

**5D Survey Report**

SOUTHWESTERN ENERGY

Field Name: *SOUTHWESTERN_BROOKE CO, WV UTM NAD 83
(17N)*

Site Name: *Mark Owen Pad*

Well Name: *Mark Owen BRK 1H*

Survey: *Definitive survey*

2 January 2018

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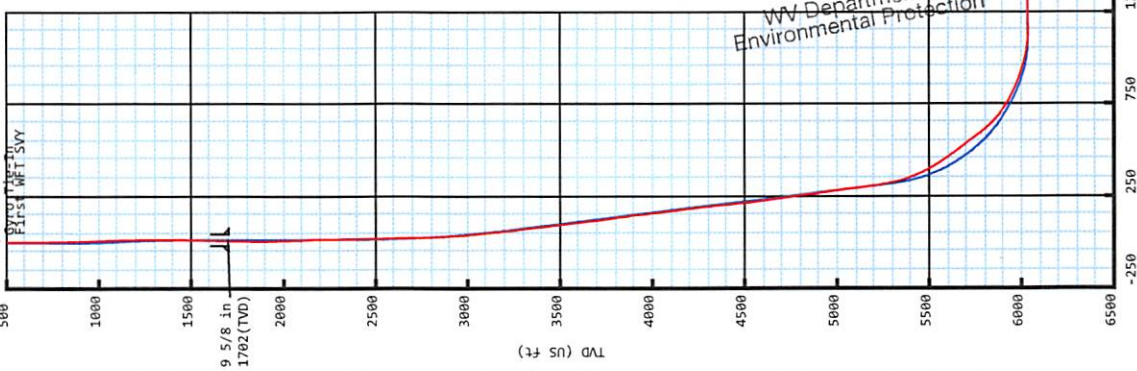
WV Department of
Environmental Protection



Southwestern Energy
Mark Owen BRK 1H
Brooke Co, WV
SDC 40

Plan vs Actual

KB: 1192.2'
GL: 1166.2'



Plan Data for Mark Owen BRK 1H

Plan Point Information:
Dogleg Severity Unit: °/100.00ft
Position offsets from Slot centre

MD (USft)	Inc (°)	Az (°)	+N/-S (USft)	+E/-W (USft)	YSec (USft)	DLS ToolFace Comments (°)
0.00	0.00	0.00	0.00	0.00	0.00	0.0
26.00	0.00	0.00	0.00	0.00	0.00	0.0
800.00	0.00	0.00	0.00	0.00	0.00	0.0
1150.00	3.50	10.00	1149.78	10.52	1.86	10.0 Drop
1500.00	0.00	0.00	1409.56	21.05	3.71	180.0 Hold
2394.37	0.00	0.00	2393.93	21.05	3.71	0.0 Nudge #2
3244.37	17.00	263.70	3231.52	7.31	-120.71	263.7 Hold
5432.52	17.00	263.70	5324.06	-62.92	-756.60	0.0 Curve KOP 7° DLS
6354.75	70.00	331.78	5995.29	348.57	-1136.56	74.9 Build/Turn 9° DLS
6592.87	90.61	337.76	6035.20	559.81	-1235.69	16.6 Landing Point
12557.49	90.61	337.76	5971.20	6080.32	-3493.26	0.0 PBHL MD1H

Plan Data for Mark Owen BRK 1H

Target Set Information:
Name: Mark Owen BRK 1H

Position offsets from Slot centre

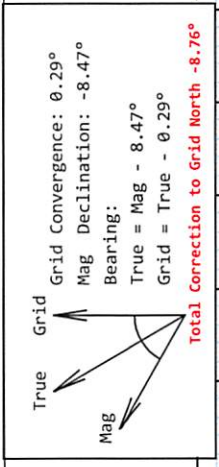
Name	TVD (USft)	+N/-S (USft)	+E/-W (USft)	Northing (USft)	Easting (USft)	Lat (°)	Long (°)
LP MD1H	6035.20	401.19	-1170.83	14607760.86	1766152.89	40.221636	-80.549565
PBHL MD1H	5971.20	6080.32	-3493.26	14613439.99	1763380.46	40.237263	-80.557783

