



Company:	Tug Hill Operating LLC	Local Co-ordinate Reference:	Well Woodford 03HM (C)
Project:	Marshall County, West Virginia	TVD Reference:	RKB=1235+33 @ 1268.00ft (Nabors X08)
Site:	Woodford	MD Reference:	RKB=1235+33 @ 1268.00ft (Nabors X08)
Well:	Woodford 03HM (C)	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Surveys Original Hole	Database:	DB_Aug1919_v14

Project	Marshall County, West Virginia
Map System:	Universal Transverse Mercator (US Survey Feet)
Geo Datum:	NAD83 West Virginia - HARN
Map Zone:	Zone 17N (84 W to 78 W)
System Datum:	Mean Sea Level

Site	Woodford
Site Position:	
From:	Lat/Long
Position Uncertainty:	0.00 ft
Northing:	14,455,471.78 usft
Easting:	1,693,217.70 usft
Slot Radius:	13-3/16 "
Latitude:	39.80414597
Longitude:	-80.81199526
Grid Convergence:	0.120 °

Well	Woodford 03HM (C)
Well Position	
+N/-S	0.00 ft
+E/-W	0.00 ft
Wellhead Elevation:	0.00 ft
Northing:	14,455,447.93 usft
Easting:	1,693,212.17 usft
Latitude:	39.80408052
Longitude:	-80.81201513
Ground Level:	1,235.00 ft

Wellbore	Original Hole
Magnetics	
Model Name	IGRF2015
Sample Date	4/17/2019
Declination (°)	-8.677
Dip Angle (°)	66.831
Field Strength (nT)	51,982.51919133

Design	Surveys Original Hole		
Audit Notes:			
Version:	1.0		
Phase:	ACTUAL		
Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Tie On Depth:
	0.00	0.00	0.00
Direction (°)			152.61

Survey Program	Date	8/28/2019
From (ft)	To (ft)	Survey (Wellbore)
157.00	900.00	MWD 17 1/2 (Original Hole)
983.00	2,695.00	MWD int (Original Hole)
2,804.00	15,606.00	MWD (Original Hole)
15,662.00	15,682.00	Projection (Original Hole)
Tool Name	Description	
MWD	MWD - Standard	
MWD	MWD - Standard	
MWD	MWD - Standard	
MWD	MWD - Standard	

Survey	Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
	0.00	0.00	0.00	0.00	0.00	0.00	14,455,447.93	1,693,212.17	39.80408052	-80.81201513
	157.00	0.02	219.43	157.00	-0.02	-0.02	14,455,447.91	1,693,212.15	39.80408046	-80.81201519
MWD surveys										
	187.00	0.40	220.45	187.00	-0.10	-0.09	14,455,447.83	1,693,212.08	39.80408023	-80.81201545
	217.00	0.24	314.42	217.00	-0.14	-0.20	14,455,447.79	1,693,211.97	39.80408014	-80.81201595
	247.00	0.19	86.87	247.00	-0.09	-0.20	14,455,447.84	1,693,211.97	39.80408027	-80.81201563
	277.00	0.23	97.82	277.00	-0.10	-0.09	14,455,447.83	1,693,212.08	39.80408025	-80.81201544
	307.00	0.29	171.84	307.00	-0.18	-0.02	14,455,447.75	1,693,212.15	39.80408002	-80.81201519
	337.00	0.47	119.94	337.00	-0.32	0.10	14,455,447.61	1,693,212.27	39.80407964	-80.81201478



TUG HILL
OPERATING

Survey Report - Geographic



Company: Tug Hill Operating LLC
Project: Marshall County, West Virginia
Site: Woodford
Well: Woodford 03HM (C)
Wellbore: Original Hole
Design: Surveys Original Hole

Local Co-ordinate Reference: Well Woodford 03HM (C)
TVD Reference: RKB=1235+33 @ 1268.00ft (Nabors X08)
MD Reference: RKB=1235+33 @ 1268.00ft (Nabors X08)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: DB_Aug1919_v14

