

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

API 47-051-02170 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 201H
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 4,397,194.539 Easting 528,104.953
Landing Point of Curve Northing 4,397,054.916 Easting 527,566.425
Bottom Hole Northing 4,399,044.011 Easting 525,350.040

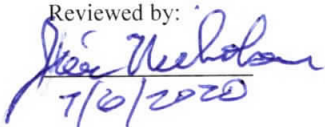
Elevation (ft) 1,325.6 GL Type of Well New Existing Type of Report Interim Final
Permit Type Deviated Horizontal Horizontal 6A Vertical Depth Type Deep Shallow
Type of Operation Convert Deepen Drill Plug Back Redrilling Rework Stimulate
Well Type Brine Disposal CBM Gas Oil Secondary Recovery Solution 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 08/23/2019 Date drilling ceased 09/06/2019
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:

7/6/2020

API 47- 051 - 02170

Farm name A. MICHAEL WARYCK & DEBORAH ELLEN WARYCK Well number ARTHUR WARYCK MSH 201H

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, 45
Coal	SEE INTERMEDIATE						
Intermediate 1	12.25	9.625	2,737	NEW	J-55/36#		Y, 58
Intermediate 2							
Intermediate 3							
Production	8.75/8.50	5.5	17,470	NEW	P-110/20#		Y, 50
Tubing		2.875	7,744	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	682	15.60	1.19	811.58	SURFACE	8
Coal	SEE INTERMEDIATE						
Intermediate 1	CLASS A	1,103	16.00	1.12	1,235.36	SURFACE	8
Intermediate 2							
Intermediate 3							
Production	CLASS A	3,083	15.60	1.18	3,637.94	SURFACE	24
Tubing							

Drillers TD (ft) 17,512' Loggers TD (ft) 17,512'
 Deepest formation penetrated MARCELLUS Plug back to (ft) N/A
 Plug back procedure N/A

Kick off depth (ft) 6,594'

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- 051 - 02170 Farm name A. MICHAEL WARYCK & DEBORAH ELLEN WARYCK Well number ARTHUR WARYCK MSH 201H

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 Nitrogen/other (units)
		SEE	ATTACHMENT	2				

Please insert additional pages as applicable.

API 47- 051 - 02170 Farm name A. MICHAEL WARYCK & DEBORAH ELLEN WARYCK Well number ARTHUR WARYCK MSH 201H

PRODUCING FORMATION(S)	DEPTHS	
<u>MARCELLUS</u>	<u>7,086'</u> TVD	<u>7,561'</u> MD
_____	_____	_____
_____	_____	_____
_____	_____	_____

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump

SHUT-IN PRESSURE Surface 2,938 psi Bottom Hole _____ psi DURATION OF TEST _____ hrs

OPEN FLOW Gas Oil NGL Water GAS MEASURED BY
8,188 mcfpd 192 bpd _____ bpd 247 bpd Estimated Orifice Pilot

LITHOLOGY/ FORMATION	TOP DEPTH IN FT NAME TVD	BOTTOM DEPTH IN FT TVD	TOP DEPTH IN FT MD	BOTTOM DEPTH IN FT MD	DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H ₂ S, ETC)
	<u>0</u>		<u>0</u>		
	<u>SEE</u>	<u>ATTACHMENT</u>	<u>3</u>		

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  Title Staff Regulatory Analyst Date 06/19/2020

**ARTHUR WARYCK MSH 201H
ATTACHMENT 1
PERF REPORT**

STAGE NUM	Perf Date	Perf Top MD	Perf Bottom MD	# SHOTS PER STG
2	2/25/2020	17,294	17,116	36
3	2/25/2020	17,083	16,905	36
4	2/26/2020	16,872	16,694	36
5	2/26/2020	16,660	16,482	36
6	2/27/2020	16,449	16,269	36
7	2/27/2020	16,238	16,060	36
8	2/28/2020	16,025	15,849	36
9	2/28/2020	15,816	15,638	36
10	2/29/2020	15,604	15,426	36
11	2/29/2020	15,393	15,215	36
12	2/29/2020	15,182	15,004	36
13	3/1/2020	14,971	14,793	36
14	3/1/2020	14,760	14,579	36
15	3/1/2020	14,543	14,370	36
16	3/2/2020	14,333	14,159	36
17	3/2/2020	14,126	13,948	36
18	3/2/2020	13,915	13,737	36
19	3/3/2020	13,704	13,526	36
20	3/3/2020	13,492	13,314	36
21	3/3/2020	13,281	13,103	36
22	3/4/2020	13,070	12,888	36
23	3/5/2020	12,859	12,681	36
24	3/5/2020	12,649	12,470	36
25	3/5/2020	12,436	12,258	36
26	3/6/2020	12,225	12,047	36
27	3/6/2020	12,014	11,836	36
28	3/7/2020	11,803	11,625	36
29	3/7/2020	11,592	11,414	36
30	3/8/2020	11,380	11,202	36
31	3/9/2020	11,169	10,993	36
32	3/9/2020	10,958	10,781	36
33	3/10/2020	10,747	10,569	36
34	3/10/2020	10,536	10,356	36
35	3/10/2020	10,324	10,146	36
36	3/11/2020	10,113	9,935	36
37	3/11/2020	9,902	9,724	36
38	3/12/2020	9,691	9,513	36
39	3/12/2020	9,480	9,302	36
40	3/13/2020	9,268	9,090	36
41	3/13/2020	9,057	8,879	36
42	3/14/2020	8,846	8,668	36
43	3/14/2020	8,635	8,457	36
44	3/14/2020	8,424	8,245	36
45	3/15/2020	8,216	8,034	36
46	3/15/2020	8,001	7,823	36
47	3/16/2020	7,790	7,610	36

