

# BAYSWATER E & P, LLC

Location	Weld County, CO	Slot	EAST AULT WA-18-19HN
Field	WATTENBERG	Well	W EAST AULT WA-18-19HN
Installation	East Ault Pad	Wellbore	W EAST AULT WA-18-19HN (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	77.38	1025.00	S 0.00	W 0.00	0.00	0.00
End of Build	1919.56	17.89	77.38	1905.09	N 30.26	E 135.19	2.00	-5.10
End of Hold	6827.37	17.89	77.38	6575.57	N 359.60	E 1606.51	0.00	-60.60
Target EAST A...N - EP	7766.07	90.09	179.79	7158.00	S 212.29	E 1792.51	10.00	535.62
T.D. & Target EAS...BHL	17406.92	90.09	179.79	7143.00	S 9853.06	E 1827.49	0.00	10021.10

East (Feet) ->

-800 0 800 1600 2400 3200  
Scale 1 cm = 400 ft

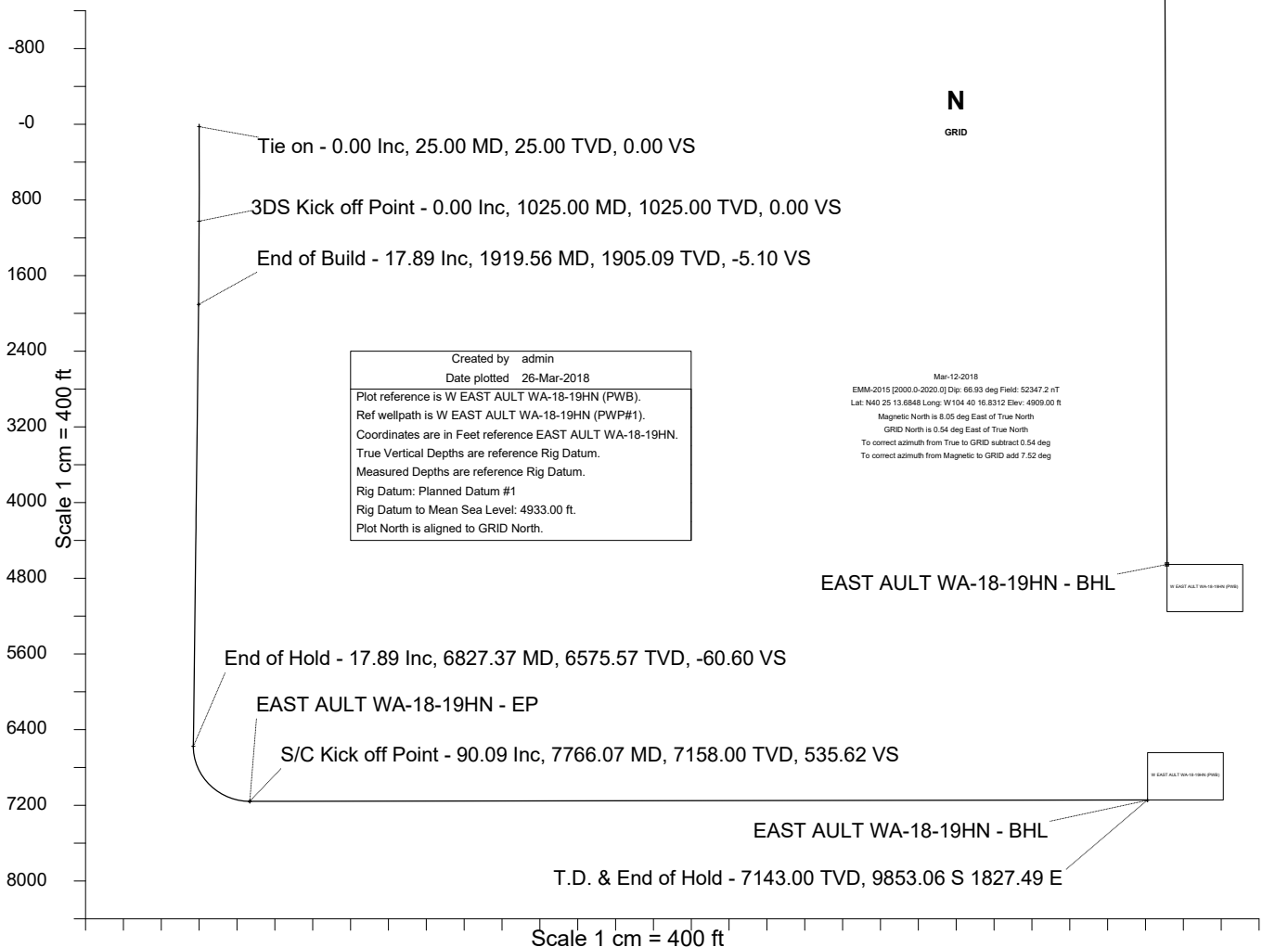
Surface 0.00 N 0.00 E

EAST AULT WA-18-19HN - EP

1600  
800  
0  
-800  
-1600  
-2400  
-3200  
-4000  
-4800  
-5600  
-6400  
-7200  
-8000  
-8800  
-9600  
-10400  
-11200  
Scale 1 cm = 400 ft  
<- North(Feet)

N  
GRID

<- True Vertical Depth (Feet)



Azimuth 169.49 with reference 0.00 N, 0.00 E from EAST AULT WA-18-19HN



SYSDRILL  
Well Design Combined Report  
Wellbore: W EAST AULT WA-18-19HN (PWB)



### Wellhead Details

Name	Latitude	Longitude	Northing	Easting	North	East	Slot Elevation Above Ground
EAST AULT WA-18-19HN	40.58166900	-104.70423100	1455735.0510	3221033.0150	58642.59N	9684.18W	0.00

### Declination

Date	Source	Time
Mar-12-2018	EMM-2015 [2000.0-2020.0]	20:03

### Installation Details

Name	Installation Position (Latitude)	Installation Position (Longitude)	Northing	Easting	Coord System Name	North Alignment
East Ault Pad	40.42046800	-104.67134200	1397094.8569	3230716.7970	CO83-NF on NORTH AMERICAN DATUM 1983 datum	Grid

