

Great Western Operating Company, LLC

Location	Colorado	Slot	Slot 13 - Schneider HD 11-179HNX
Field	Wattenburg	Well	Schneider HD 11-179HNX
Installation	Schneider North	Wellbore	Schneider HD 11-179HNX (AWB)

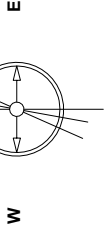
Created by	mmount
Date plotted	23-Sep-2019

Plot reference is Schneider HD 11-179HNX (AWB).
Ref wellpath is Schneider HD 11-179HNX (AWPH1).
Coordinates are in Feet reference Slot 13 - Schneider HD 11-179HNX.
True Vertical Depths are reference Rig Datum.
Measured Depths are reference Rig Datum.
Rig Datum: Actual Datum #1
Rig Datum to Mean Sea Level: 4755.00 ft.
Plot North is aligned to TRUE North.

Scale 1 cm = 400 ft

East (Feet) ->

May-14-2018
EIMM-2015 Dep: 687.7 deg Field: 52300.9 mT
Lat: N40 19.27 8796 Long: W 104 40 34.3884 Elev: 4735.00 ft
Magnetic North is 9.35 deg East of TRUE North
To correct azimuth from Magnetic to TRUE add 8.35 deg



Scale 1 cm = 800 ft

Vertical Section (Feet) ->

Azimuth 276.37 with reference 0.00 N, 0.00 E from Slot 13 - Schneider HD 11-179HNX

Great Western Operating Co, LLC
Directional Survey Report
Wellpath: Schneider HD 11-179HNX
MDs and TVDs are from Rig Floor 4755.0ft above Mean Sea Level

Wellbore Information

Date Created	Date Revised	API #	RKB above GL	Well Name
Sep-23-2019	Sep-23-2019	05-001-46402	20.00	Schneider HD 11-179HNX