ARTHUR WARYCK MSH 201H

ATTACHMENT 2

STIM REPORT

STAGE NUM	Stim Date	Ave Pump Rate (BPM)	Ave Treatment	Max Breakdown	ISIP (PSI)	Amount of Proppant (lbs)	Amount of water bbls	Amount of nitrogen/othe
2	2/25/2020	84	8,034	6,491	4,278	320,760	8,390	0
3	2/26/2020	91.8	8,134	5,738	4,550	319,860	8,600	0
4	2/26/2020	90	8,181	6,123	4,694	321,700	8,237	0
5	2/27/2020	86.9	8,046	5,913	4,727	320,300	8,235	0
6	2/27/2020	86	7,954	5,870	4,777	320,400	8,122	0
7	2/28/2020	85.7	8,069	5,871	4,908	320,480	7,982	0
8	2/28/2020	84.4	8,033	6,064	4,849	323,280	8,056	0
9	2/29/2020	83.8	8,041	6,025	4,780	316,340	7,540	0
10	2/29/2020	84.6	8,473	8,553	4,823	318,380	7,713	0
11	2/29/2020	90.6	8,109	5,559	4,955	319,160	7,677	0
12	3/1/2020	89.8	8,188	5,976	4,785	325,240	7,458	0
13	3/1/2020	87.5	8,513	8,513	5,109	320,600	7,815	0
14	3/1/2020	90.6	8,469	8,663	4,774	322,680	7,864	0
15	3/1/2020	93.5	8,263	5,010	4,856	320,460	7,431	0
16	3/2/2020	89	8,232	6,101	4,761	321,640	7,765	0
17	3/2/2020	87.5	8,237	7,169	4,817	322,820	7,772	0
18	3/2/2020	86.6	7,985	6,679	4,960	322,440	7,330	0
19	3/3/2020	89.2	8,286	7,324	5,112	322,180	7,736	0
20	3/3/2020	91.8	8,287	8,562	5,147	322,640	7,505	0
21	3/4/2020	87.3	8,102	8,768	4,758	313,010	8,267	0
22	3/4/2020	78.9	8,054	5,682	5,340	321,800	9,946	0
23	3/5/2020	90	8,211	5,465	5,306	319,700	7,833	0
24	3/5/2020	86	8,241	5,987	4,472	317,720	8,003	0
25	3/6/2020	90.6	8,375	6,287	4,864	320,740	7,643	0
26	3/6/2020	89	8,208	8,503	4,467	321,100	7,561	0
27	3/7/2020	91.4	8,242	6,272	4,386	324,880	7,734	0
28	3/7/2020	90	8,231	6,450	4,833	322,700	7,640	0
29	3/8/2020	88	8,383	7,588	4,801	305,580	7,691	0
30	3/9/2020	91.1	8,198	5,836	4,076	319,140	7,902	0
31	3/9/2020	96.7	8,085	5,864	4,369	321,520	7,590	0
32	3/9/2020	97	8,160	5,849	4,249	319,700	9,435	0
33	3/10/2020	90.6	7,641	5,621	4,336	321,060	7,694	0
34	3/10/2020	93	7,512	5,718	4,438	323,320	7,686	0
35	3/11/2020	88.7	7,458	5,665	4,052	321,360	7,458	0
36	3/11/2020	94	7,485	5,764	4,257	323,920	7,727	0
37	3/12/2020	93.3	7,783	5,845	4,445	321,780	7,508	0
38	3/12/2020	94.9	7,781	5,976	4,369	320,680	7,433	0
39	3/13/2020	88.2	7,562	5,519	4,640	319,200	7,438	0
40	3/13/2020	93.6	7,721	6,185	4,590	319,160	7,462	0
41	3/13/2020	93.3	7,939	6,155	4,678	317,020	7,488	0
42	3/14/2020	98.1	7,901	5,897	4,536	317,360	7,369	0
43	3/14/2020	94.6	7,619	6,280	4,839	318,340	7,250	0
44	3/15/2020	96.8	7,512	5,836	4,734	315,040	7,315	0
45	3/15/2020	99.1	7,660	6,168	4,497	323,200	7,322	0
46	3/16/2020	93	7,438	5,880	4,255	320,920	7,208	0
47	3/16/2020	90.1	7,101	6,301	4,415	320,520	7,339	0



Well Name: Arthur Waryck MSH 201H 47051021700000

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)	6721.00	6473.00	7050.00	6759.00	
Cashaqua (shale)	7050.00	6759.00	7188.00	6867.00	
Middlesex (shale)	7188.00	6867.00	7306.00	6952.00	
Burket (shale)	7306.00	6952.00	7338.00	6972.00	
Tully (ls)	7338.00	6972.00	7374.00	6996.00	
Mahantango (shale)	7374.00	6996.00	7561.00	7086.00	
Marcellus (shale)	7561.00	7086.00	NA	NA	GAS

SOUTHWESTERN ENERGY

Location: Marshall County, WV Slot: 201H
 Field: Marshall Well: Arthur Waryck MSH 201H
 Facility: Arthur Waryck MSH Pad Wellbore: Arthur Waryck MSH 201H PWB

Plot reference wellpath is Arthur Waryck MSH 201H 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: 1351.8 feet Depths are in feet

Mean Sea Level to Mud line (At Slot: Slot 201H): -1325.8 feet Created by: atenjen on 2019-09-05

