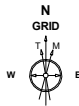


# Cub Creek Energy, LLC

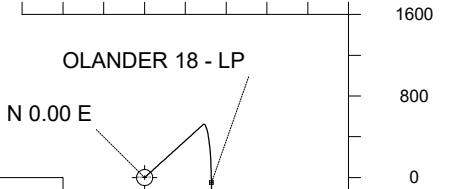
<b>Location</b>	<b>Weld County, CO</b>	<b>Slot</b>	<b>OLANDER 18</b>
<b>Field</b>	<b>WATTENBERG</b>	<b>Well</b>	<b>OLANDER 18</b>
<b>Installation</b>	<b>Olander Pad Rework 04-09-2019</b>	<b>Wellbore</b>	<b>OLANDER 18 (PWB)</b>



Jul-12-2017  
 EMM-2015 Dip: 66.61 deg Field: 52203.1 nT  
 Lat: N40 12 10.3680 Long: W105 1 31.6200 Elev: 5033.00 ft  
 Magnetic North is 8.59 deg East of True North  
 GRID North is 0.31 deg East of True North  
 To correct azimuth from True to GRID subtract 0.31 deg  
 To correct azimuth from Magnetic to GRID add 8.28 deg

Created by sean.dolfinger  
 Date plotted 11-Apr-2019  
 Plot reference is OLANDER 18 (PWB).  
 Ref wellpath is OLANDER 18 (PWP#1).  
 Coordinates are in Feet reference OLANDER 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: 5047.00 ft.  
 Plot North is aligned to GRID North.

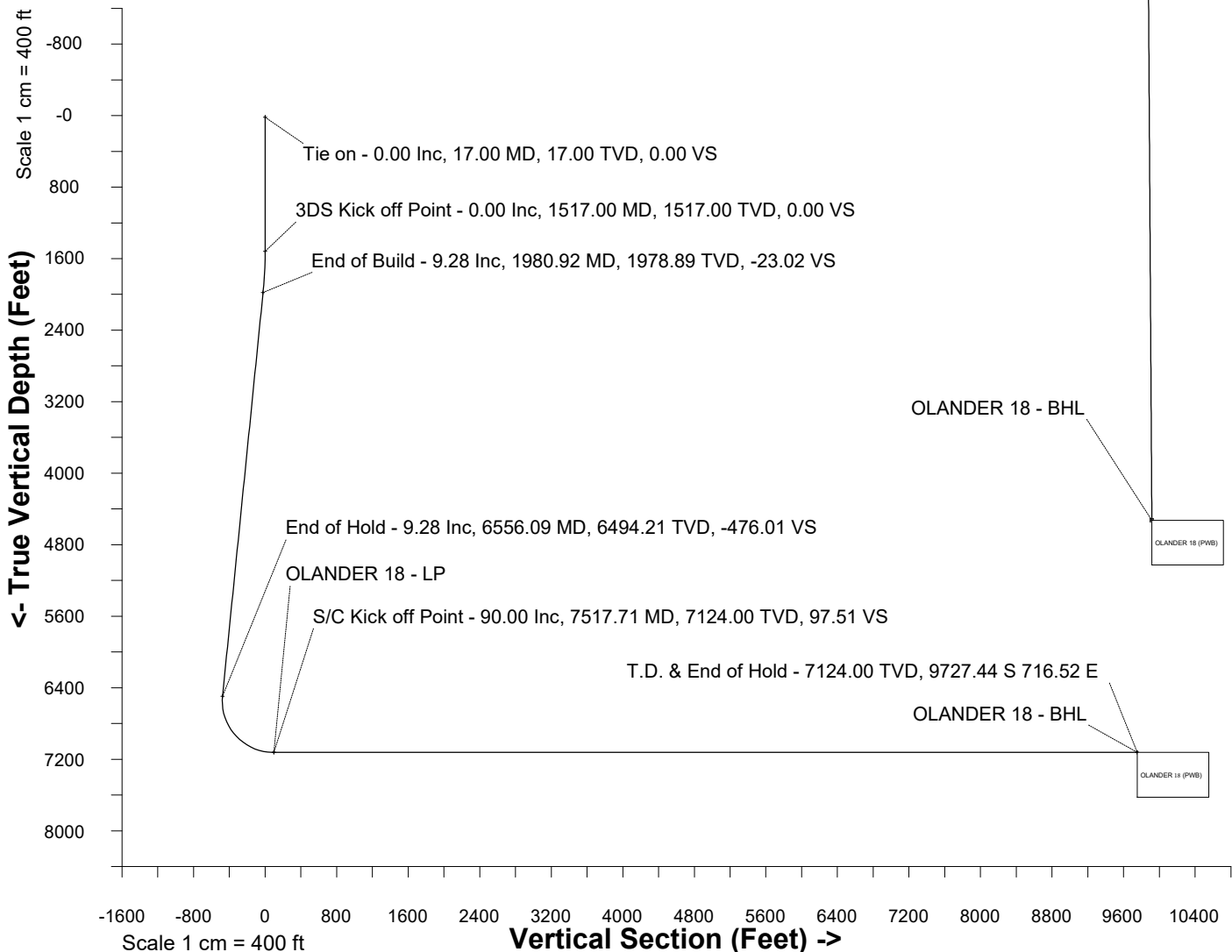
Scale 1 cm = 400 ft **East (Feet) ->**  
 -800 0 800 1600



