

Petro Operating Company

Location Weld County, CO Slot BEF West 8
Field Wattenberg Well W BEF West 8
Installation Brighton East Farm Pad Wellbore W BEF West 8 (PWB)

Tie on - 0.00 Inc, 21.00 MD, 21.00 TVD, -0.00 VS

Scale 1 cm = 400 ft

East (Feet) ->

-5600 -4800 -4000 -3200 -2400 -1600 -800 -0 800 1600

3DS Kick off Point - 0.00 Inc, 1500.00 MD, 1500.00 TVD, -0.00 VS

Surface 0.00 N 0.00 E

BEF WEST 8 BHL

BEF WEST 8 EP

W BEF West 8 (PWB)

End of Build - 6.93 Inc, 1788.66 MD, 1787.96 TVD, -4.29 VS

WELL PROFILE DATA

| Point | MD | Inc | Azi | TVD | North | East | deg/100ft | V. Sect |
|-------------------------|----------|-------|--------|---------|----------|-----------|-----------|---------|
| Tie on | 21.00 | 0.00 | 0.00 | 21.00 | S 0.00 | W 0.00 | | -0.00 |
| KOP | 1500.00 | 0.00 | 156.57 | 1500.00 | S 0.00 | W 0.00 | 0.00 | -0.00 |
| End of Build | 1788.66 | 6.93 | 156.57 | 1787.96 | S 15.99 | E 6.93 | 2.40 | -4.29 |
| End of Hold | 7191.49 | 6.93 | 156.57 | 7151.34 | S 613.97 | E 266.02 | 0.00 | -164.66 |
| Target BEF WEST 8 EP | 7963.80 | 90.00 | 269.35 | 7648.00 | S 674.99 | W 210.27 | 12.00 | 315.26 |
| T.D. & Target BEF...BHL | 12228.11 | 90.00 | 269.35 | 7648.00 | S 723.10 | W 4474.30 | 0.00 | 4532.36 |

N
GRID

Oct-6-2017
EMM-2015 (2000.0-2020.0) Dip: 66.39 deg Field: 52108.9 nT
Lat: N39 59 33 9000 Long: W104 44 4 8840 Elev: 5047.00 ft
Magnetic North is 6.22 deg East of True North
GRID North is 0.49 deg East of True North
To correct azimuth from True to GRID subtract 0.49 deg
To correct azimuth from Magnetic to GRID add 7.72 deg

Created by admin
Date plotted 21-Feb-2018

Plot reference is W BEF West 8 (PWB).
Ref wellpath is W BEF West 8 (PWP#1).
Coordinates are in Feet reference BEF West 8.
True Vertical Depths are reference Rig Datum.
Measured Depths are reference Rig Datum.
Rig Datum: Planned Datum #1
Rig Datum to Mean Sea Level: 5068.00 ft.
Plot North is aligned to GRID North.

