Cub Creek Energy, LLC

Location	Weld County, CO	Slot	KNIGHT 15
Field	WATTENBERG	Well	W KNIGHT 15
Installation	Knight Pad	Wellbore	W KNIGHT 15 (PWB)

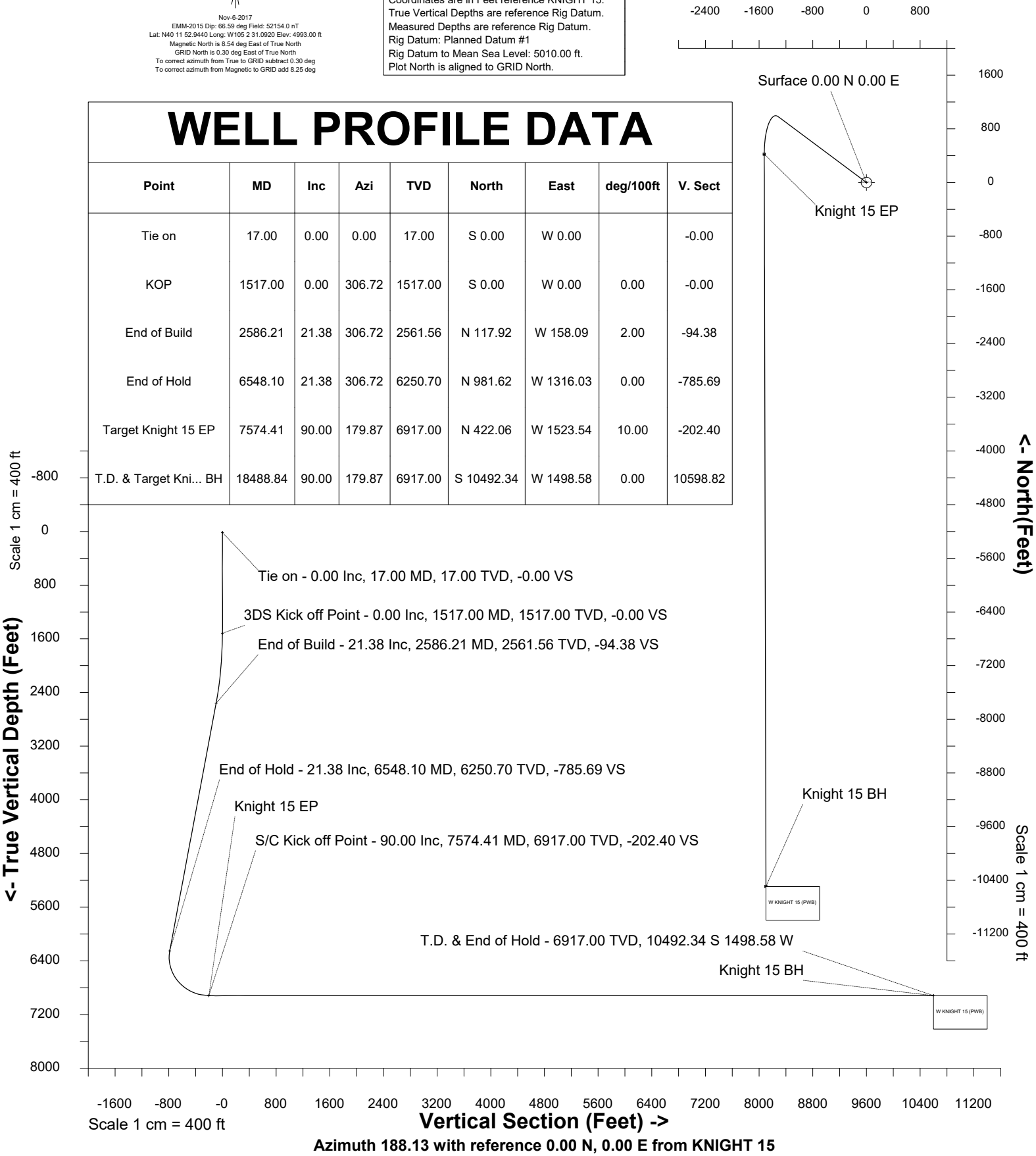
N
GRID
T M
W E

Nov-6-2017
EMM-2015 Dip: 66.59 deg Field: 52154.0 nT
Lat: N40 11 52.9440 Long: W105 2 31.0920 Elev: 4993.00 ft
Magnetic North is 8.54 deg East of True North
GRID North is 0.30 deg East of True North
To correct azimuth from True to GRID subtract 0.30 deg
To correct azimuth from Magnetic to GRID add 8.25 deg