Slot Coordinates

Latitude	Longitude
40.32430800	-104.82638900

Pad Information

Pad Name	Ground Elev.
Schneider North	4735.00

Field

Name
Wattenburg

Wellpath Report

MD[ft]	Inc[deg]	Azi[deg]	TVD[ft]	North[ft]	East[ft]	DLS [deg/100ft]	Vertical Section[ft]	Lat - NAD 83	Long - NAD 83
0.00	0.00	0.00	0.00	0.00	0.00		0.00	40.32430800	-104.82638900
14.00	0.00	0.00	14.00	0.00	0.00	0.00	0.00	40.32430800	-104.82638900
96.00	0.44	33.93	96.00	0.26	0.18	0.54	-0.15	40.32430872	-104.82638837
185.00	0.48	7.21	185.00	0.91	0.41	0.24	-0.31	40.32431051	-104.82638752
273.00	0.79	310.08	272.99	1.67	0.00	0.76	0.19	40.32431259	-104.82638902
365.00	0.97	322.56	364.98	2.70	-0.96	0.28	1.26	40.32431540	-104.82639245
455.00	1.01	315.35	454.97	3.87	-1.98	0.15	2.40	40.32431861	-104.82639612
545.00	0.66	312.37	544.96	4.78	-2.92	0.39	3.44	40.32432112	-104.82639949
635.00	0.44	306.13	634.95	5.33	-3.59	0.25	4.16	40.32432264	-104.82640186
725.00	0.57	340.05	724.95	5.96	-4.02	0.36	4.65	40.32432435	-104.82640341
815.00	0.62	334.51	814.95	6.82	-4.38	0.08	5.11	40.32432672	-104.82640471
905.00	0.92	314.30	904.94	7.76	-5.11	0.44	5.94	40.32432931	-104.82640732
995.00	0.83	337.50	994.93	8.87	-5.87	0.40	6.82	40.32433235	-104.82641007
1085.00	0.75	334.25	1084.92	10.00	-6.38	0.10	7.45	40.32433546	-104.82641188
1175.00	0.62	340.31	1174.91	10.99	-6.80	0.17	7.98	40.32433817	-104.82641338
1265.00	0.79	323.26	1264.91	11.95	-7.33	0.30	8.61	40.32434079	-104.82641530
1355.00	0.66	305.42	1354.90	12.74	-8.13	0.29	9.49	40.32434298	-104.82641815
1445.00	0.26	278.00	1444.90	13.07	-8.75	0.50	10.15	40.32434389	-104.82642039
1535.00	0.26	251.46	1534.89	13.04	-9.15	0.13	10.54	40.32434379	-104.82642181
1561.00	0.22	278.00	1560.89	13.03	-9.25	0.45	10.64	40.32434375	-104.82642219
1610.00	0.49	291.59	1609.89	13.12	-9.54	0.57	10.94	40.32434400	-104.82642322
1626.00	0.58	299.28	1625.89	13.18	-9.68	0.72	11.08	40.32434418	-104.82642370
1716.00	3.40	339.70	1715.83	15.91	-11.00	3.31	12.70	40.32435166	-104.82642845
1806.00	3.53	340.63	1805.67	21.02	-12.84	0.16	15.10	40.32436571	-104.82643506
1896.00	0.07	111.11	1895.61	23.62	-13.71	3.97	16.25	40.32437283	-104.82643818
1985.00	0.07	252.88	1984.61	23.58	-13.71	0.15	16.24	40.32437273	-104.82643818
2075.00	0.06	56.76	2074.61	23.59	-13.73	0.14	16.26	40.32437276	-104.82643823
2165.00	0.10	324.73	2164.61	23.68	-13.73	0.13	16.27	40.32437301	-104.82643825
2254.00	0.16	121.31	2253.61	23.68	-13.67	0.29	16.21	40.32437300	-104.82643803
2344.00	0.08	61.16	2343.61	23.65	-13.51	0.15	16.05	40.32437291	-104.82643745
2434.00	0.09	352.50	2433.61	23.75	-13.46	0.11	16.01	40.32437318	-104.82643728
2524.00	0.04	71.54	2523.61	23.83	-13.44	0.10	16.00	40.32437340	-104.82643721
2613.00	0.08	217.48	2612.61	23.79	-13.45	0.13	16.01	40.32437329	-104.82643724
