

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

API 47-069-00308 County OHIO District LIBERTY
Quad BETHANY Pad Name SHAWN COUCH-PAD-1 Field/Pool Name PANHANDLE FIELD WET
Farm name SHAWN W. COUCH (TRUST) Well Number SHAWN COUCH OHI 401H
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 4,444,244.94 Easting 535,025.38
Landing Point of Curve Northing 4,444,261.27 Easting 534,194.56
Bottom Hole Northing 4,447,548.65 Easting 532,922.02

Elevation (ft) 1246.8' 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 10/6/2020

Date permit issued 9/30/2019 Date drilling commenced 2/25/2020 Date drilling ceased 3/13/2020
Date completion activities began 6/18/2020 Date completion activities ceased 7/24/2020
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 316' Open mine(s) (Y/N) depths N
Salt water depth(s) ft 611' Void(s) encountered (Y/N) depths N
Coal depth(s) ft 488' Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

Reviewed by:
SB 11-2-20
[Signature]

API 47-069 - 00308 Farm name SHAWN W. COUCH (TRUST) Well number SHAWN COUCH OHI 401H

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	413	NEW	J-55/54.50#		Y; 17 BBLS
Coal	SEE INTERMEDIATE						
Intermediate 1	12.25	9.625	1,885	NEW	J-55/36#		Y; 32 BBLS
Intermediate 2							
Intermediate 3							
Production	8.75/8.50	5.5	18,822	NEW	HCP-110/20#		Y; 20 BBLS
Tubing		2.375	7,116	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	399	15.60	1.20	478.8	SURFACE	8
Coal	SEE INTERMEDIATE						
Intermediate 1	CLASS A	734	15.60	1.19	873.46	SURFACE	8
Intermediate 2							
Intermediate 3							
Production	CLASS A	3,390	15.60	1.19	4,034.1	SURFACE	24
Tubing							

Drillers TD (ft) 18,822' Loggers TD (ft) 18,822'
 Deepest formation penetrated MARCELLUS Plug back to (ft) N/A
 Plug back procedure N/A

Kick off depth (ft) 6,015'

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 - 00308 Farm name SHAWN W. COUCH (TRUST) Well number SHAWN COUCH OHI 401H

<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>		
<u>MARCELLUS</u>	<u>6,106'</u>	<u>TVD</u>	<u>6,922'</u> <u>MD</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump

SHUT-IN PRESSURE Surface 1187 psi Bottom Hole _____ psi DURATION OF TEST _____ hrs

OPEN FLOW Gas 8,031 mcfpd Oil 708 bpd NGL _____ bpd Water 732 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 ₂ 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>		

Please insert additional pages as applicable.

Drilling Contractor SWN DRILLING COMPANY
 Address PO BOX 12359 City SPRING State TX Zip 77391-2359

Logging Company BAKER HUGHES
 Address 9110 GROGANS MILL RD City THE WOODLANDS State TX Zip 77380

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

Stimulating Company HALLIBURTON ENERGY SERVICE
 Address 14851 MILNER ROAD, GATE 5A City HOUSTON State TX Zip 77032

Please insert additional pages as applicable.

Completed by Elizabeth Gee Telephone 832-796-2873
 Signature *Elizabeth Gee* Title Staff Regulatory Analyst Date 10/05/2020

SHAWN COUCH OHI 401H**ATTACHMENT 1****PERF REPORT**

STAGE NUM	Perf Date	Perf Top MD	Perf Bottom MD	# SHOTS PER STG
1	6/3/2020	18,739	18,651	36
2	6/19/2020	18,615	18,437	36
3	6/20/2020	18,403	18,225	36
4	6/20/2020	18,191	18,013	36
5	6/21/2020	17,980	17,801	36
6	6/21/2020	17,768	17,589	36
7	6/21/2020	17,556	17,378	36
8	6/22/2020	17,344	17,166	36
9	6/22/2020	17,129	16,954	36
10	6/23/2020	16,921	16,742	36
11	6/23/2020	16,709	16,530	36
12	6/23/2020	16,497	16,319	36
13	6/24/2020	16,285	16,107	36
14	6/24/2020	16,073	15,895	36
15	6/25/2020	15,862	15,683	36
16	6/25/2020	15,650	15,471	36
17	6/26/2020	15,438	15,260	36
18	6/26/2020	15,226	15,048	36
19	6/26/2020	15,014	14,841	36
20	6/27/2020	14,803	14,624	36
21	6/27/2020	14,591	14,412	36
22	6/27/2020	14,376	14,201	36
23	6/28/2020	14,167	13,989	36
24	6/28/2020	13,955	13,777	36
25	6/28/2020	13,744	13,565	36
26	6/28/2020	13,532	13,350	36
27	6/29/2020	13,320	13,142	36
28	6/29/2020	13,108	12,930	36
29	6/30/2020	12,896	12,718	36
30	6/30/2020	12,685	12,506	36
31	7/1/2020	12,473	12,294	36
32	7/1/2020	12,261	12,083	36
33	7/2/2020	12,049	11,871	36
34	7/2/2020	11,837	11,665	36
35	7/2/2020	11,627	11,447	36
36	7/3/2020	11,409	11,235	30
37	7/3/2020	11,202	11,024	30
38	7/3/2020	10,988	10,812	30
39	7/4/2020	10,778	10,600	30
40	7/4/2020	10,567	10,388	30
41	7/5/2020	10,355	10,176	30
42	7/5/2020	10,143	9,965	32
43	7/5/2020	9,931	9,753	28
44	7/6/2020	9,719	9,541	30

SHAWN COUCH OHI 401H
ATTACHMENT 1
PERF REPORT

STAGE NUM	Perf Date	Perf Top MD	Perf Bottom MD	# SHOTS PER STG
45	7/6/2020	9,508	9,329	30
46	7/6/2020	9,295	9,117	30
47	7/7/2020	9,084	8,906	30
48	7/7/2020	8,872	8,694	30
49	7/8/2020	8,660	8,482	30
50	7/8/2020	8,449	8,270	30
51	7/8/2020	8,237	8,058	30
52	7/8/2020	8,022	7,847	30
53	7/9/2020	7,813	7,635	30
54	7/9/2020	7,601	7,422	30
55	7/9/2020	7,394	7,211	30
56	7/10/2020	7,178	6,999	30

