

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

API 47-069-00318 County OHIO District RICHLAND
Quad TILTONSVILLE, OH-WV Pad Name EDWARD DREMAK-OHI-PAD1 Field/Pool Name PANHANDLE FIELD WET
Farm name ANDREW JOHN EVICK Well Number EDWARD DREMAK OHI 10H
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 4,445,425.47 Easting 529,669.65
Landing Point of Curve Northing 4,445,166.57 Easting 530,063.29
Bottom Hole Northing 4,440,931.04 Easting 531,423.69

Elevation (ft) 1087.8' 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

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August 8, 2020
Fresh Water
WV Department of
Environmental Protection

Date permit issued 10/10/2019 Date drilling commenced 12/22/2019 Date drilling ceased 1/2/2020
Date completion activities began 3/23/2020 Date completion activities ceased 5/8/2020
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 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 by:  9-10-20
9-10-20

API 47-069 - 00318 Farm name **ANDREW JOHN EVICK** Well number **EDWARD DREMAK OHI 10H**

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	365'	NEW	J-55/54.50#	277.9' / 237.0'	Y; 5 BBLs
Coal							
Intermediate 1	12.25	9.625	1653'	NEW	K-55/36#		Y; 30 BBLs
Intermediate 2							
Intermediate 3							
Production	8.75/8.50	5.5	21,035'	NEW	P-110 CYHP/20#		Y; 1 BBL
Tubing		2.875	6429'	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	423	15.60	1.19	503.37	SURFACE	8
Coal	SEE SURFACE						
Intermediate 1	CLASS A	574	15.60	1.19	683.06	SURFACE	8
Intermediate 2							
Intermediate 3							
Production	CLASS A	3,775	15.60	1.19	4,492.25	SURFACE	24
Tubing							

Drillers TD (ft) 21,035'

Loggers TD (ft) 21,035'

Deepest formation penetrated MARCELLUS

Plug back to (ft) N/A

Plug back procedure N/A

Office of Oil and Gas

Kick off depth (ft) 5,216'

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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 - 00318 Farm name **ANDREW JOHN EVICK** Well number **EDWARD DREMAK OHI 10H**

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 Oil (bbls)	RECEIVED Date and Gas
		SEE	ATTACHMENT	2					AUG 04 2020

Please insert additional pages as applicable.

API 47- 069 - 00318 Farm name ANDREW JOHN EVICK Well number EDWARD DREMAK OHI 10H

PRODUCING FORMATION(S) DEPTHS

MARCELLUS 5,779' TVD 6,115' MD

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump

SHUT-IN PRESSURE Surface 2,622 psi Bottom Hole psi DURATION OF TEST hrs

OPEN FLOW Gas 1,910 mcfpd 432 bpd Oil NGL bpd Water 672 bpd GAS MEASURED BY Estimated Orifice Pilot

LITHOLOGY/ FORMATION	TOP		BOTTOM		DEPTH IN FT		DEPTH IN FT		TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H ₂ S, ETC)
	DEPTH IN FT	TVD	DEPTH IN FT	TVD	MD	MD	MD	MD	
	0				0				
SEE ATTACHMENT					3				
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Please insert additional pages as applicable.

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

Logging Company 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 SWN WELL SERVICES
Address PO BOX 12359 City SPRING State TX Zip 77391

Please insert additional pages as applicable.

Completed by Elizabeth Gee Telephone 832-796-2873
Signature *Elizabeth Gee* Title STAFF REGULATORY ANALYST Date 07/28/2020

**EDWARD DREMAK OHI 10H
ATTACHMENT 1
PERF REPORT**

STAGE NUM	Perf Date	Perf Bottom MD	Perf Top MD2	# SHOTS PER STG
1	3/10/2020	20,946	20,852	36
2	3/25/2020	20,816	20,639	36
3	3/25/2020	20,606	20,432	36
4	3/26/2020	20,397	20,220	36
5	3/26/2020	20,187	20,013	36
6	3/27/2020	19,977	19,801	36
7	3/28/2020	19,768	19,591	36
8	3/28/2020	19,558	19,381	36
9	3/29/2020	19,349	19,172	36
10	3/30/2020	19,139	18,962	36
11	3/30/2020	18,929	18,753	36
12	3/30/2020	18,720	18,548	36
13	3/31/2020	18,510	18,333	36
14	3/31/2020	18,300	18,126	36
15	4/1/2020	18,091	17,914	36
16	4/4/2020	17,881	17,704	36
17	4/4/2020	17,671	17,495	36
18	4/4/2020	17,462	17,285	36
19	4/5/2020	17,252	17,075	36
20	4/5/2020	17,042	16,866	36
21	4/5/2020	16,833	16,661	36
22	4/6/2020	16,623	16,447	36
23	4/7/2020	16,412	16,237	36
24	4/7/2020	16,204	16,027	36
25	4/7/2020	15,994	15,818	36
26	4/7/2020	15,785	15,608	36
27	4/8/2020	15,575	15,398	36
28	4/8/2020	15,365	15,189	36
29	4/9/2020	15,156	14,979	36
30	4/9/2020	14,946	14,769	36
31	4/10/2020	14,736	14,560	36
32	4/10/2020	14,527	14,350	36
33	4/10/2020	14,317	14,140	36
34	4/10/2020	14,108	13,931	36
35	4/11/2020	13,898	13,721	36
36	4/11/2020	13,688	13,512	36
37	4/11/2020	13,479	13,302	36
38	4/12/2020	13,269	13,092	36
39	4/12/2020	13,059	12,883	36
40	4/12/2020	12,850	12,673	36
41	4/15/2020	12,640	12,463	36
42	4/16/2020	12,430	12,254	36
43	4/16/2020	12,221	12,044	36

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**EDWARD DREMAK OHI 10H
ATTACHMENT 1
PERF REPORT**

STAGE NUM	Perf Date	Perf Bottom MD	Perf Top MD	# SHOTS PER STG
44	4/16/2020	12,011	11,834	36
45	4/17/2020	11,801	11,625	36
46	4/17/2020	11,592	11,415	36
47	4/17/2020	11,382	11,206	36
48	4/18/2020	11,173	10,996	36
49	4/18/2020	10,963	10,786	36
50	4/18/2020	10,753	10,577	36
51	4/19/2020	10,544	10,367	36
52	4/19/2020	10,334	10,157	36
53	4/20/2020	10,124	9,948	36
54	4/20/2020	9,915	9,738	36
55	4/20/2020	9,705	9,528	36
56	4/21/2020	9,495	9,319	36
57	4/21/2020	9,286	9,109	36
58	4/22/2020	9,076	8,899	36
59	4/22/2020	8,867	8,690	36
60	4/23/2020	8,657	8,480	36
61	4/23/2020	8,447	8,271	36
62	4/24/2020	8,238	8,061	36
63	4/24/2020	8,028	7,851	36
64	4/25/2020	7,818	7,642	36
65	4/25/2020	7,609	7,432	36
66	4/26/2020	7,399	7,222	36
67	4/27/2020	7,189	7,013	36
68	4/27/2020	6,980	6,803	36
69	4/27/2020	6,770	6,593	36
70	4/28/2020	6,560	6,384	36
71	4/28/2020	6,351	6,174	36

