



PROJECT DETAILS: Weld County, CO (NAD83)  
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  
Project: Weld County, CO (NAD83)  
Site: Sec 05-T01N-R64W Grinde Pad  
Well: Grinde 01-64-05-6457CB  
Wellbore: Wellbore #1  
Design: Wellbore #1 (Grinde 01-64-05-6457CB/Wellbore #1)  
Cade 23

WELL DETAILS: Grinde 01-64-05-6457CB

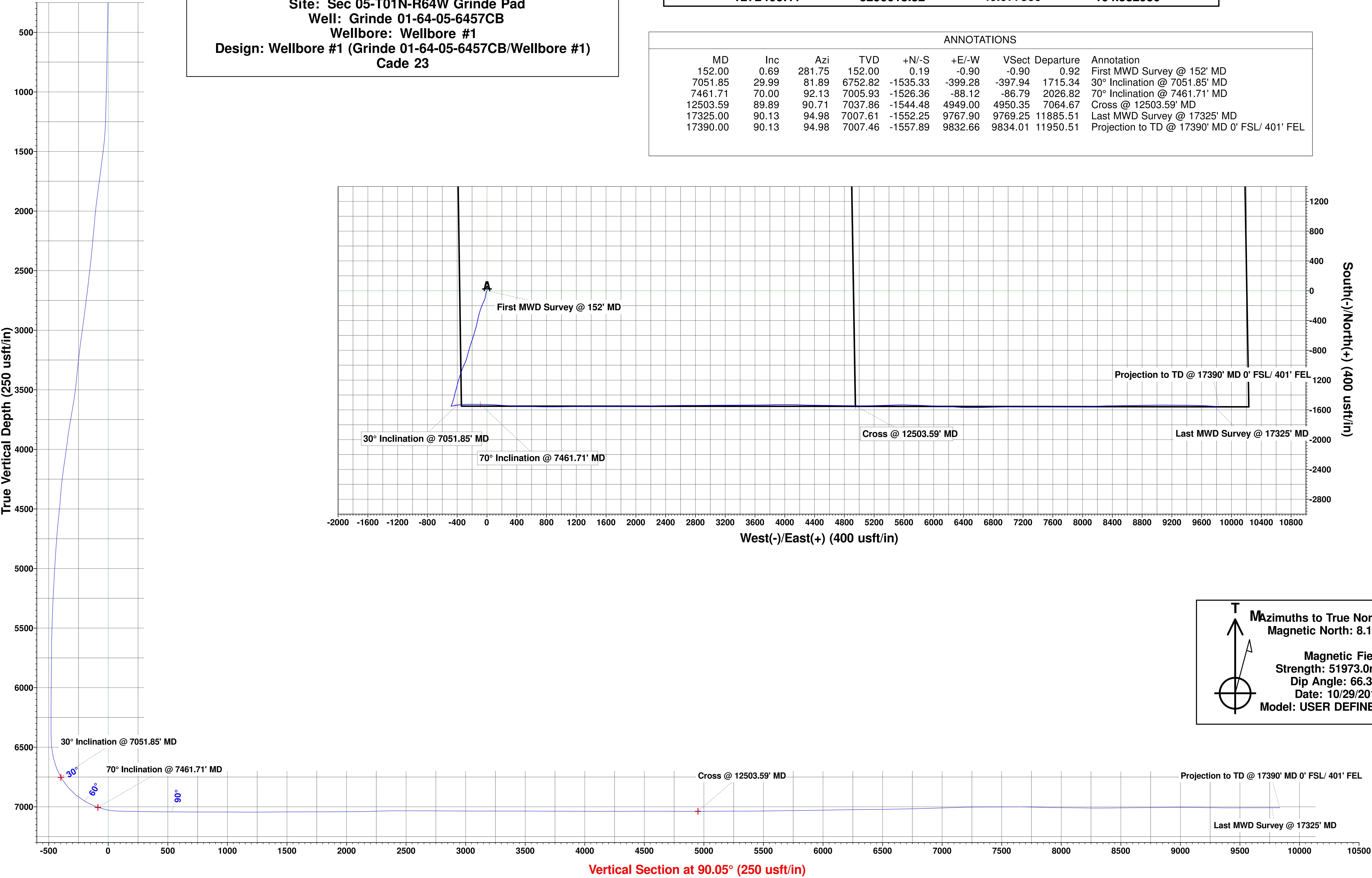
Ground Elevation:: 5030.00  
RKB Elevation: KB @ 5046.50usft (Cade 23)  
Rig Name: Cade 23