**<- North(Feet)**

**Scale 1 cm = 400 ft**

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	47.90	1517.00	S 0.00	W 0.00	0.00	0.00
End of Build	1980.92	9.28	47.90	1978.89	N 25.13	E 27.81	2.00	-23.02
End of Hold	6556.09	9.28	47.90	6494.21	N 519.67	E 575.14	0.00	-476.01
Target OLANDER 18 - LP	7517.71	90.00	179.64	7124.00	S 49.49	E 655.51	10.00	97.51
T.D. & Target OLA...BHL	17195.86	90.00	179.64	7124.00	S 9727.44	E 716.52	0.00	9753.80



SYSDRILL  
Well Design Combined Report  
Wellbore: OLANDER 18 (PWB)



Wellhead Details							
Name	Latitude	Longitude	Northing	Easting	North	East	Slot Elevation Above Ground
OLANDER 18	40.20281000	-105.02497000	1317081.4919	3132684.9555	24.78S	134.21E	0.00

Declination		
Date	Source	Time
Jul-12-2017	EMM-2015	14:01

Installation Details						
Name	Installation Position (Latitude)	Installation Position (Longitude)	Northing	Easting	Coord System Name	North Alignment
Olander Pad Rework 04-09-2019	40.20288000	-105.02545000	1317106.2735	3132550.7471	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	-5030.00	0.00N	0.00E		0.00
1517.00	0.00	47.90	1517.00	-3530.00	0.00N	0.00E	==>	0.00
1980.92	9.28	47.90	1978.89	-3068.11	25.13N	27.81E	2.00	-23.02
6556.09	9.28	47.90	6494.21	1447.21	519.67N	575.14E	==>	-476.01
7517.71	90.00	179.64	7124.00	2077.00	49.49S	655.51E	10.00	97.51
17195.86	90.00	179.64	7124.00	2077.00	9727.44S	716.52E	==>	9753.80

