

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

API 47 - 103 - 03233 County WETZEL District PROCTOR  
Quad WILEYVILLE, WV Pad Name SWN A PAD1 Field/Pool Name VICTORY WET FIELD  
Farm name SWN PRODUCTION COMPANY, LLC Well Number SWN A WTZ 5H  
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 4,392,593.48 Easting 530,904.97  
Landing Point of Curve Northing 4,392,731.63 Easting 530,874.13  
Bottom Hole Northing 4,395,389.29 Easting 527,921.25

Elevation (ft) 1,344' 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 8/20/2018 Date drilling commenced 4/29/2019 Date drilling ceased 5/16/2019  
Date completion activities began 12/19/2019 Date completion activities ceased 3/5/2020  
Verbal plugging (Y/N) N Date permission granted N/A Granted by N/A

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

Freshwater depth(s) ft 300' Open mine(s) (Y/N) depths N  
Salt water depth(s) ft 1,341' Void(s) encountered (Y/N) depths N  
Coal depth(s) ft 1,245' Cavern(s) encountered (Y/N) depths N  
Is coal being mined in area (Y/N) N

Reviewed by:

DMH  
6-1-20

API 47- 103 - 03233 Farm name SWN PRODUCTION COMPANY, LLC Well number SWN A WTZ 5H

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	400	NEW	J-55/54.50#		Y; 25 BBLS
Coal	SEE INTERMEDIATE						
Intermediate 1	12.25	9.625	2809	NEW	J-55/36#		Y; 58 BBLS
Intermediate 2							
Intermediate 3							
Production	8.75/8.50	5.5	20865	NEW	P-110/20#		Y; 83 BBLS
Tubing				NEW			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	838	15.60	1.19	997.22	SURFACE	8
Coal	SEE INTERMEDIATE						
Intermediate 1	CLASS A	1,159	16.00	1.12	1298.08	SURFACE	8
Intermediate 2							
Intermediate 3							
Production	CLASS A	4,123	15.60	1.18	4865.14	SURFACE	24
Tubing							

Drillers TD (ft) 20,865' Loggers TD (ft) 20,865'  
 Deepest formation penetrated MARCELLUS Plug back to (ft) N/A  
 Plug back procedure N/A

Kick off depth (ft) 6,600'

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

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

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

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



API 47- 103 - 03233

Farm name SWN PRODUCTION COMPANY, LLC Well number SWN A WTZ 5H

<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>		
<u>MARCELLUS</u>	<u>7,347'</u>	<u>TVD</u>	<u>7,599'</u> <u>MD</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Please insert additional pages as applicable.

GAS TEST  Build up  Drawdown  Open Flow OIL TEST  Flow  Pump

SHUT-IN PRESSURE Surface 1707 psi Bottom Hole \_\_\_\_\_ psi DURATION OF TEST \_\_\_\_\_ hrs

OPEN FLOW Gas 13,400 mcfpd Oil 89 bpd NGL \_\_\_\_\_ bpd Water 276 bpd GAS MEASURED BY  Estimated  Orifice  Pilot

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

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 BJ SERVICES  
Address 11211 FM 2920 City TOMBALL State TX Zip 77377

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

Please insert additional pages as applicable.

Completed by DENISE GRANTHAM Telephone 832-796-6139  
Signature *Denise Grantham* Title REGULATORY TECHNICIAN Date 5/8/2020

# SOUTHWESTERN ENERGY

Location: **Wellzel County, WV**  
 Field: **Wellzel**  
 Facility: **SWN A WITZ Pad**  
 Wellbore: **SWN A WITZ 5H PWB**  
 Slot: **Slot 05**  
 Well: **SWN A WITZ 5H**  
 Wellbore: **SWN A WITZ 5H PWB**  
 Grid System: **NAD83, UTM Zone 17 North, US feet**  
 North Reference: **Grid north**  
 Scale: **True distance**  
 Measured depths are referenced to **SDC 46 (KB)**  
 True vertical depths are referenced to **SDC 46 (KB)**  
 SDC 46 (KB) to Mean Sea Level: **1367.95 feet**  
 Depths are in feet  
 Mean Sea Level to Ground level (At Slot 05): **-1341.95 feet**  
 Created by: **atenjon on 2019-05-21**  
 Coordinates are in feet (referenced to Slot)
 Database: **WA\_MPL\_EASTERNUS\_Defn**