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ATTACHMENT 2
STIM REPORT

STAGE NUM	Stage Date	Ave Pump Rate (BPM)	Ave Treatment	Breakdown	ISIP (psi)	Amount of Proppant (lbs)	Amount of water (bbl)	Env. Department of Environmental Protection
1	3/25/2020	87	7,976	6,875	3,622	242,530	6,852	0
2	3/25/2020	88	7,837	5,393	4,812	409,700	7,467	0
3	3/26/2020	87	7,964	5,182	4,267	414,460	9,043	0
4	3/26/2020	89	8,161	5,629	4,870	412,800	8,284	0
5	3/27/2020	87	8,095	5,457	4,690	413,840	7,792	0
6	3/27/2020	87	8,275	6,412	4,798	409,540	7,431	0
7	3/28/2020	90	8,080	5,997	4,632	411,360	11,425	0
8	3/29/2020	80	8,157	5,540	4,228	419,780	8,540	0
9	3/29/2020	88	8,216	5,457	4,699	409,500	7,604	0
10	3/30/2020	95	8,216	5,034	4,248	413,670	7,901	0
11	3/30/2020	90	8,003	5,891	4,802	412,380	7,437	0
12	3/31/2020	91	8,061	6,159	4,322	415,510	8,060	0
13	3/31/2020	91	8,119	5,878	4,831	414,580	7,543	0
14	4/1/2020	91	8,015	5,844	4,889	416,340	7,375	0
15	4/1/2020	88	7,924	5,002	4,668	418,680	18,731	0
16	4/4/2020	86	8,301	5,610	4,519	414,040	6,739	0
17	4/4/2020	87	8,215	5,902	4,134	420,120	7,788	0
18	4/5/2020	87	8,246	6,745	4,363	353,020	7,414	0
19	4/5/2020	87	8,169	5,601	4,113	396,750	7,675	0
20	4/5/2020	91	7,882	5,256	4,410	413,000	7,770	0
21	4/6/2020	91	8,125	5,378	4,357	420,620	7,991	0
22	4/6/2020	90	8,056	5,625	4,125	420,520	7,962	0
23	4/7/2020	91	7,837	6,280	4,340	413,580	7,839	0
24	4/7/2020	89	7,961	5,604	4,215	415,900	7,764	0
25	4/7/2020	87	7,749	5,432	4,279	413,130	7,961	0
26	4/8/2020	87	8,117	5,927	4,310	369,100	7,279	0
27	4/8/2020	88	7,909	5,314	4,380	377,820	7,343	0
28	4/9/2020	87	8,009	5,224	4,351	421,040	7,957	0
29	4/9/2020	90	7,955	5,816	4,287	423,900	7,590	0
30	4/9/2020	90	7,795	5,306	4,288	416,330	7,547	0
31	4/10/2020	94	8,040	5,351	4,454	420,840	7,578	0
32	4/10/2020	95	8,118	5,944	4,361	422,980	7,546	0
33	4/10/2020	89	7,557	5,523	4,483	418,260	7,716	0
34	4/11/2020	90	8,085	6,214	4,336	421,400	7,970	0
35	4/11/2020	97	8,063	6,484	4,100	422,740	7,524	0
36	4/11/2020	92	7,899	6,207	4,375	414,740	7,856	0
37	4/12/2020	90	7,799	5,406	5,406	416,700	7,471	0
38	4/12/2020	95	7,945	5,829	4,350	411,580	7,412	0
39	4/15/2020	99	7,772	5,639	4,450	417,260	7,540	0
40	4/15/2020	92	7,717	5,044	4,675	417,200	7,725	0
41	4/15/2020	97	7,433	5,515	4,462	416,280	8,075	0
42	4/16/2020	99	7,658	5,492	4,827	421,320	7,884	0
43	4/16/2020	98	7,906	5,623	4,489	421,440	7,105	0
44	4/16/2020	100	7,519	5,432	4,613	421,930	7,867	0
45	4/17/2020	99	7,618	5,420	4,746	424,160	7,842	0
46	4/17/2020	99	7,680	5,510	4,268	418,300	7,335	0
47	4/18/2020	94	7,877	5,709	4,422	423,600	7,715	0
48	4/18/2020	100	7,301	5,415	5,194	422,920	7,232	0
49	4/18/2020	99	7,477	5,557	4,623	427,350	7,298	0
50	4/19/2020	99	7,533	5,694	4,710	421,860	7,137	0
51	4/19/2020	101	7,258	5,390	4,260	420,160	7,067	0
52	4/20/2020	100	7,344	5,963	4,615	421,240	7,179	0
53	4/20/2020	100	7,095	5,248	4,652	418,220	7,264	0

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EDWARD DREMAK OHI 10H
ATTACHMENT 2

STIM REPORT

STAGE NUM	Start Date	Ave Pump Rate (BPM)	Ave Treatment	Max Breakdown (psi)	Amount of Displacement water bblk	Amount of Displacement water bblk	WV Department of Environmental Protection
54	4/20/2020	100	7,238	5,736	4,587	427,280	7,268
55	4/21/2020	100	7,256	5,410	4,843	418,860	7,034
56	4/21/2020	100	7,082	5,389	4,555	422,980	7,195
57	4/21/2020	99	7,489	5,769	4,503	431,240	7,260
58	4/22/2020	100	7,170	5,944	4,672	421,990	7,093
59	4/23/2020	101	7,061	5,825	4,469	419,820	7,238
60	4/23/2020	99	7,122	6,155	4,611	421,390	7,045
61	4/24/2020	98	7,342	5,736	4,522	420,340	7,320
62	4/24/2020	100	7,193	5,467	4,644	420,540	7,309
63	4/25/2020	100	6,831	5,814	4,532	422,680	7,147
64	4/25/2020	101	6,703	5,735	4,536	419,490	7,199
65	4/26/2020	100	6,962	5,045	4,401	426,120	7,329
66	4/26/2020	98	7,025	5,526	4,309	423,360	7,225
67	4/27/2020	100	6,852	5,548	4,559	426,840	7,270
68	4/27/2020	99	7,033	5,405	4,620	423,070	7,231
69	4/28/2020	97	6,947	5,481	4,751	428,274	7,879
70	4/28/2020	101	6,637	5,482	4,578	416,670	7,121
71	4/28/2020	100	7,063	5,589	4,582	421,240	7,057