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	40.20281000	-105.02497000
17.00	0.00	0.00	17.00	0.00N	0.00E	==>	0.00	40.20281000	-105.02497000
100.00	0.00	0.00	100.00	0.00N	0.00E	==>	0.00	40.20281000	-105.02497000
200.00	0.00	0.00	200.00	0.00N	0.00E	==>	0.00	40.20281000	-105.02497000
300.00	0.00	0.00	300.00	0.00N	0.00E	==>	0.00	40.20281000	-105.02497000
400.00	0.00	0.00	400.00	0.00N	0.00E	==>	0.00	40.20281000	-105.02497000
500.00	0.00	0.00	500.00	0.00N	0.00E	==>	0.00	40.20281000	-105.02497000
600.00	0.00	0.00	600.00	0.00N	0.00E	==>	0.00	40.20281000	-105.02497000
700.00	0.00	0.00	700.00	0.00N	0.00E	==>	0.00	40.20281000	-105.02497000
800.00	0.00	0.00	800.00	0.00N	0.00E	==>	0.00	40.20281000	-105.02497000
900.00	0.00	0.00	900.00	0.00N	0.00E	==>	0.00	40.20281000	-105.02497000
1000.00	0.00	0.00	1000.00	0.00N	0.00E	==>	0.00	40.20281000	-105.02497000
1100.00	0.00	0.00	1100.00	0.00N	0.00E	==>	0.00	40.20281000	-105.02497000
1200.00	0.00	0.00	1200.00	0.00N	0.00E	==>	0.00	40.20281000	-105.02497000
1300.00	0.00	0.00	1300.00	0.00N	0.00E	==>	0.00	40.20281000	-105.02497000
1400.00	0.00	0.00	1400.00	0.00N	0.00E	==>	0.00	40.20281000	-105.02497000
1500.00	0.00	0.00	1500.00	0.00N	0.00E	==>	0.00	40.20281000	-105.02497000
1517.00	0.00	47.90	1517.00	0.00N	0.00E	==>	0.00	40.20281000	-105.02497000
1600.00	1.66	47.90	1599.99	0.81N	0.89E	2.00	-0.74	40.20281220	-105.02496679
1700.00	3.66	47.90	1699.88	3.92N	4.34E	2.00	-3.59	40.20282069	-105.02495440
1800.00	5.66	47.90	1799.54	9.36N	10.36E	2.00	-8.58	40.20283555	-105.02493272
1900.00	7.66	47.90	1898.86	17.14N	18.97E	2.00	-15.70	40.20285677	-105.02490177
1980.92	9.28	47.90	1978.89	25.13N	27.81E	2.00	-23.02	40.20287857	-105.02486996
2000.00	9.28	47.90	1997.73	27.19N	30.09E	==>	-24.91	40.20288419	-105.02486175
2100.00	9.28	47.90	2096.42	38.00N	42.06E	==>	-34.81	40.20291369	-105.02481871
2200.00	9.28	47.90	2195.11	48.81N	54.02E	==>	-44.71	40.20294318	-105.02477568
2300.00	9.28	47.90	2293.80	59.62N	65.98E	==>	-54.61	40.20297268	-105.02473265
2400.00	9.28	47.90	2392.49	70.43N	77.95E	==>	-64.51	40.20300217	-105.02468961
2500.00	9.28	47.90	2491.18	81.24N	89.91E	==>	-74.41	40.20303167	-105.02464658
2600.00	9.28	47.90	2589.88	92.05N	101.87E	==>	-84.31	40.20306116	-105.02460354
2700.00	9.28	47.90	2688.57	102.85N	113.83E	==>	-94.21	40.20309066	-105.02456051
2800.00	9.28	47.90	2787.26	113.66N	125.80E	==>	-104.12	40.20312015	-105.02451747

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 5047.0ft above Mean Sea Level )  
Vertical Section is from 0.00N 0.00E on azimuth 175.79 degrees  
Bottom hole distance is 9753.80 Feet on azimuth 175.79 degrees from Wellhead  
Calculation method uses Minimum Curvature method  
Prepared by  
Date Printed: 11-Apr-2019

