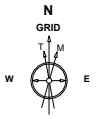
Cub Creek Energy, LLC

Location	**Weld County, CO**	**Slot**	**OLANDER 11**
Field	**WATTENBERG**	**Well**	**OLANDER 11**
Installation	**Olander Pad Rework 04-09-2019**	**Wellbore (PWB)**	**OLANDER 11**



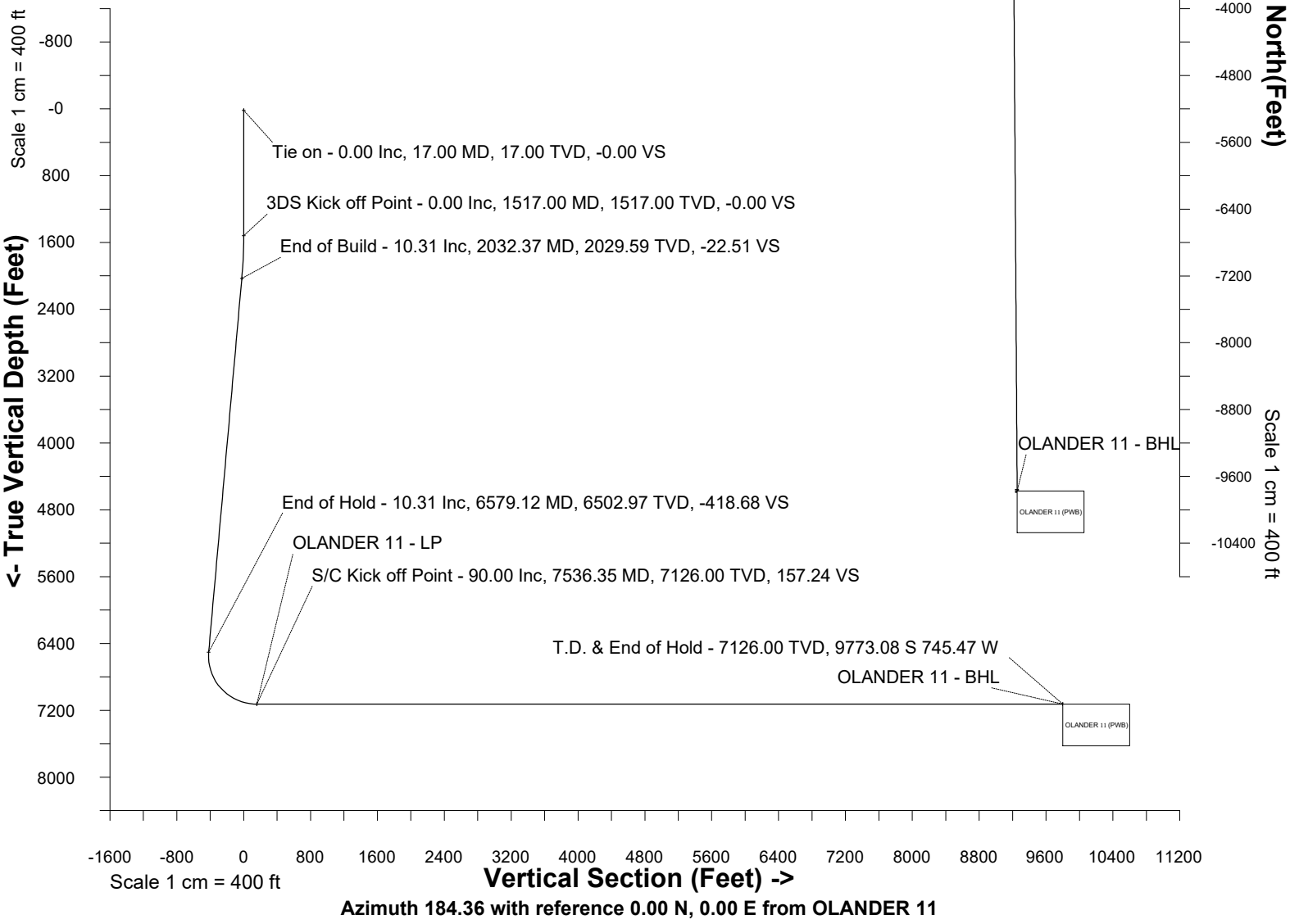
Jul-12-2017
EMM-2015 Dip: 66.61 deg Field: 52203.1 nT
Lat: N40 12 10.3680 Long: W105 1 31.6200 Elev: 5033.00 ft
Magnetic North is 8.59 deg East of True North
GRID North is 0.31 deg East of True North
To correct azimuth from True to GRID subtract 0.31 deg
To correct azimuth from Magnetic to GRID add 8.28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