Well Name:

Edward Dremak OHI 10H

47069003180000

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	
Greenbrier (ls)	1300.00	1300.00	1309.00	1305.00	
Big Injun (ss)	1309.00	1305.00	1886.00	1864.00	
Berea (siltstone)	1886.00	1864.00	5394.00	5272.00	
Rhinestreet (shale)	5394.00	5272.00	5676.00	5509.00	
Cashqua (shale)	5676.00	5509.00	5738.00	5559.00	
Middlesex (shale)	5738.00	5559.00	5827.00	5625.00	
Burket (shale)	5827.00	5625.00	5850.00	5640.00	
Tully (ls)	5850.00	5640.00	5931.00	5693.00	
Mahantango (shale)	5931.00	5693.00	6115.00	5779.00	
Marcellus (shale)	6115.00	5779.00	NA	NA	GAS

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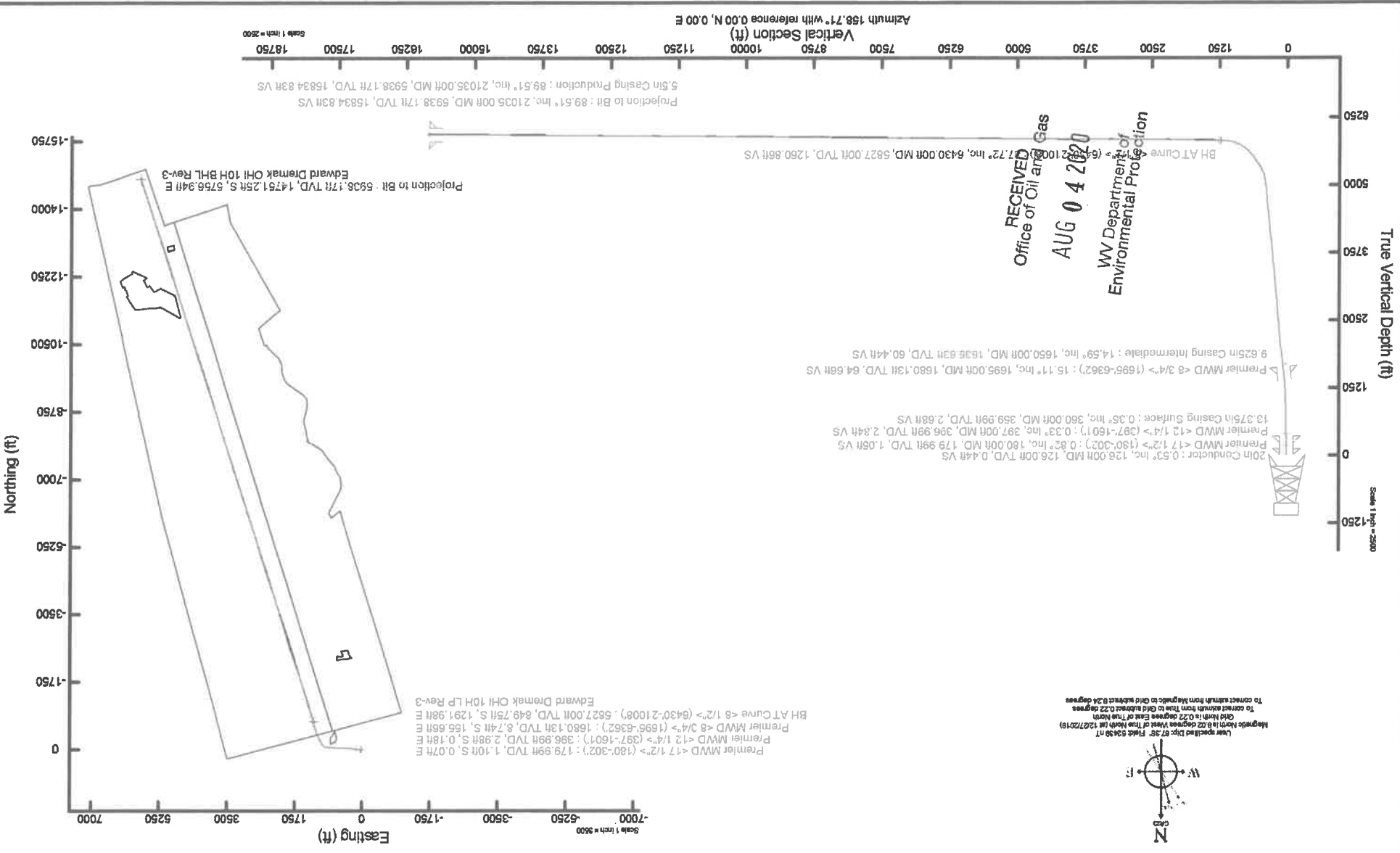
SOUTHWESTERN ENERGY

Location: Ohio County, WV
 Facility: Edward Dremak OHI Pad
 Well: Edward Dremak OHI 10H
 Slot: Slot #10H

Reference depths are referenced to SDC 42 (KB)	Grid System: NAD83/UTM Zone 17 North US feet
Reference depths measured from SDC 42 (KB)	Scale: True distances
SDC 42 (KB) to Mean Sea Level: 1114.1 feet	North Reference: Grid north
Mean Sea Level to Ground level (At Slot: SPT#10H) -1088.1 feet	Coordinates are in feet referenced to Slot
Depth are in feet	
Created by: sptgen on 2020-01-01; Database: WA_MPL_EASTERNUS_Dash	



Location Information			
Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude
Edward Dremak OHI Pad	1737740.828	14584704.331	40-08'31.2230"N
Slot	Local E (ft)	Local N (ft)	Longitude
Slot #10H	-4.27	17.03	80-39'5.7919"W
SDC 42 (KB) to Ground level (At Slot: SPT#10H)	Grid East (US ft)	Grid North (US ft)	Latitude
-1088.1ft	1737767.850	14584700.060	40-08'31.1801"N
SDC 42 (KB) to Mean Sea Level			Longitude
1114.1ft			80-39'5.7919"W
Comments			
AP# 47-059-00312-1000			
BH Job #: 110192757A			
Rig: SDC 42			
Duration: 12/29/2019 - 12/30/2019			



Hydraulic Fracturing Fluid Product Component Information Disclosure

3/25/2020

4/28/2020

West Virginia

Ohio

47-069-00318-00-00

Southwestern Energy

EDWARD DREMAK OHI 10

40.15846081

-80.65156622

NAD83

NO

NO

5,885

23,003,604

0

Job Start Date:

Job End Date:

State:

County:

API Number:

Operator Name:

Well Name and Number:

Latitude:

Longitude:

Datum:

Federal Well:

Indian Well:

True Vertical Depth:

Total Base Water Volume (gal):

