

State of West Virginia  
Department of Environmental Protection - Office of Oil and Gas  
Well Operator's Report of Well Work

API 47 - 103 - 03187 County WETZEL District PROCTOR  
Quad WILEYVILLE Pad Name DANIEL DURIG WTZ PAD Field/Pool Name VICTORY  
Farm name DANIEL DURIG (REMAINDERMAN), ARTHUR & SHIRLEY ANN DURIG (LE) Well Number DANIEL DURIG WTZ 201H  
Operator (as registered with the OOG) SWN PRODUCTION COMPANY, LLC  
Address PO BOX 12359 City SPRING State TX Zip 77391-2359

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey  
Top hole Northing 4,396,390.136 Easting 530,923.894  
Landing Point of Curve Northing 4,396,147.344 Easting 530,684.818  
Bottom Hole Northing 4,397,454.521 Easting 529,266.133

Elevation (ft) 1401.2' GL Type of Well  New  Existing Type of Report  Interim  Final  
Permit Type  Deviated  Horizontal  Horizontal 6A  Vertical Depth Type  Deep  Shallow  
Type of Operation  Convert  Deepen  Drill  Plug Back  Redrilling  Rework  Stimulate  
Well Type  Brine Disposal  CBM  Gas  Oil  Secondary Recovery  Solution Mining  Storage  Other \_\_\_\_\_  
Type of Completion  Single  Multiple Fluids Produced  Brine  Gas  NGL  Oil  Other \_\_\_\_\_  
Drilled with  Cable  Rotary

Drilling Media Surface hole  Air  Mud  Fresh Water Intermediate hole  Air  Mud  Fresh Water  Brine  
Production hole  Air  Mud  Fresh Water  Brine  
Mud Type(s) and Additive(s)  
SOBM

Date permit issued 07/21/2017 Date drilling commenced 11/17/2017 Date drilling ceased 01/08/2018  
Date completion activities began 05/07/2018 Date completion activities ceased 08/20/2018  
Verbal plugging (Y/N) N Date permission granted N/A Granted by Office of Oil and Gas

Please note: Operator is required to submit a plugging application within 5 days of verbal permission to plug

Freshwater depth(s) ft 427' Open mine(s) (Y/N) depths N  
Salt water depth(s) ft 1,664' Void(s) encountered (Y/N) depths N  
Coal depth(s) ft 1,167' Cavern(s) encountered (Y/N) depths N  
Is coal being mined in area (Y/N) N

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Reviewed by: DmH  
2-21-19

API 47- 103 - 03187

Farm name DANIEL DURIG (REMAINDERMAN), ARTHUR & SKIRLEY ANN DURIG (LE)

Well number DANIEL DURIG WTZ 201H

CASING STRINGS	Hole Size	Casing Size	Depth	New or Used	Grade wt/ft	Basket Depth(s)	Did cement circulate (Y/ N) * Provide details below*
Conductor	24	20	126'	NEW	J-55/94#		Y
Surface	17.5	13.375	533'	NEW	J-55/54.50#		Y, 19 bbls
Coal	See Intermediate						
Intermediate 1	12.25	9.625	2,691'	NEW	J-55/36#		Y, 65 bbls
Intermediate 2							
Intermediate 3							
Production	8.75/8.50	5.5	14,069'	NEW	HCP-110/20#		Y
Tubing		2.375	7,702'	NEW	L-80/4.7#		N
Packer type and depth set							

Comment Details \_\_\_\_\_

CEMENT DATA	Class/Type of Cement	Number of Sacks	Slurry wt (ppg)	Yield (ft <sup>3</sup> /sks)	Volume (ft <sup>3</sup> )	Cement Top (MD)	WOC (hrs)
Conductor	CLASS A	GROUT TO SURFACE				SURFACE	24
Surface	CLASS A	485	15.60	1.20	582	SURFACE	8
Coal	See Intermediate						
Intermediate 1	CLASS A	1,053	15.60	1.18	1,242.54	SURFACE	8
Intermediate 2							
Intermediate 3							
Production	CLASS A	2,378	15.60	1.19	2,829.82	SURFACE	24
Tubing							

Drillers TD (ft) 14,071'      Loggers TD (ft) 14,071'  
 Deepest formation penetrated MARCELLUS      Plug back to (ft) N/A  
 Plug back procedure N/A

Kick off depth (ft) 6,703'

Check all wireline logs run       caliper     density     deviated/directional     induction  
     neutron     resistivity     gamma ray                     temperature     sonic

Well cored     Yes     No      Conventional      Sidewall      Were cuttings collected     Yes     No

DESCRIBE THE CENTRALIZER PLACEMENT USED FOR EACH CASING STRING \_\_\_\_\_

SURFACE: 7 CENTRALIZERS - EVERY THIRD JOINT OF CASING  
 INTERMEDIATE: 24 CENTRALIZERS - EVERY THIRD JOINT OF CASING  
 PRODUCTION: 181 CENTRALIZERS - EVERY THIRD JOINT FROM SURFACE TO TOP OF CURVE, THEN EVERY JOINT UNTIL TD

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WAS WELL COMPLETED AS SHOT HOLE     Yes     No      DETAILS \_\_\_\_\_

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WAS WELL COMPLETED OPEN HOLE?     Yes     No      DETAILS \_\_\_\_\_

WERE TRACERS USED     Yes     No      TYPE OF TRACER(S) USED \_\_\_\_\_

API 47- 103 - 03187

Farm name DANIEL DURIG (REMAINDERMAN), ARTHUR & SHIRLEY ANN DURIG (LE)

Well number DANIEL DURIG WTZ 201H

**PERFORATION RECORD**

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
	SEE	ATTACHMEN <sup>5</sup>	1		

Please insert additional pages as applicable.

**STIMULATION INFORMATION PER STAGE**

Complete a separate record for each stimulation stage.

Stage No.	Stimulations Date	Ave Pump Rate (BPM)	Ave Treatment Pressure (PSI)	Max Breakdown Pressure (PSI)	ISIP (PSI)	Amount of Proppant (lbs)	Amount of Water (bbbls)	Amount of Nitrogen/other (units)
		SEE	ATTACHMEN <sup>5</sup>	2				

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Well number DANIEL DURIG WTZ 201H

PRODUCING FORMATION(S)	DEPTHS	
MARCELLUS	7,221' TVD	7,597' MD

Please insert additional pages as applicable.

GAS TEST  Build up  Drawdown  Open Flow OIL TEST  Flow  Pump

SHUT-IN PRESSURE Surface 4,247 psi Bottom Hole \_\_\_\_\_ psi DURATION OF TEST \_\_\_\_\_ hrs

OPEN FLOW Gas 8,543 mcfpd Oil 41 bpd NGL \_\_\_\_\_ bpd Water 52 bpd GAS MEASURED BY  Estimated  Orifice  Pilot

LITHOLOGY/ FORMATION	TOP DEPTH IN FT NAME TVD	BOTTOM DEPTH IN FT TVD	TOP DEPTH IN FT MD	BOTTOM DEPTH IN FT MD	DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H <sub>2</sub> S, ETC)
	0		0		
	SEE	ATTACHMENT	3		

Please insert additional pages as applicable.

Drilling Contractor SWN DRILLING COMPANY  
Address PO BOX 12359 City SPRING State TX Zip 77391-2359

Logging Company BAKER HUGHES  
Address 9110 GROGANS MILL RD City THE WOODLANDS State TX Zip 77380

Cementing Company SCHLUMBERGER WELL SERVICES  
Address 10101 WOODLOCH FOREST DR City THE WOODLANDS State TX Zip 77380

Stimulating Company SWN WELL SERVICES  
Address PO BOX 12359 City SPRING State TX Zip 77391-2359

Please insert additional pages as applicable.

Completed by ELIZABETH GEE Telephone 832-796-7632  
Signature  Title STAFF REGULATORY ANALYST Date 11/19/2018

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 77391-2359

**DANIEL DURIG WTZ 201H  
ATTACHMENT 1  
PERF REPORT**

STAGE NUM	Perf Date	Perf Top MD	Perf Bottom MD	# SHOTS PER STG
1	4/20/2018	13,889	13,757	33
2	5/7/2018	13,694	13,562	33
3	5/8/2018	13,499	13,367	33
4	5/10/2018	13,304	13,172	33
5	5/12/2018	13,109	12,977	33
6	5/13/2018	12,914	12,782	33
7	5/16/2018	12,719	12,587	33
8	5/17/2018	12,524	12,392	33
9	5/17/2018	12,329	12,197	33
10	5/20/2018	12,134	12,002	33
11	5/21/2018	11,939	11,807	33
12	5/21/2018	11,744	11,612	33
13	5/22/2018	11,549	11,417	33
14	5/23/2018	11,354	11,222	33
15	5/23/2018	11,159	11,027	33
16	5/24/2018	10,964	10,832	33
17	5/25/2018	10,769	10,637	33
18	5/26/2018	10,574	10,442	33
19	5/26/2018	10,379	10,247	33
20	5/27/2018	10,184	10,052	33
21	5/28/2018	9,989	9,857	33
22	5/29/2018	9,794	9,662	33
23	5/29/2018	9,599	9,467	33
24	5/30/2018	9,404	9,272	33
25	5/31/2018	9,209	9,077	33
26	5/31/2018	9,014	8,882	33
27	6/1/2018	8,819	8,687	33
28	6/1/2018	8,624	8,492	33
29	6/1/2018	8,429	8,297	33
30	6/2/2018	8,234	8,102	33
31	6/3/2018	8,039	7,907	33
32	6/3/2018	7,844	7,712	33

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**DANIEL DURIG WTZ 201H  
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STIM REPORT**