Northing	Easting	Latitude	Longitude
1272405.11	3256618.32	40.077500	-104.582950

ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	VSect	Departure	Annotation
152.00	0.69	281.75	152.00	0.19	-0.90	-0.90	0.92	First MWD Survey @ 152' MD
7051.85	29.99	81.89	6752.82	-1535.33	-399.28	-397.94	1715.34	30° Inclination @ 7051.85' MD
7461.71	70.00	92.13	7005.93	-1526.36	-88.12	-86.79	2026.82	70° Inclination @ 7461.71' MD
12503.59	89.89	90.71	7037.86	-1544.48	4949.00	4950.35	7064.67	Cross @ 12503.59' MD
17325.00	90.13	94.98	7007.61	-1552.25	9767.90	9769.25	11885.51	Last MWD Survey @ 17325' MD
17390.00	90.13	94.98	7007.46	-1557.89	9832.66	9834.01	11950.51	Projection to TD @ 17390' MD 0' FSL/ 401' FEL



# **HighPoint Resources**

**Weld County, CO (NAD83)**

**Sec 05-T01N-R64W Grinde Pad**

**Grinde 01-64-05-6457CB**

**Wellbore #1**

**Design: Wellbore #1**

## **Standard Survey Report**

**19 December, 2019**

## Survey Report

<b>Company:</b>	HighPoint Resources	<b>Local Co-ordinate Reference:</b>	Well Grinde 01-64-05-6457CB
<b>Project:</b>	Weld County, CO (NAD83)	<b>TVD Reference:</b>	KB @ 5046.50usft (Cade 23)
<b>Site:</b>	Sec 05-T01N-R64W Grinde Pad	<b>MD Reference:</b>	KB @ 5046.50usft (Cade 23)
<b>Well:</b>	Grinde 01-64-05-6457CB	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	EDM 5000.15 Single User Db

<b>Project</b>	Weld County, CO (NAD83)		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	Colorado Northern Zone		

Site	Sec 05-T01N-R64W Grinde Pad				
Site Position:		Northing:	1,276,126.40 usft	Latitude:	40.087728
From:	Lat/Long	Easting:	3,256,159.56 usft	Longitude:	-104.584452
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.59 °

Well		Grinde 01-64-05-6457CB				
Well Position	+N/-S	0.00 usft	Northing:	1,272,405.11 usft	Latitude:	40.077500
	+E/-W	0.00 usft	Easting:	3,256,618.32 usft	Longitude:	-104.582950
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	5,030.00 usft

<b>Wellbore</b>	Wellbore #1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2015	10/27/2019	7.84	66.56	51,972.99080271
	User Defined	10/29/2019	8.13	66.38	51,973.00000000

<b>Design</b>	Wellbore #1				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>	
	0.00	0.00	0.00	90.05	

<b>Survey Program</b>	<b>Date</b>	12/19/2019			
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
152.00	17,390.00	Atlas MWD Surveys (Wellbore #1)	MWD	MWD - Standard	

<b>Survey</b>									
<b>Measured Depth (usft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Vertical Section (usft)</b>	<b>Dogleg Rate (°/100usft)</b>	<b>Build Rate (°/100usft)</b>	<b>Turn Rate (°/100usft)</b>
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
152.00	0.69	281.75	152.00	0.19	-0.90	-0.90	0.45	0.45	0.00
<b>First MWD Survey @ 152' MD</b>									
243.00	0.96	253.62	242.99	0.08	-2.16	-2.16	0.53	0.30	-30.91
336.00	1.79	204.73	335.96	-1.46	-3.52	-3.52	1.47	0.89	-52.57
427.00	3.55	203.12	426.86	-5.34	-5.22	-5.22	1.94	1.93	-1.77
519.00	4.54	195.33	518.63	-11.47	-7.30	-7.29	1.23	1.08	-8.47
611.00	4.84	192.18	610.32	-18.78	-9.08	-9.07	0.43	0.33	-3.42
703.00	4.24	189.12	702.03	-25.93	-10.44	-10.42	0.70	-0.65	-3.33

## Survey Report

<b>Company:</b>	HighPoint Resources	<b>Local Co-ordinate Reference:</b>	Well Grinde 01-64-05-6457CB
<b>Project:</b>	Weld County, CO (NAD83)	<b>TVD Reference:</b>	KB @ 5046.50usft (Cade 23)
<b>Site:</b>	Sec 05-T01N-R64W Grinde Pad	<b>MD Reference:</b>	KB @ 5046.50usft (Cade 23)
<b>Well:</b>	Grinde 01-64-05-6457CB	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	EDM 5000.15 Single User Db