Total Base Non Water Volume:

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
Ecopol-FEAC	SWN Well Services	Iron Control					
Toxicide PS 50A	SWN Well Services	Biocide					

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Plexaid 655WG	SWN Well Services	Scale Inhibitor		100.00000	86.32075	Density = 8.345
HCL	SWN Well Services	Solvent		100.00000	13.21946	
Sand	SWN Well Services	Proppant	100.00000			
Base Water	Operator	Base Fluid	100.00000			
Econo-C1200	SWN Well Services	Corrosion Inhibitor	100.00000			
SWN FRW-11LC	SWN Well Services	Friction Reducer	100.00000			
			Listed Below			
			Listed Below			
			Listed Below			
			Listed Below			
			Listed Below			
			Listed Below			
			7732-18-5	100.00000	86.32075	Density = 8.345
			Water	100.00000	13.21946	
			Crystalline Silica, quartz	14808-60-7		
			Water	7732-18-5	0.36208	
				7647-01-0	0.04951	
			Hydrochloric Acid	7647-01-0	0.02402	
			Petroleum Distillates, Hydrotreated	64742-47-8	0.01413	
			Tetakis	55566-30-8	0.00287	
			Glycerin	56-81-5	0.00192	
			Ammonium Chloride	12125-02-9		

Items above are Trade Names with the exception of Base Water. Items below are the individual ingredients.

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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)

* 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

			68551-12-2	1.50000	0.00144
			ethoxylated		
			Alcohols, C12-1,		
			Oleic Acid	1.50000	0.00144
			Diethanolamide		
			Acetic Acid	37.50000	0.00066
			Diethylenetriamine penta	10.00000	0.00057
			Methanol	80.00000	0.00040
			Citric Acid	22.50000	0.00040
			Acrylic acid terpolymer	1.00000	0.00026
			Oxalkylated fatty acid	9.67400	0.00005
			Fatty acids	5.02700	0.00003
			Modified thiourea	4.74600	0.00002
			polymer		
			Potassium acetate	0.22200	0.00000
			Formaldehyde	0.00400	0.00000

LATITUDE: 40°10'00" SURFACE HOLE (2000' SCALE) → 7433' →

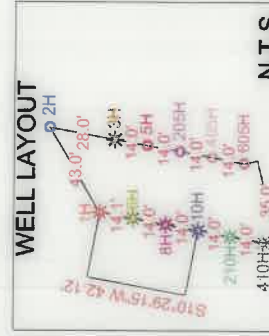
LATITUDE: 40°07'30" BOTTOM HOLE (2000' SCALE) → 1738' →

LONGITUDE: 80°37'30" SURFACE HOLE (2000' SCALE) → 2512' →

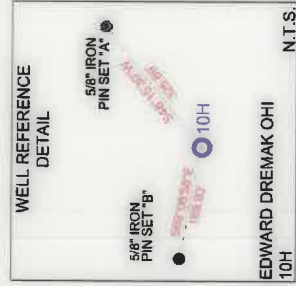
LONGITUDE: 80°37'30" BOTTOM HOLE (2000' SCALE) → 2942' →



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



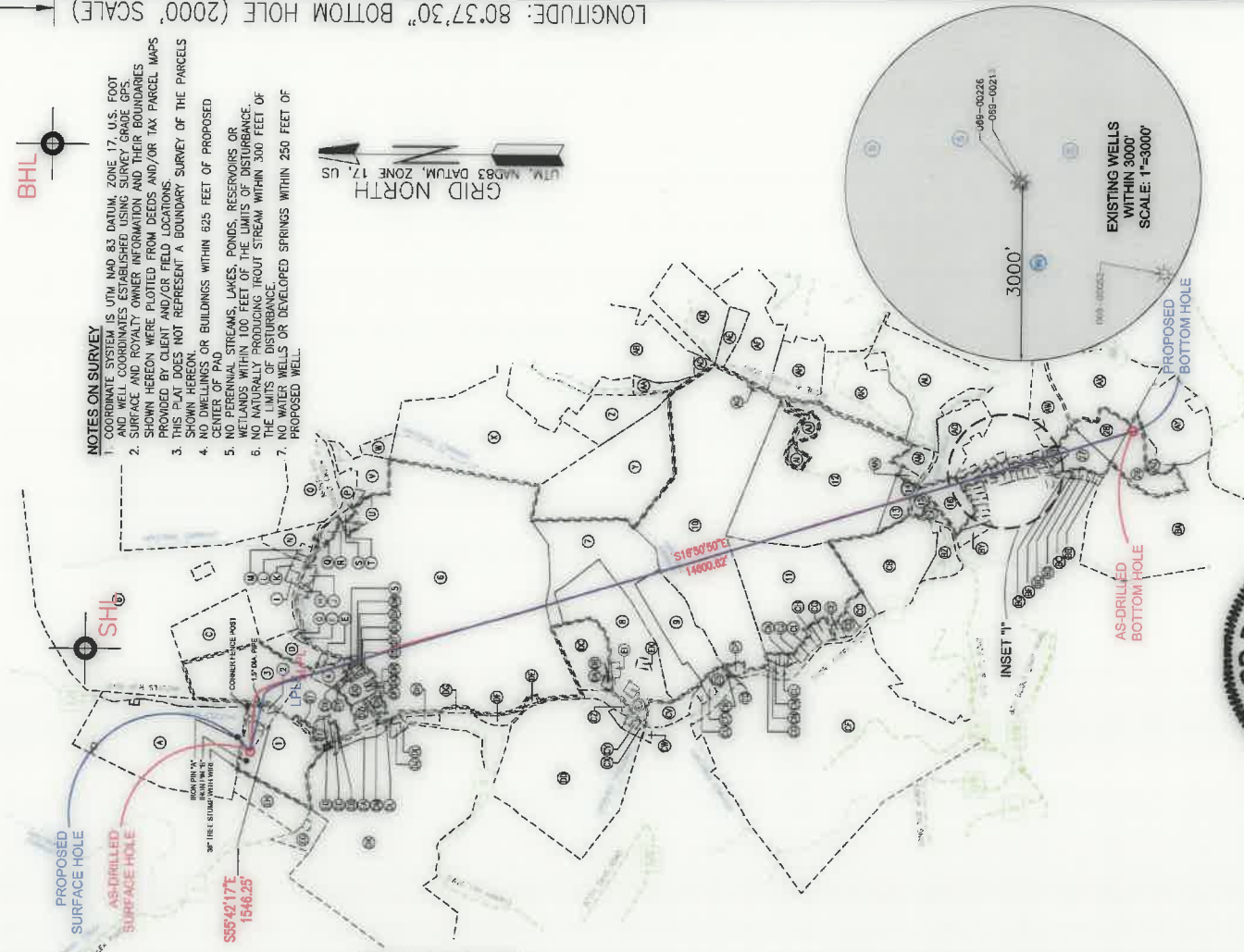
LINE	BEARING	DISTANCE
L1	S86°12'57"W	774.85'
L2	N77°50'41"W	793.33'



