

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

API 47 - 009 - 00229 County BROOKE District BUFFALO
Quad BETHANY, WV Pad Name MARGARET CORBIN-BRK-PAD1 Field/Pool Name PANHANDLE FIELD WET
Farm name LOUIS W. HENSLER, JR. & MARGARET HENSLER Well Number MARGARET CORBIN BRK 201H
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 4,453,523.437 Easting 540,633.923
Landing Point of Curve Northing 4,453,341.548 Easting 540,200.856
Bottom Hole Northing 4,455,427.825 Easting 539,397.109

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

RECEIVED
Office of Oil and Gas

NOV 15 2019

Date permit issued 1/19/2018 Date drilling commenced 6/4/2019 Date drilling ceased 6/15/2019
Date completion activities began 7/22/2019 Date completion activities ceased 8/20/2019
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 495' Open mine(s) (Y/N) depths N
Salt water depth(s) ft 372' 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-780 12-17-19

Reviewed by:
SB 12-17-19

API 47- 009 - 00229 Farm name LOUIS W. HENSLER, JR. & MARGARET HENSLER Well number MARGARET CORBIN BRK 201H

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	458	NEW	J-55/54.50#		Y; 23 BBLS
Coal							
Intermediate 1	12.25	9.625	1705	NEW	J-55/36#		Y; 33 BBLS
Intermediate 2							
Intermediate 3							
Production	8.75/8.50	5.5	14176	NEW	HCP-110/20#		Y
Tubing		2.875	6857	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 ³ /sks)	Volume (ft ³)	Cement Top (MD)	WOC (hrs)
Conductor	CLASS A	GROUT TO SURFACE				SURFACE	24
Surface	CLASS A	445	15.60	1.20	534	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	2,446	15.60	1.19	2,910.74	SURFACE	24
Tubing							

Drillers TD (ft) 14,176 Loggers TD (ft) 14,176
 Deepest formation penetrated _____ Plug back to (ft) N/A
 Plug back procedure N/A

Kick off depth (ft) 5,442'

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 _____

RECEIVED
Office of Oil and Gas

NOV 15 2019

API 47-009 - 00229

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

Well number MARGARET CORBIN BRK 201H

PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
	SEE	ATTACHMENT 1	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	2					

RECEIVED
Office of Oil and Gas

Please insert additional pages as applicable.

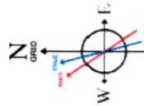
NOV 15 2019

WV Department of Environmental Protection

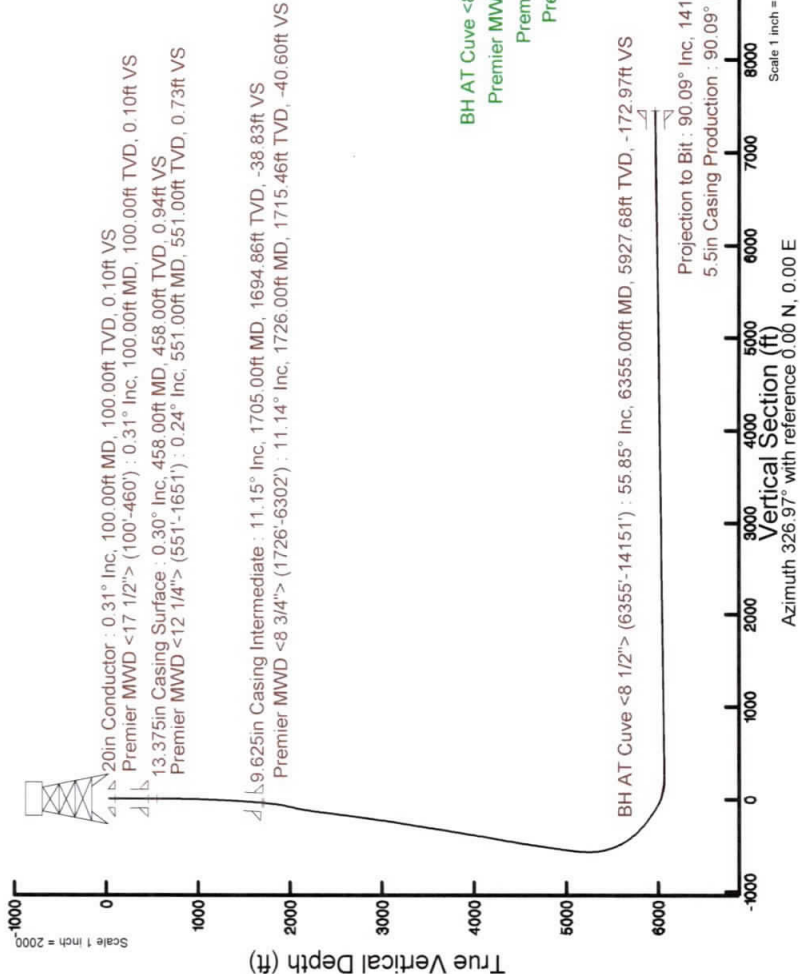
SOUTHWESTERN ENERGY

Location: Brooke County, WV
 Slot: Slot 201H
 Field: Brooke
 Well: Margaret Corbin BRK 201H
 Facility: Margaret Corbin Pad Wellbore: Margaret Corbin BRK 201H PWB

Plot reference wellpath is Margaret Corbin BRK 201H PWP Rev-B.0 | Grid System: NAD83 / UTM Zone 17 North, US feet
 True vertical depths are referenced to SDC 41 (RKB)
 Measured depths are referenced to SDC 41 (RKB)
 SDC 41 (RKB) to Mean Sea Level: 1176.2 feet
 Mean Sea Level to Ground level (At Slot: Slot 201H): -1150.2 feet
 Coordinates are in feet referenced to Slot



User specified Dip: 67.56° Field: 52540 nT
 Magnetic North is 8.50 degrees East of True North (at 06-Jun-2019)
 Grid North is 0.31 degrees East of True North
 To correct azimuth from True to Grid subtract 0.31 degrees
 To correct azimuth from Magnetic to Grid subtract 8.81 degrees

