

BAYSWATER E & P, LLC

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

N

TRUE

Scale 1 cm = 800 ft

East (Feet) ->

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

1600

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

0

-1600

-3200

-4800

Surface 0.00 N 0.00 E

Leffler K-26-28HC - BH

Leffler K-26-28HC - EP

W Leffler K-26-28HC (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	170.86	1025.00	S 0.00	W 0.00	0.00	-0.00
End of Build	1994.44	19.39	170.86	1976.05	S 160.41	E 25.82	2.00	5.12
End of Hold	7138.80	19.39	170.86	6828.65	S 1846.51	E 297.24	0.00	58.97
Target Leffle...C - EP	8067.61	90.00	269.56	7397.00	S 2048.58	W 273.47	10.00	657.68
T.D. & Target Lef... BH	18803.26	90.00	269.56	7397.00	S 2130.28	W 11008.81	0.00	11213.02

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 - 19.39 Inc, 1994.44 MD, 1976.05 TVD, 5.12 VS

End of Hold - 19.39 Inc, 7138.80 MD, 6828.65 TVD, 58.97 VS

Leffler K-26-28HC - EP

S/C Kick off Point - 90.00 Inc, 8067.61 MD, 7397.00 TVD, 657.68 VS

Leffler K-26-28HC - BH

T.D. & End of Hold - 7397.00 TVD, 2130.28 S 11008.81 W

W Leffler K-26-28HC (PWB)

Scale 1 cm = 400 ft

Vertical Section (Feet) ->

Azimuth 259.05 with reference 0.00 N, 0.00 E from Leffler K-26-28HC

Created by admin

Date plotted 11-Oct-2018

Plot reference is W Leffler K-26-28HC (PWB).
Ref wellpath is W Leffler K-26-28HC (PWP#1).
Coordinates are in Feet reference Leffler K-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: 4922.00 ft.
Plot North is aligned to TRUE North.



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



Wellhead Details

Name	Latitude	Longitude	Northing	Easting	North	East	Slot Elevation Above Ground
Leffler K-26-28HC	40.55265900	-104.75326300	1445048.2881	3207503.2044	48.82S	75.59E	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	1445048.29	3207503.20
1025.00	0.00	170.860	1025.00	0.00N	0.00E	==>	0.00	1445048.29	3207503.20
1994.44	19.39	170.860	1976.05	160.41S	25.82E	2.00	5.12	1444888.11	3207530.37
7138.80	19.39	170.860	6828.65	1846.51S	297.24E	==>	58.97	1443204.40	3207815.98
8067.61	90.00	269.560	7397.00	2048.58S	273.47W	10.00	657.68	1442997.54	3207247.00
18803.26	90.00	269.560	7397.00	2130.28S	11008.81W	==>	11213.02	1442825.45	3196513.07

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	170.860	1099.99	0.97S	0.16E	2.00	0.03	
1200.00	3.50	170.860	1199.89	5.28S	0.85E	2.00	0.17	
1300.00	5.50	170.860	1299.58	13.02S	2.10E	2.00	0.42	
1400.00	7.50	170.860	1398.93	24.20S	3.90E	2.00	0.77	
1500.00	9.50	170.860	1497.83	38.79S	6.24E	2.00	1.24	
1600.00	11.50	170.860	1596.15	56.78S	9.14E	2.00	1.81	
1700.00	13.50	170.860	1693.77	78.15S	12.58E	2.00	2.50	
1800.00	15.50	170.860	1790.58	102.87S	16.56E	2.00	3.29	
1900.00	17.50	170.860	1886.46	130.91S	21.07E	2.00	4.18	
2000.00	19.39	170.860	1981.29	162.23S	26.11E	==>	5.18	
2100.00	19.39	170.860	2075.62	195.00S	31.39E	==>	6.23	
2200.00	19.39	170.860	2169.95	227.78S	36.67E	==>	7.27	
2300.00	19.39	170.860	2264.27	260.55S	41.94E	==>	8.32	
2400.00	19.39	170.860	2358.60	293.33S	47.22E	==>	9.37	
2500.00	19.39	170.860	2452.93	326.11S	52.50E	==>	10.42	
2600.00	19.39	170.860	2547.26	358.88S	57.77E	==>	11.46	
2700.00	19.39	170.860	2641.59	391.66S	63.05E	==>	12.51	
2800.00	19.39	170.860	2735.92	424.43S	68.32E	==>	13.56	
2900.00	19.39	170.860	2830.25	457.21S	73.60E	==>	14.60	
3000.00	19.39	170.860	2924.58	489.99S	78.88E	==>	15.65	
3100.00	19.39	170.860	3018.90	522.76S	84.15E	==>	16.70	

