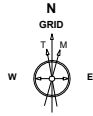


Cub Creek Energy, LLC

Location Weld County, CO Slot KNIGHT 17
Field WATTENBERG Well W KNIGHT 17
Installation Knight Pad Wellbore W KNIGHT 17 (PWB)



Nov-6-2017
EMM-2015 Dip: 66.59 deg Field: 52154.0 RT
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 17 (PWB).
Ref wellpath is W KNIGHT 17 (PWP#1).
Coordinates are in Feet reference KNIGHT 17.
True Vertical Depths are reference Rig Datum.
Measured Depths are reference Rig Datum.
Rig Datum: Planned Datum #1
Rig Datum to Mean Sea Level: 5011.00 ft.
Plot North is aligned to GRID North.

Scale 1 cm = 400 ft

East (Feet) ->

-3200 -2400 -1600 -800 -0 800

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	296.51	1517.00	S 0.00	W 0.00	0.00	-0.00
End of Build	2786.00	25.38	296.51	2744.91	N 123.43	W 247.42	2.00	-75.63
End of Hold	6707.79	25.38	296.51	6288.18	N 873.80	W 1751.60	0.00	-535.43
Target Knight 17 EP	7718.55	90.00	179.88	6917.00	N 310.98	W 2017.14	10.00	66.74
T.D. & Target Kni... BH	18651.20	90.00	179.88	6917.00	S 10621.65	W 1995.11	0.00	10807.40

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, 17.00 MD, 17.00 TVD, -0.00 VS

3DS Kick off Point - 0.00 Inc, 1517.00 MD, 1517.00 TVD, -0.00 VS

End of Build - 25.38 Inc, 2786.00 MD, 2744.91 TVD, -75.63 VS

End of Hold - 25.38 Inc, 6707.79 MD, 6288.18 TVD, -535.43 VS

Knight 17 EP

S/C Kick off Point - 90.00 Inc, 7718.55 MD, 6917.00 TVD, 66.74 VS

T.D. & End of Hold - 6917.00 TVD, 10621.65 S 1995.11 W

Knight 17 BH

Surface 0.00 N 0.00 E

Knight 17 EP

Knight 17 BH

W KNIGHT 17 (PWB)

W KNIGHT 17 (PWB)

<- North(Feet)

1600

800

0

-800

-1600

-2400

-3200

-4000

-4800

-5600

-6400

-7200

-8000

-8800

-9600

-10400

-11200

-12000

Scale 1 cm = 400 ft

-1600 -800 0 800 1600 2400 3200 4000 4800 5600 6400 7200 8000 8800 9600 10400 11200 12000

Scale 1 cm = 400 ft

Vertical Section (Feet) ->

Azimuth 190.64 with reference 0.00 N, 0.00 E from KNIGHT 17

SYSDRILL
Well Design Combined Report
Wellbore: W KNIGHT 17 (PWB)



Wellhead Details							
Name	Latitude	Longitude	Northing	Easting	North	East	Slot Elevation Above Ground
KNIGHT 17	40.19791800	-105.04205500	1315274.3377	3127922.0349	44.57S	23.52W	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	-4994.00	0.00N	0.00E		0.00
1517.00	0.00	296.51	1517.00	-3494.00	0.00N	0.00E	==>	0.00
2786.00	25.38	296.51	2744.91	-2266.09	123.43N	247.42W	2.00	-75.63
6707.79	25.38	296.51	6288.18	1277.18	873.80N	1751.60W	==>	-535.43
7718.55	90.00	179.88	6917.00	1906.00	310.98N	2017.14W	10.00	66.74
18651.20	90.00	179.88	6917.00	1906.00	10621.65S	1995.11W	==>	10807.40

