

BONANZA CREEK ENERGY OPERATING

Well Name: **Pronghorn 41-44-18HNB**

Surface Location: Pronghorn 41-44-18HNB Pad Sec.18-T5N-R61W
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone

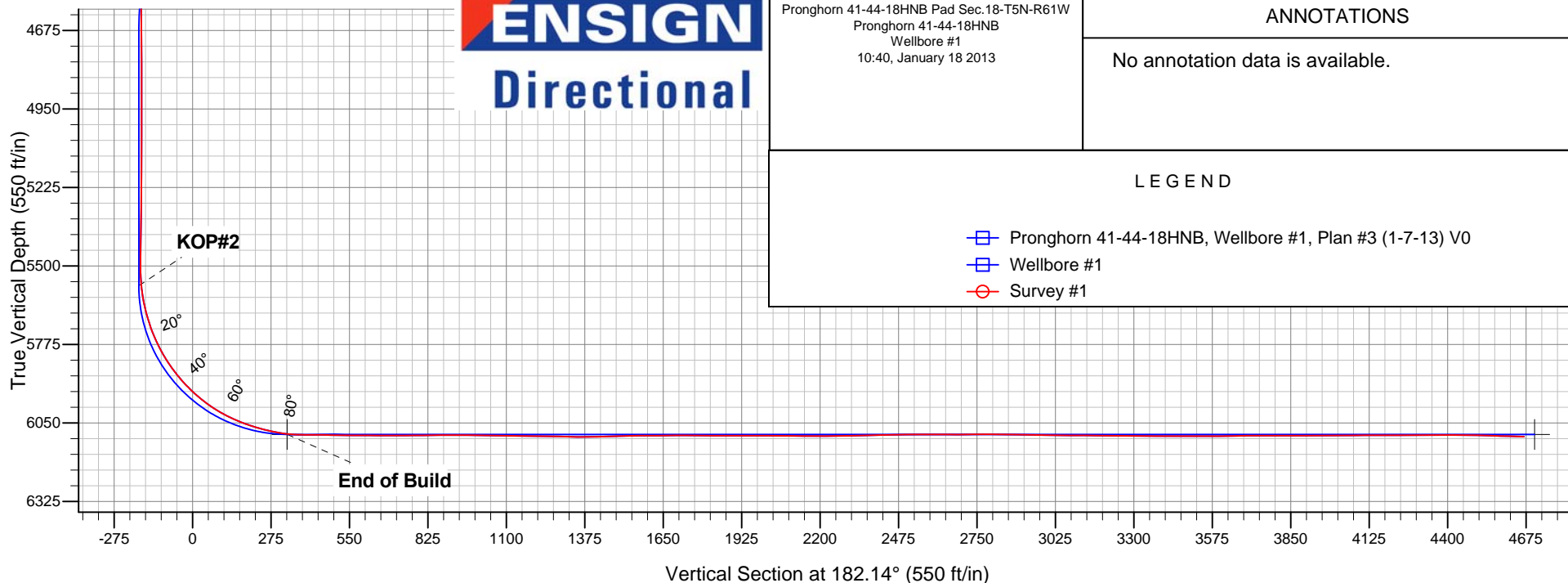
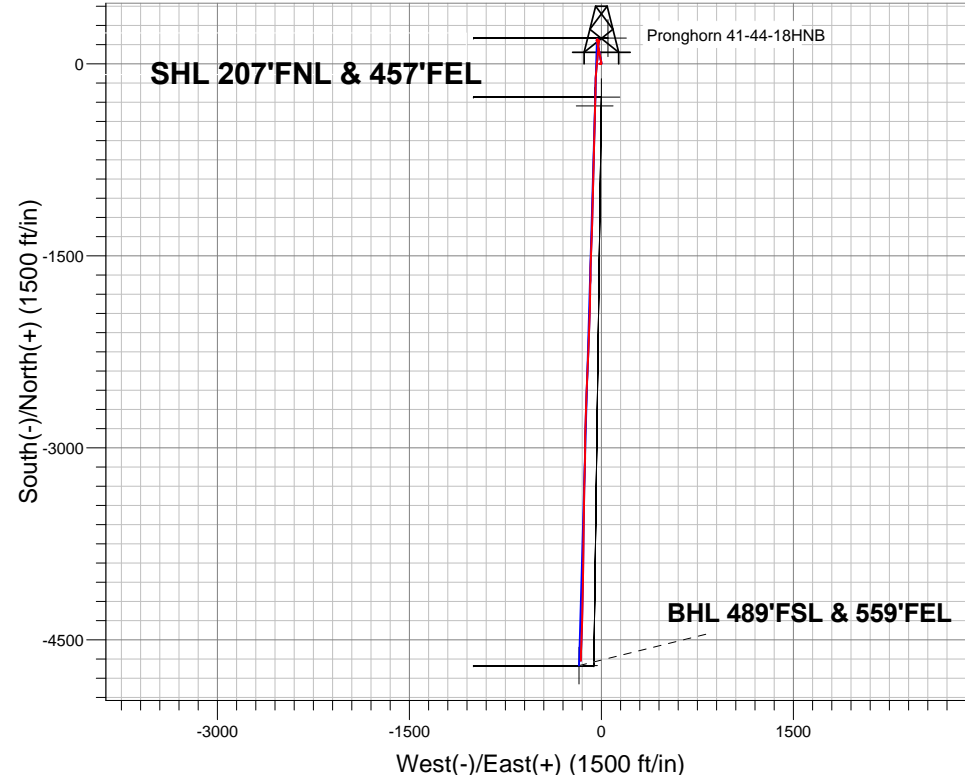
Ground Elevation: 4587.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1393949.66	3349605.67	40.408000	-104.244540	

