

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

API 47-009-00291 County BROOKE District BUFFALO  
Quad STEBENVILLE Pad Name RUSSELL HERVEY BRK PAD Field/Pool Name PANHANDLE FIELD WET  
Farm name RUSSELL D. HERVEY & LISA K. HERVEY Well Number RUSSELL HERVEY 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 4,456,499.445 Easting 537,717.181  
Landing Point of Curve Northing 4,456,403.427 Easting 537,987.969  
Bottom Hole Northing 4,459,544.211 Easting 535,813.387

Elevation (ft) 1,166' 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 12/13/2019 Date drilling commenced 01/25/2020 Date drilling ceased 02/12/2020  
Date completion activities began 05/21/2020 Date completion activities ceased 06/18/2020  
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 250 Open mine(s) (Y/N) depths N  
Salt water depth(s) ft 404 Void(s) encountered (Y/N) depths N  
Coal depth(s) ft 255 Cavern(s) encountered (Y/N) depths N  
Is coal being mined in area (Y/N) N

Reviewed by: SB 10.13.20

API 47-009 - 00291 Farm name RUSSELL D. HERVEY & LISA K. HERVEY Well number RUSSELL HERVEY 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	362	NEW	J-55/54.50#		Y, 17 BBLS
Coal	SEE SURFACE						
Intermediate 1	12.25	9.625	2018	NEW	J-55/36#		Y, 35 BBLS
Intermediate 2							
Intermediate 3							
Production	8.75/8.50	5.5	18220	NEW	HCP-110/20#		Y, 31 BBLS
Tubing		2.875	7165	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	360	15.60	1.20	432	SURFACE	8
Coal	SEE SURFACE						
Intermediate 1	CLASS A	734	15.60	1.19	873.46	SURFACE	8
Intermediate 2							
Intermediate 3							
Production	CLASS A	2,640	15.60	1.19	3,141.6	SURFACE	24
Tubing							

Drillers TD (ft) 18,218 Loggers TD (ft) 18,218  
 Deepest formation penetrated \_\_\_\_\_ Plug back to (ft) N/A  
 Plug back procedure N/A RECEIVED  
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Kick off depth (ft) 5,566' SEP 04 2020

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

API 47-009 - 00291 Farm name RUSSELL D. HERVEY & LISA K. HERVEY Well number RUSSELL HERVEY BRK 201H

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.

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STIMULATION INFORMATION PER STAGE

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Complete a separate record for each stimulation stage.

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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 (bbbls)	Amount of Nitrogen/other (units)
		SEE	ATTACHMENT	2				

Please insert additional pages as applicable.

API 47- 009 - 00291 Farm name RUSSELL D. HERVEY & LISA K. HERVEY Well number RUSSELL HERVEY BRK 201H

PRODUCING FORMATION(S)

DEPTHS

MARCELLUS 5,848' TVD 6,654' MD

Please insert additional pages as applicable.

GAS TEST  Build up  Drawdown  Open Flow  Flow  Pump

SHUT-IN PRESSURE Surface 1850 psi Bottom Hole \_\_\_\_\_ psi DURATION OF TEST \_\_\_\_\_ hrs

OPEN FLOW Gas 5,131 mcfpd Oil 854 bpd NGL \_\_\_\_\_ bpd Water 550 bpd GAS MEASURED BY  Estimated  Orifice  Pilot

LITHOLOGY/ FORMATION	TOP		BOTTOM		TOP		BOTTOM		DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H <sub>2</sub> S, ETC)
	DEPTH IN FT	DEPTH IN FT	DEPTH IN FT	DEPTH IN FT	DEPTH IN FT	DEPTH IN FT	DEPTH IN FT		
	NAME TVD	TVD	MD	MD	MD	MD	MD	MD	
	0		0						
	SEE	ATTACHMENT	3						RECEIVED Office of Oil and Gas.  SEP 04 2020  WV Department of Environmental Protection,

Please insert additional pages as applicable.

Drilling Contractor SWN DRILLING COMPANY City SPRING State TX Zip 77391-2359

Logging Company BAKER HUGHES City THE WOODLANDS State TX Zip 77380

Cementing Company SCHLUMBERGER WELL SERVICES City SUGAR LAND State TX Zip 77478

Stimulating Company HALLIBURTON ENERGY SERVICES City HOUSTON State TX Zip 77032

Please insert additional pages as applicable.