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	40.19791800	-105.04205500
17.00	0.00	0.00	17.00	0.00N	0.00E	==>	0.00	40.19791800	-105.04205500
100.00	0.00	0.00	100.00	0.00N	0.00E	==>	0.00	40.19791800	-105.04205500
200.00	0.00	0.00	200.00	0.00N	0.00E	==>	0.00	40.19791800	-105.04205500
300.00	0.00	0.00	300.00	0.00N	0.00E	==>	0.00	40.19791800	-105.04205500
400.00	0.00	0.00	400.00	0.00N	0.00E	==>	0.00	40.19791800	-105.04205500
500.00	0.00	0.00	500.00	0.00N	0.00E	==>	0.00	40.19791800	-105.04205500
600.00	0.00	0.00	600.00	0.00N	0.00E	==>	0.00	40.19791800	-105.04205500
700.00	0.00	0.00	700.00	0.00N	0.00E	==>	0.00	40.19791800	-105.04205500
800.00	0.00	0.00	800.00	0.00N	0.00E	==>	0.00	40.19791800	-105.04205500
900.00	0.00	0.00	900.00	0.00N	0.00E	==>	0.00	40.19791800	-105.04205500
1000.00	0.00	0.00	1000.00	0.00N	0.00E	==>	0.00	40.19791800	-105.04205500
1100.00	0.00	0.00	1100.00	0.00N	0.00E	==>	0.00	40.19791800	-105.04205500
1200.00	0.00	0.00	1200.00	0.00N	0.00E	==>	0.00	40.19791800	-105.04205500
1300.00	0.00	0.00	1300.00	0.00N	0.00E	==>	0.00	40.19791800	-105.04205500
1400.00	0.00	0.00	1400.00	0.00N	0.00E	==>	0.00	40.19791800	-105.04205500
1500.00	0.00	0.00	1500.00	0.00N	0.00E	==>	0.00	40.19791800	-105.04205500
1517.00	0.00	296.51	1517.00	0.00N	0.00E	==>	0.00	40.19791800	-105.04205500
1617.00	2.00	296.51	1616.98	0.78N	1.56W	2.00	-0.48	40.19792016	-105.04206058
1717.00	4.00	296.51	1716.84	3.12N	6.24W	2.00	-1.91	40.19792664	-105.04207730
1817.00	6.00	296.51	1816.45	7.01N	14.04W	2.00	-4.29	40.19793743	-105.04210514
1917.00	8.00	296.51	1915.70	12.45N	24.95W	2.00	-7.63	40.19795252	-105.04214407
2017.00	10.00	296.51	2014.47	19.43N	38.95W	2.00	-11.90	40.19797188	-105.04219405
2117.00	12.00	296.51	2112.62	27.95N	56.02W	2.00	-17.12	40.19799550	-105.04225501
2217.00	14.00	296.51	2210.06	37.99N	76.15W	2.00	-23.28	40.19802335	-105.04232688
2317.00	16.00	296.51	2306.64	49.54N	99.31W	2.00	-30.36	40.19805539	-105.04240957
2417.00	18.00	296.51	2402.27	62.59N	125.47W	2.00	-38.35	40.19809159	-105.04250297
2517.00	20.00	296.51	2496.82	77.12N	154.60W	2.00	-47.26	40.19813189	-105.04260699
2617.00	22.00	296.51	2590.17	93.12N	186.67W	2.00	-57.06	40.19817625	-105.04272148
2717.00	24.00	296.51	2682.21	110.56N	221.63W	2.00	-67.75	40.19822462	-105.04284631
2786.00	25.38	296.51	2744.91	123.43N	247.42W	2.00	-75.63	40.19826031	-105.04293839
2817.00	25.38	296.51	2772.91	129.36N	259.31W	==>	-79.27	40.19827676	-105.04298084

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 5011.0ft above Mean Sea Level)
Vertical Section is from 0.00N 0.00E on azimuth 190.64 degrees
Bottom hole distance is 10807.40 Feet on azimuth 190.64 degrees from Wellhead
Calculation method uses Minimum Curvature method
Prepared by
Date Printed: 14-Jul-2020