Coordinates are in feet referenced to Slot Database: WA_MPL_EASTERNUS_Defn

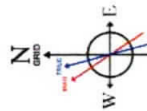


Location Information

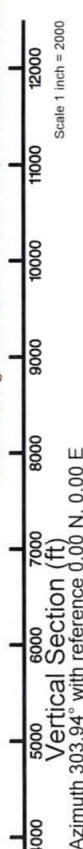
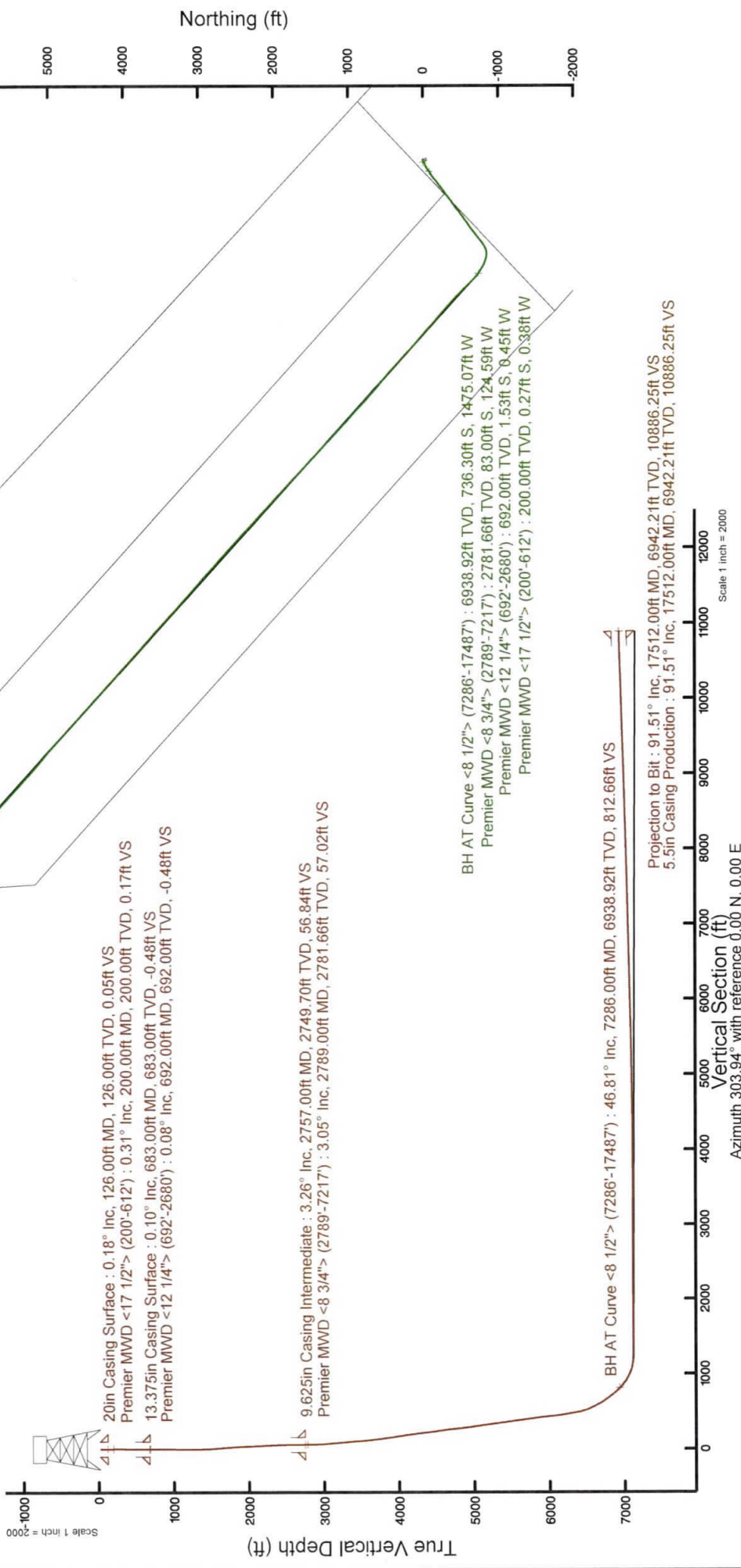
Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
Arthur Waryck MSH Pad	1732651.719	14426411.271	39°43'26.493"N	80°40'19.078"W
Slot	Local N (ft)	Local E (ft)	Local N (ft)	Local E (ft)
Slot 201H	51.17	-27.40	1732624.330	14426462.420
SDC 46 (KB) to Mud line (At Slot: Slot 201H)				
Mean Sea Level to Mud line (At Slot: Slot 201H)				
SDC 46 (KB) to Mean Sea Level				
-1325.8ft				
1351.8ft				

Comments

API: 47-05-10217-0000
 BH Job #: 109971173A
 Rig: SDC 46
 Duration: 09/02/2019 - 09/04/2019



User specified Dip: 66.75° Field: 52255 nT
 Magnetic North is 8.04 degrees West of True North (at 28/Aug/2019)
 To correct azimuths from Magnetic to True, add 8.04 degrees
 To correct azimuths from True to Magnetic, subtract 8.04 degrees
 To correct azimuth from Magnetic to Grid, subtract 8.25 degrees



Vertical Section (ft)
 Azimuth 303.94° with reference 0.00 N, 0.00 E
 Scale 1 inch = 2000

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	2/24/2020
Job End Date:	3/16/2020
State:	West Virginia
County:	Marshall
API Number:	47-051-02170-00-00
Operator Name:	Southwestern Energy
Well Name and Number:	Arthur Waryck MSH 201H
Latitude:	39.72416700
Longitude:	-80.67206300
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	7,066
Total Base Water Volume (gal):	15,356,508
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	87.22154	Density = 8.34
Produced Water	Halliburton	Base Fluid					
			Water	7732-18-5	100.00000	2.14126	Density = 8.50

Ingredients	Listed Above	Listed Above	Listed Above						
				Water	7732-18-5	100.00000	0.11550		
Sand-Common White-100 Mesh, SSA-2	Halliburton	Proppant							
FSTI-IC-001	FSTI	Iron Control Agent			Listed Below				
Sand-Premium White-40/70	Halliburton	Proppant							
FSTI HCl	FSTI	Acid			Listed Below				
LD-2950	MultiChem	Friction Reducer							
LEGEND(TM) LD-7750W	MultiChem	Scale Control			Listed Below				
FSTI-CI-01	FSTI	Acid Corrosion Inhibitor							
MC MX 8-4743	MultiChem	Additive			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	100.00000	10.39290
					Complex Amine Compound	Proprietary	60.00000	0.06464
					Hydrotreated light petroleum distillate	64742-47-8	30.00000	0.03232
					Hydrochloric acid	7647-01-0	36.00000	0.03045
					Sodium nitrate	7631-99-4	60.00000	0.02292
					Methanol	67-56-1	80.00000	0.00809
					Ethoxylated alcohols	Proprietary	5.00000	0.00539
					Sodium molybdate	10102-40-6	5.00000	0.00191
					Acetic acid	64-19-7	60.00000	0.00136
					Poly(oxy-1,2-ethanediyl), alpha-tridecyl-omega-hydroxy-, branched	69011-36-5	1.00000	0.00108
					Adipic acid	124-04-9	1.00000	0.00108
					Citric acid	77-92-9	40.00000	0.00090
					Sodium chloride	7647-14-5	5.00000	0.00067
					Phosphoric Acid Salt	Proprietary	5.00000	0.00063
					Fatty acids	Trade Secret	10.00000	0.00006
					Sodium acetate	127-09-3	0.10000	0.00004
					Sodium lactate	72-17-3	0.10000	0.00004
					Monopotassium phosphate	7778-77-0	0.10000	0.00004
					Yeast extract	8013-01-2	0.10000	0.00004
					Formaldehyde	50-00-0	0.10000	0.00001

