

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

API 47 - 051 - 02183 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 3H
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 4,397,194.739 Easting 528,112.993
Landing Point of Curve Northing 4,397,217.435 Easting 528,116.187
Bottom Hole Northing 4,399,486.648 Easting 525,608.955

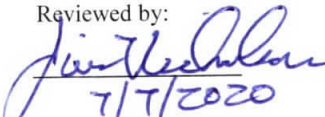
Elevation (ft) 1,326.2 GL Type of Well New Existing Type of Report Interim Final
Permit Type Deviated Horizontal Horizontal 6A Vertical Depth Type Deep Shallow
Type of Operation Convert Deepen Drill Plug Back Redrilling Rework Stimulate
Well Type Brine Disposal CBM Gas Oil Secondary Recovery Solution 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 07/27/2019 Date drilling ceased 08/10/2019
Date completion activities began 01/20/2020 Date completion activities ceased 03/24/2020
Verbal plugging (Y/N) N Date permission granted N/A Granted by N/A

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

Freshwater depth(s) ft 557' Open mine(s) (Y/N) depths N
Salt water depth(s) ft 892' Void(s) encountered (Y/N) depths N
Coal depth(s) ft 1,147' Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

Reviewed by:

7/7/2020

API 47-051 - 02183 Farm name A. MICHAEL WARYCK & DEBORAH ELLEN WARYCK Well number ARTHUR WARYCK MSH 3H

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	663	NEW	J-55/54.50#		Y, 20
Coal	SEE INTERMEDIATE						
Intermediate 1	12.25	9.625	2,738	NEW	J-55/36#		Y, 58
Intermediate 2							
Intermediate 3							
Production	8.75/8.50	5.5	18,677	NEW	P-110/20#		Y, 21
Tubing		2.875	7,586	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	1,130	16.00	1.11	1,254.3	SURFACE	8
Intermediate 2							
Intermediate 3							
Production	CLASS A	3,338	15.60	1.18	3,938.84	SURFACE	24
Tubing							

Drillers TD (ft) 18,677' Loggers TD (ft) 18,677'

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

Plug back procedure N/A

Kick off depth (ft) 6,330'

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 _____

ARTHUR WARYCK MSH 3H

ATTACHMENT 1

PERF REPORT

STAGE NUM	Perf Date	Perf Top MD	Perf Bottom MD	# SHOTS PER STG
1	1/10/2020	18,595	18,428	36
2	1/22/2020	18,392	18,217	36
3	1/22/2020	18,184	18,009	36
4	1/23/2020	17,976	17,801	36
5	1/24/2020	17,768	17,593	36
6	1/25/2020	17,560	17,385	36
7	1/26/2020	17,352	17,175	36
8	1/27/2020	17,147	16,969	36
9	1/28/2020	16,936	16,761	36
10	1/29/2020	16,728	16,552	36
11	1/29/2020	16,520	16,344	36
12	1/31/2020	16,312	16,139	36
13	1/31/2020	16,104	15,928	36
14	2/1/2020	15,896	15,720	36
15	2/1/2020	15,688	15,512	36
16	2/2/2020	15,480	15,304	36
17	2/3/2020	15,272	15,096	36
18	2/4/2020	15,064	14,893	36
19	2/4/2020	14,856	14,680	36
20	2/5/2020	14,643	14,472	36
21	2/6/2020	14,440	14,264	36
22	2/7/2020	14,232	14,056	36
23	2/7/2020	14,024	13,848	36
24	2/8/2020	13,816	13,640	36
25	2/8/2020	13,608	13,427	36
26	2/9/2020	13,400	13,224	36
27	2/10/2020	13,192	13,016	36
28	2/11/2020	12,983	12,808	36
29	2/11/2020	12,775	12,600	36
30	2/12/2020	12,567	12,390	36
31	2/12/2020	12,353	12,184	36
32	2/13/2020	12,151	11,976	36
33	2/13/2020	11,943	11,768	36
34	2/14/2020	11,735	11,560	36
35	2/14/2020	11,527	11,352	36
36	2/15/2020	11,319	11,144	36
37	2/15/2020	11,111	10,936	36
38	2/17/2020	10,903	10,726	36
39	2/17/2020	10,696	10,518	36
40	2/17/2020	10,488	10,311	36
41	2/18/2020	10,284	10,104	36
42	2/18/2020	10,070	9,896	36
43	2/19/2020	9,863	9,688	36
44	2/19/2020	9,655	9,480	36
45	2/20/2020	9,447	9,272	36
46	2/20/2020	9,239	9,064	36
47	2/21/2020	9,031	8,856	36
48	2/21/2020	8,823	8,648	36
49	2/22/2020	8,615	8,440	36
50	2/22/2020	8,407	8,233	36
51	2/22/2020	8,199	8,024	36
52	2/23/2020	7,991	7,816	36
53	2/23/2020	7,783	7,608	36

