

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

API 47-051-02461 County MARSHALL District LIBERTY
Quad LITTLETON, WV Pad Name YOCUM MSH - PAD-1 Field/Pool Name VICTORY FIELD WET
Farm name SWN PRODUCTION COMPANY, LLC Well Number YOCUM MSH 8H
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 4,398,193.65 Easting 535,667.03
Landing Point of Curve Northing 4,398,152.08 Easting 535,675.87
Bottom Hole Northing 4,395,135.54 Easting 538,902.82

Elevation (ft) 1052.6' 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

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Date permit issued 9/13/2022 Date drilling commenced 2/23/2023 Date drilling ceased 3/11/2023
Date completion activities began 5/15/2023 Date completion activities ceased 6/15/2023
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 437' Open mine(s) (Y/N) depths N
Salt water depth(s) ft 894' Void(s) encountered (Y/N) depths N
Coal depth(s) ft 879' Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

Reviewed by:
[Signature]
10-18-2023

03/15/2024

API 47-051 - 02461 Farm name SWN PRODUCTION COMPANY, LLC Well number YOCUM MSH 8H

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	136'	NEW	J-55/94#		Y
Surface	17.5	13.375	532' ✓	NEW	J-55/54.5#		Y; 35 BBLS
Coal	SEE INTERMEDIATE						
Intermediate 1	12.25	9.625	2,580'	NEW	J-55/36#		Y; 48 BBLS
Intermediate 2							
Intermediate 3							
Production	8.75	5.5	22,169' ✓	NEW	P-110 HP/20#		N
Tubing							
Packer type and depth set							

Comment Details _____

CEMENT DATA	Class/Type of Cement	Number of Sacks	Slurry wt (ppg)	Yield (ft ³ /sks)	Volume (ft ³)	Cement Top (MD)	WOC (hrs)
Conductor	CLASS A	GROUT TO SURFACE				SURFACE	24
Surface	CLASS A	568	15.60	1.19	675.92	SURFACE	8
Coal	SEE INTERMEDIATE						
Intermediate 1	CLASS A	480 / 528	15.60 / 16.00	1.18 / 1.12	566.40 / 591.36	SURFACE	8
Intermediate 2							
Intermediate 3							
Production	CLASS A	3,948	14.50	1.29	5,092.92	752'	24
Tubing							

Drillers TD (ft) 22,169' Loggers TD (ft) 22,169'
 Deepest formation penetrated MARCELLUS Plug back to (ft) 22,078'
 Plug back procedure N/A

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Kick off depth (ft) 6,378' MD

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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: 48 CENTRALIZERS - EVERY THIRD JOINT OF CASING ✓
 PRODUCTION: 449 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 _____

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API 47- 051 - 02461 Farm name SWN PRODUCTION COMPANY, LLC Well number YOCUM MSH 8H

PRODUCING FORMATION(S)	DEPTHS	
MARCELLUS	7,089'	TVD 7,400' MD

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump
 SHUT-IN PRESSURE Surface 3290 psi Bottom Hole _____ psi DURATION OF TEST _____ hrs
 OPEN FLOW Gas 34,836 mcfpd Oil 0 bpd NGL _____ bpd Water 1,813 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 ₂ S, ETC)
	0		0		
	SEE	ATTACHMENT	3		

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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 110 SCHLUMBERGER DRIVE City SUGAR LAND State TX Zip 77478
 Stimulating Company SWN WELL SERVICES
 Address PO BOX 12359 City SPRING State TX Zip 77391-2359

Please insert additional pages as applicable.

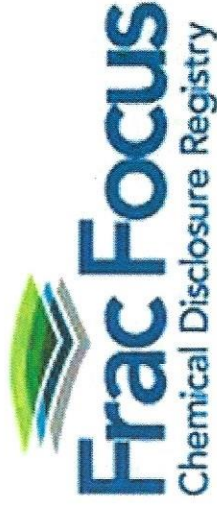
Completed by DENISE GRANTHAM Telephone 832-796-6139
 Signature *Denise Grantham* Title REGULATORY SPECIALIST Date 8/28/2023

Submittal of Hydraulic Fracturing Chemical Disclosure Information Attach copy of FRACFOCUS Registry

03/15/2024

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	5/15/2023
Job End Date:	6/8/2023
State:	West Virginia
County:	Marshall
API Number:	47-051-02461-00-00
Operator Name:	Southwestern Energy
Well Name and Number:	YOCUM MSH 8
Latitude:	39.73288580
Longitude:	-80.58377411
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	7,210
Total Base Water Volume (gal):	23,714,030
Total Base Non Water Volume:	0



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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
Base Water	Operator	Base Fluid					
			Water	7732-18-5	100.00000	90.06982	Density = 8.345
Ingredients	Listed Above	Listed Above					
			Water	7732-18-5	85.00000	0.30094	

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				Water	7732-18-5	85.00000	0.30094	
				Water	7732-18-5	85.00000	0.30094	
Plexaid 655NIM	SWN Well Services	Scale Inhibitor			Listed Below			
Tolicide 4Frac	SWN Well Services	Biocide			Listed Below			
FSTI-CI-02	SWN Well Services	Corrosion Inhibitor			Listed Below			
Ferriplex 80	SWN Well Services	Iron Control			Listed Below			
Plexlick V996	SWN Well Services	Friction Reducer			Listed Below			
HCL	SWN Well Services	Solvent		RECEIVED Office of Oil and Gas AUG 31 2023 WV Department of Environmental Protection	Listed Below			
Sand	SWN Well Services	Proppant			Listed Below			
Items above are Trade Names with the exception of Base Water. Items below are the individual ingredients.								
				Crystalline Silica, quartz	14808-60-7	100.00000	9.52028	
				Hydrochloric Acid	7647-01-0	15.00000	0.04532	