Field: SOUTHWESTERN_BROOKE CO, WV UTM NAD 83 (17N)
Map Unit: USFT
Projected Coordinate System: NAD83 / UTM zone 17N

Site: Mark Owen Pad
Unit: USFeet
Company Name: SOUTHWESTERN ENERGY
Position: Northing: 14607357.50USft Latitude: 40.220512°
Easting: 1767337.69USft Longitude: -80.545328°
North Reference: Grid
Grid Convergence: 0.29°
Elevation Above VRD: 1166.20USft

Slot: Mark Owen BRK 1H
Position:
Offset is from Site centre
+N/-S: 2.11USft Northing: 14607359.67USft Latitude: 40.220518°
+E/-W: -13.97USft Easting: 1767323.72USft Longitude: -80.545378°
Elevation Above VRD: 1166.20USft

Well: Mark Owen BRK 1H
Type: Main-Well
File Number:
Plan Folder: P1
Plan: P1.V2
Vertical Section: Position offset of origin from Slot centre:
+N/-S: 0.00USft Azimuth: 330.12°
+E/-W: 0.00USft
Magnetic Parameters: Dip: Date:
Model: Field Strength: Declination: 67.68° 2017-12-12
HDGM 52645(mT) -8.47°

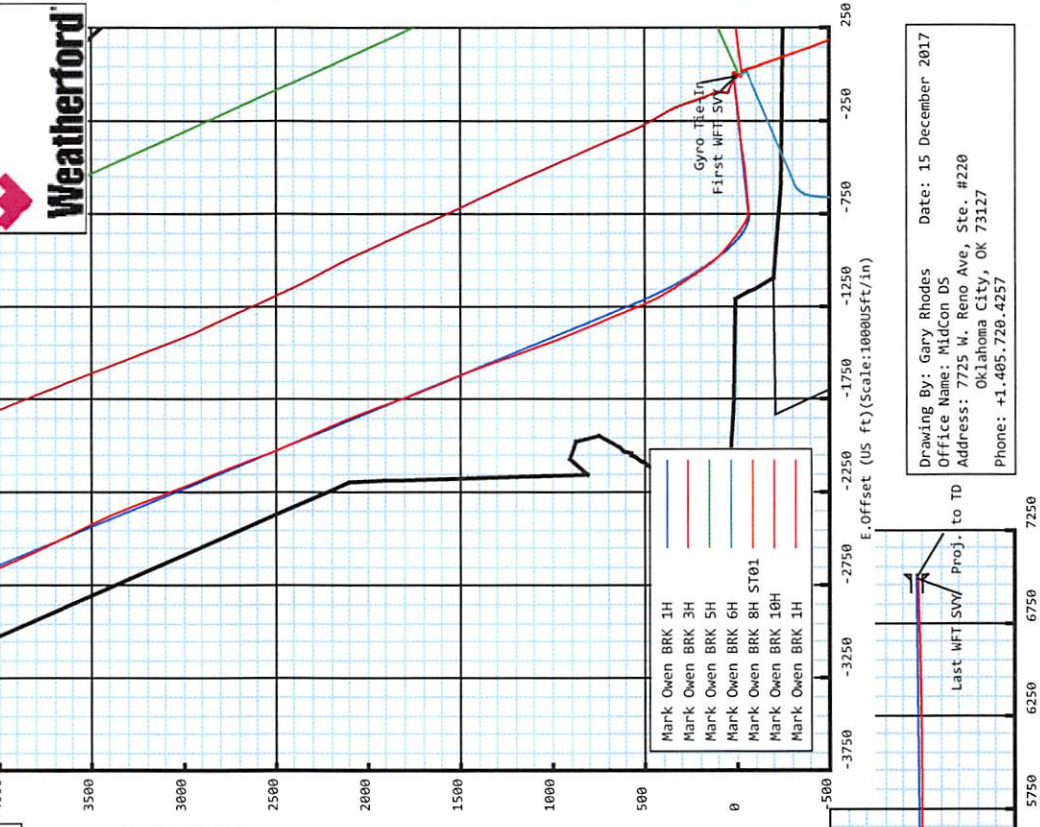


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Plan Data for Mark Owen BRK 1H