ARTHUR WARYCK MSH 3H

ATTACHMENT 2

STIM REPORT

STAGE NUM	Stim Date	Ave Pump Rate (BPM)	Ave Treatment	Max Breakdown	ISIP (PSI)	Amount of Proppant	Amount of water bbls	Amount of nitrogen/othe
1	1/21/2020	72	7,487	5,374	4,211	325,570	10,484	0
2	1/22/2020	78.9	7,945	5,401	4,453	317,700	11,620	0
3	1/23/2020	69.7	7,205	5,883	4,653	318,240	9,395	0
4	1/24/2020	72.7	7,636	5,843	4,805	320,680	9,795	0
5	1/25/2020	79.4	8,007	5,696	4,715	317,110	9,509	0
6	1/26/2020	84.5	8,268	5,651	5,029	324,340	8,625	0
7	1/27/2020	81.7	7,932	6,335	4,828	319,160	8,461	0
8	1/28/2020	81.9	7,964	4,940	4,638	319,360	8,177	0
9	1/29/2020	83.1	7,903	5,254	4,779	322,640	8,350	0
10	1/29/2020	85	8,263	5,877	4,665	319,720	8,324	0
11	1/30/2020	89.7	8,443	6,260	4,832	316,020	7,787	0
12	1/31/2020	89.3	8,328	5,594	4,784	319,620	7,881	0
13	2/1/2020	88.1	8,122	4,791	4,779	273,516	7,228	0
14	2/1/2020	89	8,254	7,627	4,796	318,960	8,177	0
15	2/2/2020	87.9	8,292	5,653	4,684	322,000	8,778	0
16	2/3/2020	85.9	8,295	5,763	4,715	320,520	7,465	0
17	2/4/2020	87.8	8,281	5,563	5,001	319,840	7,487	0
18	2/4/2020	89.8	8,322	5,391	4,737	317,380	7,486	0
19	2/5/2020	89	8,188	5,441	4,442	319,980	7,585	0
20	2/6/2020	89.6	8,310	5,434	4,525	310,810	8,126	0
21	2/6/2020	89.8	8,416	5,946	5,203	300,280	7,803	0
22	2/7/2020	90.1	8,156	5,619	4,706	302,540	6,925	0
23	2/8/2020	81	8,367	5,196	4,793	221,400	5,637	0
24	2/8/2020	83.9	8,199	5,395	4,979	301,500	8,828	0
25	2/9/2020	87.3	8,217	5,375	4,824	319,620	7,659	0
26	2/9/2020	84.1	8,226	5,394	4,336	319,580	7,581	0
27	2/10/2020	88.9	8,200	5,810	5,049	321,100	9,156	0
28	2/11/2020	90.4	8,025		5,140	299,010	7,265	0
29	2/12/2020	90	7,800	4,964	4,978	318,560	7,926	0
30	2/12/2020	92	8,238	5,216	4,656	318,180	7,596	0
31	2/12/2020	89.8	7,739	5,578	4,713	318,540	7,550	0
32	2/13/2020	90	7,996	4,956	3,862	324,320	7,653	0
33	2/14/2020	89.5	7,857	5,332	4,798	318,700	7,531	0
34	2/14/2020	89.1	7,915	5,195	4,699	321,660	7,362	0
35	2/15/2020	89.7	7,871	5,227	4,827	320,500	7,523	0
36	2/15/2020	89.7	7,580	5,153	4,441	320,780	7,658	0
37	2/16/2020	88.8	7,669	5,762	4,434	318,900	7,523	0
38	2/17/2020	89.2	7,496	5,601	4,408	321,580	8,231	0
39	2/17/2020	90	7,687	5,378	4,229	321,960	7,202	0
40	2/18/2020	89.7	7,630	5,294	4,271	320,000	7,332	0
41	2/18/2020	89.6	7,714	5,195	4,399	318,520	7,397	0
42	2/19/2020	90	7,676	5,456	4,632	318,900	7,384	0
43	2/19/2020	87	7,696	5,569	4,380	320,120	7,551	0
44	2/20/2020	97.1	7,855	5,587	4,200	319,040	7,363	0
45	2/20/2020	99.4	8,001	7,001	4,339	321,600	7,563	0
46	2/21/2020	76.8	7,608	5,329	3,858	280,220	8,733	0
47	2/21/2020	95.2	7,687	5,252	4,157	322,720	7,739	0
48	2/22/2020	99.3	7,896	4,976	4,124	323,380	7,581	0
49	2/22/2020	90.2	7,891	5,421	4,129	319,380	8,163	0
50	2/22/2020	99.3	7,958	5,385	3,895	319,000	7,466	0
51	2/23/2020	99.9	7,787	5,192	4,319	319,420	7,451	0
52	2/23/2020	98.7	7,542	5,360	4,622	319,660	7,438	0
53	2/23/2020	100	7,791	5,263	4,203	316,880	7,333	0