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N-S (ft)	+E-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
367.00	0.13	354.07	367.00	-0.35	0.20	14,455,447.59	1,693,212.37	39.80407957	-80.81201441
397.00	0.42	128.67	397.00	-0.38	0.29	14,455,447.55	1,693,212.46	39.80407947	-80.81201412
427.00	0.11	20.91	427.00	-0.42	0.38	14,455,447.51	1,693,212.55	39.80407936	-80.81201377
457.00	0.24	247.74	457.00	-0.42	0.33	14,455,447.51	1,693,212.51	39.80407937	-80.81201394
487.00	0.15	9.14	487.00	-0.41	0.28	14,455,447.53	1,693,212.45	39.80407941	-80.81201413
517.00	0.08	357.70	517.00	-0.35	0.29	14,455,447.59	1,693,212.46	39.80407957	-80.81201411
547.00	0.35	65.02	547.00	-0.29	0.37	14,455,447.65	1,693,212.54	39.80407973	-80.81201382
577.00	0.17	321.73	577.00	-0.21	0.43	14,455,447.72	1,693,212.60	39.80407994	-80.81201362
607.00	0.12	118.54	607.00	-0.19	0.43	14,455,447.74	1,693,212.60	39.80407999	-80.81201362
638.00	0.14	271.03	638.00	-0.17	0.42	14,455,447.72	1,693,212.59	39.80407995	-80.81201365
670.00	0.19	319.92	670.00	-0.17	0.34	14,455,447.77	1,693,212.51	39.80408006	-80.81201391
701.00	0.15	250.89	701.00	-0.14	0.27	14,455,447.79	1,693,212.44	39.80408014	-80.81201417
733.00	0.03	353.09	733.00	-0.15	0.23	14,455,447.79	1,693,212.40	39.80408012	-80.81201431
764.00	0.24	40.40	764.00	-0.09	0.27	14,455,447.84	1,693,212.44	39.80408028	-80.81201416
796.00	0.30	260.49	796.00	-0.05	0.23	14,455,447.88	1,693,212.28	39.80408039	-80.81201430
827.00	0.16	291.48	827.00	-0.05	0.11	14,455,447.82	1,693,212.15	39.80408020	-80.81201473
859.00	0.44	227.06	859.00	-0.12	-0.02	14,455,447.82	1,693,211.99	39.80407990	-80.81201520
890.00	0.29	248.33	890.00	-0.23	-0.18	14,455,447.71	1,693,211.92	39.80407984	-80.81201577
900.00	0.56	253.03	899.99	-0.25	-0.25	14,455,447.68	1,693,210.82	39.80407847	-80.81201602
983.00	1.12	241.92	982.99	-0.75	-1.35	14,455,447.18	1,693,210.82	39.80407847	-80.81201995
1,078.00	1.42	251.37	1,077.96	-1.56	-3.29	14,455,446.37	1,693,208.88	39.80407625	-80.81202685
1,173.00	2.28	276.27	1,172.91	-1.73	-6.28	14,455,446.20	1,693,205.89	39.80407580	-80.81203751
1,268.00	3.04	285.51	1,267.81	-0.85	-10.59	14,455,447.08	1,693,201.58	39.80407824	-80.81205284
1,362.00	2.17	284.35	1,361.71	0.26	-14.71	14,455,448.19	1,693,197.46	39.80408131	-80.81206752
1,457.00	1.66	308.42	1,456.66	1.56	-17.53	14,455,449.49	1,693,194.64	39.80408490	-80.81207755
1,552.00	2.51	321.41	1,551.60	4.04	-19.91	14,455,451.97	1,693,192.26	39.80409172	-80.81208599
1,646.00	4.74	322.49	1,645.40	8.73	-23.56	14,455,456.66	1,693,188.61	39.80410463	-80.81209895
1,741.00	5.57	316.41	1,740.02	15.18	-29.13	14,455,463.11	1,693,183.04	39.80412338	-80.81211873
