

BAYSWATER E & P, LLC

| | | | |
|--------------|-----------------|----------|---------------------------|
| Location | Weld County, CO | Slot | Leffler J-26-28HN |
| Field | WATTENBERG | Well | W Leffler J-26-28HN |
| Installation | Leffler Pad | Wellbore | W Leffler J-26-28HN (PWB) |

N

TRUE

Scale 1 cm = 800 ft

East (Feet) ->

-12800 -11200 -9600 -8000 -6400 -4800 -3200 -1600 0 1600

1600

Scale 1 cm = 800 ft
-< North(Feet)

0

1600

-3200

Surface 0.00 N 0.00 E

Leffler J-26-28HN - BH

Leffler J-26-28HN - EP

W Leffler J-26-28HN (PWB)

WELL PROFILE DATA

| Point | MD | Inc | Azi | TVD | North | East | deg/100ft | V. Sect |
|-------------------------|----------|-------|--------|---------|-----------|------------|-----------|----------|
| Tie on | 25.00 | 0.00 | 0.00 | 25.00 | S 0.00 | W 0.00 | | -0.00 |
| KOP | 1025.00 | 0.00 | 169.54 | 1025.00 | S 0.00 | W 0.00 | 0.00 | -0.00 |
| End of Build | 1943.52 | 18.37 | 169.54 | 1927.86 | S 143.56 | E 26.51 | 2.00 | -0.82 |
| End of Hold | 6937.81 | 18.37 | 169.54 | 6667.64 | S 1691.38 | E 312.37 | 0.00 | -9.71 |
| Target Leffle...N - EP | 7870.29 | 90.11 | 269.57 | 7242.00 | S 1883.91 | W 259.29 | 10.00 | 586.93 |
| T.D. & Target Lef... BH | 18599.21 | 90.11 | 269.57 | 7222.00 | S 1965.25 | W 10987.89 | 0.00 | 11162.25 |

Jul-30-2018

EMM-2015 [2000.0-2020.0] Dip: 66.99 deg Field: 52394.0 nT

Lat: N40 33 10.0548 Long: W104 45 12.7260 Elev: 0.00 ft

Magnetic North is 8.06 deg East of TRUE North

To correct azimuth from Magnetic to TRUE add 8.06 deg

Scale 1 cm = 400 ft

-< True Vertical Depth (Feet)

-800

0

800

1600

2400

3200

4000

4800

5600

6400

7200

8000

Tie on - 0.00 Inc, 25.00 MD, 25.00 TVD, -0.00 VS

3DS Kick off Point - 0.00 Inc, 1025.00 MD, 1025.00 TVD, -0.00 VS

End of Build - 18.37 Inc, 1943.52 MD, 1927.86 TVD, -0.82 VS

End of Hold - 18.37 Inc, 6937.81 MD, 6667.64 TVD, -9.71 VS

Leffler J-26-28HN - EP

S/C Kick off Point - 90.11 Inc, 7870.29 MD, 7242.00 TVD, 586.93 VS

Created by admin
Date plotted 11-Oct-2018
Plot reference is W Leffler J-26-28HN (PWB).
Ref wellpath is W Leffler J-26-28HN (PWP#1).
Coordinates are in Feet reference Leffler J-26-28HN.
True Vertical Depths are reference Rig Datum.
Measured Depths are reference Rig Datum.
Rig Datum: Planned Datum #1
Rig Datum to Mean Sea Level: 4922.00 ft.
Plot North is aligned to TRUE North.

Leffler J-26-28HN - BH

T.D. & End of Hold - 7222.00 TVD, 1965.25 S 10987.89 W

W Leffler J-26-28HN (PWB)

-800 -0 800 1600 2400 3200 4000 4800 5600 6400 7200 8000 8800 9600 10400 11200 12000

Scale 1 cm = 400 ft

Vertical Section (Feet) ->

Azimuth 259.86 with reference 0.00 N, 0.00 E from Leffler J-26-28HN



SYSDRILL
Well Design Combined Report
Wellbore: W Leffler J-26-28HN (PWB)



Wellhead Details

| Name | Latitude | Longitude | Northing | Easting | North | East | Slot Elevation Above Ground |
|-------------------|-------------|---------------|--------------|--------------|--------|--------|-----------------------------|
| Leffler J-26-28HN | 40.55265900 | -104.75331700 | 1445048.1618 | 3207488.1993 | 48.82S | 60.58E | 0.00 |

Declination

| Date | Source | Time |
|-------------|--------------------------|-------|
| Jul-30-2018 | EMM-2015 [2000.0-2020.0] | 11:39 |

Installation Details

| Name | Installation Position (Latitude) | Installation Position (Longitude) | Northing | Easting | Coord System Name | North Alignment |
|-------------|----------------------------------|-----------------------------------|--------------|--------------|--|-----------------|
| Leffler Pad | 40.55279300 | -104.75353500 | 1445096.4676 | 3207427.2119 | CO83-NF on NORTH AMERICAN DATUM 1983 datum | True |

