



Enseco Planning Report

29 October, 2013

Bonanza Creek Energy, Inc

Weld County, Colorado

SW NW, Sec 28, T5N, R61W, 6 PM

Pronghorn 11-41-28HNB

API #: TBD

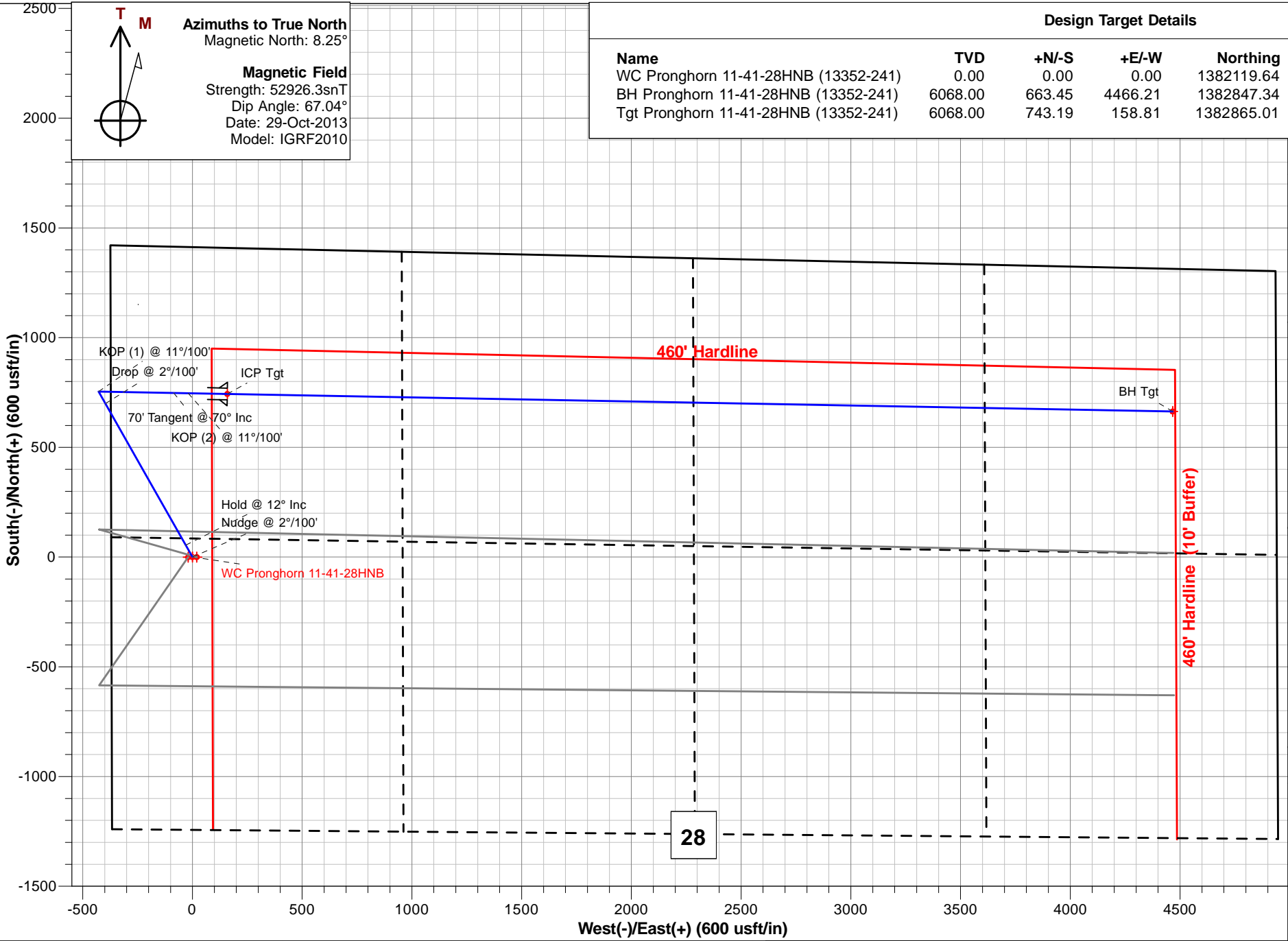
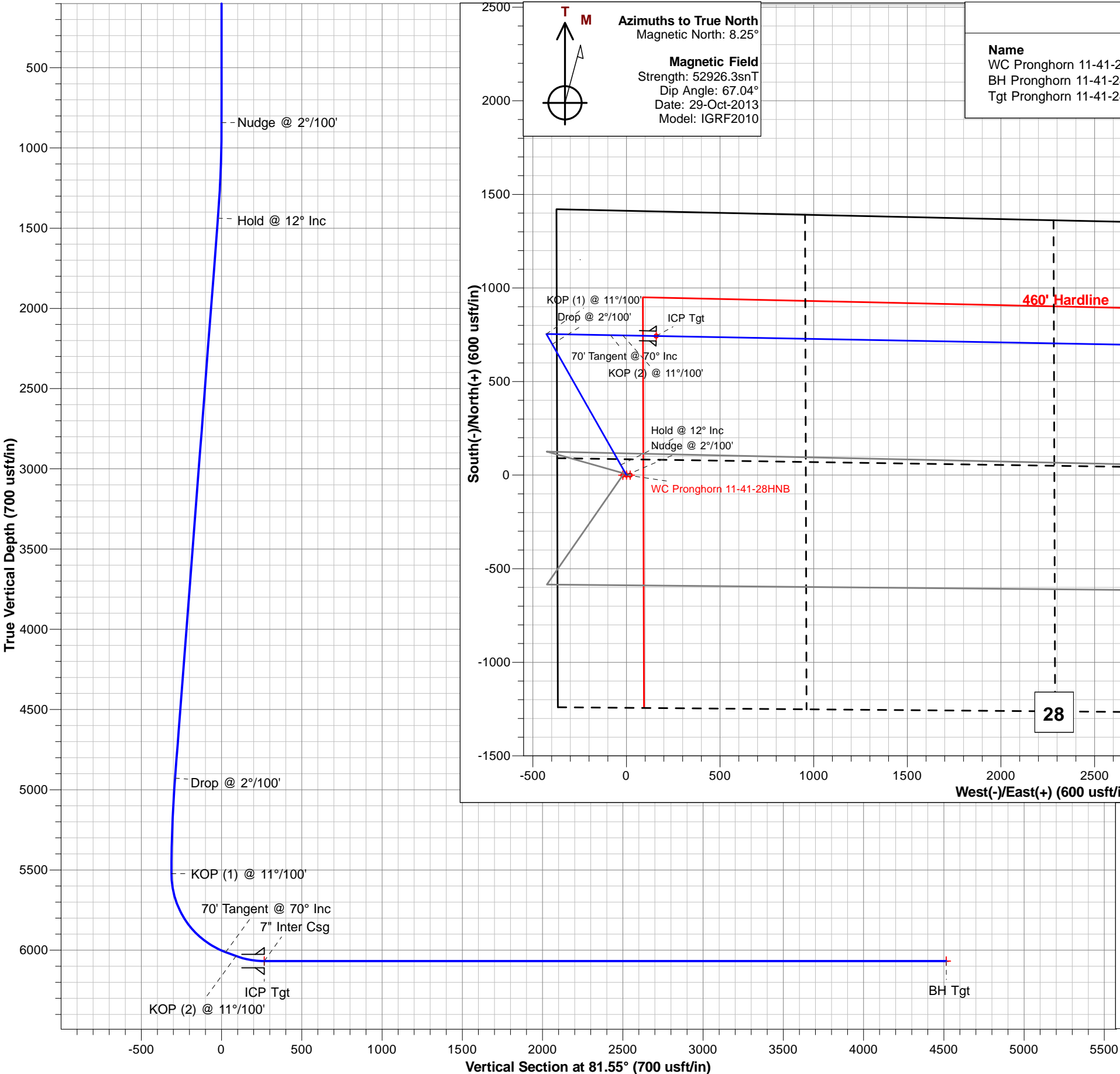
Design: Proposal #1 (13352-241)





