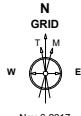


# Cub Creek Energy, LLC

Location Weld County, CO Slot KNIGHT 18  
Field WATTENBERG Well W KNIGHT 18  
Installation Knight Pad Wellbore W KNIGHT 18 (PWB)



Nov-8-2017  
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 18 (PWB).  
Ref wellpath is W KNIGHT 18 (PWP#1).  
Coordinates are in Feet reference KNIGHT 18.  
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.

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	296.56	1517.00	S 0.00	W 0.00	0.00	-0.00
End of Build	2889.39	27.45	296.56	2837.49	N 144.19	W 288.45	2.00	-83.43
End of Hold	6779.55	27.45	296.56	6289.75	N 945.96	W 1892.34	0.00	-547.31
Target Knight 18 EP	7798.97	90.00	179.88	6917.00	N 384.82	W 2182.34	10.00	60.59
T.D. & Target Kni... BH	18738.91	90.00	179.88	6917.00	S 10555.09	W 2160.34	0.00	10773.90

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 - 27.45 Inc, 2889.39 MD, 2837.49 TVD, -83.43 VS

End of Hold - 27.45 Inc, 6779.55 MD, 6289.75 TVD, -547.31 VS

Knight 18 EP

S/C Kick off Point - 90.00 Inc, 7798.97 MD, 6917.00 TVD, 60.59 VS

T.D. & End of Hold - 6917.00 TVD, 10555.09 S 2160.34 W

Knight 18 BH

Knight 18 BH

W KNIGHT 18 (PWB)

W KNIGHT 18 (PWB)

<- North(Feet)

1600

800

0

-800

-1600

-2400

-3200

-4000

-4800

-5600

-6400

-7200

-8000

-8800

-9600

-10400

-11200

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 191.57 with reference 0.00 N, 0.00 E from KNIGHT 18

SYSDRILL  
Well Design Combined Report  
Wellbore: W KNIGHT 18 (PWB)



Wellhead Details							
Name	Latitude	Longitude	Northing	Easting	North	East	Slot Elevation Above Ground
KNIGHT 18	40.19771300	-105.04205500	1315199.6606	3127922.4206	119.25S	23.13W	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	296.56	1517.00	-3493.00	0.00N	0.00E	==>	0.00
2889.39	27.45	296.56	2837.49	-2172.51	144.19N	288.45W	2.00	-83.43
6779.55	27.45	296.56	6289.75	1279.75	945.96N	1892.34W	==>	-547.31
7798.97	90.00	179.88	6917.00	1907.00	384.82N	2182.34W	10.00	60.59
18738.91	90.00	179.88	6917.00	1907.00	10555.09S	2160.34W	==>	10773.90