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					55566-30-8	45.00000	0.00475
				Tetrakis(Hydroxymethyl) Phosphonium Sulfate			
				Sodium Erythorbate	6381-77-7	100.00000	0.00161
				Quaternary ammonium compounds	68424-85-1	7.50000	0.00079
				Ethanol	64-17-5	2.50000	0.00026
				Ethylene glycol	107-21-1	40.00000	0.00019
				N,N-Dimethylformamide	68-12-2	10.00000	0.00005
				Cinnamaldehyde	104-55-2	10.00000	0.00005
				Poly(oxy-1,2-ethanediyl), .alpha.-(nonylphenyl)-.omega.-hydroxy-	9016-45-9	10.00000	0.00005
				Triethyl phosphate	78-40-0	5.00000	0.00002
				1-Octanol	111-87-5	5.00000	0.00002
				2-Butoxyethanol	111-76-2	5.00000	0.00002
				Isopropyl alcohol	67-63-0	5.00000	0.00002
				benzyl chloridequaternized	72480-70-7	5.00000	0.00002
				1-Decanol	112-30-1	5.00000	0.00002

* 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)

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Well Name: Yocum MSH 8H 47051024610000

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	437.00	437.00	
Top of Salt Water	894.00	894.00	NA	NA	
Pittsburgh Coal	879.00	879.00	890.00	890.00	
Pottsville (ss)	980.00	980.00	1005.00	1005.00	
Raven Cliff (ss)	1505.00	1505.00	1619.00	1619.00	
Maxton (ss)	1857.00	1857.00	1996.00	1996.00	
Big Injun (ss)	2048.00	2048.00	2318.00	2317.00	
Berea (siltstone)	2666.00	2666.00	2695.00	2694.00	
Rhinestreet (shale)	6438.00	6372.00	6774.00	6701.00	
Cashaqua (shale)	6774.00	6701.00	6910.00	6820.00	
Middlesex (shale)	6910.00	6820.00	7050.00	6925.00	
Burket (shale)	7050.00	6925.00	7091.00	6952.00	
Tully (ls)	7091.00	6952.00	7134.00	6978.00	
Mahantango (shale)	7134.00	6978.00	7400.00	7089.00	
Marcellus (shale)	7400.00	7089.00	NA	NA	GAS

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**YOCUM MSH 8H
ATTACHMENT 1
PERF REPORT**

STAGE NUM	Perf Date	Perf Bottom MD	Perf Top MD2	# SHOTS PER STG
1	4/27/2023	22,078	21,983	36
2	5/15/2023	21,952	21,774	36
3	5/15/2023	21,741	21,563	36
4	5/16/2023	21,529	21,351	36
5	5/16/2023	21,318	21,140	36
6	5/16/2023	21,107	20,929	36
7	5/17/2023	20,896	20,717	36
8	5/17/2023	20,684	20,506	36
9	5/17/2023	20,473	20,295	36
10	5/18/2023	20,262	20,084	36
11	5/18/2023	20,050	19,872	36
12	5/18/2023	19,839	19,661	36
13	5/19/2023	19,628	19,450	36
14	5/19/2023	19,416	19,238	36
15	5/19/2023	19,205	19,027	36
16	5/19/2023	18,994	18,816	36
17	5/20/2023	18,783	18,605	36
18	5/20/2023	18,571	18,393	36
19	5/20/2023	18,360	18,182	36
20	5/21/2023	18,149	17,971	36
21	5/21/2023	17,937	17,759	36
22	5/21/2023	17,726	17,548	36
23	5/22/2023	17,515	17,337	36
24	5/22/2023	17,304	17,125	36
25	5/23/2023	17,092	16,914	36
26	5/23/2023	16,881	16,703	36
27	5/23/2023	16,670	16,492	36
28	5/24/2023	16,458	16,280	36
29	5/24/2023	16,247	16,069	36
30	5/24/2023	16,036	15,858	36
31	5/25/2023	15,824	15,646	36
32	5/25/2023	15,613	15,435	36
33	5/26/2023	15,402	15,224	36
34	5/26/2023	15,191	15,013	36
35	5/26/2023	14,979	14,801	36
36	5/26/2023	14,768	14,590	36
37	5/27/2023	14,557	14,379	36
38	5/27/2023	14,345	14,167	36
39	5/27/2023	14,134	13,956	36
40	5/28/2023	13,923	13,745	36
41	5/28/2023	13,712	13,533	36
42	5/28/2023	13,500	13,322	36

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**YOCUM MSH 8H
ATTACHMENT 1
PERF REPORT**

STAGE NUM	Perf Date	Perf Bottom MD	Perf Top MD2	# SHOTS PER STG
43	5/29/2023	13,289	13,111	36
44	5/29/2023	13,078	12,900	36
45	5/29/2023	12,866	12,688	36
46	5/30/2023	12,655	12,477	36
47	5/30/2023	12,444	12,266	36
48	5/31/2023	12,232	12,054	36
49	5/31/2023	12,021	11,843	36
50	5/31/2023	11,810	11,632	36
51	5/31/2023	11,599	11,421	36
52	5/31/2023	11,387	11,209	36
53	6/1/2023	11,176	10,998	36
54	6/1/2023	10,965	10,787	36
55	6/1/2023	10,753	10,575	36
56	6/2/2023	10,542	10,364	36
57	6/2/2023	10,331	10,153	36
58	6/2/2023	10,120	9,941	36
59	6/3/2023	9,908	9,730	36
60	6/3/2023	9,697	9,519	36
61	6/4/2023	9,486	9,308	36
62	6/4/2023	9,274	9,096	36
63	6/4/2023	9,063	8,885	36
64	6/5/2023	8,852	8,674	36
65	6/6/2023	8,640	8,462	36
66	6/6/2023	8,429	8,251	36
67	6/7/2023	8,218	8,040	36
68	6/7/2023	8,007	7,829	36
69	6/8/2023	7,795	7,617	36