Created by sean.dolfinger
Date plotted 14-Jul-2020
Plot reference is W KNIGHT 15 (PWB).
Ref wellpath is W KNIGHT 15 (PWP#1).
Coordinates are in Feet reference KNIGHT 15.
True Vertical Depths are reference Rig Datum.
Measured Depths are reference Rig Datum.
Rig Datum: Planned Datum #1
Rig Datum to Mean Sea Level: 5010.00 ft.
Plot North is aligned to GRID North.

WELL PROFILE DATA

Point	MD	Inc	Azi	TVD	North	East	deg/100ft	V. Sect
Tie on	17.00	0.00	0.00	17.00	S 0.00	W 0.00		-0.00
KOP	1517.00	0.00	306.72	1517.00	S 0.00	W 0.00	0.00	-0.00
End of Build	2586.21	21.38	306.72	2561.56	N 117.92	W 158.09	2.00	-94.38
End of Hold	6548.10	21.38	306.72	6250.70	N 981.62	W 1316.03	0.00	-785.69
Target Knight 15 EP	7574.41	90.00	179.87	6917.00	N 422.06	W 1523.54	10.00	-202.40
T.D. & Target Kni... BH	18488.84	90.00	179.87	6917.00	S 10492.34	W 1498.58	0.00	10598.82



SYSDRILL
Well Design Combined Report
Wellbore: W KNIGHT 15 (PWB)

Wellhead Details

Name	Latitude	Longitude	Northing	Easting	North	East	Slot Elevation Above Ground
KNIGHT 15	40.19763000	-105.04205400	1315169.4270	3127922.8560	149.48S	22.69W	0.00

Declination

Date	Source	Time
Nov-6-2017	EMM-2015	14:52

Installation Details

Name	Installation Position (Latitude)	Installation Position (Longitude)	Northing	Easting	Coord System Name	North Alignment
Knight Pad	40.19804000	-105.04197000	1315318.9022	3127945.5490	NAD83 Based Colorado State Planes, Northern Zone, US Feet	Grid

Summary Wellpath

MD[ft]	Inc[deg]	Azi[deg]	TVD[ft]	Vertical Depth SS	North[ft]	East[ft]	Dogleg [deg/100ft]	Vertical Section[ft]
17.00	0.00	0.00	17.00	-4993.00	0.00N	0.00E		0.00
1517.00	0.00	306.72	1517.00	-3493.00	0.00N	0.00E	==>	0.00
2586.21	21.38	306.72	2561.56	-2448.44	117.92N	158.09W	2.00	-94.38
6548.10	21.38	306.72	6250.70	1240.70	981.62N	1316.03W	==>	-785.69
7574.41	90.00	179.87	6917.00	1907.00	422.06N	1523.54W	10.00	-202.40
18488.84	90.00	179.87	6917.00	1907.00	10492.34S	1498.58W	==>	10598.82

