

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

RECEIVED  
Office of Oil and Gas

JUL 3 2017

WV Department of  
Environmental Protection

API 47-069-00205 County OHIO District LIBERTY  
Quad BETHANY Pad Name SHAWN COUCH-OHI-PAD1 Field/Pool Name PANHANDLE FIELD  
Farm name SHAWN W. COUCH TRUST Well Number SHAWN COUCH OHI 6H  
Operator (as registered with the OOG) SWN PRODUCTION COMPANY, LLC  
Address PO BOX 12359 City SPRING State TX Zip 77391-2359

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey  
Top hole Northing 4,444,243.093 Easting 535,035.664  
Landing Point of Curve Northing 4,443,800.263 Easting 534,961.406  
Bottom Hole Northing 4,441,410.236 Easting 535,748.343

Elevation (ft) 1247' 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 01/21/2016 Date drilling commenced 09/24/2016 Date drilling ceased 10/26/2016  
Date completion activities began 03/07/2017 Date completion activities ceased 04/09/2017  
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 299' Open mine(s) (Y/N) depths N  
Salt water depth(s) ft 672' Void(s) encountered (Y/N) depths N  
Coal depth(s) ft 465' Cavern(s) encountered (Y/N) depths N  
Is coal being mined in area (Y/N) N

**APPROVED**  
Reviewed by: \_\_\_\_\_  
NAME: Eric Bland  
DATE: 9/12/17

API 47-069 - 00205 Farm name SHAWN W. COUCH TRUST Well number SHAWN COUCH OHI 6H

CASING STRINGS	Hole Size	Casing Size	Depth	New or Used	Grade wt/ft	Basket Depth(s)	Did cement circulate (Y/ N) * Provide details below*
Conductor	28	20	126	NEW	K-55/94#		Y; 5 BBLS RETURNED
Surface	17.5	13.375	409	NEW	H-40/48#		Y; 25 BBLS RETURNED
Coal	SEE INTERMEDIATE						
Intermediate 1	12.25	9.625	1871	NEW	J-55/36#		Y; 40 BBLS RETURNED
Intermediate 2							
Intermediate 3							
Production	8.75/8.50	5.5	15412	NEW	P-110/20#		Y
Tubing		2.375	6625	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	435	15.70	1.29	100	SURFACE	24
Surface	CLASS A	410	15.60	1.20	492	SURFACE	8
Coal	SEE INTERMEDIATE						
Intermediate 1	CLASS A	435	15.60	1.20	522	SURFACE	8
Intermediate 2							
Intermediate 3							
Production	CLASS A	905/1930	15.60	1.23/1.19	1113.15/2296.7	SURFACE	24
Tubing							

Drillers TD (ft) 15,412' Loggers TD (ft) 15,412'  
 Deepest formation penetrated MARCELLUS Plug back to (ft) N/A  
 Plug back procedure \_\_\_\_\_

RECEIVED  
Office of Oil and Gas  
JUL 3 2017

Kick off depth (ft) 5,344'

WV Department of Environmental Protection

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 \_\_\_\_\_

API 47-069 - 00205 Farm name SHAWN W. COUCH TRUST Well number SHAWN COUCH OHI 6H

### 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				

RECEIVED  
Office of Oil and Gas  
JUL 3 2017  
WV Department of  
Environmental Protection

Please insert additional pages as applicable.



Well Name:

SHAWN COUCH OHI 6H

47069002050000

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	299.00	299.00	
Top of Salt Water	672.00	672.00	N/A	N/A	
Pittsburgh Coal	465.00	465.00	473.00	473.00	
Big Injun (ss)	1700.00	1699.86	1813.00	1812.85	
Berea (siltstone)	2118.00	2117.81	5662.83	5603.00	
Rhinestreet (shale)	5662.83	5603.00	5975.57	5864.68	
Cashaqua (shale)	5975.57	5864.68	6050.94	5918.85	
Middlesex (shale)	6050.94	5918.85	6152.04	5986.21	
Burket (shale)	6152.04	5986.21	6187.31	6008.43	
Tully (ls)	6187.31	6008.43	6270.35	6057.38	
Mahantango (shale)	6270.35	6057.38	6601.25	6182.53	
Marcellus (shale)	6601.25	6182.53	N/A	N/A	GAS

RECEIVED  
Office of Oil and Gas  
JUL 3 2017  
WV Department of  
Environmental Protection