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YOCUM MSH 8H
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	5/15/2023	88.7	8,828	6,928	5,781	176,880	5,728	0
2	5/15/2023	83.3	9,342	7,021	6,243	302,300	9,381	0
3	5/16/2023	85	8,980	5,867	6,716	302,440	8,865	0
4	5/16/2023	94.9	9,161	6,879	5,440	306,680	8,948	0
5	5/16/2023	84	8,697	7,184	6,524	307,220	8,866	0
6	5/17/2023	71.1	7,329	5,759	5,377	301,810	9,739	0
7	5/17/2023	99.5	9,462	7,197	5,379	309,310	8,871	0
8	5/17/2023	99	9,631	7,082	6,614	306,490	8,813	0
9	5/18/2023	99	9,600	6,514	7,062	309,970	8,773	0
10	5/18/2023	94.6	9,172	7,610	6,149	314,240	8,968	0
11	5/18/2023	99.6	9,569	7,483	6,225	303,550	8,636	0
12	5/18/2023	93.6	8,848	7,035	7,109	308,940	8,718	0
13	5/19/2023	86.4	8,961	6,815	5,887	308,370	8,674	0
14	5/19/2023	97.8	9,523	7,513	6,548	310,740	8,577	0
15	5/19/2023	100	9,690	6,860	7,335	308,470	8,723	0
16	5/20/2023	99	9,741	7,101	6,449	308,980	8,691	0
17	5/20/2023	89.5	9,653	6,952	5,361	310,900	8,811	0
18	5/20/2023	94	9,305	7,490	5,723	296,940	8,417	0
19	5/20/2023	83.4	8,693	6,501	6,324	318,840	8,698	0
20	5/21/2023	79.4	8,261	7,186	5,230	315,810	8,675	0
21	5/21/2023	97.7	9,826	7,234	5,788	304,680	8,541	0
22	5/22/2023	94.2	9,446	7,130	6,404	304,170	8,653	0
23	5/22/2023	89.5	9,476	7,807	5,006	305,330	8,468	0
24	5/23/2023	98.8	9,868	7,317	5,877	313,700	8,980	0
25	5/23/2023	77.4	8,459	7,448	5,421	283,520	8,240	0
26	5/23/2023	81	9,051	7,644	6,341	257,420	8,331	0
27	5/24/2023	98	9,391	7,125	5,814	305,950	8,482	0
28	5/24/2023	89.6	9,082	7,000	5,425	311,040	9,343	0
29	5/24/2023	99.4	9,699	6,546	6,101	305,820	8,301	0
30	5/25/2023	98.5	9,820	7,015	5,878	303,020	8,393	0
31	5/25/2023	99	9,161	6,715	5,425	302,550	8,514	0
32	5/26/2023	99	8,978	6,776	5,751	305,260	8,671	0
33	5/26/2023	98.3	9,560	7,015	5,620	300,480	8,300	0
34	5/26/2023	99.9	8,963	6,800	5,960	303,960	8,337	0
35	5/26/2023	100	8,788	7,032	6,622	308,550	8,430	0
36	5/27/2023	98.5	8,955	6,785	5,911	299,540	8,259	0
37	5/27/2023	99.3	9,362	7,310	6,099	307,730	8,360	0
38	5/27/2023	100	8,875	7,076	5,470	303,740	8,357	0
39	5/28/2023	95.6	7,945	6,540	6,000	304,480	8,401	0
40	5/28/2023	99.9	9,007	6,800	5,680	305,140	8,247	0
41	5/28/2023	90.3	8,104	6,892	5,962	309,020	8,196	0
42	5/29/2023	87.4	8,147	6,742	6,395	308,790	8,143	0
43	5/29/2023	90	8,261	6,850	6,100	309,970	8,201	0
44	5/29/2023	88.4	8,409	6,875	6,230	305,300	8,150	0
45	5/30/2023	93.2	8,494	6,864	6,163	302,370	8,072	0
46	5/30/2023	86.4	8,023	6,520	6,580	307,110	8,104	0
47	5/30/2023	88	8,141	6,425	5,475	305,570	8,197	0
48	5/31/2023	96	8,169	6,789	5,811	306,910	7,965	0
49	5/31/2023	92	8,469	6,050	6,210	301,530	7,923	0
50	5/31/2023	99.9	8,273	6,275	6,250	302,200	8,181	0
51	5/31/2023	99.8	8,306	6,413	5,808	303,150	8,186	0
52	5/31/2023	98.4	8,171	6,151	5,582	312,620	8,181	0
53	6/1/2023	89	7,752	6,317	6,200	308,770	8,062	0

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YOCUM MSH 8H
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
54	6/1/2023	95	7,867	6,075	6,150	309,800	8,370	0
55	6/1/2023	99.5	7,897	6,629	5,636	306,950	8,145	0
56	6/2/2023	99.9	8,501	5,985	6,425	305,030	7,965	0
57	6/2/2023	93.9	7,796	6,368	6,093	303,540	6,773	0
58	6/3/2023	93.2	7,730	6,477	5,800	302,360	7,416	0
59	6/3/2023	99.9	8,119	6,575	5,360	297,140	7,209	0
60	6/3/2023	99.4	7,986	6,120	4,981	304,530	7,595	0
61	6/4/2023	99.9	8,013	6,275	5,200	304,450	7,291	0
62	6/4/2023	94.7	7,814	5,929	4,645	302,570	7,411	0
63	6/5/2023	93	7,733	5,780	5,215	308,340	7,266	0
64	6/5/2023	81.2	7,070	7,485	5,633	300,380	7,352	0
65	6/6/2023	97.6	7,817	6,600	5,000	303,560	6,786	0
66	6/6/2023	94.9	7,616	6,913	5,486	303,640	7,383	0
67	6/7/2023	77.8	6,568	5,445	6,564	308,070	7,339	0
68	6/8/2023	84.9	6,749	5,961	5,679	303,640	6,696	0
69	6/8/2023	74.4	6,449	4,151	5,123	304,850	6,652	0