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	0.00	0.00	0.00N	0.00E		0.00	40.19763000	-105.04205400
17.00	0.00	0.00	17.00	0.00N	0.00E	==>	0.00	40.19763000	-105.04205400
100.00	0.00	0.00	100.00	0.00N	0.00E	==>	0.00	40.19763000	-105.04205400
200.00	0.00	0.00	200.00	0.00N	0.00E	==>	0.00	40.19763000	-105.04205400
300.00	0.00	0.00	300.00	0.00N	0.00E	==>	0.00	40.19763000	-105.04205400
400.00	0.00	0.00	400.00	0.00N	0.00E	==>	0.00	40.19763000	-105.04205400
500.00	0.00	0.00	500.00	0.00N	0.00E	==>	0.00	40.19763000	-105.04205400
600.00	0.00	0.00	600.00	0.00N	0.00E	==>	0.00	40.19763000	-105.04205400
700.00	0.00	0.00	700.00	0.00N	0.00E	==>	0.00	40.19763000	-105.04205400
800.00	0.00	0.00	800.00	0.00N	0.00E	==>	0.00	40.19763000	-105.04205400
900.00	0.00	0.00	900.00	0.00N	0.00E	==>	0.00	40.19763000	-105.04205400
1000.00	0.00	0.00	1000.00	0.00N	0.00E	==>	0.00	40.19763000	-105.04205400
1100.00	0.00	0.00	1100.00	0.00N	0.00E	==>	0.00	40.19763000	-105.04205400
1200.00	0.00	0.00	1200.00	0.00N	0.00E	==>	0.00	40.19763000	-105.04205400
1300.00	0.00	0.00	1300.00	0.00N	0.00E	==>	0.00	40.19763000	-105.04205400
1400.00	0.00	0.00	1400.00	0.00N	0.00E	==>	0.00	40.19763000	-105.04205400
1500.00	0.00	0.00	1500.00	0.00N	0.00E	==>	0.00	40.19763000	-105.04205400
1517.00	0.00	306.72	1517.00	0.00N	0.00E	==>	0.00	40.19763000	-105.04205400
1617.00	2.00	306.72	1616.98	1.04N	1.40W	2.00	-0.84	40.19763288	-105.04205899
1717.00	4.00	306.72	1716.84	4.17N	5.59W	2.00	-3.34	40.19764153	-105.04207395
1817.00	6.00	306.72	1816.45	9.38N	12.58W	2.00	-7.51	40.19765593	-105.04209886
1917.00	8.00	306.72	1915.70	16.67N	22.35W	2.00	-13.34	40.19767607	-105.04213369
2017.00	10.00	306.72	2014.47	26.02N	34.89W	2.00	-20.83	40.19770192	-105.04217840
2117.00	12.00	306.72	2112.62	37.43N	50.18W	2.00	-29.96	40.19773345	-105.04223294
2217.00	14.00	306.72	2210.06	50.88N	68.21W	2.00	-40.72	40.19777063	-105.04229723
2317.00	16.00	306.72	2306.64	66.35N	88.96W	2.00	-53.11	40.19781340	-105.04237121
2417.00	18.00	306.72	2402.27	83.83N	112.39W	2.00	-67.10	40.19786171	-105.04245477
2517.00	20.00	306.72	2496.82	103.30N	138.49W	2.00	-82.68	40.19791551	-105.04254782
2586.21	21.38	306.72	2561.56	117.92N	158.09W	2.00	-94.38	40.19795592	-105.04261772
2617.00	21.38	306.72	2590.23	124.63N	167.09W	==>	-99.75	40.19797447	-105.04264981
2717.00	21.38	306.72	2683.35	146.43N	196.31W	==>	-117.20	40.19803473	-105.04275403
2817.00	21.38	306.72	2776.46	168.23N	225.54W	==>	-134.65	40.19809498	-105.04285825

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 5010.0ft above Mean Sea Level)
Vertical Section is from 0.00N 0.00E on azimuth 188.13 degrees
Bottom hole distance is 10598.82 Feet on azimuth 188.13 degrees from Wellhead
Calculation method uses Minimum Curvature method
Prepared by
Date Printed: 14-Jul-2020

