

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

API 47 - 069 - 00219 County OHIO District RICHLAND
Quad TILTONSVILLE, OH Pad Name EDWARD DREMAK-OHI-PAD1 Field/Pool Name PANHANDLE FIELD WET
Farm name ANDREW JOHN EVICK Well Number EDWARD DREMAK OHI 5H
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 4,445,432.26 Easting 529,680.68
Landing Point of Curve Northing 4,445,727.33 Easting 529,837.55
Bottom Hole Northing 4,449,837.61 Easting 528,649.24

Elevation (ft) 1087.7' 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 11/7/2018 Date drilling commenced 12/18/2018 Date drilling ceased 01/17/2019
Date completion activities began 05/07/2019 Date completion activities ceased 06/05/2019
Verbal plugging (Y/N) N Date permission granted N/A Granted by N/A **RECEIVED**
N/A Office of Oil and Gas

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

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Freshwater depth(s) ft 259' Open mine(s) (Y/N) depths N
Salt water depth(s) ft 750' Void(s) encountered (Y/N) depths N
Coal depth(s) ft 270' Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

Reviewed

Reviewed by:

C-RL 10/16/19

SR 10-16-19

API 47-069 - 00219 Farm name ANDREW JOHN EVICK Well number EDWARD DREMAK OHI 5H

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	357	NEW	J-55/54.5#	153.7'	Y
Coal	SURFACE						
Intermediate 1	12.25	9.625	1,656	NEW	J-55/36#		Y
Intermediate 2							
Intermediate 3							
Production	8.75/8.50	5.5	20,407	NEW	P-110/20#		Y
Tubing		2.375	6,250	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 ³ /sks)	Volume (ft ³)	Cement Top (MD)	WOC (hrs)
Conductor	CLASS A	GROUT TO SURFACE				SURFACE	24
Surface	CLASS A	429	15.60	1.20		SURFACE	8
Coal	SURFACE						
Intermediate 1	CLASS A	669	15.60	1.20		SURFACE	8
Intermediate 2							
Intermediate 3							
Production	CLASS A	3,877	15.60	1.19		SURFACE	24
Tubing							

Drillers TD (ft) 20,407' Loggers TD (ft) 20,407'
 Deepest formation penetrated MARCELLUS Plug back to (ft) N/A
 Plug back procedure N/A

Kick off depth (ft) 5250'

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 _____ RECEIVED
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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

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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 _____

SOUTHWESTERN ENERGY

Location: Ohio County, WV
 Slot: Slot #605H
 Well: Edward Dremak OHI 605H
 Facility: Edward Dremak OHI Pad/Wellbore, Edward Dremak OHI 605H PWB

Plot reference wellpath is Edward Dremak OHI 605H PWB Rev-A.0	Grid System: NAD83 / UTM Zone 17 North, US feet
True vertical depths are referenced to SDC 40 (KB)	North Reference: Grid north
Measured depths are referenced to SDC 40 (KB)	Scale: True distance
SDC 40 (KB) to Mean Sea Level: 1113.4 feet	Depths are in feet
Mean Sea Level to Ground level (At Slot: Slot #605H): -1087.4 feet	Created by: allenjen on 2019-03-19
Coordinates are in feet referenced to Slot	Database: WA_MPL_EASTERNUS_Defn

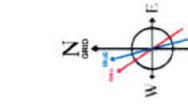


Location Information

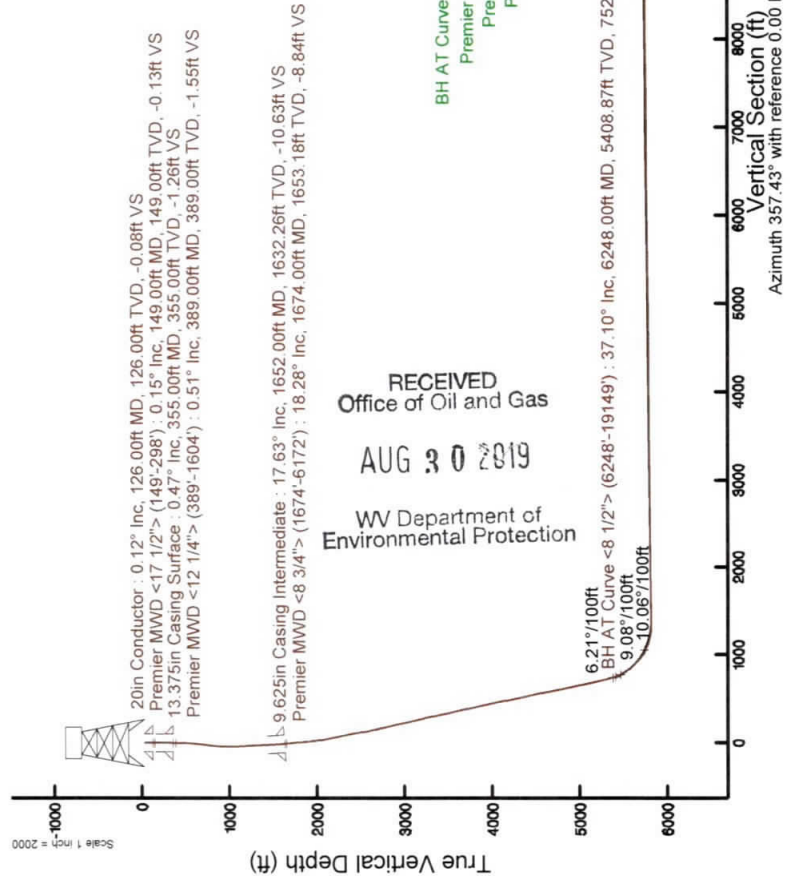
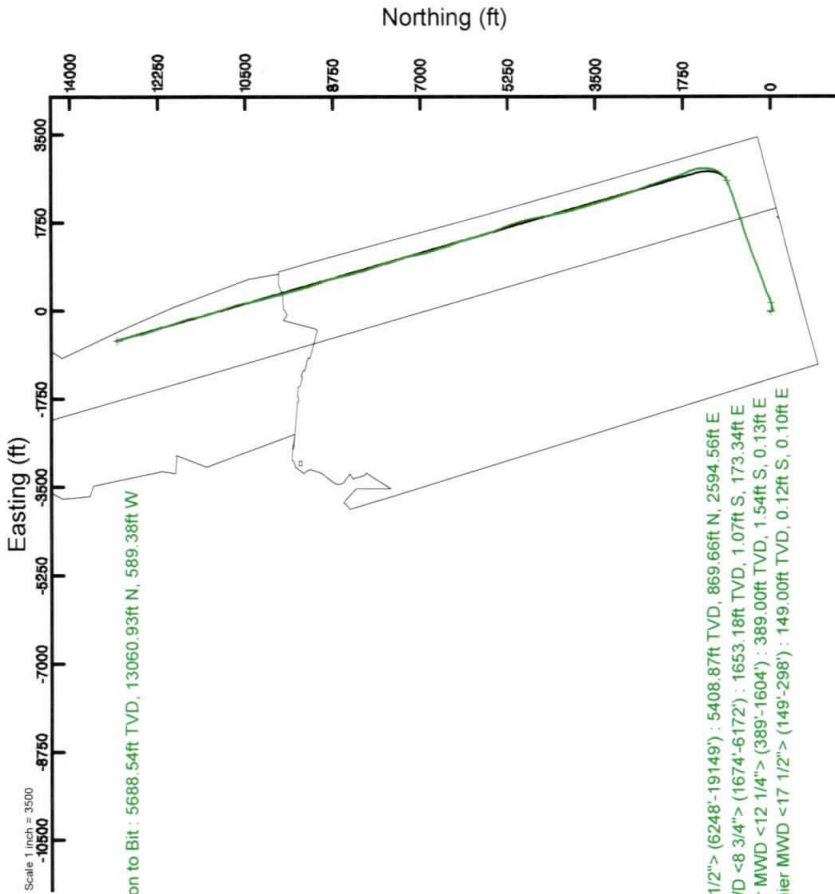
Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
Edward Dremak OHI Pad	1737740.826	14584704.331	40°09'31.223"N	80°39'06.011"W
Slot	Local N (ft)	Local E (ft)	Grid North (US ft)	Grid East (US ft)
Slot #605H	-23.38	46.27	1737787.082	14584680.964
SDC 40 (KB) to Ground level (At Slot: Slot #605H)	26ft			
Mean Sea Level to Ground level (At Slot: Slot #605H)	-1087.4ft			
SDC 40 (KB) to Mean Sea Level	1113.4ft			