Created by sean.dolfinger
Date plotted 11-Apr-2019

Plot reference is OLANDER 11 (PWB).
Ref wellpath is OLANDER 11 (PWP#1).
Coordinates are in Feet reference OLANDER 11.
True Vertical Depths are reference Rig Datum.
Measured Depths are reference Rig Datum. Rig Datum: Planned Datum #1
Rig Datum to Mean Sea Level: 5049.00 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	303.50	1517.00	S 0.00	W 0.00	0.00	-0.00
End of Build	2032.37	10.31	303.50	2029.59	N 25.52	W 38.55	2.00	-22.51
End of Hold	6579.12	10.31	303.50	6502.97	N 474.58	W 716.93	0.00	-418.68
Target OLANDER 11 - LP	7536.35	90.00	179.63	7126.00	S 96.11	W 807.36	10.00	157.24
T.D. & Target OLA...BHL	17213.52	90.00	179.63	7126.00	S 9773.08	W 745.47	0.00	9801.47



SYSDRILL
Well Design Combined Report
Wellbore: OLANDER 11 (PWB)

Wellhead Details

Name	Latitude	Longitude	Northing	Easting	North	East	Slot Elevation Above Ground
OLANDER 11	40.20288000	-105.02524000	1317106.5875	3132609.4035	0.31N	58.66E	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	-5032.00	0.00N	0.00E		0.00
1517.00	0.00	303.50	1517.00	-3532.00	0.00N	0.00E	==>	0.00
2032.37	10.31	303.50	2029.59	-3019.41	25.52N	38.55W	2.00	-22.51
6579.12	10.31	303.50	6502.97	1453.97	474.58N	716.93W	==>	-418.68
7536.35	90.00	179.63	7126.00	2077.00	96.11S	807.36W	10.00	157.24
17213.52	90.00	179.63	7126.00	2077.00	9773.08S	745.47W	==>	9801.47

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	40.20288000	-105.02524000
17.00	0.00	0.00	17.00	0.00N	0.00E	==>	0.00	40.20288000	-105.02524000
100.00	0.00	0.00	100.00	0.00N	0.00E	==>	0.00	40.20288000	-105.02524000
200.00	0.00	0.00	200.00	0.00N	0.00E	==>	0.00	40.20288000	-105.02524000
300.00	0.00	0.00	300.00	0.00N	0.00E	==>	0.00	40.20288000	-105.02524000
400.00	0.00	0.00	400.00	0.00N	0.00E	==>	0.00	40.20288000	-105.02524000
500.00	0.00	0.00	500.00	0.00N	0.00E	==>	0.00	40.20288000	-105.02524000
600.00	0.00	0.00	600.00	0.00N	0.00E	==>	0.00	40.20288000	-105.02524000
700.00	0.00	0.00	700.00	0.00N	0.00E	==>	0.00	40.20288000	-105.02524000
800.00	0.00	0.00	800.00	0.00N	0.00E	==>	0.00	40.20288000	-105.02524000
900.00	0.00	0.00	900.00	0.00N	0.00E	==>	0.00	40.20288000	-105.02524000
1000.00	0.00	0.00	1000.00	0.00N	0.00E	==>	0.00	40.20288000	-105.02524000
1100.00	0.00	0.00	1100.00	0.00N	0.00E	==>	0.00	40.20288000	-105.02524000
1200.00	0.00	0.00	1200.00	0.00N	0.00E	==>	0.00	40.20288000	-105.02524000
1300.00	0.00	0.00	1300.00	0.00N	0.00E	==>	0.00	40.20288000	-105.02524000
1400.00	0.00	0.00	1400.00	0.00N	0.00E	==>	0.00	40.20288000	-105.02524000
1500.00	0.00	0.00	1500.00	0.00N	0.00E	==>	0.00	40.20288000	-105.02524000
1517.00	0.00	303.50	1517.00	0.00N	0.00E	==>	0.00	40.20288000	-105.02524000
1600.00	1.66	303.50	1599.99	0.66N	1.00W	2.00	-0.59	40.20288184	-105.02524358
1700.00	3.66	303.50	1699.88	3.23N	4.87W	2.00	-2.85	40.20288892	-105.02525738
1800.00	5.66	303.50	1799.54	7.71N	11.65W	2.00	-6.80	40.20290133	-105.02528155
1900.00	7.66	303.50	1898.86	14.11N	21.32W	2.00	-12.45	40.20291905	-105.02531604
2000.00	9.66	303.50	1997.71	22.42N	33.87W	2.00	-19.78	40.20294204	-105.02536083
2032.37	10.31	303.50	2029.59	25.52N	38.55W	2.00	-22.51	40.20295061	-105.02537752
2100.00	10.31	303.50	2096.13	32.20N	48.64W	==>	-28.41	40.20296910	-105.02541351
2200.00	10.31	303.50	2194.52	42.08N	63.56W	==>	-37.12	40.20299643	-105.02546674
2300.00	10.31	303.50	2292.91	51.95N	78.48W	==>	-45.83	40.20302376	-105.02551996
2400.00	10.31	303.50	2391.29	61.83N	93.40W	==>	-54.55	40.20305109	-105.02557318
2500.00	10.31	303.50	2489.68	71.70N	108.32W	==>	-63.26	40.20307842	-105.02562641
2600.00	10.31	303.50	2588.06	81.58N	123.24W	==>	-71.97	40.20310575	-105.02567963
2700.00	10.31	303.50	2686.45	91.46N	138.16W	==>	-80.68	40.20313308	-105.02573285
2800.00	10.31	303.50	2784.84	101.33N	153.08W	==>	-89.40	40.20316041	-105.02578608