SYSDRILL
Well Design Combined Report
Wellbore: W KNIGHT 15 (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)
2917.00	21.38	306.72	2869.58	190.03N	254.77W	==>	-152.10	40.19815524	-105.04296247
3017.00	21.38	306.72	2962.69	211.83N	284.00W	==>	-169.55	40.19821549	-105.04306670
3117.00	21.38	306.72	3055.81	233.63N	313.22W	==>	-187.00	40.19827575	-105.04317092
3217.00	21.38	306.72	3148.92	255.43N	342.45W	==>	-204.45	40.19833600	-105.04327514
3317.00	21.38	306.72	3242.04	277.23N	371.68W	==>	-221.90	40.19839625	-105.04337936
3417.00	21.38	306.72	3335.15	299.03N	400.90W	==>	-239.34	40.19845651	-105.04348358
3517.00	21.38	306.72	3428.27	320.83N	430.13W	==>	-256.79	40.19851676	-105.04358780
3617.00	21.38	306.72	3521.39	342.63N	459.36W	==>	-274.24	40.19857702	-105.04369203
3717.00	21.38	306.72	3614.50	364.43N	488.59W	==>	-291.69	40.19863727	-105.04379625
3817.00	21.38	306.72	3707.62	386.23N	517.81W	==>	-309.14	40.19869752	-105.04390047
3917.00	21.38	306.72	3800.73	408.04N	547.04W	==>	-326.59	40.19875778	-105.04400469
4017.00	21.38	306.72	3893.85	429.84N	576.27W	==>	-344.04	40.19881803	-105.04410892
4117.00	21.38	306.72	3986.96	451.64N	605.49W	==>	-361.49	40.19887829	-105.04421314
4217.00	21.38	306.72	4080.08	473.44N	634.72W	==>	-378.94	40.19893854	-105.04431736
4317.00	21.38	306.72	4173.20	495.24N	663.95W	==>	-396.38	40.19899879	-105.04442159
4417.00	21.38	306.72	4266.31	517.04N	693.18W	==>	-413.83	40.19905905	-105.04452581
4517.00	21.38	306.72	4359.43	538.84N	722.40W	==>	-431.28	40.19911930	-105.04463003
4617.00	21.38	306.72	4452.54	560.64N	751.63W	==>	-448.73	40.19917955	-105.04473426
4717.00	21.38	306.72	4545.66	582.44N	780.86W	==>	-466.18	40.19923980	-105.04483848
4817.00	21.38	306.72	4638.77	604.24N	810.08W	==>	-483.63	40.19930006	-105.04494271
4917.00	21.38	306.72	4731.89	626.04N	839.31W	==>	-501.08	40.19936031	-105.04504693
5017.00	21.38	306.72	4825.00	647.84N	868.54W	==>	-518.53	40.19942056	-105.04515116
5117.00	21.38	306.72	4918.12	669.64N	897.77W	==>	-535.98	40.19948082	-105.04525538
5217.00	21.38	306.72	5011.24	691.44N	926.99W	==>	-553.42	40.19954107	-105.04535961
5317.00	21.38	306.72	5104.35	713.24N	956.22W	==>	-570.87	40.19960132	-105.04546383
5417.00	21.38	306.72	5197.47	735.04N	985.45W	==>	-588.32	40.19966157	-105.04556806
5517.00	21.38	306.72	5290.58	756.84N	1014.67W	==>	-605.77	40.19972183	-105.04567228
5617.00	21.38	306.72	5383.70	778.64N	1043.90W	==>	-623.22	40.19978208	-105.04577651
5717.00	21.38	306.72	5476.81	800.44N	1073.13W	==>	-640.67	40.19984233	-105.04588073
