

# Petro Operating Company

Location Weld County, CO Slot BEF West 6  
Field Wattenberg Well W BEF West 6  
Installation Brighton East Farm Pad Wellbore W BEF West 6 (PWB)

Created by admin  
Date plotted 29-Oct-2018

Plot reference is W BEF West 6 (PWB).  
Ref wellpath is W BEF West 6 (PWP#1).  
Coordinates are in Feet reference BEF West 6.  
True Vertical Depths are reference Rig Datum.  
Measured Depths are reference Rig Datum.  
Rig Datum: Planned Datum #1  
Rig Datum to Mean Sea Level: 5069.00 ft.  
Plot North is aligned to GRID North.

Scale 1 cm = 400 ft

East (Feet) ->

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

<- North(Feet) Scale 1 cm = 400 ft

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

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

End of Build - 17.25 Inc, 2362.41 MD, 2349.44 TVD, 26.34 VS

Surface 0.00 N 0.00 E

BEF WEST 6 BHL

BEF WEST 6 EP

W BEF West 6 (PWB)

## 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	170.55	1500.00	S 0.00	W 0.00	0.00	-0.00
End of Build	2362.41	17.25	170.55	2349.44	S 127.08	E 21.16	2.00	26.34
End of Hold	7204.53	17.25	170.55	6973.81	S 1543.32	E 257.01	0.00	319.85
Target BEF WEST 6 EP	7976.22	90.00	269.35	7451.00	S 1695.10	W 218.28	12.00	817.83
T.D. & Target BEF...BHL	12240.61	90.00	269.35	7451.00	S 1743.21	W 4482.40	0.00	4809.44

End of Hold - 17.25 Inc, 7204.53 MD, 6973.81 TVD, 319.85 VS

BEF WEST 6 EP

S/C Kick off Point - 90.00 Inc, 7976.22 MD, 7451.00 TVD, 817.83 VS

T.D. & End of Hold - 7451.00 TVD, 1743.21 S 4482.40 W

BEF WEST 6 BHL

W BEF West 6 (PWB)

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The information contained herein is confidential and proprietary to Petro Operating Company.  
It is to be kept confidential and not to be used for any other purpose without the written consent of Petro Operating Company.

Scale 1 cm = 200 ft

Vertical Section (Feet) ->

Azimuth 248.75 with reference 0.00 N, 0.00 E from BEF West 6



SYSDRILL  
Well Design Combined Report  
Wellbore: W BEF West 6 (PWB)



Wellhead Details							
Name	Latitude	Longitude	Northing	Easting	North	East	Slot Elevation Above Ground
BEF West 6	39.99476000	-104.73461000	1241863.5043	3214440.5698	732.38N	16.09E	1.00

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	-5048.00	0.00N	0.00E		0.00
1500.00	0.00	170.550	1500.00	-3569.00	0.00N	0.00E	==>	0.00
2362.41	17.25	170.550	2349.44	-2719.56	127.08S	21.16E	2.00	26.34
7204.53	17.25	170.550	6973.81	1904.81	1543.32S	257.01E	==>	319.85
7976.22	90.00	269.350	7451.00	2382.00	1695.10S	218.28W	12.00	817.83
12240.61	90.00	269.350	7451.00	2382.00	1743.21S	4482.40W	==>	4809.44