SURFACE HOLE LOCATION (SHL): UTM (NAD83, ZONE 17, METERS): NORTHING: 4445425.47 EASTING: 529669.65
LANDING POINT LOCATION (LPL): UTM (NAD83, ZONE 17, METERS): NORTHING: 4445166.57 EASTING: 530063.29
BOTTOM HOLE LOCATION (BHL): UTM (NAD83, ZONE 17, METERS): NORTHING: 4440931.04 EASTING: 531423.69
SURFACE HOLE LOCATION (SHL): UTM (NAD83, ZONE 17, METERS): NORTHING: 4445425.47 EASTING: 529669.65
LANDING POINT LOCATION (LPL): UTM (NAD83, ZONE 17, METERS): NORTHING: 4445207.75 EASTING: 530049.52
BOTTOM HOLE LOCATION (BHL): UTM (NAD83, ZONE 17, METERS): NORTHING: 4440925.93 EASTING: 531422.65

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 *Howard D. Kemp* 4/15/20



NOTES ON SURVEY
 1. COORDINATE SYSTEM IS UTM NAD 83 DATUM, ZONE 17, U.S. FOOT MEASUREMENTS 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. THE LIMITS OF DISTURBANCE AROUND PROPOSED 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



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

OPERATOR'S WELL #: EDWARD DREMAK OHI 10H
 API WELL #: 47 069 00318
 STATE WV COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY: 1/200
 PROVEN SURVEY SOURCE OF GRADE GPS
 ELEVATION: (NAVD 88, US FT)

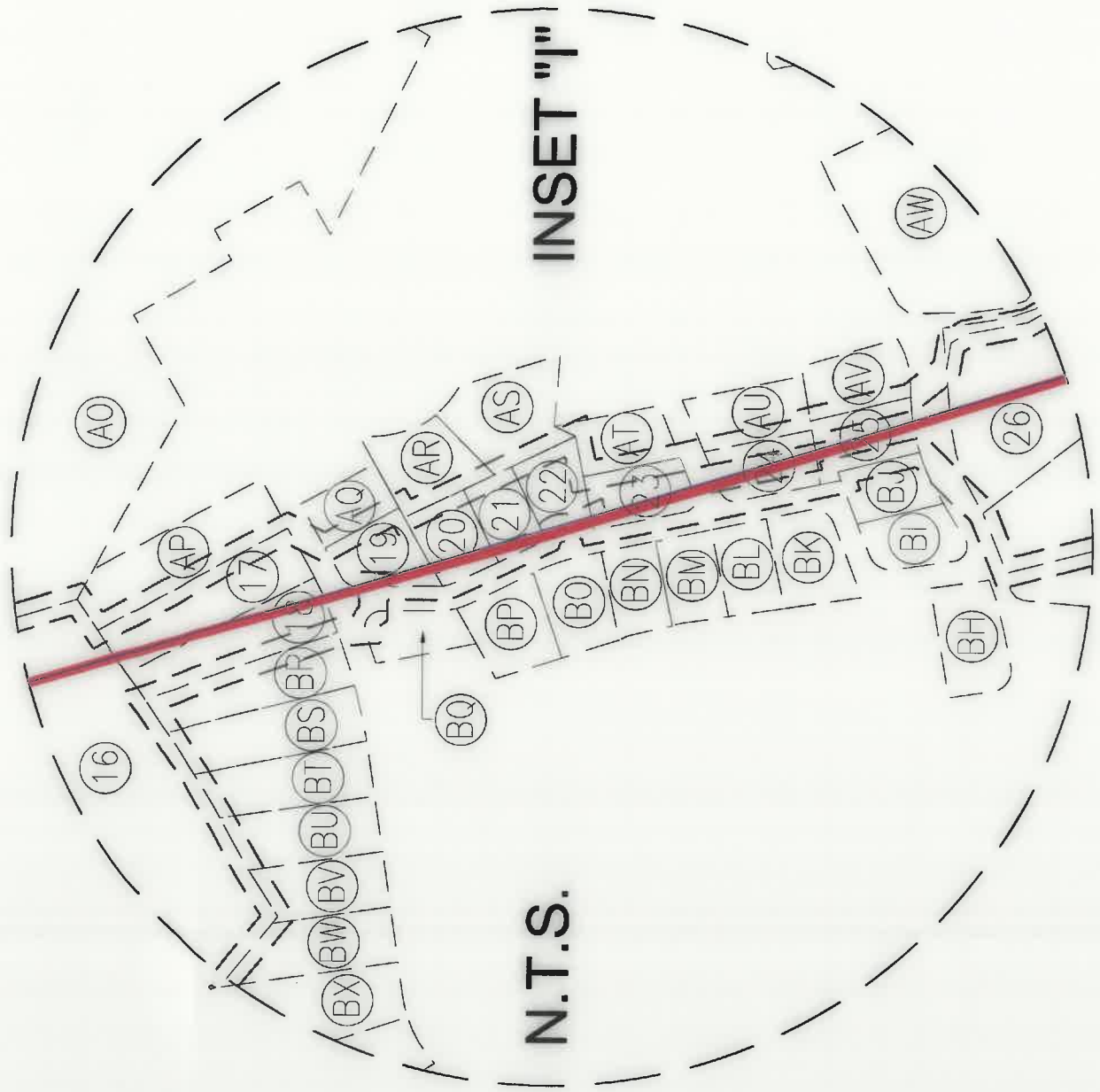
WVDEP OFFICE OF OIL & GAS
 601 57TH STREET
 CHARLESTON, WV 25034

WELL TYPE: OIL WASTE DISPOSAL PRODUCTION DEEP GAS LIQUID INJECTION STORAGE SHALLOW
 WATERSHED: UPPER OHIO SOUTH
 DISTRICT: RICHLAND
 SURFACE OWNER: ANDREW JOHN EVICK
 OIL & GAS ROYALTY OWNER: EDWARD W. & JOANNE V. DREMAK
 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: 5,938' TVD 21,035' TMD

DESIGNATED AGENT: BRITTANY WOODY
 ADDRESS: 1300 FORT PIERPONT DRIVE, SUITE 201
 CITY: MORGANTOWN STATE: WV ZIP CODE: 26508

REVISIONS:

NO.	DATE	DESCRIPTION
1	04-08-2020	API NO: 47-069-00318
2		DRAWN BY: L.CLINE
3		SCALE: 1" = 3000'
4		DRAWING NO: 2018-284
5		WELL LOCATION PLAT



