

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

API 47-069-00227 County OHIO District RICHLAND
Quad TILTONSVILLE, OH Pad Name EDWARD DREMAK-OHI-PAD1 Field/Pool Name PANDHANDLE FIELD WET
Farm name ANDREW JOHN EVICK Well Number EDWARD DREMAK OHI 205H
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 4,445,428.06 Easting 529,679.97
Landing Point of Curve Northing 4,445,760.08 Easting 530,078.43
Bottom Hole Northing 4,450,397.28 Easting 528,728.00

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

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Date permit issued 11/7/2018 Date drilling commenced 01/17/2019 Date drilling ceased 02/01/2019
Date completion activities began 04/11/2019 Date completion activities ceased 06/13/2019
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 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

[Signature] 10-16-19

Reviewed by:
SP 10-16-19

API 47- 069 - 00227 Farm name ANDREW JOHN EVICK Well number EDWARD DREMAK OHI 205H

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	356	NEW	J-55/54.5#	235'	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	22,313	NEW	HCP-110/20#		Y
Tubing		2.375	6,359	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	414	15.60	1.20	496.8	SURFACE	8
Coal	SURFACE						
Intermediate 1	CLASS A	670	15.60	1.19	797.3	SURFACE	8
Intermediate 2							
Intermediate 3							
Production	CLASS A	4,264	15.60	1.19	5,074.16	SURFACE	24
Tubing							

Drillers TD (ft) 22,313' Loggers TD (ft) 22,313'
 Deepest formation penetrated MARCELLUS Plug back to (ft) N/A
 Plug back procedure N/A

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Kick off depth (ft) 5,498'

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 _____

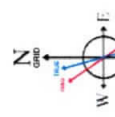
WAS WELL COMPLETED OPEN HOLE? Yes No DETAILS _____

WERE TRACERS USED Yes No TYPE OF TRACER(S) USED _____

SOUTHWESTERN ENERGY

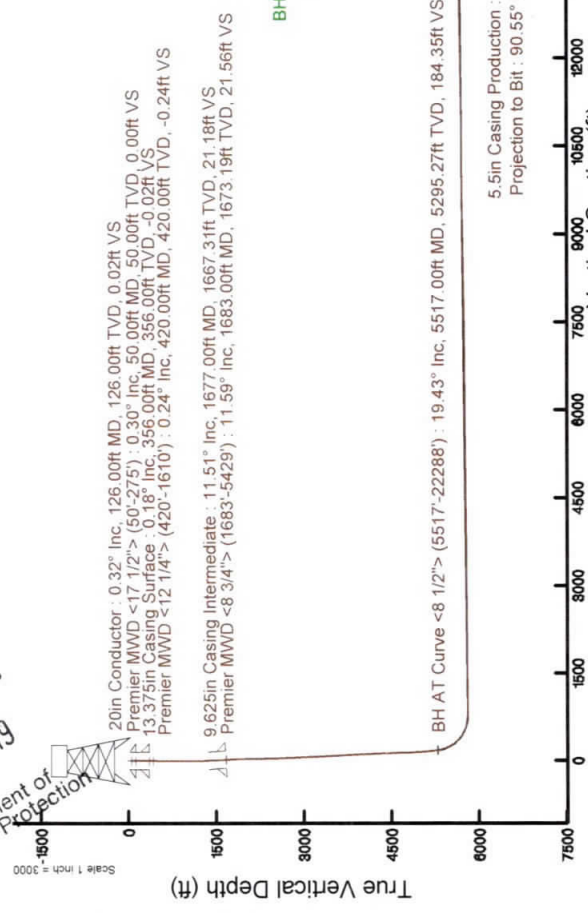
Location: Ohio County, WV
 Slot: #205H
 Field: Edward Dremak OHI 205H
 Well: Edward Dremak OHI 205H.PWB
 Facility: Edward Dremak OHI PadWellbore: Edward Dremak OHI 205H.PWB

Plot reference wellpath is Edward Dremak OHI 205H PWP Rev-B-0	Grid System: NAD83 / UTM, Zone 17 North, US feet
SDC 40 (RKB) to Mean Sea Level: 1114 feet	North Reference: Grid north
Measured depths are referenced to SDC 40 (RKB)	Scale: True distance
SDC 40 (RKB) to Mean Sea Level: -1088 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Database: WA, MPL, EASTERNUS_Defn



User specified Dip: 67.47° Field: 52531 NT
 Magnetic North is 8.00 degrees West of True North (at 20-Jan-2019)
 To correct azimuth from True to Grid subtract 0.22 degrees
 To correct azimuth from Magnetic to Grid subtract 8.22 degrees