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LATITUDE: 39°45' SURFACE HOLE (2000' SCALE) 96'

LATITUDE: 39°42'30" BOTTOM HOLE (2000' SCALE) 1200'

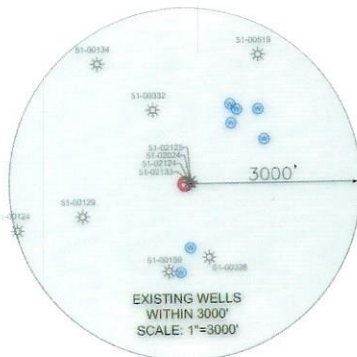


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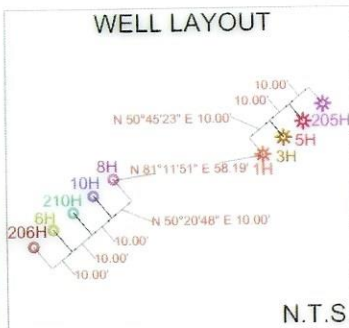
68011 Vineyard Road
St. Clairsville, Ohio 43950
740-695-6100

NOTES ON SURVEY

1. COORDINATE SYSTEM IS UTM NAD 83 DATUM, ZONE 17, U.S. FOOT AND WELL COORDINATES ESTABLISHED USING SURVEY GRADE GPS.
2. 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.
3. THIS PLAT DOES NOT REPRESENT A BOUNDARY SURVEY OF THE PARCELS SHOWN HEREON.
4. NO DWELLINGS OR BUILDINGS WITHIN 625 FEET OF PROPOSED CENTER OF PAD.
5. NO PERENNIAL STREAMS, LAKES, PONDS, RESERVOIRS OR WETLANDS WITHIN 100 FEET OF THE LIMITS OF DISTURBANCE.
6. NO NATURALLY PRODUCING FOUNTAIN STREAM WITHIN 300 FEET OF THE LIMITS OF DISTURBANCE.
7. NO WATER WELLS OR DEVELOPED SPRINGS WITHIN 250 FEET OF PROPOSED WELL.



SURFACE HOLE LOCATION (SHL):
UTM (NAD83, ZONE 17, METERS):
NORTHING: 4398193.65
EASTING: 535667.03
LANDING POINT LOCATION (LPL):
UTM (NAD83, ZONE 17, METERS):
NORTHING: 4398152.08
EASTING: 535675.87
BOTTOM HOLE LOCATION (BHL):
UTM (NAD83, ZONE 17, METERS):
NORTHING: 4395135.54
EASTING: 538902.82



N.T.S.

LINE	BEARING	DISTANCE
L1	N52°19'49"W	2238.44'
L2	N16°27'38"E	2614.41'

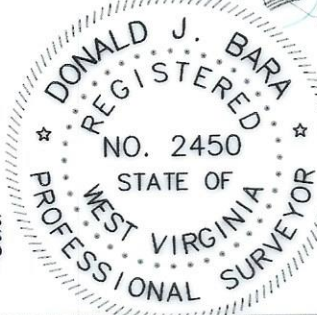


YOCUM MSH 8H N.T.S.

SURFACE HOLE LOCATION (SHL):
UTM (NAD83, ZONE 17, METERS):
NORTHING: 4398193.52
EASTING: 535666.77
LANDING POINT LOCATION (LPL):
UTM (NAD83, ZONE 17, METERS):
NORTHING: 4398169.37
EASTING: 535658.73
BOTTOM HOLE LOCATION (BHL):
UTM (NAD83, ZONE 17, METERS):
NORTHING: 4395133.41
EASTING: 538901.21

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. 2450



COMPANY:

WVDEP OFFICE OF OIL & GAS 601 57TH STREET CHARLESTON, WV 25034	(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS	MINIMUM DEGREE OF ACCURACY: 1/200 PROVEN SOURCE OF ELEVATION: SURVEY GRADE GPS (NAVD 88, US FT)	OPERATOR'S WELL #: YOCUM MSH 8H API WELL #: 47 STATE 051 COUNTY 02461 PERMIT
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WELL TYPE: OIL WASTE DISPOSAL PRODUCTION DEEP GAS LIQUID INJECTION STORAGE SHALLOW

WATERSHED: UPPER OHIO SOUTH DISTRICT: LIBERTY COUNTY: MARSHALL

SURFACE OWNER: JOSEPH LEE AND MICHAEL D. YOCUM OIL & GAS ROYALTY OWNER: JOSEPH LEE AND MICHAEL D. YOCUM

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 03/15/2024

TARGET FORMATION: MARCELLUS ESTIMATED DEPTH: 7,291' TVD 22,140' TMD

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

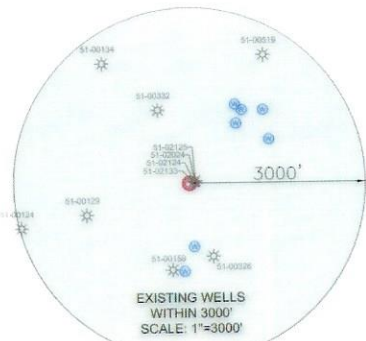
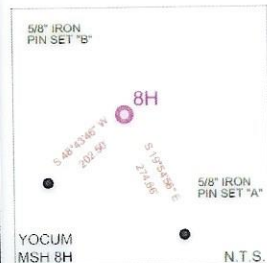
DESIGNATED AGENT: BRITANNY WOODY ADDRESS: 1300 FORT PIERPONT DRIVE, SUITE 201 CITY: MORGANTOWN STATE: WV ZIP CODE: 26508