Comments

API: 47-069-00291-0000
 BH Job #: 109652154
 Rig: SDC 40
 Duration: 02/23/2019 - 02/27/2019



Use specified Dip Value of 48° Field 52527 at 22(Feb2019)
 Magnetic North (DC) of 0.22 degrees East of True North
 Grid North is 0.22 degrees East of True North
 To correct azimuth from True to Grid subtract 0.22 degrees
 To correct azimuth from Magnetic to Grid subtract 6.24 degrees



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**EDWARD DREMAK OHI 5H
ATTACHMENT 1
PERF REPORT**

STAGE NUM	Perf Date	Perf Top MD	Perf Bottom MD	# SHOTS PER STG
1	4/5/2019	20,360	20,264	36
2	5/7/2019	20,231	20,124	42
3	5/7/2019	20,091	19,984	42
4	5/7/2019	19,951	19,844	42
5	5/7/2019	19,811	19,704	42
6	5/8/2019	19,671	19,564	42
7	5/8/2019	19,527	19,424	42
8	5/8/2019	19,391	19,284	42
9	5/8/2019	19,251	19,140	42
10	5/8/2019	19,115	19,004	42
11	5/8/2019	18,971	18,864	42
12	5/9/2019	18,831	18,724	42
13	5/9/2019	18,694	18,584	42
14	5/9/2019	18,551	18,442	42
15	5/9/2019	18,407	18,304	42
16	5/9/2019	18,271	18,166	42
17	5/10/2019	18,131	18,024	42
18	5/10/2019	17,991	17,884	42
19	5/10/2019	17,851	17,744	42
20	5/10/2019	17,714	17,604	42
21	5/10/2019	17,571	17,464	42
22	5/10/2019	17,431	17,324	42
23	5/11/2019	17,295	17,184	42
24	5/11/2019	17,151	17,044	42
25	5/11/2019	17,011	16,904	42
26	5/11/2019	16,868	16,764	42
27	5/11/2019	16,731	16,624	42
28	5/12/2019	16,591	16,484	42
29	5/12/2019	16,455	16,344	42
30	5/12/2019	16,311	16,204	42
31	5/12/2019	16,171	16,064	42
32	5/12/2019	16,026	15,924	42
33	5/12/2019	15,891	15,784	42
34	5/12/2019	15,751	15,644	42
35	5/13/2019	15,609	15,504	42
36	5/13/2019	15,471	15,368	42
37	5/13/2019	15,331	15,224	42
38	5/13/2019	15,191	15,084	42
39	5/13/2019	15,051	14,947	42
40	5/13/2019	14,911	14,804	42
41	5/13/2019	14,771	14,669	42
42	5/14/2019	14,631	14,524	42

