

# **BONANZA CREEK ENERGY**

**WELD COUNTY**

**SEC 30-T5N-R61W**

**PRONGHORN FEDERAL F11-J14-31HNB**

**OWB**

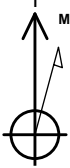
**Design: FINAL SURVEY**

## **Standard Survey Report**

**27 December, 2021**

Project: WELD COUNTY  
Site: SEC 30-T5N-R61W  
Well: PRONGHORN FEDERAL F11-J14-31HNB  
Wellbore: OWB  
Design: FINAL SURVEY

PROJECT DETAILS: WELD COUNTY  
Geodetic System: US State Plane 1983  
Datum: North American Datum 1983  
Ellipsoid: GRS 1980  
Zone: Colorado Northern Zone  
System Datum: Mean Sea Level



Azimuths to True North  
Magnetic North: 7.53°  
Magnetic Field  
Strength: 51949.8nT  
Dip Angle: 66.68°  
Date: 11/9/2021  
Model: IGRF2020

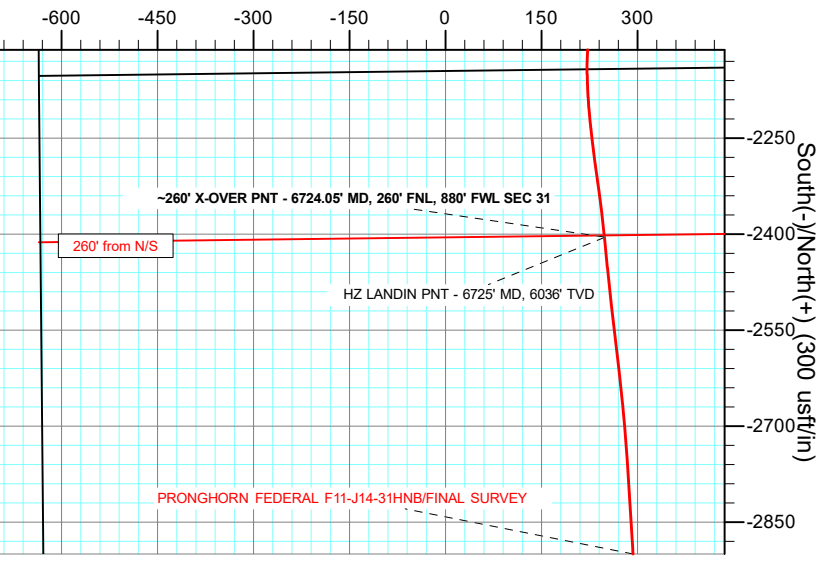
WELL DETAILS: PRONGHORN FEDERAL F11-J14-31HNB

+N/-S	+E/-W	Northing	Easting	4527.00	Latitude	Longitude	Slot
0.00	0.00	1380137.34	3345688.21		40.370240°N	104.259300°W	