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Coordinates are from Slot MD's are from Rig (Planned Datum #1 4922.0ft above Mean Sea Level)
Vertical Section is from 0.00N 0.00E on azimuth 259.050 degrees
Bottom hole distance is 11213.02 Feet on azimuth 259.05 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 K-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	19.39	170.860	3113.23	555.54S	89.43E	==>	17.74	
3300.00	19.39	170.860	3207.56	588.31S	94.70E	==>	18.79	
3400.00	19.39	170.860	3301.89	621.09S	99.98E	==>	19.84	
3500.00	19.39	170.860	3396.22	653.86S	105.26E	==>	20.88	
3600.00	19.39	170.860	3490.55	686.64S	110.53E	==>	21.93	
3700.00	19.39	170.860	3584.88	719.42S	115.81E	==>	22.98	
3800.00	19.39	170.860	3679.20	752.19S	121.08E	==>	24.02	
3900.00	19.39	170.860	3773.53	784.97S	126.36E	==>	25.07	
4000.00	19.39	170.860	3867.86	817.74S	131.64E	==>	26.12	
4100.00	19.39	170.860	3962.19	850.52S	136.91E	==>	27.16	
4200.00	19.39	170.860	4056.52	883.30S	142.19E	==>	28.21	
4300.00	19.39	170.860	4150.85	916.07S	147.47E	==>	29.26	
4400.00	19.39	170.860	4245.18	948.85S	152.74E	==>	30.30	
4500.00	19.39	170.860	4339.51	981.62S	158.02E	==>	31.35	
4600.00	19.39	170.860	4433.83	1014.40S	163.29E	==>	32.40	
4700.00	19.39	170.860	4528.16	1047.17S	168.57E	==>	33.45	
4800.00	19.39	170.860	4622.49	1079.95S	173.85E	==>	34.49	
4900.00	19.39	170.860	4716.82	1112.73S	179.12E	==>	35.54	
5000.00	19.39	170.860	4811.15	1145.50S	184.40E	==>	36.59	
5100.00	19.39	170.860	4905.48	1178.28S	189.67E	==>	37.63	
5200.00	19.39	170.860	4999.81	1211.05S	194.95E	==>	38.68	
5300.00	19.39	170.860	5094.14	1243.83S	200.23E	==>	39.73	
5400.00	19.39	170.860	5188.46	1276.61S	205.50E	==>	40.77	
5500.00	19.39	170.860	5282.79	1309.38S	210.78E	==>	41.82	
5600.00	19.39	170.860	5377.12	1342.16S	216.05E	==>	42.87	
5700.00	19.39	170.860	5471.45	1374.93S	221.33E	==>	43.91	
5800.00	19.39	170.860	5565.78	1407.71S	226.61E	==>	44.96	
5900.00	19.39	170.860	5660.11	1440.48S	231.88E	==>	46.01	
6000.00	19.39	170.860	5754.44	1473.26S	237.16E	==>	47.05	
6100.00	19.39	170.860	5848.77	1506.04S	242.44E	==>	48.10	
6200.00	19.39	170.860	5943.09	1538.81S	247.71E	==>	49.15	
6300.00	19.39	170.860	6037.42	1571.59S	252.99E	==>	50.19	
6400.00	19.39	170.860	6131.75	1604.36S	258.26E	==>	51.24	
6500.00	19.39	170.860	6226.08	1637.14S	263.54E	==>	52.29	
6600.00	19.39	170.860	6320.41	1669.92S	268.82E	==>	53.33	
6700.00	19.39	170.860	6414.74	1702.69S	274.09E	==>	54.38	
6800.00	19.39	170.860	6509.07	1735.47S	279.37E	==>	55.43	
6900.00	19.39	170.860	6603.39	1768.24S	284.64E	==>	56.47	
7000.00	19.39	170.860	6697.72	1801.02S	289.92E	==>	57.52	
7100.00	19.39	170.860	6792.05	1833.80S	295.20E	==>	58.57	
7200.00	19.44	189.340	6886.43	1866.61S	297.21E	10.00	62.83	
7300.00	23.16	215.170	6979.78	1899.20S	283.14E	10.00	82.83	
7400.00	29.79	232.140	7069.37	1930.60S	252.12E	10.00	119.25	
7500.00	37.82	242.940	7152.47	1959.87S	205.09E	10.00	170.99	
7600.00	46.52	250.300	7226.56	1986.11S	143.47E	10.00	236.47	
7700.00	55.58	255.770	7289.39	2008.53S	69.14E	10.00	313.70	
7800.00	64.83	260.160	7339.04	2026.45S	15.64W	10.00	400.35	
7900.00	74.19	263.910	7374.01	2039.32S	108.30W	10.00	493.77	
8000.00	83.62	267.330	7393.24	2046.76S	206.03W	10.00	591.12	
8100.00	90.00	269.560	7397.00	2048.82S	305.86W	==>	689.53	
8200.00	90.00	269.560	7397.00	2049.59S	405.85W	==>	787.85	
8300.00	90.00	269.560	7397.00	2050.35S	505.85W	==>	886.17	
8400.00	90.00	269.560	7397.00	2051.11S	605.85W	==>	984.49	
8500.00	90.00	269.560	7397.00	2051.87S	705.84W	==>	1082.81	
8600.00	90.00	269.560	7397.00	2052.63S	805.84W	==>	1181.13	
8700.00	90.00	269.560	7397.00	2053.39S	905.84W	==>	1279.45	
8800.00	90.00	269.560	7397.00	2054.15S	1005.84W	==>	1377.77	
8900.00	90.00	269.560	7397.00	2054.91S	1105.83W	==>	1476.09	
9000.00	90.00	269.560	7397.00	2055.67S	1205.83W	==>	1574.41	