Completed by BOBBY WILLIAMS Telephone 832-796-2884  
Signature *Bobby Williams* Title SENIOR REGULATORY ANALYST Date 9/3/2020

# SWN PRODUCTION COMPANY, LLC

Location: Brooke County, WV  
 Field: Brooke  
 Facility: Russell Hervey BRK Pad

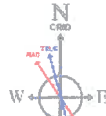
Slot: Slot #201  
 Well: Russell Hervey BRK 201H  
 Wellbore: Russell Hervey BRK 201H PWB



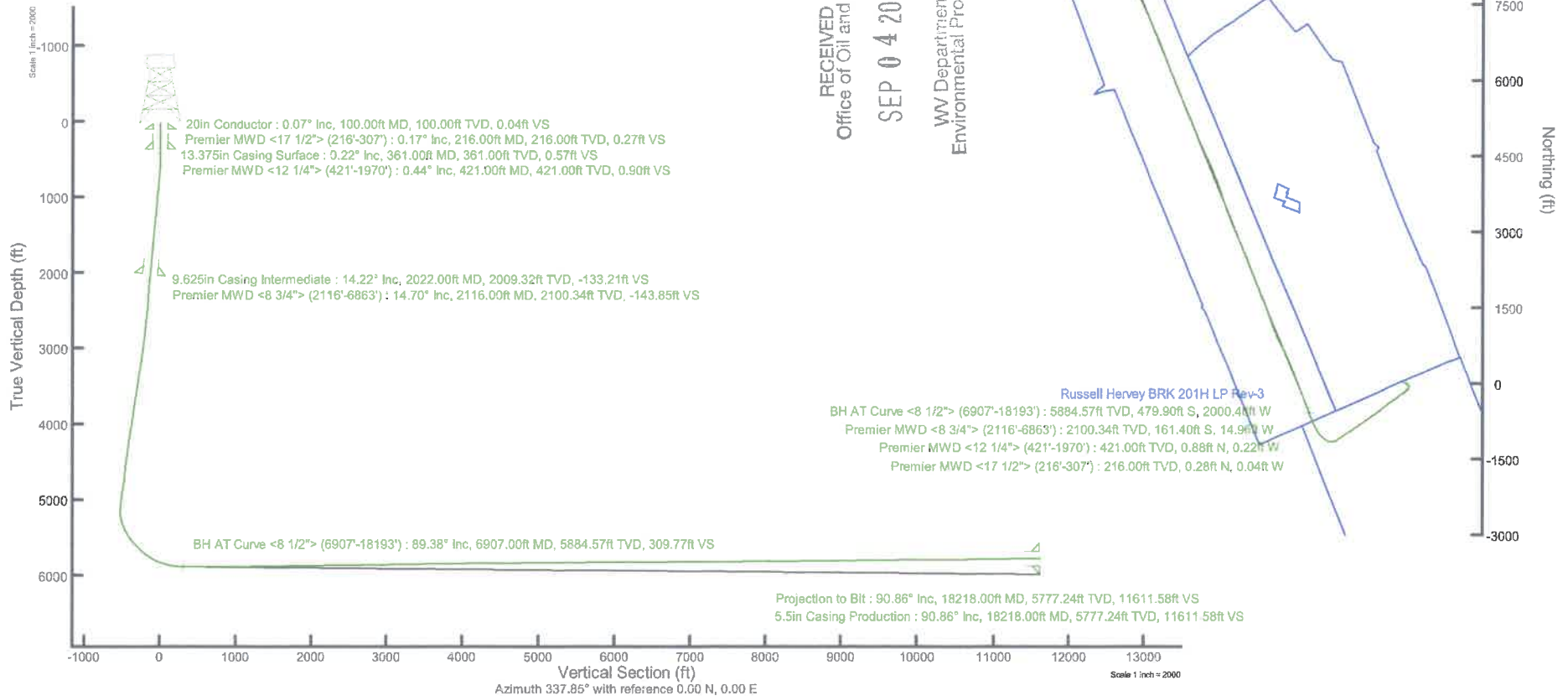
Location Information							
Facility Name	Russell Hervey BRK Pad		Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	
			1764114.320	14621028.950	40°15'26.1545"N	80°33'23.8679"W	
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	
Slot #201	2.86	46.15	1764160.450	14621031.890	40°15'29.1817"N	80°33'23.2725"W	
SDC 42 (RKB) to Ground level (At Slot: Slot #201)					28ft		
Mean Sea Level to Ground level (At Slot: Slot #201)					-1166ft		
SDC 42 (RKB) to Mean Sea Level					1162ft		