SHAWN COUCH OHI 401H

ATTACHMENT 2

STIM REPORT

STAGE NUM	Stim Date	Ave Pump Rate (BPM)	Ave Treatment Pressure (PSI)	Max Breakdown		Amount of Proppant (lbs)	Amount of water bbls	Amount of nitrogen/other
				Pressure (PSI)	ISIP (PSI)			
1	6/18/2020	47.6	8,304	7,922	3,856	148,196	10,938	0
2	6/19/2020	83.7	7,481	5,912	4,420	320,380	11,221	0
3	6/20/2020	95.1	8,086	5,504	4,349	319,840	9,194	0
4	6/20/2020	90.8	8,045	5,329	4,436	319,740	9,297	0
5	6/21/2020	96.4	7,988	5,091	4,622	339,570	9,431	0
6	6/21/2020	93.6	8,021	5,472	4,473	340,020	9,706	0
7	6/22/2020	97.4	8,183	5,623	4,423	319,640	9,174	0
8	6/22/2020	97.9	8,181	5,125	4,358	319,860	8,823	0
9	6/23/2020	91.9	8,133	5,307	4,256	320,020	8,701	0
10	6/23/2020	98	8,043	5,776	4,704	320,000	9,145	0
11	6/23/2020	96	8,125	5,210	4,374	319,720	8,788	0
12	6/24/2020	96.8	8,263	5,439	4,577	319,760	9,089	0
13	6/24/2020	97.2	8,224	4,268	4,318	318,840	8,817	0
14	6/25/2020	98	8,169	5,496	4,465	318,880	8,613	0
15	6/25/2020	96.9	8,215	5,570	4,400	320,540	8,910	0
16	6/25/2020	96.3	8,186	5,495	4,386	319,720	8,789	0
17	6/26/2020	94.2	8,222	5,994	4,386	319,120	8,854	0
18	6/26/2020	98.7	8,138	5,929	4,427	319,420	8,304	0
19	6/27/2020	98.7	7,957	5,593	4,508	319,320	8,361	0
20	6/27/2020	97.8	8,029	5,848	4,430	319,680	9,136	0
21	6/27/2020	95.9	7,681	5,322	4,376	319,600	8,305	0
22	6/27/2020	99.8	7,960	5,542	4,592	320,360	8,278	0
23	6/28/2020	97	7,665	5,392	4,398	320,420	8,795	0
24	6/28/2020	98.8	7,890	5,774	4,459	320,300	8,906	0
25	6/28/2020	98.9	7,863	5,328	4,262	320,160	8,292	0
26	6/29/2020	100.5	7,813	5,539	4,334	319,200	8,303	0
27	6/29/2020	98.4	7,800	5,533	4,390	319,840	8,603	0
28	6/30/2020	92.5	7,558	5,536	4,464	320,160	8,967	0
29	6/30/2020	95	7,823	5,681	4,432	319,860	8,817	0
30	7/1/2020	99.5	7,906	5,225	4,447	319,540	8,783	0
31	7/1/2020	97	7,739	5,688	4,219	319,560	8,379	0
32	7/1/2020	99.7	7,939	5,287	4,282	320,200	8,232	0
33	7/2/2020	93.2	7,410	5,643	4,283	320,620	8,407	0
34	7/2/2020	97.1	7,623	5,616	4,262	320,560	8,775	0
35	7/3/2020	99.5	7,757	5,784	4,220	320,320	8,445	0
36	7/3/2020	96.8	7,357	5,282	4,293	319,820	8,424	0
37	7/3/2020	98.3	7,828	5,494	4,395	320,600	8,358	0
38	7/4/2020	96.2	7,792	5,830	4,248	320,400	8,494	0
39	7/4/2020	95.4	7,431	5,854	4,253	320,060	8,629	0
40	7/4/2020	96.4	7,695	5,414	4,164	319,840	8,235	0
41	7/5/2020	89.5	7,048	5,956	4,368	319,340	8,468	0
42	7/5/2020	91.7	7,285	6,207	4,266	320,060	8,485	0
43	7/6/2020	98.3	7,626	5,756	4,184	319,560	8,254	0
44	7/6/2020	92.6	7,130	5,377	4,235	319,500	8,413	0
45	7/6/2020	98	7,716	5,658	4,168	319,540	8,209	0
46	7/7/2020	92.4	7,257	5,484	4,155	319,400	8,222	0
47	7/7/2020	93.7	7,195	5,922	4,207	319,750	8,069	0
48	7/7/2020	99.4	7,436	5,278	4,159	320,940	8,555	0
49	7/8/2020	99	7,387	5,175	4,347	320,180	8,660	0
50	7/8/2020	96.6	7,367	5,787	4,219	319,400	8,509	0
51	7/8/2020	96.3	7,480	5,560	4,184	321,000	8,446	0
52	7/8/2020	99.3	7,407	5,648	4,270	319,420	9,002	0
53	7/9/2020	97.7	7,310	5,685	4,366	319,740	9,242	0
54	7/9/2020	98.6	7,167	5,348	4,230	320,280	8,346	0
55	7/9/2020	99.8	7,275	5,729	4,240	319,640	8,467	0
56	7/10/2020	94.9	7,174	5,626	4,334	320,080	8,451	0



Well Name: **Shawn Couch OHI 401H** **47069003080000**

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	316.00	316.00	
Top of Salt Water	611.00	611.00	NA	NA	
Pittsburgh Coal	488.00	488.00	493.00	493.00	
Pottsville (ss)	612.00	612.00	1037.00	1037.00	
Raven Cliff (ss)	1037.00	1037.00	1628.00	1628.00	
Big Injun (ss)	1628.00	1628.00	2211.00	2178.00	
Berea (siltstone)	2211.00	2178.00	6016.00	5572.00	
Rhinstreet (shale)	6016.00	5572.00	6347.00	5827.00	
Cashaqua (shale)	6347.00	5827.00	6424.00	5878.00	
Middlesex (shale)	6424.00	5878.00	6550.00	5948.00	
Burket (shale)	6550.00	5948.00	6580.00	5964.00	
Tully (ls)	6580.00	5964.00	6675.00	6011.00	
Mahantango (shale)	6675.00	6011.00	6922.00	6106.00	
Marcellus (shale)	6922.00	6106.00	NA	NA	GAS

