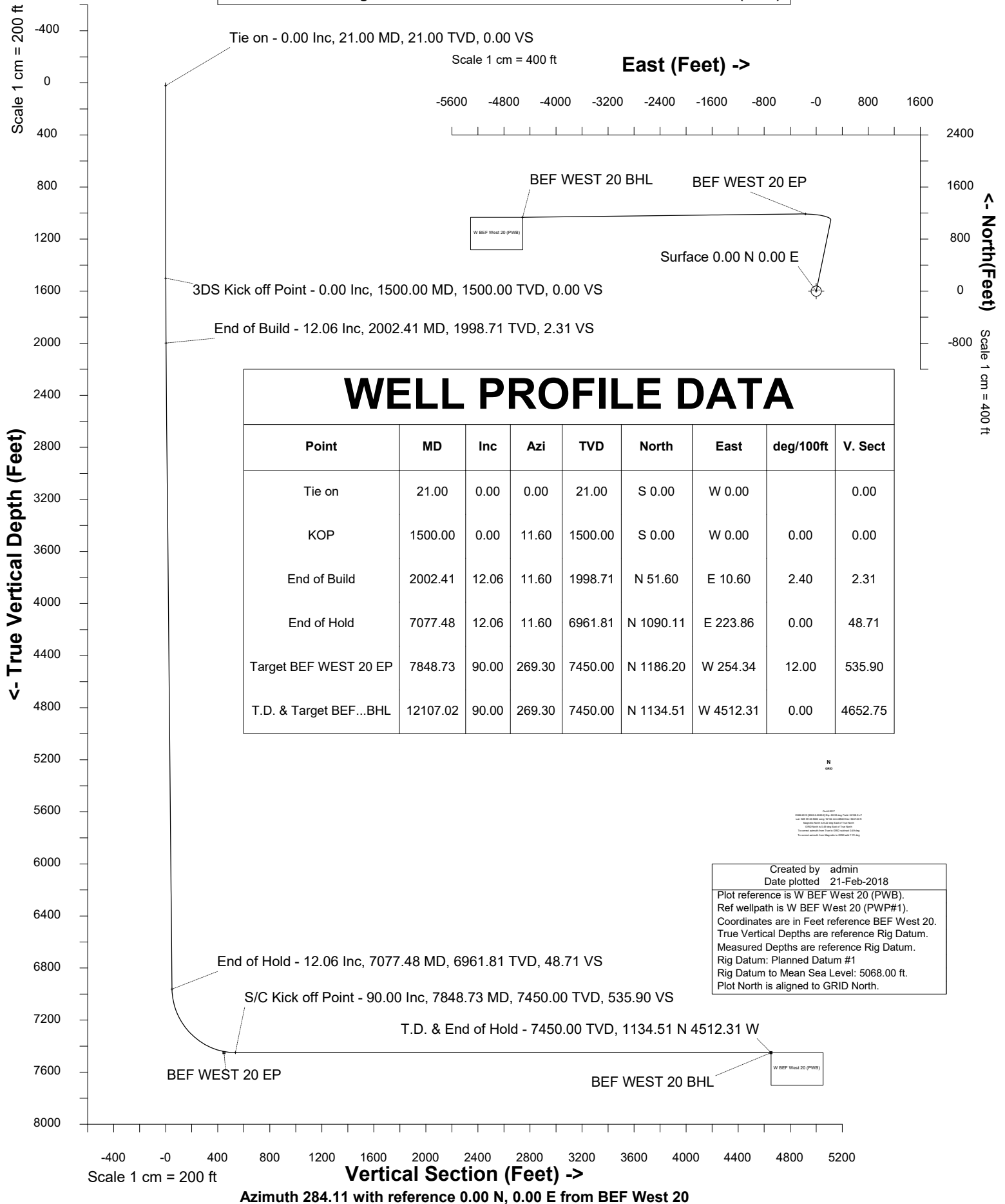


Petro Operating Company

Location Weld County, CO Slot BEF West 20
Field Wattenberg Well W BEF West 20
Installation Brighton East Farm Pad Wellbore W BEF West 20 (PWB)





