

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

API 47 - 051 - 02169 County MARSHALL District MEADE
Quad WILEYVILLE, WV Pad Name ARTHUR WARYCK MSH PAD Field/Pool Name VICTORY FIELD WET
Farm name A. MICHAEL WARYCK & DEBORAH ELLEN WARYCK Well Number ARTHUR WARYCK MSH 1H
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 4,397,197.630 Easting 528,111.724
Landing Point of Curve Northing 4,397,223.676 Easting 527,741.553
Bottom Hole Northing 4,399,269.180 Easting 525,481.950

Elevation (ft) 1,326.1 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 5/22/2019 Date drilling commenced 08/10/2019 Date drilling ceased 08/23/2019
Date completion activities began 01/20/2020 Date completion activities ceased 03/22/2020
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 557' Open mine(s) (Y/N) depths _____
Salt water depth(s) ft 892' Void(s) encountered (Y/N) depths _____
Coal depth(s) ft 1,147' Cavern(s) encountered (Y/N) depths _____
Is coal being mined in area (Y/N) N

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N

Reviewed by:
Jim Nicholas
7/7/2020

API 47- 051 - 02169 Farm name A. MICHAEL WARYCK & DEBORAH ELLEN WARYCK Well number ARTHUR WARYCK MSH 1H

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	662	NEW	J-55/54.50#		Y, 45
Coal	SEE INTERMEDIATE						
Intermediate 1	12.25	9.625	2,733	NEW	J-55/36#		Y, 53
Intermediate 2							
Intermediate 3							
Production	8.75/8.50	5.5	17,639	NEW	P-110/20#		Y, 35
Tubing		2.875	7,617	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	628	15.60	1.20	753.6	SURFACE	8
Coal	SEE INTERMEDIATE						
Intermediate 1	CLASS A	1,103	16.00	1.11	1,224.33	SURFACE	8
Intermediate 2							
Intermediate 3							
Production	CLASS A	3,114	15.60	1.18	3,674.52	SURFACE	24
Tubing							

Drillers TD (ft) 17,639' Loggers TD (ft) 17,639'

Deepest formation penetrated MARCELLUS Plug back to (ft) N/A

Plug back procedure N/A

Kick off depth (ft) 6,472'

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 _____

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Farm name A. MICHAEL WARYCK & DEBORAH ELLEN WARYCK

Well number ARTHUR WARYCK MSH 1H

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 (bbbls)	Amount of Nitrogen/other (units)
		SEE	ATTACHMENT	2				

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Please insert additional pages as applicable.

API 47- 051 - 02169

Farm name A. MICHAEL WARYCK & DEBORAH ELLEN WARYCK

Well number ARTHUR WARYCK MSH 1H

<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>	
<u>MARCELLUS</u>	<u>7,092'</u> TVD	<u>7,398'</u> MD

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow

OIL TEST Flow Pump

SHUT-IN PRESSURE Surface 2,305 psi Bottom Hole _____ psi DURATION OF TEST _____ hrs

OPEN FLOW Gas Oil NGL Water GAS MEASURED BY
7,755 mcfpd 166 bpd _____ bpd 307 bpd 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>		

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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 BJ SERVICES
Address 11211 FM 2920 City TOMBALL State TX Zip 77377

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 [Signature] Title Staff Regulatory Analyst Date 06/19/2020

**ARTHUR WARYCK MSH 1H
ATTACHMENT 1
PERF REPORT**

STAGE NUM	Perf Date	Perf Top MD	Perf Bottom MD	# SHOTS PER STG
1	1/8/2020	17,351	17,176	36
2	1/23/2020	17,143	16,964	36
3	1/25/2020	16,931	16,753	36
4	1/27/2020	16,720	16,541	36
5	1/28/2020	16,508	16,330	36
6	1/30/2020	16,297	16,114	36
7	1/31/2020	16,085	15,905	36
8	2/1/2020	15,874	15,695	36
9	2/2/2020	15,659	15,484	36
10	2/3/2020	15,451	15,272	36
11	2/4/2020	15,239	15,061	36
12	2/4/2020	15,027	14,849	36
13	2/5/2020	14,816	14,642	36
14	2/5/2020	14,607	14,426	36
15	2/6/2020	14,393	14,215	36
16	2/7/2020	14,182	14,003	36
17	2/8/2020	13,970	13,792	36
18	2/8/2020	13,759	13,580	36
19	2/9/2020	13,547	13,369	36
20	2/9/2020	13,338	13,157	36
21	2/10/2020	13,124	12,946	36
22	2/11/2020	12,913	12,734	36
23	2/11/2020	12,701	12,523	36
24	2/12/2020	12,490	12,309	36
25	2/12/2020	12,273	12,100	36
26	2/13/2020	12,067	11,888	36
27	2/14/2020	11,855	11,677	36
28	2/14/2020	11,642	11,465	36
29	2/15/2020	11,432	11,257	36
30	2/15/2020	11,221	11,042	36
31	2/16/2020	11,009	10,831	36
32	2/16/2020	10,798	10,623	36
33	2/17/2020	10,586	10,408	36
34	2/17/2020	10,375	10,196	36
35	2/18/2020	10,163	9,985	36
36	2/18/2020	9,947	9,773	36
37	2/19/2020	9,740	9,562	36
38	2/19/2020	9,529	9,350	36
39	2/19/2020	9,317	9,139	36
40	2/20/2020	9,106	8,930	36
41	2/20/2020	8,894	8,716	36
42	2/21/2020	8,683	8,504	36
43	2/22/2020	8,471	8,293	36
44	2/22/2020	8,256	8,081	36
45	2/22/2020	8,048	7,870	36
46	2/23/2020	7,837	7,658	36
47	2/23/2020	7,625	7,447	36