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STAGE NUM	Perf Date	Perf Top MD	Perf Bottom MD	# SHOTS PER STG
43	5/14/2019	14,491	14,382	42
44	5/14/2019	14,348	14,244	42
45	5/14/2019	14,211	14,101	42
46	5/14/2019	14,071	13,964	42
47	5/14/2019	13,931	13,824	42
48	5/14/2019	13,786	13,684	42
49	5/15/2019	13,651	13,544	42
50	5/15/2019	13,511	13,404	42
51	5/15/2019	13,375	13,264	42
52	5/15/2019	13,231	13,124	42
53	5/16/2019	13,091	12,984	42
54	5/16/2019	12,955	12,844	42
55	5/16/2019	12,811	12,704	42
56	5/16/2019	12,671	12,564	42
57	5/16/2019	12,535	12,424	42
58	5/16/2019	12,391	12,284	42
59	5/16/2019	12,251	12,147	42
60	5/17/2019	12,111	12,004	42
61	5/17/2019	11,971	11,864	42
62	5/17/2019	11,831	11,724	42
63	5/17/2019	11,686	11,584	42
64	5/17/2019	11,551	11,444	42
65	5/17/2019	11,411	11,304	42
66	5/17/2019	11,273	11,164	42
67	5/18/2019	11,131	11,024	42
68	5/18/2019	10,991	10,884	42
69	5/18/2019	10,849	10,744	42
70	5/18/2019	10,711	10,604	42
71	5/18/2019	10,571	10,464	42
72	5/19/2019	10,431	10,324	42
73	5/20/2019	10,291	10,187	42
74	5/20/2019	10,151	10,044	42
75	5/20/2019	10,011	9,906	42
76	5/20/2019	9,871	9,764	42
77	5/20/2019	9,731	9,624	42
78	5/20/2019	9,591	9,482	42
79	5/20/2019	9,453	9,344	42
80	5/20/2019	9,311	9,204	42
81	5/20/2019	9,171	9,069	42
82	5/20/2019	9,031	8,924	42
83	5/21/2019	8,891	8,784	42
84	5/21/2019	8,751	8,642	42

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STAGE NUM	Perf Date	Perf Top MD	Perf Bottom MD	# SHOTS PER STG
85	5/21/2019	8,611	8,504	42
86	5/21/2019	8,471	8,366	42
87	5/21/2019	8,331	8,224	42
88	5/21/2019	8,191	8,084	42
89	5/22/2019	8,051	7,944	42
90	5/22/2019	7,911	7,804	42
91	5/22/2019	7,771	7,664	42
92	5/22/2019	7,631	7,524	42
93	5/22/2019	7,486	7,384	42
94	5/22/2019	7,351	7,244	42
95	5/22/2019	7,211	7,104	42
96	5/22/2019	7,071	6,964	42
97	5/22/2019	6,931	6,824	42
98	5/22/2019	6,791	6,684	42
99	5/23/2019	6,650	6,544	42
100	5/23/2019	6,511	6,400	42
101	5/23/2019	6,371	6,264	42
102	5/23/2019	6,231	6,124	42

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ATTACHMENT 2
STIM REPORT

STAGE NUM	Stim Date	Ave Pump Rate (BPM)	Ave Treatment	Max Breakdown	ISIP (PSI)	Amount of Proppant (lbs)	Amount of water bbls	Amount of nitrogen/othr
1	5/6/2019	85	7,850	8,458	4,554	281,164	8,178	0
2	5/7/2019	91	7,833	4,750	4,580	278,338	7,881	0
3	5/7/2019	83	7,576	5,424	4,641	272,118	7,624	0
4	5/7/2019	95	8,095	4,239	4,941	282,420	7,669	0
5	5/7/2019	93	8,201	4,051	4,767	280,449	7,080	0
6	5/8/2019	96	8,202	4,683	4,607	280,643	5,582	0
7	5/8/2019	91	7,743	4,734	5,105	282,304	6,954	0
8	5/8/2019	86	8,015	5,200	4,696	280,452	5,797	0
9	5/8/2019	87	8,306	4,714	4,520	282,336	5,480	0
10	5/8/2019	88	8,093	4,504	4,630	281,952	5,995	0
11	5/8/2019	90	8,188	5,330	4,623	281,764	6,058	0
12	5/9/2019	91	8,120	5,235	4,642	275,524	5,954	0
13	5/9/2019	86	7,904	5,313	4,508	280,954	5,133	0
14	5/9/2019	86	7,793	5,009	5,232	279,252	4,993	0
15	5/9/2019	83	7,857	5,328	4,555	282,986	4,761	0
16	5/9/2019	87	8,090	5,318	4,654	281,910	6,004	0
17	5/10/2019	83	7,349	5,218	4,716	286,566	6,902	0
18	5/10/2019	79	7,920	4,902	4,562	279,074	4,735	0
19	5/10/2019	86	8,021	4,451	4,282	282,210	4,893	0
20	5/10/2019	86	8,039	5,379	4,580	282,570	4,726	0
21	5/10/2019	88	8,045	5,252	4,580	282,570	5,546	0
22	5/10/2019	95	8,027	5,452	4,580	280,370	5,551	0
23	5/11/2019	90	7,908	5,227	4,580	279,780	5,506	0
24	5/11/2019	86	7,652	5,510	4,575	272,442	4,551	0
25	5/11/2019	83	7,655	5,817	4,583	279,470	4,499	0
26	5/11/2019	91	7,865	5,210	4,782	288,942	5,592	0
27	5/11/2019	91	7,877	5,405	4,782	283,048	5,387	0
28	5/12/2019	91	7,808	5,587	4,782	276,116	5,739	0
29	5/12/2019	88	7,851	5,509	4,654	272,455	4,470	0
30	5/12/2019	85	7,667	5,102	4,356	273,298	4,374	0
31	5/12/2019	85	7,814	5,620	4,510	281,464	4,481	0
32	5/12/2019	84	7,684	5,509	4,525	276,338	4,206	0
33	5/12/2019	98	7,837	5,676	5,039	281,087	5,407	0
34	5/12/2019	93	8,006	5,677	4,683	278,512	5,471	0
35	5/13/2019	92	8,014	5,837	4,912	280,474	5,255	0
36	5/13/2019	80	8,026	5,676	4,728	281,796	4,153	0
37	5/13/2019	86	7,872	5,197	4,709	277,366	4,110	0
38	5/13/2019	83	7,975	5,392	5,083	273,348	4,249	0
39	5/13/2019	84	7,775	5,240	4,523	278,489	4,265	0
40	5/13/2019	94	7,749	5,521	4,891	278,241	5,155	0
41	5/13/2019	94	7,422	4,702	5,201	276,506	5,397	0
42	5/14/2019	96	7,652	5,625	5,097	282,629	5,180	0
43	5/14/2019	95	7,745	5,552	4,672	285,352	5,169	0
44	5/14/2019	86	7,336	4,951	4,408	272,998	4,014	0
45	5/14/2019	87	7,942	5,751	4,610	283,300	4,260	0
46	5/14/2019	94	8,074	5,324	4,837	255,259	5,088	0
47	5/14/2019	95	7,707	5,749	5,025	280,970	5,580	0
48	5/15/2019	94	7,811	5,087	4,935	279,015	5,187	0
49	5/15/2019	95	7,699	5,518	4,667	277,600	5,128	0
50	5/15/2019	88	8,011	5,085	4,312	303,799	5,043	0
51	5/15/2019	91	7,461	5,646	4,518	277,086	4,999	0
52	5/15/2019	71	8,091	5,664	4,372	279,464	8,061	0
53	5/16/2019	90	7,870	5,991	4,846	277,240	5,069	0

