Weatherford®

BONANZA CREEK

WELD COUNTY, CO
PRONGHORN F-16 PAD
PRONGHORN 11-14-16HNB

PRONGHORN 11-14-16HNB

Plan: Design #1

PROPOSAL

26 December, 2013

Weatherford®

BONANZA CREEK

Weatherford

Project:	WELD COUNTY, CO
Site:	PRONGHORN F-16 PAD
Well:	PRONGHORN 11-14-16HNB
Wellbore:	PRONGHORN 11-14-16HNB
Design:	Design #1
Latitude:	40.407450°N
Longitude:	104.219150°W
GL:	4642.00
KB:	WELL @ 4658.50ft (CADE 21)

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
VP PRONGHORN 11-14-16HNB	5878.25	321.78	-581.74	40.408406°N	104.221222°W
LP PRONGHORN 11-14-16HNB	6425.00	-295.64	-574.52	40.406711°N	104.221228°W
PBHL PRONGHORN 11-14-16HNB	6425.00	-4521.70	-525.23	40.395110°N	104.221270°W

WELL DETAILS: PRONGHORN 11-14-16HNB

Ground Level: 4642.00

+N/-S	+E/-W	Northing	Easting	Latittude	Longitude	Slot
-18.22	0.26	1393850.44	3356678.38	40.407450°N	104.219150°W	

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Annotation
0.00	0.00	0.00	0.00	-18.22	0.26	0.00	0.00	0.00	
550.00	0.00	0.00	550.00	-18.22	0.26	0.00	0.00	0.00	Start Build 2.00
938.56	7.77	300.29	937.37	-4.95	-22.45	2.00	300.29	-10.55	Start 4595.72 hold at 938.56 MD
5534.28	7.77	300.29	5490.88	308.51	-559.02	0.00	0.00	-259.71	Start Drop -2.00
5922.84	0.00	0.00	5878.25	321.78	-581.74	2.00	180.00	-270.26	Start Build 11.00
6195.56	30.00	179.33	6138.69	252.00	-580.92	11.00	179.33	-201.04	Start Build 11.00
6604.66	75.00	179.33	6381.37	-64.25	-577.22	11.00	0.00	112.65	Start 100.00 hold at 6604.66 MD
6704.66	75.00	179.33	6407.26	-160.84	-576.09	0.00	0.00	208.46	Start DLS 11.00 TFO 0.00
6841.02	90.00	179.33	6425.00	-295.64	-574.52	11.00	0.00	342.17	Start DLS 0.00 TFO 150.60
11067.37	90.00	179.33	6425.00	-4521.70	-525.23	0.00	150.35	4534.04	TD at 11067.37

PROJECT DETAILS: WELD COUNTY, CO

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

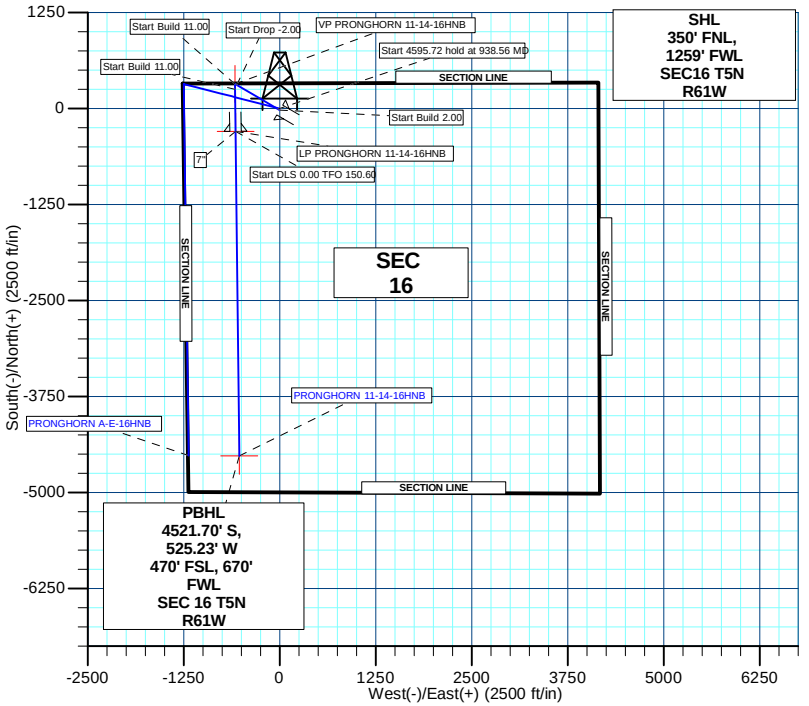
T G M

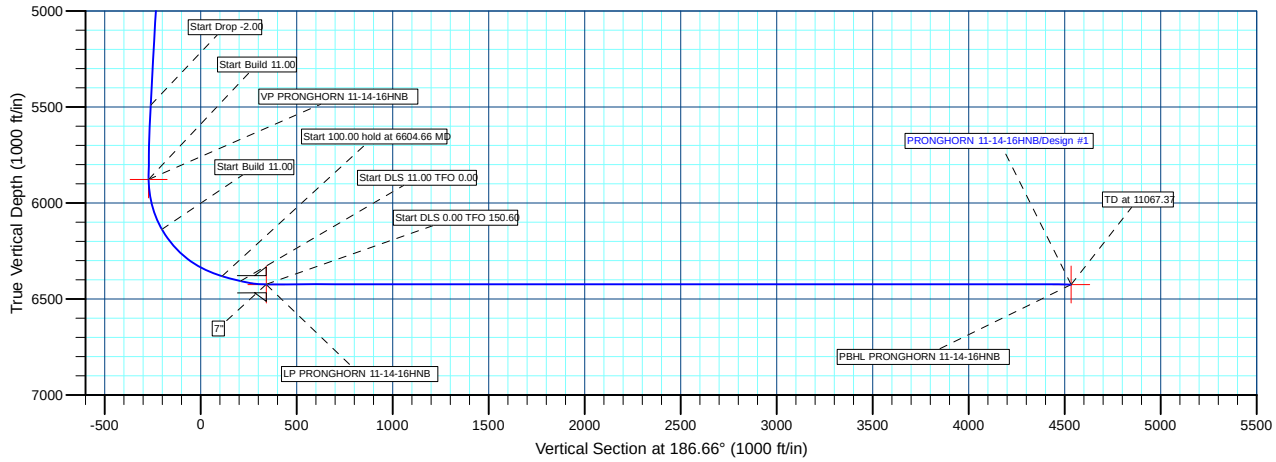
Azimuths to Grid North
True North: -0.83°
Magnetic North: 7.43°

