

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

API 47 - 051 - 02472 County MARSHALL District SAND HILL
Quad WHEELING, WV-OHIO Pad Name BW EDGE-MSH-PAD1 Field/Pool Name PANDHANDLE FIELD WET
Farm name SWN PRODUCTION COMPANY, LLC Well Number BW EDGE 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 4,428,544.363 Easting 531,786.772
Landing Point of Curve Northing 4,428,311.795 Easting 531,499.463
Bottom Hole Northing 4,423,085.211 Easting 533,755.771


Elevation (ft) 1,253.7' 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 11/3/2022 Date drilling commenced 2/22/2023 Date drilling ceased 3/15/2023
Date completion activities began 5/6/2023 Date completion activities ceased 5/30/2023
Verbal plugging (Y/N) N Date permission granted N/A Granted by N/A RECEIVED 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 615' Open mine(s) (Y/N) depths N
Salt water depth(s) ft 930' Void(s) encountered (Y/N) depths N
Coal depth(s) ft 746' Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

Reviewed by:

Steve
10-15-2023

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API 47-051 - 02472 Farm name SWN PRODUCTION COMPANY, LLC Well number BW EDGE 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	806' ✓	NEW	J-55/54.5#		Y; 71 BBLS
Coal	SEE SURFACE						
Intermediate 1	12.25	9.625	2,055'	NEW	J-55/36#		Y; 30 BBLS
Intermediate 2							
Intermediate 3							
Production	8.75	5.5	25,610' ✓	NEW	P-110 HC/20#		N
Tubing		2.875	6,859'	NEW	P-110/6.5#		N
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	924	15.60	1.19	1,099.56	SURFACE	8
Coal	SEE SURFACE						
Intermediate 1	CLASS A	790	15.60	1.19	940.1	SURFACE	8
Intermediate 2							
Intermediate 3							
Production	CLASS A	5,127	14.50	1.29	6,613.83	1,698'	24
Tubing							

Drillers TD (ft) 25,610' Loggers TD (ft) 25,610'
 Deepest formation penetrated MARCELLUS Plug back to (ft) 25,568'
 Plug back procedure N/A

Kick off depth (ft) 5,835' 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: 12 CENTRALIZERS - EVERY THIRD JOINT OF CASING
 INTERMEDIATE: 27 CENTRALIZERS - EVERY THIRD JOINT OF CASING
 PRODUCTION: 539 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 _____

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PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
	SEE	ATTACHMENT	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 (bbls)	Amount of Nitrogen/other (units)
		SEE	ATTACHMENT	2				

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Please insert additional pages as applicable.

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PRODUCING FORMATION(S)	DEPTHS	
MARCELLUS	6,333'	TVD 6,609' MD

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump

SHUT-IN PRESSURE Surface 2,718 psi Bottom Hole _____ psi DURATION OF TEST _____ hrs

OPEN FLOW Gas 15,028 mcfpd Oil 1,157 bpd NGL _____ bpd Water 1,182 bpd GAS MEASURED BY Estimated Orifice Pilot

LITHOLOGY/ FORMATION	TOP		BOTTOM		DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H ₂ S, ETC)
	DEPTH IN FT NAME TVD	DEPTH IN FT TVD	DEPTH IN FT MD	DEPTH IN FT MD	
	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 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 8.4.2023

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

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Well Name: **BW Edge MSH 6H**

47051024720000

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	615.00	615.00	
Top of Salt Water	930.00	930.00	NA	NA	
Pittsburgh Coal	746.00	746.00	754.00	754.00	
Pottsville (ss)	843.00	843.00	1129.00	1128.00	
Raven Cliff (ss)	1129.00	1128.00	1878.00	1864.00	
Big Injun (ss)	1878.00	1864.00	2005.00	1989.00	
Rhinestreet (shale)	5910.00	5807.00	6146.00	6030.00	
Cashaqua (shale)	6146.00	6030.00	6222.00	6094.00	
Middlesex (shale)	6222.00	6094.00	6329.00	6178.00	
Burket (shale)	6329.00	6178.00	6356.00	6196.00	
Tully (ls)	6356.00	6196.00	6406.00	6229.00	
Mahantango (shale)	6406.00	6229.00	6609.00	6333.00	
Marcellus (shale)	6609.00	6333.00	NA	NA	GAS

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**BW EDGE MSH 6H
ATTACHMENT 1
PERF REPORT**

STAGE NUM	Perf Date	Perf Bottom MD	Perf Top MD2	# SHOTS PER STG
1	4/24/2023	25,526	25,437	36
2	5/6/2023	25,403	25,224	36
3	5/6/2023	25,191	25,012	36
4	5/7/2023	24,979	24,800	36
5	5/7/2023	24,767	24,588	36
6	5/8/2023	24,554	24,376	36
7	5/8/2023	24,342	24,163	36
8	5/8/2023	24,130	23,951	36
9	5/8/2023	23,918	23,739	36
10	5/9/2023	23,706	23,527	36
11	5/9/2023	23,494	23,315	36
12	5/9/2023	23,282	23,103	36
13	5/9/2023	23,069	22,891	36
14	5/10/2023	22,857	22,678	36
15	5/10/2023	22,645	22,466	36
16	5/10/2023	22,433	22,254	36
17	5/10/2023	22,221	22,042	36
18	5/11/2023	22,009	21,830	36
19	5/11/2023	21,796	21,618	36
20	5/11/2023	21,584	21,406	36
21	5/12/2023	21,372	21,193	36
22	5/12/2023	21,160	20,981	36
23	5/12/2023	20,948	20,769	36
24	5/12/2023	20,736	20,557	36
25	5/12/2023	20,524	20,345	36
26	5/12/2023	20,311	20,133	36
27	5/13/2023	20,099	19,921	36
28	5/13/2023	19,887	19,708	36
29	5/13/2023	19,675	19,496	36
30	5/13/2023	19,463	19,284	36
31	5/12/2023	19,251	19,072	36
32	5/13/2023	19,039	18,860	36
33	5/14/2023	18,826	18,648	36
34	5/14/2023	18,614	18,435	36
35	5/14/2023	18,402	18,223	36
36	5/14/2023	18,190	18,011	36
37	5/15/2023	17,978	17,799	36
38	5/15/2023	17,766	17,587	36
39	5/15/2023	17,554	17,375	36
40	5/15/2023	17,341	17,163	36
41	5/16/2023	17,129	16,950	36
42	5/16/2023	16,917	16,738	36

