

BAYSWATER E & P, LLC

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

N

TRUE

Scale 1 cm = 800 ft

East (Feet) ->

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

Leffler E-26-28HC - BH

Surface 0.00 N 0.00 E

Leffler E-26-28HC - EP

W Leffler E-26-28HC (PWB)

1600
0
-1600
-3200
Scale 1 cm = 800 ft
North (Feet)

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	158.23	1025.00	S 0.00	W 0.00	0.00	-0.00
End of Build	1405.07	7.60	158.23	1403.96	S 23.38	E 9.34	2.00	-7.48
End of Hold	6916.65	7.60	158.23	6867.11	S 700.44	E 279.79	0.00	-224.17
Target Leffle...C - EP	7847.17	90.30	269.56	7463.00	S 779.28	W 294.85	10.00	354.87
T.D. & Target Lef... BH	18527.92	90.30	269.56	7408.00	S 860.63	W 10975.15	0.00	11008.84

Scale 1 cm = 400 ft

True Vertical Depth (Feet)

-800

0

800

1600

2400

3200

4000

4800

5600

6400

7200

8000

8800

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 - 7.60 Inc, 1405.07 MD, 1403.96 TVD, -7.48 VS

End of Hold - 7.60 Inc, 6916.65 MD, 6867.11 TVD, -224.17 VS

Leffler E-26-28HC - EP

S/C Kick off Point - 90.30 Inc, 7847.17 MD, 7463.00 TVD, 354.87 VS

Leffler E-26-28HC - BH

T.D. & End of Hold - 7408.00 TVD, 860.63 S 10975.15 W

W Leffler E-26-28HC (PWB)

Created by admin

Date plotted 11-Oct-2018

Plot reference is W Leffler E-26-28HC (PWB).
Ref wellpath is W Leffler E-26-28HC (PWP#1).
Coordinates are in Feet reference Leffler E-26-28HC.
True Vertical Depths are reference Rig Datum.
Measured Depths are reference Rig Datum.
Rig Datum: Planned Datum #1
Rig Datum to Mean Sea Level: 4923.00 ft.
Plot North is aligned to TRUE North.

-1600 -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 265.52 with reference 0.00 N, 0.00 E from Leffler E-26-28HC



SYSDRILL
Well Design Combined Report
Wellbore: W Leffler E-26-28HC (PWB)



Wellhead Details

Name	Latitude	Longitude	Northing	Easting	North	East	Slot Elevation Above Ground
Leffler E-26-28HC	40.55279700	-104.75321200	1445098.6805	3207516.9526	1.46N	89.76E	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	1445098.68	3207516.95
1025.00	0.00	158.230	1025.00	0.00N	0.00E	==>	0.00	1445098.68	3207516.95
1405.07	7.60	158.230	1403.96	23.38S	9.34E	2.00	-7.48	1445075.38	3207526.49
6916.65	7.60	158.230	6867.11	700.44S	279.79E	==>	-224.17	1444400.64	3207802.62
7847.17	90.30	269.560	7463.00	779.28S	294.85W	10.00	354.87	1444316.97	3207228.68
18527.92	90.30	269.560	7408.00	860.63S	10975.15W	==>	11008.84	1444145.68	3196549.79

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	158.230	1099.99	0.91S	0.36E	2.00	-0.29	
1200.00	3.50	158.230	1199.89	4.96S	1.98E	2.00	-1.59	
1300.00	5.50	158.230	1299.58	12.25S	4.89E	2.00	-3.92	
1400.00	7.50	158.230	1398.93	22.76S	9.09E	2.00	-7.28	
1500.00	7.60	158.230	1498.05	35.04S	14.00E	==>	-11.21	
1600.00	7.60	158.230	1597.17	47.32S	18.90E	==>	-15.15	
1700.00	7.60	158.230	1696.29	59.61S	23.81E	==>	-19.08	
1800.00	7.60	158.230	1795.42	71.89S	28.72E	==>	-23.01	
1900.00	7.60	158.230	1894.54	84.18S	33.62E	==>	-26.94	
2000.00	7.60	158.230	1993.66	96.46S	38.53E	==>	-30.87	
2100.00	7.60	158.230	2092.78	108.75S	43.44E	==>	-34.80	
2200.00	7.60	158.230	2191.90	121.03S	48.34E	==>	-38.74	
2300.00	7.60	158.230	2291.02	133.32S	53.25E	==>	-42.67	
2400.00	7.60	158.230	2390.14	145.60S	58.16E	==>	-46.60	
2500.00	7.60	158.230	2489.26	157.88S	63.07E	==>	-50.53	
2600.00	7.60	158.230	2588.39	170.17S	67.97E	==>	-54.46	
2700.00	7.60	158.230	2687.51	182.45S	72.88E	==>	-58.39	
2800.00	7.60	158.230	2786.63	194.74S	77.79E	==>	-62.32	
2900.00	7.60	158.230	2885.75	207.02S	82.69E	==>	-66.26	
3000.00	7.60	158.230	2984.87	219.31S	87.60E	==>	-70.19	
3100.00	7.60	158.230	3083.99	231.59S	92.51E	==>	-74.12	