* 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

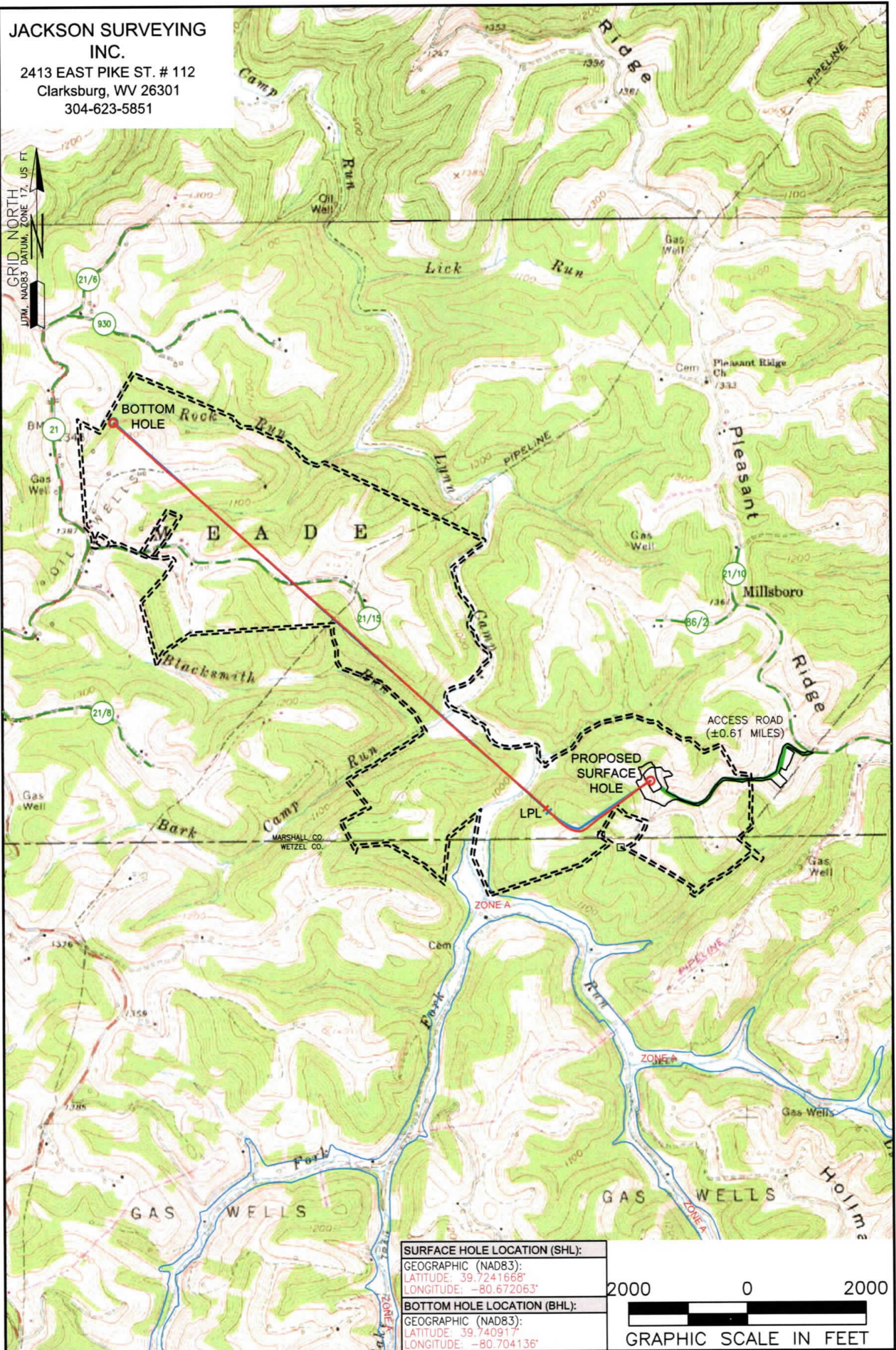
Note: For Field Development Products (products that begin with FDP), MSDS level only information has been provided.

Ingredient information for chemicals subject to 29 CFR 1910.1200(i) and Appendix D are obtained from suppliers Material Safety Data Sheets (MSDS)

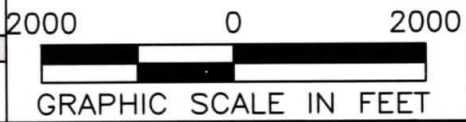
**JACKSON SURVEYING
INC.**

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: 39.7241668°
LONGITUDE: -80.672063°
BOTTOM HOLE LOCATION (BHL):
GEOGRAPHIC (NAD83):
LATITUDE: 39.740917°
LONGITUDE: -80.704136°



NOTES ON SURVEY

1. SURFACE AND ROYALTY OWNER INFORMATION AND THEIR BOUNDARIES SHOWN HEREON WERE PLOTTED FROM DEEDS AND/OR TAX PARCEL MAPS PROVIDED BY CLIENT AND/OR FIELD LOCATIONS.
2. THIS PLAT DOES NOT REPRESENT A BOUNDARY SURVEY OF THE PARCELS SHOWN HEREON.
3. ALL INSETS ARE GRID NORTH UNLESS OTHERWISE DEPICTED.

LEGEND:

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

WELL OPERATOR: SWN PRODUCTION COMPANY, LLC	WELL (FARM) NAME: ARTHUR WARYCK MSH	WELL # 201H	SERIAL #
ADDRESS: 1300 FORT PIERPONT ROAD, SUITE 200 MORGANTOWN, WV 26508	COUNTY - CODE MARSHALL - 051	DISTRICT; MEADE	
SURFACE OWNER: ARTHUR L. WARYCK	USGS 7 1/2 QUADRANGLE MAP NAME WILEYVILLE, WV API # 47-051-02170		

Latitude: 39°45'00" (SH)

SURFACE HOLE 1,517'

JACKSON SURVEYING INC.