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STAGE NUM	Perf Date	Perf Bottom MD	Perf Top MD2	# SHOTS PER STG
43	5/16/2023	16,705	16,526	36
44	5/16/2023	16,493	16,314	36
45	5/16/2023	16,281	16,102	36
46	5/16/2023	16,069	15,890	36
47	5/16/2023	15,856	15,678	36
48	5/17/2023	15,644	15,465	36
49	5/17/2023	15,432	15,253	36
50	5/17/2023	15,220	15,041	36
51	5/17/2023	15,008	14,829	36
52	5/17/2023	14,796	14,617	36
53	5/17/2023	14,583	14,405	36
54	5/18/2023	14,371	14,193	36
55	5/18/2023	14,159	13,980	36
56	5/18/2023	13,947	13,768	36
57	5/18/2023	13,735	13,556	36
58	5/18/2023	13,523	13,344	36
59	5/19/2023	13,311	13,132	36
60	5/19/2023	13,098	12,920	36
61	5/19/2023	12,886	12,708	36
62	5/19/2023	12,674	12,495	36
63	5/19/2023	12,462	12,283	36
64	5/20/2023	12,250	12,071	36
65	5/20/2023	12,038	11,859	36
66	5/20/2023	11,826	11,647	36
67	5/20/2023	11,613	11,435	36
68	5/20/2023	11,401	11,222	36
69	5/20/2023	11,189	11,010	36
70	5/21/2023	10,977	10,798	36
71	5/21/2023	10,765	10,586	36
72	5/21/2023	10,553	10,374	36
73	5/21/2023	10,341	10,162	36
74	5/21/2023	10,128	9,950	36
75	5/24/2023	9,916	9,737	36
76	5/22/2023	9,704	9,525	36
77	5/22/2023	9,492	9,313	36
78	5/22/2023	9,280	9,101	36
79	5/22/2023	9,068	8,889	36
80	5/22/2023	8,856	8,677	36
81	5/22/2023	8,643	8,465	36
82	5/22/2023	8,431	8,252	36
83	5/22/2023	8,219	8,040	36
84	5/23/2023	8,007	7,828	36

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STAGE NUM	Perf Date	Perf Bottom MD	Perf Top MD2	# SHOTS PER STG
85	5/23/2023	7,795	7,616	36
86	5/23/2023	7,583	7,404	36
87	5/23/2023	7,370	7,192	36
88	5/23/2023	7,158	6,980	36
89	5/23/2023	6,946	6,767	36

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**BW EDGE 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	5/5/2023	81.2	8,792	9,060	4,351	192,500	6,371	0
2	5/6/2023	89.5	9,268	6,046	4,328	360,500	10,442	0
3	5/6/2023	82.3	9,052	5,591	4,214	360,500	9,108	0
4	5/7/2023	85.6	9,298	4,817	4,919	360,500	9,061	0
5	5/7/2023	85	9,250	5,744	4,875	360,500	9,159	0
6	5/8/2023	89.7	9,677	6,615	5,185	360,500	9,234	0
7	5/8/2023	86.2	9,409	6,042	4,150	360,500	9,286	0
8	5/8/2023	88.5	9,504	5,124	4,858	360,500	8,785	0
9	5/9/2023	85.8	9,420	6,476	4,758	360,500	8,545	0
10	5/9/2023	83.5	9,416	6,754	4,428	360,500	8,884	0
11	5/9/2023	87.9	9,444	6,589	4,268	360,500	9,379	0
12	5/9/2023	89.3	9,413	6,220	4,280	360,500	9,185	0
13	5/9/2023	92.3	9,290	6,425	4,574	360,500	8,850	0
14	5/10/2023	91.6	9,263	6,821	4,758	360,500	8,701	0
15	5/10/2023	89	9,317	6,148	4,942	360,500	8,248	0
16	5/10/2023	82.1	8,892	6,673	4,758	360,500	8,773	0
17	5/11/2023	91.9	9,288	6,329	4,621	360,500	8,247	0
18	5/11/2023	95.3	9,427	6,412	4,657	360,500	8,292	0
19	5/11/2023	80.8	8,954	6,335	4,741	360,500	8,329	0
20	5/11/2023	83.1	8,836	6,241	5,215	360,500	8,176	0
21	5/12/2023	84.8	8,924	6,615	5,242	360,500	8,253	0
22	5/12/2023	96.7	9,652	6,168	4,321	360,500	8,213	0
23	5/12/2023	92.7	9,110	6,359	4,223	328,207	7,902	0
24	5/12/2023	86.3	8,732	6,641	4,421	360,500	8,143	0
25	5/12/2023	77.4	8,182	6,282	5,171	360,500	8,236	0
26	5/13/2023	86.3	8,617	6,123	5,253	360,500	8,289	0
27	5/13/2023	85	8,619	6,254	4,369	360,500	8,103	0
28	5/13/2023	97.2	9,096	5,892	4,526	360,500	8,128	0
29	5/13/2023	97.1	9,116	6,236	4,469	360,500	8,212	0
30	5/13/2023	87.8	8,787	5,906	5,204	360,500	8,018	0
31	5/13/2023	91.1	8,686	6,229	4,256	360,500	8,218	0
32	5/14/2023	86.6	8,729	6,550	4,428	360,500	8,149	0
33	5/14/2023	94.8	8,868	6,351	4,676	360,500	8,096	0
34	5/14/2023	93.3	8,762	6,192	4,662	360,500	8,037	0
35	5/14/2023	92.8	8,959	5,986	4,561	360,500	8,031	0
36	5/14/2023	81.4	8,355	6,415	4,333	360,500	8,104	0
37	5/15/2023	85.4	8,261	6,108	4,427	360,500	8,002	0
38	5/15/2023	80.7	7,924	5,815	4,512	360,500	7,845	0
39	5/15/2023	95.9	8,866	6,452	4,412	360,500	7,936	0
40	5/15/2023	83.1	7,566	6,315	4,650	349,200	9,428	0
41	5/16/2023	93.6	8,695	6,359	4,458	360,500	8,599	0
42	5/16/2023	97.9	8,679	6,386	4,674	360,500	7,959	0
43	5/16/2023	97.7	8,790	6,341	4,434	360,500	7,987	0
44	5/16/2023	97.9	8,826	6,102	4,239	360,500	7,839	0
45	5/16/2023	91.5	8,752	5,768	4,215	360,500	7,918	0
46	5/16/2023	93.6	8,876	6,191	4,675	360,500	7,928	0
47	5/17/2023	93.9	8,562	6,135	4,381	360,500	7,940	0
48	5/17/2023	92.6	8,303	6,528	4,322	360,500	8,081	0
49	5/17/2023	97.3	8,957	6,315	4,496	360,500	7,830	0
50	5/17/2023	93.4	8,841	6,235	4,129	360,500	7,882	0
51	5/17/2023	94.7	8,824	6,012	4,397	360,500	7,790	0
52	5/17/2023	90.8	8,477	6,270	4,362	360,500	7,851	0
53	5/18/2023	90.9	8,224	6,218	4,223	360,500	7,938	0