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	40.19771300	-105.04205500
17.00	0.00	0.00	17.00	0.00N	0.00E	==>	0.00	40.19771300	-105.04205500
100.00	0.00	0.00	100.00	0.00N	0.00E	==>	0.00	40.19771300	-105.04205500
200.00	0.00	0.00	200.00	0.00N	0.00E	==>	0.00	40.19771300	-105.04205500
300.00	0.00	0.00	300.00	0.00N	0.00E	==>	0.00	40.19771300	-105.04205500
400.00	0.00	0.00	400.00	0.00N	0.00E	==>	0.00	40.19771300	-105.04205500
500.00	0.00	0.00	500.00	0.00N	0.00E	==>	0.00	40.19771300	-105.04205500
600.00	0.00	0.00	600.00	0.00N	0.00E	==>	0.00	40.19771300	-105.04205500
700.00	0.00	0.00	700.00	0.00N	0.00E	==>	0.00	40.19771300	-105.04205500
800.00	0.00	0.00	800.00	0.00N	0.00E	==>	0.00	40.19771300	-105.04205500
900.00	0.00	0.00	900.00	0.00N	0.00E	==>	0.00	40.19771300	-105.04205500
1000.00	0.00	0.00	1000.00	0.00N	0.00E	==>	0.00	40.19771300	-105.04205500
1100.00	0.00	0.00	1100.00	0.00N	0.00E	==>	0.00	40.19771300	-105.04205500
1200.00	0.00	0.00	1200.00	0.00N	0.00E	==>	0.00	40.19771300	-105.04205500
1300.00	0.00	0.00	1300.00	0.00N	0.00E	==>	0.00	40.19771300	-105.04205500
1400.00	0.00	0.00	1400.00	0.00N	0.00E	==>	0.00	40.19771300	-105.04205500
1500.00	0.00	0.00	1500.00	0.00N	0.00E	==>	0.00	40.19771300	-105.04205500
1517.00	0.00	296.56	1517.00	0.00N	0.00E	==>	0.00	40.19771300	-105.04205500
1617.00	2.00	296.56	1616.98	0.78N	1.56W	2.00	-0.45	40.19771516	-105.04206057
1717.00	4.00	296.56	1716.84	3.12N	6.24W	2.00	-1.81	40.19772165	-105.04207729
1817.00	6.00	296.56	1816.45	7.02N	14.04W	2.00	-4.06	40.19773246	-105.04210512
1917.00	8.00	296.56	1915.70	12.47N	24.94W	2.00	-7.21	40.19774757	-105.04214404
2017.00	10.00	296.56	2014.47	19.46N	38.93W	2.00	-11.26	40.19776697	-105.04219399
2117.00	12.00	296.56	2112.62	27.99N	56.00W	2.00	-16.20	40.19779063	-105.04225493
2217.00	14.00	296.56	2210.06	38.05N	76.12W	2.00	-22.01	40.19781852	-105.04232676
2317.00	16.00	296.56	2306.64	49.62N	99.27W	2.00	-28.71	40.19785062	-105.04240942
2417.00	18.00	296.56	2402.27	62.69N	125.42W	2.00	-36.27	40.19788687	-105.04250278
2517.00	20.00	296.56	2496.82	77.25N	154.54W	2.00	-44.69	40.19792724	-105.04260675
2617.00	22.00	296.56	2590.17	93.27N	186.59W	2.00	-53.97	40.19797168	-105.04272120
2717.00	24.00	296.56	2682.21	110.74N	221.54W	2.00	-64.07	40.19802013	-105.04284598
2817.00	26.00	296.56	2772.84	129.64N	259.34W	2.00	-75.01	40.19807253	-105.04298094
2889.39	27.45	296.56	2837.49	144.19N	288.45W	2.00	-83.43	40.19811289	-105.04308489

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 191.57 degrees  
Bottom hole distance is 10773.90 Feet on azimuth 191.57 degrees from Wellhead  
Calculation method uses Minimum Curvature method  
Prepared by  
Date Printed: 14-Jul-2020