End of Hold - 6.93 Inc, 7191.49 MD, 7151.34 TVD, -164.66 VS

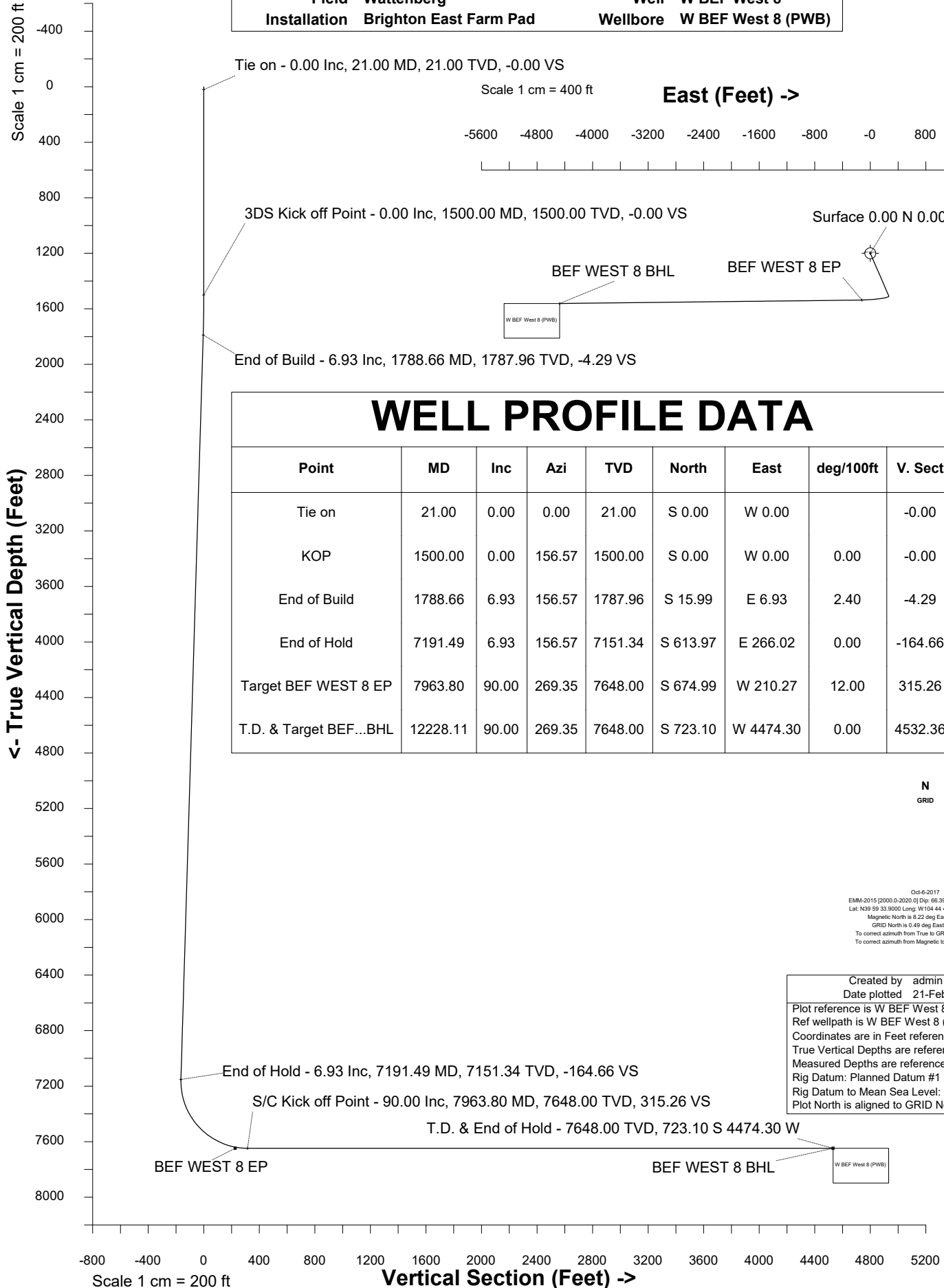
S/C Kick off Point - 90.00 Inc, 7963.80 MD, 7648.00 TVD, 315.26 VS

T.D. & End of Hold - 7648.00 TVD, 723.10 S 4474.30 W

BEF WEST 8 EP

BEF WEST 8 BHL

W BEF West 8 (PWB)



Azimuth 260.82 with reference 0.00 N, 0.00 E from BEF West 8



SYSDRILL
Well Design Combined Report
Wellbore: W BEF West 8 (PWB)



| Wellhead Details | | | | | | | |
|------------------|-------------|---------------|--------------|--------------|---------|-------|-----------------------------|
| Name | Latitude | Longitude | Northing | Easting | North | East | Slot Elevation Above Ground |
| BEF West 8 | 39.99332000 | -104.73469000 | 1241338.7763 | 3214422.6838 | 207.64N | 1.79W | 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 | 156.570 | 1500.00 | -3568.00 | 0.00N | 0.00E | ==> | 0.00 |
| 1788.66 | 6.93 | 156.570 | 1787.96 | -3280.04 | 15.99S | 6.93E | 2.40 | -4.29 |
| 7191.49 | 6.93 | 156.570 | 7151.34 | 2083.34 | 613.97S | 266.02E | ==> | -164.66 |
| 7963.80 | 90.00 | 269.350 | 7648.00 | 2580.00 | 674.99S | 210.27W | 12.00 | 315.26 |
| 12228.11 | 90.00 | 269.350 | 7648.00 | 2580.00 | 723.10S | 4474.30W | ==> | 4532.36 |