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	39.99476000	-104.73461000
21.00	0.00	0.000	21.00	0.00N	0.00E	==>	0.00	39.99476000	-104.73461000
100.00	0.00	0.000	100.00	0.00N	0.00E	==>	0.00	39.99476000	-104.73461000
200.00	0.00	0.000	200.00	0.00N	0.00E	==>	0.00	39.99476000	-104.73461000
300.00	0.00	0.000	300.00	0.00N	0.00E	==>	0.00	39.99476000	-104.73461000
400.00	0.00	0.000	400.00	0.00N	0.00E	==>	0.00	39.99476000	-104.73461000
500.00	0.00	0.000	500.00	0.00N	0.00E	==>	0.00	39.99476000	-104.73461000
600.00	0.00	0.000	600.00	0.00N	0.00E	==>	0.00	39.99476000	-104.73461000
700.00	0.00	0.000	700.00	0.00N	0.00E	==>	0.00	39.99476000	-104.73461000
800.00	0.00	0.000	800.00	0.00N	0.00E	==>	0.00	39.99476000	-104.73461000
900.00	0.00	0.000	900.00	0.00N	0.00E	==>	0.00	39.99476000	-104.73461000
1000.00	0.00	0.000	1000.00	0.00N	0.00E	==>	0.00	39.99476000	-104.73461000
1100.00	0.00	0.000	1100.00	0.00N	0.00E	==>	0.00	39.99476000	-104.73461000
1200.00	0.00	0.000	1200.00	0.00N	0.00E	==>	0.00	39.99476000	-104.73461000
1300.00	0.00	0.000	1300.00	0.00N	0.00E	==>	0.00	39.99476000	-104.73461000
1400.00	0.00	0.000	1400.00	0.00N	0.00E	==>	0.00	39.99476000	-104.73461000
1500.00	0.00	170.550	1500.00	0.00N	0.00E	==>	0.00	39.99476000	-104.73461000
1600.00	2.00	170.550	1599.98	1.72S	0.29E	2.00	0.36	39.99475527	-104.73460903
1700.00	4.00	170.550	1699.84	6.88S	1.15E	2.00	1.43	39.99474108	-104.73460612
1800.00	6.00	170.550	1799.45	15.48S	2.58E	2.00	3.21	39.99471745	-104.73460128
1900.00	8.00	170.550	1898.70	27.50S	4.58E	2.00	5.70	39.99468440	-104.73459450
2000.00	10.00	170.550	1997.47	42.93S	7.15E	2.00	8.90	39.99464198	-104.73458581
2100.00	12.00	170.550	2095.62	61.75S	10.28E	2.00	12.80	39.99459025	-104.73457520
2200.00	14.00	170.550	2193.06	83.94S	13.98E	2.00	17.40	39.99452925	-104.73456270
2300.00	16.00	170.550	2289.64	109.47S	18.23E	2.00	22.69	39.99445908	-104.73454831
2362.41	17.25	170.550	2349.44	127.08S	21.16E	2.00	26.34	39.99441066	-104.73453839
2400.00	17.25	170.550	2385.34	138.08S	22.99E	==>	28.62	39.99438044	-104.73453219
2500.00	17.25	170.550	2480.85	167.32S	27.86E	==>	34.68	39.99430004	-104.73451571
2600.00	17.25	170.550	2576.35	196.57S	32.74E	==>	40.74	39.99421963	-104.73449922
2700.00	17.25	170.550	2671.85	225.82S	37.61E	==>	46.80	39.99413923	-104.73448274
2800.00	17.25	170.550	2767.35	255.07S	42.48E	==>	52.86	39.99405883	-104.73446626
2900.00	17.25	170.550	2862.86	284.32S	47.35E	==>	58.92	39.99397843	-104.73444978

