

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

API 47-009-00281 County BROOKE District BUFFALO  
Quad BETHANY Pad Name MARGARET CORBIN BRK PAD Field/Pool Name PANHANDLE FIELD WET  
Farm name LOUIS W. HENSLER, JR. & MARGARET HENSLER Well Number MARGARET CORBIN BRK 3H  
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 4,453,529.614 Easting 540,637.924  
Landing Point of Curve Northing 4,453,636.873 Easting 540,602.442  
Bottom Hole Northing 4,456,966.865 Easting 539,394.868

Elevation (ft) 1150.1' 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 04/29/2019 Date drilling commenced 6/27/2019 Date drilling ceased 07/11/2019  
Date completion activities began 07/22/2019 Date completion activities ceased 08/27/2019  
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 372' Open mine(s) (Y/N) depths N  
Salt water depth(s) ft 495' Void(s) encountered (Y/N) depths N  
Coal depth(s) ft 318' Cavern(s) encountered (Y/N) depths N  
Is coal being mined in area (Y/N) N

Reviewed

*C. [Signature]* 12-17-19

Reviewed by:

ES 12-17-19

API 47-009 - 00281 Farm name LOUIS W. HENSLER, JR. & MARGARET HENSLER Well number MARGARET CORBIN BRK 3H

CASING STRINGS	Hole Size	Casing Size	Depth	New or Used	Grade wt/ft	Basket Depth(s)	Did cement circulate (Y/N) * Provide details below*
Conductor	24	20	126	NEW	J-55/94#		Y
Surface	17.5	13.375	454	NEW	J-55/54.50#		Y, 26 BBLS
Coal							
Intermediate 1	12.25	9.625	1,705	NEW	J-55/36#		Y, 40 BBLS
Intermediate 2							
Intermediate 3							
Production	8.75/8.50	5.5	18,044	NEW	P-110/20#		Y
Tubing		2.875	6,513	NEW	P-110/6.50#		N
Packer type and depth set							

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

CEMENT DATA	Class/Type of Cement	Number of Sacks	Slurry wt (ppg)	Yield (ft <sup>3</sup> /sks)	Volume (ft <sup>3</sup> )	Cement Top (MD)	WOC (hrs)
Conductor	CLASS A	GROUT TO SURFACE				SURFACE	24
Surface	CLASS A	436	15.60	1.20	523.2	SURFACE	8
Coal	SEE SURFACE						
Intermediate 1	CLASS A	681	15.60	1.19	810.39	SURFACE	8
Intermediate 2							
Intermediate 3							
Production	CLASS A	3,055	15.60	1.19	3,635.45	SURFACE	24
Tubing							

Drillers TD (ft) 18,044 Loggers TD (ft) 18,044  
 Deepest formation penetrated \_\_\_\_\_ Plug back to (ft) N/A  
 Plug back procedure N/A

Kick off depth (ft) 5,361

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

Well cored  Yes  No Conventional Sidewall Were cuttings collected  Yes  No

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

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

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

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

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

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API 47-009 - 00281

Farm name LOUIS W. HENSLER, JR. & MARGARET HENSLER

Well number MARGARET CORBIN BRK 3H

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					

Please insert additional pages as applicable.

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API 47- 009 - 00281 Farm name LOUIS W. HENSLER, JR. & MARGARET HENSLER Well number MARGARET CORBIN BRK 3H

PRODUCING FORMATION(S)	DEPTHS	
MARCELLUS	6057'	6277' TVD MD

Please insert additional pages as applicable.

GAS TEST  Build up  Drawdown  Open Flow      OIL TEST  Flow  Pump

SHUT-IN PRESSURE Surface 2710 psi Bottom Hole \_\_\_\_\_ psi DURATION OF TEST \_\_\_\_\_ hrs

OPEN FLOW Gas 4,221 mcfpd Oil 547 bpd NGL \_\_\_\_\_ bpd Water 206 bpd  
 GAS MEASURED BY  Estimated  Orifice  Pilot

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

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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 MILLS ROAD City THE WOODLANDS State TX Zip 77380

Cementing Company SCHLUMBERGER WELL SERVICES  
 Address 1080 US-33 City WESTON State WV Zip 26452

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

Please insert additional pages as applicable.

Completed by BOBBY WILLIS Telephone 832-796-2884  
 Signature [Signature] Title SENIOR REGULATORY ANALYST Date 11/13/2019

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

# SOUTHWESTERN ENERGY

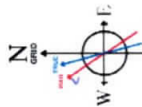
Location: Brooke County, WV  
 Slot: Slot 3H  
 Well: Margaret Corbin 3H  
 Facility: Margaret Corbin Pad Wellbore: Margaret Corbin 3H PWB

Plot reference wellpath is Margaret Corbin 3H PWP Rev-A.0  
 Grid System: NAD83 / UTM Zone 17 North, US feet  
 North Reference: Grid north  
 Scale: True distance  
 Measured depths are referenced to SDC 41 (RKB)  
 Depths are in feet  
 SDC 41 (RKB) to Mean Sea Level: 1176.1 feet  
 Created by: atjenjen on 2019-07-15  
 Database: WA\_MPL\_EASTERNUS\_Defn  
 Coordinates are in feet referenced to Slot