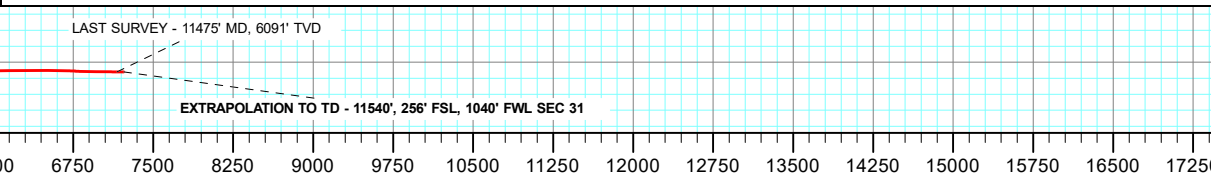
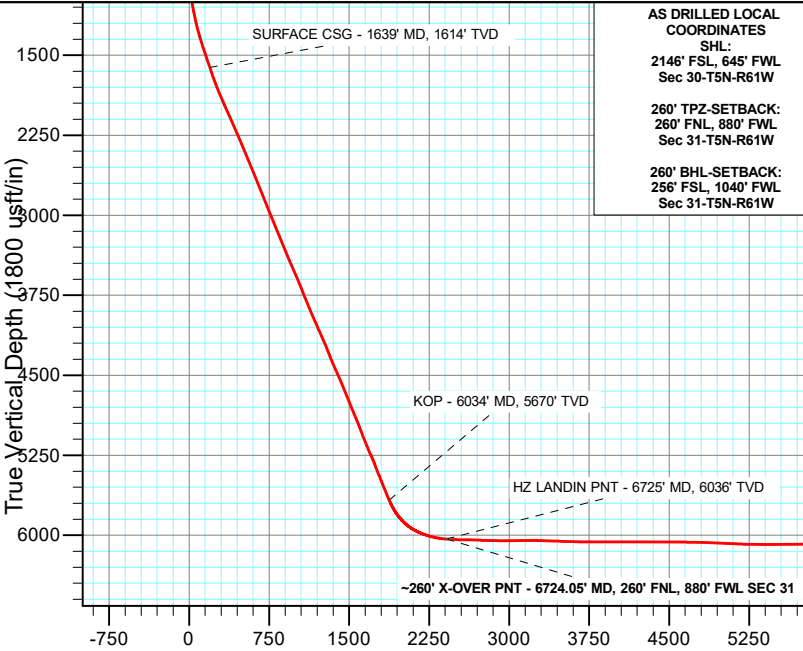
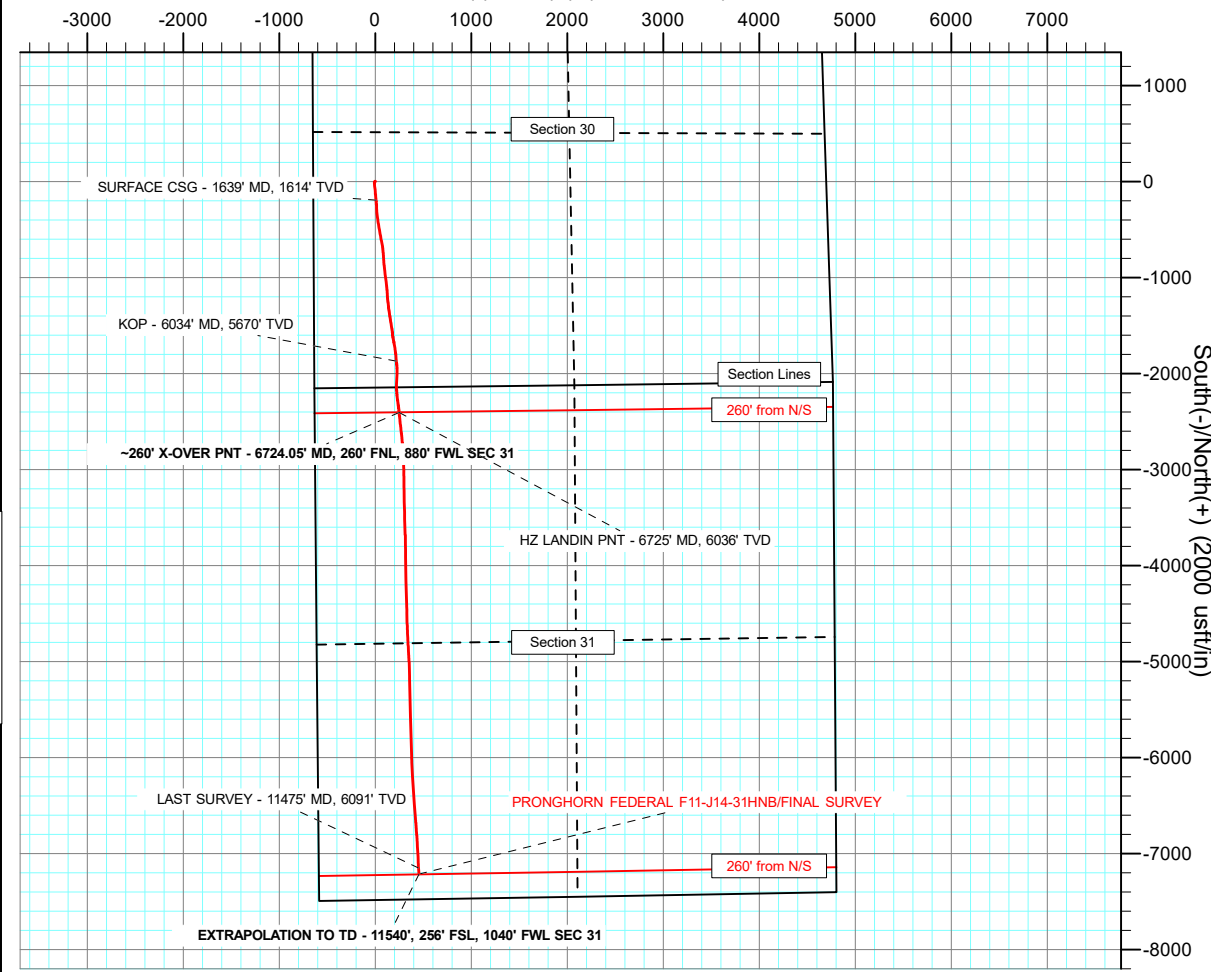
ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	VSect	Departure	Annotation
1639.00	18.78	172.88	1613.98	-193.09	8.09	193.25	204.96	SURFACE CSG - 1639' MD, 1614' TVD
6034.00	23.97	173.01	5670.27	-1868.44	218.79	1875.12	1895.54	KOP - 6034' MD, 5670' TVD
6724.05	85.96	174.32	6035.90	-2404.43	248.20	2411.82	2433.22	~260' X-OVER PNT - 6724.05' MD, 260' FNL, 880' FWL SEC 31
6725.00	86.03	174.35	6035.97	-2405.38	248.30	2412.77	2434.16	HZ LANDIN PNT - 6725' MD, 6036' TVD
11475.00	89.09	176.75	6091.06	-7148.27	450.53	7159.87	7182.92	LAST SURVEY - 11475' MD, 6091' TVD
11540.00	89.09	176.75	6092.09	-7213.16	454.22	7224.85	7247.91	EXTRAPOLATION TO TD - 11540', 256' FSL, 1040' FWL SEC 31