Ensign 128 RKB - 15' WELL @ 4602.0ft (Ensign 128 RKB - 15')

FINAL SURVEY

Projected Bottom Hole Location
10711'MD 6098'TVD 4665'S & 161'W of SHL
88.4 degree Incl @ 181.5 degree AZM



Pronghorn 41-44-18HNB Pad Sec.18-T5N-R61W
Pronghorn 41-44-18HNB
Wellbore #1
10:40, January 18 2013

ANNOTATIONS

No annotation data is available.

LEGEND

- Pronghorn 41-44-18HNB, Wellbore #1, Plan #3 (1-7-13) V0
- Wellbore #1
- Survey #1



BONANZA CREEK ENERGY OPERATING

SEC.18-T5N-R61W

Pronghorn 41-44-18HNB Pad Sec.18-T5N-R61W

Pronghorn 41-44-18HNB

Wellbore #1

Survey: Survey #1

Standard Survey Report

18 January, 2013

Company:	BONANZA CREEK ENERGY OPERATING	Local Co-ordinate Reference:	Well Pronghorn 41-44-18HNB
Project:	SEC.18-T5N-R61W	TVD Reference:	WELL @ 4602.0ft (Ensign 128 RKB - 15')
Site:	Pronghorn 41-44-18HNB Pad Sec.18-T5N-R61W	MD Reference:	WELL @ 4602.0ft (Ensign 128 RKB - 15')
Well:	Pronghorn 41-44-18HNB	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Project	SEC.18-T5N-R61W		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		Using Well Reference Point
Map Zone:	Colorado Northern Zone		Using geodetic scale factor

Site		Pronghorn 41-44-18HNB Pad Sec.18-T5N-R61W			
Site Position:		Northing:	1,393,949.67 ft	Latitude:	40.408000
From:	Lat/Long	Easting:	3,349,605.67 ft	Longitude:	-104.244540
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.81 °

Well	Pronghorn 41-44-18HNB					
Well Position	+N-S	0.0 ft	Northing:	1,393,949.66 ft	Latitude:	40.408000
	+E-W	0.0 ft	Easting:	3,349,605.67 ft	Longitude:	-104.244540
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,587.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	1/4/2013	8.37	67.09	53,028

Design	Wellbore #1				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.0	0.0	0.0	182.14	

Survey Program	Date	1/18/2013			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
126.0	10,711.0	Survey #1 (Wellbore #1)	MWD	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)	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00	
1.0	0.00	267.10	1.0	0.0	0.0	0.0	0.32	0.32	0.00	
HARDLINE 460' - SECTION LINE										
126.0	0.40	267.10	126.0	0.0	-0.4	0.0	0.32	0.32	0.00	
216.0	0.90	258.20	216.0	-0.2	-1.4	0.2	0.57	0.56	-9.89	
303.0	0.70	272.20	303.0	-0.3	-2.6	0.4	0.32	-0.23	16.09	
430.0	0.80	289.10	430.0	0.0	-4.3	0.1	0.19	0.08	13.31	
511.0	1.30	284.90	511.0	0.4	-5.7	-0.2	0.62	0.62	-5.19	
635.0	2.20	278.00	634.9	1.1	-9.4	-0.8	0.74	0.73	-5.56	
759.0	2.00	267.30	758.8	1.4	-13.9	-0.8	0.35	-0.16	-8.63	
883.0	0.40	187.00	882.8	0.8	-16.1	-0.2	1.59	-1.29	-64.76	
1,007.0	1.00	129.80	1,006.8	-0.3	-15.4	0.9	0.69	0.48	-46.13	

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Site:	Pronghorn 41-44-18HNB Pad Sec.18-T5N-R61W	MD Reference:	WELL @ 4602.0ft (Ensign 128 RKB - 15')
Well:	Pronghorn 41-44-18HNB	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