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

SURFACE HOLE LOCATION (SHL):

UTM (NAD83, ZONE 17, METERS):
NORTHING: 4,397,194.539
EASTING: 528,105.001

LANDING POINT (LPL):

UTM (NAD83, ZONE 17, METERS):
NORTHING: 4,397,037.242
EASTING: 527,582.018

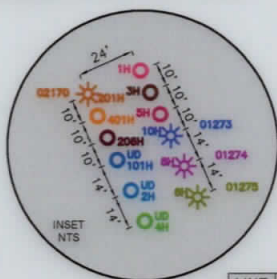
BOTTOM HOLE LOCATION (BHL):

UTM (NAD83, ZONE 17, METERS):
NORTHING: 4,399,046.283
EASTING: 525,353.051

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

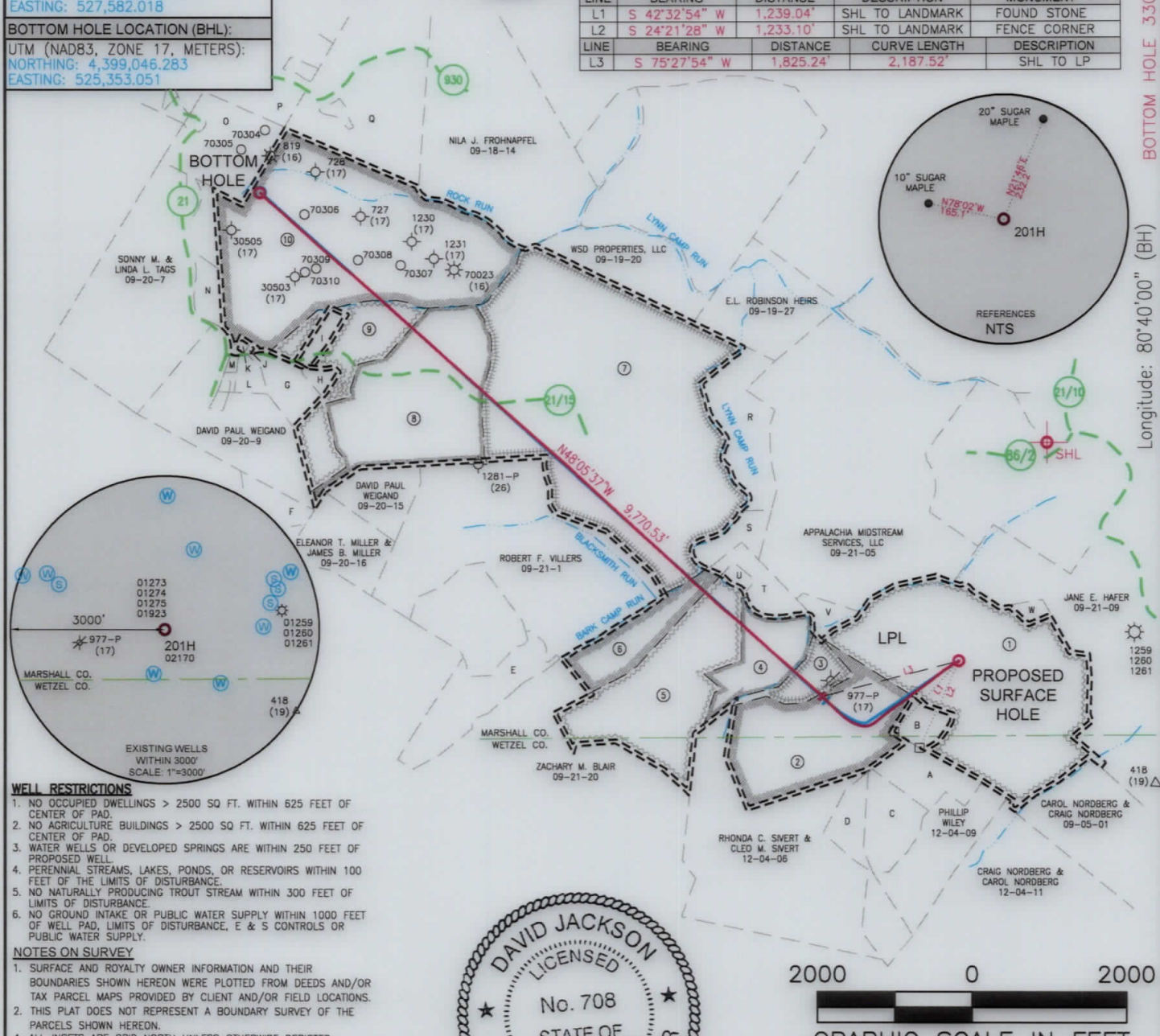
Latitude: 39°45'00" (BH)

BOTTOM HOLE 10536'



SURFACE HOLE LOCATION (SHL):	
UTM (NAD83, ZONE 17, METERS):	
NORTHING:	4,397,194.539
EASTING:	528,104.953
LANDING POINT LOCATION (LPL):	
UTM (NAD83, ZONE 17, METERS):	
NORTHING:	4,397,054.916
EASTING:	527,566.425
BOTTOM HOLE LOCATION (BHL):	
UTM (NAD83, ZONE 17, METERS):	
NORTHING:	4,399,044.011
EASTING:	525,350.040

LINE	BEARING	DISTANCE	DESCRIPTION	MONUMENT
L1	S 42°32'54" W	1,239.04'	SHL TO LANDMARK	FOUND STONE
L2	S 24°21'28" W	1,233.10'	SHL TO LANDMARK	FENCE CORNER
LINE	BEARING	DISTANCE	CURVE LENGTH	DESCRIPTION
L3	S 75°27'54" W	1,825.24'	2,187.52'	SHL TO LP



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. WATER WELLS OR DEVELOPED SPRINGS ARE WITHIN 250 FEET OF PROPOSED WELL.
4. 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.