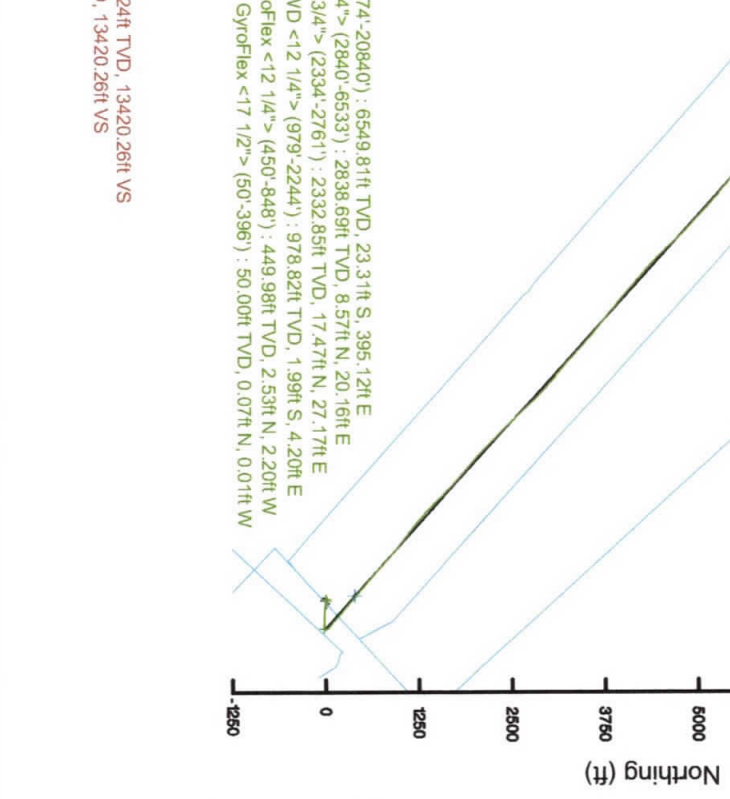
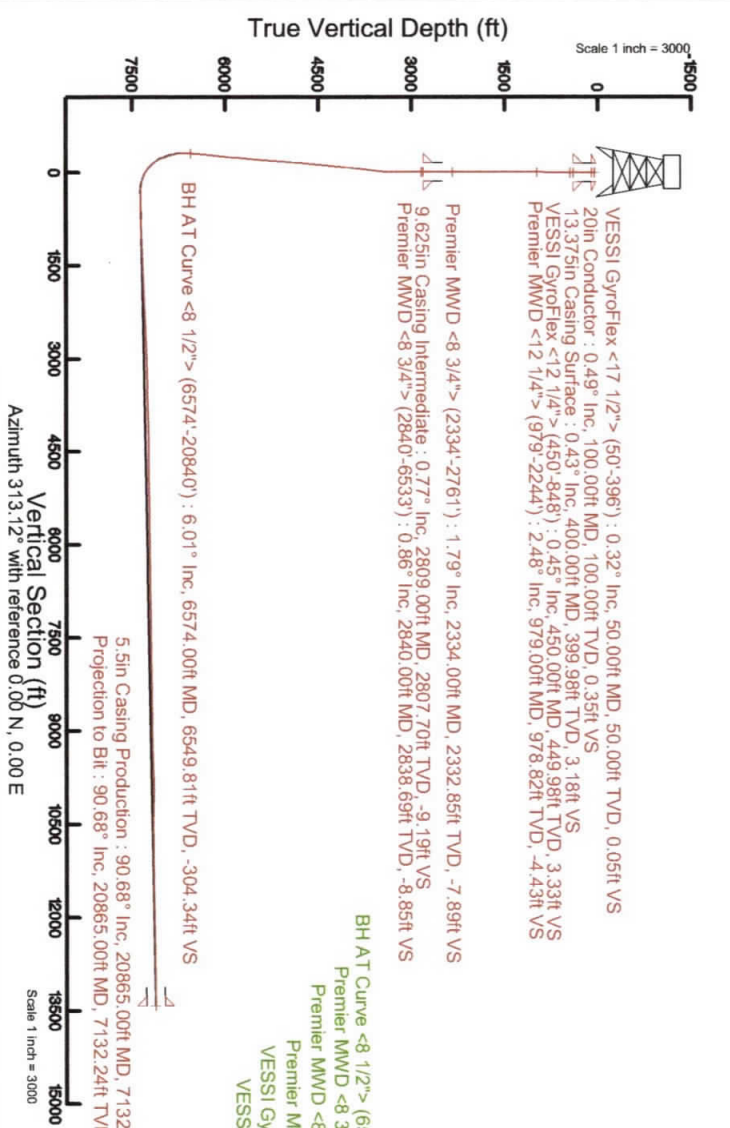
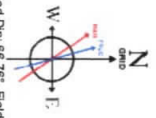


Location Information			
Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude
SWN A WITZ Pad	1741694.774	14411391.536	39°40'57.656"N
Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)
Slot 05	-24.43	126.01	1741810.730
SDC 46 (KB) to Ground level (At Slot 05)			14411367.120
Mean Sea Level to Ground level (At Slot 05)			26ft
SDC 46 (KB) to Mean Sea Level			-1341.95ft
			1367.95ft

### Comments

API: **47-103-03233-0000**  
 BH Job #: **109785621**  
 Rq: **SDC 46**  
 Duration: **05/08/2019 - 05/13/2019**

User: **grahfield** Dip: **66.76°** Field: **62262 nT**  
 Magnetic North is **8.77** degrees West of True North (at 09/May/2019)  
 To correct azimuth from True to Grid subtract **0.25** degrees  
 To correct azimuth from Magnetic to Grid subtract **8.40** degrees



REFERENCE WELLPATH IDENTIFICATION			
Operator	SOUTHWESTERN ENERGY	Slot	Slot 05
Area	Wetzel County, WV	Well	SWN A WTZ 5H
Field	Wetzel	Wellbore	SWN A WTZ 5H AWB
Facility	SWN A WTZ Pad		

REPORT SETUP INFORMATION	
Projection System	NAD83 / UTM Zone 17 North, US feet
Software System	WellArchitect® 5.1
North Reference	Grid User
Scale	0.999612
Report Generated	5/21/2019 at 11:26:15 AM
Convergence at slot	0.23° East
Database/Source file	WA_MPL_EASTERNUS_Defn/SWN_A_WTZ_5H_AWP_Proj_20865_.xml

