

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

API 47-009-00179 County BROOKE District BUFFALO  
Quad STEUBENVILLE Pad Name RUSSELL HERVEY-BRK-PAD1 Field/Pool Name PANHANDLE FIELD  
Farm name RUSSELL D. HERVEY & LISA K. HERVEY Well Number RUSSELL HERVEY 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 4,456,504.276 Easting 537,705.303  
Landing Point of Curve Northing 4,456,737.802 Easting 537,482.036  
Bottom Hole Northing 4,458,690.943 Easting 536,734.689

Elevation (ft) 1166 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 4/06/2017 Date drilling commenced 7/27/2016 Date drilling ceased 9/23/2016  
Date completion activities began 4/19/2017 Date completion activities ceased 5/04/2017  
Verbal plugging (Y/N) N Date permission granted N/A Granted by N/A

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Please note: Operator is required to submit a plugging application within 5 days of verbal permission to plug

Freshwater depth(s) ft 221' Open mine(s) (Y/N) depths N  
Salt water depth(s) ft 881' Void(s) encountered (Y/N) depths N  
Cave depth(s) ft 255' Cavern(s) encountered (Y/N) depths N

**APPROVED**  
N

NAME: Eric Blend  
DATE: 9/12/17

Reviewed by: \_\_\_\_\_

API 47- 009 - 00179 Farm name RUSSELL D. HERVEY & LISA K. HERVEY Well number RUSSELL HERVEY 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	26	20	126	NEW	K-55/94#		Y; 3 BBLs RETURNED
Surface	17.5	13.375	379	NEW	H-40/48#		Y; 30 BBLs RETURNED
Coal	SEE SURFACE						
Intermediate 1	12.25	9.625	2018	NEW	J-55/36#		Y; 37 BBLs RETURNED
Intermediate 2							
Intermediate 3							
Production	8.75/8.50	5.5	13262	NEW	HCP-110/20#		Y
Tubing		2.375	6266	NEW	P-110/4.7#		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	405	15.60	1.20	486	SURFACE	8
Coal	SEE SURFACE						
Intermediate 1	CLASS A					SURFACE	8
Intermediate 2		776	15.60	1.20	931.2		
Intermediate 3							
Production	CLASS A	795/1526	15.60	1.23/1.19	977.85/1815.94	SURFACE	24
Tubing							

Drillers TD (ft) 13,262' Loggers TD (ft) 13,262'

Deepest formation penetrated MARCELLUS Plug back to (ft) N/A

Plug back procedure \_\_\_\_\_

Kick off depth (ft) 5,444

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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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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API 47- 009 - 00179 Farm name RUSSELL D. HERVEY & LISA K. HERVEY Well number RUSSELL HERVEY BRK 3H

<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>	
<u>MARCELLUS</u>	<u>5,855.18'</u>	<u>6,226.70'</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____

Please insert additional pages as applicable.

GAS TEST  Build up  Drawdown  Open Flow OIL TEST  Flow  Pump

SHUT-IN PRESSURE Surface 1125 psi Bottom Hole \_\_\_\_\_ psi DURATION OF TEST \_\_\_\_\_ hrs

OPEN FLOW Gas 1419 mcfpd Oil 228 bpd NGL \_\_\_\_\_ bpd Water 147 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 NAME TVD	DEPTH IN FT TVD	DEPTH IN FT MD	DEPTH IN FT MD	
	<u>0</u>		<u>0</u>		
	<u>SEE</u>	<u>ATTACHMENT</u>	<u>3</u>		

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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 NINE ENERGY  
Address 16945 NORTHCASE DRIVE, STE 1600 City HOUSTON State TX Zip 77060

Cementing Company SCHLUMBERGER WELL SERVICES  
Address 110 SCHLUMBERGER DRIVE City SUGAR LAND State TX Zip 77478

Stimulating Company KEANE  
Address 2121 SAGE ROAD City HOUSTON State TX Zip 77056

Please insert additional pages as applicable.