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)
795.00	4.58	191.02	793.76	-32.89	-11.68	-11.65	0.40	0.37	2.07
887.00	7.25	192.99	885.26	-42.15	-13.69	-13.65	2.91	2.90	2.14
978.00	7.03	190.69	975.56	-53.22	-16.01	-15.97	0.40	-0.24	-2.53
1,071.00	8.14	190.41	1,067.74	-65.29	-18.26	-18.20	1.19	1.19	-0.30
1,163.00	8.35	190.69	1,158.79	-78.26	-20.67	-20.61	0.23	0.23	0.30
1,194.00	7.71	187.99	1,189.49	-82.53	-21.38	-21.31	2.40	-2.06	-8.71
1,346.00	11.15	199.50	1,339.42	-106.49	-27.71	-27.61	2.57	2.26	7.57
1,437.00	14.44	203.62	1,428.15	-125.19	-35.19	-35.08	3.75	3.62	4.53
1,530.00	17.25	203.88	1,517.61	-148.42	-45.42	-45.29	3.02	3.02	0.28
1,625.00	18.22	202.97	1,608.10	-174.98	-56.92	-56.77	1.06	1.02	-0.96
1,721.00	19.17	202.62	1,699.03	-203.35	-68.84	-68.66	1.00	0.99	-0.36
1,816.00	22.15	199.78	1,787.91	-234.60	-80.90	-80.70	3.31	3.14	-2.99
1,912.00	22.42	198.13	1,876.74	-269.03	-92.72	-92.49	0.71	0.28	-1.72
2,008.00	22.69	195.75	1,965.40	-304.25	-103.45	-103.18	0.99	0.28	-2.48
2,103.00	22.77	193.54	2,053.03	-339.76	-112.72	-112.43	0.90	0.08	-2.33
2,197.00	22.24	191.19	2,139.87	-374.90	-120.44	-120.11	1.11	-0.56	-2.50
2,292.00	23.39	193.83	2,227.44	-410.85	-128.43	-128.07	1.62	1.21	2.78
2,388.00	22.62	191.64	2,315.80	-447.43	-136.71	-136.32	1.20	-0.80	-2.28
2,484.00	22.98	194.73	2,404.30	-483.64	-145.20	-144.78	1.30	0.38	3.22
2,579.00	22.27	197.21	2,491.99	-518.77	-155.24	-154.79	1.25	-0.75	2.61
2,675.00	21.75	196.30	2,581.00	-553.22	-165.62	-165.14	0.65	-0.54	-0.95
2,770.00	23.49	196.69	2,668.69	-588.25	-176.00	-175.48	1.84	1.83	0.41
2,866.00	22.88	197.21	2,756.93	-624.41	-187.01	-186.47	0.67	-0.64	0.54
2,961.00	22.13	198.05	2,844.70	-659.06	-198.02	-197.45	0.86	-0.79	0.88
3,057.00	23.07	198.70	2,933.33	-694.07	-209.66	-209.05	1.01	0.98	0.68
3,153.00	23.64	198.10	3,021.46	-730.18	-221.67	-221.03	0.64	0.59	-0.63
3,248.00	24.75	196.93	3,108.11	-767.31	-233.37	-232.71	1.27	1.17	-1.23
3,343.00	23.26	195.61	3,194.90	-804.40	-244.21	-243.51	1.67	-1.57	-1.39
3,439.00	22.38	195.64	3,283.38	-840.26	-254.24	-253.51	0.92	-0.92	0.03
3,534.00	21.76	194.69	3,371.42	-874.71	-263.58	-262.82	0.75	-0.65	-1.00
3,629.00	20.36	195.68	3,460.07	-907.66	-272.52	-271.72	1.52	-1.47	1.04
3,724.00	21.99	201.21	3,548.66	-940.15	-283.42	-282.60	2.71	1.72	5.82
3,820.00	22.80	203.26	3,637.42	-974.00	-297.27	-296.42	1.17	0.84	2.14
3,915.00	22.60	205.49	3,725.07	-1,007.39	-312.39	-311.51	0.93	-0.21	2.35
4,011.00	23.99	202.11	3,813.24	-1,042.12	-327.68	-326.77	2.01	1.45	-3.52
4,106.00	21.91	198.72	3,900.72	-1,076.81	-340.64	-339.70	2.59	-2.19	-3.57
4,201.00	22.57	197.95	3,988.65	-1,110.94	-351.94	-350.97	0.76	0.69	-0.81
4,296.00	23.49	200.32	4,076.08	-1,146.04	-364.14	-363.14	1.37	0.97	2.49
4,392.00	24.08	197.35	4,163.93	-1,182.68	-376.62	-375.59	1.39	0.61	-3.09
4,487.00	24.62	195.78	4,250.48	-1,220.22	-387.78	-386.72	0.89	0.57	-1.65
4,583.00	20.54	193.39	4,339.11	-1,255.86	-397.13	-396.03	4.36	-4.25	-2.49
4,677.00	19.39	193.06	4,427.46	-1,287.10	-404.47	-403.35	1.23	-1.22	-0.35
4,773.00	20.54	196.54	4,517.69	-1,318.77	-412.87	-411.72	1.72	1.20	3.63