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-24.43	126.01	1741810.73	14411367.12	39°40'57.410"N	80°38'22.588"W
Facility Reference Pt			1741684.77	14411391.54	39°40'57.656"N	80°38'24.198"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	1367.95ft
Horizontal Reference Pt	Slot	SDC 46 (KB) to Mean Sea Level	1367.95ft
Vertical Reference Pt	SDC 46 (KB)	SDC 46 (KB) to Ground Level at Slot (Slot 05)	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	313.12°



**SWN A WTZ 5H  
ATTACHMENT 1  
PERF REPORT**

STAGE NUM	Perf Date	Perf Bottom MD	Perf Top MD2	# SHOTS PER STG
1	12/8/2019	20,815	20,720	36
2	12/23/2019	20,684	20,506	36
3	12/24/2019	20,473	20,295	36
4	12/25/2019	20,262	20,085	36
5	12/25/2019	20,051	19,874	36
6	1/6/2020	19,841	19,663	42
7	1/13/2020	19,630	19,452	42
8	1/14/2020	19,419	19,241	35
9	1/16/2020	19,208	19,030	42
10	1/17/2020	18,997	18,820	42
11	1/17/2020	18,786	18,609	42
12	1/18/2020	18,576	18,398	42
13	1/18/2020	18,365	18,187	42
14	1/19/2020	18,154	17,976	42
15	1/19/2020	17,943	17,765	42
16	1/19/2020	17,732	17,555	42
17	1/20/2020	17,517	17,344	42
18	1/20/2020	17,311	17,133	42
19	1/21/2020	17,100	16,922	42
20	1/21/2020	16,889	16,711	42
21	1/21/2020	16,678	16,496	42
22	1/22/2020	16,467	16,290	42
23	1/23/2020	16,256	16,077	42
24	1/24/2020	16,046	15,866	42
25	1/24/2020	15,838	15,656	42
26	1/25/2020	15,626	15,446	42
27	1/26/2020	15,416	15,235	42
28	1/26/2020	15,197	15,024	42
29	1/27/2020	14,991	14,814	42
30	1/27/2020	14,780	14,603	42
31	1/28/2020	14,570	14,392	42
32	1/29/2020	14,356	14,181	42
33	1/29/2020	14,145	13,970	42
34	1/30/2020	13,937	13,759	42
35	1/30/2020	13,726	13,549	42
36	1/31/2020	13,515	13,338	42
37	2/1/2020	13,305	13,127	42
38	2/1/2020	13,094	12,916	42
39	2/2/2020	12,883	12,705	42
40	2/2/2020	12,672	12,494	42
41	2/3/2020	12,461	12,284	42
42	2/3/2020	12,250	12,073	42

**SWN A WTZ 5H  
ATTACHMENT 1  
PERF REPORT**

STAGE NUM	Perf Date	Perf Bottom MD	Perf Top MD2	# SHOTS PER STG
43	2/4/2020	12,040	11,862	42
44	2/5/2020	11,829	11,651	42
45	2/5/2020	11,618	11,440	42
46	2/6/2020	11,407	11,229	42
47	2/7/2020	11,196	11,019	42
48	2/8/2020	10,985	10,800	84
49	2/9/2020	10,775	10,597	42
50	2/9/2020	10,564	10,386	42
51	2/10/2020	10,353	10,175	42
52	2/10/2020	10,142	9,964	42
53	2/11/2020	9,931	9,753	42
54	2/14/2020	9,720	9,543	42
55	2/15/2020	9,509	9,332	42
56	2/16/2020	9,299	9,121	42
57	2/16/2020	9,088	8,910	42
58	2/17/2020	8,877	8,699	42
59	2/17/2020	8,666	8,488	42
60	2/18/2020	8,455	8,278	42
61	2/18/2020	8,244	8,067	42
62	2/19/2020	8,034	7,856	42
63	2/20/2020	7,823	7,645	42