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 PLAN	LEASE BOUNDARY	ASDRILLED PATH	PROPOSED PATH
REVISIONS:	DATE: 05-04-2023	API NO: 47-051-02461	DRAWN BY: Z. WOOD	SCALE: 1" = 2000'	DRAWING NO: 2017-154	WELL LOCATION PLAT					



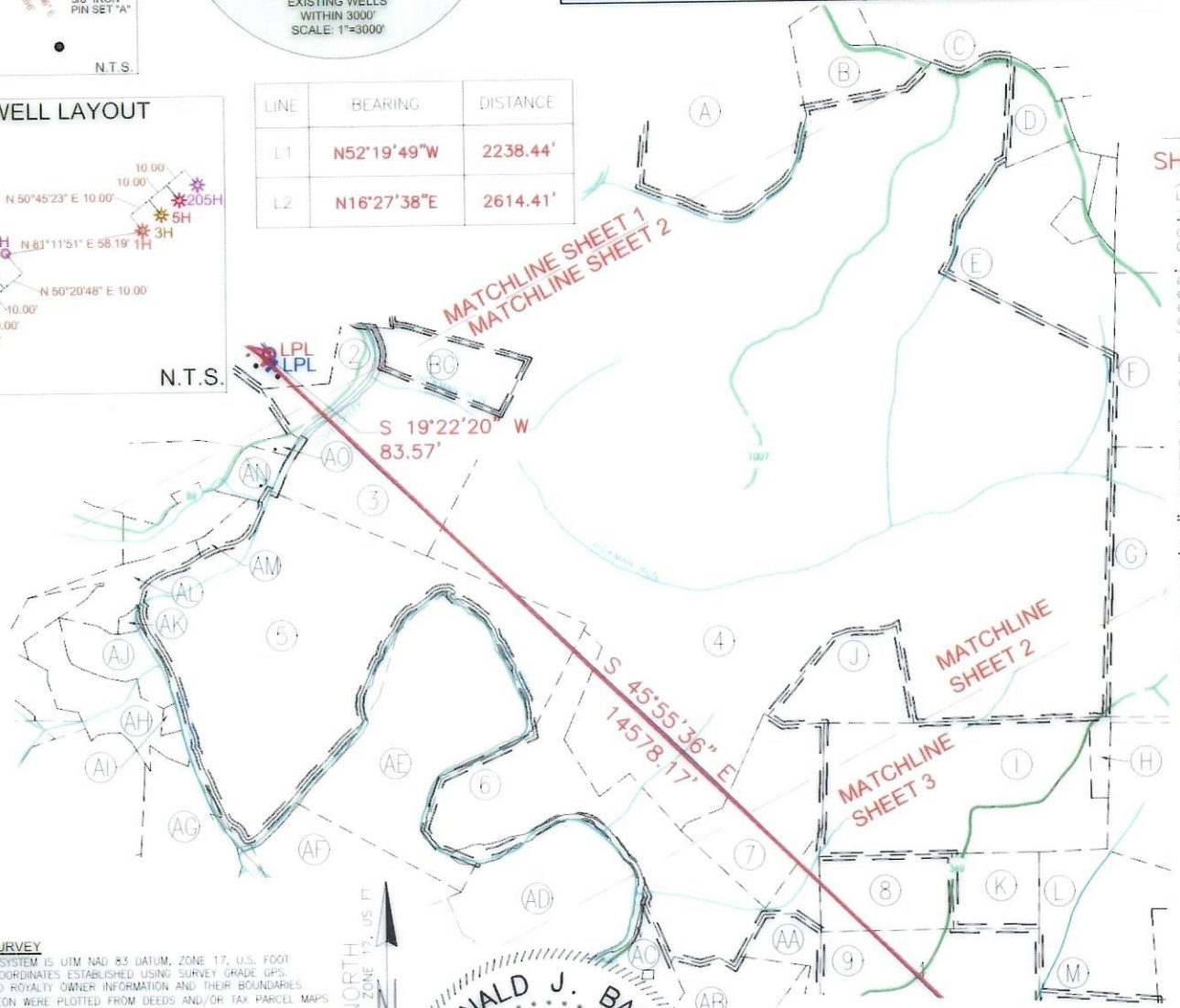
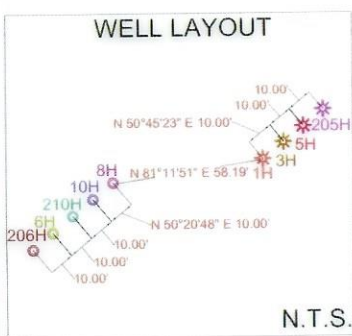
www.jhacompanies.com

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St. Clairsville, Ohio 43950
740-695-6100



SURFACE HOLE LOCATION (SHL):	SURFACE HOLE LOCATION (SHL):
UTM (NAD83, ZONE 17, METERS): NORTHING: 4398193.52 EASTING: 535666.77	UTM (NAD83, ZONE 17, METERS): NORTHING: 4398193.65 EASTING: 535667.03
LANDING POINT LOCATION (LPL):	LANDING POINT LOCATION (LPL):
UTM (NAD83, ZONE 17, METERS): NORTHING: 4398169.37 EASTING: 535658.73	UTM (NAD83, ZONE 17, METERS): NORTHING: 4398152.08 EASTING: 535675.87
BOTTOM HOLE LOCATION (BHL):	BOTTOM HOLE LOCATION (BHL):
UTM (NAD83, ZONE 17, METERS): NORTHING: 4395133.41 EASTING: 538901.21	UTM (NAD83, ZONE 17, METERS): NORTHING: 4395135.54 EASTING: 538902.82

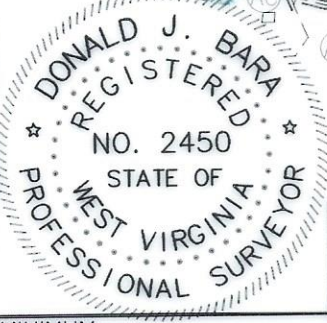
LINE	BEARING	DISTANCE
L1	N52°19'49"W	2238.44'
L2	N16°27'38"E	2614.41'



NOTES ON SURVEY

1. COORDINATE SYSTEM IS UTM NAD 83 DATUM, ZONE 17, U.S. FOOT AND WELL COORDINATES ESTABLISHED USING SURVEY GRADE GPS.
2. 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.
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5. NO PERENNIAL STREAMS, LAKES, PONDS, RESERVOIRS OR WETLANDS WITHIN 100 FEET OF THE LIMITS OF DISTURBANCE.
6. NO NATURALLY PRODUCING FROTH STREAM WITHIN 300 FEET OF THE LIMITS OF DISTURBANCE.
7. NO WATER WELLS OR DEVELOPED SPRINGS WITHIN 250 FEET OF PROPOSED WELL.