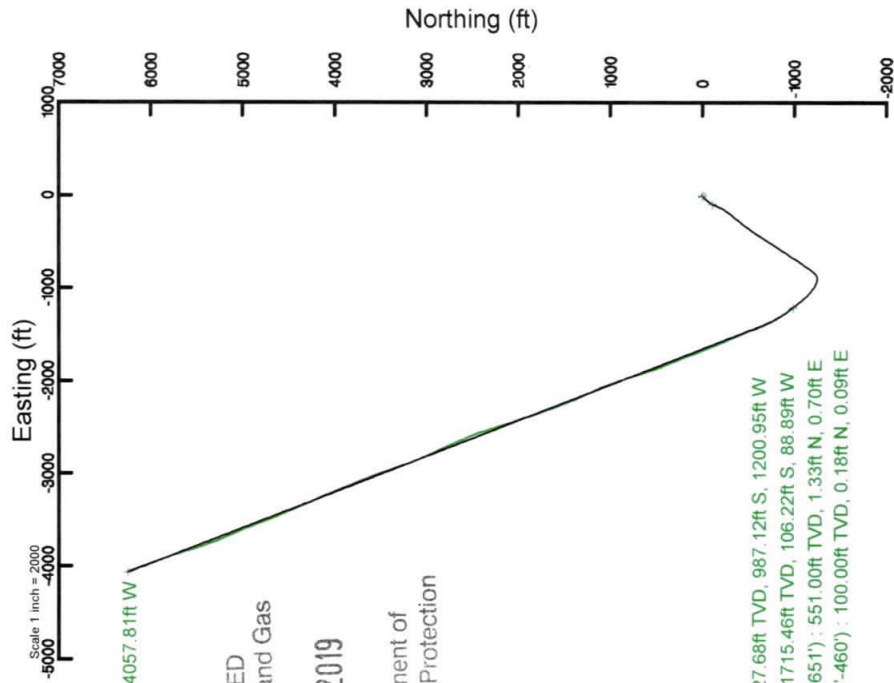


Location Information

Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	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)	Grid North (US ft)	Grid East (US ft)
Slot 201H	-20.44	-12.40	14611288.022	1773729.770
SDC 41 (RKB) to Ground level (At Slot: Slot 201H)	26ft			
Mean Sea Level to Ground level (At Slot: Slot 201H)	-1150.2ft			
SDC 41 (RKB) to Mean Sea Level	1176.2ft			

Comments

API: 47-009-00229-0000
 BH Job #: 109858263
 Rig: SDC 41
 Duration: 06/31/2019 - 06/13/2019



RECEIVED
 Office of Oil and Gas

NOV 15 2019

WV Department of
 Environmental Protection

Projection to Bit : 5968.89ft TVD, 6247.92ft N, 4057.81ft W
 BH AT Cuve <8 1/2'> (6355°-14151') : 5927.68ft TVD, 987.12ft S, 1200.95ft W
 Premier MWD <8 3/4'> (1726°-6302') : 1715.46ft TVD, 106.22ft S, 88.89ft W
 Premier MWD <12 1/4'> (551°-1651') : 551.00ft TVD, 1.33ft N, 0.70ft E
 Premier MWD <17 1/2'> (100°-460') : 100.00ft TVD, 0.18ft N, 0.09ft E

BH AT Cuve <8 1/2'> (6355°-14151') : 55.85° Inc, 6355.00ft MD, 5927.68ft TVD, -172.97ft VS
 5.5in Casing Production : 90.09° Inc, 14176.00ft MD, 5968.89ft TVD, 7449.99ft VS

Projection to Bit : 90.09° Inc, 14176.00ft MD, 5968.89ft TVD, 7449.99ft VS
 5.5in Casing Production : 90.09° Inc, 14176.00ft MD, 5968.89ft TVD, 7449.99ft VS

Scale 1 inch = 2000

Vertical Section (ft)
 Azimuth 326.97° with reference 0.00 N, 0.00 E

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	7/22/2019
Job End Date:	8/12/2019
State:	West Virginia
County:	Brooke
API Number:	47-009-00229-00-00
Operator Name:	Southwestern Energy
Well Name and Number:	Margaret Corbin BRK 201
Latitude:	40.23115800
Longitude:	-80.52235500
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,020
Total Base Water Volume (gal):	10,188,904
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
Econo-CI200	SWN Well Services	Corrosion Inhibitor					
				Listed Below			
SCAL16486A	Nalco	Scale Inhibitor					
				Listed Below			

SWN FRW-13LA	SWN Well Services	Friction Reducer									
					Listed Below						
BIOC11219A	Nalco	Biocide									
					Listed Below						
HCL	SWN Well Services	Solvent									
					Listed Below						
Ecopol-FEAC	SWN Well Services	Iron Control									
					Listed Below						
Sand	SWN Well Services	Proppant									
					Listed Below						
Base Water	Operator	Base Fluid									
					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	84.69793	Density = 8.345		
			Crystalline Silica, quartz		14808-60-7		100.00000	14.76715			
			Water		7732-18-5		85.00000	0.41510			
			Hydrochloric Acid		7647-01-0		15.00000	0.06271			
			Petroleum Distillates, Hydrotreated		64742-47-8		25.00000	0.01996			
			Methanol		67-56-1		60.00000	0.01584			
			Benzyl-(C12-C16 Alky)-Dimethyl-Ammonium		68424-85-1		30.00000	0.00792			
			Chloride Glutaraldehyde		111-30-8		10.00000	0.00264			
RECEIVED Office of Oil and Gas NOV 15 2019 WV Department of Environmental Protection											

	Amine Triphosphate	Proprietary	30.00000	0.00191
	Ethylene glycol	107-21-1	30.00000	0.00191
	Ammonium Chloride	12125-02-9	2.00000	0.00160
	Acetic Acid	64-19-7	37.50000	0.00125
	Oleic Acid Diethanolamide	93-83-4	1.50000	0.00120
	Alcohols, C12-1, ethoxylated	68551-12-2	1.50000	0.00120
	Methanol	67-56-1	80.00000	0.00077
	Citric Acid	77-92-9	22.50000	0.00075
	Oxyalkylated fatty acid	68951-67-7	9.67400	0.00009
	Fatty acids	61790-12-3	5.02700	0.00005
	Modified thiourea polymer	68527-49-1	4.74600	0.00005
	Potassium acetate	127-08-2	0.02200	0.00000
	Formaldehyde	50-00-0	0.00400	0.00000

* Total Water Volume sources may include various types of water including fresh water, produced water, and recycled water

** Information is based on the maximum potential for concentration and thus the total may be over 100%

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

Note: For Field Development Products (products that begin with FDP), MSDS level only information has been provided. Ingredient information for chemicals subject to 29 CFR 1910.1200(i) and Appendix D are obtained from suppliers Material Safety Data Sheets (MSDS)