Bonanza Creek Energy, Inc

Project: Weld County, Colorado
Site: SW NW, Sec 28, T5N, R61W, 6 PM
Well: Pronghorn 11-41-28HNB
Wellbore: API #: TBD
Design: Proposal #1 (13352-241)

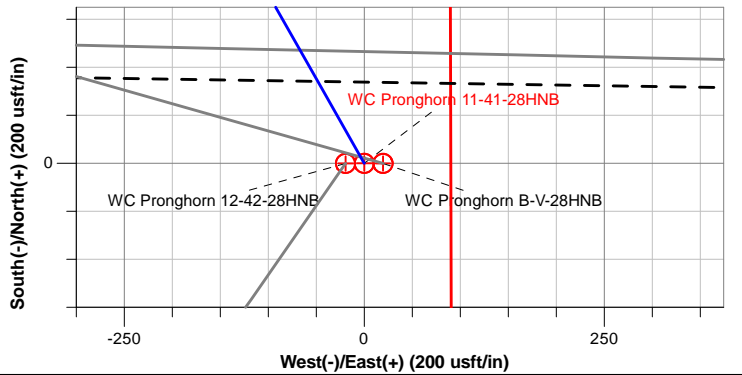


Design Target Details							
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
WC Pronghorn 11-41-28HNB (13352-241)	0.00	0.00	0.00	1382119.64	3355972.91	40.375280°N	104.222290°W
BH Pronghorn 11-41-28HNB (13352-241)	6068.00	663.45	4466.21	1382847.34	3360428.91	40.377100°N	104.206260°W
Tgt Pronghorn 11-41-28HNB (13352-241)	6068.00	743.19	158.81	1382865.01	3356120.99	40.377320°N	104.221720°W

SW NW, Sec 28, T5N, R61W, 6 PM
North American Datum 1983 WC Northing: 1382119.64 WC Easting: 3355972.91 WC Latitude: 40.375280°N WC Longitude: 104.222290°W Convergence: 0.826 Local North: True
Project Details: Weld County, Colorado
Geodetic System: US State Plane 1983 Datum: North American Datum 1983 Ellipsoid: GRS 1980 Zone: Colorado Northern Zone
System Datum: Mean Sea Level GL Elev: 4616.00 Kb Elev: Est. Kb @ 4629.00usft (Proposed)

Annotations		
TVD	MD	Annotation
842.44	842.44	Nudge @ 2°/100'
1438.06	1442.44	Hold @ 12° Inc
4927.56	5009.90	Drop @ 2°/100'
5523.19	5609.90	KOP (1) @ 11°/100'
6012.65	6246.27	70' Tangent @ 70° Inc
6036.59	6316.27	KOP (2) @ 11°/100'
6068.00	6498.08	ICP Tgt
6068.00	10806.22	BH Tgt

Formation Top Details



Company:	Bonanza Creek Energy, Inc	Local Co-ordinate Ref:	Pronghorn 11-41-28HNB
Project:	Weld County, Colorado	Ground Level Elevation:	4,616.0usft
Site:	SW NW, Sec 28, T5N, R61W, 6 PM	Wellhead Elevation:	Est. Kb @ 4629.00usft (Proposed)
Well:	Pronghorn 11-41-28HNB	North Reference:	True
Wellbore:	API #: TBD	Survey Calculation Method:	Minimum Curvature
Design:	Proposal #1 (13352-241)	Database:	EDM5000

Project	Weld County, Colorado		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		Using geodetic scale factor

Site	SW NW, Sec 28, T5N, R61W, 6 PM Site Position: WC Pronghorn 11-41-28HNB		
Site Position:		Northing:	1,382,119.64 usft
From:	Map	Easting:	3,355,972.91 usft
Position Uncertainty:	0.00usft	Slot Radius:	13-3/16 "
		Latitude:	40.375280°N
		Longitude:	104.222290°W
		Grid Convergence:	0.826°