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 5049.0ft above Mean Sea Level)
Vertical Section is from 0.00N 0.00E on azimuth 184.36 degrees
Bottom hole distance is 9801.47 Feet on azimuth 184.36 degrees from Wellhead
Calculation method uses Minimum Curvature method
Prepared by
Date Printed: 11-Apr-2019

SYSDRILL
Well Design Combined Report
Wellbore: OLANDER 11 (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	10.31	303.50	2883.22	111.21N	168.00W	==>	-98.11	40.20318774	-105.02583930
3000.00	10.31	303.50	2981.61	121.09N	182.92W	==>	-106.82	40.20321506	-105.02589253
3100.00	10.31	303.50	3080.00	130.96N	197.84W	==>	-115.54	40.20324239	-105.02594575
3200.00	10.31	303.50	3178.38	140.84N	212.76W	==>	-124.25	40.20326972	-105.02599897
3300.00	10.31	303.50	3276.77	150.72N	227.68W	==>	-132.96	40.20329705	-105.02605220
3400.00	10.31	303.50	3375.15	160.59N	242.60W	==>	-141.68	40.20332438	-105.02610542
3500.00	10.31	303.50	3473.54	170.47N	257.52W	==>	-150.39	40.20335171	-105.02615864
3600.00	10.31	303.50	3571.93	180.35N	272.44W	==>	-159.10	40.20337904	-105.02621187
3700.00	10.31	303.50	3670.31	190.22N	287.36W	==>	-167.82	40.20340637	-105.02626509
3800.00	10.31	303.50	3768.70	200.10N	302.28W	==>	-176.53	40.20343370	-105.02631831
3900.00	10.31	303.50	3867.09	209.98N	317.20W	==>	-185.24	40.20346103	-105.02637154
4000.00	10.31	303.50	3965.47	219.85N	332.12W	==>	-193.95	40.20348836	-105.02642476
4100.00	10.31	303.50	4063.86	229.73N	347.04W	==>	-202.67	40.20351569	-105.02647799
4200.00	10.31	303.50	4162.24	239.60N	361.96W	==>	-211.38	40.20354302	-105.02653121
4300.00	10.31	303.50	4260.63	249.48N	376.88W	==>	-220.09	40.20357035	-105.02658443
4400.00	10.31	303.50	4359.02	259.36N	391.80W	==>	-228.81	40.20359767	-105.02663766
4500.00	10.31	303.50	4457.40	269.23N	406.72W	==>	-237.52	40.20362500	-105.02669088
4600.00	10.31	303.50	4555.79	279.11N	421.64W	==>	-246.23	40.20365233	-105.02674411
4700.00	10.31	303.50	4654.17	288.99N	436.56W	==>	-254.95	40.20367966	-105.02679733
4800.00	10.31	303.50	4752.56	298.86N	451.48W	==>	-263.66	40.20370699	-105.02685056
4900.00	10.31	303.50	4850.95	308.74N	466.40W	==>	-272.37	40.20373432	-105.02690378
5000.00	10.31	303.50	4949.33	318.62N	481.32W	==>	-281.09	40.20376165	-105.02695700
5100.00	10.31	303.50	5047.72	328.49N	496.24W	==>	-289.80	40.20378898	-105.02701023
5200.00	10.31	303.50	5146.11	338.37N	511.16W	==>	-298.51	40.20381631	-105.02706345
5300.00	10.31	303.50	5244.49	348.25N	526.08W	==>	-307.23	40.20384363	-105.02711668
5400.00	10.31	303.50	5342.88	358.12N	541.00W	==>	-315.94	40.20387096	-105.02716990
5500.00	10.31	303.50	5441.26	368.00N	555.92W	==>	-324.65	40.20389829	-105.02722313