SYSDRILL
Well Design Combined Report
Wellbore: W KNIGHT 17 (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	25.38	296.51	2863.26	148.49N	297.66W	==>	-90.99	40.19832982	-105.04311779
3017.00	25.38	296.51	2953.61	167.63N	336.02W	==>	-102.71	40.19838288	-105.04325473
3117.00	25.38	296.51	3043.96	186.76N	374.37W	==>	-114.44	40.19843594	-105.04339167
3217.00	25.38	296.51	3134.31	205.89N	412.73W	==>	-126.16	40.19848901	-105.04352862
3317.00	25.38	296.51	3224.66	225.03N	451.08W	==>	-137.89	40.19854207	-105.04366556
3417.00	25.38	296.51	3315.00	244.16N	489.43W	==>	-149.61	40.19859513	-105.04380251
3517.00	25.38	296.51	3405.35	263.29N	527.79W	==>	-161.33	40.19864819	-105.04393945
3617.00	25.38	296.51	3495.70	282.43N	566.14W	==>	-173.06	40.19870126	-105.04407640
3717.00	25.38	296.51	3586.05	301.56N	604.50W	==>	-184.78	40.19875432	-105.04421334
3817.00	25.38	296.51	3676.40	320.69N	642.85W	==>	-196.51	40.19880738	-105.04435029
3917.00	25.38	296.51	3766.75	339.83N	681.21W	==>	-208.23	40.19886044	-105.04448723
4017.00	25.38	296.51	3857.09	358.96N	719.56W	==>	-219.96	40.19891350	-105.04462418
4117.00	25.38	296.51	3947.44	378.09N	757.92W	==>	-231.68	40.19896656	-105.04476112
4217.00	25.38	296.51	4037.79	397.23N	796.27W	==>	-243.40	40.19901963	-105.04489807
4317.00	25.38	296.51	4128.14	416.36N	834.62W	==>	-255.13	40.19907269	-105.04503502
4417.00	25.38	296.51	4218.49	435.49N	872.98W	==>	-266.85	40.19912575	-105.04517196
4517.00	25.38	296.51	4308.84	454.63N	911.33W	==>	-278.58	40.19917881	-105.04530891
4617.00	25.38	296.51	4399.19	473.76N	949.69W	==>	-290.30	40.19923187	-105.04544586
4717.00	25.38	296.51	4489.53	492.90N	988.04W	==>	-302.03	40.19928493	-105.04558280
4817.00	25.38	296.51	4579.88	512.03N	1026.40W	==>	-313.75	40.19933799	-105.04571975
4917.00	25.38	296.51	4670.23	531.16N	1064.75W	==>	-325.47	40.19939105	-105.04585670
5017.00	25.38	296.51	4760.58	550.30N	1103.10W	==>	-337.20	40.19944411	-105.04599365
5117.00	25.38	296.51	4850.93	569.43N	1141.46W	==>	-348.92	40.19949717	-105.04613060
5217.00	25.38	296.51	4941.28	588.56N	1179.81W	==>	-360.65	40.19955023	-105.04626754
5317.00	25.38	296.51	5031.62	607.70N	1218.17W	==>	-372.37	40.19960329	-105.04640449
5417.00	25.38	296.51	5121.97	626.83N	1256.52W	==>	-384.10	40.19965635	-105.04654144
5517.00	25.38	296.51	5212.32	645.96N	1294.88W	==>	-395.82	40.19970941	-105.04667839
5617.00	25.38	296.51	5302.67	665.10N	1333.23W	==>	-407.54	40.19976246	-105.04681534
5717.00	25.38	296.51	5393.02	684.23N	1371.59W	==>	-419.27	40.19981552	-105.04695229
