

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

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AUG 31 2023

WV Department of
Environmental Protection

API 47-051-02463 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 6H
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 4,398,187.47 Easting 535,659.79
Landing Point of Curve Northing 4,397,953.16 Easting 535,530.11
Bottom Hole Northing 4,395,002.67 Easting 538,701.39

Elevation (ft) 1,052.6' 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

Date permit issued 9/2/2022 Date drilling commenced 2/7/2023 Date drilling ceased 2/23/2023
Date completion activities began 5/1/2023 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 875' Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

Reviewed by:


10-18-2023

03/15/2024

API 47-051 - 02463 Farm name SWN PRODUCTION COMPANY, LLC Well number YOCUM MSH 6H

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
Coal	SEE INTERMEDIATE						
Intermediate 1	12.25	9.625	2,627	NEW	J-55/36#		Y
Intermediate 2							
Intermediate 3							
Production	8.75	5.5	21,897' ✓	NEW	P-110 HC/20#		RECEIVED Y Office of Oil and Gas
Tubing							
Packer type and depth set							AUG 31 2023

Comment Details _____ WV Department of Environmental Protection

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	633	15.60	1.20	759.60	SURFACE	8
Coal	SEE INTERMEDIATE						
Intermediate 1	CLASS A	480 / 548	15.60 / 16.00	1.18 / 1.12	566.40 / 613.76	SURFACE	8
Intermediate 2							
Intermediate 3							
Production	CLASS A	4,063	14.50	1.29	5,241.27	5,106'	24
Tubing							

Drillers TD (ft) 21,897' Loggers TD (ft) 21,897'
 Deepest formation penetrated MARCELLUS Plug back to (ft) 21,810'
 Plug back procedure N/A

Kick off depth (ft) 6,500' MD

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: 46 CENTRALIZERS - EVERY THIRD JOINT OF CASING
 PRODUCTION: 456 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 _____

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	4/30/2023
Job End Date:	5/14/2023
State:	West Virginia
County:	Marshall
API Number:	47-051-02463-00-00
Operator Name:	Southwestern Energy
Well Name and Number:	YOCUM MSH 6
Latitude:	39.73283041
Longitude:	-80.58385885
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	7,209
Total Base Water Volume (gal):	23,773,230
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	90.20025	Density = 8.345
Ingredients	Listed Above	Listed Above					
			Water	7732-18-5	85.00000	0.28829	

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				Water	7732-18-5	85.00000	0.28829
				Water	7732-18-5	85.00000	0.28829
Plexaid 655NM	SWN Well Services	Scale Inhibitor			Listed Below		
HCL	SWN Well Services	Solvent			Listed Below		
Ferriplex 80	SWN Well Services	Iron Control			Listed Below		
Sand	SWN Well Services	Proppant			Listed Below		
Tolicide 4Frac	SWN Well Services	Biocide		RECEIVED Office of Oil and Gas	Listed Below		
FSTI-CI-02	SWN Well Services	Corrosion Inhibitor		AUG 31 2023 WV Department of Environmental Protection	Listed Below		
Plexslick V996	SWN Well Services	Friction Reducer			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	9.40499
				Hydrochloric Acid	7647-01-0	15.00000	0.04311

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Well Name: **Yocum MSH 6H** **47051024630000**

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	875.00	875.00	888.00	888.00	
Pottsville (ss)	979.00	977.00	1005.00	1002.00	
Raven Cliff (ss)	1516.00	1504.00	1635.00	1620.00	
Maxton (ss)	1873.00	1855.00	2027.00	2008.00	
Big Injun (ss)	2082.00	2062.00	2339.00	2314.00	
Berea (siltstone)	2698.00	2666.00	2726.00	2694.00	
Rhinestreet (shale)	6457.00	6372.00	6792.00	6698.00	
Cashaqua (shale)	6792.00	6698.00	6933.00	6824.00	
Middlesex (shale)	6933.00	6824.00	7064.00	6925.00	
Burket (shale)	7064.00	6925.00	7110.00	6956.00	
Tully (ls)	7110.00	6956.00	7149.00	6981.00	
Mahantango (shale)	7149.00	6981.00	7378.00	7089.00	
Marcellus (shale)	7378.00	7089.00	NA	NA	GAS

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**YOCUM MSH 6H
ATTACHMENT 1
PERF REPORT**