| 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 | 39.99332000 | -104.73469000 |
| 21.00 | 0.00 | 0.000 | 21.00 | 0.00N | 0.00E | ==> | 0.00 | 39.99332000 | -104.73469000 |
| 100.00 | 0.00 | 0.000 | 100.00 | 0.00N | 0.00E | ==> | 0.00 | 39.99332000 | -104.73469000 |
| 200.00 | 0.00 | 0.000 | 200.00 | 0.00N | 0.00E | ==> | 0.00 | 39.99332000 | -104.73469000 |
| 300.00 | 0.00 | 0.000 | 300.00 | 0.00N | 0.00E | ==> | 0.00 | 39.99332000 | -104.73469000 |
| 400.00 | 0.00 | 0.000 | 400.00 | 0.00N | 0.00E | ==> | 0.00 | 39.99332000 | -104.73469000 |
| 500.00 | 0.00 | 0.000 | 500.00 | 0.00N | 0.00E | ==> | 0.00 | 39.99332000 | -104.73469000 |
| 600.00 | 0.00 | 0.000 | 600.00 | 0.00N | 0.00E | ==> | 0.00 | 39.99332000 | -104.73469000 |
| 700.00 | 0.00 | 0.000 | 700.00 | 0.00N | 0.00E | ==> | 0.00 | 39.99332000 | -104.73469000 |
| 800.00 | 0.00 | 0.000 | 800.00 | 0.00N | 0.00E | ==> | 0.00 | 39.99332000 | -104.73469000 |
| 900.00 | 0.00 | 0.000 | 900.00 | 0.00N | 0.00E | ==> | 0.00 | 39.99332000 | -104.73469000 |
| 1000.00 | 0.00 | 0.000 | 1000.00 | 0.00N | 0.00E | ==> | 0.00 | 39.99332000 | -104.73469000 |
| 1100.00 | 0.00 | 0.000 | 1100.00 | 0.00N | 0.00E | ==> | 0.00 | 39.99332000 | -104.73469000 |
| 1200.00 | 0.00 | 0.000 | 1200.00 | 0.00N | 0.00E | ==> | 0.00 | 39.99332000 | -104.73469000 |
| 1300.00 | 0.00 | 0.000 | 1300.00 | 0.00N | 0.00E | ==> | 0.00 | 39.99332000 | -104.73469000 |
| 1400.00 | 0.00 | 0.000 | 1400.00 | 0.00N | 0.00E | ==> | 0.00 | 39.99332000 | -104.73469000 |
| 1500.00 | 0.00 | 156.570 | 1500.00 | 0.00N | 0.00E | ==> | 0.00 | 39.99332000 | -104.73469000 |
| 1600.00 | 2.40 | 156.570 | 1599.97 | 1.92S | 0.83E | 2.40 | -0.52 | 39.99331471 | -104.73468709 |
| 1700.00 | 4.80 | 156.570 | 1699.77 | 7.68S | 3.33E | 2.40 | -2.06 | 39.99329883 | -104.73467836 |
| 1800.00 | 6.93 | 156.570 | 1799.21 | 17.25S | 7.47E | ==> | -4.63 | 39.99327248 | -104.73466386 |
| 1900.00 | 6.93 | 156.570 | 1898.48 | 28.32S | 12.27E | ==> | -7.59 | 39.99324198 | -104.73464709 |
| 2000.00 | 6.93 | 156.570 | 1997.75 | 39.38S | 17.06E | ==> | -10.56 | 39.99321149 | -104.73463031 |
| 2100.00 | 6.93 | 156.570 | 2097.02 | 50.45S | 21.86E | ==> | -13.53 | 39.99318099 | -104.73461354 |
| 2200.00 | 6.93 | 156.570 | 2196.29 | 61.52S | 26.65E | ==> | -16.50 | 39.99315050 | -104.73459677 |
| 2300.00 | 6.93 | 156.570 | 2295.56 | 72.59S | 31.45E | ==> | -19.47 | 39.99312000 | -104.73457999 |
| 2400.00 | 6.93 | 156.570 | 2394.83 | 83.66S | 36.25E | ==> | -22.43 | 39.99308951 | -104.73456322 |
| 2500.00 | 6.93 | 156.570 | 2494.10 | 94.72S | 41.04E | ==> | -25.40 | 39.99305901 | -104.73454645 |
| 2600.00 | 6.93 | 156.570 | 2593.37 | 105.79S | 45.84E | ==> | -28.37 | 39.99302852 | -104.73452967 |
| 2700.00 | 6.93 | 156.570 | 2692.64 | 116.86S | 50.63E | ==> | -31.34 | 39.99299802 | -104.73451290 |
| 2800.00 | 6.93 | 156.570 | 2791.91 | 127.93S | 55.43E | ==> | -34.31 | 39.99296753 | -104.73449613 |
| 2900.00 | 6.93 | 156.570 | 2891.18 | 139.00S | 60.22E | ==> | -37.28 | 39.99293703 | -104.73447936 |
| 3000.00 | 6.93 | 156.570 | 2990.45 | 150.06S | 65.02E | ==> | -40.24 | 39.99290654 | -104.73446258 |
| 3100.00 | 6.93 | 156.570 | 3089.72 | 161.13S | 69.81E | ==> | -43.21 | 39.99287604 | -104.73444581 |
| 3200.00 | 6.93 | 156.570 | 3188.99 | 172.20S | 74.61E | ==> | -46.18 | 39.99284555 | -104.73442904 |