GRID NORTH
UTM, NAD83 DATUM, ZONE 17, U.S. FT



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. 2450

COMPANY:
SWN Production Company, LLC **SWN** Production Company™

	(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS	MINIMUM DEGREE OF ACCURACY: 1/200	YOCUM MSH
	WVDEP OFFICE OF OIL & GAS 601 57TH STREET CHARLESTON, WV 25034	PROVEN SOURCE OF ELEVATION: SURVEY GRADE GPS (NAVD 88, US FT)	OPERATOR'S WELL #: 8H API WELL #: 47 STATE, 051 COUNTY, 02461 PERMIT

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

WATERSHED: UPPER OHIO SOUTH
DISTRICT: LIBERTY COUNTY: MARSHALL
SURFACE OWNER: JOSEPH LEE AND MICHAEL D. YOCUM
OIL & GAS ROYALTY OWNER: JOSEPH LEE AND MICHAEL D. YOCUM

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 03/15/2024
TARGET FORMATION: MARCELLUS ESTIMATED DEPTH: 7,291' TVD 22,140' TMD

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

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

LEGEND:	<ul style="list-style-type: none"> 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 ASDRILLED PATH PROPOSED PATH 	REVISIONS: DATE: 05-04-2023 API NO: 47-051-02461 DRAWN BY: Z. WOOD SCALE: 1" = 2000' DRAWING NO: 2017-154 WELL LOCATION PLAT
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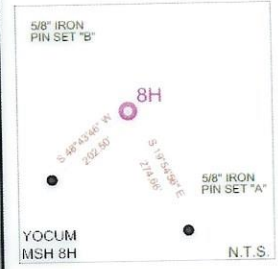
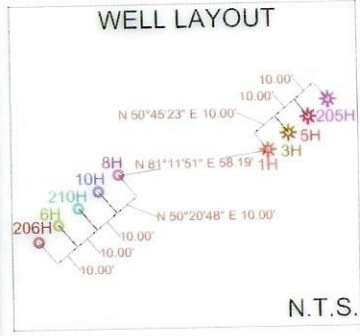
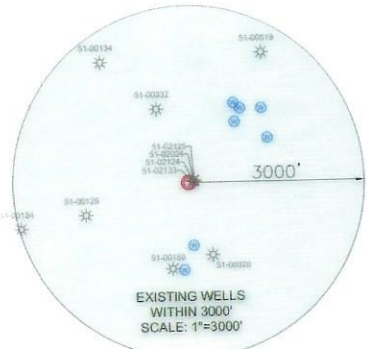


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St. Clairsville, Ohio 43950
740-695-6100