Completed by DENISE GRANTHAM Telephone 832-796-6139  
Signature \_\_\_\_\_ Title REGULATORY TECHNICIAN Date \_\_\_\_\_

RUSSELL HERVEY BRK 3H  
PERF SUMMARY

STAGE NUM	Perf Date	Perf Top MD	Perf Bottom MD	# SHOTS PER STG
1	4/19/2017	12,958	13,139	42
2	4/20/2017	12,702	12,896	42
3	4/20/2017	12,446	12,640	42
4	4/20/2017	12,190	12,384	42
5	4/20/2017	11,934	12,128	42
6	4/21/2017	11,678	11,872	42
7	4/21/2017	11,422	11,616	42
8	4/21/2017	11,166	11,360	42
9	4/21/2017	10,910	11,104	42
10	4/22/2017	10,654	10,848	42
11	4/22/2017	10,398	10,594	42
12	4/22/2017	10,142	10,336	42
13	4/22/2017	9,886	10,080	42
14	4/22/2017	9,630	9,824	42
15	4/23/2017	9,374	9,568	42
16	4/23/2017	9,118	9,312	42
17	4/23/2017	8,862	9,056	42
18	4/23/2017	8,606	8,800	42
19	4/23/2017	8,350	8,544	42
20	4/23/2017	8,094	8,288	42
21	4/24/2017	7,838	8,032	42
22	4/24/2017	7,582	7,776	42
23	4/24/2017	7,326	7,520	42
24	4/24/2017	7,070	7,264	42
25	4/24/2017	6,814	7,008	42
26	4/24/2017	6,558	6,752	42
27	4/25/2017	6,302	6,496	42

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RUSSELL HERVEY BRK 3H  
FRAC STAGE SUMMARY

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	4/19/2017	99	7,428	8,336	4,095	497,820	9,254	
2	4/20/2017	100	7,561	8,837	4,133	500,620	7,389	
3	4/20/2017	98	7,516	9,144	4,592	493,900	7,226	
4	4/20/2017	76	8,072	9,438	4,352	501,100	8,372	
5	4/20/2017	98	7,775	8,519	4,170	501,100	7,610	
6	4/21/2017	91	7,456	9,005	4,236	500,080	7,244	
7	4/21/2017	59	8,325	9,323	4,478	398,780	9,015	
8	4/21/2017	92	7,849	8,994	4,520	501,000	7,616	
9	4/21/2017	98	7,571	9,451	4,435	503,500	7,211	
10	4/22/2017	97	7,596	9,216	4,196	502,220	7,150	
11	4/22/2017	100	7,159	7,557	4,514	498,200	7,081	
12	4/22/2017	100	7,165	8,436	4,491	501,520	7,078	
13	4/22/2017	98	7,547	8,901	4,542	498,300	7,039	
14	4/22/2017	98	6,953	7,471	4,613	500,920	7,105	
15	4/23/2017	101	6,890	7,120	4,545	498,820	7,087	
16	4/23/2017	100	6,688	8,140	4,445	498,320	6,904	
17	4/23/2017	99	6,815	7,478	4,356	500,140	7,743	
18	4/23/2017	100	6,953	8,283	4,437	496,920	6,838	
19	4/23/2017	99	6,887	9,037	4,374	502,960	6,911	
20	4/23/2017	100	6,787	7,002	4,663	500,900	6,891	
21	4/24/2017	100	6,649	7,907	4,474	500,500	6,882	
22	4/24/2017	100	6,450	7,085	4,496	500,760	6,770	
23	4/24/2017	99	6,854	7,549	4,292	499,140	6,750	
24	4/24/2017	101	6,543	7,120	4,503	500,500	6,724	
25	4/24/2017	98	6,296	7,671	4,535	495,380	6,742	
26	4/24/2017	101	6,488	6,931	4,277	508,240	6,715	
27	4/25/2017	100	6,478	7,334	4,520	501,220	6,616	

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**Well Name:**

**RUSSELL HERVEY BRK 3H**

**47009001790000**

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	N.A.	N.A.	221.00	221.00	
Top of Salt Water	881.00	880.98	N.A.	N.A.	
Pittsburgh Coal	255.00	254.99	260.00	259.99	
Big Injun (ss)	1570.00	1569.90	1584.00	1583.90	
Berea (siltstone)	1914.00	1913.88	1932.00	1931.88	
Rhinestreet (shale)	5457.64	5409.35	5610.89	5549.63	
Cashaqua (shale)	5610.89	5549.63	5683.59	5611.46	
Middlesex (shale)	5683.59	5611.46	5748.43	5662.79	
Burket (shale)	5748.43	5662.79	5779.69	5685.75	
Tully (ls)	5779.69	5685.75	5867.51	5745.45	
Mahantango (shale)	5867.51	5745.45	6133.20	5860.25	
Marcellus (shale)	6133.20	5860.25	N.A.	N.A.	GAS