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BW EDGE 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	5/18/2023	91.1	7,987	6,145	4,345	360,500	7,691	0
55	5/18/2023	97.1	9,071	6,238	4,462	360,500	7,878	0
56	5/18/2023	87.5	8,038	6,178	4,471	360,500	7,872	0
57	5/18/2023	82.2	7,679	6,067	4,289	360,500	7,538	0
58	5/18/2023	80.4	7,378	5,700	4,352	360,500	9,425	0
59	5/19/2023	98	8,691	5,718	4,475	360,500	7,908	0
60	5/19/2023	97.1	8,851	5,924	4,420	360,500	7,826	0
61	5/19/2023	98	8,444	6,252	4,365	360,500	7,894	0
62	5/19/2023	94.7	8,381	6,425	4,212	360,500	7,808	0
63	5/19/2023	91.4	8,142	6,173	4,109	360,500	7,897	0
64	5/20/2023	85.5	7,934	6,501	4,327	360,500	7,637	0
65	5/20/2023	88.8	7,852	6,430	4,365	360,500	7,650	0
66	5/20/2023	87.9	7,765	6,324	4,210	360,500	7,897	0
67	5/20/2023	88.7	7,592	6,239	4,321	360,500	7,769	0
68	5/20/2023	93.9	8,438	6,308	4,188	360,500	7,840	0
69	5/20/2023	95	8,224	6,377	4,312	360,500	7,913	0
70	5/21/2023	96.2	8,092	6,271	4,372	360,500	7,824	0
71	5/21/2023	94.1	7,791	6,067	4,395	360,500	7,683	0
72	5/21/2023	98	7,735	5,964	3,927	360,500	7,810	0
73	5/21/2023	97.3	7,656	5,574	4,487	360,500	7,688	0
74	5/21/2023	95.5	7,607	5,913	5,234	360,500	7,789	0
75	5/21/2023	96.2	7,622	5,800	5,100	360,500	7,728	0
76	5/22/2023	95.6	7,449	6,036	4,856	360,500	7,697	0
77	5/22/2023	86.1	6,713	5,951	4,250	360,500	7,476	0
78	5/22/2023	98	7,419	5,968	4,425	360,500	7,656	0
79	5/22/2023	98	7,274	5,894	4,625	360,500	7,448	0
80	5/22/2023	98.4	7,339	6,175	4,556	360,500	7,802	0
81	5/22/2023	97.2	7,249	5,791	4,879	360,500	7,666	0
82	5/22/2023	97.6	7,188	5,767	4,487	360,500	7,674	0
83	5/23/2023	96.8	7,074	6,023	4,128	360,500	7,620	0
84	5/23/2023	96.5	6,855	5,728	4,523	360,500	7,476	0
85	5/23/2023	98.4	7,010	6,423	4,423	360,500	7,639	0
86	5/23/2023	98.4	6,985	5,784	4,468	360,500	7,565	0
87	5/23/2023	98.4	6,819	5,845	4,226	372,300	7,701	0
88	5/23/2023	97.7	6,908	5,947	4,308	373,500	7,796	0
89	5/23/2023	97.1	6,783	3,492	4,380	360,500	8,192	0

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Environmental Protection



Well Name: **BW Edge MSH 6H** **47051024720000**

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	615.00	615.00	
Top of Salt Water	930.00	930.00	NA	NA	
Pittsburgh Coal	746.00	746.00	754.00	754.00	
Pottsville (ss)	843.00	843.00	1129.00	1128.00	
Raven Cliff (ss)	1129.00	1128.00	1878.00	1864.00	
Big Injun (ss)	1878.00	1864.00	2005.00	1989.00	
Rhinestreet (shale)	5910.00	5807.00	6146.00	6030.00	
Cashaqua (shale)	6146.00	6030.00	6222.00	6094.00	
Middlesex (shale)	6222.00	6094.00	6329.00	6178.00	
Burket (shale)	6329.00	6178.00	6356.00	6196.00	
Tully (ls)	6356.00	6196.00	6406.00	6229.00	
Mahantango (shale)	6406.00	6229.00	6609.00	6333.00	
Marcellus (shale)	6609.00	6333.00	NA	NA	GAS