Formation Point Information:

Name	TVD (USft)	SS (USft)	MD (USft)
Base of Fresh Water	240.20	952.00	240.20
Pittsburgh Coal	332.20	860.00	332.20
Top of Salt Water	856.20	336.00	856.20
Maxton	1217.20	-25.00	1217.52
Big Lime	1366.20	-174.00	1366.62
Big Injun	1507.20	-315.00	1507.64
Base Big Injun	1657.20	-465.00	1657.64
Berea	2014.20	-822.00	2014.64
Upper Rhinestreet	5454.20	-4262.00	5570.18
Lower Rhinestreet	5569.20	-4377.00	5696.80
Basal Rhinestreet	5635.20	-4443.00	5773.20
Cashaqua	5710.20	-4518.00	5865.06
Middlesex	5793.20	-4574.00	5938.57
Lower Middlesex	5793.20	-4601.00	5976.03
Burket	5828.20	-4636.00	6027.09
Tully	5847.20	-4655.00	6056.25
Mahantango	5901.20	-4709.00	6146.47
Levanna	6009.20	-4817.00	6399.60
Upper Marcellus	6028.20	-4836.00	6489.22



Drawing By: Gary Rhodes
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Phone: +1.405.720.4257
Date: 15 December 2017

Mark Owen BRK 1H

Map Units: US ft	Company Name: SOUTHWESTERN ENERGY
Field Name: SOUTHWESTER N_BROOKE CO, WV UTM NAD 83 (17N)	Vertical Reference Datum (VRD):
	Projected Coordinate System: NAD83 / UTM zone 17N
	Comment:

Site: Mark Owen Pad	Units: US ft	North Reference: Grid	Convergence Angle: 0.29
	Position:	Northing: 14607357.56 US ft	Latitude: 40.220512
		Easting: 1767337.69 US ft	Longitude: -80.545328
		Elevation above Field Reference: 1166.20 US ft	
	Comment:		

Slot: Mark Owen BRK 1H	Position (Relative to Site Centre)		
	+N/-S: 2.11 US ft	Northing: 14607359.67 US ft	Latitude: 40.220518
	+E/-W: -13.97 US ft	Easting: 1767323.72 US ft	Longitude: -80.545378
	Elevation above Field Reference: 1166.20 US ft		
	Comment:		

Well: Mark Owen BRK 1H	Type: Main well	UWI:
	File Number:	Comment:
	Closure Distance: 7012.87 US ft	Closure Azimuth: 330.03°
	Vertical Section: Position of Origin (Relative to Slot centre)	
	+N/-S: 0.00 US ft	+E/-W: 0.00 US ft Az: 330.12°

Drill floor: Survey Name: Definitive Survey			
Rig Height (Drill Floor): 26.00 US ft	Elevation above Field Reference: 1192.20 US ft	Inclination: 0.00°	Azimuth: 0.00°

Survey Name: Definitive Survey			
Date: 12/Dec/2017	Survey Tool: See Survey Tool Ranges below.	Comment:	Company:

Magnetic Model:				
Model Name: HDGM	Date: 12/Dec/2017	Field Strength: 52645.0nT	Declination: -8.47°	Dip: 67.68°

Tie Point:					
MD: 0.00 US ft	Inclination: 0.00°	Azimuth: 0.00°	TVD: -0.00 US ft	North Offset: 0.00 US ft	East Offset: 0.00 US ft

Survey Tool Ranges:			
Name	Start MD(USft)	End MD(USft)	Source Survey
GYRO_GC_WIR+DPIPE_GYD	0.00	537.00	Gyro
MWD	537.00	1658.00	WFT MWD_01
MFAC_US_V2	1658.00	1736.00	WFT MWD_02
MFAC_US_V2	1736.00	1801.00	WFT MFAC_02
MWD	1801.00	5835.00	WFT MWD_02
MWD	5835.00	12532.00	WFT MWD_03

Wellpath created using minimum curvature.