2703.00	0.08	181.07	2702.61	23.67	-13.49	0.06	16.03	40.32437298	-104.82643738
2793.00	0.10	104.47	2792.61	23.59	-13.42	0.13	15.95	40.32437276	-104.82643711
2882.00	0.10	315.08	2881.61	23.63	-13.39	0.22	15.93	40.32437286	-104.82643704
2972.00	0.14	192.46	2971.61	23.58	-13.47	0.23	16.01	40.32437271	-104.82643732
3062.00	0.06	142.47	3061.61	23.43	-13.47	0.12	15.98	40.32437232	-104.82643731
3151.00	0.10	317.52	3150.61	23.45	-13.49	0.18	16.01	40.32437237	-104.82643739
3241.00	0.07	68.39	3240.61	23.53	-13.50	0.16	16.02	40.32437259	-104.82643740
3331.00	0.10	232.48	3330.61	23.50	-13.51	0.19	16.03	40.32437251	-104.82643744
3420.00	0.06	34.50	3419.61	23.49	-13.54	0.18	16.06	40.32437249	-104.82643756
3510.00	0.04	162.62	3509.61	23.50	-13.51	0.10	16.03	40.32437251	-104.82643744
3600.00	0.04	239.86	3599.61	23.46	-13.52	0.06	16.04	40.32437239	-104.82643750
3689.00	0.11	206.82	3688.61	23.36	-13.59	0.09	16.10	40.32437213	-104.82643773
3779.00	0.17	202.37	3778.61	23.16	-13.68	0.07	16.16	40.32437158	-104.82643806
3869.00	1.51	319.92	3868.60	23.95	-14.49	1.77	17.06	40.32437373	-104.82644098
3959.00	4.68	327.31	3958.46	27.95	-17.24	3.54	20.23	40.32438471	-104.82645083
4048.00	7.24	328.74	4046.97	35.80	-22.11	2.88	25.94	40.32440626	-104.82646830
4138.00	9.56	324.21	4136.00	46.71	-29.43	2.68	34.42	40.32443621	-104.82649453
4228.00	12.39	322.48	4224.34	60.43	-39.68	3.17	46.14	40.32447388	-104.82653131
4317.00	15.20	322.26	4310.77	77.23	-52.64	3.16	60.88	40.32452000	-104.82657778
4407.00	18.70	319.24	4396.85	97.50	-69.29	4.01	79.67	40.32457563	-104.82663749
4497.00	21.40	316.91	4481.38	120.42	-89.93	3.13	102.72	40.32463855	-104.82671151
4587.00	22.83	315.87	4564.76	144.95	-113.30	1.65	128.68	40.32470587	-104.82679534
4676.00	25.06	318.00	4646.10	171.35	-137.94	2.69	156.09	40.32477835	-104.82688371
4766.00	26.33	320.10	4727.20	200.83	-163.50	1.74	184.76	40.32485927	-104.82697537
4856.00	27.70	320.88	4807.38	232.37	-189.50	1.57	214.10	40.32494585	-104.82706863
4945.00	29.83	321.19	4885.39	265.67	-216.43	2.40	244.55	40.32503725	-104.82716520
5035.00	29.17	319.96	4963.72	299.91	-244.57	1.00	276.31	40.32513123	-104.82726612
5125.00	29.71	320.47	5042.10	333.90	-272.87	0.66	308.21	40.32522454	-104.82736764
5215.00	30.30	319.91	5120.04	368.47	-301.69	0.73	340.69	40.32531943	-104.82747099
5304.00	30.08	318.81	5196.97	402.43	-330.84	0.67	373.42	40.32541265	-104.82757552
5394.00	29.79	317.93	5274.96	436.00	-360.67	0.58	406.79	40.32550480	-104.82768252
5484.00	29.66	318.44	5353.12	469.26	-390.42	0.32	440.05	40.32559609	-104.82778923
5574.00	29.58	319.10	5431.36	502.72	-419.74	0.37	472.89	40.32568791	-104.82789438
5663.00	30.04	319.69	5508.58	536.31	-448.54	0.61	505.23	40.32578012	-104.82799765