**SWN A WTZ 5H  
ATTACHMENT 2  
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	12/23/2019	56	8,065	6,994	5,251	86,430	5,683	0
2	12/24/2019	63	7,634	5,826	4,521	239,500	6,184	0
3	12/24/2019	61	7,507	5,660	5,085	287,350	8,548	0
4	12/25/2019	64	7,562	5,849	3,986	245,550	7,443	0
5	1/4/2020	72	8,422	6,625	4,311	285,345	8,774	0
6	1/12/2020	64	8,028	6,018	4,818	308,130	11,292	0
7	1/14/2020	72	8,429	6,153	4,520	314,570	8,047	0
8	1/16/2020	60	7,951	6,250	4,450	313,370	7,602	0
9	1/17/2020	67	8,041	5,701	5,018	310,120	7,431	0
10	1/17/2020	67	8,323	5,230	4,480	306,870	7,269	0
11	1/18/2020	65	8,230	6,062	4,672	306,060	7,525	0
12	1/18/2020	64	8,166	4,998	4,672	309,000	7,172	0
13	1/18/2020	70	8,205	5,463	4,529	305,740	7,549	0
14	1/19/2020	67	8,124	5,671	5,035	304,940	7,353	0
15	1/19/2020	69	8,277	5,748	4,490	313,300	7,416	0
16	1/20/2020	70	8,352	6,157	4,668	308,370	7,467	0
17	1/20/2020	66	8,256	5,922	5,142	312,510	7,242	0
18	1/21/2020	67	0	6,332	4,660	310,420	7,709	0
19	1/21/2020	66	8,245	6,026	4,558	308,780	9,209	0
20	1/21/2020	68	8,301	6,018	4,623	316,770	7,801	0
21	1/22/2020	74	7,843	6,216	4,403	312,940	8,517	0
22	1/22/2020	72	7,965	5,464	4,489	311,660	7,847	0
23	1/23/2020	66	8,112	5,626	4,619	310,380	8,329	0
24	1/24/2020	76	7,798	6,292	4,550	320,930	7,863	0
25	1/25/2020	72	7,770	6,650	4,320	307,670	7,992	0
26	1/25/2020	73	8,053	5,472	4,312	311,160	8,365	0
27	1/26/2020	85	8,477	5,934	4,412	313,200	7,078	0
28	1/26/2020	90	8,544	5,311	4,356	307,400	6,702	0
29	1/27/2020	90	8,723	5,433	4,439	310,490	7,284	0
30	1/28/2020	90	8,358	6,146	4,232	314,570	6,913	0
31	1/29/2020	91	8,628	5,490	4,866	308,890	6,337	0
32	1/29/2020	93	8,563	5,794	4,420	314,410	7,255	0
33	1/30/2020	78	8,537	6,259	4,917	311,300	6,452	0
34	1/30/2020	78	8,114	5,455	4,219	311,370	7,025	0
35	1/31/2020	89	8,638	5,160	5,198	300,670	6,109	0
36	2/1/2020	93	8,498	4,911	5,169	308,810	6,687	0
37	2/1/2020	88	8,482	5,039	5,175	249,700	5,335	0
38	2/2/2020	84	8,218	6,022	4,219	311,280	6,942	0
39	2/2/2020	93	8,485	5,345	4,989	307,460	6,306	0
40	2/3/2020	93	8,588	4,961	4,625	313,540	6,218	0
41	2/3/2020	92	8,475	5,397	4,886	244,780	5,775	0
42	2/4/2020	94	8,484	6,107	4,852	224,300	6,536	0
43	2/4/2020	83	7,961	5,410	5,988	293,470	9,003	0
44	2/5/2020	83	8,143	6,051	4,865	310,590	7,133	0
45	2/6/2020	83	7,832	5,779	5,314	276,880	9,401	0
46	2/7/2020	95	8,240	6,108	5,246	314,040	7,511	0
47	2/7/2020	81	8,055	5,957	5,245	318,980	8,137	0
48	2/8/2020	77	8,316	5,835	4,363	322,140	11,009	0
49	2/9/2020	84	7,997	6,112	4,461	329,650	8,286	0
50	2/9/2020	83	8,276	6,013	4,778	306,270	8,234	0

**SWN A WTZ 5H  
ATTACHMENT 2  
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/othr
51	2/10/2020	91	8,016	5,671	5,543	293,650	7,214	0
52	2/11/2020	92	8,093	5,680	4,725	313,710	7,373	0
53	2/13/2020	72	8,076	6,088	4,800	270,170	17,926	0
54	2/15/2020	77	7,661	5,881	5,112	314,360	7,065	0
55	2/16/2020	88	8,003	5,827	4,674	314,510	7,401	0
56	2/16/2020	87	8,014	5,930	4,788	313,700	6,927	0
57	2/17/2020	83	7,983	6,291	4,861	314,500	6,717	0
58	2/17/2020	90	8,018	5,820	5,282	207,020	5,084	0
59	2/18/2020	88	8,161	5,995	4,314	321,260	7,004	0
60	2/18/2020	98	7,924	6,030	4,661	316,840	7,194	0
61	2/19/2020	91	7,883	5,785	4,972	318,140	7,615	0
62	2/20/2020	89	7,667	6,772	4,860	252,835	6,527	0
63	2/20/2020	89	7,752	6,280	4,577	323,080	7,648	0

# Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	12/23/2019
Job End Date:	2/20/2020
State:	West Virginia
County:	Wetzel
API Number:	47-103-03233-00-00
Operator Name:	Southwestern Energy
Well Name and Number:	SWN A WTZ 5
Latitude:	39.68261378
Longitude:	-80.63960766
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	7,223
Total Base Water Volume (gal):	20,015,614
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
HCL	SWN Well Services	Solvent					
				Listed Below			
Tolicide PS 50A	SWN Well Services	Biocide					
				Listed Below			





					68551-12-2	1.50000	0.00162
				Alcohols, C12-1, ethoxylated			
				Oleic Acid	93-83-4	1.50000	0.00162
				Diethanolamide			
				Acetic Acid	64-19-7	37.50000	0.00097
				Diethylenetriamine penta	15827-60-8	10.00000	0.00060
				Methanol	67-56-1	80.00000	0.00060
				Citric Acid	77-92-9	22.50000	0.00058
				Acrylic acid terpolymer	397256-50-7	1.00000	0.00027
				Oxyalkylated fatty acid	68951-67-7	9.67400	0.00007
				Fatty acids	61790-12-3	5.02700	0.00004
				Modified thiourea polymer	68527-49-1	4.74600	0.00004
				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)