STAGE NUM	Stim Date	Ave Pump Rate (BPM)	Ave Treatment	Max Breakdown	ISIP (PSI)	Amount of Proppant (lbs)	Amount of water bbls	Amount of nitrogen/othe
1	5/7/2018	72	7,228	8,120	4,063	356,140	6,353	0
2	5/8/2018	78	7,536	8,173	4,733	386,520	6,591	0
3	5/10/2018	77	7,693	6,033	4,417	397,880	8,437	0
4	5/12/2018	76	7,491	5,729	4,434	396,940	7,586	0
5	5/13/2018	77	7,599	6,194	4,880	390,580	6,711	0
6	5/16/2018	78	7,039	5,795	3,994	384,260	6,936	0
7	5/17/2018	77	7,397	6,101	4,531	402,860	6,071	0
8	5/17/2018	79	7,341	6,039	4,568	400,270	6,095	0
9	5/20/2018	70	7,370	6,780	4,872	413,080	6,818	0
10	5/21/2018	79	6,951	5,945	4,372	405,560	6,061	0
11	5/21/2018	76	7,267	6,399	4,589	397,740	5,889	0
12	5/22/2018	75	7,192	6,452	5,064	406,020	7,309	0
13	5/23/2018	75	7,393	6,854	4,599	402,200	6,224	0
14	5/23/2018	76	7,392	6,714	5,223	389,145	5,750	0
15	5/24/2018	77	7,479	6,726	4,309	412,660	6,637	0
16	5/25/2018	75	7,426	7,308	4,341	416,120	6,434	0
17	5/25/2018	14	6,890	6,835	5,671	6,573	2,717	0
18	5/26/2018	40	6,419	6,419	5,281	5,118	3,693	0
19	5/27/2018	63	8,122	6,154	4,917	2,508	1,883	0
20	5/27/2018	80	6,834	5,903	3,990	401,281	6,106	0
21	5/29/2018	78	7,110	6,327	4,798	400,540	5,839	0
22	5/29/2018	75	7,167	6,903	4,931	393,276	6,147	0
23	5/30/2018	66	7,317	7,829	4,288	393,900	6,894	0
24	5/30/2018	79	7,278	8,007	4,619	385,540	5,412	0
25	5/31/2018	75	7,588	8,588	5,473	397,600	5,589	0
26	5/31/2018	77	7,769	6,380	4,581	394,120	5,398	0
27	6/1/2018	78	7,498	8,392	4,246	400,080	6,143	0
28	6/1/2018	83	7,187	8,356	4,199	393,160	5,569	0
29	6/2/2018	81	7,210	8,399	4,725	399,340	6,952	0
30	6/2/2018	78	7,137	8,777	5,301	405,660	6,564	0
31	6/3/2018	80	6,970	6,250	4,306	389,500	6,001	0
32	6/3/2018	77	7,082	8,554	4,247	396,880	6,112	0

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Well Name: Daniel Durig Wtz 201H

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Attachment 3

LITHOLOGY/FORMATION	TOP DEPTH, MD (FT)	TOP DEPTH, TVD (FT)	BOTTOM DEPTH, MD (FT)	BOTTOM DEPTH, TVD (FT)	QUANTITY AND TYPE OF FLUID
Base of Fresh Water	0.00	0.00	427.00	427.00	
Top of Salt Water	1664.00	1664.00	NA	NA	
Pittsburgh Coal	1167.00	1167.00	1239.00	1239.00	
Pottsville (ss)	1239.00	1239.00	1259.00	1259.00	
Mauch Chunk (shale)	NA	NA	NA	NA	
Raven Cliff (ss)	1682.00	1682.00	1951.00	1951.00	
Maxton (ss)	1951.00	1951.00	NA	NA	
Greenbriar (ls)	NA	NA	NA	NA	
Big Injun (ss)	2325.00	2325.00	2911.00	2911.00	
Berea (siltstone)	2911.00	2911.00	6584.00	6584.00	
Rhinestreet (shale)	6584.00	6584.00	6984.00	6939.00	
Cashaqua (shale)	6984.00	6939.00	7035.00	6982.00	
Middlesex (shale)	7145.00	6985.00	7253.00	7066.00	
Burket (shale)	7253.00	7066.00	7293.00	7093.00	
Tully (ls)	7293.00	7093.00	7329.00	7116.00	
Mahantango (shale)	7329.00	7116.00	7597.00	7221.00	
Marcellus (shale)	7597.00	7221.00	NA	NA	GAS

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## Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	5/7/2018
Job End Date:	6/3/2018
State:	West Virginia
County:	Wetzel
API Number:	47-103-03187-00-00
Operator Name:	Southwestern Energy
Well Name and Number:	Daniel Durig WTZ 201
Latitude:	39.71682195
Longitude:	-80.63920640
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	7,226
Total Base Water Volume (gal):	8,006,670
Total Base Non Water Volume:	0



### Hydraulic Fracturing Fluid Composition:

Trade Name	Supplier	Purpose	Ingredients	Chemical Abstract Service Number (CAS #)	Maximum Ingredient Concentration in Additive (% by mass)**	Maximum Ingredient Concentration in HF Fluid (% by mass)**	Comments
Econo-CI200	SWN Well Services	Corrosion Inhibitor					
				Listed Below			
HCL	SWN Well Services	Solvent					
				Listed Below			

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SCAL16486A	Nalco	Scale Inhibitor					
				Listed Below			
Base Water	Operator	Base Fluid					
				Listed Below			
BIOC11219A	Nalco	Biocide					
				Listed Below			
Sand	SWN Well Services	Proppant					
				Listed Below			
FLOJET DRP 1130 X	SWN Well Services	Friction Reducer					
				Listed Below			
FLOJET DR 9000 LPP	SWN Well Services	Friction Reducer					
				Listed Below			
Ecopol-FEAC	SWN Well Services	Iron Control					
				Listed Below			

Items above are Trade Names with the exception of Base Water . Items below are the individual ingredients.

		Water	7732-18-5	100.00000	84.26128	Density = 8.345
		Crystalline Silica, quartz	14808-60-7	100.00000	14.53173	
		Water	7732-18-5	85.00000	0.95932	
		Hydrochloric Acid	7647-01-0	15.00000	0.16215	
		Petroleum Distillates, Hydrotreated	64742-47-8	45.00000	0.03925	

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			Methanol	67-56-1	60.00000	0.01515	
			Ethylene glycol	107-21-1	10.00000	0.01041	
			Benzyl-(C12-C16 Alky)- Dimethyl-Ammonium	68424-85-1	30.00000	0.00758	
			Chloride Glutaraldehyde	111-30-8	10.00000	0.00253	
			Acetic Acid	64-19-7	37.50000	0.00229	
			Alcohols, C12- C16,Ethoxylated propoxylated	68213-24-1	2.00000	0.00174	
			Fatty alcohols ethoxylated	Proprietary	2.00000	0.00174	
			Amine Triphosphate	Proprietary	30.00000	0.00169	
			Methanol	67-56-1	80.00000	0.00141	
			Citric Acid	77-92-9	22.50000	0.00138	
			Oxyalkylated fatty acid	68951-67-7	9.67400	0.00017	
			Fatty acids	61790-12-3	5.02700	0.00009	
			Modified thiourea polymer	68527-49-1	4.74600	0.00008	
			Potassium acetate	127-08-2	0.02200	0.00000	
			Formaldehyde	50-00-0	0.00400	0.00000	

\* Total Water Volume sources may include various types of water including fresh water, produced water, and recycled water

\*\* Information is based on the maximum potential for concentration and thus the total may be over 100%

\*\*\* If you are calculating a percentage of total ingredients do not add the water volume below the green line to the water volume above the green line

Note: For Field Development Products (products that begin with FDP), MSDS level only information has been provided.

Ingredient information for chemicals subject to 29 CFR 1910.1200(i) and Appendix D are obtained from suppliers Material Safety Data Sheets (MSDS)

# SOUTHWESTERN ENERGY



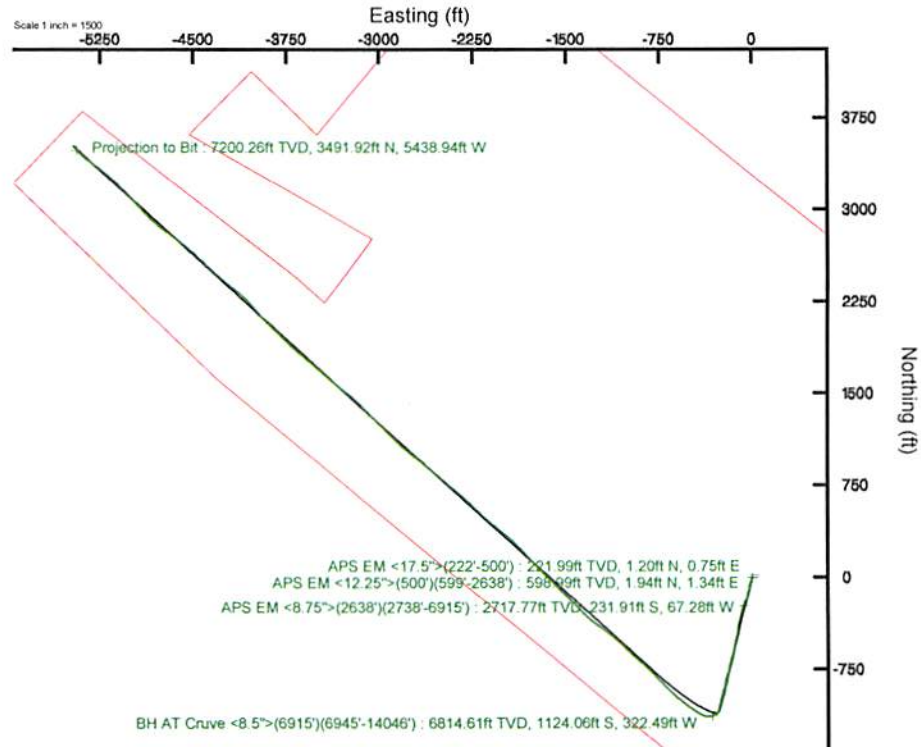
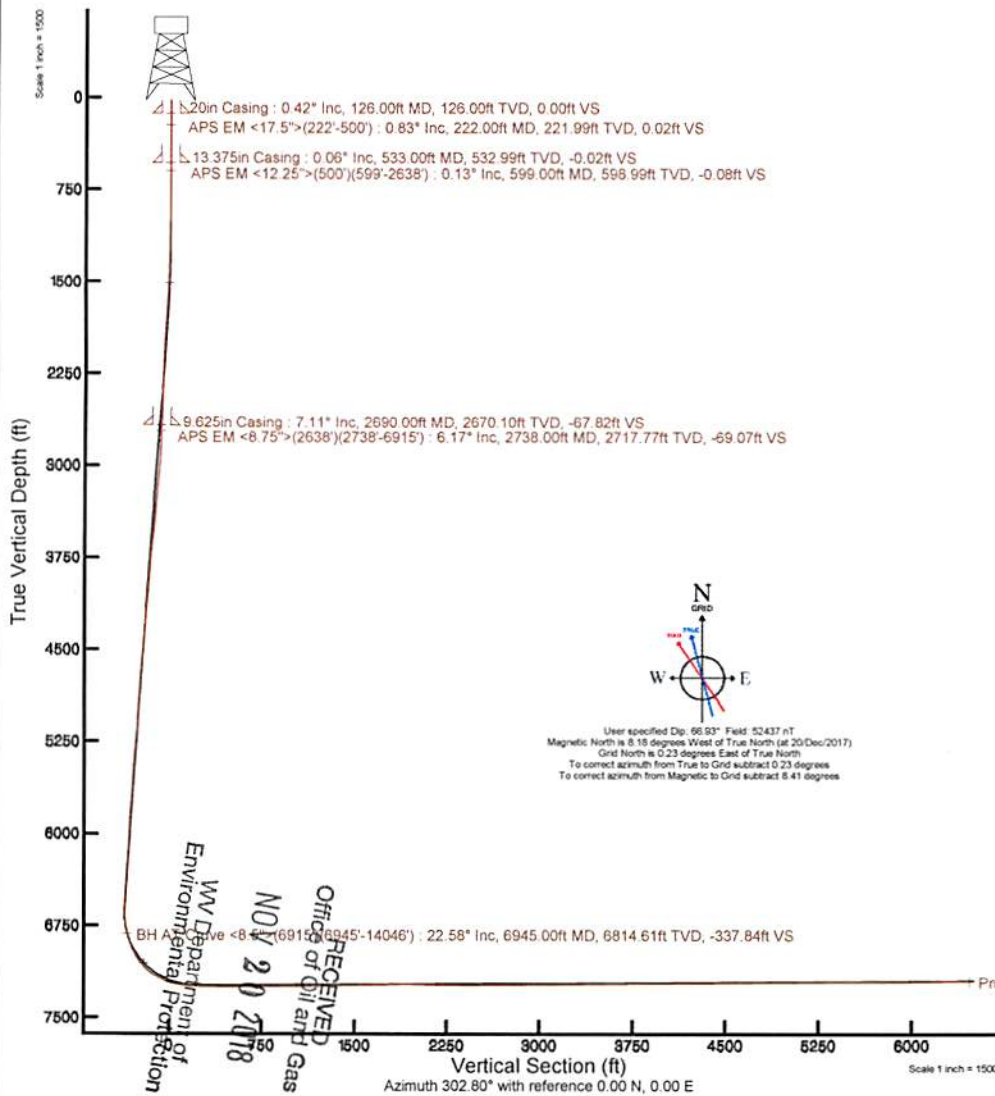
Location: Wetzel County, WV Slot: Slot 201H  
 Field: Wetzel Well: Daniel Durig WTZ 201H  
 Facility: Daniel Durig Pad Wellbore: Daniel Durig WTZ 201H PWB