SHAWN COUCH OHI 6H  
PERF SUMMARY

STAGE NUM	Perf Date	Perf Top MD	Perf Bottom MD	# SHOTS PER STG
1	3/8/2017	15,108	15,302	42
2	3/8/2017	14,852	15,046	33
3	3/8/2017	14,596	14,790	51
4	3/9/2017	14,340	14,534	42
5	3/9/2017	14,084	14,278	42
6	3/9/2017	13,828	14,022	42
7	3/9/2017	13,572	13,766	42
8	3/9/2017	13,316	13,510	42
9	3/9/2017	13,060	13,254	42
10	3/10/2017	12,804	12,998	42
11	3/10/2017	12,548	12,742	42
12	3/10/2017	12,292	12,486	42
13	3/10/2017	12,036	12,230	42
14	3/11/2017	11,780	11,974	42
15	3/11/2017	11,524	11,718	42
16	3/11/2017	11,268	11,462	42
17	3/11/2017	11,012	11,206	42
18	3/12/2017	10,756	10,950	42
19	3/12/2017	10,500	10,694	42
20	3/12/2017	10,244	10,438	42
21	3/12/2017	9,988	10,182	42
22	3/13/2017	9,732	9,926	42
23	3/13/2017	9,476	9,670	42
24	3/13/2017	9,220	9,414	42
25	3/14/2017	8,964	9,158	42
26	3/14/2017	8,708	8,902	42
27	3/14/2017	8,452	8,646	42
28	3/14/2017	8,196	8,390	42
29	3/15/2017	7,940	8,134	42
30	3/15/2017	7,684	7,878	42
31	3/15/2017	7,428	7,622	42
32	3/15/2017	7,172	7,366	42
33	3/15/2017	6,916	7,110	42
34	3/16/2017	6,660	6,854	42

RECEIVED  
Office of Oil and Gas  
JUL 3 2017  
WV Department of  
Environmental Protection

SHAWN COUCH OHI 6H  
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	3/8/2017	98	7,835	8,321	3,744	498,940	9,002	
2	3/8/2017	97	7,822	8,368	4,497	501,140	7,656	
3	3/8/2017	100	7,850	8,647	4,374	499,800	7,474	
4	3/9/2017	100	7,971	8,596	4,363	500,000	7,617	
5	3/9/2017	100	7,505	8,346	4,106	500,000	7,596	
6	3/9/2017	100	8,020	8,417	4,387	501,080	7,413	
7	3/9/2017	100	7,996	8,513	4,377	499,960	7,466	
8	3/9/2017	100	7,812	8,406	4,469	496,660	7,443	
9	3/9/2017	100	7,910	8,621	4,514	500,100	7,334	
10	3/10/2017	100	7,897	8,166	3,854	502,580	7,295	
11	3/10/2017	100	7,789	8,352	4,151	501,940	7,224	
12	3/10/2017	100	7,996	8,394	4,200	501,000	7,199	
13	3/10/2017	101	7,704	8,328	4,245	5,000,060	7,353	
14	3/11/2017	100	7,859	8,344	4,326	501,820	7,276	
15	3/11/2017	100	7,722	8,054	4,209	500,120	7,217	
16	3/11/2017	100	7,800	8,190	4,305	499,660	7,288	
17	3/11/2017	100	7,649	8,350	4,226	500,240	7,401	
18	3/12/2017	100	7,569	8,260	4,124	507,480	7,377	
19	3/12/2017	100	7,474	8,388	4,167	500,620	7,353	
20	3/12/2017	100	7,299	8,564	4,092	499,160	7,229	
21	3/12/2017	101	7,524	8,482	4,057	500,220	7,294	
22	3/13/2017	100	6,929	7,186	4,011	499,240	6,999	
23	3/13/2017	101	7,464	8,450	4,091	508,640	7,021	
24	3/13/2017	100	7,474	8,466	4,151	500,060	6,895	
25	3/14/2017	100	6,865	7,358	4,020	502,620	6,955	
26	3/14/2017	99	7,367	7,700	4,012	509,771	6,923	
27	3/14/2017	100	7,552	7,850	4,047	500,070	6,785	
28	3/14/2017	100	7,169	8,035	4,252	500,151	7,316	
29	3/15/2017	100	6,973	7,664	4,159	499,376	6,967	
30	3/15/2017	100	6,933	8,088	4,149	500,766	6,766	
31	3/15/2017	100	6,625	7,298	4,137	500,067	6,567	
32	3/15/2017	100	6,557	7,384	4,124	500,041	6,810	
33	3/15/2017	100	6,924	7,841	4,185	503,949	7,017	
34	3/16/2017	100	7,078	7,485	4,170	509,780	6,705	