Comments	
API: 47-009-00281-0000	
BH Job #: 110260352A	
Rig: SDC 42	
Duration: 02/08/2020 - 02/09/2020	

Plot reference wellpath is Russell Hervey BRK 201H PWP Rev-A.0	Grid System: NAD83 / UTM Zone 17 North, US feet
True vertical depths are referenced to SDC 42 (RKB)	North Reference: Grid north
Reference wellpath measured depths are referenced to SDC 42 (RKB)	Scale: True distance
SDC 42 (RKB) to Mean Sea Level: 1192 feet	Coordinates are in feet referenced to Slot
Mean Sea Level to Ground level (At Slot: Slot #201): -1166 feet	Depths are in feet
Other wellpath MDs are referenced to each path's default MD datum	Created by: allenjen on 2020-02-11; Database: WA_MPL_EASTERKUS_Defn



User specified Dip: 67.51° Field: 52410 m  
 Magnetic North is 8.44 degrees West of True North (at 2/4/2020)  
 Grid North is 0.29 degrees East of True North  
 To correct azimuth from True to Grid subtract 0.29 degrees  
 To correct azimuth from Magnetic to Grid subtract 8.73 degrees



# Hydraulic Fracturing Fluid Product Component Information Disclosure

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Job Start Date:	5/20/2020
Job End Date:	6/4/2020
State:	West Virginia
County:	Brooke
API Number:	47-009-00291-00-00
Operator Name:	Southwestern Energy
Well Name and Number:	Russell Hervey BRK 201H
Latitude:	40.25810600
Longitude:	-80.55646500
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	5,887
Total Base Water Volume (gal):	19,534,487
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
Fresh Water	Halliburton	Base Fluid					
			Water	7732-18-5	100.00000	67.22395	Density = 8.34
Produced Water	Halliburton	Base Fluid					
			Water	7732-18-5	100.00000	22.66700	Density = 8.50

Ingredients	Listed Above	Listed Above					
			Water	7732-18-5	100.00000	0.44353	
HAI-501	Halliburton	Acid Corrosion Inhibitor					
				Listed Below			
LD-2950	MultiChem	Friction Reducer					
				Listed Below			
HYDROCHLORIC ACID, 22 BAUME	Halliburton	Solvent					
				Listed Below			
Sand-Premium White-40/70	Halliburton	Proppant					
				Listed Below			
LEGEND(TM) LD-7750W	MultiChem	Scale Control					
				Listed Below			
Sand-Common White-100 Mesh, SSA-2	Halliburton	Proppant					
				Listed Below			
FE-2A	Halliburton	Additive					
				Listed Below			
MC MX 8-4743	MultiChem	Additive					

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			Listed Below				
Items above are Trade Names with the exception of Base Water . Items below are the individual ingredients.							
			Crystalline silica, quartz	14808-60-7	100.00000	9.50365	
			Hydrochloric acid	7647-01-0	30.00000	0.05053	
			Complex Amine Compound	Proprietary	60.00000	0.04870	
			Hydrotreated light petroleum distillate	64742-47-8	30.00000	0.02435	
			Sodium nitrate	7631-99-4	60.00000	0.02210	
			Methanol	67-56-1	100.00000	0.00495	
			Ethoxylated alcohols	Proprietary	5.00000	0.00406	
			Citric acid	77-92-9	60.00000	0.00252	
			Sodium molybdate	10102-40-6	5.00000	0.00184	
			Adipic acid	124-04-9	1.00000	0.00081	
			Poly(oxy-1,2-ethanediyl), alpha-tridecyl-omega-hydroxy-, branched	69011-36-5	1.00000	0.00081	
			Sodium chloride	7647-14-5	5.00000	0.00043	
			Phosphoric Acid Salt	Proprietary	5.00000	0.00039	
			Mixture of dimer and trimer fatty acids of indefinite composition derived from tall oil	61790-12-3	30.00000	0.00009	
			Modified thiourea polymer	Proprietary	30.00000	0.00009	
			Sodium acetate	127-09-3	0.10000	0.00004	
			Yeast extract	8013-01-2	0.10000	0.00004	
			Sodium lactate	72-17-3	0.10000	0.00004	
			Monopotassium phosphate	7778-77-0	0.10000	0.00004	
			Ethoxylated alcohols	Proprietary	5.00000	0.00001	
			Propargyl alcohol	107-19-7	5.00000	0.00001	
			Hexadecene	629-73-2	5.00000	0.00001	
			Formaldehyde	50-00-0	0.10000	0.00001	

