

# **BONANZA CREEK ENERGY INC.**

**WELD COUNTY, COLORADO (NAD 83)**

**SE SW SEC. 4 T5N R61W 6th P.M.**

**PRONGHORN 14-11-4HNB - Slot PRONGHORN 14-11-4HNB**

**JOB #: 2009-364**

**18 August, 2014**

**Survey: FINAL SURVEYS**



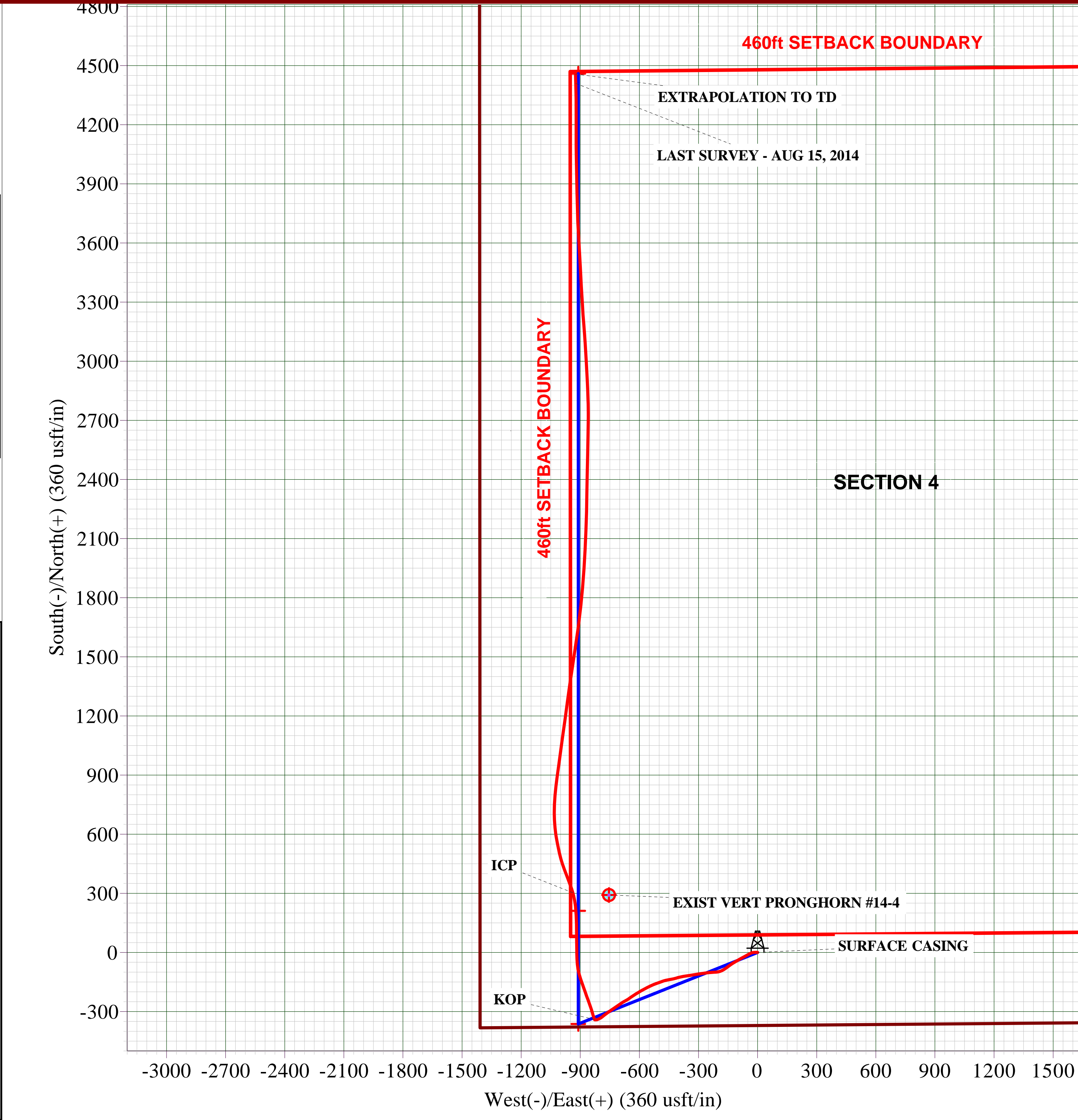