RECEIVED  
Office of Oil and Gas  
JUL 3 2017  
WV Department of  
Environmental Protection

# Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	3/9/2017
Job End Date:	3/16/2017
State:	West Virginia
County:	Ohio
API Number:	47-069-00205-00-00
Operator Name:	Southwestern Energy
Well Name and Number:	Shawn Couch OHI 6H
Latitude:	40.14780200
Longitude:	-80.58866500
Datum:	NAD27
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,304
Total Base Water Volume (gal):	10,192,616
Total Base Non Water Volume:	0



RECEIVED  
Office of Oil and Gas

JUL 3 2017

WV Department of  
Environmental Protection

## 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	Operator	Base Fluid					
			Water	7732-18-5	100.00000	82.12309	Density = 8.340
Ingredients	Listed Above	Listed Above					
			Water	7732-18-5	100.00000	1.35801	



HYDROCHLORIC ACID	Halliburton	Solvent					
				Listed Below			
SAND-PREMIUM WHITE-40/70, BULK	Halliburton	Proppant					
				Listed Below			
HAI-150E	Halliburton	Corrosion Inhibitor					
				Listed Below			
EC6486A	Nalco Champion	Scale Inhibitor					
				Listed Below			
Bactron K-219	Nalco Champion	Biocide					
				Listed Below			
SAND-COMMON WHITE - 100 MESH, 3307 LB BAG	Halliburton	Proppant					
				Listed Below			
FDP-S1176-15	Halliburton	Friction Reducer					
				Listed Below			

RECEIVED  
Office of Oil and Gas  
JUL 3 2017

WV Department of Environmental Protection

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	16.46895	
			Hydrochloric acid	7647-01-0	30.00000	0.79121	
			Polyacrylate	Proprietary	30.00000	0.01966	

			Hydrotreated light petroleum distillate	64742-47-8	30.00000	0.01966	
			Methanol	67-56-1	60.00000	0.01112	
			Quarternary Ammonium Compounds, Benzyl-C12-16-Alkyldimethyl, Chlorides	68424-85-1	30.00000	0.00556	
			Castor oil, ethoxylated	61791-12-6	5.00000	0.00328	
			Sorbitan, mono-9-octadecenoate, (Z)	1338-43-8	5.00000	0.00328	
			Sodium chloride	7647-14-5	5.00000	0.00328	
			9-Octadecenamamide, n,n-bis-2(hydroxy-ethyl)-,(Z)	93-83-4	5.00000	0.00328	
			Ammonium chloride	12125-02-9	5.00000	0.00328	
			Amine Triphosphate	Proprietary	30.00000	0.00152	
			Ethylene Glycol	107-21-1	30.00000	0.00152	
			Non-hazardous food substance	Proprietary	100.00000	0.00013	Denise Tuck, Halliburton, 3000 N. Sam Houston Pkwy E., Houston, TX 77032, 281-871-6226

\* 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

JUL 3 2017

WV Department of  
Environmental Protection

# THRASHER

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

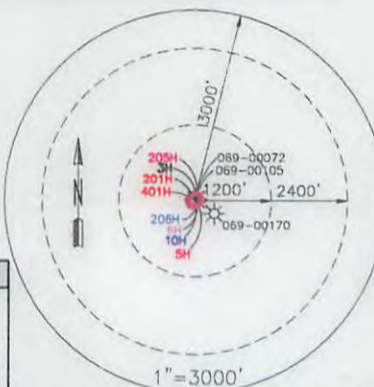
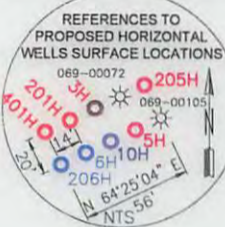
### NOTES ON SURVEY

- 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 825 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	ADJOINER	PARCEL
A1	COUCH TRUST	3-L4011000010000
A2	TALLMON	3-L4011300000000
A3	GILBERT	3-L4011200000000
A4	MCGLUMPHEY	3-L4011000030000

