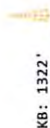
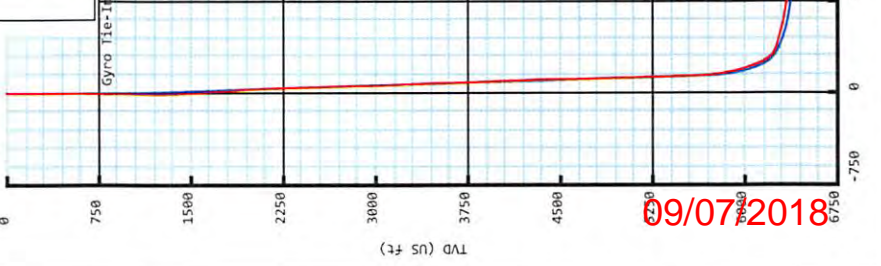




**Mason Cottrell**  
**OHI 210H**  
 Ohio Co, WV  
 SDC 41  
**Plan vs Actual**



KB: 1322'  
 GL: 1296'



09/07/2018

**Plan Data for Mason Cottrell OHI 210H**

Dogleg Severity Unit: °/100.00ft		Plan Point Information:		Position offsets from Slot centre		DLS Toolface Comments	
MD (USft)	Inc (°)	Az (°)	TVD (USft)	+N/-S (USft)	+E/-W (USft)	Vsec (USft)	DLS (DLSU)
26.00	0.00	0.00	0.00	-0.00	0.00	0.00	0.00
80.00	0.00	0.00	26.00	-0.00	0.00	0.00	0.00
1850.00	0.00	0.00	800.00	-0.00	0.00	0.00	0.00
1850.00	5.00	73.43	1049.68	3.11	10.45	3.71	2.00
2100.00	5.00	73.43	2095.69	29.21	98.16	34.81	0.00
2669.43	16.00	59.55	2645.95	75.47	188.44	51.22	2.00
5788.69	16.00	59.55	5653.03	512.45	931.78	141.20	0.00
7418.22	89.01	147.19	6382.00	700.24	1404.99	271.15	7.00
8204.16	89.01	147.19	6395.60	431.33	2125.92	915.76	9.00
8233.62	89.00	147.15	6395.96	-229.17	2551.68	1700.00	2.00
10201.31	89.69	147.15	6409.85	-1906.98	3634.88	3693.17	0.00
10871.98	89.84	182.70	6413.26	-2544.23	3806.51	4307.77	5.30
10964.86	89.81	176.65	6413.52	-2637.00	3802.14	4379.81	0.00
11267.10	89.81	176.65	6414.45	-2939.10	3803.85	4623.85	2.00
12414.28	89.81	176.65	6418.34	-4084.31	3870.81	5584.93	0.00
13150.59	89.58	147.20	6422.37	-4776.61	4096.72	6276.05	4.00
14878.08	89.58	147.20	6435.00	-6228.66	5032.45	8000.01	0.00
14896.27	89.22	147.20	6435.19	-6243.96	5042.31	8018.17	2.00
20371.25	89.22	147.20	6510.00	-10845.66	8007.78	13481.58	0.00

**Target Set Information:**

Name	TVD (USft)	+N/-S (USft)	+E/-W (USft)	Northing (USft)	Easting (USft)	Lat (°)	Long (°)
LP MC210H	6382.00	514.71	2873.72	14555114.73	1749468.20	40.077284	-80.610162
1700VS MC210H	6395.00	-229.16	2551.69	14554370.86	1749946.17	40.075235	-80.608465
TP11 MC210H	6409.85	-1906.98	3634.88	14552693.04	1751029.36	40.070615	-80.604620
TP15 MC210H	6413.52	-2637.00	3802.14	14551963.02	1751196.62	40.068608	-80.604033
8000VS MC210H	6438.34	-4084.31	3870.81	14550915.71	1751265.29	40.064633	-80.603811
8000VS MC210H	6435.00	-6228.66	5032.45	14548371.36	1752426.93	40.058730	-80.599694
PBHL MC210H	6510.00	-10845.66	8007.78	14543754.36	1755402.26	40.046014	-80.589137

**Plan Data for Mason Cottrell OHI 210H**

**Field:** SOUTHWESTERN\_OHIO CO, WV UTM MAD 83 (17N)  
**Map Unit:** USFT  
 Vertical Reference Datum (VRD): Mean Sea Level  
 Projected Coordinate System: NAD83 / UTM zone 17N

**Site:** Mason Cottrell Pad  
**Unit:** USFEET  
 TVD Reference: SOUTHWESTERN ENERGY  
 Company Name: SOUTHWESTERN ENERGY  
 Position: Northing: 14554576.280USft Latitude: 40.075830°  
 Easting: 1747378.820USft Longitude: -80.617639°  
 North Reference: Grid  
 Grid Convergence: 0.25°  
 Elevation Above VRD: 1295.80USft



**Slot:** Mason Cottrell OHI 210H  
 Position: Offset is from Site centre  
 +N/-S: 23.00USft Northing: 14554600.02USft Latitude: 40.075895°  
 +E/-W: 15.00USft Easting: 1747399.48USft Longitude: -80.617583°  
 Elevation Above VRD: 1296.00USft