### 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	1455735.05	3221033.02
1025.00	0.00	77.380	1025.00	0.00N	0.00E	==>	0.00	1455735.05	3221033.02
1919.56	17.89	77.380	1905.09	30.26N	135.19E	2.00	-5.10	1455765.31	3221168.20
6827.37	17.89	77.380	6575.57	359.60N	1606.51E	==>	-60.60	1456094.64	3222639.48
7766.07	90.09	179.790	7158.00	212.29S	1792.51E	10.00	535.62	1455522.77	3222825.48
17406.92	90.09	179.790	7143.00	9853.06S	1827.49E	==>	10021.10	1445882.27	3222860.45

### 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	77.380	1099.99	0.21N	0.96E	2.00	-0.04	
1200.00	3.50	77.380	1199.89	1.17N	5.21E	2.00	-0.20	
1300.00	5.50	77.380	1299.58	2.88N	12.87E	2.00	-0.49	
1400.00	7.50	77.380	1398.93	5.35N	23.92E	2.00	-0.90	
1500.00	9.50	77.380	1497.83	8.58N	38.34E	2.00	-1.45	
1600.00	11.50	77.380	1596.15	12.56N	56.12E	2.00	-2.12	
1700.00	13.50	77.380	1693.77	17.29N	77.24E	2.00	-2.91	
1800.00	15.50	77.380	1790.58	22.76N	101.68E	2.00	-3.84	
1900.00	17.50	77.380	1886.46	28.96N	129.39E	2.00	-4.88	
2000.00	17.89	77.380	1981.64	35.66N	159.31E	==>	-6.01	
2100.00	17.89	77.380	2076.81	42.37N	189.29E	==>	-7.14	
2200.00	17.89	77.380	2171.97	49.08N	219.26E	==>	-8.27	
2300.00	17.89	77.380	2267.14	55.79N	249.24E	==>	-9.40	
2400.00	17.89	77.380	2362.30	62.50N	279.22E	==>	-10.53	
2500.00	17.89	77.380	2457.46	69.21N	309.20E	==>	-11.66	
2600.00	17.89	77.380	2552.63	75.92N	339.18E	==>	-12.79	
2700.00	17.89	77.380	2647.79	82.63N	369.16E	==>	-13.93	
2800.00	17.89	77.380	2742.96	89.34N	399.14E	==>	-15.06	
2900.00	17.89	77.380	2838.12	96.05N	429.12E	==>	-16.19	
3000.00	17.89	77.380	2933.29	102.76N	459.10E	==>	-17.32	

