



# Actual Wellpath Report

HESTER FARMS L-36HN AWP

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## REFERENCE WELLPATH IDENTIFICATION

Operator	BAYSWATER E & P LLC	Slot	SLOT#01 HESTER FARMS L-36HN (1754'FNL & 202'FWL, SEC.31)
Area	COLORADO	Well	HESTER FARMS L-36HN
Field	WELD COUNTY (NAD83/TRUE NORTH)	Wellbore	HESTER FARMS L-36HN AWB
Facility	SEC.31-T07N-R66W		

## REPORT SETUP INFORMATION

Projection System	NAD83 / Lambert Colorado SP, Northern Zone (501), US feet	Software System	WellArchitect® 5.0
North Reference	True	User	Ingmjmr
Scale	0.999969	Report Generated	2/25/2016 at 8:24:40 AM
Convergence at slot	0.44° East	Database/Source file	WA_DEN_Denver_Defn/HESTER_FARMS_L-36HN_AWP.xml

## WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	0.02	-0.02	3185849.19	1437774.51	40°31'59.405"N	104°49'52.979"W
Facility Reference Pt			3185849.20	1437774.49	40°31'59.405"N	104°49'52.979"W
Field Reference Pt			3174587.00	1430859.75	40°30'51.890"N	104°52'19.470"W

## WELLPATH DATUM

Calculation method	Minimum curvature	FRONTIER 8 (23'KB) (RKB) to Facility Vertical Datum	4936.00ft
Horizontal Reference Pt	Slot	FRONTIER 8 (23'KB) (RKB) to Mean Sea Level	4936.00ft
Vertical Reference Pt	FRONTIER 8 (23'KB) (RKB)	FRONTIER 8 (23'KB) (RKB) to Mud Line at Slot (SLOT#01 HESTER FARMS L-36HN (1754'FNL & 202'FWL, SEC.31))	4936.00ft
MD Reference Pt	FRONTIER 8 (23'KB) (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	261.52°

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Area	COLORADO	Well	HESTER FARMS L-36HN
Field	WELD COUNTY (NAD83/TRUE NORTH)	Wellbore	HESTER FARMS L-36HN AWB
Facility	SEC.31-T07N-R66W		