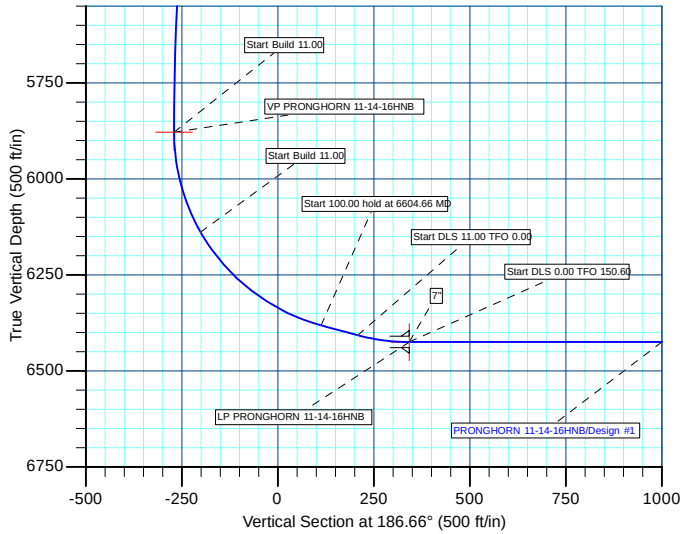
Magnetic Field
Strength: 52847.6snT
Dip Angle: 67.04°
Date: 12/26/2013
Model: BGGM2013

CASING DETAILS

TVD	MD	Name	Size
450.00	450.00	9 5/8"	9-5/8
6425.00	6841.02	7"	7







Plan: Design #1 (PRONGHORN 11-14-16HNB/PRONGHORN 11-14-16HNB)

Created By: THOMAS JANOUSEK Date: 10:27, December 27 2013

BONANZA CREEK

WELD COUNTY, CO
PRONGHORN F-16 PAD
PRONGHORN 11-14-16HNB

PRONGHORN 11-14-16HNB

Plan: Design #1

Standard Planning Report

26 December, 2013

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well PRONGHORN 11-14-16HNB
Company:	BONANZA CREEK	**TVD Reference:**	WELL @ 4658.50ft (CADE 21)
Project:	WELD COUNTY, CO	**MD Reference:**	WELL @ 4658.50ft (CADE 21)
Site:	PRONGHORN F-16 PAD	**North Reference:**	Grid
Well:	PRONGHORN 11-14-16HNB	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	PRONGHORN 11-14-16HNB		
Design:	Design #1		

Project WELD COUNTY, CO

Map System:	US State Plane 1983	**System Datum:**	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site PRONGHORN F-16 PAD

Site Position:		**Northing:**	1,393,868.66 usft	**Latitude:**	40.407500°N
From:	Lat/Long	**Easting:**	3,356,678.12 usft	**Longitude:**	104.219150°W
Position Uncertainty:	0.00 ft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.83 °

Well PRONGHORN 11-14-16HNB

Well Position	**+N/-S**	-18.22 ft	**Northing:**	1,393,850.44 usft	**Latitude:**	40.407450°N
	+E/-W	0.26 ft	**Easting:**	3,356,678.38 usft	**Longitude:**	104.219150°W
Position Uncertainty		0.00 ft	**Wellhead Elevation:**	ft	**Ground Level:**	4,642.00 ft

Wellbore PRONGHORN 11-14-16HNB

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2013	12/26/2013	8.26	67.04	52,848

Design Design #1

Audit Notes:

Version:		**Phase:**	PLAN	**Tie On Depth:**	0.00

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	186.66

Plan Sections

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
550.00	0.00	0.00	550.00	0.00	0.00	0.00	0.00	0.00	0.00	
938.56	7.77	300.29	937.37	13.27	-22.72	2.00	2.00	0.00	300.29	
5,534.28	7.77	300.29	5,490.88	326.73	-559.28	0.00	0.00	0.00	0.00	
5,922.84	0.00	0.00	5,878.25	340.00	-582.00	2.00	-2.00	0.00	180.00	VP PRONGHORN 11
6,195.56	30.00	179.33	6,138.69	270.22	-581.18	11.00	11.00	0.00	179.33	
6,604.66	75.00	179.33	6,381.37	-46.03	-577.49	11.00	11.00	0.00	0.00	
6,704.66	75.00	179.33	6,407.26	-142.62	-576.36	0.00	0.00	0.00	0.00	
6,841.02	90.00	179.33	6,425.00	-277.42	-574.78	11.00	11.00	0.00	0.00	LP PRONGHORN 11-
11,067.37	90.00	179.33	6,425.00	-4,503.48	-525.49	0.00	0.00	0.00	150.60	PBHL PRONGHORN