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ARTHUR WARYCK MSH 1H
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/other
1	1/23/2020	90	8,213	5,860	4,414	321,240	9,121	0
2	1/24/2020	84.5	7,882	5,546	4,749	320,300	8,977	0
3	1/27/2020	85.6	8,082	5,498	4,735	319,460	8,594	0
4	1/28/2020	84.1	7,945	5,886	4,694	320,600	8,727	0
5	1/30/2020	83.4	8,004	5,541	4,768	318,600	8,322	0
6	1/31/2020	90.3	8,304	5,744	4,721	322,440	8,020	0
7	2/1/2020	75	8,167	5,794	4,753	329,038	8,126	0
8	2/2/2020	89.4	8,303	5,546	5,055	317,140	7,910	0
9	2/2/2020	88.6	8,289	5,613	4,849	320,280	7,284	0
10	2/4/2020	76.1	8,171	6,225	4,853	158,400	7,944	0
11	2/4/2020	85.5	8,076	5,775	4,852	318,980	7,777	0
12	2/5/2020	89.2	8,157	6,007	4,861	319,500	7,610	0
13	2/5/2020	89	8,231	5,849	4,787	316,800	8,052	0
14	2/6/2020	92	8,080	5,653	5,076	323,560	7,588	0
15	2/7/2020	86.8	7,870	5,725	4,917	321,760	7,795	0
16	2/7/2020	86.2	8,047	5,622	4,364	320,080	7,653	0
17	2/8/2020	90.2	8,024	5,388	4,650	321,720	7,624	0
18	2/9/2020	93.2	8,049	5,587	5,178	322,500	7,734	0
19	2/9/2020	86	7,739	5,682	4,924	321,860	7,308	0
20	2/10/2020	89.6	8,153	5,673	4,902	320,960	7,380	0
21	2/11/2020	86.4	7,820	5,738	5,239	320,760	7,609	0
22	2/11/2020	88.6	7,819	5,794	5,255	320,420	7,799	0
23	2/12/2020	89	8,041	5,840	5,577	320,240	7,553	0
24	2/12/2020	89	7,785	5,469	5,479	320,020	7,459	0
25	2/13/2020	90	8,025	5,794	4,853	297,150	7,265	0
26	2/13/2020	86.3	7,913	5,750	5,043	315,300	7,501	0
27	2/14/2020	87.1	8,367	5,466	4,590	319,560	7,590	0
28	2/14/2020	89.3	7,928	5,625	4,537	318,160	7,538	0
29	2/15/2020	83.2	7,272	5,292	4,740	320,880	7,509	0
30	2/16/2020	89.7	7,394	5,340	4,502	320,160	7,276	0
31	2/16/2020	89.8	7,574	5,420	4,643	323,080	7,491	0
32	2/17/2020	90	7,109	5,394	4,441	319,520	7,226	0
33	2/17/2020	89.8	7,575	5,250	4,618	319,420	7,495	0
34	2/17/2020	90.1	7,611	5,656	4,101	319,240	7,090	0
35	2/18/2020	89.9	7,602	5,375	4,586	322,200	7,399	0
36	2/18/2020	89.6	7,635	5,437	4,476	319,560	7,259	0
37	2/19/2020	89.5	7,784	5,276	4,618	321,040	7,321	0
38	2/19/2020	95.6	7,807	5,496	4,174	321,240	7,328	0
39	2/20/2020	98.1	7,946	5,496	4,621	320,380	7,520	0
40	2/20/2020	93.7	7,514	5,452	4,484	320,900	8,204	0
41	2/21/2020	83.9	7,417	5,506	4,717	319,520	8,068	0
42	2/22/2020	100	7,846	5,238	4,657	321,220	7,829	0
43	2/22/2020	100.1	7,986	4,996	4,373	318,040	7,388	0
44	2/22/2020	87.9	7,260	5,331	4,399	318,840	8,047	0
45	2/22/2020	98.9	7,629	5,509	4,530	317,960	7,385	0
46	2/23/2020	98.3	7,720	5,903	4,035	316,780	7,273	0
47	2/23/2020	91	7,903	6,059	4,210	317,400	8,438	0

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Well Name: Arthur Waryck MSH 1H

47051021690000

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	557.00	557.00	
Top of Salt Water	892.00	892.00	NA	NA	
Pittsburgh Coal	1147.00	1147.00	1208.00	1208.00	
Pottsville (ss)	1208.00	1208.00	1672.00	1673.00	
Raven Cliff (ss)	1672.00	1673.00	2089.00	2089.00	
Maxton (ss)	2089.00	2089.00	2249.00	2249.00	
Big Injun (ss)	2249.00	2249.00	2906.00	2904.00	
Berea (siltstone)	2906.00	2904.00	6544.00	6462.00	
Rhinestreet (shale)	6544.00	6462.00	6865.00	6749.00	
Cashaqua (shale)	6865.00	6749.00	6991.00	6868.00	
Middlesex (shale)	6991.00	6868.00	7108.00	6954.00	
Burket (shale)	7108.00	6954.00	7142.00	6975.00	
Tully (ls)	7142.00	6975.00	7179.00	6999.00	
Mahantango (shale)	7179.00	6999.00	7398.00	7092.00	
Marcellus (shale)	7398.00	7092.00	NA	NA	GAS