STAGE NUM	Perf Date	Perf Bottom MD	Perf Top MD2	# SHOTS PER STG
1	4/27/2023	21,810	21,717	36
2	4/30/2023	21,686	21,508	36
3	5/1/2023	21,475	21,297	36
4	5/1/2023	21,264	21,086	36
5	5/1/2023	21,052	20,874	36
6	5/2/2023	20,841	20,663	36
7	5/2/2023	20,630	20,452	36
8	5/2/2023	20,419	20,241	36
9	5/3/2023	20,207	20,029	36
10	5/3/2023	19,996	19,818	36
11	5/3/2023	19,785	19,607	36
12	5/4/2023	19,574	19,396	36
13	5/4/2023	19,363	19,185	36
14	5/4/2023	19,151	18,973	36
15	5/4/2023	18,940	18,762	36
16	5/4/2023	18,729	18,551	36
17	5/5/2023	18,518	18,340	36
18	5/5/2023	18,306	18,128	36
19	5/5/2023	18,095	17,917	36
20	5/5/2023	17,884	17,706	36
21	5/5/2023	17,673	17,495	36
22	5/5/2023	17,462	17,284	36
23	5/6/2023	17,250	17,072	36
24	5/6/2023	17,039	16,861	36
25	5/6/2023	16,828	16,650	36
26	5/6/2023	16,617	16,439	36
27	5/6/2023	16,405	16,227	36
28	5/7/2023	16,194	16,016	36
29	5/7/2023	15,983	15,805	36
30	5/7/2023	15,772	15,594	36
31	5/7/2023	15,561	15,382	36
32	5/8/2023	15,349	15,171	36
33	5/8/2023	15,138	14,960	36
34	5/8/2023	14,927	14,749	36
35	5/8/2023	14,716	14,538	36
36	5/8/2023	14,504	14,326	36
37	5/9/2023	14,293	14,115	36
38	5/9/2023	14,082	13,904	36
39	5/9/2023	13,871	13,693	36
40	5/9/2023	13,659	13,481	36
41	5/9/2023	13,448	13,270	36
42	5/10/2023	13,237	13,059	36

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**YOCUM MSH 6H
ATTACHMENT 1
PERF REPORT**

STAGE NUM	Perf Date	Perf Bottom MD	Perf Top MD2	# SHOTS PER STG
43	5/10/2023	13,026	12,848	36
44	5/10/2023	12,815	12,637	36
45	5/10/2023	12,603	12,425	36
46	5/10/2023	12,392	12,214	36
47	5/10/2023	12,181	12,003	36
48	5/11/2023	11,970	11,792	36
49	5/11/2023	11,758	11,580	36
50	5/11/2023	11,547	11,369	36
51	5/11/2023	11,336	11,158	36
52	5/11/2023	11,125	10,947	36
53	5/11/2023	10,914	10,736	36
54	5/12/2023	10,702	10,524	36
55	5/12/2023	10,491	10,313	36
56	5/12/2023	10,280	10,102	36
57	5/12/2023	10,069	9,891	36
58	5/12/2023	9,857	9,679	36
59	5/13/2023	9,646	9,468	36
60	5/13/2023	9,435	9,257	36
61	5/13/2023	9,224	9,046	36
62	5/13/2023	9,013	8,835	36
63	5/13/2023	8,801	8,623	36
64	5/14/2023	8,590	8,412	36
65	5/14/2023	8,379	8,201	36
66	5/14/2023	8,168	7,990	36
67	5/14/2023	7,956	7,778	36
68	5/14/2023	7,745	7,567	36