Well	Pronghorn 11-41-28HNB		
Well Position	+N/-S	0.00 usft	Northing: 1,382,119.64 usft
	+E/-W	0.00 usft	Easting: 3,355,972.91 usft
Position Uncertainty	0.00 usft	Wellhead Elevation:	4,629.00 usft
		Ground Level:	4,616.00 usft

Wellbore	API #: TBD				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	29-Oct-13	8.248	67.036	52,926

Design	Proposal #1 (13352-241)			
Audit Notes:				
Version:	P1.0	Phase:	PLAN	Tie On Depth: 0.00
Vertical Section:		Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)
		0.00	0.00	0.00
				Direction (°)
				81.55

Plan Sections											
MD (usft)	Inc (°)	Azi (°)	Vertical Depth	SS (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	4,629.00	0.00	0.00	0.00	0.00	0.00	0.000	KOP (1) (13352-241)
842.44	0.00	0.00	842.44	3,786.56	0.00	0.00	0.00	0.00	0.00	0.000	
1,442.44	12.00	330.44	1,438.06	3,190.94	54.45	-30.89	2.00	2.00	0.00	330.436	
5,009.90	12.00	330.44	4,927.56	-298.56	699.60	-396.85	0.00	0.00	0.00	0.000	
5,609.90	0.00	0.00	5,523.19	-894.19	754.05	-427.74	2.00	-2.00	0.00	180.000	
6,246.27	70.00	91.06	6,012.65	-1,383.65	747.71	-85.07	11.00	11.00	0.00	91.061	
6,316.27	70.00	91.06	6,036.59	-1,407.59	746.49	-19.30	0.00	0.00	0.00	0.000	
6,498.08	90.00	91.06	6,068.00	-1,439.00	743.19	158.81	11.00	11.00	0.00	0.000	
10,806.22	90.00	91.06	6,068.00	-1,439.00	663.45	4,466.21	0.00	0.00	0.00	0.000	
Tgt Pronghorn 11-41-28HNB (13352-241)											
BH Pronghorn 11-41-28HNB (13352-241)											

Company:	Bonanza Creek Energy, Inc	Local Co-ordinate Ref:	Pronghorn 11-41-28HNB
Project:	Weld County, Colorado	Ground Level Elevation:	4,616.0usft
Site:	SW NW, Sec 28, T5N, R61W, 6 PM	Wellhead Elevation:	Est. Kb @ 4629.00usft (Proposed)
Well:	Pronghorn 11-41-28HNB	North Reference:	True
Wellbore:	API #: TBD	Survey Calculation Method:	Minimum Curvature
Design:	Proposal #1 (13352-241)	Database:	EDM5000