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 260.820 degrees
Bottom hole distance is 4532.36 Feet on azimuth 260.82 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 | 6.93 | 156.570 | 3288.26 | 183.27S | 79.40E | ==> | -49.15 | 39.99281505 | -104.73441226 |
| 3400.00 | 6.93 | 156.570 | 3387.53 | 194.34S | 84.20E | ==> | -52.12 | 39.99278456 | -104.73439549 |
| 3500.00 | 6.93 | 156.570 | 3486.80 | 205.40S | 89.00E | ==> | -55.09 | 39.99275406 | -104.73437872 |
| 3600.00 | 6.93 | 156.570 | 3586.07 | 216.47S | 93.79E | ==> | -58.05 | 39.99272357 | -104.73436194 |
| 3700.00 | 6.93 | 156.570 | 3685.34 | 227.54S | 98.59E | ==> | -61.02 | 39.99269307 | -104.73434517 |
| 3800.00 | 6.93 | 156.570 | 3784.61 | 238.61S | 103.38E | ==> | -63.99 | 39.99266258 | -104.73432840 |
| 3900.00 | 6.93 | 156.570 | 3883.88 | 249.67S | 108.18E | ==> | -66.96 | 39.99263208 | -104.73431163 |
| 4000.00 | 6.93 | 156.570 | 3983.15 | 260.74S | 112.97E | ==> | -69.93 | 39.99260159 | -104.73429485 |
| 4100.00 | 6.93 | 156.570 | 4082.42 | 271.81S | 117.77E | ==> | -72.89 | 39.99257109 | -104.73427808 |
| 4200.00 | 6.93 | 156.570 | 4181.69 | 282.88S | 122.56E | ==> | -75.86 | 39.99254060 | -104.73426131 |
| 4300.00 | 6.93 | 156.570 | 4280.96 | 293.95S | 127.36E | ==> | -78.83 | 39.99251010 | -104.73424453 |
| 4400.00 | 6.93 | 156.570 | 4380.23 | 305.01S | 132.15E | ==> | -81.80 | 39.99247961 | -104.73422776 |
| 4500.00 | 6.93 | 156.570 | 4479.50 | 316.08S | 136.95E | ==> | -84.77 | 39.99244911 | -104.73421099 |
| 4600.00 | 6.93 | 156.570 | 4578.77 | 327.15S | 141.74E | ==> | -87.74 | 39.99241862 | -104.73419422 |
| 4700.00 | 6.93 | 156.570 | 4678.04 | 338.22S | 146.54E | ==> | -90.70 | 39.99238812 | -104.73417744 |
| 4800.00 | 6.93 | 156.570 | 4777.31 | 349.29S | 151.34E | ==> | -93.67 | 39.99235763 | -104.73416067 |
| 4900.00 | 6.93 | 156.570 | 4876.58 | 360.35S | 156.13E | ==> | -96.64 | 39.99232713 | -104.73414390 |
| 5000.00 | 6.93 | 156.570 | 4975.85 | 371.42S | 160.93E | ==> | -99.61 | 39.99229664 | -104.73412712 |
| 5100.00 | 6.93 | 156.570 | 5075.12 | 382.49S | 165.72E | ==> | -102.58 | 39.99226614 | -104.73411035 |
| 5200.00 | 6.93 | 156.570 | 5174.39 | 393.56S | 170.52E | ==> | -105.54 | 39.99223565 | -104.73409358 |
| 5300.00 | 6.93 | 156.570 | 5273.66 | 404.63S | 175.31E | ==> | -108.51 | 39.99220515 | -104.73407681 |
| 5400.00 | 6.93 | 156.570 | 5372.93 | 415.69S | 180.11E | ==> | -111.48 | 39.99217466 | -104.73406003 |
| 5500.00 | 6.93 | 156.570 | 5472.20 | 426.76S | 184.90E | ==> | -114.45 | 39.99214416 | -104.73404326 |
| 5600.00 | 6.93 | 156.570 | 5571.47 | 437.83S | 189.70E | ==> | -117.42 | 39.99211367 | -104.73402649 |
| 5700.00 | 6.93 | 156.570 | 5670.74 | 448.90S | 194.49E | ==> | -120.39 | 39.99208317 | -104.73400972 |
| 5800.00 | 6.93 | 156.570 | 5770.01 | 459.97S | 199.29E | ==> | -123.35 | 39.99205268 | -104.73399294 |
| 5900.00 | 6.93 | 156.570 | 5869.28 | 471.03S | 204.09E | ==> | -126.32 | 39.99202218 | -104.73397617 |
| 6000.00 | 6.93 | 156.570 | 5968.55 | 482.10S | 208.88E | ==> | -129.29 | 39.99199169 | -104.73395940 |