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SOUTHWESTERN ENERGY

Location: Marshall County, WV
 Field: Marshall
 Slot: Slot 1H
 Well: Arthur Waryck MSH 1H
 Facility: Arthur Waryck MSH Pad Wellbore: Arthur Waryck MSH 1H PWB

Plot reference wellpath is Arthur Waryck MSH 1H PWP Rev.A.0
 Grid System: NAD83 / UTM Zone 17 North, US feet
 True vertical depths are referenced to SDC 46 (KB)
 North Reference: Grid north
 Measured depths are referenced to SDC 46 (KB)
 Scale: True distance
 SDC 46 (KB) to Mean Sea Level: 1352.1 feet
 Depths are in feet
 Mean Sea Level to Mud line (At Slot: Slot 1H): -1326.1 feet
 Created by: atorjen on 2019-08-23
 Coordinates are in feet referenced to Slot
 Database: WA_MPL_EASTERNIUS_Defn

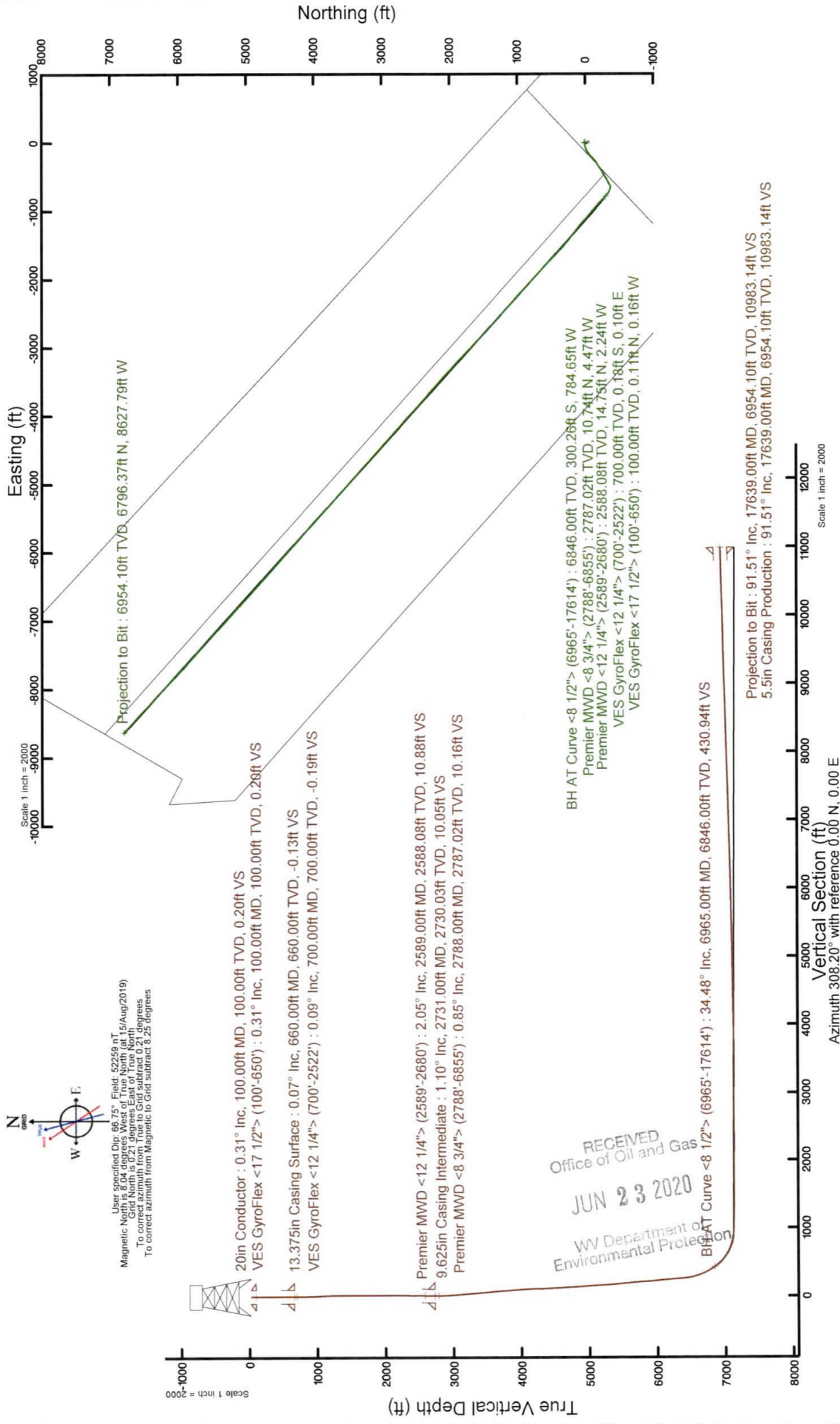


Location Information

Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
Arthur Waryck MSH Pad	1732651.719	14426411.271	39°43'26.493"N	80°40'19.078"W
Slot	Local N (ft)	Grid East (US ft)	Latitude	Longitude
Slot 1H	61.30	1732646.540	39°43'27.099"N	80°40'19.141"W
Slot 46 (KB) to Mud line (At Slot: Slot 1H)	-5.18	14426472.550	26ft	
Mean Sea Level to Mud line (At Slot: Slot 1H)			-1326.1ft	
SDC 46 (KB) to Mean Sea Level			1352.1ft	