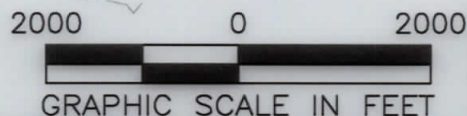
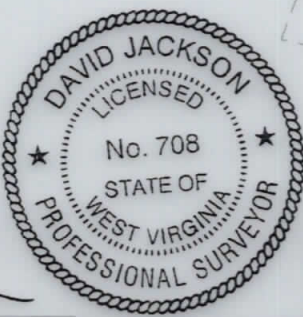
NOTES ON SURVEY

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 **SWN** Production Company™

	(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS	MINIMUM DEGREE OF ACCURACY: 1/200	OPERATOR'S WELL #: 201H
	WVDEP OFFICE OF OIL & GAS 601 57TH STREET CHARLESTON, WV 25034	PROVEN SURVEY SOURCE OF ELEVATION: GRADE GPS (NAVD 88, US FT)	API WELL #: 47 051 02170 STATE COUNTY PERMIT

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"/>	WATERSHED: LYNN CAMP RUN OF FISH CREEK (HUC-10)	ELEVATION: 1325.6'
DISTRICT: MEADE COUNTY: MARSHALL	SURFACE OWNER: A. MICHAEL WARYCK & DEBORAH ELLEN WARYCK	QUADRANGLE: WILEYVILLE, WV
OIL & GAS ROYALTY OWNER: CHARLES W. CAIN & PEARL CAIN	ACREAGE: ±125.39	ACREAGE: ±125.39
DRILL <input type="checkbox"/> 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"/>	CONVERT <input type="checkbox"/> PLUG & ABANDON <input type="checkbox"/> CLEAN OUT & REPLUG <input type="checkbox"/> OTHER CHANGE <input checked="" type="checkbox"/> (SPECIFY) AS-DRILLED	TARGET FORMATION: MARCELLUS ESTIMATED DEPTH: 7,118 TVD 17,522 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:	REVISIONS:	DATE: 03-24-2020
○ PROPOSED SURFACE HOLE / BOTTOM HOLE	Δ ADDED API # & AS-DRILLED 06-09-2020	
★ EXISTING / PRODUCING WELLHEAD		
LPL★ LANDING POINT LOCATION		
⊙ EXISTING WATER WELL		
⊙ EXISTING SPRING		
— SURVEYED BOUNDARY		
— DRILLING UNIT		
— LEASE BOUNDARY		
— ASDRILLED PATH		
— PROPOSED PATH		
		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:	DATE: 03-24-2020
WELL OPERATOR: SWN PRODUCTION COMPANY, LLC	CITY: MORGANTOWN	STATE: WV	ZIP CODE: 26208	DESIGNATED AGENT: BRITANNY WOODY	
ADDRESS: 1300 FORT PIERPONT ROAD, SUITE 200	CITY: MORGANTOWN	STATE: WV	ZIP CODE: 26208	ADDRESS: 1300 FORT PIERPONT ROAD, SUITE 200	
WELL OPERATOR: SWN PRODUCTION COMPANY, LLC	CITY: MORGANTOWN	STATE: WV	ZIP CODE: 26208	DESIGNATED AGENT: BRITANNY WOODY	
TARGET FORMATION: MARCELLUS	ESTIMATED DEPTH: 7,118 TVD 17,522 TMD	OTHER CHANGE (SPECIFY) AS-DRILLED	PERFORATE NEW FORMATION	CONVERT	PLUG & ABANDON
CLEAN OUT & REPLUG	FRACTURE OR STIMULATE	REDRILL	DRILL DEEPER	DRILL	WASTE DISPOSAL
PRODUCTION	DEEP	GAS	LIQUID INJECTION	STORAGE	SHALLOW

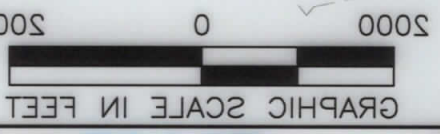
WELL TYPE: OIL	WASTE DISPOSAL	PRODUCTION	DEEP	GAS	LIQUID INJECTION	STORAGE	SHALLOW
WATERSHED: LYNN CAMP RUN OF FISH CREEK (HUC-10)	DISTRICT: MEADE	COUNTY: MARSHALL	QUADRANGLE: WILKEYVILLE, WV	ELEVATION: 1,325.6'	ACRAGE: ±125.39	ACRAGE: ±125.39	
OIL & GAS ROYALTY OWNER: CHARLES W. CAIN & PEARL CAIN	SURFACE OWNER: A. MICHAEL WARYCK & DEBORAH ELLEN WARYCK	WDEP	OFFICE OF OIL & GAS	601 57TH STREET	CHARLESTON, WV 25034		
ELEVATION: (NAVD 88, US FT)	SOURCE OF GRADE GPS	PROVEN SURVEY	ACCURACY: 1/200	OPERATOR'S WELL #:	201H	ARTHUR WARYCK MSH	
API WELL #:	47	051 02170	COUNTY PERMIT	STATE	47	051 02170	