5817.00	21.38	306.72	5569.93	822.24N	1102.35W	==>	-658.12	40.19990258	-105.04598496
5917.00	21.38	306.72	5663.05	844.04N	1131.58W	==>	-675.57	40.19996283	-105.04608919
6017.00	21.38	306.72	5756.16	865.84N	1160.81W	==>	-693.02	40.20002309	-105.04619341
6117.00	21.38	306.72	5849.28	887.64N	1190.04W	==>	-710.47	40.20008334	-105.04629764
6217.00	21.38	306.72	5942.39	909.44N	1219.26W	==>	-727.91	40.20014359	-105.04640187
6317.00	21.38	306.72	6035.51	931.24N	1248.49W	==>	-745.36	40.20020384	-105.04650609
6417.00	21.38	306.72	6128.62	953.04N	1277.72W	==>	-762.81	40.20026409	-105.04661032
6517.00	21.38	306.72	6221.74	974.85N	1306.94W	==>	-780.26	40.20032434	-105.04671455
6548.10	21.38	306.72	6250.70	981.62N	1316.03W	==>	-785.69	40.20034308	-105.04674696
6617.00	18.29	288.45	6315.56	992.57N	1336.38W	10.00	-793.65	40.20037341	-105.04681961
6717.00	17.90	255.88	6410.86	993.79N	1366.25W	10.00	-790.63	40.20037719	-105.04692650
6817.00	22.35	229.51	6504.92	977.66N	1395.68W	10.00	-770.50	40.20033331	-105.04703217
6917.00	29.54	213.43	6594.89	944.65N	1423.80W	10.00	-733.85	40.20024310	-105.04713342
7017.00	37.94	203.57	6678.04	895.78N	1449.74W	10.00	-681.80	40.20010931	-105.04722718
7117.00	46.89	196.93	6751.83	832.52N	1472.72W	10.00	-615.93	40.19993600	-105.04731059
7217.00	56.12	192.01	6814.03	756.81N	1492.04W	10.00	-538.24	40.19972843	-105.04738112
7317.00	65.52	188.07	6862.74	670.93N	1507.11W	10.00	-451.10	40.19949292	-105.04743663
7417.00	75.00	184.69	6896.50	577.51N	1517.47W	10.00	-357.15	40.19923662	-105.04747543
7517.00	84.52	181.59	6914.26	479.37N	1522.81W	10.00	-259.24	40.19896732	-105.04749635
7574.41	90.00	179.87	6917.00	422.06N	1523.54W	10.00	-202.40	40.19881000	-105.04750000
7617.00	90.00	179.87	6917.00	379.47N	1523.44W	==>	-160.25	40.19869309	-105.04750043
7717.00	90.00	179.87	6917.00	279.47N	1523.21W	==>	-61.29	40.19841859	-105.04750144
7817.00	90.00	179.87	6917.00	179.47N	1522.98W	==>	37.67	40.19814409	-105.04750245
7917.00	90.00	179.87	6917.00	79.47N	1522.75W	==>	136.64	40.19786959	-105.04750345
8017.00	90.00	179.87	6917.00	20.53S	1522.52W	==>	235.60	40.19759509	-105.04750446
8117.00	90.00	179.87	6917.00	120.53S	1522.30W	==>	334.56	40.19732060	-105.04750547
8217.00	90.00	179.87	6917.00	220.53S	1522.07W	==>	433.52	40.19704610	-105.04750648
8317.00	90.00	179.87	6917.00	320.53S	1521.84W	==>	532.49	40.19677160	-105.04750749
8417.00	90.00	179.87	6917.00	420.53S	1521.61W	==>	631.45	40.19649710	-105.04750850