Planned Survey										
MD (usft)	Inc (°)	Azi (°)	TVD (usft)	SS (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
Nudge @ 2°/100'										
842.44	0.00	0.00	842.44	3,786.56	0.00	0.00	0.00	0.00	0.00	0.00
900.00	1.15	330.44	900.00	3,729.00	0.50	-0.29	-0.21	2.00	2.00	0.00
1,000.00	3.15	330.44	999.92	3,629.08	3.77	-2.14	-1.56	2.00	2.00	0.00
1,100.00	5.15	330.44	1,099.65	3,529.35	10.06	-5.71	-4.17	2.00	2.00	0.00
1,200.00	7.15	330.44	1,199.07	3,429.93	19.38	-11.00	-8.03	2.00	2.00	0.00
1,300.00	9.15	330.44	1,298.06	3,330.94	31.72	-17.99	-13.14	2.00	2.00	0.00
1,400.00	11.15	330.44	1,396.49	3,232.51	47.05	-26.69	-19.48	2.00	2.00	0.00
Hold @ 12° Inc										
1,442.44	12.00	330.44	1,438.06	3,190.94	54.45	-30.89	-22.55	2.00	2.00	0.00
1,500.00	12.00	330.44	1,494.37	3,134.63	64.86	-36.79	-26.86	0.00	0.00	0.00
1,600.00	12.00	330.44	1,592.18	3,036.82	82.95	-47.05	-34.35	0.00	0.00	0.00
1,700.00	12.00	330.44	1,689.99	2,939.01	101.03	-57.31	-41.84	0.00	0.00	0.00
1,800.00	12.00	330.44	1,787.81	2,841.19	119.11	-67.57	-49.33	0.00	0.00	0.00
1,900.00	12.00	330.44	1,885.62	2,743.38	137.20	-77.83	-56.82	0.00	0.00	0.00
2,000.00	12.00	330.44	1,983.44	2,645.56	155.28	-88.08	-64.31	0.00	0.00	0.00
2,100.00	12.00	330.44	2,081.25	2,547.75	173.37	-98.34	-71.80	0.00	0.00	0.00
2,200.00	12.00	330.44	2,179.07	2,449.93	191.45	-108.60	-79.29	0.00	0.00	0.00
2,300.00	12.00	330.44	2,276.88	2,352.12	209.54	-118.86	-86.78	0.00	0.00	0.00
2,400.00	12.00	330.44	2,374.70	2,254.30	227.62	-129.12	-94.27	0.00	0.00	0.00
2,500.00	12.00	330.44	2,472.51	2,156.49	245.70	-139.38	-101.76	0.00	0.00	0.00
2,600.00	12.00	330.44	2,570.33	2,058.67	263.79	-149.63	-109.25	0.00	0.00	0.00
2,700.00	12.00	330.44	2,668.14	1,960.86	281.87	-159.89	-116.74	0.00	0.00	0.00
2,800.00	12.00	330.44	2,765.96	1,863.04	299.96	-170.15	-124.23	0.00	0.00	0.00
2,900.00	12.00	330.44	2,863.77	1,765.23	318.04	-180.41	-131.72	0.00	0.00	0.00
3,000.00	12.00	330.44	2,961.59	1,667.41	336.13	-190.67	-139.21	0.00	0.00	0.00
3,100.00	12.00	330.44	3,059.40	1,569.60	354.21	-200.93	-146.70	0.00	0.00	0.00
3,200.00	12.00	330.44	3,157.22	1,471.78	372.29	-211.19	-154.19	0.00	0.00	0.00
3,300.00	12.00	330.44	3,255.03	1,373.97	390.38	-221.44	-161.68	0.00	0.00	0.00
3,400.00	12.00	330.44	3,352.85	1,276.15	408.46	-231.70	-169.17	0.00	0.00	0.00
3,500.00	12.00	330.44	3,450.66	1,178.34	426.55	-241.96	-176.66	0.00	0.00	0.00
3,600.00	12.00	330.44	3,548.48	1,080.52	444.63	-252.22	-184.15	0.00	0.00	0.00
3,700.00	12.00	330.44	3,646.29	982.71	462.71	-262.48	-191.64	0.00	0.00	0.00
3,800.00	12.00	330.44	3,744.10	884.90	480.80	-272.74	-199.13	0.00	0.00	0.00
3,900.00	12.00	330.44	3,841.92	787.08	498.88	-282.99	-206.62	0.00	0.00	0.00
4,000.00	12.00	330.44	3,939.73	689.27	516.97	-293.25	-214.11	0.00	0.00	0.00
4,100.00	12.00	330.44	4,037.55	591.45	535.05	-303.51	-221.60	0.00	0.00	0.00
4,200.00	12.00	330.44	4,135.36	493.64	553.14	-313.77	-229.09	0.00	0.00	0.00
4,300.00	12.00	330.44	4,233.18	395.82	571.22	-324.03	-236.58	0.00	0.00	0.00
4,400.00	12.00	330.44	4,330.99	298.01	589.30	-334.29	-244.07	0.00	0.00	0.00
4,500.00	12.00	330.44	4,428.81	200.19	607.39	-344.54	-251.56	0.00	0.00	0.00
4,600.00	12.00	330.44	4,526.62	102.38	625.47	-354.80	-259.05	0.00	0.00	0.00
4,700.00	12.00	330.44	4,624.44	4.56	643.56	-365.06	-266.54	0.00	0.00	0.00
4,800.00	12.00	330.44	4,722.25	-93.25	661.64	-375.32	-274.03	0.00	0.00	0.00
4,900.00	12.00	330.44	4,820.07	-191.07	679.73	-385.58	-281.52	0.00	0.00	0.00
5,000.00	12.00	330.44	4,917.88	-288.88	697.81	-395.84	-289.01	0.00	0.00	0.00
Drop @ 2°/100'										
5,009.90	12.00	330.44	4,927.56	-298.56	699.60	-396.85	-289.75	0.00	0.00	0.00
5,100.00	10.20	330.44	5,015.98	-386.98	714.69	-405.41	-296.00	2.00	-2.00	0.00
5,200.00	8.20	330.44	5,114.69	-485.69	728.59	-413.29	-301.75	2.00	-2.00	0.00
5,300.00	6.20	330.44	5,213.89	-584.89	739.49	-419.48	-306.27	2.00	-2.00	0.00
5,400.00	4.20	330.44	5,313.48	-684.48	747.37	-423.95	-309.53	2.00	-2.00	0.00
5,500.00	2.20	330.44	5,413.32	-784.32	752.22	-426.70	-311.54	2.00	-2.00	0.00