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- \* 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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ATTACHMENT 1  
PERF REPORT**

STAGE NUM	Perf Date	Perf Bottom MD	Perf Top MD2	# SHOTS PER STG
1	5/15/2020	18,133	18,043	36
2	5/21/2020	18,007	17,831	36
3	5/22/2020	17,795	17,622	36
4	5/23/2020	17,589	17,413	36
5	5/23/2020	17,380	17,203	36
6	5/23/2020	17,171	16,994	36
7	5/23/2020	16,962	16,785	36
8	5/24/2020	16,752	16,576	36
9	5/24/2020	16,543	16,367	36
10	5/24/2020	16,334	16,158	36
11	5/24/2020	16,125	15,949	36
12	5/25/2020	15,916	15,740	36
13	5/25/2020	15,707	15,531	36
14	5/25/2020	15,498	15,322	36
15	5/25/2020	15,289	15,112	36
16	5/26/2020	15,080	14,897	60
17	5/26/2020	14,871	14,697	36
18	5/26/2020	14,661	14,485	36
19	5/27/2020	14,452	14,276	36
20	5/27/2020	14,243	14,067	36
21	5/27/2020	14,034	13,858	36
22	5/27/2020	13,825	13,649	36
23	5/28/2020	13,616	13,440	36
24	5/28/2020	13,407	13,231	36
25	5/28/2020	13,198	13,021	36
26	5/28/2020	12,989	12,812	36
27	5/28/2020	12,780	12,603	36
28	5/29/2020	12,570	12,394	36
29	5/29/2020	12,361	12,185	36
30	5/29/2020	12,152	11,976	36
31	5/30/2020	11,943	11,767	36
32	5/30/2020	11,734	11,558	36
33	5/30/2020	11,525	11,349	36
34	5/30/2020	11,316	11,140	36
35	5/30/2020	11,107	10,930	36
36	5/31/2020	10,898	10,721	36
37	5/31/2020	10,688	10,512	36
38	5/31/2020	10,476	10,303	36
39	5/31/2020	10,270	10,094	36
40	6/1/2020	10,061	9,885	36
41	6/1/2020	9,854	9,676	36
42	6/1/2020	9,643	9,467	36
43	6/2/2020	9,434	9,258	36

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**RUSSELL HERVEY BRK 201H  
ATTACHMENT 1**

**PERF REPORT**

STAGE NUM	Perf Date	Perf Bottom MD	Perf Top MD2	# SHOTS PER STG
44	6/2/2020	9,225	9,049	36
45	6/2/2020	9,020	8,839	36
46	6/2/2020	8,811	8,630	36
47	6/2/2020	8,597	8,421	36
48	6/3/2020	8,388	8,212	36
49	6/3/2020	8,179	8,003	36
50	6/3/2020	7,970	7,794	36
51	6/3/2020	7,761	7,585	36
52	6/3/2020	7,552	7,376	36
53	6/4/2020	7,343	7,167	36
54	6/4/2020	7,134	6,958	36
55	6/4/2020	6,925	6,748	36

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**RUSSELL HERVEY BRK 401H  
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STIM REPORT**