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YOCUM MSH 6H
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	5/26/2023	88.6	8,554	8,354	4,228	192,500	6,124	0
2	5/26/2023	89.7	8,165	4,733	4,485	315,000	6,853	0
3	5/26/2023	96	8,809	4,763	4,685	315,000	7,497	0
4	5/26/2023	94.7	8,777	4,977	4,703	315,000	7,105	0
5	5/26/2023	87.2	7,768	4,887	8,556	315,000	6,561	0
6	5/27/2023	92.3	8,977	5,327	4,725	315,000	6,703	0
7	5/27/2023	92.1	9,047	5,525	4,658	305,000	7,142	0
8	5/27/2023	95	9,046	9,114	4,423	315,000	11,477	0
9	5/27/2023	93.1	9,073	5,446	4,620	315,000	6,305	0
10	5/27/2023	92.8	9,061	5,397	4,925	315,000	6,426	0
11	5/28/2023	95	8,942	5,538	4,561	315,000	6,511	0
12	5/28/2023	89.2	8,640	5,625	4,528	315,000	6,355	0
13	5/28/2023	93.6	8,865	5,673	4,585	315,000	6,515	0
14	5/28/2023	96.8	8,616	5,411	4,685	315,000	6,838	0
15	5/28/2023	96.4	8,451	5,273	4,685	249,560	6,194	0
16	5/28/2023	84.3	8,004	5,579	4,559	315,000	6,035	0
17	5/28/2023	92.8	8,698	5,460	4,355	291,450	6,299	0
18	5/28/2023	93.6	8,743	5,700	4,549	315,000	6,343	0
19	5/29/2023	86.9	8,335	5,426	4,852	315,000	6,411	0
20	5/29/2023	86.5	8,126	5,794	4,894	315,000	6,529	0
21	5/29/2023	88	7,936	5,432	4,685	254,700	6,096	0
22	5/29/2023	88.4	7,886	5,474	4,585	273,040	6,222	0
23	5/29/2023	96.9	8,305	5,340	4,475	312,000	6,609	0
24	5/29/2023	97.8	8,565	5,673	4,858	315,000	6,315	0
25	5/29/2023	94.1	8,307	5,785	4,615	320,000	6,366	0
26	5/29/2023	93.7	8,704	5,425	4,525	315,000	6,510	0
27	5/30/2023	89.8	8,432	5,426	4,954	320,000	6,471	0
28	5/30/2023	91.3	8,430	5,489	4,615	320,000	6,238	0
29	5/30/2023	97.6	8,159	5,348	4,585	268,160	6,053	0
30	5/30/2023	97.9	8,410	5,785	4,685	315,000	6,878	0
31	5/30/2023	97.2	8,282	5,909	4,875	315,000	6,285	0
32	5/30/2023	92.9	8,763	6,042	4,852	315,000	6,216	0
33	5/30/2023	95.3	8,420	6,515	4,856	367,500	7,841	0
34	5/30/2023	96.2	8,719	6,672	4,687	367,500	7,413	0
35	5/31/2023	95.5	7,959	6,071	4,954	367,500	8,088	0
36	5/31/2023	95.8	8,468	6,189	4,687	367,500	7,804	0
37	5/31/2023	98	8,011	5,728	4,685	315,000	6,428	0
38	5/31/2023	98	7,898	5,647	4,685	315,000	6,158	0
39	5/31/2023	97.8	8,173	6,142	4,897	315,000	6,077	0
40	5/31/2023	93.2	7,795	5,884	4,875	315,000	5,841	0
41	5/31/2023	98	7,909	5,875	4,725	367,500	8,250	0
42	6/1/2023	95.1	7,474	4,125	4,211	367,500	7,867	0
43	6/1/2023	85.9	7,123	5,907	4,450	367,500	7,522	0
44	6/1/2023	98	7,626	6,014	4,875	367,500	7,742	0
45	6/1/2023	97.8	7,789	5,569	4,785	315,000	6,097	0
46	6/1/2023	92.3	7,444	5,645	4,852	315,000	6,032	0
47	6/1/2023	94.3	7,325	5,925	4,752	315,000	5,847	0
48	6/2/2023	93.4	7,165	6,200	4,410	315,000	5,985	0
49	6/2/2023	86.4	6,685	6,100	4,450	367,500	7,463	0
50	6/2/2023	97.8	7,216	5,157	4,585	367,500	7,759	0
51	6/2/2023	100	7,102	5,603	4,658	367,500	7,281	0
52	6/2/2023	94.2	6,933	5,324	4,785	367,500	7,578	0
53	6/2/2023	95	7,166	5,347	3,645	315,000	5,750	0

YOCUM MSH 6H
 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	6/2/2023	94.2	7,144	5,950	4,850	315,000	5,777	0
55	6/3/2023	87.3	6,389	5,330	4,451	315,000	6,109	0
56	6/3/2023	91.2	6,774	5,412	4,412	315,000	5,835	0
57	6/3/2023	98.3	6,837	5,227	4,358	367,500	8,029	0
58	6/3/2023	100	6,814	2,721	4,452	367,500	7,572	0
59	6/3/2023	96.9	6,726	5,641	4,856	367,500	7,568	0
60	6/3/2023	96.1	6,600	5,394	4,856	367,500	7,469	0
61	6/3/2023	85.9	6,177	5,498	4,852	315,000	5,625	0
62	6/4/2023	92	6,872	5,301	4,739	315,000	5,656	0
63	6/4/2023	86.8	6,150	5,702	4,305	315,000	5,581	0
64	6/4/2023	100	6,535	5,468	4,685	315,000	5,910	0

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LATITUDE: 39°45' SURFACE HOLE (2000' SCALE) 118'

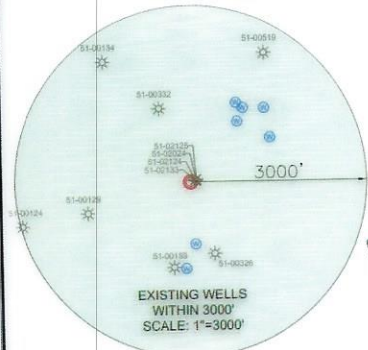
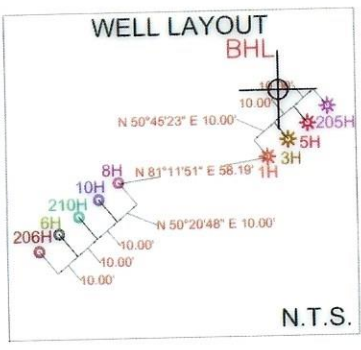
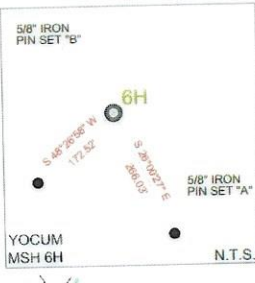
LATITUDE: 39°42'30" BOTTOM HOLE (2000' SCALE) 1863'