Well Name: SWN A WTZ 5H

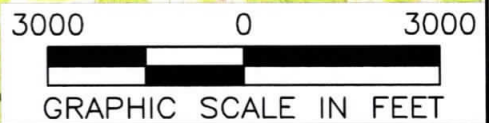
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LITHOLOGY/FORMATION	TOP DEPTH, MD (FT)	TOP DEPTH, TVD (FT)	BOTTOM DEPTH, MD (FT)	BOTTOM DEPTH, TVD (FT)	QUANTITY AND TYPE OF FLUID
Base of Fresh Water	0.00	0.00	300.00	300.00	
Top of Salt Water	1341.00	1341.00	NA	NA	
Pittsburgh Coal	1245.00	1245.00	1317.00	1317.00	
Pottsville (ss)	1317.00	1317.00	1781.00	1781.00	
Raven Cliff (ss)	1781.00	1781.00	1870.00	1870.00	
Maxton (ss)	1870.00	1870.00	2437.00	2437.00	
Big Injun (ss)	2437.00	2437.00	3039.00	3039.00	
Berea (siltstone)	3039.00	3039.00	6706.00	6681.00	
Rhinestreet (shale)	6706.00	6681.00	7034.00	6998.00	
Cashaqua (shale)	7034.00	6998.00	7165.00	7116.00	
Middlesex (shale)	7165.00	7116.00	7290.00	7212.00	
Burket (shale)	7290.00	7212.00	7328.00	7237.00	
Tully (ls)	7328.00	7237.00	7371.00	7264.00	
Mahantango (shale)	7371.00	7264.00	7599.00	7347.00	
Marcellus (shale)	7599.00	7347.00	NA	NA	GAS





<b>SURFACE HOLE LOCATION (SHL):</b>
GEOGRAPHIC (NAD83):
LATITUDE: 39.682614°
LONGITUDE: -80.639608°
<b>BOTTOM HOLE LOCATION (BHL):</b>
GEOGRAPHIC (NAD83):
LATITUDE: 39.707907°
LONGITUDE: -80.674283°
<b>SURFACE HOLE LOCATION (SHL):</b>
GEOGRAPHIC (NAD83):
LATITUDE: 39.682614°
LONGITUDE: -80.639608°
<b>BOTTOM HOLE LOCATION (BHL):</b>
GEOGRAPHIC (NAD83):
LATITUDE: 39.707905°
LONGITUDE: -80.674296°



**NOTES ON SURVEY**

1. SURFACE AND ROYALTY OWNER INFORMATION AND THEIR BOUNDARIES SHOWN HEREON WERE PLOTTED FROM DEEDS AND/OR TAX PARCEL MAPS PROVIDED BY CLIENT AND/OR FIELD LOCATIONS.
2. THIS PLAT DOES NOT REPRESENT A BOUNDARY SURVEY OF THE PARCELS SHOWN HEREON.
3. ALL INSETS ARE GRID NORTH UNLESS OTHERWISE DEPICTED.

**LEGEND:**

- EXISTING BOTTOM HOLE
- EXISTING / PRODUCING WELLHEAD
- EXISTING LANDING POINT LOCATION
- PROPOSED SURFACE HOLE / BOTTOM HOLE
- PROPOSED LANDING POINT LOCATION
- ACCESS ROAD
- PUBLIC ROAD
- FLOOD PLAIN
- LEASE BOUNDARY
- AS-DRILLED PATH
- PROPOSED PATH

<b>WELL OPERATOR:</b> SWN PRODUCTION COMPANY, LLC	<b>WELL (FARM) NAME:</b> SWN A WTZ	<b>WELL #</b> 5H	<b>SERIAL #</b> XXXX
<b>ADDRESS:</b> 1300 FORT PIERPONT DRIVE, SUITE 201, MORGANTOWN WV, 26508	<b>COUNTY - CODE</b> WETZEL 103 -	<b>DISTRICT; PROCTOR</b>	<b>API #</b> 47-103-03233
<b>SURFACE OWNER:</b> SWN PRODUCTION COMPANY, LLC	<b>USGS 7 1/2 QUADRANGLE MAP NAME</b> WILEYVILLE, WV		



(2,000' SCALE) LATITUDE: 39°45'00" BOTTOM HOLE | 2147'

(2,000' SCALE) LATITUDE: 39°42'30" SURFACE HOLE | 4105'