STAGE NUM	Stim Date	Ave Pump Rate (BPM)	Ave Treatment	Max Breakdown	ISIP (PSI)	Amount of		Amount of nitrogen/othe
						Proppant (lbs) water bbls	water bbls	
1	5/21/2020	86	8,099	7,504	3,630	241,150	5,809	0
2	5/22/2020	96.9	8,184	4,864	4,062	321,360	9,630	0
3	5/22/2020	96.8	8,054	5,000	4,363	320,840	12,154	0
4	5/23/2020	98.6	8,179	4,966	4,387	314,120	8,708	0
5	5/23/2020	98.2	8,242	5,667	4,448	322,420	8,435	0
6	5/23/2020	90.6	8,193	4,997	4,024	321,000	8,941	0
7	5/24/2020	79.1	7,602	5,072	4,107	319,220	9,836	0
8	5/24/2020	94.7	8,261	5,281	4,347	321,920	8,542	0
9	5/24/2020	99.5	8,351	5,373	4,078	322,960	8,535	0
10	5/24/2020	97.2	8,247	4,902	4,223	320,300	8,594	0
11	5/24/2020	95	8,037	5,094	4,075	320,380	8,091	0
12	5/25/2020	98.3	8,174	5,080	4,277	320,260	8,641	0
13	5/25/2020	97.9	8,274	5,364	4,410	320,680	8,530	0
14	5/25/2020	97.5	8,195	5,385	4,060	319,940	8,576	0
15	5/25/2020	99.4	8,210	5,524	3,967	318,480	8,125	0
16	5/26/2020	39.7	7,306	6,205	4,238	100,550	10,198	0
17	5/26/2020	97	8,010	4,834	4,353	319,260	8,448	0
18	5/26/2020	96	8,055	5,502	4,277	319,800	8,223	0
19	5/27/2020	98	7,765	5,177	4,268	321,580	8,452	0
20	5/27/2020	96.3	7,991	5,296	4,166	319,320	8,513	0
21	5/27/2020	95	8,182	5,133	4,430	322,260	8,322	0
22	5/27/2020	96	7,518	4,972	4,278	321,060	8,258	0
23	5/28/2020	96.5	7,607	4,965	4,178	320,880	8,312	0
24	5/28/2020	95.6	8,083	5,159	4,213	320,480	8,152	0
25	5/28/2020	99	7,924	4,374	4,467	319,280	8,370	0
26	5/28/2020	99	7,803	5,041	4,219	319,780	8,574	0
27	5/29/2020	98.6	7,754	5,174	4,486	320,980	8,273	0
28	5/29/2020	100.8	7,893	5,576	4,502	319,880	8,037	0
29	5/29/2020	100.32	7,960	4,942	4,210	319,680	8,042	0
30	5/30/2020	99	7,749	5,117	4,305	319,960	8,219	0
31	5/30/2020	98.9	7,746	5,573	4,237	319,220	7,976	0
32	5/30/2020	99.6	7,858	4,643	4,376	319,520	8,427	0
33	5/30/2020	99.8	7,958	5,564	4,242	319,940	8,366	0
34	5/30/2020	98	7,719	5,418	4,260	320,040	8,331	0
35	5/31/2020	100	7,690	4,960	4,431	321,160	8,386	0
36	5/31/2020	99.7	7,768	5,063	4,090	321,260	8,648	0
37	5/31/2020	98.5	7,778	5,354	4,415	319,400	8,635	0
38	5/31/2020	98	7,789	5,114	4,636	320,500	8,519	0
39	5/31/2020	99	7,600	5,285	4,514	321,140	8,579	0
40	6/1/2020	99.1	7,577	5,330	4,335	320,130	8,680	0
41	6/1/2020	99	7,624	5,612	4,365	320,520	8,520	0
42	6/1/2020	99	7,428	4,839	4,238	319,940	8,435	0
43	6/3/2020	98	7,249	5,396	4,519	320,700	8,425	0
44	6/2/2020	100.1	7,383	5,004	4,633	323,100	8,709	0
45	6/2/2020	99.4	7,530	5,139	4,341	321,220	8,325	0
46	6/2/2020	98	7,116	4,982	4,438	320,220	8,446	0
47	6/3/2020	99	7,281	5,322	4,427	320,080	8,452	0
48	6/3/2020	99.5	7,283	5,171	4,089	319,420	8,119	0
49	6/3/2020	99.9	7,337	5,415	4,296	309,435	8,167	0
50	6/3/2020	97	7,746	4,569	4,484	320,100	8,163	0
51	6/3/2020	98.5	6,950	5,168	4,429	319,700	8,484	0
52	6/4/2020	98.8	6,951	5,010	4,260	319,360	8,327	0
53	6/4/2020	99.8	6,624	5,103	4,743	319,680	8,325	0