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Survey Points: (Relative to Slot centre)(TVD relative to Drill Floor)										
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	VS (US ft)	N.Offset (US ft)	E.Offset (US ft)	Latitude (° ' ")	Longitude (° ' ")	DLS (%/100US ft)	Comment
0.00	0.00	0.00	-0.00	0.00	0.00	0.00	40.220518	-80.545378	0.00	
50.00	0.44	333.39	50.00	0.19	0.17	-0.09	40.220518	-80.545378	0.88	
100.00	0.38	298.94	100.00	0.53	0.42	-0.32	40.220519	-80.545379	0.50	
150.00	0.37	305.45	150.00	0.81	0.60	-0.59	40.220520	-80.545380	0.09	
200.00	0.50	267.42	200.00	1.06	0.68	-0.94	40.220520	-80.545381	0.62	
250.00	0.34	314.75	249.99	1.30	0.78	-1.27	40.220520	-80.545383	0.74	
293.00	0.30	332.93	292.99	1.54	0.97	-1.41	40.220521	-80.545383	0.25	
355.00	0.26	347.38	354.99	1.84	1.25	-1.51	40.220521	-80.545383	0.13	
447.00	0.36	46.54	446.99	2.10	1.65	-1.35	40.220523	-80.545383	0.35	
537.00	0.65	54.42	536.99	2.22	2.14	-0.73	40.220524	-80.545381	0.33	Gyro Tie-In
595.00	1.06	55.22	594.98	2.30	2.64	-0.02	40.220525	-80.545378	0.71	First WFT SVY
686.00	1.90	47.03	685.95	2.71	4.15	1.78	40.220529	-80.545372	0.95	
779.00	1.96	31.26	778.90	3.83	6.56	3.73	40.220536	-80.545365	0.57	
871.00	2.33	18.70	870.83	5.83	9.67	5.14	40.220544	-80.545359	0.65	
964.00	2.28	0.72	963.76	8.67	13.31	5.77	40.220554	-80.545357	0.78	
1057.00	2.25	357.85	1056.69	11.88	16.99	5.73	40.220565	-80.545357	0.13	
1149.00	1.48	356.97	1148.64	14.54	19.98	5.60	40.220573	-80.545358	0.84	
1242.00	0.45	22.79	1241.62	15.83	21.52	5.68	40.220577	-80.545357	1.17	
1335.00	0.45	110.85	1334.62	15.77	21.72	6.16	40.220578	-80.545356	0.67	
1427.00	0.35	176.62	1426.62	15.24	21.31	6.51	40.220576	-80.545354	0.48	
1520.00	1.05	154.68	1519.61	14.13	20.26	6.89	40.220574	-80.545353	0.79	
1613.00	1.29	150.89	1612.59	12.24	18.57	7.77	40.220569	-80.545350	0.27	
1658.00	1.40	148.23	1657.58	11.18	17.67	8.30	40.220566	-80.545348	0.28	
1736.00	1.17	129.24	1735.56	9.48	16.35	9.42	40.220563	-80.545344	0.62	
1801.00	1.16	133.25	1800.55	8.23	15.48	10.42	40.220560	-80.545340	0.13	
1894.00	1.30	285.02	1893.54	8.08	15.11	10.08	40.220559	-80.545342	2.57	
1986.00	1.82	298.47	1985.51	10.06	16.08	7.79	40.220562	-80.545350	0.69	
2079.00	1.81	320.08	2078.46	12.76	17.91	5.55	40.220567	-80.545358	0.73	
2172.00	1.26	348.64	2171.43	15.18	20.04	4.41	40.220573	-80.545362	1.00	