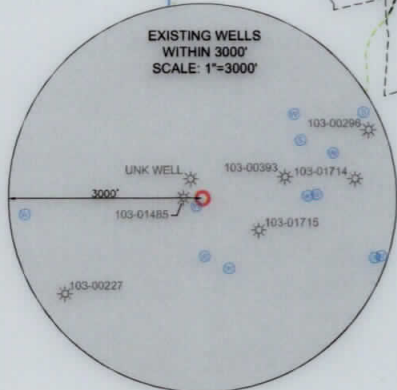
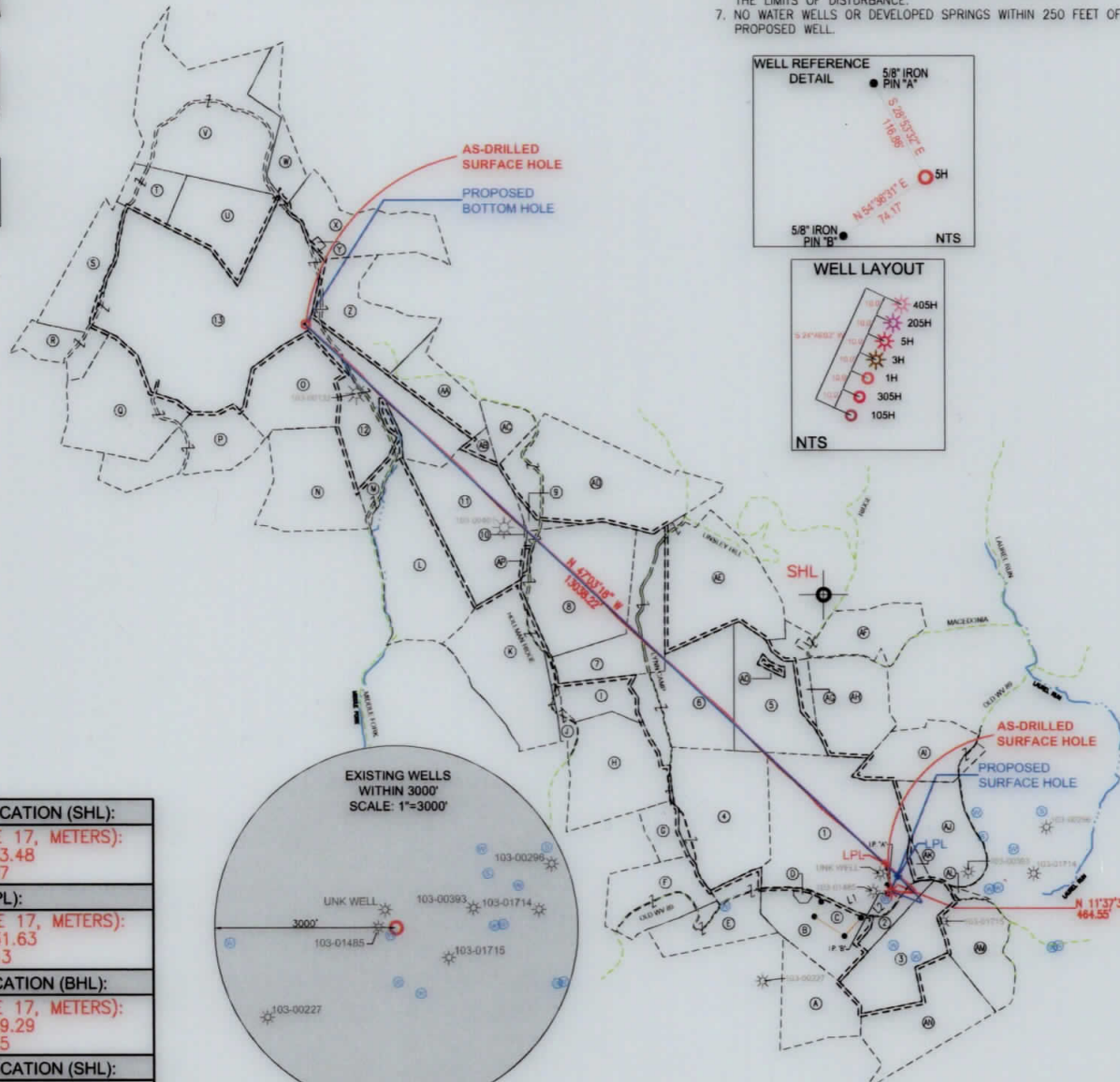
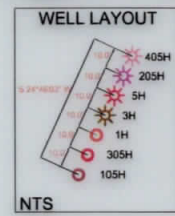
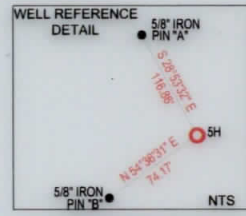
www.jhacompanies.com  
68011 Vineyard Road  
St. Clairsville, Ohio 43950  
740-695-6100

GRID NORTH  
UTM, NAD83 DATUM, ZONE 17, US FT

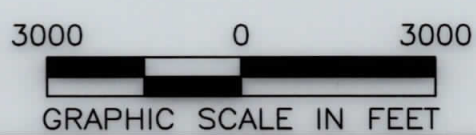
LINE	BEARING	DISTANCE
L1	N 71°46'08" E	1337.04'
L2	N 48°33'26" E	663.16'

NOTES ON SURVEY

- COORDINATE SYSTEM IS UTM NAD 83 DATUM, ZONE 17, U.S. FOOT AND WELL COORDINATES ESTABLISHED USING SURVEY GRADE GPS.
- SURFACE AND ROYALTY OWNER INFORMATION AND THEIR BOUNDARIES SHOWN HEREON WERE PLOTTED FROM DEEDS AND/OR TAX PARCEL MAPS PROVIDED BY CLIENT AND/OR FIELD LOCATIONS.
- THIS PLAT DOES NOT REPRESENT A BOUNDARY SURVEY OF THE PARCELS SHOWN HEREON.
- NO DWELLINGS OR BUILDINGS WITHIN 625 FEET OF PROPOSED CENTER OF PAD
- NO PERENNIAL STREAMS, LAKES, PONDS, RESERVOIRS OR WETLANDS WITHIN 100 FEET OF THE LIMITS OF DISTURBANCE.
- NO NATURALLY PRODUCING TROUT STREAM WITHIN 300 FEET OF THE LIMITS OF DISTURBANCE.
- NO WATER WELLS OR DEVELOPED SPRINGS WITHIN 250 FEET OF PROPOSED WELL.