## Location Information

Facility Name			Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
Daniel Durig Pad			1741901.656	14423820.627	39°43'00.529"N	80°38'20.783"W
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
Slot 201H	2.92	-28.14	1741873.523	14423823.548	39°43'00.559"N	80°38'21.143"W
SDC 46 (KB) to Ground level (At Slot: Slot 201H)					26ft	
Mean Sea Level to Ground level (At Slot: Slot 201H)					-1400.9ft	
SDC 46 (KB) to Mean Sea Level					1426.9ft	
Plot reference wellpath is Daniel Durig WTZ 201H PWP Rev-B 0			Grid System: NAD83 / UTM Zone 17 North, US feet			
True vertical depths are referenced to SDC 46 (KB)			* = Wellpath was transformed from a different geodetic datum			
Measured depths are referenced to SDC 46 (KB)			North Reference: Grid north			
SDC 46 (KB) to Mean Sea Level: 1426.9 feet			Scale: True distance			
Mean Sea Level to Ground level (At Slot: Slot 201H): -1400.9 feet			Depths are in feet			
Coordinates are in feet referenced to Slot			Created by: thomsuzc on 2018-01-08			
			Database: WA, Pennsylvania			

API: 47-103-03187-0000  
 Job #: 8927230  
 Rig: SDC 46  
 Duration: 12/22/2017 - 01/03/2018



REFERENCE WELLPATH IDENTIFICATION			
Operator	SOUTHWESTERN ENERGY	Slot	Slot 201H
Area	Wetzel County, WV	Well	Daniel Durig WTZ 201H
Field	Wetzel	Wellbore	Daniel Durig WTZ 201H AWB
Facility	Daniel Durig Pad		

REPORT SETUP INFORMATION			
Projection System	NAD83 / UTM Zone 17 North, US feet	Software System	WellArchitect® 5.0
North Reference	Grid	User	Thomsuzc
Scale	0.999612	Report Generated	08/Jan/2018 at 08:49
Convergence at slot	0.24° East	Database/Source file	WA_Pennsylvania/Daniel_Durig_WTZ_201H_AWP_Proj_14071_MD.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	2.92	-28.14	1741873.52	14423823.55	39°43'00.559"N	80°38'21.143"W
Facility Reference Pt			1741901.66	14423820.63	39°43'00.529"N	80°38'20.783"W
Field Reference Pt			0.00	0.00	0°00'00.000"	85°29'19.478"W

WELLPATH DATUM			
Calculation method	Minimum curvature	SDC 46 (KB) to Facility Vertical Datum	1426.90ft
Horizontal Reference Pt	Slot	SDC 46 (KB) to Mean Sea Level	1426.90ft
Vertical Reference Pt	SDC 46 (KB)	SDC 46 (KB) to Ground Level at Slot (Slot 201H)	26.00ft
MD Reference Pt	SDC 46 (KB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	302.80°

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# Actual Wellpath Report

Daniel Durig WZ 201H AWP Proj: 14071'MD  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	SOUTHWESTERN ENERGY	Slot	Slot 201H
Area	Wetzel County, WV	Well	Daniel Durig WZ 201H
Field	Wetzel	Wellbore	Daniel Durig WZ 201H AWB
Facility	Daniel Durig Pad		

**WELLPATH DATA (165 stations)** † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]
0.00†	0.000	32.100	0.00	0.00	0.00	0.00	1741873.52	14423823.55	39°43'00.559"N	80°38'21.143"W	0.00	0.000	0.00	0.00	0.00
26.00	0.000	32.100	26.00	0.00	0.00	0.00	1741873.52	14423823.55	39°43'00.559"N	80°38'21.143"W	0.00	0.000	0.00	0.00	0.00
222.00	0.830	32.100	221.99	0.02	1.20	0.75	1741874.28	14423824.75	39°43'00.571"N	80°38'21.133"W	1.42	32.100	0.42	0.42	16.38
314.00	0.030	15.750	313.99	0.03	1.79	1.12	1741874.64	14423825.34	39°43'00.577"N	80°38'21.129"W	2.11	31.916	0.87	-0.87	-17.77
407.00	0.060	49.650	406.99	0.03	1.85	1.16	1741874.68	14423825.39	39°43'00.577"N	80°38'21.128"W	2.18	32.128	0.04	0.03	36.45
500.00	0.030	83.110	499.99	-0.01	1.88	1.22	1741874.74	14423825.43	39°43'00.578"N	80°38'21.127"W	2.24	32.986	0.04	-0.03	35.98
599.00	0.130	61.080	598.99	-0.08	1.94	1.34	1741874.87	14423825.48	39°43'00.578"N	80°38'21.126"W	2.36	34.755	0.10	0.10	-22.25
691.00	0.300	54.600	690.99	-0.22	2.13	1.63	1741875.15	14423825.67	39°43'00.580"N	80°38'21.122"W	2.68	37.493	0.19	0.18	-7.04
784.00	0.190	68.220	783.99	-0.40	2.33	1.97	1741875.50	14423825.87	39°43'00.582"N	80°38'21.118"W	3.05	40.320	0.13	-0.12	14.65
877.00	0.190	99.320	876.99	-0.63	2.36	2.27	1741875.79	14423825.90	39°43'00.582"N	80°38'21.114"W	3.27	43.900	0.11	0.00	33.44
970.00	0.310	147.130	969.99	-1.00	2.12	2.56	1741876.08	14423825.67	39°43'00.580"N	80°38'21.110"W	3.32	50.326	0.25	0.13	51.41
1062.00	0.390	177.720	1061.99	-1.41	1.60	2.70	1741876.23	14423825.15	39°43'00.575"N	80°38'21.108"W	3.14	59.405	0.22	0.09	33.25
1155.00	2.670	190.760	1154.95	-2.40	-0.85	2.31	1741875.84	14423822.70	39°43'00.551"N	80°38'21.113"W	2.46	110.073	2.46	2.45	14.02
1248.00	5.530	207.700	1247.70	-3.61	-6.94	-0.17	1741873.35	14423816.61	39°43'00.490"N	80°38'21.146"W	6.94	181.443	3.31	3.08	18.22
1340.00	5.590	194.390	1339.27	-5.42	-15.21	-3.35	1741870.18	14423808.35	39°43'00.409"N	80°38'21.187"W	15.57	192.420	1.40	0.07	-14.47
1433.00	5.190	191.590	1431.86	-8.38	-23.72	-5.32	1741868.21	14423799.84	39°43'00.325"N	80°38'21.212"W	24.31	192.643	0.51	-0.43	-3.01
1525.00	6.120	189.060	1523.41	-11.86	-32.64	-6.93	1741866.60	14423790.93	39°43'00.237"N	80°38'21.233"W	33.36	191.986	1.05	1.01	-2.75
1618.00	9.010	190.720	1615.59	-16.59	-44.69	-9.06	1741864.46	14423778.88	39°43'00.118"N	80°38'21.261"W	45.60	191.465	3.12	3.11	1.78
1711.00	12.040	192.610	1707.02	-22.68	-61.31	-12.54	1741860.99	14423762.26	39°42'59.954"N	80°38'21.307"W	62.58	191.556	3.28	3.26	2.03
1804.00	13.000	194.740	1797.81	-29.27	-80.90	-17.32	1741856.21	14423742.68	39°42'59.760"N	80°38'21.369"W	82.73	192.082	1.15	1.03	2.29
1896.00	12.380	194.820	1887.56	-35.52	-100.44	-22.47	1741851.06	14423723.15	39°42'59.567"N	80°38'21.436"W	102.92	192.611	0.67	-0.67	0.09
1989.00	11.240	195.160	1978.59	-41.34	-118.82	-27.39	1741846.14	14423704.77	39°42'59.386"N	80°38'21.500"W	121.94	192.981	1.23	-1.23	0.37
2082.00	10.320	196.930	2069.95	-46.37	-135.54	-32.19	1741841.35	14423688.06	39°42'59.221"N	80°38'21.562"W	139.31	193.359	1.05	-0.99	1.90
2174.00	9.940	198.520	2160.51	-50.58	-150.95	-37.11	1741836.43	14423672.65	39°42'59.069"N	80°38'21.626"W	155.45	193.811	0.51	-0.41	1.73
2267.00	8.540	199.270	2252.30	-54.18	-165.08	-41.94	1741831.60	14423658.53	39°42'58.929"N	80°38'21.688"W	170.33	194.254	1.51	-1.51	0.81
2360.00	8.560	200.030	2344.27	-57.32	-178.11	-46.59	1741826.95	14423645.51	39°42'58.801"N	80°38'21.748"W	184.10	194.659	0.12	0.02	0.82
2453.00	9.690	201.320	2436.09	-60.41	-191.90	-51.80	1741821.74	14423631.72	39°42'58.665"N	80°38'21.816"W	198.77	195.107	1.23	1.22	1.39
2545.00	10.060	201.930	2526.73	-63.47	-206.57	-57.62	1741815.93	14423617.06	39°42'58.520"N	80°38'21.891"W	214.45	195.586	0.42	0.40	0.66
2638.00	8.120	200.840	2618.56	-66.36	-220.24	-62.99	1741810.56	14423603.39	39°42'58.385"N	80°38'21.960"W	229.07	195.961	2.09	-2.09	-1.17
2738.00	6.170	199.340	2717.77	-69.07	-231.91	-67.28	1741806.27	14423591.73	39°42'58.270"N	80°38'22.016"W	241.48	196.179	1.96	-1.95	-1.50