Comments

API: 47-051-02169-0000
 BH Job #: 109938863A
 Rig: SDC 46
 Duration: 08/18/2019 - 08/21/2019



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BH AT Curve <8 1/2'> (6965'-17614') : 34.48° Inc, 6965.00ft MD, 6846.00ft TVD, 430.94ft VS

Projection to Bit : 91.51° Inc, 17639.00ft MD, 6954.10ft TVD, 10983.14ft VS
 5.5in Casing Production : 91.51° Inc, 17639.00ft MD, 6954.10ft TVD, 10983.14ft VS

Vertical Section (ft)
 Azimuth 308.20° with reference 0.00 N, 0.00 E

Scale 1 inch = 2000

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	1/23/2020
Job End Date:	2/23/2020
State:	West Virginia
County:	Marshall
API Number:	47-051-02169-00-00
Operator Name:	Southwestern Energy
Well Name and Number:	Arthur Waryck MSH 1H
Latitude:	39.72419400
Longitude:	-80.67198400
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	7,137
Total Base Water Volume (gal):	15,198,288
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	89.30579	Density = 8.34
Ingredients	Listed Above	Listed Above	Water	7732-18-5	100.00000	0.11301	

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Produced Water	Halliburton	Base Fluid							
		Water		7732-18-5	100.00000	0.00946	Density = 8.50		
Sand-Premium White-40/70	Halliburton	Proppant							
				Listed Below					
FSTI HCl	FSTI	Acid							
				Listed Below					
FSTI-CI-01	FSTI	Acid Corrosion Inhibitor							
				Listed Below					
MC MX 8-4743	MultiChem	Additive							
				Listed Below					
FSTI-IC-001	FSTI	Iron Control Agent							
				Listed Below					
CALCIUM CHLORIDE - FLAKE	Halliburton	Additive							
				Listed Below					
LD-2950	MultiChem	Friction Reducer							
				Listed Below					
Sand-Common White-100 Mesh, SSA-2	Halliburton	Proppant							

LEGEND(TM) LD-7750W	MultiChem	Scale Control			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	10.47384		
			Complex Amine Compound	Proprietary	60.00000	0.06068		
			Hydrotreated light petroleum distillate	64742-47-8	30.00000	0.03034		
			Sodium nitrate	7631-99-4	60.00000	0.02343		
			Hydrochloric acid	7647-01-0	36.00000	0.02036		
			Methanol	67-56-1	80.00000	0.00806		
			Ethoxylated alcohols	Proprietary	5.00000	0.00506		
			Sodium molybdate	10102-40-6	5.00000	0.00195		
			Calcium chloride	10043-52-4	100.00000	0.00123		
			Poly(oxy-1,2-ethanediyl), alpha-tridecyl-omega-hydroxy-, branched	69011-36-5	1.00000	0.00101		
			Adipic acid	124-04-9	1.00000	0.00101		
			Acetic acid	64-19-7	60.00000	0.00086		
			Sodium chloride	7647-14-5	5.00000	0.00075		
			Phosphoric Acid Salt	Proprietary	5.00000	0.00065		
			Citric acid	77-92-9	40.00000	0.00058		
			Potassium chloride	7447-40-7	5.00000	0.00006		
			Strontium chloride	10476-85-4	5.00000	0.00006		
			Fatty acids	Trade Secret	10.00000	0.00004		
			Sodium acetate	127-09-3	0.10000	0.00004		
			Yeast extract	8013-01-2	0.10000	0.00004		
			Sodium lactate	72-17-3	0.10000	0.00004		
			Monopotassium phosphate	7778-77-0	0.10000	0.00004		