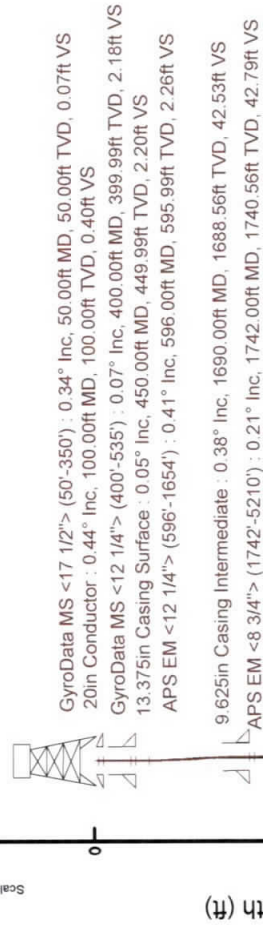


Location Information			
Facility Name	Grid East (US ft)	Grid North (US ft)	Longitude
Margaret Corbin Pad	1773742.165	14611288.452	40°13'52.370"N 80°31'20.316"W
Slot	Local N (ft)	Local E (ft)	Local S (ft)
Slot 3H	0.09	0.84	0.00
Slot 3H	Grid East (US ft)	Grid North (US ft)	Longitude
Slot 3H	1773743.010	14611288.537	40°13'52.371"N 80°31'20.305"W
SDC 41 (RKB) to Ground level (At Slot: Slot 3H)	26ft		
Mean Sea Level to Ground level (At Slot: Slot 3H)	-1150.1ft		
SDC 41 (RKB) to Mean Sea Level	1176.1ft		

API: 47-009-00281-0000  
 BH Job #: 109876565  
 Rig: SDC 41  
 Duration: 06/28/2019 - 07/07/2019



User specified Dip: 67.56°, Field: 52534 nT  
 Magnetic North is 8.50 degrees West of True North (at 28/Jun/2019)  
 To calculate Grid North is 0.31 degrees East of True North  
 To correct azimuth from Magnetic to Grid subtract 8.81 degrees



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BH AT Curve <8 1/2"> (5306'-18019') : 5.25° Inc, 5306.00ft MD, 5289.99ft TVD, -209.24ft VS

Projection to Bit : 91.97° Inc, 18044.00ft MD, 5909.79ft TVD, 11991.75ft VS  
 5.5in Casing Production : 91.97° Inc, 18044.00ft MD, 5909.79ft TVD, 11991.75ft VS

Vertical Section (ft)  
 Azimuth 340.05° with reference 0.00 N, 0.00 E

Scale 1 inch = 2000



# Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	7/23/2019
Job End Date:	8/13/2019
State:	West Virginia
County:	Brooke
API Number:	47-009-00281-00-00
Operator Name:	Southwestern Energy
Well Name and Number:	Margaret Corbin BRK 3
Latitude:	40.23121400
Longitude:	-80.52230700
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	5,996
Total Base Water Volume (gal):	16,443,860
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
BIOC11219A	Nalco	Biocide					
				Listed Below			
SWN FRW-13LA	SWN Well Services	Friction Reducer					
				Listed Below			

Sand	SWN Well Services	Proppant											
					Listed Below								
Ecopol-FEAC	SWN Well Services	Iron Control			Listed Below								
					Listed Below								
Base Water	Operator	Base Fluid			Listed Below								
SCAL16486A	Nalco	Scale Inhibitor			Listed Below								
Econo-CI200	SWN Well Services	Corrosion Inhibitor			Listed Below								
HCL	SWN Well Services	Solvent			Listed Below								
Items above are Trade Names with the exception of Base Water. Items below are the individual ingredients.													
			Water		7732-18-5	100.00000	85.16580	Density = 8.345					
			Crystalline Silica, quartz		14808-60-7	100.00000	14.32510						
			Water		7732-18-5	85.00000	0.39406						
	RECEIVED Office of Oil and Gas		Hydrochloric Acid		7647-01-0	15.00000	0.05881						
	NOV 15 2019		Petroleum Distillates, Hydrotreated		64742-47-8	25.00000	0.02038						
			Methanol		67-56-1	60.00000	0.01516						
	WV Department of Environmental Protection		Benzyl-(C12-C16 Alky)-Dimethyl-Ammonium		68424-85-1	30.00000	0.00758						
			Chloride Glutaraldehyde		111-30-8	10.00000	0.00253						