MD[ft]	Inc[deg]	Azi[deg]	TVD[ft]	North[ft]	East[ft]	DLS [deg/100ft]	Vertical Section[ft]	Lat - NAD 83	Long - NAD 83
5753.00	30.05	320.11	5586.49	570.78	-477.56	0.23	537.90	40.32587473	-104.82810175
5843.00	29.26	320.17	5664.70	604.96	-506.10	0.88	570.06	40.32596855	-104.82820410
5932.00	30.25	321.58	5741.96	639.22	-533.96	1.36	601.55	40.32606261	-104.82830404
6022.00	30.17	322.28	5819.74	674.88	-561.89	0.40	633.25	40.32616047	-104.82840419
6112.00	30.12	319.72	5897.57	709.99	-590.32	1.43	665.41	40.32625687	-104.82850618
6202.00	29.64	318.81	5975.61	743.97	-619.58	0.73	698.25	40.32635012	-104.82861111
6291.00	30.16	320.04	6052.76	777.67	-648.43	0.90	730.66	40.32644262	-104.82871459
6381.00	28.98	319.92	6131.04	811.68	-676.99	1.31	762.82	40.32653598	-104.82881702
6471.00	29.35	321.29	6209.63	845.57	-704.82	0.85	794.23	40.32662902	-104.82891684
6560.00	29.93	323.47	6286.99	880.44	-731.68	1.38	824.79	40.32672471	-104.82901317
6650.00	30.03	322.95	6364.95	916.45	-758.62	0.31	855.55	40.32682357	-104.82910977
6740.00	29.58	321.54	6443.04	951.82	-786.00	0.93	886.69	40.32692065	-104.82920800
6830.00	29.19	321.18	6521.46	986.31	-813.57	0.48	917.92	40.32701533	-104.82930689
6919.00	32.70	314.77	6597.80	1020.17	-844.27	5.41	952.18	40.32710827	-104.82941697
7009.00	39.23	306.29	6670.65	1054.20	-884.53	9.11	995.97	40.32720166	-104.82956139
7099.00	46.55	298.17	6736.60	1086.53	-936.38	10.18	1051.08	40.32729041	-104.82974736
7188.00	53.75	290.94	6793.63	1114.67	-998.51	10.21	1115.94	40.32736764	-104.82997018
7278.00	61.56	285.77	6841.77	1138.44	-1070.63	9.94	1190.26	40.32743288	-104.83022884
7368.00	68.94	281.75	6879.44	1157.78	-1149.96	9.15	1271.24	40.32748596	-104.83051337
7457.00	75.79	280.23	6906.39	1173.92	-1233.17	7.87	1355.73	40.32753024	-104.83081182
7547.00	83.16	278.15	6922.82	1188.02	-1320.46	8.50	1444.04	40.32756894	-104.83112488
7624.96	88.24	274.04	6928.66	1196.26	-1397.72	8.37	1521.74	40.32759155	-104.83140198
7637.00	89.02	274.04	6928.95	1197.11	-1409.73	6.48	1533.77	40.32759388	-104.83144504
7726.00	90.07	272.85	6929.66	1202.46	-1498.56	1.78	1622.65	40.32760854	-104.83176365
7816.00	90.50	271.32	6929.21	1205.73	-1588.50	1.77	1712.39	40.32761751	-104.83208621
7906.00	90.43	271.03	6928.48	1207.58	-1678.47	0.33	1802.02	40.32762256	-104.83240892
7995.00	90.47	271.73	6927.78	1209.72	-1767.44	0.79	1890.68	40.32762843	-104.83272802
8085.00	89.88	270.64	6927.51	1211.58	-1857.42	1.38	1980.31	40.32763352	-104.83305073
8175.00	90.10	270.94	6927.52	1212.82	-1947.41	0.41	2069.88	40.32763691	-104.83337349
8264.00	89.96	269.98	6927.47	1213.54	-2036.41	1.09	2158.41	40.32763885	-104.83369268