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			Formaldehyde	50-00-0	0.10000	0.00001
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* 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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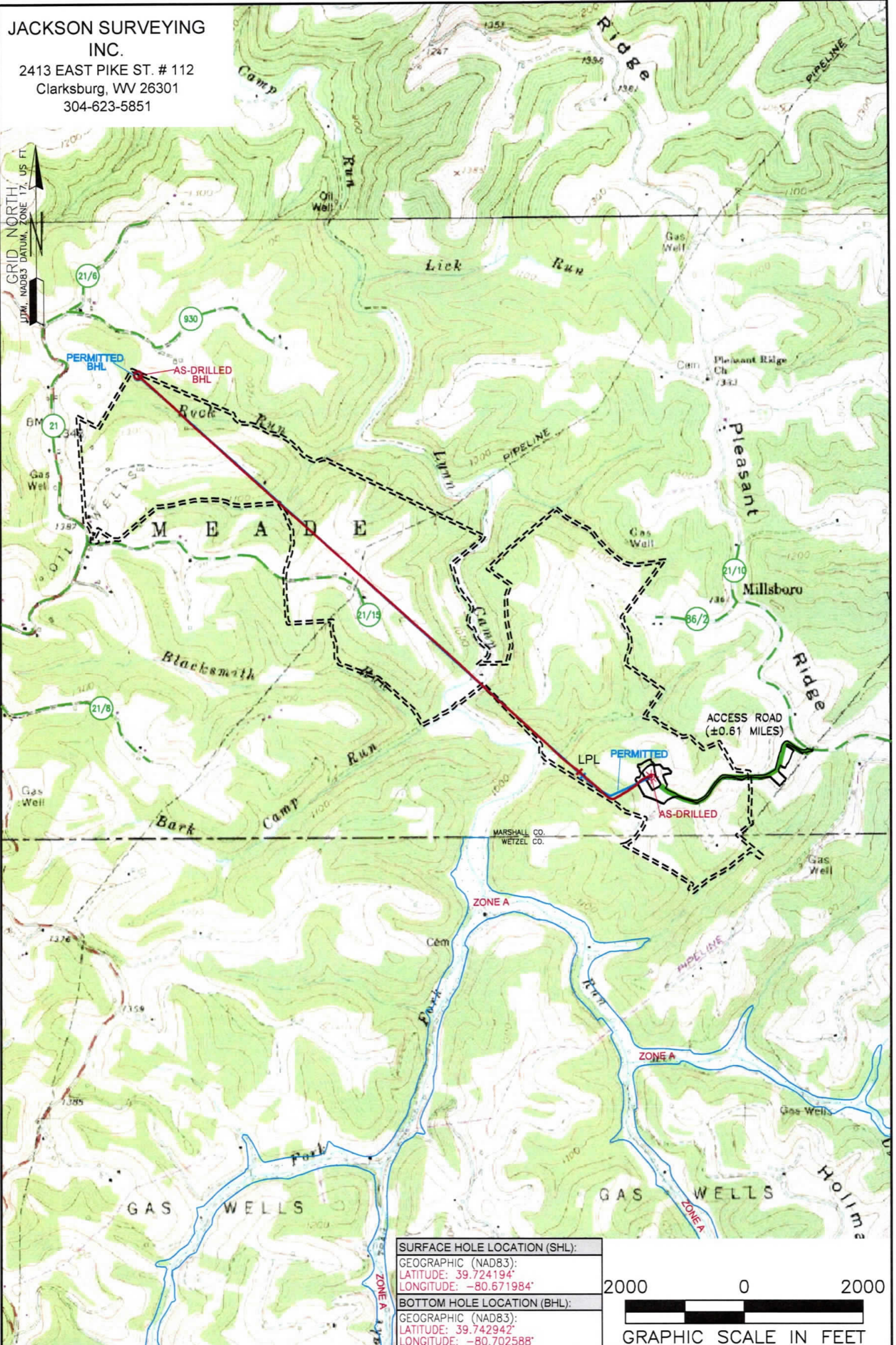
WELL BORE TABLE FOR SURFACE / ROYALTY OWNERS		
TRACT	SURFACE OWNER (S) / ROYALTY OWNER (R)	TAX PARCEL
1	A. MICHAEL WARYCK & DEBORAH ELLEN WARYCK (S) / CHARLES W. CAIN & PEARL CAIN (R)	09-21-10
TRACT	SURFACE OWNER	TAX PARCEL
2	ZACHARY M. BLAIR (S)	09-21-14
3	APPALACHIAN MIDSTREAM SERVICES, LLC (S)	09-21-5
4	ZACHARY M. BLAIR (S)	09-21-4
5	ROSELAND PROPERTY, LLC (S)	09-21-2
6	PATRICK A. FROHNAPFEL & LISA A. FROHNAPFEL (S)	09-20-11

ADJOINING OWNERS TABLE		
TRACT	SURFACE OWNER	TAX PARCEL
A	MASON DIXON FARMS, LLC	09-21-11
B	ANORAH C. SCHOSTAG & RYAN U. SCHOSTAG	09-21-10.1
C	ZACHARY M. BLAIR	09-21-13
D	ZACHARY M. BLAIR	09-21-15
E	ZACHARY M. BLAIR	09-21-16
F	DAVID PAUL WEIGAND	09-20-12.1
G	ELEANOR T. MILLER & JAMES B. MILLER	09-20-8
H	ELEANOR T. MILLER & JAMES B. MILLER	09-20-9.2
I	ELEANOR T. MILLER & JAMES B. MILLER	09-20-9.1
J	JAMES MILLER ET UX	09-20-9.6
K	JAMES MILLER ET UX	09-20-9.5
L	DAVID PAUL WEIGAND	09-20-9
M	DAVID PAUL FROHNAPFEL	09-20-7.1
N	KEITH A. FERRELL ET UX	09-18-15
O	ROBERT F. VILLERS	09-18-16
P	CLEMENT E. FROHNAPFEL & BRENDA L. FROHNAPFEL	09-18-13
Q	APPALACHIA MIDSTREAM SERVICES, LLC	09-21-3
R	MASON DIXON FARMS, LLC	09-21-22

REVISIONS:	COMPANY:		 	
	OPERATOR'S ARTHUR WARYCK MSH		DATE: 03-24-2020	
	WELL #: 1H		API # 47-051-02169	DRAWN BY: N. MANO
	DISTRICT: MEADE	COUNTY: MARSHALL	STATE: WV	SCALE: N/A
	DRAWING NO: WELL LOCATION PLAT 2			

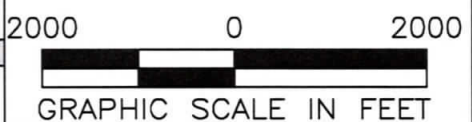
**JACKSON SURVEYING
INC.**
2413 EAST PIKE ST. # 112
Clarksburg, WV 26301
304-623-5851