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 4923.0ft above Mean Sea Level)
Vertical Section is from 0.00N 0.00E on azimuth 265.520 degrees
Bottom hole distance is 11008.84 Feet on azimuth 265.52 degrees from Wellhead
Calculation method uses Minimum Curvature method
Prepared by Microsoft
Date Printed: 11-Oct-2018



SYSDRILL
Well Design Combined Report
Wellbore: W Lefler E-26-28HC (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	7.60	158.230	3183.11	243.87S	97.41E	==>	-78.05	
3300.00	7.60	158.230	3282.23	256.16S	102.32E	==>	-81.98	
3400.00	7.60	158.230	3381.36	268.44S	107.23E	==>	-85.91	
3500.00	7.60	158.230	3480.48	280.73S	112.13E	==>	-89.84	
3600.00	7.60	158.230	3579.60	293.01S	117.04E	==>	-93.78	
3700.00	7.60	158.230	3678.72	305.30S	121.95E	==>	-97.71	
3800.00	7.60	158.230	3777.84	317.58S	126.85E	==>	-101.64	
3900.00	7.60	158.230	3876.96	329.87S	131.76E	==>	-105.57	
4000.00	7.60	158.230	3976.08	342.15S	136.67E	==>	-109.50	
4100.00	7.60	158.230	4075.20	354.43S	141.58E	==>	-113.43	
4200.00	7.60	158.230	4174.32	366.72S	146.48E	==>	-117.37	
4300.00	7.60	158.230	4273.45	379.00S	151.39E	==>	-121.30	
4400.00	7.60	158.230	4372.57	391.29S	156.30E	==>	-125.23	
4500.00	7.60	158.230	4471.69	403.57S	161.20E	==>	-129.16	
4600.00	7.60	158.230	4570.81	415.86S	166.11E	==>	-133.09	
4700.00	7.60	158.230	4669.93	428.14S	171.02E	==>	-137.02	
4800.00	7.60	158.230	4769.05	440.42S	175.92E	==>	-140.95	
4900.00	7.60	158.230	4868.17	452.71S	180.83E	==>	-144.89	
5000.00	7.60	158.230	4967.29	464.99S	185.74E	==>	-148.82	
5100.00	7.60	158.230	5066.42	477.28S	190.64E	==>	-152.75	
5200.00	7.60	158.230	5165.54	489.56S	195.55E	==>	-156.68	
5300.00	7.60	158.230	5264.66	501.85S	200.46E	==>	-160.61	
5400.00	7.60	158.230	5363.78	514.13S	205.37E	==>	-164.54	
5500.00	7.60	158.230	5462.90	526.42S	210.27E	==>	-168.48	
5600.00	7.60	158.230	5562.02	538.70S	215.18E	==>	-172.41	
5700.00	7.60	158.230	5661.14	550.98S	220.09E	==>	-176.34	
5800.00	7.60	158.230	5760.26	563.27S	224.99E	==>	-180.27	
5900.00	7.60	158.230	5859.39	575.55S	229.90E	==>	-184.20	
6000.00	7.60	158.230	5958.51	587.84S	234.81E	==>	-188.13	
6100.00	7.60	158.230	6057.63	600.12S	239.71E	==>	-192.06	
6200.00	7.60	158.230	6156.75	612.41S	244.62E	==>	-196.00	
6300.00	7.60	158.230	6255.87	624.69S	249.53E	==>	-199.93	
6400.00	7.60	158.230	6354.99	636.98S	254.43E	==>	-203.86	
6500.00	7.60	158.230	6454.11	649.26S	259.34E	==>	-207.79	
6600.00	7.60	158.230	6553.23	661.54S	264.25E	==>	-211.72	
6700.00	7.60	158.230	6652.36	673.83S	269.15E	==>	-215.65	
6800.00	7.60	158.230	6751.48	686.11S	274.06E	==>	-219.58	
6900.00	7.60	158.230	6850.60	698.40S	278.97E	==>	-223.52	
7000.00	9.01	217.900	6949.72	710.73S	277.82E	10.00	-221.40	
7100.00	17.08	245.660	7047.14	723.00S	259.58E	10.00	-202.26	
7200.00	26.48	255.070	7139.93	734.82S	224.57E	10.00	-166.44	
7300.00	36.19	259.740	7225.25	745.85S	173.85E	10.00	-115.01	
7400.00	46.01	262.630	7300.53	755.75S	108.96E	10.00	-49.54	
7500.00	55.88	264.690	7363.46	764.21S	31.87E	10.00	27.97	
7600.00	65.78	266.320	7412.14	770.98S	55.07W	10.00	115.17	
7700.00	75.69	267.710	7445.10	775.85S	149.22W	10.00	209.42	
7800.00	85.61	268.980	7461.32	778.68S	247.73W	10.00	307.85	
7900.00	90.30	269.560	7462.73	779.68S	347.68W	==>	407.57	
8000.00	90.30	269.560	7462.21	780.45S	447.67W	==>	507.32	
8100.00	90.30	269.560	7461.70	781.21S	547.67W	==>	607.07	
8200.00	90.30	269.560	7461.18	781.97S	647.67W	==>	706.82	
8300.00	90.30	269.560	7460.67	782.73S	747.66W	==>	806.57	
8400.00	90.30	269.560	7460.15	783.49S	847.66W	==>	906.31	
8500.00	90.30	269.560	7459.64	784.25S	947.65W	==>	1006.06	
8600.00	90.30	269.560	7459.12	785.02S	1047.65W	==>	1105.81	
8700.00	90.30	269.560	7458.61	785.78S	1147.65W	==>	1205.56	
8800.00	90.30	269.560	7458.09	786.54S	1247.64W	==>	1305.31	
8900.00	90.30	269.560	7457.58	787.30S	1347.64W	==>	1405.06	
9000.00	90.30	269.560	7457.06	788.06S	1447.63W	==>	1504.81	