| 6100.00 | 6.93 | 156.570 | 6067.82 | 493.17S | 213.68E | ==> | -132.26 | 39.99196119 | -104.73394263 |
| 6200.00 | 6.93 | 156.570 | 6167.09 | 504.24S | 218.47E | ==> | -135.23 | 39.99193070 | -104.73392585 |
| 6300.00 | 6.93 | 156.570 | 6266.36 | 515.31S | 223.27E | ==> | -138.19 | 39.99190020 | -104.73390908 |
| 6400.00 | 6.93 | 156.570 | 6365.63 | 526.37S | 228.06E | ==> | -141.16 | 39.99186971 | -104.73389231 |
| 6500.00 | 6.93 | 156.570 | 6464.90 | 537.44S | 232.86E | ==> | -144.13 | 39.99183921 | -104.73387554 |
| 6600.00 | 6.93 | 156.570 | 6564.17 | 548.51S | 237.65E | ==> | -147.10 | 39.99180872 | -104.73385876 |
| 6700.00 | 6.93 | 156.570 | 6663.44 | 559.58S | 242.45E | ==> | -150.07 | 39.99177822 | -104.73384199 |
| 6800.00 | 6.93 | 156.570 | 6762.71 | 570.64S | 247.24E | ==> | -153.04 | 39.99174772 | -104.73382522 |
| 6900.00 | 6.93 | 156.570 | 6861.98 | 581.71S | 252.04E | ==> | -156.00 | 39.99171723 | -104.73380845 |
| 7000.00 | 6.93 | 156.570 | 6961.25 | 592.78S | 256.83E | ==> | -158.97 | 39.99168673 | -104.73379167 |
| 7100.00 | 6.93 | 156.570 | 7060.52 | 603.85S | 261.63E | ==> | -161.94 | 39.99165624 | -104.73377490 |
| 7200.00 | 6.60 | 164.800 | 7159.79 | 614.92S | 266.35E | 12.00 | -164.83 | 39.99162574 | -104.73375840 |
| 7300.00 | 12.14 | 237.970 | 7258.70 | 626.08S | 258.91E | 12.00 | -155.71 | 39.99159527 | -104.73378528 |
| 7400.00 | 23.20 | 254.200 | 7353.89 | 637.06S | 230.95E | 12.00 | -126.35 | 39.99156579 | -104.73388542 |
| 7500.00 | 34.86 | 260.100 | 7441.19 | 647.38S | 183.67E | 12.00 | -78.04 | 39.99153860 | -104.73405446 |
| 7600.00 | 46.68 | 263.290 | 7516.80 | 656.58S | 119.15E | 12.00 | -12.88 | 39.99151488 | -104.73428499 |
| 7700.00 | 58.56 | 265.430 | 7577.40 | 664.26S | 40.21E | 12.00 | 66.28 | 39.99149567 | -104.73456696 |
| 7800.00 | 70.47 | 267.080 | 7620.35 | 670.08S | 49.71W | 12.00 | 155.98 | 39.99148180 | -104.73488803 |
| 7900.00 | 82.39 | 268.500 | 7643.77 | 673.80S | 146.67W | 12.00 | 252.29 | 39.99147390 | -104.73523417 |
| 8000.00 | 90.00 | 269.350 | 7648.00 | 675.40S | 246.46W | ==> | 351.06 | 39.99147187 | -104.73559038 |
| 8100.00 | 90.00 | 269.350 | 7648.00 | 676.53S | 346.46W | ==> | 449.95 | 39.99147114 | -104.73594727 |
| 8200.00 | 90.00 | 269.350 | 7648.00 | 677.66S | 446.45W | ==> | 548.85 | 39.99147040 | -104.73630415 |
| 8300.00 | 90.00 | 269.350 | 7648.00 | 678.79S | 546.45W | ==> | 647.74 | 39.99146967 | -104.73666104 |
| 8400.00 | 90.00 | 269.350 | 7648.00 | 679.91S | 646.44W | ==> | 746.63 | 39.99146894 | -104.73701793 |
| 8500.00 | 90.00 | 269.350 | 7648.00 | 681.04S | 746.43W | ==> | 845.53 | 39.99146820 | -104.73737482 |
| 8600.00 | 90.00 | 269.350 | 7648.00 | 682.17S | 846.43W | ==> | 944.42 | 39.99146746 | -104.73773171 |
| 8700.00 | 90.00 | 269.350 | 7648.00 | 683.30S | 946.42W | ==> | 1043.31 | 39.99146673 | -104.73808860 |
| 8800.00 | 90.00 | 269.350 | 7648.00 | 684.43S | 1046.41W | ==> | 1142.20 | 39.99146599 | -104.73844549 |
| 8900.00 | 90.00 | 269.350 | 7648.00 | 685.55S | 1146.41W | ==> | 1241.10 | 39.99146525 | -104.73880237 |
| 9000.00 | 90.00 | 269.350 | 7648.00 | 686.68S | 1246.40W | ==> | 1339.99 | 39.99146451 | -104.73915926 |