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



SURFACE HOLE LOCATION (SHL):
GEOGRAPHIC (NAD83):
LATITUDE: 39.724194'
LONGITUDE: -80.671984'

BOTTOM HOLE LOCATION (BHL):
GEOGRAPHIC (NAD83):
LATITUDE: 39.742942'
LONGITUDE: -80.702588'



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

LEGEND:

- PROPOSED SURFACE HOLE / BOTTOM HOLE
- ☼ EXISTING / PRODUCING WELLHEAD
- LPL* LANDING POINT LOCATION
- ⊙ EXISTING WATER WELL
- ⊙ EXISTING SPRING
- SURVEYED BOUNDARY
- DRILLING UNIT
- == LEASE BOUNDARY
- ASDRILLED PATH
- PROPOSED PATH

WELL OPERATOR: SWN PRODUCTION COMPANY, LLC	WELL (FARM) NAME: ARTHUR WARYCK MSH	WELL # 1H	SERIAL #
ADDRESS: 1300 FORT PIERPONT ROAD, SUITE 200 MORGANTOWN, WV 26508	COUNTY - CODE MARSHALL - 051	DISTRICT; MEADE	
SURFACE OWNER: A. MICHAEL WARYCK & DEBORAH ELLEN WARYCK	USGS 7 1/2 QUADRANGLE MAP NAME WILEYVILLE, WV	API # 47-051-02169	

JACKSON SURVEYING INC.

2413 EAST PIKE ST. # 112
Clarksburg, WV 26301
304-623-5851

SURFACE HOLE LOCATION (SHL):
UTM (NAD83, ZONE 17, METERS): NORTHING: 4,397,197.630 EASTING: 528,111.724
LANDING POINT LOCATION (LPL):
UTM (NAD83, ZONE 17, METERS): NORTHING: 4,397,223.676 EASTING: 527,741.553
BOTTOM HOLE LOCATION (BHL):
UTM (NAD83, ZONE 17, METERS): NORTHING: 4,399,269.180 EASTING: 525,481.950

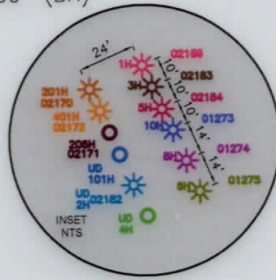
GRID NORTH
UTM, NAD83 DATUM, ZONE 17, US FT

Latitude: 39°45'00" (SH)

Latitude: 39°45'00" (BH)

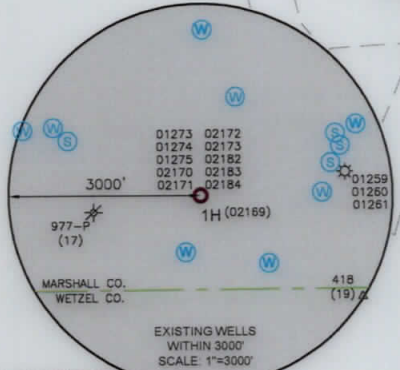
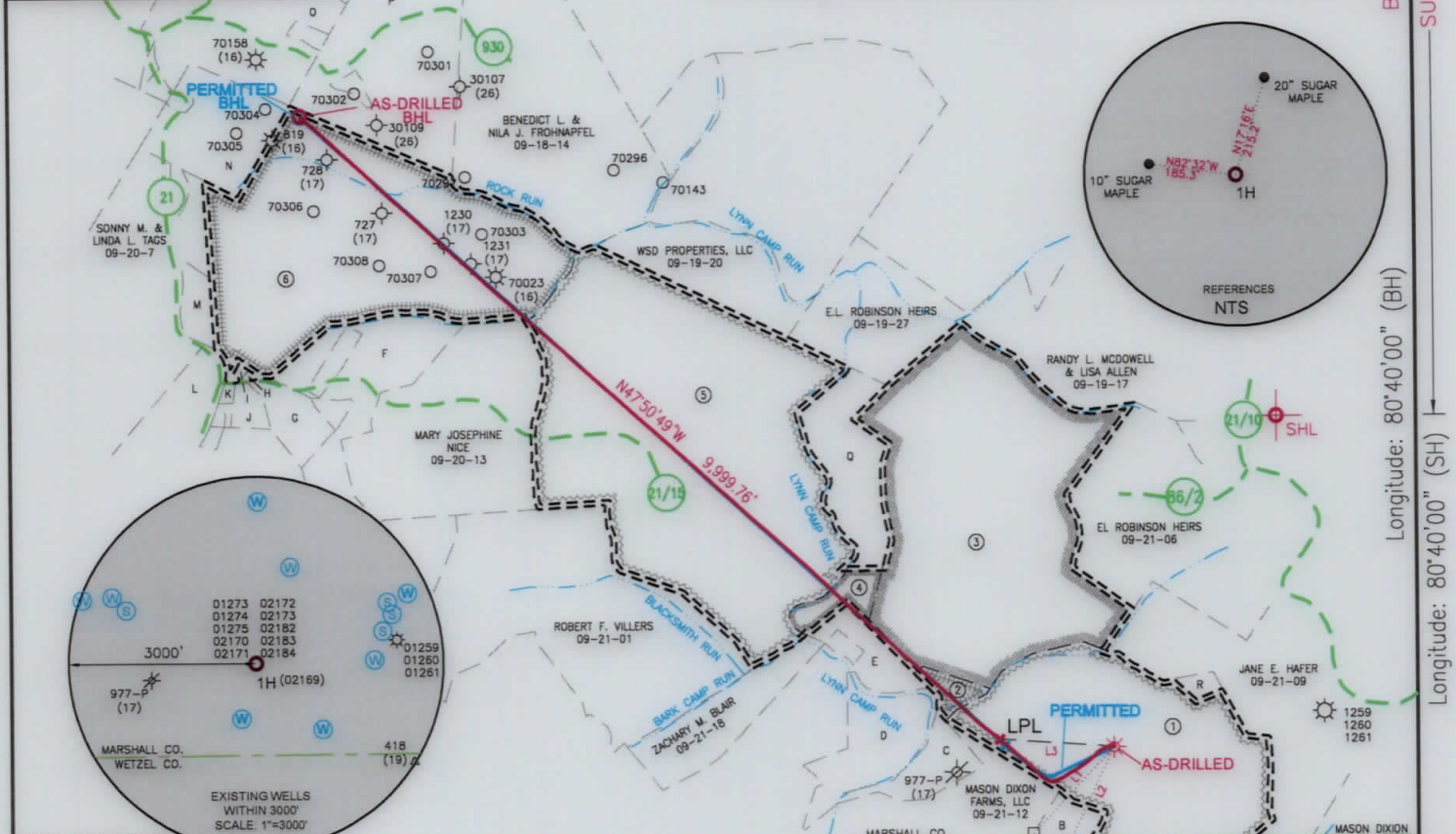
SURFACE HOLE 1495'