Summary Wellpath

| MD[ft] | Inc[deg] | Azi[deg] | TVD[ft] | North[ft] | East[ft] | Dogleg [deg/100ft] | Vertical Section[ft] | Northing | Easting |
|----------|----------|----------|---------|-----------|-----------|--------------------|----------------------|------------|------------|
| 25.00 | 0.00 | 0.000 | 25.00 | 0.00N | 0.00E | | 0.00 | 1445048.16 | 3207488.20 |
| 1025.00 | 0.00 | 169.540 | 1025.00 | 0.00N | 0.00E | ==> | 0.00 | 1445048.16 | 3207488.20 |
| 1943.52 | 18.37 | 169.540 | 1927.86 | 143.56S | 26.51E | 2.00 | -0.82 | 1444904.83 | 3207515.92 |
| 6937.81 | 18.37 | 169.540 | 6667.64 | 1691.38S | 312.37E | ==> | -9.71 | 1443359.53 | 3207814.79 |
| 7870.29 | 90.11 | 269.570 | 7242.00 | 1883.91S | 259.29W | 10.00 | 586.93 | 1443162.20 | 3207244.79 |
| 18599.21 | 90.11 | 269.570 | 7222.00 | 1965.25S | 10987.89W | ==> | 11162.25 | 1442990.52 | 3196517.59 |

Interpolated Wellpath

| MD[ft] | Inc[deg] | Azi[deg] | TVD[ft] | North[ft] | East[ft] | Dogleg [deg/100ft] | Vertical Section[ft] | All Station Comments |
|---------|----------|----------|---------|-----------|----------|--------------------|----------------------|----------------------|
| 0.00 | 0.00 | 0.000 | 0.00 | 0.00N | 0.00E | | 0.00 | Rig Datum |
| 25.00 | 0.00 | 0.000 | 25.00 | 0.00N | 0.00E | ==> | 0.00 | Slot Datum |
| 100.00 | 0.00 | 0.000 | 100.00 | 0.00N | 0.00E | ==> | 0.00 | |
| 200.00 | 0.00 | 0.000 | 200.00 | 0.00N | 0.00E | ==> | 0.00 | |
| 300.00 | 0.00 | 0.000 | 300.00 | 0.00N | 0.00E | ==> | 0.00 | |
| 400.00 | 0.00 | 0.000 | 400.00 | 0.00N | 0.00E | ==> | 0.00 | |
| 500.00 | 0.00 | 0.000 | 500.00 | 0.00N | 0.00E | ==> | 0.00 | |
| 600.00 | 0.00 | 0.000 | 600.00 | 0.00N | 0.00E | ==> | 0.00 | |
| 700.00 | 0.00 | 0.000 | 700.00 | 0.00N | 0.00E | ==> | 0.00 | |
| 800.00 | 0.00 | 0.000 | 800.00 | 0.00N | 0.00E | ==> | 0.00 | |
| 900.00 | 0.00 | 0.000 | 900.00 | 0.00N | 0.00E | ==> | 0.00 | |
| 1000.00 | 0.00 | 0.000 | 1000.00 | 0.00N | 0.00E | ==> | 0.00 | |
| 1100.00 | 1.50 | 169.540 | 1099.99 | 0.97S | 0.18E | 2.00 | -0.01 | |
| 1200.00 | 3.50 | 169.540 | 1199.89 | 5.25S | 0.97E | 2.00 | -0.03 | |
| 1300.00 | 5.50 | 169.540 | 1299.58 | 12.97S | 2.40E | 2.00 | -0.07 | |
| 1400.00 | 7.50 | 169.540 | 1398.93 | 24.10S | 4.45E | 2.00 | -0.14 | |
| 1500.00 | 9.50 | 169.540 | 1497.83 | 38.64S | 7.14E | 2.00 | -0.22 | |
| 1600.00 | 11.50 | 169.540 | 1596.15 | 56.56S | 10.44E | 2.00 | -0.32 | |
| 1700.00 | 13.50 | 169.540 | 1693.77 | 77.84S | 14.38E | 2.00 | -0.45 | |
| 1800.00 | 15.50 | 169.540 | 1790.58 | 102.46S | 18.92E | 2.00 | -0.59 | |
| 1900.00 | 17.50 | 169.540 | 1886.46 | 130.39S | 24.08E | 2.00 | -0.75 | |
| 2000.00 | 18.37 | 169.540 | 1981.47 | 161.07S | 29.75E | ==> | -0.92 | |
| 2100.00 | 18.37 | 169.540 | 2076.37 | 192.06S | 35.47E | ==> | -1.10 | |
| 2200.00 | 18.37 | 169.540 | 2171.27 | 223.05S | 41.19E | ==> | -1.28 | |
| 2300.00 | 18.37 | 169.540 | 2266.18 | 254.04S | 46.92E | ==> | -1.46 | |
| 2400.00 | 18.37 | 169.540 | 2361.08 | 285.04S | 52.64E | ==> | -1.64 | |
| 2500.00 | 18.37 | 169.540 | 2455.98 | 316.03S | 58.37E | ==> | -1.81 | |
| 2600.00 | 18.37 | 169.540 | 2550.89 | 347.02S | 64.09E | ==> | -1.99 | |
| 2700.00 | 18.37 | 169.540 | 2645.79 | 378.01S | 69.81E | ==> | -2.17 | |
| 2800.00 | 18.37 | 169.540 | 2740.70 | 409.00S | 75.54E | ==> | -2.35 | |
| 2900.00 | 18.37 | 169.540 | 2835.60 | 439.99S | 81.26E | ==> | -2.52 | |
| 3000.00 | 18.37 | 169.540 | 2930.50 | 470.99S | 86.98E | ==> | -2.70 | |
| 3100.00 | 18.37 | 169.540 | 3025.41 | 501.98S | 92.71E | ==> | -2.88 | |