5817.00	25.38	296.51	5483.37	703.36N	1409.94W	==>	-430.99	40.19986858	-105.04708924
5917.00	25.38	296.51	5573.72	722.50N	1448.29W	==>	-442.72	40.19992164	-105.04722619
6017.00	25.38	296.51	5664.06	741.63N	1486.65W	==>	-454.44	40.19997470	-105.04736314
6117.00	25.38	296.51	5754.41	760.76N	1525.00W	==>	-466.16	40.20002776	-105.04750009
6217.00	25.38	296.51	5844.76	779.90N	1563.36W	==>	-477.89	40.20008081	-105.04763704
6317.00	25.38	296.51	5935.11	799.03N	1601.71W	==>	-489.61	40.20013387	-105.04777399
6417.00	25.38	296.51	6025.46	818.16N	1640.07W	==>	-501.34	40.20018693	-105.04791094
6517.00	25.38	296.51	6115.81	837.30N	1678.42W	==>	-513.06	40.20023999	-105.04804789
6617.00	25.38	296.51	6206.16	856.43N	1716.78W	==>	-524.79	40.20029304	-105.04818484
6707.79	25.38	296.51	6288.18	873.80N	1751.60W	==>	-535.43	40.20034121	-105.04830918
6717.00	25.01	294.53	6296.52	875.49N	1755.14W	10.00	-536.44	40.20034590	-105.04832181
6817.00	22.98	270.28	6388.09	884.39N	1793.99W	10.00	-538.01	40.20037086	-105.04846074
6917.00	24.90	245.92	6479.71	875.87N	1832.83W	10.00	-522.47	40.20034803	-105.04859992
7017.00	30.01	227.13	6568.59	850.21N	1870.47W	10.00	-490.30	40.20027811	-105.04873513
7117.00	37.01	214.12	6652.02	808.17N	1905.77W	10.00	-442.47	40.20016322	-105.04886227
7217.00	45.02	204.96	6727.48	751.05N	1937.65W	10.00	-380.44	40.20000685	-105.04897745
7317.00	53.58	198.12	6792.67	680.56N	1965.16W	10.00	-306.09	40.19981376	-105.04907720
7417.00	62.45	192.66	6845.62	598.86N	1987.45W	10.00	-221.67	40.19958980	-105.04915847
7517.00	71.51	188.04	6884.70	508.43N	2003.84W	10.00	-129.77	40.19934179	-105.04921880
7617.00	80.66	183.88	6908.74	412.01N	2013.84W	10.00	-33.16	40.19907726	-105.04925635
7717.00	89.86	179.94	6917.00	312.53N	2017.14W	10.00	65.22	40.19880425	-105.04926998
7718.55	90.00	179.88	6917.00	310.98N	2017.14W	10.00	66.74	40.19880000	-105.04927000
7817.00	90.00	179.88	6917.00	212.53N	2016.94W	==>	163.46	40.19852975	-105.04927108
7917.00	90.00	179.88	6917.00	112.53N	2016.74W	==>	261.71	40.19825525	-105.04927218
8017.00	90.00	179.88	6917.00	12.53N	2016.54W	==>	359.95	40.19798076	-105.04927328
8117.00	90.00	179.88	6917.00	87.47S	2016.34W	==>	458.19	40.19770626	-105.04927438
8217.00	90.00	179.88	6917.00	187.47S	2016.13W	==>	556.44	40.19743176	-105.04927547
8317.00	90.00	179.88	6917.00	287.47S	2015.93W	==>	654.68	40.19715726	-105.04927657
8417.00	90.00	179.88	6917.00	387.47S	2015.73W	==>	752.92	40.19688276	-105.04927767