# Survey Report

<b>Company:</b>	HighPoint Resources	<b>Local Co-ordinate Reference:</b>	Well Grinde 01-64-05-6457CB
<b>Project:</b>	Weld County, CO (NAD83)	<b>TVD Reference:</b>	KB @ 5046.50usft (Cade 23)
<b>Site:</b>	Sec 05-T01N-R64W Grinde Pad	<b>MD Reference:</b>	KB @ 5046.50usft (Cade 23)
<b>Well:</b>	Grinde 01-64-05-6457CB	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	EDM 5000.15 Single User Db

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)
4,868.00	19.63	196.08	4,606.91	-1,350.08	-422.03	-420.85	0.97	-0.96	-0.48
4,964.00	19.17	193.55	4,697.46	-1,380.90	-430.19	-428.99	1.00	-0.48	-2.64
5,060.00	18.15	192.83	4,788.41	-1,410.81	-437.20	-435.97	1.09	-1.06	-0.75
5,155.00	14.96	194.61	4,879.46	-1,437.10	-443.59	-442.33	3.40	-3.36	1.87
5,250.00	12.11	197.14	4,971.82	-1,458.50	-449.62	-448.34	3.06	-3.00	2.66
5,345.00	10.94	194.32	5,064.90	-1,476.75	-454.78	-453.49	1.37	-1.23	-2.97
5,440.00	9.16	199.94	5,158.44	-1,492.60	-459.59	-458.29	2.14	-1.87	5.92
5,535.00	8.18	199.14	5,252.35	-1,506.09	-464.39	-463.07	1.04	-1.03	-0.84
5,631.00	6.36	203.02	5,347.58	-1,517.44	-468.71	-467.38	1.96	-1.90	4.04
5,726.00	5.55	193.74	5,442.07	-1,526.75	-471.85	-470.52	1.32	-0.85	-9.77
5,822.00	4.92	206.31	5,537.67	-1,534.95	-474.78	-473.44	1.36	-0.66	13.09
5,917.00	3.33	191.45	5,632.42	-1,541.30	-477.14	-475.79	2.00	-1.67	-15.64
6,013.00	1.66	184.67	5,728.33	-1,545.42	-477.80	-476.45	1.76	-1.74	-7.06
6,109.00	1.00	253.36	5,824.31	-1,547.05	-478.72	-477.37	1.66	-0.69	71.55
6,204.00	0.54	282.44	5,919.30	-1,547.19	-479.95	-478.60	0.62	-0.48	30.61
6,300.00	0.58	279.86	6,015.30	-1,547.01	-480.87	-479.52	0.05	0.04	-2.69
6,395.00	0.21	198.51	6,110.29	-1,547.09	-481.40	-480.05	0.62	-0.39	-85.63
6,490.00	0.30	221.86	6,205.29	-1,547.44	-481.62	-480.27	0.14	0.09	24.58
6,586.00	0.41	179.87	6,301.29	-1,547.97	-481.79	-480.44	0.29	0.11	-43.74
6,681.00	0.80	160.46	6,396.29	-1,548.94	-481.56	-480.21	0.46	0.41	-20.43
6,776.00	4.39	100.45	6,491.18	-1,550.22	-477.77	-476.41	4.26	3.78	-63.17
6,871.00	13.23	76.59	6,584.99	-1,548.35	-463.58	-462.23	9.88	9.31	-25.12
6,967.00	21.64	77.08	6,676.50	-1,541.84	-435.59	-434.25	8.76	8.76	0.51
7,051.85	29.99	81.89	6,752.82	-1,535.33	-399.28	-397.94	10.14	9.84	5.67
30° Inclination @ 7051.85' MD									
7,062.00	31.00	82.30	6,761.57	-1,534.63	-394.18	-392.84	10.14	9.93	4.07
7,157.00	41.28	85.35	6,838.19	-1,528.79	-338.55	-337.21	10.98	10.82	3.21
7,252.00	50.70	89.88	6,904.14	-1,526.17	-270.38	-269.05	10.49	9.92	4.77
7,348.00	60.96	88.42	6,957.99	-1,524.93	-191.08	-189.74	10.76	10.69	-1.52
7,444.00	67.72	92.48	6,999.55	-1,525.70	-104.62	-103.29	8.01	7.04	4.23
7,461.71	70.00	92.13	7,005.93	-1,526.36	-88.12	-86.79	13.00	12.87	-1.97
70° Inclination @ 7461.71' MD									
7,539.00	79.95	90.71	7,025.95	-1,528.19	-13.59	-12.26	13.00	12.88	-1.84
7,635.00	87.86	92.70	7,036.13	-1,531.04	81.75	83.08	8.49	8.24	2.07
7,642.00	87.94	93.54	7,036.39	-1,531.42	88.73	90.07	12.05	1.14	12.00
7,710.00	89.22	94.21	7,038.07	-1,536.01	156.55	157.89	2.12	1.88	0.99
7,805.00	88.95	93.04	7,039.59	-1,542.02	251.35	252.69	1.26	-0.28	-1.23
7,901.00	89.16	93.12	7,041.18	-1,547.17	347.20	348.55	0.23	0.22	0.08
7,996.00	89.57	91.85	7,042.23	-1,551.29	442.10	443.45	1.40	0.43	-1.34
8,092.00	90.02	90.89	7,042.57	-1,553.59	538.07	539.43	1.10	0.47	-1.00
8,187.00	89.76	91.77	7,042.75	-1,555.79	633.04	634.40	0.97	-0.27	0.93
8,282.00	89.63	91.80	7,043.26	-1,558.75	728.00	729.36	0.14	-0.14	0.03
8,378.00	90.33	89.17	7,043.29	-1,559.56	823.98	825.34	2.83	0.73	-2.74
8,474.00	89.70	89.92	7,043.27	-1,558.80	919.98	921.34	1.02	-0.66	0.78