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 4922.0ft above Mean Sea Level)
Vertical Section is from 0.00N 0.00E on azimuth 259.860 degrees
Bottom hole distance is 11162.25 Feet on azimuth 259.86 degrees from Wellhead
Calculation method uses Minimum Curvature method
Prepared by Microsoft
Date Printed: 11-Oct-2018



SYSDRILL
Well Design Combined Report
Wellbore: W Leffler J-26-28HN (PWB)



| Interpolated Wellpath | | | | | | | | |
|-----------------------|----------|----------|---------|-----------|----------|-----------------------|-------------------------|-------------------------|
| MD[ft] | Inc[deg] | Azi[deg] | TVD[ft] | North[ft] | East[ft] | Dogleg [deg/100ft] | Vertical Section[ft] | All Station Comments |
| 3200.00 | 18.37 | 169.540 | 3120.31 | 532.97S | 98.43E | ==> | -3.06 | |
| 3300.00 | 18.37 | 169.540 | 3215.22 | 563.96S | 104.16E | ==> | -3.24 | |
| | | | | | | | | |
| 3400.00 | 18.37 | 169.540 | 3310.12 | 594.95S | 109.88E | ==> | -3.41 | |
| 3500.00 | 18.37 | 169.540 | 3405.02 | 625.94S | 115.60E | ==> | -3.59 | |
| 3600.00 | 18.37 | 169.540 | 3499.93 | 656.94S | 121.33E | ==> | -3.77 | |
| 3700.00 | 18.37 | 169.540 | 3594.83 | 687.93S | 127.05E | ==> | -3.95 | |
| 3800.00 | 18.37 | 169.540 | 3689.74 | 718.92S | 132.77E | ==> | -4.13 | |
| | | | | | | | | |
| 3900.00 | 18.37 | 169.540 | 3784.64 | 749.91S | 138.50E | ==> | -4.30 | |
| 4000.00 | 18.37 | 169.540 | 3879.54 | 780.90S | 144.22E | ==> | -4.48 | |
| 4100.00 | 18.37 | 169.540 | 3974.45 | 811.89S | 149.95E | ==> | -4.66 | |
| 4200.00 | 18.37 | 169.540 | 4069.35 | 842.88S | 155.67E | ==> | -4.84 | |
| 4300.00 | 18.37 | 169.540 | 4164.26 | 873.88S | 161.39E | ==> | -5.01 | |
| | | | | | | | | |
| 4400.00 | 18.37 | 169.540 | 4259.16 | 904.87S | 167.12E | ==> | -5.19 | |
| 4500.00 | 18.37 | 169.540 | 4354.06 | 935.86S | 172.84E | ==> | -5.37 | |
| 4600.00 | 18.37 | 169.540 | 4448.97 | 966.85S | 178.56E | ==> | -5.55 | |
| 4700.00 | 18.37 | 169.540 | 4543.87 | 997.84S | 184.29E | ==> | -5.73 | |
| 4800.00 | 18.37 | 169.540 | 4638.78 | 1028.83S | 190.01E | ==> | -5.90 | |
| | | | | | | | | |
| 4900.00 | 18.37 | 169.540 | 4733.68 | 1059.83S | 195.73E | ==> | -6.08 | |
| 5000.00 | 18.37 | 169.540 | 4828.58 | 1090.82S | 201.46E | ==> | -6.26 | |
| 5100.00 | 18.37 | 169.540 | 4923.49 | 1121.81S | 207.18E | ==> | -6.44 | |
| 5200.00 | 18.37 | 169.540 | 5018.39 | 1152.80S | 212.91E | ==> | -6.62 | |
| 5300.00 | 18.37 | 169.540 | 5113.30 | 1183.79S | 218.63E | ==> | -6.79 | |
| | | | | | | | | |
| 5400.00 | 18.37 | 169.540 | 5208.20 | 1214.78S | 224.35E | ==> | -6.97 | |
| 5500.00 | 18.37 | 169.540 | 5303.10 | 1245.78S | 230.08E | ==> | -7.15 | |
| 5600.00 | 18.37 | 169.540 | 5398.01 | 1276.77S | 235.80E | ==> | -7.33 | |