SYSDRILL  
Well Design Combined Report  
Wellbore: W KNIGHT 18 (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	27.45	296.56	2862.00	149.89N	299.84W	==>	-86.72	40.19812867	-105.04312554
3017.00	27.45	296.56	2950.74	170.50N	341.07W	==>	-98.64	40.19818583	-105.04327275
3117.00	27.45	296.56	3039.49	191.11N	382.30W	==>	-110.57	40.19824299	-105.04341996
3217.00	27.45	296.56	3128.23	211.72N	423.52W	==>	-122.49	40.19830015	-105.04356717
3317.00	27.45	296.56	3216.97	232.33N	464.75W	==>	-134.42	40.19835730	-105.04371437
3417.00	27.45	296.56	3305.71	252.94N	505.98W	==>	-146.34	40.19841446	-105.04386158
3517.00	27.45	296.56	3394.46	273.55N	547.21W	==>	-158.27	40.19847162	-105.04400879
3617.00	27.45	296.56	3483.20	294.16N	588.44W	==>	-170.19	40.19852877	-105.04415600
3717.00	27.45	296.56	3571.94	314.77N	629.67W	==>	-182.12	40.19858593	-105.04430321
3817.00	27.45	296.56	3660.69	335.38N	670.90W	==>	-194.04	40.19864308	-105.04445042
3917.00	27.45	296.56	3749.43	355.99N	712.13W	==>	-205.96	40.19870024	-105.04459763
4017.00	27.45	296.56	3838.17	376.60N	753.36W	==>	-217.89	40.19875739	-105.04474484
4117.00	27.45	296.56	3926.92	397.21N	794.59W	==>	-229.81	40.19881455	-105.04489205
4217.00	27.45	296.56	4015.66	417.82N	835.82W	==>	-241.74	40.19887170	-105.04503926
4317.00	27.45	296.56	4104.40	438.43N	877.05W	==>	-253.66	40.19892886	-105.04518647
4417.00	27.45	296.56	4193.15	459.04N	918.28W	==>	-265.59	40.19898601	-105.04533368
4517.00	27.45	296.56	4281.89	479.65N	959.51W	==>	-277.51	40.19904317	-105.04548089
4617.00	27.45	296.56	4370.63	500.26N	1000.74W	==>	-289.44	40.19910032	-105.04562810
4717.00	27.45	296.56	4459.38	520.87N	1041.97W	==>	-301.36	40.19915748	-105.04577531
4817.00	27.45	296.56	4548.12	541.48N	1083.20W	==>	-313.28	40.19921463	-105.04592253
4917.00	27.45	296.56	4636.86	562.09N	1124.42W	==>	-325.21	40.19927178	-105.04606974
5017.00	27.45	296.56	4725.61	582.70N	1165.65W	==>	-337.13	40.19932894	-105.04621695
5117.00	27.45	296.56	4814.35	603.31N	1206.88W	==>	-349.06	40.19938609	-105.04636416
5217.00	27.45	296.56	4903.09	623.92N	1248.11W	==>	-360.98	40.19944324	-105.04651138
5317.00	27.45	296.56	4991.84	644.53N	1289.34W	==>	-372.91	40.19950040	-105.04665859
5417.00	27.45	296.56	5080.58	665.14N	1330.57W	==>	-384.83	40.19955755	-105.04680580
5517.00	27.45	296.56	5169.32	685.75N	1371.80W	==>	-396.76	40.19961470	-105.04695302
5617.00	27.45	296.56	5258.06	706.36N	1413.03W	==>	-408.68	40.19967185	-105.04710023
5717.00	27.45	296.56	5346.81	726.97N	1454.26W	==>	-420.60	40.19972901	-105.04724744