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03/15/2024

Hydraulic Fracturing Fluid Product Component Information Disclosure



Job Start Date:	5/5/2023
Job End Date:	5/23/2023
State:	West Virginia
County:	Marshall
API Number:	47-051-02472-00-00
Operator Name:	Southwestern Energy
Well Name and Number:	BW EDGE MSH 6
Latitude:	40.00649364
Longitude:	-80.62757901
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,463
Total Base Water Volume (gal):	30,248,046
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
Base Water	Operator	Base Fluid					
			Water	7732-18-5	100.00000	88.44250	Density = 8.345
Ingredients	Listed Above	Listed Above					
			Water	7732-18-5	100.00000	0.29386	

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				Water	7732-18-5	45.00000	0.29386	
				Water	7732-18-5	85.00000	0.29386	
Sand	SWN Well Services		Proppant		Listed Below			
FSTI-CI-02	SWN Well Services		Corrosion Inhibitor		Listed Below			
Ferriplex 80	SWN Well Services		Iron Control		Listed Below			
Plexslick 930	SWN Well Services		Friction Reducer		Listed Below			
Tolicide 4Frac	SWN Well Services		Biocide		Listed Below			
HCL	SWN Well Services		Solvent		Listed Below			
Plexaid 655NM	SWN Well Services		Scale Inhibitor		Listed Below			
WV Environmental	Office of Oil and Gas	RECEIVED						
		ALL INFORMATION CONTAINED HEREIN IS UNCLASSIFIED						
		DATE 07/2023						
		BY Department of Environmental Protection						
				Crystalline Silica, quartz	14808-60-7	100.00000	11.17627	
				Hydrochloric Acid	7647-01-0	15.00000	0.04181	

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

03/15/2024

					55566-30-8	45.00000	0.00462	
			Tetakis(Hydroxymethyl) Phosphonium Sulfate					
			Sodium Erythorbate		6381-77-7	100.00000	0.00149	
			Quaternary ammonium compounds		68424-85-1	7.50000	0.00077	
			Ethanol		64-17-5	2.50000	0.00026	
			Ethylene glycol		107-21-1	40.00000	0.00017	
			N,N-Dimethylformamide		68-12-2	10.00000	0.00004	
			Poly(oxy-1,2-ethanediyl), .alpha.-(nonylphenyl)- .omega.-hydroxy-		9016-45-9	10.00000	0.00004	
			Cinnamaldehyde		104-55-2	10.00000	0.00004	
			benzyl chloridequaternized		72480-70-7	5.00000	0.00002	
			Triethyl phosphate		78-40-0	5.00000	0.00002	
			Isopropyl alcohol		67-63-0	5.00000	0.00002	
			1-Octanol		111-87-5	5.00000	0.00002	
			2-Butoxyethanol		111-76-2	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%

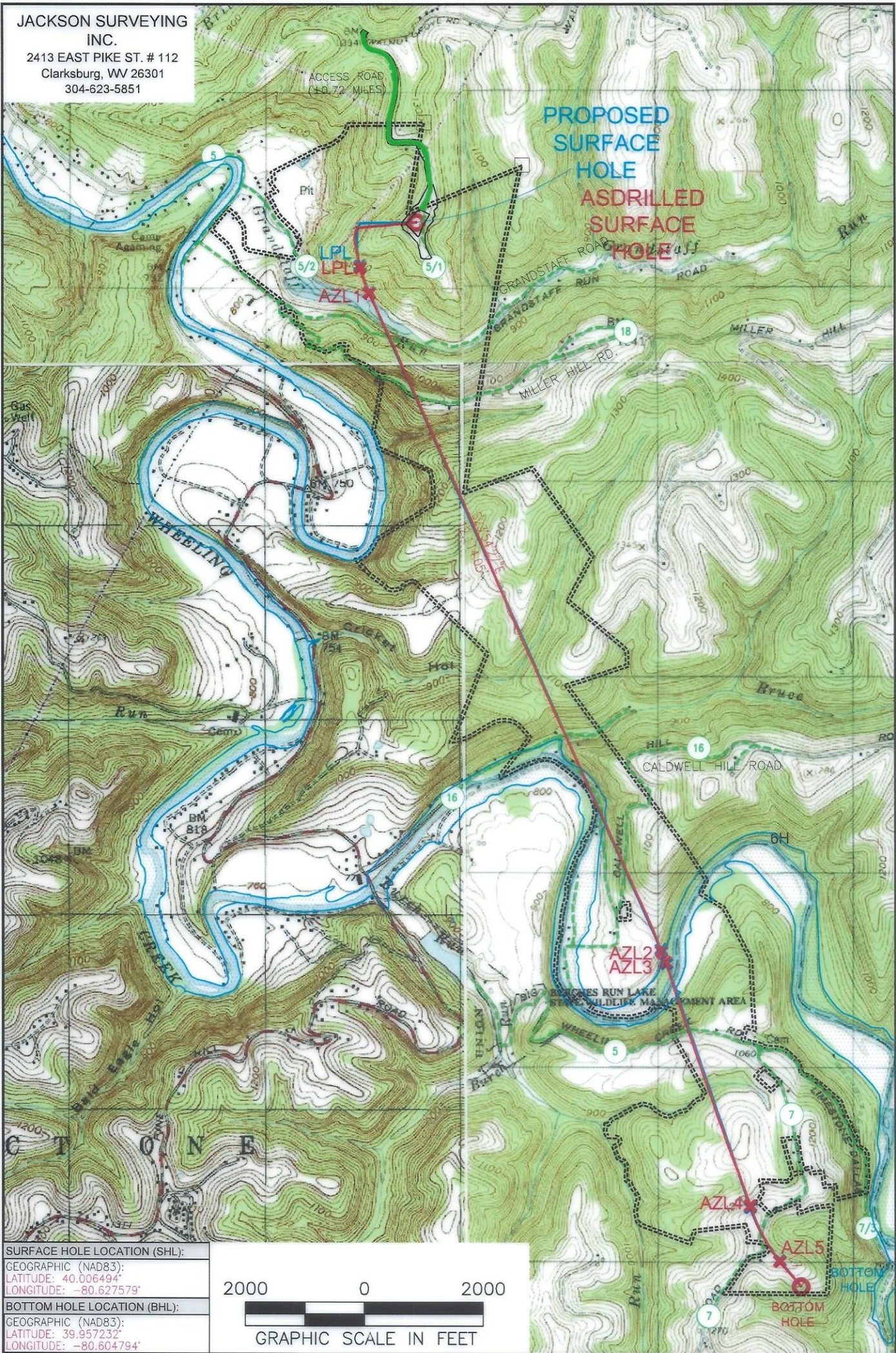
*** If you are calculating a percentage of total ingredients do not add the water volume below the green line to the water volume above the green line