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Vertical Section is from 0.00N 0.00E on azimuth 188.13 degrees
Bottom hole distance is 10598.82 Feet on azimuth 188.13 degrees from Wellhead
Calculation method uses Minimum Curvature method
Prepared by
Date Printed: 14-Jul-2020

SYSDRILL
Well Design Combined Report
Wellbore: W KNIGHT 15 (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)
8517.00	90.00	179.87	6917.00	520.53S	1521.38W	==>	730.41	40.19622260	-105.04750950
8617.00	90.00	179.87	6917.00	620.53S	1521.15W	==>	829.37	40.19594810	-105.04751051
8717.00	90.00	179.87	6917.00	720.53S	1520.92W	==>	928.34	40.19567361	-105.04751152
8817.00	90.00	179.87	6917.00	820.53S	1520.70W	==>	1027.30	40.19539911	-105.04751253
8917.00	90.00	179.87	6917.00	920.53S	1520.47W	==>	1126.26	40.19512461	-105.04751354
9017.00	90.00	179.87	6917.00	1020.53S	1520.24W	==>	1225.23	40.19485011	-105.04751454
9117.00	90.00	179.87	6917.00	1120.53S	1520.01W	==>	1324.19	40.19457561	-105.04751555
9217.00	90.00	179.87	6917.00	1220.53S	1519.78W	==>	1423.15	40.19430111	-105.04751656
9317.00	90.00	179.87	6917.00	1320.53S	1519.55W	==>	1522.11	40.19402661	-105.04751757
9417.00	90.00	179.87	6917.00	1420.53S	1519.32W	==>	1621.08	40.19375211	-105.04751858
9517.00	90.00	179.87	6917.00	1520.53S	1519.10W	==>	1720.04	40.19347762	-105.04751959
9617.00	90.00	179.87	6917.00	1620.53S	1518.87W	==>	1819.00	40.19320312	-105.04752059
9717.00	90.00	179.87	6917.00	1720.53S	1518.64W	==>	1917.97	40.19292862	-105.04752160
9817.00	90.00	179.87	6917.00	1820.53S	1518.41W	==>	2016.93	40.19265412	-105.04752261
9917.00	90.00	179.87	6917.00	1920.53S	1518.18W	==>	2115.89	40.19237962	-105.04752362
10017.00	90.00	179.87	6917.00	2020.53S	1517.95W	==>	2214.85	40.19210512	-105.04752463
10117.00	90.00	179.87	6917.00	2120.53S	1517.72W	==>	2313.82	40.19183062	-105.04752563
10217.00	90.00	179.87	6917.00	2220.53S	1517.49W	==>	2412.78	40.19155613	-105.04752664
10317.00	90.00	179.87	6917.00	2320.53S	1517.27W	==>	2511.74	40.19128163	-105.04752765
10417.00	90.00	179.87	6917.00	2420.53S	1517.04W	==>	2610.71	40.19100713	-105.04752866
10517.00	90.00	179.87	6917.00	2520.53S	1516.81W	==>	2709.67	40.19073263	-105.04752967
10617.00	90.00	179.87	6917.00	2620.53S	1516.58W	==>	2808.63	40.19045813	-105.04753067
10717.00	90.00	179.87	6917.00	2720.53S	1516.35W	==>	2907.59	40.19018363	-105.04753168
10817.00	90.00	179.87	6917.00	2820.52S	1516.12W	==>	3006.56	40.18990913	-105.04753269
10917.00	90.00	179.87	6917.00	2920.52S	1515.89W	==>	3105.52	40.18963463	-105.04753370
11017.00	90.00	179.87	6917.00	3020.52S	1515.67W	==>	3204.48	40.18936014	-105.04753471
11117.00	90.00	179.87	6917.00	3120.52S	1515.44W	==>	3303.44	40.18908564	-105.04753571