# Actual Wellpath Report

Daniel Durig WTZ 201H AWP Proj: 14071'MD  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	SOUTHWESTERN ENERGY	Slot	Slot 201H
Area	Wetzel County, WV	Well	Daniel Durig WTZ 201H
Field	Wetzel	Wellbore	Daniel Durig WTZ 201H AWB
Facility	Daniel Durig Pad		

## WELLPATH DATA (165 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]
2830.00	8.990	201.930	2808.96	-71.58	-243.25	-71.61	1741801.94	14423580.39	39°42'58.158"N	80°38'22.072"W	253.57	196.403	3.09	3.07	2.82
2923.00	13.080	199.400	2900.22	-75.39	-259.92	-77.82	1741795.73	14423563.73	39°42'57.993"N	80°38'22.152"W	271.32	196.667	4.43	4.40	-2.72
3019.00	15.490	195.870	2993.25	-81.64	-282.50	-84.93	1741788.62	14423541.16	39°42'57.770"N	80°38'22.244"W	294.99	196.733	2.67	2.51	-3.68
3112.00	15.040	193.620	3082.97	-89.22	-306.18	-91.17	1741782.39	14423517.49	39°42'57.537"N	80°38'22.325"W	319.46	196.582	0.80	-0.48	-2.42
3205.00	13.730	192.540	3173.05	-97.01	-328.68	-96.41	1741777.15	14423495.00	39°42'57.315"N	80°38'22.394"W	342.52	196.348	1.44	-1.41	-1.16
3297.00	13.220	194.960	3262.52	-104.01	-349.50	-101.50	1741772.07	14423474.19	39°42'57.109"N	80°38'22.460"W	363.94	196.193	0.83	-0.55	2.63
3390.00	12.990	195.360	3353.10	-110.40	-369.85	-107.01	1741766.56	14423453.84	39°42'56.908"N	80°38'22.531"W	385.02	196.137	0.27	-0.25	0.43
3484.00	13.890	189.070	3444.53	-118.11	-391.18	-111.59	1741761.98	14423432.52	39°42'56.698"N	80°38'22.591"W	406.79	195.921	1.83	0.96	-6.69
3577.00	15.130	185.660	3534.56	-128.14	-414.28	-114.54	1741759.02	14423409.43	39°42'56.469"N	80°38'22.630"W	429.83	195.455	1.62	1.33	-3.67
3669.00	14.970	183.290	3623.41	-139.47	-438.09	-116.41	1741757.16	14423385.62	39°42'56.234"N	80°38'22.655"W	453.30	194.881	0.69	-0.17	-2.58
3762.00	12.590	190.920	3713.73	-149.17	-460.04	-119.02	1741754.55	14423363.68	39°42'56.017"N	80°38'22.690"W	475.19	194.505	3.21	-2.56	8.20
3855.00	11.720	193.760	3804.65	-156.03	-479.17	-123.19	1741750.39	14423344.56	39°42'55.828"N	80°38'22.744"W	494.75	194.418	1.13	-0.94	3.05
3948.00	12.960	195.720	3895.50	-162.17	-498.38	-128.26	1741745.31	14423325.36	39°42'55.639"N	80°38'22.810"W	514.62	194.432	1.41	1.33	2.11
4040.00	13.430	193.580	3985.07	-168.72	-518.70	-133.56	1741740.01	14423305.05	39°42'55.438"N	80°38'22.879"W	535.62	194.440	0.74	0.51	-2.33
4133.00	13.480	189.950	4075.52	-176.48	-539.87	-137.97	1741735.61	14423283.88	39°42'55.229"N	80°38'22.936"W	557.23	194.336	0.91	0.05	-3.90
4226.00	13.410	186.720	4165.97	-185.43	-561.26	-141.11	1741732.47	14423262.51	39°42'55.018"N	80°38'22.978"W	578.73	194.112	0.81	-0.08	-3.47
4318.00	12.380	192.300	4255.65	-193.58	-581.49	-144.46	1741729.12	14423242.28	39°42'54.818"N	80°38'23.021"W	599.17	193.951	1.76	-1.12	6.07
4411.00	12.140	191.030	4346.53	-200.69	-600.83	-148.45	1741725.13	14423222.95	39°42'54.627"N	80°38'23.074"W	618.90	193.878	0.39	-0.26	-1.37
4504.00	13.080	194.060	4437.29	-207.70	-620.64	-152.88	1741720.70	14423203.15	39°42'54.431"N	80°38'23.131"W	639.19	193.838	1.24	1.01	3.26
4597.00	13.000	191.860	4527.89	-214.82	-641.09	-157.58	1741716.00	14423182.71	39°42'54.230"N	80°38'23.193"W	660.17	193.810	0.54	-0.09	-2.37
4689.00	13.000	189.650	4617.53	-222.59	-661.41	-161.45	1741712.14	14423162.39	39°42'54.029"N	80°38'23.243"W	680.83	193.717	0.54	0.00	-2.40
4782.00	12.210	195.340	4708.29	-229.65	-681.21	-165.80	1741707.79	14423142.60	39°42'53.833"N	80°38'23.300"W	701.10	193.679	1.58	-0.85	6.12
4875.00	12.300	195.660	4799.17	-235.52	-700.23	-171.08	1741702.51	14423123.59	39°42'53.646"N	80°38'23.368"W	720.83	193.729	0.12	0.10	0.34
4967.00	13.130	194.130	4888.92	-241.76	-719.80	-176.27	1741697.32	14423104.03	39°42'53.452"N	80°38'23.436"W	741.07	193.760	0.97	0.90	-1.66
5060.00	12.630	197.500	4979.58	-247.82	-739.74	-181.91	1741691.69	14423084.09	39°42'53.256"N	80°38'23.509"W	761.78	193.815	0.97	-0.54	3.62
5153.00	12.960	197.910	5070.27	-253.18	-759.36	-188.17	1741685.42	14423064.48	39°42'53.062"N	80°38'23.590"W	782.33	193.918	0.37	0.35	0.44
5245.00	12.740	189.610	5159.97	-259.83	-779.18	-193.04	1741680.56	14423044.67	39°42'52.866"N	80°38'23.653"W	802.74	193.915	2.02	-0.24	-9.02
5338.00	12.920	186.720	5250.65	-268.44	-799.62	-195.97	1741677.63	14423024.24	39°42'52.664"N	80°38'23.692"W	823.28	193.770	0.72	0.19	-3.11
5431.00	12.390	188.210	5341.39	-277.16	-819.82	-198.61	1741674.99	14423004.05	39°42'52.465"N	80°38'23.727"W	843.54	193.618	0.67	-0.57	1.60
5524.00	11.870	193.220	5432.32	-284.52	-839.01	-202.22	1741671.38	14422984.87	39°42'52.275"N	80°38'23.774"W	863.03	193.551	1.26	-0.56	5.39

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# Actual Wellpath Report

Daniel Durig WTZ 201H AWP Proj: 14071'MD  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	SOUTHWESTERN ENERGY	Slot	Slot 201H
Area	Wetzel County, WV	Well	Daniel Durig WTZ 201H
Field	Wetzel	Wellbore	Daniel Durig WTZ 201H AWB
Facility	Daniel Durig Pad		