LINE	BEARING	DISTANCE	DESCRIPTION	MONUMENT
L1	N 30°04'12" E	34.66'	SHL TO 069-00072	EXISTING WELL HEAD
L2	N 65°37'58" E	42.13'	SHL TO 069-00105	EXISTING WELL HEAD
L3	S 75°18'55" W	1588.66'	SHL TO LANDMARK	IRF FOUND
L4	N 87°42'32" W	1705.36'	SHL TO LANDMARK	IRF FOUND
L5	S 19°23'04" W	1118.44'	SHL TO LP	LANDING POINT

TRACT	SURFACE OWNER (S) / ROYALTY OWNER (R)	TAX PARCEL	ACRES
1	SHAWN W. COUCH TRUST (S) GEORGE W. COUCH (R)	3-L4011000000000	121.56
2	MICHAEL J. MILLER AND PENELOPE T. MILLER (S/R)	3-L4011700000000	139.51
3	KEVIN L. KIMMINS AND RHONDA L. KIMMINS (S/R)	3-L4011800000000	33.39
4	EDWARD LOUIS STUPAK AND BRENDA W. STUPAK (S/R) JAMES & HELEN LOEW (R)	3-L4011800010000	23.60
5	HERBERT P. MINCH AND CAROL A. MINCH (S/R)	3-L4012000000000	198.35
6	RICHARD J. SCHNELLE AND CALVIN W. SCHNELLE (S/R)	3-L7000500010000	4.81
7	RICHARD J. SCHNELLE AND CALVIN W. SCHNELLE (S/R)	3-L7000800000000	2.00
8	JAMES M. MILER AND LACEY A. MILLER (S/R)	3-L7000900030000	5.59
9	MILO H. CRISWELL (S) BETTY JANE MYERS (R)	3-L7000600030000	27.08
10	COREY M. SOBOTA (S/R)	3-L8002400000000	24.30
11	JOHN L. SMITH II AND JOAN MARIE SMITH A/K/A JOAN W. SMITH (S/R)	3-L7004800000000	120.49



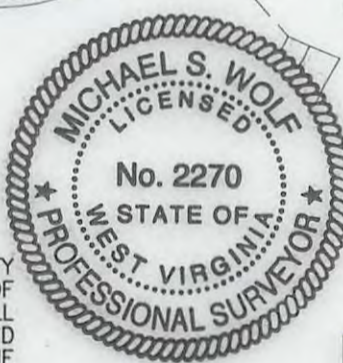
LOCATION	UTM (NAD83, ZONE 17, METERS)
<b>SURFACE HOLE LOCATION (SHL):</b>	NORTHING: 4,444,243.093 EASTING: 535,035.664
<b>LANDING POINT LOCATION (LPL):</b>	NORTHING: 4,443,800.263 EASTING: 534,961.406
<b>BOTTOM HOLE LOCATION (BHL):</b>	NORTHING: 4,441,410.236 EASTING: 535,748.343

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 *M.S. Wolf* 4/28/17

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS

WVDEP  
OFFICE OF OIL & GAS  
601 57TH STREET  
CHARLESTON, WV 25034



WELL TYPE: OIL <input type="checkbox"/> WASTE DISPOSAL <input type="checkbox"/> PRODUCTION <input 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: WEIDMANS RUN	DISTRICT: LIBERTY	COUNTY: OHIO	ELEVATION: 1247	QUADRANGLE: BETHANY
SURFACE OWNER: SHAWN W. COUCH TRUST	OIL & GAS ROYALTY OWNER: GEORGE W. COUCH	ACREAGE: 121.56	ACREAGE: 121.56	OPERATOR'S WELL #: SHAWN COUCH OHI 6H	API WELL #: 47 069 00205
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) AS-DRILLED	TARGET FORMATION: MARCELLUS	ESTIMATED DEPTH: 6,187 TVD 15,589 TMD	DESIGNATED AGENT: DEE SOUTHALL	ADDRESS: P.O. BOX 1300
WELL OPERATOR: SWN PRODUCTION COMPANY, LLC	ADDRESS: P.O. BOX 1300	CITY: JANE LEW	STATE: WV	ZIP CODE: 26378	CITY: JANE LEW