2265.00	1.06	5.21	2264.41	16.85	21.89	4.28	40.220578	-80.545362	0.42	
2357.00	0.84	352.39	2356.40	18.17	23.41	4.27	40.220582	-80.545362	0.33	
2451.00	0.91	279.76	2450.39	19.29	24.22	3.44	40.220584	-80.545365	1.10	
2543.00	3.20	257.45	2542.32	20.52	23.79	0.22	40.220583	-80.545377	2.59	
2636.00	5.43	254.13	2635.06	22.36	22.02	-6.55	40.220579	-80.545401	2.41	
2729.00	6.63	254.16	2727.54	24.72	19.35	-15.95	40.220571	-80.545435	1.29	
2822.00	7.88	257.08	2819.79	27.88	16.46	-27.33	40.220564	-80.545476	1.40	
2914.00	10.17	263.42	2910.65	32.94	14.12	-41.55	40.220557	-80.545527	2.71	
3007.00	11.16	266.12	3002.04	40.13	12.57	-58.68	40.220553	-80.545588	1.19	
3099.00	13.04	265.62	3092.00	48.50	11.17	-77.92	40.220550	-80.545657	2.05	
3192.00	15.18	262.73	3182.19	57.70	8.83	-100.46	40.220544	-80.545738	2.42	
3285.00	16.91	263.69	3271.56	67.79	5.80	-125.98	40.220536	-80.545829	1.88	
3378.00	17.72	262.00	3360.34	78.47	2.35	-153.44	40.220527	-80.545928	1.03	
3470.00	16.63	262.33	3448.24	88.67	-1.36	-180.35	40.220517	-80.546024	1.19	
3563.00	16.13	262.58	3537.47	98.63	-4.80	-206.35	40.220508	-80.546117	0.54	
3656.00	16.62	264.27	3626.69	109.01	-7.80	-232.40	40.220500	-80.546211	0.73	
3748.00	17.73	265.16	3714.59	120.32	-10.30	-259.45	40.220493	-80.546308	1.24	
3841.00	18.10	264.36	3803.08	132.24	-12.91	-287.93	40.220487	-80.546410	0.48	
3934.00	16.50	264.64	3891.87	143.65	-15.56	-315.46	40.220480	-80.546508	1.72	
4027.00	15.35	264.73	3981.30	154.26	-17.93	-340.87	40.220474	-80.546599	1.24	RECEIVED
4119.00	16.69	262.58	4069.73	164.38	-20.75	-366.10	40.220466	-80.546690	1.50	Office of Oil and Gas
4212.00	18.12	261.36	4158.47	174.72	-24.65	-393.64	40.220456	-80.546789	1.59	
4305.00	18.56	261.54	4246.74	185.36	-29.00	-422.58	40.220444	-80.546892	0.48	JUL 12 2018
4398.00	17.30	261.21	4335.22	195.74	-33.29	-450.88	40.220433	-80.546994	1.36	
4490.00	16.72	261.80	4423.20	205.55	-37.27	-477.50	40.220422	-80.547089	0.66	WV Department of
4583.00	17.93	263.95	4511.98	216.28	-40.69	-504.98	40.220413	-80.547188	1.47	Environmental Protection
4676.00	18.52	264.67	4600.31	228.20	-43.57	-533.92	40.220406	-80.547291	0.68	
4769.00	17.46	265.04	4688.76	240.21	-46.15	-562.53	40.220399	-80.547394	1.15	
4861.00	16.83	265.54	4776.68	251.75	-48.38	-589.55	40.220393	-80.547491	0.70	

