.00
14,500.00	90.00	0.002	7,354.00	6,593.78	-769.81	6,593.76	0.00	0.00	0.00
14,600.00	90.00	0.002	7,354.00	6,693.78	-769.81	6,693.76	0.00	0.00	0.00
14,700.00	90.00	0.002	7,354.00	6,793.78	-769.81	6,793.76	0.00	0.00	0.00
14,800.00	90.00	0.002	7,354.00	6,893.78	-769.81	6,893.76	0.00	0.00	0.00
14,900.00	90.00	0.002	7,354.00	6,993.78	-769.80	6,993.76	0.00	0.00	0.00
15,000.00	90.00	0.002	7,354.00	7,093.78	-769.80	7,093.76	0.00	0.00	0.00
15,100.00	90.00	0.002	7,354.00	7,193.78	-769.80	7,193.76	0.00	0.00	0.00
15,200.00	90.00	0.002	7,354.00	7,293.78	-769.79	7,293.76	0.00	0.00	0.00
15,300.00	90.00	0.002	7,354.00	7,393.78	-769.79	7,393.76	0.00	0.00	0.00
15,400.00	90.00	0.002	7,354.00	7,493.78	-769.79	7,493.76	0.00	0.00	0.00
15,500.00	90.00	0.002	7,354.00	7,593.78	-769.78	7,593.76	0.00	0.00	0.00
15,600.00	90.00	0.002	7,354.00	7,693.78	-769.78	7,693.76	0.00	0.00	0.00
15,700.00	90.00	0.002	7,354.00	7,793.78	-769.78	7,793.76	0.00	0.00	0.00
15,800.00	90.00	0.002	7,354.00	7,893.78	-769.77	7,893.76	0.00	0.00	0.00
15,900.00	90.00	0.002	7,354.00	7,993.78	-769.77	7,993.76	0.00	0.00	0.00
16,000.00	90.00	0.002	7,354.00	8,093.78	-769.77	8,093.76	0.00	0.00	0.00
16,100.00	90.00	0.002	7,354.00	8,193.78	-769.76	8,193.76	0.00	0.00	0.00
16,200.00	90.00	0.002	7,354.00	8,293.78	-769.76	8,293.76	0.00	0.00	0.00
16,300.00	90.00	0.002	7,354.00	8,393.78	-769.76	8,393.76	0.00	0.00	0.00
16,400.00	90.00	0.002	7,354.00	8,493.78	-769.76	8,493.76	0.00	0.00	0.00
16,500.00	90.00	0.002	7,354.00	8,593.78	-769.75	8,593.76	0.00	0.00	0.00
16,600.00	90.00	0.002	7,354.00	8,693.78	-769.75	8,693.76	0.00	0.00	0.00
16,700.00	90.00	0.002	7,354.00	8,793.78	-769.75	8,793.76	0.00	0.00	0.00
16,800.00	90.00	0.002	7,354.00	8,893.78	-769.74	8,893.76	0.00	0.00	0.00
16,900.00	90.00	0.002	7,354.00	8,993.78	-769.74	8,993.76	0.00	0.00	0.00
17,000.00	90.00	0.002	7,354.00	9,093.78	-769.74	9,093.76	0.00	0.00	0.00
17,100.00	90.00	0.002	7,354.00	9,193.78	-769.73	9,193.76	0.00	0.00	0.00
17,200.00	90.00	0.002	7,354.00	9,293.78	-769.73	9,293.76	0.00	0.00	0.00
17,300.00	90.00	0.002	7,354.00	9,393.78	-769.73	9,393.76	0.00	0.00	0.00
17,400.00	90.00	0.002	7,354.00	9,493.78	-769.72	9,493.76	0.00	0.00	0.00
17,500.00	90.00	0.002	7,354.00	9,593.78	-769.72	9,593.76	0.00	0.00	0.00
17,600.00	90.00	0.002	7,354.00	9,693.78	-769.72	9,693.76	0.00	0.00	0.00
17,700.00	90.00	0.002	7,354.00	9,793.78	-769.71	9,793.76	0.00	0.00	0.00
17,800.00	90.00	0.002	7,354.00	9,893.78	-769.71	9,893.76	0.00	0.00	0.00
17,814.89	90.00	0.002	7,354.00	9,908.67	-769.71	9,908.64	0.00	0.00	0.00

Database:	Casper District	Local Co-ordinate Reference:	Well Critter Creek 15-6401B
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 15-6401B	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)
TD at 17814.89									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
CC 15-6401B PBHL	0.00	0.000	7,354.00	9,908.67	-769.71	1,588,340.17	3,296,363.52	40° 56' 36.373 N	104° 25' 38.179 W
- plan hits target center									
- Point									
CC 15-6401B LP	0.00	0.000	7,354.00	-104.55	-770.03	1,578,327.70	3,296,484.65	40° 54' 57.438 N	104° 25' 38.179 W
- plan hits target center									
- Point									

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,522.90	1,520.00	Fox Hills-Pierre contact				
3,374.65	3,223.00	Pierre A				
4,348.82	4,174.00	Parkman				
7,419.42	7,209.00	Sharon Springs				
7,458.65	7,236.00	Niobrara A Chalk				
7,496.90	7,260.00	Niobrara A Marl				
7,501.97	7,263.00	Nio B1 Chalk				
7,559.71	7,294.00	Nio B1 Marl				
7,599.89	7,312.00	Niobrara B Chalk				
7,703.75	7,344.00	Niobrara B Marl				
7,799.51	7,354.00	Niobrara B Landing Target				
7,799.51	7,354.00	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
2,434.95	2,375.70	-212.20	-280.75	Start 300.05 hold at 2434.95 MD
2,735.00	2,638.89	-299.08	-395.70	Start Drop -1.50
4,648.27	4,473.15	-582.02	-770.04	Start 2403.39 hold at 4648.27 MD
7,051.66	6,876.54	-582.02	-770.04	Start DLS 12.00 TFO 0.00
7,801.66	7,354.00	-104.55	-770.03	Start 10013.22 hold at 7801.66 MD
17,814.89	7,354.00	9,908.67	-769.71	TD at 17814.89