5600.00	10.31	303.50	5539.65	377.88N	570.84W	==>	-333.36	40.20392562	-105.02727635
5700.00	10.31	303.50	5638.04	387.75N	585.76W	==>	-342.08	40.20395295	-105.02732958
5800.00	10.31	303.50	5736.42	397.63N	600.68W	==>	-350.79	40.20398028	-105.02738280
5900.00	10.31	303.50	5834.81	407.50N	615.60W	==>	-359.50	40.20400761	-105.02743603
6000.00	10.31	303.50	5933.20	417.38N	630.52W	==>	-368.22	40.20403494	-105.02748925
6100.00	10.31	303.50	6031.58	427.26N	645.44W	==>	-376.93	40.20406226	-105.02754248
6200.00	10.31	303.50	6129.97	437.13N	660.36W	==>	-385.64	40.20408959	-105.02759570
6300.00	10.31	303.50	6228.35	447.01N	675.28W	==>	-394.36	40.20411692	-105.02764893
6400.00	10.31	303.50	6326.74	456.89N	690.20W	==>	-403.07	40.20414425	-105.02770215
6500.00	10.31	303.50	6425.13	466.76N	705.12W	==>	-411.78	40.20417158	-105.02775538
6579.12	10.31	303.50	6502.97	474.58N	716.93W	==>	-418.68	40.20419320	-105.02779749
6600.00	9.32	292.68	6523.55	476.26N	720.04W	10.00	-420.12	40.20419787	-105.02780862
6700.00	10.67	232.87	6622.27	473.79N	734.94W	10.00	-416.52	40.20419129	-105.02786198
6800.00	18.43	206.58	6719.09	454.01N	749.43W	10.00	-395.70	40.20413723	-105.02791424
6900.00	27.63	196.40	6811.06	417.54N	763.08W	10.00	-358.29	40.20403731	-105.02796382
7000.00	37.23	191.10	6895.38	365.48N	775.49W	10.00	-305.44	40.20389458	-105.02800920
7100.00	46.97	187.74	6969.49	299.41N	786.25W	10.00	-238.74	40.20371337	-105.02804902
7200.00	56.79	185.31	7031.15	221.33N	795.07W	10.00	-160.22	40.20349920	-105.02808205
7300.00	66.65	183.37	7078.48	133.63N	801.65W	10.00	-72.27	40.20325856	-105.02810729
7400.00	76.52	181.71	7110.03	38.97N	805.81W	10.00	22.43	40.20299876	-105.02812399
7500.00	86.41	180.18	7124.86	59.79S	807.42W	10.00	121.02	40.20272771	-105.02813162
7536.35	90.00	179.63	7126.00	96.11S	807.36W	10.00	157.24	40.20262800	-105.02813210
7600.00	90.00	179.63	7126.00	159.76S	806.95W	==>	220.67	40.20245328	-105.02813186
7700.00	90.00	179.63	7126.00	259.76S	806.31W	==>	320.33	40.20217878	-105.02813147
7800.00	90.00	179.63	7126.00	359.76S	805.67W	==>	419.99	40.20190428	-105.02813109
7900.00	90.00	179.63	7126.00	459.76S	805.03W	==>	519.65	40.20162978	-105.02813070
8000.00	90.00	179.63	7126.00	559.75S	804.39W	==>	619.31	40.20135529	-105.02813032
8100.00	90.00	179.63	7126.00	659.75S	803.75W	==>	718.97	40.20108079	-105.02812993
8200.00	90.00	179.63	7126.00	759.75S	803.11W	==>	818.63	40.20080629	-105.02812955
8300.00	90.00	179.63	7126.00	859.75S	802.47W	==>	918.29	40.20053179	-105.02812916
8400.00	90.00	179.63	7126.00	959.75S	801.83W	==>	1017.95	40.20025729	-105.02812878