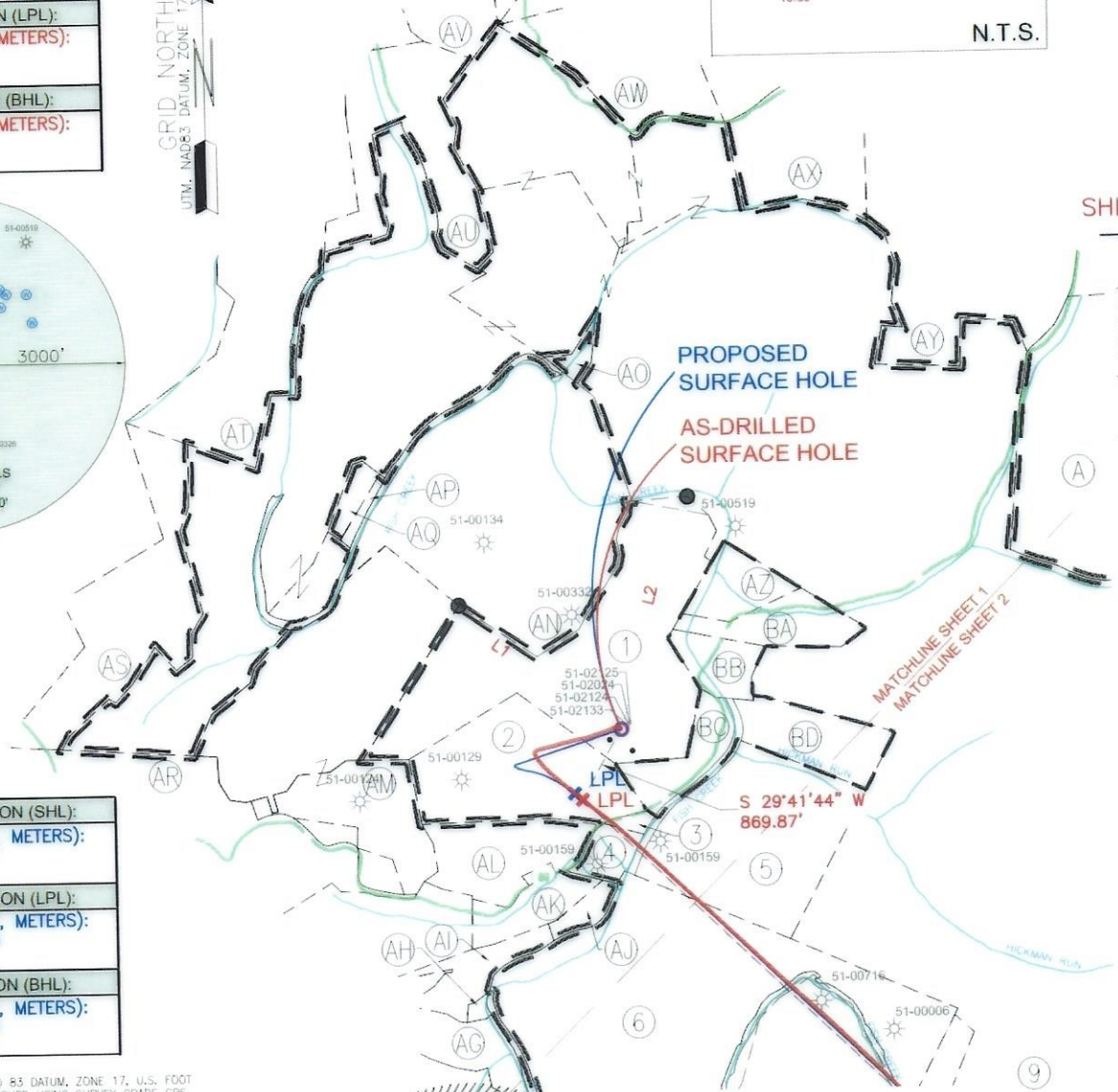
www.jhacompanies.com
68011 Vineyard Road
St. Clairsville, Ohio 43950
740-695-6100

SURFACE HOLE LOCATION (SHL):
UTM (NAD83, ZONE 17, METERS): NORTHING: 4398187.47 EASTING: 535659.79
LANDING POINT LOCATION (LPL):
UTM (NAD83, ZONE 17, METERS): NORTHING: 4397953.16 EASTING: 535530.11
BOTTOM HOLE LOCATION (BHL):
UTM (NAD83, ZONE 17, METERS): NORTHING: 4395002.67 EASTING: 538701.39

LINE	BEARING	DISTANCE
L1	N53°23'28"W	2,278.91'
L2	N16°49'25"E	2,639.37'