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 5069.0ft above Mean Sea Level )  
Vertical Section is from 0.00N 0.00E on azimuth 248.750 degrees  
Bottom hole distance is 4809.44 Feet on azimuth 248.75 degrees from Wellhead  
Calculation method uses Minimum Curvature method  
Prepared by IPT  
Date Printed: 29-Oct-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)
3000.00	17.25	170.550	2958.36	313.57S	52.22E	==>	64.99	39.99389803	-104.73443330
3100.00	17.25	170.550	3053.86	342.81S	57.09E	==>	71.05	39.99381762	-104.73441681
3200.00	17.25	170.550	3149.37	372.06S	61.96E	==>	77.11	39.99373722	-104.73440033
3300.00	17.25	170.550	3244.87	401.31S	66.83E	==>	83.17	39.99365682	-104.73438385
3400.00	17.25	170.550	3340.37	430.56S	71.70E	==>	89.23	39.99357642	-104.73436737
3500.00	17.25	170.550	3435.87	459.81S	76.57E	==>	95.29	39.99349602	-104.73435089
3600.00	17.25	170.550	3531.38	489.06S	81.44E	==>	101.36	39.99341561	-104.73433440
3700.00	17.25	170.550	3626.88	518.30S	86.31E	==>	107.42	39.99333521	-104.73431792
3800.00	17.25	170.550	3722.38	547.55S	91.19E	==>	113.48	39.99325481	-104.73430144
3900.00	17.25	170.550	3817.89	576.80S	96.06E	==>	119.54	39.99317441	-104.73428496
4000.00	17.25	170.550	3913.39	606.05S	100.93E	==>	125.60	39.99309401	-104.73426848
4100.00	17.25	170.550	4008.89	635.30S	105.80E	==>	131.66	39.99301361	-104.73425200
4200.00	17.25	170.550	4104.40	664.55S	110.67E	==>	137.73	39.99293320	-104.73423551
4300.00	17.25	170.550	4199.90	693.80S	115.54E	==>	143.79	39.99285280	-104.73421903
4400.00	17.25	170.550	4295.40	723.04S	120.41E	==>	149.85	39.99277240	-104.73420255
4500.00	17.25	170.550	4390.90	752.29S	125.28E	==>	155.91	39.99269200	-104.73418607
4600.00	17.25	170.550	4486.41	781.54S	130.15E	==>	161.97	39.99261160	-104.73416959
4700.00	17.25	170.550	4581.91	810.79S	135.02E	==>	168.03	39.99253119	-104.73415311
4800.00	17.25	170.550	4677.41	840.04S	139.89E	==>	174.10	39.99245079	-104.73413662
4900.00	17.25	170.550	4772.92	869.29S	144.76E	==>	180.16	39.99237039	-104.73412014
5000.00	17.25	170.550	4868.42	898.53S	149.63E	==>	186.22	39.99228999	-104.73410366
5100.00	17.25	170.550	4963.92	927.78S	154.51E	==>	192.28	39.99220959	-104.73408718
5200.00	17.25	170.550	5059.42	957.03S	159.38E	==>	198.34	39.99212918	-104.73407070
5300.00	17.25	170.550	5154.93	986.28S	164.25E	==>	204.40	39.99204878	-104.73405422
5400.00	17.25	170.550	5250.43	1015.53S	169.12E	==>	210.47	39.99196838	-104.73403774
5500.00	17.25	170.550	5345.93	1044.78S	173.99E	==>	216.53	39.99188798	-104.73402126
5600.00	17.25	170.550	5441.44	1074.02S	178.86E	==>	222.59	39.99180758	-104.73400477