## WELLPATH DATA (165 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]
5617.00	12.460	201.780	5523.24	-289.64	-857.64	-208.13	1741665.47	14422966.25	39°42'52.091"N	80°38'23.851"W	882.53	193.641	2.04	0.63	9.20
5712.00	13.340	199.880	5615.84	-294.05	-877.46	-215.66	1741657.95	14422946.43	39°42'51.896"N	80°38'23.948"W	903.58	193.808	1.03	0.93	-2.00
5805.00	13.320	189.940	5706.34	-300.61	-898.11	-221.16	1741652.45	14422925.79	39°42'51.692"N	80°38'24.019"W	924.94	193.834	2.46	-0.02	-10.69
5898.00	12.420	187.860	5797.01	-308.99	-918.57	-224.38	1741649.23	14422905.34	39°42'51.490"N	80°38'24.062"W	945.57	193.727	1.09	-0.97	-2.24
5991.00	10.540	190.770	5888.14	-316.40	-936.83	-227.34	1741646.28	14422887.08	39°42'51.310"N	80°38'24.100"W	964.02	193.640	2.11	-2.02	3.13
6083.00	9.730	200.220	5978.71	-321.25	-952.39	-231.59	1741642.02	14422871.53	39°42'51.156"N	80°38'24.156"W	980.15	193.667	2.01	-0.88	10.27
6176.00	10.950	197.740	6070.20	-325.26	-968.18	-237.00	1741636.61	14422855.74	39°42'51.000"N	80°38'24.226"W	996.77	193.755	1.40	1.31	-2.67
6269.00	13.460	193.070	6161.10	-331.21	-987.14	-242.14	1741631.48	14422836.79	39°42'50.813"N	80°38'24.292"W	1016.41	193.782	2.90	2.70	-5.02
6361.00	13.070	193.260	6250.64	-338.30	-1007.70	-246.95	1741626.67	14422816.25	39°42'50.610"N	80°38'24.355"W	1037.51	193.770	0.43	-0.42	0.21
6451.00	13.190	193.760	6338.29	-345.05	-1027.57	-251.73	1741621.89	14422796.37	39°42'50.414"N	80°38'24.417"W	1057.96	193.765	0.18	0.13	0.56
6544.00	12.420	196.610	6428.97	-351.30	-1047.46	-257.11	1741616.51	14422776.49	39°42'50.217"N	80°38'24.487"W	1078.56	193.791	1.07	-0.83	3.06
6637.00	12.120	195.620	6519.85	-356.98	-1066.45	-262.60	1741611.03	14422757.51	39°42'50.030"N	80°38'24.558"W	1098.30	193.833	0.39	-0.32	-1.06
6730.00	13.120	206.010	6610.61	-361.11	-1085.34	-269.86	1741603.77	14422738.63	39°42'49.844"N	80°38'24.652"W	1118.39	193.963	2.66	1.08	11.17
6822.00	18.020	228.340	6699.29	-358.53	-1104.21	-285.09	1741588.55	14422719.77	39°42'49.658"N	80°38'24.848"W	1140.42	194.477	8.32	5.33	24.27
6915.00	21.750	247.870	6786.83	-344.75	-1120.29	-311.84	1741561.81	14422703.70	39°42'49.500"N	80°38'25.191"W	1162.88	195.555	8.14	4.01	21.00
6945.00	22.580	253.040	6814.61	-337.84	-1124.06	-322.49	1741551.15	14422699.92	39°42'49.463"N	80°38'25.328"W	1169.41	196.008	7.06	2.77	17.23
6993.00	23.490	260.450	6858.79	-324.81	-1128.34	-340.75	1741532.91	14422695.65	39°42'49.421"N	80°38'25.561"W	1178.67	196.804	6.33	1.90	15.44
7084.00	25.170	279.120	6941.83	-293.64	-1128.28	-377.80	1741495.87	14422695.71	39°42'49.423"N	80°38'26.035"W	1189.85	198.513	8.62	1.85	20.52
7130.00	28.450	292.700	6982.92	-273.87	-1122.50	-397.59	1741476.09	14422701.49	39°42'49.481"N	80°38'26.288"W	1190.83	199.504	15.06	7.13	29.52
7178.00	34.270	299.440	7023.90	-249.09	-1111.43	-419.93	1741453.76	14422712.55	39°42'49.592"N	80°38'26.574"W	1188.11	200.698	14.14	12.13	14.04
7225.00	39.970	302.350	7061.37	-220.76	-1096.83	-444.23	1741429.47	14422727.14	39°42'49.737"N	80°38'26.884"W	1183.38	202.048	12.69	12.13	6.19
7268.00	45.500	304.940	7092.94	-191.60	-1080.65	-468.49	1741405.22	14422743.32	39°42'49.898"N	80°38'27.194"W	1177.83	203.438	13.49	12.86	6.02
7315.00	50.790	306.790	7124.29	-156.66	-1060.13	-496.83	1741376.88	14422763.84	39°42'50.102"N	80°38'27.555"W	1170.77	205.110	11.63	11.26	3.94
7361.00	56.660	307.630	7151.50	-119.70	-1037.70	-526.35	1741347.38	14422786.25	39°42'50.325"N	80°38'27.932"W	1163.56	206.895	12.85	12.76	1.83
7407.00	61.580	308.480	7175.10	-80.40	-1013.37	-557.42	1741316.32	14422810.58	39°42'50.566"N	80°38'28.328"W	1156.56	208.814	10.81	10.70	1.85
7454.00	66.750	309.560	7195.57	-38.37	-986.74	-590.27	1741283.49	14422837.20	39°42'50.831"N	80°38'28.747"W	1149.81	210.888	11.19	11.00	2.30
7500.00	72.530	311.660	7211.57	4.34	-958.67	-622.98	1741250.78	14422865.25	39°42'51.109"N	80°38'29.164"W	1143.31	213.017	13.27	12.57	4.57
7546.00	77.250	313.270	7223.56	48.10	-928.69	-655.73	1741218.05	14422895.22	39°42'51.407"N	80°38'29.582"W	1136.86	215.225	10.80	10.26	3.50
7593.00	80.480	314.870	7232.64	93.32	-896.62	-688.85	1741184.94	14422927.28	39°42'51.725"N	80°38'30.004"W	1130.68	217.534	7.64	6.87	3.40
7639.00	83.090	315.800	7239.21	137.76	-864.24	-720.85	1741152.95	14422959.64	39°42'52.047"N	80°38'30.412"W	1125.41	219.831	6.02	5.67	2.02

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MD	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir	DLS	Build Rate	Turn Rate
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(US ft)	(US ft)	(ft)	(ft)	(ft)	(°)	(ft/100ft)	(ft/100ft)	(°/100ft)
7686.00	317.080	7243.43	183.24	-830.32	-753.10	1741120.71	14422993.55	39°42'52.383"N	80°38'30.823"W	1120.98	222.208	7.97	7.49	2.72	2.72
7732.00	316.870	7245.13	227.80	-796.72	-784.47	1741089.36	14423027.14	39°42'52.716"N	80°38'31.222"W	1118.10	224.566	5.52	5.50	-0.46	5.50
7778.00	315.160	7245.86	272.58	-763.63	-816.41	1741057.43	14423060.22	39°42'53.045"N	80°38'31.629"W	1117.88	226.913	3.72	-3.72	-0.20	-3.72
7825.00	318.820	7246.62	318.68	-730.99	-850.21	1741023.64	14423092.84	39°42'53.368"N	80°38'32.060"W	1121.26	229.312	4.98	-4.98	0.13	-4.98
7871.00	311.240	7247.37	364.07	-700.20	-884.38	1740989.49	14423123.62	39°42'53.674"N	80°38'32.496"W	1128.01	231.630	3.44	-3.43	-0.20	-3.43
7918.00	311.000	7248.28	410.57	-669.30	-919.78	1740954.10	14423154.51	39°42'53.981"N	80°38'32.947"W	1137.52	233.958	0.78	-0.60	-0.60	-0.51
7964.00	312.840	7248.89	455.98	-638.57	-954.00	1740919.90	14423185.23	39°42'54.286"N	80°38'33.384"W	1147.99	236.203	4.56	4.00	2.20	4.00
8010.00	314.800	7248.78	501.13	-606.72	-987.19	1740886.72	14423217.06	39°42'54.602"N	80°38'33.807"W	1158.73	238.425	4.58	4.26	1.67	4.26
8103.00	313.370	7248.01	592.33	-542.02	-1053.99	1740819.95	14423281.74	39°42'55.244"N	80°38'34.658"W	1185.19	242.785	1.54	-1.54	-0.10	-1.54
8195.00	310.030	7247.17	683.20	-480.83	-1122.66	1740751.30	14423342.90	39°42'55.851"N	80°38'35.534"W	1221.30	246.815	3.64	-3.63	0.21	-3.63
8288.00	305.530	7246.29	775.82	-423.87	-1196.15	1740677.84	14423399.84	39°42'56.417"N	80°38'36.471"W	1269.03	250.487	4.84	-4.84	-0.17	-4.84
8381.00	308.280	7245.57	868.57	-368.04	-1270.50	1740603.52	14423455.66	39°42'56.972"N	80°38'37.420"W	1322.74	253.845	2.96	2.96	-0.03	2.96
8473.00	314.260	7244.95	959.53	-307.38	-1339.62	1740534.43	14423516.29	39°42'57.574"N	80°38'38.301"W	1374.43	257.077	6.50	6.50	-0.10	6.50
8566.00	316.010	7244.32	1050.37	-241.47	-1405.22	1740468.85	14423582.17	39°42'58.228"N	80°38'39.138"W	1425.82	260.250	1.88	1.88	0.10	1.88
8659.00	316.340	7243.03	1140.84	-174.38	-1469.61	1740404.48	14423649.24	39°42'58.894"N	80°38'39.958"W	1479.92	263.233	0.87	0.35	0.80	0.35
8752.00	314.850	7241.13	1231.51	-107.96	-1534.67	1740339.45	14423715.63	39°42'59.553"N	80°38'40.787"W	1538.46	265.976	1.60	-1.60	0.00	-1.60
8841.00	315.360	7239.33	1318.45	-44.92	-1597.48	1740276.67	14423778.64	39°43'00.178"N	80°38'41.588"W	1598.11	268.389	0.57	0.57	-0.03	0.57
8934.00	315.860	7237.51	1409.12	21.52	-1662.52	1740211.65	14423845.06	39°43'00.837"N	80°38'42.417"W	1662.66	270.742	0.54	0.54	-0.03	0.54
9027.00	316.290	7235.73	1499.61	88.49	-1727.02	1740147.17	14423912.01	39°43'01.502"N	80°38'43.239"W	1729.29	272.933	0.46	0.46	-0.03	0.46
9120.00	317.010	7233.88	1589.89	156.11	-1790.85	1740083.37	14423979.59	39°43'02.172"N	80°38'44.052"W	1797.64	274.982	0.78	0.77	0.13	0.77
9212.00	317.600	7231.98	1678.94	223.71	-1853.22	1740021.02	14424047.17	39°43'02.843"N	80°38'44.847"W	1866.68	276.883	0.64	0.64	-0.03	0.64
9305.00	314.270	7229.98	1769.47	290.51	-1917.88	1739956.39	14424113.94	39°43'03.506"N	80°38'45.671"W	1939.75	278.613	3.58	-3.58	0.13	-3.58
9398.00	309.310	7227.76	1861.28	352.45	-1987.18	1739887.12	14424175.86	39°43'04.120"N	80°38'46.555"W	2018.19	280.057	5.33	-5.33	0.17	-5.33
9490.00	309.290	7227.33	1952.68	410.72	-2058.36	1739815.96	14424234.10	39°43'04.699"N	80°38'47.463"W	2098.94	281.284	2.58	-2.58	0.02	-2.58
9583.00	311.530	7229.38	2044.83	470.98	-2129.15	1739745.20	14424294.35	39°43'05.297"N	80°38'48.366"W	2180.62	282.473	2.52	2.41	-0.73	2.41
9676.00	314.490	7232.14	2136.31	534.39	-2197.12	1739677.26	14424357.73	39°43'05.927"N	80°38'49.232"W	2261.17	283.670	3.19	3.18	-0.23	3.18
9768.00	314.370	7234.12	2226.40	598.77	-2262.80	1739611.60	14424422.09	39°43'06.565"N	80°38'50.070"W	2340.68	284.822	1.27	-0.13	1.26	-0.13
9861.00	311.060	7235.07	2317.99	661.85	-2331.12	1739543.31	14424485.14	39°43'07.192"N	80°38'50.941"W	2423.25	285.850	3.56	-3.56	0.14	-3.56
9954.00	310.140	7235.47	2410.13	722.37	-2401.73	1739472.73	14424545.63	39°43'07.792"N	80°38'51.841"W	2508.01	286.740	1.15	-0.99	0.59	-0.99
10046.00	311.060	7235.94	2501.27	782.26	-2471.56	1739402.93	14424605.51	39°43'08.387"N	80°38'52.732"W	2592.40	287.563	1.05	1.04	0.07	1.04