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



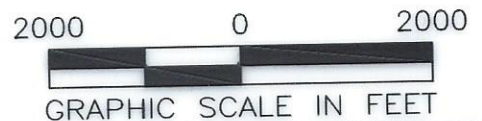
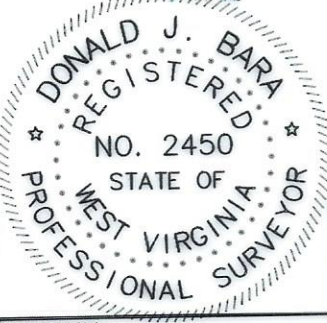
SHL
LONGITUDE: 80°32'30" BOTTOM HOLE (2000' SCALE)
LONGITUDE: 80°35' SURFACE HOLE (2000' SCALE)

SURFACE HOLE LOCATION (SHL):
UTM (NAD83, ZONE 17, METERS): NORTHING: 4398187.57 EASTING: 535659.83
LANDING POINT LOCATION (LPL):
UTM (NAD83, ZONE 17, METERS): NORTHING: 4397973.78 EASTING: 535503.95
BOTTOM HOLE LOCATION (BHL):
UTM (NAD83, ZONE 17, METERS): NORTHING: 4395004.38 EASTING: 538703.25

- 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.

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: **SWN** Production Company, LLC

<p>(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS</p> <p>WVDEP OFFICE OF OIL & GAS 601 57TH STREET CHARLESTON, WV 25034</p>	<p>MINIMUM DEGREE OF ACCURACY: 1/200</p> <p>PROVEN SOURCE OF SURVEY GRADE GPS ELEVATION: (NAVD 88, US FT)</p>	<p>OPERATOR'S WELL #: YOCUM MSH 6H</p> <p>API WELL #: 47 051 02463 STATE COUNTY PERMIT</p>					
	<p>WELL TYPE: OIL <input type="checkbox"/> WASTE DISPOSAL <input type="checkbox"/> PRODUCTION <input checked="" type="checkbox"/> DEEP <input type="checkbox"/> GAS <input checked="" type="checkbox"/> LIQUID INJECTION <input type="checkbox"/> STORAGE <input type="checkbox"/> SHALLOW <input checked="" type="checkbox"/></p> <p>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</p> <p>DRILL <input type="checkbox"/> DRILL DEEPER <input type="checkbox"/> REDRILL <input type="checkbox"/> FRACTURE OR STIMULATE <input type="checkbox"/> PLUG OFF OLD FORMATION <input type="checkbox"/> PERFORATE NEW FORMATION <input type="checkbox"/></p> <p>CONVERT <input type="checkbox"/> PLUG & ABANDON <input type="checkbox"/> CLEAN OUT & REPLUG <input type="checkbox"/> OTHER CHANGE <input checked="" type="checkbox"/> (SPECIFY) AS-DRILLED 03/15/2024</p> <p>TARGET FORMATION: MARCELLUS ESTIMATED DEPTH: 7,285' TO 21,979' TMD</p>	<p>DESIGNATED AGENT: BRITTANY WOODY ADDRESS: 1300 FORT PIERPONT DRIVE, SUITE 201 CITY: MORGANTOWN STATE: WV ZIP CODE: 26508</p>					
<p>LEGEND:</p> <ul style="list-style-type: none"> EXISTING BOTTOM HOLE EXISTING / PRODUCING WELLHEAD LPL* 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 	<p>REVISIONS:</p> <table border="1"> <tr> <td>DATE: 05-10-2023</td> </tr> <tr> <td>API NO: 47-051-02463</td> </tr> <tr> <td>DRAWN BY: Z. WOOD</td> </tr> <tr> <td>SCALE: 1" = 2000'</td> </tr> <tr> <td>DRAWING NO: 2017-154</td> </tr> <tr> <td>WELL LOCATION PLAT</td> </tr> </table>	DATE: 05-10-2023	API NO: 47-051-02463	DRAWN BY: Z. WOOD	SCALE: 1" = 2000'	DRAWING NO: 2017-154	WELL LOCATION PLAT
DATE: 05-10-2023							
API NO: 47-051-02463							
DRAWN BY: Z. WOOD							
SCALE: 1" = 2000'							
DRAWING NO: 2017-154							
WELL LOCATION PLAT							

LATITUDE: 39°45' SURFACE HOLE (2000' SCALE) 118'

LATITUDE: 39°42'30" BOTTOM HOLE (2000' SCALE) 1863'