5700.00	17.25	170.550	5536.94	1103.27S	183.73E	==>	228.65	39.99172717	-104.73398829
5800.00	17.25	170.550	5632.44	1132.52S	188.60E	==>	234.71	39.99164677	-104.73397181
5900.00	17.25	170.550	5727.94	1161.77S	193.47E	==>	240.77	39.99156637	-104.73395533
6000.00	17.25	170.550	5823.45	1191.02S	198.34E	==>	246.84	39.99148597	-104.73393885
6100.00	17.25	170.550	5918.95	1220.27S	203.21E	==>	252.90	39.99140557	-104.73392237
6200.00	17.25	170.550	6014.45	1249.51S	208.08E	==>	258.96	39.99132516	-104.73390589
6300.00	17.25	170.550	6109.96	1278.76S	212.95E	==>	265.02	39.99124476	-104.73388941
6400.00	17.25	170.550	6205.46	1308.01S	217.83E	==>	271.08	39.99116436	-104.73387293
6500.00	17.25	170.550	6300.96	1337.26S	222.70E	==>	277.14	39.99108396	-104.73385645
6600.00	17.25	170.550	6396.47	1366.51S	227.57E	==>	283.21	39.99100356	-104.73383997
6700.00	17.25	170.550	6491.97	1395.76S	232.44E	==>	289.27	39.99092315	-104.73382348
6800.00	17.25	170.550	6587.47	1425.00S	237.31E	==>	295.33	39.99084275	-104.73380700
6900.00	17.25	170.550	6682.97	1454.25S	242.18E	==>	301.39	39.99076235	-104.73379052
7000.00	17.25	170.550	6778.48	1483.50S	247.05E	==>	307.45	39.99068195	-104.73377404
7100.00	17.25	170.550	6873.98	1512.75S	251.92E	==>	313.51	39.99060155	-104.73375756
7200.00	17.25	170.550	6969.48	1542.00S	256.79E	==>	319.58	39.99052114	-104.73374108
7204.53	17.25	170.550	6973.81	1543.32S	257.01E	==>	319.85	39.99051750	-104.73374034
7300.00	19.16	207.320	7064.79	1571.29S	252.13E	12.00	334.54	39.99044084	-104.73375862
7400.00	26.70	231.760	7157.03	1599.88S	226.86E	12.00	368.45	39.99036296	-104.73384967
7500.00	36.57	244.930	7242.17	1626.51S	182.07E	12.00	419.85	39.99029093	-104.73401034
7600.00	47.33	252.930	7316.48	1650.01S	119.71E	12.00	486.48	39.99022789	-104.73423360
7700.00	58.48	258.510	7376.72	1669.37S	42.52E	12.00	565.45	39.99017659	-104.73450970
7800.00	69.83	262.880	7420.26	1683.73S	46.15W	12.00	653.29	39.99013927	-104.73482656
7900.00	81.26	266.650	7445.20	1692.47S	142.41W	12.00	746.17	39.99011757	-104.73517034
7976.22	90.00	269.350	7451.00	1695.10S	218.28W	12.00	817.83	39.99011213	-104.73544118
8000.00	90.00	269.350	7451.00	1695.37S	242.06W	==>	840.10	39.99011196	-104.73552606
8100.00	90.00	269.350	7451.00	1696.50S	342.05W	==>	933.70	39.99011123	-104.73588294
8200.00	90.00	269.350	7451.00	1697.63S	442.05W	==>	1027.30	39.99011049	-104.73623982
8300.00	90.00	269.350	7451.00	1698.75S	542.04W	==>	1120.90	39.99010976	-104.73659670
8400.00	90.00	269.350	7451.00	1699.88S	642.03W	==>	1214.51	39.99010903	-104.73695358
8500.00	90.00	269.350	7451.00	1701.01S	742.03W	==>	1308.11	39.99010829	-104.73731046