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 5011.0ft above Mean Sea Level)
Vertical Section is from 0.00N 0.00E on azimuth 190.64 degrees
Bottom hole distance is 10807.40 Feet on azimuth 190.64 degrees from Wellhead
Calculation method uses Minimum Curvature method
Prepared by
Date Printed: 14-Jul-2020

SYSDRILL
Well Design Combined Report
Wellbore: W KNIGHT 17 (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	179.88	6917.00	487.47S	2015.53W	==>	851.17	40.19660826	-105.04927877
8617.00	90.00	179.88	6917.00	587.47S	2015.33W	==>	949.41	40.19633377	-105.04927987
8717.00	90.00	179.88	6917.00	687.47S	2015.13W	==>	1047.66	40.19605927	-105.04928096
8817.00	90.00	179.88	6917.00	787.47S	2014.93W	==>	1145.90	40.19578477	-105.04928206
8917.00	90.00	179.88	6917.00	887.47S	2014.72W	==>	1244.14	40.19551027	-105.04928316
9017.00	90.00	179.88	6917.00	987.47S	2014.52W	==>	1342.39	40.19523577	-105.04928426
9117.00	90.00	179.88	6917.00	1087.47S	2014.32W	==>	1440.63	40.19496127	-105.04928536
9217.00	90.00	179.88	6917.00	1187.47S	2014.12W	==>	1538.88	40.19468678	-105.04928645
9317.00	90.00	179.88	6917.00	1287.47S	2013.92W	==>	1637.12	40.19441228	-105.04928755
9417.00	90.00	179.88	6917.00	1387.47S	2013.72W	==>	1735.36	40.19413778	-105.04928865
9517.00	90.00	179.88	6917.00	1487.47S	2013.51W	==>	1833.61	40.19386328	-105.04928975
9617.00	90.00	179.88	6917.00	1587.47S	2013.31W	==>	1931.85	40.19358878	-105.04929085
9717.00	90.00	179.88	6917.00	1687.47S	2013.11W	==>	2030.09	40.19331428	-105.04929194
9817.00	90.00	179.88	6917.00	1787.47S	2012.91W	==>	2128.34	40.19303979	-105.04929304
9917.00	90.00	179.88	6917.00	1887.47S	2012.71W	==>	2226.58	40.19276529	-105.04929414
10017.00	90.00	179.88	6917.00	1987.47S	2012.51W	==>	2324.83	40.19249079	-105.04929524
10117.00	90.00	179.88	6917.00	2087.47S	2012.31W	==>	2423.07	40.19221629	-105.04929634
10217.00	90.00	179.88	6917.00	2187.47S	2012.10W	==>	2521.31	40.19194179	-105.04929743
10317.00	90.00	179.88	6917.00	2287.47S	2011.90W	==>	2619.56	40.19166729	-105.04929853
10417.00	90.00	179.88	6917.00	2387.46S	2011.70W	==>	2717.80	40.19139279	-105.04929963
10517.00	90.00	179.88	6917.00	2487.46S	2011.50W	==>	2816.05	40.19111830	-105.04930073
10617.00	90.00	179.88	6917.00	2587.46S	2011.30W	==>	2914.29	40.19084380	-105.04930182
10717.00	90.00	179.88	6917.00	2687.46S	2011.10W	==>	3012.53	40.19056930	-105.04930292
10817.00	90.00	179.88	6917.00	2787.46S	2010.89W	==>	3110.78	40.19029480	-105.04930402
10917.00	90.00	179.88	6917.00	2887.46S	2010.69W	==>	3209.02	40.19002030	-105.04930512
11017.00	90.00	179.88	6917.00	2987.46S	2010.49W	==>	3307.27	40.18974580	-105.04930622
11117.00	90.00	179.88	6917.00	3087.46S	2010.29W	==>	3405.51	40.18947130	-105.04930731