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	6/18/2020
Job End Date:	7/10/2020
State:	West Virginia
County:	Ohio
API Number:	47-069-00308-00-00
Operator Name:	Southwestern Energy
Well Name and Number:	Shawn Couch OHI 401H
Latitude:	40.14781900
Longitude:	-80.58878600
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,147
Total Base Water Volume (gal):	20,476,941
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	90.02368	Density = 8.34
Ingredients	Listed Above	Listed Above					
			Water	7732-18-5	100.00000	0.44813	

Sand-Premium White-40/70	Halliburton	Proppant								
						Listed Below				
Sand-Common White-100 Mesh, SSA-2	Halliburton	Proppant								
						Listed Below				
HYDROCHLORI C ACID, 22 BAUME	Halliburton	Solvent								
						Listed Below				
MC MX 8-4743	MultiChem	Additive								
						Listed Below				
LEGEND(TM) LD-7750W	MultiChem	Scale Control								
						Listed Below				
HAI-501	Halliburton	Acid Corrosion Inhibitor								
						Listed Below				
LD-2950	MultiChem	Friction Reducer								
						Listed Below				
FE-2A	Halliburton	Additive								
						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	9.37334				

			Complex Amine Compound	Proprietary	60.00000	0.05099	
			Hydrochloric acid	7647-01-0	30.00000	0.04072	
			Hydrotreated light petroleum distillate	64742-47-8	30.00000	0.02550	
			Sodium nitrate	7631-99-4	60.00000	0.02139	
			Methanol	67-56-1	100.00000	0.00528	
			Ethoxylated alcohols	Proprietary	5.00000	0.00425	
			Citric acid	77-92-9	60.00000	0.00203	
			Sodium molybdate	10102-40-6	5.00000	0.00178	
			Adipic acid	124-04-9	1.00000	0.00085	
			Poly(oxy-1,2-ethanediyl), alpha-tridecyl-omega-hydroxy-, branched	69011-36-5	1.00000	0.00085	
			Sodium chloride	7647-14-5	5.00000	0.00046	
			Phosphoric Acid Salt	Proprietary	5.00000	0.00042	
			Modified thiourea polymer	Proprietary	30.00000	0.00007	
			Mixture of dimer and trimer fatty acids of indefinite composition derived from tall oil	61790-12-3	30.00000	0.00007	
			Sodium lactate	72-17-3	0.10000	0.00004	
			Sodium acetate	127-09-3	0.10000	0.00004	
			Yeast extract	8013-01-2	0.10000	0.00004	
			Monopotassium phosphate	7778-77-0	0.10000	0.00004	
			Propargyl alcohol	107-19-7	5.00000	0.00001	
			Ethoxylated alcohols	Proprietary	5.00000	0.00001	
			Hexadecene	629-73-2	5.00000	0.00001	
			Formaldehyde	50-00-0	0.10000	0.00001	

* 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

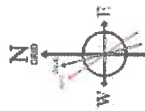
Note: For Field Development Products (products that begin with FDP), MSDS level only information has been provided.
Ingredient information for chemicals subject to 29 CFR 1910.1200(i) and Appendix D are obtained from suppliers Material Safety Data Sheets (MSDS)

SWN PRODUCTION COMPANY, LLC

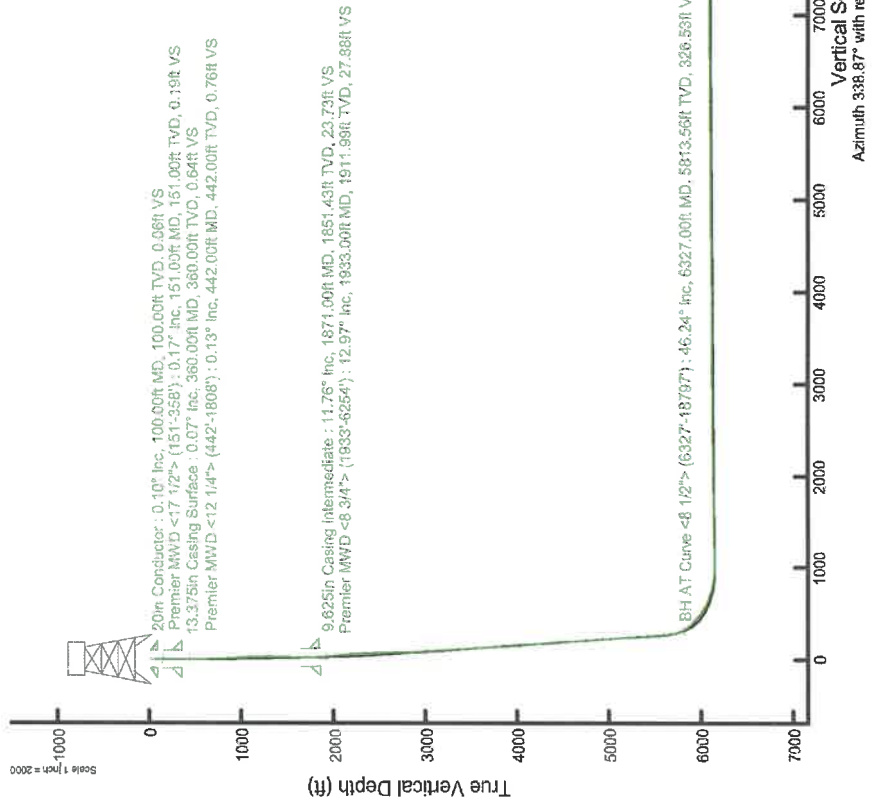
Location: Ohio County, WV
 Field: Ohio
 Facility: **Shawn Couch OHL Pad 1**

Slot: Slot #401
 Well: Shawn Couch OHL 401H
 Wellbore: Shawn Couch OHL 401H PWB

Grid System: NAD83 / UTM Zone 17 North, US feet
North Reference: Grid north
Scale: True distance
Coordinates are in feet referenced to slot
Depth are in feet
Created by: jstahler on 2022-02-16, Database: WA, MPL, EASTERNUS, Deim