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)
1,129.0	1.80	113.30	1,128.7	-1.7	-12.8	2.2	0.73	0.66	-13.52
1,254.0	1.60	77.60	1,253.7	-2.1	-9.3	2.5	0.85	-0.16	-28.56
1,376.0	1.90	64.10	1,375.6	-0.9	-5.8	1.1	0.42	0.25	-11.07
1,499.0	0.80	72.50	1,498.6	0.3	-3.1	-0.1	0.91	-0.89	6.83
1,622.0	0.40	124.40	1,621.6	0.3	-2.0	-0.2	0.52	-0.33	42.20
1,745.0	0.20	33.90	1,744.6	0.2	-1.5	-0.2	0.36	-0.16	-73.58
1,872.0	0.50	353.40	1,871.6	1.0	-1.4	-0.9	0.29	0.24	-31.89
1,999.0	0.70	7.10	1,998.6	2.3	-1.4	-2.2	0.19	0.16	10.79
2,127.0	0.80	4.30	2,126.6	3.9	-1.2	-3.9	0.08	0.08	-2.19
2,253.0	0.90	15.80	2,252.6	5.8	-0.9	-5.7	0.16	0.08	9.13
2,380.0	1.10	355.40	2,379.5	7.9	-0.7	-7.9	0.32	0.16	-16.06
2,508.0	1.10	348.20	2,507.5	10.4	-1.1	-10.3	0.11	0.00	-5.63
2,635.0	2.80	351.50	2,634.4	14.6	-1.8	-14.6	1.34	1.34	2.60
2,762.0	4.40	346.20	2,761.2	22.4	-3.4	-22.3	1.29	1.26	-4.17
2,889.0	5.10	346.90	2,887.7	32.7	-5.8	-32.4	0.55	0.55	0.55
3,017.0	6.00	349.00	3,015.1	44.8	-8.4	-44.4	0.72	0.70	1.64
3,144.0	6.20	349.70	3,141.4	58.0	-10.9	-57.6	0.17	0.16	0.55
3,271.0	7.60	350.30	3,267.5	73.1	-13.5	-72.5	1.10	1.10	0.47
3,399.0	9.70	347.80	3,394.0	91.9	-17.2	-91.2	1.67	1.64	-1.95
3,527.0	10.60	348.00	3,520.0	114.0	-22.0	-113.1	0.70	0.70	0.16
3,654.0	11.30	348.70	3,644.7	137.6	-26.8	-136.5	0.56	0.55	0.55
3,781.0	9.10	350.10	3,769.7	159.7	-31.0	-158.5	1.74	-1.73	1.10
3,909.0	6.00	358.90	3,896.6	176.4	-32.9	-175.0	2.58	-2.42	6.88
4,036.0	3.80	7.10	4,023.1	187.2	-32.5	-185.9	1.81	-1.73	6.46
4,164.0	0.70	340.60	4,151.0	192.1	-32.2	-190.8	2.49	-2.42	-20.70
4,291.0	1.50	217.20	4,278.0	191.6	-33.5	-190.2	1.55	0.63	-97.17
4,419.0	3.40	199.30	4,405.9	186.6	-35.7	-185.2	1.58	1.48	-13.98
4,546.0	0.70	195.60	4,532.8	182.3	-37.2	-180.8	2.13	-2.13	-2.91
4,673.0	0.40	149.00	4,659.8	181.2	-37.2	-179.7	0.41	-0.24	-36.69
4,801.0	0.90	117.90	4,787.8	180.4	-36.1	-178.9	0.46	0.39	-24.30
4,928.0	1.10	85.70	4,914.7	180.0	-34.0	-178.6	0.46	0.16	-25.35
5,056.0	1.30	88.50	5,042.7	180.1	-31.3	-178.8	0.16	0.16	2.19
5,183.0	1.80	85.40	5,169.7	180.3	-27.9	-179.1	0.40	0.39	-2.44
5,311.0	1.80	70.80	5,297.6	181.1	-24.0	-180.1	0.36	0.00	-11.41
5,438.0	1.90	61.50	5,424.5	182.8	-20.2	-181.9	0.25	0.08	-7.32
5,482.0	1.70	69.00	5,468.5	183.4	-19.0	-182.5	0.70	-0.45	17.05
5,514.0	1.10	97.50	5,500.5	183.5	-18.2	-182.7	2.82	-1.88	89.06
5,546.0	2.30	166.90	5,532.5	182.8	-17.8	-182.0	6.79	3.75	216.88
5,578.0	4.80	181.00	5,564.4	180.9	-17.6	-180.1	8.22	7.81	44.06
5,610.0	8.00	186.80	5,596.2	177.3	-17.9	-176.5	10.19	10.00	18.13
5,642.0	11.40	190.10	5,627.8	172.0	-18.8	-171.2	10.76	10.63	10.31
5,673.0	14.60	190.50	5,658.0	165.1	-20.0	-164.3	10.33	10.32	1.29
5,705.0	17.40	190.70	5,688.7	156.5	-21.6	-155.6	8.75	8.75	0.63
5,737.0	20.10	189.20	5,719.0	146.3	-23.4	-145.4	8.57	8.44	-4.69
5,769.0	22.90	185.00	5,748.8	134.7	-24.8	-133.7	9.98	8.75	-13.13
5,801.0	26.20	180.80	5,777.9	121.4	-25.5	-120.4	11.66	10.31	-13.13
5,833.0	29.80	182.00	5,806.2	106.4	-25.8	-105.4	11.39	11.25	3.75
5,864.0	32.60	184.00	5,832.7	90.4	-26.7	-89.3	9.63	9.03	6.45
5,896.0	36.00	185.90	5,859.1	72.4	-28.3	-71.3	11.14	10.63	5.94
5,928.0	39.30	186.40	5,884.4	53.0	-30.4	-51.8	10.36	10.31	1.56
5,960.0	42.40	185.20	5,908.6	32.2	-32.5	-30.9	9.99	9.69	-3.75
5,992.0	45.70	185.90	5,931.6	10.0	-34.6	-8.7	10.42	10.31	2.19
6,024.0	48.70	184.90	5,953.4	-13.3	-36.8	14.7	9.65	9.38	-3.13