## WELLPATH DATA (131 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]	Comments
0.00†	0.000	20.930	0.00	0.00	0.00	0.00	0.00	
23.00	0.000	20.930	23.00	0.00	0.00	0.00	0.00	
123.00	0.330	20.930	123.00	-0.14	0.27	0.10	0.33	FIRST BHI MWD SURVEY
219.00	0.250	49.330	219.00	-0.45	0.66	0.36	0.17	
312.00	0.490	68.210	312.00	-1.01	0.94	0.88	0.29	
406.00	0.260	39.680	405.99	-1.56	1.26	1.39	0.31	
500.00	0.750	151.410	499.99	-1.93	0.88	1.82	0.94	
592.00	2.000	168.870	591.96	-2.21	-1.22	2.42	1.42	
686.00	2.910	180.240	685.88	-1.93	-5.22	2.73	1.09	
780.00	3.470	173.700	779.73	-1.46	-10.43	3.03	0.71	
874.00	4.300	171.940	873.51	-1.33	-16.75	3.84	0.89	
969.00	5.010	173.180	968.20	-1.18	-24.39	4.83	0.75	
1061.00	5.870	170.440	1059.79	-1.15	-33.02	6.09	0.98	
1155.00	6.970	172.900	1153.19	-1.11	-43.42	7.59	1.21	
1250.00	8.090	174.550	1247.37	-0.61	-55.80	8.94	1.20	
1344.00	9.010	179.110	1340.33	0.71	-69.74	9.68	1.22	
1438.00	10.100	181.730	1433.02	3.14	-85.34	9.55	1.25	
1503.00	9.400	182.790	1497.09	5.19	-96.34	9.12	1.11	
1610.00	8.890	180.670	1602.73	8.21	-113.33	8.59	0.57	
1705.00	9.940	182.570	1696.44	10.95	-128.87	8.14	1.15	
1801.00	9.700	185.480	1791.04	14.49	-145.19	7.00	0.57	
1896.00	9.560	182.930	1884.70	17.98	-161.04	5.83	0.47	
1991.00	9.710	182.550	1978.36	21.07	-176.92	5.07	0.17	
2086.00	9.920	187.510	2071.97	24.86	-193.04	3.64	0.92	
2186.00	10.000	191.750	2170.47	30.23	-210.08	0.75	0.74	
2277.00	10.190	182.740	2260.06	34.53	-225.85	-1.24	1.75	
2372.00	10.050	171.450	2353.59	36.16	-242.45	-0.41	2.09	
2467.00	10.230	160.070	2447.12	34.47	-258.58	3.69	2.11	
2562.00	10.230	165.500	2540.61	31.91	-274.67	8.68	1.01	
2657.00	10.140	176.500	2634.12	31.75	-291.19	11.31	2.05	
2752.00	10.010	176.210	2727.66	33.15	-307.78	12.36	0.15	
2847.00	10.330	168.080	2821.17	33.31	-324.35	14.67	1.55	
2943.00	10.720	165.340	2915.56	31.84	-341.41	18.70	0.66	
3038.00	10.730	170.990	3008.90	30.80	-358.69	22.33	1.11	
3133.00	9.720	169.440	3102.39	30.43	-375.31	25.18	1.10	
3228.00	9.550	166.500	3196.05	29.45	-390.86	28.49	0.55	
3323.00	10.890	178.060	3289.55	29.78	-407.49	30.63	2.57	
3418.00	9.310	180.770	3383.07	32.04	-424.14	30.83	1.74	
3513.00	10.410	193.630	3476.68	36.50	-440.17	28.71	2.58	
3608.00	10.710	197.310	3570.07	43.57	-456.94	24.06	0.78	
3703.00	10.570	193.660	3663.44	50.70	-473.84	19.37	0.72	
3798.00	11.720	191.610	3756.65	57.30	-491.75	15.37	1.28	
3893.00	11.920	178.450	3849.65	61.79	-511.02	13.70	2.84	
3989.00	11.730	160.990	3943.64	61.21	-530.16	17.15	3.72	
4084.00	10.480	156.750	4036.87	57.24	-547.23	23.70	1.57	

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Operator	BAYSWATER E & P LLC	Slot	SLOT#01 HESTER FARMS L-36HN (1754'FNL & 202'FWL, SEC.31)
Area	COLORADO	Well	HESTER FARMS L-36HN
Field	WELD COUNTY (NAD83/TRUE NORTH)	Wellbore	HESTER FARMS L-36HN AWB
Facility	SEC.31-T07N-R66W		