SYS DRILL
Well Design Combined Report
Wellbore: W BEF West 20 (PWB)



Wellhead Details

| Name | Latitude | Longitude | Northing | Easting | North | East | Slot Elevation Above Ground |
|-------------|-------------|---------------|--------------|--------------|---------|-------|-----------------------------|
| BEF West 20 | 39.99485000 | -104.73470000 | 1241896.0701 | 3214415.0721 | 764.95N | 9.40W | 0.00 |

Declination

| Date | Source | Time |
|------------|--------------------------|-------|
| Oct-6-2017 | EMM-2015 [2000.0-2020.0] | 14:35 |

Installation Details

| Name | Installation Position (Latitude) | Installation Position (Longitude) | Northing | Easting | Coord System Name | North Alignment |
|------------------------|----------------------------------|-----------------------------------|--------------|--------------|--|-----------------|
| Brighton East Farm Pad | 39.99275000 | -104.73469000 | 1241131.1481 | 3214424.4758 | CO83-NF on NORTH AMERICAN DATUM 1983 datum | Grid |

Summary Wellpath

| MD[ft] | Inc[deg] | Azi[deg] | TVD[ft] | Vertical Depth SS | North[ft] | East[ft] | Dogleg [deg/100ft] | Vertical Section[ft] |
|----------|----------|----------|---------|-------------------|-----------|----------|--------------------|----------------------|
| 21.00 | 0.00 | 0.000 | 21.00 | -5047.00 | 0.00N | 0.00E | | 0.00 |
| 1500.00 | 0.00 | 11.600 | 1500.00 | -3568.00 | 0.00N | 0.00E | ==> | 0.00 |
| 2002.41 | 12.06 | 11.600 | 1998.71 | -3069.29 | 51.60N | 10.60E | 2.40 | 2.31 |
| 7077.48 | 12.06 | 11.600 | 6961.81 | 1893.81 | 1090.11N | 223.86E | ==> | 48.71 |
| 7848.73 | 90.00 | 269.300 | 7450.00 | 2382.00 | 1186.20N | 254.34W | 12.00 | 535.90 |
| 12107.02 | 90.00 | 269.300 | 7450.00 | 2382.00 | 1134.51N | 4512.31W | ==> | 4652.75 |