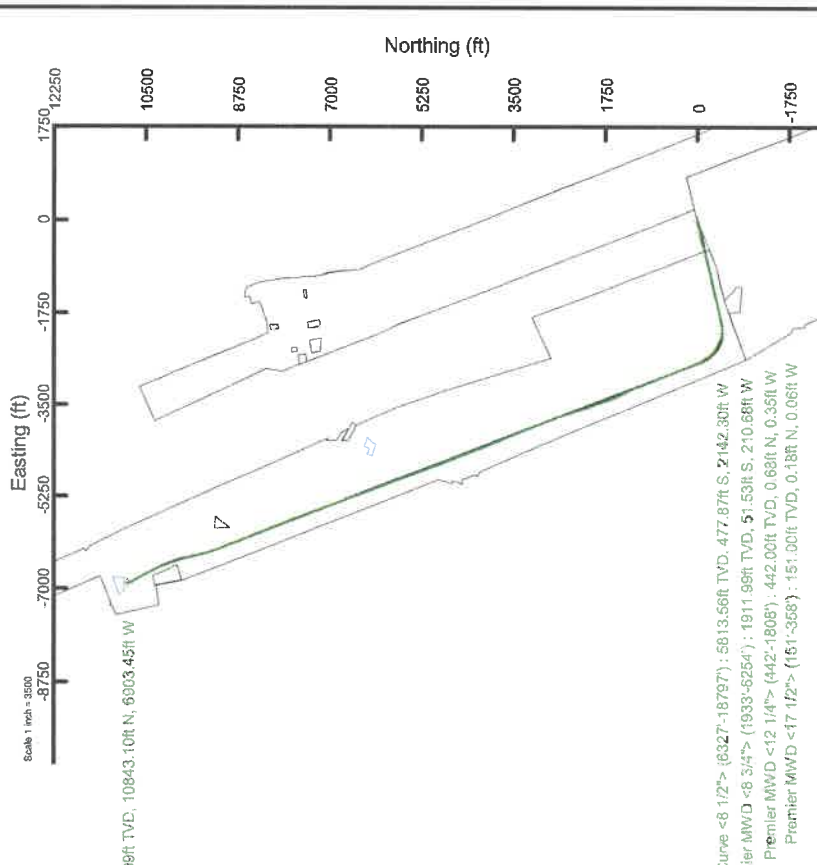
User reported One 67.50' Pipe 62505 ft
 20in Conductor: 0.10° Inc, 100.00ft MD, 100.00ft TVD, 0.06ft VS
 Premier MWD <17 1/2'> (151-358°); 0.17° Inc, 151.00ft MD, 151.00ft TVD, 0.19ft VS
 13.375in Casing Surface: 0.07° Inc, 360.00ft MD, 360.00ft TVD, 0.64ft VS
 Premier MWD <12 1/4'> (442-1808°); 0.13° Inc, 442.00ft MD, 442.00ft TVD, 0.76ft VS



Location Information

Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
Shawn Couch OHL Pad 1	1755367.233	14589844.955	40°08'52.3250"N	80°35'19.1360"W
Slot	Local N (ft)	Local E (ft)	Grid North (US ft)	Grid East (US ft)
Slot #401	-18.01	-38.14	14589826.950	1755329.110
SDC 42 (KB) to Ground level (At Slot, Slot #401)	26ft			
Mean Sea Level to Ground level (At Slot, Slot #401)	-1246.8ft			
SDC 42 (KB) to Mean Sea Level	1272.8ft			

API: 47-069-00308-0000
 BH Job #: 110294012A
 Rig: SDC 42
 Duration: 03/07/2020 - 03/11/2020



BH AT Curve <8 1/2'> (6327-18797°): 5813.56ft TVD, 477.87ft S, 2142.30ft W
 Premier MWD <8 3/4'> (1933-6254°): 1911.99ft TVD, 51.53ft S, 210.68ft W
 Premier MWD <12 1/4'> (442-1808°): 442.00ft TVD, 0.68ft N, 0.35ft W
 Premier MWD <17 1/2'> (151-358°): 151.00ft TVD, 0.18ft N, 0.06ft W

Projection to Bit: 90.68° Inc, 18422.00ft MD, 6079.09ft TVD, 12602.66ft VS
 5.5in Casing Production: 90.68° Inc, 18822.00ft MD, 6079.09ft TVD, 12602.66ft VS

Vertical Section (ft)
 Azimuth 338.87° with reference 0.00 N, 0.00 E

LATITUDE: 40°10'00" SURFACE HOLE (2000' SCALE) | ← 1586'



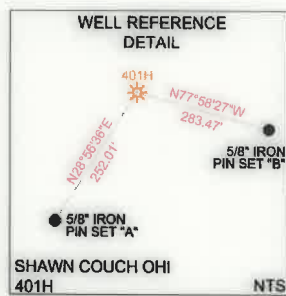
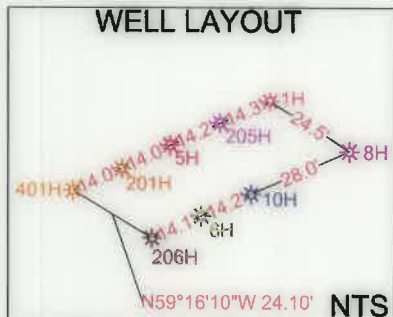
www.jhacompanies.com