11217.00	90.00	179.88	6917.00	3187.46S	2010.09W	==>	3503.75	40.18919681	-105.04930841
11317.00	90.00	179.88	6917.00	3287.46S	2009.89W	==>	3602.00	40.18892231	-105.04930951
11417.00	90.00	179.88	6917.00	3387.46S	2009.69W	==>	3700.24	40.18864781	-105.04931061
11517.00	90.00	179.88	6917.00	3487.46S	2009.48W	==>	3798.48	40.18837331	-105.04931170
11617.00	90.00	179.88	6917.00	3587.46S	2009.28W	==>	3896.73	40.18809881	-105.04931280
11717.00	90.00	179.88	6917.00	3687.46S	2009.08W	==>	3994.97	40.18782431	-105.04931390
11817.00	90.00	179.88	6917.00	3787.46S	2008.88W	==>	4093.22	40.18754981	-105.04931500
11917.00	90.00	179.88	6917.00	3887.46S	2008.68W	==>	4191.46	40.18727532	-105.04931610
12017.00	90.00	179.88	6917.00	3987.46S	2008.48W	==>	4289.70	40.18700082	-105.04931719
12117.00	90.00	179.88	6917.00	4087.46S	2008.27W	==>	4387.95	40.18672632	-105.04931829
12217.00	90.00	179.88	6917.00	4187.46S	2008.07W	==>	4486.19	40.18645182	-105.04931939
12317.00	90.00	179.88	6917.00	4287.46S	2007.87W	==>	4584.44	40.18617732	-105.04932049
12417.00	90.00	179.88	6917.00	4387.46S	2007.67W	==>	4682.68	40.18590282	-105.04932158
12517.00	90.00	179.88	6917.00	4487.46S	2007.47W	==>	4780.92	40.18562832	-105.04932268
12617.00	90.00	179.88	6917.00	4587.46S	2007.27W	==>	4879.17	40.18535382	-105.04932378
12717.00	90.00	179.88	6917.00	4687.46S	2007.07W	==>	4977.41	40.18507933	-105.04932488
12817.00	90.00	179.88	6917.00	4787.46S	2006.86W	==>	5075.65	40.18480483	-105.04932598
12917.00	90.00	179.88	6917.00	4887.46S	2006.66W	==>	5173.90	40.18453033	-105.04932707
13017.00	90.00	179.88	6917.00	4987.46S	2006.46W	==>	5272.14	40.18425583	-105.04932817
13117.00	90.00	179.88	6917.00	5087.46S	2006.26W	==>	5370.39	40.18398133	-105.04932927
13217.00	90.00	179.88	6917.00	5187.46S	2006.06W	==>	5468.63	40.18370683	-105.04933037
13317.00	90.00	179.88	6917.00	5287.46S	2005.86W	==>	5566.87	40.18343233	-105.04933146
13417.00	90.00	179.88	6917.00	5387.46S	2005.65W	==>	5665.12	40.18315783	-105.04933256
13517.00	90.00	179.88	6917.00	5487.46S	2005.45W	==>	5763.36	40.18288333	-105.04933366
13617.00	90.00	179.88	6917.00	5587.46S	2005.25W	==>	5861.61	40.18260884	-105.04933476
13717.00	90.00	179.88	6917.00	5687.46S	2005.05W	==>	5959.85	40.18233434	-105.04933585
13817.00	90.00	179.88	6917.00	5787.46S	2004.85W	==>	6058.09	40.18205984	-105.04933695
13917.00	90.00	179.88	6917.00	5887.46S	2004.65W	==>	6156.34	40.18178534	-105.04933805
14017.00	90.00	179.88	6917.00	5987.46S	2004.45W	==>	6254.58	40.18151084	-105.04933915
14117.00	90.00	179.88	6917.00	6087.46S	2004.24W	==>	6352.82	40.18123634	-105.04934024
14217.00	90.00	179.88	6917.00	6187.46S	2004.04W	==>	6451.07	40.18096184	-105.04934134
14317.00	90.00	179.88	6917.00	6287.46S	2003.84W	==>	6549.31	40.18068734	-105.04934244