5817.00	27.45	296.56	5435.55	747.58N	1495.49W	==>	-432.53	40.19978616	-105.04739466
5917.00	27.45	296.56	5524.29	768.19N	1536.72W	==>	-444.45	40.19984331	-105.04754187
6017.00	27.45	296.56	5613.04	788.80N	1577.95W	==>	-456.38	40.19990046	-105.04768909
6117.00	27.45	296.56	5701.78	809.41N	1619.18W	==>	-468.30	40.19995761	-105.04783630
6217.00	27.45	296.56	5790.52	830.02N	1660.41W	==>	-480.23	40.20001476	-105.04798352
6317.00	27.45	296.56	5879.27	850.63N	1701.64W	==>	-492.15	40.20007191	-105.04813073
6417.00	27.45	296.56	5968.01	871.24N	1742.87W	==>	-504.08	40.20012907	-105.04827795
6517.00	27.45	296.56	6056.75	891.85N	1784.10W	==>	-516.00	40.20018622	-105.04842517
6617.00	27.45	296.56	6145.50	912.46N	1825.33W	==>	-527.92	40.20024337	-105.04857238
6717.00	27.45	296.56	6234.24	933.07N	1866.55W	==>	-539.85	40.20030052	-105.04871960
6779.55	27.45	296.56	6289.75	945.96N	1892.34W	==>	-547.31	40.20033626	-105.04881168
6817.00	26.13	288.77	6323.19	952.48N	1907.88W	10.00	-550.58	40.20035437	-105.04886717
6917.00	24.96	265.61	6413.64	957.97N	1949.87W	10.00	-547.53	40.20037001	-105.04901739
7017.00	27.39	243.49	6503.59	946.05N	1991.59W	10.00	-527.49	40.20033789	-105.04916698
7117.00	32.63	226.35	6590.32	917.10N	2031.79W	10.00	-491.07	40.20025898	-105.04931139
7217.00	39.57	214.06	6671.18	871.99N	2069.22W	10.00	-439.37	40.20013568	-105.04944623
7317.00	47.46	205.10	6743.71	812.09N	2102.77W	10.00	-373.96	40.19997173	-105.04956740
7417.00	55.88	198.21	6805.72	739.23N	2131.40W	10.00	-296.83	40.19977211	-105.04967123
7517.00	64.62	192.60	6855.32	655.61N	2154.26W	10.00	-210.33	40.19954290	-105.04975456
7617.00	73.54	187.76	6891.01	563.78N	2170.63W	10.00	-117.08	40.19929105	-105.04981485
7717.00	82.57	183.36	6911.69	466.52N	2180.04W	10.00	-19.91	40.19902423	-105.04985028
7798.97	90.00	179.88	6917.00	384.82N	2182.34W	10.00	60.59	40.19880000	-105.04986000
7817.00	90.00	179.88	6917.00	366.80N	2182.30W	==>	78.24	40.19875052	-105.04986020
7917.00	90.00	179.88	6917.00	266.80N	2182.10W	==>	176.17	40.19847602	-105.04986130
8017.00	90.00	179.88	6917.00	166.80N	2181.90W	==>	274.10	40.19820152	-105.04986239
8117.00	90.00	179.88	6917.00	66.80N	2181.70W	==>	372.02	40.19792702	-105.04986349
8217.00	90.00	179.88	6917.00	33.20S	2181.50W	==>	469.95	40.19765252	-105.04986459
8317.00	90.00	179.88	6917.00	133.20S	2181.30W	==>	567.88	40.19737802	-105.04986568
8417.00	90.00	179.88	6917.00	233.20S	2181.10W	==>	665.81	40.19710353	-105.04986678