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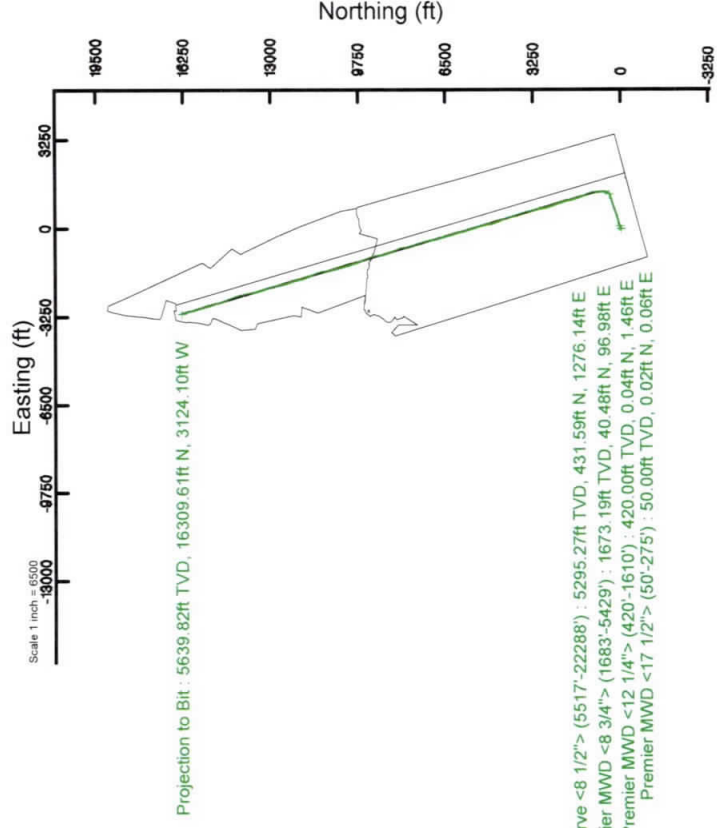


Location Information

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 #205H	4.19	50.49	1737791.300	14584708.520
Comment : As built has cellar elevation, 1088 is GL				
SDC 40 (RKB) to Ground level (At Slot: Slot #205H)			26ft	
Mean Sea Level to Ground level (At Slot: Slot #205H)			-1088ft	
SDC 40 (RKB) to Mean Sea Level			1114ft	

Comments

API: 47-069-00227-0000
 BH Job #: 109567843
 Rig: SDC 40
 Duration: 01/24/2019 - 01/29/2019



EDWARD DREMAK OHI 205H

ATTACHMENT 1

PERF REPORT

STAGE NUM	Perf Date	Perf Top MD	Perf Bottom MD	# SHOTS PER STG
1	4/5/2019	22,226	22,130	36
2	4/22/2019	22,097	21,990	42
3	4/23/2019	21,959	21,850	42
4	4/23/2019	21,817	21,710	42
5	4/24/2019	21,677	21,570	42
6	4/24/2019	21,541	21,430	42
7	4/24/2019	21,397	21,290	42
8	4/24/2019	21,257	21,150	42
9	4/25/2019	21,115	21,010	42
10	4/25/2019	20,977	20,870	42
11	4/25/2019	20,837	20,730	42
12	4/26/2019	20,697	20,590	42
13	4/26/2019	20,557	20,450	42
14	4/26/2019	20,417	20,310	42
15	4/26/2019	20,274	20,170	42
16	4/27/2019	20,137	20,030	42
17	4/27/2019	19,997	19,890	42
18	4/27/2019	19,855	19,750	42
19	4/28/2019	19,717	19,614	42
20	4/28/2019	19,577	19,470	42
21	4/28/2019	19,437	19,330	42
22	4/28/2019	19,297	19,194	42
23	4/28/2019	19,157	19,050	42
24	4/29/2019	19,017	18,910	42
25	4/29/2019	18,877	18,770	42
26	4/29/2019	18,733	18,630	42
27	4/30/2019	18,597	18,490	42
28	4/30/2019	18,452	18,350	42
29	4/30/2019	18,315	18,215	42
30	4/30/2019	18,177	18,070	42
31	5/1/2019	18,037	17,930	42
32	5/1/2019	17,897	17,788	42
33	5/1/2019	17,757	17,650	42
34	5/1/2019	17,617	17,510	42
35	5/2/2019	17,477	17,370	42
36	5/2/2019	17,337	17,230	42
37	5/2/2019	17,197	17,090	42
38	5/3/2019	17,057	16,950	42
39	5/3/2019	16,912	16,810	42
40	5/3/2019	16,777	16,675	42
41	5/3/2019	16,637	16,530	42
42	5/4/2019	16,497	16,390	42

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STAGE NUM	Perf Date	Perf Top MD	Perf Bottom MD	# SHOTS PER STG
43	5/4/2019	16,357	16,250	42
44	5/4/2019	16,217	16,110	42
45	5/4/2019	16,077	15,970	42
46	5/5/2019	15,940	15,830	42
47	5/5/2019	15,797	15,695	42
48	5/6/2019	15,657	15,550	42
49	5/6/2019	15,517	15,410	42
50	5/6/2019	15,377	15,275	42
51	5/12/2019	15,237	15,130	42
52	5/12/2019	15,097	14,990	42
53	5/12/2019	14,957	14,852	42
54	5/12/2019	14,817	14,710	42
55	5/13/2019	14,677	14,570	42
56	5/13/2019	14,537	14,434	42
57	5/13/2019	14,397	14,290	42
58	5/14/2019	14,257	14,149	42
59	5/14/2019	14,120	14,010	42
60	5/14/2019	13,977	13,870	42
61	5/15/2019	13,837	13,727	42
62	5/15/2019	13,697	13,590	42
63	5/15/2019	13,557	13,450	42
64	5/16/2019	13,417	13,308	42
65	5/16/2019	13,281	13,170	42
66	5/16/2019	13,137	13,027	42
67	5/16/2019	12,998	12,890	42
68	5/16/2019	12,857	12,751	42
69	5/16/2019	12,717	12,610	42
70	5/16/2019	12,577	12,470	42
71	5/17/2019	12,437	12,330	42
72	5/17/2019	12,294	12,190	42
73	5/17/2019	12,157	12,049	42
74	5/17/2019	12,021	11,910	42
75	5/17/2019	11,877	11,773	42
76	5/17/2019	11,737	11,630	42
77	5/17/2019	11,597	11,490	42
78	5/18/2019	11,457	11,350	42
79	5/18/2019	11,313	11,210	42
80	5/18/2019	11,177	11,070	42
81	5/18/2019	11,037	10,930	42
82	5/18/2019	10,897	10,790	42
83	5/19/2019	10,757	10,650	42
84	5/19/2019	10,617	10,510	42