**WELLPATH DATA (165 stations)**

Operator	Area	Field	Facility
SOUTHWESTERN ENERGY	Wetzel County, WV	Wetzel	Daniel Durig Pad
Slot 201H	Well	Wellbore	Daniel Durig WTZ 201H AWB
Slot 201H	Well	Wellbore	Daniel Durig WTZ 201H

**REFERENCE WELLPATH IDENTIFICATION**

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Daniel Durig WTZ 201H AWP Proj: 14071MD  
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WELLPATH DATA (165 stations)															
MD	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir	DLS	Build Rate	Turn Rate
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(US ft)	(US ft)	(°)	(°)	(ft)	(°)	(ft/100ft)	(ft/100ft)	(°/100ft)
10139.00	90.090	310.850	7255.22	2593.32	843.25	-2541.78	1739332.74	14424666.47	39°43'08.992"N	80°38'53.627"W	2678.00	288.354	0.27	0.00	-0.27
10231.00	90.520	310.950	7234.73	2684.40	903.48	-2611.31	1739263.23	14424726.68	39°43'09.590"N	80°38'54.514"W	2763.19	289.085	0.48	0.47	0.11
10324.00	90.550	308.580	7233.86	2776.71	962.96	-2682.79	1739191.78	14424786.13	39°43'10.181"N	80°38'55.426"W	2850.38	289.745	2.55	0.03	-2.55
10417.00	90.430	309.500	7233.07	2869.15	1021.54	-2755.02	1739119.58	14424844.68	39°43'10.763"N	80°38'56.347"W	2938.31	290.344	1.00	-0.13	0.99
10509.00	90.550	312.860	7232.28	2960.15	1082.10	-2824.25	1739050.37	14424905.23	39°43'11.364"N	80°38'57.230"W	3024.46	290.964	3.65	0.13	3.65
10602.00	90.400	315.930	7231.51	3051.24	1147.15	-2890.69	1738983.96	14424970.25	39°43'12.009"N	80°38'58.077"W	3110.00	291.645	3.30	-0.16	3.30
10695.00	90.800	315.370	7230.54	3141.91	1213.65	-2955.70	1738918.98	14425036.73	39°43'12.669"N	80°38'58.906"W	3195.17	292.324	0.74	0.43	-0.60
10787.00	90.800	314.370	7229.25	3231.86	1278.55	-3020.89	1738853.81	14425101.60	39°43'13.313"N	80°38'59.737"W	3280.32	292.940	1.09	0.00	-1.09
10880.00	90.460	316.380	7228.23	3322.62	1344.73	-3086.22	1738788.51	14425167.76	39°43'13.969"N	80°39'00.570"W	3366.46	293.544	2.19	-0.37	2.16
10973.00	90.860	315.670	7227.16	3413.15	1411.65	-3150.79	1738723.97	14425234.65	39°43'14.633"N	80°39'01.393"W	3452.57	294.134	0.88	0.43	-0.76
11066.00	90.830	310.020	7225.79	3504.68	1474.86	-3218.94	1738655.84	14425297.84	39°43'15.261"N	80°39'02.262"W	3540.73	294.616	6.07	-0.03	-6.08
11159.00	90.740	307.050	7224.51	3597.19	1532.79	-3291.67	1738583.14	14425355.74	39°43'15.836"N	80°39'03.190"W	3631.05	294.969	3.19	-0.10	-3.19
11251.00	90.800	311.450	7223.27	3688.58	1590.98	-3362.89	1738511.95	14425413.91	39°43'16.414"N	80°39'04.098"W	3720.25	295.319	4.78	0.07	4.78
11344.00	90.770	311.080	7222.00	3780.56	1652.31	-3432.79	1738442.07	14425475.21	39°43'17.023"N	80°39'04.990"W	3809.75	295.703	0.40	-0.03	-0.40
11437.00	90.680	311.150	7220.82	3872.57	1713.46	-3502.85	1738372.04	14425536.34	39°43'17.630"N	80°39'05.883"W	3899.47	296.066	0.12	-0.10	0.08
11529.00	90.830	310.750	7219.61	3963.63	1773.75	-3572.33	1738302.59	14425596.61	39°43'18.228"N	80°39'06.769"W	3988.45	296.406	0.46	0.16	-0.43
11622.00	90.770	309.730	7218.31	4055.84	1833.82	-3643.31	1738231.63	14425656.65	39°43'18.824"N	80°39'07.675"W	4078.80	296.718	1.10	-0.06	-1.10
11715.00	90.400	313.750	7217.36	4147.69	1895.72	-3712.69	1738162.28	14425718.53	39°43'19.439"N	80°39'08.560"W	4168.67	297.049	4.34	-0.40	4.32
11808.00	90.430	315.570	7216.69	4238.73	1960.97	-3778.95	1738096.05	14425783.75	39°43'20.086"N	80°39'09.404"W	4257.45	297.426	1.74	0.03	1.74
11900.00	90.400	313.570	7216.02	4328.82	2025.42	-3844.60	1738030.43	14425848.13	39°43'20.726"N	80°39'10.241"W	4345.48	297.781	1.96	-0.03	-1.96
11993.00	90.520	315.980	7215.28	4419.79	2090.91	-3910.61	1737964.44	14425913.64	39°43'21.375"N	80°39'11.083"W	4434.50	298.132	2.59	0.13	2.59
12086.00	90.370	319.680	7214.55	4509.59	2159.82	-3973.03	1737902.04	14425982.53	39°43'22.059"N	80°39'11.878"W	4522.15	298.529	3.98	-0.16	3.98
12179.00	90.520	318.960	7213.83	4598.75	2230.35	-4033.65	1737841.45	14426053.03	39°43'22.758"N	80°39'12.651"W	4609.20	298.940	0.79	0.16	-0.77
12271.00	90.490	311.470	7213.02	4688.53	2295.60	-4098.41	1737776.71	14426118.25	39°43'23.405"N	80°39'13.476"W	4697.52	299.254	8.14	-0.03	-8.14
12364.00	90.400	308.030	7212.30	4780.83	2355.06	-4169.90	1737705.25	14426177.68	39°43'23.996"N	80°39'14.388"W	4788.98	299.457	3.70	-0.10	-3.70
12457.00	90.370	309.070	7211.67	4873.36	2413.01	-4242.63	1737632.55	14426235.62	39°43'24.571"N	80°39'15.316"W	4880.83	299.629	1.12	-0.03	1.12
12550.00	90.340	312.200	7211.10	4965.48	2473.57	-4313.19	1737562.01	14426296.15	39°43'25.172"N	80°39'16.216"W	4972.14	299.834	3.37	-0.03	3.37
12642.00	90.340	313.800	7210.55	5056.02	2536.31	-4380.47	1737494.76	14426358.87	39°43'25.795"N	80°39'17.074"W	5061.76	300.071	1.74	0.00	1.74
12735.00	90.650	313.740	7209.75	5147.31	2600.64	-4447.63	1737427.63	14426423.17	39°43'26.433"N	80°39'17.931"W	5152.16	300.316	0.34	0.33	-0.06
12828.00	90.660	313.740	7209.00	5238.97	2663.45	-4516.19	1737359.10	14426485.96	39°43'27.057"N	80°39'18.805"W	5243.09	300.530	2.68	-0.03	-2.68

REFERENCE WELLPATH IDENTIFICATION			
Operator	SOUTHWESTERN ENERGY	Slot	Slot 201H
Area	Wetzel County, WV	Well	Daniel Durig WTZ 201H
Field	Wetzel		Daniel Durig WTZ 201H AWB
Facility	Daniel Durig Pad		

# Actual Wellpath Report

Daniel Durig WTZ 201H AWP Proj: 14071MD





# Actual Wellpath Report

Daniel Durig WTZ 201H AWP Proj: 14071'MD  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	SOUTHWESTERN ENERGY	Slot	Slot 201H
Area	Wetzel County, WV	Well	Daniel Durig WTZ 201H
Field	Wetzel	Wellbore	Daniel Durig WTZ 201H AWB
Facility	Daniel Durig Pad		

WELLPATH DATA (165 stations)															
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]
12920.00	90.770	309.590	7207.60	5330.15	2723.10	-4586.22	1737289.09	14426545.59	39°43'27.649"N	80°39'19.698"W	5333.73	300.700	1.81	0.16	-1.80
13013.00	90.400	306.630	7206.65	5422.74	2780.49	-4659.39	1737215.96	14426602.95	39°43'28.219"N	80°39'20.632"W	5425.96	300.827	3.21	-0.40	-3.18
13106.00	89.940	307.600	7206.37	5515.47	2836.60	-4733.55	1737141.82	14426659.05	39°43'28.776"N	80°39'21.578"W	5518.40	300.932	1.15	-0.49	1.04
13199.00	90.030	310.880	7206.40	5607.87	2895.42	-4805.56	1737069.83	14426717.84	39°43'29.360"N	80°39'22.497"W	5610.43	301.070	3.53	0.10	3.53
13292.00	89.880	316.240	7206.47	5699.20	2959.49	-4872.93	1737002.49	14426781.88	39°43'29.996"N	80°39'23.356"W	5701.23	301.272	5.77	-0.16	5.76
13384.00	90.060	318.650	7206.52	5788.21	3027.25	-4935.15	1736940.30	14426849.62	39°43'30.668"N	80°39'24.149"W	5789.64	301.525	2.63	0.20	2.62
13477.00	90.400	317.740	7206.15	5877.87	3096.58	-4997.14	1736878.33	14426918.92	39°43'31.355"N	80°39'24.939"W	5878.79	301.785	1.04	0.37	-0.98
13570.00	90.400	315.270	7205.50	5968.21	3164.03	-5061.14	1736814.35	14426986.35	39°43'32.025"N	80°39'25.755"W	5968.78	302.012	2.66	0.00	-2.66
13663.00	90.890	313.990	7204.45	6059.23	3229.36	-5127.32	1736748.20	14427051.65	39°43'32.673"N	80°39'26.599"W	6059.56	302.204	1.47	0.53	-1.38
13755.00	90.890	310.500	7203.02	6149.96	3291.20	-5195.41	1736680.14	14427113.46	39°43'33.286"N	80°39'27.467"W	6150.14	302.354	3.79	0.00	-3.79
13848.00	91.850	306.640	7200.80	6242.44	3349.15	-5268.09	1736607.49	14427171.39	39°43'33.862"N	80°39'28.394"W	6242.56	302.446	4.28	1.03	-4.15
13941.00	89.600	307.280	7199.62	6335.18	3405.06	-5342.39	1736533.22	14427227.28	39°43'34.417"N	80°39'29.343"W	6335.26	302.512	2.52	-2.42	0.69
14033.00	89.720	314.200	7200.17	6426.24	3465.07	-5412.05	1736463.59	14427287.26	39°43'35.013"N	80°39'30.231"W	6426.27	302.629	7.52	0.13	7.52
14046.00	89.880	315.110	7200.21	6438.97	3474.20	-5421.30	1736454.34	14427296.40	39°43'35.103"N	80°39'30.349"W	6438.99	302.654	7.11	1.23	7.00
14071.00	89.880	315.110	7200.26	6463.39	3491.92	-5438.94	1736436.71	14427314.10	39°43'35.279"N	80°39'30.574"W	6463.40	302.701	0.00	0.00	0.00