WELL BORE TABLE FOR SURFACE / ROYALTY OWNERS

TRACT	SURFACE OWNER (S) / ROYALTY OWNER (R)	TAX PARCEL
1	ANDREW JOHN EVICK (S) / EDWARD W. & JOANNE V. DREMAK (R)	04-R5-54.0
2	ANDREW JOHN EVICK, SINGLE	04-R5-54.1
3	WINDSOR POWER COAL COMPANY	04-R8-08.1
4	RODNEY SNYDER	04-R8-13.0
5	RHONDA J. ROBBINS	04-R6-13.2
6	AMERICAN DISPOSAL SERVICES OF WEST VIRGINIA, INC	04-R8-15.0
7	TUNNEL RIDGE, LLC	04-R6-22.0
8	TUNNEL RIDGE, LLC	04-R6-20.0
9	TUNNEL RIDGE, LLC	04-R8-22.1
10	TUNNEL RIDGE, LLC	04-R6-61.4
11	TUNNEL RIDGE, LLC	04-R12-01.3
12	JOSEPH ELIAS	04-R12-01.0
13	MARY ANN & DAVID J., JR. BURKHART & VIRGINIA A. MILLER	04-R12-02.0
14	DAVID J., JR. & VIRGINIA ANN MILLER	04-R12-03.0
15	STEPHANIE CIPRIANI	04-R12-06.2
16	LARRY C. BOWMAN & ET AL	04-R12-06.0
17	MARK R. & DIANNA STAHL	04-R12E-23.16
18	CLARENCE G. & CLARA E. WILTZ	04-R12E-23.17
19	ALEXANDER A. & DARLENE J. PALUCH	04-R12E-23.1
20	RALPH H. CRAIG	04-R12E-23.9
21	ROBERT M. DRURY & AUDRA E. DRURY	04-R12E-23.10
22	DEBORAH JANICE BIPPUS	04-R12E-23.6
23	MARK J. & HELEN SKYPACK	04-R12J-43.4
24	GARY I. & H. CHERYL GWYNN	04-R12J-43.6
25	WILLIAM G. & EMILY S. FISHER	04-R12J-43.9
26	DANIEL E. STEINGER & BRENDA K. DUFFY	04-R12J-41.0
27	FRANK A. & KATHLEEN E. JACKSON	04-R12J-40.0
28	MICHAEL F., IV & MARISSA DUPLAGA	04-R12J-46.0
29	WEST RENTALS, INC	04-R12-10.16

REVISIONS:

COMPANY: **SWN** Production Company, LLC

OPERATOR'S: EDWARD DREMAK OHI

WELL #: 10H

DISTRICT: RICHLAND COUNTY: OHIO STATE: WV

DATE: 04-08-2020

API NO: 47-069-00318

DRAWN BY: L.CLINE

SCALE: N/A

DRAWING NO: 2018-284

WELL LOCATION PLAT

COMPLETION ID 2501168630

PAD ID 3001165800

ADJOINING OWNERS TABLE		
TRACT	SURFACE OWNER	TAX PARCEL
A	ANDREW JOHN EVICK	04-R5-49.0
B	OHIO COUNTY BOARD OF COMMISSIONERS	04-R5-55.0
C	OHIO COUNTY BOARD OF COMMISSIONERS	04-R5-10.0
D	AMERICAN DISPOSAL SERVICES OF WEST VIRGINIA, INC	04-R5-56.0
E	RIKKE SNYDER	04-R5-14.0
F	AMERICAN DISPOSAL SERVICES OF WEST VIRGINIA, INC	04-R5-56.2
G	AMERICAN DISPOSAL SERVICES OF WEST VIRGINIA, INC	04-R5-56.1
H	LUTHER R., II & DEBORAH F. SMITH	04-R8-16.1
I	LISA NUZUM HAWORTH (F.K.A. LISA NUZUM GADD)	04-R5-55.3
J	DELBERT E. & CAROL L. HUFFMAN	04-R8-16.2
K	ERIC W. & LISA N. GADD	04-R5-55.1
L	ROBERT L. & GWENDOLYN NOVAK	04-R5-59.0
M	SHORT CREEK METHODIST CHURCH	04-R5-60.0
N	SHORT CREEK CEMETERY ASSOCIATION, TRUSTEES	04-R5-57.0
O	MARC SEAMON	04-R6-37.1
P	WY DOT, DIVISION OF HIGHWAYS	04-R8-00.0
Q	DELBERT E. HUFFMAN, JR.	04-R8-18.4
R	LUTHER R. SMITH, JR.	04-R8-18.3
S	LUTHER R. SMITH, JR.	04-R8-18.1
T	JOHN E. HARWATH	04-R8-18.2
U	LUTHER R. SMITH, JR.	04-R9-14.4
V	JAMES W. PERRY, JOHN C. PERRY, JOSEPH P. PERRY & LEWIS A. PERRY	04-R9-14.2
W	JAMES W. PERRY, JOHN C. PERRY, JOSEPH P. PERRY & LEWIS A. PERRY	04-R9-14.1
X	JORDAN & GAYLE WEBER	04-R9-09.0
Y	AMERICAN DISPOSAL SERVICES OF WEST VIRGINIA, INC	04-R8-61.0
Z	LEWIS R. & ROSEANN F. HOPKINS	04-R9-05.0
AA	WILLIAM ISAAC KNIGHT & MEREDITH SERTICH	04-R9-03.7
AB	LADONNA MARTIN-EVANS	04-R9-03.5
AC	BETH ANNE KENNEDY	04-R9-03.4
AD	RCK 2 GROUP	04-R9-01.0
AE	WILLIAM H. & CAROL L. REUTHER	04-R9-02.0
AF	BRADFORD & NANNETTA HARTLEY	04-R9-01.3
AG	GREGORY TAGGART	04-R9-50.0
AH	DOMINIC J. & SHERIE D. COTTRELL	04-R12-19.30
AI	ROBERT C. & PATRICIA L. KOTA	04-R12-01.2
AJ	MARK & LAURA DAWSON	04-R12-01.1
AK	ROBERT E. JONES LIVING TRUST	04-R12-18.0
AL	MICHAEL THOMAS & MICHELLE LYNN RATCLIFFE	04-R12-23.15
AM	RELYKS, LLC	04-R12-05.0
AN	MARY ANN ARMSTRONG (F.K.A. MARY ANN BURKHART)	04-R12-04.0
AO	SEAN P. & KATIE M. SMITH	04-R12E-23.29
AP	STEVEN M. & LORI J. MGLUMPHY	04-R12E-23.13
AQ	PATRICIA LOU HENDERSON	04-R12E-23.12
AR	JOSEPH & NELLIE PARRIOTT	04-R12E-23.26
AS	JOSEPH D. & NELLIE B. PARIOTT	04-R12E-24.0
AT	DIANE L. & TIMOTHY M., JR. MILLER	04-R12J-43.8
AU	SEAN P. REGAN & RIKKI M. JAVARONE	04-R12J-43.17
AV	ANN E. REAM	04-R12J-43.3
AW	MICHAEL S. & SHEILA M. LITTLE	04-R12-13.0
AX	MULL W. QUAY, II TRUST	04-R12-12.0
AY	MULL W. QUAY, II TRUST	04-R12-10.14
AZ	MULL W. QUAY, II TRUST	04-R12-10.17
BA	OGLEBAY FOUNDATION, INC	04-R12-10.2
BB	ZACHARY & CARLI HETRICK	04-R12J-40.5
BC	ZACHARY & CARLI HETRICK	04-R12J-40.2
BD	DOUGLAS E. & KATHY JUDE	04-R12J-40.4
BE	LOUIS J. & DIANE Y. PASTORIA	04-R12J-40.3
BF	KENNETH A., II & MARIAH M. BURNLEY	04-R12J-40.1
BG	BROOKE A. & SUSAN L. GARRISON	04-R12J-39.0
BH	ALBERT M., JR. & BRENDA S. VALENTINE	04-R12J-25.0
BI	THOMAS E. & SHERRY L. ROMBY	04-R12J-43.13
BJ	JOHN P. MCCULLOUGH	04-R12J-43.10
BK	BRIAN T. & ELIZABETH J. BURRIS	04-R12J-43.7
BL	JESSICA E. MYER	04-R12J-43.12
BM	MICHAEL T. & HEATHER A. WAT	04-R12J-43.11
BN	ADRIENNE P. KLOUSE	04-R12E-23.11
BO	HOWARD F., JR. & HEIDI A. WATKINS	04-R12E-23.8
BQ	MICHAEL D. & MONICA L. CALVERT	04-R12E-23.2
BR	THOMAS A. & BARBARA R. KIZMINSKI	04-R12E-23.4