RECEIVED
Office of Oil and Gas

NOV 15 2019

WV Department of
Environmental Protection

MARGARET CORBIN BRK 201H

ATTACHMENT 1

PERF REPORT

STAGE NUM	Perf Date	Perf Top MD	Perf Bottom MD	# SHOTS PER STG
1	7/19/2019	14,127	14,032	36
2	7/23/2019	13,999	13,891	42
3	7/24/2019	13,854	13,749	42
4	7/25/2019	13,711	13,605	42
5	7/25/2019	13,574	13,465	42
6	7/26/2019	13,431	13,323	42
7	7/26/2019	13,289	13,181	42
8	7/26/2019	13,146	13,039	42
9	7/27/2019	13,005	12,895	42
10	7/27/2019	12,864	12,755	42
11	7/27/2019	12,721	12,613	42
12	7/28/2019	12,579	12,471	42
13	7/28/2019	12,437	12,329	42
14	7/28/2019	12,295	12,187	42
15	7/28/2019	12,153	12,045	42
16	7/29/2019	12,011	11,903	42
17	7/29/2019	11,865	11,761	42
18	7/29/2019	11,727	11,621	42
19	7/30/2019	11,585	11,477	42
20	7/30/2019	11,443	11,335	42
21	7/30/2019	11,301	11,193	42
22	7/31/2019	11,159	11,051	42
23	7/31/2019	11,017	10,909	42
24	7/31/2019	10,870	10,767	42
25	8/1/2019	10,733	10,628	42
26	8/1/2019	10,591	10,483	42
27	8/1/2019	10,449	10,344	42
28	8/2/2019	10,307	10,199	42
29	8/2/2019	10,165	10,057	42
30	8/2/2019	10,023	9,915	42
31	8/3/2019	9,881	9,773	42
32	8/3/2019	9,739	9,630	42
33	8/3/2019	9,600	9,493	42
34	8/3/2019	9,456	9,347	42
35	8/4/2019	9,313	9,205	42
36	8/4/2019	9,171	9,063	42
37	8/4/2019	9,026	8,921	42
38	8/5/2019	8,887	8,779	42
39	8/5/2019	8,745	8,637	42
40	8/5/2019	8,603	8,495	42
41	8/5/2019	8,464	8,353	42
42	8/6/2019	8,319	8,211	42
43	8/6/2019	8,177	8,069	42
44	8/6/2019	8,035	7,927	42
45	8/7/2019	7,893	7,785	42
46	8/7/2019	7,751	7,643	42
47	8/8/2019	7,609	7,506	42
48	8/8/2019	7,467	7,359	42
49	8/8/2019	7,325	7,217	42
50	8/9/2019	7,183	7,075	42
51	8/9/2019	7,038	6,933	42
52	8/10/2019	6,899	6,796	42
53	8/12/2019	6,757	6,649	42

RECEIVED
Office of Oil and Gas

NOV 15 2019

WV Department of
Environmental Protection

MARGARET CORBIN BRK 201H

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	7/22/2019	84	7,877	8,052	4,162	232,140	5,239	0
2	7/23/2019	92	7,939	4,819	4,652	283,670	4,966	0
3	7/24/2019	88	7,664	4,927	5,357	279,216	4,746	0
4	7/25/2019	92	7,952	5,400	4,639	280,949	5,371	0
5	7/25/2019	93	7,639	5,334	4,410	280,407	5,374	0
6	7/26/2019	90	7,741	5,612	4,660	281,942	5,013	0
7	7/26/2019	95	7,699	6,163	4,609	284,920	5,468	0
8	7/26/2019	90	7,777	5,909	4,609	281,550	5,148	0
9	7/27/2019	92	7,782	6,180	4,571	274,346	4,920	0
10	7/27/2019	93	7,798	6,004	4,664	280,647	5,054	0
11	7/27/2019	91	7,840	6,020	4,921	274,194	4,828	0
12	7/28/2019	91	7,692	5,930	5,017	274,681	4,789	0
13	7/28/2019	91	7,849	5,948	4,785	281,740	4,921	0
14	7/28/2019	89	7,782	6,224	4,815	281,740	4,833	0
15	7/29/2019	92	7,664	5,802	4,525	274,710	4,817	0
16	7/29/2019	94	7,560	5,931	4,668	281,176	5,439	0
17	7/29/2019	90	7,692	5,958	4,634	280,849	4,852	0
18	7/29/2019	90	7,692	5,712	4,453	283,930	4,567	0
19	7/30/2019	92	7,506	5,554	4,664	281,388	5,066	0
20	7/30/2019	87	7,718	6,025	4,700	280,340	4,772	0
21	7/31/2019	89	7,319	5,723	4,736	276,671	4,639	0
22	7/31/2019	92	7,633	6,061	4,986	280,898	4,543	0
23	7/31/2019	90	7,278	5,740	4,749	280,428	4,489	0
24	8/1/2019	88	7,450	6,055	5,122	282,586	4,496	0
25	8/1/2019	96	7,374	5,932	5,211	282,464	5,036	0
26	8/1/2019	91	7,398	5,942	5,031	274,879	4,523	0
27	8/1/2019	90	7,309	5,940	4,985	282,625	4,353	0
28	8/2/2019	86	7,786	5,839	4,961	280,134	4,591	0
29	8/2/2019	88	7,323	6,103	4,872	279,610	4,336	0
30	8/3/2019	88	7,101	5,825	4,906	285,022	4,284	0
31	8/3/2019	91	7,677	5,929	5,132	281,230	4,367	0
32	8/3/2019	95	7,376	5,968	5,129	281,108	4,418	0
33	8/3/2019	90	7,115	5,505	4,864	292,411	4,351	0
34	8/3/2019	90	6,750	6,010	4,581	275,241	4,406	0
35	8/4/2019	94	7,458	6,286	5,016	281,080	4,354	0
36	8/4/2019	96	7,436	5,941	4,879	280,713	4,331	0
37	8/4/2019	89	6,797	5,490	4,808	284,040	4,380	0
38	8/5/2019	92	4,306	6,286	4,988	284,040	4,190	0
39	8/5/2019	89	7,615	6,012	4,732	278,935	4,408	0
40	8/5/2019	97	6,911	6,020	5,200	284,338	4,483	0
41	8/6/2019	91	7,018	5,725	4,807	284,310	4,081	0
42	8/6/2019	87	6,724	6,409	4,935	283,786	4,344	0
43	8/6/2019	91	6,814	5,780	5,050	283,681	4,125	0
44	8/7/2019	91	6,896	5,822	4,474	282,180	4,282	0
45	8/7/2019	89	7,013	6,130	4,578	282,180	4,538	0
46	8/7/2019	91	7,260	6,139	4,833	274,605	3,850	0
47	8/8/2019	91	6,696	6,015	4,610	277,960	4,334	0
48	8/8/2019	90	6,814	6,257	4,625	280,300	4,289	0
49	8/8/2019	88	7,017	6,277	4,852	285,455	3,645	0
50	8/9/2019	90	7,189	6,125	4,365	277,060	4,145	0
51	8/10/2019	89	6,750	6,025	4,356	279,320	4,179	0
52	8/12/2019	91	6,900	6,062	4,221	286,180	4,181	0
53	8/12/2019	80	7,716	6,246	4,361	274,410	4,558	0