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STAGE NUM	Perf Date	Perf Top MD	Perf Bottom MD	# SHOTS PER STG
85	5/20/2019	10,481	10,370	42
86	5/20/2019	10,337	10,230	42
87	5/20/2019	10,197	10,090	42
88	5/20/2019	10,060	9,950	42
89	5/20/2019	9,917	9,810	42
90	5/20/2019	9,777	9,670	42
91	5/20/2019	9,633	9,530	42
92	5/20/2019	9,497	9,392	42
93	5/20/2019	9,357	9,250	42
94	5/21/2019	9,217	9,110	42
95	5/21/2019	9,077	8,970	42
96	5/21/2019	8,932	8,830	42
97	5/21/2019	8,797	8,690	42
98	5/21/2019	8,657	8,550	42
99	5/21/2019	8,512	8,410	42
100	5/22/2019	8,377	8,275	42
101	5/22/2019	8,237	8,130	42
102	5/22/2019	8,097	7,990	42
103	5/22/2019	7,957	7,852	42
104	5/22/2019	7,817	7,710	42
105	5/22/2019	7,677	7,570	42
106	5/22/2019	7,537	7,435	42
107	5/22/2019	7,398	7,290	42
108	5/22/2019	7,257	7,150	42
109	5/22/2019	7,118	7,010	42
110	5/23/2019	6,977	6,870	42
111	5/23/2019	6,837	6,730	42
112	5/23/2019	6,697	6,590	42
113	5/23/2019	6,557	6,450	42
114	5/23/2019	6,417	6,310	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/othe
1	4/18/2019	74	8,089	8,068	4,109	285,330	7,374	0
2	4/22/2019	88	7,894	5,238	4,636	288,502	8,183	0
3	4/23/2019	86	8,412	4,103	4,503	276,090	8,050	0
4	4/23/2019	86	8,020	4,930	4,909	280,798	7,646	0
5	4/24/2019	81	8,255	4,760	4,644	278,426	8,311	0
6	4/24/2019	87	7,832	5,415	4,884	281,115	7,008	0
7	4/24/2019	83	8,208	5,063	4,368	290,675	6,458	0
8	4/25/2019	89	8,580	5,225	4,718	273,740	5,769	0
9	4/25/2019	74	8,335	4,215	4,605	277,580	8,868	0
10	4/25/2019	82	8,248	5,458	4,502	286,855	6,689	0
11	4/25/2019	91	8,470	4,924	4,762	267,928	5,757	0
12	4/26/2019	90	8,427	5,012	4,622	287,500	5,921	0
13	4/26/2019	83	7,987	5,615	4,732	284,235	5,901	0
14	4/26/2019	86	8,417	4,929	4,765	273,425	5,841	0
15	4/27/2019	83	8,524	4,988	4,821	288,250	6,222	0
16	4/27/2019	87	7,931	5,634	4,457	277,295	5,649	0
17	4/27/2019	89	8,436	4,760	4,699	279,464	5,783	0
18	4/27/2019	89	8,399	5,034	4,983	285,970	5,367	0
19	4/28/2019	89	8,417	4,952	4,256	289,860	4,882	0
20	4/28/2019	88	8,015	5,876	4,715	273,950	5,493	0
21	4/28/2019	89	8,202	5,587	4,820	286,880	5,695	0
22	4/28/2019	88	8,311	5,180	4,767	288,988	5,560	0
23	4/29/2019	87	8,308	4,721	4,870	288,240	4,504	0
24	4/29/2019	83	8,306	5,722	4,578	283,770	5,811	0
25	4/29/2019	95	8,354	5,356	4,653	279,110	5,217	0
26	4/29/2019	90	8,144	5,222	4,766	289,210	4,740	0
27	4/30/2019	88	8,115	4,952	4,846	287,480	4,648	0
28	4/30/2019	93	7,719	4,828	4,766	275,865	4,746	0
29	4/30/2019	90	7,938	5,624	4,736	274,750	5,047	0
30	4/30/2019	78	8,065	4,822	4,625	288,920	5,061	0
31	5/1/2019	83	8,105	4,930	4,687	292,200	4,500	0
32	5/1/2019	93	8,058	4,711	4,741	273,575	4,571	0
33	5/1/2019	72	6,605	5,203	2,231	278,781	4,643	0
34	5/2/2019	92	8,193	4,987	4,558	282,668	4,772	0
35	5/2/2019	88	8,450	5,233	4,693	281,478	5,636	0
36	5/2/2019	85	8,333	4,940	4,657	281,666	4,613	0
37	5/2/2019	85	8,246	4,918	4,561	289,640	4,554	0
38	5/3/2019	85	7,994	4,783	4,721	277,208	5,835	0
39	5/3/2019	90	8,152	5,014	4,258	282,600	5,437	0
40	5/3/2019	95	8,160	5,630	4,522	281,988	4,387	0
41	5/4/2019	98	7,959	5,716	4,928	283,904	4,141	0
42	5/4/2019	92	7,635	4,990	4,532	274,848	5,383	0
43	5/4/2019	90	7,634	4,905	5,183	280,462	5,082	0
44	5/4/2019	95	7,851	4,663	4,566	277,946	5,385	0
45	5/5/2019	74	7,231	5,778	4,566	281,388	6,871	0
46	5/5/2019	87	7,669	5,314	4,583	279,230	4,660	0
47	5/5/2019	86	7,693	5,245	4,900	281,462	4,983	0
48	5/6/2019	86	7,995	5,401	4,533	281,040	5,024	0
49	5/6/2019	88	7,909	6,121	4,711	277,710	4,459	0
50	5/12/2019	76	7,719	5,222	4,711	283,048	7,879	0
51	5/12/2019	83	7,885	4,580	4,419	273,456	4,414	0
52	5/12/2019	81	7,861	5,757	4,636	279,117	4,370	0
53	5/12/2019	95	7,844	4,290	5,072	277,645	5,462	0