LEGEND:	REVISIONS:	DATE:
○ PROPOSED SURFACE HOLE / BOTTOM HOLE		04-28-2017
☼ EXISTING / PRODUCING WELLHEAD	--- LEASE BOUNDARY	
⊗ ABANDONED WELL	--- PROPOSED DHP	
⊕ PLUGGED & ABANDONED WELL	--- AS-DRILLED DHP	
△ CUT CONDUCTOR	--- ABANDONED PATH	
		DRAWN BY: K. POTH
		SCALE: 1" = 2000'
		DRAWING NO: 050-5635
		WELL LOCATION PLAT

# THRASHER

THE THRASHER GROUP, INC.  
600 WHITE OAKS BLVD.  
BRIDGEPORT, WV 26330  
PHONE 304-654-4108

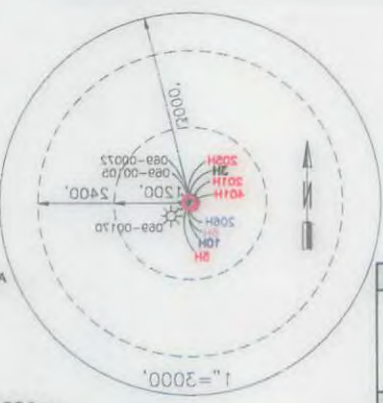
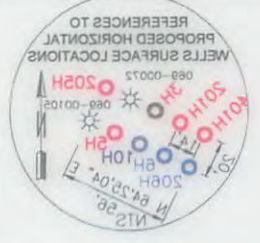
**NOTES ON SURVEY**

- COORDINATES SYSTEM IS UTM AND IS 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 PLAN DOES NOT REPRESENT A BOUNDARY SURVEY OF THE PARCELS SHOWN HEREON.
- NO DWELLINGS AND BUILDINGS WITHIN 825 FEET OF PROPOSED OR 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 FRESH WATER WITHIN 200 FEET OF LIMITS OF DISTURBANCE.

TRACT	ADJOINER	PARCEL
A4	MCCUMBERY	3-4011000030000
A3	LATTIMON	3-4011200000000
A2	COUCH TRUST	3-4011000010000

LINE	BEARING	DISTANCE	DESCRIPTION	MONUMENT
L1	N 30°42' E	34.66'	SHL TO 088-00073 EXISTING WELL HEAD	
L2	N 82°37' E	42.17'	SHL TO 088-00102 EXISTING WELL HEAD	
L3	S 73°18' W	1288.68'	SHL TO LANDMARK	IR FOUND
L4	N 87°42' W	1702.26'	SHL TO LANDMARK	IR FOUND
L5	S 12°32' W	1118.44'	SHL TO LP	LANDING POINT

TRACT	SURFACE OWNER (S) / ROYALTY OWNER (R)	TAX PARCEL	ACRES
1	JOHN L SMITH II AND JOAN MARIE SMITH (S/R) 3-7004800000000	3-7004800000000	150.48
2	COREY M SOBOTA (S/R) 3-8003400000000	3-8003400000000	24.20
3	MILLO H CRISWELL (S) BETTY JANE MYERS (R) 3-7008600030000	3-7008600030000	27.08
4	JAMES M MILLER AND LACEY A MILLER (S/R) 3-7008900030000	3-7008900030000	2.28
5	RICHARD J SCHMIDT AND CALVIN W SCHMIDT (S/R) 3-7008900000000	3-7008900000000	2.00
6	RICHARD J SCHMIDT AND CALVIN W SCHMIDT (S/R) 3-7008900010000	3-7008900010000	4.81
7	HERBERT P MINCH AND CAROL A MINCH (S/R) 3-4015000000000	3-4015000000000	188.25
8	JAMES & HELEN LOEW (R) 3-4018000100000	3-4018000100000	23.80
9	EDWARD LOUIS STUPAK AND BRENDA W STUPAK (S/R) 3-4011800010000	3-4011800010000	23.20
10	KEVIN L KIMMING AND RHONDA L KIMMING (S/R) 3-4011800000000	3-4011800000000	23.20
11	MICHAEL J MILLER AND FENOREE T MILLER (S/R) 3-4011700000000	3-4011700000000	129.21
12	SHAWN W COUCH TRUST (S) GEORGE W COUCH (R) 3-4011000000000	3-4011000000000	171.58



LOCATION	UTM (NAD83, ZONE 17, METERS)	NORTHING	EASTING
SURFACE HOLE LOCATION (SHL)		4444.243.083	525.025.884
LANDING POINT LOCATION (LPL)		4443.800.253	524.981.408
BOTTOM HOLE LOCATION (BHL)		4444.012.702	524.887.821
		4441.410.238	525.748.243
		4441.404.421	525.748.998

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.