68011 Vineyard Road
St. Clairsville, Ohio 43950
740-695-6100

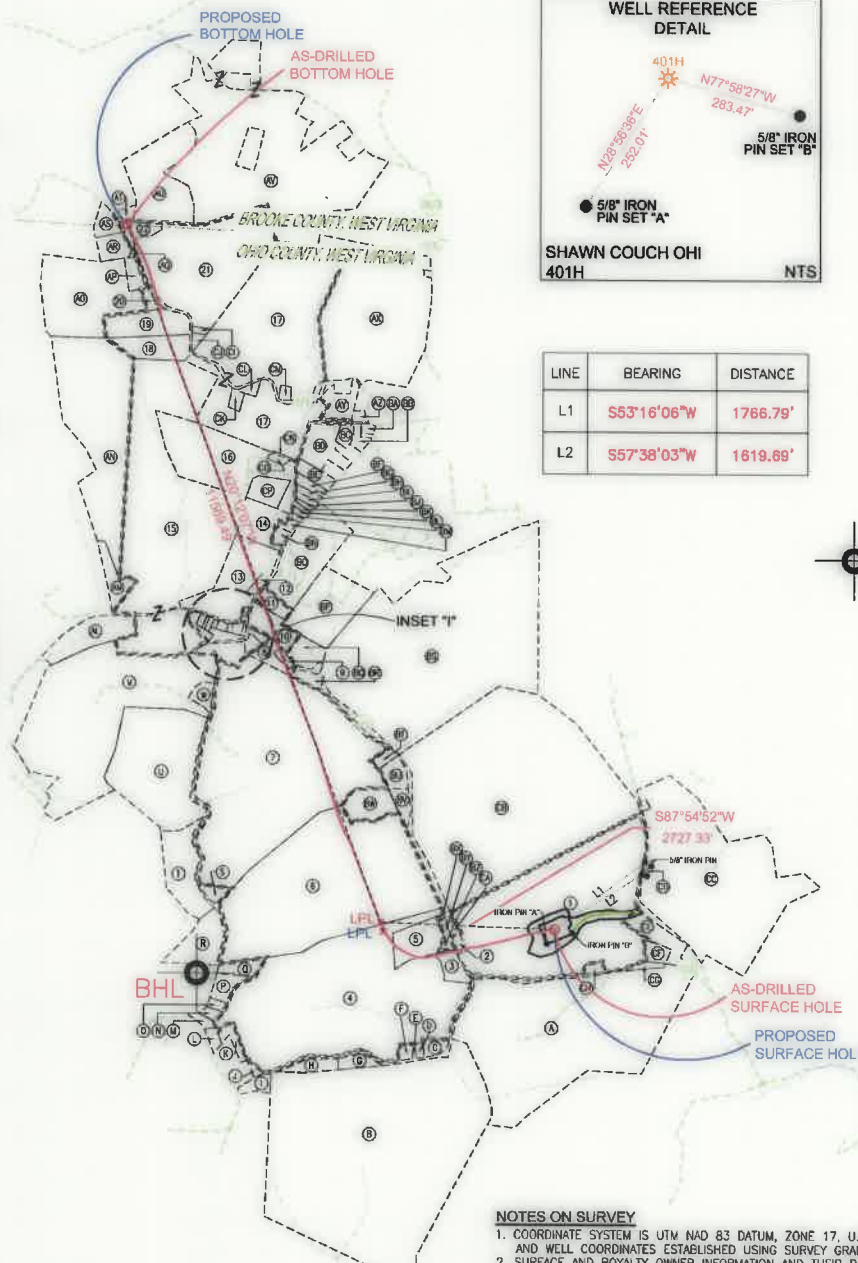
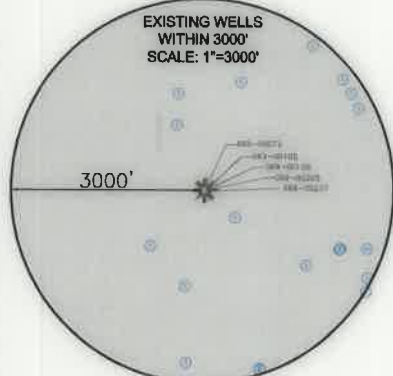
LATITUDE: 40°12'30" BOTTOM HOLE (2000' SCALE)

8436'

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



LINE	BEARING	DISTANCE
L1	S53°16'06\"/>	



SURFACE HOLE LOCATION (SHL): UTM (NAD83, ZONE 17, METERS): NORTHING: 4444244.94 EASTING: 535025.38
LANDING POINT LOCATION (LPL): UTM (NAD83, ZONE 17, METERS): NORTHING: 4444261.27 EASTING: 534194.56
BOTTOM HOLE LOCATION (BHL): UTM (NAD83, ZONE 17, METERS): NORTHING: 4447548.65 EASTING: 532922.02
SURFACE HOLE LOCATION (SHL): UTM (NAD83, ZONE 17, METERS): NORTHING: 4444244.94 EASTING: 535025.38
LANDING POINT LOCATION (LPL): UTM (NAD83, ZONE 17, METERS): NORTHING: 4444217.27 EASTING: 534209.10
BOTTOM HOLE LOCATION (BHL): UTM (NAD83, ZONE 17, METERS): NORTHING: 4447548.80 EASTING: 532921.36

- NOTES ON SURVEY**
- COORDINATE 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/OR FIELD LOCATIONS.
 - THIS PLAT DOES NOT REPRESENT A BOUNDARY SURVEY OF THE PARCELS SHOWN HEREON.
 - NO DWELLINGS OR BUILDINGS WITHIN 625 FEET OF PROPOSED CENTER OF PAD.
 - 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 THE LIMITS OF DISTURBANCE.
 - NO WATER WELLS OR DEVELOPED SPRINGS WITHIN 250 FEET OF PROPOSED WELL.



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. 2041 *[Signature]* 6/3/20

COMPANY: **SWN** Production Company, LLC

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

SHAWN COUCH OHI
OPERATOR'S WELL #: 401H
API WELL #: 47 069 00308
STATE COUNTY PERMIT

WELL TYPE: OIL WASTE DISPOSAL PRODUCTION DEEP GAS LIQUID INJECTION STORAGE SHALLOW
WATERSHED: UPPER OHIO SOUTH ELEVATION: 1,246.8'
DISTRICT: LIBERTY COUNTY: OHIO QUADRANGLE: BETHANY, WV
SURFACE OWNER: SHAWN W. COUCH (TRUST) ACREAGE: ±144.29
OIL & GAS ROYALTY OWNER: LL&B HEADWATER II, LP & RESOURCE MINERALS HEADWATER I, LP ACREAGE: ±144.29
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 ESTIMATED DEPTH: 6,148' TVD 18,822' TMD