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STIM REPORT

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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	5/13/2019	95	7,757	5,295	4,652	276,046	5,450	0
55	5/13/2019	87	7,774	5,108	5,213	291,428	4,101	0
56	5/13/2019	88	7,348	5,748	4,939	281,200	4,254	0
57	5/13/2019	95	7,712	5,715	4,555	282,143	5,312	0
58	5/14/2019	91	7,696	5,280	4,450	281,349	3,977	0
59	5/14/2019	83	7,835	5,176	4,633	276,006	3,980	0
60	5/14/2019	92	7,970	5,567	4,853	277,041	5,443	0
61	5/15/2019	84	7,952	5,206	4,487	289,486	4,978	0
62	5/15/2019	82	7,472	5,127	4,405	275,734	4,553	0
63	5/15/2019	87	7,523	5,792	4,651	275,761	5,358	0
64	5/16/2019	94	7,528	5,903	4,475	279,105	5,203	0
65	5/16/2019	84	8,042	5,322	5,040	284,290	4,490	0
66	5/16/2019	88	7,596	4,981	5,074	283,550	4,091	0
67	5/16/2019	91	7,756	4,872	4,704	282,840	4,140	0
68	5/16/2019	84	8,000	4,938	4,358	285,660	3,912	0
69	5/16/2019	93	7,837	4,823	4,507	284,590	3,923	0
70	5/16/2019	96	7,391	3,542	4,365	284,210	4,483	0
71	5/17/2019	85	7,693	4,782	4,492	280,320	4,029	0
72	5/17/2019	86	7,599	4,677	4,377	285,790	4,053	0
73	5/17/2019	89	7,291	5,182	4,946	280,300	3,782	0
74	5/17/2019	91	7,284	5,048	4,777	285,200	3,679	0
75	5/17/2019	90	7,326	5,221	4,719	286,080	3,630	0
76	5/17/2019	87	7,386	5,248	4,306	278,360	4,431	0
77	5/18/2019	91	8,086	5,178	4,403	285,480	4,253	0
78	5/18/2019	88	7,490	5,228	4,354	284,365	3,609	0
79	5/18/2019	91	7,537	5,500	5,002	281,930	3,449	0
80	5/18/2019	87	7,761	5,139	4,722	287,160	3,664	0
81	5/18/2019	88	7,470	5,620	5,011	282,570	3,647	0
82	5/18/2019	88	7,418	4,804	4,778	282,520	3,491	0
83	5/19/2019	88	7,533	4,974	4,487	281,340	3,851	0
84	5/19/2019	89	7,357	4,792	4,466	279,770	3,840	0
85	5/20/2019	85	7,547	4,739	4,497	282,700	4,433	0
86	5/20/2019	87	7,448	5,141	4,506	282,300	3,910	0
87	5/20/2019	86	7,782	4,818	4,630	272,858	3,923	0
88	5/20/2019	86	7,848	4,970	4,506	274,940	3,718	0
89	5/20/2019	84	7,602	5,233	4,512	278,920	3,694	0
90	5/20/2019	87	7,683	4,890	4,489	273,938	3,417	0
91	5/20/2019	87	7,210	4,892	4,456	280,067	3,688	0
92	5/20/2019	91	7,653	4,181	4,504	277,680	4,251	0
93	5/21/2019	82	7,401	3,204	4,482	284,390	4,646	0
94	5/21/2019	85	7,780	5,254	4,476	278,100	3,612	0
95	5/21/2019	92	7,709	5,096	4,535	282,724	3,678	0
96	5/21/2019	91	7,024	5,203	4,556	282,724	4,035	0
97	5/21/2019	92	7,090	5,344	4,678	275,177	3,285	0
98	5/21/2019	88	7,103	5,338	4,430	273,075	3,240	0
99	5/21/2019	86	7,501	5,220	4,412	282,720	4,176	0
100	5/22/2019	85	7,221	5,190	4,385	278,380	4,347	0
101	5/22/2019	85	7,334	5,042	4,454	280,020	4,429	0
102	5/22/2019	91	7,228	4,765	4,509	267,238	4,400	0
103	5/22/2019	86	7,679	4,712	4,467	275,674	4,243	0
104	5/22/2019	81	7,764	5,040	4,798	287,236	3,992	0
105	5/22/2019	85	7,551	5,126	4,422	274,327	4,111	0
106	5/22/2019	87	7,513	5,186	4,507	273,453	4,133	0