ADJOINING OWNERS TABLE		
TRACT	SURFACE OWNER	TAX PARCEL
BS	DAVID L. & TERESA A. CYBULSKI	04-R12E-22.0
BT	MELINDA F. GIUSTINIANI	04-R12E-21.0
BU	JASON C. & STEPHANIE M. ROMANEK	04-R12E-20.0
BV	JOH W. LETZKUS	04-R12E-19.0
BW	DAVID A. & KRISTEN M. FRYE	04-R12E-18.0
BX	RONALD A. & TRACIE L. THOMAS	04-R12E-17.0
BY	JOHNATHAN A. & MARY T. ALMEIDA	04-R12E-16.0
BZ	RELYKS, INC	04-R11-35.3
CA	ROBERT J. & CANDISE S. CATALANO	04-R12-08.1
CB	HOWARD L. & BETTY M. SHACKELFORD	04-R11-35.2
CC	JAMES V. & EDITH M. STANTON	04-R11-34.0
CD	JAMES & EDITH STANTON	04-R11-34.11
CE	JAMES V. & EDITH M. STANTON	04-R11-34.4
CF	SANDSCREST FOUNDATION, INC	04-R11-15.0
CG	TUNNEL RIDGE, LLC	04-R11-34.13
CH	TUNNEL RIDGE, LLC	04-R11-34.9
CI	TUNNEL RIDGE, LLC	04-R11-34.1
CJ	TUNNEL RIDGE, LLC	04-R11-34.2
CK	TUNNEL RIDGE, LLC	04-R11-34.5
CL	TUNNEL RIDGE, LLC	04-R11-34.6
CM	TUNNEL RIDGE, LLC	04-R11-34.3
CN	TUNNEL RIDGE, LLC	04-R11-34.12
CO	TUNNEL RIDGE, LLC	04-R8-61.2
CP	TUNNEL RIDGE, LLC	04-R8-61.1
CQ	TUNNEL RIDGE, LLC	04-R8-74.0
CR	TUNNEL RIDGE, LLC	04-R8-60.1
CS	TUNNEL RIDGE, LLC	04-R8-59.0
CT	TUNNEL RIDGE, LLC	04-R8-60.0
CU	TUNNEL RIDGE, LLC	04-R8-58.0
CV	KENDRA L. & RALPH J. HUFFMAN	04-R8-55.0
CW	JAMES KEVIN CRUPE, SR.	04-R8L-49.0
CX	MARILYN R. BLAKE	04-R8-27.0
CY	MARILYN L. BLAKE	04-R8-27.2
CZ	TUNNEL RIDGE, LLC	04-R8-21.1
DA	TUNNEL RIDGE, LLC	04-R8-20.5
DB	TUNNEL RIDGE, LLC	04-R8-20.2
DC	TUNNEL RIDGE, LLC	04-R8-21.2
DD	TUNNEL RIDGE, LLC	04-R8-27.7
DE	TUNNEL RIDGE, LLC	04-R8-27.6
DF	TUNNEL RIDGE, LLC	04-R8-15.4
DG	CHARLES M. & MARLEEN M. MILLER	04-R8-15.3
DH	XXXXX	04-R8-DOH
DI	DEBRA S. SHEPHERD	04-R8-15.2
DJ	LOUIS R. HERCULES & ET AL	04-R8-07.0
DK	THE KATHLEEN S. CRAFT FOUNDATION & THE JOSEPH W. CRAFT III FOUNDATION	04-R8-06.0
DL	JUDITH K. TYLER	04-R8-08.8
DM	SAM L., JR. & AWY M. PELLEN	04-R8-08.7
DN	SAM L., JR. & AWY M. PELLEN	04-R8-08.0
DO	ARTHUR ENNIS, PEGGY CLARK & ALMA SINCAVICH	04-R8-09.0
DP	MICHAEL W. DAVIS	04-R8-09.1
DO	EUNICE MAE DAVIS	04-R8-09.3
DR	EUNICE MAE DAVIS, BRYAN EVERETT DAVIS & CHARLOTTE DAVIS TOOTHMAN	04-R8-09.2
DS	JOYCE ANN FARLEY	04-R8-10.1
DT	JOYCE ANN FARLEY	04-R8-10.2
DU	BETTY L. SNYDER (C/O: PAULA MCGEE)	04-R8-10.0
DV	MARK D. MATTHIAS	04-R8-11.1
DW	MARK D. MATTHIAS	04-R8-11.0
DX	DONALD L. DAVIS (C/O: JEFFREY MCGEE)	04-R8-10.4
DY	JEFFREY A. & PAULA JO MCGEE	04-R8-10.5
EZ	GORDON E. & DEBORAH P. DREMAK	04-R8-08.15
EA	OHIO COUNTY COMMISSION	04-R8-08.17
EB	TUNNEL RIDGE, LLC	04-R8-08.14
EC	TUNNEL RIDGE, LLC	04-R8-08.2
ED	TUNNEL RIDGE, LLC	04-R8-08.3
EE	SUSAN L. CAIN	04-R8-08.18
EF	TUNNEL RIDGE, LLC	04-R8-08.18
EG	THE KATHLEEN S. CRAFT FOUNDATION & THE JOSEPH W. CRAFT III FOUNDATION	04-R5-52.0
EH	THE KATHLEEN S. CRAFT FOUNDATION & THE JOSEPH W. CRAFT III FOUNDATION	04-R5-53.0
EI	TUNNEL RIDGE, LLC	04-R8-20.4
EJ	TUNNEL RIDGE, LLC	04-R8-20.3
EK	TUNNEL RIDGE, LLC	04-R8-20.1