**Well:** Mason Cottrell OHI 210H  
 Type: Main-Well  
 File Number: Plan: P1:V4  
 Vertical Section: Position offset of origin from Slot centre:  
 +N/-S: 0.00USft Azimuth: 143.56°  
 +E/-W: 0.00USft

**Magnetic Parameters:**  
 Model: Field Strength: Declination: Dip: Date:  
 HDGM 52710(nT) -8.17° 67.45° 2017-10-16

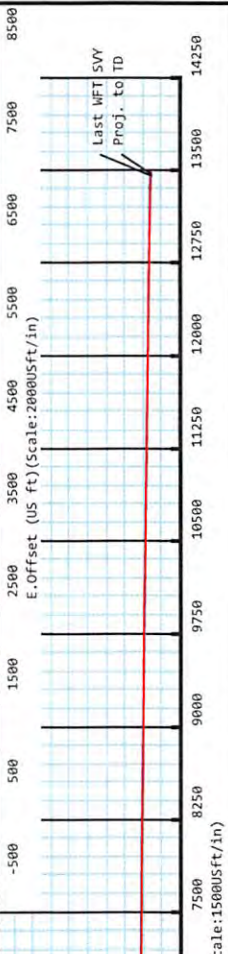
**Plan Data for Mason Cottrell OHI 210H**

**Formation Point Information:**

Name	TVD (USft)	SS (USft)	MD (USft)
Onondaga Limestone	6403.00	0.00	-1.00
Base of Fresh Water	387.00	935.00	387.00
Pittsburgh Coal	610.00	712.00	610.00
Top of Salt Water	752.00	570.00	752.00
Base Big Injun	1972.00	-650.00	1976.11
Berea	2231.00	-909.00	2236.49
Upper Rhinestreet	5741.00	-4419.00	5883.26
Lower Rhinestreet	5874.00	-4552.00	6033.84
Basal Rhinestreet	5939.00	-4617.00	6114.05
Cashaga	6014.00	-4692.00	6215.31
Middlesex	6078.00	-4756.00	6313.16
Lower Middlesex	6109.00	-4787.00	6366.42
Burket	6148.00	-4826.00	6441.94
Tully	6203.00	-4881.00	6578.75
Mahantango	6240.00	-4918.00	6691.09
Levanna	6350.00	-5028.00	7133.99
Upper Marcellus	6365.00	-5043.00	7250.88

- Mason Cottrell OHI 210H
- Mason Cottrell 1
- Mason Cottrell 8H
- Mason Cottrell OHI 6H
- Mason Cottrell OHI 10H
- Mason Cottrell OHI 210H

**Drawing By:** Gary Rhodes  
**Office Name:** MidCon DS  
**Address:** 7725 W. Reno Ave, Ste. #220  
 Oklahoma City, OK 73127  
**Phone:** +1.405.720.4257  
**Date:** 18 December 2017





**5D Survey Report**

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**SOUTHWESTERN ENERGY**

**Field Name:** *SOUTHWESTERN\_OHIO CO, WV UTM NAD 83 (17N)*  
**Site Name:** *Mason Cottrell Pad*  
**Well Name:** *Mason Cottrell OHI 210H*  
**Survey:** *Definitive survey*

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4 January 2018

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**Weatherford®**

## Mason Cottrell OHI 210H

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

<b>Site:</b>	<b>Units:</b> US ft <b>Position:</b>	<b>North Reference:</b> Grid <b>Northing:</b> 14554576.20 US ft <b>Easting:</b> 1747378.82 US ft	<b>Convergence Angle:</b> 0.25 <b>Latitude:</b> 40.075830 <b>Longitude:</b> -80.617639
Mason Cottrell Pad <b>Elevation above MSL:</b> 1295.80 US ft <b>Comment:</b>			

<b>Slot:</b>	<b>Position (Relative to Site Centre)</b>		
<b>+N/-S:</b> 23.82 US ft <b>Northing:</b> 14554600.02 US ft <b>Latitude:</b> 40.075895 <b>+E/-W:</b> 15.66 US ft <b>Easting:</b> 1747394.48 US ft <b>Longitude:</b> -80.617583			
Mason Cottrell OHI 210H <b>Slot TVD Reference:</b> Ground Elevation <b>Elevation above MSL:</b> 1296.00 US ft <b>Comment:</b>			

<b>Well:</b>	<b>Type:</b> Main well <b>File Number:</b> <b>Comment:</b> <b>Closure Distance:</b> 13481.7 US ft <b>Vertical Section: Position of Origin (Relative to Slot centre)</b>	<b>UWI:</b>  <b>Closure Azimuth:</b> 143.52°	<b>+N/-S:</b> -0.00 US ft <b>+E/-W:</b> 0.00 US ft <b>Az:</b> 143.56°
Mason Cottrell OHI 210H			