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

<b>WVDEP</b> OFFICE OF OIL & GAS 601 57TH STREET CHARLESTON, WV 25034	UNITED STATES TOPOGRAPHIC MAPS ACCURACY: 1/500 MINIMUM DEGREE OF PROVEN SOURCE OF GRADE GPS SURVEY	ELEVATION: (NAD 88, US FT) SOURCE OF GRADE GPS SURVEY OPERATOR'S WELL #: SHAWN COUCH OHI GH	CITY: JANE LEW STATE: WV ZIP CODE: 26378 ADDRESS: P.O. BOX 1300 DESIGNATED AGENT: DEE SOUTHALL
WELLS: PROPOSED SURFACE HOLE / BOTTOM HOLE EXISTING / PRODUCING WELLHEAD ABANDONED WELL PLUGGED & ABANDONED WELL CUT CONDUCTOR	BOUNDARIES: LEASE BOUNDARY PROPOSED DHP AS-DRILLED DHP ABANDONED PATH	WELLS: PROPOSED SURFACE HOLE / BOTTOM HOLE EXISTING / PRODUCING WELLHEAD ABANDONED WELL PLUGGED & ABANDONED WELL CUT CONDUCTOR	CITY: JANE LEW STATE: WV ZIP CODE: 26378 ADDRESS: P.O. BOX 1300 DESIGNATED AGENT: DEE SOUTHALL
WELLS TYPE: OIL / WASTE DISPOSAL / PRODUCTION / DEEP / GAS / LIQUID INJECTION / STORAGE / SHALLOW	TARGET FORMATION: MARCELLUS ESTIMATED DEPTH: 1187 TWD 12289 TMD OTHER CHANGE (SPECIFY) AS-DRILLED	COUNTY: OHIO SURFACE OWNER: SHAWN W. COUCH TRUST OIL & GAS ROYALTY OWNER: GEORGE W. COUCH ACRES: 121.25 QUADRANGLE: BETHANY ELEVATION: 1247	CITY: JANE LEW STATE: WV ZIP CODE: 26378 ADDRESS: P.O. BOX 1300 DESIGNATED AGENT: DEE SOUTHALL
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	REVISIONS: DATE: 04-28-2017 DRAWN BY: K. POTH SCALE: 1" = 2000' DRAWING NO: 050-5635 WELL LOCATION PLAN	REVISIONS: DATE: 04-28-2017 DRAWN BY: K. POTH SCALE: 1" = 2000' DRAWING NO: 050-5635 WELL LOCATION PLAN	CITY: JANE LEW STATE: WV ZIP CODE: 26378 ADDRESS: P.O. BOX 1300 DESIGNATED AGENT: DEE SOUTHALL