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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Environmental Protection

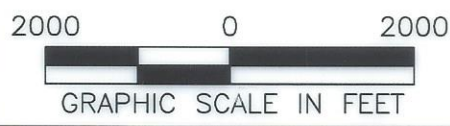
03/15/2024

JACKSON SURVEYING
 INC.
 2413 EAST PIKE ST. # 112
 Clarksburg, WV 26301
 304-623-5851



SURFACE HOLE LOCATION (SHL):
 GEOGRAPHIC (NAD83):
 LATITUDE: 40.006494°
 LONGITUDE: -80.627579°

BOTTOM HOLE LOCATION (BHL):
 GEOGRAPHIC (NAD83):
 LATITUDE: 39.957232°
 LONGITUDE: -80.604794°



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.
4. ALL INSETS ARE GRID NORTH UNLESS OTHERWISE DEPICTED.

LEGEND:

- PROPOSED SURFACE HOLE / BOTTOM HOLE
- EXISTING / PRODUCING WELLHEAD
- LPL* LANDING POINT LOCATION
- FLOOD PLAN
- ACCESS ROAD
- PUBLIC ROAD
- LEASE BOUNDARY
- PROPOSED PATH
- ASDRILLED PATH

03/15/2024 SITE

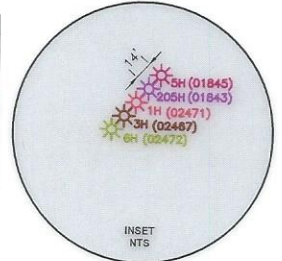
WELL OPERATOR: SWN PRODUCTION COMPANY, LLC	WELL (FARM) NAME: BW EDGE MSH	WELL # 6H	SERIAL #
ADDRESS: 1300 FORT PIERPONT RD., SUITE 200 MORGANTOWN, WV 26508	COUNTY - CODE MARSHALL - 051	DISTRICT; SAND HILL	
SURFACE OWNER: WILLIAM F. EDGE, JR. & BARBARA EDGE-TOD & DAVID WAYNE EDGE	USGS 7 1/2 QUADRANGLE MAP NAME WHEELING, WV-OHIO	API #: 47-051-02472	

**JACKSON SURVEYING
INC.**
2413 EAST PIKE ST. # 112
Clarksburg, WV 26301
304-623-5851

Latitude: 40°02'30"
Latitude: 39°57'30"

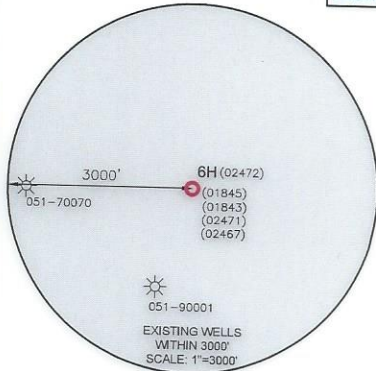
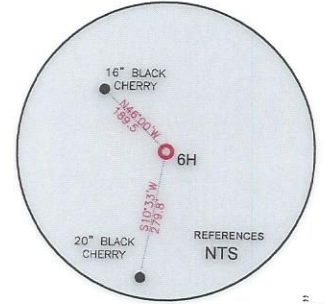
GRID NORTH
UTM, NAD83 DATUM, ZONE 17, US FT

LINE	BEARING	DISTANCE	DESCRIPTION	MONUMENT
L1	N 04°32'53" E	1879.23'	SHL TO LANDMARK	5/8" REBAR
L2	N 61°36'32" E	2028.86'	SHL TO LANDMARK	5/8" REBAR
L7	N 39°55'20" E	560.99'	AZL5 TO BHL	
LINE	BEARING	DISTANCE	CURVE LENGTH	DESCRIPTION
L3	S 51°00'38" W	1,212.73'	1,682.41'	SHL TO LPL
L4	S 19°09'51" E	454.40'	454.95'	LPL TO AZL1
L5	S 20°31'42" E	192.97'	192.98'	AZL2 TO AZL3
L6	S 28°03'11" E	1,055.33'	1,061.86'	AZL4 TO AZL5



SURFACE HOLE LOCATION (SHL): UTM (NAD83, ZONE 17, METERS): NORTHING: 4,428,544.363 EASTING: 531,786.772
LANDING POINT LOCATION (LPL): UTM (NAD83, ZONE 17, METERS): NORTHING: 4,428,311.795 EASTING: 531,499.463
AZIMUTH POINT LOCATION-1 (AZL1): UTM (NAD83, ZONE 17, METERS): NORTHING: 4,428,180.968 EASTING: 531,544.930
AZIMUTH POINT LOCATION-2 (AZL2): UTM (NAD83, ZONE 17, METERS): NORTHING: 4,424,805.402 EASTING: 533,041.309
AZIMUTH POINT LOCATION-3 (AZL3): UTM (NAD83, ZONE 17, METERS): NORTHING: 4,424,750.318 EASTING: 533,061.935
AZIMUTH POINT LOCATION-4 (AZL4): UTM (NAD83, ZONE 17, METERS): NORTHING: 4,423,500.218 EASTING: 533,494.764