<b>Drill floor: Survey Name: Definitive Survey</b>			
<b>Rig Height (Drill Floor):</b>	<b>Elevation above MSL:</b>	<b>Inclination:</b> 0.00°	<b>Azimuth:</b> 0.00°
26.00 US ft	1322.00 US ft		

<b>Survey Name: Definitive Survey</b>			
<b>Date:</b> 03/Oct/2017	<b>Survey Tool:</b> See Survey Tool Ranges below.	<b>Comment:</b>	<b>Company:</b>

<b>Magnetic Model:</b>				
<b>Model Name:</b> HDGM	<b>Date:</b> 16/Oct/2017	<b>Field Strength:</b> 52710.0 nT	<b>Declination:</b> -8.17°	<b>Dip:</b> 67.45°

<b>Tie Point:</b>						
<b>MD:</b> 0.00 US ft	<b>Inclination:</b> 0.00°	<b>Azimuth:</b> 0.00°	<b>TVD:</b> 0.00 US ft	<b>North Offset:</b> -0.00 US ft	<b>East Offset:</b> 0.00 US ft	

Survey Tool Ranges:			
Name	Start MD (US Ft)	End MD (US Ft)	Source Survey
GYRO_GC_WIR+DPIPE_GYD	0.00	849.00	Gyro_01
MWD	849.00	1916.00	WFT MWD_02
MWD	1916.00	6115.00	WFT MWD_03
MWD	6115.00	7148.00	WFT MWD_04
MWD	7148.00	10701.00	WFT MWD_05
MWD	10701.00	20338.00	WFT MWD_06

Wellpath created using minimum curvature.

## SD 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
0.00	0.00	0.00	0.00	-0.00	-0.00	0.00	40.075895	-80.617583	0.00	
100.00	0.76	71.79	100.00	0.21	0.21	0.63	40.075896	-80.617580	0.76	
200.00	0.57	64.87	199.99	0.51	0.63	1.71	40.075897	-80.617577	0.21	
300.00	0.50	15.24	299.99	0.34	1.26	2.28	40.075899	-80.617575	0.45	
400.00	0.77	29.67	399.98	-0.20	2.26	2.72	40.075901	-80.617573	0.31	
500.00	0.66	46.28	499.97	-0.55	3.24	3.47	40.075904	-80.617570	0.23	
600.00	0.71	33.76	599.97	-0.83	4.16	4.23	40.075907	-80.617567	0.16	
659.00	0.89	13.84	658.96	-1.25	4.91	4.54	40.075909	-80.617566	0.56	
700.00	1.09	2.67	699.95	-1.75	5.61	4.64	40.075910	-80.617566	0.68	
751.00	1.48	8.08	750.94	-2.60	6.74	4.75	40.075914	-80.617566	0.80	
849.00	2.35	35.14	848.89	-4.14	9.64	6.09	40.075922	-80.617561	1.26	Gyro Tie-In
970.00	4.49	45.77	969.67	-5.56	14.97	10.91	40.075936	-80.617543	1.84	
1064.00	6.32	46.90	1063.24	-6.66	21.07	17.33	40.075953	-80.617520	1.95	
1159.00	6.68	43.34	1157.63	-8.25	28.66	24.94	40.075974	-80.617493	0.57	
1254.00	7.27	56.31	1251.94	-8.94	36.02	33.73	40.075994	-80.617462	1.77	
1348.00	7.11	61.47	1345.20	-7.85	42.10	43.79	40.076010	-80.617426	0.71	
1442.00	6.83	69.43	1438.50	-5.53	46.84	54.13	40.076023	-80.617388	1.07	
1537.00	6.44	86.41	1532.88	-1.09	49.16	64.74	40.076029	-80.617350	2.10	
1632.00	6.41	93.74	1627.28	5.22	49.14	75.35	40.076029	-80.617313	0.86	
1726.00	6.89	92.08	1720.65	12.12	48.60	86.22	40.076028	-80.617274	0.55	
1820.00	7.27	89.92	1813.93	19.16	48.40	97.80	40.076027	-80.617232	0.49	
1916.00	5.96	90.01	1909.29	25.72	48.41	108.86	40.076027	-80.617193	1.36	
2045.00	5.37	80.93	2037.66	32.47	49.36	121.52	40.076029	-80.617148	0.83	