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Project:	WELD COUNTY, CO	**MD Reference:**	WELL @ 4658.50ft (CADE 21)
Site:	PRONGHORN F-16 PAD	**North Reference:**	Grid
Well:	PRONGHORN 11-14-16HNB	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	PRONGHORN 11-14-16HNB		
Design:	Design #1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
9 5/8"									
450.00	0.00	0.00	450.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
550.00	0.00	0.00	550.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	1.00	300.29	600.00	0.22	-0.38	-0.17	2.00	2.00	0.00
700.00	3.00	300.29	699.93	1.98	-3.39	-1.57	2.00	2.00	0.00
800.00	5.00	300.29	799.68	5.50	-9.41	-4.37	2.00	2.00	0.00
900.00	7.00	300.29	899.13	10.77	-18.44	-8.56	2.00	2.00	0.00
Start 4595.72 hold at 938.56 MD									
938.56	7.77	300.29	937.37	13.27	-22.72	-10.55	2.00	2.00	0.00
1,000.00	7.77	300.29	998.25	17.46	-29.89	-13.88	0.00	0.00	0.00
1,100.00	7.77	300.29	1,097.33	24.28	-41.57	-19.30	0.00	0.00	0.00
1,200.00	7.77	300.29	1,196.41	31.10	-53.24	-24.72	0.00	0.00	0.00
1,300.00	7.77	300.29	1,295.49	37.92	-64.92	-30.14	0.00	0.00	0.00
1,400.00	7.77	300.29	1,394.57	44.74	-76.59	-35.57	0.00	0.00	0.00
1,500.00	7.77	300.29	1,493.65	51.57	-88.27	-40.99	0.00	0.00	0.00
1,600.00	7.77	300.29	1,592.74	58.39	-99.94	-46.41	0.00	0.00	0.00
1,700.00	7.77	300.29	1,691.82	65.21	-111.62	-51.83	0.00	0.00	0.00
1,800.00	7.77	300.29	1,790.90	72.03	-123.29	-57.25	0.00	0.00	0.00
1,900.00	7.77	300.29	1,889.98	78.85	-134.97	-62.67	0.00	0.00	0.00
2,000.00	7.77	300.29	1,989.06	85.67	-146.64	-68.10	0.00	0.00	0.00
2,100.00	7.77	300.29	2,088.14	92.49	-158.32	-73.52	0.00	0.00	0.00
2,200.00	7.77	300.29	2,187.22	99.31	-169.99	-78.94	0.00	0.00	0.00
2,300.00	7.77	300.29	2,286.31	106.13	-181.67	-84.36	0.00	0.00	0.00
2,400.00	7.77	300.29	2,385.39	112.95	-193.35	-89.78	0.00	0.00	0.00
2,500.00	7.77	300.29	2,484.47	119.77	-205.02	-95.20	0.00	0.00	0.00
2,600.00	7.77	300.29	2,583.55	126.59	-216.70	-100.62	0.00	0.00	0.00
2,700.00	7.77	300.29	2,682.63	133.41	-228.37	-106.05	0.00	0.00	0.00
2,800.00	7.77	300.29	2,781.71	140.23	-240.05	-111.47	0.00	0.00	0.00
2,900.00	7.77	300.29	2,880.80	147.05	-251.72	-116.89	0.00	0.00	0.00
3,000.00	7.77	300.29	2,979.88	153.87	-263.40	-122.31	0.00	0.00	0.00
3,100.00	7.77	300.29	3,078.96	160.70	-275.07	-127.73	0.00	0.00	0.00
3,200.00	7.77	300.29	3,178.04	167.52	-286.75	-133.15	0.00	0.00	0.00
3,300.00	7.77	300.29	3,277.12	174.34	-298.42	-138.57	0.00	0.00	0.00
3,400.00	7.77	300.29	3,376.20	181.16	-310.10	-144.00	0.00	0.00	0.00
3,500.00	7.77	300.29	3,475.29	187.98	-321.77	-149.42	0.00	0.00	0.00
3,600.00	7.77	300.29	3,574.37	194.80	-333.45	-154.84	0.00	0.00	0.00
3,700.00	7.77	300.29	3,673.45	201.62	-345.12	-160.26	0.00	0.00	0.00
3,800.00	7.77	300.29	3,772.53	208.44	-356.80	-165.68	0.00	0.00	0.00
3,900.00	7.77	300.29	3,871.61	215.26	-368.48	-171.10	0.00	0.00	0.00
4,000.00	7.77	300.29	3,970.69	222.08	-380.15	-176.53	0.00	0.00	0.00
4,100.00	7.77	300.29	4,069.78	228.90	-391.83	-181.95	0.00	0.00	0.00
4,200.00	7.77	300.29	4,168.86	235.72	-403.50	-187.37	0.00	0.00	0.00
4,300.00	7.77	300.29	4,267.94	242.54	-415.18	-192.79	0.00	0.00	0.00
4,400.00	7.77	300.29	4,367.02	249.36	-426.85	-198.21	0.00	0.00	0.00
4,500.00	7.77	300.29	4,466.10	256.18	-438.53	-203.63	0.00	0.00	0.00
4,600.00	7.77	300.29	4,565.18	263.00	-450.20	-209.05	0.00	0.00	0.00