## WELLPATH DATA (131 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]	Comments
4179.00	10.670	167.310	4130.26	54.39	-563.75	29.05	2.05	
4274.00	10.920	174.060	4223.58	54.14	-581.28	31.91	1.36	
4369.00	11.210	177.500	4316.82	55.50	-599.45	33.24	0.76	
4464.00	10.620	178.700	4410.10	57.56	-617.43	33.84	0.67	
4560.00	9.950	178.430	4504.56	59.66	-634.57	34.27	0.70	
4655.00	9.030	174.700	4598.26	61.06	-650.19	35.19	1.16	
4750.00	7.760	166.530	4692.24	60.92	-663.86	37.37	1.83	
4845.00	7.470	166.170	4786.40	59.78	-676.09	40.34	0.31	
4940.00	5.480	165.280	4880.79	58.71	-686.47	42.97	2.10	
5035.00	5.360	177.190	4975.37	58.66	-695.29	44.34	1.19	
5130.00	3.020	189.380	5070.11	59.86	-702.20	44.15	2.62	
5226.00	2.530	181.540	5166.00	61.01	-706.81	43.68	0.64	
5321.00	2.650	188.820	5260.90	62.03	-711.08	43.28	0.37	
5416.00	1.370	209.670	5355.84	63.38	-714.23	42.39	1.53	
5513.00	0.740	191.190	5452.82	64.31	-715.85	41.69	0.73	
5607.00	0.460	183.420	5546.82	64.59	-716.83	41.55	0.31	
5700.00	0.260	209.180	5639.82	64.80	-717.38	41.43	0.27	
5794.00	0.340	66.550	5733.82	64.66	-717.46	41.58	0.61	
5888.00	0.310	205.860	5827.82	64.53	-717.58	41.72	0.65	
5980.00	0.030	186.590	5919.82	64.68	-717.82	41.61	0.31	
6074.00	0.460	166.100	6013.82	64.65	-718.22	41.70	0.46	
6169.00	0.210	123.830	6108.81	64.48	-718.68	41.93	0.35	
6262.00	0.210	7.300	6201.81	64.31	-718.61	42.10	0.38	
6356.00	0.540	130.390	6295.81	63.97	-718.72	42.46	0.72	
6450.00	0.530	305.850	6389.81	63.99	-718.76	42.44	1.14	
6544.00	0.630	259.860	6483.81	64.82	-718.59	41.58	0.49	
6639.00	10.810	287.850	6578.21	73.35	-715.95	32.56	10.80	
6733.00	14.200	284.930	6669.97	91.84	-710.27	13.03	3.67	
6826.00	21.720	260.830	6758.49	119.59	-710.08	-15.06	11.21	
6919.00	26.600	261.700	6843.32	157.64	-715.83	-52.68	5.26	
7011.00	33.770	269.300	6922.82	203.65	-719.12	-98.70	8.82	
7106.00	43.320	274.630	6997.06	261.70	-716.80	-157.74	10.64	
7200.00	51.450	277.260	7060.66	328.60	-709.54	-226.46	8.89	
7293.00	61.600	272.890	7111.90	403.93	-702.87	-303.62	11.59	
7388.00	68.350	270.650	7152.07	488.59	-700.26	-389.60	7.42	
7482.00	71.220	268.460	7184.55	575.92	-700.96	-477.79	3.76	
7575.00	80.880	267.330	7206.95	665.51	-704.29	-567.88	10.45	
7670.00	89.480	266.750	7214.92	759.65	-709.17	-662.33	9.07	
7676.00†	89.439	266.583	7214.98	765.62	-709.52	-668.32	2.86	CROSSED 460' SETBACK (2460'FNL & 460'FEL, SEC.36)
7765.00	88.830	264.110	7216.32	854.41	-716.74	-757.01	2.86	LANDING POINT (2471'FNL & 555'FEL, SEC.36)
7860.00	90.950	263.910	7216.50	949.31	-726.65	-851.48	2.24	
7954.00	90.550	264.090	7215.27	1043.22	-736.48	-944.96	0.47	
8047.00	90.680	266.010	7214.28	1136.03	-744.50	-1037.60	2.07	
8143.00	90.710	268.720	7213.11	1231.51	-748.91	-1133.48	2.82	
8236.00	90.770	269.030	7211.91	1323.74	-750.74	-1226.46	0.34	

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## REFERENCE WELLPATH IDENTIFICATION

Operator	BAYSWATER E & P LLC	Slot	SLOT#01 HESTER FARMS L-36HN (1754'FNL & 202'FWL, SEC.31)
Area	COLORADO	Well	HESTER FARMS L-36HN
Field	WELD COUNTY (NAD83/TRUE NORTH)	Wellbore	HESTER FARMS L-36HN AWB
Facility	SEC.31-T07N-R66W		