11217.00	90.00	179.87	6917.00	3220.52S	1515.21W	==>	3402.41	40.18881114	-105.04753672
11317.00	90.00	179.87	6917.00	3320.52S	1514.98W	==>	3501.37	40.18853664	-105.04753773
11417.00	90.00	179.87	6917.00	3420.52S	1514.75W	==>	3600.33	40.18826214	-105.04753874
11517.00	90.00	179.87	6917.00	3520.52S	1514.52W	==>	3699.30	40.18798764	-105.04753975
11617.00	90.00	179.87	6917.00	3620.52S	1514.29W	==>	3798.26	40.18771314	-105.04754075
11717.00	90.00	179.87	6917.00	3720.52S	1514.07W	==>	3897.22	40.18743864	-105.04754176
11817.00	90.00	179.87	6917.00	3820.52S	1513.84W	==>	3996.18	40.18716414	-105.04754277
11917.00	90.00	179.87	6917.00	3920.52S	1513.61W	==>	4095.15	40.18688965	-105.04754378
12017.00	90.00	179.87	6917.00	4020.52S	1513.38W	==>	4194.11	40.18661515	-105.04754479
12117.00	90.00	179.87	6917.00	4120.52S	1513.15W	==>	4293.07	40.18634065	-105.04754579
12217.00	90.00	179.87	6917.00	4220.52S	1512.92W	==>	4392.04	40.18606615	-105.04754680
12317.00	90.00	179.87	6917.00	4320.52S	1512.69W	==>	4491.00	40.18579165	-105.04754781
12417.00	90.00	179.87	6917.00	4420.52S	1512.47W	==>	4589.96	40.18551715	-105.04754882
12517.00	90.00	179.87	6917.00	4520.52S	1512.24W	==>	4688.92	40.18524265	-105.04754983
12617.00	90.00	179.87	6917.00	4620.52S	1512.01W	==>	4787.89	40.18496815	-105.04755083
12717.00	90.00	179.87	6917.00	4720.52S	1511.78W	==>	4886.85	40.18469365	-105.04755184
12817.00	90.00	179.87	6917.00	4820.52S	1511.55W	==>	4985.81	40.18441915	-105.04755285
12917.00	90.00	179.87	6917.00	4920.52S	1511.32W	==>	5084.77	40.18414466	-105.04755386
13017.00	90.00	179.87	6917.00	5020.52S	1511.09W	==>	5183.74	40.18387016	-105.04755486
13117.00	90.00	179.87	6917.00	5120.52S	1510.86W	==>	5282.70	40.18359566	-105.04755587
13217.00	90.00	179.87	6917.00	5220.52S	1510.64W	==>	5381.66	40.18332116	-105.04755688
13317.00	90.00	179.87	6917.00	5320.52S	1510.41W	==>	5480.63	40.18304666	-105.04755789
13417.00	90.00	179.87	6917.00	5420.52S	1510.18W	==>	5579.59	40.18277216	-105.04755890
13517.00	90.00	179.87	6917.00	5520.52S	1509.95W	==>	5678.55	40.18249766	-105.04755990
13617.00	90.00	179.87	6917.00	5620.52S	1509.72W	==>	5777.51	40.18222316	-105.04756091
13717.00	90.00	179.87	6917.00	5720.52S	1509.49W	==>	5876.48	40.18194866	-105.04756192
13817.00	90.00	179.87	6917.00	5820.52S	1509.26W	==>	5975.44	40.18167416	-105.04756293
13917.00	90.00	179.87	6917.00	5920.52S	1509.04W	==>	6074.40	40.18139966	-105.04756393
14017.00	90.00	179.87	6917.00	6020.52S	1508.81W	==>	6173.37	40.18112517	-105.04756494
14117.00	90.00	179.87	6917.00	6120.52S	1508.58W	==>	6272.33	40.18085067	-105.04756595
14217.00	90.00	179.87	6917.00	6220.52S	1508.35W	==>	6371.29	40.18057617	-105.04756696
14317.00	90.00	179.87	6917.00	6320.52S	1508.12W	==>	6470.25	40.18030167	-105.04756797