5D Survey Report

Survey Points: (Relative to Slot centre)(TVD relative to Drill Floor)										
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	VS (US ft)	N.Offset (US ft)	E.Offset (US ft)	Latitude (° ' ")	Longitude (° ' ")	DLS (°/100US ft)	Comment
4954.00	18.23	265.62	4865.35	263.79	-50.53	-617.48	40.220388	-80.547591	1.51	
5047.00	18.56	264.89	4953.60	276.25	-52.96	-646.73	40.220382	-80.547696	0.43	
5139.00	16.82	264.11	5041.25	287.80	-55.63	-674.56	40.220375	-80.547795	1.91	
5232.00	15.92	263.77	5130.48	298.38	-58.40	-700.62	40.220367	-80.547889	0.97	
5279.00	18.13	264.51	5175.42	303.99	-59.80	-714.31	40.220364	-80.547938	4.72	
5325.00	17.92	265.46	5219.16	309.97	-61.04	-728.49	40.220361	-80.547989	0.79	
5371.00	17.65	273.77	5262.97	316.87	-61.14	-742.50	40.220361	-80.548039	5.54	
5418.00	18.06	283.94	5307.71	325.86	-58.92	-756.69	40.220367	-80.548090	6.68	
5464.00	20.49	291.03	5351.14	337.05	-54.31	-771.13	40.220380	-80.548141	7.33	
5511.00	23.29	296.15	5394.75	351.14	-47.26	-787.15	40.220399	-80.548199	7.21	
5557.00	26.47	300.50	5436.48	367.60	-38.05	-804.15	40.220425	-80.548259	7.97	
5603.00	29.36	304.35	5477.13	386.68	-26.48	-822.30	40.220457	-80.548324	7.40	
5650.00	32.49	307.08	5517.44	408.67	-12.36	-841.89	40.220496	-80.548394	7.30	
5696.00	34.73	307.94	5555.75	432.18	3.15	-862.08	40.220539	-80.548466	4.98	
5742.00	36.69	307.78	5593.10	457.03	19.62	-883.28	40.220584	-80.548542	4.27	
5789.00	38.10	308.24	5630.44	483.47	37.20	-905.77	40.220633	-80.548622	3.06	
5835.00	39.00	309.13	5666.41	510.15	55.12	-928.14	40.220682	-80.548702	2.30	
5906.00	38.04	314.01	5721.97	552.04	84.42	-961.21	40.220763	-80.548820	4.49	
5936.00	37.81	316.16	5745.64	569.84	97.48	-974.23	40.220799	-80.548866	4.47	
5983.00	38.89	319.90	5782.50	598.35	119.16	-993.72	40.220859	-80.548936	5.44	
6029.00	42.88	322.13	5817.27	628.07	142.57	-1012.63	40.220924	-80.549003	9.23	
6075.00	47.50	323.70	5849.69	660.44	168.61	-1032.29	40.220995	-80.549073	10.33	
6122.00	50.61	324.77	5880.48	695.75	197.41	-1053.03	40.221075	-80.549147	6.84	
6168.00	54.84	325.90	5908.34	732.22	227.52	-1073.84	40.221158	-80.549221	9.40	
6214.00	60.70	326.55	5932.86	771.02	259.85	-1095.45	40.221247	-80.549297	12.79	
6261.00	64.70	326.80	5954.41	812.70	294.74	-1118.39	40.221343	-80.549379	8.52	
6307.00	67.62	327.26	5973.00	854.71	330.04	-1141.29	40.221440	-80.549460	6.41	
6353.00	70.58	328.82	5989.41	897.65	366.50	-1164.03	40.221541	-80.549541	7.17	