| 5700.00 | 18.37 | 169.540 | 5492.91 | 1307.76S | 241.52E | ==> | -7.50 | |
| 5800.00 | 18.37 | 169.540 | 5587.81 | 1338.75S | 247.25E | ==> | -7.68 | |
| | | | | | | | | |
| 5900.00 | 18.37 | 169.540 | 5682.72 | 1369.74S | 252.97E | ==> | -7.86 | |
| 6000.00 | 18.37 | 169.540 | 5777.62 | 1400.73S | 258.70E | ==> | -8.04 | |
| 6100.00 | 18.37 | 169.540 | 5872.53 | 1431.73S | 264.42E | ==> | -8.22 | |
| 6200.00 | 18.37 | 169.540 | 5967.43 | 1462.72S | 270.14E | ==> | -8.39 | |
| 6300.00 | 18.37 | 169.540 | 6062.33 | 1493.71S | 275.87E | ==> | -8.57 | |
| | | | | | | | | |
| 6400.00 | 18.37 | 169.540 | 6157.24 | 1524.70S | 281.59E | ==> | -8.75 | |
| 6500.00 | 18.37 | 169.540 | 6252.14 | 1555.69S | 287.31E | ==> | -8.93 | |
| 6600.00 | 18.37 | 169.540 | 6347.05 | 1586.68S | 293.04E | ==> | -9.11 | |
| 6700.00 | 18.37 | 169.540 | 6441.95 | 1617.68S | 298.76E | ==> | -9.28 | |
| 6800.00 | 18.37 | 169.540 | 6536.85 | 1648.67S | 304.49E | ==> | -9.46 | |
| | | | | | | | | |
| 6900.00 | 18.37 | 169.540 | 6631.76 | 1679.66S | 310.21E | ==> | -9.64 | |
| 7000.00 | 18.36 | 189.360 | 6726.72 | 1710.70S | 312.56E | 10.00 | -6.49 | |
| 7100.00 | 22.21 | 216.320 | 6820.70 | 1741.55S | 298.77E | 10.00 | 12.52 | |
| 7200.00 | 29.03 | 233.430 | 6910.94 | 1771.31S | 268.01E | 10.00 | 48.04 | |
| 7300.00 | 37.22 | 244.020 | 6994.69 | 1799.09S | 221.22E | 10.00 | 98.99 | |
| | | | | | | | | |
| 7400.00 | 46.04 | 251.150 | 7069.41 | 1824.02S | 159.82E | 10.00 | 163.82 | |
| 7500.00 | 55.19 | 256.390 | 7132.82 | 1845.37S | 85.67E | 10.00 | 240.57 | |
| 7600.00 | 64.52 | 260.560 | 7183.01 | 1862.48S | 1.04E | 10.00 | 326.89 | |
| 7700.00 | 73.94 | 264.130 | 7218.44 | 1874.82S | 91.52W | 10.00 | 420.18 | |
| 7800.00 | 83.43 | 267.370 | 7238.04 | 1882.04S | 189.19W | 10.00 | 517.59 | |
| | | | | | | | | |
| 7900.00 | 90.11 | 269.570 | 7241.94 | 1884.13S | 289.01W | ==> | 616.21 | |
| 8000.00 | 90.11 | 269.570 | 7241.76 | 1884.89S | 389.00W | ==> | 714.78 | |
| 8100.00 | 90.11 | 269.570 | 7241.57 | 1885.65S | 489.00W | ==> | 813.35 | |
| 8200.00 | 90.11 | 269.570 | 7241.39 | 1886.41S | 589.00W | ==> | 911.92 | |
| 8300.00 | 90.11 | 269.570 | 7241.20 | 1887.16S | 688.99W | ==> | 1010.49 | |
| | | | | | | | | |
| 8400.00 | 90.11 | 269.570 | 7241.01 | 1887.92S | 788.99W | ==> | 1109.06 | |
| 8500.00 | 90.11 | 269.570 | 7240.83 | 1888.68S | 888.99W | ==> | 1207.63 | |
| 8600.00 | 90.11 | 269.570 | 7240.64 | 1889.44S | 988.98W | ==> | 1306.19 | |
| 8700.00 | 90.11 | 269.570 | 7240.45 | 1890.20S | 1088.98W | ==> | 1404.76 | |
| 8800.00 | 90.11 | 269.570 | 7240.27 | 1890.95S | 1188.98W | ==> | 1503.33 | |
| | | | | | | | | |
| 8900.00 | 90.11 | 269.570 | 7240.08 | 1891.71S | 1288.97W | ==> | 1601.90 | |
| 9000.00 | 90.11 | 269.570 | 7239.89 | 1892.47S | 1388.97W | ==> | 1700.47 | |