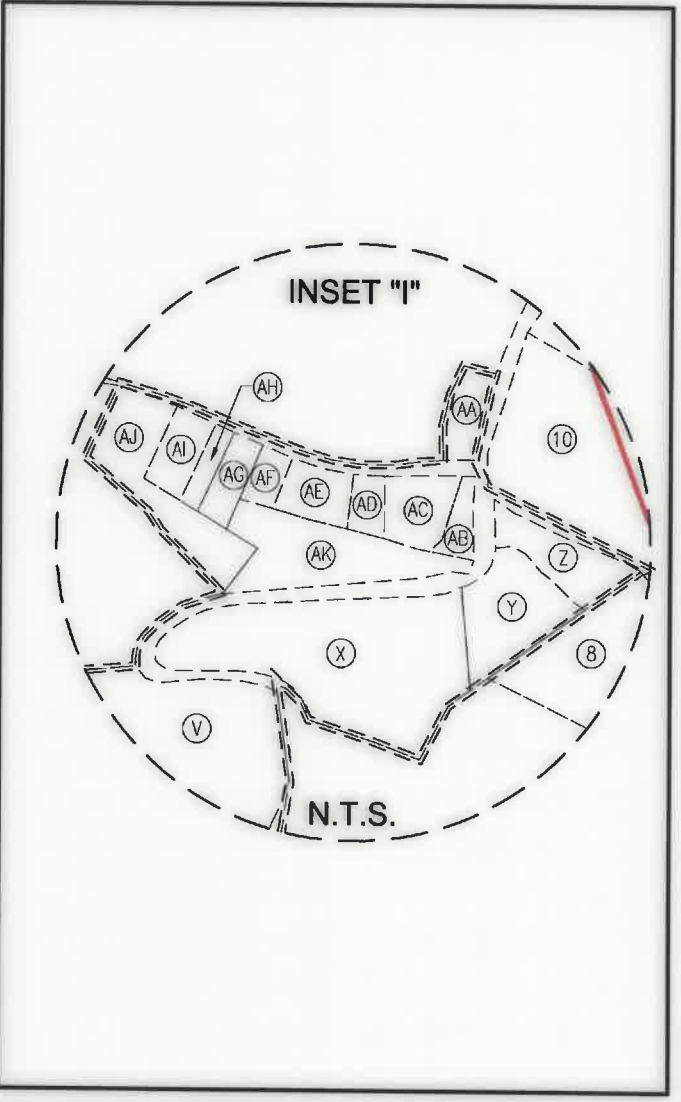
WELL OPERATOR: SWN PRODUCTION COMPANY, LLC DESIGNATED AGENT: BRITTANY WOODY
ADDRESS: 1300 FORT PIERPONT DRIVE, SUITE 201 ADDRESS: 1300 FORT PIERPONT DRIVE, SUITE 201
CITY: MORGANTOWN STATE: WV ZIP CODE: 26508 CITY: MORGANTOWN STATE: WV ZIP CODE: 26508

LEGEND: ● EXISTING BOTTOM HOLE ⊙ EXISTING / PRODUCING WELLHEAD LPL ● EXISTING LANDING POINT LOCATION ○ PROPOSED SURFACE HOLE / BOTTOM HOLE LPL* PROPOSED LANDING POINT LOCATION	 — ACCESS ROAD — PUBLIC ROAD — FLOOD PLAN — LEASE BOUNDARY — AS DRILLED PATH — PROPOSED PATH	REVISIONS:	DATE: 06-03-2020 API NO: 47-069-00308 DRAWN BY: R. GRIMES SCALE: 1" = 3000' DRAWING NO: 2019-0523 WELL LOCATION PLAT
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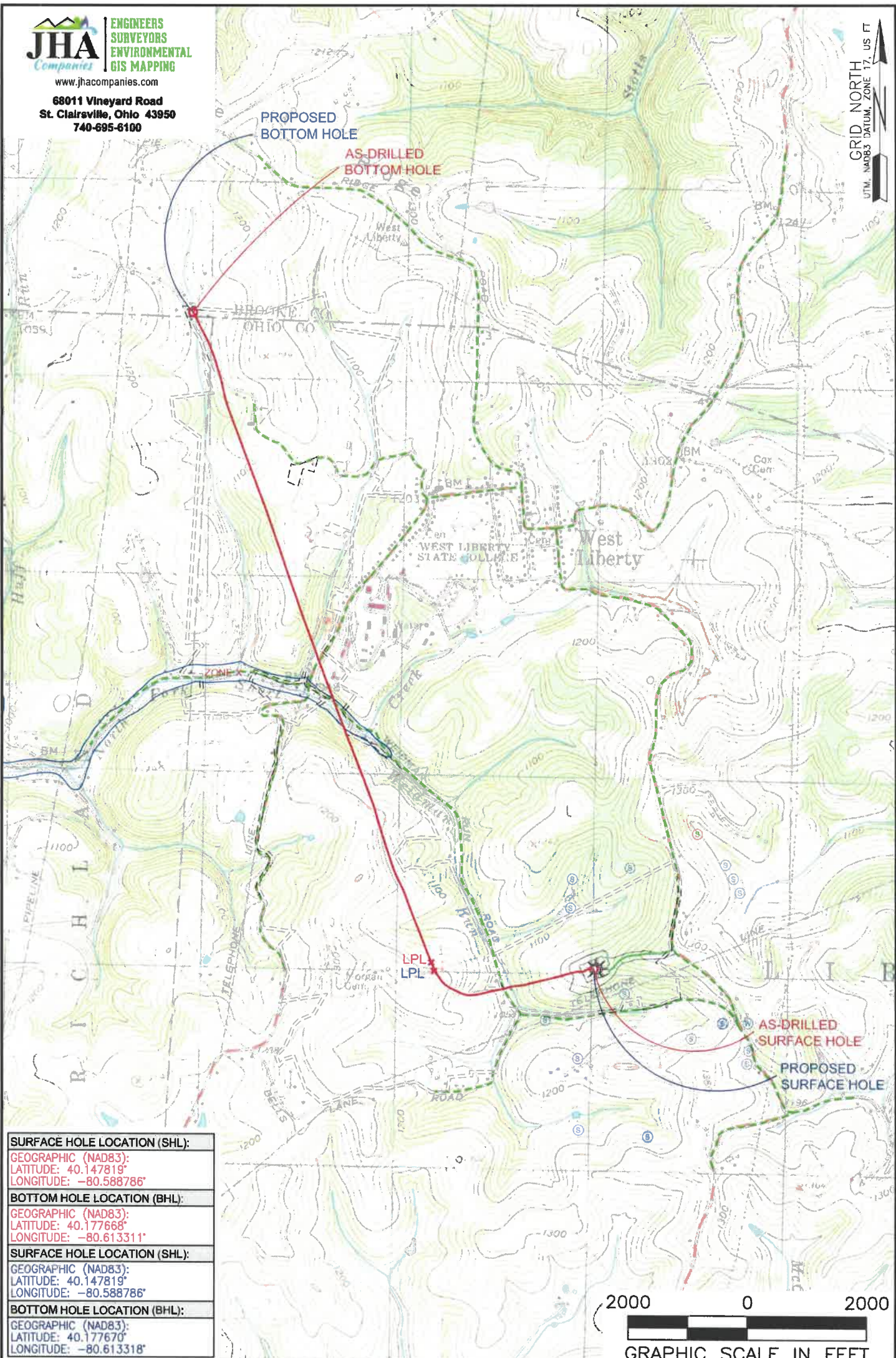
WELL BORE TABLE FOR SURFACE / ROYALTY OWNERS		
TRACT	SURFACE OWNER (S) / ROYALTY OWNER (R)	TAX PARCEL
1	SHAWN W. COUCH (TRUST) (S) L&B HEADWATER II, LP & RESOURCE MINERALS HEADWATER I, LP (R)	03-L4-110.0
TRACT	SURFACE OWNER	TAX PARCEL
2	B.G. RIDLER & J.M. TALLMON	03-L4-113.0
3	WINDSOR POWER HOUSE COAL COMPANY	03-L4-105.7
4	HOLLAND PARK LIMITED LIABILITY	03-L4-105.0
5	DIXIE MYERS PRITT	03-L4-105.8
6	ELIZABETH H. HESTICK, ESTATE OF BENJAMIN R. HONECKER	03-L4-104.0
7	ELIZABETH H. HESTICK, ESTATE OF BENJAMIN R. HONECKER	03-L4-103.0
8	CYNTHIA L. JOHNSON	09-WL10-11.1
9	WILLIAM S. AND CYNTHIA L. JOHNSON	09-WL10-12.0
10	WEST LIBERTY STATE COLLEGE BOARD OF GOVERNORS	03-L1-35.2
11	WEST LIBERTY STATE COLLEGE BOARD OF GOVERNORS	03-L1-35.3
12	DALE M. SAMPSON	09-WL6-11.0
13	DALE M. SAMPSON	09-WL6-12.0
14	DALE M. SAMPSON	09-WL6-B.1
15	DALE M. SAMPSON	03-L1-24.0
16	WEST RENTALS, INC.	03-L1-22.0
17	MATTHEW P. BONAR	03-L1-4.0
18	GARRET L. PATTERSON	03-L1-3.0
19	JOSEPH A. EVANS, MARIETTA JUNE JONES, DARLENE BENDER, PHARES O. EVANS, JR. & DANNY N. EVANS	03-L1-2.2
20	CHARLES W. & M. C. NICHOLSON (LE), LAURA ANN MYERS AND MARK ANTHONY NICHOLSON (REMAINDER INTEREST)	03-L1-2.4
21	CHARLES W. & CHARLOTTE R. BONAR	03-L1-2.6
22	TERRI L. MCCOY	03-L1-2.5