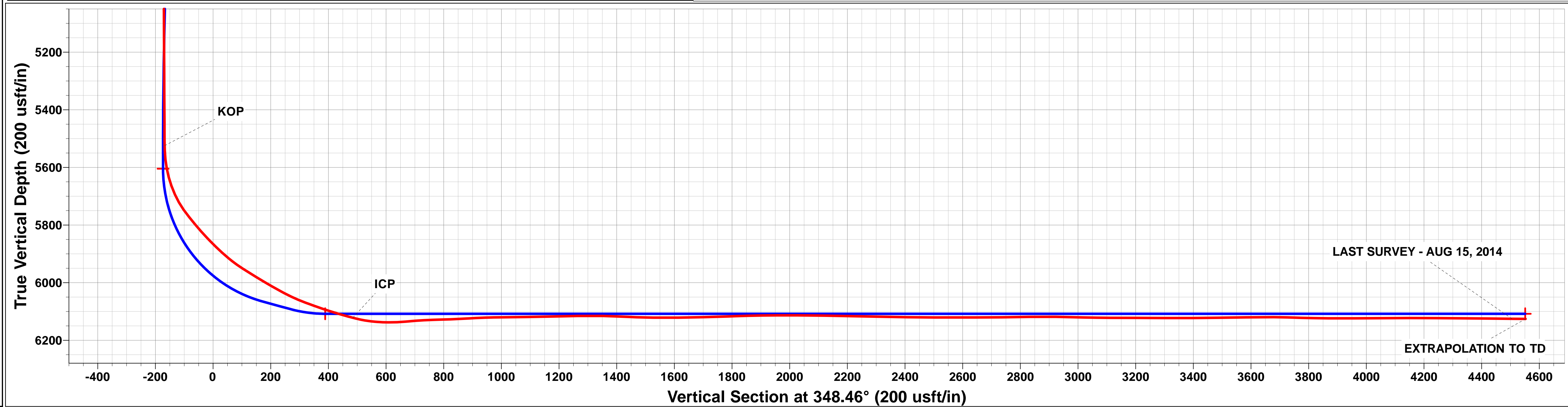
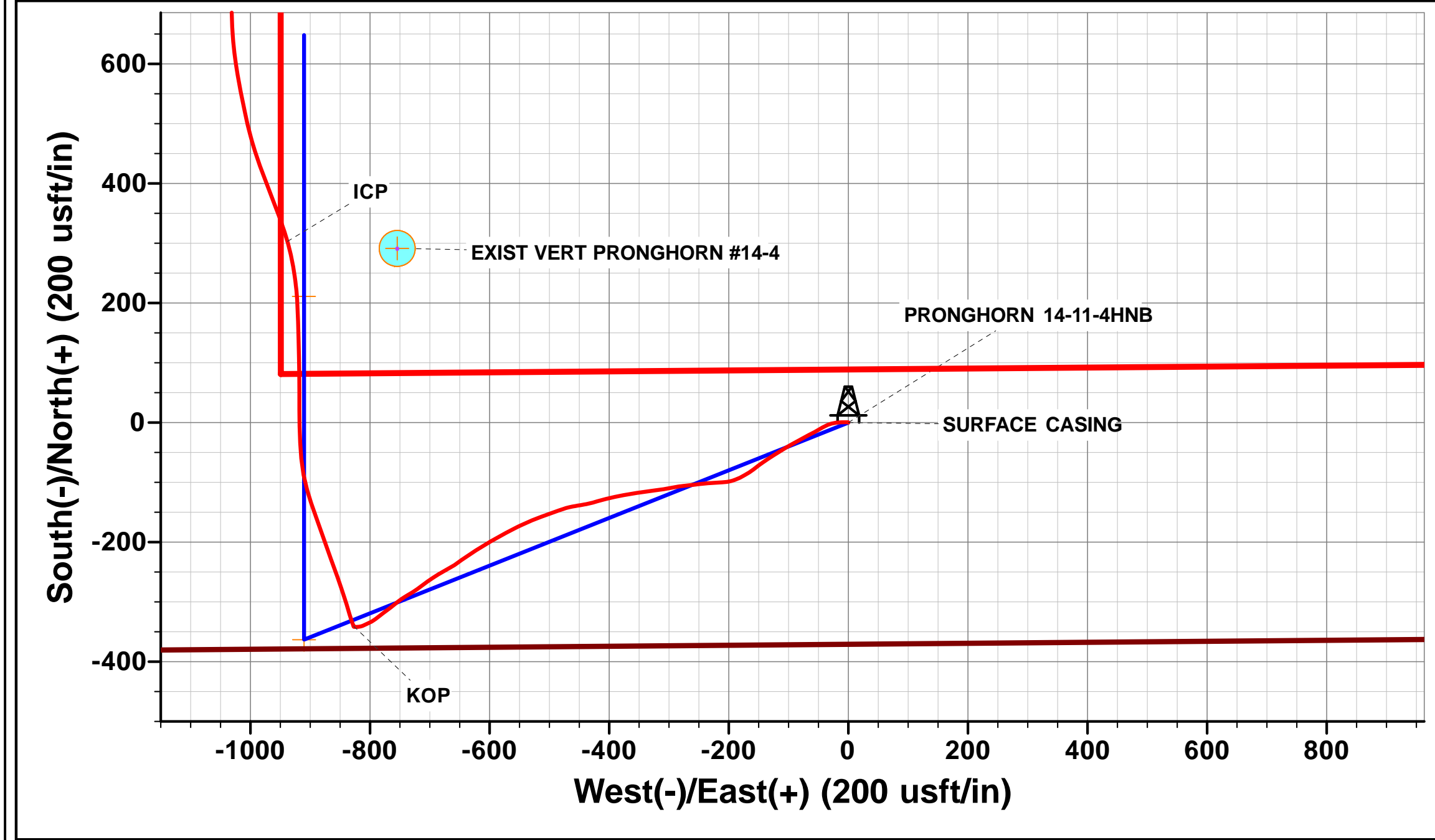
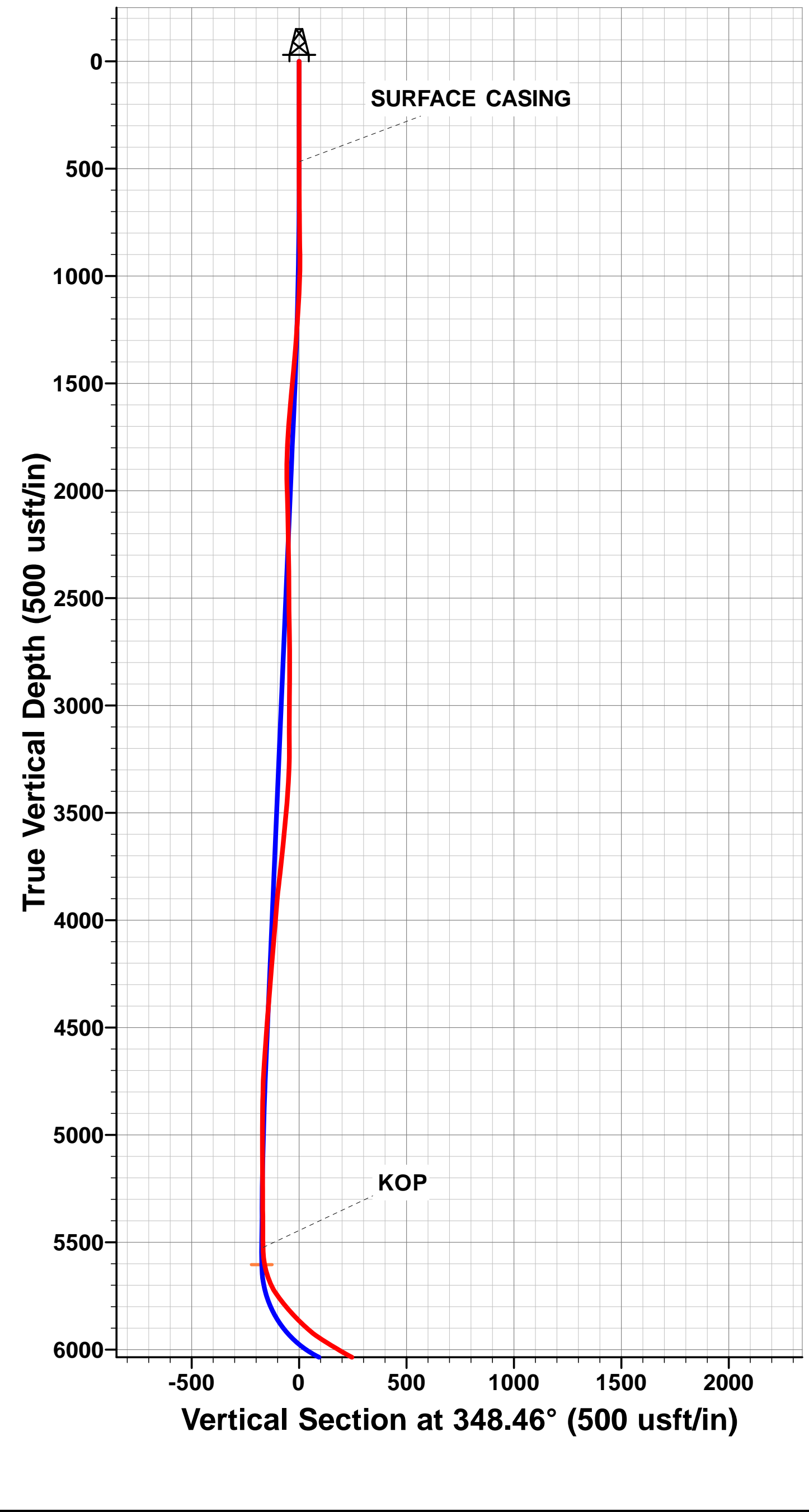