REVISIONS:

COMPANY:



OPERATOR'S

WELL #:

DISTRICT:

EDWARD DREMAK OHI

10H

OHIO

DATE: 04-08-2020

API NO: 47-069-00318

DRAWN BY: L.CLINE

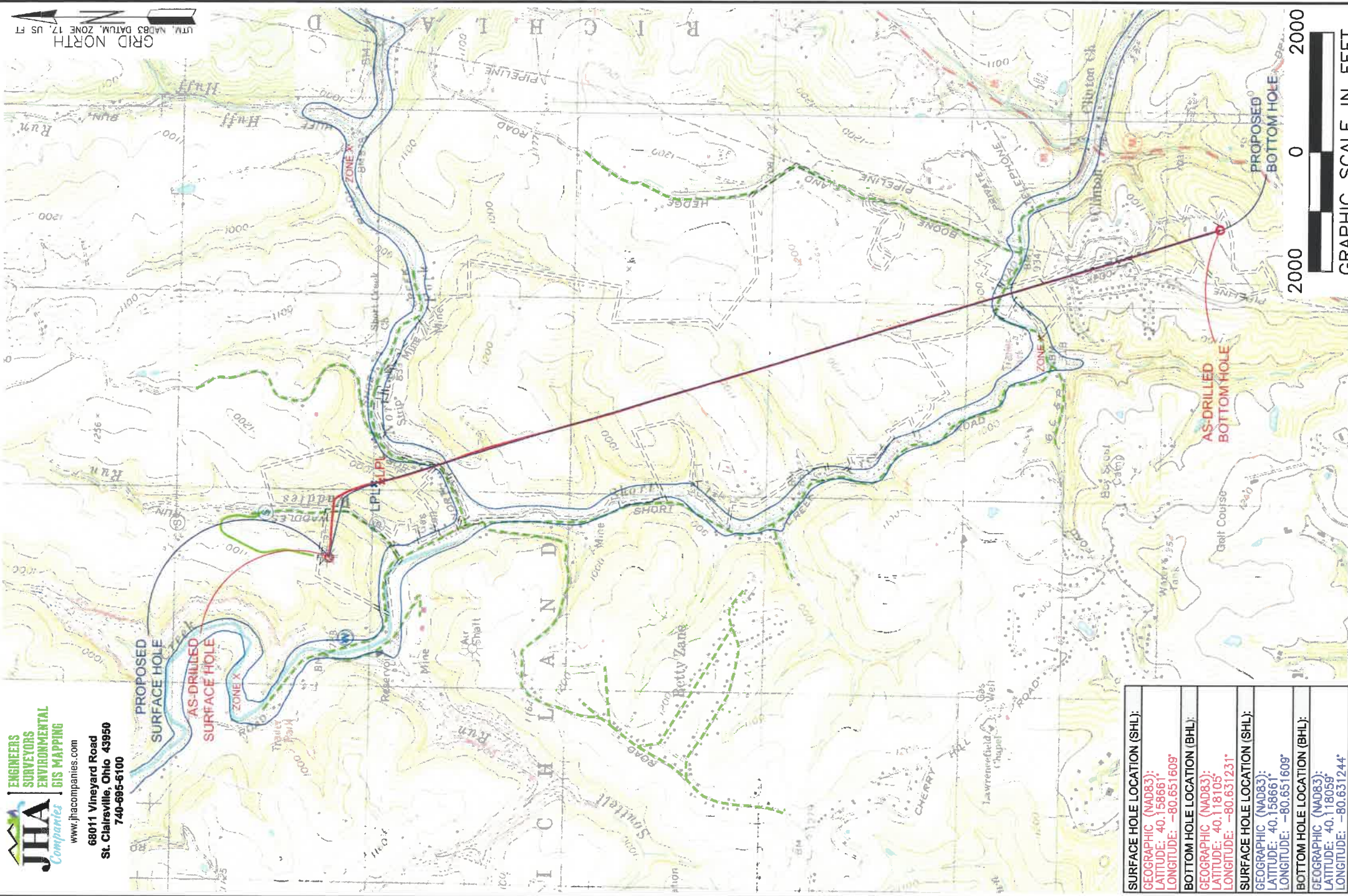
SCALE: N/A

DRAWING NO: 2018-284

WELL LOCATION PLAT

COMPLETION ID 2501168530

PAU ID 3001165800



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 PLAIN
- LEASE BOUNDARY
- ASORILED PATH
- PROPOSED PATH

GRAPHIC SCALE IN FEET



SURFACE HOLE LOCATION (SHL):
GEOGRAPHIC (NAD83):
LATITUDE: 40.158661°
LONGITUDE: -80.651609°
BOTTOM HOLE LOCATION (BHL):
GEOGRAPHIC (NAD83):
LATITUDE: 40.118105°
LONGITUDE: -80.631231°
SURFACE HOLE LOCATION (SHL):
GEOGRAPHIC (NAD83):
LATITUDE: 40.158661°
LONGITUDE: -80.651609°
BOTTOM HOLE LOCATION (BHL):
GEOGRAPHIC (NAD83):
LATITUDE: 40.118059°
LONGITUDE: -80.631244°

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. THIS PLAT DOES NOT REPRESENT A BOUNDARY SURVEY OF THE PARCELS SHOWN HEREON.
3. ALL INSETS ARE GRID NORTH UNLESS OTHERWISE DEPICTED.

WELL OPERATOR:	WELL (FARM) NAME:	WELL #	SERIAL #
SWN PRODUCTION COMPANY, LLC	EDWARD DREMAK OHI	10H	XXXX
ADDRESS:	COUNTY:	CODE:	DISTRICT:
1300 FORT PIERPONT DRIVE, SUITE 201, MORGANTOWN, WV 26508	OHIO	069	RICHLAND
SURFACE OWNER:	USGS 7 1/2 QUADRANGLE MAP NAME:		
ANDREW JOHN EVICK	TILTONSVILLE, OH-WV & WHEELING, WV		