SYSDRILL  
Well Design Combined Report  
Wellbore: OLANDER 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)
2900.00	9.28	47.90	2885.95	124.47N	137.76E	==>	-114.02	40.20314965	-105.02447444
3000.00	9.28	47.90	2984.64	135.28N	149.72E	==>	-123.92	40.20317914	-105.02443140
3100.00	9.28	47.90	3083.33	146.09N	161.69E	==>	-133.82	40.20320864	-105.02438837
3200.00	9.28	47.90	3182.03	156.90N	173.65E	==>	-143.72	40.20323813	-105.02434534
3300.00	9.28	47.90	3280.72	167.71N	185.61E	==>	-153.62	40.20326762	-105.02430230
3400.00	9.28	47.90	3379.41	178.52N	197.58E	==>	-163.52	40.20329712	-105.02425927
3500.00	9.28	47.90	3478.10	189.33N	209.54E	==>	-173.42	40.20332661	-105.02421623
3600.00	9.28	47.90	3576.79	200.14N	221.50E	==>	-183.32	40.20335611	-105.02417320
3700.00	9.28	47.90	3675.48	210.95N	233.47E	==>	-193.23	40.20338560	-105.02413016
3800.00	9.28	47.90	3774.18	221.76N	245.43E	==>	-203.13	40.20341510	-105.02408713
3900.00	9.28	47.90	3872.87	232.56N	257.39E	==>	-213.03	40.20344459	-105.02404409
4000.00	9.28	47.90	3971.56	243.37N	269.36E	==>	-222.93	40.20347409	-105.02400106
4100.00	9.28	47.90	4070.25	254.18N	281.32E	==>	-232.83	40.20350358	-105.02395802
4200.00	9.28	47.90	4168.94	264.99N	293.28E	==>	-242.73	40.20353307	-105.02391499
4300.00	9.28	47.90	4267.63	275.80N	305.24E	==>	-252.63	40.20356257	-105.02387195
4400.00	9.28	47.90	4366.33	286.61N	317.21E	==>	-262.53	40.20359206	-105.02382892
4500.00	9.28	47.90	4465.02	297.42N	329.17E	==>	-272.44	40.20362156	-105.02378588
4600.00	9.28	47.90	4563.71	308.23N	341.13E	==>	-282.34	40.20365105	-105.02374285
4700.00	9.28	47.90	4662.40	319.04N	353.10E	==>	-292.24	40.20368055	-105.02369981
4800.00	9.28	47.90	4761.09	329.85N	365.06E	==>	-302.14	40.20371004	-105.02365678
4900.00	9.28	47.90	4859.78	340.66N	377.02E	==>	-312.04	40.20373953	-105.02361374
5000.00	9.28	47.90	4958.48	351.47N	388.99E	==>	-321.94	40.20376903	-105.02357071
5100.00	9.28	47.90	5057.17	362.27N	400.95E	==>	-331.84	40.20379852	-105.02352767
5200.00	9.28	47.90	5155.86	373.08N	412.91E	==>	-341.74	40.20382802	-105.02348464
5300.00	9.28	47.90	5254.55	383.89N	424.88E	==>	-351.64	40.20385751	-105.02344160
5400.00	9.28	47.90	5353.24	394.70N	436.84E	==>	-361.55	40.20388701	-105.02339857
5500.00	9.28	47.90	5451.93	405.51N	448.80E	==>	-371.45	40.20391650	-105.02335553
5600.00	9.28	47.90	5550.63	416.32N	460.76E	==>	-381.35	40.20394599	-105.02331249
5700.00	9.28	47.90	5649.32	427.13N	472.73E	==>	-391.25	40.20397549	-105.02326946