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# Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	4/19/2017
Job End Date:	4/25/2017
State:	West Virginia
County:	Brooke
API Number:	47-009-00179-00-00
Operator Name:	Southwestern Energy
Well Name and Number:	Russel Hervey BRK 3H
Latitude:	40.25815000
Longitude:	-80.55660400
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	5,881
Total Base Water Volume (gal):	8,119,612
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
Water	Southwestern Energy	Carrier/Base Fluid	Water	7732-18-5	100.00000	82.43494	
Sand	U.S. Well Services, LLC	Proppant	Crystalline Silica, quartz	14808-60-7	100.00000	16.31577	
HCL Acid (12.6%-17.5%)	U.S. Well Services, LLC	Bulk Acid	Water	7732-18-5	87.40000	0.98396	
			Hydrogen Chloride	7647-01-0	17.50000	0.22877	
WFRA-2000	U.S. Well Services, LLC	Friction Reducer	2-Propenoic acid, polymer with 2 propenamide	9003-06-9	30.00000	0.01968	
			Hydrated light distillate (petroleum)	64742-47-8	30.00000	0.01614	
AI-303	U.S. Well Services, LLC	Acid Corrosion Inhibitors	Ethylene glycol	107-21-1	40.00000	0.00033	
			Cinnamaldehyde	104-55-2	20.00000	0.00012	
			Formic acid	64-18-6	20.00000	0.00011	
			Butyl cellosolve	111-76-2	20.00000	0.00010	



			Polyether	60828-78-6	10.00000	0.00006	
			Acetophenone, thiourea, formaldehyde polymer	68527-49-1	5.00000	0.00003	

Ingredients shown above are subject to 29 CFR 1910.1200(i) and appear on Material Safety Data Sheets (MSDS). Ingredients shown below are Non-MSDS.

- \* Total Water Volume sources may include fresh water, produced water, and/or recycled water
- \*\* Information is based on the maximum potential for concentration and thus the total may be over 100%

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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# THRASHER

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

Latitude: 40°17'30"

4,260'

7,404'