## Survey Report

<b>Company:</b>	HighPoint Resources	<b>Local Co-ordinate Reference:</b>	Well Grinde 01-64-05-6457CB
<b>Project:</b>	Weld County, CO (NAD83)	<b>TVD Reference:</b>	KB @ 5046.50usft (Cade 23)
<b>Site:</b>	Sec 05-T01N-R64W Grinde Pad	<b>MD Reference:</b>	KB @ 5046.50usft (Cade 23)
<b>Well:</b>	Grinde 01-64-05-6457CB	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	EDM 5000.15 Single User Db

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)
8,570.00	89.64	89.25	7,043.82	-1,558.11	1,015.97	1,017.33	0.70	-0.06	-0.70
8,664.00	89.65	88.80	7,044.40	-1,556.51	1,109.96	1,111.32	0.48	0.01	-0.48
8,705.00	89.60	87.61	7,044.67	-1,555.22	1,150.94	1,152.29	2.90	-0.12	-2.90
8,759.00	90.09	89.79	7,044.82	-1,554.00	1,204.92	1,206.27	4.14	0.91	4.04
8,854.00	90.58	90.41	7,044.26	-1,554.16	1,299.92	1,301.27	0.83	0.52	0.65
8,950.00	90.24	89.53	7,043.58	-1,554.11	1,395.91	1,397.27	0.98	-0.35	-0.92
9,045.00	90.35	89.15	7,043.09	-1,553.02	1,490.91	1,492.26	0.42	0.12	-0.40
9,140.00	90.28	89.74	7,042.56	-1,552.10	1,585.90	1,587.25	0.63	-0.07	0.62
9,234.00	90.14	90.09	7,042.22	-1,551.96	1,679.90	1,681.25	0.40	-0.15	0.37
9,330.00	89.68	89.84	7,042.37	-1,551.90	1,775.90	1,777.25	0.55	-0.48	-0.26
9,426.00	90.50	89.47	7,042.22	-1,551.32	1,871.89	1,873.25	0.94	0.85	-0.39
9,521.00	90.56	89.40	7,041.34	-1,550.39	1,966.89	1,968.24	0.10	0.06	-0.07
9,617.00	89.85	88.90	7,041.00	-1,548.96	2,062.87	2,064.22	0.90	-0.74	-0.52
9,712.00	91.28	89.35	7,040.06	-1,547.51	2,157.86	2,159.21	1.58	1.51	0.47
9,808.00	92.54	88.22	7,036.86	-1,545.48	2,253.78	2,255.12	1.76	1.31	-1.18
9,903.00	90.66	89.28	7,034.21	-1,543.41	2,348.71	2,350.06	2.27	-1.98	1.12
9,998.00	89.88	89.66	7,033.76	-1,542.53	2,443.71	2,445.05	0.91	-0.82	0.40
10,094.00	90.24	88.51	7,033.66	-1,540.99	2,539.69	2,541.04	1.26	0.38	-1.20
10,190.00	89.55	90.53	7,033.84	-1,540.19	2,635.68	2,637.03	2.22	-0.72	2.10
10,285.00	89.70	89.66	7,034.46	-1,540.35	2,730.68	2,732.02	0.93	0.16	-0.92
10,380.00	89.88	89.57	7,034.81	-1,539.71	2,825.68	2,827.02	0.21	0.19	-0.09