5800.00	9.28	47.90	5748.01	437.94N	484.69E	==>	-401.15	40.20400498	-105.02322642
5900.00	9.28	47.90	5846.70	448.75N	496.65E	==>	-411.05	40.20403448	-105.02318339
6000.00	9.28	47.90	5945.39	459.56N	508.62E	==>	-420.95	40.20406397	-105.02314035
6100.00	9.28	47.90	6044.08	470.37N	520.58E	==>	-430.85	40.20409346	-105.02309732
6200.00	9.28	47.90	6142.78	481.18N	532.54E	==>	-440.75	40.20412296	-105.02305428
6300.00	9.28	47.90	6241.47	491.99N	544.51E	==>	-450.66	40.20415245	-105.02301125
6400.00	9.28	47.90	6340.16	502.79N	556.47E	==>	-460.56	40.20418195	-105.02296821
6500.00	9.28	47.90	6438.85	513.60N	568.43E	==>	-470.46	40.20421144	-105.02292517
6556.09	9.28	47.90	6494.21	519.67N	575.14E	==>	-476.01	40.20422798	-105.02290104
6600.00	7.17	75.31	6537.68	522.74N	580.42E	10.00	-478.69	40.20423633	-105.02288207
6700.00	10.76	139.72	6636.66	517.19N	592.52E	10.00	-472.26	40.20422092	-105.02283886
6800.00	19.47	159.46	6733.17	494.40N	604.43E	10.00	-448.67	40.20415821	-105.02279666
6900.00	29.00	166.94	6824.27	455.08N	615.79E	10.00	-408.62	40.20405011	-105.02275677
7000.00	38.76	170.91	6907.20	400.42N	626.24E	10.00	-353.33	40.20389990	-105.02272040
7100.00	48.60	173.47	6979.43	332.07N	635.48E	10.00	-284.49	40.20371215	-105.02268865
7200.00	58.49	175.35	7038.78	252.12N	643.22E	10.00	-204.18	40.20349257	-105.02266249
7300.00	68.40	176.87	7083.43	162.98N	649.22E	10.00	-114.85	40.20324781	-105.02264270
7400.00	78.32	178.19	7112.04	67.38N	653.31E	10.00	-19.21	40.20298533	-105.02262990
7500.00	88.24	179.42	7123.73	31.78S	655.36E	10.00	79.84	40.20271310	-105.02262448
7517.71	90.00	179.64	7124.00	49.49S	655.51E	10.00	97.51	40.20266450	-105.02262430
7600.00	90.00	179.64	7124.00	131.78S	656.03E	==>	179.61	40.20243861	-105.02262403
7700.00	90.00	179.64	7124.00	231.78S	656.66E	==>	279.39	40.20216411	-105.02262370
7800.00	90.00	179.64	7124.00	331.77S	657.29E	==>	379.16	40.20188961	-105.02262337
7900.00	90.00	179.64	7124.00	431.77S	657.92E	==>	478.94	40.20161511	-105.02262304
8000.00	90.00	179.64	7124.00	531.77S	658.55E	==>	578.71	40.20134061	-105.02262271
8100.00	90.00	179.64	7124.00	631.77S	659.18E	==>	678.48	40.20106611	-105.02262238
8200.00	90.00	179.64	7124.00	731.77S	659.81E	==>	778.26	40.20079161	-105.02262205
8300.00	90.00	179.64	7124.00	831.76S	660.44E	==>	878.03	40.20051711	-105.02262172
8400.00	90.00	179.64	7124.00	931.76S	661.07E	==>	977.81	40.20024261	-105.02262139