EDWARD DREMAK OHI 205H

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/othe
107	5/22/2019	80	7,611	5,212	4,474	273,320	3,503	0
108	5/22/2019	80	7,558	5,236	4,536	280,320	3,533	0
109	5/22/2019	82	7,114	4,632	4,369	272,604	3,516	0
110	5/23/2019	84	7,678	5,016	5,050	278,077	3,892	0
111	5/23/2019	84	7,002	5,039	4,412	284,675	3,559	0
112	5/23/2019	83	7,409	5,141	4,401	277,440	3,791	0
113	5/23/2019	72	7,538	5,062	4,316	270,805	4,384	0
114	5/23/2019	75	7,957	5,066	4,414	315,415	4,399	0

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Well Name: Edward Dremak OHI 205H 47069002270000

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)	5553.00	5329.00	5744.00	5499.00	
Cashaqua (shale)	5744.00	5499.00	5800.00	5546.00	
Middlesex (shale)	5800.00	5546.00	5888.00	5614.00	
Burket (shale)	5888.00	5614.00	5911.00	5631.00	
Tully (ls)	5911.00	5631.00	5992.00	5684.00	
Mahantango (shale)	5992.00	5684.00	6160.00	5762.00	
Marcellus (shale)	6160.00	5762.00	NA	NA	GAS

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Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	4/18/2019
Job End Date:	5/23/2019
State:	West Virginia
County:	Ohio
API Number:	47-069-00227-00-00
Operator Name:	Southwestern Energy
Well Name and Number:	Edward Dremak OHI 205
Latitude:	40.15868401
Longitude:	-80.65148902
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	5,727
Total Base Water Volume (gal):	22,922,502
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					
				Listed Below			
SCAL 16486A	Nalco	Scale Inhibitor					
				Listed Below			

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Sand	SWN Well Services	Proppant											
					Listed Below								
HCL	SWN Well Services	Solvent											
					Listed Below								
Base Water	Operator	Base Fluid											
					Listed Below								
SWN FRW-13LA	SWN Well Services	Friction Reducer											
					Listed Below								
BIOC11219A	Nalco	Biocide											
					Listed Below								
Ecopol-FEAC	SWN Well Services	Iron Control											
					Listed Below								
Items above are Trade Names with the exception of Base Water . Items below are the individual ingredients.													
					Water			7732-18-5		100.00000		83.53068	Density = 8.345
					Crystalline Silica, quartz			14808-60-7		100.00000		13.96773	
					Water			7732-18-5		85.00000		1.79236	
					Petroleum Distillates, Hydrotreated			64742-47-8		25.00000		0.51563	
					Hydrochloric Acid			7647-01-0		15.00000		0.06097	
					Ammonium Chloride			12125-02-9		2.00000		0.04125	
					Oleic Acid Diethanolamide			93-83-4		1.50000		0.03094	

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					68551-12-2	1.50000	0.03094	
					67-56-1	60.00000	0.01456	
					68424-85-1	30.00000	0.00728	
					111-30-8	10.00000	0.00243	
					Proprietary	30.00000	0.00166	
					107-21-1	30.00000	0.00166	
					64-19-7	37.50000	0.00081	
					67-56-1	80.00000	0.00050	
					77-92-9	22.50000	0.00049	
					68951-67-7	9.67400	0.00006	
					61790-12-3	5.02700	0.00003	
					68527-49-1	4.74600	0.00003	
					127-08-2	0.02200	0.00000	
					50-00-0	0.00400	0.00000	

* Total Water Volume sources may include various types of water including fresh water, produced water, and recycled water