West(-)/East(+) (300 usft/in)



West(-)/East(+) (2000 usft/in)



Vertical Section at 177.93° (1800 usft/in)

## Survey Report

<b>Company:</b>	BONANZA CREEK ENERGY	<b>Local Co-ordinate Reference:</b>	Well PRONGHORN FEDERAL F11-J14-31HNB
<b>Project:</b>	WELD COUNTY	<b>TVD Reference:</b>	KB 25' @ 4552.00usft
<b>Site:</b>	SEC 30-T5N-R61W	<b>MD Reference:</b>	KB 25' @ 4552.00usft
<b>Well:</b>	PRONGHORN FEDERAL F11-J14-31HNB	<b>North Reference:</b>	True
<b>Wellbore:</b>	OWB	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	FINAL SURVEY	<b>Database:</b>	EDT_32Bit_ODBC

<b>Project</b>	WELD COUNTY		
<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		SEC 30-T5N-R61W					
Site Position:		Northing:	1,380,645.52	usft	Latitude:	40.371660°N	
From:	Lat/Long	Easting:	3,345,031.84	usft	Longitude:	104.261630°W	
Position Uncertainty:	0.00	usft	Slot Radius:	13.200	in	Grid Convergence:	0.80 °

Well		PRONGHORN FEDERAL F11-J14-31HNB				
Well Position	+N/-S	0.00 usft	Northing:	1,380,137.34 usft	Latitude:	40.370240°N
	+E/-W	0.00 usft	Easting:	3,345,688.21 usft	Longitude:	104.259300°W
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	4,527.00 usft

<b>Wellbore</b>	OWB				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2020	11/9/2021	7.54	66.68	51,949.76984961

<b>Design</b>	FINAL SURVEY				
<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	177.93	