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 5047.0ft above Mean Sea Level )  
Vertical Section is from 0.00N 0.00E on azimuth 175.79 degrees  
Bottom hole distance is 9753.80 Feet on azimuth 175.79 degrees from Wellhead  
Calculation method uses Minimum Curvature method  
Prepared by  
Date Printed: 11-Apr-2019

SYSDRILL  
Well Design Combined Report  
Wellbore: OLANDER 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)
8500.00	90.00	179.64	7124.00	1031.76S	661.70E	==>	1077.58	40.19996811	-105.02262106
8600.00	90.00	179.64	7124.00	1131.76S	662.33E	==>	1177.36	40.19969361	-105.02262073
8700.00	90.00	179.64	7124.00	1231.76S	662.96E	==>	1277.13	40.19941911	-105.02262040
8800.00	90.00	179.64	7124.00	1331.75S	663.59E	==>	1376.90	40.19914461	-105.02262007
8900.00	90.00	179.64	7124.00	1431.75S	664.22E	==>	1476.68	40.19887011	-105.02261974
9000.00	90.00	179.64	7124.00	1531.75S	664.85E	==>	1576.45	40.19859562	-105.02261941
9100.00	90.00	179.64	7124.00	1631.75S	665.48E	==>	1676.23	40.19832112	-105.02261908
9200.00	90.00	179.64	7124.00	1731.75S	666.11E	==>	1776.00	40.19804662	-105.02261875
9300.00	90.00	179.64	7124.00	1831.74S	666.74E	==>	1875.77	40.19777212	-105.02261842
9400.00	90.00	179.64	7124.00	1931.74S	667.37E	==>	1975.55	40.19749762	-105.02261809
9500.00	90.00	179.64	7124.00	2031.74S	668.00E	==>	2075.32	40.19722312	-105.02261776
9600.00	90.00	179.64	7124.00	2131.74S	668.63E	==>	2175.10	40.19694862	-105.02261743
9700.00	90.00	179.64	7124.00	2231.74S	669.27E	==>	2274.87	40.19667412	-105.02261710
9800.00	90.00	179.64	7124.00	2331.73S	669.90E	==>	2374.65	40.19639962	-105.02261678
9900.00	90.00	179.64	7124.00	2431.73S	670.53E	==>	2474.42	40.19612512	-105.02261645
10000.00	90.00	179.64	7124.00	2531.73S	671.16E	==>	2574.19	40.19585062	-105.02261612
10100.00	90.00	179.64	7124.00	2631.73S	671.79E	==>	2673.97	40.19557612	-105.02261579
10200.00	90.00	179.64	7124.00	2731.73S	672.42E	==>	2773.74	40.19530162	-105.02261546
10300.00	90.00	179.64	7124.00	2831.72S	673.05E	==>	2873.52	40.19502712	-105.02261513
10400.00	90.00	179.64	7124.00	2931.72S	673.68E	==>	2973.29	40.19475262	-105.02261480
10500.00	90.00	179.64	7124.00	3031.72S	674.31E	==>	3073.06	40.19447812	-105.02261447
10600.00	90.00	179.64	7124.00	3131.72S	674.94E	==>	3172.84	40.19420362	-105.02261414
10700.00	90.00	179.64	7124.00	3231.72S	675.57E	==>	3272.61	40.19392912	-105.02261381
10800.00	90.00	179.64	7124.00	3331.71S	676.20E	==>	3372.39	40.19365462	-105.02261348
10900.00	90.00	179.64	7124.00	3431.71S	676.83E	==>	3472.16	40.19338012	-105.02261315
11000.00	90.00	179.64	7124.00	3531.71S	677.46E	==>	3571.93	40.19310563	-105.02261282
11100.00	90.00	179.64	7124.00	3631.71S	678.09E	==>	3671.71	40.19283113	-105.02261249