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Coordinates are from Slot MD's are from Rig and TVD's are from Rig ( Planned Datum #1 4933.0ft above Mean Sea Level )  
Vertical Section is from 0.00N 0.00E on azimuth 169.490 degrees  
Bottom hole distance is 10021.10 Feet on azimuth 169.49 degrees from Wellhead  
Calculation method uses Minimum Curvature method  
Prepared by Microsoft  
Date Printed: 26-Mar-2018



SYSDRILL  
Well Design Combined Report  
Wellbore: W EAST AULT WA-18-19HN (PWB)



Interpolated Wellpath								
MD[ft]	Inc[deg]	Azi[deg]	TVD[ft]	North[ft]	East[ft]	Dogleg [deg/100ft]	Vertical Section[ft]	All Station Comments
3100.00	17.89	77.380	3028.45	109.47N	489.08E	==>	-18.45	
3200.00	17.89	77.380	3123.61	116.18N	519.06E	==>	-19.58	
3300.00	17.89	77.380	3218.78	122.90N	549.03E	==>	-20.71	
3400.00	17.89	77.380	3313.94	129.61N	579.01E	==>	-21.84	
3500.00	17.89	77.380	3409.11	136.32N	608.99E	==>	-22.97	
3600.00	17.89	77.380	3504.27	143.03N	638.97E	==>	-24.10	
3700.00	17.89	77.380	3599.43	149.74N	668.95E	==>	-25.23	
3800.00	17.89	77.380	3694.60	156.45N	698.93E	==>	-26.36	
3900.00	17.89	77.380	3789.76	163.16N	728.91E	==>	-27.50	
4000.00	17.89	77.380	3884.93	169.87N	758.89E	==>	-28.63	
4100.00	17.89	77.380	3980.09	176.58N	788.87E	==>	-29.76	
4200.00	17.89	77.380	4075.26	183.29N	818.85E	==>	-30.89	
4300.00	17.89	77.380	4170.42	190.00N	848.83E	==>	-32.02	
4400.00	17.89	77.380	4265.58	196.71N	878.80E	==>	-33.15	
4500.00	17.89	77.380	4360.75	203.42N	908.78E	==>	-34.28	
4600.00	17.89	77.380	4455.91	210.13N	938.76E	==>	-35.41	
4700.00	17.89	77.380	4551.08	216.84N	968.74E	==>	-36.54	
4800.00	17.89	77.380	4646.24	223.55N	998.72E	==>	-37.67	
4900.00	17.89	77.380	4741.40	230.26N	1028.70E	==>	-38.80	
5000.00	17.89	77.380	4836.57	236.97N	1058.68E	==>	-39.93	
5100.00	17.89	77.380	4931.73	243.68N	1088.66E	==>	-41.07	
5200.00	17.89	77.380	5026.90	250.39N	1118.64E	==>	-42.20	
5300.00	17.89	77.380	5122.06	257.10N	1148.62E	==>	-43.33	
5400.00	17.89	77.380	5217.23	263.82N	1178.60E	==>	-44.46	
5500.00	17.89	77.380	5312.39	270.53N	1208.57E	==>	-45.59	
5600.00	17.89	77.380	5407.55	277.24N	1238.55E	==>	-46.72	
5700.00	17.89	77.380	5502.72	283.95N	1268.53E	==>	-47.85	
5800.00	17.89	77.380	5597.88	290.66N	1298.51E	==>	-48.98	
5900.00	17.89	77.380	5693.05	297.37N	1328.49E	==>	-50.11	
6000.00	17.89	77.380	5788.21	304.08N	1358.47E	==>	-51.24	
6100.00	17.89	77.380	5883.38	310.79N	1388.45E	==>	-52.37	
6200.00	17.89	77.380	5978.54	317.50N	1418.43E	==>	-53.50	
6300.00	17.89	77.380	6073.70	324.21N	1448.41E	==>	-54.64	
6400.00	17.89	77.380	6168.87	330.92N	1478.39E	==>	-55.77	
6500.00	17.89	77.380	6264.03	337.63N	1508.37E	==>	-56.90	
6600.00	17.89	77.380	6359.20	344.34N	1538.34E	==>	-58.03	
6700.00	17.89	77.380	6454.36	351.05N	1568.32E	==>	-59.16	
6800.00	17.89	77.380	6549.52	357.76N	1598.30E	==>	-60.29	
6900.00	17.83	101.220	6644.79	359.87N	1628.33E	10.00	-56.89	
7000.00	21.96	128.340	6739.00	345.26N	1658.10E	10.00	-37.09	
7100.00	28.99	145.080	6829.34	313.71N	1686.71E	10.00	-0.85	
7200.00	37.31	155.320	6913.05	266.18N	1713.31E	10.00	50.73	
7300.00	46.21	162.170	6987.61	204.12N	1737.07E	10.00	116.08	
7400.00	55.43	167.210	7050.74	129.42N	1757.28E	10.00	193.21	
7500.00	64.80	171.230	7100.53	44.34N	1773.33E	10.00	279.79	
7600.00	74.27	174.670	7135.46	48.52S	1784.73E	10.00	373.18	
7700.00	83.79	177.800	7154.47	146.36S	1791.13E	10.00	470.55	
7800.00	90.09	179.790	7157.95	246.22S	1792.63E	==>	569.00	
7900.00	90.09	179.790	7157.79	346.22S	1793.00E	==>	667.39	
8000.00	90.09	179.790	7157.64	446.22S	1793.36E	==>	765.78	
8100.00	90.09	179.790	7157.48	546.21S	1793.72E	==>	864.17	
8200.00	90.09	179.790	7157.32	646.21S	1794.09E	==>	962.55	
8300.00	90.09	179.790	7157.17	746.21S	1794.45E	==>	1060.94	
8400.00	90.09	179.790	7157.01	846.21S	1794.81E	==>	1159.33	
8500.00	90.09	179.790	7156.86	946.21S	1795.17E	==>	1257.72	
8600.00	90.09	179.790	7156.70	1046.21S	1795.54E	==>	1356.11	
8700.00	90.09	179.790	7156.55	1146.21S	1795.90E	==>	1454.50	
8800.00	90.09	179.790	7156.39	1246.21S	1796.26E	==>	1552.89	
8900.00	90.09	179.790	7156.24	1346.21S	1796.63E	==>	1651.27	