Interpolated Wellpath

| MD[ft] | Inc[deg] | Azi[deg] | TVD[ft] | North[ft] | East[ft] | Dogleg [deg/100ft] | Vertical Section[ft] | Station Position (Latitude) | Station Position (Longitude) |
|---------|----------|----------|---------|-----------|----------|--------------------|----------------------|-----------------------------|------------------------------|
| 0.00 | 0.00 | 0.000 | 0.00 | 0.00N | 0.00E | | 0.00 | 39.99485000 | -104.73470000 |
| 21.00 | 0.00 | 0.000 | 21.00 | 0.00N | 0.00E | ==> | 0.00 | 39.99485000 | -104.73470000 |
| 100.00 | 0.00 | 0.000 | 100.00 | 0.00N | 0.00E | ==> | 0.00 | 39.99485000 | -104.73470000 |
| 200.00 | 0.00 | 0.000 | 200.00 | 0.00N | 0.00E | ==> | 0.00 | 39.99485000 | -104.73470000 |
| 300.00 | 0.00 | 0.000 | 300.00 | 0.00N | 0.00E | ==> | 0.00 | 39.99485000 | -104.73470000 |
| 400.00 | 0.00 | 0.000 | 400.00 | 0.00N | 0.00E | ==> | 0.00 | 39.99485000 | -104.73470000 |
| 500.00 | 0.00 | 0.000 | 500.00 | 0.00N | 0.00E | ==> | 0.00 | 39.99485000 | -104.73470000 |
| 600.00 | 0.00 | 0.000 | 600.00 | 0.00N | 0.00E | ==> | 0.00 | 39.99485000 | -104.73470000 |
| 700.00 | 0.00 | 0.000 | 700.00 | 0.00N | 0.00E | ==> | 0.00 | 39.99485000 | -104.73470000 |
| 800.00 | 0.00 | 0.000 | 800.00 | 0.00N | 0.00E | ==> | 0.00 | 39.99485000 | -104.73470000 |
| 900.00 | 0.00 | 0.000 | 900.00 | 0.00N | 0.00E | ==> | 0.00 | 39.99485000 | -104.73470000 |
| 1000.00 | 0.00 | 0.000 | 1000.00 | 0.00N | 0.00E | ==> | 0.00 | 39.99485000 | -104.73470000 |
| 1100.00 | 0.00 | 0.000 | 1100.00 | 0.00N | 0.00E | ==> | 0.00 | 39.99485000 | -104.73470000 |
| 1200.00 | 0.00 | 0.000 | 1200.00 | 0.00N | 0.00E | ==> | 0.00 | 39.99485000 | -104.73470000 |
| 1300.00 | 0.00 | 0.000 | 1300.00 | 0.00N | 0.00E | ==> | 0.00 | 39.99485000 | -104.73470000 |
| 1400.00 | 0.00 | 0.000 | 1400.00 | 0.00N | 0.00E | ==> | 0.00 | 39.99485000 | -104.73470000 |
| 1500.00 | 0.00 | 11.600 | 1500.00 | 0.00N | 0.00E | ==> | 0.00 | 39.99485000 | -104.73470000 |
| 1600.00 | 2.40 | 11.600 | 1599.97 | 2.05N | 0.42E | 2.40 | 0.09 | 39.99485562 | -104.73469843 |
| 1700.00 | 4.80 | 11.600 | 1699.77 | 8.20N | 1.68E | 2.40 | 0.37 | 39.99487247 | -104.73469374 |
| 1800.00 | 7.20 | 11.600 | 1799.21 | 18.44N | 3.79E | 2.40 | 0.82 | 39.99490053 | -104.73468592 |
| 1900.00 | 9.60 | 11.600 | 1898.13 | 32.75N | 6.73E | 2.40 | 1.46 | 39.99493974 | -104.73467499 |
| 2000.00 | 12.00 | 11.600 | 1996.35 | 51.10N | 10.49E | 2.40 | 2.28 | 39.99499003 | -104.73466097 |
| 2100.00 | 12.06 | 11.600 | 2094.15 | 71.56N | 14.70E | ==> | 3.20 | 39.99504610 | -104.73464535 |
| 2200.00 | 12.06 | 11.600 | 2191.94 | 92.03N | 18.90E | ==> | 4.11 | 39.99510217 | -104.73462972 |
| 2300.00 | 12.06 | 11.600 | 2289.73 | 112.49N | 23.10E | ==> | 5.03 | 39.99515824 | -104.73461409 |
| 2400.00 | 12.06 | 11.600 | 2387.53 | 132.95N | 27.30E | ==> | 5.94 | 39.99521431 | -104.73459846 |
| 2500.00 | 12.06 | 11.600 | 2485.32 | 153.42N | 31.50E | ==> | 6.86 | 39.99527038 | -104.73458284 |
| 2600.00 | 12.06 | 11.600 | 2583.12 | 173.88N | 35.71E | ==> | 7.77 | 39.99532645 | -104.73456721 |
| 2700.00 | 12.06 | 11.600 | 2680.91 | 194.34N | 39.91E | ==> | 8.68 | 39.99538252 | -104.73455158 |
| 2800.00 | 12.06 | 11.600 | 2778.70 | 214.81N | 44.11E | ==> | 9.60 | 39.99543859 | -104.73453595 |
| 2900.00 | 12.06 | 11.600 | 2876.50 | 235.27N | 48.31E | ==> | 10.51 | 39.99549467 | -104.73452033 |
| 3000.00 | 12.06 | 11.600 | 2974.29 | 255.73N | 52.52E | ==> | 11.43 | 39.99555074 | -104.73450470 |
| 3100.00 | 12.06 | 11.600 | 3072.08 | 276.19N | 56.72E | ==> | 12.34 | 39.99560681 | -104.73448907 |
| 3200.00 | 12.06 | 11.600 | 3169.88 | 296.66N | 60.92E | ==> | 13.26 | 39.99566288 | -104.73447344 |