10,476.00	89.65	89.43	7,035.20	-1,538.87	2,921.67	2,923.01	0.28	-0.24	-0.15
10,572.00	89.36	90.10	7,036.03	-1,538.48	3,017.67	3,019.01	0.76	-0.30	0.70
10,668.00	90.64	88.89	7,036.03	-1,537.63	3,113.66	3,115.00	1.83	1.33	-1.26
10,763.00	89.77	90.23	7,035.69	-1,536.90	3,208.65	3,209.99	1.68	-0.92	1.41
10,859.00	90.01	89.70	7,035.87	-1,536.84	3,304.65	3,305.99	0.61	0.25	-0.55
10,950.00	89.95	89.44	7,035.91	-1,536.16	3,395.65	3,396.99	0.29	-0.07	-0.29
11,042.00	89.80	89.32	7,036.11	-1,535.17	3,487.64	3,488.98	0.21	-0.16	-0.13
11,134.00	89.75	89.93	7,036.47	-1,534.56	3,579.64	3,580.98	0.67	-0.05	0.66
11,226.00	89.72	89.40	7,036.89	-1,534.03	3,671.64	3,672.98	0.58	-0.03	-0.58
11,318.00	89.86	88.72	7,037.23	-1,532.52	3,763.62	3,764.96	0.75	0.15	-0.74
11,410.00	90.12	89.01	7,037.25	-1,530.69	3,855.61	3,856.94	0.42	0.28	0.32
11,502.00	89.50	88.87	7,037.55	-1,528.99	3,947.59	3,948.92	0.69	-0.67	-0.15
11,594.00	89.78	90.92	7,038.13	-1,528.82	4,039.58	4,040.92	2.25	0.30	2.23
11,686.00	90.51	90.98	7,037.90	-1,530.35	4,131.57	4,132.90	0.80	0.79	0.07
11,778.00	89.80	92.53	7,037.65	-1,533.17	4,223.52	4,224.86	1.85	-0.77	1.68
11,870.00	89.98	90.98	7,037.82	-1,535.98	4,315.48	4,316.81	1.70	0.20	-1.68
11,961.00	90.41	90.81	7,037.51	-1,537.41	4,406.46	4,407.80	0.51	0.47	-0.19
12,054.00	89.66	90.99	7,037.46	-1,538.87	4,499.45	4,500.79	0.83	-0.81	0.19
12,145.00	90.22	90.65	7,037.55	-1,540.17	4,590.44	4,591.78	0.72	0.62	-0.37
12,238.00	89.85	91.01	7,037.50	-1,541.52	4,683.43	4,684.78	0.56	-0.40	0.39
12,333.00	89.78	90.16	7,037.80	-1,542.49	4,778.43	4,779.77	0.90	-0.07	-0.89
12,429.00	90.13	90.94	7,037.88	-1,543.41	4,874.42	4,875.77	0.89	0.36	0.81

# Survey Report

<b>Company:</b>	HighPoint Resources	<b>Local Co-ordinate Reference:</b>	Well Grinde 01-64-05-6457CB
<b>Project:</b>	Weld County, CO (NAD83)	<b>TVD Reference:</b>	KB @ 5046.50usft (Cade 23)
<b>Site:</b>	Sec 05-T01N-R64W Grinde Pad	<b>MD Reference:</b>	KB @ 5046.50usft (Cade 23)
<b>Well:</b>	Grinde 01-64-05-6457CB	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	EDM 5000.15 Single User Db