Well Name: Arthur Waryck MSH 3H 47051021830000

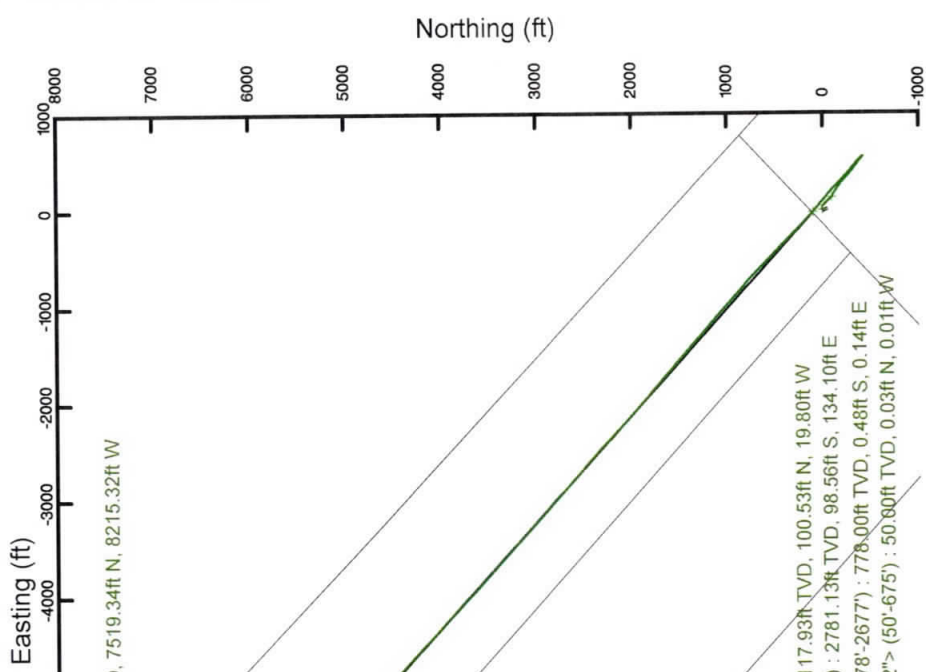
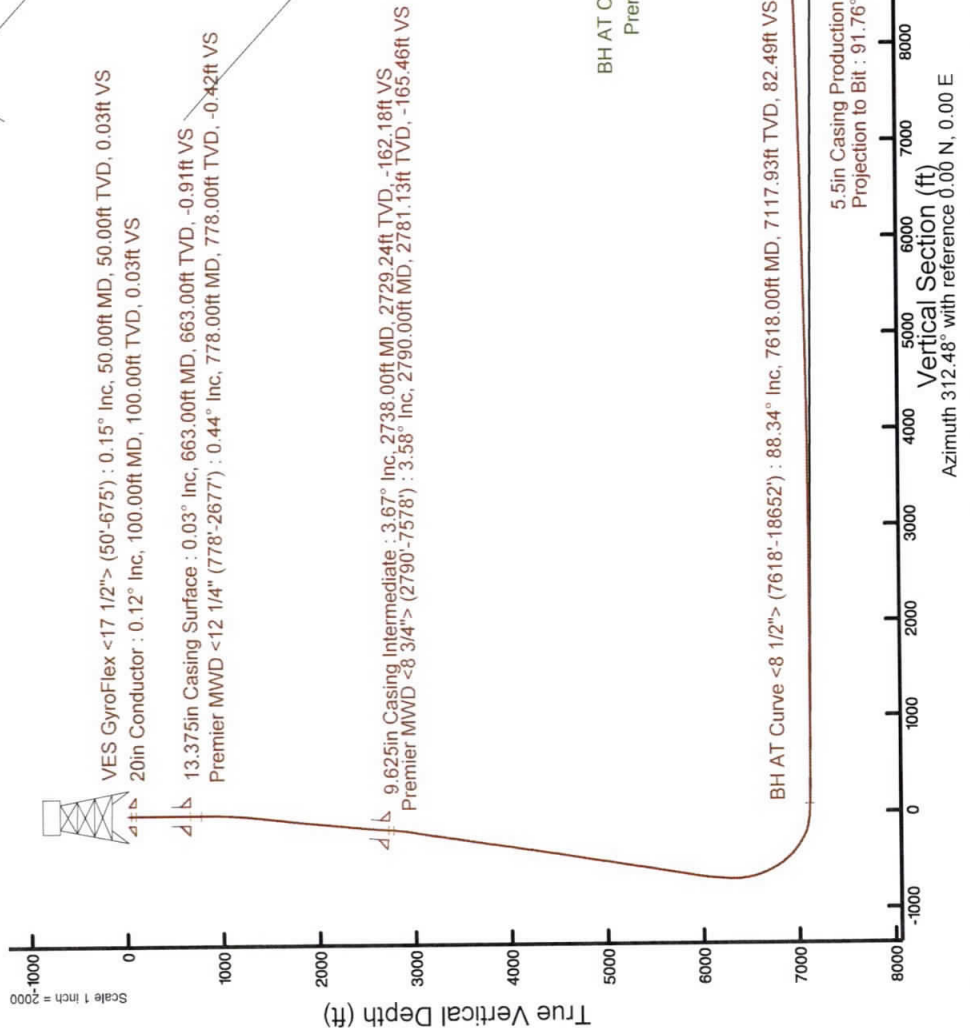
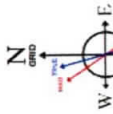
LITHOLOGY/FORMATION	TOP DEPTH, MD (FT)	TOP DEPTH, TVD (FT)	BOTTOM DEPTH, MD (FT)	BOTTOM DEPTH, TVD (FT)	QUANTITY AND TYPE OF FLUID
Base of Fresh Water	0.00	0.00	557.00	557.00	
Top of Salt Water	892.00	892.00	NA	NA	
Pittsburgh Coal	1147.00	1147.00	1208.00	1208.00	
Pottsville (ss)	1208.00	1208.00	1672.00	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)	2914.00	2905.00	6509.00	6458.00	
Rhinestreet (shale)	6509.00	6458.00	6827.00	6755.00	
Cashaqua (shale)	6827.00	6755.00	6963.00	6866.00	
Middlesex (shale)	6963.00	6866.00	7084.00	6952.00	
Burket (shale)	7084.00	6952.00	7117.00	6973.00	
Tully (ls)	7117.00	6973.00	7160.00	6998.00	
Mahantango (shale)	7160.00	6998.00	7356.00	7086.00	
Marcellus (shale)	7356.00	7086.00	NA	NA	GAS

SOUTHWESTERN ENERGY

Location: Marshall County, WV
 Slot: Slot 3H
 Field: Marshall
 Well: Arthur Waryck MSH 3H
 Facility: Arthur Waryck MSH Pad Wellbore: Arthur Waryck MSH 3H PWB

Plot reference wellpath is Arthur Waryck MSH 3H PWP Rev-A.D Grid System: NAD83 / UTM Zone 17 North, US feet
True vertical depths are referenced to SDC 46 (KB)
North Reference: Grid north
Scale: True distance
Measured depths are referenced to SDC 46 (KB)
Depths are in feet
SDC 46 (KB) to Mean Sea Level: 1352.2 feet
Created by: atenjen on 2019-08-12
Mean Sea Level to Mud line (At Slot: Slot 3H): -1326.2 feet
Coordinates are in feet referenced to Slot
Database: WA_MPL_EASTERNUS_Defn

User specified Dip: 66.75° Field: 52263.0T
 Magnetic North is 8.04 degrees West of True North (at 04/Aug/2019)
 Grid North is 0.21 degrees East of True North
 To correct azimuth from magnetic to Grid subtract 8.25 degrees
 To correct azimuth from magnetic to Grid subtract 8.25 degrees



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)	Local E (ft)	Grid North (US ft)	Grid North (US ft)
Slot 3H	51.82	-1.01	1732650.710	14426463.070
SDC 46 (KB) to Mud line (At Slot: Slot 3H)				
Mean Sea Level to Mud line (At Slot: Slot 3H)				
SDC 46 (KB) to Mean Sea Level				
-1326.2ft				
1352.2ft				

Comments

API: 47-051-02183-0000
 BH Job # 109900605
 Rig: SDC 46
 Duration: 08/05/2019 - 08/08/2019



Scale 1 inch = 2000

Vertical Section (ft)

Azimuth 312.48° with reference 0.00 N, 0.00 E

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	1/21/2020
Job End Date:	2/24/2020
State:	West Virginia
County:	Marshall
API Number:	47-051-02183-00-00
Operator Name:	Southwestern Energy
Well Name and Number:	Arthur Warcyk MSH 3H
Latitude:	39.72416800
Longitude:	-80.67196900
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	7,099
Total Base Water Volume (gal):	17,953,952
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	89.60250	Density = 8.34
Ingredients	Listed Above	Listed Above					
			Water	7732-18-5	100.00000	0.10589	

Produced Water	Halliburton	Base Fluid							
		Water			7732-18-5	100.00000	0.00932	Density = 8.50	
Sand-Common White-100 Mesh, SSA-2	Halliburton	Proppant			Listed Below				
Sand-Premium White-40/70	Halliburton	Proppant			Listed Below				
FSTI-CI-01	FSTI	Acid Corrosion Inhibitor			Listed Below				
MC MX 8-4743	MultiChem	Additive			Listed Below				
CALCIUM CHLORIDE - FLAKE	Halliburton	Additive			Listed Below				
FSTI HCl	FSTI	Acid			Listed Below				
LD-2950	MultiChem	Friction Reducer			Listed Below				
LEGEND(TM) LD-7750W	MultiChem	Scale Control			Listed Below				