<b>Survey Program</b>	<b>Date</b>	12/27/2021			
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
67.00	1,601.00	SURFACE SURVEY (OWB)	MWD OWSG	OWSG MWD - Standard	
1,669.00	11,540.00	FINAL SURVEY (OWB)	MWD OWSG	OWSG 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 (°/100ft)</b>	<b>Build Rate (°/100ft)</b>	<b>Turn Rate (°/100ft)</b>	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
67.00	0.35	338.79	67.00	0.19	-0.07	-0.19	0.52	0.52	0.00	
158.00	0.35	327.89	158.00	0.69	-0.32	-0.70	0.07	0.00	-11.98	
249.00	0.44	335.09	249.00	1.24	-0.62	-1.26	0.11	0.10	7.91	
341.00	0.62	328.94	340.99	1.98	-1.02	-2.02	0.20	0.20	-6.68	
425.00	0.62	323.32	424.99	2.74	-1.53	-2.79	0.07	0.00	-6.69	
512.00	0.70	353.02	511.98	3.64	-1.87	-3.71	0.40	0.09	34.14	
597.00	0.79	248.61	596.98	3.94	-2.48	-4.03	1.39	0.11	-122.84	
685.00	2.55	215.56	684.94	2.13	-4.19	-2.28	2.20	2.00	-37.56	
770.00	4.04	204.49	769.80	-2.13	-6.53	1.90	1.90	1.75	-13.02	

## Survey Report

<b>Company:</b>	BONANZA CREEK ENERGY	<b>Local Co-ordinate Reference:</b>	Well PRONGHORN FEDERAL F11-J14-31HNB
<b>Project:</b>	WELD COUNTY	<b>TVD Reference:</b>	KB 25' @ 4552.00usft
<b>Site:</b>	SEC 30-T5N-R61W	<b>MD Reference:</b>	KB 25' @ 4552.00usft
<b>Well:</b>	PRONGHORN FEDERAL F11-J14-31HNB	<b>North Reference:</b>	True
<b>Wellbore:</b>	OWB	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	FINAL SURVEY	<b>Database:</b>	EDT_32Bit_ODBC