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 5049.0ft above Mean Sea Level)
Vertical Section is from 0.00N 0.00E on azimuth 184.36 degrees
Bottom hole distance is 9801.47 Feet on azimuth 184.36 degrees from Wellhead
Calculation method uses Minimum Curvature method
Prepared by
Date Printed: 11-Apr-2019

SYSDRILL
Well Design Combined Report
Wellbore: OLANDER 11 (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	179.63	7126.00	1059.74S	801.19W	==>	1117.61	40.19998279	-105.02812839
8600.00	90.00	179.63	7126.00	1159.74S	800.56W	==>	1217.27	40.19970829	-105.02812801
8700.00	90.00	179.63	7126.00	1259.74S	799.92W	==>	1316.93	40.19943379	-105.02812763
8800.00	90.00	179.63	7126.00	1359.74S	799.28W	==>	1416.59	40.19915929	-105.02812724
8900.00	90.00	179.63	7126.00	1459.74S	798.64W	==>	1516.25	40.19888479	-105.02812686
9000.00	90.00	179.63	7126.00	1559.73S	798.00W	==>	1615.91	40.19861029	-105.02812647
9100.00	90.00	179.63	7126.00	1659.73S	797.36W	==>	1715.57	40.19833579	-105.02812609
9200.00	90.00	179.63	7126.00	1759.73S	796.72W	==>	1815.23	40.19806129	-105.02812570
9300.00	90.00	179.63	7126.00	1859.73S	796.08W	==>	1914.89	40.19778679	-105.02812532
9400.00	90.00	179.63	7126.00	1959.73S	795.44W	==>	2014.55	40.19751230	-105.02812493
9500.00	90.00	179.63	7126.00	2059.72S	794.80W	==>	2114.21	40.19723780	-105.02812455
9600.00	90.00	179.63	7126.00	2159.72S	794.16W	==>	2213.87	40.19696330	-105.02812416
9700.00	90.00	179.63	7126.00	2259.72S	793.52W	==>	2313.53	40.19668880	-105.02812378
9800.00	90.00	179.63	7126.00	2359.72S	792.88W	==>	2413.19	40.19641430	-105.02812340
9900.00	90.00	179.63	7126.00	2459.72S	792.24W	==>	2512.85	40.19613980	-105.02812301
10000.00	90.00	179.63	7126.00	2559.71S	791.60W	==>	2612.51	40.19586530	-105.02812263
10100.00	90.00	179.63	7126.00	2659.71S	790.96W	==>	2712.17	40.19559080	-105.02812224
10200.00	90.00	179.63	7126.00	2759.71S	790.32W	==>	2811.83	40.19531630	-105.02812186
10300.00	90.00	179.63	7126.00	2859.71S	789.68W	==>	2911.48	40.19504180	-105.02812147
10400.00	90.00	179.63	7126.00	2959.71S	789.04W	==>	3011.14	40.19476730	-105.02812109
10500.00	90.00	179.63	7126.00	3059.70S	788.40W	==>	3110.80	40.19449280	-105.02812070
10600.00	90.00	179.63	7126.00	3159.70S	787.76W	==>	3210.46	40.19421830	-105.02812032
10700.00	90.00	179.63	7126.00	3259.70S	787.12W	==>	3310.12	40.19394380	-105.02811994
10800.00	90.00	179.63	7126.00	3359.70S	786.49W	==>	3409.78	40.19366930	-105.02811955
10900.00	90.00	179.63	7126.00	3459.70S	785.85W	==>	3509.44	40.19339480	-105.02811917
11000.00	90.00	179.63	7126.00	3559.69S	785.21W	==>	3609.10	40.19312030	-105.02811878
11100.00	90.00	179.63	7126.00	3659.69S	784.57W	==>	3708.76	40.19284580	-105.02811840
11200.00	90.00	179.63	7126.00	3759.69S	783.93W	==>	3808.42	40.19257130	-105.02811801