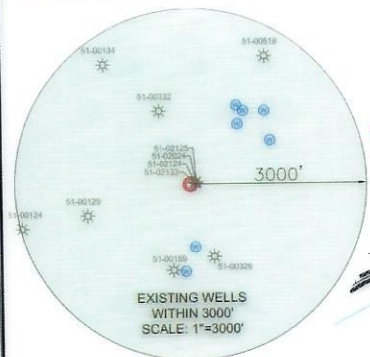
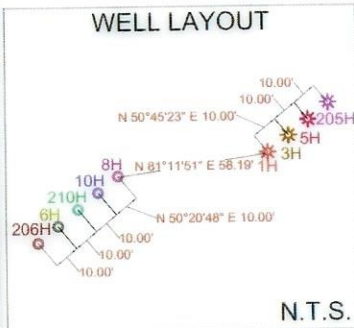


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68011 Vineyard Road
St. Clairsville, Ohio 43950
740-695-6100

SURFACE HOLE LOCATION (SHL): UTM (NAD83, ZONE 17, METERS): NORTHING: 4398187.57 EASTING: 535659.83	SURFACE HOLE LOCATION (SHL): UTM (NAD83, ZONE 17, METERS): NORTHING: 4398187.47 EASTING: 535659.79
LANDING POINT LOCATION (LPL): UTM (NAD83, ZONE 17, METERS): NORTHING: 4397973.78 EASTING: 535503.95	LANDING POINT LOCATION (LPL): UTM (NAD83, ZONE 17, METERS): NORTHING: 4397953.16 EASTING: 535530.11
BOTTOM HOLE LOCATION (BHL): UTM (NAD83, ZONE 17, METERS): NORTHING: 4395004.38 EASTING: 538703.25	BOTTOM HOLE LOCATION (BHL): UTM (NAD83, ZONE 17, METERS): NORTHING: 4395002.67 EASTING: 538701.39

LINE	BEARING	DISTANCE
L1	N53°23'28"W	2,278.91'
L2	N16°49'25"E	2,639.37'

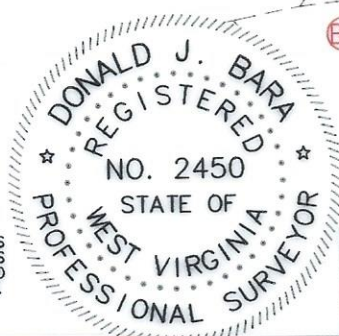


NOTES ON SURVEY

- 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.

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: **SWN** Production Company, LLC **SWN** Production 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	YOCUM MSH 6H
	PROVEN SOURCE OF ELEVATION: SURVEY GRADE GPS (NAVD 88, US FT)	OPERATOR'S WELL #: 47	API WELL #: 051 02463

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

WATERSHED: UPPER OHIO SOUTH ELEVATION: 1052.6'
 DISTRICT: LIBERTY COUNTY: MARSHALL QUADRANGLE: LITTLETON, WV
 SURFACE OWNER: JOSEPH LEE AND MICHAEL D. YOCUM ACREAGE: ±97.07
 OIL & GAS ROYALTY OWNER: JOSEPH LEE AND MICHAEL D. YOCUM ACREAGE: ±97.07

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: 7,285' TVD 21,979' TMD

WELL OPERATOR: SWN PRODUCTION COMPANY, LLC DESIGNED 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 LPL* EXISTING LANDING POINT LOCATION PROPOSED SURFACE HOLE / BOTTOM HOLE LPL* PROPOSED LANDING POINT LOCATION	ACCESS ROAD PUBLIC ROAD FLOOD PLAIN LEASE BOUNDARY ASDRILLED PATH PROPOSED PATH	REVISIONS: DATE: 05-10-2023 API NO: 47-051-02463 DRAWN BY: Z. WOOD SCALE: 1" = 2000' DRAWING NO: 2017-154 WELL LOCATION PLAT
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LATITUDE: 39°45' SURFACE HOLE (2000' SCALE) 118'

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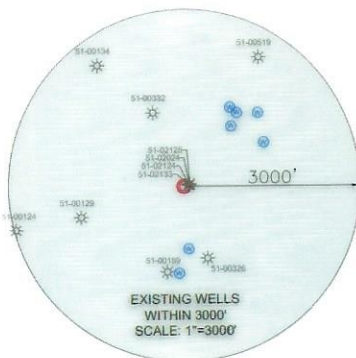


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NOTES ON SURVEY

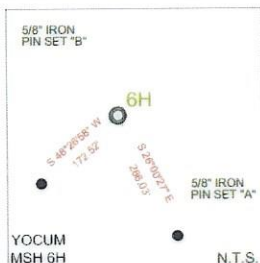
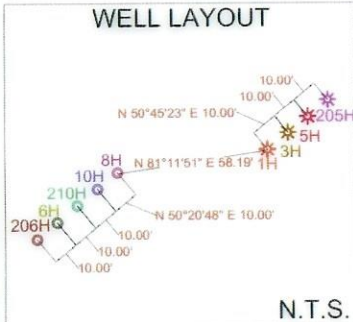
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3. THIS PLAT DOES NOT REPRESENT A BOUNDARY SURVEY OF THE PARCELS SHOWN HEREON.
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5. NO PERENNIAL STREAMS, LAKES, PONDS, RESERVOIRS OR WETLANDS WITHIN 100 FEET OF THE LIMITS OF DISTURBANCE.
6. NO NATURALLY PRODUCING TROUT STREAM WITHIN 500 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, US FT