HOLE & CASING SECTIONS - Ref Wellbore: Daniel Durig WTZ 201H AWB Ref Wellpath: Daniel Durig WTZ 201H AWP Proj: 14071'MD									
String/Diameter	Start MD [ft]	End MD [ft]	Interval [ft]	Start TVD [ft]	End TVD [ft]	Start N/S [ft]	Start E/W [ft]	End N/S [ft]	End E/W [ft]
20in Casing	26.00	126.00	100.00	26.00	126.00	0.00	0.00	0.31	0.20
17.5in Open Hole	126.00	547.00	421.00	126.00	546.99	0.31	0.20	1.89	1.26
13.375in Casing	26.00	533.00	507.00	26.00	532.99	0.00	0.00	1.89	1.25
12.25in Open Hole	547.00	2711.00	2164.00	546.99	2690.94	1.89	1.26	-229.06	-66.27
9.625in Casing	26.00	2690.00	2664.00	26.00	2670.10	0.00	0.00	-226.69	-65.41
8.75in Open Hole	2711.00	6980.00	4269.00	2690.94	6846.86	-229.06	-66.27	-1127.40	-335.68
8.5in Open Hole	6980.00	14071.00	7091.00	6846.86	7200.26	-1127.40	-335.68	3491.92	-5438.94



# Actual Wellpath Report

Daniel Durig WTZ 201H AWP Proj: 14071'MD  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	SOUTHWESTERN ENERGY	Slot	Slot 201H
Area	Wetzel County, WV	Well	Daniel Durig WTZ 201H
Field	Wetzel	Wellbore	Daniel Durig WTZ 201H AWB
Facility	Daniel Durig Pad		

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Daniel Durig WTZ 201H BHL Rev-3	7197.00	3519.06	-5460.48	1736415.17	14427341.23	39°43'35.548"N	80°39'30.848"W	point
Daniel Durig WTZ 201H LP Rev-3	7238.00	-783.43	-772.69	1741101.13	14423040.42	39°42'52.847"N	80°38'31.071"W	point

WELLPATH COMPOSITION - Ref Wellbore: Daniel Durig WTZ 201H AWB				Ref Wellpath: Daniel Durig WTZ 201H AWP Proj: 14071'MD	
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore	
26.00	500.00	BHI NaviTrak (Axial)	01_APS EM <17.5"> (222'-500')	Daniel Durig WTZ 201H AWB	
500.00	2638.00	BHI NaviTrak (Axial)	02_APS EM <12.25"> (500')(599'-2638')	Daniel Durig WTZ 201H AWB	
2638.00	6915.00	BHI NaviTrak (Axial)	03_APS EM <8-3/4">(2638')(2738'-6915')	Daniel Durig WTZ 201H AWB	
6915.00	14046.00	BHI AutoTrak Curve (Short)	04_BH AT Curve <8-1/2"> (6915')(6945'-14046')	Daniel Durig WTZ 201H AWB	
14046.00	14071.00	Blind Drilling (std)	Projection to bit	Daniel Durig WTZ 201H AWB	

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**REFERENCE WELLPATH IDENTIFICATION**

Operator	SOUTHWESTERN ENERGY	Slot	Slot 201H
Area	Wetzel County, WV	Well	Daniel Durig WTZ 201H
Field	Wetzel	Wellbore	Daniel Durig WTZ 201H AWB
Facility	Daniel Durig Pad		

**COMMENTS**

Wellpath general comments  
 API: 47-103-03187-0000  
 Job #: 8927230  
 Rig: SDC 46  
 Duration: 12/22/2017 - 01/03/2018

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# NO DISCHARGE

State of West Virginia  
Department of Environmental Protection - Office of Oil and Gas  
Discharge Monitoring Report  
Oil and Gas General Permit

Company Name: SWN PRODUCTION COMPANY, LLC  
API No: 47-103-03187 County: WETZEL  
District: PROCTOR Well No: DANIEL DURIZ WTZ 201H  
Farm Name: DANIEL DURIG (REMAINDERMAN), ARTHUR DURIG & SHIRLEY ANN DURIG (LE)

Discharge Date/s From:(MMDDYY) \_\_\_\_\_ To: (MMDDYY) \_\_\_\_\_

Discharge Times. From: \_\_\_\_\_ To: \_\_\_\_\_

Total Volume to be Disposed from this facility (gallons): \_\_\_\_\_

Disposal Option(s) Utilized (write volumes in gallons):

- (1) Land Application: \_\_\_\_\_ (Include a topographical map of the Area.)
- (2) UIC: \_\_\_\_\_ Permit No. \_\_\_\_\_
- (3) Offsite Disposal: \_\_\_\_\_ Site Location: \_\_\_\_\_
- (4) Reuse: \_\_\_\_\_ Alternate Permit Number: \_\_\_\_\_
- (5) Centralized Facility: \_\_\_\_\_ Permit No. \_\_\_\_\_
- (6) Other method: \_\_\_\_\_ (Include an explanation)

Follow Instructions below to determine your treatment category:

Optional Pretreatment test: \_\_\_\_\_ Cl- mg/l \_\_\_\_\_ DO mg/l

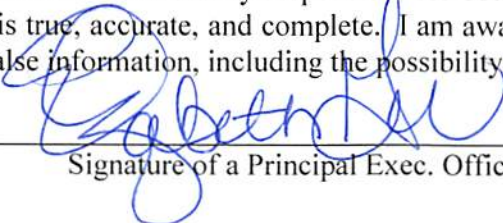
1. Do you have permission to use expedited treatment from the Director or his representative? (Y/N) \_\_\_\_\_ If yes, who? \_\_\_\_\_ and place a four (4) on line 7. If not go to line 2
2. Was Frac Fluid or flowback put into the pit? (Y/N) \_\_\_\_\_ If yes, go to line 5. If not, go to line 3.
3. Do you have a chloride value pretreatment (see above)? (Y/N) \_\_\_\_\_ If yes, go to line 4. If not, go to line 5.
4. Is the Chloride level less than 5000 mg/l? (Y/N) \_\_\_\_\_ If yes, then enter a one (1) on line 7.
5. Do you have a pretreatment value for DO? (See above) (Y/N) \_\_\_\_\_ If yes, go to line 6. If not, enter a three (3) in line 7.
6. Is the DO level greater than 2.5 mg/l?(Y/N) \_\_\_\_\_ If yes, enter a two (2) on line 7. If not, enter a three (3) on line 7.
7. \_\_\_\_\_ is the category of your pit. Use the Appropriate section.
8. Comments on Pit condition: \_\_\_\_\_

Name of Principal Exec. Officer: \_\_\_\_\_

Title of Officer: \_\_\_\_\_

Date Completed: \_\_\_\_\_

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

  
\_\_\_\_\_  
Signature of a Principal Exec. Officer or Authorized agent.

West Virginia Department of Environmental Protection

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Category 1  
Sampling Results  
API No : \_\_\_\_\_

Parameter	Predischarge		Discharge		Units
	Limits	Reported	Limits	Reported	
pH	6-10	_____	6-10	_____	S.U
Settling Time	5	_____	N/A	N/A	Days
Fe	6	_____	6	_____	mg/l
D.O.	2.5	_____	2.5	_____	mg/l
Settleable Sol.	0.5	_____	0.5	_____	mg/l
Cl	5,000	_____	5,000	_____	mg/l
Oil	Trace	_____	Trace	_____	Obs.
TOC**			Monitor	_____	mg/l
Oil and Grease			Monitor	_____	mg/l
Total Al***			Monitor	_____	mg/l
TSS			Monitor	_____	mg/l
Total Mn	Monitor	_____	Monitor	_____	mg/l
Volume			Monitor	_____	Gal
Flow			Monitor	_____	Gal/min
Disposal Area			Monitor	_____	Acres

\*\*\* Al is only reported if the pH is above 9.0

Category 2  
Sampling Results  
API No : \_\_\_\_\_

Parameter	Predischarge		Discharge		Units
	Limits	Reported	Limits	Reported	
pH	6-10	_____	6-10	_____	S.U
Settling Time	10	_____	N/A	N/A	Days
Fe	6	_____	6	_____	mg/l
D.O.	2.5	_____	2.5	_____	mg/l
Settleable Sol.	0.5	_____	0.5	_____	mg/l
Cl*	12,500	_____	12,500	_____	mg/l
Oil	Trace	_____	Trace	_____	Obs.
TOC**			Monitor	_____	mg/l
Oil and Grease			Monitor	_____	mg/l
Total Al***			Monitor	_____	mg/l
TSS			Monitor	_____	mg/l
Total Mn	Monitor	_____	Monitor	_____	mg/l
Volume			Monitor	_____	Gal
Flow			Monitor	_____	Gal/min
Disposal Area			Monitor	_____	Acres

\* Can be 25,000 with inspector's approval,

(Inspector's signature): \_\_\_\_\_

Date: \_\_\_\_\_

\*\* Include a description of your aeration technique.

Aeration Code: \_\_\_\_\_

\*\*\* Al is only reported if the pH is above 9.0

Category 3  
Sampling Results  
API No : \_\_\_\_\_

Parameter	Predischarge		Discharge		Units
	Limits	Reported	Limits	Reported	
pH	6-10	_____	6-10	_____	S.U
Settling Time	20	_____	N/A	N/A	Days
Fe	6	_____	6	_____	mg/l
D.O.	2.5	_____	2.5	_____	mg/l
Settleable Sol.	0.5	_____	0.5	_____	mg/l
Cl*	12,500	_____	12,500	_____	mg/l
Oil	Trace	_____	Trace	_____	Obs.
TOC**			Monitor	_____	mg/l
Oil and Grease			Monitor	_____	mg/l
Total Al***			Monitor	_____	mg/l
TSS			Monitor	_____	mg/l
Total Mn	Monitor	_____	Monitor	_____	mg/l
Volume			Monitor	_____	Gal
Flow			Monitor	_____	Gal/min
Disposal Area			Monitor	_____	Acres

\* Can be 25,000 with inspector's approval,

(Inspector's signature): \_\_\_\_\_ Date: \_\_\_\_\_  
 \*\* Include a description of your aeration technique. Aeration Code: \_\_\_\_\_  
 \*\*\* Al is only reported if the pH is above 9.0.