AZIMUTH POINT LOCATION-5 (AZL5): UTM (NAD83, ZONE 17, METERS): NORTHING: 4,423,216.345 EASTING: 533,646.040
BOTTOM HOLE LOCATION (BHL): UTM (NAD83, ZONE 17, METERS): NORTHING: 4,423,085.211 EASTING: 533,755.771
SURFACE HOLE LOCATION (SHL): UTM (NAD83, ZONE 17, METERS): NORTHING: 4,428,544.023 EASTING: 531,787.145
LANDING POINT LOCATION (LPL): UTM (NAD83, ZONE 17, METERS): NORTHING: 4,428,318.303 EASTING: 531,497.468
AZIMUTH POINT LOCATION-1 (AZL1): UTM (NAD83, ZONE 17, METERS): NORTHING: 4,428,183.267 EASTING: 531,545.706
AZIMUTH POINT LOCATION-2 (AZL2): UTM (NAD83, ZONE 17, METERS): NORTHING: 4,424,822.701 EASTING: 533,034.437



AZIMUTH POINT LOCATION-3 (AZL3): UTM (NAD83, ZONE 17, METERS): NORTHING: 4,424,737.704 EASTING: 533,067.953
AZIMUTH POINT LOCATION-4 (AZL4): UTM (NAD83, ZONE 17, METERS): NORTHING: 4,423,490.445 EASTING: 533,494.519
AZIMUTH POINT LOCATION-5 (AZL5): UTM (NAD83, ZONE 17, METERS): NORTHING: 4,423,219.077 EASTING: 533,645.758
BOTTOM HOLE LOCATION (BHL): UTM (NAD83, ZONE 17, METERS): NORTHING: 4,423,086.480 EASTING: 533,754.608

WELL RESTRICTIONS

- NO OCCUPIED DWELLINGS > 2500 SQ FT. WITHIN 625 FEET OF CENTER OF PAD.
- NO AGRICULTURE BUILDINGS > 2500 SQ FT. WITHIN 625 FEET OF CENTER OF PAD.
- NO WATER WELLS OR DEVELOPED SPRINGS ARE WITHIN 250 FEET OF PROPOSED WELL.
- NO PERENNIAL STREAMS, LAKES, PONDS, OR RESERVOIRS WITHIN 100 FEET OF THE LIMITS OF DISTURBANCE.
- NO NATURALLY PRODUCING TROUT STREAM WITHIN 300 FEET OF LIMITS OF DISTURBANCE.
- NO GROUND INTAKE OR PUBLIC WATER SUPPLY WITHIN 1000 FEET OF WELL PAD, LIMITS OF DISTURBANCE, E & S CONTROLS OR PUBLIC WATER SUPPLY.

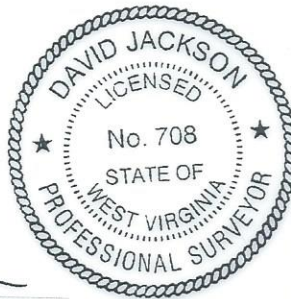
NOTES ON SURVEY

- 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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- ALL INSETS ARE GRID NORTH UNLESS OTHERWISE DEPICTED.

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. 708

David L Jackson



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

(+) 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)

BW EDGE MSH
OPERATOR'S WELL #: 6H
API WELL #: 47 STATE 051 COUNTY 02472 PERMIT

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

WATERSHED: GRANDSTAFF RUN OF WHEELING CREEK (HUC-10) ELEVATION: 1253.7'