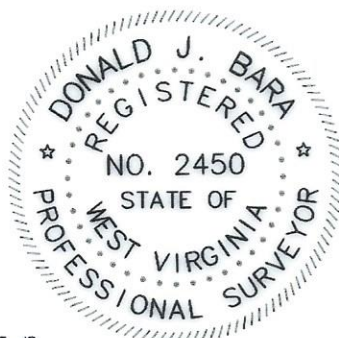
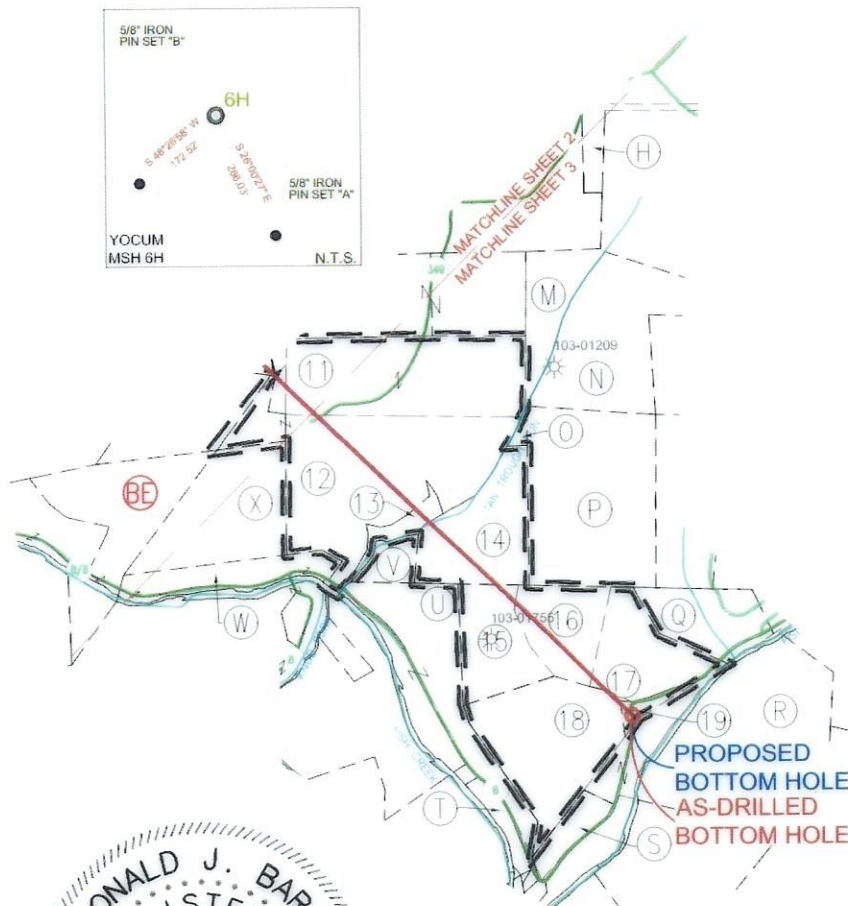
1428'
6006'

WELL LAYOUT



LINE	BEARING	DISTANCE
L1	N53°23'28\"W	2,278.91'
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P.S. 2450

COMPANY: **SWN** Production Company, LLC

(+) 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 GRADE GPS ELEVATION: (NAVD 88, US FT)	OPERATOR'S WELL #: YOCUM MSH 6H API WELL #: 47 051 02463 STATE COUNTY PERMIT
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DRILL <input type="checkbox"/> DRILL DEEPER <input type="checkbox"/> REDRILL <input type="checkbox"/> FRACTURE OR STIMULATE <input type="checkbox"/> PLUG OFF OLD FORMATION <input type="checkbox"/> PERFORATE NEW FORMATION <input type="checkbox"/>	CONVERT <input type="checkbox"/> PLUG & ABANDON <input type="checkbox"/> CLEAN OUT & REPLUG <input type="checkbox"/> OTHER CHANGE <input checked="" type="checkbox"/> (SPECIFY) AS-DRILLED 03/15/2024	ESTIMATED DEPTH: 7,285' TVD 21,979' 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	REVISIONS:

LEGEND: ● 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 — AS DRILLED PATH — PROPOSED PATH	DATE: 05-10-2023 API NO: 47-051-02463 DRAWN BY: Z. WOOD SCALE: 1" = 2000' DRAWING NO: 2017-154 WELL LOCATION PLAT
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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	YOCUM JOSEPH LEE & MICHAEL D	7-27-4
3	YOCUM JOSEPH LEE & MICHAEL D	7-27-4.1
4	HIGH PHILIP D	7-27-8
5	VELLEKOOP PETER B ET UX - TOD	7-27-11
6	VELLEKOOP PETER B ET UX - TOD	7-27-13
7	WV STATE COMMERCE BUREAU OF	1-2-6
8	SEIDLER EARL DALE & NETTIE	1-2-6.1
9	W VA WILDLIFE RESOURCES SECTION	7-24-1
10	CONSOLIDATED GAS TRANSMISSION	1-3-5
11	WILLIAMS JOHN EDWARD	1-3-8
12	MCGUFFIE ARCH	1-6-5
13	MILLIKEN KEVIN R ETAL	1-6-6
14	MILLIKEN KEVIN R ETAL	3-1-8
15	PHILLIPS JR CHARLES R	3-1-22
16	CONSOLIDATED GAS TRANS CORP	3-1-21
17	CONSOLIDATED GAS TRANS CORP	3-1-20
18	CONSOLIDATED GAS TRANSMISSION	3-1-29
19	CONSOLIDATED GAS TRANSMISSION	3-1-31

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 & MCCCELLAND LAWRENCE W - TOD ET AL	7-24-6
K	WILLIAMS KATHERINE E TRUST	1-3-1
L	WILLIAMS LONNIE L	1-3-7
M	JOHNSON VERNON S EST	3-1-1
N	DRAHEIM HERBERT P ET AL	3-1-6
O	CBC HOLDINGS LLC	3-1-8.1
P	DRAHEIM GARY W JR ETAL	3-1-9
Q	CONSOLIDATED GAS TRANS CORP	3-1-19
R	CONSOLIDATED GAS TRANSMISSION	3-1-32
S	CONSOLIDATED GAS TRANS CORP	3-1-30
T	CONSOLIDATED GAS TRANS CORP	3-1-28
U	S&R INVESTMENTS	3-1-23
V	CONSOLIDATED GAS TRANS CORP	3-1-7
W	BERRY LAWRENCE C & DOROTHY J	1-6-8
X	WILLIAMS JOHN E HRS	1-6-4
Y	REMOVED	REMOVED
Z	BLACKROCK ENTERPRISES LLC	1-6-1
AA	SEIDLER E DALE & NETTIE L	1-5-10
AB	SEIDLER E DALE & NETTIE L	1-2-6.2
AC	WV STATE COMMERCE BUREAU OF NAT RESOURCES DIVISION	1-2-12

ADJOINING OWNERS TABLE		
TRACT	SURFACE OWNER	TAX PARCEL
AD	BALTZ WM TR OF VH & F CLUB	1-2-5.1
AE	FERDA BRIAN T ET UX	7-27-15
AF	FITZSIMMONS SCOTT M ET AL	7-27-14
AG	FERDA BRIAN T ET UX	7-27-16
AH	FERDA BRIAN T ET UX	7-27-16.1
AI	GEHO ANNIE L EST	7-27-21
AJ	BURGE DELORES E ET AL	7-27-10
AK	OCHSENBEIN RICHARD L	7-27-9
AL	YOCUM JOSEPH LEE & MICHAEL D	7-27-5
AM	HORNER DELORSE A	7-26-10
AN	CONSOLIDATED GAS SUPPLY CORP	7-26-8
AO	BUZZARD COLIN R	7-26-3
AP	BUTLER JOHN M & LISA A	7-26-11.1
AQ	HUNDRED RESOURCES INC	7-26-11
AR	RIGGS JOHN E JR & DELANA	7-27-2
AS	MORGAN JAMES E - LIFE	7-26-14
AT	GRIBBEN M PEGGY REVOCABLE LIVING TRUST	7-19-28
AU	FROMHART BRAD ET UX - LIFE	7-20-41
AV	UNDERDONK ALAN	7-16-25.1
AW	BURLEY AMMON ET UX	7-20-12
AX	BURLEY AMMON A	7-20-24
AY	BURLEY AMON A	7-20-37
AZ	GEDEON DANIEL D ET UX	7-26-6
BA	VELLEKOOP PETER B ET UX - TOD	7-26-6.1
BB	VELLEKOOP PETER B ET UX - TOD	7-26-6.2
BC	STIPETICH SUSAN F & FRANK R	7-27-4.2
BD	VELLEKOOP PETER B ET UX - TOD	7-27-10.1
BE	SEIDLER BRIAN	1-6-3

03/15/2024

REVISIONS:	COMPANY: SWN Production Company, LLC			DATE: 05-10-2023	
	OPERATOR'S: YOCUM MSH			API NO: 47-051-02463	
	WELL #: 6H			DRAWN BY: Z. WOOD	
	DISTRICT: LIBERTY	COUNTY: MARSHALL	STATE: WV	SCALE: N/A	
				DRAWING NO: 2017-154	
				WELL LOCATION PLAT	