Project: WELD COUNTY, COLORADO (NAD 83)  
Site: SE SW SEC. 4 T5N R61W 6th P.M.  
Well: PRONGHORN 14-11-4HNB  
Wellbore: JOB #: 2009-364  
Design: FINAL SURVEYS

ANNOTATIONS									
TVD	MD	Inc	Azi	+N/-S	+E/-W	VSect	Dep	Annotation	
468.0	468.0	0.00	0.00	0.0	0.0	0.0	0.0	SURFACE CASING	
5524.7	5628.0	1.27	347.32	-340.3	-827.4	-168.0	915.6	KOP	
6121.9	6580.0	75.68	344.18	303.1	-938.1	484.6	1574.6	ICP	
6125.5	10714.0	89.50	358.60	4409.5	-923.1	4505.1	5706.3	LAST SURVEY - AUG 15, 2014	
6125.9	10762.0	89.50	358.60	4457.5	-924.2	4552.3	5754.3	EXTRAPOLATION TO TD	

PROPOSED LOCAL COORDINATES:  
  
SHL: 370ft FSL & 1410ft FWL Sec 4  
  
7" ICP \*NEW\*: 589.1ft FSL & 500ft FWL Sec 4  
  
BHL: 470ft FNL & 500ft FWL Sec 4

WELLBORE TARGET DETAILS (LAT/LONG)						
Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
KOP - PRONGHORN 14-11-4HNB	5604.7	-363.0	-910.4	40.422924	-104.221880	Point
7" ICP - PRONGHORN 14-11-4HNB *NEW*	6108.0	211.1	-910.4	40.424499	-104.221880	Point
BHL - PRONGHORN 14-11-4HNB	6108.0	4459.2	-910.3	40.436160	-104.221880	Point