** Information is based on the maximum potential for concentration and thus the total may be over 100%

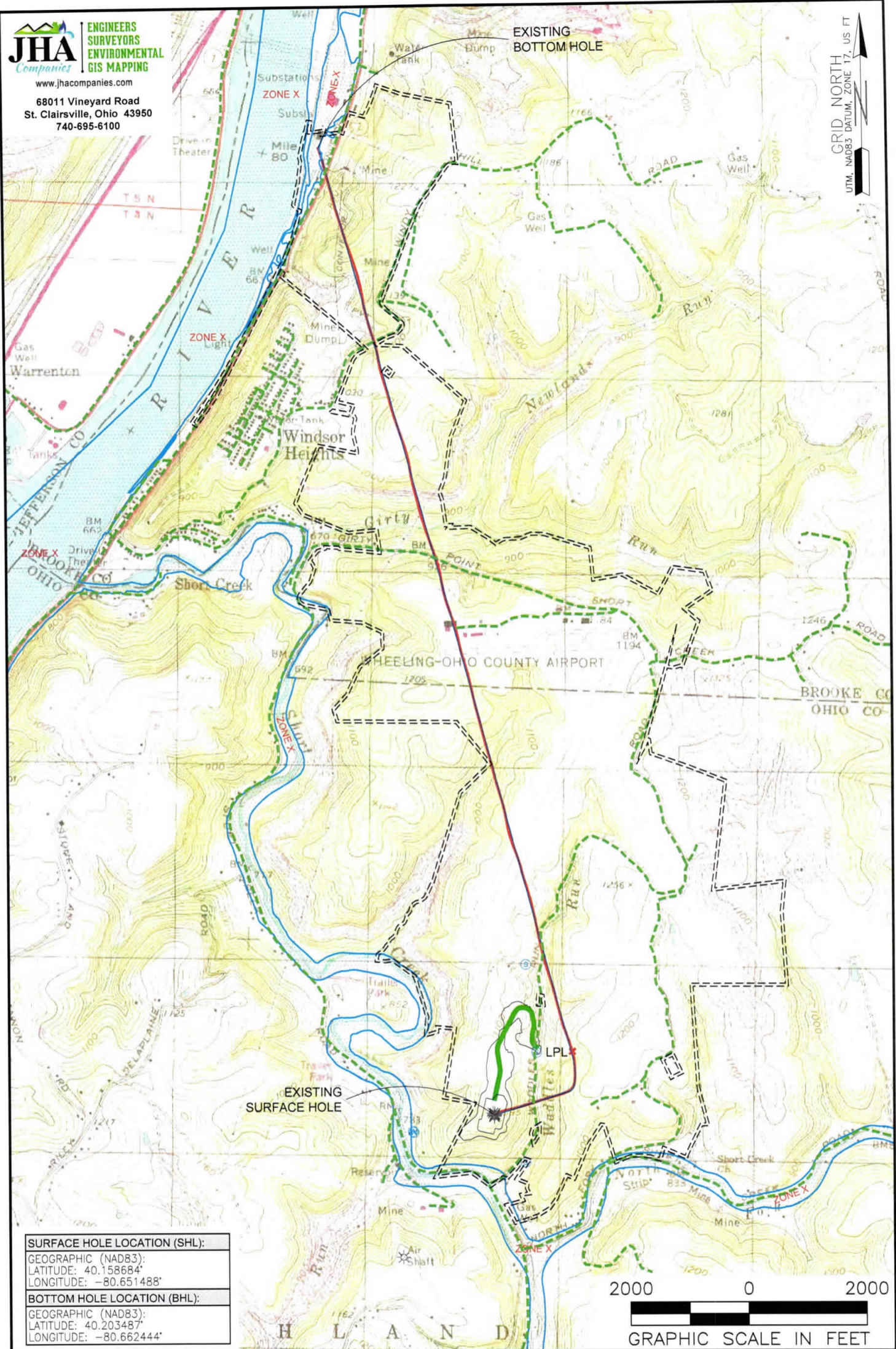
*** If you are calculating a percentage of total ingredients do not add the water volume below the green line to the water volume above the green line

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

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AUG 30 2019

WV Department of
Environmental Protection



SURFACE HOLE LOCATION (SHL):
GEOGRAPHIC (NAD83):
LATITUDE: 40.158684°
LONGITUDE: -80.651488°
BOTTOM HOLE LOCATION (BHL):
GEOGRAPHIC (NAD83):
LATITUDE: 40.203487°
LONGITUDE: -80.662444°

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

WELL OPERATOR: SWN PRODUCTION COMPANY, LLC	WELL (FARM) NAME: EDWARD DREMAK OHI	WELL # 205H	SERIAL # XXXX
ADDRESS: 1300 FORT PIERPONT DRIVE, SUITE 201, MORGANTOWN, WV 26508	COUNTY - CODE OHIO - 069	DISTRICT: RICHLAND	API NO: 47-069-00227
SURFACE OWNER: ANDREW JOHN EVICK	USGS 7 1/2 QUADRANGLE MAP NAME: TILTONVILLE, OH		

(2,000' SCALE) BOTTOM HOLE LATITUDE: 40°12'30"

10457'

(2,000' SCALE) SURFACE HOLE LATITUDE: 40°10'00"

7399'



www.jhacompanies.com

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

WELL LAYOUT



NTS

WELL REFERENCE DETAIL



NTS

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.