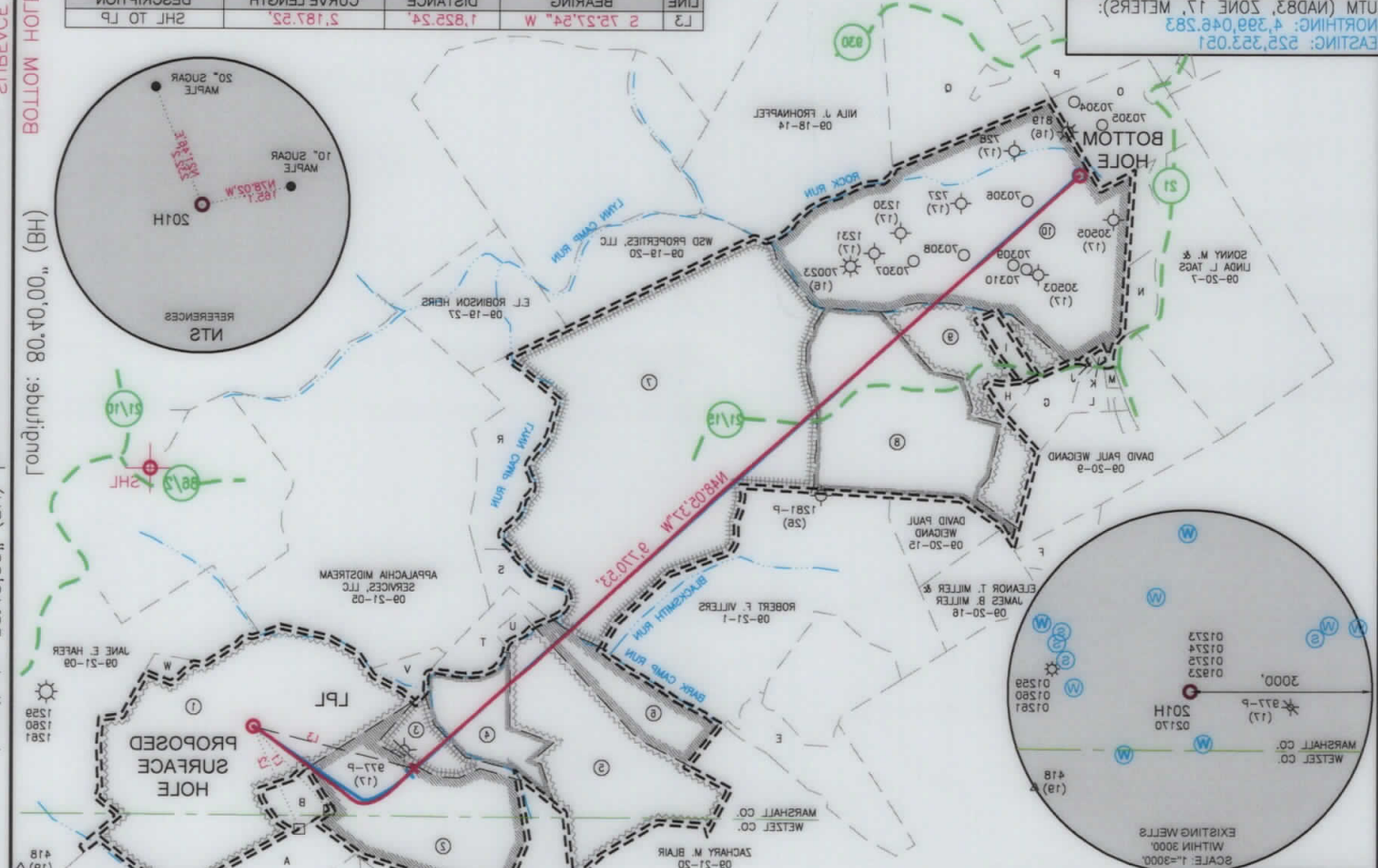
AND PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.
 ALL INFORMATION REQUIRED BY LAW AND REGULATIONS ISSUED
 CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS
 THE UNDERIGNED HEREBY CERTIFY THAT THIS PLAT IS
 A TRUE AND CORRECT REPRESENTATION OF THE SURFACE
 PARCELS SHOWN HEREON.
 THIS PLAT DOES NOT REPRESENT A BOUNDARY SURVEY OF THE
 CENTER OF PAD PROVIDED BY CLIENT AND FIELD LOCATIONS.
 BOUNDARIES SHOWN HEREON WERE PLOTTED FROM DEEDS AND/OR
 SURFACE AND ROYALTY OWNER INFORMATION AND THEIR
 NOTES ON SURVEY.
 OF WELL PAD, LIMITS OF DISTURBANCE, E & 2 CONTROLS OR
 NO GROUND INTAKE OR PUBLIC WATER SUPPLY WITHIN 1000 FEET
 LIMITS OF DISTURBANCE.
 NO NATURALLY PRODUCING STREAM WITHIN 300 FEET OF
 PERENNIAL STREAMS, LAKES, PONDS, OR RESERVOIRS WITHIN 100
 FEET OF THE LIMITS OF DISTURBANCE.
 WATER WELLS OR DEVELOPED SPRINGS ARE WITHIN 250 FEET OF
 CENTER OF PAD.
 NO AGRICULTURE BUILDINGS > 2500 SQ. FT. WITHIN 625 FEET OF
 CENTER OF PAD.
 OCCUPIED DWELLINGS > 2500 SQ. FT. WITHIN 625 FEET OF
 CENTER OF PAD.



COMPANY: SWN Production Company, LLC



- NOTES ON SURVEY:**
1. SURFACE AND ROYALTY OWNER INFORMATION AND THEIR NOTES ON SURVEY.
 2. THIS PLAT DOES NOT REPRESENT A BOUNDARY SURVEY OF THE CENTER OF PAD PROVIDED BY CLIENT AND FIELD LOCATIONS.
 3. BOUNDARIES SHOWN HEREON WERE PLOTTED FROM DEEDS AND/OR SURFACE AND ROYALTY OWNER INFORMATION AND THEIR NOTES ON SURVEY.
 4. ALL INTERESTS ARE SHOWN UNLESS OTHERWISE DESIGNATED.
- WELL RESTRICTIONS:**
1. OCCUPIED DWELLINGS > 2500 SQ. FT. WITHIN 625 FEET OF CENTER OF PAD.
 2. AGRICULTURE BUILDINGS > 2500 SQ. FT. WITHIN 625 FEET OF CENTER OF PAD.
 3. WATER WELLS OR DEVELOPED SPRINGS ARE WITHIN 250 FEET OF CENTER OF PAD.
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 5. NO NATURALLY PRODUCING STREAM WITHIN 300 FEET OF LIMITS OF DISTURBANCE.
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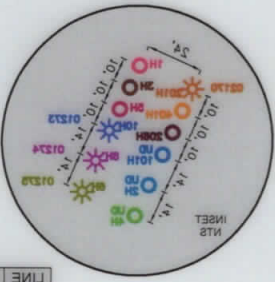
LINE	BEARING	DISTANCE	DESCRIPTION
L3	2 75°27.84" W	1.85234	SHL TO LP
L2	2 24°21.28" W	1.23210	SHL TO LANDMARK
L1	2 42°32.24" W	1.23904	SHL TO LANDMARK

LINE	BEARING	DISTANCE	DESCRIPTION
L3	2 75°27.84" W	1.85234	SHL TO LP
L2	2 24°21.28" W	1.23210	SHL TO LANDMARK
L1	2 42°32.24" W	1.23904	SHL TO LANDMARK

LINE	BEARING	DISTANCE	DESCRIPTION
L3	2 75°27.84" W	1.85234	SHL TO LP
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LINE	BEARING	DISTANCE	DESCRIPTION
L3	2 75°27.84" W	1.85234	SHL TO LP
L2	2 24°21.28" W	1.23210	SHL TO LANDMARK
L1	2 42°32.24" W	1.23904	SHL TO LANDMARK