## Survey Report



<b>Company:</b>	BONANZA CREEK ENERGY INC.	<b>Local Co-ordinate Reference:</b>	Well PRONGHORN 14-11-4HNB - Slot PRONGHORN
<b>Project:</b>	WELD COUNTY, COLORADO (NAD 83)	<b>TVD Reference:</b>	KB-EST @ 4660.0usft (Original Well Elev)
<b>Site:</b>	SE SW SEC. 4 T5N R61W 6th P.M.	<b>MD Reference:</b>	KB-EST @ 4660.0usft (Original Well Elev)
<b>Well:</b>	PRONGHORN 14-11-4HNB	<b>North Reference:</b>	True
<b>Wellbore:</b>	JOB #: 2009-364	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	FINAL SURVEYS	<b>Database:</b>	EDM 5000.1 Single User Db

<b>Project</b>	WELD COUNTY, COLORADO (NAD 83)		
<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		Using geodetic scale factor

Site	SE SW SEC. 4 T5N R61W 6th P.M.				
Site Position:		Northing:	1,399,851.98 usft	Latitude:	40.423920
From:	Lat/Long	Easting:	3,356,742.05 usft	Longitude:	-104.218610
Position Uncertainty:	0.0 usft	Slot Radius:	1.10000 ft	Grid Convergence:	0.83 °

Well	PRONGHORN 14-11-4HNB - Slot PRONGHORN 14-11-4HNB					
Well Position	+N/-S	0.0 usft	Northing:	1,399,851.98 usft	Latitude:	40.423920
	+E/-W	0.0 usft	Easting:	3,356,742.05 usft	Longitude:	-104.218610
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	4,643.0 usft

<b>Wellbore</b>	JOB #: 2009-364				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	25/07/2014	8.15	67.05	52,874

<b>Design</b>	FINAL SURVEYS				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>	
	0.0	0.0	0.0	348.46	

<b>Survey Program</b>	<b>Date</b>	18/08/2014			
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
478.0	10,762.0	FINAL SURVEYS (JOB #: 2009-364)	MWD	MWD - Standard	

<b>Survey</b>										
<b>Measured Depth (usft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (usft)</b>	<b>Subsea 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>
0.0	0.00	0.00	0.0	4,660.0	0.0	0.0	0.0	0.00	0.00	0.00
<b>SURFACE CASING</b>										
468.0	0.00	0.00	468.0	4,192.0	0.0	0.0	0.0	0.00	0.00	0.00
478.0	0.00	0.00	478.0	4,182.0	0.0	0.0	0.0	0.00	0.00	0.00
498.0	0.30	6.20	498.0	4,162.0	0.1	0.0	0.0	1.50	1.50	0.00
559.0	0.40	326.70	559.0	4,101.0	0.4	-0.1	0.4	0.42	0.16	-64.75
653.0	1.70	275.30	653.0	4,007.0	0.8	-1.7	1.1	1.58	1.38	-54.68
745.0	3.70	264.20	744.9	3,915.1	0.6	-6.0	1.8	2.24	2.17	-12.07
836.0	5.60	269.50	835.6	3,824.4	0.3	-13.3	2.9	2.14	2.09	5.82
928.0	7.70	261.40	927.0	3,733.0	-0.7	-23.9	4.1	2.49	2.28	-8.80
1,021.0	9.00	243.90	1,019.0	3,641.0	-4.8	-36.6	2.6	3.05	1.40	-18.82
1,113.0	10.40	240.70	1,109.7	3,550.3	-12.0	-50.3	-1.7	1.63	1.52	-3.48
1,206.0	12.00	241.30	1,200.9	3,459.1	-20.8	-66.1	-7.1	1.72	1.72	0.65

# Survey Report



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<b>Site:</b>	SE SW SEC. 4 T5N R61W 6th P.M.	<b>MD Reference:</b>	KB-EST @ 4660.0usft (Original Well Elev)
<b>Well:</b>	PRONGHORN 14-11-4HNB	<b>North Reference:</b>	True
<b>Wellbore:</b>	JOB #: 2009-364	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	FINAL SURVEYS	<b>Database:</b>	EDM 5000.1 Single User Db