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SYSDRILL
Well Design Combined Report
Wellbore: W KNIGHT 15 (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)
14417.00	90.00	179.87	6917.00	6420.52S	1507.89W	==>	6569.22	40.18002717	-105.04756897
14517.00	90.00	179.87	6917.00	6520.52S	1507.66W	==>	6668.18	40.17975267	-105.04756998
14617.00	90.00	179.87	6917.00	6620.52S	1507.44W	==>	6767.14	40.17947817	-105.04757099
14717.00	90.00	179.87	6917.00	6720.51S	1507.21W	==>	6866.11	40.17920367	-105.04757200
14817.00	90.00	179.87	6917.00	6820.51S	1506.98W	==>	6965.07	40.17892917	-105.04757300
14917.00	90.00	179.87	6917.00	6920.51S	1506.75W	==>	7064.03	40.17865467	-105.04757401
15017.00	90.00	179.87	6917.00	7020.51S	1506.52W	==>	7162.99	40.17838017	-105.04757502
15117.00	90.00	179.87	6917.00	7120.51S	1506.29W	==>	7261.96	40.17810567	-105.04757603
15217.00	90.00	179.87	6917.00	7220.51S	1506.06W	==>	7360.92	40.17783117	-105.04757704
15317.00	90.00	179.87	6917.00	7320.51S	1505.83W	==>	7459.88	40.17755668	-105.04757804
15417.00	90.00	179.87	6917.00	7420.51S	1505.61W	==>	7558.84	40.17728218	-105.04757905
15517.00	90.00	179.87	6917.00	7520.51S	1505.38W	==>	7657.81	40.17700768	-105.04758006
15617.00	90.00	179.87	6917.00	7620.51S	1505.15W	==>	7756.77	40.17673318	-105.04758107
15717.00	90.00	179.87	6917.00	7720.51S	1504.92W	==>	7855.73	40.17645868	-105.04758207
15817.00	90.00	179.87	6917.00	7820.51S	1504.69W	==>	7954.70	40.17618418	-105.04758308
15917.00	90.00	179.87	6917.00	7920.51S	1504.46W	==>	8053.66	40.17590968	-105.04758409
16017.00	90.00	179.87	6917.00	8020.51S	1504.23W	==>	8152.62	40.17563518	-105.04758510
16117.00	90.00	179.87	6917.00	8120.51S	1504.01W	==>	8251.58	40.17536068	-105.04758610
16217.00	90.00	179.87	6917.00	8220.51S	1503.78W	==>	8350.55	40.17508618	-105.04758711
16317.00	90.00	179.87	6917.00	8320.51S	1503.55W	==>	8449.51	40.17481168	-105.04758812
16417.00	90.00	179.87	6917.00	8420.51S	1503.32W	==>	8548.47	40.17453718	-105.04758913
16517.00	90.00	179.87	6917.00	8520.51S	1503.09W	==>	8647.44	40.17426268	-105.04759013
16617.00	90.00	179.87	6917.00	8620.51S	1502.86W	==>	8746.40	40.17398818	-105.04759114
16717.00	90.00	179.87	6917.00	8720.51S	1502.63W	==>	8845.36	40.17371368	-105.04759215
16817.00	90.00	179.87	6917.00	8820.51S	1502.41W	==>	8944.32	40.17343918	-105.04759316
16917.00	90.00	179.87	6917.00	8920.51S	1502.18W	==>	9043.29	40.17316469	-105.04759416
17017.00	90.00	179.87	6917.00	9020.51S	1501.95W	==>	9142.25	40.17289019	-105.04759517
17117.00	90.00	179.87	6917.00	9120.51S	1501.72W	==>	9241.21	40.17261569	-105.04759618
17217.00	90.00	179.87	6917.00	9220.51S	1501.49W	==>	9340.17	40.17234119	-105.04759719
17317.00	90.00	179.87	6917.00	9320.51S	1501.26W	==>	9439.14	40.17206669	-105.04759819
17417.00	90.00	179.87	6917.00	9420.51S	1501.03W	==>	9538.10	40.17179219	-105.04759920
17517.00	90.00	179.87	6917.00	9520.51S	1500.81W	==>	9637.06	40.17151769	-105.04760021
17617.00	90.00	179.87	6917.00	9620.51S	1500.58W	==>	9736.03	40.17124319	-105.04760122
17717.00	90.00	179.87	6917.00	9720.51S	1500.35W	==>	9834.99	40.17096869	-105.04760222
17817.00	90.00	179.87	6917.00	9820.51S	1500.12W	==>	9933.95	40.17069419	-105.04760323
17917.00	90.00	179.87	6917.00	9920.51S	1499.89W	==>	10032.91	40.17041969	-105.04760424
18017.00	90.00	179.87	6917.00	10020.51S	1499.66W	==>	10131.88	40.17014519	-105.04760525
18117.00	90.00	179.87	6917.00	10120.51S	1499.43W	==>	10230.84	40.16987069	-105.04760625
18217.00	90.00	179.87	6917.00	10220.51S	1499.20W	==>	10329.80	40.16959619	-105.04760726
18317.00	90.00	179.87	6917.00	10320.51S	1498.98W	==>	10428.77	40.16932169	-105.04760827
18417.00	90.00	179.87	6917.00	10420.51S	1498.75W	==>	10527.73	40.16904719	-105.04760928
18488.84	90.00	179.87	6917.00	10492.34S	1498.58W	==>	10598.82	40.16885000	-105.04761000

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SYSDRILL
Well Design Combined Report
Wellbore: W KNIGHT 15 (PWB)

Targets

Name	North[ft]	East[ft]	TVD[ft]	Latitude	Longitude	Northing	Easting
Knight 15 BH	10492.34S	1498.58W	6917.00	40.16885000	-105.04761000	1304677.55	3126424.34
Knight 15 EP	422.06N	1523.54W	6917.00	40.19881000	-105.04750000	1315591.47	3126399.39

Survey Tool Program

Reference	Survey Name	MD[ft]	TVD[ft]	Survey Tool	Error Model
590279	Planned	1517.00	1517.00	WdW Rate Gyro	Standard
590278	Planned	18488.84	6917.00	ISCWSA MWD	Rev 4 + SAG + FLT

Notes

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