FSTI-IC-001	FSTI	Iron Control Agent			Listed Below				
					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	Proprietary	100.00000	10.18501		
			Complex Amine Compound		Proprietary	60.00000	0.05391		
			Hydrotreated light petroleum distillate	64742-47-8		30.00000	0.02696		
			Sodium nitrate	7631-99-4		60.00000	0.02313		
			Hydrochloric acid	7647-01-0		36.00000	0.02202		
			Methanol	67-56-1		80.00000	0.00837		
			Ethoxylated alcohols	Proprietary		5.00000	0.00449		
			Sodium molybdate	10102-40-6		5.00000	0.00193		
			Acetic acid	64-19-7		60.00000	0.00092		
			Adipic acid	124-04-9		1.00000	0.00090		
			Poly(oxy-1,2-ethanediyl), alpha-tridecyl-omega-hydroxy-, branched	69011-36-5		1.00000	0.00090		
			Sodium chloride	7647-14-5		5.00000	0.00071		
			Phosphoric Acid Salt	Proprietary		5.00000	0.00067		
			Citric acid	77-92-9		40.00000	0.00061		
			Calcium chloride	10043-52-4		100.00000	0.00012		
			Fatty acids	Trade Secret		10.00000	0.00004		
			Monopotassium phosphate	7778-77-0		0.10000	0.00004		
			Sodium acetate	127-09-3		0.10000	0.00004		
			Sodium lactate	72-17-3		0.10000	0.00004		
			Yeast extract	8013-01-2		0.10000	0.00004		
			Formaldehyde	50-00-0		0.10000	0.00001		
			Potassium chloride	7447-40-7		5.00000	0.00001		



			Strontium chloride	10476-85-4	5.00000	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)

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	APPALACHIAN MIDSTREAM SERVICES, LLC (S)	09-21-05
3	APPALACHIAN MIDSTREAM SERVICES, LLC (S)	09-21-03
4	ROSELAND PROPERTY, LLC (S)	09-21-02
5	PATRICK A. FROHNAPFEL & LISA A. FROHNAPFEL (S)	09-20-11
6	NILA J. FROHNAPFEL (S)	09-18-14
7	CLEMENT E. FROHNAPFEL & BRENDA L. FROHNAPFEL (S)	09-18-13

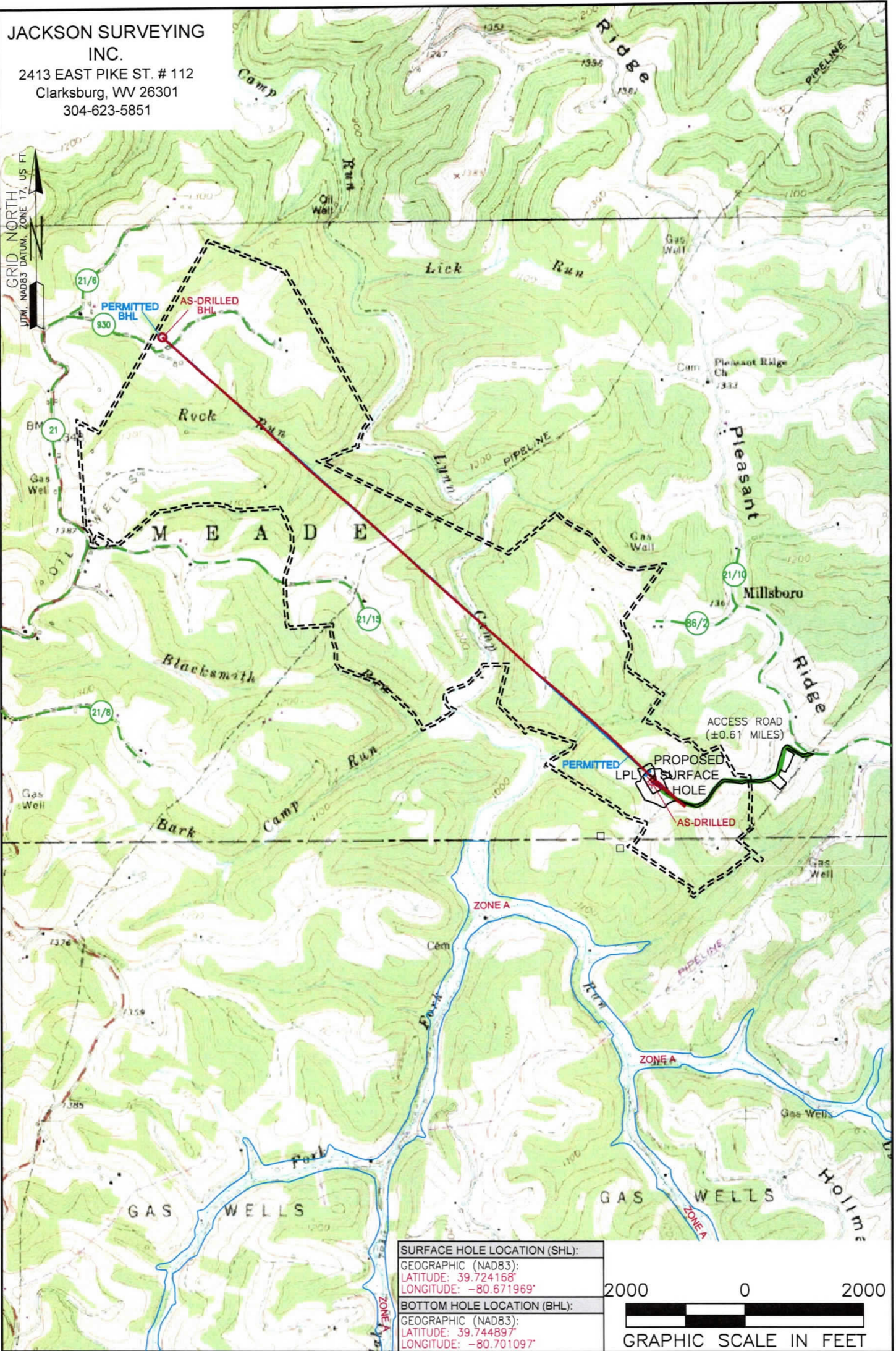
ADJOINING OWNERS TABLE		
TRACT	SURFACE OWNER	TAX PARCEL
A	MASON DIXON FARMS, LLC	09-21-11
B	ANORAH C. SCHOSTAG & RYAN U. SCHOSTAG	09-21-10.1
C	ZACHARY M. BLAIR	09-21-13
D	ZACHARY M. BLAIR	09-21-14
E	ZACHARY M. BLAIR	09-21-16
F	ZACHARY M. BLAIR	09-21-04
G	DAVID PAUL WEIGAND	09-20-12.1
H	ELEANOR T. & JAMES B. MILLER	09-20-8
I	ELEANOR T. & JAMES B. MILLER	09-20-9.2
J	ELEANOR T. & JAMES B. MILLER	09-20-9.1
K	JAMES MILLER ET UX	09-20-9.6
L	JAMES MILLER ET UX	09-20-9.5
M	DAVID PAUL FROHNAPFEL	09-20-7.1
N	ROBERT F. VILLERS	09-18-16
O	ROBERT F. VILLERS & APRIL L. VILLERS	09-18-16.4
P	VINCENT J. WAYMAN ET UX	09-18-17
Q	DOUGLAS J. WAYMAN ET UX	09-18-8
R	LOUIS T. FOX	09-19-19.1
S	MASON DIXON FARMS, LLC	09-21-22
T	CLEMENT E. FROHNAPFEL & BRENDA FROHNAPFEL	09-18-13.1