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Coordinates are from Slot MD's are from Rig and TVD's are from Rig ( Planned Datum #1 4933.0ft above Mean Sea Level )  
Vertical Section is from 0.00N 0.00E on azimuth 169.490 degrees  
Bottom hole distance is 10021.10 Feet on azimuth 169.49 degrees from Wellhead  
Calculation method uses Minimum Curvature method  
Prepared by Microsoft  
Date Printed: 26-Mar-2018



SYSDRILL  
Well Design Combined Report  
Wellbore: W EAST AULT WA-18-19HN (PWB)



Interpolated Wellpath								
MD[ft]	Inc[deg]	Azi[deg]	TVD[ft]	North[ft]	East[ft]	Dogleg [deg/100ft]	Vertical Section[ft]	All Station Comments
9000.00	90.09	179.790	7156.08	1446.21S	1796.99E	==>	1749.66	
9100.00	90.09	179.790	7155.92	1546.21S	1797.35E	==>	1848.05	
9200.00	90.09	179.790	7155.77	1646.21S	1797.71E	==>	1946.44	
9300.00	90.09	179.790	7155.61	1746.21S	1798.08E	==>	2044.83	
9400.00	90.09	179.790	7155.46	1846.20S	1798.44E	==>	2143.22	
9500.00	90.09	179.790	7155.30	1946.20S	1798.80E	==>	2241.60	
9600.00	90.09	179.790	7155.15	2046.20S	1799.16E	==>	2339.99	
9700.00	90.09	179.790	7154.99	2146.20S	1799.53E	==>	2438.38	
9800.00	90.09	179.790	7154.84	2246.20S	1799.89E	==>	2536.77	
9900.00	90.09	179.790	7154.68	2346.20S	1800.25E	==>	2635.16	
10000.00	90.09	179.790	7154.52	2446.20S	1800.62E	==>	2733.55	
10100.00	90.09	179.790	7154.37	2546.20S	1800.98E	==>	2831.94	
10200.00	90.09	179.790	7154.21	2646.20S	1801.34E	==>	2930.32	
10300.00	90.09	179.790	7154.06	2746.20S	1801.70E	==>	3028.71	
10400.00	90.09	179.790	7153.90	2846.20S	1802.07E	==>	3127.10	
10500.00	90.09	179.790	7153.75	2946.20S	1802.43E	==>	3225.49	
10600.00	90.09	179.790	7153.59	3046.20S	1802.79E	==>	3323.88	
10700.00	90.09	179.790	7153.44	3146.19S	1803.16E	==>	3422.27	
10800.00	90.09	179.790	7153.28	3246.19S	1803.52E	==>	3520.66	
10900.00	90.09	179.790	7153.12	3346.19S	1803.88E	==>	3619.04	
11000.00	90.09	179.790	7152.97	3446.19S	1804.24E	==>	3717.43	
11100.00	90.09	179.790	7152.81	3546.19S	1804.61E	==>	3815.82	
11200.00	90.09	179.790	7152.66	3646.19S	1804.97E	==>	3914.21	
11300.00	90.09	179.790	7152.50	3746.19S	1805.33E	==>	4012.60	