All data is in Feet unless otherwise stated
Coordinates are from Slot MD's are from Rig (Planned Datum #1 4923.0ft above Mean Sea Level)
Vertical Section is from 0.00N 0.00E on azimuth 265.520 degrees
Bottom hole distance is 11008.84 Feet on azimuth 265.52 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 E-26-28HC (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	90.30	269.560	7456.55	788.82S	1547.63W	==>	1604.56	
9200.00	90.30	269.560	7456.03	789.59S	1647.62W	==>	1704.31	
9300.00	90.30	269.560	7455.52	790.35S	1747.62W	==>	1804.06	
9400.00	90.30	269.560	7455.00	791.11S	1847.62W	==>	1903.81	
9500.00	90.30	269.560	7454.49	791.87S	1947.61W	==>	2003.56	
9600.00	90.30	269.560	7453.97	792.63S	2047.61W	==>	2103.31	
9700.00	90.30	269.560	7453.46	793.39S	2147.60W	==>	2203.06	
9800.00	90.30	269.560	7452.94	794.16S	2247.60W	==>	2302.80	
9900.00	90.30	269.560	7452.43	794.92S	2347.59W	==>	2402.55	
10000.00	90.30	269.560	7451.91	795.68S	2447.59W	==>	2502.30	
10100.00	90.30	269.560	7451.40	796.44S	2547.59W	==>	2602.05	
10200.00	90.30	269.560	7450.88	797.20S	2647.58W	==>	2701.80	
10300.00	90.30	269.560	7450.37	797.96S	2747.58W	==>	2801.55	
10400.00	90.30	269.560	7449.85	798.73S	2847.57W	==>	2901.30	
10500.00	90.30	269.560	7449.34	799.49S	2947.57W	==>	3001.05	
10600.00	90.30	269.560	7448.82	800.25S	3047.56W	==>	3100.80	
10700.00	90.30	269.560	7448.31	801.01S	3147.56W	==>	3200.55	
10800.00	90.30	269.560	7447.79	801.77S	3247.56W	==>	3300.30	
10900.00	90.30	269.560	7447.28	802.53S	3347.55W	==>	3400.05	
11000.00	90.30	269.560	7446.76	803.30S	3447.55W	==>	3499.80	
11100.00	90.30	269.560	7446.25	804.06S	3547.54W	==>	3599.55	
11200.00	90.30	269.560	7445.73	804.82S	3647.54W	==>	3699.29	
11300.00	90.30	269.560	7445.22	805.58S	3747.54W	==>	3799.04	
11400.00	90.30	269.560	7444.70	806.34S	3847.53W	==>	3898.79	
11500.00	90.30	269.560	7444.19	807.10S	3947.53W	==>	3998.54	
11600.00	90.30	269.560	7443.67	807.87S	4047.52W	==>	4098.29	
11700.00	90.30	269.560	7443.16	808.63S	4147.52W	==>	4198.04	
11800.00	90.30	269.560	7442.65	809.39S	4247.51W	==>	4297.79	
11900.00	90.30	269.560	7442.13	810.15S	4347.51W	==>	4397.54	
12000.00	90.30	269.560	7441.62	810.91S	4447.51W	==>	4497.29	
12100.00	90.30	269.560	7441.10	811.67S	4547.50W	==>	4597.04	
12200.00	90.30	269.560	7440.59	812.44S	4647.50W	==>	4696.79	
12300.00	90.30	269.560	7440.07	813.20S	4747.49W	==>	4796.54	
12400.00	90.30	269.560	7439.56	813.96S	4847.49W	==>	4896.29	
12500.00	90.30	269.560	7439.04	814.72S	4947.48W	==>	4996.04	
12600.00	90.30	269.560	7438.53	815.48S	5047.48W	==>	5095.78	
12700.00	90.30	269.560	7438.01	816.24S	5147.48W	==>	5195.53	
12800.00	90.30	269.560	7437.50	817.01S	5247.47W	==>	5295.28	
12900.00	90.30	269.560	7436.98	817.77S	5347.47W	==>	5395.03	
13000.00	90.30	269.560	7436.47	818.53S	5447.46W	==>	5494.78	
13100.00	90.30	269.560	7435.95	819.29S	5547.46W	==>	5594.53	
13200.00	90.30	269.560	7435.44	820.05S	5647.45W	==>	5694.28	
13300.00	90.30	269.560	7434.92	820.81S	5747.45W	==>	5794.03	
13400.00	90.30	269.560	7434.41	821.58S	5847.45W	==>	5893.78	
13500.00	90.30	269.560	7433.89	822.34S	5947.44W	==>	5993.53	
13600.00	90.30	269.560	7433.38	823.10S	6047.44W	==>	6093.28	
13700.00	90.30	269.560	7432.86	823.86S	6147.43W	==>	6193.03	
13800.00	90.30	269.560	7432.35	824.62S	6247.43W	==>	6292.78	
13900.00	90.30	269.560	7431.83	825.38S	6347.43W	==>	6392.53	
14000.00	90.30	269.560	7431.32	826.15S	6447.42W	==>	6492.27	
14100.00	90.30	269.560	7430.80	826.91S	6547.42W	==>	6592.02	
14200.00	90.30	269.560	7430.29	827.67S	6647.41W	==>	6691.77	
14300.00	90.30	269.560	7429.77	828.43S	6747.41W	==>	6791.52	
14400.00	90.30	269.560	7429.26	829.19S	6847.40W	==>	6891.27	
14500.00	90.30	269.560	7428.74	829.95S	6947.40W	==>	6991.02	
14600.00	90.30	269.560	7428.23	830.72S	7047.40W	==>	7090.77	
14700.00	90.30	269.560	7427.71	831.48S	7147.39W	==>	7190.52	
14800.00	90.30	269.560	7427.20	832.24S	7247.39W	==>	7290.27	
14900.00	90.30	269.560	7426.68	833.00S	7347.38W	==>	7390.02	