8354.00	90.26	270.44	6927.30	1213.87	-2126.41	0.61	2247.89	40.32763973	-104.83401546
8444.00	90.23	269.97	6926.92	1214.19	-2216.41	0.52	2337.37	40.32764060	-104.83433824
8534.00	90.19	270.96	6926.59	1214.92	-2306.40	1.10	2426.89	40.32764258	-104.83466102
8623.00	90.07	269.18	6926.38	1215.03	-2395.40	2.00	2515.35	40.32764285	-104.83498020
8713.00	90.11	270.01	6926.24	1214.39	-2485.40	0.92	2604.72	40.32764108	-104.83530298
8803.00	90.15	269.96	6926.04	1214.37	-2575.40	0.07	2694.16	40.32764099	-104.83562577
8892.00	90.39	270.35	6925.62	1214.61	-2664.39	0.51	2782.64	40.32764163	-104.83594497
8982.00	90.38	270.39	6925.02	1215.19	-2754.39	0.05	2872.15	40.32764320	-104.83626774
9072.00	90.02	269.96	6924.70	1215.46	-2844.39	0.62	2961.62	40.32764392	-104.83659053
9162.00	90.51	271.06	6924.28	1216.27	-2934.38	1.34	3051.15	40.32764609	-104.83691329
9251.00	90.24	269.70	6923.70	1216.86	-3023.38	1.56	3139.66	40.32764768	-104.83723247
9341.00	90.45	271.16	6923.16	1217.53	-3113.37	1.64	3229.17	40.32764951	-104.83755524
9431.00	90.42	271.08	6922.48	1219.29	-3203.35	0.09	3318.79	40.32765430	-104.83787796
9520.00	90.38	269.26	6921.86	1219.55	-3292.34	2.05	3407.27	40.32765500	-104.83819714
9610.00	90.48	269.80	6921.18	1218.82	-3382.34	0.61	3496.62	40.32765294	-104.83851991
9700.00	90.33	269.92	6920.54	1218.60	-3472.34	0.21	3586.04	40.32765230	-104.83884269
9790.00	90.20	269.96	6920.13	1218.50	-3562.33	0.15	3675.48	40.32765200	-104.83916547
9879.00	90.10	268.64	6919.89	1217.42	-3651.33	1.49	3763.80	40.32764898	-104.83948464
9969.00	90.11	268.52	6919.73	1215.18	-3741.30	0.13	3852.97	40.32764283	-104.83980733
10059.00	90.10	269.76	6919.56	1213.83	-3831.29	1.38	3942.25	40.32763908	-104.84013007
10148.00	90.07	270.23	6919.43	1213.83	-3920.29	0.53	4030.70	40.32763902	-104.84044927
10238.00	89.88	270.09	6919.47	1214.08	-4010.29	0.26	4120.17	40.32763967	-104.84077206
10328.00	89.97	269.27	6919.59	1213.57	-4100.28	0.92	4209.56	40.32763825	-104.84109484
10418.00	89.92	269.16	6919.68	1212.34	-4190.27	0.13	4298.86	40.32763482	-104.84141760
10507.00	89.97	269.07	6919.76	1210.97	-4279.26	0.12	4387.15	40.32763101	-104.84173676
10597.00	90.07	270.54	6919.73	1210.66	-4369.26	1.64	4476.56	40.32763012	-104.84205954
10687.00	90.11	270.41	6919.59	1211.41	-4459.26	0.15	4566.08	40.32763213	-104.84238232
10776.00	90.18	271.66	6919.36	1213.01	-4548.24	1.41	4654.69	40.32763650	-104.84270146
10866.00	89.91	271.13	6919.29	1215.21	-4638.21	0.66	4744.36	40.32764247	-104.84302416
10956.00	89.93	270.20	6919.42	1216.25	-4728.21	1.03	4833.91	40.32764529	-104.84334692