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
855.00	5.28	190.08	854.52	-8.71	-8.45	8.40	2.00	1.46	-16.95
939.00	7.21	180.58	938.02	-17.79	-9.18	17.44	2.60	2.30	-11.31
1,024.00	9.50	174.96	1,022.11	-30.11	-8.62	29.78	2.86	2.69	-6.61
1,112.00	11.52	171.62	1,108.63	-46.04	-6.70	45.77	2.40	2.30	-3.80
1,197.00	12.93	172.15	1,191.70	-63.86	-4.17	63.66	1.66	1.66	0.62
1,284.00	15.12	174.61	1,276.10	-84.80	-1.77	84.68	2.61	2.52	2.83
1,370.00	17.50	175.84	1,358.64	-108.86	0.22	108.80	2.80	2.77	1.43
1,455.00	18.20	176.01	1,439.54	-134.85	2.07	134.84	0.83	0.82	0.20
1,540.00	18.47	174.43	1,520.23	-161.50	4.30	161.55	0.67	0.32	-1.86
1,601.00	18.91	172.50	1,578.01	-180.91	6.53	181.03	1.24	0.72	-3.16
1,639.00	18.78	172.88	1,613.98	-193.09	8.09	193.25	0.48	-0.35	1.01
SURFACE CSG - 1639' MD, 1614' TVD									
1,669.00	18.67	173.19	1,642.39	-202.65	9.26	202.85	0.48	-0.35	1.02
1,763.00	20.12	177.51	1,731.06	-233.74	11.75	234.01	2.17	1.54	4.60
1,858.00	22.69	177.67	1,819.50	-268.38	13.20	268.68	2.71	2.71	0.17
1,952.00	22.76	177.64	1,906.20	-304.66	14.69	304.99	0.08	0.07	-0.03
2,047.00	23.92	171.84	1,993.43	-342.09	18.18	342.52	2.71	1.22	-6.11
2,142.00	23.97	171.78	2,080.26	-380.26	23.67	380.86	0.06	0.05	-0.06
2,238.00	23.75	171.24	2,168.05	-418.66	29.40	419.45	0.32	-0.23	-0.56
2,333.00	23.83	170.69	2,254.98	-456.51	35.42	457.49	0.25	0.08	-0.58
2,429.00	23.59	170.34	2,342.88	-494.58	41.78	495.77	0.29	-0.25	-0.36
2,523.00	23.14	169.61	2,429.17	-531.29	48.27	532.69	0.57	-0.48	-0.78
2,618.00	22.81	169.36	2,516.63	-567.75	55.04	569.37	0.36	-0.35	-0.26
2,714.00	22.55	169.52	2,605.21	-604.14	61.82	605.98	0.28	-0.27	0.17
2,808.00	22.17	169.64	2,692.14	-639.31	68.29	641.36	0.41	-0.40	0.13
2,903.00	21.30	169.61	2,780.39	-673.91	74.62	676.17	0.92	-0.92	-0.03
2,998.00	21.37	174.69	2,868.89	-708.12	79.34	710.52	1.95	0.07	5.35
3,119.00	22.28	176.01	2,981.21	-752.96	82.97	755.46	0.85	0.75	1.09
3,214.00	22.89	175.45	3,068.93	-789.34	85.69	791.92	0.68	0.64	-0.59
3,309.00	22.59	175.81	3,156.54	-825.95	88.49	828.61	0.35	-0.32	0.38
3,404.00	22.40	175.08	3,244.31	-862.19	91.38	864.92	0.36	-0.20	-0.77
3,499.00	22.78	173.69	3,332.03	-898.50	94.95	901.34	0.69	0.40	-1.46
3,594.00	23.27	172.78	3,419.46	-935.40	99.33	938.37	0.64	0.52	-0.96
3,689.00	23.43	173.01	3,506.68	-972.76	103.99	975.88	0.19	0.17	0.24
3,784.00	22.82	172.63	3,594.04	-1,009.78	108.65	1,013.04	0.66	-0.64	-0.40
3,879.00	22.23	172.76	3,681.80	-1,045.88	113.28	1,049.28	0.62	-0.62	0.14
3,974.00	21.64	173.78	3,769.92	-1,081.12	117.44	1,084.65	0.74	-0.62	1.07
4,069.00	22.60	174.82	3,857.93	-1,116.71	120.98	1,120.35	1.09	1.01	1.09
4,164.00	24.21	176.77	3,945.11	-1,154.34	123.73	1,158.06	1.88	1.69	2.05
4,260.00	23.25	176.95	4,032.99	-1,192.92	125.85	1,196.68	1.00	-1.00	0.19
4,355.00	24.35	172.91	4,119.92	-1,231.08	129.26	1,234.94	2.07	1.16	-4.25
4,450.00	23.19	173.40	4,206.86	-1,269.10	133.83	1,273.10	1.24	-1.22	0.52
4,545.00	21.08	173.94	4,294.85	-1,304.67	137.78	1,308.79	2.23	-2.22	0.57

# Survey Report

<b>Company:</b>	BONANZA CREEK ENERGY	<b>Local Co-ordinate Reference:</b>	Well PRONGHORN FEDERAL F11-J14-31HNB
<b>Project:</b>	WELD COUNTY	<b>TVD Reference:</b>	KB 25' @ 4552.00usft
<b>Site:</b>	SEC 30-T5N-R61W	<b>MD Reference:</b>	KB 25' @ 4552.00usft
<b>Well:</b>	PRONGHORN FEDERAL F11-J14-31HNB	<b>North Reference:</b>	True
<b>Wellbore:</b>	OWB	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	FINAL SURVEY	<b>Database:</b>	EDT_32Bit_ODBC