### NOTES ON SURVEY

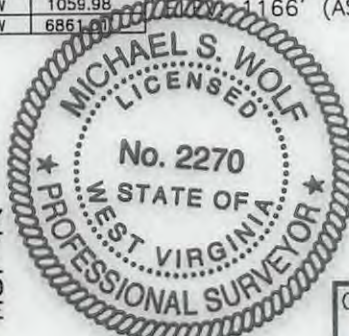
- COORDINATES SYSTEM IS UTM, NAD 83 DATUM, ZONE 17, U.S. FOOT AND WELL COORDINATES ESTABLISHED USING SURVEY GRADE GPS.
- SURFACE AND ROYALTY OWNER INFORMATION AND THEIR BOUNDARIES SHOWN HEREON WERE PLOTTED FROM DEEDS AND/OR TAX PARCEL MAPS PROVIDED BY CLIENT AND FIELD LOCATIONS.
- THIS PLAT DOES NOT REPRESENT A BOUNDARY SURVEY OF THE PARCELS SHOWN HEREON.
- NO DWELLINGS AND BUILDINGS WITHIN 625 FEET OF PROPOSED OF 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	SURFACE OWNER (S) / ROYALTY OWNER (R)	TAX PARCEL	ACRES
1	(S)RUSSELL D. HERVEY (R)CHESAPEAKE APPALACHIA, LLC	05-03-B28-0045-0000	37.84
2	(S)WILLIAM JUDDSON HERVEY, III (R)CHESAPEAKE APPALACHIA, LLC	05-03-B28-0045-0002	111.50
3	(S)FREDERICK L. HERVEY (R)CHESAPEAKE APPALACHIA, LLC	05-03-B28-0045-0001	34.58
4	(S)CHARLIE D. FARRIS AND BRITNEY L. FARRIS (R)CHESAPEAKE APPALACHIA, LLC	05-03-B28-0045-0004	3.26
5	(S)THOMAS MILLER (R)CHESAPEAKE APPALACHIA, LLC	05-03-B28-0046-0000	0.13
6	(S)KENNETH DIGHT (R)CHESAPEAKE APPALACHIA, LLC	05-03-B28F-0036-0000	21.13
7	(S)SHERRY L. DENNIS (R)CHESAPEAKE APPALACHIA, LLC	05-03-B28F-0053-0000	2.51
8	(S)WALDO E. MILLER (R)CHESAPEAKE APPALACHIA, LLC	05-03-B28F-0055-0000	2.00
9	(S)MARY K. MILLER (R)CHESAPEAKE APPALACHIA, LLC	05-03-B28B-0039-0000	5.28
10	(S)MARY K. MILLER (R)CHESAPEAKE APPALACHIA, LLC	05-03-B28B-0040-0000	5.98
11	(S)RANDA J. BOZDO (R)JOANNE R. DUNKEL AND DONALD K. DUNKEL (R)WILLIAM S. BACH (R)MOLLIE ROBISON	05-03-B28B-0023-0000	1.00
12	(S)NATHAN GADICH (R)JOANNE R. DUNKEL AND DONALD K. DUNKEL (R)WILLIAM S. BACH (R)MOLLIE ROBISON	05-03-B28B-0022-0000	1.00
13	(S)WILLIAM J. WELLS AND PATRICIA L. WELLS (R)JOANNE R. DUNKEL AND DONALD K. DUNKEL (R)WILLIAM S. BACH (R)MOLLIE ROBISON	05-03-B28B-0021-0000	1.00
14	(S)PHILIP A. CONLEY, ET AL (R)JOANNE R. DUNKEL AND DONALD K. DUNKEL (R)WILLIAM S. BACH (R)MOLLIE ROBISON	05-03-B28B-0020-0000	1.00
15	(S)DONALD SMITH (R)JOANNE R. DUNKEL AND DONALD K. DUNKEL (R)WILLIAM S. BACH (R)MOLLIE ROBISON	05-03-B28B-0019-0000	1.00
16	(S)COREY P. ROMAN (R)COREY P. ROMAN AND DONNA M. ROMAN (R)JOANNE R. DUNKEL AND DONALD K. DUNKEL (R)WILLIAM S. BACH (R)MOLLIE ROBISON	05-03-B28B-0014-0000	23.06
17	(S)ROBERT CLARK (R)JOANNE R. DUNKEL AND DONALD K. DUNKEL (R)WILLIAM S. BACH (R)MOLLIE ROBISON	05-03-B23P-0029-0000	1.11
18	(S)RONALD MISCH AND DENNIS MISCH (R)JOANNE R. DUNKEL AND DONALD K. DUNKEL (R)WILLIAM S. BACH (R)MOLLIE ROBISON	05-03-B23P-0030-0000	1.03
19	(S)KAREN S. KIRCHNER AND CHARLES D. KIRCHNER (R)JOANNE R. DUNKEL AND DONALD K. DUNKEL (R)WILLIAM S. BACH (R)MOLLIE ROBISON	05-03-B23P-0031-0000	1.03
20	(S)COREY P. ROMAN AND DONNA M. ROMAN (R)JOANNE R. DUNKEL AND DONALD K. DUNKEL (R)WILLIAM S. BACH (R)MOLLIE ROBISON	05-03-B23P-0032-0000	1.00
21	(S)MERRY A. SMITH (R)JOANNE R. DUNKEL AND DONALD K. DUNKEL (R)WILLIAM S. BACH (R)MOLLIE ROBISON	05-03-B23P-0033-0000	1.08
22	(S)JOHN P. HUNDAGEN AND TERRY HUNDAGEN (R)JOANNE R. DUNKEL AND DONALD K. DUNKEL (R)WILLIAM S. BACH (R)MOLLIE ROBISON	05-03-B23P-0022-0000	1.11
23	(S)DIANE L. ALMAN (R)JOANNE R. DUNKEL AND DONALD K. DUNKEL (R)WILLIAM S. BACH (R)MOLLIE ROBISON	05-03-B23P-0021-0000	1.12
24	(S)JUDITH A. GRAY AND EDMOND M. GRAY, SR. (R)JOANNE R. DUNKEL AND DONALD K. DUNKEL (R)WILLIAM S. BACH (R)MOLLIE ROBISON	05-03-B23P-0011-0000	1.12