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Well:	Pronghorn 11-41-28HNB	North Reference:	True
Wellbore:	API #: TBD	Survey Calculation Method:	Minimum Curvature
Design:	Proposal #1 (13352-241)	Database:	EDM5000

Planned Survey										
MD (usft)	Inc (°)	Azi (°)	TVD (usft)	SS (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,600.00	0.20	330.44	5,513.29	-884.29	754.04	-427.73	-312.29	2.00	-2.00	0.00
KOP (1) @ 11°/100'										
5,609.90	0.00	0.00	5,523.19	-894.19	754.05	-427.74	-312.30	2.00	-2.00	0.00
5,700.00	9.91	91.06	5,612.84	-983.84	753.91	-419.97	-304.63	11.00	11.00	0.00
5,800.00	20.91	91.06	5,709.10	-1,080.10	753.42	-393.44	-278.46	11.00	11.00	0.00
5,900.00	31.91	91.06	5,798.52	-1,169.52	752.59	-349.03	-234.66	11.00	11.00	0.00
6,000.00	42.91	91.06	5,877.83	-1,248.83	751.47	-288.38	-174.84	11.00	11.00	0.00
6,100.00	53.91	91.06	5,944.11	-1,315.11	750.09	-213.72	-101.18	11.00	11.00	0.00
6,200.00	64.91	91.06	5,994.92	-1,365.92	748.50	-127.78	-16.41	11.00	11.00	0.00
70' Tangent @ 70° Inc										
6,246.27	70.00	91.06	6,012.65	-1,383.65	747.71	-85.07	25.72	11.00	11.00	0.00
6,300.00	70.00	91.06	6,031.03	-1,402.03	746.77	-34.59	75.52	0.00	0.00	0.00
KOP (2) @ 11°/100'										
6,316.27	70.00	91.06	6,036.59	-1,407.59	746.49	-19.30	90.59	0.00	0.00	0.00
6,400.00	79.21	91.06	6,058.79	-1,429.79	745.00	61.32	170.13	11.00	11.00	0.00
ICP Tgt - 7" Inter Csg										
6,498.08	90.00	91.06	6,068.00	-1,439.00	743.19	158.81	266.29	11.00	11.00	0.00
6,500.00	90.00	91.06	6,068.00	-1,439.00	743.16	160.73	268.18	0.00	0.00	0.00
6,600.00	90.00	91.06	6,068.00	-1,439.00	741.31	260.71	366.81	0.00	0.00	0.00
6,700.00	90.00	91.06	6,068.00	-1,439.00	739.46	360.69	465.43	0.00	0.00	0.00
6,800.00	90.00	91.06	6,068.00	-1,439.00	737.60	460.68	564.06	0.00	0.00	0.00
6,900.00	90.00	91.06	6,068.00	-1,439.00	735.75	560.66	662.68	0.00	0.00	0.00
7,000.00	90.00	91.06	6,068.00	-1,439.00	733.90	660.64	761.31	0.00	0.00	0.00
7,100.00	90.00	91.06	6,068.00	-1,439.00	732.05	760.63	859.93	0.00	0.00	0.00
7,200.00	90.00	91.06	6,068.00	-1,439.00	730.20	860.61	958.56	0.00	0.00	0.00
7,300.00	90.00	91.06	6,068.00	-1,439.00	728.35	960.59	1,057.19	0.00	0.00	0.00