Well Name: Margaret Corbin BRK 201H 47009002290000

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			
Top of Salt Water	372.00	372.00	NA	NA	
Pittsburgh Coal	328.00	328.00	333.00	333.00	
Pottsville (ss)	510.00	510.00	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)	1926.00	1926.00	5594.00	5471.00	
Rhinstreet (shale)	5748.00	5468.00	6050.00	5726.00	
Cashaqua (shale)	6050.00	5726.00	6128.00	5811.00	
Middlesex (shale)	6128.00	5811.00	6226.00	5849.00	
Burket (shale)	6226.00	5849.00	6249.00	5864.00	
Tully (ls)	6249.00	5864.00	6336.00	5917.00	
Mahantango (shale)	6336.00	5917.00	6621.00	6042.00	
Marcellus (shale)	6621.00	6042.00	NA	NA	GAS

RECEIVED
Office of Oil and Gas

NOV 15 2019

WV Department of
Environmental Protection

JACKSON SURVEYING INC.
 2413 EAST PIKE ST. # 112
 Clarksburg, WV 26302
 304-623-5851

SURFACE HOLE LOCATION (SHL):
 UTM (NAD83, ZONE 17, METERS):
 NORTHING: 4,453,523.400
 EASTING: 540,633.915

LANDING POINT (LPL):
 UTM (NAD83, ZONE 17, METERS):
 NORTHING: 4,453,267.093
 EASTING: 540,231.380

BOTTOM HOLE LOCATION (BHL):
 UTM (NAD83, ZONE 17, METERS):
 NORTHING: 4,455,427.370
 EASTING: 539,395.949

SURFACE HOLE LOCATION (SHL):
 UTM (NAD83, ZONE 17, METERS):
 NORTHING: 4,453,523.437
 EASTING: 540,633.923

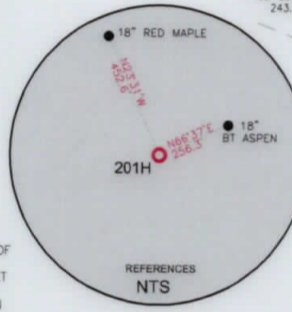
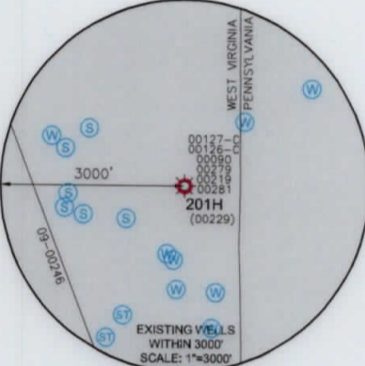
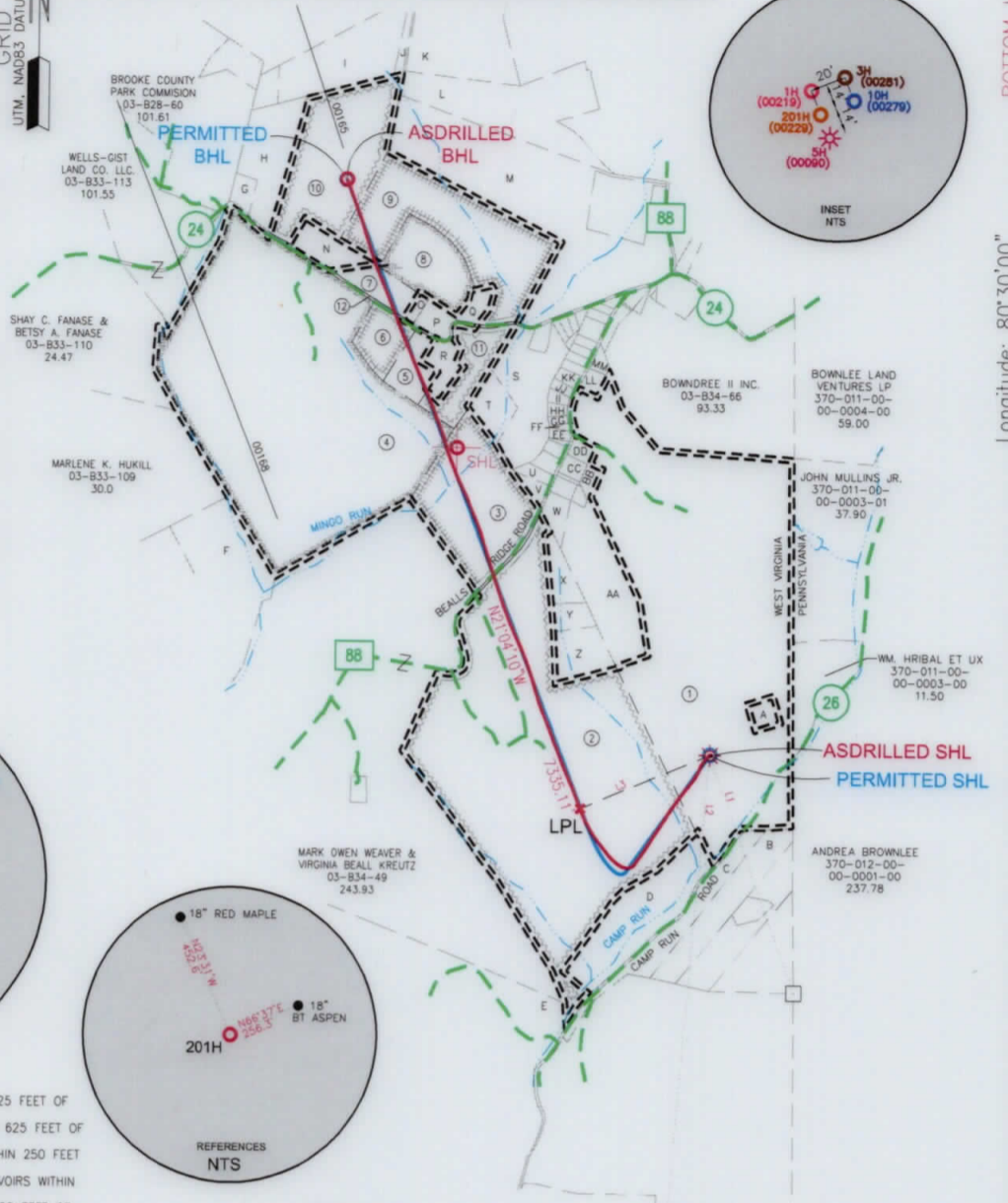
LANDING POINT (LPL):
 UTM (NAD83, ZONE 17, METERS):
 NORTHING: 4,453,341.548
 EASTING: 540,200.856