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 4922.0ft above Mean Sea Level)
Vertical Section is from 0.00N 0.00E on azimuth 259.860 degrees
Bottom hole distance is 11162.25 Feet on azimuth 259.86 degrees from Wellhead
Calculation method uses Minimum Curvature method
Prepared by Microsoft
Date Printed: 11-Oct-2018



SYS DRILL
Well Design Combined Report
Wellbore: W Leffler J-26-28HN (PWB)



| Interpolated Wellpath | | | | | | | | |
|-----------------------|----------|----------|---------|-----------|----------|-----------------------|-------------------------|-------------------------|
| MD[ft] | Inc[deg] | Azi[deg] | TVD[ft] | North[ft] | East[ft] | Dogleg [deg/100ft] | Vertical Section[ft] | All Station Comments |
| 9100.00 | 90.11 | 269.570 | 7239.71 | 1893.23S | 1488.97W | ==> | 1799.04 | |
| 9200.00 | 90.11 | 269.570 | 7239.52 | 1893.99S | 1588.97W | ==> | 1897.60 | |
| 9300.00 | 90.11 | 269.570 | 7239.33 | 1894.75S | 1688.96W | ==> | 1996.17 | |
| 9400.00 | 90.11 | 269.570 | 7239.15 | 1895.50S | 1788.96W | ==> | 2094.74 | |
| 9500.00 | 90.11 | 269.570 | 7238.96 | 1896.26S | 1888.96W | ==> | 2193.31 | |
| 9600.00 | 90.11 | 269.570 | 7238.78 | 1897.02S | 1988.95W | ==> | 2291.88 | |
| 9700.00 | 90.11 | 269.570 | 7238.59 | 1897.78S | 2088.95W | ==> | 2390.45 | |
| 9800.00 | 90.11 | 269.570 | 7238.40 | 1898.54S | 2188.95W | ==> | 2489.01 | |
| 9900.00 | 90.11 | 269.570 | 7238.22 | 1899.29S | 2288.94W | ==> | 2587.58 | |
| 10000.00 | 90.11 | 269.570 | 7238.03 | 1900.05S | 2388.94W | ==> | 2686.15 | |
| 10100.00 | 90.11 | 269.570 | 7237.84 | 1900.81S | 2488.94W | ==> | 2784.72 | |
| 10200.00 | 90.11 | 269.570 | 7237.66 | 1901.57S | 2588.94W | ==> | 2883.29 | |
| 10300.00 | 90.11 | 269.570 | 7237.47 | 1902.33S | 2688.93W | ==> | 2981.86 | |
| 10400.00 | 90.11 | 269.570 | 7237.28 | 1903.09S | 2788.93W | ==> | 3080.42 | |
| 10500.00 | 90.11 | 269.570 | 7237.10 | 1903.84S | 2888.93W | ==> | 3178.99 | |
| 10600.00 | 90.11 | 269.570 | 7236.91 | 1904.60S | 2988.92W | ==> | 3277.56 | |
| 10700.00 | 90.11 | 269.570 | 7236.73 | 1905.36S | 3088.92W | ==> | 3376.13 | |
| 10800.00 | 90.11 | 269.570 | 7236.54 | 1906.12S | 3188.92W | ==> | 3474.70 | |
| 10900.00 | 90.11 | 269.570 | 7236.35 | 1906.88S | 3288.91W | ==> | 3573.27 | |
| 11000.00 | 90.11 | 269.570 | 7236.17 | 1907.63S | 3388.91W | ==> | 3671.84 | |
| 11100.00 | 90.11 | 269.570 | 7235.98 | 1908.39S | 3488.91W | ==> | 3770.40 | |
| 11200.00 | 90.11 | 269.570 | 7235.79 | 1909.15S | 3588.90W | ==> | 3868.97 | |
| 11300.00 | 90.11 | 269.570 | 7235.61 | 1909.91S | 3688.90W | ==> | 3967.54 | |
| 11400.00 | 90.11 | 269.570 | 7235.42 | 1910.67S | 3788.90W | ==> | 4066.11 | |
| 11500.00 | 90.11 | 269.570 | 7235.23 | 1911.43S | 3888.90W | ==> | 4164.68 | |
| 11600.00 | 90.11 | 269.570 | 7235.05 | 1912.18S | 3988.89W | ==> | 4263.25 | |
| 11700.00 | 90.11 | 269.570 | 7234.86 | 1912.94S | 4088.89W | ==> | 4361.81 | |
| 11800.00 | 90.11 | 269.570 | 7234.67 | 1913.70S | 4188.89W | ==> | 4460.38 | |