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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 260.820 degrees
Bottom hole distance is 4532.36 Feet on azimuth 260.82 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 8 (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 | 269.350 | 7648.00 | 687.81S | 1346.39W | ==> | 1438.88 | 39.99146377 | -104.73951615 |
| 9200.00 | 90.00 | 269.350 | 7648.00 | 688.94S | 1446.39W | ==> | 1537.78 | 39.99146302 | -104.73987304 |
| 9300.00 | 90.00 | 269.350 | 7648.00 | 690.07S | 1546.38W | ==> | 1636.67 | 39.99146228 | -104.74022993 |
| 9400.00 | 90.00 | 269.350 | 7648.00 | 691.19S | 1646.38W | ==> | 1735.56 | 39.99146153 | -104.74058682 |
| 9500.00 | 90.00 | 269.350 | 7648.00 | 692.32S | 1746.37W | ==> | 1834.45 | 39.99146079 | -104.74094371 |
| 9600.00 | 90.00 | 269.350 | 7648.00 | 693.45S | 1846.36W | ==> | 1933.35 | 39.99146004 | -104.74130059 |
| 9700.00 | 90.00 | 269.350 | 7648.00 | 694.58S | 1946.36W | ==> | 2032.24 | 39.99145929 | -104.74165748 |
| 9800.00 | 90.00 | 269.350 | 7648.00 | 695.71S | 2046.35W | ==> | 2131.13 | 39.99145854 | -104.74201437 |
| 9900.00 | 90.00 | 269.350 | 7648.00 | 696.83S | 2146.34W | ==> | 2230.03 | 39.99145779 | -104.74237126 |
| 10000.00 | 90.00 | 269.350 | 7648.00 | 697.96S | 2246.34W | ==> | 2328.92 | 39.99145704 | -104.74272815 |
| 10100.00 | 90.00 | 269.350 | 7648.00 | 699.09S | 2346.33W | ==> | 2427.81 | 39.99145629 | -104.74308504 |
| 10200.00 | 90.00 | 269.350 | 7648.00 | 700.22S | 2446.32W | ==> | 2526.70 | 39.99145553 | -104.74344193 |
| 10300.00 | 90.00 | 269.350 | 7648.00 | 701.35S | 2546.32W | ==> | 2625.60 | 39.99145478 | -104.74379881 |
| 10400.00 | 90.00 | 269.350 | 7648.00 | 702.47S | 2646.31W | ==> | 2724.49 | 39.99145402 | -104.74415570 |
| 10500.00 | 90.00 | 269.350 | 7648.00 | 703.60S | 2746.31W | ==> | 2823.38 | 39.99145326 | -104.74451259 |
| 10600.00 | 90.00 | 269.350 | 7648.00 | 704.73S | 2846.30W | ==> | 2922.28 | 39.99145250 | -104.74486948 |
| 10700.00 | 90.00 | 269.350 | 7648.00 | 705.86S | 2946.29W | ==> | 3021.17 | 39.99145174 | -104.74522637 |
| 10800.00 | 90.00 | 269.350 | 7648.00 | 706.99S | 3046.29W | ==> | 3120.06 | 39.99145098 | -104.74558326 |
| 10900.00 | 90.00 | 269.350 | 7648.00 | 708.11S | 3146.28W | ==> | 3218.95 | 39.99145022 | -104.74594014 |
| 11000.00 | 90.00 | 269.350 | 7648.00 | 709.24S | 3246.27W | ==> | 3317.85 | 39.99144946 | -104.74629703 |