1,836.00	4.20	317.64	1,834.67	21.09	-34.65	14,455,469.02	1,693,177.52	39.80413864	-80.81213835
1,930.00	3.69	355.36	1,928.46	26.65	-37.22	14,455,474.58	1,693,174.96	39.80415393	-80.81214744
2,025.00	5.36	357.59	2,023.16	34.13	-37.65	14,455,482.06	1,693,172.88	39.80420120	-80.81214893
2,120.00	6.64	344.63	2,117.65	43.86	-39.29	14,455,491.79	1,693,169.00	39.80422748	-80.81215471
2,214.00	6.06	330.55	2,211.08	53.42	-43.17	14,455,501.35	1,693,162.93	39.80424937	-80.81216845
2,309.00	6.15	314.87	2,305.54	61.38	-49.24	14,455,509.31	1,693,155.20	39.80427048	-80.81219001
2,404.00	7.01	314.71	2,399.92	69.05	-56.97	14,455,516.98	1,693,146.49	39.80429319	-80.81224843
2,499.00	7.51	312.27	2,494.15	77.30	-65.68	14,455,525.23	1,693,136.27	39.80427048	-80.81221747
2,593.00	8.22	302.47	2,587.27	85.04	-75.90	14,455,532.97	1,693,136.27	39.80433416	-80.81228475
2,695.00	6.96	301.35	2,688.38	92.17	-87.33	14,455,540.10	1,693,124.84	39.80433416	-80.81232539
2,804.00	6.52	295.87	2,796.63	98.31	-98.54	14,455,546.24	1,693,113.63	39.80435107	-80.81236525
2,872.00	6.74	295.75	2,864.17	101.73	-105.61	14,455,549.66	1,693,106.56	39.80436050	-80.81239039
2,967.00	4.85	327.46	2,958.70	107.54	-112.79	14,455,555.47	1,693,099.38	39.80437650	-80.81241593
3,062.00	7.67	344.60	3,053.14	117.00	-116.62	14,455,564.93	1,693,095.55	39.80440250	-80.81242951
3,156.00	8.17	342.87	3,146.25	129.39	-120.25	14,455,577.32	1,693,091.92	39.80443655	-80.81244232
3,251.00	16.26	339.21	3,239.02	148.31	-126.97	14,455,596.24	1,693,085.20	39.80448858	-80.81246610
3,346.00	23.20	338.86	3,328.39	178.23	-138.45	14,455,626.16	1,693,073.72	39.80450754	-80.81250677
3,440.00	28.98	330.27	3,412.81	215.32	-156.44	14,455,663.25	1,693,055.73	39.80467274	-80.81257055
3,535.00	29.34	321.00	3,495.81	253.41	-182.52	14,455,701.34	1,693,029.66	39.80477750	-80.81266311
3,630.00	30.93	317.08	3,577.98	289.38	-213.79	14,455,737.31	1,692,998.38	39.80487646	-80.81277419
3,724.00	34.02	318.28	3,657.27	326.70	-247.75	14,455,774.63	1,692,964.42	39.80487916	-80.81289493
3,819.00	39.43	321.65	3,733.39	370.24	-284.19	14,455,816.17	1,692,927.98	39.80509894	-80.81302425
3,916.00	39.65	320.52	3,808.20	418.29	-322.98	14,455,866.22	1,692,889.19	39.80523110	-80.81316201
4,011.00	40.83	322.75	3,880.72	466.41	-361.05	14,455,914.34	1,692,851.12	39.80536347	-80.81329722
4,105.00	41.00	324.10	3,951.75	515.94	-397.73	14,455,963.78	1,692,814.44	39.80549945	-80.81342746
4,200.00	42.41	326.11	4,022.68	567.69	-433.87	14,456,015.62	1,692,778.30	39.80564203	-80.81355576
4,295.00	44.24	328.24	4,091.79	622.46	-469.18	14,456,070.39	1,692,742.99	39.80579267	-80.81368109