REVISIONS:	COMPANY:		 	
	OPERATOR'S	ARTHUR WARYCK MSH	API # 47-051-02183	DATE: 03-24-2020
	WELL #:	3H		DRAWN BY: N. MANO
	DISTRICT:	MEADE	COUNTY:	MARSHALL
			STATE:	WV
				SCALE: N/A
				DRAWING NO:
				WELL LOCATION PLAT 2

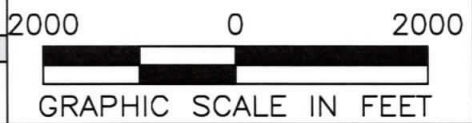
**JACKSON SURVEYING
INC.**

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: 39.724168°	
LONGITUDE: -80.671969°	
BOTTOM HOLE LOCATION (BHL):	
GEOGRAPHIC (NAD83):	
LATITUDE: 39.744897°	
LONGITUDE: -80.701097°	



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
- W EXISTING WATER WELL
- S 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 # 3H	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 # 47-051-02183	

Latitude: 39°45'00"

SURFACE HOLE 1491'

Latitude: 39°45'00"

BOTTOM HOLE 9681'

JACKSON SURVEYING INC.

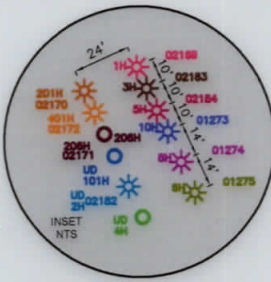
2413 EAST PIKE ST. # 112
Clarksburg, WV 26301
304-623-5851

SURFACE HOLE LOCATION (SHL):
UTM (NAD83, ZONE 17, METERS):
NORTHING: 4,397,194.739
EASTING: 528,112.993

LANDING POINT LOCATION (LPL):
UTM (NAD83, ZONE 17, METERS):
NORTHING: 4,397,217.435
EASTING: 528,116.187

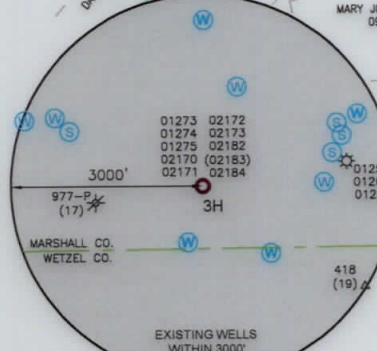
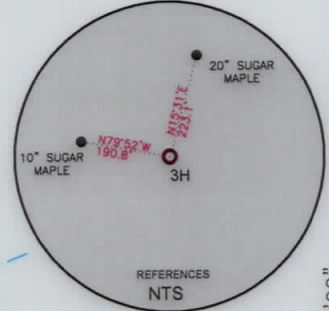
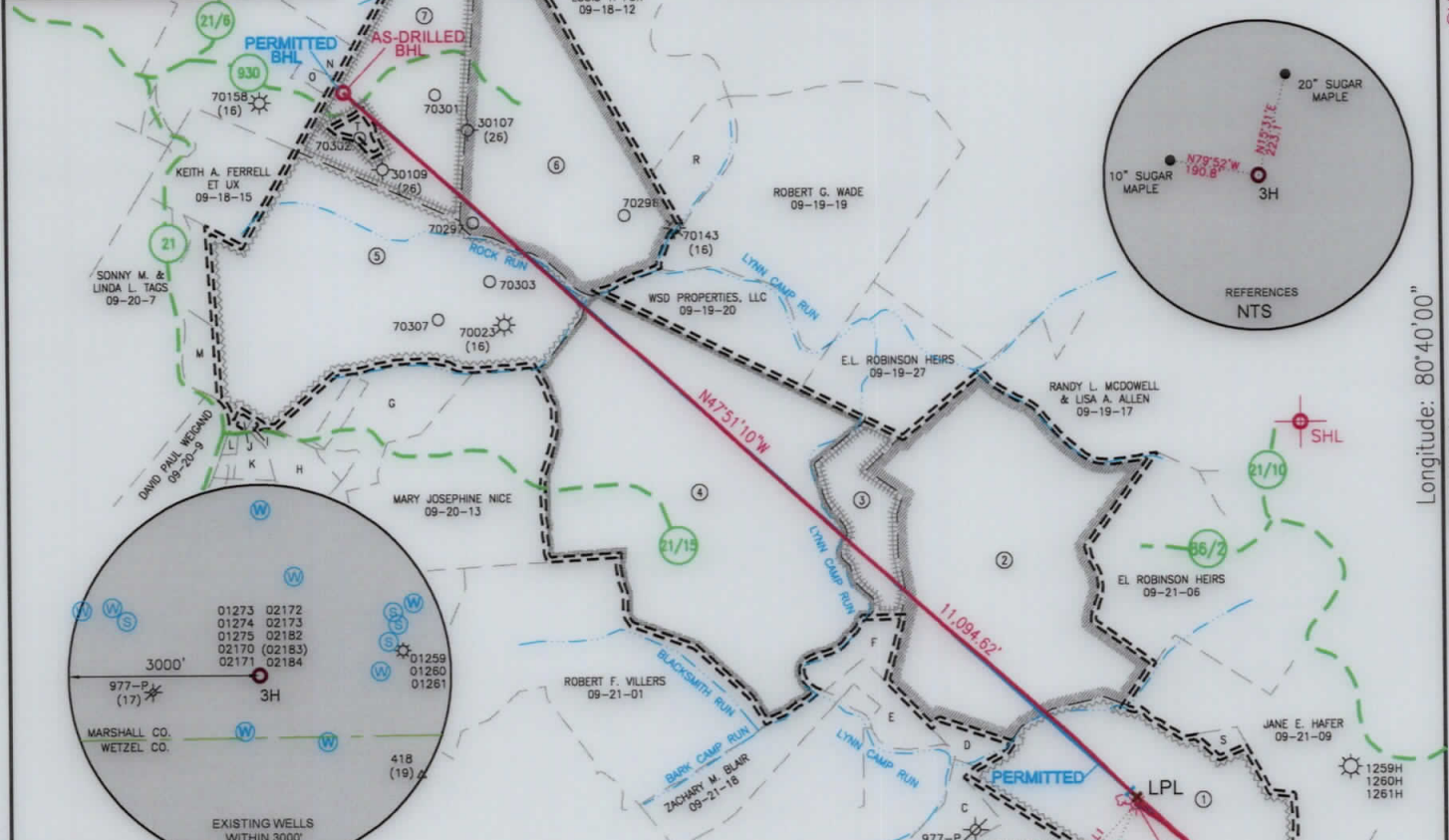
BOTTOM HOLE LOCATION (BHL):
UTM (NAD83, ZONE 17, METERS):
NORTHING: 4,399,486.648
EASTING: 525,608.955