7,400.00	90.00	91.06	6,068.00	-1,439.00	726.50	1,060.57	1,155.81	0.00	0.00	0.00
7,500.00	90.00	91.06	6,068.00	-1,439.00	724.65	1,160.56	1,254.44	0.00	0.00	0.00
7,600.00	90.00	91.06	6,068.00	-1,439.00	722.80	1,260.54	1,353.06	0.00	0.00	0.00
7,700.00	90.00	91.06	6,068.00	-1,439.00	720.94	1,360.52	1,451.69	0.00	0.00	0.00
7,800.00	90.00	91.06	6,068.00	-1,439.00	719.09	1,460.51	1,550.31	0.00	0.00	0.00
7,900.00	90.00	91.06	6,068.00	-1,439.00	717.24	1,560.49	1,648.94	0.00	0.00	0.00
8,000.00	90.00	91.06	6,068.00	-1,439.00	715.39	1,660.47	1,747.57	0.00	0.00	0.00
8,100.00	90.00	91.06	6,068.00	-1,439.00	713.54	1,760.45	1,846.19	0.00	0.00	0.00
8,200.00	90.00	91.06	6,068.00	-1,439.00	711.69	1,860.44	1,944.82	0.00	0.00	0.00
8,300.00	90.00	91.06	6,068.00	-1,439.00	709.84	1,960.42	2,043.44	0.00	0.00	0.00
8,400.00	90.00	91.06	6,068.00	-1,439.00	707.99	2,060.40	2,142.07	0.00	0.00	0.00
8,500.00	90.00	91.06	6,068.00	-1,439.00	706.14	2,160.39	2,240.69	0.00	0.00	0.00
8,600.00	90.00	91.06	6,068.00	-1,439.00	704.29	2,260.37	2,339.32	0.00	0.00	0.00
8,700.00	90.00	91.06	6,068.00	-1,439.00	702.43	2,360.35	2,437.95	0.00	0.00	0.00
8,800.00	90.00	91.06	6,068.00	-1,439.00	700.58	2,460.33	2,536.57	0.00	0.00	0.00
8,900.00	90.00	91.06	6,068.00	-1,439.00	698.73	2,560.32	2,635.20	0.00	0.00	0.00
9,000.00	90.00	91.06	6,068.00	-1,439.00	696.88	2,660.30	2,733.82	0.00	0.00	0.00
9,100.00	90.00	91.06	6,068.00	-1,439.00	695.03	2,760.28	2,832.45	0.00	0.00	0.00
9,200.00	90.00	91.06	6,068.00	-1,439.00	693.18	2,860.27	2,931.07	0.00	0.00	0.00
9,300.00	90.00	91.06	6,068.00	-1,439.00	691.33	2,960.25	3,029.70	0.00	0.00	0.00
9,400.00	90.00	91.06	6,068.00	-1,439.00	689.48	3,060.23	3,128.32	0.00	0.00	0.00
9,500.00	90.00	91.06	6,068.00	-1,439.00	687.63	3,160.21	3,226.95	0.00	0.00	0.00
9,600.00	90.00	91.06	6,068.00	-1,439.00	685.78	3,260.20	3,325.58	0.00	0.00	0.00
9,700.00	90.00	91.06	6,068.00	-1,439.00	683.92	3,360.18	3,424.20	0.00	0.00	0.00
9,800.00	90.00	91.06	6,068.00	-1,439.00	682.07	3,460.16	3,522.83	0.00	0.00	0.00
9,900.00	90.00	91.06	6,068.00	-1,439.00	680.22	3,560.15	3,621.45	0.00	0.00	0.00
10,000.00	90.00	91.06	6,068.00	-1,439.00	678.37	3,660.13	3,720.08	0.00	0.00	0.00