Survey Report - Geographic



Company: Tug Hill Operating LLC
Project: Marshall County, West Virginia
 Woodford
Site: Woodford 03HM (C)
Well: Original Hole
Wellbore: Surveys Original Hole
Design:

Local Co-ordinate Reference:
TVD Reference: Well Woodford 03HM (C)
MD Reference: RKB=1235+33 @ 1268.00ft (Nabors X08)
North Reference: RKB=1235+33 @ 1268.00ft (Nabors X08)
Survey Calculation Method: Grid
Database: Minimum Curvature
 DB_Aug1919_v14

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N-S (ft)	+E-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
4,389.00	42.62	327.36	4,160.05	677.15	-503.61	14,456,125.08	1,692,708.56	39.80594304	-80.81380327
4,484.00	42.83	324.49	4,229.85	730.52	-539.72	14,456,178.45	1,692,672.45	39.80608983	-80.81393144
4,579.00	44.61	322.17	4,298.51	783.16	-578.94	14,456,231.09	1,692,633.23	39.80623462	-80.81407071
4,673.00	43.67	319.58	4,365.97	833.95	-620.23	14,456,281.88	1,692,591.94	39.80637432	-80.81421736
4,768.00	39.84	320.81	4,436.83	882.52	-660.74	14,456,330.45	1,692,551.43	39.80650795	-80.81436125
4,862.00	39.75	322.00	4,509.05	929.54	-698.27	14,456,377.47	1,692,513.90	39.80663729	-80.81449453
4,956.00	41.10	323.05	4,580.61	977.92	-735.35	14,456,425.85	1,692,476.82	39.80677036	-80.81462620
5,050.00	41.88	323.59	4,651.02	1,027.86	-772.54	14,456,475.79	1,692,439.63	39.80690773	-80.81475828
5,145.00	43.26	321.70	4,720.99	1,078.93	-811.55	14,456,526.86	1,692,400.63	39.80704820	-80.81489677
5,239.00	42.26	322.02	4,790.00	1,129.12	-850.96	14,456,577.05	1,692,361.21	39.80718627	-80.81503675
5,334.00	39.95	324.82	4,861.59	1,179.24	-888.20	14,456,627.17	1,692,323.97	39.80732412	-80.81516898
5,429.00	41.05	325.72	4,933.83	1,229.95	-923.34	14,456,677.88	1,692,288.83	39.80746357	-80.81529374
5,524.00	43.31	327.02	5,004.22	1,283.07	-958.65	14,456,731.00	1,692,253.52	39.80760964	-80.81541909
5,590.00	43.64	325.76	5,052.12	1,320.88	-983.79	14,456,788.81	1,692,228.38	39.80777919	-80.81550832
5,644.00	42.95	324.48	5,091.42	1,351.26	-1,004.96	14,456,799.19	1,692,207.21	39.80793478	-80.81558349
5,739.00	39.08	322.20	5,163.09	1,401.29	-1,042.14	14,456,849.21	1,692,170.04	39.80805647	-80.81571548
5,832.00	35.47	321.32	5,237.08	1,445.53	-1,076.98	14,456,893.46	1,692,135.20	39.808085647	-80.81583923
5,879.00	34.68	320.53	5,275.55	1,466.49	-1,094.00	14,456,914.42	1,692,118.17	39.80811415	-80.81589969
5,925.00	31.30	319.74	5,314.13	1,485.72	-1,110.05	14,456,933.65	1,692,102.13	39.80816704	-80.81595668
5,972.00	27.38	317.89	5,355.09	1,503.06	-1,125.19	14,456,950.99	1,692,086.98	39.80821475	-80.81601048
6,020.00	22.95	314.99	5,398.52	1,529.67	-1,139.22	14,456,965.80	1,692,072.96	39.80825551	-80.81606032
6,114.00	16.26	308.92	5,487.00	1,539.13	-1,151.57	14,456,977.66	1,692,060.60	39.80828798	-80.81610421
6,161.00	12.75	301.81	5,532.50	1,546.00	-1,172.09	14,456,993.93	1,692,040.08	39.80833293	-80.81614328
6,208.00	10.37	290.47	5,578.55	1,550.21	-1,180.46	14,456,998.14	1,692,031.71	39.80834455	-80.81617716