BOTTOM HOLE LOCATION (BHL):
 UTM (NAD83, ZONE 17, METERS):
 NORTHING: 4,455,427.825
 EASTING: 539,397.109

Latitude: 40°15'00" SURFACE HOLE 6240'
 Latitude: 40°15'00" BOTTOM HOLE 10265'

LINE	BEARING	DISTANCE	DESCRIPTION	MONUMENT
L1	S 19°49'08" E	2771.05'	SHL TO LANDMARK	SIGN POST FOUND
L2	S 04°53'55" W	6131.26'	SHL TO LANDMARK	FENCE POST FOUND
LINE	BEARING	DISTANCE	CURVE LENGTH	DESCRIPTION
L4	S 67°13'03" W	1541.05'	2413.56'	SHL TO LPL

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



WELL RESTRICTIONS

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

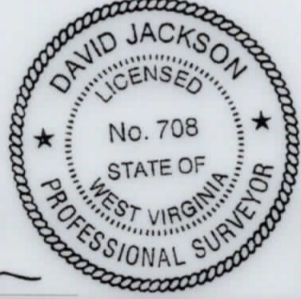
NOTES ON SURVEY

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.

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.

David L Jackson

P.S. 708



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>	MINIMUM DEGREE OF ACCURACY: 1/200 PROVEN SOURCE OF ELEVATION: SURVEY GRADE GPS (NAVD 88, US FT)	OPERATOR'S WELL #: MARGARET CORBIN BRK 201H API WELL #: 47 009 00229 STATE COUNTY PERMIT
--	--	--

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

WATERSHED: CAMP RUN OF BUFFALO CREEK (HUC-10) ELEVATION: 1150.1'

DISTRICT: BUFFALO COUNTY: BROOKE QUADRANGLE: BETHANY, WV

SURFACE OWNER: LOUIS W. HENSLER, JR. & MARGARET HENSLER ACREAGE: ±183.13

OIL & GAS ROYALTY OWNER: LOUIS W. HENSLER, JR. & MARGARET HENSLER ACREAGE: ±183.13

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: 6,065' TVD 14,176' TMD

WELL OPERATOR: SWN PRODUCTION COMPANY, LLC DESIGNATED AGENT: BRITTANY WOODY
 ADDRESS: 1300 FORT PIERPONT ROAD, SUITE 200 ADDRESS: 1300 FORT PIERPONT ROAD, 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 LANDING POINT LOCATION EXISTING WATER WELL EXISTING SPRING SURVEYED BOUNDARY DRILLING UNIT LEASE BOUNDARY ASDRILLED PATH PROPOSED PATH	REVISIONS: 	DATE: 11-12-2019 DRAWN BY: N. MANO SCALE: 1" = 2000' DRAWING NO: WELL LOCATION PLAT
---	---------------------------	---

WELL LOCATION PLAN	DRAWING NO:
SCALE: 1" = 2000'	DRAWN BY: N. MANO
DATE: 11-12-2019	REVISIONS:
CITY: MORGANTOWN	STATE: WV
CITY: MORGANTOWN	STATE: WV
ADDRESS: 1300 FORT PIERPONT ROAD, SUITE 200	DESIGNATED AGENT: BRITTANY WOODY
ADDRESS: 1300 FORT PIERPONT ROAD, SUITE 200	DESIGNATED AGENT: BRITTANY WOODY

LEGEND:	PROPOSED SURFACE HOLE \ BOTTOM HOLE
EXISTING \ PRODUCING WELLHEAD	
EXISTING WATER WELL	
EXISTING SPRING	
L.P.L.	LANDING POINT LOCATION
PROPOSED PATH	
ASDRILLED PATH	
LEASE BOUNDARY	
DRILLING UNIT	
SURVEYED BOUNDARY	
TARGET FORMATION: MARCELLUS	
CONVERT <input type="checkbox"/> PLUG & ABANDON <input type="checkbox"/>	CLEAN OUT & REPLUG <input type="checkbox"/>
DRILL <input type="checkbox"/> DRILL DEEPER <input type="checkbox"/> REDRILL <input type="checkbox"/>	FRACURE OR STIMULATE <input type="checkbox"/>
PLUG OFF OLD FORMATION <input type="checkbox"/>	PERFORATE NEW FORMATION <input type="checkbox"/>
OTHER CHANGE (SPECIFY) ASDRILLED	
ESTIMATED DEPTH: 8,082' TVD 14,176' TMD	
OIL & GAS ROYALTY OWNER: LOUIS W. HENSLER, JR. & MARGARET HENSLER	ACREAGE: ±183.13
SURFACE OWNER: LOUIS W. HENSLER, JR. & MARGARET HENSLER	ACREAGE: ±183.13
DISTRICT: BUFFALO	COUNTY: BROOKE
WATERSHED: CAMP RUN OF BUFFALO CREEK (HUC-10)	ELEVATION: 1150.1'
WELL TYPE: OIL <input type="checkbox"/> WASTE DISPOSAL <input type="checkbox"/>	PRODUCTION <input checked="" type="checkbox"/>
DEEP <input type="checkbox"/>	GAS <input type="checkbox"/>
LIVID INJECTION <input type="checkbox"/>	STORAGE <input type="checkbox"/>
SHALLOW <input checked="" type="checkbox"/>	

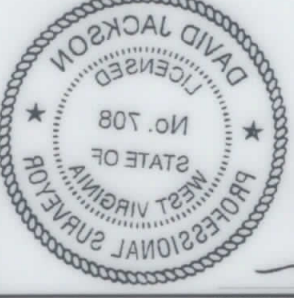
WDEP	OFFICE OF OIL & GAS
601 57TH STREET	CHARLESTON, WV 25034
UNITED STATES TOPOGRAPHIC MAPS	(+) DENOTES LOCATION OF WELL ON
ACCURACY: 1/200	DEGREE OF
PROVEN	SOURCE OF GRADE GPS
ELEVATION: (NAD 88, US FT)	
API WELL #: 47	STATE: WV
009 00259	COUNTY: PERMIT
OPERATOR'S WELL #:	501H
MARGARET CORBIN BRK	



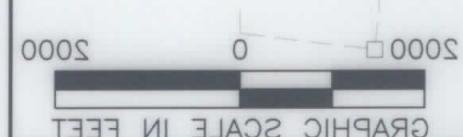
NOTES ON SURVEY

- 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.
- IF THE UNDERIGNED, 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.
- ALL INSETS ARE GRID NORTH UNLESS OTHERWISE DESIGNATED.