BOTTOM HOLE 10100'



SURFACE HOLE LOCATION (SHL):
UTM (NAD83, ZONE 17, METERS): NORTHING: 4,397,197.579 EASTING: 528,111.679
LANDING POINT LOCATION (LPL):
UTM (NAD83, ZONE 17, METERS): NORTHING: 4,397,203.218 EASTING: 527,758.875
BOTTOM HOLE LOCATION (BHL):
UTM (NAD83, ZONE 17, METERS): NORTHING: 4,399,266.803 EASTING: 525,481.771

LINE	BEARING	DISTANCE	DESCRIPTION	MONUMENT
L1	S 42°58'49" W	1,261.57'	SHL TO LANDMARK	FOUND STONE
L2	S 25°05'33" W	1,251.61'	SHL TO LANDMARK	FENCE CORNER
LINE	BEARING	DISTANCE	CURVE LENGTH	DESCRIPTION
L3	N 85°58'31" W	1,217.47'	1,546.99'	SHL TO LPL



WELL RESTRICTIONS

1. NO OCCUPIED DWELLINGS > 2500 SQ FT. WITHIN 625 FEET OF CENTER OF PAD.
2. NO AGRICULTURE BUILDINGS > 2500 SQ FT. WITHIN 625 FEET OF CENTER OF PAD.
3. NO WATER WELLS OR DEVELOPED SPRINGS ARE WITHIN 250 FEET OF PROPOSED WELL.
4. NO PERENNIAL STREAMS, LAKES, PONDS, OR RESERVOIRS WITHIN 100 FEET OF THE LIMITS OF DISTURBANCE.
5. NO NATURALLY PRODUCING TROUT STREAM WITHIN 300 FEET OF LIMITS OF DISTURBANCE.
6. NO GROUND INTAKE OR PUBLIC WATER SUPPLY WITHIN 1000 FEET OF WELL PAD, LIMITS OF DISTURBANCE, E & S CONTROLS OR PUBLIC WATER SUPPLY.

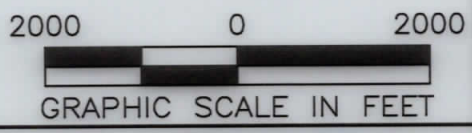
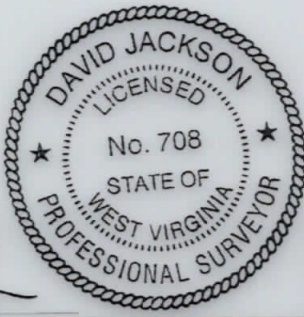
NOTES ON SURVEY

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

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.

David L Jackson

P.S. 708



COMPANY: **SWN** Production Company, LLC

ARTHUR WARYCK MSH
OPERATOR'S WELL #: 1H
API WELL #: 47 051 02169
STATE COUNTY PERMIT



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

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

WATERSHED: LYNN CAMP RUN OF FISK CREEK (HUC-10) ELEVATION: 1326.1'

DISTRICT: MEADE COUNTY: MARSHALL QUADRANGLE: WILEYVILLE, WV

SURFACE OWNER: A. MICHAEL WARYCK & DEBORAH ELLEN WARYCK ACREAGE: ±125.39

OIL & GAS ROYALTY OWNER: CHARLES W. CAIN & PEARL CAIN ACREAGE: ±125.39

DRILL DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD FORMATION PERFORATE NEW FORMATION

CONVERT PLUG & ABANDON CLEAN OUT & REPLUG OTHER CHANGE (SPECIFY) ASDRILLED

TARGET FORMATION: MARCELLUS ESTIMATED DEPTH: 7,136 TVD 17,639 TMD

WELL OPERATOR: SWN PRODUCTION COMPANY, LLC	DESIGNATED AGENT: BRITTANY WOODY
ADDRESS: 1300 FORT PIERPONT ROAD, SUITE 200	ADDRESS: 1300 FORT PIERPONT ROAD, SUITE 200
CITY: MORGANTOWN STATE: WV ZIP CODE: 26508	CITY: MORGANTOWN STATE: WV ZIP CODE: 26508