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Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

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)
6,055.0	51.90	185.20	5,973.2	-37.1	-38.9	38.5	10.35	10.32	0.97
6,087.0	55.50	184.70	5,992.1	-62.8	-41.1	64.3	11.32	11.25	-1.56
6,119.0	59.60	184.20	6,009.3	-89.7	-43.2	91.3	12.88	12.81	-1.56
6,151.0	63.50	182.60	6,024.5	-117.8	-44.9	119.4	12.96	12.19	-5.00
6,183.0	66.00	181.70	6,038.2	-146.7	-46.0	148.3	8.22	7.81	-2.81
6,215.0	68.90	181.00	6,050.4	-176.2	-46.7	177.9	9.28	9.06	-2.19
6,246.0	72.30	180.30	6,060.7	-205.5	-47.0	207.1	11.17	10.97	-2.26
6,278.0	74.70	180.80	6,069.8	-236.2	-47.3	237.8	7.65	7.50	1.56
6,304.8	76.79	180.80	6,076.4	-262.1	-47.7	263.7	7.81	7.81	0.00
T1 460'FNL & 510'FEL									
6,310.0	77.20	180.80	6,077.6	-267.2	-47.7	268.8	7.81	7.81	0.00
6,342.0	80.10	181.30	6,083.9	-298.6	-48.3	300.2	9.19	9.06	1.56
6,373.0	83.50	181.30	6,088.3	-329.2	-49.0	330.8	10.97	10.97	0.00
6,373.7	83.59	181.31	6,088.4	-329.9	-49.0	331.5	12.33	12.19	1.89
T1 531'FNL & 510'FEL									
6,397.1	86.44	181.75	6,090.4	-353.2	-49.6	354.8	12.33	12.19	1.88
7"									
6,405.0	87.40	181.90	6,090.9	-361.1	-49.9	362.7	12.33	12.19	1.87
6,437.0	89.80	182.00	6,091.6	-393.1	-51.0	394.7	7.51	7.50	0.31
6,469.0	89.70	182.00	6,091.8	-425.1	-52.1	426.7	0.31	-0.31	0.00
6,500.0	89.40	182.20	6,092.0	-456.0	-53.2	457.7	1.16	-0.97	0.65
6,527.0	89.20	180.80	6,092.3	-483.0	-53.9	484.7	5.24	-0.74	-5.19
6,601.0	89.40	182.00	6,093.3	-557.0	-55.8	558.7	1.64	0.27	1.62
6,631.0	89.70	181.30	6,093.5	-587.0	-56.6	588.7	2.54	1.00	-2.33
6,662.0	89.60	180.80	6,093.7	-618.0	-57.2	619.7	1.64	-0.32	-1.61
6,693.0	89.80	180.60	6,093.8	-649.0	-57.6	650.7	0.91	0.65	-0.65
6,723.0	89.70	180.80	6,094.0	-679.0	-57.9	680.7	0.75	-0.33	0.67
6,754.0	90.10	181.70	6,094.0	-710.0	-58.6	711.7	3.18	1.29	2.90
6,786.0	90.40	180.80	6,093.9	-742.0	-59.3	743.6	2.96	0.94	-2.81
6,818.0	90.50	181.50	6,093.6	-773.9	-59.9	775.6	2.21	0.31	2.19
6,849.0	90.70	181.30	6,093.3	-804.9	-60.7	806.6	0.91	0.65	-0.65
6,881.0	90.60	181.50	6,092.9	-836.9	-61.5	838.6	0.70	-0.31	0.63
6,913.0	90.60	182.20	6,092.6	-868.9	-62.5	870.6	2.19	0.00	2.19
6,945.0	90.00	181.00	6,092.4	-900.9	-63.4	902.6	4.19	-1.88	-3.75
6,976.0	89.50	181.30	6,092.6	-931.9	-64.0	933.6	1.88	-1.61	0.97
7,008.0	89.90	180.50	6,092.7	-963.9	-64.5	965.6	2.80	1.25	-2.50
7,040.0	89.40	180.50	6,092.9	-995.9	-64.8	997.6	1.56	-1.56	0.00
7,071.0	88.90	180.50	6,093.4	-1,026.9	-65.1	1,028.6	1.61	-1.61	0.00
7,103.0	89.20	181.50	6,093.9	-1,058.9	-65.6	1,060.6	3.26	0.94	3.13
7,135.0	88.90	182.40	6,094.5	-1,090.8	-66.7	1,092.6	2.96	-0.94	2.81
7,166.0	89.10	181.90	6,095.0	-1,121.8	-67.9	1,123.6	1.74	0.65	-1.61
7,198.0	89.20	181.70	6,095.5	-1,153.8	-68.9	1,155.6	0.70	0.31	-0.63
7,230.0	89.30	182.90	6,095.9	-1,185.8	-70.2	1,187.6	3.76	0.31	3.75
7,262.0	89.30	183.80	6,096.3	-1,217.7	-72.1	1,219.5	2.81	0.00	2.81
7,294.0	88.80	182.70	6,096.8	-1,249.7	-73.9	1,251.5	3.78	-1.56	-3.44
7,325.0	88.90	182.00	6,097.4	-1,280.6	-75.1	1,282.5	2.28	0.32	-2.26
7,357.0	88.70	180.80	6,098.1	-1,312.6	-75.9	1,314.5	3.80	-0.63	-3.75
7,389.0	88.60	181.00	6,098.9	-1,344.6	-76.4	1,346.5	0.70	-0.31	0.63
7,420.0	90.30	181.90	6,099.2	-1,375.6	-77.2	1,377.5	6.20	5.48	2.90
7,452.0	91.90	182.20	6,098.5	-1,407.5	-78.4	1,409.5	5.09	5.00	0.94
7,484.0	91.60	183.10	6,097.6	-1,439.5	-79.8	1,441.5	2.96	-0.94	2.81
7,516.0	91.70	182.90	6,096.6	-1,471.4	-81.5	1,473.5	0.70	0.31	-0.63
7,547.0	91.90	182.20	6,095.7	-1,502.4	-82.9	1,504.4	2.35	0.65	-2.26