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well PRONGHORN 11-14-16HNB
Company:	BONANZA CREEK	**TVD Reference:**	WELL @ 4658.50ft (CADE 21)
Project:	WELD COUNTY, CO	**MD Reference:**	WELL @ 4658.50ft (CADE 21)
Site:	PRONGHORN F-16 PAD	**North Reference:**	Grid
Well:	PRONGHORN 11-14-16HNB	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	PRONGHORN 11-14-16HNB		
Design:	Design #1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,700.00	7.77	300.29	4,664.27	269.83	-461.88	-214.48	0.00	0.00	0.00
4,800.00	7.77	300.29	4,763.35	276.65	-473.55	-219.90	0.00	0.00	0.00
4,900.00	7.77	300.29	4,862.43	283.47	-485.23	-225.32	0.00	0.00	0.00
5,000.00	7.77	300.29	4,961.51	290.29	-496.90	-230.74	0.00	0.00	0.00
5,100.00	7.77	300.29	5,060.59	297.11	-508.58	-236.16	0.00	0.00	0.00
5,200.00	7.77	300.29	5,159.67	303.93	-520.25	-241.58	0.00	0.00	0.00
5,300.00	7.77	300.29	5,258.75	310.75	-531.93	-247.00	0.00	0.00	0.00
5,400.00	7.77	300.29	5,357.84	317.57	-543.60	-252.43	0.00	0.00	0.00
5,500.00	7.77	300.29	5,456.92	324.39	-555.28	-257.85	0.00	0.00	0.00
Start Drop -2.00									
5,534.28	7.77	300.29	5,490.88	326.73	-559.28	-259.71	0.00	0.00	0.00
5,600.00	6.46	300.29	5,556.10	330.83	-566.31	-262.97	2.00	-2.00	0.00
5,700.00	4.46	300.29	5,655.64	335.63	-574.52	-266.78	2.00	-2.00	0.00
5,800.00	2.46	300.29	5,755.45	338.67	-579.73	-269.20	2.00	-2.00	0.00
5,900.00	0.46	300.29	5,855.41	339.95	-581.92	-270.22	2.00	-2.00	0.00
Start Build 11.00									
5,922.84	0.00	0.00	5,878.25	340.00	-582.00	-270.26	2.00	-2.00	0.00
5,950.00	2.99	179.33	5,905.40	339.29	-581.99	-269.55	11.00	11.00	0.00
6,000.00	8.49	179.33	5,955.13	334.30	-581.93	-264.60	11.00	11.00	0.00
6,050.00	13.99	179.33	6,004.15	324.56	-581.82	-254.94	11.00	11.00	0.00
6,100.00	19.49	179.33	6,052.02	310.16	-581.65	-240.66	11.00	11.00	0.00
6,150.00	24.99	179.33	6,098.28	291.25	-581.43	-221.90	11.00	11.00	0.00
Start Build 11.00									
6,195.56	30.00	179.33	6,138.69	270.22	-581.18	-201.04	11.00	11.00	0.00
6,200.00	30.49	179.33	6,142.52	267.99	-581.16	-198.83	11.00	11.00	0.00
6,250.00	35.99	179.33	6,184.32	240.59	-580.84	-171.65	11.00	11.00	0.00
6,300.00	41.49	179.33	6,223.31	209.32	-580.47	-140.63	11.00	11.00	0.00
6,350.00	46.99	179.33	6,259.12	174.45	-580.06	-106.05	11.00	11.00	0.00
6,400.00	52.49	179.33	6,291.42	136.32	-579.62	-68.22	11.00	11.00	0.00
6,450.00	57.99	179.33	6,319.92	95.26	-579.14	-27.50	11.00	11.00	0.00
6,500.00	63.49	179.33	6,344.35	51.66	-578.63	15.75	11.00	11.00	0.00
6,550.00	68.99	179.33	6,364.49	5.92	-578.09	61.12	11.00	11.00	0.00
Start 100.00 hold at 6604.66 MD									
6,604.66	75.00	179.33	6,381.37	-46.03	-577.49	112.65	11.00	11.00	0.00
Start DLS 11.00 TFO 0.00									
6,704.66	75.00	179.33	6,407.26	-142.62	-576.36	208.46	0.00	0.00	0.00
6,750.00	79.99	179.33	6,417.07	-186.87	-575.84	252.35	11.00	11.00	0.00
6,800.00	85.49	179.33	6,423.39	-236.45	-575.26	301.53	11.00	11.00	0.00
Start DLS 0.00 TFO 150.60 - 7"									
6,841.02	90.00	179.33	6,425.00	-277.42	-574.78	342.17	11.00	11.00	0.00
6,900.00	90.00	179.33	6,425.00	-336.40	-574.09	400.67	0.00	0.00	0.00
7,000.00	90.00	179.33	6,424.99	-436.39	-572.92	499.85	0.00	0.00	0.00
7,100.00	90.00	179.33	6,424.99	-536.38	-571.75	599.04	0.00	0.00	0.00
7,200.00	90.00	179.33	6,424.98	-636.38	-570.58	698.22	0.00	0.00	0.00
7,300.00	90.00	179.33	6,424.98	-736.37	-569.42	797.40	0.00	0.00	0.00
7,400.00	90.00	179.33	6,424.98	-836.36	-568.25	896.59	0.00	0.00	0.00
7,500.00	90.00	179.33	6,424.97	-936.36	-567.08	995.77	0.00	0.00	0.00
7,600.00	90.00	179.33	6,424.97	-1,036.35	-565.91	1,094.96	0.00	0.00	0.00
7,700.00	90.00	179.33	6,424.97	-1,136.34	-564.74	1,194.14	0.00	0.00	0.00
7,800.00	90.00	179.33	6,424.96	-1,236.34	-563.58	1,293.32	0.00	0.00	0.00
7,900.00	90.00	179.33	6,424.96	-1,336.33	-562.41	1,392.51	0.00	0.00	0.00
8,000.00	90.00	179.33	6,424.96	-1,436.32	-561.24	1,491.69	0.00	0.00	0.00
8,100.00	90.00	179.33	6,424.96	-1,536.32	-560.07	1,590.87	0.00	0.00	0.00