DISTRICT: SAND HILL COUNTY: MARSHALL QUADRANGLE: WHEELING, WV-OHIO

SURFACE OWNER: WILLIAM F. EDGE, JR. & BARABARA EDGE-TOD & DAVID WAYNE EDGE ACREAGE: ±87.8

OIL & GAS ROYALTY OWNER: JOSEPHINE FLETCHER ACREAGE: ±115.8

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

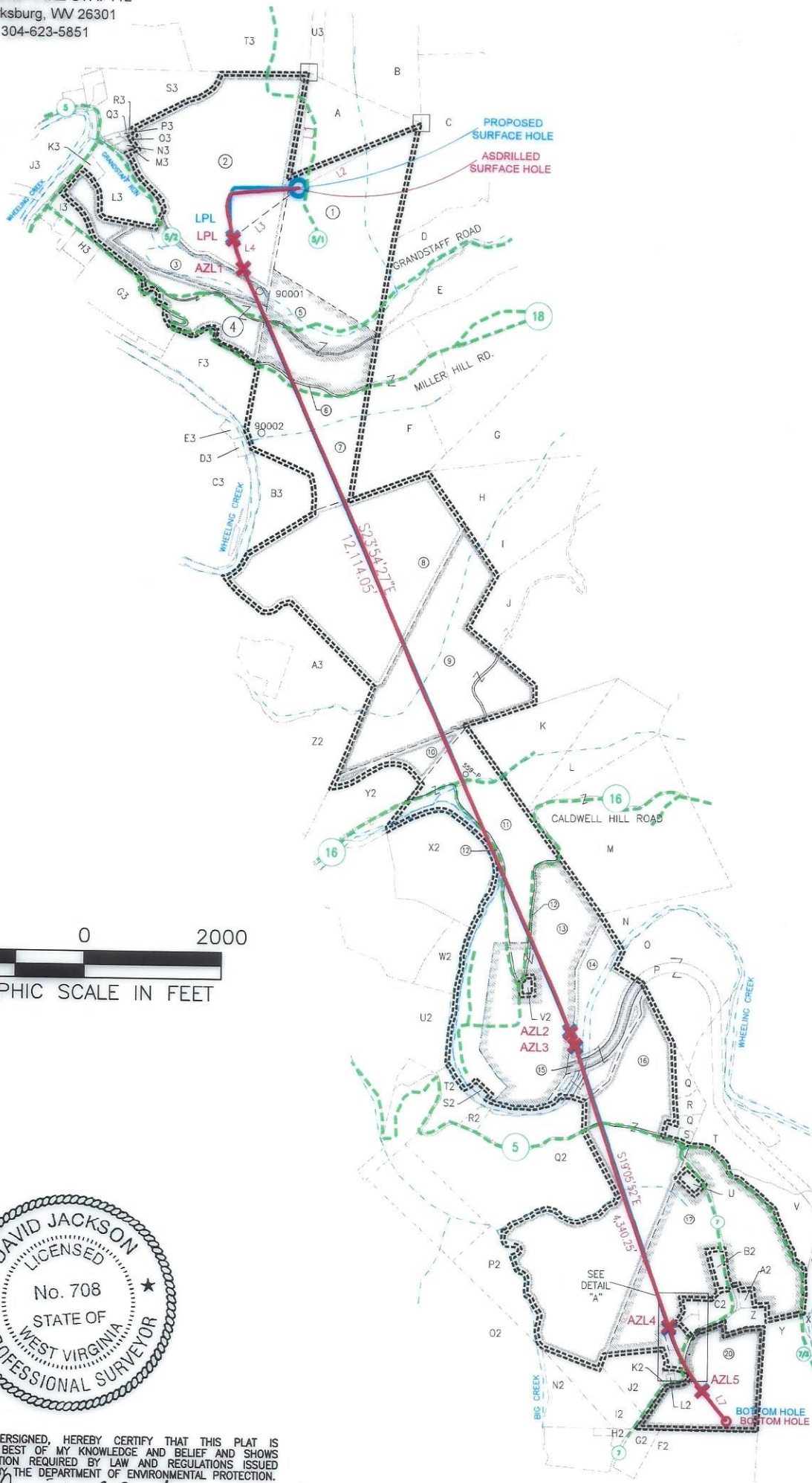
CONVERT PLUG & ABANDON CLEAN OUT & REPLUG OTHER CHANGE (SPECIFY) ASDRILLED

TARGET FORMATION: MARCELLUS ESTIMATED DEPTH: 6,551' TVD 25,615' TMD

WELL OPERATOR: SWN PRODUCTION COMPANY, LLC DESIGNATED AGENT: BRITTANY WOODY
ADDRESS: 1300 FORT PIERPONT RD., SUITE 200 ADDRESS: 1300 FORT PIERPONT RD., SUITE 200
CITY: MORGANTOWN STATE: WV ZIP CODE: 26508 CITY: MORGANTOWN STATE: WV ZIP CODE: 26508

LEGEND: ○ PROPOSED SURFACE HOLE / BOTTOM HOLE ⊙ EXISTING / PRODUCING WELLHEAD LPL* LANDING POINT LOCATION ⊕ EXISTING WATER WELL ⊙ EXISTING SPRING	LEGEND: — SURVEYED BOUNDARY — DRILLING UNIT ===== LEASE BOUNDARY — ASDRILLED PATH — PROPOSED PATH	REVISIONS: DATE: 05-15-2023 DRAWN BY: N. MANO SCALE: 1" = 2000' DRAWING NO: WELL LOCATION PLAT
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JACKSON SURVEYING
 INC.
 2413 EAST PIKE ST. # 112
 Clarksburg, WV 26301
 304-623-5851



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P.S. 708

David L Jackson

REVISIONS:	COMPANY:			DATE: 05-15-2023
		OPERATOR'S	BW EDGE MSH	API #:
		WELL #:	6H	47-051-02472
		DISTRICT:	COUNTY:	STATE:
		SAND HILL	MARSHALL	WV
				DRAWN BY: N. MANO
				SCALE: 1" = 2000'
				DRAWING NO:
				WELL LOCATION PLAT 2

JACKSON SURVEYING
INC.

2413 EAST PIKE ST. # 112
Clarksburg, WV 26301
304-623-5851

WELL BORE TRACTS		
TRACT	SURFACE OWNER (S) / ROYALTY OWNER (R)	TAX PARCEL
1	EDGE WILLIAM JR & BARBARA ANN - TOD & DAVID WAYNE EDGE (S)/ FLETCHER JOSEPHINE (R)	12-9-8
TRACT	SURFACE OWNER(S)	TAX PARCEL
2	FOLMAR EDITH A TRUST (S)	12-1-19
3	WHEELING CREEK WATERSHED COMM (S)	12-9-6.1
4	DYE ALBERT M - LIFE (S)	12-9-6
5	ISALY ROBERT A SR EST (S)	12-9-9
6	WV DEPARTMENT OF TRANSPORTATION (S)	ROUTE 18 MILLER HILL RD
7	PIKEWOOD ENERGY CORP (S)	12-9-10
8	FISHER CHARLES B & CARLA S (S)	12-9-20
9	MERINAR CALVIN C - LIFE (S)	12-9-19
10	MERINAR CALVIN C - LIFE (S)	12-10-7
11	MERINAR KENNETH L ET AL (S)	12-10-9
12	WV DEPARTMENT OF TRANSPORTATION (S)	ROUTE 16 CALDWELL HILL RD
13	HICKEY GLENN M (S)	12-10-8
14	HICKEY GLENN M (S)	15-1-6.1
15	HICKEY GLENN M (S)	15-1-7
16	ROSE TATIA JOSEPHINE (S)	15-1-19
17	ISKCON - NEW MATHURA VRINDABAN (S)	15-1-16
18	ISKCON - NEW MATHURA VRINDABAN (S)	15-1-16.3
19	ISKCON - NEW MATHURA VRINDABAN (S)	15-2-3.3
20	ECO-VRINDABAN, INC (S)	15-2-3.5