6,255.00	9.63	268.14	5,624.85	1,551.56	-1,188.36	14,456,999.49	1,692,023.82	39.80834831	-80.81620695
6,303.00	9.71	240.55	5,672.20	1,549.44	-1,195.90	14,456,997.37	1,692,016.27	39.80834252	-80.81623505
6,350.00	12.00	221.12	5,718.37	1,543.81	-1,202.57	14,456,981.74	1,692,009.61	39.80832709	-80.81626192
6,398.00	14.95	204.77	5,765.06	1,534.42	-1,208.45	14,456,962.35	1,692,003.73	39.80830135	-80.81628570
6,445.00	16.53	190.71	5,810.31	1,522.34	-1,212.23	14,456,970.27	1,691,999.94	39.80826227	-80.81632027
6,493.00	19.60	175.51	5,855.97	1,507.60	-1,212.87	14,456,955.53	1,691,999.30	39.80822770	-80.81632265
6,540.00	20.57	162.41	5,900.13	1,491.86	-1,209.75	14,456,939.79	1,692,002.42	39.80818446	-80.81631168
6,588.00	23.78	153.09	5,944.59	1,475.18	-1,202.82	14,456,923.11	1,692,009.35	39.80813862	-80.81628712
6,635.00	27.47	149.75	5,986.96	1,457.36	-1,193.07	14,456,905.29	1,692,019.10	39.80808962	-80.81625252
6,682.00	31.38	149.49	6,027.89	1,437.45	-1,181.39	14,456,885.38	1,692,030.78	39.80803487	-80.81621108
6,729.00	35.12	148.88	6,067.19	1,415.32	-1,168.19	14,456,863.25	1,692,043.99	39.80797404	-80.81616422
6,777.00	39.69	148.96	6,105.31	1,390.36	-1,153.14	14,456,838.29	1,692,059.03	39.80790539	-80.81611083
6,824.00	43.82	150.11	6,140.36	1,363.38	-1,137.29	14,456,811.31	1,692,074.89	39.80783121	-80.81605457
6,872.00	47.96	151.34	6,173.76	1,333.32	-1,120.45	14,456,781.25	1,692,091.73	39.80774856	-80.81599483
6,919.00	52.09	152.66	6,203.95	1,301.52	-1,103.55	14,456,749.45	1,692,108.62	39.80766114	-80.81593491
6,966.00	56.35	151.86	6,231.43	1,267.78	-1,085.80	14,456,715.71	1,692,126.37	39.80756839	-80.81587196
7,013.00	59.78	151.16	6,256.29	1,232.73	-1,066.78	14,456,680.66	1,692,145.40	39.80747203	-80.81580446
7,060.00	62.07	151.25	6,279.12	1,196.74	-1,046.99	14,456,644.67	1,692,165.18	39.80737306	-80.81573428
7,107.00	64.22	151.69	6,300.35	1,159.90	-1,026.97	14,456,599.83	1,692,185.20	39.80727178	-80.81566325
7,155.00	67.43	151.60	6,320.01	1,121.37	-1,006.17	14,456,560.73	1,692,206.00	39.80717585	-80.81559355
7,202.00	72.18	151.51	6,336.23	1,082.60	-985.17	14,456,530.52	1,692,227.00	39.80705925	-80.81558948
7,249.00	75.56	150.63	6,349.29	1,043.09	-963.33	14,456,491.02	1,692,248.84	39.80695062	-80.81543750
7,296.00	78.29	150.99	6,359.92	1,003.12	-941.00	14,456,451.05	1,692,271.17	39.80684074	-80.81535830
7,344.00	81.23	151.25	6,368.45	961.77	-918.19	14,456,409.70	1,692,293.98	39.80672704	-80.81527738
7,391.00	83.34	150.81	6,374.76	921.02	-895.63	14,456,368.95	1,692,316.54	39.80661502	-80.81519735
7,439.00	85.93	150.90	6,379.25	879.29	-872.36	14,456,327.22	1,692,339.81	39.80650027	-80.81511479
7,533.00	89.89	150.90	6,382.67	797.22	-826.69	14,456,245.15	1,692,385.49	39.80627464	-80.81495276
7,628.00	89.80	151.42	6,382.93	714.01	-780.86	14,456,161.94	1,692,431.31	39.80604584	-80.81479021
7,722.00	89.23	150.90	6,383.73	631.67	-735.52	14,456,079.60	1,692,476.65	39.80581947	-80.81462997
7,816.00	91.08	152.83	6,383.47	548.78	-691.20	14,455,996.71	1,692,520.97	39.80559159	-80.81447217