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 4923.0ft above Mean Sea Level)
Vertical Section is from 0.00N 0.00E on azimuth 265.520 degrees
Bottom hole distance is 11008.84 Feet on azimuth 265.52 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 E-26-28HC (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	90.30	269.560	7426.17	833.76S	7447.38W	==>	7489.77	
15100.00	90.30	269.560	7425.65	834.52S	7547.37W	==>	7589.52	
15200.00	90.30	269.560	7425.14	835.29S	7647.37W	==>	7689.27	
15300.00	90.30	269.560	7424.62	836.05S	7747.37W	==>	7789.01	
15400.00	90.30	269.560	7424.11	836.81S	7847.36W	==>	7888.76	
15500.00	90.30	269.560	7423.59	837.57S	7947.36W	==>	7988.51	
15600.00	90.30	269.560	7423.08	838.33S	8047.35W	==>	8088.26	
15700.00	90.30	269.560	7422.56	839.09S	8147.35W	==>	8188.01	
15800.00	90.30	269.560	7422.05	839.86S	8247.35W	==>	8287.76	
15900.00	90.30	269.560	7421.53	840.62S	8347.34W	==>	8387.51	
16000.00	90.30	269.560	7421.02	841.38S	8447.34W	==>	8487.26	
16100.00	90.30	269.560	7420.50	842.14S	8547.33W	==>	8587.01	
16200.00	90.30	269.560	7419.99	842.90S	8647.33W	==>	8686.76	
16300.00	90.30	269.560	7419.47	843.66S	8747.32W	==>	8786.51	
16400.00	90.30	269.560	7418.96	844.43S	8847.32W	==>	8886.26	
16500.00	90.30	269.560	7418.44	845.19S	8947.32W	==>	8986.01	
16600.00	90.30	269.560	7417.93	845.95S	9047.31W	==>	9085.76	
16700.00	90.30	269.560	7417.41	846.71S	9147.31W	==>	9185.50	
16800.00	90.30	269.560	7416.90	847.47S	9247.30W	==>	9285.25	
16900.00	90.30	269.560	7416.38	848.23S	9347.30W	==>	9385.00	
17000.00	90.30	269.560	7415.87	849.00S	9447.29W	==>	9484.75	
17100.00	90.30	269.560	7415.35	849.76S	9547.29W	==>	9584.50	
17200.00	90.30	269.560	7414.84	850.52S	9647.29W	==>	9684.25	
17300.00	90.30	269.560	7414.32	851.28S	9747.28W	==>	9784.00	
17400.00	90.30	269.560	7413.81	852.04S	9847.28W	==>	9883.75	
17500.00	90.30	269.560	7413.29	852.80S	9947.27W	==>	9983.50	
17600.00	90.30	269.560	7412.78	853.57S	10047.27W	==>	10083.25	
17700.00	90.30	269.560	7412.26	854.33S	10147.26W	==>	10183.00	
17800.00	90.30	269.560	7411.75	855.09S	10247.26W	==>	10282.75	
17900.00	90.30	269.560	7411.23	855.85S	10347.26W	==>	10382.50	
18000.00	90.30	269.560	7410.72	856.61S	10447.25W	==>	10482.25	
18100.00	90.30	269.560	7410.20	857.37S	10547.25W	==>	10581.99	
18200.00	90.30	269.560	7409.69	858.14S	10647.24W	==>	10681.74	
18300.00	90.30	269.560	7409.17	858.90S	10747.24W	==>	10781.49	
18400.00	90.30	269.560	7408.66	859.66S	10847.24W	==>	10881.24	
18500.00	90.30	269.560	7408.14	860.42S	10947.23W	==>	10980.99	
18527.92	90.30	269.560	7408.00	860.63S	10975.15W	==>	11008.84	