SURFACE HOLE LOCATION (SHL):
UTM (NAD83, ZONE 17, METERS):
NORTHING: 4,456,504.276
EASTING: 537,705.303
LANDING POINT LOCATION (LPL):
UTM (NAD83, ZONE 17, METERS):
NORTHING: 4,456,737.802
EASTING: 537,482.036
BOTTOM HOLE LOCATION (BHL):
UTM (NAD83, ZONE 17, METERS):
NORTHING: 4,458,690.943
EASTING: 536,734.689

LINE	BEARING	DISTANCE
L1	S 75°01'24" W	33.61'
L2	S 56°33'54" W	24.49'
L3	N 70°38'18" W	3690.15'
L4	N 32°53'21" W	2674.36'
L5	N 43°42'48" W	1059.98'
L6	N 22°08'24" W	6861.00'



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. 2270 *MSW* 6/30/17



(+) 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)

COMPANY: **SWN** Production Company, LLC

RUSSELL HERVEY BRK  
OPERATOR'S WELL #: 3H  
API WELL #: 47 009 00179  
STATE COUNTY PERMIT

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

WATERSHED: BUFFALO CREEK  
DISTRICT: BUFFALO COUNTY: BROOKE  
SURFACE OWNER: RUSSELL D. HERVEY  
OIL & GAS ROYALTY OWNER: RUSSELL D. & 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)

TARGET FORMATION: MARCELLUS ESTIMATED DEPTH: 5,822' TVD 13,262' TMD

WELL OPERATOR: SWN PRODUCTION COMPANY, LLC  
ADDRESS: P.O. BOX 1300  
CITY: JANE LEW STATE: WV ZIP CODE: 26378

DESIGNATED AGENT: DEE SOUTHALL  
ADDRESS: P.O. BOX 1300  
CITY: JANE LEW STATE: WV ZIP CODE: 26378

LEGEND:	REVISIONS:	DATE:
○ PROPOSED SURFACE HOLE / BOTTOM HOLE		06-28-2017
⊙ EXISTING / PRODUCING WELLHEAD		
⊗ ABANDONED WELL	--- LEASE BOUNDARY	
⊗ PLUGGED & ABANDONED WELL	--- AS-DRILLED PATH	
△ CUT CONDUCTOR	--- PROPOSED PATH	
	--- ABANDONED PATH	
		DRAWN BY: R.DOERR
		SCALE: 1" = 2000'
		DRAWING NO: 050-5495
		WELL LOCATION PLAT