Category 4  
Sampling Results  
API No: \_\_\_\_\_

Parameter	Predischarge		Discharge		Units
	Limits	Reported	Limits	Reported	
pH	6-10	_____	6-10	_____	S.U
Settling Time	1	_____	N/A	N/A	Days
Fe	Monitor	_____	Monitor	_____	mg/l
D.O.	Monitor	_____	Monitor	_____	mg/l
Settleable Sol.	Monitor	_____	Monitor	_____	mg/l
Cl*	12,500	_____	12,500	_____	mg/l
Oil	Trace	_____	Trace	_____	Obs.
TOC**			Monitor	_____	mg/l
Oil and Grease			Monitor	_____	mg/l
TSS			Monitor	_____	mg/l
Total Mn	Monitor	_____	Monitor	_____	mg/l
Volume			Monitor	_____	Gal
Flow			Monitor	_____	Gal/min
Activated Carbon (0.175)			N/A	N/A	lb/B1
Date Site Reclaimed	N/A	N/A			10 days from date
Disposal Area			Monitor	_____	Acres

\* Can be 25,000 with inspector's approval,

(Inspector's signature): \_\_\_\_\_ Date: \_\_\_\_\_

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**WELL OPERATOR:** SWN PRODUCTION COMPANY, LLC  
**ADDRESS:** P.O. BOX 1300  
**CITY:** JANE LEW **STATE:** WV **ZIP CODE:** 26378

**DESIGNATED AGENT:** BRITANNY WOODY  
**ADDRESS:** P.O. BOX 1300  
**CITY:** JANE LEW **STATE:** WV **ZIP CODE:** 26378

**REVISIONS:**  
 DATE: 10-02-2018  
 DRAWN BY: N. MANO  
 SCALE: 1" = 2000'  
 DRAWING NO.:  
 WELL LOCATION PLAT

**LEGEND:**

- PROPOSED SURFACE HOLE / BOTTOM HOLE
- EXISTING / PRODUCING WELLS
- EXISTING WATER WELL
- EXISTING SPRING
- PROPOSED SURFACE HOLE / BOTTOM HOLE
- EXISTING / PRODUCING WELLS
- EXISTING WATER WELL
- EXISTING SPRING
- ASDRILLED PATH
- PROPOSED PATH
- LEASE BOUNDARY
- DILLING UNIT
- SURETYED BOUNDARY

**WELL TYPE:** OIL  WASTE DISPOSAL  PRODUCTION  DEEP  GAS  LIQUID INJECTION  STORAGE  SHALLOW

**WATERSHED:** LAUREL RUN - (HUC-10 FISH CREEK)  
**COUNTRY:** WETZEL  
**QUADRANGLE:** WILEYVILLE, WV  
**ELEVATION:** 1401.2'

**SURFACE OWNER:** DANIEL DURIG (REMAINDERMAN), ARTHUR DURIG & SHIRLEY ANN DURIG (LE)  
**OIL & GAS ROYALTY OWNER:** O.C. YOHO AND MARY YOHO (LIFE ESTATE), DANIEL DURIG (REMAINDERMAN), ARTHUR DURIG & SHIRLEY ANN DURIG (LIFE ESTATE), DANIEL DURIG (REMAINDERMAN)  
**ACREAGE:** ± 151.58

**CONVERT**  **PLUG & ABANDON**  **CLEAN OUT & REPLUG**  **OTHER CHANGE**  (SPECIFY) **ASDRILLED**

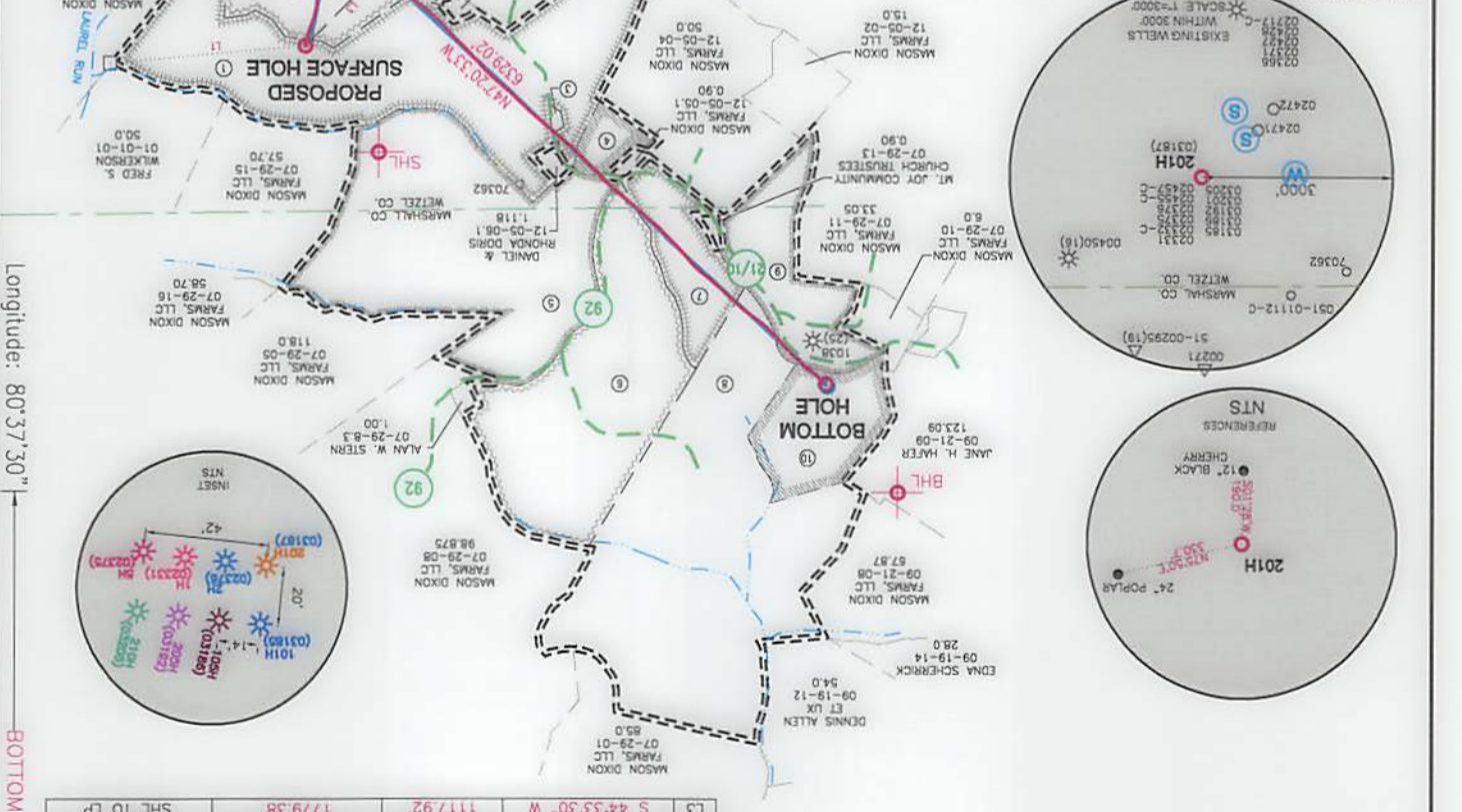
**TARGET FORMATION:** MARCELLUS

**DEGREE OF MINIMUM (+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS**  
**ACCURACY:** 1/200  
**PROVEN SURVEY SOURCE OF GRADE GPS**  
**ELEVATION:** (NAVD 88, US FT)

**API WELL #:** 47  
**STATE:** 47  
**COUNTY:** 103  
**PERMIT:** 03187

**OPERATOR'S WELL #:** 201H  
**COMPANY:** DANIEL DURIG WTS

P.S. 708  
 AND PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.  
 CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS  
 THE UNDERGROUND HEREBY CERTIFY THAT THIS PLAT IS  
 A TRUE AND ACCURATE REPRESENTATION OF THE FACTS AND  
 CONDITIONS AS SHOWN HEREON.  
 I, THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS  
 A TRUE AND ACCURATE REPRESENTATION OF THE FACTS AND  
 CONDITIONS AS SHOWN HEREON.



LINE	BEARING	DISTANCE	DESCRIPTION	MONUMENT
L1	N 84°47'17" E	2045.28'	SHL TO LANDMARK	F.D. MARKED CORNER
L2	S 48°31'00" E	1492.86'	SHL TO LANDMARK	F.D. MARKED STONE
L3	S 44°33'30" W	1117.92'	CURVE LENGTH	
		1779.58'	SHL TO LPL	

TRACT	SURFACE OWNER	TAX PARCEL	ACRES
1	DANIEL DURIG (REMAINDERMAN), ARTHUR DURIG AND SHIRLEY ANN DURIG (LE) (S/R)	12-05-08	151.58
2	DANIEL DURIG (REMAINDERMAN), ARTHUR DURIG & SHIRLEY ANN DURIG (L/E) (S)	12-05-11	85.5
3	DAVID DURIG AND RONDA K. DURIG (S)	12-05-6.2	0.5
4	DANIEL DURIG (REMAINDERMAN), ARTHUR DURIG AND SHIRLEY ANN DURIG (LE) (S)	12-05-05	9.1
5	MASON DIXON FARMS, LLC (S)	07-29-14	129.4
6	ALTON W. STERN, (LIFE ESTATE), ALAN W. STERN, AND SHIRLEY ANN DURIG (LE) (S)	07-29-8.1	109.0
7	DAVEPORT (REMAINDERMAN) (S)	07-29-8.2	52.125
8	MASON DIXON FARMS, LLC (S)	07-29-07	162.00
9	MASON DIXON FARMS, LLC (S)	07-29-12	29.16
10	MASON DIXON FARMS, LLC (S)	07-29-09	25.0

LOCATION	UTM (NAD83, ZONE 17, METERS)	NORTHING	EASTING
SURFACE HOLE LOCATION (SHL)	4396390.211	4396390.211	530923.894
LANDING POINT LOCATION (LPL)	4396454.521	4396454.521	529266.133
BOTTOM HOLE LOCATION (BHL)	4396484.818	4396484.818	530688.686