David Jackson

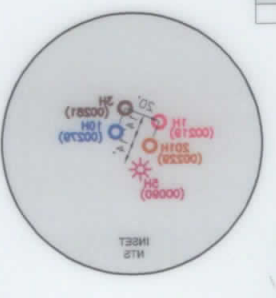
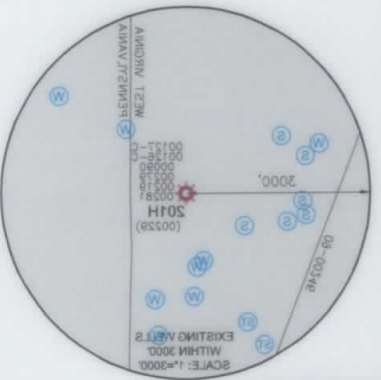


SWN Production Company, LLC
 COMPANY: SWN
 GRAPHIC SCALE IN FEET



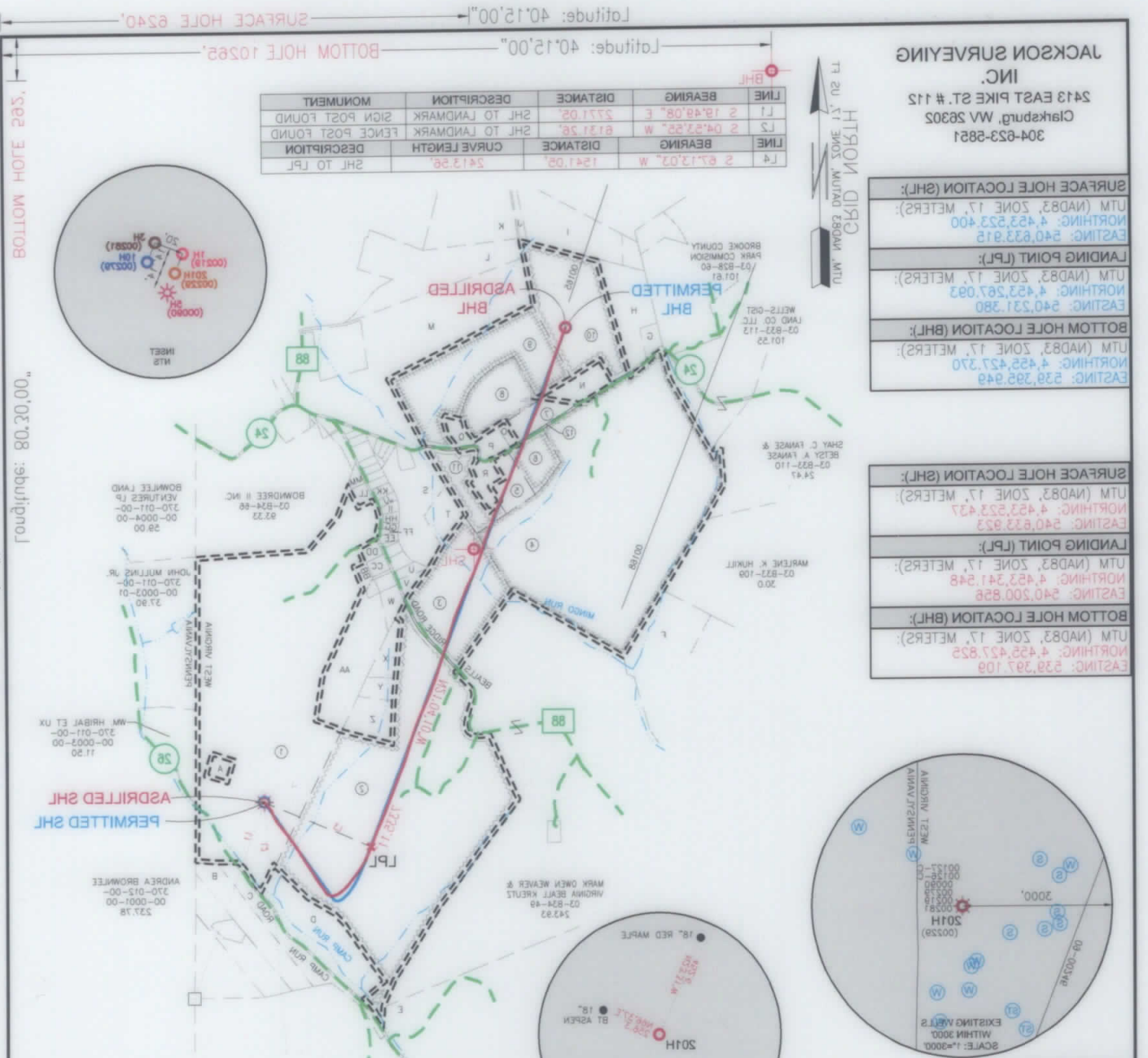
WELL RESTRICTIONS

- NO OCCUPIED DWELLINGS > 2500 FT. WITHIN 652 FEET OF CENTER OF PAD
- NO AGRICULTURE BUILDINGS > 2500 FT. WITHIN 652 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 GRADING OR PUBLIC WATER SUPPLY WITHIN 100 FEET OF WELL PAD LIMITS OF DISTURBANCE. E & S CONTROLS OR PUBLIC WATER SUPPLY.