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,640.00	22.86	171.49	4,382.95	-1,339.91	142.32	1,344.17	2.11	1.87	-2.58
4,736.00	24.94	171.04	4,470.71	-1,378.35	148.23	1,382.80	2.17	2.17	-0.47
4,831.00	23.44	170.90	4,557.37	-1,416.80	154.34	1,421.44	1.58	-1.58	-0.15
4,926.00	21.91	171.37	4,645.02	-1,452.98	159.99	1,457.81	1.62	-1.61	0.49
5,020.00	22.30	170.50	4,732.11	-1,487.91	165.56	1,492.91	0.54	0.41	-0.93
5,115.00	22.08	170.99	4,820.08	-1,523.32	171.33	1,528.51	0.30	-0.23	0.52
5,210.00	23.42	173.47	4,907.69	-1,559.72	176.28	1,565.06	1.73	1.41	2.61
5,305.00	20.65	174.06	4,995.74	-1,595.14	180.16	1,600.60	2.93	-2.92	0.62
5,400.00	21.58	169.25	5,084.37	-1,628.97	185.15	1,634.59	2.07	0.98	-5.06
5,494.00	22.73	168.97	5,171.42	-1,663.78	191.85	1,669.62	1.23	1.22	-0.30
5,589.00	24.61	170.90	5,258.43	-1,701.33	198.49	1,707.38	2.14	1.98	2.03
5,684.00	21.42	170.85	5,345.86	-1,738.00	204.38	1,744.24	3.36	-3.36	-0.05
5,780.00	21.39	171.72	5,435.24	-1,772.63	209.69	1,779.04	0.33	-0.03	0.91
5,875.00	22.16	175.68	5,523.46	-1,807.64	213.53	1,814.17	1.75	0.81	4.17
5,969.00	22.25	175.60	5,610.49	-1,843.06	216.23	1,849.66	0.10	0.10	-0.09
6,034.00	23.97	173.01	5,670.27	-1,868.44	218.79	1,875.12	3.08	2.65	-3.99
KOP - 6034' MD, 5670' TVD									
6,065.00	24.81	171.89	5,698.50	-1,881.13	220.47	1,887.86	3.08	2.70	-3.60
6,160.00	32.60	175.99	5,781.77	-1,926.47	225.08	1,933.33	8.45	8.20	4.32
6,254.00	42.59	181.43	5,856.18	-1,983.68	226.06	1,990.55	11.19	10.63	5.79
6,349.00	54.03	183.12	5,919.26	-2,054.44	223.16	2,061.16	12.11	12.04	1.78
6,443.00	64.57	179.92	5,967.19	-2,135.12	221.14	2,141.70	11.59	11.21	-3.40
6,538.00	72.73	174.11	6,001.78	-2,223.35	225.86	2,230.05	10.30	8.59	-6.12
6,633.00	79.61	171.73	6,024.48	-2,314.82	237.25	2,321.88	7.64	7.24	-2.51
6,724.05	85.96	174.32	6,035.90	-2,404.43	248.20	2,411.82	7.53	6.98	2.84
~260' X-OVER PNT - 6724.05' MD, 260' FNL, 880' FWL SEC 31									
6,725.00	86.03	174.35	6,035.97	-2,405.38	248.30	2,412.77	7.53	6.99	2.81
HZ LANDIN PNT - 6725' MD, 6036' TVD									
6,728.00	86.24	174.43	6,036.17	-2,408.35	248.59	2,415.75	7.53	6.99	2.81
6,823.00	88.79	173.80	6,040.29	-2,502.76	258.32	2,510.45	2.76	2.68	-0.66
6,918.00	88.78	173.09	6,042.31	-2,597.11	269.16	2,605.13	0.75	-0.01	-0.75
7,013.00	87.25	174.95	6,045.60	-2,691.53	279.06	2,699.85	2.53	-1.61	1.96
7,108.00	89.13	176.61	6,048.60	-2,786.22	286.04	2,794.73	2.64	1.98	1.75
7,203.00	88.51	176.39	6,050.55	-2,881.02	291.84	2,889.68	0.69	-0.65	-0.23
7,298.00	90.44	178.36	6,051.42	-2,975.91	296.19	2,984.66	2.90	2.03	2.07
7,392.00	91.42	179.39	6,049.90	-3,069.88	298.03	3,078.63	1.51	1.04	1.10
7,487.00	90.62	178.96	6,048.21	-3,164.85	299.40	3,173.59	0.96	-0.84	-0.45
7,582.00	88.14	179.45	6,049.23	-3,259.83	300.72	3,268.55	2.66	-2.61	0.52
7,677.00	87.46	178.66	6,052.88	-3,354.74	302.29	3,363.47	1.10	-0.72	-0.83
7,772.00	88.59	179.01	6,056.16	-3,449.67	304.22	3,458.40	1.25	1.19	0.37
7,867.00	88.69	178.38	6,058.41	-3,544.61	306.38	3,553.36	0.67	0.11	-0.66
7,962.00	87.88	177.05	6,061.25	-3,639.49	310.16	3,648.31	1.64	-0.85	-1.40
8,058.00	89.77	179.22	6,063.22	-3,735.41	313.29	3,744.28	3.00	1.97	2.26
8,153.00	90.47	179.62	6,063.02	-3,830.41	314.25	3,839.25	0.85	0.74	0.42