| 11900.00 | 90.11 | 269.570 | 7234.49 | 1914.46S | 4288.88W | ==> | 4558.95 | |
| 12000.00 | 90.11 | 269.570 | 7234.30 | 1915.22S | 4388.88W | ==> | 4657.52 | |
| 12100.00 | 90.11 | 269.570 | 7234.12 | 1915.97S | 4488.88W | ==> | 4756.09 | |
| 12200.00 | 90.11 | 269.570 | 7233.93 | 1916.73S | 4588.87W | ==> | 4854.66 | |
| 12300.00 | 90.11 | 269.570 | 7233.74 | 1917.49S | 4688.87W | ==> | 4953.22 | |
| 12400.00 | 90.11 | 269.570 | 7233.56 | 1918.25S | 4788.87W | ==> | 5051.79 | |
| 12500.00 | 90.11 | 269.570 | 7233.37 | 1919.01S | 4888.87W | ==> | 5150.36 | |
| 12600.00 | 90.11 | 269.570 | 7233.18 | 1919.77S | 4988.86W | ==> | 5248.93 | |
| 12700.00 | 90.11 | 269.570 | 7233.00 | 1920.52S | 5088.86W | ==> | 5347.50 | |
| 12800.00 | 90.11 | 269.570 | 7232.81 | 1921.28S | 5188.86W | ==> | 5446.07 | |
| 12900.00 | 90.11 | 269.570 | 7232.62 | 1922.04S | 5288.85W | ==> | 5544.63 | |
| 13000.00 | 90.11 | 269.570 | 7232.44 | 1922.80S | 5388.85W | ==> | 5643.20 | |
| 13100.00 | 90.11 | 269.570 | 7232.25 | 1923.56S | 5488.85W | ==> | 5741.77 | |
| 13200.00 | 90.11 | 269.570 | 7232.06 | 1924.31S | 5588.84W | ==> | 5840.34 | |
| 13300.00 | 90.11 | 269.570 | 7231.88 | 1925.07S | 5688.84W | ==> | 5938.91 | |
| 13400.00 | 90.11 | 269.570 | 7231.69 | 1925.83S | 5788.84W | ==> | 6037.48 | |
| 13500.00 | 90.11 | 269.570 | 7231.51 | 1926.59S | 5888.83W | ==> | 6136.04 | |
| 13600.00 | 90.11 | 269.570 | 7231.32 | 1927.35S | 5988.83W | ==> | 6234.61 | |
| 13700.00 | 90.11 | 269.570 | 7231.13 | 1928.11S | 6088.83W | ==> | 6333.18 | |
| 13800.00 | 90.11 | 269.570 | 7230.95 | 1928.86S | 6188.83W | ==> | 6431.75 | |
| 13900.00 | 90.11 | 269.570 | 7230.76 | 1929.62S | 6288.82W | ==> | 6530.32 | |
| 14000.00 | 90.11 | 269.570 | 7230.57 | 1930.38S | 6388.82W | ==> | 6628.89 | |
| 14100.00 | 90.11 | 269.570 | 7230.39 | 1931.14S | 6488.82W | ==> | 6727.46 | |
| 14200.00 | 90.11 | 269.570 | 7230.20 | 1931.90S | 6588.81W | ==> | 6826.02 | |
| 14300.00 | 90.11 | 269.570 | 7230.01 | 1932.65S | 6688.81W | ==> | 6924.59 | |
| 14400.00 | 90.11 | 269.570 | 7229.83 | 1933.41S | 6788.81W | ==> | 7023.16 | |
| 14500.00 | 90.11 | 269.570 | 7229.64 | 1934.17S | 6888.80W | ==> | 7121.73 | |
| 14600.00 | 90.11 | 269.570 | 7229.46 | 1934.93S | 6988.80W | ==> | 7220.30 | |
| 14700.00 | 90.11 | 269.570 | 7229.27 | 1935.69S | 7088.80W | ==> | 7318.87 | |
| 14800.00 | 90.11 | 269.570 | 7229.08 | 1936.45S | 7188.79W | ==> | 7417.43 | |
| 14900.00 | 90.11 | 269.570 | 7228.90 | 1937.20S | 7288.79W | ==> | 7516.00 | |

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Coordinates are from Slot MD's are from Rig and TVD's are from Rig (Planned Datum #1 4922.0ft above Mean Sea Level)
Vertical Section is from 0.00N 0.00E on azimuth 259.860 degrees
Bottom hole distance is 11162.25 Feet on azimuth 259.86 degrees from Wellhead
Calculation method uses Minimum Curvature method
Prepared by Microsoft
Date Printed: 11-Oct-2018