BOTTOM HOLE LOCATION (BHL):	UTM (NAD83, ZONE 17, METERS): NORTHING: 4452,427,370 EASTING: 540,231,780
LANDING POINT (L.P.L.):	UTM (NAD83, ZONE 17, METERS): NORTHING: 4452,267,082 EASTING: 540,833,915
SURFACE HOLE LOCATION (SHL):	UTM (NAD83, ZONE 17, METERS): NORTHING: 4452,252,437 EASTING: 540,833,923
BOTTOM HOLE LOCATION (BHL):	UTM (NAD83, ZONE 17, METERS): NORTHING: 4452,427,370 EASTING: 539,797,049
LANDING POINT (L.P.L.):	UTM (NAD83, ZONE 17, METERS): NORTHING: 4452,267,082 EASTING: 540,833,915
SURFACE HOLE LOCATION (SHL):	UTM (NAD83, ZONE 17, METERS): NORTHING: 4452,252,437 EASTING: 540,833,923

LINE	BEARING	DISTANCE	DESCRIPTION	MONUMENT
L4	S 87.13°07' W	1241.02'	SHT TO L.P.L.	
L3	S 04.27°25' W	671.28'	SHT TO LANDMARK	FENCE POST FOUND
L2	S 04.27°25' W	671.28'	SHT TO LANDMARK	SIGN POST FOUND
L1	S 19.48°08' E	2771.02'	SHT TO LANDMARK	



Latitude: 40°12'00" Longitude: 80°30'00" SURFACE HOLE 8340' BOTTOM HOLE 10252' SURFACE HOLE 8340'

Longitude: 80.30.00" Longitude: 80.30.00"

Longitude: 80.30.00" Longitude: 80.30.00"

Longitude: 80.30.00" Longitude: 80.30.00"

Longitude: 80.30.00" Longitude: 80.30.00"

JACKSON SURVEYING
 INC.
 2413 EAST PIKE ST. # 112
 Clarksburg, WV 26302
 304-623-5851

WELL BORE TABLE FOR SURFACE / ROYALTY OWNERS			
TRACT	SURFACE OWNER (S) / ROYALTY OWNER (R)	TAX PARCEL	ACRES
1	LOUIS W. HENSLER JR. & MARGARET R. HENSLER (S) / LOUIS W. HENSLER, JR., ANNA EILEEN WOOD, MICHAEL M. HENSLER, MARY VIRGINIA WALDEN & JAMES O. HENSLER (R)	03-B34-57	181.92
TRACT	SURFACE OWNER	TAX PARCEL	ACRES
2	NORMA J. SHIDOCK (S)	03-B34-50	195.20
3	VERNA MAE BRADY, LIFE ESTATE, & JENNIFER B. PLANTS & BRIAN E. PLANTS REMAINDER (S)	03-B34-48	25.00
4	BARBARA A. WALES (S)	03-B34-17	170.40
5	CARMAN FANASE & KIMBERLY FANASE (S)	03-B34-19.2	6.46
6	CARMAN FANASE & KIMBERLY FANASE (S)	03-B34-18	8.18
7	DAVID RAGAN (S)	03-B34-15	5.80
8	NANCY J. AMBROSE (S)	03-B34-14	14.30
9	NANCY J. AMBROSE (S)	03-B34-11	44.04
10	DAVID L. RAGAN (S)	03-B34-16.3	32.89
11	JAMES C. INMAN, JR. & LAURA G. INMAN (S)	03-B34-19	12.416
12	WV DEPARTMENT OF TRANSPORTATION (S)	RT. 24 "BEALLS RIDGE ROAD"	5.97

ADJOINING OWNERS TABLE			
TRACT	SURFACE OWNER	TAX PARCEL	ACRES
A	STEPHEN S. GRIZZEL	03-B34-58	1.50
B	TAMMY M. WITHERS	03-B39-04	13.003
C	JOHN DANA GARNER	03-B39-03	12.78
D	RICKY VON HUDSON	03-B39-02	22.50
E	JAMES H. SEABRIGHT (LE-JAMES K. SEABRIGHT & MARTHA M. SEABRIGHT)	03-B39-08	173.0
F	DENZIL H.L. CONLEY & MARY LOU CONLEY	03-B33-108	120.73
G	BRAIN K. SMITH	03-B33-114.1	2.00
H	KEITH R. SMITH & KATHY J. SMITH	03-B33-114	12.82
I	KEITH R. SMITH & KATHY J. SMITH	03-B34-16.2	20.23
J	DAVID RAGAN	03-B34-16.4	0.56
K	WILLOW SPRINGS INC.	03-B34-10.2	28.767
L	WILLIAM CURTIS HUNT & SUSAN L. HUNT	03-B34-07	31.95
M	JUDITH LEE BRINKLEY, SARAH A. STENGER & MARK A. BUYAN	03-B34-10	63.89
N	DAVID RAGAN	03-B34-16	4.467
O	CHARLES F. THOMAS & JEANNE L. THOMAS	03-B34-15.1	0.717
P	CHARLES F. THOMAS & JEANNE L. THOMAS	03-B34-13	2.715
Q	LEANNE MISCH & BRIAN S. MISCH	03-B34-12	1.66
R	RICE IRROVOCABLE TRUST 6/30/14 RONALD RICE & MARGARET RICE TRUSTEES	03-B34-19.1	3.12
S	SIMON MATHEW MAZZELLA & MARTHA KAY MAZZELLA	03-B34-21	17.324
T	SIMON MATHEW MAZZELLA & MARTHA KAY MAZZELLA	03-B34-20	4.74
U	GREGORY DOYLE & LISA DOYLE	03-B34-46	1.06
V	GREGORY DOYLE & LISA DOYLE	03-B34-47	1.13
W	MARK T. KYANKO & MARI J. KYANKO	03-B34-53	2.40
X	RAYMOND W. KIRKBRIDGE, JR. & JENNIFER VAIL-KIRKBRIDGE	03-B34-51	3.421
Y	KEVIN L. MINOR & RULETTA K. MINOR	03-B34-52	2.61
Z	KEVIN L. MINOR & RULETTA K. MINOR	03-B34-50.1	5.917
AA	MICHAEL M. HENSLER, JR. & DEBORAH HENSLER	03-B34-57.4	18.273
BB	LOUIS W. HENSLER, JR. & MARGARET R. HENSLER	03-B34-57.3	0.976
CC	LOUIS W. HENSLER, JR. & MARGARET R. HENSLER	03-B34-55	1.22
DD	WILLIAM W. ROADMAN & PAULA L. ROADMAN	03-B34-56	1.13
EE	LEE ROY MENEELY & CLEA C. MENEELY	03-B34-42	0.67
FF	LEE R. MENEELY & CLEA C. MENEELY	03-B34-41	0.28
GG	ROBERT E. ANDREWS & JACQUELINE ANDREWS	03-B34-40	0.58
HH	WILLIAM MATTHEW GADD & BARBARA ESTELLE GADD	03-B34-39	0.668
II	MEGAN N. TYSK	03-B34-38	0.699
JJ	DAVID LAZZAROTTI & LAURA LAZZAROTTI	03-B34-37	0.578
KK	DAVID LAZZAROTTI & LAURA LAZZAROTTI	03-B34-36	0.86
LL	WILLIAM J. WALES & MARSHA E. WALES	03-B34-59	1.05
MM	WILLIAM J. WALES & MARSHA E. WALES	03-B34-57.2	0.976