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
1,297.0	13.90	241.70	1,289.6	3,370.4	-30.5	-84.0	-13.1	2.09	2.09	0.44
1,390.0	14.80	239.80	1,379.7	3,280.3	-41.8	-104.1	-20.1	1.09	0.97	-2.04
1,482.0	14.90	237.70	1,468.6	3,191.4	-54.0	-124.3	-28.1	0.59	0.11	-2.28
1,576.0	13.10	234.50	1,559.8	3,100.2	-66.7	-143.2	-36.7	2.08	-1.91	-3.40
1,668.0	11.00	231.70	1,649.8	3,010.2	-78.2	-158.6	-44.9	2.37	-2.28	-3.04
1,760.0	11.40	241.10	1,740.0	2,920.0	-88.0	-173.4	-51.5	2.03	0.43	10.22
1,852.0	10.10	248.30	1,830.4	2,829.6	-95.4	-188.9	-55.7	2.03	-1.41	7.83
1,944.0	9.00	263.60	1,921.1	2,738.9	-99.2	-203.5	-56.4	3.00	-1.20	16.63
2,037.0	10.00	267.60	2,012.9	2,647.1	-100.3	-218.8	-54.5	1.29	1.08	4.30
2,130.0	9.60	265.90	2,104.5	2,555.5	-101.2	-234.6	-52.2	0.53	-0.43	-1.83
2,222.0	9.40	261.60	2,195.3	2,464.7	-102.8	-249.7	-50.8	0.80	-0.22	-4.67
2,314.0	10.70	265.00	2,285.8	2,374.2	-104.7	-265.6	-49.4	1.55	1.41	3.70
2,407.0	12.10	261.80	2,377.0	2,283.0	-106.8	-283.9	-47.9	1.65	1.51	-3.44
2,499.0	11.50	258.60	2,467.1	2,192.9	-110.0	-302.4	-47.3	0.96	-0.65	-3.48
2,592.0	14.10	262.40	2,557.7	2,102.3	-113.4	-322.8	-46.5	2.94	2.80	4.09
2,685.0	13.80	262.20	2,648.0	2,012.0	-116.4	-345.0	-45.0	0.33	-0.32	-0.22
2,778.0	13.10	260.80	2,738.5	1,921.5	-119.5	-366.4	-43.9	0.83	-0.75	-1.51
2,871.0	12.60	256.90	2,829.1	1,830.9	-123.5	-386.6	-43.7	1.08	-0.54	-4.19
2,968.0	9.50	257.80	2,924.3	1,735.7	-127.6	-404.8	-44.1	3.20	-3.20	0.93
3,064.0	9.40	251.80	3,019.0	1,641.0	-131.7	-420.0	-45.1	1.03	-0.10	-6.25
3,159.0	10.10	259.10	3,112.6	1,547.4	-135.7	-435.5	-45.9	1.49	0.74	7.68
3,255.0	15.40	260.60	3,206.2	1,453.8	-139.4	-456.4	-45.3	5.53	5.52	1.56
3,351.0	18.20	250.30	3,298.2	1,361.8	-146.6	-483.1	-47.0	4.25	2.92	-10.73
3,445.0	20.80	250.20	3,386.8	1,273.2	-157.2	-512.6	-51.5	2.77	2.77	-0.11
3,542.0	20.90	245.00	3,477.4	1,182.6	-170.3	-544.5	-58.0	1.91	0.10	-5.36
3,637.0	18.00	241.00	3,567.0	1,093.0	-184.6	-572.7	-66.3	3.36	-3.05	-4.21
3,732.0	17.70	240.10	3,657.4	1,002.6	-198.9	-598.1	-75.3	0.43	-0.32	-0.95
3,828.0	17.10	238.30	3,749.0	911.0	-213.6	-622.7	-84.7	0.84	-0.62	-1.87
3,924.0	15.70	232.90	3,841.1	818.9	-228.8	-645.1	-95.2	2.15	-1.46	-5.62
4,019.0	14.20	241.30	3,932.9	727.1	-242.2	-665.6	-104.2	2.77	-1.58	8.84
4,114.0	13.90	238.60	4,025.1	634.9	-253.7	-685.5	-111.5	0.76	-0.32	-2.84
4,210.0	12.70	233.80	4,118.5	541.5	-266.0	-703.9	-119.8	1.70	-1.25	-5.00
4,307.0	12.10	234.10	4,213.2	446.8	-278.2	-720.7	-128.5	0.62	-0.62	0.31
4,403.0	11.90	240.70	4,307.1	352.9	-289.0	-737.5	-135.6	1.44	-0.21	6.87
4,499.0	9.70	231.40	4,401.4	258.6	-298.9	-752.5	-142.3	2.92	-2.29	-9.69
4,595.0	10.00	232.40	4,496.0	164.0	-309.0	-765.4	-149.7	0.36	0.31	1.04
4,690.0	9.80	232.60	4,589.6	70.4	-319.0	-778.3	-156.8	0.21	-0.21	0.21
4,786.0	8.30	232.00	4,684.4	-24.4	-328.2	-790.3	-163.5	1.57	-1.56	-0.62
4,881.0	6.60	246.70	4,778.6	-118.6	-334.6	-800.7	-167.7	2.67	-1.79	15.47
4,976.0	4.30	240.20	4,873.2	-213.2	-338.5	-808.8	-169.9	2.50	-2.42	-6.84
5,071.0	4.20	259.60	4,967.9	-307.9	-340.9	-815.3	-170.9	1.51	-0.11	20.42
5,166.0	2.40	266.90	5,062.8	-402.8	-341.6	-820.7	-170.6	1.94	-1.89	7.68
5,262.0	1.70	269.40	5,158.7	-498.7	-341.7	-824.2	-170.0	0.73	-0.73	2.60
5,358.0	0.80	280.70	5,254.7	-594.7	-341.6	-826.3	-169.5	0.97	-0.94	11.77
5,454.0	0.40	298.50	5,350.7	-690.7	-341.4	-827.2	-169.0	0.45	-0.42	18.54
5,549.0	0.30	0.30	5,445.7	-785.7	-340.9	-827.5	-168.6	0.39	-0.11	65.05
5,581.0	0.30	25.50	5,477.7	-817.7	-340.8	-827.5	-168.4	0.41	0.00	78.75
5,612.0	0.50	14.40	5,508.7	-848.7	-340.6	-827.4	-168.2	0.69	0.65	-35.81
<b>KOP</b>										
5,628.0	1.27	347.32	5,524.7	-864.7	-340.3	-827.4	-168.0	5.33	4.79	-169.23
5,644.0	2.10	341.10	5,540.7	-880.7	-339.9	-827.5	-167.5	5.33	5.21	-38.89
5,675.0	6.20	336.20	5,571.6	-911.6	-337.8	-828.4	-165.3	13.26	13.23	-15.81
5,707.0	10.60	341.10	5,603.2	-943.2	-333.5	-830.1	-160.7	13.92	13.75	15.31