11300.00	90.00	179.63	7126.00	3859.69S	783.29W	==>	3908.08	40.19229680	-105.02811763
11400.00	90.00	179.63	7126.00	3959.68S	782.65W	==>	4007.74	40.19202231	-105.02811724
11500.00	90.00	179.63	7126.00	4059.68S	782.01W	==>	4107.40	40.19174781	-105.02811686
11600.00	90.00	179.63	7126.00	4159.68S	781.37W	==>	4207.06	40.19147331	-105.02811648
11700.00	90.00	179.63	7126.00	4259.68S	780.73W	==>	4306.72	40.19119881	-105.02811609
11800.00	90.00	179.63	7126.00	4359.68S	780.09W	==>	4406.38	40.19092431	-105.02811571
11900.00	90.00	179.63	7126.00	4459.67S	779.45W	==>	4506.04	40.19064981	-105.02811532
12000.00	90.00	179.63	7126.00	4559.67S	778.81W	==>	4605.70	40.19037531	-105.02811494
12100.00	90.00	179.63	7126.00	4659.67S	778.17W	==>	4705.36	40.19010081	-105.02811455
12200.00	90.00	179.63	7126.00	4759.67S	777.53W	==>	4805.02	40.18982631	-105.02811417
12300.00	90.00	179.63	7126.00	4859.67S	776.89W	==>	4904.68	40.18955181	-105.02811378
12400.00	90.00	179.63	7126.00	4959.66S	776.25W	==>	5004.34	40.18927731	-105.02811340
12500.00	90.00	179.63	7126.00	5059.66S	775.61W	==>	5104.00	40.18900281	-105.02811302
12600.00	90.00	179.63	7126.00	5159.66S	774.97W	==>	5203.66	40.18872831	-105.02811263
12700.00	90.00	179.63	7126.00	5259.66S	774.33W	==>	5303.32	40.18845381	-105.02811225
12800.00	90.00	179.63	7126.00	5359.66S	773.69W	==>	5402.98	40.18817931	-105.02811186
12900.00	90.00	179.63	7126.00	5459.65S	773.05W	==>	5502.64	40.18790481	-105.02811148
13000.00	90.00	179.63	7126.00	5559.65S	772.42W	==>	5602.30	40.18763031	-105.02811109
13100.00	90.00	179.63	7126.00	5659.65S	771.78W	==>	5701.96	40.18735581	-105.02811071
13200.00	90.00	179.63	7126.00	5759.65S	771.14W	==>	5801.62	40.18708131	-105.02811032
13300.00	90.00	179.63	7126.00	5859.65S	770.50W	==>	5901.28	40.18680681	-105.02810994
13400.00	90.00	179.63	7126.00	5959.64S	769.86W	==>	6000.93	40.18653231	-105.02810956
13500.00	90.00	179.63	7126.00	6059.64S	769.22W	==>	6100.59	40.18625781	-105.02810917
13600.00	90.00	179.63	7126.00	6159.64S	768.58W	==>	6200.25	40.18598331	-105.02810879
13700.00	90.00	179.63	7126.00	6259.64S	767.94W	==>	6299.91	40.18570881	-105.02810840
13800.00	90.00	179.63	7126.00	6359.64S	767.30W	==>	6399.57	40.18543431	-105.02810802
13900.00	90.00	179.63	7126.00	6459.63S	766.66W	==>	6499.23	40.18515981	-105.02810763
14000.00	90.00	179.63	7126.00	6559.63S	766.02W	==>	6598.89	40.18488531	-105.02810725
14100.00	90.00	179.63	7126.00	6659.63S	765.38W	==>	6698.55	40.18461081	-105.02810687
14200.00	90.00	179.63	7126.00	6759.63S	764.74W	==>	6798.21	40.18433631	-105.02810648
14300.00	90.00	179.63	7126.00	6859.63S	764.10W	==>	6897.87	40.18406181	-105.02810610

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Prepared by
Date Printed: 11-Apr-2019