All data is in Feet unless otherwise stated  
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Vertical Section is from 0.00N 0.00E on azimuth 191.57 degrees  
Bottom hole distance is 10773.90 Feet on azimuth 191.57 degrees from Wellhead  
Calculation method uses Minimum Curvature method  
Prepared by  
Date Printed: 14-Jul-2020

SYSDRILL  
Well Design Combined Report  
Wellbore: W KNIGHT 18 (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	333.20S	2180.89W	==>	763.74	40.19682903	-105.04986788
8617.00	90.00	179.88	6917.00	433.20S	2180.69W	==>	861.67	40.19655453	-105.04986898
8717.00	90.00	179.88	6917.00	533.20S	2180.49W	==>	959.60	40.19628003	-105.04987007
8817.00	90.00	179.88	6917.00	633.20S	2180.29W	==>	1057.52	40.19600553	-105.04987117
8917.00	90.00	179.88	6917.00	733.20S	2180.09W	==>	1155.45	40.19573103	-105.04987227
9017.00	90.00	179.88	6917.00	833.20S	2179.89W	==>	1253.38	40.19545654	-105.04987337
9117.00	90.00	179.88	6917.00	933.20S	2179.69W	==>	1351.31	40.19518204	-105.04987446
9217.00	90.00	179.88	6917.00	1033.20S	2179.49W	==>	1449.24	40.19490754	-105.04987556
9317.00	90.00	179.88	6917.00	1133.20S	2179.29W	==>	1547.17	40.19463304	-105.04987666
9417.00	90.00	179.88	6917.00	1233.20S	2179.09W	==>	1645.10	40.19435854	-105.04987775
9517.00	90.00	179.88	6917.00	1333.20S	2178.88W	==>	1743.02	40.19408404	-105.04987885
9617.00	90.00	179.88	6917.00	1433.20S	2178.68W	==>	1840.95	40.19380955	-105.04987995
9717.00	90.00	179.88	6917.00	1533.20S	2178.48W	==>	1938.88	40.19353505	-105.04988105
9817.00	90.00	179.88	6917.00	1633.20S	2178.28W	==>	2036.81	40.19326055	-105.04988214
9917.00	90.00	179.88	6917.00	1733.20S	2178.08W	==>	2134.74	40.19298605	-105.04988324
10017.00	90.00	179.88	6917.00	1833.20S	2177.88W	==>	2232.67	40.19271155	-105.04988434
10117.00	90.00	179.88	6917.00	1933.20S	2177.68W	==>	2330.60	40.19243705	-105.04988544
10217.00	90.00	179.88	6917.00	2033.20S	2177.48W	==>	2428.52	40.19216256	-105.04988653
10317.00	90.00	179.88	6917.00	2133.20S	2177.28W	==>	2526.45	40.19188806	-105.04988763
10417.00	90.00	179.88	6917.00	2233.20S	2177.07W	==>	2624.38	40.19161356	-105.04988873
10517.00	90.00	179.88	6917.00	2333.20S	2176.87W	==>	2722.31	40.19133906	-105.04988982
10617.00	90.00	179.88	6917.00	2433.20S	2176.67W	==>	2820.24	40.19106456	-105.04989092
10717.00	90.00	179.88	6917.00	2533.20S	2176.47W	==>	2918.17	40.19079006	-105.04989202
10817.00	90.00	179.88	6917.00	2633.20S	2176.27W	==>	3016.09	40.19051556	-105.04989312
10917.00	90.00	179.88	6917.00	2733.20S	2176.07W	==>	3114.02	40.19024107	-105.04989421
11017.00	90.00	179.88	6917.00	2833.20S	2175.87W	==>	3211.95	40.18996657	-105.04989531
11117.00	90.00	179.88	6917.00	2933.20S	2175.67W	==>	3309.88	40.18969207	-105.04989641