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Design:	Wellbore #1	Database:	Landmark

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)
7,579.0	90.70	181.70	6,094.9	-1,534.4	-84.0	1,536.4	4.06	-3.75	-1.56
7,611.0	89.80	180.60	6,094.8	-1,566.4	-84.6	1,568.4	4.44	-2.81	-3.44
7,643.0	90.30	181.00	6,094.8	-1,598.4	-85.1	1,600.4	2.00	1.56	1.25
7,674.0	90.80	180.80	6,094.5	-1,629.4	-85.5	1,631.4	1.74	1.61	-0.65
7,706.0	90.60	181.00	6,094.1	-1,661.3	-86.1	1,663.4	0.88	-0.63	0.63
7,738.0	90.80	180.60	6,093.7	-1,693.3	-86.5	1,695.4	1.40	0.63	-1.25
7,770.0	90.00	180.60	6,093.5	-1,725.3	-86.8	1,727.4	2.50	-2.50	0.00
7,802.0	89.90	180.30	6,093.5	-1,757.3	-87.1	1,759.4	0.99	-0.31	-0.94
7,834.0	89.30	180.80	6,093.7	-1,789.3	-87.4	1,791.3	2.44	-1.88	1.56
7,865.0	89.20	181.00	6,094.1	-1,820.3	-87.9	1,822.3	0.72	-0.32	0.65
7,897.0	89.20	180.10	6,094.6	-1,852.3	-88.2	1,854.3	2.81	0.00	-2.81
7,929.0	89.50	180.50	6,094.9	-1,884.3	-88.4	1,886.3	1.56	0.94	1.25
7,961.0	90.40	182.20	6,095.0	-1,916.3	-89.1	1,918.3	6.01	2.81	5.31
7,993.0	90.70	182.00	6,094.7	-1,948.3	-90.3	1,950.3	1.13	0.94	-0.63
8,025.0	90.10	182.20	6,094.4	-1,980.3	-91.5	1,982.3	1.98	-1.88	0.63
8,056.0	90.00	182.60	6,094.4	-2,011.2	-92.7	2,013.3	1.33	-0.32	1.29
8,088.0	89.60	182.60	6,094.5	-2,043.2	-94.2	2,045.3	1.25	-1.25	0.00
8,120.0	89.50	182.40	6,094.8	-2,075.2	-95.6	2,077.3	0.70	-0.31	-0.63
8,152.0	89.30	182.20	6,095.1	-2,107.1	-96.9	2,109.3	0.88	-0.63	-0.63
8,184.0	89.30	181.90	6,095.5	-2,139.1	-98.0	2,141.3	0.94	0.00	-0.94
8,215.0	89.90	181.50	6,095.7	-2,170.1	-98.9	2,172.3	2.33	1.94	-1.29
8,247.0	90.00	181.50	6,095.7	-2,202.1	-99.8	2,204.3	0.31	0.31	0.00
8,279.0	90.20	182.60	6,095.7	-2,234.1	-100.9	2,236.3	3.49	0.63	3.44
8,311.0	90.70	183.40	6,095.4	-2,266.0	-102.6	2,268.3	2.95	1.56	2.50
8,342.0	91.20	183.40	6,094.9	-2,297.0	-104.4	2,299.3	1.61	1.61	0.00
8,374.0	91.10	182.40	6,094.3	-2,328.9	-106.1	2,331.3	3.14	-0.31	-3.13