<b>SURFACE HOLE LOCATION (SHL):</b>
UTM (NAD83, ZONE 17, METERS): NORTHING: 4392593.48 EASTING: 530904.97
<b>LANDING POINT (LPL):</b>
UTM (NAD83, ZONE 17, METERS): NORTHING: 4392731.63 EASTING: 530874.13
<b>BOTTOM HOLE LOCATION (BHL):</b>
UTM (NAD83, ZONE 17, METERS): NORTHING: 4395389.29 EASTING: 527921.25
<b>SURFACE HOLE LOCATION (SHL):</b>
UTM (NAD83, ZONE 17, METERS): NORTHING: 4392593.48 EASTING: 530904.97
<b>LANDING POINT (LPL):</b>
UTM (NAD83, ZONE 17, METERS): NORTHING: 4392671.39 EASTING: 530938.68
<b>BOTTOM HOLE LOCATION (BHL):</b>
UTM (NAD83, ZONE 17, METERS): NORTHING: 4395389.01 EASTING: 527920.12



I, THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND REGULATIONS ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

P.S. 2041 [Signature] 5/14/20



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS

WVDEP  
OFFICE OF OIL & GAS  
601 57TH STREET  
CHARLESTON, WV 25034

MINIMUM DEGREE OF ACCURACY: 1/200

PROVEN SURVEY SOURCE OF ELEVATION: SURVEY GRADE GPS (NAVD 88, US FT)

COMPANY:	SWN Production Company LLC		
OPERATOR'S WELL #:	SWN A WTZ 5H		
API WELL #:	47	103	03233
	STATE	COUNTY	PERMIT

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

WATERSHED: UPPER OHIO SOUTH ELEVATION: 1,344.0'

DISTRICT: PROCTOR COUNTY: WETZEL QUADRANGLE: WILEYVILLE, WV

SURFACE OWNER: SWN PRODUCTION COMPANY, LLC ACREAGE: ±128.24

OIL & GAS ROYALTY OWNER: RODNEY CALVERT, ET AL ACREAGE: ±128.24

DRILL  DRILL DEEPER  REDRILL  FRACTURE OR STIMULATE  PLUG OFF OLD FORMATION  PERFORATE NEW FORMATION

CONVERT  PLUG & ABANDON  CLEAN OUT & REPLUG  OTHER CHANGE  (SPECIFY) AS-DRILLED

TARGET FORMATION: MARCELLUS ESTIMATED DEPTH: 7,364' TVD 20,865' TMD

WELL OPERATOR: SWN PRODUCTION COMPANY, LLC ADDRESS: 1300 FORT PIERPONT DRIVE, SUITE 201 CITY: MORGANTOWN STATE: WV ZIP CODE: 26508

DESIGNATED AGENT: BRITTANY WOODY ADDRESS: 1300 FORT PIERPONT DRIVE, SUITE 201 CITY: MORGANTOWN STATE: WV ZIP CODE: 26508

LEGEND:	REVISIONS:	DATE: 05-04-2020
● EXISTING BOTTOM HOLE		
★ EXISTING / PRODUCING WELLHEAD		
LPL EXISTING LANDING POINT LOCATION		
○ PROPOSED SURFACE HOLE / BOTTOM HOLE		
LPL* PROPOSED LANDING POINT LOCATION		
— ACCESS ROAD		
— PUBLIC ROAD		
— FLOOD PLAN		
--- LEASE BOUNDARY		
— ASDRILLED PATH		
— PROPOSED PATH		
		DRAWN BY: R. GRIMES
		SCALE: 1" = 3000'
		DRAWING NO: 2016-519
		WELL LOCATION PLAT



WELL BORE TABLE FOR SURFACE / ROYALTY OWNERS		
TRACT	SURFACE OWNER (S) / ROYALTY OWNER (R)	TAX PARCEL
1	SWN PRODUCTION COMPANY, LLC (S) RODNEY CALVERT, ET AL (R)	12-10-29
TRACT	SURFACE OWNER	TAX PARCEL
2	RODNEY A. CALVERT	12-10-29.5
3	GARY G. YOCUM & LAVERNE F. YOCUM (LIFE ESTATE); CHRIS B. YOCUM (REMAINDERMAN)	12-15-9
4	SWN PRODUCTION COMPANY, LLC	12-10-28
5	DARREN YOHO; KEVIN YOHO; BRADLEY YOHO; JEFFREY YOHO; DEBORAH YOHO	12-10-16
6	SWN PRODUCTION COMPANY, LLC	12-10-15
7	SWN PRODUCTION COMPANY, LLC	12-10-10
8	ROBERT A. STOUT & SHERI L. STOUT, HUSBAND AND WIFE, AND UNTO SURVIVOR OF THEM	12-10-9
9	MILLTREE PROPERTIES, LLC	12-10-2
10	MILLTREE PROPERTIES, LLC	12-10-1.1
11	ANDREW D. SHULUGA & ANDREA M. SHULUGA, HUSBAND AND WIFE, AND UNTO SURVIVOR OF THEM	12-10-1
12	MARK MASSARI	12-4-38
13	CHRISTOPHER P. BITHELL	12-4-26