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well PRONGHORN 11-14-16HNB
Company:	BONANZA CREEK	**TVD Reference:**	WELL @ 4658.50ft (CADE 21)
Project:	WELD COUNTY, CO	**MD Reference:**	WELL @ 4658.50ft (CADE 21)
Site:	PRONGHORN F-16 PAD	**North Reference:**	Grid
Well:	PRONGHORN 11-14-16HNB	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	PRONGHORN 11-14-16HNB		
Design:	Design #1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,200.00	90.00	179.33	6,424.95	-1,636.31	-558.91	1,690.06	0.00	0.00	0.00
8,300.00	90.00	179.33	6,424.95	-1,736.30	-557.74	1,789.24	0.00	0.00	0.00
8,400.00	90.00	179.33	6,424.95	-1,836.30	-556.57	1,888.43	0.00	0.00	0.00
8,500.00	90.00	179.33	6,424.95	-1,936.29	-555.41	1,987.61	0.00	0.00	0.00
8,600.00	90.00	179.33	6,424.95	-2,036.28	-554.24	2,086.80	0.00	0.00	0.00
8,700.00	90.00	179.33	6,424.95	-2,136.28	-553.07	2,185.98	0.00	0.00	0.00
8,800.00	90.00	179.33	6,424.95	-2,236.27	-551.91	2,285.16	0.00	0.00	0.00
8,900.00	90.00	179.33	6,424.95	-2,336.26	-550.74	2,384.35	0.00	0.00	0.00
9,000.00	90.00	179.33	6,424.95	-2,436.25	-549.57	2,483.53	0.00	0.00	0.00
9,100.00	90.00	179.33	6,424.95	-2,536.25	-548.41	2,582.72	0.00	0.00	0.00
9,200.00	90.00	179.33	6,424.95	-2,636.24	-547.24	2,681.90	0.00	0.00	0.00
9,300.00	90.00	179.33	6,424.95	-2,736.23	-546.08	2,781.08	0.00	0.00	0.00
9,400.00	90.00	179.33	6,424.95	-2,836.23	-544.91	2,880.27	0.00	0.00	0.00
9,500.00	90.00	179.33	6,424.95	-2,936.22	-543.74	2,979.45	0.00	0.00	0.00
9,600.00	90.00	179.33	6,424.95	-3,036.21	-542.58	3,078.64	0.00	0.00	0.00
9,700.00	90.00	179.33	6,424.95	-3,136.21	-541.41	3,177.82	0.00	0.00	0.00
9,800.00	90.00	179.33	6,424.96	-3,236.20	-540.25	3,277.01	0.00	0.00	0.00
9,900.00	90.00	179.33	6,424.96	-3,336.19	-539.08	3,376.19	0.00	0.00	0.00
10,000.00	90.00	179.33	6,424.96	-3,436.19	-537.92	3,475.37	0.00	0.00	0.00
10,100.00	90.00	179.33	6,424.96	-3,536.18	-536.75	3,574.56	0.00	0.00	0.00
10,200.00	90.00	179.33	6,424.97	-3,636.17	-535.59	3,673.74	0.00	0.00	0.00
10,300.00	90.00	179.33	6,424.97	-3,736.17	-534.42	3,772.93	0.00	0.00	0.00
10,400.00	90.00	179.33	6,424.97	-3,836.16	-533.26	3,872.11	0.00	0.00	0.00
10,500.00	90.00	179.33	6,424.98	-3,936.15	-532.10	3,971.30	0.00	0.00	0.00
10,600.00	90.00	179.33	6,424.98	-4,036.15	-530.93	4,070.48	0.00	0.00	0.00
10,700.00	90.00	179.33	6,424.98	-4,136.14	-529.77	4,169.67	0.00	0.00	0.00
10,800.00	90.00	179.33	6,424.99	-4,236.13	-528.60	4,268.85	0.00	0.00	0.00
10,900.00	90.00	179.33	6,424.99	-4,336.13	-527.44	4,368.03	0.00	0.00	0.00
11,000.00	90.00	179.33	6,425.00	-4,436.12	-526.28	4,467.22	0.00	0.00	0.00
TD at 11067.37									
11,067.37	90.00	179.33	6,425.00	-4,503.48	-525.49	4,534.04	0.00	0.00	0.00

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
VP PRONGHORN 11-14 - plan hits target center - Point	0.00	0.00	5,878.25	340.00	-582.00	1,394,190.44	3,356,096.39	40.408406°N	104.221222°W
LP PRONGHORN 11-14 - plan hits target center - Point	0.00	0.00	6,425.00	-277.42	-574.78	1,393,573.02	3,356,103.61	40.406711°N	104.221228°W
PBHL PRONGHORN 11 - plan hits target center - Point	0.00	0.00	6,425.00	-4,503.48	-525.49	1,389,346.97	3,356,152.89	40.395110°N	104.221270°W

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well PRONGHORN 11-14-16HNB
Company:	BONANZA CREEK	**TVD Reference:**	WELL @ 4658.50ft (CADE 21)
Project:	WELD COUNTY, CO	**MD Reference:**	WELL @ 4658.50ft (CADE 21)
Site:	PRONGHORN F-16 PAD	**North Reference:**	Grid
Well:	PRONGHORN 11-14-16HNB	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	PRONGHORN 11-14-16HNB		
Design:	Design #1		

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
450.00	450.00	9 5/8"	9-5/8	12-1/4
6,841.02	6,425.00	7"	7	8-3/4

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
550.00	550.00	0.00	0.00	Start Build 2.00
938.56	937.37	13.27	-22.72	Start 4595.72 hold at 938.56 MD
5,534.28	5,490.88	326.73	-559.28	Start Drop -2.00
5,922.84	5,878.25	340.00	-582.00	Start Build 11.00
6,195.56	6,138.69	270.22	-581.18	Start Build 11.00
6,604.66	6,381.37	-46.03	-577.49	Start 100.00 hold at 6604.66 MD
6,704.66	6,407.26	-142.62	-576.36	Start DLS 11.00 TFO 0.00
6,841.02	6,425.00	-277.42	-574.78	Start DLS 0.00 TFO 150.60
11,067.37	6,425.00	-4,503.48	-525.49	TD at 11067.37

BONANZA CREEK

WELD COUNTY, CO
PRONGHORN F-16 PAD
PRONGHORN 11-14-16HNB

PRONGHORN 11-14-16HNB
Design #1

Anticollision Report

27 December, 2013

Company:	BONANZA CREEK	**Local Co-ordinate Reference:**	Site PRONGHORN F-16 PAD
Project:	WELD COUNTY, CO	**TVD Reference:**	WELL @ 4658.50ft (CADE 21)
Reference Site:	PRONGHORN F-16 PAD	**MD Reference:**	WELL @ 4658.50ft (CADE 21)
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	PRONGHORN 11-14-16HNB	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	PRONGHORN 11-14-16HNB	**Database:**	EDM 5000.1 Single User Db
Reference Design:	Design #1	**Offset TVD Reference:**	Offset Datum