11200.00	90.00	179.64	7124.00	3731.71S	678.72E	==>	3771.48	40.19255663	-105.02261216
11300.00	90.00	179.64	7124.00	3831.70S	679.35E	==>	3871.26	40.19228213	-105.02261183
11400.00	90.00	179.64	7124.00	3931.70S	679.98E	==>	3971.03	40.19200763	-105.02261150
11500.00	90.00	179.64	7124.00	4031.70S	680.61E	==>	4070.81	40.19173313	-105.02261117
11600.00	90.00	179.64	7124.00	4131.70S	681.24E	==>	4170.58	40.19145863	-105.02261084
11700.00	90.00	179.64	7124.00	4231.70S	681.87E	==>	4270.35	40.19118413	-105.02261051
11800.00	90.00	179.64	7124.00	4331.69S	682.50E	==>	4370.13	40.19090963	-105.02261018
11900.00	90.00	179.64	7124.00	4431.69S	683.14E	==>	4469.90	40.19063513	-105.02260985
12000.00	90.00	179.64	7124.00	4531.69S	683.77E	==>	4569.68	40.19036063	-105.02260952
12100.00	90.00	179.64	7124.00	4631.69S	684.40E	==>	4669.45	40.19008613	-105.02260919
12200.00	90.00	179.64	7124.00	4731.69S	685.03E	==>	4769.22	40.18981163	-105.02260886
12300.00	90.00	179.64	7124.00	4831.68S	685.66E	==>	4869.00	40.18953713	-105.02260853
12400.00	90.00	179.64	7124.00	4931.68S	686.29E	==>	4968.77	40.18926263	-105.02260820
12500.00	90.00	179.64	7124.00	5031.68S	686.92E	==>	5068.55	40.18898813	-105.02260787
12600.00	90.00	179.64	7124.00	5131.68S	687.55E	==>	5168.32	40.18871363	-105.02260755
12700.00	90.00	179.64	7124.00	5231.68S	688.18E	==>	5268.10	40.18843913	-105.02260722
12800.00	90.00	179.64	7124.00	5331.67S	688.81E	==>	5367.87	40.18816463	-105.02260689
12900.00	90.00	179.64	7124.00	5431.67S	689.44E	==>	5467.64	40.18789013	-105.02260656
13000.00	90.00	179.64	7124.00	5531.67S	690.07E	==>	5567.42	40.18761563	-105.02260623
13100.00	90.00	179.64	7124.00	5631.67S	690.70E	==>	5667.19	40.18734113	-105.02260590
13200.00	90.00	179.64	7124.00	5731.67S	691.33E	==>	5766.97	40.18706663	-105.02260557
13300.00	90.00	179.64	7124.00	5831.66S	691.96E	==>	5866.74	40.18679213	-105.02260524
13400.00	90.00	179.64	7124.00	5931.66S	692.59E	==>	5966.51	40.18651763	-105.02260491
13500.00	90.00	179.64	7124.00	6031.66S	693.22E	==>	6066.29	40.18624313	-105.02260458
13600.00	90.00	179.64	7124.00	6131.66S	693.85E	==>	6166.06	40.18596863	-105.02260425
13700.00	90.00	179.64	7124.00	6231.66S	694.48E	==>	6265.84	40.18569413	-105.02260392
13800.00	90.00	179.64	7124.00	6331.65S	695.11E	==>	6365.61	40.18541963	-105.02260359
13900.00	90.00	179.64	7124.00	6431.65S	695.74E	==>	6465.39	40.18514513	-105.02260326
14000.00	90.00	179.64	7124.00	6531.65S	696.37E	==>	6565.16	40.18487063	-105.02260293
14100.00	90.00	179.64	7124.00	6631.65S	697.01E	==>	6664.93	40.18459613	-105.02260260
14200.00	90.00	179.64	7124.00	6731.65S	697.64E	==>	6764.71	40.18432163	-105.02260227
14300.00	90.00	179.64	7124.00	6831.64S	698.27E	==>	6864.48	40.18404713	-105.02260194