2140.00	5.04	76.14	2132.27	36.12	51.06	129.96	40.076034	-80.617117	0.57	
2235.00	4.55	75.21	2226.94	39.11	53.02	137.66	40.076039	-80.617090	0.52	
2329.00	5.12	72.42	2320.61	41.84	55.24	145.26	40.076045	-80.617063	0.66	
2424.00	8.38	64.73	2414.94	44.55	59.48	155.56	40.076057	-80.617026	3.55	
2519.00	11.74	61.16	2508.46	47.17	67.10	170.29	40.076077	-80.616973	3.60	
2614.00	14.16	61.93	2601.04	50.14	77.23	189.02	40.076105	-80.616906	2.55	
2708.00	16.02	60.71	2691.79	53.43	88.98	210.48	40.076137	-80.616829	2.01	
2803.00	15.41	58.66	2783.24	56.19	101.96	232.69	40.076172	-80.616749	0.87	
2898.00	14.24	55.73	2875.08	57.75	115.11	253.13	40.076208	-80.616676	1.46	
2992.00	13.80	56.16	2966.28	58.70	127.86	271.99	40.076243	-80.616608	0.48	
3087.00	15.72	61.96	3058.15	61.09	140.22	292.77	40.076277	-80.616534	2.55	
3181.00	17.02	63.26	3148.33	65.27	152.40	316.29	40.076310	-80.616450	1.44	
3276.00	15.47	62.86	3239.54	69.66	164.43	339.99	40.076343	-80.616365	1.64	
3370.00	14.59	62.89	3330.32	73.61	175.55	361.68	40.076373	-80.616287	0.94	
3463.00	15.61	61.02	3420.11	77.13	186.95	383.05	40.076404	-80.616211	1.22	
3558.00	16.35	58.71	3511.44	79.99	200.09	405.66	40.076440	-80.616129	1.03	
3653.00	14.87	57.73	3602.93	82.08	213.54	427.40	40.076477	-80.616052	1.58	
3748.00	13.97	58.02	3694.94	83.85	226.12	447.43	40.076511	-80.615980	0.95	
3843.00	15.21	62.11	3786.88	86.60	238.03	468.17	40.076543	-80.615905	1.70	
3938.00	14.14	61.94	3878.78	90.14	249.31	489.43	40.076574	-80.615829	1.13	
4031.00	15.54	59.90	3968.67	93.17	260.91	510.23	40.076606	-80.615755	1.61	
4125.00	16.82	59.78	4058.95	96.04	274.07	532.88	40.076641	-80.615674	1.36	
4220.00	18.48	62.29	4149.47	99.81	287.99	558.09	40.076679	-80.615583	1.92	
4314.00	17.29	59.77	4238.93	103.58	301.95	583.35	40.076717	-80.615493	1.51	
4409.00	17.20	58.16	4329.66	106.24	316.47	607.48	40.076757	-80.615406	0.51	
4503.00	16.61	57.57	4419.60	108.29	331.00	630.62	40.076797	-80.615323	0.65	
4598.00	18.00	55.49	4510.30	109.74	346.60	654.18	40.076839	-80.615239	1.60	
4692.00	18.77	54.89	4599.50	110.58	363.53	678.52	40.076885	-80.615152	0.84	
4787.00	17.76	58.01	4689.71	112.06	380.00	703.31	40.076930	-80.615063	1.48	
4882.00	15.65	61.92	4780.70	115.04	393.70	726.91	40.076968	-80.614978	2.52	
4977.00	14.08	59.88	4872.52	118.18	405.54	748.21	40.077000	-80.614902	1.74	
5072.00	13.96	58.29	4964.69	120.40	417.36	767.96	40.077032	-80.614831	0.42	
5167.00	16.06	62.18	5056.45	123.31	429.52	789.33	40.077065	-80.614754	2.45	
5261.00	17.78	61.14	5146.37	127.15	442.51	813.40	40.077101	-80.614668	1.86	
5355.00	16.69	58.60	5236.15	130.23	456.47	837.49	40.077139	-80.614582	1.41	