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



SURFACE HOLE LOCATION (SHL):	
UTM (NAD83, ZONE 17, METERS):	
NORTHING: 4,397,194.739	EASTING: 528,112.919
LANDING POINT LOCATION (LPL):	
UTM (NAD83, ZONE 17, METERS):	
NORTHING: 4,397,237.267	EASTING: 528,093.114
BOTTOM HOLE LOCATION (BHL):	
UTM (NAD83, ZONE 17, METERS):	
NORTHING: 4,399,486.491	EASTING: 525,610.369

LINE	BEARING	DISTANCE	DESCRIPTION	MONUMENT
L1	S 43°24'49" W	1257.50'	SHL TO LANDMARK	FOUND STONE
L2	S 25°27'05" W	1244.80'	SHL TO LANDMARK	FENCE CORNER
LINE	BEARING	DISTANCE	CURVE LENGTH	DESCRIPTION
L3	N 08°00'42" E	75.19'	1450.08'	SHL TO LPL



WELL RESTRICTIONS

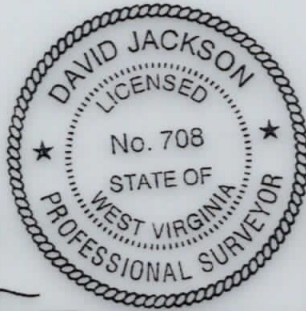
1. NO OCCUPIED DWELLINGS > 2500 SQ FT. WITHIN 625 FEET OF CENTER OF PAD.
2. NO AGRICULTURE BUILDINGS > 2500 SQ FT. WITHIN 625 FEET OF CENTER OF PAD.
3. NO WATER WELLS OR DEVELOPED SPRINGS ARE WITHIN 250 FEET OF PROPOSED WELL.
4. NO PERENNIAL STREAMS, LAKES, PONDS, OR RESERVOIRS WITHIN 100 FEET OF THE 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.
 3. 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.

P.S. 708

David L Jackson



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

ARTHUR WARYCK MSH
OPERATOR'S WELL #: 3H
API WELL #: 47 STATE 051 COUNTY PERMIT 02183

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

WATERSHED: LYNN CAMP RUN OF FISK CREEK (HUC-10) ELEVATION: 1326.2'

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: 7,129 TVD 18,677 TMD

WELL OPERATOR: SWN PRODUCTION COMPANY, LLC DESIGNATED AGENT: BRITTANY WOODY
ADDRESS: 1300 FORT PIERPONT ROAD, SUITE 200 ADDRESS: 3000 BORDEN PIERPONT ROAD, SUITE 200
CITY: MORGANTOWN STATE: WV ZIP CODE: 26508 CITY: MORGANTOWN STATE: WV ZIP CODE: 26508

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

WELL LOCATION PLAT DRAWING NO: SCALE: 1" = 2000' DRAWN BY: N. MANO REVISIONS:	LEGEND: PROPOSED SURFACE HOLE \ BOTTOM HOLE EXISTING \ PRODUCING WELLHEAD L.P.L. LANDING POINT LOCATION EXISTING WATER WELL EXISTING SPRING
CITY: MORGANTOWN STATE: WV ZIP CODE: 26508 ADDRESS: 1300 FORT PIERPONT ROAD, SUITE 200 CITY: MORGANTOWN STATE: WV ZIP CODE: 26508 ADDRESS: 1300 FORT PIERPONT ROAD, SUITE 200 DESIGNATED AGENT: BRITANNY WOODY	CITY: MORGANTOWN STATE: WV ZIP CODE: 26508 ADDRESS: 1300 FORT PIERPONT ROAD, SUITE 200 CITY: MORGANTOWN STATE: WV ZIP CODE: 26508 ADDRESS: 1300 FORT PIERPONT ROAD, SUITE 200 DESIGNATED AGENT: BRITANNY WOODY

TARGET FORMATION: MARCELLUS ESTIMATED DEPTH: 7,150 TVD 18,677 TMD CONVERT <input type="checkbox"/> PLUG & ABANDON <input type="checkbox"/> CLEAN OUT & REPLUG <input type="checkbox"/> OTHER CHANGE <input checked="" type="checkbox"/> (SPECIFY) ASDRILLED DRILL DEEPER <input type="checkbox"/> REDRILL <input type="checkbox"/> FRACTURE OR STIMULATE <input type="checkbox"/> PLUG OFF OLD FORMATION <input type="checkbox"/> PERFORATE NEW FORMATION <input type="checkbox"/>	OIL & GAS ROYALTY OWNER: CHARLES W. CAIN & PEARL CAIN SURFACE OWNER: A. MICHAEL WARWYCK & DEBORAH ELLEN WARWYCK DISTRICT: MEADE COUNTY: MARSHALL WATERSHED: LYNN CAMP RUN OF FISK CREEK (HUC-10) WELL TYPE: OIL <input type="checkbox"/> WASTE DISPOSAL <input type="checkbox"/> PRODUCTION <input checked="" type="checkbox"/> DEEP <input type="checkbox"/> GAS <input checked="" type="checkbox"/> LIQUID INJECTION <input type="checkbox"/> STORAGE <input type="checkbox"/> SHALLOW <input checked="" type="checkbox"/>
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ELEVATION: (NAVD 88, US FT) SOURCE OF GRADE GPS PROVEN SURVEY ACCURACY: 1/200 (+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS	CHARLESTON, WV 25034 OFFICE OF OIL & GAS 801 27TH STREET WDEP STATE OF WEST VIRGINIA
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API WELL #: 47 STATE: WV COUNTY: PERMIT 051 02183	OPERATOR'S WELL #: 3H ARTHUR WARWYCK MSH
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COMPANY: SWN Production Company, LLC