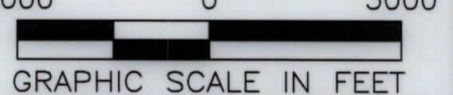
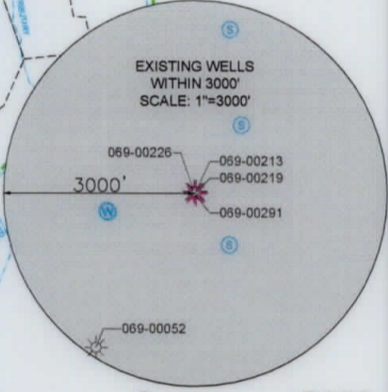
GRID NORTH
UTM, NAD83 DATUM, ZONE 17, US FT

(2,000' SCALE) SURFACE HOLE LONGITUDE: -80°37'30"

(2,000' SCALE) BOTTOM HOLE LONGITUDE: -80°37'30"

SURFACE HOLE LOCATION (SHL):
UTM (NAD83, ZONE 17, METERS): NORTHING: 4445428.05 EASTING: 529679.85
LANDING POINT LOCATION (LPL):
UTM (NAD83, ZONE 17, METERS): NORTHING: 4445743.30 EASTING: 530077.14
BOTTOM HOLE LOCATION (BHL):
UTM (NAD83, ZONE 17, METERS): NORTHING: 4450397.99 EASTING: 528729.97
SURFACE HOLE LOCATION (SHL):
UTM (NAD83, ZONE 17, METERS): NORTHING: 4445428.06 EASTING: 529679.97
LANDING POINT LOCATION (LPL):
UTM (NAD83, ZONE 17, METERS): NORTHING: 4445760.08 EASTING: 530078.43
BOTTOM HOLE LOCATION (BHL):
UTM (NAD83, ZONE 17, METERS): NORTHING: 4450397.28 EASTING: 528728.00

LINE	BEARING	DISTANCE
L1	S86°39'14"W	740.41
L2	N76°43'26"W	761.89'



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

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

MINIMUM DEGREE OF ACCURACY: 1/200

PROVEN SURVEY SOURCE OF GRADE GPS ELEVATION: (NAVD 88, US FT)

EDWARD DREMAK OHI
OPERATOR'S WELL #: 205H

API WELL #: **47** **069** **00227**
STATE COUNTY PERMIT

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

WATERSHED: UPPER OHIO SOUTH ELEVATION: 1,087.7'

DISTRICT: RICHLAND COUNTY: OHIO QUADRANGLE: TILTONSVILLE, OH

SURFACE OWNER: ANDREW JOHN EVICK ACREAGE: ±34.19

OIL & GAS ROYALTY OWNER: JOANNE V. DREMAK 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: 5,803' TVD 22,313' 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
- ⊙ EXISTING WATER WELL
- ⊙ EXISTING SPRING
- SURVEYED BOUNDARY
- ===== LEASE BOUNDARY
- ASDRILLED PATH
- PROPOSED PATH

REVISIONS:

	DATE: 03-27-2019
	API NO: 47-069-00227
	DRAWN BY: D. REED
	SCALE: 1" = 3000'
	DRAWING NO: 2018-284
	WELL LOCATION PLAT

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	WINDSOR COAL COMPANY	04-R8-8.1
4	THE BOARD OF COMMISSIONERS OF THE COUNTY OF OHIO	04-R5-55
5	THE BOARD OF COMMISSIONERS OF THE COUNTY OF OHIO	04-R5-10
6	HENRY W. ZEIDLER, JUDITH K. ZEIDLER & MARGARET L. BURGGRAF	03-B46-0015.0000
7	WEST VIRGINIA DEPARTMENT OF TRANSPORTATION, DIVISION OF HIGHWAYS	GIRTYS POINT ROAD
8	BARRY L. & PATRICIA A. GREATHOUSE	03-B46-0018.0000
9	LAWRENCE R. & ROSEMARY KINDER	03-B41-0021.0004
10	LAWRENCE R. & ROSEMARY MOORE	03-B41-0021.0001
11	STANLEY RAE KRUPINSKI & MEREDITH KINDER MOORE	03-B41-0021.0003
12	ROSEMARY KINDER MOORE	03-B41-0030.0000
13	WINDSOR COAL COMPANY	03-B41-0005.0000
14	WINDSOR COAL COMPANY	01-BB41-0003.0000