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Vertical Section is from 0.00N 0.00E on azimuth 248.750 degrees  
Bottom hole distance is 4809.44 Feet on azimuth 248.75 degrees from Wellhead  
Calculation method uses Minimum Curvature method  
Prepared by IPT  
Date Printed: 29-Oct-2018



SYSDRILL  
Well Design Combined Report  
Wellbore: W BEF West 6 (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)
8600.00	90.00	269.350	7451.00	1702.14S	842.02W	==>	1401.71	39.99010756	-104.73766734
8700.00	90.00	269.350	7451.00	1703.27S	942.01W	==>	1495.32	39.99010682	-104.73802423
8800.00	90.00	269.350	7451.00	1704.39S	1042.01W	==>	1588.92	39.99010608	-104.73838111
8900.00	90.00	269.350	7451.00	1705.52S	1142.00W	==>	1682.52	39.99010534	-104.73873799
9000.00	90.00	269.350	7451.00	1706.65S	1241.99W	==>	1776.13	39.99010460	-104.73909487
9100.00	90.00	269.350	7451.00	1707.78S	1341.99W	==>	1869.73	39.99010386	-104.73945175
9200.00	90.00	269.350	7451.00	1708.91S	1441.98W	==>	1963.33	39.99010312	-104.73980863
9300.00	90.00	269.350	7451.00	1710.04S	1541.98W	==>	2056.93	39.99010237	-104.74016551
9400.00	90.00	269.350	7451.00	1711.16S	1641.97W	==>	2150.54	39.99010163	-104.74052239
9500.00	90.00	269.350	7451.00	1712.29S	1741.96W	==>	2244.14	39.99010088	-104.74087928
9600.00	90.00	269.350	7451.00	1713.42S	1841.96W	==>	2337.74	39.99010013	-104.74123616
9700.00	90.00	269.350	7451.00	1714.55S	1941.95W	==>	2431.35	39.99009938	-104.74159304
9800.00	90.00	269.350	7451.00	1715.68S	2041.94W	==>	2524.95	39.99009863	-104.74194992
9900.00	90.00	269.350	7451.00	1716.80S	2141.94W	==>	2618.55	39.99009788	-104.74230680
10000.00	90.00	269.350	7451.00	1717.93S	2241.93W	==>	2712.16	39.99009713	-104.74266368
10100.00	90.00	269.350	7451.00	1719.06S	2341.92W	==>	2805.76	39.99009638	-104.74302056
10200.00	90.00	269.350	7451.00	1720.19S	2441.92W	==>	2899.36	39.99009563	-104.74337745
10300.00	90.00	269.350	7451.00	1721.32S	2541.91W	==>	2992.97	39.99009487	-104.74373433
10400.00	90.00	269.350	7451.00	1722.44S	2641.91W	==>	3086.57	39.99009411	-104.74409121
10500.00	90.00	269.350	7451.00	1723.57S	2741.90W	==>	3180.17	39.99009336	-104.74444809
10600.00	90.00	269.350	7451.00	1724.70S	2841.89W	==>	3273.77	39.99009260	-104.74480497
10700.00	90.00	269.350	7451.00	1725.83S	2941.89W	==>	3367.38	39.99009184	-104.74516185
10800.00	90.00	269.350	7451.00	1726.96S	3041.88W	==>	3460.98	39.99009108	-104.74551873
10900.00	90.00	269.350	7451.00	1728.08S	3141.87W	==>	3554.58	39.99009032	-104.74587561
11000.00	90.00	269.350	7451.00	1729.21S	3241.87W	==>	3648.19	39.99008955	-104.74623250
11100.00	90.00	269.350	7451.00	1730.34S	3341.86W	==>	3741.79	39.99008879	-104.74658938
11200.00	90.00	269.350	7451.00	1731.47S	3441.85W	==>	3835.39	39.99008803	-104.74694626
11300.00	90.00	269.350	7451.00	1732.60S	3541.85W	==>	3929.00	39.99008726	-104.74730314
11400.00	90.00	269.350	7451.00	1733.72S	3641.84W	==>	4022.60	39.99008649	-104.74766002
11500.00	90.00	269.350	7451.00	1734.85S	3741.84W	==>	4116.20	39.99008572	-104.74801690
11600.00	90.00	269.350	7451.00	1735.98S	3841.83W	==>	4209.80	39.99008496	-104.74837378
11700.00	90.00	269.350	7451.00	1737.11S	3941.82W	==>	4303.41	39.99008418	-104.74873066
11800.00	90.00	269.350	7451.00	1738.24S	4041.82W	==>	4397.01	39.99008341	-104.74908755
11900.00	90.00	269.350	7451.00	1739.37S	4141.81W	==>	4490.61	39.99008264	-104.74944443
12000.00	90.00	269.350	7451.00	1740.49S	4241.80W	==>	4584.22	39.99008187	-104.74980131
12100.00	90.00	269.350	7451.00	1741.62S	4341.80W	==>	4677.82	39.99008109	-104.75015819
12200.00	90.00	269.350	7451.00	1742.75S	4441.79W	==>	4771.42	39.99008032	-104.75051507
12240.61	90.00	269.350	7451.00	1743.21S	4482.40W	==>	4809.44	39.99008000	-104.75066000

All data is in Feet unless otherwise stated  
Coordinates are from Slot MD's are from Rig ( Planned Datum #1 5069.0ft above Mean Sea Level )  
Vertical Section is from 0.00N 0.00E on azimuth 248.750 degrees  
Bottom hole distance is 4809.44 Feet on azimuth 248.75 degrees from Wellhead  
Calculation method uses Minimum Curvature method  
Prepared by IPT  
Date Printed: 29-Oct-2018



SYSDRILL  
Well Design Combined Report  
Wellbore: W BEF West 6 (PWB)



Targets							
Name	North[ft]	East[ft]	TVD[ft]	Latitude	Longitude	Northing	Easting
BEF WEST 6 BHL	1743.21S	4482.40W	7451.00	39.99008000	-104.75066000	1240120.36	3209958.33
BEF WEST 6 EP	1695.10S	128.28W	7451.00	39.99011000	-104.73512000	1240168.46	3214312.30

Survey Tool Program						
Reference	Survey Name	MD[ft]	TVD[ft]	Survey Tool	Error Model	
577591	Planned	2000.00	1997.47	WdW Rate Gyro	Standard	
577590	Planned	12240.61	7451.00	ISCWSA MWD	Rev 4 + SAG + FLT	

Notes