All data is in Feet unless otherwise stated
Coordinates are from Slot MD's are from Rig and TVD's are from Rig (Planned Datum #1 5068.0ft above Mean Sea Level)
Vertical Section is from 0.00N 0.00E on azimuth 284.110 degrees
Bottom hole distance is 4652.75 Feet on azimuth 284.11 degrees from Wellhead
Calculation method uses Minimum Curvature method
Prepared by IPT
Date Printed: 21-Feb-2018

| Interpolated Wellpath | | | | | | | | | |
|-----------------------|----------|----------|---------|-----------|----------|-----------------------|-------------------------|-----------------------------------|------------------------------------|
| MD[ft] | Inc[deg] | Azi[deg] | TVD[ft] | North[ft] | East[ft] | Dogleg [deg/100ft] | Vertical Section[ft] | Station Position (Latitude) | Station Position (Longitude) |
| 3300.00 | 12.06 | 11.600 | 3267.67 | 317.12N | 65.12E | ==> | 14.17 | 39.99571895 | -104.73445781 |
| 3400.00 | 12.06 | 11.600 | 3365.46 | 337.58N | 69.32E | ==> | 15.08 | 39.99577502 | -104.73444219 |
| 3500.00 | 12.06 | 11.600 | 3463.26 | 358.05N | 73.53E | ==> | 16.00 | 39.99583109 | -104.73442656 |
| 3600.00 | 12.06 | 11.600 | 3561.05 | 378.51N | 77.73E | ==> | 16.91 | 39.99588716 | -104.73441093 |
| 3700.00 | 12.06 | 11.600 | 3658.85 | 398.97N | 81.93E | ==> | 17.83 | 39.99594323 | -104.73439530 |
| 3800.00 | 12.06 | 11.600 | 3756.64 | 419.44N | 86.13E | ==> | 18.74 | 39.99599931 | -104.73437967 |
| 3900.00 | 12.06 | 11.600 | 3854.43 | 439.90N | 90.33E | ==> | 19.66 | 39.99605538 | -104.73436405 |
| 4000.00 | 12.06 | 11.600 | 3952.23 | 460.36N | 94.54E | ==> | 20.57 | 39.99611145 | -104.73434842 |
| 4100.00 | 12.06 | 11.600 | 4050.02 | 480.82N | 98.74E | ==> | 21.48 | 39.99616752 | -104.73433279 |
| 4200.00 | 12.06 | 11.600 | 4147.81 | 501.29N | 102.94E | ==> | 22.40 | 39.99622359 | -104.73431716 |
| 4300.00 | 12.06 | 11.600 | 4245.61 | 521.75N | 107.14E | ==> | 23.31 | 39.99627966 | -104.73430153 |
| 4400.00 | 12.06 | 11.600 | 4343.40 | 542.21N | 111.34E | ==> | 24.23 | 39.99633573 | -104.73428591 |
| 4500.00 | 12.06 | 11.600 | 4441.20 | 562.68N | 115.55E | ==> | 25.14 | 39.99639180 | -104.73427028 |
| 4600.00 | 12.06 | 11.600 | 4538.99 | 583.14N | 119.75E | ==> | 26.06 | 39.99644788 | -104.73425465 |