ADJOINING OWNERS TABLE		
TRACT	SURFACE OWNER	TAX PARCEL
A	APPALACHIAN MIDSTREAM SERVICES, LLC	03-L4-117.0
B	BELLE LANE, LLC	03-L4-109.0
C	DELBERT K., JR. & L.K. MYERS	03-L4-107.0
D	RUDY, JR. & J.A. FAZZINI	03-L4-105.3
E	RUDY, JR. & J.A. FAZZINI	03-L4-105.9
F	RICARDO PACHECO & D.L. BUMBAUGH	03-L4-105.10
G	RICARDO R. PACHECO & DONNIE L. BUMBAUGH	03-L4-105.11
H	JOHN C. & A.F. MYERS	03-L4-108.0
I	GARY V. HAND	03-L4-96.0
J	DOROTHY A. WINIESDORFFER	03-L4-105.15
K	DAVID R. & CARRIE A. HANNA	03-L4-105.6
L	ARLIE R., JR. & BELINDA D. MCCARDLE	03-L4-105.5
M	ARLIE R. MCCARDLE, JR. & B. BOND	03-L4-105.17
N	DORA M. MCCARDLE	03-L4-105.13
O	PAUL F. ADAMS	03-L4-105.16
P	PAUL F. ADAMS	03-L4-105.14
Q	MICHAEL E. SAMPSON	03-L4-105.4
R	RACHEL ANN SINCAVICH	03-L4-2.0
S	ELIZABETH R. HONECKER (L/E: JANET HONECKER)	03-L4-104.4
T	PAUL M. MCKAY, DEBORAH A. MCKAY & JANET L. HONECKER	03-L4-123.0
U	ELIZABETH R. HONECKER (L/E: JANET HONECKER)	03-L4-124.0
V	ELIZABETH L. HONECKER & ELIZABETH H. HESTICK	03-L1-42.0
W	PAUL ROLAND CLUNE, III & JESSICA LEE WHEATON	03-L1-42.1
X	STEPHANIE A. ENNIS	09-WL10-8.0
Y	WILLIAM R. & R.L. MYERS	09-WL10-9.0
Z	COLIN P. & R.M. KELLY	09-WL10-10.0
AA	CORENA C. MCGARRY	09-WL10-17.0
AB	OHIO COUNTY PUBLIC SERVICE DISTRICT	09-WL10-6.0
AC	RCC PROPERTIES, LLC	09-WL10-4.0
AD	RCC PROPERTIES, LLC	09-WL10-3.0
AE	DEBRA DAGUE	09-WL10-16.0
AF	DANIEL S. TEMPLETON	09-WL10-1.0
AG	BEN J. & NANCY S. MAZZELLA	09-WL10-7.2
AH	BEN J. & NANCY S. MAZZELLA	09-WL10-7.0
AI	BEN J. & NANCY S. MAZZELLA	09-WL10-7.1
AJ	BEN J. & NANCY S. MAZZELLA	09-WL10-15.0
AK	BEN J. & NANCY S. MAZZELLA	09-WL10-7.3
AL	TOWN OF WEST LIBERTY	09-WL9-1.0
AM	DALE M. SAMPSON	04-R6-32.0
AN	DALE M. SAMPSON	04-R6-13.0
AO	DALE M. SAMPSON	03-L1-2.0
AP	WINDSOR COAL COMPANY	03-L1-1.0
AQ	DALE M. SAMPSON	04-R6-18.0
AR	ALBERT H., JR. & CINDY S. POSTLEWAIT	04-R6-18.1
AS	PATRICK E. & DONNA M. KING	03-B47-15.0
AT	DOROTHY A. THOMAS	03-B47-13.0
AU	LAWRENCE & MARTHA SAYRE	03-B47-14.0
AV	CAROL DWYER	03-B47-25.0
AW	DEREK J. & NICOLE L. ENNIS	03-L1-43.0
AX	DEREK J. & NICOLE L. ENNIS	03-L1-4.2
AY	CHARLES BONAR	03-L1-21.1
AZ	MICHAEL A. & DIANA L. RICE	09-WL3-3.0
BA	NJS HOLDINGS, LLC	09-WL3-51.0
BB	SHANE R. & LORI A. GLASS	09-WL3-53.0
BC	SHANE R. & LORI A. GLASS	09-WL3-54.0
BD	WEST LIBERTY FEDERATED CHURCH (TRUSTEES)	09-WL3-62.1
BE	CATHOLIC DIOCESE OF WHEELING-CHARLESTON	09-WL2-1.0
BF	SUSAN HERRICK	09-WL6-1.0