## Survey Report



<b>Company:</b>	BONANZA CREEK ENERGY INC.	<b>Local Co-ordinate Reference:</b>	Well PRONGHORN 14-11-4HNB - Slot PRONGHORN
<b>Project:</b>	WELD COUNTY, COLORADO (NAD 83)	<b>TVD Reference:</b>	KB-EST @ 4660.0usft (Original Well Elev)
<b>Site:</b>	SE SW SEC. 4 T5N R61W 6th P.M.	<b>MD Reference:</b>	KB-EST @ 4660.0usft (Original Well Elev)
<b>Well:</b>	PRONGHORN 14-11-4HNB	<b>North Reference:</b>	True
<b>Wellbore:</b>	JOB #: 2009-364	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	FINAL SURVEYS	<b>Database:</b>	EDM 5000.1 Single User Db

## Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,738.0	15.10	341.30	5,633.4	-973.4	-326.9	-832.3	-153.9	14.52	14.52	0.65
5,770.0	19.50	343.10	5,664.0	-1,004.0	-317.9	-835.2	-144.4	13.85	13.75	5.62
5,802.0	24.30	343.50	5,693.7	-1,033.7	-306.4	-838.6	-132.5	15.01	15.00	1.25
5,833.0	29.70	343.00	5,721.3	-1,061.3	-293.0	-842.7	-118.5	17.43	17.42	-1.61
5,864.0	35.70	341.10	5,747.4	-1,087.4	-277.1	-847.8	-101.9	19.63	19.35	-6.13
5,896.0	38.80	340.00	5,772.8	-1,112.8	-258.8	-854.3	-82.7	9.91	9.69	-3.44
5,928.0	40.00	340.00	5,797.6	-1,137.6	-239.7	-861.2	-62.6	3.75	3.75	0.00
5,960.0	41.90	340.50	5,821.7	-1,161.7	-220.0	-868.3	-41.9	6.03	5.94	1.56
5,991.0	43.90	340.60	5,844.4	-1,184.4	-200.1	-875.3	-21.0	6.46	6.45	0.32
6,023.0	45.00	340.30	5,867.3	-1,207.3	-179.0	-882.8	1.2	3.50	3.44	-0.94
6,054.0	47.80	340.70	5,888.6	-1,228.6	-157.8	-890.3	23.5	9.08	9.03	1.29
6,087.0	49.30	341.00	5,910.5	-1,250.5	-134.4	-898.4	48.0	4.60	4.55	0.91
6,116.0	53.00	344.30	5,928.7	-1,268.7	-112.9	-905.2	70.4	15.53	12.76	11.38
6,148.0	56.60	349.20	5,947.1	-1,287.1	-87.4	-911.1	96.6	16.82	11.25	15.31
6,181.0	58.10	354.80	5,964.9	-1,304.9	-59.9	-915.0	124.3	14.99	4.55	16.97
6,212.0	59.00	357.60	5,981.1	-1,321.1	-33.6	-916.7	150.5	8.23	2.90	9.03
6,244.0	59.70	358.50	5,997.4	-1,337.4	-6.0	-917.7	177.6	3.26	2.19	2.81
6,276.0	61.00	359.80	6,013.3	-1,353.3	21.8	-918.1	205.0	5.38	4.06	4.06
6,309.0	61.90	359.90	6,029.0	-1,369.0	50.8	-918.2	233.4	2.74	2.73	0.30
6,341.0	63.20	359.50	6,043.8	-1,383.8	79.1	-918.3	261.2	4.21	4.06	-1.25
6,373.0	67.60	358.80	6,057.1	-1,397.1	108.2	-918.7	289.8	13.89	13.75	-2.19
6,405.0	69.40	358.50	6,068.8	-1,408.8	138.0	-919.4	319.1	5.69	5.62	-0.94
6,438.0	70.60	358.20	6,080.1	-1,420.1	169.0	-920.3	349.7	3.74	3.64	-0.91
6,469.0	71.80	357.50	6,090.1	-1,430.1	198.3	-921.4	378.6	4.42	3.87	-2.26
6,501.0	72.10	353.50	6,100.0	-1,440.0	228.6	-923.8	408.8	11.92	0.94	-12.50
6,533.0	73.80	350.30	6,109.4	-1,449.4	258.9	-928.1	439.3	10.94	5.31	-10.00
6,565.0	74.80	346.20	6,118.1	-1,458.1	289.1	-934.4	470.1	12.72	3.12	-12.81
<b>ICP</b>										
<b>6,580.0</b>	<b>75.68</b>	<b>344.18</b>	<b>6,121.9</b>	<b>-1,461.9</b>	<b>303.1</b>	<b>-938.1</b>	<b>484.6</b>	<b>14.31</b>	<b>5.87</b>	<b>-13.50</b>
6,597.0	76.70	341.90	6,126.0	-1,466.0	318.9	-942.9	501.0	14.31	5.99	-13.38
6,629.0	81.00	339.20	6,132.1	-1,472.1	348.5	-953.4	532.1	15.78	13.44	-8.44
6,642.0	83.10	338.90	6,133.9	-1,473.9	360.5	-958.0	544.8	16.31	16.15	-2.31
6,676.0	86.80	339.50	6,136.9	-1,476.9	392.2	-970.0	578.2	11.02	10.88	1.76
6,706.0	89.40	339.40	6,137.9	-1,477.9	420.2	-980.5	607.9	8.67	8.67	-0.33
6,737.0	92.90	341.50	6,137.3	-1,477.3	449.4	-990.9	638.5	13.17	11.29	6.77
6,767.0	94.90	345.10	6,135.3	-1,475.3	478.1	-999.5	668.3	13.70	6.67	12.00
6,799.0	94.90	347.60	6,132.5	-1,472.5	509.1	-1,007.0	700.2	7.78	0.00	7.81
6,830.0	92.90	348.70	6,130.4	-1,470.4	539.3	-1,013.4	731.1	7.36	-6.45	3.55
6,861.0	92.10	349.40	6,129.1	-1,469.1	569.7	-1,019.3	762.1	3.43	-2.58	2.26
6,892.0	91.50	351.80	6,128.1	-1,468.1	600.3	-1,024.3	793.1	7.98	-1.94	7.74
6,923.0	91.80	354.20	6,127.2	-1,467.2	631.1	-1,028.1	823.9	7.80	0.97	7.74
6,954.0	92.90	357.30	6,125.9	-1,465.9	662.0	-1,030.4	854.7	10.60	3.55	10.00
6,984.0	93.30	358.30	6,124.3	-1,464.3	691.9	-1,031.6	884.2	3.59	1.33	3.33
7,014.0	92.80	359.70	6,122.7	-1,462.7	721.8	-1,032.1	913.7	4.95	-1.67	4.67
7,045.0	91.80	3.00	6,121.5	-1,461.5	752.8	-1,031.3	943.9	11.11	-3.23	10.65
7,076.0	91.20	4.10	6,120.7	-1,460.7	783.7	-1,029.4	973.8	4.04	-1.94	3.55
7,107.0	90.40	6.40	6,120.2	-1,460.2	814.6	-1,026.6	1,003.5	7.85	-2.58	7.42
7,199.0	91.00	7.70	6,119.1	-1,459.1	905.9	-1,015.3	1,090.7	1.56	0.65	1.41
7,292.0	91.00	7.70	6,117.5	-1,457.5	998.0	-1,002.8	1,178.4	0.00	0.00	0.00
7,384.0	91.30	7.90	6,115.6	-1,455.6	1,089.2	-990.4	1,265.2	0.39	0.33	0.22
7,476.0	88.60	8.00	6,115.7	-1,455.7	1,180.3	-977.6	1,352.0	2.94	-2.93	0.11
7,569.0	87.40	7.30	6,119.0	-1,459.0	1,272.4	-965.3	1,439.7	1.49	-1.29	-0.75
7,661.0	89.50	8.30	6,121.4	-1,461.4	1,363.5	-952.8	1,526.5	2.53	2.28	1.09