| 4700.00 | 12.06 | 11.600 | 4636.78 | 603.60N | 123.95E | ==> | 26.97 | 39.99650395 | -104.73423902 |
| 4800.00 | 12.06 | 11.600 | 4734.58 | 624.07N | 128.15E | ==> | 27.88 | 39.99656002 | -104.73422339 |
| 4900.00 | 12.06 | 11.600 | 4832.37 | 644.53N | 132.36E | ==> | 28.80 | 39.99661609 | -104.73420777 |
| 5000.00 | 12.06 | 11.600 | 4930.16 | 664.99N | 136.56E | ==> | 29.71 | 39.99667216 | -104.73419214 |
| 5100.00 | 12.06 | 11.600 | 5027.96 | 685.46N | 140.76E | ==> | 30.63 | 39.99672823 | -104.73417651 |
| 5200.00 | 12.06 | 11.600 | 5125.75 | 705.92N | 144.96E | ==> | 31.54 | 39.99678430 | -104.73416088 |
| 5300.00 | 12.06 | 11.600 | 5223.54 | 726.38N | 149.16E | ==> | 32.46 | 39.99684037 | -104.73414525 |
| 5400.00 | 12.06 | 11.600 | 5321.34 | 746.84N | 153.37E | ==> | 33.37 | 39.99689645 | -104.73412962 |
| 5500.00 | 12.06 | 11.600 | 5419.13 | 767.31N | 157.57E | ==> | 34.29 | 39.99695252 | -104.73411399 |
| 5600.00 | 12.06 | 11.600 | 5516.93 | 787.77N | 161.77E | ==> | 35.20 | 39.99700859 | -104.73409837 |
| 5700.00 | 12.06 | 11.600 | 5614.72 | 808.23N | 165.97E | ==> | 36.11 | 39.99706466 | -104.73408274 |
| 5800.00 | 12.06 | 11.600 | 5712.51 | 828.70N | 170.17E | ==> | 37.03 | 39.99712073 | -104.73406711 |
| 5900.00 | 12.06 | 11.600 | 5810.31 | 849.16N | 174.38E | ==> | 37.94 | 39.99717680 | -104.73405148 |
| 6000.00 | 12.06 | 11.600 | 5908.10 | 869.62N | 178.58E | ==> | 38.86 | 39.99723287 | -104.73403585 |
| 6100.00 | 12.06 | 11.600 | 6005.89 | 890.09N | 182.78E | ==> | 39.77 | 39.99728894 | -104.73402022 |
| 6200.00 | 12.06 | 11.600 | 6103.69 | 910.55N | 186.98E | ==> | 40.69 | 39.99734501 | -104.73400460 |
| 6300.00 | 12.06 | 11.600 | 6201.48 | 931.01N | 191.19E | ==> | 41.60 | 39.99740109 | -104.73398897 |
| 6400.00 | 12.06 | 11.600 | 6299.28 | 951.47N | 195.39E | ==> | 42.51 | 39.99745716 | -104.73397334 |
| 6500.00 | 12.06 | 11.600 | 6397.07 | 971.94N | 199.59E | ==> | 43.43 | 39.99751323 | -104.73395771 |
| 6600.00 | 12.06 | 11.600 | 6494.86 | 992.40N | 203.79E | ==> | 44.34 | 39.99756930 | -104.73394208 |
| 6700.00 | 12.06 | 11.600 | 6592.66 | 1012.86N | 207.99E | ==> | 45.26 | 39.99762537 | -104.73392645 |
| 6800.00 | 12.06 | 11.600 | 6690.45 | 1033.33N | 212.20E | ==> | 46.17 | 39.99768144 | -104.73391082 |
| 6900.00 | 12.06 | 11.600 | 6788.24 | 1053.79N | 216.40E | ==> | 47.09 | 39.99773751 | -104.73389519 |