**MARGARET CORBIN BRK 3H  
ATTACHMENT 1  
PERF REPORT**

STAGE NUM	Perf Date	Perf Top MD	Perf Bottom MD	# SHOTS PER STG
1	7/19/2019	17,997	17,903	36
2	7/23/2019	17,852	17,744	42
3	7/23/2019	17,711	17,603	42
4	7/24/2019	17,569	17,461	42
5	7/24/2019	17,428	17,320	42
6	7/25/2019	17,286	17,178	42
7	7/25/2019	17,145	17,037	42
8	7/25/2019	17,004	16,896	42
9	7/25/2019	16,862	16,754	42
10	7/26/2019	16,721	16,613	42
11	7/26/2019	16,579	16,471	42
12	7/26/2019	16,438	16,331	42
13	7/26/2019	16,297	16,189	42
14	7/26/2019	16,155	16,047	42
15	7/27/2019	16,014	15,906	42
16	7/27/2019	15,872	15,764	42
17	7/27/2019	15,731	15,623	42
18	7/27/2019	15,590	15,482	42
19	7/28/2019	15,448	15,340	42
20	7/28/2019	15,307	15,199	42
21	7/28/2019	15,165	15,057	42
22	7/28/2019	15,024	14,916	42
23	7/29/2019	14,883	14,775	42
24	7/29/2019	14,740	14,633	42
25	7/29/2019	14,600	14,492	42
26	7/30/2019	14,457	14,350	42
27	7/30/2019	14,317	14,213	42
28	7/30/2019	14,176	14,068	42
29	7/31/2019	14,034	13,930	42
30	7/31/2019	13,893	13,785	42
31	7/31/2019	13,751	13,645	42
32	8/1/2019	13,610	13,502	42
33	8/1/2019	13,469	13,361	42
34	8/1/2019	13,324	13,219	42
35	8/1/2019	13,186	13,078	42
36	8/2/2019	13,044	12,936	42
37	8/2/2019	12,903	12,795	42
38	8/3/2019	12,758	12,654	42
39	8/3/2019	12,620	12,512	42
40	8/3/2019	12,476	12,371	42
41	8/3/2019	12,337	12,229	42
42	8/3/2019	12,196	12,086	42
43	8/4/2019	12,055	11,947	42
44	8/4/2019	11,913	11,805	42

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45	8/4/2019	11,772	11,664	42
46	8/5/2019	11,628	11,522	42
47	8/5/2019	11,489	11,379	42
48	8/5/2019	11,348	11,240	42
49	8/6/2019	11,206	11,098	42
50	8/6/2019	11,065	10,957	42
51	8/6/2019	10,923	10,815	42
52	8/7/2019	10,782	10,673	42
53	8/7/2019	10,645	10,533	42
54	8/7/2019	10,499	10,389	42
55	8/8/2019	10,358	10,250	42
56	8/8/2019	10,216	10,108	42
57	8/8/2019	10,075	9,967	42
58	8/9/2019	9,928	9,826	42
59	8/9/2019	9,792	9,684	42
60	8/9/2019	9,651	9,543	42
61	8/9/2019	9,509	9,404	42
62	8/9/2019	9,368	9,260	42
63	8/9/2019	9,227	9,119	42
64	8/10/2019	9,085	8,977	42
65	8/10/2019	8,939	8,836	42
66	8/10/2019	8,802	8,694	42
67	8/10/2019	8,661	8,553	42
68	8/10/2019	8,520	8,412	42
69	8/10/2019	8,378	8,268	42
70	8/11/2019	8,237	8,129	42
71	8/11/2019	8,095	7,985	42
72	8/11/2019	7,954	7,846	42
73	8/11/2019	7,813	7,705	42
74	8/11/2019	7,671	7,563	42
75	8/11/2019	7,532	7,422	42
76	8/11/2019	7,388	7,280	42
77	8/12/2019	7,247	7,139	42
78	8/12/2019	7,106	6,998	42
79	8/12/2019	6,964	6,856	42
80	8/12/2019	6,826	6,715	42
81	8/12/2019	6,681	6,573	42
82	8/12/2019	6,540	6,432	42
83	8/12/2019	6,399	6,291	42