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 ATTACHMENT 2  
 STIM REPORT

STAGE NUM	Stim Date	Ave Pump		Ave		Max Breakdown	ISIP (PSI)	Amount of		Amount of nitrogen/othe	
		Rate (BPM)		Treatment				Proppant (lbs) water bbls			
54	6/4/2020	99.6		6,776		5,618	4,594	316,080		8,024	0
55	6/4/2020	98		6,393		5,713	4,452	319,460		8,362	0

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Well Name: **RUSSELL HERVEY BRK 201H**

**47009002910000**

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	250.00	250.00	
Top of Salt Water	404.00	404.00	NA	NA	
Pittsburgh Coal	255.00	255.00	417.00	417.00	
Pottsville (ss)	417.00	417.00	781.00	781.00	
Raven Cliff (ss)	781.00	781.00	1170.00	1170.00	
Maxton (ss)	1170.00	1170.00	1427.00	1403.00	
Big Injun (ss)	1427.00	1403.00	1920.00	1858.00	
Berea (siltstone)	1920.00	1858.00	5844.00	5323.00	
Rhinestreet (shale)	5844.00	5323.00	6139.00	5562.00	
Cashaqua (shale)	6139.00	5562.00	6214.00	5616.00	
Middlesex (shale)	6214.00	5616.00	6304.00	5677.00	
Burket (shale)	6304.00	5677.00	6323.00	5690.00	
Tully (ls)	6323.00	5690.00	6428.00	5751.00	
Mahantango (shale)	6428.00	5751.00	6654.00	5848.00	
Marcellus (shale)	6654.00	5848.00	NA	NA	GAS

RECEIVED  
Office of Oil and Gas

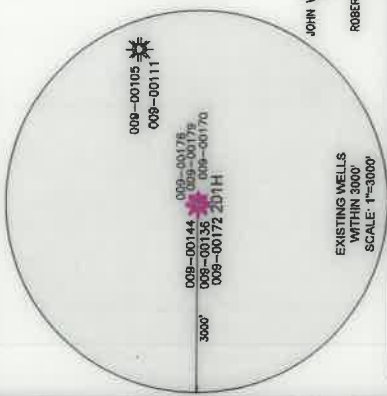
SEP 04 2020

WV Department of  
Environmental Protection

# THRASHER

THE THRASHER GROUP, INC.  
600 WHITE OAKS BLVD.  
BRIDGEPORT, WV 26330  
PHONE 304-624-4108  
NOTES ON SURVEY

- COORDINATES SYSTEM IS UTM, NAD 83 DATUM, ZONE 17, U.S. FOOT AND WELL COORDINATES ESTABLISHED USING SURVEY GRADE GPS.
- SURFACE AND ROYALTY OWNER INFORMATION AND THEIR BOUNDARIES SHOWN HEREON WERE PLOTTED FROM DEEDS AND/OR TAX PARCEL MAPS PROVIDED BY CLIENT AND FIELD LOCATIONS.
- THIS PLAT DOES NOT REPRESENT A BOUNDARY SURVEY OF THE PARCELS SHOWN HEREON.
- NO DWELLINGS AND BUILDINGS WITHIN 625 FEET OF PROPOSED CENTER OF PAD.
- NO WATER WELLS OR DEVELOPED SPRINGS WITHIN 250 FEET OF PROPOSED WELL.
- NO PERENNIAL STREAMS, LAKES, PONDS, RESERVOIRS OR WETLANDS WITHIN 100 FEET OF THE LIMITS OF DISTURBANCE
- NO NATURALLY PRODUCING TROUT STREAM WITHIN 300 FEET OF LIMITS OF DISTURBANCE.