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)
12,503.59	89.89	90.71	7,037.86	-1,544.48	4,949.00	4,950.35	0.44	-0.32	-0.31
<b>Cross @ 12503.59' MD</b>									
12,524.00	89.83	90.65	7,037.91	-1,544.73	4,969.41	4,970.76	0.44	-0.32	-0.31
12,620.00	90.46	90.13	7,037.67	-1,545.38	5,065.41	5,066.75	0.85	0.66	-0.54
12,716.00	90.54	88.24	7,036.83	-1,544.01	5,161.39	5,162.74	1.97	0.08	-1.97
12,811.00	89.86	88.71	7,036.50	-1,541.48	5,256.36	5,257.70	0.87	-0.72	0.49
12,907.00	90.08	88.43	7,036.55	-1,539.09	5,352.32	5,353.67	0.37	0.23	-0.29
13,002.00	90.66	87.37	7,035.94	-1,535.61	5,447.26	5,448.60	1.27	0.61	-1.12
13,097.00	90.49	89.09	7,034.98	-1,532.67	5,542.20	5,543.54	1.82	-0.18	1.81
13,193.00	91.02	92.22	7,033.72	-1,533.77	5,638.18	5,639.51	3.31	0.55	3.26
13,289.00	90.75	91.08	7,032.23	-1,536.54	5,734.12	5,735.46	1.22	-0.28	-1.19
13,384.00	90.39	92.83	7,031.29	-1,539.78	5,829.06	5,830.40	1.88	-0.38	1.84
13,479.00	91.59	92.29	7,029.65	-1,544.02	5,923.95	5,925.29	1.39	1.26	-0.57
13,574.00	90.65	90.91	7,027.79	-1,546.67	6,018.89	6,020.24	1.76	-0.99	-1.45
13,669.00	90.95	93.35	7,026.46	-1,550.20	6,113.81	6,115.16	2.59	0.32	2.57
13,764.00	90.99	93.86	7,024.86	-1,556.17	6,208.61	6,209.96	0.54	0.04	0.54
13,879.00	91.07	94.03	7,022.79	-1,564.08	6,323.32	6,324.68	0.16	0.07	0.15
13,975.00	89.59	91.87	7,022.24	-1,569.02	6,419.18	6,420.55	2.73	-1.54	-2.25
14,070.00	91.53	89.51	7,021.31	-1,570.17	6,514.16	6,515.52	3.22	2.04	-2.48
14,166.00	91.22	88.77	7,019.00	-1,568.73	6,610.12	6,611.48	0.84	-0.32	-0.77
14,261.00	90.59	88.38	7,017.50	-1,566.36	6,705.07	6,706.44	0.78	-0.66	-0.41
14,357.00	91.66	88.92	7,015.62	-1,564.10	6,801.03	6,802.39	1.25	1.11	0.56
14,452.00	91.60	88.68	7,012.92	-1,562.11	6,895.97	6,897.33	0.26	-0.06	-0.25
14,547.00	92.06	87.66	7,009.88	-1,559.08	6,990.87	6,992.23	1.18	0.48	-1.07
14,643.00	91.80	89.25	7,006.65	-1,556.50	7,086.78	7,088.13	1.68	-0.27	1.66
14,738.00	91.86	90.40	7,003.61	-1,556.21	7,181.73	7,183.08	1.21	0.06	1.21
14,833.00	90.33	90.59	7,001.80	-1,557.03	7,276.70	7,278.06	1.62	-1.61	0.20
14,928.00	90.10	90.21	7,001.44	-1,557.69	7,371.70	7,373.06	0.47	-0.24	-0.40
15,024.00	90.04	89.79	7,001.33	-1,557.69	7,467.70	7,469.06	0.44	-0.06	-0.44
15,119.00	90.60	89.27	7,000.79	-1,556.91	7,562.69	7,564.05	0.80	0.59	-0.55
15,214.00	89.46	90.44	7,000.75	-1,556.67	7,657.69	7,659.05	1.72	-1.20	1.23
15,309.00	88.76	90.16	7,002.22	-1,557.17	7,752.68	7,754.03	0.79	-0.74	-0.29
15,403.00	87.90	89.52	7,004.96	-1,556.91	7,846.64	7,847.99	1.14	-0.91	-0.68
15,498.00	89.79	89.83	7,006.88	-1,556.37	7,941.61	7,942.97	2.02	1.99	0.33
15,594.00	89.26	89.36	7,007.67	-1,555.69	8,037.60	8,038.96	0.74	-0.55	-0.49
15,689.00	89.47	87.40	7,008.72	-1,553.00	8,132.56	8,133.91	2.07	0.22	-2.06
15,784.00	89.13	87.56	7,009.88	-1,548.83	8,227.46	8,228.80	0.40	-0.36	0.17
15,880.00	90.15	89.36	7,010.49	-1,546.25	8,323.41	8,324.76	2.16	1.06	1.88
15,976.00	90.87	89.18	7,009.63	-1,545.02	8,419.40	8,420.75	0.77	0.75	-0.19
16,071.00	90.29	89.11	7,008.67	-1,543.61	8,514.39	8,515.73	0.61	-0.61	-0.07
16,166.00	90.87	89.92	7,007.71	-1,542.80	8,609.38	8,610.72	1.05	0.61	0.85
16,261.00	90.04	87.97	7,006.96	-1,541.05	8,704.35	8,705.69	2.23	-0.87	-2.05
16,357.00	90.79	89.27	7,006.26	-1,538.74	8,800.32	8,801.66	1.56	0.78	1.35
16,452.00	90.86	88.92	7,004.89	-1,537.24	8,895.30	8,896.64	0.38	0.07	-0.37