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**MARGARET CORBIN BRK 3H  
ATTACHMENT 2  
STIM REPORT**

STAGE NUM	Stim 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
1	7/23/2019	76	8,355	7,902	4,322	235,200	5,248	0
2	7/23/2019	73	7,677	7,286	4,278	279,460	5,919	0
3	7/23/2019	82	7,691	5,583	4,177	280,800	5,577	0
4	7/24/2019	80	7,829	4,495	4,663	276,720	5,314	0
5	7/24/2019	80	7,737	4,556	4,789	281,200	5,117	0
6	7/25/2019	84	8,049	6,184	4,548	281,507	5,416	0
7	7/25/2019	77	7,962	5,764	4,563	278,792	5,473	0
8	7/25/2019	80	7,894	6,007	7,098	283,750	7,488	0
9	7/26/2019	77	7,847	5,850	4,513	279,906	5,708	0
10	7/26/2019	79	7,950	6,433	4,622	280,221	5,526	0
11	7/26/2019	77	7,905	5,558	4,531	279,264	5,468	0
12	7/26/2019	78	8,055	5,824	4,652	281,372	5,553	0
13	7/26/2019	81	7,990	6,150	4,640	285,568	5,386	0
14	7/26/2019	78	8,163	5,573	4,680	283,469	5,396	0
15	7/27/2019	80	7,762	5,915	4,495	275,548	5,169	0
16	7/27/2019	84	7,845	6,252	4,592	274,705	5,755	0
17	7/27/2019	86	7,987	4,696	4,621	279,143	5,432	0
18	7/27/2019	76	7,595	6,104	4,512	281,110	7,067	0
19	7/28/2019	82	7,881	5,292	4,315	278,465	5,319	0
20	7/28/2019	86	7,410	5,959	4,611	280,870	5,444	0
21	7/28/2019	82	8,096	5,803	4,686	280,174	4,677	0
22	7/28/2019	77	7,955	5,775	4,760	282,161	5,280	0
23	7/29/2019	80	8,039	6,208	4,521	282,550	5,252	0
24	7/29/2019	85	8,047	6,164	4,655	281,175	4,994	0
25	7/29/2019	88	7,928	5,689	4,836	279,726	5,114	0
26	7/30/2019	75	7,864	6,048	4,590	272,197	5,513	0
27	7/30/2019	90	8,029	5,621	4,683	284,944	5,068	0
28	7/30/2019	85	7,750	6,085	4,490	277,521	4,856	0
29	7/31/2019	90	8,104	6,354	5,077	280,012	4,788	0
30	7/31/2019	89	8,110	5,966	5,332	281,016	4,730	0
31	7/31/2019	87	7,609	5,740	4,855	274,600	4,883	0
32	8/1/2019	86	8,083	5,926	4,902	282,878	4,779	0
33	8/1/2019	90	8,063	5,731	5,192	281,846	4,839	0
34	8/1/2019	89	7,401	5,485	5,201	279,515	4,814	0
35	8/2/2019	87	7,726	6,100	4,455	267,286	4,689	0
36	8/2/2019	92	7,924	5,542	4,848	279,372	4,634	0
37	8/2/2019	89	7,665	5,968	4,950	281,224	5,244	0
38	8/3/2019	84	7,537	5,812	4,909	284,980	4,837	0
39	8/3/2019	93	7,854	5,932	5,544	283,558	4,629	0
40	8/3/2019	90	7,906	5,554	4,139	282,308	4,542	0
41	8/3/2019	92	7,654	5,975	5,012	282,308	4,736	0
42	8/4/2019	90	7,387	5,682	4,920	285,185	4,575	0
43	8/4/2019	91	7,870	5,798	4,794	281,555	4,481	0
44	8/4/2019	90	7,469	5,762	4,805	276,339	4,717	0
45	8/5/2019	89	7,495	5,875	4,943	279,664	4,628	0
46	8/5/2019	87	8,019	6,151	4,932	281,003	4,508	0
47	8/5/2019	88	7,802	6,004	4,973	279,437	4,824	0
48	8/5/2019	89	7,507	5,862	5,004	289,345	4,891	0
49	8/6/2019	92	7,710	5,551	4,873	282,016	4,499	0
50	8/6/2019	91	7,358	5,608	4,765	279,859	4,572	0
51	8/7/2019	87	7,574	5,915	4,530	280,692	4,583	0
52	8/7/2019	92	7,280	6,015	4,413	285,730	5,261	0
53	8/7/2019	91	7,765	6,334	5,043	279,335	4,132	0
54	8/8/2019	86	7,758	6,085	5,076	273,470	4,296	0
55	8/8/2019	89	7,398	6,015	4,462	280,230	4,784	0
56	8/8/2019	90	7,335	6,041	4,592	277,065	4,608	0
57	8/9/2019	88	7,474	5,923	5,330	274,080	3,975	0

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58	8/9/2019	92	7,261	6,261	4,455	284,100	4,858	0
59	8/9/2019	89	7,182	6,263	4,485	282,150	4,424	0
60	8/9/2019	91	7,002	5,822	4,489	284,080	4,476	0
61	8/9/2019	91	7,612	5,864	4,852	275,815	3,561	0
62	8/9/2019	93	7,532	5,688	5,423	285,635	3,842	0
63	8/9/2019	92	7,327	5,956	4,720	277,110	3,820	0
64	8/10/2019	90	7,659	6,145	4,855	271,450	3,859	0
65	8/10/2019	91	7,012	5,910	4,466	274,830	4,429	0
66	8/10/2019	92	7,155	5,987	4,502	276,030	4,397	0
67	8/10/2019	91	6,927	6,123	4,368	275,725	4,299	0
68	8/10/2019	88	7,393	6,198	4,580	282,860	3,835	0
69	8/10/2019	89	7,447	5,017	5,032	270,500	3,874	0
70	8/11/2019	92	7,436	5,802	4,968	273,920	3,889	0
71	8/11/2019	92	7,290	6,180	4,819	276,310	3,753	0
72	8/11/2019	92	7,020	5,910	4,340	275,510	4,266	0
73	8/11/2019	92	6,795	5,825	4,372	282,805	4,263	0
74	8/11/2019	92	7,143	6,432	4,580	286,585	3,928	0
75	8/11/2019	93	7,011	6,025	4,791	273,320	3,741	0
76	8/11/2019	92	7,113	6,350	4,756	272,100	3,759	0
77	8/12/2019	92	6,828	6,156	4,680	276,344	3,661	0
78	8/12/2019	92	6,884	6,125	4,358	275,370	4,160	0
79	8/12/2019	92	6,836	6,188	4,344	273,970	4,193	0
80	8/12/2019	89	6,649	6,895	4,398	274,320	4,147	0
81	8/12/2019	91	7,102	6,863	4,655	273,750	3,623	0
82	8/12/2019	90	6,997	6,749	4,710	275,725	3,683	0
83	8/13/2019	88	6,574	6,891	4,705	250,230	3,485	0

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NOV 15 2019

WV Department of  
Environmental Protection



Well Name: Margaret Corbin BRK 3H

47009002810000

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	372.00	372.00	
Top of Salt Water	495.00	495.00	NA	NA	
Pittsburgh Coal	318.00	318.00	323.00	323.00	
Pottsville (ss)	666.00	666.00	1221.00	1221.00	
Maxton (ss)	1221.00	1221.00	1530.00	1530.00	
Big Injun (ss)	1530.00	1530.00	1943.00	1919.00	
Berea (siltstone)	1927.00	1926.00	5492.00	5476.00	
Rhinestreet (shale)	5492.00	5476.00	5762.00	5736.00	
Cashqua (shale)	5762.00	5736.00	5827.00	5792.00	
Middlesex (shale)	5827.00	5792.00	5909.00	5859.00	
Burket (shale)	5909.00	5859.00	5930.00	5875.00	
Tully (ls)	5930.00	5875.00	6008.00	5930.00	
Mahantango (shale)	6008.00	5930.00	6277.00	6057.00	
Marcellus (shale)	6277.00	6057.00	NA	NA	GAS