**EDWARD DREMAK OHI 5H
ATTACHMENT 2
STIM REPORT**

STAGE NUM	Stim Date	Ave Pump Rate (BPM)	Ave Treatment	Max Breakdown	ISIP (PSI)	Amount of Proppant (lbs)	Amount of water bbls	Amount of nitrogen/othr
54	5/16/2019	93	7,644	5,070	4,772	282,370	4,362	0
55	5/16/2019	92	7,613	5,342	4,652	281,770	3,942	0
56	5/16/2019	88	7,464	5,145	5,081	286,390	4,075	0
57	5/16/2019	98	7,882	5,665	4,357	281,910	4,045	0
58	5/16/2019	87	7,674	5,400	4,395	282,250	3,892	0
59	5/17/2019	87	7,531	5,123	4,392	286,170	3,760	0
60	5/17/2019	94	7,502	4,022	4,336	284,260	3,656	0
61	5/17/2019	89	7,503	5,589	4,967	280,150	3,752	0
62	5/17/2019	88	7,467	5,142	5,022	284,450	3,619	0
63	5/17/2019	89	7,431	5,238	4,782	282,840	3,560	0
64	5/17/2019	87	7,725	5,233	4,477	273,525	3,740	0
65	5/17/2019	89	7,378	5,023	4,303	284,440	4,388	0
66	5/18/2019	90	7,899	5,001	4,418	284,600	4,297	0
67	5/18/2019	90	6,922	4,992	4,449	282,810	3,777	0
68	5/18/2019	91	7,368	5,002	4,747	274,465	3,413	0
69	5/18/2019	90	7,713	4,956	4,957	273,375	3,499	0
70	5/18/2019	87	7,387	5,317	4,624	280,360	3,641	0
71	5/19/2019	87	7,585	4,994	4,471	276,540	4,003	0
72	5/19/2019	92	7,627	4,945	4,337	279,880	3,882	0
73	5/20/2019	84	7,775	5,597	4,519	285,580	4,452	0
74	5/20/2019	89	7,856	5,702	4,631	285,020	3,729	0
75	5/20/2019	89	7,355	5,414	4,511	274,387	3,406	0
76	5/20/2019	88	7,571	5,206	4,685	273,049	3,785	0
77	5/20/2019	86	7,861	5,323	4,732	269,620	3,417	0
78	5/20/2019	95	7,827	5,626	4,527	270,522	3,681	0
79	5/20/2019	91	7,594	5,319	4,463	279,260	3,548	0
80	5/20/2019	86	7,483	5,177	4,400	282,560	3,566	0
81	5/20/2019	83	7,622	5,210	4,404	271,970	3,644	0
82	5/21/2019	77	7,285	5,112	4,398	277,940	5,224	0
83	5/21/2019	86	7,793	5,241	4,631	275,069	4,548	0
84	5/21/2019	86	7,347	5,054	4,561	274,156	3,880	0
85	5/21/2019	90	7,527	5,677	4,613	281,116	3,717	0
86	5/21/2019	89	7,304	4,959	4,623	276,884	3,549	0
87	5/21/2019	96	7,404	5,084	4,169	280,605	3,274	0
88	5/22/2019	84	7,002	4,895	4,523	282,005	4,018	0
89	5/22/2019	92	7,114	4,975	4,512	279,110	3,998	0
90	5/22/2019	88	7,012	5,033	4,458	280,175	4,255	0
91	5/22/2019	85	7,704	4,888	4,437	274,325	4,195	0
92	5/22/2019	88	7,149	5,025	4,567	280,350	4,228	0
93	5/22/2019	86	7,107	5,423	4,406	278,090	3,994	0
94	5/22/2019	88	7,465	5,589	4,439	272,012	3,910	0
95	5/22/2019	87	7,371	5,335	4,420	277,292	3,942	0
96	5/22/2019	83	6,908	5,894	4,445	282,040	3,509	0
97	5/22/2019	76	7,345	4,954	4,386	276,412	4,444	0
98	5/23/2019	82	7,063	4,931	4,512	286,179	3,894	0
99	5/23/2019	82	6,903	5,266	4,472	276,513	3,022	0
100	5/23/2019	82	7,047	5,312	4,325	276,513	3,552	0
101	5/23/2019	82	7,467	6,014	4,407	268,825	3,668	0
102	5/23/2019	81	7,424	6,207	4,553	293,125	4,208	0

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Well Name: Edward Dremak OHI 5H 47069002190000

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	259.00	259.00	
Top of Salt Water	750.00	750.00	NA	NA	
Pittsburgh Coal	270.00	270.00	276.00	276.00	
Pottsville (ss)	374.00	374.00	459.00	459.00	
Mauch Chunk (shale)	477.00	477.00	1300.00	1300.00	
Raven Cliff (ss)	777.00	777.00	912.00	912.00	
Maxton (ss)	1068.00	1068.00	1232.00	1232.00	
Greenbriar (ls)	1300.00	1300.00	1369.00	1369.00	
Big Injun (ss)	1369.00	1369.00	1576.00	1576.00	
Rhinestreet (shale)	5330.00	5265.00	5593.00	5499.00	
Cashagua (shale)	5593.00	5499.00	5653.00	5547.00	
Middlesex (shale)	5653.00	5547.00	5741.00	5611.00	
Burket (shale)	5741.00	5611.00	5764.00	5627.00	
Tully (ls)	5764.00	5627.00	5848.00	5679.00	
Mahantango (shale)	5848.00	5679.00	6025.00	5760.00	
Marcellus (shale)	6025.00	5760.00	NA	NA	GAS