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Vertical Section is from 0.00N 0.00E on azimuth 259.050 degrees
Bottom hole distance is 11213.02 Feet on azimuth 259.05 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 K-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	90.00	269.560	7397.00	2056.43S	1305.83W	==>	1672.73	
9200.00	90.00	269.560	7397.00	2057.20S	1405.82W	==>	1771.05	
9300.00	90.00	269.560	7397.00	2057.96S	1505.82W	==>	1869.37	
9400.00	90.00	269.560	7397.00	2058.72S	1605.82W	==>	1967.69	
9500.00	90.00	269.560	7397.00	2059.48S	1705.82W	==>	2066.01	
9600.00	90.00	269.560	7397.00	2060.24S	1805.81W	==>	2164.33	
9700.00	90.00	269.560	7397.00	2061.00S	1905.81W	==>	2262.65	
9800.00	90.00	269.560	7397.00	2061.76S	2005.81W	==>	2360.97	
9900.00	90.00	269.560	7397.00	2062.52S	2105.80W	==>	2459.30	
10000.00	90.00	269.560	7397.00	2063.28S	2205.80W	==>	2557.62	
10100.00	90.00	269.560	7397.00	2064.05S	2305.80W	==>	2655.94	
10200.00	90.00	269.560	7397.00	2064.81S	2405.80W	==>	2754.26	
10300.00	90.00	269.560	7397.00	2065.57S	2505.79W	==>	2852.58	
10400.00	90.00	269.560	7397.00	2066.33S	2605.79W	==>	2950.90	
10500.00	90.00	269.560	7397.00	2067.09S	2705.79W	==>	3049.22	
10600.00	90.00	269.560	7397.00	2067.85S	2805.78W	==>	3147.54	
10700.00	90.00	269.560	7397.00	2068.61S	2905.78W	==>	3245.86	
10800.00	90.00	269.560	7397.00	2069.37S	3005.78W	==>	3344.18	
10900.00	90.00	269.560	7397.00	2070.13S	3105.77W	==>	3442.50	
11000.00	90.00	269.560	7397.00	2070.89S	3205.77W	==>	3540.82	
11100.00	90.00	269.560	7397.00	2071.66S	3305.77W	==>	3639.14	
11200.00	90.00	269.560	7397.00	2072.42S	3405.77W	==>	3737.46	
11300.00	90.00	269.560	7397.00	2073.18S	3505.76W	==>	3835.78	
11400.00	90.00	269.560	7397.00	2073.94S	3605.76W	==>	3934.10	
11500.00	90.00	269.560	7397.00	2074.70S	3705.76W	==>	4032.42	
11600.00	90.00	269.560	7397.00	2075.46S	3805.75W	==>	4130.74	
11700.00	90.00	269.560	7397.00	2076.22S	3905.75W	==>	4229.06	
11800.00	90.00	269.560	7397.00	2076.98S	4005.75W	==>	4327.38	
11900.00	90.00	269.560	7397.00	2077.74S	4105.75W	==>	4425.70	
12000.00	90.00	269.560	7397.00	2078.50S	4205.74W	==>	4524.03	
12100.00	90.00	269.560	7397.00	2079.27S	4305.74W	==>	4622.35	
12200.00	90.00	269.560	7397.00	2080.03S	4405.74W	==>	4720.67	
12300.00	90.00	269.560	7397.00	2080.79S	4505.73W	==>	4818.99	
12400.00	90.00	269.560	7397.00	2081.55S	4605.73W	==>	4917.31	
12500.00	90.00	269.560	7397.00	2082.31S	4705.73W	==>	5015.63	
12600.00	90.00	269.560	7397.00	2083.07S	4805.73W	==>	5113.95	
12700.00	90.00	269.560	7397.00	2083.83S	4905.72W	==>	5212.27	
12800.00	90.00	269.560	7397.00	2084.59S	5005.72W	==>	5310.59	
12900.00	90.00	269.560	7397.00	2085.35S	5105.72W	==>	5408.91	
13000.00	90.00	269.560	7397.00	2086.11S	5205.71W	==>	5507.23	
13100.00	90.00	269.560	7397.00	2086.88S	5305.71W	==>	5605.55	
13200.00	90.00	269.560	7397.00	2087.64S	5405.71W	==>	5703.87	
13300.00	90.00	269.560	7397.00	2088.40S	5505.71W	==>	5802.19	
13400.00	90.00	269.560	7397.00	2089.16S	5605.70W	==>	5900.51	
13500.00	90.00	269.560	7397.00	2089.92S	5705.70W	==>	5998.83	
13600.00	90.00	269.560	7397.00	2090.68S	5805.70W	==>	6097.15	
13700.00	90.00	269.560	7397.00	2091.44S	5905.69W	==>	6195.47	
13800.00	90.00	269.560	7397.00	2092.20S	6005.69W	==>	6293.79	
13900.00	90.00	269.560	7397.00	2092.96S	6105.69W	==>	6392.11	
14000.00	90.00	269.560	7397.00	2093.73S	6205.69W	==>	6490.44	
14100.00	90.00	269.560	7397.00	2094.49S	6305.68W	==>	6588.76	
14200.00	90.00	269.560	7397.00	2095.25S	6405.68W	==>	6687.08	
14300.00	90.00	269.560	7397.00	2096.01S	6505.68W	==>	6785.40	
14400.00	90.00	269.560	7397.00	2096.77S	6605.67W	==>	6883.72	
14500.00	90.00	269.560	7397.00	2097.53S	6705.67W	==>	6982.04	
14600.00	90.00	269.560	7397.00	2098.29S	6805.67W	==>	7080.36	
14700.00	90.00	269.560	7397.00	2099.05S	6905.66W	==>	7178.68	
14800.00	90.00	269.560	7397.00	2099.81S	7005.66W	==>	7277.00	
14900.00	90.00	269.560	7397.00	2100.57S	7105.66W	==>	7375.32	