RECEIVED  
Office of Oil and Gas  
NOV 15 2019

WV Department of  
Environmental Protection



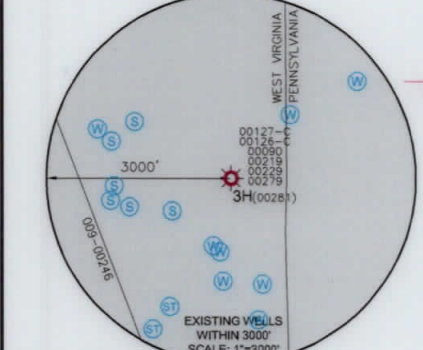
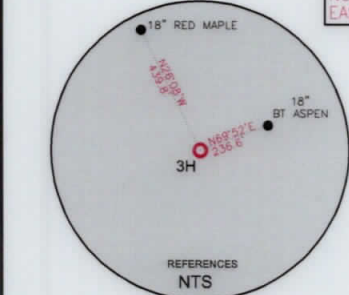
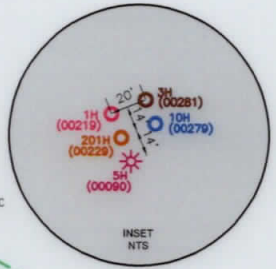
Latitude: 40°15'00" SURFACE HOLE 6,227'  
 Latitude: 40°17'30" BOTTOM HOLE 10,240'

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

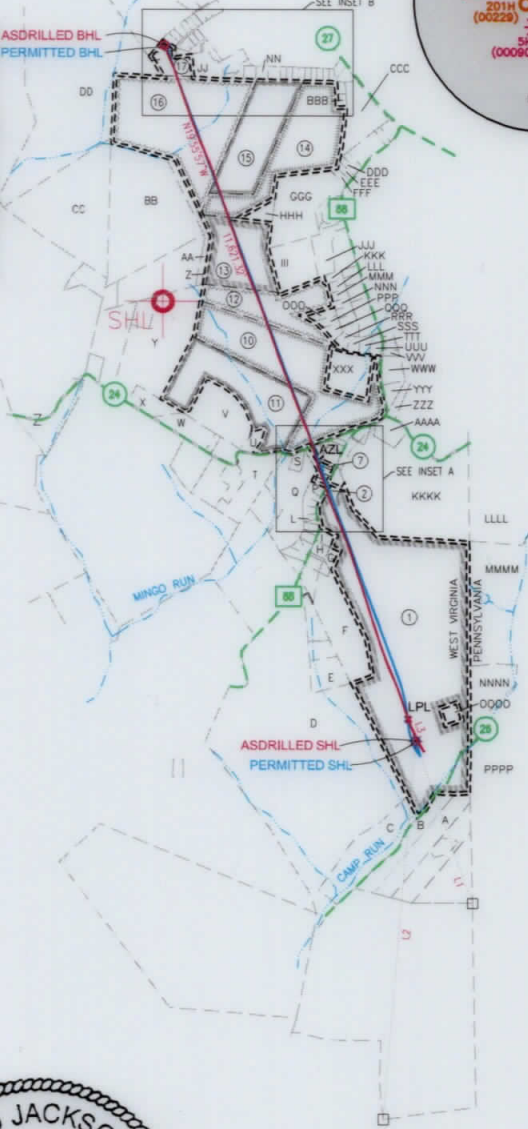
<b>SURFACE HOLE LOCATION (SHL):</b>	
UTM (NAD83, ZONE 17, METERS): NORTHING: 4,453,529.654 EASTING: 540,637.951	
<b>LANDING POINT (LPL):</b>	
UTM (NAD83, ZONE 17, METERS): NORTHING: 4,453,640.199 EASTING: 540,597.623	
<b>AZIMUTH LOCATION (AZL):</b>	
UTM (NAD83, ZONE 17, METERS): NORTHING: 4,454,879.223 EASTING: 540,170.688	
<b>BOTTOM HOLE LOCATION (BHL):</b>	
UTM (NAD83, ZONE 17, METERS): NORTHING: 4,456,961.646 EASTING: 539,401.258	

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

LINE	BEARING	DISTANCE	DESCRIPTION	MONUMENT
L1	S 19°25'25" E	2,785.73'	SHL TO LANDMARK	SIGN POST FOUND
L2	S 05°00'15" E	6,152.58'	SHL TO LANDMARK	FENCE POST FOUND
LINE	BEARING	DISTANCE	CURVE LENGTH	DESCRIPTION
L3	N 18°18'16" W	370.66'	1,158.77'	SHL TO LPL



<b>SURFACE HOLE LOCATION (SHL):</b>	
UTM (NAD83, ZONE 17, METERS): NORTHING: 4,453,529.614 EASTING: 540,637.924	
<b>LANDING POINT (LPL):</b>	
UTM (NAD83, ZONE 17, METERS): NORTHING: 4,453,636.873 EASTING: 540,602.442	
<b>BOTTOM HOLE LOCATION (BHL):</b>	
UTM (NAD83, ZONE 17, METERS): NORTHING: 4,456,966.865 EASTING: 539,394.868	