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 5011.0ft above Mean Sea Level)
Vertical Section is from 0.00N 0.00E on azimuth 190.64 degrees
Bottom hole distance is 10807.40 Feet on azimuth 190.64 degrees from Wellhead
Calculation method uses Minimum Curvature method
Prepared by
Date Printed: 14-Jul-2020

SYSDRILL
Well Design Combined Report
Wellbore: W KNIGHT 17 (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	179.88	6917.00	6387.46S	2003.64W	==>	6647.56	40.18041284	-105.04934354
14517.00	90.00	179.88	6917.00	6487.46S	2003.44W	==>	6745.80	40.18013835	-105.04934463
14617.00	90.00	179.88	6917.00	6587.46S	2003.24W	==>	6844.04	40.17986385	-105.04934573
14717.00	90.00	179.88	6917.00	6687.46S	2003.03W	==>	6942.29	40.17958935	-105.04934683
14817.00	90.00	179.88	6917.00	6787.46S	2002.83W	==>	7040.53	40.17931485	-105.04934793
14917.00	90.00	179.88	6917.00	6887.46S	2002.63W	==>	7138.78	40.17904035	-105.04934902
15017.00	90.00	179.88	6917.00	6987.46S	2002.43W	==>	7237.02	40.17876585	-105.04935012
15117.00	90.00	179.88	6917.00	7087.46S	2002.23W	==>	7335.26	40.17849135	-105.04935122
15217.00	90.00	179.88	6917.00	7187.46S	2002.03W	==>	7433.51	40.17821685	-105.04935232
15317.00	90.00	179.88	6917.00	7287.45S	2001.83W	==>	7531.75	40.17794235	-105.04935341
15417.00	90.00	179.88	6917.00	7387.45S	2001.62W	==>	7630.00	40.17766785	-105.04935451
15517.00	90.00	179.88	6917.00	7487.45S	2001.42W	==>	7728.24	40.17739335	-105.04935561
15617.00	90.00	179.88	6917.00	7587.45S	2001.22W	==>	7826.48	40.17711886	-105.04935671
15717.00	90.00	179.88	6917.00	7687.45S	2001.02W	==>	7924.73	40.17684436	-105.04935780
15817.00	90.00	179.88	6917.00	7787.45S	2000.82W	==>	8022.97	40.17656986	-105.04935890
15917.00	90.00	179.88	6917.00	7887.45S	2000.62W	==>	8121.21	40.17629536	-105.04936000
16017.00	90.00	179.88	6917.00	7987.45S	2000.41W	==>	8219.46	40.17602086	-105.04936110
16117.00	90.00	179.88	6917.00	8087.45S	2000.21W	==>	8317.70	40.17574636	-105.04936219
16217.00	90.00	179.88	6917.00	8187.45S	2000.01W	==>	8415.95	40.17547186	-105.04936329
16317.00	90.00	179.88	6917.00	8287.45S	1999.81W	==>	8514.19	40.17519736	-105.04936439
16417.00	90.00	179.88	6917.00	8387.45S	1999.61W	==>	8612.43	40.17492286	-105.04936549
16517.00	90.00	179.88	6917.00	8487.45S	1999.41W	==>	8710.68	40.17464836	-105.04936658
16617.00	90.00	179.88	6917.00	8587.45S	1999.21W	==>	8808.92	40.17437386	-105.04936768
16717.00	90.00	179.88	6917.00	8687.45S	1999.00W	==>	8907.17	40.17409936	-105.04936878
16817.00	90.00	179.88	6917.00	8787.45S	1998.80W	==>	9005.41	40.17382487	-105.04936987
16917.00	90.00	179.88	6917.00	8887.45S	1998.60W	==>	9103.65	40.17355037	-105.04937097
17017.00	90.00	179.88	6917.00	8987.45S	1998.40W	==>	9201.90	40.17327587	-105.04937207
17117.00	90.00	179.88	6917.00	9087.45S	1998.20W	==>	9300.14	40.17300137	-105.04937317
17217.00	90.00	179.88	6917.00	9187.45S	1998.00W	==>	9398.38	40.17272687	-105.04937426
17317.00	90.00	179.88	6917.00	9287.45S	1997.79W	==>	9496.63	40.17245237	-105.04937536
17417.00	90.00	179.88	6917.00	9387.45S	1997.59W	==>	9594.87	40.17217787	-105.04937646
17517.00	90.00	179.88	6917.00	9487.45S	1997.39W	==>	9693.12	40.17190337	-105.04937756
17617.00	90.00	179.88	6917.00	9587.45S	1997.19W	==>	9791.36	40.17162887	-105.04937865
17717.00	90.00	179.88	6917.00	9687.45S	1996.99W	==>	9889.60	40.17135437	-105.04937975
17817.00	90.00	179.88	6917.00	9787.45S	1996.79W	==>	9987.85	40.17107987	-105.04938085
17917.00	90.00	179.88	6917.00	9887.45S	1996.59W	==>	10086.09	40.17080537	-105.04938194
18017.00	90.00	179.88	6917.00	9987.45S	1996.38W	==>	10184.34	40.17053087	-105.04938304
18117.00	90.00	179.88	6917.00	10087.45S	1996.18W	==>	10282.58	40.17025637	-105.04938414
18217.00	90.00	179.88	6917.00	10187.45S	1995.98W	==>	10380.82	40.16998187	-105.04938524
18317.00	90.00	179.88	6917.00	10287.45S	1995.78W	==>	10479.07	40.16970738	-105.04938633
18417.00	90.00	179.88	6917.00	10387.45S	1995.58W	==>	10577.31	40.16943288	-105.04938743
18517.00	90.00	179.88	6917.00	10487.45S	1995.38W	==>	10675.55	40.16915838	-105.04938853
18617.00	90.00	179.88	6917.00	10587.45S	1995.17W	==>	10773.80	40.16888388	-105.04938962
18651.20	90.00	179.88	6917.00	10621.65S	1995.11W	==>	10807.40	40.16879000	-105.04939000

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 5011.0ft above Mean Sea Level)
Vertical Section is from 0.00N 0.00E on azimuth 190.64 degrees
Bottom hole distance is 10807.40 Feet on azimuth 190.64 degrees from Wellhead
Calculation method uses Minimum Curvature method
Prepared by
Date Printed: 14-Jul-2020

SYS DRILL
Well Design Combined Report
Wellbore: W KNIGHT 17 (PWB)



Targets							
Name	North[ft]	East[ft]	TVD[ft]	Latitude	Longitude	Northing	Easting
Knight 17 BH	10621.65S	1995.11W	6917.00	40.16879000	-105.04939000	1304653.17	3125927.02
Knight 17 EP	310.98N	2017.14W	6917.00	40.19880000	-105.04927000	1315585.30	3125904.99

Survey Tool Program						
Reference	Survey Name	MD[ft]	TVD[ft]	Survey Tool	Error Model	
590293	Planned	1517.00	1517.00	WdW Rate Gyro	Standard	
590292	Planned	18651.20	6917.00	ISCWSA MWD	Rev 4 + SAG + FLT	

Notes