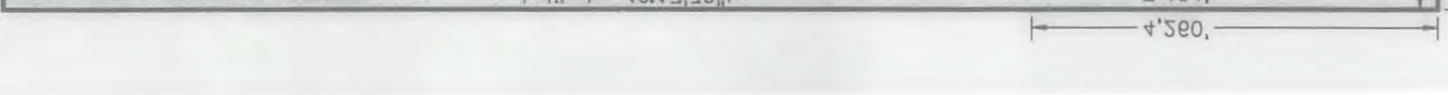
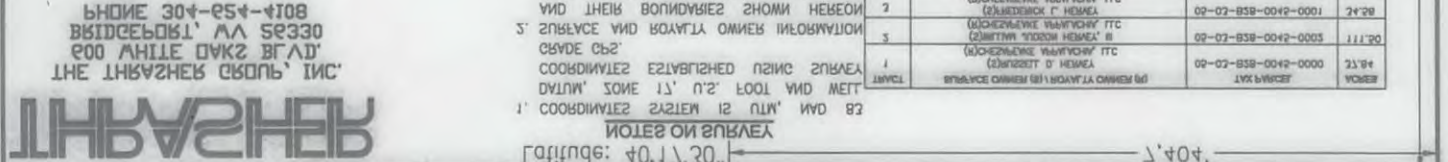
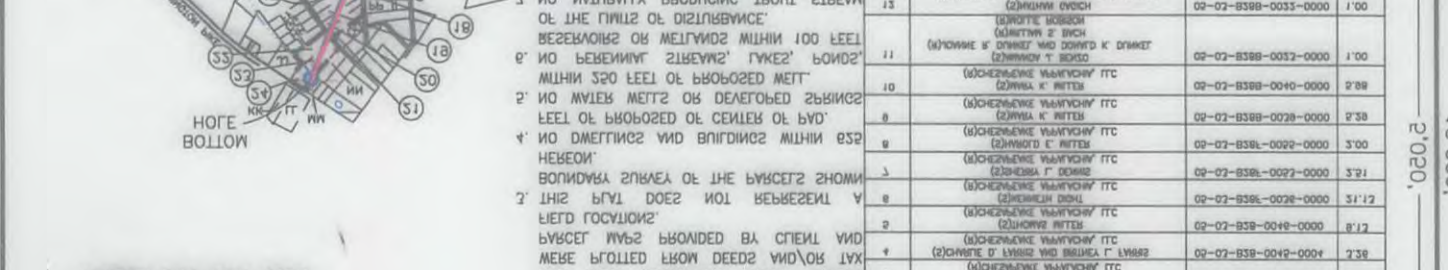
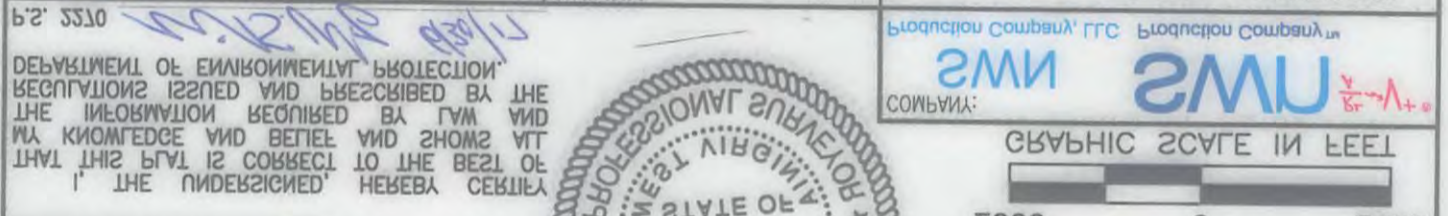
	УВАЙДИОНЕД БУИИ БРОБОДЕД БУИИ У2-ДРИГТЕД БУИИ ГЕУСЕ ВОЛИИДВА	МЕТТ ГОСУИИОН БУИИ ДРАУИИИ ИО: 020-2482 ССАТЕ: 1" = 3000 ДРАУИИ ВА: Б'ДОЕВБ
LEGEND:		RELATIONS:
США: ТУМЕ ГЕМ АДРЕСС: Б'О' БОХ 1300 МЕТТ ОБЕВАИОБ: ЗМИ БРОДУКЦИОН СОМПАНИ' ГТС	СТАТЕ: МА СИБ СОДЕ: 32338	США: ТУМЕ ГЕМ АДРЕСС: Б'О' БОХ 1300 ДЕСИГНАТЕД АСЕНТ: ДЕЕ СОПНАИТ
ТАУСЕЛ БОУИИИОН: ИАВСЕТТН2		ЕСТИМАТЕД ДЕПТН: 2'855, IAD 12'585, IAD
СОМБЕРТ <input type="checkbox"/> БУИИ & УВАЙДИОН <input type="checkbox"/> СТЕПН ОУТ & БЕУИИ <input type="checkbox"/> ОИТЕР СНАИСЕ <input type="checkbox"/> (ЗЕСЕИА) ДРИТ <input checked="" type="checkbox"/> ДРИТ ДЕЕБЕР <input type="checkbox"/> БЕДРИТ <input type="checkbox"/> БУАСЛУКЕ ОБ ЗИИИИУАТЕ <input checked="" type="checkbox"/> БУИИ ОБЕ ОГО БОУИИИОН <input type="checkbox"/> БЕУЕОУАТЕ ИЕМ БОУИИИОН <input type="checkbox"/> ОИГ & САС БОУИИИА ОММЕР: КВЗЕТТ Д' & П2У К' НЕВЛЕА ЗУБЛУСЕ ОММЕР: КВЗЕТТ Д' НЕВЛЕА ДИСТРИКТ: ВУЕУГО МАТЕКУШЕД: ВУЕУГО СРЕЕК МЕТТ ТАБЕ: ОИГ <input type="checkbox"/> МУСЛЕ ДИЗБОУИТ <input type="checkbox"/> БРОДУКЦИОН <input type="checkbox"/> ДЕЕБ <input type="checkbox"/> САС <input checked="" type="checkbox"/> ПЛОИД ИИНСЕКЦИОН <input type="checkbox"/> ЗЛОУАСЕ <input type="checkbox"/> ЗНАТТОМ <input checked="" type="checkbox"/>		