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, LLC	04-R5-50
E	JOHN W. METZ	04-R5-46
F	BURNT MILL ACRES, LLC	04-R5-13
G	S.E.W. TRUST	04-R5-9
H	RODNEY K. & NEDRA C. MCCONNELL	04-R2-20
I	RODNEY K. & NEDRA C. MCCONNELL	03-B46-0014.0000
J	HENRY W. ZEIDLER, JUDITH ZEIDLER & MARGARET BURGGRAF	03-B46-0013.0000
K	KENNETH D. & BARBARA J. COVER	03-B46-0012.0000
L	JOAN GARRETT	03-B46-0009.0000
M	JOAN GARRETT	03-B46-0017.0000
N	SIDNEY W. MOZINGO, JR. & VICTORIA L. MOZINGO	03-B46-0005.0000
O	ALEX & DARLA ANN MUSHET	03-B46-0004.0000
P	EVERT RUNYAN	03-B41-0018.0000
Q	WINDSOR COAL COMPANY	03-B41-0020.0000
R	WINDSOR HEIGHTS VILLAGE	08-W41N-0139.0000
S	NEIL A. & JANICE C. ABRAHAMSON	03-B41-0024.0000
T	NEIL A. & JANICE C. ABRAHAMSON	03-B41-0025.0000
U	WILLIAM I. KNIGHT, II & MEREDITH M. SERTICH	08-W41N-0129.0000
V	JAYCOB HAYDEN DOTY & HAYLEY A. DOTY	08-W41N-0130.0000
W	WILLIAM C. & PEGGY L. MCGILL	08-W41N-0131.0000
X	WINDSOR COAL COMPANY	03-B41-0021.0000
Y	THE VILLAGE OF WINDSOR HEIGHTS	03-B41-0029.0000
Z	MT OLIVE BAPTIST CHURCH	01-B405-0001.0000
AA	WINDSOR COAL COMPANY	01-BB41-0005.0000
AB	OHIO FRANKLIN REAL ESTATE COMPANY	01-BB41-0004.0000
AC	THE BROOKE COUNTY COMMISSION	01-BB41-0008.0000
AD	OHIO FRANKLIN REAL ESTATE COMPANY	01-BB41-0002.0000
AE	WEST PENN POWER COMPANY	01-BB41-0017.0000
AF	WEST PENN POWER COMPANY	01-BB41-0016.0000
AG	WEST PENN POWER COMPANY	01-BB41-0007.0000
AH	WINDSOR COAL COMPANY	03-B41-0007.0000
AI	WINDSOR COAL COMPANY	03-B41-0039.0000
AJ	SYLVESTER & MARY KELLER	03-B41-0038.0000
AK	DONNA MARIE PEREZ	03-B41-0037.0000
AL	ROSEMARY KINDER MOORE	03-B41-0035.0000
AM	MICHAEL A. & LINDA S. WOLEN	03-B41-0036.0000
AN	LAWRENCE & ROSEMARY MOORE	03-B41-0034.0000
AO	LAWRENCE R. & ROSEMARY K. MOORE	03-B41-0033.0000
AP	CHARLES BELL ESTATE	03-B41-0031.0000
AQ	BARRY L. & PATRICIA A. GREATHOUSE	03-B41-0032.0000
AR	BARRY L. & PATRICIA A. GREATHOUSE	03-B41-0083.0000
AS	BARRY L. & PATRICIA A. GREATHOUSE	03-B46-0019.0000
AT	STACY ANN GREATHOUSE & PATRICIA ANN GREATHOUSE	03-B46-0041.0000
AU	BARRY L. & PATRICIA A. GREATHOUSE	03-B41-0082.0000
AV	DANNY GENE BRITT & MARGARET VIRGINIA	03-B46-0027.0000
AW	TRACY GILBERT	03-B46-0022.0001
AX	BRUCE D. BONAR (S) & WILLIAM BONAR (R)	03-B46-0020.0000
AY	MARC SEAMON	04-R6-2
AZ	SHORT CREEK COAL COMPANY (C/O RAYLE COAL COMPANY)	04-R6-17.3
BA	SHORT CREEK COAL COMPANY (C/O RAYLE COAL COMPANY)	04-R6-17
BB	MARC SEAMON	04-R6-37
BC	SHORT CREEK CEMETERY ASSOCIATION, TRUSTEES	04-R5-57
BD	SHORT CREEK METHODIST CHURCH	04-R5-60
BE	ROBERT L. & GWENDOLYN NOVAK	04-R5-59
BF	ERIC W. & LISA N. GADD	04-R5-55.1
BG	ERIC W. & LISA N. GADD	04-R5-55.3
BH	DELBERT E. & CAROL L. HUFFMAN	04-R8-16.2
BI	LUTHER R. II & D.F. SMITH	04-R8-16.1
BJ	AMERICAN DISPOSAL SERVICES OF WEST VIRGINIA, INC	04-R8-15
BK	ALLIED WASTE, INC	04-R5-56.1
BL	ALLIED WASTE, INC	04-R5-56
BM	RODNEY & A.J. SNYDER	04-R8-13
BN	ARTHUR ENNIS, PEGGY CLARK & ALMA SINCAVICH	04-R8-9
BO	GORDON E. & DEBORAH P. DREMAK	04-R8-8.15
BP	DHD COUNTY COMMISSION	04-R8-8.16
BO	TUNNEL RIDGE, LLC	04-R8-8.17
BR	TUNNEL RIDGE, LLC	04-R8-8.14
BS	TUNNEL RIDGE, LLC	04-R8-8.2
BT	SUSAN L. CAIN	04-R8-8.3
BU	TUNNEL RIDGE, LLC	04-R8-8.18
BV	HAMMOND PUBLIC SERVICE DISTRICT	03-B41-0021.0002
BW	RICHARD L. & DEBORAH K. BLACK	04-R5-58.1
BX	RAY W. ARCHER	04-R5-58
BY	BRYAN K. & LAURA L. PETTIT	04-R5-55.4
BZ	EDWARD W. & JOANNE V. DREMAK	04-R5-54.1

REVISIONS:

COMPANY:

SWN
Production Company, LLC

SWN ^R/_A → V+0
Production Company™

OPERATOR'S

EDWARD DREMAK OHI

DATE: 03-27-2019

WELL #:

205H

API NO: 47-069-00227

DISTRICT:
RICHLAND

COUNTY:
OHIO

STATE:
WV

DRAWN BY: D. REED

SCALE: N/A

DRAWING NO: 2018-284

WELL LOCATION PLAT

PROPERTY NUMBER 2501165806
PAD ID 3001165800