TRACT	ROYALTY OWNER	TAX PARCEL	ACRES
1	RUSSELL D. & LISA K. HERVEY	03-828-0045	37.84
1	RUSSELL D. HERVEY	03-828-0045	37.84
2	WILLIAM JUDSON HERVEY III	03-828-0045-2	111.50
3	PATRICIA GRAHAM	03-828-0043	87.05
4	RANDY GRAHAM & PATRICIA GRAHAM	03-828-0042	4.59
5	FREDERICK L. & CATHY JO HERVEY	03-828-0045-1	37.84
6	DEWITT STANLEY	03-828-0044-1	36.442
7	ROBERT G. STANLEY	03-828-0044	36.364
8	ELLEN STANLEY	03-828F-0024	1.16
9	MARTHA HALL ET AL	03-828F-0023	1.00
10	MARTHA HALL ET AL	03-828F-0021	8.038
11	MELISSA RICHARDSON	03-828F-0022	0.76
12	CHARLES G. THORNE (LE), THERESA ANN LYNCH (REMAINDERMAN)	03-828F-0021	4.39
13	CHARLES G. THORNE (LE), THERESA ANN LYNCH (REMAINDERMAN)	03-828F-0020	3.06
14	JOHN & NANCY BAUMGARTNER	03-828F-0018	0.74
15	JOHN & NANCY BAUMGARTNER	03-828F-0017	0.77
16	RICHARD IRVIN & PATRICIA ANN SIMS	03-828B-0036	7.79
17	FOUR SWANS LP	03-828A-0039	74.16
18	DANIEL L. GILCHRIST & JO ANN GILCHRIST WEST VIRGINIA DEPARTMENT OF TRANSPORTATION	03-828A-0040	3.26
19	WILLIAM R. & MARGARET L. AFTANAS	04-CC28-0005	15.87
20	WELLSBURG CHURCH OF THE NAZARENE, INC.	04-CC23-0238	12.12
22	WILLIAM R. & MARGARET L. AFTANAS	04-CC23-0736	17.34
23	SCHAPPA & COMPANY INC	04-CC28-0002	48.66
24	JAMES LUNSFORD	04-CC23-0203	97.36
25	DONNA KATHRYN HALL	04-CC23-0229	54.78

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. 2312



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS  
WVDEP  
OFFICE OF OIL & GAS  
601 57TH STREET  
CHARLESTON, WV 25034

8-21-2020

WELL TYPE: OIL  WASTE DISPOSAL  PRODUCTION  DEEP  GAS  LIQUID INJECTION  STORAGE  SHALLOW   
WATERSHED: BUFFALO CREEK  
DISTRICT: BUFFALO  
SURFACE OWNER: RUSSELL D. HERVEY  
OIL & GAS ROYALTY OWNER: RUSSELL D. HERVEY & LISA K. HERVEY  
DRILL  DRILL DEEPER  REDRILL  FRACTURE OR STIMULATE  PLUG OFF OLD FORMATION  PERFORATE NEW FORMATION   
CONVERT  PLUG & ABANDON  CLEAN OUT & REPLUG  OTHER CHANGE  (SPECIFY AS-DRILLED)  
TARGET FORMATION: MARCELLUS

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

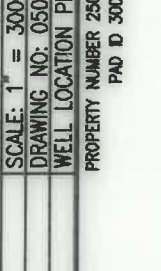
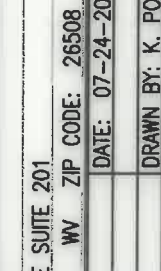
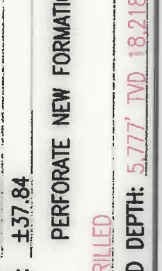
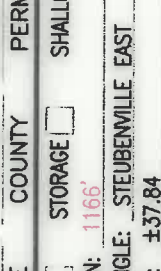
LEGEND:

- PROPOSED SURFACE HOLE / BOTTOM HOLE
- EXISTING / PRODUCING WELLHEAD
- LANDING POINT LOCATION
- EXISTING WATER WELL
- EXISTING SPRING
- SURVEYED BOUNDARY
- DRILLING UNIT
- LEASE BOUNDARY
- AS-DRILLED PATH
- PROPOSED PATH

REVISIONS:

Latitude: 40°17'30" SURFACE HOLE 4,199'