| 7000.00 | 12.06 | 11.600 | 6886.04 | 1074.25N | 220.60E | ==> | 48.00 | 39.99779358 | -104.73387957 |
| 7100.00 | 11.79 | 358.560 | 6983.85 | 1094.71N | 224.27E | 12.00 | 49.43 | 39.99784966 | -104.73386394 |
| 7200.00 | 16.87 | 312.800 | 7081.00 | 1114.86N | 213.33E | 12.00 | 64.95 | 39.99790521 | -104.73390426 |
| 7300.00 | 26.72 | 293.800 | 7173.84 | 1133.86N | 182.00E | 12.00 | 99.97 | 39.99795811 | -104.73401550 |
| 7400.00 | 37.77 | 284.930 | 7258.34 | 1150.88N | 131.65E | 12.00 | 152.95 | 39.99800604 | -104.73419467 |
| 7500.00 | 49.23 | 279.670 | 7330.78 | 1165.19N | 64.49E | 12.00 | 221.58 | 39.99804689 | -104.73443395 |
| 7600.00 | 60.84 | 275.990 | 7388.00 | 1176.15N | 16.56W | 12.00 | 302.85 | 39.99807890 | -104.73472289 |
| 7700.00 | 72.54 | 273.070 | 7427.51 | 1183.28N | 107.95W | 12.00 | 393.22 | 39.99810065 | -104.73504884 |
| 7800.00 | 84.28 | 270.500 | 7447.57 | 1186.28N | 205.69W | 12.00 | 488.74 | 39.99811121 | -104.73539757 |
| 7900.00 | 90.00 | 269.300 | 7450.00 | 1185.58N | 305.60W | ==> | 585.46 | 39.99811163 | -104.73575420 |
| 8000.00 | 90.00 | 269.300 | 7450.00 | 1184.36N | 405.59W | ==> | 682.14 | 39.99811067 | -104.73611112 |
| 8100.00 | 90.00 | 269.300 | 7450.00 | 1183.15N | 505.59W | ==> | 778.82 | 39.99810970 | -104.73646805 |
| 8200.00 | 90.00 | 269.300 | 7450.00 | 1181.94N | 605.58W | ==> | 875.50 | 39.99810873 | -104.73682497 |
| 8300.00 | 90.00 | 269.300 | 7450.00 | 1180.72N | 705.57W | ==> | 972.18 | 39.99810776 | -104.73718189 |
| 8400.00 | 90.00 | 269.300 | 7450.00 | 1179.51N | 805.56W | ==> | 1068.86 | 39.99810679 | -104.73753881 |
| 8500.00 | 90.00 | 269.300 | 7450.00 | 1178.30N | 905.56W | ==> | 1165.53 | 39.99810582 | -104.73789574 |
| 8600.00 | 90.00 | 269.300 | 7450.00 | 1177.08N | 1005.55W | ==> | 1262.21 | 39.99810484 | -104.73825266 |
| 8700.00 | 90.00 | 269.300 | 7450.00 | 1175.87N | 1105.54W | ==> | 1358.89 | 39.99810387 | -104.73860958 |
| 8800.00 | 90.00 | 269.300 | 7450.00 | 1174.65N | 1205.53W | ==> | 1455.57 | 39.99810289 | -104.73896650 |
| 8900.00 | 90.00 | 269.300 | 7450.00 | 1173.44N | 1305.53W | ==> | 1552.25 | 39.99810192 | -104.73932342 |
| 9000.00 | 90.00 | 269.300 | 7450.00 | 1172.23N | 1405.52W | ==> | 1648.93 | 39.99810094 | -104.73968035 |