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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
5450.00	15.32	58.10	5327.47	132.42	470.21	859.79	40.077176	-80.614502	1.45	
5546.00	14.08	62.00	5420.33	135.14	482.40	880.87	40.077209	-80.614426	1.65	
5640.00	14.03	57.59	5511.52	137.62	493.87	900.59	40.077241	-80.614356	1.14	
5688.00	15.10	57.62	5557.97	138.47	500.34	910.78	40.077258	-80.614319	2.23	
5735.00	15.93	59.30	5603.26	139.55	506.91	921.50	40.077276	-80.614281	2.01	
5783.00	18.58	63.32	5649.10	141.51	513.71	934.00	40.077295	-80.614236	6.05	
5830.00	21.04	67.41	5693.31	144.80	520.31	948.48	40.077313	-80.614184	6.00	
5878.00	23.94	67.71	5737.66	149.24	527.32	965.45	40.077332	-80.614123	6.05	
5925.00	26.76	69.30	5780.13	154.44	534.68	984.17	40.077352	-80.614056	6.17	
5973.00	30.05	70.20	5822.34	160.82	542.57	1005.60	40.077373	-80.613980	6.91	
6020.00	32.41	70.42	5862.53	167.84	550.78	1028.54	40.077395	-80.613897	5.03	
6068.00	34.99	71.81	5902.46	175.88	559.39	1053.74	40.077419	-80.613807	5.61	
6115.00	37.16	73.31	5940.45	184.90	567.67	1080.14	40.077441	-80.613713	4.98	
6152.00	39.15	74.38	5969.54	192.83	574.03	1102.10	40.077458	-80.613634	5.67	
6247.00	40.90	75.95	6042.29	215.34	589.65	1161.15	40.077501	-80.613423	2.13	
6295.00	43.26	76.52	6077.91	227.74	597.30	1192.40	40.077521	-80.613311	4.98	
6342.00	47.84	76.27	6110.82	240.76	605.20	1225.00	40.077543	-80.613194	9.75	
6390.00	52.38	77.23	6141.59	255.26	613.62	1260.84	40.077565	-80.613066	9.58	
6436.00	57.78	76.13	6167.92	270.06	622.32	1297.52	40.077589	-80.612935	11.90	
6484.00	62.59	75.14	6191.77	285.69	632.66	1337.85	40.077617	-80.612790	10.18	
6531.00	66.89	77.13	6211.83	302.02	642.83	1379.11	40.077644	-80.612643	9.92	
6579.00	71.76	79.43	6228.77	320.81	651.93	1423.07	40.077669	-80.612486	11.09	
6626.00	76.63	81.25	6241.57	341.18	659.51	1467.64	40.077689	-80.612326	11.01	
6674.00	78.40	85.18	6251.95	364.37	665.04	1514.16	40.077703	-80.612160	8.80	
6720.00	79.40	87.81	6260.81	388.91	667.80	1559.21	40.077710	-80.611999	6.02	
6768.00	80.22	90.33	6269.30	416.35	668.56	1606.45	40.077712	-80.611830	5.44	
6816.00	80.22	93.33	6277.46	445.64	667.05	1653.72	40.077707	-80.611661	6.16	
6864.00	79.97	96.50	6285.71	476.88	663.00	1700.82	40.077696	-80.611492	6.53	
6911.00	78.96	99.97	6294.31	509.36	656.39	1746.55	40.077677	-80.611329	7.57	
6959.00	78.91	105.48	6303.53	544.99	646.02	1792.48	40.077648	-80.611165	11.27	
7005.00	79.84	110.62	6312.02	581.78	632.01	1835.45	40.077609	-80.611012	11.17	
7053.00	80.91	113.58	6320.04	622.14	614.21	1879.29	40.077559	-80.610855	6.48	
7100.00	81.65	114.98	6327.17	662.66	595.10	1921.63	40.077506	-80.610704	3.34	
7148.00	82.40	115.91	6333.83	704.59	574.68	1964.56	40.077450	-80.610551	2.47	
7195.00	83.52	116.63	6339.59	746.04	554.04	2006.38	40.077393	-80.610402	2.83	
7243.00	83.51	120.24	6345.01	789.21	531.33	2048.32	40.077330	-80.610252	7.47	
7289.00	82.40	126.19	6350.66	832.00	506.34	2086.49	40.077261	-80.610116	13.06	
7337.00	81.46	132.02	6357.40	878.00	476.38	2123.36	40.077178	-80.609985	12.18	
7385.00	80.34	136.24	6365.00	924.74	443.39	2157.37	40.077087	-80.609864	8.99	
7433.00	79.10	141.89	6373.57	971.80	407.72	2188.30	40.076989	-80.609754	11.87	
7480.00	78.21	147.75	6382.82	1017.85	370.08	2214.84	40.076885	-80.609660	12.37	
7528.00	79.22	151.91	6392.22	1064.63	329.39	2238.49	40.076773	-80.609576	8.76	
7574.00	83.14	152.75	6399.27	1109.54	289.14	2259.59	40.076662	-80.609501	8.71	
7622.00	87.29	154.12	6403.28	1156.66	246.37	2280.98	40.076545	-80.609425	9.10	
7669.00	90.00	154.87	6404.39	1202.78	203.97	2301.21	40.076428	-80.609353	5.98	
7764.00	90.25	155.46	6404.18	1295.84	117.75	2341.11	40.076191	-80.609212	6.67	
7858.00	89.63	149.60	6404.28	1388.65	34.39	2384.45	40.075961	-80.609059	6.27	
7953.00	89.45	146.49	6405.04	1483.35	-46.20	2434.72	40.075739	-80.608880	3.28	
8048.00	89.57	147.07	6405.85	1578.19	-125.68	2486.77	40.075520	-80.608695	0.62	
8142.00	90.31	147.61	6405.95	1671.99	-204.81	2537.49	40.075302	-80.608515	0.97	
8237.00	90.06	147.65	6405.65	1766.75	-285.05	2588.35	40.075081	-80.608335	0.27	
8332.00	89.94	148.28	6405.65	1861.46	-365.58	2638.75	40.074860	-80.608156	0.68	
8427.00	89.94	147.79	6405.75	1956.18	-446.18	2689.04	40.074638	-80.607977	0.52	
8521.00	90.12	146.51	6405.70	2049.99	-525.14	2740.03	40.074420	-80.607796	1.38	
8616.00	90.00	146.85	6405.60	2144.85	-604.53	2792.21	40.074202	-80.607611	0.38	
8711.00	90.06	147.46	6405.55	2239.66	-684.34	2843.74	40.073982	-80.607428	0.65	
8805.00	89.63	147.85	6405.80	2333.42	-763.76	2894.03	40.073763	-80.607250	0.62	
8900.00	88.46	147.40	6407.38	2428.17	-843.98	2944.89	40.073542	-80.607069	1.32	
8994.00	88.64	148.39	6409.76	2521.87	-923.57	2994.83	40.073323	-80.606892	1.07	