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WV Department of
Environmental Protection

Hydraulic Fracturing Fluid Product Component Information Disclosure

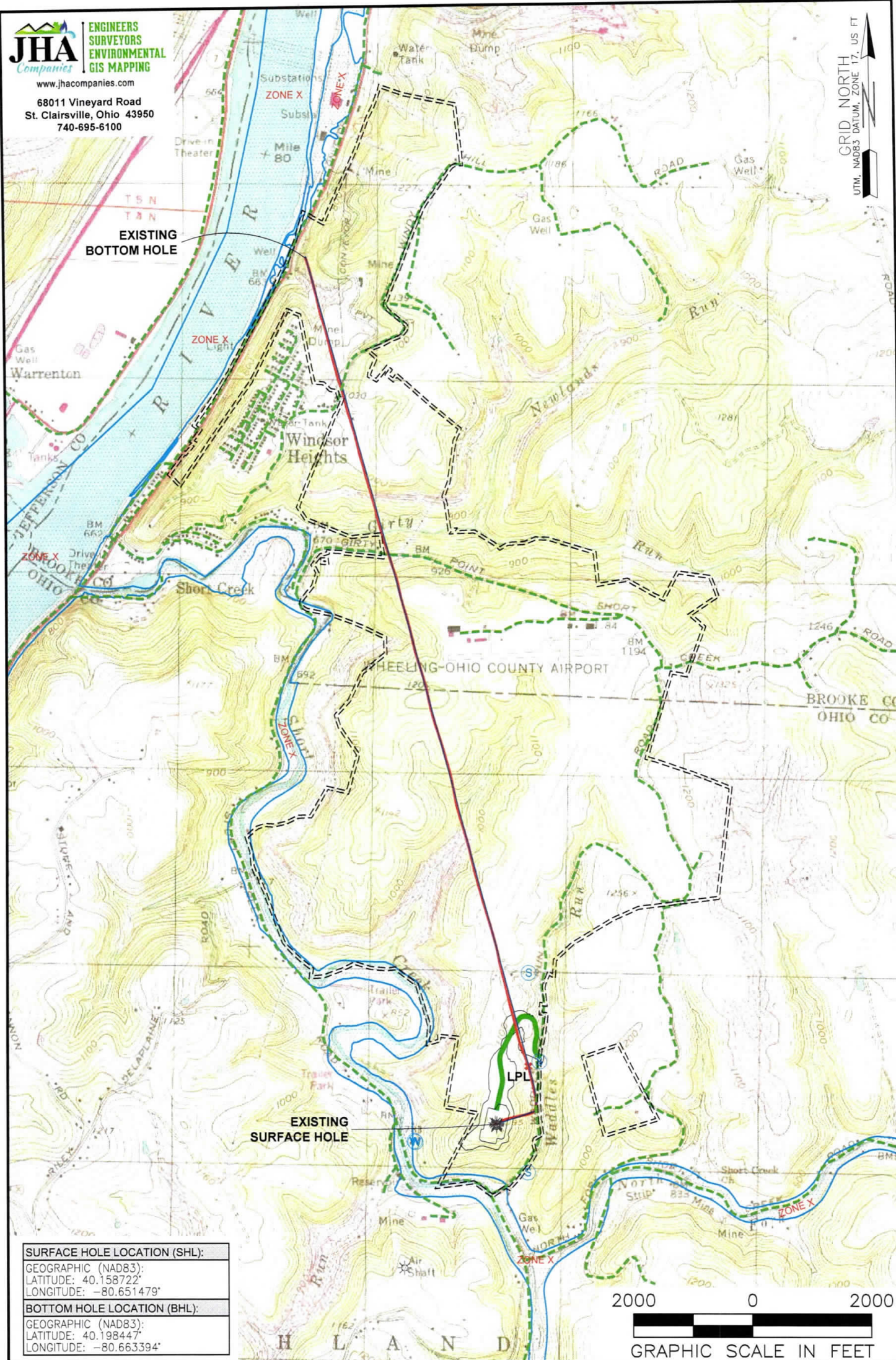
Job Start Date:	5/6/2019
Job End Date:	5/23/2019
State:	West Virginia
County:	Ohio
API Number:	47-069-00219-00-00
Operator Name:	Southwestern Energy
Well Name and Number:	Edward Dremak OHI 5
Latitude:	40.15872199
Longitude:	-80.65147998
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	5,729
Total Base Water Volume (gal):	19,980,872
Total Base Non Water Volume:	0



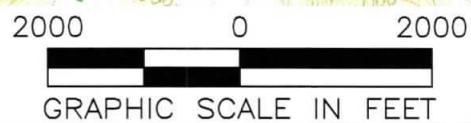
Hydraulic Fracturing Fluid Composition:

Trade Name	Supplier	Purpose	Ingredients	Chemical Abstract Service Number (CAS #)	Maximum Ingredient Concentration in Additive (% by mass)**	Maximum Ingredient Concentration in HF Fluid (% by mass)**	Comments
Econo-CI200	SWN Well Services	Corrosion Inhibitor					
HCL	SWN Well Services	Solvent		Listed Below			
				Listed Below			

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Office of Oil and Gas
AUG 30 2019
WV Department of
Environmental Protection



SURFACE HOLE LOCATION (SHL):
GEOGRAPHIC (NAD83):
LATITUDE: 40.158722°
LONGITUDE: -80.651479°
BOTTOM HOLE LOCATION (BHL):
GEOGRAPHIC (NAD83):
LATITUDE: 40.198447°
LONGITUDE: -80.663394°



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:

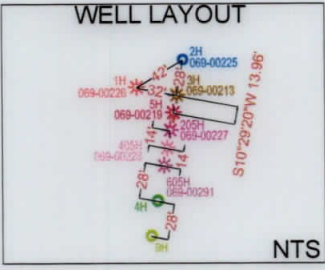
- PROPOSED SURFACE HOLE / BOTTOM HOLE
- ⊙ EXISTING / PRODUCING WELLHEAD
- ✱ LPL* LANDING POINT LOCATION
- FLOOD PLAIN
- ACCESS ROAD
- PUBLIC ROAD
- ACCESS ROAD TO PREV. SITE
- LEASE BOUNDARY
- PROPOSED PATH
- ASDRILLED PATH