All data is in Feet unless otherwise stated
Coordinates are from Slot MD's are from Rig and TVD's are from Rig (Planned Datum #1 5068.0ft above Mean Sea Level)
Vertical Section is from 0.00N 0.00E on azimuth 284.110 degrees
Bottom hole distance is 4652.75 Feet on azimuth 284.11 degrees from Wellhead
Calculation method uses Minimum Curvature method
Prepared by IPT
Date Printed: 21-Feb-2018



SYSDRILL
Well Design Combined Report
Wellbore: W BEF West 20 (PWB)



| Interpolated Wellpath | | | | | | | | | |
|-----------------------|----------|----------|---------|-----------|----------|-----------------------|-------------------------|-----------------------------------|------------------------------------|
| MD[ft] | Inc[deg] | Azi[deg] | TVD[ft] | North[ft] | East[ft] | Dogleg [deg/100ft] | Vertical Section[ft] | Station Position (Latitude) | Station Position (Longitude) |
| 9100.00 | 90.00 | 269.300 | 7450.00 | 1171.01N | 1505.51W | ==> | 1745.61 | 39.99809996 | -104.74003727 |
| 9200.00 | 90.00 | 269.300 | 7450.00 | 1169.80N | 1605.50W | ==> | 1842.28 | 39.99809898 | -104.74039419 |
| 9300.00 | 90.00 | 269.300 | 7450.00 | 1168.58N | 1705.50W | ==> | 1938.96 | 39.99809800 | -104.74075111 |
| 9400.00 | 90.00 | 269.300 | 7450.00 | 1167.37N | 1805.49W | ==> | 2035.64 | 39.99809701 | -104.74110804 |
| 9500.00 | 90.00 | 269.300 | 7450.00 | 1166.16N | 1905.48W | ==> | 2132.32 | 39.99809603 | -104.74146496 |
| 9600.00 | 90.00 | 269.300 | 7450.00 | 1164.94N | 2005.47W | ==> | 2229.00 | 39.99809505 | -104.74182188 |
| 9700.00 | 90.00 | 269.300 | 7450.00 | 1163.73N | 2105.47W | ==> | 2325.68 | 39.99809406 | -104.74217880 |
| 9800.00 | 90.00 | 269.300 | 7450.00 | 1162.51N | 2205.46W | ==> | 2422.35 | 39.99809307 | -104.74253572 |
| 9900.00 | 90.00 | 269.300 | 7450.00 | 1161.30N | 2305.45W | ==> | 2519.03 | 39.99809209 | -104.74289265 |
| 10000.00 | 90.00 | 269.300 | 7450.00 | 1160.09N | 2405.45W | ==> | 2615.71 | 39.99809110 | -104.74324957 |
| 10100.00 | 90.00 | 269.300 | 7450.00 | 1158.87N | 2505.44W | ==> | 2712.39 | 39.99809011 | -104.74360649 |
| 10200.00 | 90.00 | 269.300 | 7450.00 | 1157.66N | 2605.43W | ==> | 2809.07 | 39.99808912 | -104.74396341 |
| 10300.00 | 90.00 | 269.300 | 7450.00 | 1156.45N | 2705.42W | ==> | 2905.75 | 39.99808812 | -104.74432034 |
| 10400.00 | 90.00 | 269.300 | 7450.00 | 1155.23N | 2805.42W | ==> | 3002.43 | 39.99808713 | -104.74467726 |
| 10500.00 | 90.00 | 269.300 | 7450.00 | 1154.02N | 2905.41W | ==> | 3099.10 | 39.99808613 | -104.74503418 |
| 10600.00 | 90.00 | 269.300 | 7450.00 | 1152.80N | 3005.40W | ==> | 3195.78 | 39.99808514 | -104.74539110 |
| 10700.00 | 90.00 | 269.300 | 7450.00 | 1151.59N | 3105.39W | ==> | 3292.46 | 39.99808414 | -104.74574802 |
| 10800.00 | 90.00 | 269.300 | 7450.00 | 1150.38N | 3205.39W | ==> | 3389.14 | 39.99808314 | -104.74610495 |
| 10900.00 | 90.00 | 269.300 | 7450.00 | 1149.16N | 3305.38W | ==> | 3485.82 | 39.99808215 | -104.74646187 |
| 11000.00 | 90.00 | 269.300 | 7450.00 | 1147.95N | 3405.37W | ==> | 3582.50 | 39.99808115 | -104.74681879 |
| 11100.00 | 90.00 | 269.300 | 7450.00 | 1146.73N | 3505.36W | ==> | 3679.18 | 39.99808014 | -104.74717571 |
| 11200.00 | 90.00 | 269.300 | 7450.00 | 1145.52N | 3605.36W | ==> | 3775.85 | 39.99807914 | -104.74753263 |
| 11300.00 | 90.00 | 269.300 | 7450.00 | 1144.31N | 3705.35W | ==> | 3872.53 | 39.99807814 | -104.74788956 |
| 11400.00 | 90.00 | 269.300 | 7450.00 | 1143.09N | 3805.34W | ==> | 3969.21 | 39.99807713 | -104.74824648 |
| 11500.00 | 90.00 | 269.300 | 7450.00 | 1141.88N | 3905.33W | ==> | 4065.89 | 39.99807613 | -104.74860340 |
| 11600.00 | 90.00 | 269.300 | 7450.00 | 1140.67N | 4005.33W | ==> | 4162.57 | 39.99807512 | -104.74896032 |
| 11700.00 | 90.00 | 269.300 | 7450.00 | 1139.45N | 4105.32W | ==> | 4259.25 | 39.99807411 | -104.74931724 |
| 11800.00 | 90.00 | 269.300 | 7450.00 | 1138.24N | 4205.31W | ==> | 4355.92 | 39.99807310 | -104.74967417 |
| 11900.00 | 90.00 | 269.300 | 7450.00 | 1137.02N | 4305.31W | ==> | 4452.60 | 39.99807209 | -104.75003109 |
| 12000.00 | 90.00 | 269.300 | 7450.00 | 1135.81N | 4405.30W | ==> | 4549.28 | 39.99807108 | -104.75038801 |
| 12100.00 | 90.00 | 269.300 | 7450.00 | 1134.60N | 4505.29W | ==> | 4645.96 | 39.99807007 | -104.75074493 |
| 12107.02 | 90.00 | 269.300 | 7450.00 | 1134.51N | 4512.31W | ==> | 4652.75 | 39.99807000 | -104.75077000 |