11046.00	89.55	269.51	6919.83	1216.02	-4818.20	0.88	4923.33	40.32764461	-104.84366970
11135.00	90.40	275.30	6919.87	1219.76	-4907.09	6.58	5012.08	40.32765481	-104.84398849
11225.00	90.23	273.51	6919.37	1226.67	-4996.82	2.00	5102.02	40.32767374	-104.84431031
11314.00	89.70	270.24	6919.43	1229.58	-5085.76	3.72	5190.73	40.32768168	-104.84462930
11404.00	89.78	269.26	6919.83	1229.19	-5175.75	1.09	5280.13	40.32768055	-104.84495208
11494.00	89.23	270.46	6920.61	1228.97	-5265.75	1.47	5369.55	40.32767989	-104.84527485
11584.00	89.21	269.80	6921.84	1229.17	-5355.74	0.73	5459.00	40.32768040	-104.84559760
11673.00	88.78	270.57	6923.40	1229.46	-5444.72	0.99	5547.47	40.32768114	-104.84591675
11763.00	89.77	269.88	6924.54	1229.81	-5534.71	1.34	5636.95	40.32768205	-104.84623951
11853.00	89.90	269.96	6924.80	1229.69	-5624.71	0.17	5726.38	40.32768165	-104.84656229
11942.00	89.69	270.88	6925.11	1230.34	-5713.71	1.06	5814.90	40.32768339	-104.84688148
12032.00	90.55	270.73	6924.93	1231.60	-5803.70	0.97	5904.47	40.32768680	-104.84720424
12122.00	90.25	270.77	6924.30	1232.78	-5893.69	0.34	5994.04	40.32768997	-104.84752699
12211.00	90.46	270.23	6923.75	1233.56	-5982.68	0.65	6082.57	40.32769205	-104.84784618
12301.00	90.54	269.94	6922.96	1233.69	-6072.68	0.33	6172.03	40.32769235	-104.84816895
12391.00	90.31	270.22	6922.29	1233.82	-6162.68	0.40	6261.48	40.32769264	-104.84849173
12481.00	90.29	270.56	6921.82	1234.43	-6252.67	0.38	6350.99	40.32769426	-104.84881451
12570.00	90.43	270.26	6921.26	1235.07	-6341.67	0.37	6439.51	40.32769594	-104.84913370
12660.00	90.60	269.67	6920.45	1235.01	-6431.67	0.68	6528.95	40.32769573	-104.84945647
12750.00	90.55	270.77	6919.55	1235.36	-6521.66	1.22	6618.42	40.32769661	-104.84977924
12839.00	90.70	270.21	6918.58	1236.12	-6610.65	0.65	6706.95	40.32769864	-104.85009841
12929.00	90.58	270.23	6917.57	1236.46	-6700.64	0.14	6796.43	40.32769952	-104.85042118
13019.00	90.61	270.34	6916.64	1236.91	-6790.64	0.13	6885.91	40.32770068	-104.85074394
13109.00	90.53	270.81	6915.74	1237.81	-6880.63	0.53	6975.45	40.32770309	-104.85106670
13198.00	90.72	270.01	6914.77	1238.45	-6969.62	0.92	7063.96	40.32770477	-104.85138587
13288.00	90.58	270.74	6913.75	1239.04	-7059.61	0.83	7153.47	40.32770632	-104.85170863
13378.00	90.45	269.82	6912.94	1239.48	-7149.61	1.03	7242.95	40.32770745	-104.85203140
13467.00	90.55	270.35	6912.17	1239.61	-7238.60	0.61	7331.42	40.32770774	-104.85235059
13557.00	90.57	269.21	6911.29	1239.27	-7328.60	1.27	7420.82	40.32770672	-104.85267336
13647.00	90.46	269.37	6910.48	1238.15	-7418.59	0.22	7510.13	40.32770359	-104.85299611