WELL OPERATOR: SWN PRODUCTION COMPANY, LLC	WELL (FARM) NAME: EDWARD DREMAK OHI	WELL # 5H	SERIAL # XXXX
ADDRESS: 1300 FORT PIERPONT DRIVE, SUITE 201, MORGANTOWN, WV 26508	COUNTY - CODE OHIO - 069	DISTRICT: RICHLAND	API NO: 47-069-00219
SURFACE OWNER: JOHN ANDREW EVICK	USGS 7 1/2 QUADRANGLE MAP NAME: TILTONVILLE, OH		

(2,000' SCALE) SURFACE HOLE LATITUDE: 40°10'00" / 7397' (2,000' SCALE) BOTTOM HOLE LATITUDE: 40°12'30" / 10723'

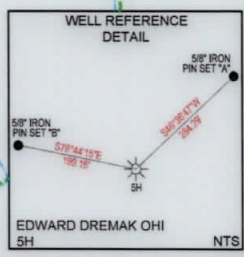
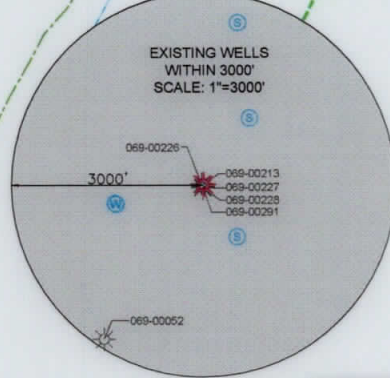
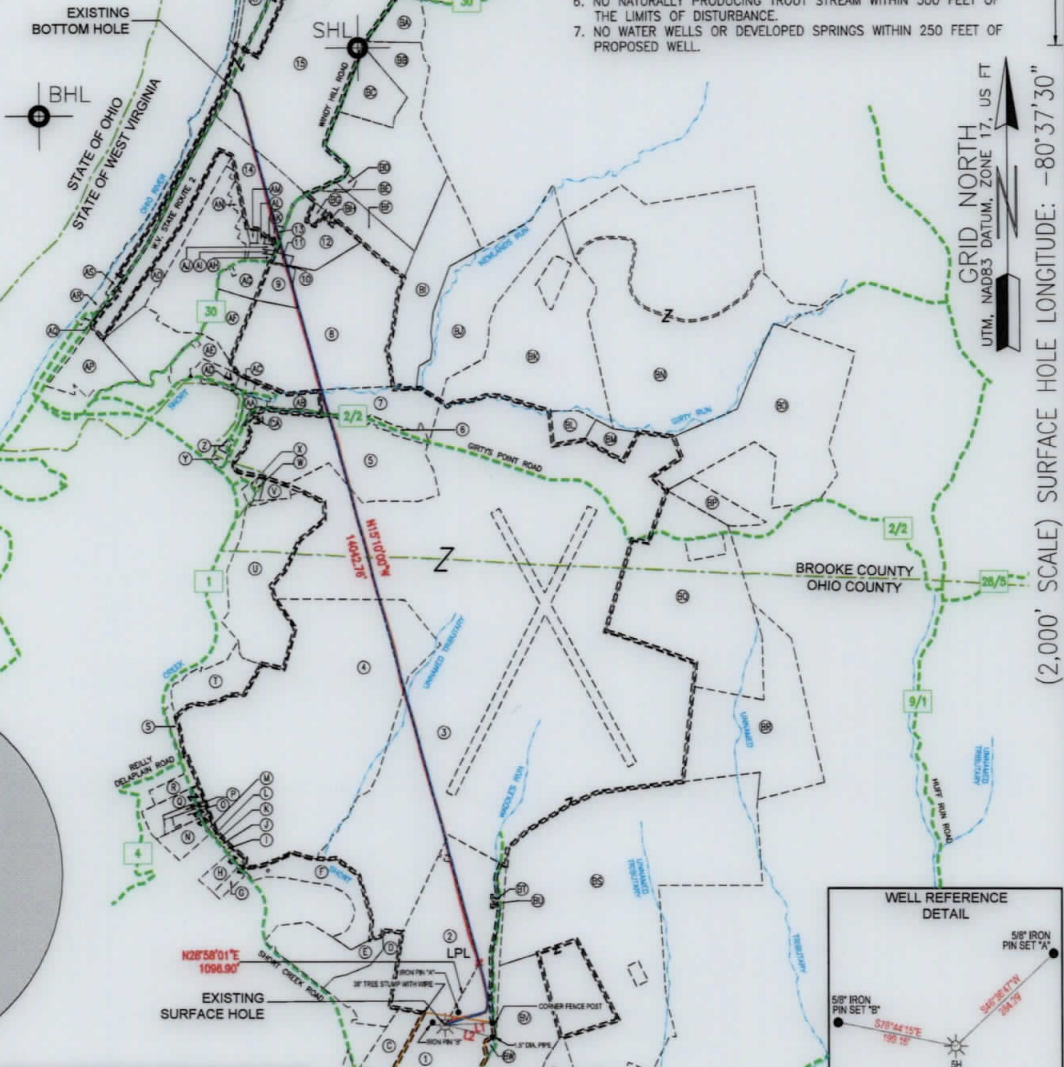


www.jhacompanies.com
68011 Vineyard Road
St. Clairsville, Ohio 43950
740-695-6100



NOTES ON SURVEY

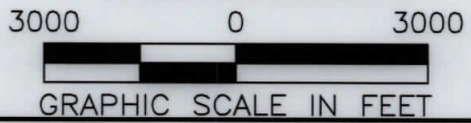
1. COORDINATE SYSTEM IS UTM NAD 83 DATUM, ZONE 17, U.S. FOOT AND WELL COORDINATES ESTABLISHED USING SURVEY GRADE GPS.
2. SURFACE AND ROYALTY OWNER INFORMATION AND THEIR BOUNDARIES SHOWN HEREON WERE PLOTTED FROM DEEDS AND/OR TAX PARCEL MAPS PROVIDED BY CLIENT AND/OR FIELD LOCATIONS.
3. THIS PLAT DOES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