11217.00	90.00	179.88	6917.00	3033.20S	2175.47W	==>	3407.81	40.18941757	-105.04989750
11317.00	90.00	179.88	6917.00	3133.20S	2175.26W	==>	3505.74	40.18914307	-105.04989860
11417.00	90.00	179.88	6917.00	3233.20S	2175.06W	==>	3603.67	40.18886857	-105.04989970
11517.00	90.00	179.88	6917.00	3333.20S	2174.86W	==>	3701.59	40.18859407	-105.04990079
11617.00	90.00	179.88	6917.00	3433.20S	2174.66W	==>	3799.52	40.18831957	-105.04990189
11717.00	90.00	179.88	6917.00	3533.20S	2174.46W	==>	3897.45	40.18804508	-105.04990299
11817.00	90.00	179.88	6917.00	3633.19S	2174.26W	==>	3995.38	40.18777058	-105.04990409
11917.00	90.00	179.88	6917.00	3733.19S	2174.06W	==>	4093.31	40.18749608	-105.04990518
12017.00	90.00	179.88	6917.00	3833.19S	2173.86W	==>	4191.24	40.18722158	-105.04990628
12117.00	90.00	179.88	6917.00	3933.19S	2173.66W	==>	4289.17	40.18694708	-105.04990738
12217.00	90.00	179.88	6917.00	4033.19S	2173.46W	==>	4387.09	40.18667258	-105.04990847
12317.00	90.00	179.88	6917.00	4133.19S	2173.25W	==>	4485.02	40.18639808	-105.04990957
12417.00	90.00	179.88	6917.00	4233.19S	2173.05W	==>	4582.95	40.18612359	-105.04991067
12517.00	90.00	179.88	6917.00	4333.19S	2172.85W	==>	4680.88	40.18584909	-105.04991176
12617.00	90.00	179.88	6917.00	4433.19S	2172.65W	==>	4778.81	40.18557459	-105.04991286
12717.00	90.00	179.88	6917.00	4533.19S	2172.45W	==>	4876.74	40.18530009	-105.04991396
12817.00	90.00	179.88	6917.00	4633.19S	2172.25W	==>	4974.67	40.18502559	-105.04991506
12917.00	90.00	179.88	6917.00	4733.19S	2172.05W	==>	5072.59	40.18475109	-105.04991615
13017.00	90.00	179.88	6917.00	4833.19S	2171.85W	==>	5170.52	40.18447659	-105.04991725
13117.00	90.00	179.88	6917.00	4933.19S	2171.65W	==>	5268.45	40.18420209	-105.04991835
13217.00	90.00	179.88	6917.00	5033.19S	2171.44W	==>	5366.38	40.18392759	-105.04991944
13317.00	90.00	179.88	6917.00	5133.19S	2171.24W	==>	5464.31	40.18365310	-105.04992054
13417.00	90.00	179.88	6917.00	5233.19S	2171.04W	==>	5562.24	40.18337860	-105.04992164
13517.00	90.00	179.88	6917.00	5333.19S	2170.84W	==>	5660.17	40.18310410	-105.04992273
13617.00	90.00	179.88	6917.00	5433.19S	2170.64W	==>	5758.09	40.18282960	-105.04992383
13717.00	90.00	179.88	6917.00	5533.19S	2170.44W	==>	5856.02	40.18255510	-105.04992493
13817.00	90.00	179.88	6917.00	5633.19S	2170.24W	==>	5953.95	40.18228060	-105.04992602
13917.00	90.00	179.88	6917.00	5733.19S	2170.04W	==>	6051.88	40.18200610	-105.04992712
14017.00	90.00	179.88	6917.00	5833.19S	2169.84W	==>	6149.81	40.18173160	-105.04992822
14117.00	90.00	179.88	6917.00	5933.19S	2169.63W	==>	6247.74	40.18145710	-105.04992932
14217.00	90.00	179.88	6917.00	6033.19S	2169.43W	==>	6345.66	40.18118261	-105.04993041
14317.00	90.00	179.88	6917.00	6133.19S	2169.23W	==>	6443.59	40.18090811	-105.04993151