8,406.0	91.40	183.10	6,093.6	-2,360.9	-107.6	2,363.2	2.38	0.94	2.19
8,437.0	91.60	183.40	6,092.8	-2,391.8	-109.4	2,394.2	1.16	0.65	0.97
8,469.0	91.20	183.10	6,092.0	-2,423.8	-111.2	2,426.2	1.56	-1.25	-0.94
8,501.0	90.70	182.00	6,091.5	-2,455.7	-112.6	2,458.2	3.78	-1.56	-3.44
8,533.0	90.80	181.70	6,091.0	-2,487.7	-113.6	2,490.2	0.99	0.31	-0.94
8,565.0	90.70	182.70	6,090.6	-2,519.7	-114.8	2,522.2	3.14	-0.31	3.13
8,597.0	90.50	182.20	6,090.3	-2,551.6	-116.2	2,554.2	1.68	-0.63	-1.56
8,628.0	90.00	181.90	6,090.2	-2,582.6	-117.3	2,585.2	1.88	-1.61	-0.97
8,660.0	89.70	181.00	6,090.2	-2,614.6	-118.1	2,617.2	2.96	-0.94	-2.81
8,692.0	89.40	181.70	6,090.5	-2,646.6	-118.9	2,649.2	2.38	-0.94	2.19
8,723.0	90.20	180.80	6,090.6	-2,677.6	-119.6	2,680.2	3.88	2.58	-2.90
8,755.0	91.10	181.20	6,090.2	-2,709.6	-120.1	2,712.2	3.08	2.81	1.25
8,787.0	90.70	182.20	6,089.7	-2,741.6	-121.1	2,744.2	3.37	-1.25	3.13
8,818.0	90.20	182.00	6,089.5	-2,772.5	-122.2	2,775.2	1.74	-1.61	-0.65
8,850.0	89.50	181.70	6,089.6	-2,804.5	-123.2	2,807.2	2.38	-2.19	-0.94
8,882.0	89.20	182.00	6,089.9	-2,836.5	-124.3	2,839.2	1.33	-0.94	0.94
8,914.0	89.00	181.30	6,090.4	-2,868.5	-125.2	2,871.2	2.27	-0.63	-2.19
8,945.0	88.50	181.20	6,091.1	-2,899.5	-125.9	2,902.2	1.64	-1.61	-0.32
8,977.0	88.80	181.00	6,091.9	-2,931.5	-126.5	2,934.1	1.13	0.94	-0.63
9,009.0	89.20	180.50	6,092.4	-2,963.5	-126.9	2,966.1	2.00	1.25	-1.56
9,041.0	89.50	180.50	6,092.8	-2,995.5	-127.2	2,998.1	0.94	0.94	0.00
9,073.0	90.00	180.30	6,092.9	-3,027.4	-127.4	3,030.1	1.68	1.56	-0.63
9,104.0	89.70	180.10	6,093.0	-3,058.4	-127.5	3,061.1	1.16	-0.97	-0.65
9,136.0	89.10	181.50	6,093.3	-3,090.4	-128.0	3,093.1	4.76	-1.88	4.38
9,168.0	89.30	181.30	6,093.8	-3,122.4	-128.7	3,125.1	0.88	0.63	-0.63
9,199.0	89.30	181.20	6,094.2	-3,153.4	-129.4	3,156.1	0.32	0.00	-0.32
9,231.0	89.60	181.20	6,094.5	-3,185.4	-130.1	3,188.0	0.94	0.94	0.00