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

ADJOINING OWNER INSET

TRACT	SURFACE OWNER	TAX PARCEL	ACRES
A	SHAWN W. COUCH TRUST	3-L4011000010000	1.16
B	PAUL TYRNA & RHONDA TYRNA	3-L4011400000000	1.24
C	MARK E. NORMAN	3-L4011000020000	2.44
D	JAMES W. LOWE & HELEN L. LOWE	3-L4011800020000	15.00
E	KEVIN L. KIMMINS & RHONDA L. KIMMINS	3-L4011800030000	29.00
F	DONALD T. PIKO	3-L5001600000000	10.91
G	DAVID ALAN BELLANCO & DEBRA KAY BELLANCO	3-L5002000110000	2.87
H	JOSEPH F. BIPPUS, SR., ET AL	3-L5002000010000	105.22
I	TUNNEL RIDGE LLC	3-L4012000030000	6.12
J	JOSEPH F. BIPPUS, SR., ET AL	3-L8000100050000	96.05
K	HERBERT P. MINCH, JR. & ASHLEA R. MINCH	3-L4012000020000	1.45
L	CARL HARTLIEB & ELSIE HARTLIEB	3-L4012000010000	1.29
M	CINDY L. LINTON & B. A. FARMER (LIFE ESTATE)	3-L7005000000000	1.00
N	RONALD D. FEKETE & MARY LEE FEKETE	3-L7000500000000	40.18
O	WENDY J. DAVIS	3-L7000600020000	2.49
P	WARREN E. MCLAUGHLIN, JR.	3-L7000700000000	2.73
Q	RUSSEL E. MYERS & BETTY JANE MYERS	3-L7000600010000	10.69
R	RUSSEL E. MYERS & BETTY JANE MYERS	3-L7004900000000	0.59
S	JOSEPH F. BIPPUS SR. & ICY M. BIPPUS (LIFE ESTATE); JOSEPH F. BIPPUS JR., MARY FEKETE & BETY ANN SMITH (REMAINDERMEN)	3-L8000100030000	1.45
T	JOSEPH F. BIPPUS SR. & ICY M. BIPPUS (LIFE ESTATE); JOSEPH F. BIPPUS JR., MARY FEKETE & BETY ANN SMITH (REMAINDERMEN)	3-L8000100040000	1.00
U	JOSEPH F. BIPPUS, SR., ET AL	3-L8000100050000	96.05
V	DANIEL MCKEE	3-L8002400080000	9.26
W	TYLER J. GRIFFITH	3-L8002400090000	2.09
X	JAY T. MAUCK & MELISSA J. MAUCK	3-L8002500000000	2.06
Y	JAY T. MAUCK & MELISSA J. MAUCK	3-L8002600000000	2.00
Z	MICHELLE LYNN BONHAM & AARON BONHAM	3-L8002400100000	2.00
AA	COREY M. SOBOTA	3-L8002400010000	6.00
BB	JAMES E. CARRINGTON & SHANDRA D. CARRINGTON	3-L8002400050000	4.00
CC	STEVE VARGO & SHARON K. VARGO	3-L8002900000000	52.14
DD	WILLIAM F. STRAUB & N. F. STRAUB	3-L1100010003000	24.52
EE	JOSEPH A. DOUGLAS & DIANNA C. DOUGLAS	3-L7004800010000	12.02
FF	PAUL J. ROBRECHT	3-L7004700000000	46.49
GG	EILEEN B. GILMORE	3-L7004600000000	6.43
HH	TUNNEL RIDGE LLC	3-L7004500000000	60.66
II	JAMES A. PARSONS & CAROL L. PARSONS	3-L7001100000000	109.36
JJ	JAMES P. MILLER	3-L7000900020000	7.59
KK	JAMES P. MILLER	3-L7000900010000	0.34
LL	JAMES PURPURA TRUST	3-L7001000000000	3.04
MM	RENEE LYNN MOSA	3-L7000900000000	0.94
NN	WAYNE L. WILHELM & M. B. WILHELM	3-L7000400000000	184.76
OO	LEE C. PAULL, III & JUNE W. PAULL	3-L4010900000000	204.00
PP	JOHN C. MYERS & A.F. MYERS	3-L4010700000000	3.68
QQ	HOLLAND PARK LIMITED LIABILITY	3-L4010500000000	141.82
RR	WINDSOR POWER HOUSE COAL COMPANY	3-L4010500070000	3.81
SS	B. G. RIDLER & J. M. TALLMON	3-L4011300000000	1.03
TT	DONALD E. GILBERT JR.	3-L4011200000000	0.71
UU	B. G. RIDLER & J. M. TALLMON	3-L4010600000000	1.06
VV	DIXIE M. LAUDERMILT & L. LAUDERMILT	3-L4010600010000	0.19
WW	STEVEN M. MCGLUMPHY	3-L4011000030000	189.84
XX	ROBERT E. DUVALL & E. C. DUVALL	3-L4011100010000	0.34
YY	MARK P. KAUFMAN & ANNELIESE KAUFMAN	3-L5000200000000	102.08
ZZ	TODD E. PORTER	3-L4012500000000	0.53
AAA	WILLIAM S. PATTERSON, JR.	3-L4011500000000	3.00