MD[ft]	Inc[deg]	Azi[deg]	TVD[ft]	North[ft]	East[ft]	DLS [deg/100ft]	Vertical Section[ft]	Lat - NAD 83	Long - NAD 83
13736.00	90.11	270.06	6910.04	1237.71	-7507.58	0.87	7598.53	40.32770230	-104.85331530
13826.00	90.16	269.49	6909.82	1237.35	-7597.58	0.64	7687.93	40.32770125	-104.85363808
13916.00	89.81	270.27	6909.85	1237.17	-7687.58	0.95	7777.35	40.32770066	-104.85396087
14005.00	90.17	269.76	6909.86	1237.19	-7776.58	0.70	7865.81	40.32770065	-104.85428007
14095.00	90.14	269.87	6909.62	1236.90	-7866.58	0.13	7955.22	40.32769977	-104.85460286
14185.00	90.06	269.81	6909.46	1236.65	-7956.58	0.11	8044.64	40.32769900	-104.85492564
14275.00	90.72	269.38	6908.85	1236.01	-8046.57	0.88	8134.01	40.32769718	-104.85524841
14364.00	90.50	270.39	6907.90	1235.83	-8135.57	1.16	8222.43	40.32769661	-104.85556759
14454.00	90.62	270.18	6907.02	1236.28	-8225.56	0.27	8311.92	40.32769775	-104.85589036
14544.00	90.72	269.65	6905.97	1236.15	-8315.56	0.60	8401.34	40.32769730	-104.85621313
14633.00	90.57	270.38	6904.97	1236.17	-8404.55	0.84	8489.79	40.32769729	-104.85653231
14723.00	90.41	270.46	6904.20	1236.83	-8494.54	0.20	8579.30	40.32769901	-104.85685508
14813.00	90.62	270.39	6903.39	1237.50	-8584.54	0.25	8668.82	40.32770076	-104.85717785
14902.00	90.50	269.59	6902.52	1237.48	-8673.53	0.91	8757.26	40.32770063	-104.85749703
14992.00	90.51	269.73	6901.73	1236.95	-8763.53	0.16	8846.64	40.32769908	-104.85781980
15082.00	90.65	269.42	6900.82	1236.28	-8853.52	0.38	8936.01	40.32769716	-104.85814256
15171.00	90.66	269.40	6899.80	1235.36	-8942.51	0.03	9024.35	40.32769455	-104.85846173
15261.00	90.61	270.69	6898.80	1235.43	-9032.50	1.43	9113.79	40.32769466	-104.85878449
15351.00	90.80	270.95	6897.69	1236.72	-9122.49	0.36	9203.36	40.32769810	-104.85910722
15440.00	90.44	268.34	6896.73	1236.17	-9211.47	2.96	9291.74	40.32769650	-104.85942637
15530.00	90.53	267.16	6895.97	1232.64	-9301.40	1.31	9380.72	40.32768671	-104.85974889
15620.00	90.40	269.47	6895.24	1229.99	-9391.35	2.57	9469.82	40.32767935	-104.86007150
15709.00	90.50	267.95	6894.54	1227.99	-9480.32	1.71	9558.02	40.32767376	-104.86039060
15799.00	91.45	272.16	6893.01	1228.07	-9570.29	4.79	9647.44	40.32767390	-104.86071327
15889.00	91.07	274.28	6891.03	1233.13	-9660.12	2.39	9737.28	40.32768768	-104.86103546
15978.00	90.76	270.99	6889.61	1237.22	-9749.00	3.71	9826.07	40.32769881	-104.86135424
16068.00	90.49	272.25	6888.62	1239.76	-9838.96	1.43	9915.75	40.32770569	-104.86167688
16158.00	90.87	271.21	6887.56	1242.48	-9928.91	1.23	10005.45	40.32771305	-104.86199950
16248.00	90.70	271.07	6886.32	1244.27	-10018.88	0.24	10095.07	40.32771787	-104.86232220
16337.00	90.95	270.17	6885.04	1245.23	-10107.87	1.05	10183.61	40.32772041	-104.86264135
16427.00	90.74	270.61	6883.71	1245.85	-10197.85	0.54	10273.11	40.32772199	-104.86296409
16517.00	90.83	271.07	6882.48	1247.16	-10287.84	0.52	10362.68	40.32772551	-104.86328682
16607.00	90.84	270.66	6881.17	1248.52	-10377.82	0.46	10452.26	40.32772914	-104.86360954
16696.00	90.78	270.37	6879.91	1249.32	-10466.80	0.33	10540.79	40.32773123	-104.86392870
16786.00	90.59	267.97	6878.83	1248.02	-10556.78	2.67	10630.07	40.32772755	-104.86425140
16876.00	91.30	268.90	6877.35	1245.56	-10646.73	1.30	10719.19	40.32772069	-104.86457402
16965.00	90.88	270.21	6875.66	1244.87	-10735.71	1.55	10807.55	40.32771869	-104.86489315
17055.00	90.78	271.12	6874.35	1245.92	-10825.70	1.02	10897.09	40.32772145	-104.86521588
17145.00	90.81	271.44	6873.10	1247.93	-10915.66	0.36	10986.73	40.32772686	-104.86553856
17235.00	90.85	272.88	6871.80	1251.32	-11005.59	1.60	11076.47	40.32773606	-104.86586108
17266.47	90.91	272.74	6871.32	1252.86	-11037.02	0.48	11107.88	40.32774026	-104.86597380
17278.02	90.92	272.67	6871.13	1253.40	-11048.55	0.61	11119.40	40.32774174	-104.86601518
17324.00	90.97	272.60	6870.37	1255.52	-11094.48	0.19	11165.28	40.32774748	-104.86617989
17414.00	90.93	269.31	6868.88	1257.02	-11184.44	3.66	11254.85	40.32775149	-104.86650255
17460.00	91.12	268.40	6868.06	1256.10	-11230.42	2.02	11300.45	40.32774891	-104.86666747
17472.21	91.12	268.40	6867.82	1255.76	-11242.63	0.00	11312.54	40.32774796	-104.86671124
17483.00	91.12	268.40	6867.61	1255.46	-11253.41	0.00	11323.22	40.32774712	-104.86674991