LINE 1: 2 43.24°48' W 1257.20' LINE 2: 2 52.57°02' W 1244.80' LINE 3: N 08.00°45' E 72.19'	DESCRIPTION: SHL TO L.P. CURVE LENGTH: 1420.08' SHL TO L.P.
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SURFACE HOLE LOCATION (SHL): UTM (NAD83, ZONE 17, METERS): NORTHING: 4307104.730 EASTING: 528112.919	LANDING POINT LOCATION (L.P.): UTM (NAD83, ZONE 17, METERS): NORTHING: 4307237.267 EASTING: 528093.114
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BOTTOM HOLE LOCATION (BHL): UTM (NAD83, ZONE 17, METERS): NORTHING: 4309486.491 EASTING: 528610.289	UTM (NAD83, ZONE 17, METERS): NORTHING: 4307217.432 EASTING: 528116.182
--	---

UTM (NAD83, ZONE 17, METERS): NORTHING: 4309486.491 EASTING: 528610.289	UTM (NAD83, ZONE 17, METERS): NORTHING: 4307217.432 EASTING: 528116.182
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UTM (NAD83, ZONE 17, METERS): NORTHING: 4307217.432 EASTING: 528116.182	UTM (NAD83, ZONE 17, METERS): NORTHING: 4307104.730 EASTING: 528112.919
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UTM (NAD83, ZONE 17, METERS): NORTHING: 4307104.730 EASTING: 528112.919	UTM (NAD83, ZONE 17, METERS): NORTHING: 4307237.267 EASTING: 528093.114
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UTM (NAD83, ZONE 17, METERS): NORTHING: 4307237.267 EASTING: 528093.114	UTM (NAD83, ZONE 17, METERS): NORTHING: 4309486.491 EASTING: 528610.289
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UTM (NAD83, ZONE 17, METERS): NORTHING: 4309486.491 EASTING: 528610.289	UTM (NAD83, ZONE 17, METERS): NORTHING: 4307217.432 EASTING: 528116.182
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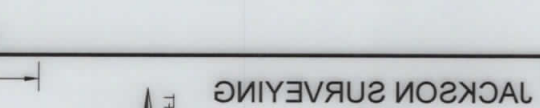
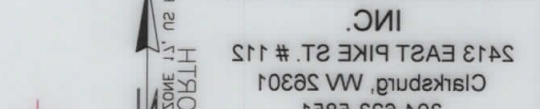
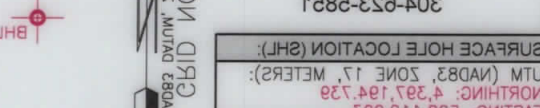
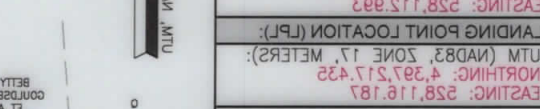
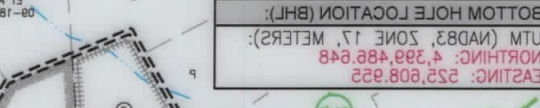
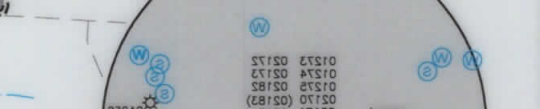
UTM (NAD83, ZONE 17, METERS): NORTHING: 4307104.730 EASTING: 528112.919	UTM (NAD83, ZONE 17, METERS): NORTHING: 4307237.267 EASTING: 528093.114
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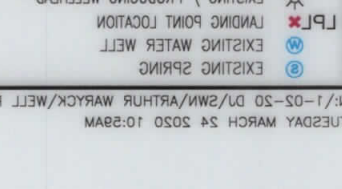
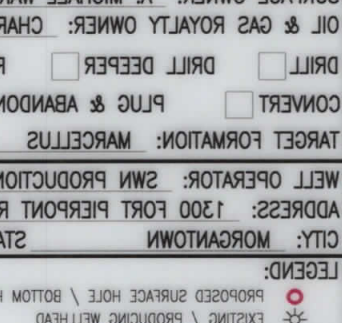
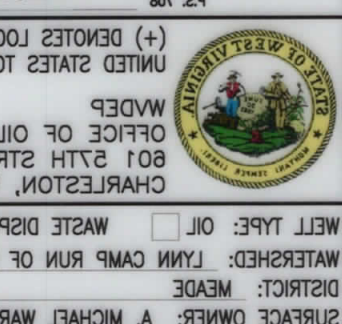
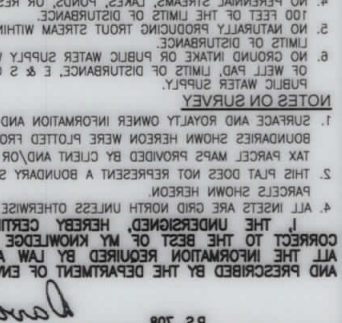
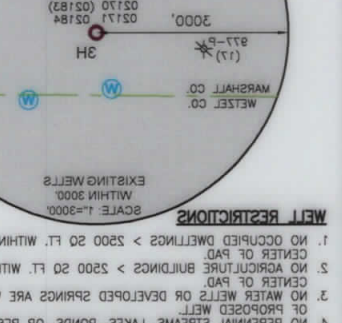
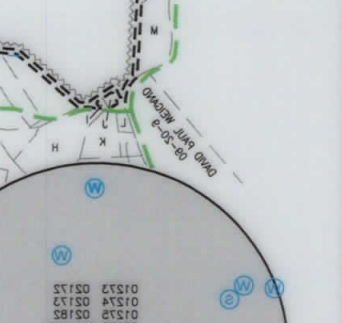
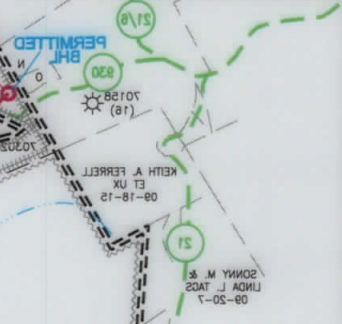
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WELL RESTRICTIONS:
 1. NO OCCUPIED DWELLINGS > 2500 SQ FT WITHIN 825 FEET OF CENTER OF PAD.
 2. NO AGRICULTURAL BUILDINGS > 2500 SQ FT WITHIN 825 FEET OF CENTER OF PAD.
 3. NO WATER WELLS OR DEVELOPED SPRINGS ARE WITHIN 250 FEET OF PROPOSED WELL.
 4. NO PERMANENT STREAMS, LAKES, PONDS, OR RESERVOIRS WITHIN 100 FEET OF THE LIMITS OF DISTURBANCE.
 5. NO NATURALLY PRODUCING TIGHTLY CONFINED STRATA WITHIN 300 FEET OF LIMITS OF DISTURBANCE.
 6. NO GROUND INTAKE OR PUBLIC WATER SUPPLY WITHIN 1000 FEET OF WELL. LIMITS OF DISTURBANCE: E & S CONTROLS OR PUBLIC WATER SUPPLY.