SURFACE HOLE LOCATION (SHL): UTM (NAD83, ZONE 17, METERS): NORTHING: 4445432.26 EASTING: 529680.68	LANDING POINT LOCATION (LPL): UTM (NAD83, ZONE 17, METERS): NORTHING: 4445727.33 EASTING: 529837.55
BOTTOM HOLE LOCATION (BHL): UTM (NAD83, ZONE 17, METERS): NORTHING: 4449837.61 EASTING: 528649.24	

SURFACE HOLE LOCATION (SHL): UTM (NAD83, ZONE 17, METERS): NORTHING: 4445432.27 EASTING: 529680.60
LANDING POINT LOCATION (LPL): UTM (NAD83, ZONE 17, METERS): NORTHING: 4445677.80 EASTING: 529854.92
BOTTOM HOLE LOCATION (BHL): UTM (NAD83, ZONE 17, METERS): NORTHING: 4449842.68 EASTING: 528649.75

LINE	BEARING	DISTANCE
L1	S87°42'36"W	737.19'
L2	N75°40'26"W	762.70'



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]* 3/27/19

COMPANY: **SWN** Production Company, LLC

<p>(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS WVDEP OFFICE OF OIL & GAS 601 57TH STREET CHARLESTON, WV 25034</p>	MINIMUM DEGREE OF ACCURACY: 1/200 PROVEN SOURCE OF ELEVATION: SURVEY GRADE GPS (NAVD 88, US FT)	OPERATOR'S WELL #: EDWARD DREMAK OHI 5H API WELL #: 47 069 00219 STATE COUNTY PERMIT
--	--	---

WELL TYPE: OIL <input type="checkbox"/> WASTE DISPOSAL <input type="checkbox"/> PRODUCTION <input checked="" type="checkbox"/> DEEP <input checked="" type="checkbox"/> GAS <input checked="" type="checkbox"/> LIQUID INJECTION <input type="checkbox"/> STORAGE <input type="checkbox"/> SHALLOW <input type="checkbox"/> WATERSHED: UPPER OHIO SOUTH DISTRICT: RICHLAND COUNTY: OHIO SURFACE OWNER: ANDREW JOHN EVICK OIL & GAS ROYALTY OWNER: EDWARD W. & JOANNE V. DREMAK	ELEVATION: 1,087.7' QUADRANGLE: TILTONSVILLE, OH ACREAGE: ±34.19 ACREAGE: ±34.19
--	---

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: 5,795' TVD 20,407' TMD

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

LEGEND: * PROPOSED SURFACE HOLE / BOTTOM HOLE * EXISTING / PRODUCING WELLHEAD LPL * LANDING POINT LOCATION W EXISTING WATER WELL S EXISTING SPRING --- SURVEYED BOUNDARY ===== LEASE BOUNDARY --- ASDRILLED PATH --- PROPOSED PATH	REVISIONS: DATE: 03-27-2019 API NO: 47-069-00219 DRAWN BY: D. REED SCALE: 1" = 3000' DRAWING NO: 2018-284 WELL LOCATION PLAT
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WELL BORE TABLE FOR SURFACE / ROYALTY OWNERS		
TRACT	SURFACE OWNER (S) / ROYALTY OWNER (R)	TAX PARCEL
1	ANDREW JOHN EVICK (S) / JOANNE V. DREMAK (R)	04-R5-54
TRACT	SURFACE OWNER	TAX PARCEL
2	ANDREW JOHN EVICK	04-R5-49
3	THE BOARD OF COMMISSIONERS OF THE COUNTY OF OHIO	04-R5-10
4	SHANE E. WOLOSAN, TRUSTEE	04-R5-9
5	HENRY W. ZEIDLER, JUDITH K. ZEIDLER & MARGARET L. BURGRAF	03-B46-0015.0000
6	WEST VIRGINIA DEPARTMENT OF TRANSPORTATION, DIVISION OF HIGHWAYS	GIRTYS POINT ROAD
7	BARRY L. & PATRICIA A. GREATHOUSE	03-B46-0018.0000
8	LAWRENCE R. MOORE & ROSEMARY KINDER	03-B41-0021.0004
9	NEIL A. & JANICE C. ABRAHAMSON	03-B41-0024.0000
10	NEIL A. & JANICE C. ABRAHAMSON	03-B41-0021.0005
11	NEIL A. & JANICE C. ABRAHAMSON	03-B41-0025.0000
12	LAWRENCE R. & ROSEMARY MOORE	03-B41-0021.0001
13	THE VILLAGE OF WINDSOR HEIGHTS	03-B41-0029.0000
14	WINDSOR COAL COMPANY	03-B41-0021.0000
15	WINDSOR COAL COMPANY	03-B41-0005.0000