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## 5D Survey Report

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9089.00	89.32	147.52	6411.45	2616.57	-1004.09	3045.23	40.073101	-80.606713	1.16	
9184.00	89.01	147.07	6412.84	2711.36	-1084.02	3096.55	40.072881	-80.606531	0.58	
9279.00	89.08	146.04	6414.42	2806.21	-1163.27	3148.90	40.072663	-80.606345	1.09	
9373.00	88.83	146.46	6416.14	2900.09	-1241.42	3201.12	40.072448	-80.606159	0.52	
9468.00	88.83	145.13	6418.08	2995.00	-1319.97	3254.51	40.072231	-80.605970	1.40	
9563.00	89.01	144.35	6419.87	3089.96	-1397.52	3309.34	40.072018	-80.605775	0.84	
9657.00	89.51	145.20	6421.08	3183.93	-1474.31	3363.55	40.071806	-80.605582	1.05	
9756.00	89.38	148.49	6422.04	3282.75	-1557.17	3417.69	40.071578	-80.605390	3.33	
9851.00	89.38	148.38	6423.07	3377.40	-1638.11	3467.41	40.071355	-80.605214	0.12	
9946.00	89.57	148.12	6423.94	3472.08	-1718.89	3517.40	40.071133	-80.605036	0.34	
10040.00	89.88	150.10	6424.39	3565.63	-1799.55	3565.66	40.070911	-80.604865	2.13	
10136.00	89.51	151.67	6424.90	3660.84	-1883.42	3612.37	40.070680	-80.604700	1.68	
10230.00	89.63	152.53	6425.61	3753.80	-1966.49	3656.35	40.070451	-80.604544	0.92	
10324.00	89.82	153.82	6426.06	3846.48	-2050.37	3698.77	40.070220	-80.604393	1.39	
10419.00	89.94	154.25	6426.26	3939.89	-2135.78	3740.36	40.069985	-80.604246	0.47	
10514.00	89.82	160.88	6426.46	4032.02	-2223.54	3776.59	40.069744	-80.604118	6.98	
10607.00	89.88	164.45	6426.70	4119.88	-2312.30	3804.30	40.069500	-80.604020	3.84	
10701.00	89.94	167.91	6426.85	4206.64	-2403.57	3826.75	40.069249	-80.603942	3.68	
10795.00	89.82	175.27	6427.04	4289.55	-2496.49	3840.49	40.068993	-80.603894	7.83	
10889.00	89.94	181.90	6427.24	4366.49	-2590.41	3842.81	40.068735	-80.603887	7.05	
10984.00	89.69	181.34	6427.55	4441.28	-2685.37	3840.12	40.068475	-80.603898	0.65	
11079.00	89.75	181.24	6428.01	4516.42	-2780.35	3837.98	40.068214	-80.603907	0.12	
11173.00	90.00	181.44	6428.22	4590.71	-2874.32	3835.79	40.067956	-80.603917	0.34	
11267.00	90.19	180.91	6428.06	4665.17	-2968.30	3833.86	40.067698	-80.603925	0.60	
11361.00	89.88	179.85	6428.00	4740.42	-3062.30	3833.24	40.067440	-80.603929	1.17	
11456.00	89.88	178.97	6428.20	4817.42	-3157.29	3834.21	40.067179	-80.603927	0.93	
11551.00	89.94	178.46	6428.35	4895.10	-3252.27	3836.34	40.066918	-80.603921	0.54	
11646.00	90.19	177.30	6428.24	4973.55	-3347.20	3839.86	40.066657	-80.603910	1.25	
11741.00	90.12	177.47	6427.99	5052.47	-3442.10	3844.19	40.066397	-80.603896	0.19	
11835.00	90.25	178.18	6427.68	5130.16	-3536.03	3847.76	40.066139	-80.603885	0.77	
11930.00	90.00	178.74	6427.48	5208.07	-3631.00	3850.31	40.065878	-80.603877	0.65	
12025.00	90.00	178.16	6427.48	5286.00	-3725.96	3852.88	40.065617	-80.603869	0.61	
12120.00	90.31	176.71	6427.22	5364.87	-3820.87	3857.13	40.065356	-80.603856	1.56	
12215.00	89.88	172.91	6427.06	5446.07	-3915.46	3865.73	40.065096	-80.603826	4.03	
12310.00	89.88	170.48	6427.26	5529.84	-4009.45	3879.45	40.064838	-80.603779	2.56	
12406.00	89.94	169.66	6427.41	5615.74	-4104.02	3896.00	40.064578	-80.603721	0.86	
12501.00	89.94	168.75	6427.51	5701.39	-4197.33	3913.79	40.064322	-80.603659	0.96	
12597.00	90.00	169.23	6427.56	5788.08	-4291.57	3932.13	40.064063	-80.603595	0.50	
12691.00	90.12	168.49	6427.46	5873.07	-4383.79	3950.29	40.063809	-80.603532	0.80	
12785.00	90.00	164.34	6427.36	5959.67	-4475.14	3972.36	40.063558	-80.603454	4.42	
12879.00	89.94	160.81	6427.41	6048.52	-4564.82	4000.51	40.063312	-80.603355	3.76	
12974.00	89.94	156.60	6427.51	6140.20	-4653.31	4035.00	40.063068	-80.603233	4.43	
13068.00	90.00	153.47	6427.56	6232.31	-4738.52	4074.67	40.062834	-80.603093	3.36	
13163.00	89.88	149.99	6427.66	6326.34	-4822.17	4119.66	40.062603	-80.602933	3.67	
13258.00	90.31	148.56	6427.50	6420.86	-4903.83	4168.20	40.062379	-80.602761	1.57	
13353.00	89.88	144.63	6427.35	6515.71	-4983.12	4220.49	40.062160	-80.602575	4.16	
13447.00	89.82	145.35	6427.59	6609.68	-5060.12	4274.42	40.061948	-80.602384	0.77	
13541.00	89.63	144.08	6428.04	6703.66	-5136.84	4328.71	40.061737	-80.602191	1.37	
13636.00	89.57	143.61	6428.71	6798.65	-5213.55	4384.76	40.061525	-80.601992	0.50	
13731.00	89.81	146.26	6429.22	6893.61	-5291.30	4439.33	40.061311	-80.601798	2.80	
13826.00	89.63	145.76	6429.69	6988.53	-5370.06	4492.44	40.061094	-80.601610	0.56	
13921.00	89.88	145.51	6430.09	7083.46	-5448.48	4546.06	40.060878	-80.601419	0.37	
14016.00	89.32	148.19	6430.76	7178.30	-5528.01	4598.01	40.060659	-80.601235	2.88	
14110.00	89.32	150.31	6431.87	7271.82	-5608.78	4646.06	40.060437	-80.601064	2.26	
14205.00	89.32	150.20	6433.00	7366.17	-5691.26	4693.19	40.060210	-80.600897	0.12	
14299.00	89.20	148.63	6434.21	7459.66	-5772.17	4741.01	40.059987	-80.600728	1.67	
14393.00	89.81	149.47	6435.03	7553.23	-5852.79	4789.36	40.059765	-80.600556	1.10	
14488.00	89.45	144.33	6435.64	7648.03	-5932.34	4841.22	40.059546	-80.600372	5.42	
14582.00	90.06	145.38	6436.04	7742.01	-6009.20	4895.33	40.059334	-80.600180	1.29	