Longitude: 80°30'00"  
 Longitude: 80°30'00"  
 Longitude: 80°30'00"

**WELL RESTRICTIONS**

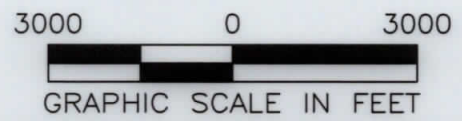
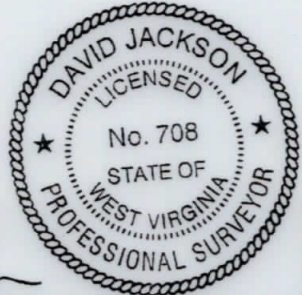
- NO OCCUPIED DWELLINGS > 2500 SQ FT. WITHIN 625 FEET OF CENTER OF PAD.
- NO AGRICULTURE BUILDINGS > 2500 SQ FT. WITHIN 625 FEET OF CENTER OF PAD.
- NO WATER WELLS OR DEVELOPED SPRINGS ARE WITHIN 250 FEET OF PROPOSED WELL.
- NO PERENNIAL STREAMS, LAKES, PONDS, OR RESERVOIRS WITHIN 100 FEET OF THE LIMITS 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.
- THIS PLAN DOES NOT REPRESENT A BOUNDARY SURVEY OF THE PARCELS SHOWN HEREON.
- ALL INSETS ARE GRID NORTH UNLESS OTHERWISE DEPICTED.

I, THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAN 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™

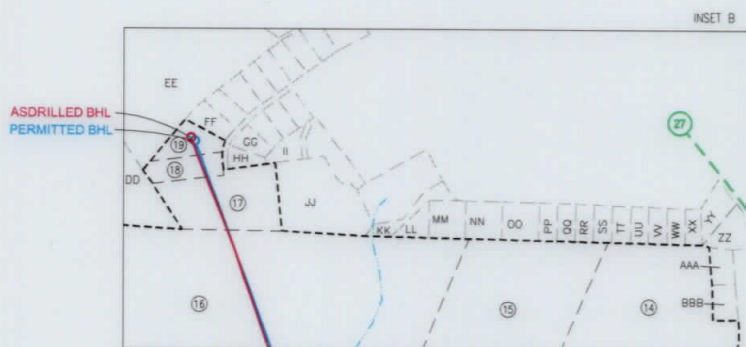
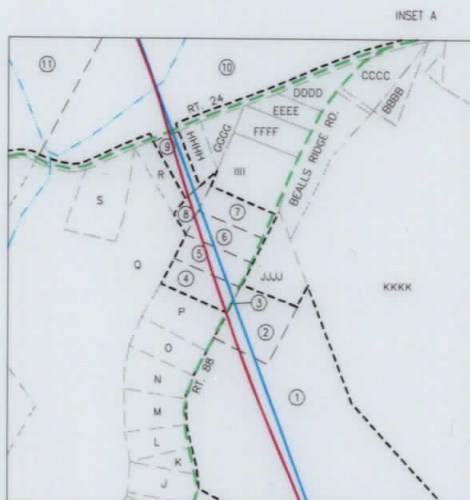
(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS WVDEP OFFICE OF OIL & GAS 601 57TH STREET CHARLESTON, WV 25034	MINIMUM DEGREE OF ACCURACY: 1/200 PROVEN SOURCE OF ELEVATION: SURVEY GRADE GPS (NAVD 88, US FT)	MARGARET CORBIN BRK OPERATOR'S WELL #: 3H API WELL #: 47 009 00281 STATE COUNTY PERMIT
---	--	---



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"/>	WATERSHED: CAMP RUN OF BUFFALO CREEK (HUC-10) DISTRICT: BUFFALO COUNTY: BROOKE SURFACE OWNER: LOUIS W. HENSLER, JR. & MARGARET HENSLER OIL & GAS ROYALTY OWNER: MARGARET H. CORBIN, WIDOW	ELEVATION: 1150.1' QUADRANGLE: BETHANY, WV ACREAGE: ±183.13 ACREAGE: ±183.13
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) ASDRILLED	TARGET FORMATION: MARCELLUS ESTIMATED DEPTH: 6,079' TVD 18,044' TMD	

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

<b>LEGEND:</b> ○ PROPOSED SURFACE HOLE / BOTTOM HOLE * EXISTING / PRODUCING WELLHEAD LPL * LANDING POINT LOCATION W EXISTING WATER WELL S EXISTING SPRING	— SURVEYED BOUNDARY — DRILLING UNIT = LEASE BOUNDARY — ASDRILLED PATH — PROPOSED PATH	<b>REVISIONS:</b> DATE: 11-12-2019 DRAWN BY: N. MANO SCALE: 1" = 3000' DRAWING NO: WELL LOCATION PLAT 1
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JACKSON SURVEYING  
 INC.  
 2413 EAST PIKE ST. # 112  
 Clarksburg, WV 26301  
 304-623-5851



REVISIONS:	COMPANY:			 
	OPERATOR'S MARGARET CORBIN BRK WELL #: 3H DISTRICT: BUFFALO COUNTY: BROOKE STATE: WV			
	API #:		DATE: 11-12-2019	
	47-009-00281		DRAWN BY: N. MANO	
	SCALE: N/A		DRAWING NO:	
	WELL LOCATION PLAT 2			