11400.00	90.09	179.790	7152.35	3846.19S	1805.69E	==>	4110.99	
11500.00	90.09	179.790	7152.19	3946.19S	1806.06E	==>	4209.37	
11600.00	90.09	179.790	7152.03	4046.19S	1806.42E	==>	4307.76	
11700.00	90.09	179.790	7151.88	4146.19S	1806.78E	==>	4406.15	
11800.00	90.09	179.790	7151.72	4246.19S	1807.15E	==>	4504.54	
11900.00	90.09	179.790	7151.57	4346.19S	1807.51E	==>	4602.93	
12000.00	90.09	179.790	7151.41	4446.18S	1807.87E	==>	4701.32	
12100.00	90.09	179.790	7151.26	4546.18S	1808.23E	==>	4799.71	
12200.00	90.09	179.790	7151.10	4646.18S	1808.60E	==>	4898.09	
12300.00	90.09	179.790	7150.95	4746.18S	1808.96E	==>	4996.48	
12400.00	90.09	179.790	7150.79	4846.18S	1809.32E	==>	5094.87	
12500.00	90.09	179.790	7150.63	4946.18S	1809.69E	==>	5193.26	
12600.00	90.09	179.790	7150.48	5046.18S	1810.05E	==>	5291.65	
12700.00	90.09	179.790	7150.32	5146.18S	1810.41E	==>	5390.04	
12800.00	90.09	179.790	7150.17	5246.18S	1810.77E	==>	5488.43	
12900.00	90.09	179.790	7150.01	5346.18S	1811.14E	==>	5586.81	
13000.00	90.09	179.790	7149.86	5446.18S	1811.50E	==>	5685.20	
13100.00	90.09	179.790	7149.70	5546.18S	1811.86E	==>	5783.59	
13200.00	90.09	179.790	7149.55	5646.18S	1812.23E	==>	5881.98	
13300.00	90.09	179.790	7149.39	5746.17S	1812.59E	==>	5980.37	
13400.00	90.09	179.790	7149.23	5846.17S	1812.95E	==>	6078.76	
13500.00	90.09	179.790	7149.08	5946.17S	1813.31E	==>	6177.14	
13600.00	90.09	179.790	7148.92	6046.17S	1813.68E	==>	6275.53	
13700.00	90.09	179.790	7148.77	6146.17S	1814.04E	==>	6373.92	
13800.00	90.09	179.790	7148.61	6246.17S	1814.40E	==>	6472.31	
13900.00	90.09	179.790	7148.46	6346.17S	1814.76E	==>	6570.70	
14000.00	90.09	179.790	7148.30	6446.17S	1815.13E	==>	6669.09	
14100.00	90.09	179.790	7148.15	6546.17S	1815.49E	==>	6767.48	
14200.00	90.09	179.790	7147.99	6646.17S	1815.85E	==>	6865.86	
14300.00	90.09	179.790	7147.83	6746.17S	1816.22E	==>	6964.25	
14400.00	90.09	179.790	7147.68	6846.17S	1816.58E	==>	7062.64	
14500.00	90.09	179.790	7147.52	6946.16S	1816.94E	==>	7161.03	
14600.00	90.09	179.790	7147.37	7046.16S	1817.30E	==>	7259.42	
14700.00	90.09	179.790	7147.21	7146.16S	1817.67E	==>	7357.81	
14800.00	90.09	179.790	7147.06	7246.16S	1818.03E	==>	7456.20	