# Survey Report

<b>Company:</b>	BONANZA CREEK ENERGY	<b>Local Co-ordinate Reference:</b>	Well PRONGHORN FEDERAL F11-J14-31HNB
<b>Project:</b>	WELD COUNTY	<b>TVD Reference:</b>	KB 25' @ 4552.00usft
<b>Site:</b>	SEC 30-T5N-R61W	<b>MD Reference:</b>	KB 25' @ 4552.00usft
<b>Well:</b>	PRONGHORN FEDERAL F11-J14-31HNB	<b>North Reference:</b>	True
<b>Wellbore:</b>	OWB	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	FINAL SURVEY	<b>Database:</b>	EDT_32Bit_ODBC

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
8,249.00	90.15	179.20	6,062.50	-3,926.40	315.24	3,935.22	0.55	-0.33	-0.44
8,344.00	90.08	178.84	6,062.31	-4,021.39	316.86	4,030.20	0.39	-0.07	-0.38
8,438.00	89.56	178.66	6,062.61	-4,115.36	318.91	4,124.19	0.59	-0.55	-0.19
8,533.00	89.87	178.53	6,063.08	-4,210.33	321.24	4,219.18	0.35	0.33	-0.14
8,628.00	89.23	178.35	6,063.83	-4,305.29	323.83	4,314.17	0.70	-0.67	-0.19
8,722.00	89.28	178.01	6,065.05	-4,399.24	326.81	4,408.16	0.37	0.05	-0.36
8,817.00	90.77	178.77	6,065.01	-4,494.20	329.48	4,503.16	1.76	1.57	0.80
8,912.00	89.72	178.74	6,064.60	-4,589.17	331.55	4,598.15	1.11	-1.11	-0.03
9,006.00	89.09	177.32	6,065.58	-4,683.11	334.78	4,692.14	1.65	-0.67	-1.51
9,101.00	88.91	177.01	6,067.24	-4,777.98	339.48	4,787.11	0.38	-0.19	-0.33
9,196.00	88.27	176.88	6,069.57	-4,872.81	344.54	4,882.07	0.69	-0.67	-0.14
9,291.00	86.89	176.34	6,073.59	-4,967.56	350.15	4,976.96	1.56	-1.45	-0.57
9,386.00	86.86	178.24	6,078.76	-5,062.31	354.63	5,071.81	2.00	-0.03	2.00
9,480.00	88.58	178.91	6,082.50	-5,156.20	356.97	5,165.72	1.96	1.83	0.71
9,576.00	88.08	178.50	6,085.30	-5,252.14	359.14	5,261.67	0.67	-0.52	-0.43
9,671.00	90.59	178.84	6,086.40	-5,347.10	361.34	5,356.65	2.67	2.64	0.36
9,766.00	89.87	178.52	6,086.02	-5,442.07	363.53	5,451.64	0.83	-0.76	-0.34
9,861.00	90.33	178.93	6,085.86	-5,537.05	365.65	5,546.63	0.65	0.48	0.43
9,955.00	90.53	178.31	6,085.15	-5,631.01	367.91	5,640.62	0.69	0.21	-0.66
10,051.00	90.55	178.24	6,084.25	-5,726.97	370.80	5,736.62	0.08	0.02	-0.07
10,145.00	90.80	178.19	6,083.14	-5,820.91	373.73	5,830.61	0.27	0.27	-0.05
10,240.00	91.15	178.20	6,081.52	-5,915.85	376.72	5,925.59	0.37	0.37	0.01
10,335.00	90.60	178.05	6,080.07	-6,010.79	379.83	6,020.58	0.60	-0.58	-0.16
10,430.00	90.82	177.61	6,078.89	-6,105.72	383.42	6,115.57	0.52	0.23	-0.46
10,525.00	90.82	176.86	6,077.54	-6,200.59	388.01	6,210.56	0.79	0.00	-0.79
10,619.00	90.94	176.40	6,076.09	-6,294.42	393.53	6,304.52	0.51	0.13	-0.49
10,715.00	89.11	176.17	6,076.05	-6,390.22	399.75	6,400.48	1.92	-1.91	-0.24
10,810.00	89.35	175.06	6,077.33	-6,484.93	407.01	6,495.39	1.20	0.25	-1.17
10,905.00	88.91	175.34	6,078.77	-6,579.58	414.96	6,590.27	0.55	-0.46	0.29
11,000.00	89.00	176.30	6,080.50	-6,674.31	421.88	6,685.19	1.01	0.09	1.01
11,096.00	87.08	175.34	6,083.78	-6,770.00	428.88	6,781.06	2.24	-2.00	-1.00
11,191.00	88.81	176.49	6,087.19	-6,864.69	435.64	6,875.94	2.19	1.82	1.21
11,286.00	89.35	177.05	6,088.72	-6,959.52	440.99	6,970.90	0.82	0.57	0.59
11,381.00	89.36	177.31	6,089.79	-7,054.40	445.66	7,065.89	0.27	0.01	0.27
11,475.00	89.09	176.75	6,091.06	-7,148.27	450.53	7,159.87	0.66	-0.29	-0.60
LAST SURVEY - 11475' MD, 6091' TVD									
11,540.00	89.09	176.75	6,092.09	-7,213.16	454.22	7,224.85	0.00	0.00	0.00
EXTRAPOLATION TO TD - 11540', 256' FSL, 1040' FWL SEC 31									