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

WELL BORE TABLE FOR SURFACE / ROYALTY OWNERS		
TRACT	SURFACE OWNER (S) / ROYALTY OWNER (R)	TAX PARCEL
1	LOUIS W. HENSLE JR. & MARGARET R. HENSLE (S) / MARGARET H. CORBIN, WIDOW (R)	03-B34-57
TRACT	SURFACE OWNER	TAX PARCEL
2	WILLIAM J. WALES & MARSHA E. WALES (S)	03-B34-59
3	WV DEPARTMENT OF TRANSPORTATION (S)	RT. 88 "BEALLS RIDGE ROAD"
4	BRIAN C. ROADMAN & KRISTA L. ROADMAN (S)	03-B34-35
5	JEFFEREY A. SHAFFER & MARTHA L. SHAFFER (S)	03-B34-34
6	GRIFF H. BRIGGS (S)	03-B34-33
7	RALPH R. VAN CAMP, JR. (S)	03-B34-31
8	ROBERT LEE FRESHWATER (S)	03-B34-32
9	NANCY J. AMBROSE REVOCABLE TRUST (S)	03-B34-24
10	JUDITH LEE BRINKLEY, SARAH A. STENGER & MARK A. BUYAN (S)	03-B34-10
11	NANCY J. AMBROSE REVOCABLE TRUST (S)	03-B34-11
12	WILLIAM CURTIS HUNT & SUSAN L. HUNT (S)	03-B34-07
13	WILLOW SPRINGS, INC. (S)	03-B34-10.2
14	DAVID L. RAGAN & JOYCE A. RAGAN (S)	03-B29-13
15	LOUIS DELATORE & KAREN DELATORE (S)	03-B29-13.1
16	PARK & RECREATION COMMISSION (S)	03-B29-14
17	RICHARD M. COPERICH & BELINDA A. COPERICH (S)	03-B29J-25
18	RICHARD M. COPERICH & BELINDA A. COPERICH (S)	03-B29J-24
19	RICHARD M. COPERICH & BELINDA A. COPERICH (S)	03-B29J-23

ADJOINING OWNERS TABLE		
TRACT	SURFACE OWNER	TAX PARCEL
A	TAMMY M. WITHERS	03-B39-04
B	JOHN DANA GARNER	03-B39-03
C	RICKY VON HUDSON	03-B39-02
D	NORMA J. SHIDOCK	03-B34-50
E	KEVIN L. MINOR & RULETTA R. MINOR	03-B34-50.1
F	MICHAEL M. HENSLE JR. & DEBORAH HENSLE	03-B34-57.4
G	LOUIS W. HENSLE JR. & MARGARET R. HENSLE	03-B34-57.3
H	LOUIS W. HENSLE JR. & MARGARET R. HENSLE	03-B34-55
I	WILLIAM W. ROADMAN & PAULA L. ROADMAN	03-B34-56
J	MENEELY IRREV. TRUST OF 7/22/16, LEE R. MENEELY & CLEA C. MENEELY, TRUSTEES	03-B34-42
K	MENEELY IRREV. TRUST OF 7/22/16, LEE R. MENEELY & CLEA C. MENEELY, TRUSTEES	03-B34-41
L	DELORIS A. PLESS & JAMIE RATTIGANMETALLA	03-B34-40
M	WILLIAM MATTHEW GADD & BARBARA ESTELLE GADD	03-B34-39
N	ERIC MAZZELLA	03-B34-38
O	COREY J. SCHIDEK & DARIAN A. SIGET	03-B34-37
P	COREY J. SCHIDEK & DARIAN A. SIGET	03-B34-36
Q	SIMON MATHAW MAZZELLA & MARTHA KAY MAZZELLA	03-B34-21
R	NANCY J. AMBROSE REVOCABLE TRUST	03-B34-23
S	BUFFALO CEMETERY	03-B34-22
T	JAMES C. INMAN, JR. & LAURA G. INMAN	03-B34-19
U	LEANN MISCH & BRIAN S. MISCH	03-B34-12
V	NANCY J. AMBROSE REV. TRUST	03-B34-14
W	DAVID RAGAN	03-B34-15
X	KEITH R. & KATHY J. SMITH	03-B34-16
Y	DAVID L. RAGAN	03-B34-16.3
Z	KEITH R. & KATHY J. SMITH	03-B34-16.4
AA	KEITH R. & KATHY J. SMITH	03-B34-1.1
BB	KEITH & KATHY SMITH	03-B34-1
CC	PARK & RECREATION COMMISSION	03-B28-61
DD	PARK & RECREATION COMMISSION	03-B28-65
EE	JOHN GABRIEL RADVANSKY	03-B29J-07
FF	GREGORY DEAN NIEMAN & LAUREL ANN NIEMAN	03-B29J-22
GG	RICHARD M. COPERICH & BELINDA A. COPERICH	03-B29J-27
HH	RICHARD M. COPERICH & BELINDA A. COPERICH	03-B29J-26
II	GREGORY P. STASIOSKI & TINA M. STASIOSKI	03-B29J-51
JJ	RICHARD M. COPERICH & BELINDA A. COPERICH	03-B29J-52
KK	RUSSELL D. HERVEY & BRITTANY HUKILL	03-B29J-61
LL	RUSSELL D. HERVEY & BRITTANY N. HUKILL	03-B29J-62
MM	RUSSELL HERVEY & BRITTANY N. HUKILL	03-B29J-63
NN	N. STEVE NIXON & JILL NIXON	03-B29J-64
OO	JOHN P. MCCONAUGHEY	03-B29J-65
PP	DISCHMOND SPURRIER & AMY EILEEN SPURRIER	03-B29J-66
QQ	DISCHMOND SPURRIER & AMY EILEEN SPURRIER	03-B29K-13
RR	JAMES A. CASTRO & LOUISE CASTRO	03-B29K-14
SS	JAMES A. CASTRO & LOUISE CASTRO	03-B29K-15
TT	KAREN DELATORE & LOUIS DELATORE	03-B29K-16
UU	KAREN DELATORE & LOUIS DELATORE	03-B29K-17
VV	DAVID L. RAGAN & JOYCE A. RAGAN	03-B29K-18
WW	JAMES STEWART & PAMELA STEWART	03-B29K-19
XX	JAMES H. STEWART & PAMELA J. STEWART	03-B29K-20
YY	MELANIE A. CECCHINI	03-B29K-21