## Survey Report

<b>Company:</b>	HighPoint Resources	<b>Local Co-ordinate Reference:</b>	Well Grinde 01-64-05-6457CB
<b>Project:</b>	Weld County, CO (NAD83)	<b>TVD Reference:</b>	KB @ 5046.50usft (Cade 23)
<b>Site:</b>	Sec 05-T01N-R64W Grinde Pad	<b>MD Reference:</b>	KB @ 5046.50usft (Cade 23)
<b>Well:</b>	Grinde 01-64-05-6457CB	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	EDM 5000.15 Single User Db

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)	
16,547.00	90.20	89.78	7,004.01	-1,536.16	8,990.29	8,991.62	1.14	-0.69	0.91	
16,642.00	89.32	90.19	7,004.41	-1,536.14	9,085.28	9,086.62	1.02	-0.93	0.43	
16,738.00	88.62	90.32	7,006.14	-1,536.56	9,181.27	9,182.60	0.74	-0.73	0.14	
16,833.00	89.80	90.19	7,007.45	-1,536.99	9,276.26	9,277.59	1.25	1.24	-0.14	
16,929.00	89.24	90.41	7,008.25	-1,537.49	9,372.25	9,373.59	0.63	-0.58	0.23	
17,024.00	90.30	91.44	7,008.63	-1,539.02	9,467.23	9,468.57	1.56	1.12	1.08	
17,120.00	90.18	91.76	7,008.23	-1,541.70	9,563.20	9,564.54	0.36	-0.13	0.33	
17,216.00	90.17	92.69	7,007.94	-1,545.43	9,659.12	9,660.47	0.97	-0.01	0.97	
17,311.00	90.18	94.19	7,007.65	-1,551.13	9,753.95	9,755.30	1.58	0.01	1.58	
17,325.00	90.13	94.98	7,007.61	-1,552.25	9,767.90	9,769.25	5.65	-0.36	5.64	
Last MWD Survey @ 17325' MD										
17,390.00	90.13	94.98	7,007.46	-1,557.89	9,832.66	9,834.01	0.00	0.00	0.00	
Projection to TD @ 17390' MD 0' FSL/ 401' FEL										

Design Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting		
- Shape	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)	Latitude	Longitude
30° Inclination @ 7051.8	0.00	0.00	6,752.82	-1,535.28	-399.28	1,270,865.78	3,256,234.93	40.073285	-104.584377
- actual wellpath misses target center by 0.05usft at 7051.85usft MD (6752.82 TVD, -1535.33 N, -399.28 E)									
- Point									
70° Inclination @ 7461.7	0.00	0.00	7,005.93	-1,526.36	-88.12	1,270,877.92	3,256,545.99	40.073310	-104.583265
- actual wellpath hits target center									
- Point									
Cross @ 12503.59' MD	0.00	0.00	7,037.86	-1,544.48	4,949.00	1,270,911.89	3,261,583.03	40.073259	-104.565266
- actual wellpath hits target center									
- Point									

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
152.00	152.00	0.19	-0.90	First MWD Survey @ 152' MD	
7,051.85	6,752.82	-1,535.33	-399.28	30° Inclination @ 7051.85' MD	
7,461.71	7,005.93	-1,526.36	-88.12	70° Inclination @ 7461.71' MD	
12,503.59	7,037.86	-1,544.48	4,949.00	Cross @ 12503.59' MD	
17,325.00	7,007.61	-1,552.25	9,767.90	Last MWD Survey @ 17325' MD	
17,390.00	7,007.46	-1,557.89	9,832.66	Projection to TD @ 17390' MD 0' FSL/ 401' FEL	

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_