All data is in Feet unless otherwise stated
Coordinates are from Slot MD's are from Rig (Planned Datum #1 4923.0ft above Mean Sea Level)
Vertical Section is from 0.00N 0.00E on azimuth 265.520 degrees
Bottom hole distance is 11008.84 Feet on azimuth 265.52 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 E-26-28HC (PWB)



Targets							
Name	North[ft]	East[ft]	TVD[ft]	Latitude	Longitude	Northing	Easting
Leffler E-26-28HC - BH	860.63S	10975.15W	7408.00	40.55042800	-104.79270500	1444145.68	3196549.79
Leffler E-26-28HC - EP	779.28S	294.85W	7463.00	40.55065800	-104.75427300	1444316.97	3207228.68

Survey Tool Program					
Reference	Survey Name	MD[ft]	TVD[ft]	Survey Tool	Error Model
676452	Planned	1500.00	1498.05	WdW Rate Gyro	Standard
676451	Planned	18527.92	7408.00	ISCWSA MWD	Rev 4 + SAG + FLT

Notes



SYSDRILL
Closest Approach + Clearance Factor Summary Report
Wellbore: W Leffler E-26-28HC (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 E-26-28HC (PWB)	Jul-30-2018	Oct-11-2018

Well		
Name	Government ID	Last Revised
W Leffler E-26-28HC		Jul-30-2018

Slot						
Name	Latitude	Longitude	Grid Northing	Grid Easting	North	East
Leffler E-26-28HC	40.55279700	-104.75321200	1445098.6805	3207516.9526	1.46N	89.76E

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 Thornton 21K-443	9.82	17510.43	17510.43	-129.27	17528.28	0.10	17511.88
W Leffler 1-27	322.80	9795.63	9795.63	221.53	9800.00	3.19	9801.90
W Leffler 27C	342.83	9132.92	9132.92	264.80	9145.73	4.34	9178.54
W Leffler 41-27	426.77	8407.55	8406.71	372.87	8407.55	7.87	8440.35
W Leffler 31-27	444.39	10073.73	10073.73	333.46	10080.77	4.00	10097.18
W Leffler 32-27	1216.18	10077.01	10077.01	1103.81	10129.99	10.33	10376.05
W Leffler 42-27	1278.07	8426.61	8426.61	1222.80	8473.16	19.41	9030.91