Company:	Bonanza Creek Energy, Inc	Local Co-ordinate Ref:	Pronghorn 11-41-28HNB
Project:	Weld County, Colorado	Ground Level Elevation:	4,616.0usft
Site:	SW NW, Sec 28, T5N, R61W, 6 PM	Wellhead Elevation:	Est. Kb @ 4629.00usft (Proposed)
Well:	Pronghorn 11-41-28HNB	North Reference:	True
Wellbore:	API #: TBD	Survey Calculation Method:	Minimum Curvature
Design:	Proposal #1 (13352-241)	Database:	EDM5000

Planned Survey										
MD (usft)	Inc (°)	Azi (°)	TVD (usft)	SS (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
10,100.00	90.00	91.06	6,068.00	-1,439.00	676.52	3,760.11	3,818.70	0.00	0.00	0.00
10,200.00	90.00	91.06	6,068.00	-1,439.00	674.67	3,860.09	3,917.33	0.00	0.00	0.00
10,300.00	90.00	91.06	6,068.00	-1,439.00	672.82	3,960.08	4,015.96	0.00	0.00	0.00
10,400.00	90.00	91.06	6,068.00	-1,439.00	670.97	4,060.06	4,114.58	0.00	0.00	0.00
10,500.00	90.00	91.06	6,068.00	-1,439.00	669.12	4,160.04	4,213.21	0.00	0.00	0.00
10,600.00	90.00	91.06	6,068.00	-1,439.00	667.26	4,260.03	4,311.83	0.00	0.00	0.00
10,700.00	90.00	91.06	6,068.00	-1,439.00	665.41	4,360.01	4,410.46	0.00	0.00	0.00
10,800.00	90.00	91.06	6,068.00	-1,439.00	663.56	4,459.99	4,509.08	0.00	0.00	0.00
BH Tgt										
10,806.22	90.00	91.06	6,068.00	-1,439.00	663.45	4,466.21	4,515.22	0.00	0.00	0.00

Targets									
Target Name - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
WC Pronghorn 12-42-28HNB (- Circle (radius 10.00)	0.00	0.00	0.00	-0.01	-19.50	1,382,119.34	3,355,953.41	40.375280°N	104.222360°W
WC Pronghorn B-V-28HNB (1 - Circle (radius 10.00)	0.00	0.00	-1.00	-0.01	19.50	1,382,119.91	3,355,992.41	40.375280°N	104.222220°W
WC Pronghorn 11-41-28HNB (- Circle (radius 10.00)	0.00	0.00	0.00	0.00	0.00	1,382,119.64	3,355,972.91	40.375280°N	104.222290°W
Tgt Pronghorn 11-41-28HNB (- Circle (radius 10.00)	0.00	0.00	6,068.00	743.19	158.81	1,382,865.01	3,356,120.99	40.377320°N	104.221720°W
BH Pronghorn 11-41-28HNB (- Circle (radius 10.00)	0.00	0.00	6,068.00	663.45	4,466.21	1,382,847.34	3,360,428.91	40.377100°N	104.206260°W

Casing Points					
MD (usft)	TVD (usft)	Name	Casing Diameter (")	Hole Diameter (")	
6,498.08	6,068.00	7" Inter Csg	7	8-3/4	

Plan Annotations				
MD (usft)	TVD (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
842.44	842.44	0.00	0.00	Nudge @ 2°/100'
1,442.44	1,438.06	54.45	-30.89	Hold @ 12° Inc
5,009.90	4,927.56	699.60	-396.85	Drop @ 2°/100'
5,609.90	5,523.19	754.05	-427.74	KOP (1) @ 11°/100'
6,246.27	6,012.65	747.71	-85.07	70' Tangent @ 70° Inc
6,316.27	6,036.59	746.49	-19.30	KOP (2) @ 11°/100'
6,498.08	6,068.00	743.19	158.81	ICP Tgt
10,806.22	6,068.00	663.45	4,466.21	BH Tgt