LEGEND:	— SURVEYED BOUNDARY	REVISIONS:	DATE: 03-24-2020
○ PROPOSED SURFACE HOLE / BOTTOM HOLE	— DRILLING UNIT		
⊙ EXISTING / PRODUCING WELLHEAD	== LEASE BOUNDARY		
LPL * LANDING POINT LOCATION	— ASDRILLED PATH		
⊙ EXISTING WATER WELL	— PROPOSED PATH		
⊙ EXISTING SPRING			
			DRAWN BY: N. MANO
			SCALE: 1" = 2000'
			DRAWING NO:
			WELL LOCATION PLAT

WELL BORE TABLE FOR SURFACE / ROYALTY OWNERS		
TRACT	SURFACE OWNER (S) / ROYALTY OWNER (R)	TAX PARCEL
1	A. MICHAEL WARYCK & DEBORAH ELLEN WARYCK (S) / CHARLES W. CAIN & PEARL CAIN (R)	09-21-10
TRACT	SURFACE OWNER	TAX PARCEL
2	ZACHARY M. BLAIR (S)	09-21-14
3	APPALACHIAN MIDSTREAM SERVICES, LLC (S)	09-21-5
4	ZACHARY M. BLAIR (S)	09-21-4
5	ROSELAND PROPERTY, LLC (S)	09-21-2
6	PATRICK A. FROHNAPFEL & LISA A. FROHNAPFEL (S)	09-20-11

ADJOINING OWNERS TABLE		
TRACT	SURFACE OWNER	TAX PARCEL
A	MASON DIXON FARMS, LLC	09-21-11
B	ANORAH C. SCHOSTAG & RYAN U. SCHOSTAG	09-21-10.1
C	ZACHARY M. BLAIR	09-21-13
D	ZACHARY M. BLAIR	09-21-15
E	ZACHARY M. BLAIR	09-21-16
F	DAVID PAUL WEIGAND	09-20-12.1
G	ELEANOR T. MILLER & JAMES B. MILLER	09-20-8
H	ELEANOR T. MILLER & JAMES B. MILLER	09-20-9.2
I	ELEANOR T. MILLER & JAMES B. MILLER	09-20-9.1
J	JAMES MILLER ET UX	09-20-9.6
K	JAMES MILLER ET UX	09-20-9.5
L	DAVID PAUL WEIGAND	09-20-9
M	DAVID PAUL FROHNAPFEL	09-20-7.1
N	KEITH A. FERRELL ET UX	09-18-15
O	ROBERT F. VILLERS	09-18-16
P	CLEMENT E. FROHNAPFEL & BRENDA L. FROHNAPFEL	09-18-13
Q	APPALACHIA MIDSTREAM SERVICES, LLC	09-21-3
R	MASON DIXON FARMS, LLC	09-21-22

REVISIONS:	COMPANY:		
		OPERATOR'S	ARTHUR WARYCK MSH
		WELL #:	1H
		DISTRICT:	MEADE
		COUNTY:	MARSHALL
		STATE:	WV
		API #	47-051-02169
		DATE:	03-24-2020
		DRAWN BY:	N. MANO
		SCALE:	N/A
		DRAWING NO:	
		WELL LOCATION	PLAT 2

WELL LOCATION PLAT 2		DATE: 03-24-2020	COMPANY: SWN Production Company, LLC	REVISIONS:
WELL NO:	STATE: WV	DATE: 03-24-2020	OPERATOR'S: ARTHUR WARYCK MSH	
DRAWING NO:	STATE: WV	DATE: 03-24-2020	WELL #: 1H	
SCALE: N/A	STATE: WV	DATE: 03-24-2020	COUNTY: MARSHALL	
DRAWN BY: N. MAND	STATE: WV	DATE: 03-24-2020	APL # 47-051-02160	

TRACT	SURFACE OWNER	TAX PARCEL
A	MASON DIXON FARMS, LLC	09-21-11
B	ANORAH C. SCHOSTAG & RYAN U. SCHOSTAG	09-21-10.1
C	ZACHARY M. BLAIR	09-21-13
D	ZACHARY M. BLAIR	09-21-15
E	ZACHARY M. BLAIR	09-21-16
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N	KEITH A. FERRELL ET UX	09-18-15
O	ROBERT F. VILLERS	09-18-16
P	CLEMENT E. FROHNAPFEL & BRENDA L. FROHNAPFEL	09-18-13
Q	APPALACHIA MIDSTREAM SERVICES, LLC	09-21-3
R	MASON DIXON FARMS, LLC	09-21-22

TRACT	SURFACE OWNER	TAX PARCEL
1	A. MICHAEL WARYCK & DEBORAH ELLEN WARYCK (2) \ CHARLES W. CAIN & PEARL CAIN (R)	09-21-10
2	ZACHARY M. BLAIR (2)	09-21-14
3	APPALACHIAN MIDSTREAM SERVICES, LLC (2)	09-21-5
4	ZACHARY M. BLAIR (2)	09-21-4
5	ROSELAND PROPERTY, LLC (2)	09-21-2
6	PATRICK A. FROHNAPFEL & LISA A. FROHNAPFEL (2)	09-20-11