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Well Design Combined Report  
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Interpolated Wellpath								
MD[ft]	Inc[deg]	Azi[deg]	TVD[ft]	North[ft]	East[ft]	Dogleg [deg/100ft]	Vertical Section[ft]	All Station Comments
14900.00	90.09	179.790	7146.90	7346.16S	1818.39E	==>	7554.58	
15000.00	90.09	179.790	7146.74	7446.16S	1818.76E	==>	7652.97	
15100.00	90.09	179.790	7146.59	7546.16S	1819.12E	==>	7751.36	
15200.00	90.09	179.790	7146.43	7646.16S	1819.48E	==>	7849.75	
15300.00	90.09	179.790	7146.28	7746.16S	1819.84E	==>	7948.14	
15400.00	90.09	179.790	7146.12	7846.16S	1820.21E	==>	8046.53	
15500.00	90.09	179.790	7145.97	7946.16S	1820.57E	==>	8144.91	
15600.00	90.09	179.790	7145.81	8046.16S	1820.93E	==>	8243.30	
15700.00	90.09	179.790	7145.66	8146.16S	1821.29E	==>	8341.69	
15800.00	90.09	179.790	7145.50	8246.15S	1821.66E	==>	8440.08	
15900.00	90.09	179.790	7145.34	8346.15S	1822.02E	==>	8538.47	
16000.00	90.09	179.790	7145.19	8446.15S	1822.38E	==>	8636.86	
16100.00	90.09	179.790	7145.03	8546.15S	1822.75E	==>	8735.25	
16200.00	90.09	179.790	7144.88	8646.15S	1823.11E	==>	8833.63	
16300.00	90.09	179.790	7144.72	8746.15S	1823.47E	==>	8932.02	
16400.00	90.09	179.790	7144.57	8846.15S	1823.83E	==>	9030.41	
16500.00	90.09	179.790	7144.41	8946.15S	1824.20E	==>	9128.80	
16600.00	90.09	179.790	7144.26	9046.15S	1824.56E	==>	9227.19	
16700.00	90.09	179.790	7144.10	9146.15S	1824.92E	==>	9325.58	
16800.00	90.09	179.790	7143.94	9246.15S	1825.29E	==>	9423.97	
16900.00	90.09	179.790	7143.79	9346.15S	1825.65E	==>	9522.35	
17000.00	90.09	179.790	7143.63	9446.15S	1826.01E	==>	9620.74	
17100.00	90.09	179.790	7143.48	9546.14S	1826.37E	==>	9719.13	
17200.00	90.09	179.790	7143.32	9646.14S	1826.74E	==>	9817.52	
17300.00	90.09	179.790	7143.17	9746.14S	1827.10E	==>	9915.91	
17400.00	90.09	179.790	7143.01	9846.14S	1827.46E	==>	10014.30	
17406.92	90.09	179.790	7143.00	9853.06S	1827.49E	==>	10021.10	

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 4933.0ft above Mean Sea Level )  
Vertical Section is from 0.00N 0.00E on azimuth 169.490 degrees  
Bottom hole distance is 10021.10 Feet on azimuth 169.49 degrees from Wellhead  
Calculation method uses Minimum Curvature method  
Prepared by Microsoft  
Date Printed: 26-Mar-2018



SYSDRILL  
Well Design Combined Report  
Wellbore: W EAST AULT WA-18-19HN (PWB)



Targets							
Name	North[ft]	East[ft]	TVD[ft]	Latitude	Longitude	Northing	Easting
EAST AULT WA-18-19HN - BHL	9853.06S	1827.49E	7143.00	40.55458000	-104.69797300	1445882.27	3222860.45
EAST AULT WA-18-19HN - EP	212.29S	1792.51E	7158.00	40.58104200	-104.69778500	1455522.77	3222825.48

Survey Tool Program					
Reference	Survey Name	MD[ft]	TVD[ft]	Survey Tool	Error Model
620366	Planned	1500.00	1497.83	WdW Rate Gyro	Standard
620365	Planned	17406.92	7143.00	ISCWSA MWD	Rev 4 + SAG + FLT

Notes