SYS DRILL
Well Design Combined Report
Wellbore: W Leffler J-26-28HN (PWB)



| Interpolated Wellpath | | | | | | | | |
|-----------------------|----------|----------|---------|-----------|-----------|-----------------------|-------------------------|-------------------------|
| MD[ft] | Inc[deg] | Azi[deg] | TVD[ft] | North[ft] | East[ft] | Dogleg [deg/100ft] | Vertical Section[ft] | All Station Comments |
| 15000.00 | 90.11 | 269.570 | 7228.71 | 1937.96S | 7388.79W | ==> | 7614.57 | |
| 15100.00 | 90.11 | 269.570 | 7228.52 | 1938.72S | 7488.79W | ==> | 7713.14 | |
| 15200.00 | 90.11 | 269.570 | 7228.34 | 1939.48S | 7588.78W | ==> | 7811.71 | |
| 15300.00 | 90.11 | 269.570 | 7228.15 | 1940.24S | 7688.78W | ==> | 7910.28 | |
| 15400.00 | 90.11 | 269.570 | 7227.96 | 1940.99S | 7788.78W | ==> | 8008.84 | |
| 15500.00 | 90.11 | 269.570 | 7227.78 | 1941.75S | 7888.77W | ==> | 8107.41 | |
| 15600.00 | 90.11 | 269.570 | 7227.59 | 1942.51S | 7988.77W | ==> | 8205.98 | |
| 15700.00 | 90.11 | 269.570 | 7227.40 | 1943.27S | 8088.77W | ==> | 8304.55 | |
| 15800.00 | 90.11 | 269.570 | 7227.22 | 1944.03S | 8188.76W | ==> | 8403.12 | |
| 15900.00 | 90.11 | 269.570 | 7227.03 | 1944.79S | 8288.76W | ==> | 8501.69 | |
| 16000.00 | 90.11 | 269.570 | 7226.85 | 1945.54S | 8388.76W | ==> | 8600.25 | |
| 16100.00 | 90.11 | 269.570 | 7226.66 | 1946.30S | 8488.76W | ==> | 8698.82 | |
| 16200.00 | 90.11 | 269.570 | 7226.47 | 1947.06S | 8588.75W | ==> | 8797.39 | |
| 16300.00 | 90.11 | 269.570 | 7226.29 | 1947.82S | 8688.75W | ==> | 8895.96 | |
| 16400.00 | 90.11 | 269.570 | 7226.10 | 1948.58S | 8788.75W | ==> | 8994.53 | |
| 16500.00 | 90.11 | 269.570 | 7225.91 | 1949.33S | 8888.74W | ==> | 9093.10 | |
| 16600.00 | 90.11 | 269.570 | 7225.73 | 1950.09S | 8988.74W | ==> | 9191.67 | |
| 16700.00 | 90.11 | 269.570 | 7225.54 | 1950.85S | 9088.74W | ==> | 9290.23 | |
| 16800.00 | 90.11 | 269.570 | 7225.35 | 1951.61S | 9188.73W | ==> | 9388.80 | |
| 16900.00 | 90.11 | 269.570 | 7225.17 | 1952.37S | 9288.73W | ==> | 9487.37 | |
| 17000.00 | 90.11 | 269.570 | 7224.98 | 1953.13S | 9388.73W | ==> | 9585.94 | |
| 17100.00 | 90.11 | 269.570 | 7224.79 | 1953.88S | 9488.72W | ==> | 9684.51 | |
| 17200.00 | 90.11 | 269.570 | 7224.61 | 1954.64S | 9588.72W | ==> | 9783.08 | |
| 17300.00 | 90.11 | 269.570 | 7224.42 | 1955.40S | 9688.72W | ==> | 9881.64 | |
| 17400.00 | 90.11 | 269.570 | 7224.24 | 1956.16S | 9788.72W | ==> | 9980.21 | |
| 17500.00 | 90.11 | 269.570 | 7224.05 | 1956.92S | 9888.71W | ==> | 10078.78 | |
| 17600.00 | 90.11 | 269.570 | 7223.86 | 1957.67S | 9988.71W | ==> | 10177.35 | |
| 17700.00 | 90.11 | 269.570 | 7223.68 | 1958.43S | 10088.71W | ==> | 10275.92 | |
| 17800.00 | 90.11 | 269.570 | 7223.49 | 1959.19S | 10188.70W | ==> | 10374.49 | |
| 17900.00 | 90.11 | 269.570 | 7223.30 | 1959.95S | 10288.70W | ==> | 10473.05 | |
| 18000.00 | 90.11 | 269.570 | 7223.12 | 1960.71S | 10388.70W | ==> | 10571.62 | |
| 18100.00 | 90.11 | 269.570 | 7222.93 | 1961.47S | 10488.69W | ==> | 10670.19 | |
| 18200.00 | 90.11 | 269.570 | 7222.74 | 1962.22S | 10588.69W | ==> | 10768.76 | |
| 18300.00 | 90.11 | 269.570 | 7222.56 | 1962.98S | 10688.69W | ==> | 10867.33 | |
| 18400.00 | 90.11 | 269.570 | 7222.37 | 1963.74S | 10788.69W | ==> | 10965.90 | |
| 18500.00 | 90.11 | 269.570 | 7222.18 | 1964.50S | 10888.68W | ==> | 11064.46 | |
| 18599.21 | 90.11 | 269.570 | 7222.00 | 1965.25S | 10987.89W | ==> | 11162.25 | |