SURFACE HOLE LOCATION (SHL)	SURFACE HOLE LOCATION (SHL):
UTM (NAD83, ZONE 17, METERS): NORTHING: 4,456,499.582 EASTING: 537,717.254	UTM (NAD83, ZONE 17, METERS): NORTHING: 4,456,499.445 EASTING: 537,717.181
LANDING POINT LOCATION (LPL)	LANDING POINT LOCATION (LPL):
UTM (NAD83, ZONE 17, METERS): NORTHING: 4,456,522.524 EASTING: 537,120.658	UTM (NAD83, ZONE 17, METERS): NORTHING: 4,456,403.427 EASTING: 537,087.969
BOTTOM HOLE LOCATION (BHL)	BOTTOM HOLE LOCATION (BHL):
UTM (NAD83, ZONE 17, METERS): NORTHING: 4,459,542.776 EASTING: 535,810.007	UTM (NAD83, ZONE 17, METERS): NORTHING: 4,459,544.211 EASTING: 535,813.387



PROPERTY NUMBER 2501163261  
PAID ID 3001156180

# THRASHER

THE THRASHER GROUP, INC.  
600 WHITE OAKS BLVD.  
BRIDGEPORT, WV 26330  
PHONE 304-624-4108

## ADJOINING OWNERS TABLE

TRACT	SURFACE OWNER	TAX PARCEL	ACRES
A	MICHAEL J. COEN	04-CC23-0172	3.20
B	KEITH M. & CHRISTOL A. MOORE	04-CC23-0171	3.55
C	EDITH E. McCOMBS	04-CC23-0239	7.00
D	NAZARENE CHURCH	04-CC23-0237	0.67
E	W. GEORGE JR. & MARGARET SHEPERD	03-B23P-0001	0.77
F	W. GEORGE JR. & MARGARET JEANE SHEPERD	03-B28B-0001	0.67
G	DANIEL L. & JOANNE GILCHRIST	03-B28B-0056	5.74
H	WILLIAM L. CONLEY	03-B28B-0002	2.13
I	RICHARD A. & CINDY A. CHAMP	03-B28B-0015	2.73
J	MARILYN TAYLOR	03-B28B-0029	1.98
K	MARILYN TAYLOR	03-B28B-0030	1.46
L	DOROTHY M. COX	03-B28B-0035	5.20
M	JEFFREY W. DORRANCE JR.	03-B28F-0010	2.609
N	DAVID A. SESLER SR.	03-B28F-0016	0.75
O	WALTER E. JR. & RHONDA L. MARTINDILL	03-B28F-0019	0.86
P	BRIAN SOLY & KELLY HORVATH	03-B28F-0026	0.84
Q	THOMAS R. BLOOM	03-B28F-0027	0.86
R	TIMOTHY J. STANLEY	03-B28F-0028	1.04
S	BRIAN E. & MARANDA S. JOHNSON	03-B28F-0029	0.74
T	JAMES LANDWEHR SR.	03-B28F-0030	0.56
U	GEORGE WILLIAM & ROSEANNE BUXTON	03-B28F-0031	0.60
V	JAMES L. & DIANNE L. STOCK	03-B28F-0032	0.62
W	MICHAEL E. & DIANE M. DIGHT	03-B28F-0033	0.37
X	DAVID & DIANA PERINE	03-B28F-0035	0.50
Y	CHARLIE D. & BRITNEY L. FARRIS	03-B28-0045-4	3.26
Z	JAMES ROBERT & KAREN L. HERVEY	03-B28-0045-3	1.01
AA	RANDY & PATRICIA GRAHAM	03-B28-0029-1	3.39
BB	MARTHA L. DIAMOND	03-B28A-0028	1.33
CC	GERALD W. SMITH	03-B28A-0029	1.26
DD	SANDRA K. BEAVER	03-B28A-0037	0.82
EE	MATTHEW JAMES RHODES	03-B28A-0038	1.51
FF	WILLIAM R. & MARGARET L. AFTANAS	04-CC28-0003	0.93
GG	RICKY L. JR. & THERESA JO TAYLOR	03-B28A-0041	1.11

COMPANY:  
**SWN** **SWN** **SWN**<sup>REV+</sup>  
Production Company, LLC Production Company™

### REVISIONS:

DATE: 07-24-2020
SHEET 2 OF 2
DRAWN BY: K. POTH
SCALE: NOT TO SCALE
DRAWING NO: 050-5495
WELL LOCATION PLAT