ADJOINING OWNERS TABLE		
TRACT	SURFACE OWNER	TAX PARCEL
BG	AARON C. & COURTNEY N. HUFFMAN	09-WL6-3.0
BH	CB DAVIS PROPERTIES, LLC	09-WL6-4.0
BI	WEST LIBERTY STATE COLLEGE BOARD OF GOVERNORS	09-WL6-5.0
BJ	JOHN R. & JUDITH D. HENNEN	09-WL6-6.0
BK	BLESICO, INC.	09-WL6-7.0
BL	JAMES LYNN ULLOM	09-WL6-8.0
BM	CHRISTOPHER & CYNTHIA PAUL	09-WL6-9.0
BN	NELSON E. & S.C. MCCLURE	09-WL6-10.0
BO	WEST LIBERTY STATE COLLEGE BOARD OF GOVERNORS	03-L1-35.5
BP	WEST LIBERTY STATE COLLEGE BOARD OF GOVERNORS	03-L1-35.4
BQ	FOWLCON LIMITED LIABILITY COMPANY	09-WL10-13.0
BR	TIMOTHY MONROE & ET AL	09-WL10-11.0
BS	WEST LIBERTY STATE COLLEGE BOARD OF GOVERNORS	03-L1-35.0
BT	JASON O. HUNTER	03-L4-104.2
BU	JASON O. HUNTER	03-L4-104.1
BV	DENNY A. WARNER	03-L4-104.5
BW	DENNY A. WARNER	03-L4-104.3
BX	DIXIE M. & L. LAUDERMILT	03-L4-106.1
BY	B.G. RIDLER & J.M. TALLMON	03-L4-106.0
BZ	B.G. RIDLER & J.M. TALLMON	03-L4-105.12
CA	DONALD E. GILBERT, JR.	03-L4-112.0
CB	STEVEN M. MCGLUMPHY	03-L4-110.3
CC	MARK P. & ANNELEISE KAUFMAN	03-L5-2.0
CD	TODD E. PORTER	03-L4-125.0
CE	WILLIAM S. PATTERSON, JR.	03-L4-115.0
CF	MARK E. NORMAN	03-L4-110.2
CG	PAUL & RHONDA TYRNA	03-L4-114.0
CH	APPALACHIA MIDSTREAM SERVICES, LLC	03-L4-110.1
CI	TIMOTHY A. BYHANNA	03-L1-2.3
CJ	ALLEN O. DAVIS	03-L1-2.1
CK	CHARLES W. BONAR	03-L1-21.2
CL	THOMAS F. & M.M. ROTHERMUND	03-L1-4.1
CM	CHARLES BONAR	03-L1-21.0
CN	WEST RENTALS, INC	03-L1-4.3
CO	WEST LIBERTY UNIVERSITY	03-L1-22.1
CP	WALTER R. & J.M. UTTERMÖHLEN	03-L1-23.0



REVISIONS:		COMPANY: SWN Production Company, LLC		DATE: 06-03-2020	
		OPERATOR'S: SHAWN COUCH OHI		API NO: 47-069-00308	
		WELL #: 401H		DRAWN BY: R. GRIMES	
DISTRICT: LIBERTY		COUNTY: OHIO	STATE: WV	SCALE: N/A	
				DRAWING NO: 2019-0523	
				WELL LOCATION PLAT	



SURFACE HOLE LOCATION (SHL):
GEOGRAPHIC (NAD83):
LATITUDE: 40.147819°
LONGITUDE: -80.588786°
BOTTOM HOLE LOCATION (BHL):
GEOGRAPHIC (NAD83):
LATITUDE: 40.177668°
LONGITUDE: -80.613311°
SURFACE HOLE LOCATION (SHL):
GEOGRAPHIC (NAD83):
LATITUDE: 40.147819°
LONGITUDE: -80.588786°
BOTTOM HOLE LOCATION (BHL):
GEOGRAPHIC (NAD83):
LATITUDE: 40.177670°
LONGITUDE: -80.613318°

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.
3. ALL INSETS ARE GRID NORTH UNLESS OTHERWISE DEPICTED.

LEGEND:	EXISTING BOTTOM HOLE	ACCESS ROAD
EXISTING / PRODUCING WELLHEAD	PUBLIC ROAD	FLOOD PLAIN
EXISTING LANDING POINT LOCATION	LEASE BOUNDARY	AS-DRILLED PATH
PROPOSED SURFACE HOLE / BOTTOM HOLE	PROPOSED PATH	
PROPOSED LANDING POINT LOCATION		

WELL OPERATOR: SWN PRODUCTION COMPANY, LLC	WELL (FARM) NAME: SHAWN COUCH OHI	WELL # 401H	SERIAL # XXXX
ADDRESS: 1300 FORT PIERPONT DRIVE, SUITE 201, MORGANTOWN, WV 26508	COUNTY: OHIO	CODE: 069	DISTRICT: LIBERTY
SURFACE OWNER: SHAWN W. COUCH (TRUST)	USGS 7 1/2 QUADRANGLE MAP NAME: BETHANY, WV		
API # 47-069-00308			