## WELLPATH DATA (131 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]	Comments
8331.00	90.920	272.200	7210.51	1417.53	-749.72	-1321.43	3.34	
8425.00	90.310	275.830	7209.50	1509.28	-743.14	-1415.18	3.92	
8519.00	90.490	275.000	7208.84	1600.53	-734.27	-1508.76	0.90	
8614.00	90.550	273.550	7207.98	1693.18	-727.19	-1603.49	1.53	
8707.00	90.430	271.030	7207.19	1784.53	-723.47	-1696.40	2.71	
8803.00	90.550	270.530	7206.36	1879.27	-722.17	-1792.39	0.54	
8897.00	90.680	272.020	7205.36	1971.91	-720.08	-1886.36	1.59	
8992.00	90.550	269.000	7204.34	2065.72	-719.23	-1981.34	3.18	
9086.00	90.550	265.520	7203.43	2159.23	-723.72	-2075.21	3.70	
9180.00	90.550	264.690	7202.53	2253.04	-731.74	-2168.86	0.88	
9275.00	90.680	264.260	7201.51	2347.91	-740.89	-2263.41	0.47	
9370.00	90.710	264.990	7200.36	2442.77	-749.79	-2357.99	0.77	
9464.00	90.490	269.730	7199.37	2536.25	-754.12	-2451.86	5.05	
9558.00	90.710	270.230	7198.39	2629.22	-754.15	-2545.85	0.58	
9652.00	90.460	270.130	7197.43	2722.14	-753.85	-2639.85	0.29	
9747.00	90.830	270.770	7196.36	2815.98	-753.11	-2734.84	0.78	
9842.00	90.860	268.700	7194.96	2910.00	-753.55	-2829.82	2.18	
9935.00	90.860	269.210	7193.56	3002.20	-755.24	-2922.79	0.55	
10029.00	90.000	270.260	7192.86	3095.23	-755.68	-3016.79	1.44	
10123.00	91.080	269.370	7191.97	3188.24	-755.98	-3110.78	1.49	
10218.00	90.860	272.610	7190.36	3281.92	-754.34	-3205.74	3.42	
10312.00	91.420	275.510	7188.49	3373.65	-747.69	-3299.48	3.14	
10406.00	90.890	272.530	7186.60	3465.40	-741.10	-3393.22	3.22	
10499.00	90.370	271.120	7185.57	3556.89	-738.14	-3486.16	1.62	
10593.00	90.430	269.190	7184.92	3649.82	-737.88	-3580.15	2.05	
10685.00	89.140	269.070	7185.26	3741.01	-739.28	-3672.14	1.41	
10780.00	89.170	269.870	7186.66	3835.08	-740.16	-3767.12	0.84	
10872.00	91.020	270.610	7186.51	3926.01	-739.77	-3859.12	2.17	
10965.00	90.250	269.510	7185.48	4017.98	-739.68	-3952.11	1.44	
11060.00	90.250	268.770	7185.07	4112.14	-741.10	-4047.10	0.78	
11155.00	90.370	269.300	7184.55	4206.32	-742.70	-4142.08	0.57	
11249.00	90.740	270.180	7183.64	4299.35	-743.13	-4236.08	1.02	
11343.00	91.290	269.820	7181.98	4392.30	-743.13	-4330.06	0.70	
11438.00	90.280	269.410	7180.68	4486.35	-743.77	-4425.05	1.15	
11531.00	90.120	268.640	7180.35	4578.55	-745.35	-4518.03	0.85	
11625.00	90.060	268.320	7180.20	4671.86	-747.84	-4612.00	0.35	
11720.00	90.120	269.600	7180.05	4766.06	-749.57	-4706.98	1.35	
11814.00	90.000	269.700	7179.96	4859.11	-750.14	-4800.98	0.17	
11907.00	89.970	269.860	7179.98	4951.15	-750.50	-4893.98	0.18	
11976.00	90.120	270.790	7179.93	5019.33	-750.11	-4962.98	1.37	LAST BHI MWD SURVEY (2475'FNL & 504'FWL, SEC.36)
12000.00	90.120	270.790	7179.88	5043.02	-749.78	-4986.98	0.00	PROJECTION TO BIT (2475'FNL & 480'FWL, SEC.36)

## REFERENCE WELLPATH IDENTIFICATION

Operator	BAYSWATER E & P LLC	Slot	SLOT#01 HESTER FARMS L-36HN (1754'FNL & 202'FWL, SEC.31)
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Field	WELD COUNTY (NAD83/TRUE NORTH)	Wellbore	HESTER FARMS L-36HN AWB
Facility	SEC.31-T07N-R66W		