All data is in Feet unless otherwise stated
Coordinates are from Slot MD's are from Rig and TVD's are from Rig (Planned Datum #1 5068.0ft above Mean Sea Level)
Vertical Section is from 0.00N 0.00E on azimuth 284.110 degrees
Bottom hole distance is 4652.75 Feet on azimuth 284.11 degrees from Wellhead
Calculation method uses Minimum Curvature method
Prepared by IPT
Date Printed: 21-Feb-2018



SYS DRILL
Well Design Combined Report
Wellbore: W BEF West 20 (PWB)



| Targets | | | | | | | |
|-----------------|-----------|----------|---------|-------------|---------------|------------|------------|
| Name | North[ft] | East[ft] | TVD[ft] | Latitude | Longitude | Northing | Easting |
| BEF WEST 20 BHL | 1134.51N | 4512.31W | 7450.00 | 39.99807000 | -104.75077000 | 1243030.54 | 3209902.92 |
| BEF WEST 20 EP | 1186.20N | 164.34W | 7450.00 | 39.99811000 | -104.73525000 | 1243082.23 | 3214250.74 |

| Survey Tool Program | | | | | | |
|---------------------|-------------|----------|---------|---------------|-------------------|--|
| Reference | Survey Name | MD[ft] | TVD[ft] | Survey Tool | Error Model | |
| 577689 | Planned | 2000.00 | 1996.35 | WdW Rate Gyro | Standard | |
| 577688 | Planned | 12107.02 | 7450.00 | ISCWSA MWD | Rev 4 + SAG + FLT | |

| Notes |
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