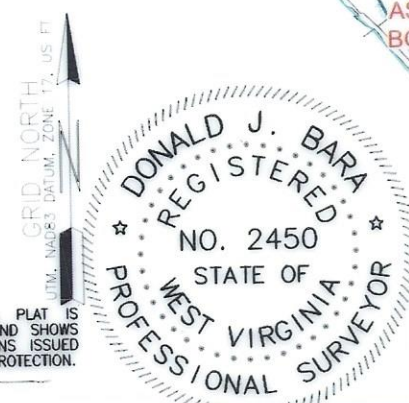
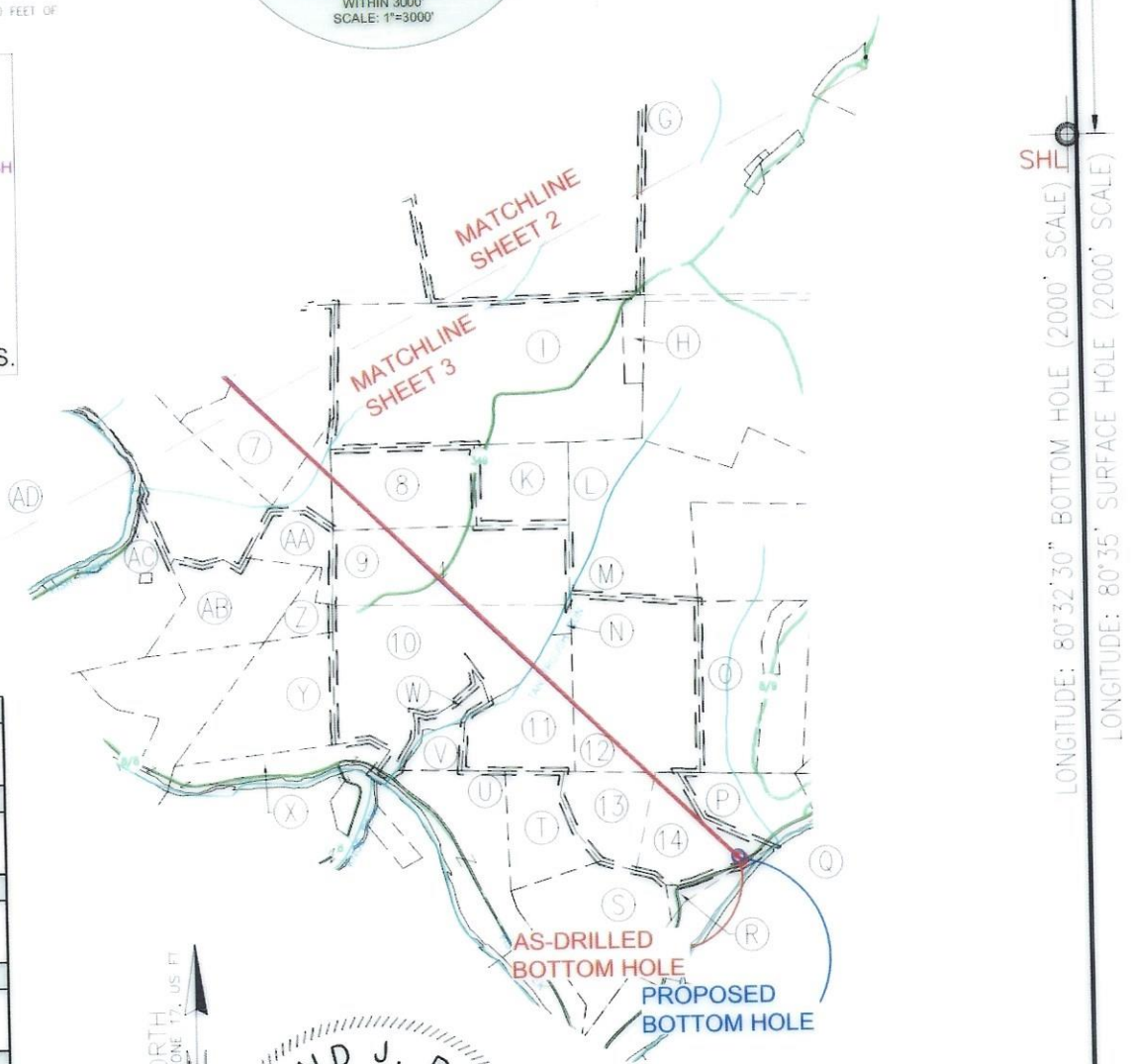
- NOTES ON SURVEY**
- COORDINATE SYSTEM IS UTM NAD 83 DATUM, ZONE 17, U.S. FOOT AND WELL COORDINATES ESTABLISHED USING SURVEY GRADE GPS.
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 - NO NATURALLY PRODUCING TROUT STREAM WITHIN 300 FEET OF THE LIMITS OF DISTURBANCE.
 - NO WATER WELLS OR DEVELOPED SPRINGS WITHIN 250 FEET OF PROPOSED WELL.

LATITUDE: 39°45' SURFACE HOLE (2000' SCALE) 96'
LATITUDE: 39°42'30" BOTTOM HOLE (2000' SCALE) 1200'

LINE	BEARING	DISTANCE
L1	N52°19'49"W	2238.44'
L2	N16°27'38"E	2614.41'



SURFACE HOLE LOCATION (SHL): UTM (NAD83, ZONE 17, METERS): NORTHING: 4398193.65 EASTING: 535667.03
LANDING POINT LOCATION (LPL): UTM (NAD83, ZONE 17, METERS): NORTHING: 4398152.08 EASTING: 535675.87
BOTTOM HOLE LOCATION (BHL): UTM (NAD83, ZONE 17, METERS): NORTHING: 4395135.54 EASTING: 538902.82
SURFACE HOLE LOCATION (SHL): UTM (NAD83, ZONE 17, METERS): NORTHING: 4398193.52 EASTING: 535666.77
LANDING POINT LOCATION (LPL): UTM (NAD83, ZONE 17, METERS): NORTHING: 4398169.37 EASTING: 535658.73
BOTTOM HOLE LOCATION (BHL): UTM (NAD83, ZONE 17, METERS): NORTHING: 4395133.41 EASTING: 538901.21



COMPANY: **SWN** Production Company, LLC

OPERATOR'S WELL #:	YOCUM MSH 8H		
API WELL #:	47	051	02461
	STATE	COUNTY	PERMIT

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. 2450

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS	MINIMUM DEGREE OF ACCURACY: 1/200	YOCUM MSH 8H
WVDEP OFFICE OF OIL & GAS 601 57TH STREET CHARLESTON, WV 25034	PROVEN SURVEY SOURCE OF GRADE GPS ELEVATION: (NAVD 88, US FT)	OPERATOR'S WELL #:

WELL TYPE: OIL	WASTE DISPOSAL	PRODUCTION <input checked="" type="checkbox"/>	DEEP	GAS <input checked="" type="checkbox"/>	LIQUID INJECTION	STORAGE	SHALLOW <input checked="" type="checkbox"/>
WATERSHED: UPPER OHIO SOUTH	DISTRICT: LIBERTY	COUNTY: MARSHALL	ELEVATION: 1052.6'				
SURFACE OWNER: JOSEPH LEE AND MICHAEL D. YOCUM	OIL & GAS ROYALTY OWNER: JOSEPH LEE AND MICHAEL D. YOCUM					QUADRANGLE: LITTLETON, WV	
DRILL	DRILL DEEPER	REDRILL	FRACTURE OR STIMULATE	PLUG OFF OLD FORMATION	PERFORATE NEW FORMATION		
CONVERT	PLUG & ABANDON	CLEAN OUT & REPLUG	OTHER CHANGE <input checked="" type="checkbox"/> (SPECIFY) AS-DRILLED				
TARGET FORMATION: MARCELLUS	ESTIMATED DEPTH: 7,291' TVD 22,140' TMD						

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



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 PLAN	LEASE BOUNDARY	ASDRILLED PATH	PROPOSED PATH
REVISIONS:	DATE: 05-04-2023										
	API NO: 47-051-02461										
	DRAWN BY: Z. WOOD										
	SCALE: 1" = 2000'										
	DRAWING NO: 2017-154										
	WELL LOCATION PLAT										