ADJOINING OWNERS TABLE		
TRACT	SURFACE OWNER	TAX PARCEL
A	WHEELING POWER COMPANY	12-9-8.1
B	GIZA ALEXANDER C & CHRISTOPHER C	12-1-16
C	GIZA ALEXANDER C & CHRISTOPHER C	12-2-14
D	ISALY ROBERT A SR EST	12-2-13
E	GIBSON WILLIAM E	12-9-12
F	GRAY JOHN ALVIN	12-9-11
G	MERINAR JAMES MARTIN ET UX	12-9-15.1
H	MERINAR CALVIN C - LIFE	12-9-15
I	MERINAR CALVIN C - LIFE	12-9-16
J	MERINAR CALVIN C - LIFE	12-9-18
K	MERINAR CALVIN C	12-11-1
L	CLAYTON CHARLES W ET AL	12-11-2
M	TH EXPLORATION LLC	12-11-3
N	THOMAS RICHARD LEE BARTON	12-11-16
O	ISKCON - NEW MATHURA VRINDABAN	15-1-8
P	ISKCON - NEW MATHURA VRINDABAN	15-1-9
Q	ROSE TATIA JOSEPHINE	15-1-10
R	PRETTYMAN JEREMY A & BETH A	15-1-19.1
S	BROWN ELEANORE	15-1-11
T	ISKCON - NEW MATHURA VRINDABAN	15-1-12
U	ISKCON - NEW MATHURA VRINDABAN	15-1-16.2
V	ISKCON - NEW MATHURA VRINDABAN	15-1-15
W	ISKCON - NEW MATHURA VRINDABAN	15-1-14
X	MARKWEST LIBERTY MIDSTREAM & RESOURCES LLC	15-2-3.1
Y	ANDERSON SARA JO	15-2-4
Z	ISKCON - NEW MATHURA VRINDABAN	15-2-3.6
A2	ISKCON - NEW MATHURA VRINDABAN	15-1-16.1
B2	ISKCON - NEW MATHURA VRINDABAN	15-1-17
C2	ISKCON - NEW MATHURA VRINDABAN	15-1-18
D2	MOWEN JOHN H JR	15-1-18.1
E2	ISKCON NEW VRINDABAN	15-1-18.2
F2	ISKCON - NEW VRINDABAN INC	15-2-5
G2	PATEL RAMESH & VINA	15-2-5.7
H2	ALPERT DIANT	15-2-5.1
I2	GAFFDOOR SHAM & VIDYA RAMKAREE	15-2-3.8
J2	HELLER ELICIA N	15-2-3.9

ADJOINING OWNERS TABLE		
TRACT	SURFACE OWNER	TAX PARCEL
K2	FRAENKELANDY & RUTH	15-2-3.7
L2	FRAENKELANDY & RUTH	15-2-3.2
M2	FRAENKELANDY & RUTH	15-2-3.4
N2	ISKCON - NEW MATHURA VRINDABAN	15-2-3
O2	ISKCON - NEW MATHURA VRINDABAN	15-2-2
P2	ECO-VRINDABAN, INC	15-1-6
Q2	MERINAR KENNETH L ET AL	15-1-6.3
R2	MERINAR KENNETH L ET AL	15-1-6.2
S2	MERINAR JEFFREY T	12-10-8.2
I2	LORENCE THOMAS & SILVIA LAU	15-1-5
U2	ECO-VRINDABAN, INC	15-1-4
V2	HICKORY GLENN M	12-10-8.1
W2	BAUER DEBRA RAE & WHITE WILLIAM E	15-1-2.2
X2	FINTEL DOUGLAS	15-1-2.1
Y2	ECO-VRINDABAN, INC	15-1-2
Z2	FISH PATRICIA A & FREDERICK W	12-10-1.2
A3	SCHAFFER ROY A JR & EDWARD J	12-9-22
B3	GRAY JOHN ALVIN	12-9-21
C3	GRAY JOHN ALVIN	13-3-14
D3	SHEPHERD TIMOTHY & DEBORAH L	13-3-14.4
E3	PROVANCE FRANK J & ELIZABETH & BARRY F	13-3-14.5
F3	STEADMAN FRANKLIN L ET UX	12-9-5.1
G3	MANNERS NATALIE M	12-9-5
H3	TEACOACH JAY M ET UX	12-9-5.3
I3	DYE WILLIAM R	12-9-1
J3	MAAS BRIAN J & AMY C - TRUST	13-3-10
K3	MERINAR JUSTIN K	12-1-21
L3	HADSELL SANDRA L	12-1-20
M3	DUFF JAMES E & BROOKE L CAPP	12-1-22.1
N3	DUFF JAMES E & BROOKE L CAPP	12-1-22
O3	FRAZIER GREGORY SCOTT - TOD	12-1-23
P3	PALMER ADAM R	12-1-26
Q3	FRAZIER GREGORY SCOTT - TOD	12-1-27.1
R3	PALMER ADAM R	12-1-27.2
S3	ADASE GEORGE & LAURIE	12-1-28
I3	SHELLHASE MARK A ET UX	12-1-18
U3	GIZA ALEXANDER C & CHRISTOPHER C	12-1-15

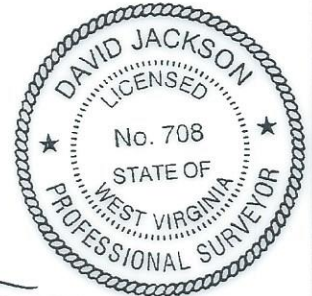
DETAIL "A"





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P.S. 708

David L Jackson



REVISIONS:	COMPANY:	 		DATE: 05-15-2023
		OPERATOR'S	BW EDGE MSH	API #:
		WELL #:	6H	47-051-02472
		DISTRICT:	COUNTY:	STATE:
		SAND HILL	MARSHALL	WV
				DRAWN BY: N. MANO
				SCALE: 1" = 2000'
				DRAWING NO:
				WELL LOCATION PLAT 3