Company:	BONANZA CREEK ENERGY OPERATING	Local Co-ordinate Reference:	Well Pronghorn 41-44-18HNB
Project:	SEC.18-T5N-R61W	TVD Reference:	WELL @ 4602.0ft (Ensign 128 RKB - 15')
Site:	Pronghorn 41-44-18HNB Pad Sec.18-T5N-R61W	MD Reference:	WELL @ 4602.0ft (Ensign 128 RKB - 15')
Well:	Pronghorn 41-44-18HNB	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

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)
9,263.0	90.00	181.20	6,094.6	-3,217.4	-130.8	3,220.0	1.25	1.25	0.00
9,294.0	89.40	181.70	6,094.8	-3,248.4	-131.5	3,251.0	2.52	-1.94	1.61
9,326.0	89.40	181.70	6,095.1	-3,280.4	-132.5	3,283.0	0.00	0.00	0.00
9,358.0	89.40	181.50	6,095.4	-3,312.4	-133.4	3,315.0	0.62	0.00	-0.63
9,390.0	89.60	181.30	6,095.7	-3,344.4	-134.2	3,347.0	0.88	0.63	-0.63
9,421.0	89.60	181.20	6,095.9	-3,375.3	-134.8	3,378.0	0.32	0.00	-0.32
9,453.0	89.60	180.30	6,096.1	-3,407.3	-135.3	3,410.0	2.81	0.00	-2.81
9,485.0	89.90	181.30	6,096.3	-3,439.3	-135.7	3,442.0	3.26	0.94	3.13
9,517.0	89.70	181.00	6,096.4	-3,471.3	-136.4	3,474.0	1.13	-0.63	-0.94
9,549.0	89.90	181.00	6,096.5	-3,503.3	-136.9	3,506.0	0.63	0.63	0.00
9,580.0	90.00	181.00	6,096.5	-3,534.3	-137.5	3,537.0	0.32	0.32	0.00
9,612.0	90.20	180.10	6,096.5	-3,566.3	-137.8	3,569.0	2.88	0.63	-2.81
9,645.0	90.50	181.20	6,096.3	-3,599.3	-138.1	3,602.0	3.46	0.91	3.33
9,675.0	90.90	181.00	6,095.9	-3,629.3	-138.7	3,632.0	1.49	1.33	-0.67
9,707.0	91.20	181.50	6,095.3	-3,661.3	-139.4	3,663.9	1.82	0.94	1.56
9,739.0	90.70	181.50	6,094.8	-3,693.3	-140.2	3,695.9	1.56	-1.56	0.00
9,771.0	90.60	180.30	6,094.4	-3,725.3	-140.7	3,727.9	3.76	-0.31	-3.75
9,803.0	89.80	181.00	6,094.3	-3,757.3	-141.1	3,759.9	3.32	-2.50	2.19
9,834.0	89.50	181.00	6,094.5	-3,788.3	-141.7	3,790.9	0.97	-0.97	0.00
9,867.0	89.70	180.30	6,094.7	-3,821.3	-142.0	3,823.9	2.21	0.61	-2.12
9,897.0	90.00	180.10	6,094.8	-3,851.3	-142.1	3,853.9	1.20	1.00	-0.67
9,929.0	90.40	181.00	6,094.7	-3,883.3	-142.4	3,885.9	3.08	1.25	2.81
9,961.0	90.50	181.00	6,094.5	-3,915.3	-143.0	3,917.9	0.31	0.31	0.00
9,993.0	90.00	181.00	6,094.3	-3,947.2	-143.6	3,949.9	1.56	-1.56	0.00
10,024.0	90.00	180.10	6,094.3	-3,978.2	-143.9	3,980.8	2.90	0.00	-2.90
10,056.0	90.10	179.60	6,094.3	-4,010.2	-143.8	4,012.8	1.59	0.31	-1.56
10,088.0	90.90	180.50	6,094.0	-4,042.2	-143.8	4,044.8	3.76	2.50	2.81
10,120.0	90.90	181.30	6,093.5	-4,074.2	-144.3	4,076.8	2.50	0.00	2.50
10,151.0	90.70	180.80	6,093.1	-4,105.2	-144.9	4,107.8	1.74	-0.65	-1.61
10,181.0	90.00	181.30	6,092.9	-4,135.2	-145.4	4,137.8	2.87	-2.33	1.67
10,215.0	89.70	181.50	6,093.0	-4,169.2	-146.2	4,171.8	1.06	-0.88	0.59
10,247.0	89.80	180.80	6,093.1	-4,201.2	-146.9	4,203.8	2.21	0.31	-2.19
10,278.0	90.00	181.00	6,093.2	-4,232.2	-147.4	4,234.8	0.91	0.65	0.65
10,310.0	90.40	181.20	6,093.1	-4,264.2	-148.0	4,266.7	1.40	1.25	0.63
10,342.0	91.00	181.50	6,092.7	-4,296.2	-148.7	4,298.7	2.10	1.88	0.94
10,374.0	90.40	182.00	6,092.3	-4,328.2	-149.7	4,330.7	2.44	-1.88	1.56
10,405.0	90.10	181.90	6,092.1	-4,359.1	-150.8	4,361.7	1.02	-0.97	-0.32
10,437.0	89.60	182.70	6,092.2	-4,391.1	-152.1	4,393.7	2.95	-1.56	2.50
10,469.0	90.10	182.70	6,092.3	-4,423.1	-153.6	4,425.7	1.56	1.56	0.00
10,501.0	89.50	181.90	6,092.4	-4,455.1	-154.9	4,457.7	3.12	-1.88	-2.50
10,532.0	89.30	181.70	6,092.7	-4,486.0	-155.8	4,488.7	0.91	-0.65	-0.65
10,564.0	87.90	181.70	6,093.5	-4,518.0	-156.8	4,520.7	4.38	-4.38	0.00
10,596.0	88.30	182.70	6,094.6	-4,550.0	-158.0	4,552.7	3.36	1.25	3.13
10,628.0	88.30	181.70	6,095.5	-4,581.9	-159.2	4,584.7	3.12	0.00	-3.13
10,659.0	88.40	181.50	6,096.4	-4,612.9	-160.1	4,615.7	0.72	0.32	-0.65
10,711.0	88.40	181.50	6,097.9	-4,664.9	-161.5	4,667.7	0.00	0.00	0.00
BHL 460°FSL & 576°FEL									