Comments

MD[ft]	TVD[ft]	North[ft]	East[ft]	Lat - NAD 83	Long - NAD 83	Comment
1610.00	1609.89	13.12	-9.54	40.32434400	-104.82642322	9.625" Csg: 1610 MD/TVD
7624.96	6928.66	1196.26	-1397.72	40.32759155	-104.83140198	460 Setback: 7624 / 6929 MD/TVD, 2261 FNL, 460 FEL Sec 12
17266.47	6871.32	1252.86	-11037.02	40.32774026	-104.86597380	Btm Toe Sub: 17,266 / 6871 MD/TVD, 2253 FNL, 472 FWL Sec 11
17278.02	6871.13	1253.40	-11048.55	40.32774174	-104.86601518	460 Setback: 17,278 / 6871 MD/TVD, 2253 FNL, 460 FWL Sec 11
17472.21	6867.82	1255.76	-11242.63	40.32774796	-104.86671124	PBTD: 17,472 / 6868 MD/TVD, 2256 FNL, 266 FWL Sec 11
17483.00	6867.61	1255.46	-11253.41	40.32774712	-104.86674991	5.5" Csg: 17,483 / 6868 MD/TVD, 2257 FNL, 255 FWL Sec 11
17483.00	6867.61	1255.46	-11253.41	40.32774712	-104.86674991	BHL: 17,483 / 6868 MD/TVD, 2257 FNL, 255 FWL Sec 11

Hole Sections

Diameter [in]	Start MD[ft]	Start TVD[ft]	Start North[ft]	Start East[ft]	End MD[ft]	End TVD[ft]	End North[ft]	End East[ft]
13.500	0.00	0.00	0.00	0.00	1610.00	1609.89	13.12	-9.54
8.500	1610.00	1609.89	13.12	-9.54	17483.00	6867.61	1255.46	-11253.41

Casings

Name	Top MD[ft]	Top TVD[ft]	Top North[ft]	Top East[ft]	Shoe MD[ft]	Shoe TVD[ft]	Shoe North[ft]	Shoe East[ft]
9 5/8in Casing	0.00	0.00	0.00	0.00	1610.00	1609.89	13.12	-9.54
5 1/2in Casing	0.00	0.00	0.00	0.00	17483.00	6867.61	1255.46	-11253.41

Survey Tool Program

Reference	Survey Name	MD[ft]	TVD[ft]	Survey Tool
618672	As Drilled - 20190923	17483.00	6867.61	MWD

Coordinates are from Slot
MD's and TVD's are from Rig Floor 4755.0ft above Mean Sea Level
Vertical Section is from Wellhead on azimuth 276.37 degrees
Bottom hole distance is 11323.22 Feet on azimuth 276.37 degrees from Wellhead
Survey calculation uses Minimum Curvature method