## HOLE & CASING SECTIONS - Ref Wellbore: HESTER FARMS L-36HN AWB Ref Wellpath: HESTER FARMS L-36HN AWP

String/Diameter	Start MD [ft]	End MD [ft]	Interval [ft]	Start TVD [ft]	End TVD [ft]	Start N/S [ft]	Start E/W [ft]	End N/S [ft]	End E/W [ft]
13.5in Open Hole	23.00	1555.00	1532.00	23.00	1548.41	0.00	0.00	-104.71	8.78
9.625in Casing Surface	23.00	1555.00	1532.00	23.00	1548.41	0.00	0.00	-104.71	8.78
8.75in Open Hole	1555.00	12000.00	10445.00	1548.41	7179.88	-104.71	8.78	-749.78	-4986.98
5.5in Casing Production	23.00	12000.00	11977.00	23.00	7179.88	0.00	0.00	-749.78	-4986.98

## TARGETS

Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
SEC.31-T07N-R66W	0.00	0.00	0.00	3185849.19	1437774.51	40°31'59.405"N	104°49'52.979"W	polygon
SEC.36-T07N-R67W	0.00	0.00	0.00	3185849.19	1437774.51	40°31'59.405"N	104°49'52.979"W	polygon
HESTER FARMS L-36HN BHL ON PLAT (2470'FNL & 470'FWL, SEC.36)	7175.00	-744.91	-4997.25	3180857.86	1436991.97	40°31'52.039"N	104°50'57.696"W	point
HESTER FARMS L-36HN LP ON PLAT (2470'FNL & 470'FEL, SEC.36)	7213.00	-720.27	-677.98	3185176.68	1437049.17	40°31'52.288"N	104°50'01.759"W	point
SEC.31-T07N-R66W HARDLINES (460' SETBACK)	7388.00	0.00	0.00	3185849.19	1437774.51	40°31'59.405"N	104°49'52.979"W	polygon
SEC.36-T07N-R67W HARDLINES (460' SETBACK)	7388.00	0.00	0.00	3185849.19	1437774.51	40°31'59.405"N	104°49'52.979"W	polygon

## WELLPATH COMPOSITION - Ref Wellbore: HESTER FARMS L-36HN AWB Ref Wellpath: HESTER FARMS L-36HN AWP

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
23.00	1503.00	Custom NaviTrak (MagCorr) (Rockies 0.03Gt model)	BHI MWD/NAVITRAK (MAGCORR) 13.5" HOLE <123-1503>	HESTER FARMS L-36HN AWB
1503.00	11976.00	Custom NaviTrak (Standard) (AT Curve sf 0.01) (Rockies 0.03Gt model)	BHI MWD/NAVITRAK (AT-CURVE; SHORT SPACING) 8.75" HOLE <1610-11976>	HESTER FARMS L-36HN AWB
11976.00	12000.00	Blind Drilling (std)	Projection to bit	HESTER FARMS L-36HN AWB

## REFERENCE WELLPATH IDENTIFICATION

Operator	BAYSWATER E & P LLC	Slot	SLOT#01 HESTER FARMS L-36HN (1754'FNL & 202'FWL, SEC.31)
Area	COLORADO	Well	HESTER FARMS L-36HN
Field	WELD COUNTY (NAD83/TRUE NORTH)	Wellbore	HESTER FARMS L-36HN AWB
Facility	SEC.31-T07N-R66W		

## WELLPATH COMMENTS

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
123.00	0.330	20.930	123.00	FIRST BHI MWD SURVEY
7676.00	89.439	266.583	7214.98	CROSSED 460' SETBACK (2460'FNL & 460'FEL, SEC.36)
7765.00	88.830	264.110	7216.32	LANDING POINT (2471'FNL & 555'FEL, SEC.36)
11976.00	90.120	270.790	7179.93	LAST BHI MWD SURVEY (2475'FNL & 504'FWL, SEC.36)
12000.00	90.120	270.790	7179.88	PROJECTION TO BIT (2475'FNL & 480'FWL, SEC.36)