Company:	BONANZA CREEK ENERGY OPERATING	Local Co-ordinate Reference:	Well Pronghorn 41-44-18HNB
Project:	SEC.18-T5N-R61W	TVD Reference:	WELL @ 4602.0ft (Ensign 128 RKB - 15')
Site:	Pronghorn 41-44-18HNB Pad Sec.18-T5N-R61W	MD Reference:	WELL @ 4602.0ft (Ensign 128 RKB - 15')
Well:	Pronghorn 41-44-18HNB	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Design Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)		
HARDLINE 460'	0.00	0.00	1.0	-260.0	0.0	1,393,689.71	3,349,609.35	40.407286	-104.244540
- survey misses target center by 260.0ft at 1.0ft MD (1.0 TVD, 0.0 N, 0.0 E)									
- Polygon									
Point 1			1.0	0.0	0.0	1,393,689.71	3,349,609.35		
Point 2			1.0	0.0	-1,000.0	1,393,675.55	3,348,609.49		
Point 3			1.0	0.0	0.0	1,393,689.71	3,349,609.35		
Point 4			1.0	-4,443.0	-59.0	1,389,246.50	3,349,613.26		
Point 5			1.0	-4,443.0	-1,000.0	1,389,233.18	3,348,672.39		
Point 6			1.0	-4,443.0	-59.0	1,389,246.50	3,349,613.26		
Point 7			1.0	0.0	0.0	1,393,689.71	3,349,609.35		
SECTION LINE	0.00	0.00	1.0	200.0	50.0	1,394,150.34	3,349,652.83	40.408549	-104.244360
- survey misses target center by 206.2ft at 1.0ft MD (1.0 TVD, 0.0 N, 0.0 E)									
- Polygon									
Point 1			1.0	0.0	0.0	1,394,150.34	3,349,652.83		
Point 2			1.0	0.0	-1,050.0	1,394,135.48	3,348,602.98		
T1 531'FNL & 510'FEI	0.00	0.00	6,090.0	-329.7	-52.9	1,393,619.26	3,349,557.45	40.407095	-104.244730
- survey misses target center by 4.2ft at 6373.7ft MD (6088.4 TVD, -329.9 N, -49.0 E)									
- Point									
BHL 460'FSL & 576'F	0.00	0.00	6,090.0	-4,701.4	-175.5	1,389,246.41	3,349,496.77	40.395095	-104.245170
- survey misses target center by 39.9ft at 10711.0ft MD (6097.9 TVD, -4664.9 N, -161.5 E)									
- Point									

Casing Points				
	Measured Depth (ft)	Vertical Depth (ft)	Name	
	6,397.1	6,090.4	7"	7-1/2

Checked By: _____	Approved By: _____	Date: _____
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