Reference Design #1

Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD Interval 100.00ft	**Error Model:**	ISCWSA
Depth Range:	Unlimited	**Scan Method:**	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 408.90 ft	**Error Surface:**	Elliptical Conic
Warning Levels Evaluated at:	2.00 **Sigma**	**Casing Method:**	Not applied

Survey Tool Program **Date** 12/26/2013

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.00	11,067.37	Design #1 (PRONGHORN 11-14-16HNB)	MWD	MWD - Standard

Summary

Site Name / Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
PRONGHORN F-16 PAD						
PRONGHORN A-E-16HNB - PRONGHORN A-E-16HNB	1,026.01	1,024.96	10.33	5.95	2.358	CC, ES, SF

Offset Design PRONGHORN F-16 PAD - PRONGHORN A-E-16HNB - PRONGHORN A-E-16HNB - Design #1

Offset Site Error: 0.00 ft
Survey Program: 0-MWD
Offset Well Error: 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	-0.83	0.00	0.00	18.22				
100.00	100.00	100.00	100.00	0.09	0.09	-0.83	0.00	0.00	18.22	18.03	0.19	97.075	
200.00	200.00	200.00	200.00	0.32	0.32	-0.83	0.00	0.00	18.22	17.58	0.64	28.592	
300.00	300.00	300.00	300.00	0.54	0.54	-0.83	0.00	0.00	18.22	17.13	1.09	16.765	
400.00	400.00	400.00	400.00	0.77	0.77	-0.83	0.00	0.00	18.22	16.68	1.54	11.859	
500.00	500.00	500.00	500.00	0.99	0.99	-0.83	0.00	0.00	18.22	16.23	1.99	9.175	
600.00	600.00	599.92	599.91	1.21	1.21	58.73	0.11	-0.42	18.11	15.68	2.43	7.461	
700.00	699.93	699.74	699.67	1.43	1.42	57.50	0.97	-3.79	17.22	14.37	2.85	6.034	
800.00	799.68	799.55	799.23	1.66	1.65	54.60	2.70	-10.52	15.48	12.18	3.30	4.685	
900.00	899.13	899.32	898.45	1.91	1.90	48.83	5.28	-20.61	12.97	9.19	3.78	3.428	
1,000.00	998.25	999.04	997.20	2.19	2.18	34.63	8.72	-34.02	10.49	6.23	4.27	2.459	
1,026.01	1,024.02	1,024.96	1,022.79	2.26	2.26	27.81	9.75	-38.05	10.33	5.95	4.38	2.358	CC, ES, SF
1,100.00	1,097.33	1,098.57	1,095.22	2.48	2.50	5.96	13.00	-50.72	11.88	7.22	4.66	2.551	
1,200.00	1,196.41	1,197.68	1,192.18	2.78	2.87	-13.55	18.09	-70.62	18.88	13.77	5.10	3.700	
1,300.00	1,295.49	1,296.14	1,287.74	3.10	3.30	-21.33	23.98	-93.60	30.27	24.66	5.61	5.395	
1,400.00	1,394.57	1,394.49	1,382.43	3.41	3.79	-24.23	30.57	-119.30	44.84	38.70	6.14	7.307	
1,500.00	1,493.65	1,493.35	1,477.51	3.73	4.30	-25.64	37.28	-145.52	59.87	53.21	6.67	8.983	
1,600.00	1,592.74	1,592.20	1,572.59	4.06	4.84	-26.49	44.00	-171.75	74.93	67.73	7.20	10.406	
1,700.00	1,691.82	1,691.06	1,667.66	4.38	5.38	-27.06	50.72	-197.97	90.00	82.25	7.74	11.622	
1,800.00	1,790.90	1,789.91	1,762.74	4.71	5.93	-27.46	57.44	-224.19	105.07	96.78	8.29	12.672	
1,900.00	1,889.98	1,888.77	1,857.82	5.04	6.48	-27.76	64.16	-250.42	120.15	111.31	8.84	13.587	
2,000.00	1,989.06	1,987.62	1,952.89	5.37	7.04	-27.99	70.88	-276.64	135.23	125.83	9.40	14.389	
2,100.00	2,088.14	2,086.48	2,047.97	5.71	7.60	-28.18	77.59	-302.86	150.31	140.36	9.96	15.098	
2,200.00	2,187.22	2,185.33	2,143.05	6.04	8.17	-28.33	84.31	-329.09	165.40	154.88	10.52	15.728	
2,300.00	2,286.31	2,284.19	2,238.12	6.37	8.73	-28.46	91.03	-355.31	180.48	169.40	11.08	16.291	
2,400.00	2,385.39	2,383.04	2,333.20	6.71	9.30	-28.57	97.75	-381.53	195.57	183.92	11.64	16.798	

Company:	BONANZA CREEK	**Local Co-ordinate Reference:**	Site PRONGHORN F-16 PAD
Project:	WELD COUNTY, CO	**TVD Reference:**	WELL @ 4658.50ft (CADE 21)
Reference Site:	PRONGHORN F-16 PAD	**MD Reference:**	WELL @ 4658.50ft (CADE 21)
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	PRONGHORN 11-14-16HNB	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	PRONGHORN 11-14-16HNB	**Database:**	EDM 5000.1 Single User Db
Reference Design:	Design #1	**Offset TVD Reference:**	Offset Datum

Offset Design PRONGHORN F-16 PAD - PRONGHORN A-E-16HNB - PRONGHORN A-E-16HNB - Design #1