SURFACE HOLE LOCATION (SHL): UTM (NAD83, ZONE 17, METERS): EASTING: 528,104.923 NORTHING: 4,397,194.539	BOTTOM HOLE LOCATION (BHL): UTM (NAD83, ZONE 17, METERS): EASTING: 528,350.040 NORTHING: 4,399,044.011	LANDING POINT LOCATION (LPL): UTM (NAD83, ZONE 17, METERS): EASTING: 527,586.425 NORTHING: 4,397,024.918	SURFACE HOLE LOCATION (SHL): UTM (NAD83, ZONE 17, METERS): EASTING: 528,105.001 NORTHING: 4,397,194.588
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Latitude: 39.45°00' (N)
 Longitude: 80.40°00' (W)
 SURFACE HOLE 17.517'
 BOTTOM HOLE 10236'
 SURFACE HOLE 8'14"
 BOTTOM HOLE 2308'
 SURFACE HOLE 80.40°00' (W)
 BOTTOM HOLE 80.40°00' (W)

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	MASON DIXON FARMS, LLC (S)	09-21-12
3	ZACHARY M. BLAIR (S)	09-21-13
4	ZACHARY M. BLAIR (S)	09-21-15
5	ZACHARY M. BLAIR (S)	09-21-19
6	ZACHARY M. BLAIR (S)	09-21-18
7	ROSELAND PROPERTY, LLC (S)	09-21-2
8	MARY JOSEPHINE NICE (S)	09-20-13
9	DAVID PAUL WEIGAND (S)	09-20-12.1
10	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	SARAH V. RICHMOND	12-04-08
D	RHODA C. SIVERT & CLEO M. SIVERT	12-04-07
E	KIMBERLY C. HOFFMAN & PAUL G. FOX	09-21-21
F	DAVID P. WEIGAND	09-20-17.5
G	ELEANOR T. MILLER & JAMES B. MILLER	09-20-8
H	JOHN G. WEIGAND JR. & MARILYN S. WEIGAND	09-20-12.2
I	ELEANOR T. MILLER & JAMES B. MILLER	09-20-12
J	ELEANOR T. MILLER & JAMES B. MILLER	09-20-9.2
K	ELEANOR T. MILLER & JAMES B. MILLER	09-20-9.1
L	JAMES MILLER ET UX	09-20-9.6
M	JAMES MILLER ET UX	09-20-9.5
N	DAVID PAUL FROHNAPFEL	09-20-7.1
O	KEITH A. FERRELL ET UX	09-18-15
P	ROBERT F. VILLERS	09-18-16
Q	CLEMENT E. FROHNAPFEL & BRENDA L. FROHNAPFEL	09-18-13
R	APPALACHIA MIDSTREAM SERVICES, LLC	09-21-3
S	ZACHARY M. BLAIR	09-21-4
T	ZACHARY M. BLAIR	09-21-16
U	ZACHARY M. BLAIR	09-21-17
V	ZACHARY M. BLAIR	09-21-14
W	MASON DIXON FARMS, LLC	09-21-22

REVISIONS:	COMPANY:			DATE: 03-24-2020
△ ADDED API # & AS-DRILLED 06-09-2020				DRAWN BY: N. MANO
	OPERATOR'S ARTHUR WARYCK MSH	API # 47-051-02170	SCALE: N/A	
	WELL #: 201H	DISTRICT: MEADE	DRAWING NO:	
	COUNTY: MARSHALL	STATE: WV	WELL LOCATION PLAT 2	

WELL LOCATION PLAT 2		DRAWING NO:	DISTRICT:	MEADE
SCALE: N/A		STATE:	COUNTY:	MARSHALL
DRAWN BY: N. MANO		WELL #:		
DATE: 03-24-2020		201H		
OPERATOR'S		ARTHUR WARYCK MSH		
APL # 47-021-02170		201H		
DATE: 03-24-2020		ARTHUR WARYCK MSH		
DATE: 03-24-2020		APL # 47-021-02170		
DATE: 03-24-2020		DATE: 03-24-2020		



COMPANY: REVISIONS:

ADDED APL # & AS-DRILLED 08-09-2020

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	SARAH V. RICHMOND	12-04-08
D	RHODA C. SIVERT & CLEO M. SIVERT	12-04-07
E	KIMBERLY C. HOFFMAN & PAUL G. FOX	09-21-21
F	DAVID P. WEIGAND	09-20-17.5
G	ELEANOR T. MILLER & JAMES B. MILLER	09-20-8
H	JOHN G. WEIGAND JR. & MARILYN S. WEIGAND	09-20-12.2
I	ELEANOR T. MILLER & JAMES B. MILLER	09-20-12
J	ELEANOR T. MILLER & JAMES B. MILLER	09-20-9.2
K	ELEANOR T. MILLER & JAMES B. MILLER	09-20-9.1
L	JAMES MILLER ET UX	09-20-9.6
M	JAMES MILLER ET UX	09-20-9.5
N	DAVID PAUL FROHNAPFEL	09-20-7.1
O	KEITH A. FERRELL ET UX	09-18-15
P	ROBERT F. VILLERS	09-18-16
Q	CLEMENT E. FROHNAPFEL & BRENDA L. FROHNAPFEL	09-18-13
R	APPALACHIA MIDSTREAM SERVICES, LLC	09-21-3
S	ZACHARY M. BLAIR	09-21-4
T	ZACHARY M. BLAIR	09-21-16
U	ZACHARY M. BLAIR	09-21-17
V	ZACHARY M. BLAIR	09-21-14
W	MASON DIXON FARMS, LLC	09-21-22

TRACT	SURFACE OWNER	TAX PARCEL
10	PATRICK A. FROHNAPFEL & LISA A. FROHNAPFEL (2)	09-20-11
9	DAVID PAUL WEIGAND (2)	09-20-12.1
8	MARY JOSEPHINE NICE (2)	09-20-13
7	ROSELAND PROPERTY, LLC (2)	09-21-2
6	ZACHARY M. BLAIR (2)	09-21-18
5	ZACHARY M. BLAIR (2)	09-21-19
4	ZACHARY M. BLAIR (2)	09-21-15
3	ZACHARY M. BLAIR (2)	09-21-13
2	MASON DIXON FARMS, LLC (2)	09-21-12
1	A. MICHAEL WARYCK & DEBORAH ELLEN WARYCK (2) \ CHARLES W. CAIN & PEARL CAIN (R)	09-21-10

WELL BORE TABLE FOR SURFACE \ ROYALTY OWNERS