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Well Design Combined Report
Wellbore: W Leffler K-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	90.00	269.560	7397.00	2101.34S	7205.66W	==>	7473.64	
15100.00	90.00	269.560	7397.00	2102.10S	7305.65W	==>	7571.96	
15200.00	90.00	269.560	7397.00	2102.86S	7405.65W	==>	7670.28	
15300.00	90.00	269.560	7397.00	2103.62S	7505.65W	==>	7768.60	
15400.00	90.00	269.560	7397.00	2104.38S	7605.64W	==>	7866.92	
15500.00	90.00	269.560	7397.00	2105.14S	7705.64W	==>	7965.24	
15600.00	90.00	269.560	7397.00	2105.90S	7805.64W	==>	8063.56	
15700.00	90.00	269.560	7397.00	2106.66S	7905.64W	==>	8161.88	
15800.00	90.00	269.560	7397.00	2107.42S	8005.63W	==>	8260.20	
15900.00	90.00	269.560	7397.00	2108.18S	8105.63W	==>	8358.52	
16000.00	90.00	269.560	7397.00	2108.95S	8205.63W	==>	8456.84	
16100.00	90.00	269.560	7397.00	2109.71S	8305.62W	==>	8555.17	
16200.00	90.00	269.560	7397.00	2110.47S	8405.62W	==>	8653.49	
16300.00	90.00	269.560	7397.00	2111.23S	8505.62W	==>	8751.81	
16400.00	90.00	269.560	7397.00	2111.99S	8605.62W	==>	8850.13	
16500.00	90.00	269.560	7397.00	2112.75S	8705.61W	==>	8948.45	
16600.00	90.00	269.560	7397.00	2113.51S	8805.61W	==>	9046.77	
16700.00	90.00	269.560	7397.00	2114.27S	8905.61W	==>	9145.09	
16800.00	90.00	269.560	7397.00	2115.03S	9005.60W	==>	9243.41	
16900.00	90.00	269.560	7397.00	2115.79S	9105.60W	==>	9341.73	
17000.00	90.00	269.560	7397.00	2116.56S	9205.60W	==>	9440.05	
17100.00	90.00	269.560	7397.00	2117.32S	9305.60W	==>	9538.37	
17200.00	90.00	269.560	7397.00	2118.08S	9405.59W	==>	9636.69	
17300.00	90.00	269.560	7397.00	2118.84S	9505.59W	==>	9735.01	
17400.00	90.00	269.560	7397.00	2119.60S	9605.59W	==>	9833.33	
17500.00	90.00	269.560	7397.00	2120.36S	9705.58W	==>	9931.65	
17600.00	90.00	269.560	7397.00	2121.12S	9805.58W	==>	10029.97	
17700.00	90.00	269.560	7397.00	2121.88S	9905.58W	==>	10128.29	
17800.00	90.00	269.560	7397.00	2122.64S	10005.58W	==>	10226.61	
17900.00	90.00	269.560	7397.00	2123.41S	10105.57W	==>	10324.93	
18000.00	90.00	269.560	7397.00	2124.17S	10205.57W	==>	10423.25	
18100.00	90.00	269.560	7397.00	2124.93S	10305.57W	==>	10521.57	
18200.00	90.00	269.560	7397.00	2125.69S	10405.56W	==>	10619.90	
18300.00	90.00	269.560	7397.00	2126.45S	10505.56W	==>	10718.22	
18400.00	90.00	269.560	7397.00	2127.21S	10605.56W	==>	10816.54	
18500.00	90.00	269.560	7397.00	2127.97S	10705.55W	==>	10914.86	
18600.00	90.00	269.560	7397.00	2128.73S	10805.55W	==>	11013.18	
18700.00	90.00	269.560	7397.00	2129.49S	10905.55W	==>	11111.50	
18800.00	90.00	269.560	7397.00	2130.25S	11005.55W	==>	11209.82	
18803.26	90.00	269.560	7397.00	2130.28S	11008.81W	==>	11213.02	