Offset Site Error: 0.00 ft

Survey Program: 0-MWD

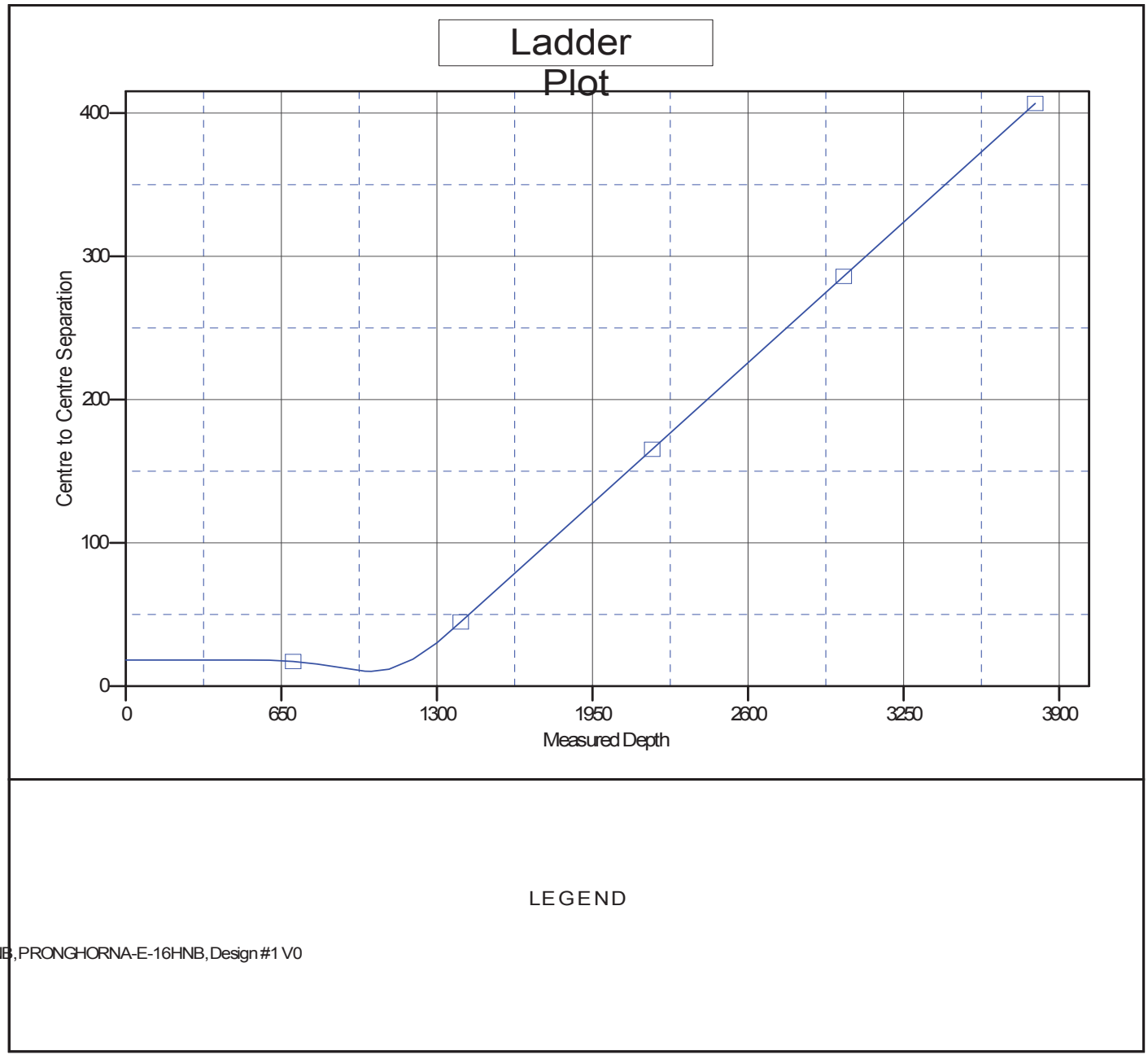
Offset Well Error: 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
2,500.00	2,484.47	2,481.90	2,428.28	7.04	9.87	-28.66	104.47	-407.75	210.65	198.44	12.21	17.255	
2,600.00	2,583.55	2,580.75	2,523.35	7.38	10.44	-28.74	111.19	-433.98	225.74	212.96	12.77	17.671	
2,700.00	2,682.63	2,679.61	2,618.43	7.71	11.02	-28.81	117.91	-460.20	240.82	227.48	13.34	18.049	
2,800.00	2,781.71	2,778.46	2,713.50	8.05	11.59	-28.87	124.62	-486.42	255.91	242.00	13.91	18.396	
2,900.00	2,880.80	2,877.32	2,808.58	8.39	12.16	-28.93	131.34	-512.65	271.00	256.52	14.48	18.714	
3,000.00	2,979.88	2,976.17	2,903.66	8.72	12.74	-28.98	138.06	-538.87	286.09	271.03	15.05	19.007	
3,100.00	3,078.96	3,075.03	2,998.73	9.06	13.31	-29.02	144.78	-565.09	301.17	285.55	15.62	19.278	
3,200.00	3,178.04	3,173.88	3,093.81	9.40	13.89	-29.06	151.50	-591.32	316.26	300.07	16.19	19.529	
3,300.00	3,277.12	3,272.74	3,188.89	9.73	14.47	-29.10	158.22	-617.54	331.35	314.58	16.77	19.762	
3,400.00	3,376.20	3,371.59	3,283.96	10.07	15.04	-29.13	164.94	-643.76	346.44	329.10	17.34	19.979	
3,500.00	3,475.29	3,470.45	3,379.04	10.41	15.62	-29.16	171.65	-669.99	361.53	343.61	17.91	20.182	
3,600.00	3,574.37	3,569.30	3,474.12	10.75	16.20	-29.19	178.37	-696.21	376.61	358.13	18.49	20.372	
3,700.00	3,673.45	3,668.16	3,569.19	11.08	16.77	-29.22	185.09	-722.43	391.70	372.64	19.06	20.550	
3,800.00	3,772.53	3,767.01	3,664.27	11.42	17.35	-29.24	191.81	-748.65	406.79	387.16	19.64	20.717	