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

SURFACE HOLE LOCATION (SHL): UTM (NAD83, ZONE 17, METERS): NORTHING: 4307104.730 EASTING: 528112.919	UTM (NAD83, ZONE 17, METERS): NORTHING: 4307237.267 EASTING: 528093.114
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BOTTOM HOLE LOCATION (BHL): UTM (NAD83, ZONE 17, METERS): NORTHING: 4309486.491 EASTING: 528610.289	UTM (NAD83, ZONE 17, METERS): NORTHING: 4307217.432 EASTING: 528116.182



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	APPALACHIAN MIDSTREAM SERVICES, LLC (S)	09-21-05
3	APPALACHIAN MIDSTREAM SERVICES, LLC (S)	09-21-03
4	ROSELAND PROPERTY, LLC (S)	09-21-02
5	PATRICK A. FROHNAPFEL & LISA A. FROHNAPFEL (S)	09-20-11
6	NILA J. FROHNAPFEL (S)	09-18-14
7	CLEMENT E. FROHNAPFEL & BRENDA L. FROHNAPFEL (S)	09-18-13

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	09-21-14
E	ZACHARY M. BLAIR	09-21-16
F	ZACHARY M. BLAIR	09-21-04
G	DAVID PAUL WEIGAND	09-20-12.1
H	ELEANOR T. & JAMES B. MILLER	09-20-8
I	ELEANOR T. & JAMES B. MILLER	09-20-9.2
J	ELEANOR T. & JAMES B. MILLER	09-20-9.1
K	JAMES MILLER ET UX	09-20-9.6
L	JAMES MILLER ET UX	09-20-9.5
M	DAVID PAUL FROHNAPFEL	09-20-7.1
N	ROBERT F. VILLERS	09-18-16
O	ROBERT F. VILLERS & APRIL L. VILLERS	09-18-16.4
P	VINCENT J. WAYMAN ET UX	09-18-17
Q	DOUGLAS J. WAYMAN ET UX	09-18-8
R	LOUIS T. FOX	09-19-19.1
S	MASON DIXON FARMS, LLC	09-21-22
T	CLEMENT E. FROHNAPFEL & BRENDA FROHNAPFEL	09-18-13.1

REVISIONS:	COMPANY:			
	OPERATOR'S		ARTHUR WARYCK MSH	DATE: 03-24-2020
	WELL #:		3H	DRAWN BY: N. MANO
	DISTRICT:	COUNTY:	STATE:	SCALE: N/A
	MEADE	MARSHALL	WV	DRAWING NO:
				WELL LOCATION PLAT 2

WELL LOCATION PLAT 2		DRAWING NO:	DISTRICT:	MEADE	REVISIONS:
SCALE: N/A		STATE:	COUNTY:	MARSHALL	
DRAWN BY: N. MAND		WV			
DATE: 03-24-2020		APR # 47-021-02183	OPERATOR'S:	ARTHUR WARYCK MSH	
			WELL #:	3H	
			COMPANY:	SWN Production Company, LLC	

TRACT	SURFACE OWNER	TAX PARCEL
T	CLEMENT E. FROHNAPFEL & BRENDA FROHNAPFEL	09-18-13.1
S	MASON DIXON FARMS, LLC	09-21-22
R	LOUIS T. FOX	09-19-19.1
Q	DOUGLAS J. WAYMAN ET UX	09-18-8
P	VINCENT J. WAYMAN ET UX	09-18-17
O	ROBERT F. VILLERS & APRIL L. VILLERS	09-18-16.4
N	ROBERT F. VILLERS	09-18-16
M	DAVID PAUL FROHNAPFEL	09-20-7.1
L	JAMES MILLER ET UX	09-20-9.2
K	JAMES MILLER ET UX	09-20-9.6
J	ELEANOR T. & JAMES B. MILLER	09-20-9.1
I	ELEANOR T. & JAMES B. MILLER	09-20-9.2
H	ELEANOR T. & JAMES B. MILLER	09-20-8
G	DAVID PAUL WEIGAND	09-20-12.1
F	ZACHARY M. BLAIR	09-21-04
E	ZACHARY M. BLAIR	09-21-16
D	ZACHARY M. BLAIR	09-21-14
C	ZACHARY M. BLAIR	09-21-13
B	ANDRAH C. SCHOSTAG & RYAN U. SCHOSTAG	09-21-10.1
A	MASON DIXON FARMS, LLC	09-21-11

TRACT	SURFACE OWNER	TAX PARCEL
7	CLEMENT E. FROHNAPFEL & BRENDA L. FROHNAPFEL (2)	09-18-13
6	NILA J. FROHNAPFEL (2)	09-18-14
5	PATRICK A. FROHNAPFEL & LISA A. FROHNAPFEL (2)	09-20-11
4	ROSELAND PROPERTY, LLC (2)	09-21-02
3	APPALACHIAN MIDSTREAM SERVICES, LLC (2)	09-21-03
2	APPALACHIAN MIDSTREAM SERVICES, LLC (2)	09-21-05
1	A. MICHAEL WARYCK & DEBORAH ELLEN WARYCK (2) \ CHARLES W. CAIN & PEARL CAIN (R)	09-21-10

WELL BORE TABLE FOR SURFACE \ ROYALTY OWNERS

ADJOINING OWNERS TABLE