WELL BORE TABLE FOR SURFACE/ROYALTY OWNERS		
TRACT	SURFACE OWNER (S) / ROYALTY OWNER (R)	TAX PARCEL
1	YOCUM JOSEPH LEE & MICHAEL D	7-26-9
TRACT	SURFACE OWNER	TAX PARCEL
2	STIPETICH SUSAN F & FRANK R	7-27-4.2
3	VELLEKOOP PETER B ET UX - TOD	7-27-11
4	W VA WILDLIFE RESOURCES SECTION	7-24-1
5	VELLEKOOP PETER B ET UX - TOD	7-27-13
6	SEIDLER EARL DALE & NETTIE	1-2-6.1
7	WILLIAMS KATHERINE E TRUST	1-3-1
8	WILLIAMS LONNIE L	1-3-7
9	WILLIAMS JOHN EDWARD	1-3-8
10	MCGUFFIE ARCH	1-6-5
11	MILLIKEN KEVIN R ETAL	3-1-8
12	DRAHEIM GARY W JR ETAL	3-1-9
13	CONSOLIDATED GAS TRANS CORP	3-1-21
14	CONSOLIDATED GAS TRANS CORP	3-1-20

ADJOINING OWNERS TABLE		
TRACT	SURFACE OWNER	TAX PARCEL
A	GRESHAW JASON M & MARY L	7-25-2
B	BROWN ANDREW C III	7-25-6
C	HARRINGTON CLYDE F	7-25-7
D	W VA DEPT OF COMMERCE DIV OF NATURAL RESOURCES	7-25-9
E	CONAWAY THOMAS EARL JR & CAROLYN K STOWE	7-25-12
F	CONAWAY THOMAS E	7-23-1
G	PRENDERGAST MICHAEL J & SUELLEN LEMLEY	7-23-26
H	LONG LONNY DAVID & LINDA SUE	1-3-2.1
I	ABEREGG D W EST & ABEREGG	1-3-2
J	WADE MICHAEL CLAY & MCCELLAND LAWRENCE W - TOD ET AL	7-24-6
K	WILLIAMS JOHN EDWARD	1-3-9
L	JOHNSON VERNON S EST	3-1-1
M	DRAHEIM HERBERT P ET AL	3-1-6
N	CBC HOLDINGS LLC	3-1-8.1
O	DRAHEIM GARY WAYNE JR ETAL	3-1-10
P	CONSOLIDATED GAS TRANS CORP	3-1-19
Q	CONSOLIDATED GAS TRANSMISSION	3-1-32
R	CONSOLIDATED GAS TRANSMISSION	3-1-31
S	CONSOLIDATED GAS TRANSMISSION	3-1-29
T	PHILLIPS JR CHARLES R	3-1-22
U	S&R INVESTMENTS	3-1-23
V	CONSOLIDATED GAS TRANS CORP	3-1-7
W	MILLIKEN KEVIN R ETAL	1-6-6
X	BERRY LAWRENCE C & DOROTHY J	1-6-8
Y	WILLIAMS JOHN E HRS	1-6-4
Z	UNKNOWN	UNKNOWN
AA	CONSOLIDATED GAS TRANSMISSION	1-3-5
AB	BLACKROCK ENTERPRISES LLC	1-6-1
AC	SEIDLER E DALE & NETTIE L	1-5-10

ADJOINING OWNERS TABLE		
TRACT	SURFACE OWNER	TAX PARCEL
AD	SEIDLER E DALE & NETTIE L	1-2-6.2
AE	WV STATE COMMERCE BUREAU OF NAT RESOURCES DIVISION	1-2-6
AF	WV STATE COMMERCE BUREAU OF NAT RESOURCES DIVISION	1-2-12
AG	MCINTIRE STEPHEN ROSS	1-2-5
AH	FERDA BRIAN T ET UX	7-27-15
AI	FITZSIMMONS SCOTT M ET AL	7-27-14
AJ	FERDA BRIAN T ET UX	7-27-16
AK	FERDA BRIAN T ET UX	7-27-16.1
AL	GEHO ANNIE L EST	7-27-21
AM	BURGE DELORES E ET AL	7-27-10
AN	HIGH PHILIP D	7-27-8
AO	YOCUM JOSEPH LEE & MICHAEL D	7-27-4.1
AP	YOCUM JOSEPH LEE & MICHAEL D	7-27-5
AQ	HORNER DELORSE A	7-26-10
AR	CONSOLIDATED GAS SUPPLY CORP	7-26-8
AS	BUZZARD COLIN R	7-26-3
AT	BUTLER JOHN M & LISA A	7-26-11.1
AU	HUNDRED RESOURCES INC	7-26-11
AV	RIGGS JOHN E JR & DELANA	7-27-2
AW	MORGAN JAMES E - LIFE	7-26-14
AX	GRIFFEN M PEGGY REVOCABLE LIVING TRUST	7-19-28
AY	FROMHART BRAD ET UX - LIFE	7-20-41
AZ	UNDERDONK ALAN	7-16-25.1
BA	BURLEY AMMON ET UX	7-20-12
BB	BURLEY AMMON A	7-20-24
BC	BURLEY AMON A	7-20-37
BD	GEDEON DANIEL D ET UX	7-26-6
BE	VELLEKOOP PETER B ET UX - TOD	7-26-6.1
BF	VELLEKOOP PETER B ET UX - TOD	7-26-6.2
BG	VELLEKOOP PETER B ET UX - TOD	7-27-10.1

03/15/2024

REVISIONS:	 	
	COMPANY:	
	OPERATOR'S	YOCUM MSH
	WELL #:	8H
	DISTRICT:	LIBERTY
	COUNTY:	MARSHALL
	STATE:	WV
		DATE: 05-04-2023
		API NO: 47-051-02461
		DRAWN BY: Z. WOOD
		SCALE: N/A
		DRAWING NO: 2017-154
		WELL LOCATION PLAT