Company:	BONANZA CREEK	**Local Co-ordinate Reference:**	Site PRONGHORN F-16 PAD
Project:	WELD COUNTY, CO	**TVD Reference:**	WELL @ 4658.50ft (CADE 21)
Reference Site:	PRONGHORN F-16 PAD	**MD Reference:**	WELL @ 4658.50ft (CADE 21)
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	PRONGHORN 11-14-16HNB	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	PRONGHORN 11-14-16HNB	**Database:**	EDM 5000.1 Single User Db
Reference Design:	Design #1	**Offset TVD Reference:**	Offset Datum

Reference Depths are relative to WELL @ 4658.50ft (CADE 21)
Offset Depths are relative to Offset Datum
Central Meridian is 105.500000°W

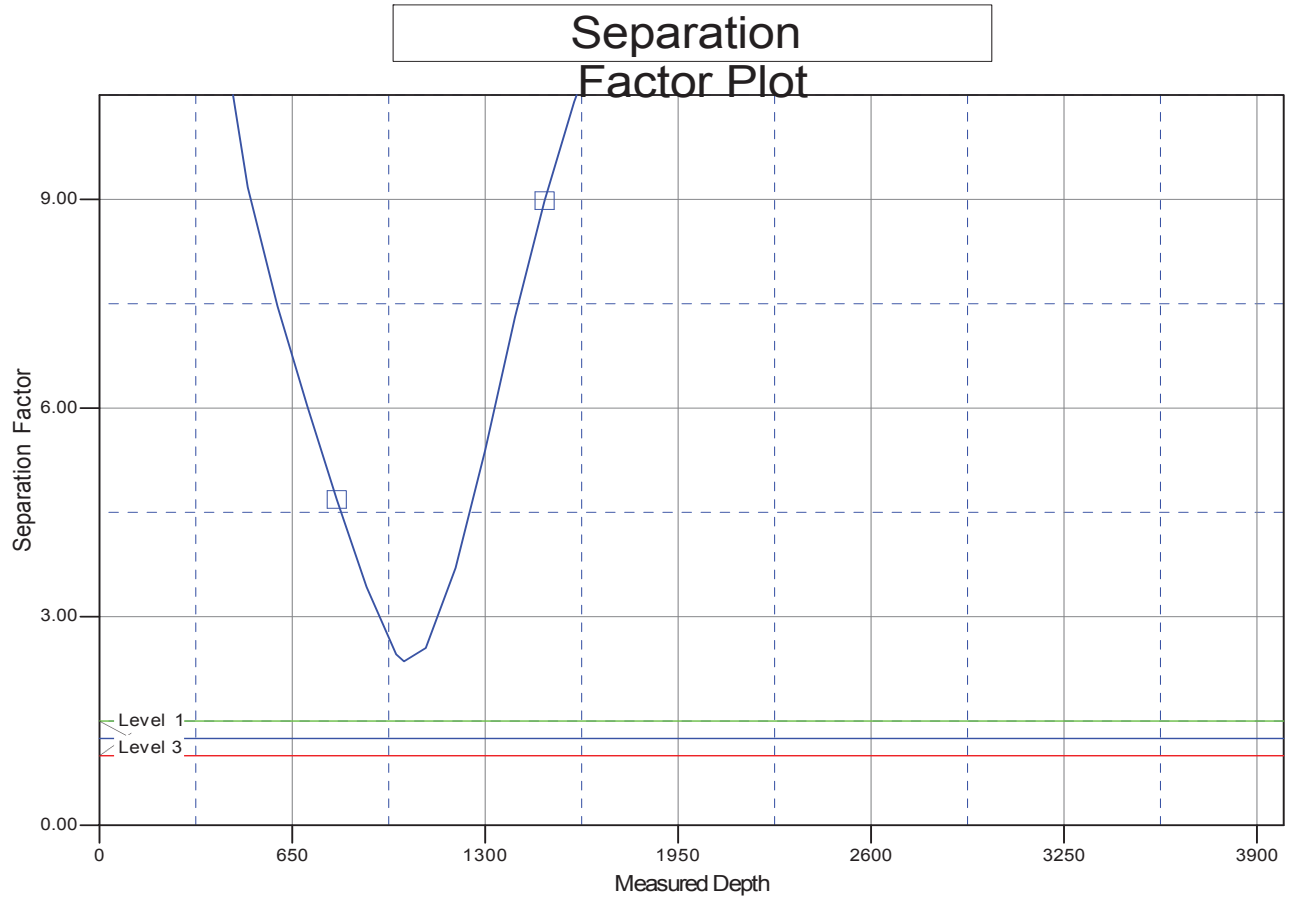
Coordinates are relative to: PRONGHORN F-16 PAD
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.83°



Company:	BONANZA CREEK	**Local Co-ordinate Reference:**	Site PRONGHORN F-16 PAD
Project:	WELD COUNTY, CO	**TVD Reference:**	WELL @ 4658.50ft (CADE 21)
Reference Site:	PRONGHORN F-16 PAD	**MD Reference:**	WELL @ 4658.50ft (CADE 21)
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	PRONGHORN 11-14-16HNB	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	PRONGHORN 11-14-16HNB	**Database:**	EDM 5000.1 Single User Db
Reference Design:	Design #1	**Offset TVD Reference:**	Offset Datum

Reference Depths are relative to WELL @ 4658.50ft (CADE 21)
Offset Depths are relative to Offset Datum
Central Meridian is 105.500000°W

Coordinates are relative to: PRONGHORN F-16 PAD
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.83°



LEGEND

NB, PRONGHORNA-E-16HNB, Design #1 V0