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Bottom hole distance is 11162.25 Feet on azimuth 259.86 degrees from Wellhead
Calculation method uses Minimum Curvature method
Prepared by Microsoft
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SYSDRILL
Well Design Combined Report
Wellbore: W Leffler J-26-28HN (PWB)



| Targets | | | | | | | |
|------------------------|-----------|-----------|---------|-------------|---------------|------------|------------|
| Name | North[ft] | East[ft] | TVD[ft] | Latitude | Longitude | Northing | Easting |
| Leffler J-26-28HN - BH | 1965.25S | 10987.89W | 7222.00 | 40.54725800 | -104.79285400 | 1442990.52 | 3196517.59 |
| Leffler J-26-28HN - EP | 1883.91S | 259.29W | 7242.00 | 40.54748800 | -104.75425000 | 1443162.20 | 3207244.79 |

| Survey Tool Program | | | | | |
|---------------------|-------------|----------|---------|---------------|-------------------|
| Reference | Survey Name | MD[ft] | TVD[ft] | Survey Tool | Error Model |
| 676409 | Planned | 1500.00 | 1497.83 | WdW Rate Gyro | Standard |
| 676408 | Planned | 18599.21 | 7222.00 | ISCWSA MWD | Rev 4 + SAG + FLT |

| Notes |
|-------|
| |



SYSDRILL
Closest Approach + Clearance Factor Summary Report
Wellbore: W Leffler J-26-28HN (PWB)



| |
|--|
| Ellipse separations are reported ONLY if BOTH wells have uncertainty data |
| Only Depth and Magnetic Reference Field error terms are correlated across tie points |
| Scan limit is calculated on CENTRE to CENTRE distance |
| Summary data uses Closest Approach clearance calculation for all minima |
| Hole size/Casings ARE included |
| Hole size/Casings are NOT subtracted from Centre-Centre distance |
| Confidence limit of 95.00% / 2.80 SD. |

| Wellbore | | |
|---------------------------|-------------|--------------|
| Name | Created | Last Revised |
| W Leffler J-26-28HN (PWB) | Jul-30-2018 | Oct-11-2018 |

| Well | | |
|---------------------|---------------|--------------|
| Name | Government ID | Last Revised |
| W Leffler J-26-28HN | | Jul-30-2018 |

| Slot | | | | | | |
|-------------------|-------------|---------------|---------------|--------------|--------|--------|
| Name | Latitude | Longitude | Grid Northing | Grid Easting | North | East |
| Leffler J-26-28HN | 40.55265900 | -104.75331700 | 1445048.1618 | 3207488.1993 | 48.82S | 60.58E |

| Installation | | | | | | |
|--------------|----------------------------------|-----------------------------------|--------------|--------------|--|-----------------|
| Name | Installation Position (Latitude) | Installation Position (Longitude) | Easting | Northing | Coord System Name | North Alignment |
| Leffler Pad | 40.55279300 | -104.75353500 | 3207427.2119 | 1445096.4676 | CO83-NF on NORTH AMERICAN DATUM 1983 datum | True |

| Clearance Summary | | | | | | | |
|--------------------|-----------------|----------|--------------------|-------------------------|----------------|------------------|------------------|
| Offset WellName | Separation [ft] | MD[ft] | Diverging From[ft] | Ellipse Separation [ft] | Ellipse MD[ft] | Clearance Factor | Clearance MD[ft] |
| W Leffler 32-27 | 63.43 | 10093.81 | 10093.81 | -48.39 | 10100.00 | 0.57 | 10100.00 |
| W Leffler 42-27 | 118.45 | 8443.48 | 8443.48 | 63.38 | 8456.76 | 2.10 | 8473.16 |
| W Thornton 21K-443 | 163.88 | 17524.19 | 17524.19 | 48.06 | 17446.26 | 1.36 | 17429.86 |
| W Leffler 41-27 | 749.12 | 1879.70 | 8428.29 | 744.45 | 1960.70 | 25.77 | 9129.33 |
| W Leffler 27C | 812.04 | 9153.64 | 9153.64 | 735.01 | 9162.14 | 10.48 | 9227.76 |
| W Leffler 1-27 | 1477.65 | 9818.31 | 9818.31 | 1376.61 | 9851.12 | 14.19 | 10113.58 |
| W Leffler 31-27 | 1587.98 | 10100.00 | 10100.00 | 1477.10 | 10129.99 | 13.89 | 10408.86 |