Survey Report - Geographic



Company: Tug Hill Operating LLC
Project: Marshall County, West Virginia
Site: Woodford
Well: Woodford 03HM (C)
Wellbore: Original Hole
Design: Surveys Original Hole

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:
Database:

Well Woodford 03HM (C)
RKB=1235+33 @ 1268.00ft (Nabors X08)
RKB=1235+33 @ 1268.00ft (Nabors X08)
Grid
Minimum Curvature
DB_Aug1919_v14

Survey

Table with 10 columns: Measured Depth (ft), Inclination (°), Azimuth (°), Vertical Depth (ft), +N/S (ft), +E/W (ft), Map Northing (usft), Map Easting (usft), Latitude, Longitude. Contains 30 rows of survey data.



Survey Report - Geographic



Company:	Tug Hill Operating LLC	Local Co-ordinate Reference:	Well Woodford 03HM (C)
Project:	Marshall County, West Virginia	TVD Reference:	RKB=1235+33 @ 1268.00ft (Nabors X08)
Site:	Woodford	MD Reference:	RKB=1235+33 @ 1268.00ft (Nabors X08)
Well:	Woodford 03HM (C)	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Surveys Original Hole	Database:	DB_Aug1919_v14

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
13,109.00	88.75	151.34	6,419.09	-4,027.53	1,966.14	14,451,420.41	1,695,178.31	39,79300828	-80.80504572
13,204.00	89.23	151.42	6,420.77	-4,110.91	2,011.64	14,451,337.03	1,695,223.81	39,79277903	-80.80488439
13,299.00	89.10	151.34	6,422.15	-4,194.30	2,057.14	14,451,253.64	1,695,269.31	39,79254976	-80.80472306
13,393.00	89.45	149.40	6,423.34	-4,275.99	2,103.61	14,451,171.95	1,695,315.78	39,79232512	-80.80455827
13,488.00	89.98	148.79	6,423.81	-4,357.50	2,152.40	14,451,090.44	1,695,364.57	39,79210098	-80.80438520
13,582.00	90.15	148.35	6,423.71	-4,437.71	2,201.42	14,451,010.23	1,695,413.59	39,79188041	-80.80421133
13,677.00	90.59	150.28	6,423.09	-4,519.41	2,249.90	14,450,928.54	1,695,462.06	39,79165577	-80.80403939
13,772.00	91.21	149.58	6,421.60	-4,601.61	2,297.49	14,450,846.33	1,695,509.66	39,79142973	-80.80387060
13,867.00	90.68	148.61	6,420.03	-4,683.11	2,346.28	14,450,764.83	1,695,558.44	39,79120562	-80.80369766
13,961.00	91.96	150.90	6,417.87	-4,764.28	2,393.61	14,450,683.66	1,695,605.77	39,79098240	-80.80352969
14,056.00	91.78	150.46	6,414.77	-4,847.07	2,440.10	14,450,600.87	1,695,652.27	39,79075477	-80.80336482
14,151.00	91.38	150.19	6,412.15	-4,929.58	2,487.12	14,450,518.36	1,695,699.28	39,79052789	-80.80319810
14,245.00	90.51	150.81	6,410.60	-5,011.38	2,533.40	14,450,436.56	1,695,745.56	39,79030297	-80.80303399
14,340.00	90.11	151.51	6,410.08	-5,094.60	2,579.22	14,450,353.35	1,695,791.39	39,79007416	-80.80287151
14,435.00	89.67	151.51	6,410.27	-5,178.09	2,624.54	14,450,269.85	1,695,836.70	39,78984458	-80.80271085
14,529.00	89.98	151.25	6,410.55	-5,260.60	2,669.56	14,450,187.34	1,695,881.73	39,78961770	-80.80255121
14,624.00	91.16	151.51	6,409.61	-5,343.99	2,715.06	14,450,103.95	1,695,927.23	39,78938843	-80.80238989
14,719.00	91.12	151.78	6,407.72	-5,427.58	2,760.17	14,450,020.37	1,695,972.34	39,78915860	-80.80222996
14,813.00	89.45	152.39	6,407.25	-5,510.64	2,804.18	14,449,937.31	1,696,016.34	39,78893024	-80.80207397
14,908.00	89.54	153.01	6,408.09	-5,595.05	2,847.75	14,449,852.89	1,696,059.91	39,78869815	-80.80191953
15,003.00	88.00	151.51	6,410.13	-5,679.11	2,891.95	14,449,768.84	1,696,104.12	39,78846703	-80.80176283
15,097.00	86.99	149.14	6,414.24	-5,760.69	2,938.44	14,449,687.25	1,696,150.61	39,78824269	-80.80159799
15,192.00	87.21	148.96	6,419.04	-5,842.06	2,987.24	14,449,605.88	1,696,199.40	39,78801893	-80.80142493
15,287.00	87.52	149.93	6,423.41	-5,923.78	3,035.48	14,449,524.16	1,696,247.65	39,78779421	-80.80125384
15,381.00	86.29	149.32	6,428.49	-6,004.76	3,082.94	14,449,443.18	1,696,295.11	39,78757153	-80.80108553
15,476.00	86.29	149.32	6,434.63	-6,086.29	3,131.31	14,449,361.65	1,696,343.48	39,78734733	-80.80091399
15,571.00	86.20	149.14	6,440.85	-6,167.74	3,179.81	14,449,280.20	1,696,391.97	39,78712335	-80.80074200
15,606.00	85.89	149.32	6,443.27	-6,197.75	3,197.67	14,449,250.20	1,696,409.84	39,78704085	-80.80067865
Survey @ 15606.00 MD 6443.27 TVD									
15,662.00	85.89	149.32	6,447.28	-6,245.78	3,226.17	14,449,202.16	1,696,438.34	39,78690875	-80.80057757
Survey projected to 15662.00 MD 6447.28 TVD									

Design Annotations	Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
	157.00	157.00	-0.02	-0.02	MWD surveys
	15,606.00	6,443.27	-6,197.75	3,197.67	Survey @ 15606.00 MD 6443.27 TVD
	15,662.00	6,447.28	-6,245.78	3,226.17	Survey projected to 15662.00 MD 6447.28 TVD