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 4922.0ft above Mean Sea Level)
Vertical Section is from 0.00N 0.00E on azimuth 259.050 degrees
Bottom hole distance is 11213.02 Feet on azimuth 259.05 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 K-26-28HC (PWB)



Targets							
Name	North[ft]	East[ft]	TVD[ft]	Latitude	Longitude	Northing	Easting
Leffler K-26-28HC - BH	2130.28S	11008.81W	7397.00	40.54680500	-104.79287500	1442825.45	3196513.07
Leffler K-26-28HC - EP	2048.58S	273.47W	7397.00	40.54703600	-104.75424700	1442997.54	3207247.00

Survey Tool Program					
Reference	Survey Name	MD[ft]	TVD[ft]	Survey Tool	Error Model
676402	Planned	1500.00	1497.83	WdW Rate Gyro	Standard
676401	Planned	18803.26	7397.00	ISCWSA MWD	Rev 4 + SAG + FLT

Notes



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

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

Slot						
Name	Latitude	Longitude	Grid Northing	Grid Easting	North	East
Leffler K-26-28HC	40.55265900	-104.75326300	1445048.2881	3207503.2044	48.82S	75.59E

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 42-27	42.58	8643.24	8643.24	-14.09	8620.80	0.76	8637.20
W Leffler 32-27	102.65	10294.03	10294.03	-8.80	10277.62	0.92	10277.62
W Thornton 21K-443	123.84	17719.33	17719.33	-304.18	17700.00	0.29	17708.73
W Leffler 41-27	760.88	1930.31	8624.75	755.75	2009.91	27.46	9457.41
W Leffler 27C	976.75	9350.51	9350.51	899.20	9358.99	12.45	9473.82
W Leffler 1-27	1642.38	10015.16	10013.21	1540.89	10047.97	15.58	10376.05
W Leffler 31-27	1758.86	10294.03	10294.03	1647.73	10343.24	15.24	10671.33