ADJOINING OWNERS TABLE		
TRACT	SURFACE OWNER	TAX PARCEL
A	JOSEPH C. DREYER	12-15-8
B	RODNEY A. CALVERT	12-10-29.3
C	RODNEY A. CALVERT	12-10-29.4
D	RODNEY CALVERT & ET AL	12-10-29.1
E	HAESSLY LAND & TIMBER, LLC, AN OHIO LIMITED LIABILITY COMPANY	12-10-33
F	HAESSLY LAND & TIMBER, LLC	12-10-32
G	SWN PRODUCTION COMPANY, LLC	12-10-27
H	ROBERT C. RITCHEA & JAMES L. RITCHEA	12-10-22
I	SWN PRODUCTION COMPANY, LLC	12-10-14
J	COURTNEY E. RICHMOND & RHEA K. RICHMOND, HIS WIFE	12-10-21
K	COURTNEY E. RICHMOND & RHEA K. RICHMOND, HIS WIFE	12-10-13
L	ANDREW D. SHULUGA & ANDREA M. SHULUGA, CO-TRUSTEES OF THE ANDREW D. SHULUGA AND ANDREA M. SHULUGA REVOCABLE TRUST	12-9-15
M	ANDREW D. SHULUGA & ANDREA M. SHULUGA, CO-TRUSTEES OF THE ANDREW D. SHULUGA AND ANDREA M. SHULUGA REVOCABLE TRUST	12-9-9
N	ANDREW D. SHULUGA & ANDREA M. SHULUGA, CO-TRUSTEES OF THE ANDREW D. SHULUGA AND ANDREA M. SHULUGA REVOCABLE TRUST	12-9-8
O	CHRISTOPHER P. BITHELL	12-4-37
P	WILLIAM WAGNER & BARBARA WAGNER (LIFE ESTATE); ROBERTA BROOKS AND HEATHER BRINK (REMAINDERMAN)	12-4-36
Q	CHRISTOPHER P. BITHELL	12-4-35
R	JOHN H. MORGAN & SUE M. MORGAN, TRUSTEES, U/T/A DATED JUNE 10, 1992 F/B/O THE MORGAN FAMILY	12-4-34
S	SHIBEN ESTATES	12-4-25
T	NANCY RABER & ET AL	12-4-16
U	CHRISTOPHER P. BITHELL	12-4-17
V	NANCY RABER & ET AL	12-4-6
W	NANCY RABER & ET AL	12-4-7
X	JOHN STULGA	12-4-19
Y	SCHOOL LOT	12-4-18
Z	CLAUDIA MECKEL-JONAS; ROBERT MECKEL; AND ASTRID MECKEL-HAUPT, AS JOINT TENANTS WITH RIGHT OF SURVIVORSHIP	12-4-27
AA	JAMES L. RITCHEA & HAZEL JORETTA RITCHEA	12-4-39
AB	RICHARD W. MASTNEY & MARK MASSARI	12-5-29
AC	RICHARD W. MASTNEY & MARK MASSARI	12-5-20
AD	ROBERT A. STOUT & SHERI L. STOUT, HUSBAND AND WIFE, AND UNTO SURVIVOR OF THEM	12-10-3
AE	SWN PRODUCTION COMPANY, LLC	12-10-11
AF	BRADLEY SCOTT YOHO	12-10-19
AG	DARREN YOHO; KEVIN YOHO; BRADLEY YOHO; JEFFREY YOHO; DEBORAH YOHO	12-10-17
AH	DARREN YOHO; KEVIN YOHO; BRADLEY YOHO; JEFFREY YOHO; DEBORAH YOHO	12-10-18
AI	CORY & DAVID DURIG	01-7-2
AJ	NORMA F. YOHO	01-7-40
AK	JACOB BICKERSTAFF & ANNA BICKERSTAFF, HUSBAND AND WIFE	12-10-29.2
AL	ERIC L. YEATER & AMANDA J. YEATER, HUSBAND AND WIFE	12-10-34
AM	HAESSLY LAND & TIMBER, LLC, AN OHIO LIMITED LIABILITY COMPANY	12-15-11
AN	HAESSLY LAND & TIMBER, LLC, AN OHIO LIMITED LIABILITY COMPANY	12-15-10
AO	JEFFREY J. YOHO	12-10-16.1
AP	ANDREW D. SHULUGA & ANDREA M. SHULUGA, CO-TRUSTEES OF THE ANDREW D. SHULUGA AND ANDREA M. SHULUGA REVOCABLE TRUST	12-10-9.1

REVISIONS:

COMPANY:

**SWN**  
Production Company, LLC

**SWN** <sup>R<sup>2</sup>-V<sup>+</sup></sup><sub>A</sub>  
Production Company™

OPERATOR'S

SWN A

DATE: 05-04-2020

WELL #:

WTZ 5H

DRAWN BY: R. GRIMES

DISTRICT:  
PROCTOR

COUNTY:  
WETZEL

STATE:  
WV

SCALE: N/A  
DRAWING NO: 2016-519  
WELL LOCATION PLAT