6400.00	73.63	330.93	6003.85	942.37	405.18	-1186.46	40.221647	-80.549621	7.77	
6446.00	75.93	332.97	6015.93	986.73	444.35	-1207.33	40.221755	-80.549695	6.58	
6493.00	79.07	334.82	6026.10	1032.51	485.55	-1227.51	40.221869	-80.549766	7.71	
6539.00	83.70	337.25	6032.99	1077.73	527.10	-1245.97	40.221983	-80.549832	11.34	
6585.00	88.09	338.77	6036.28	1123.16	569.63	-1263.15	40.222100	-80.549893	10.10	
6632.00	90.99	337.92	6036.66	1169.67	613.31	-1280.49	40.222220	-80.549954	6.43	
6678.00	90.49	336.78	6036.07	1215.30	655.75	-1298.20	40.222337	-80.550017	2.71	
6771.00	90.74	337.85	6035.07	1307.57	741.55	-1334.07	40.222573	-80.550143	1.18	
6864.00	90.49	337.44	6034.07	1399.76	827.56	-1369.44	40.222810	-80.550269	0.52	
6956.00	90.80	337.99	6033.03	1490.95	912.68	-1404.32	40.223044	-80.550392	0.69	
7049.00	90.19	339.32	6032.23	1582.91	999.30	-1438.17	40.223282	-80.550512	1.57	
7142.00	90.12	339.79	6031.98	1674.65	1086.44	-1470.65	40.223522	-80.550626	0.51	
7235.00	90.12	340.48	6031.78	1766.24	1173.90	-1502.26	40.223763	-80.550738	0.74	
7324.00	90.37	340.66	6031.40	1853.76	1257.83	-1531.86	40.223993	-80.550843	0.35	
7417.00	90.25	340.31	6030.90	1945.24	1345.49	-1562.93	40.224235	-80.550952	0.40	
7510.00	90.43	338.51	6030.35	2037.02	1432.54	-1595.63	40.224474	-80.551068	1.95	
7603.00	90.18	338.24	6029.85	2129.05	1519.00	-1629.91	40.224712	-80.551189	0.40	
7695.00	90.18	336.51	6029.56	2220.31	1603.91	-1665.30	40.224946	-80.551314	1.88	
7788.00	90.06	337.79	6029.37	2312.61	1689.61	-1701.41	40.225181	-80.551442	1.38	
7878.00	90.93	339.69	6028.59	2401.59	1773.48	-1734.04	40.225412	-80.551558	2.32	
7967.00	90.80	340.47	6027.25	2489.23	1857.14	-1764.36	40.225642	-80.551665	0.89	
8060.00	90.80	339.25	6025.95	2580.88	1944.45	-1796.38	40.225883	-80.551778	1.31	
8153.00	90.99	339.09	6024.50	2672.71	2031.36	-1829.44	40.226122	-80.551895	0.27	
8245.00	90.68	338.72	6023.16	2763.63	2117.18	-1862.55	40.226358	-80.552012	0.52	
8335.00	90.62	335.79	6022.14	2852.91	2200.17	-1897.34	40.226586	-80.552135	3.26	
8428.00	90.74	335.65	6021.03	2945.46	2284.94	-1935.58	40.226819	-80.552270	0.20	
8521.00	90.68	337.10	6019.88	3037.90	2370.13	-1972.85	40.227054	-80.552402	1.56	
8614.00	90.56	335.98	6018.87	3130.31	2455.44	-2009.87	40.227289	-80.552533	1.21	
8706.00	90.68	338.82	6017.88	3221.55	2540.36	-2045.22	40.227522	-80.552659	3.09	
8799.00	90.19	340.12	6017.17	3313.31	2627.45	-2077.83	40.227762	-80.552774	1.49	
8892.00	90.37	339.55	6016.72	3404.98	2714.75	-2109.89	40.228002	-80.552887	0.64	