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Bottom hole distance is 9753.80 Feet on azimuth 175.79 degrees from Wellhead  
Calculation method uses Minimum Curvature method  
Prepared by  
Date Printed: 11-Apr-2019

SYSDRILL  
Well Design Combined Report  
Wellbore: OLANDER 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)
14400.00	90.00	179.64	7124.00	6931.64S	698.90E	==>	6964.26	40.18377263	-105.02260161
14500.00	90.00	179.64	7124.00	7031.64S	699.53E	==>	7064.03	40.18349813	-105.02260128
14600.00	90.00	179.64	7124.00	7131.64S	700.16E	==>	7163.80	40.18322363	-105.02260095
14700.00	90.00	179.64	7124.00	7231.64S	700.79E	==>	7263.58	40.18294913	-105.02260062
14800.00	90.00	179.64	7124.00	7331.63S	701.42E	==>	7363.35	40.18267463	-105.02260029
14900.00	90.00	179.64	7124.00	7431.63S	702.05E	==>	7463.13	40.18240013	-105.02259997
15000.00	90.00	179.64	7124.00	7531.63S	702.68E	==>	7562.90	40.18212563	-105.02259964
15100.00	90.00	179.64	7124.00	7631.63S	703.31E	==>	7662.67	40.18185113	-105.02259931
15200.00	90.00	179.64	7124.00	7731.63S	703.94E	==>	7762.45	40.18157663	-105.02259898
15300.00	90.00	179.64	7124.00	7831.62S	704.57E	==>	7862.22	40.18130213	-105.02259865
15400.00	90.00	179.64	7124.00	7931.62S	705.20E	==>	7962.00	40.18102763	-105.02259832
15500.00	90.00	179.64	7124.00	8031.62S	705.83E	==>	8061.77	40.18075313	-105.02259799
15600.00	90.00	179.64	7124.00	8131.62S	706.46E	==>	8161.55	40.18047863	-105.02259766
15700.00	90.00	179.64	7124.00	8231.62S	707.09E	==>	8261.32	40.18020413	-105.02259733
15800.00	90.00	179.64	7124.00	8331.61S	707.72E	==>	8361.09	40.17992963	-105.02259700
15900.00	90.00	179.64	7124.00	8431.61S	708.35E	==>	8460.87	40.17965513	-105.02259667
16000.00	90.00	179.64	7124.00	8531.61S	708.98E	==>	8560.64	40.17938063	-105.02259634
16100.00	90.00	179.64	7124.00	8631.61S	709.61E	==>	8660.42	40.17910613	-105.02259601
16200.00	90.00	179.64	7124.00	8731.61S	710.24E	==>	8760.19	40.17883163	-105.02259568
16300.00	90.00	179.64	7124.00	8831.61S	710.87E	==>	8859.96	40.17855713	-105.02259535
16400.00	90.00	179.64	7124.00	8931.60S	711.51E	==>	8959.74	40.17828263	-105.02259502
16500.00	90.00	179.64	7124.00	9031.60S	712.14E	==>	9059.51	40.17800813	-105.02259469
16600.00	90.00	179.64	7124.00	9131.60S	712.77E	==>	9159.29	40.17773363	-105.02259436
16700.00	90.00	179.64	7124.00	9231.60S	713.40E	==>	9259.06	40.17745913	-105.02259403
16800.00	90.00	179.64	7124.00	9331.60S	714.03E	==>	9358.84	40.17718463	-105.02259370
16900.00	90.00	179.64	7124.00	9431.59S	714.66E	==>	9458.61	40.17691013	-105.02259337
17000.00	90.00	179.64	7124.00	9531.59S	715.29E	==>	9558.38	40.17663563	-105.02259305
17100.00	90.00	179.64	7124.00	9631.59S	715.92E	==>	9658.16	40.17636113	-105.02259272
17195.86	90.00	179.64	7124.00	9727.44S	716.52E	==>	9753.80	40.17609800	-105.02259240

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#### Targets

Name	North[ft]	East[ft]	TVD[ft]	Latitude	Longitude	Northing	Easting
OLANDER 18 - LP	49.49S	655.51E	7124.00	40.20266450	-105.02262430	1317032.01	3133340.43
OLANDER 18 - BHL	9727.44S	716.52E	7124.00	40.17609800	-105.02259240	1307354.48	3133401.45

#### Survey Tool Program

Reference	Survey Name	MD[ft]	TVD[ft]	Survey Tool	Error Model
791299	Planned	1500.00	1500.00	WdW Rate Gyro	Standard
791298	Planned	17195.86	7124.00	ISCWSA MWD	Rev 4 + SAG + FLT

#### Notes

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