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14676.00	89.07	145.82	6436.75	7835.94	-6086.76	4948.43	40.059121	-80.599992	1.15		
14771.00	89.26	146.67	6438.14	7930.83	-6165.73	5001.21	40.058903	-80.599804	0.92		
14864.00	89.20	146.05	6439.39	8023.71	-6243.15	5052.73	40.058690	-80.599621	0.67		
14959.00	89.12	147.96	6440.78	8118.52	-6322.82	5104.45	40.058470	-80.599438	2.01		
15054.00	89.38	149.95	6442.03	8213.09	-6404.20	5153.44	40.058246	-80.599264	2.11		
15149.00	89.45	150.68	6443.00	8307.42	-6486.73	5200.48	40.058019	-80.599097	0.77		
15243.00	89.38	150.36	6443.96	8400.73	-6568.55	5246.74	40.057794	-80.598933	0.35		
15338.00	89.20	148.41	6445.13	8495.22	-6650.30	5295.11	40.057569	-80.598762	2.06		
15432.00	89.01	148.93	6446.60	8588.84	-6730.58	5343.98	40.057348	-80.598588	0.59		
15527.00	89.51	152.80	6447.83	8683.04	-6813.54	5390.22	40.057119	-80.598424	4.11		
15622.00	89.38	151.74	6448.75	8776.94	-6897.63	5434.42	40.056888	-80.598268	1.12		
15716.00	89.38	149.26	6449.77	8870.24	-6979.43	5480.71	40.056663	-80.598104	2.64		
15811.00	89.69	149.52	6450.54	8964.74	-7061.19	5529.08	40.056438	-80.597932	0.43		
15906.00	89.56	142.14	6451.16	9059.60	-7139.73	5582.40	40.056221	-80.597743	7.77		
15998.00	89.26	140.42	6452.11	9151.52	-7211.50	5639.94	40.056023	-80.597538	1.90		
16094.00	90.09	144.25	6452.65	9247.48	-7287.48	5698.59	40.055814	-80.597330	4.08		
16188.00	89.57	145.29	6452.93	9341.45	-7364.26	5752.81	40.055602	-80.597138	1.24		
16282.00	89.82	146.65	6453.43	9435.37	-7442.16	5805.41	40.055388	-80.596951	1.47		
16377.00	88.95	146.50	6454.45	9530.23	-7521.44	5857.74	40.055170	-80.596765	0.93		
16472.00	89.45	144.49	6455.78	9625.16	-7599.72	5911.55	40.054954	-80.596574	2.18		
16565.00	88.95	148.11	6457.08	9718.03	-7677.07	5963.13	40.054741	-80.596391	3.93		
16660.00	89.45	150.95	6458.40	9812.50	-7758.93	6011.30	40.054515	-80.596220	3.04		
16754.00	89.32	149.58	6459.41	9905.84	-7840.55	6057.92	40.054291	-80.596055	1.46		
16848.00	88.95	146.49	6460.83	9999.54	-7920.28	6107.67	40.054071	-80.595878	3.31		
16942.00	88.89	146.52	6462.60	10093.40	-7998.65	6159.53	40.053855	-80.595694	0.07		
17037.00	88.77	145.42	6464.54	10188.29	-8077.37	6212.69	40.053639	-80.595506	1.16		
17131.00	89.29	146.55	6466.13	10282.19	-8155.27	6265.26	40.053424	-80.595319	1.32		
17225.00	89.14	149.12	6467.42	10375.91	-8234.83	6315.29	40.053205	-80.595142	2.74		
17320.00	89.32	150.25	6468.70	10470.36	-8316.83	6363.24	40.052979	-80.594972	1.20		
17414.00	88.83	148.93	6470.22	10563.83	-8397.89	6410.81	40.052756	-80.594803	1.50		
17509.00	89.26	145.43	6471.80	10658.61	-8477.70	6462.29	40.052536	-80.594620	3.71		
17603.00	88.95	141.40	6473.27	10752.58	-8553.15	6518.30	40.052328	-80.594421	4.30		