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5D Survey Report

Survey Points: (Relative to Slot centre)(TVD relative to Drill Floor)										
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	VS (US ft)	N.Offset (US ft)	E.Offset (US ft)	Latitude (° ' ")	Longitude (° ' ")	DLS (°/100US ft)	Comment
8985.00	90.43	339.16	6016.07	3496.77	2801.77	-2142.68	40.228242	-80.553003	0.42	
9077.00	90.43	338.49	6015.38	3587.71	2887.56	-2175.91	40.228478	-80.553120	0.73	
9170.00	90.06	338.41	6014.98	3679.73	2974.06	-2210.07	40.228716	-80.553241	0.41	
9263.00	89.94	338.49	6014.98	3771.75	3060.56	-2244.23	40.228954	-80.553362	0.16	
9356.00	90.06	339.12	6014.98	3863.68	3147.27	-2277.85	40.229192	-80.553481	0.69	
9448.00	90.55	339.62	6014.49	3954.48	3233.36	-2310.27	40.229429	-80.553596	0.76	
9541.00	89.94	338.25	6014.09	4046.38	3320.15	-2343.69	40.229668	-80.553714	1.61	
9634.00	89.88	336.22	6014.24	4138.66	3405.90	-2379.68	40.229904	-80.553841	2.18	
9727.00	89.94	334.20	6014.38	4231.29	3490.32	-2418.67	40.230136	-80.553979	2.17	
9820.00	90.00	333.06	6014.43	4324.11	3573.64	-2459.98	40.230366	-80.554126	1.23	
9913.00	90.12	334.75	6014.34	4416.91	3657.16	-2500.88	40.230595	-80.554271	1.82	
10005.00	90.25	333.93	6014.04	4508.66	3740.09	-2540.72	40.230824	-80.554412	0.90	
10098.00	90.74	335.64	6013.23	4601.34	3824.22	-2580.34	40.231055	-80.554553	1.91	
10191.00	91.05	336.80	6011.78	4693.80	3909.31	-2617.83	40.231289	-80.554685	1.29	
10284.00	90.74	337.65	6010.33	4786.08	3995.05	-2653.83	40.231525	-80.554813	0.97	
10374.00	91.11	337.23	6008.88	4875.33	4078.15	-2688.35	40.231754	-80.554935	0.62	
10463.00	91.11	338.53	6007.15	4963.50	4160.58	-2721.86	40.231981	-80.555054	1.46	
10556.00	90.37	339.43	6005.95	5055.38	4247.39	-2755.21	40.232220	-80.555171	1.25	
10649.00	90.31	339.21	6005.40	5147.18	4334.39	-2788.05	40.232459	-80.555288	0.25	
10739.00	90.12	339.36	6005.06	5236.03	4418.57	-2819.89	40.232691	-80.555400	0.27	
10828.00	90.49	339.67	6004.59	5323.84	4501.94	-2851.04	40.232920	-80.555510	0.54	
10918.00	90.56	338.81	6003.76	5412.70	4586.10	-2882.93	40.233152	-80.555623	0.96	
11008.00	90.37	337.76	6003.03	5501.78	4669.70	-2916.23	40.233382	-80.555741	1.19	
11101.00	90.68	340.50	6002.18	5593.62	4756.59	-2949.36	40.233621	-80.555858	2.96	
11190.00	90.62	340.48	6001.17	5681.16	4840.48	-2979.08	40.233851	-80.555963	0.07	
11280.00	90.43	339.44	6000.35	5769.83	4925.02	-3009.92	40.234084	-80.556072	1.17	
11373.00	90.00	335.97	6000.00	5862.01	5011.06	-3045.20	40.234321	-80.556197	3.76	
11465.00	90.18	335.12	5999.85	5953.59	5094.80	-3083.28	40.234551	-80.556332	0.94	
11555.00	90.43	338.86	5999.37	6042.93	5177.62	-3118.45	40.234779	-80.556456	4.16	
11648.00	90.80	338.57	5998.38	6134.88	5264.28	-3152.21	40.235018	-80.556576	0.51	
11741.00	91.05	337.63	5996.87	6226.97	5350.55	-3186.90	40.235255	-80.556698	1.05	
11833.00	91.17	335.90	5995.09	6318.33	5435.07	-3223.18	40.235487	-80.556827	1.88	
11923.00	90.99	336.20	5993.40	6407.83	5517.31	-3259.71	40.235714	-80.556956	0.39	
12016.00	90.99	335.27	5991.79	6500.37	5602.08	-3297.92	40.235947	-80.557092	1.00	
12108.00	91.23	334.72	5990.01	6592.02	5685.44	-3336.80	40.236177	-80.557230	0.65	
12201.00	91.05	335.32	5988.16	6684.66	5769.72	-3376.07	40.236409	-80.557369	0.67	
12294.00	91.91	337.83	5985.75	6777.03	5855.02	-3413.03	40.236643	-80.557500	2.85	
12384.00	91.17	337.34	5983.33	6866.24	5938.19	-3447.33	40.236872	-80.557621	0.99	
12476.00	90.92	338.04	5981.66	6957.42	6023.29	-3482.25	40.237106	-80.557745	0.81	
12509.00	91.05	338.20	5981.09	6990.10	6053.91	-3494.55	40.237191	-80.557788	0.62	Last WFT SVY
12532.00	91.05	338.20	5980.67	7012.86	6075.26	-3503.09	40.237249	-80.557818	0.00	Proj. to TD

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