| 11100.00 | 90.00 | 269.350 | 7648.00 | 710.37S | 3346.27W | ==> | 3416.74 | 39.99144870 | -104.74665392 |
| 11200.00 | 90.00 | 269.350 | 7648.00 | 711.50S | 3446.26W | ==> | 3515.63 | 39.99144793 | -104.74701081 |
| 11300.00 | 90.00 | 269.350 | 7648.00 | 712.63S | 3546.25W | ==> | 3614.52 | 39.99144716 | -104.74736770 |
| 11400.00 | 90.00 | 269.350 | 7648.00 | 713.75S | 3646.25W | ==> | 3713.42 | 39.99144640 | -104.74772459 |
| 11500.00 | 90.00 | 269.350 | 7648.00 | 714.88S | 3746.24W | ==> | 3812.31 | 39.99144563 | -104.74808147 |
| 11600.00 | 90.00 | 269.350 | 7648.00 | 716.01S | 3846.24W | ==> | 3911.20 | 39.99144486 | -104.74843836 |
| 11700.00 | 90.00 | 269.350 | 7648.00 | 717.14S | 3946.23W | ==> | 4010.10 | 39.99144409 | -104.74879525 |
| 11800.00 | 90.00 | 269.350 | 7648.00 | 718.27S | 4046.22W | ==> | 4108.99 | 39.99144332 | -104.74915214 |
| 11900.00 | 90.00 | 269.350 | 7648.00 | 719.40S | 4146.22W | ==> | 4207.88 | 39.99144254 | -104.74950903 |
| 12000.00 | 90.00 | 269.350 | 7648.00 | 720.52S | 4246.21W | ==> | 4306.77 | 39.99144177 | -104.74986592 |
| 12100.00 | 90.00 | 269.350 | 7648.00 | 721.65S | 4346.20W | ==> | 4405.67 | 39.99144099 | -104.75022280 |
| 12200.00 | 90.00 | 269.350 | 7648.00 | 722.78S | 4446.20W | ==> | 4504.56 | 39.99144022 | -104.75057969 |
| 12228.11 | 90.00 | 269.350 | 7648.00 | 723.10S | 4474.30W | ==> | 4532.36 | 39.99144000 | -104.75068000 |

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 260.820 degrees
Bottom hole distance is 4532.36 Feet on azimuth 260.82 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 8 (PWB)



| Targets | | | | | | | |
|----------------|-----------|----------|---------|-------------|---------------|------------|------------|
| Name | North[ft] | East[ft] | TVD[ft] | Latitude | Longitude | Northing | Easting |
| BEF WEST 8 BHL | 723.10S | 4474.30W | 7648.00 | 39.99144000 | -104.75068000 | 1240615.71 | 3209948.54 |
| BEF WEST 8 EP | 674.99S | 120.27W | 7648.00 | 39.99147000 | -104.73514000 | 1240663.81 | 3214302.42 |

| Survey Tool Program | | | | | | |
|---------------------|-------------|----------|---------|---------------|-------------------|--|
| Reference | Survey Name | MD[ft] | TVD[ft] | Survey Tool | Error Model | |
| 577605 | Planned | 2000.00 | 1997.75 | WdW Rate Gyro | Standard | |
| 577604 | Planned | 12228.11 | 7648.00 | ISCWSA MWD | Rev 4 + SAG + FLT | |

| Notes |
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