## Survey Report

<b>Company:</b>	BONANZA CREEK ENERGY	<b>Local Co-ordinate Reference:</b>	Well PRONGHORN FEDERAL F11-J14-31HNB
<b>Project:</b>	WELD COUNTY	<b>TVD Reference:</b>	KB 25' @ 4552.00usft
<b>Site:</b>	SEC 30-T5N-R61W	<b>MD Reference:</b>	KB 25' @ 4552.00usft
<b>Well:</b>	PRONGHORN FEDERAL F11-J14-31HNB	<b>North Reference:</b>	True
<b>Wellbore:</b>	OWB	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	FINAL SURVEY	<b>Database:</b>	EDT_32Bit_ODBC

Design 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
PRONGHORN FED F11 - actual wellpath misses target center by 20.44usft at 6726.41usft MD (6036.07 TVD, -2406.78 N, 248.44 E) - Point	0.00	0.00	6,043.00	-2,404.43	267.52	1,377,736.99	3,345,989.34	40.363640°N	104.258340°W
PRONGHORN FED F11 - actual wellpath misses target center by 23.07usft at 11540.00usft MD (6092.09 TVD, -7213.16 N, 454.22 E) - Point	0.00	0.00	6,070.00	-7,216.94	448.75	1,372,927.68	3,346,237.87	40.350430°N	104.257690°W

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
1,639.00	1,613.98	-193.09	8.09	SURFACE CSG - 1639' MD, 1614' TVD	
6,034.00	5,670.27	-1,868.44	218.79	KOP - 6034' MD, 5670' TVD	
6,724.05	6,035.90	-2,404.43	248.20	~260' X-OVER PNT - 6724.05' MD, 260' FNL, 880' FWL SEC 31	
6,725.00	6,035.97	-2,405.38	248.30	HZ LANDIN PNT - 6725' MD, 6036' TVD	
11,475.00	6,091.06	-7,148.27	450.53	LAST SURVEY - 11475' MD, 6091' TVD	
11,540.00	6,092.09	-7,213.16	454.22	EXTRAPOLATION TO TD - 11540', 256' FSL, 1040' FWL SEC 31	

Checked By: _____	Approved By: _____	Date: _____
-------------------	--------------------	-------------