ADJOINING OWNERS TABLE		
TRACT	SURFACE OWNER	TAX PARCEL
ZZ	PENNY FALBO	03-B29K-22
AAA	PENNY FALBO	03-B29K-23
BBB	CHARLES M. ROBERSON & DOROTHY ROBERSON	03-B29K-24
CCC	CHARLES M. & DOROTHY ROBERSON	03-B29-5
DDD	HAROLD S. SONDA & SHIRLEY J. SONDA	03-B29-10
EEE	NORMA ETOD CHIVERS & ALAN J. CHIVERS, ET AL	03-B29-11
FFF	NORMA ETOD CHIVERS & ALAN J. CHIVERS, ET AL	03-B29-12
GGG	HARRY E. SANFORD & CHATMAN L. NEELY	03-B29-16
HHH	WASHINGTON PIKE PUBLIC SERVICE	03-B29-17
III	HARRY E. SANFORD & CHATMAN L. NEELY	03-B34-02
JJJ	CHRISTOPHER J. PAULL & MARY E. PAULL	03-B34-03
KKK	GERALD L. HENWOOD & KELLIE J. HENWOOD	03-B34-7.12
LLL	GERALD L. HENWOOD & KELLIE J. HENWOOD	03-B34-7.10
MMM	REGINA LINDSEY-LYNCH, TR. OF REGINA LINDSEY-LYNCH REV TR. AGREEMENT	03-B34-7.9
NNN	REGINA LINDSEY-LYNCH, TR. OF REGINA LINDSEY-LYNCH REV TR. AGREEMENT	03-B34-7.7
OOO	GARY D. THOMAS, TRESA A. THOMAS & ANDREW THOMAS	03-B34-7.8
PPP	GARY D. THOMAS, TRESA A. THOMAS & ANDREW THOMAS	03-B34-7.4
QQQ	CHRISTOPHER D. MOCKBEE & JOY R. MOCKBEE	03-B34-08
RRR	MATTHEW D. MATTESON & AMY R. MATTESON	03-B34-7.1
SSS	RICKEY G. LOUDIN & PATRICIA A. LOUDIN	03-B34-09
TTT	BRANDON C. PORCO & THERESA R. PORCO	03-B34-7.2
UUU	BRANDON C. PORCO & THERESA R. PORCO	03-B34-7.11
VVV	FREDERICK L. HANNAHS	03-B34-70
WWW	RICHARD L. SONDA & HAROLD SONDA	03-B34-69
XXX	KENNETH RIGGS	03-B34-10.1
YYY	SHIRLEY WINTERS	03-B34-68
ZZZ	MARY L. SHEERAN, BEVERLY CUCARESE CRAFT & MARLA COOPER	03-B34-67
AAAA	HALCIE D. DURBIN & DEBORAH K. DURBIN	03-B34-65
BBBB	KENNETH W. DIGHT & BRENDA DIGHT	03-B34-63
CCCC	KENNETH W. DIGHT & BRENDA D. DIGHT	03-B34-62
DDDD	WILLIAM C. VAN CAMP & MARIE C. VAN CAMP	03-B34-27
EEEE	GEORGE T. KANSAS & EDITH J. KANSAS	03-B34-28
FFF	GEORGE T. KANSAS & EDITH J. KANSAS	03-B34-29
GGGG	DEBORAH L. MOSER	03-B34-26
HHHH	CHERYL V. MIELKE	03-B34-25
IIII	MARY K. MILLER	03-B34-30
JJJJ	WILLIAM J. WALES & MARSHA E. WALES	03-B34-57.2
KKKK	BOWNDREE II INC.	03-B34-66
LLLL	BOWNLEE LAND VENTURES LP	370-011-00-00-0004-00
MMMM	JOHN MULLINS JR.	370-011-00-00-0003-01
NNNN	WM. HRIBAL ET UX	370-011-00-00-0003-00
OOOO	STEPHEN S. GRIZZEL	03-B34-58
PPPP	ANDREA BROWNLEE	370-012-00-00-0001-00

REVISIONS:	COMPANY:	 	
	OPERATOR'S	MARGARET CORBIN BRK	API#
	WELL #:	3H	47-009-00281
	DISTRICT:	BUFFALO	STATE:
		COUNTY:	WV
			DATE: 11-12-2019
			DRAWN BY: N. MANO
			SCALE: N/A
			DRAWING NO:
			WELL LOCATION PLAT 3