SYSDRILL
Well Design Combined Report
Wellbore: OLANDER 11 (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	179.63	7126.00	6959.62S	763.46W	==>	6997.53	40.18378731	-105.02810571
14500.00	90.00	179.63	7126.00	7059.62S	762.82W	==>	7097.19	40.18351281	-105.02810533
14600.00	90.00	179.63	7126.00	7159.62S	762.18W	==>	7196.85	40.18323831	-105.02810494
14700.00	90.00	179.63	7126.00	7259.62S	761.54W	==>	7296.51	40.18296381	-105.02810456
14800.00	90.00	179.63	7126.00	7359.62S	760.90W	==>	7396.17	40.18268931	-105.02810418
14900.00	90.00	179.63	7126.00	7459.61S	760.26W	==>	7495.83	40.18241481	-105.02810379
15000.00	90.00	179.63	7126.00	7559.61S	759.62W	==>	7595.49	40.18214031	-105.02810341
15100.00	90.00	179.63	7126.00	7659.61S	758.98W	==>	7695.15	40.18186581	-105.02810302
15200.00	90.00	179.63	7126.00	7759.61S	758.35W	==>	7794.81	40.18159131	-105.02810264
15300.00	90.00	179.63	7126.00	7859.61S	757.71W	==>	7894.47	40.18131681	-105.02810225
15400.00	90.00	179.63	7126.00	7959.60S	757.07W	==>	7994.13	40.18104231	-105.02810187
15500.00	90.00	179.63	7126.00	8059.60S	756.43W	==>	8093.79	40.18076781	-105.02810148
15600.00	90.00	179.63	7126.00	8159.60S	755.79W	==>	8193.45	40.18049331	-105.02810110
15700.00	90.00	179.63	7126.00	8259.60S	755.15W	==>	8293.11	40.18021881	-105.02810072
15800.00	90.00	179.63	7126.00	8359.59S	754.51W	==>	8392.77	40.17994431	-105.02810033
15900.00	90.00	179.63	7126.00	8459.59S	753.87W	==>	8492.43	40.17966981	-105.02809995
16000.00	90.00	179.63	7126.00	8559.59S	753.23W	==>	8592.09	40.17939531	-105.02809956
16100.00	90.00	179.63	7126.00	8659.59S	752.59W	==>	8691.75	40.17912081	-105.02809918
16200.00	90.00	179.63	7126.00	8759.59S	751.95W	==>	8791.41	40.17884631	-105.02809879
16300.00	90.00	179.63	7126.00	8859.58S	751.31W	==>	8891.07	40.17857181	-105.02809841
16400.00	90.00	179.63	7126.00	8959.58S	750.67W	==>	8990.72	40.17829731	-105.02809803
16500.00	90.00	179.63	7126.00	9059.58S	750.03W	==>	9090.38	40.17802281	-105.02809764
16600.00	90.00	179.63	7126.00	9159.58S	749.39W	==>	9190.04	40.17774831	-105.02809726
16700.00	90.00	179.63	7126.00	9259.58S	748.75W	==>	9289.70	40.17747381	-105.02809687
16800.00	90.00	179.63	7126.00	9359.57S	748.11W	==>	9389.36	40.17719931	-105.02809649
16900.00	90.00	179.63	7126.00	9459.57S	747.47W	==>	9489.02	40.17692481	-105.02809610
17000.00	90.00	179.63	7126.00	9559.57S	746.83W	==>	9588.68	40.17665031	-105.02809572
17100.00	90.00	179.63	7126.00	9659.57S	746.19W	==>	9688.34	40.17637581	-105.02809534
17200.00	90.00	179.63	7126.00	9759.57S	745.55W	==>	9788.00	40.17610131	-105.02809495
17213.52	90.00	179.63	7126.00	9773.08S	745.47W	==>	9801.47	40.17606420	-105.02809490

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SYSDRILL
Well Design Combined Report
Wellbore: OLANDER 11 (PWB)

Targets

Name	North[ft]	East[ft]	TVD[ft]	Latitude	Longitude	Northing	Easting
OLANDER 11 - LP	96.11S	807.36W	7126.00	40.20262800	-105.02813210	1317010.48	3131802.08
OLANDER 11 - BHL	9773.08S	745.47W	7126.00	40.17606420	-105.02809490	1307333.94	3131863.97

Survey Tool Program

Reference	Survey Name	MD[ft]	TVD[ft]	Survey Tool	Error Model
790966	Planned	1500.00	1500.00	WdW Rate Gyro	Standard
790965	Planned	17213.52	7126.00	ISCWSA MWD	Rev 4 + SAG + FLT

Notes

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