17698.00	89.45	142.39	6474.60	10847.53	-8627.90	6576.91	40.052122	-80.594213	1.17		
17793.00	89.32	145.12	6475.62	10942.51	-8704.50	6633.07	40.051911	-80.594014	2.88		
17887.00	89.32	145.84	6476.73	11036.45	-8781.95	6686.34	40.051698	-80.593825	0.77		
17982.00	89.07	146.71	6478.07	11131.33	-8860.95	6739.08	40.051480	-80.593637	0.95		
18077.00	89.26	148.95	6479.45	11226.05	-8941.35	6789.65	40.051259	-80.593458	2.37		
18171.00	89.38	146.49	6480.57	11319.79	-9020.81	6839.84	40.051040	-80.593280	2.62		
18266.00	89.14	145.43	6481.79	11414.70	-9099.53	6893.02	40.050823	-80.593091	1.14		
18361.00	89.20	147.38	6483.17	11509.57	-9178.65	6945.57	40.050605	-80.592905	2.05		
18456.00	89.01	148.55	6484.65	11604.27	-9259.17	6995.96	40.050383	-80.592726	1.25		
18550.00	89.44	149.70	6485.92	11697.82	-9339.84	7044.19	40.050161	-80.592555	1.31		
18644.00	89.14	148.61	6487.09	11791.36	-9420.54	7092.38	40.049939	-80.592384	1.20		
18739.00	89.07	146.46	6488.57	11886.12	-9500.67	7143.37	40.049718	-80.592203	2.26		
18833.00	89.14	147.32	6490.04	11979.95	-9579.40	7194.71	40.049501	-80.592021	0.92		
18929.00	89.01	147.33	6491.59	12075.73	-9660.20	7246.53	40.049279	-80.591837	0.14		
19024.00	89.57	149.42	6492.77	12170.38	-9741.08	7296.34	40.049056	-80.591661	2.28		
19119.00	89.47	150.07	6493.56	12264.82	-9823.14	7344.20	40.048830	-80.591491	0.69		
19213.00	89.20	148.89	6494.66	12358.31	-9904.11	7391.93	40.048607	-80.591322	1.29		
19308.00	89.01	146.41	6496.14	12453.05	-9984.35	7442.76	40.048386	-80.591141	2.62		
19403.00	89.20	145.46	6497.62	12547.96	-10063.03	7495.96	40.048170	-80.590953	1.02		
19498.00	89.29	145.66	6498.88	12642.89	-10141.37	7549.68	40.047954	-80.590762	0.23		
19592.00	88.83	145.89	6500.42	12736.81	-10219.09	7602.55	40.047740	-80.590574	0.55		
19687.00	89.38	144.69	6501.90	12831.75	-10297.17	7656.63	40.047525	-80.590382	1.39		
19781.00	88.52	146.91	6503.62	12925.66	-10374.90	7709.46	40.047310	-80.590195	2.53		
19876.00	89.07	146.47	6505.62	13020.49	-10454.27	7761.62	40.047092	-80.590010	0.74		
19970.00	88.58	146.86	6507.55	13114.34	-10532.79	7813.26	40.046876	-80.589826	0.67		
20066.00	88.52	145.07	6509.98	13210.22	-10612.31	7866.97	40.046656	-80.589636	1.87		
20160.00	88.89	148.01	6512.10	13304.06	-10690.71	7918.78	40.046441	-80.589452	3.15		

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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	
20254.00	88.50	146.37	6514.25	13397.84	-10769.69	7969.70	40.046223	-80.589271	1.79		
20315.00	88.58	146.84	6515.80	13458.73	-10820.60	8003.26	40.046083	-80.589152	0.78	Last WFT SVY	
20338.00	88.58	146.84	6516.37	13481.69	-10839.85	8015.84	40.046030	-80.589108	0.00	Proj. to TD	

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