ADJOINING OWNERS TABLE		
TRACT	SURFACE OWNER	TAX PARCEL
A	ALLIANCE RESOURCE GP, LLC	04-R8-6
B	ALLIANCE RESOURCE GP, LLC	04-R5-52
C	ALLIANCE RESOURCE GP, LLC	04-R5-53
D	WINDSOR COAL COMPANY (C/O CNX LAND-PROPERTY TAX)	04-R5-50
E	JOHN W. METZ	04-R5-46
F	BURNT MILL ACRES, LLC (C/O MARK FOSTER)	04-R5-13
G	JULIE A. KOEHLER	04-R5-45.4
H	JULIE A. KOEHLER	04-R5-45.13
I	CAROL G. TAYLOR, MARK J. TAYLOR & SUE A. HOWARD	04-R5-12
J	CAROL G. TAYLOR, MARK J. TAYLOR & SUE A. HOWARD	04-R5-14
K	THERESE FLICK	04-R5-15
L	DALE A. & JENNIFER A. VILLANI	04-R5-16
M	DALE A. & JENNIFER A. VILLANI	04-R5-17.1
N	ROBERT N. & C.L. CONNER	04-R5-17
O	PATRICIA ROUSH	04-R5-18
P	ERVAN D. & NANCY G. TRUBIANO	04-R5-19
Q	BRIAN W. & MELINDA K. SOWIZRAL	04-R5-20.1
R	DENNIS J. & SHEINA L. HOSKINS	04-R5-20.4
S	HAROLD & LINDA COAST	04-R5-2.9
T	ROBERT KUBOVICZ	04-R5-8
U	RODNEY K. & N.C. MCCONNELL	04-R2-20
V	RODNEY K. & NEDRA C. MCCONNELL	03-B46-0014.0000
W	RODNEY K. & N.C. MCCONNELL	04-R2-18.2
X	SYLVIA A. HAWRANICK	04-R2-18.1
Y	HENRY W. ZEIDLER, JUDITH K. ZEIDLER & MARGARET L. BURGRAF	03-B46-0013.0000
Z	KENNETH D. & BARBARA J. COVER	03-B46-0012.0000
AA	JOAN GARRETT	03-B46-0009.0000
AB	JOAN GARRETT	03-B46-0017.0000
AC	SIDNEY W. MOZINGO, JR. & VICTORIA L. MOZINGO	03-B46-0005.0000
AD	ALEC MUSHET & DARLA ANN MUSHET	03-B46-0004.0000
AE	EVERT RUNYAN	03-B41-0018.0000
AF	WINDSOR COAL COMPANY	03-B41-0020.0000
AG	VILLAGE OF WINDSOR HEIGHTS	08-W41N-0139.0000
AH	WILLIAM I. KNIGHT, II & MEREDITH M. SERTICH	08-W41N-0129.0000
AI	JAYCOB HAYDEN DOTY & HAYLEY A. DOTY	08-W41N-0130.0000
AJ	WILLIAM C. MCGILL & PEGGY L. MCGILL	08-W41N-0131.0000
AK	WILLIAM C. MCGILL & PEGGY L. MCGILL	03-B41-0028.0000
AL	DOUGLAS CUNNINGHAM	03-B41-0027.0000
AM	MONICA P. GRAY	03-B41-0026.0000
AN	WINDSOR HEIGHTS DEVELOPMENT COMPANY	08-W41J-0002.0000
AO	WINDSOR HEIGHTS DEVELOPMENT CORPORATION	08-W41J-0001.0000
AP	LAMBROS TSUHLARES	03-B40S-0016.0000
AQ	RIGHT OF WAY (STATE ROUTE #2: RIVER ROAD)	XXXXX
AR	WINDSOR COAL COMPANY	01-BB41-0005.0000
AS	MT. OLIVE BAPTIST CHURCH	01-B40S-0001.0000
AT	WINDSOR COAL COMPANY	01-BB41-0003.0000
AU	WEST PENN POWER COMPANY	01-BB41-0017.0000
AV	WEST PENN POWER COMPANY	01-BB41-0016.0000
AW	WEST PENN POWER COMPANY	01-BB41-0007.0000
AX	WINDSOR COAL COMPANY	03-B41-0007.0000
AY	WINDSOR COAL COMPANY	03-B41-0039.0000
AZ	SYLVESTER & MARY KELLER	03-B41-0038.0000
BA	DONNA MARIE PEREZ	03-B41-0037.0000
BB	ROSEMARY KINDER MOORE	03-B41-0035.0000
BC	MICHAEL A. & LINDA S. WOLEN	03-B41-0036.0000
BD	LAWRENCE & ROSEMARY MOORE	03-B41-0034.0000
BE	LAWRENCE R. & ROSEMARY K. MOORE	03-B41-0033.0000
BF	ROSEMARY KINDER MOORE	03-B41-0030.0000
BG	STANLEY RAE KRUPINSKI & MEREDITH KINDER MOORE KRUPINSKI	03-B41-0021.0003
BH	HAMMOND PUBLIC SERVICE DISTRICT	03-B41-0021.0002
BI	CHARLES D. BELL TESTAMENTARY TRUST, CHARLES W. BELL, BETTY BELL WILLIAMS, PEGGY BELL HRACH, MEGAN CALDWELL, SCOTT CALDWELL & CHAD CALDWELL	03-B41-0031.0000
BJ	BARRY L. & PATRICIA A. GREATHOUSE	03-B41-0032.0000
BK	BARRY L. & PATRICIA A. GREATHOUSE	03-B41-0083.0000
BL	BARRY L. & PATRICIA A. GREATHOUSE	03-B46-0019.0000
BM	STACY ANN GREATHOUSE & PATRICIA ANN GREATHOUSE	03-B46-0041.0000
BN	BARRY L. & PATRICIA A. GREATHOUSE	03-B41-0082.0000
BO	DANNY GENE & VIRGINIA MARGARET BRITT	03-B46-0027.0000
BP	TRACY GILBERT	03-B46-0022.0001
BQ	BRUCE D. BONAR	03-B46-0020.0000
BR	MARC SEAMON	04-R6-2
BS	THE BOARD OF COMMISSIONERS OF THE COUNTY OF OHIO	04-R5-55
BT	RICHARD L. & DEBORAH K. BLACK	04-R5-58.1
BU	RAY W. ARCHER	04-R5-58
BV	WINDSOR COAL COMPANY	04-R8-8.1
BW	EDWARD W. & JOANNE V. DREMAK	04-R5-54.1
BX	ALLIED WASTE, INC	04-R5-56
BY	TUNNEL RIDGE, LLC	04-R8-8.18
BZ	SUSAN L. CAIN	04-R8-8.3
CA	HAMMOND PUBLIC SERVICE DISTRICT	03-B46-0016.0000

REVISIONS:

COMPANY:

SWN
Production Company, LLC

SWN ^{R⁺}_A ^{V⁺}₀
Production Company™

OPERATOR'S

EDWARD DREMAK OHI

DATE: 03-27-2019

WELL #:

5H

API NO: 47-069-00219

DISTRICT:
RICHLAND

COUNTY:
OHIO

STATE:
WV

DRAWN BY: D. REED

SCALE: N/A

DRAWING NO: 2018-284

WELL LOCATION PLAT

PROPERTY NUMBER 2501165809
PAD ID 3001165800