CHARGESTON' MA 52034 801 211H STREET OFFICE OF OIG & CAS MADEB UNITED STATES GEOGRAPHIC MAPS (+) DENOTES LOCATION OF WELL ON	ЕГЕЛАИОН: (ИМВД 88' И2 ЕТ) ЗОНЛУСЕ ОБ БУОЛЕИ АССЛУАСА: 1\500 ДЕБРЕЕ ОБ МИИИИИИИ	ВАИ МЕТТ #: 41 ОБЕВАИОБ,2 МЕТТ #: 3Н БУЗЗЕТТ НЕВЛЕА ВРК
ЕГЕЛАИОН: (ИМВД 88' И2 ЕТ) ЗОНЛУСЕ ОБ БУОЛЕИ АССЛУАСА: 1\500 ДЕБРЕЕ ОБ МИИИИИИ	STATE: MA COUNTY: 008 PERMIT: 00138	STATE: MA COUNTY: 008 PERMIT: 00138

DEPARTMENT OF ENVIRONMENTAL PROTECTION  
 REGULATIONS ISSUED AND PRESCRIBED BY THE  
 THE INFORMATION RECEIVED BY GYM AND  
 MY KNOWLEDGE AND BELIEF AND SHOWS THAT  
 THIS PLAN IS CORRECT TO THE BEST OF  
 THE UNDERSIGNED NEVADA SURVEYOR

PRODUCTION COMPANY LLC PRODUCTION COMPANY INC  
 ЗМИ ЗМУ  
 COMPANY:

GRAPHIC SCALE IN FEET  
 3000 0 3000



# THRASHER

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

TRACT	ADJOINER	PARCEL
A	BROOKE COUNTY PARK COMMISSION	05-03-B28-0064-0000
B	STARVAGGI INDUSTRIES, INC.	05-03-B33-0025-0000
C	MICHAEL WHITCO AND PATRICIA WHITCO	05-03-B28-0043-0000
D	RANDY R. GRAHAM AND PATRICIA J. GRAHAM	05-03-B28-0042-0000
E	TONYA DAVIDSON	05-03-B28B-0009-0000
F	DAVID PERINE AND DIANE PERINE	05-03-B28F-0035-0000
G	MICHAEL E. DIGHT AND DIANE M. DIGHT	05-03-B28F-0033-0000
H	MICHAEL E. DIGHT AND DIANE M. DIGHT	05-03-B28F-0034-0000
I	MICHAEL E. DIGHT AND DIANE M. DIGHT	05-03-B28F-0036-0001
J	CHARLES F. BAKER AND SHERYL L. BAKER	05-03-B28F-0047-0000
K	CHARLES F. BAKER AND SHERYL L. BAKER	05-03-B28F-0046-0000
L	JAMES V. FIDAZZO, JR. AND CHRIS FIDAZZO	05-03-B28F-0045-0000
M	JAMES V. FIDAZZO, JR. AND CHRIS FIDAZZO	05-03-B28F-0043-0000
N	STEPHEN J. HUNTER	05-03-B28F-0042-0000
O	KENNETH C. CHIVERS AND ETHEL C. CHIVERS	05-03-B28F-0050-0000
P	PAMELA L. FRESHWATER	05-03-B28F-0051-0000
Q	PAMELA L. FRESHWATER	05-03-B28F-0049-0001
R	KEITH R. SMITH AND KATHY J. SMITH	05-03-B28F-0056-0000
S	HAROLD E. MILLER	05-03-B28F-0054-0000
T	BRIAN W. ENGLE AND TAMMY L. ENGLE	05-03-B28F-0059-0000
U	JOHN S. KORBINI AND BEVERLY J. KORBINI	05-03-B28F-0060-0000
V	DENNIS M. POLEGA AND KAREN L. POLEGA	05-03-B28B-0038-0000
W	WALTER L. STATEN AND JULIA P. STATEN	05-03-B28B-0026-0000
X	HARRY M. MYERS, III AND SARAH M. MYERS	05-03-B28B-0025-0000
Y	AMANDA J. BENZO	05-03-B28B-0024-0000
Z	DAWN E. GOSSARD	05-03-B28B-0027-0000
AA	RICHARD A. CHAMP AND CINDY A. CHAMP	05-03-B28B-0015-0000
BB	WILLIAM L. CONLEY	05-03-B28B-0002-0000
CC	JOHN FOLIO	05-03-B28B-0003-0000
DD	GREGORY A. SMITH AND KELLI J. SMITH	05-03-B28B-0004-0000
EE	ROBERT CLARK	05-03-B23P-0028-0000
FF	TIMOTHY P. MCKEE	05-03-B23P-0026-0000
GG	JOSEPH W. CASEMAN AND GRETCHEN D. CASEMAN	05-03-B23P-0025-0000
HH	RONALD G. PHELPS AND RUTH L. PHELPS	05-03-B23P-0024-0000
II	DANIEL E. CRAGO AND JEAN C. CRAGO	05-03-B23P-0023-0000
JJ	ROBERT L. FRESHWATER	05-03-B23P-0010-0000
KK	ROBERT R. BOWMAN AND MICHELLE E. BOWMAN	05-04-CC23-0247-0000
LL	GARY W. BYERS AND KIMBERLY JO BYERS	05-04-CC23-0248-0000
MM	JAMES E. WILLIS AND JUDITH WILLIS	05-03-B23P-0012-0000
NN	DIANA L. PENHANICH	05-03-B23P-0020-0000
OO	DENISE M. HENDRICKSON	05-03-B23P-0034-0000
PP	RONALD E. SMITH, ET AL	05-03-B23P-0045-0000
QQ	HARRY M. MYERS AND ANNETTE M. MYERS	05-03-B28B-0005-0000
RR	JOHN E. LEONARD, JR. AND JOYCE L. LEONARD	05-03-B28B-0006-0000
SS	FRIEND A. LANCASTER	05-03-B28B-0007-0000
TT	DONALD C. TENNANT AND JOYCE A. TENNANT	05-03-B28B-0008-0000
UU	BERNARD J. KNORR, III AND NICOLE C. KNORR	05-03-B28-0059-0000
VV	LUTHER W. HOLDEN	05-03-B28B-0010-0000
WW	KENNETH R. KEMPER, JR., ET AL	05-03-B28B-0011-0000
XX	KENNETH R. KEMPER, JR., ET AL	05-03-B28B-0012-0000
YY	JANICE L. RUNYAN	05-03-B28B-0017-0000
ZZ	JANICE L. RUNYAN	05-03-B28B-0018-0000
AAA	DENNIS D. THORNE, ET AL	05-03-B28B-0042-0000
BBB	NEAL SMITH AND JOAN SMITH	05-03-B28B-0041-0000
CCC	THOMAS J. MILLER AND TONYA S. MILLER	05-03-B28-0046-0000
DDD	JAMES R. HERVEY AND KAREN L. HERVEY	05-03-B28-0045-0003
EEE	DONALD EATON AND JANICE EATON	05-03-B28-0057-0000
FFF	BERNARD J. KNORR, III AND NICOLE C. KNORR	05-03-B28-0057-0002
GGG	ROBERT G. STANLEY	05-03-B28-0044-0000

COMPANY:

**SWN**

**SWN** <sup>R<sub>2</sub>-V+</sup>

Production Company, LLC Production Company™

REVISIONS:

DATE: 06-28-2017

SHEET 2 OF 2

DRAWN BY: R.DOERR

SCALE: 1" = 2000'

DRAWING NO: 050-5495

WELL LOCATION PLAT

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GGG	ROBERT G. STANLEY	02-03-B28-0044-0000

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

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DATE: 08-28-2017
SHEET 2 OF 2
DRAWN BY: R.DOERR
SCALE: 1" = 200'
DRAWING NO: 020-2482
WELL LOCATION PLAN