COMPANY:	
REVISIONS:	DATE: 04-28-2017
	DRAWN BY: K. POTH
	SCALE:
	DRAWING NO: 050-5635
	WELL LOCATION PLAT

TRACT	SUBSE OWNER	TAX PARCEL	ACRES
AAA	WILLIAM S. PATTERSON, JR.	2-401120000000	2.00
ZZ	TODD E. PORTER	2-401250000000	0.23
YY	MARK P. KAUTMAN & ANNELESE KAUTMAN	2-500250000000	102.08
XX	ROBERT E. DUVALL & E. C. DUVALL	2-401110001000	0.24
WW	STEVEN M. MCGLOUMPHY	2-401100003000	189.84
VV	DIXIE M. LAUDERMILT & J. LAUDERMILT	2-401080001000	0.18
UU	B. G. RIDLER & J. M. TALLMON	2-401080000000	1.08
TT	DONALD E. GILBERT JR.	2-401130000000	0.71
SS	B. G. RIDLER & J. M. TALLMON	2-401130000000	1.02
RR	WINDSOR POWER HOUSE COAL COMPANY	2-401050007000	3.81
QQ	HOLLAND PARK LIMITED LIABILITY	2-401050000000	141.83
PP	JOHN C. MYERS & A.F. MYERS	2-401070000000	3.88
OO	LEE C. PAULL, III & JUNE W. PAULL	2-401090000000	204.00
NN	WAYNE L. WILHELM & M. B. WILHELM	2-700400000000	184.78
MM	RENÉE LYNN MOSA	2-700080000000	0.94
LL	JAMES PURPURA TRUST	2-700100000000	3.04
KK	JAMES P. MILLER	2-700090001000	0.24
JJ	JAMES P. MILLER	2-700090002000	7.29
II	JAMES A. PARSONS & CAROL J. PARSONS	2-700110000000	109.28
HH	TUNNEL RIDGE LLC	2-700450000000	80.88
GG	EILEEN B. GILMORE	2-700480000000	8.43
FF	PAUL J. ROBRECHT	2-700470000000	48.49
EE	JOSEPH A. DOUGLAS & DIANNA C. DOUGLAS	2-700480001000	12.02
DD	WILLIAM F. STRAUB & N. F. STRAUB	2-1100010003000	24.22
CC	STEVE VARGO & SHARON K. VARGO	2-800290000000	22.14
BB	JAMES E. CARRINGTON & SHANDRA D. CARRINGTON	2-800240000000	4.00
AA	COREY M. SOBOTA	2-800240010000	8.00
Z	MICHELLE LYNN BONHAM & AARON BONHAM	2-800240010000	2.00
Y	JAY T. MAUCK & MELISSA J. MAUCK	2-800280000000	3.00
X	JAY T. MAUCK & MELISSA J. MAUCK	2-800250000000	3.08
W	TYLER J. GREIFLITH	2-800240000000	3.09
V	DANIEL MCKEE	2-800240008000	9.28
U	JOSEPH F. BIRPUS, SR., ET AL	2-800100025000	98.02
T	JOSEPH F. BIRPUS, SR., MARY FEKETE & BETTY ANN SMITH (REMANEANCE)	2-800100040000	1.00
S	JOSEPH F. BIRPUS, SR., MARY FEKETE & BETTY ANN SMITH (REMANEANCE)	2-800100070000	1.42
R	RUSSEL E. MYERS & BETTY JANE MYERS	2-700490000000	0.29
Q	RUSSEL E. MYERS & BETTY JANE MYERS	2-700080001000	10.89
P	WARREN E. MCGLOUMPH, JR.	2-700070000000	2.73
O	WENDY J. DAVIS	2-700080002000	2.49
N	RONALD D. FEKETE & MARY LEE FEKETE	2-700020000000	40.18
M	CINDY L. LINTON & B. A. FARMER (LIFE ESTATE)	2-700020000000	1.00
L	CARL HARTLIEB & ELISE HARTLIEB	2-401200001000	1.29
K	HERBERT P. MINCH, JR. & ASHLEA R. MINCH	2-401200002000	1.42
J	JOSEPH F. BIRPUS, SR., ET AL	2-800010002000	98.02
I	TUNNEL RIDGE LLC	2-401200003000	8.12
H	JOSEPH F. BIRPUS, SR., ET AL	2-500200001000	102.22
G	DAVID ALAN BELLANCO & DEBRA KAY BELLANCO	2-500200011000	2.87
F	DONALD T. PIKO	2-500180000000	10.91
E	KEVIN J. KIMMINS & RHONDA J. KIMMINS	2-401180002000	29.00
D	JAMES W. LOWE & HELEN J. LOWE	2-401180003000	12.00
C	MARK E. NORMAN	2-401100002000	2.44
B	PAUL TYRNA & RHONDA TYRNA	2-401140000000	1.24
A	SHAWN W. COUCH TRUST	2-401100010000	1.18

 COMPANY: <b>SWN</b> Production Company, LLC	
REVISIONS:	DATE: 04-28-2017
DRAWN BY: K. POTH	SCALE:
DRAWING NO: 050-5835	WELL LOCATION PLAT