REVISIONS:

COMPANY:

SWN
 Production Company, LLC

SWN ^{R⁺ V⁺}
 Production Company™

OPERATOR'S MARGARET CORBIN BRK

API #: 47-009-00229

DATE: 11-12-2019

WELL #: 201H

DRAWN BY: N. MANO

DISTRICT: BUFFALO

COUNTY: BROOKE

STATE: WV

SCALE: N/A

DRAWING NO:

WELL LOCATION PLAT 2

TRACT	SURFACE OWNER (S) \ ROYALTY OWNER (R)	TAX PARCEL	ACRES
1	LOUIS W. HENSLE JR. & MARGARET R. HENSLE (S) \ LOUIS W. HENSLE JR., ANNA EILEEN WOOD, MICHAEL M. HENSLE, MARY VIRGINIA WALDEN & JAMES O. HENSLE (R)	03-B34-57	181.92
2	SURFACE OWNER NORMA J. SHIDOCK (S)	03-B34-50	192.20
3	VERNA MAE BRADY, LIFE ESTATE, & JENNIFER B. PLANTS & BRIAN E. PLANTS REMAINDER (S)	03-B34-48	22.00
4	BARBARA A. WALES (S)	03-B34-17	170.40
5	CARMAN FANASE & KIMBERLY FANASE (S)	03-B34-19.2	6.46
6	CARMAN FANASE & KIMBERLY FANASE (S)	03-B34-18	8.18
7	DAVID RAGAN (S)	03-B34-15	2.80
8	NANCY J. AMBROSE (S)	03-B34-14	14.30
9	NANCY J. AMBROSE (S)	03-B34-11	44.04
10	DAVID L. RAGAN (S)	03-B34-16.3	32.89
11	JAMES C. INMAN, JR. & LAURA G. INMAN (S)	03-B34-19	12.416
12	WV DEPARTMENT OF TRANSPORTATION (S) "BEALLS" RIDGE ROAD RT. 24		2.97

TRACT	SURFACE OWNER	TAX PARCEL	ACRES
A	STEPHEN S. GRIZZEL	03-B34-28	1.20
B	TAMMY M. WITHERS	03-B39-04	12.003
C	JOHN DANA GARNER	03-B39-03	12.78
D	RICKY VON HUDSON	03-B39-02	22.20
E	JAMES H. SEABRIGHT (E-JAMES K. SEABRIGHT & MARTHA M. SEABRIGHT)	03-B39-08	123.0
F	DENZIL H.L. CONLEY & MARY LOU CONLEY	03-B33-108	120.73
G	BRAIN K. SMITH	03-B33-114.1	2.00
H	KEITH R. SMITH & KATHY J. SMITH	03-B33-114	12.82
I	KEITH R. SMITH & KATHY J. SMITH	03-B34-16.2	20.23
J	DAVID RAGAN	03-B34-16.4	0.26
K	WILLOW SPRINGS INC.	03-B34-10.2	28.767
L	WILLIAM CURTIS HUNT & SUSAN L. HUNT	03-B34-07	21.92
M	JUDITH LEE BRINKLEY, SARAH A. STEINGER & MARK A. BUYAN	03-B34-10	62.89
N	DAVID RAGAN	03-B34-16	4.467
O	CHARLES F. THOMAS & JEANNE L. THOMAS	03-B34-12.1	0.717
P	CHARLES F. THOMAS & JEANNE L. THOMAS	03-B34-13	2.712
Q	LEANNE MISCH & BRIAN S. MISCH	03-B34-12	1.66
R	RICE IRREVOCABLE TRUST 6/30/14 RONALD RICE & MARGARET RICE TRUSTEES	03-B34-19.1	3.12
S	SIMON MATHEW MAZZELLA & MARTHA KAY MAZZELLA	03-B34-21	12.224
T	SIMON MATHEW MAZZELLA & MARTHA KAY MAZZELLA	03-B34-20	4.74
U	GREGORY DOYLE & LISA DOYLE	03-B34-46	1.06
V	GREGORY DOYLE & LISA DOYLE	03-B34-47	1.13
W	MARK T. KYANKO & MARI J. KYANKO	03-B34-23	2.40
X	RAYMOND W. KIRKBRIDGE, JR. & JENNIFER VAL-KIRKBRIDGE	03-B34-21	2.421
Y	KEVIN L. MINOR & RULETTA K. MINOR	03-B34-22	2.61
Z	KEVIN L. MINOR & RULETTA K. MINOR	03-B34-20.1	2.917
AA	MICHAEL M. HENSLE, JR. & DEBORAH HENSLE	03-B34-27.4	18.223
BB	LOUIS W. HENSLE, JR. & MARGARET R. HENSLE	03-B34-27.3	0.976
CC	LOUIS W. HENSLE, JR. & MARGARET R. HENSLE	03-B34-25	1.22
DD	WILLIAM W. ROADMAN & PAULA L. ROADMAN	03-B34-26	1.12
EE	LEE ROY MENEELY & CLEA C. MENEELY	03-B34-42	0.67
FF	LEE R. MENEELY & CLEA C. MENEELY	03-B34-41	0.28
GG	ROBERT E. ANDREWS & JACQUELINE ANDREWS	03-B34-40	0.28
HH	WILLIAM MATTHEW GADD & BARBARA ESTELLE GADD	03-B34-39	0.668
II	MEGAN N. TYSK	03-B34-38	0.699
JJ	DAVID LAZZAROTTI & LAURA LAZZAROTTI	03-B34-37	0.278
KK	DAVID LAZZAROTTI & LAURA LAZZAROTTI	03-B34-36	0.86
LL	WILLIAM J. WALES & MARSHA E. WALES	03-B34-29	1.02
MM	WILLIAM J. WALES & MARSHA E. WALES	03-B34-27.2	0.976

REVISIONS:		COMPANY: swi Production Company, LLC	
WELL #:	201H	DATE: 11-12-2019	SCALE: N/A
DISTRICT:	BUFFALO	DRAWN BY: N. MANO	WELL LOCATION PLAT 2
COUNTY:	BROOKE	STATE: WV	
OPERATOR'S	MARGARET CORBIN BRK	API #:	47-009-00229