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Bottom hole distance is 10773.90 Feet on azimuth 191.57 degrees from Wellhead  
Calculation method uses Minimum Curvature method  
Prepared by  
Date Printed: 14-Jul-2020

SYSDRILL  
Well Design Combined Report  
Wellbore: W KNIGHT 18 (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	6233.19S	2169.03W	==>	6541.52	40.18063361	-105.04993261
14517.00	90.00	179.88	6917.00	6333.19S	2168.83W	==>	6639.45	40.18035911	-105.04993370
14617.00	90.00	179.88	6917.00	6433.19S	2168.63W	==>	6737.38	40.18008461	-105.04993480
14717.00	90.00	179.88	6917.00	6533.19S	2168.43W	==>	6835.31	40.17981011	-105.04993590
14817.00	90.00	179.88	6917.00	6633.19S	2168.23W	==>	6933.24	40.17953561	-105.04993699
14917.00	90.00	179.88	6917.00	6733.19S	2168.03W	==>	7031.16	40.17926111	-105.04993809
15017.00	90.00	179.88	6917.00	6833.19S	2167.82W	==>	7129.09	40.17898661	-105.04993919
15117.00	90.00	179.88	6917.00	6933.19S	2167.62W	==>	7227.02	40.17871211	-105.04994028
15217.00	90.00	179.88	6917.00	7033.19S	2167.42W	==>	7324.95	40.17843762	-105.04994138
15317.00	90.00	179.88	6917.00	7133.19S	2167.22W	==>	7422.88	40.17816312	-105.04994248
15417.00	90.00	179.88	6917.00	7233.19S	2167.02W	==>	7520.81	40.17788862	-105.04994357
15517.00	90.00	179.88	6917.00	7333.19S	2166.82W	==>	7618.74	40.17761412	-105.04994467
15617.00	90.00	179.88	6917.00	7433.19S	2166.62W	==>	7716.66	40.17733962	-105.04994577
15717.00	90.00	179.88	6917.00	7533.19S	2166.42W	==>	7814.59	40.17706512	-105.04994686
15817.00	90.00	179.88	6917.00	7633.19S	2166.22W	==>	7912.52	40.17679062	-105.04994796
15917.00	90.00	179.88	6917.00	7733.19S	2166.02W	==>	8010.45	40.17651612	-105.04994906
16017.00	90.00	179.88	6917.00	7833.19S	2165.81W	==>	8108.38	40.17624162	-105.04995015
16117.00	90.00	179.88	6917.00	7933.19S	2165.61W	==>	8206.31	40.17596712	-105.04995125
16217.00	90.00	179.88	6917.00	8033.19S	2165.41W	==>	8304.24	40.17569262	-105.04995235
16317.00	90.00	179.88	6917.00	8133.19S	2165.21W	==>	8402.16	40.17541813	-105.04995344
16417.00	90.00	179.88	6917.00	8233.19S	2165.01W	==>	8500.09	40.17514363	-105.04995454
16517.00	90.00	179.88	6917.00	8333.19S	2164.81W	==>	8598.02	40.17486913	-105.04995564
16617.00	90.00	179.88	6917.00	8433.19S	2164.61W	==>	8695.95	40.17459463	-105.04995673
16717.00	90.00	179.88	6917.00	8533.18S	2164.41W	==>	8793.88	40.17432013	-105.04995783
16817.00	90.00	179.88	6917.00	8633.18S	2164.21W	==>	8891.81	40.17404563	-105.04995893
16917.00	90.00	179.88	6917.00	8733.18S	2164.00W	==>	8989.73	40.17377113	-105.04996002
17017.00	90.00	179.88	6917.00	8833.18S	2163.80W	==>	9087.66	40.17349663	-105.04996112
17117.00	90.00	179.88	6917.00	8933.18S	2163.60W	==>	9185.59	40.17322213	-105.04996222
17217.00	90.00	179.88	6917.00	9033.18S	2163.40W	==>	9283.52	40.17294763	-105.04996331
17317.00	90.00	179.88	6917.00	9133.18S	2163.20W	==>	9381.45	40.17267313	-105.04996441
17417.00	90.00	179.88	6917.00	9233.18S	2163.00W	==>	9479.38	40.17239863	-105.04996551
17517.00	90.00	179.88	6917.00	9333.18S	2162.80W	==>	9577.31	40.17212413	-105.04996660
17617.00	90.00	179.88	6917.00	9433.18S	2162.60W	==>	9675.23	40.17184963	-105.04996770
17717.00	90.00	179.88	6917.00	9533.18S	2162.40W	==>	9773.16	40.17157514	-105.04996880
17817.00	90.00	179.88	6917.00	9633.18S	2162.19W	==>	9871.09	40.17130064	-105.04996989
17917.00	90.00	179.88	6917.00	9733.18S	2161.99W	==>	9969.02	40.17102614	-105.04997099
18017.00	90.00	179.88	6917.00	9833.18S	2161.79W	==>	10066.95	40.17075164	-105.04997208
18117.00	90.00	179.88	6917.00	9933.18S	2161.59W	==>	10164.88	40.17047714	-105.04997318
18217.00	90.00	179.88	6917.00	10033.18S	2161.39W	==>	10262.81	40.17020264	-105.04997428
18317.00	90.00	179.88	6917.00	10133.18S	2161.19W	==>	10360.73	40.16992814	-105.04997537
18417.00	90.00	179.88	6917.00	10233.18S	2160.99W	==>	10458.66	40.16965364	-105.04997647
18517.00	90.00	179.88	6917.00	10333.18S	2160.79W	==>	10556.59	40.16937914	-105.04997757
18617.00	90.00	179.88	6917.00	10433.18S	2160.59W	==>	10654.52	40.16910464	-105.04997866
18717.00	90.00	179.88	6917.00	10533.18S	2160.39W	==>	10752.45	40.16883014	-105.04997976
18738.91	90.00	179.88	6917.00	10555.09S	2160.34W	==>	10773.90	40.16877000	-105.04998000

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SYS DRILL  
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Wellbore: W KNIGHT 18 (PWB)



Targets							
Name	North[ft]	East[ft]	TVD[ft]	Latitude	Longitude	Northing	Easting
Knight 18 BH	10555.09S	2160.34W	6917.00	40.16877000	-105.04998000	1304645.04	3125762.18
Knight 18 EP	384.82N	2182.34W	6917.00	40.19880000	-105.04986000	1315584.47	3125740.18

Survey Tool Program						
Reference	Survey Name	MD[ft]	TVD[ft]	Survey Tool	Error Model	
590300	Planned	1517.00	1517.00	WdW Rate Gyro	Standard	
590299	Planned	18738.91	6917.00	ISCWSA MWD	Rev 4 + SAG + FLT	

Notes

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