# Survey Report



<b>Company:</b>	BONANZA CREEK ENERGY INC.	<b>Local Co-ordinate Reference:</b>	Well PRONGHORN 14-11-4HNB - Slot PRONGHORN
<b>Project:</b>	WELD COUNTY, COLORADO (NAD 83)	<b>TVD Reference:</b>	KB-EST @ 4660.0usft (Original Well Elev)
<b>Site:</b>	SE SW SEC. 4 T5N R61W 6th P.M.	<b>MD Reference:</b>	KB-EST @ 4660.0usft (Original Well Elev)
<b>Well:</b>	PRONGHORN 14-11-4HNB	<b>North Reference:</b>	True
<b>Wellbore:</b>	JOB #: 2009-364	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	FINAL SURVEYS	<b>Database:</b>	EDM 5000.1 Single User Db

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
7,754.0	90.50	8.50	6,121.4	-1,461.4	1,455.5	-939.2	1,613.9	1.10	1.08	0.22
7,846.0	91.40	8.60	6,119.9	-1,459.9	1,546.5	-925.5	1,700.3	0.98	0.98	0.11
7,939.0	91.90	8.00	6,117.2	-1,457.2	1,638.4	-912.1	1,787.8	0.84	0.54	-0.65
7,970.0	91.90	7.30	6,116.2	-1,456.2	1,669.2	-908.0	1,817.0	2.26	0.00	-2.26
8,061.0	90.60	6.20	6,114.2	-1,454.2	1,759.5	-897.3	1,903.4	1.87	-1.43	-1.21
8,155.0	90.40	5.00	6,113.4	-1,453.4	1,853.0	-888.1	1,993.2	1.29	-0.21	-1.28
8,251.0	88.80	3.50	6,114.1	-1,454.1	1,948.8	-881.0	2,085.6	2.28	-1.67	-1.56
8,346.0	89.10	3.00	6,115.8	-1,455.8	2,043.6	-875.6	2,177.4	0.61	0.32	-0.53
8,442.0	88.80	2.30	6,117.6	-1,457.6	2,139.5	-871.2	2,270.5	0.79	-0.31	-0.73
8,538.0	89.20	1.30	6,119.3	-1,459.3	2,235.4	-868.2	2,363.9	1.12	0.42	-1.04
8,634.0	89.60	0.70	6,120.3	-1,460.3	2,331.4	-866.5	2,457.6	0.75	0.42	-0.62
8,729.0	89.70	1.30	6,120.8	-1,460.8	2,426.4	-864.8	2,550.3	0.64	0.11	0.63
8,824.0	90.20	1.30	6,120.9	-1,460.9	2,521.4	-862.7	2,643.0	0.53	0.53	0.00
8,919.0	90.50	1.00	6,120.3	-1,460.3	2,616.3	-860.8	2,735.6	0.45	0.32	-0.32
9,015.0	91.30	0.40	6,118.8	-1,458.8	2,712.3	-859.6	2,829.4	1.04	0.83	-0.62
9,110.0	88.90	358.20	6,118.7	-1,458.7	2,807.3	-860.8	2,922.7	3.43	-2.53	-2.32
9,205.0	88.50	357.10	6,120.8	-1,460.8	2,902.2	-864.6	3,016.5	1.23	-0.42	-1.16
9,301.0	90.00	357.00	6,122.1	-1,462.1	2,998.1	-869.6	3,111.4	1.57	1.56	-0.10
9,396.0	89.80	356.30	6,122.2	-1,462.2	3,092.9	-875.1	3,205.4	0.77	-0.21	-0.74
9,491.0	89.50	355.20	6,122.8	-1,462.8	3,187.6	-882.2	3,299.7	1.20	-0.32	-1.16
9,587.0	90.50	356.50	6,122.8	-1,462.8	3,283.4	-889.1	3,394.9	1.71	1.04	1.35
9,683.0	90.50	356.90	6,122.0	-1,462.0	3,379.2	-894.6	3,489.9	0.42	0.00	0.42
9,778.0	91.30	356.90	6,120.5	-1,460.5	3,474.1	-899.8	3,583.8	0.84	0.84	0.00
9,874.0	89.30	356.70	6,120.0	-1,460.0	3,569.9	-905.1	3,678.8	2.09	-2.08	-0.21
9,970.0	88.30	357.00	6,122.0	-1,462.0	3,665.7	-910.4	3,773.8	1.09	-1.04	0.31
10,065.0	89.40	358.40	6,123.9	-1,463.9	3,760.6	-914.2	3,867.5	1.87	1.16	1.47
10,161.0	90.70	358.60	6,123.8	-1,463.8	3,856.6	-916.7	3,962.0	1.37	1.35	0.21
10,257.0	90.00	359.30	6,123.2	-1,463.2	3,952.6	-918.5	4,056.4	1.03	-0.73	0.73
10,352.0	90.30	358.70	6,123.0	-1,463.0	4,047.6	-920.2	4,149.8	0.71	0.32	-0.63
10,446.0	89.60	0.10	6,123.1	-1,463.1	4,141.6	-921.1	4,242.1	1.67	-0.74	1.49
10,541.0	89.50	0.10	6,123.8	-1,463.8	4,236.6	-921.0	4,335.2	0.11	-0.11	0.00
10,636.0	89.40	359.20	6,124.7	-1,464.7	4,331.5	-921.6	4,428.3	0.95	-0.11	-0.95
LAST SURVEY - AUG 15, 2014										
10,714.0	89.50	358.60	6,125.5	-1,465.5	4,409.5	-923.1	4,505.1	0.78	0.13	-0.77
EXTRAPOLATION TO TD										
10,762.0	89.50	358.60	6,125.9	-1,465.9	4,457.5	-924.2	4,552.3	0.00	0.00	0.00

# Survey Report



<b>Company:</b>	BONANZA CREEK ENERGY INC.	<b>Local Co-ordinate Reference:</b>	Well PRONGHORN 14-11-4HNB - Slot PRONGHORN
<b>Project:</b>	WELD COUNTY, COLORADO (NAD 83)	<b>TVD Reference:</b>	KB-EST @ 4660.0usft (Original Well Elev)
<b>Site:</b>	SE SW SEC. 4 T5N R61W 6th P.M.	<b>MD Reference:</b>	KB-EST @ 4660.0usft (Original Well Elev)
<b>Well:</b>	PRONGHORN 14-11-4HNB	<b>North Reference:</b>	True
<b>Wellbore:</b>	JOB #: 2009-364	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	FINAL SURVEYS	<b>Database:</b>	EDM 5000.1 Single User Db

## Targets

### Target Name

- hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
KOP - PRONGHORN - survey misses target center by 85.6usft at 5708.0usft MD (5604.2 TVD, -333.3 N, -830.1 E) - Point	0.00	0.00	5,604.7	-363.0	-910.4	1,399,475.88	3,355,837.02	40.422924	-104.221880
7" ICP - PRONGHOR - survey misses target center by 17.7usft at 6485.8usft MD (6095.3 TVD, 214.3 N, -922.4 E) - Point	0.00	0.00	6,108.0	211.1	-910.4	1,400,049.89	3,355,828.69	40.424499	-104.221880
EXIST VERT PRONG - survey misses target center by 758.6usft at 6629.0usft MD (6132.1 TVD, 348.5 N, -953.4 E) - Circle (radius 30.0)	0.00	0.00	6,862.0	291.5	-754.5	1,400,132.49	3,355,983.43	40.424720	-104.221320
BHL - PRONGHORN - survey misses target center by 22.8usft at 10762.0usft MD (6125.9 TVD, 4457.5 N, -924.2 E) - Point	0.00	0.00	6,108.0	4,459.2	-910.3	1,404,297.40	3,355,767.47	40.436160	-104.221880

## Survey Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
468.0	468.0	0.0	0.0	SURFACE CASING
5,628.0	5,524.7	-340.3	-827.4	KOP
6,580.0	6,121.9	303.1	-938.1	ICP
10,714.0	6,125.5	4,409.5	-923.1	LAST SURVEY - AUG 15, 2014
10,762.0	6,125.9	4,457.5	-924.2	EXTRAPOLATION TO TD

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