

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

API 47 - 103 - 03232 County WETZEL District PROCTOR
Quad WILEYVILLE Pad Name SWN A PAD1 Field/Pool Name VICTORY FIELD WET
Farm name SWN PRODUCTION COMPANY LLC Well Number SWN A WTZ 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 4,392,590.69 Easting 530,903.75
Landing Point of Curve Northing 4,392,535.81 Easting 530,744.45
Bottom Hole Northing 4,394,771.89 Easting 528,254.65

Elevation (ft) 1,344' 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 8/20/2018 Date drilling commenced 4/8/2019 Date drilling ceased 4/29/2019
Date completion activities began 12/19/2019 Date completion activities ceased 2/28/2020
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 300' Open mine(s) (Y/N) depths N
Salt water depth(s) ft 1,341' Void(s) encountered (Y/N) depths N
Coal depth(s) ft 1,245' Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

Reviewed by:
DMH
6-1-20

API 47- 103 - 03232 Farm name SWN PRODUCTION COMPANY LLC Well number SWN A WTZ 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	400	NEW	J-55/54.50#		Y; 10 BBLS
Coal	SEE INTERMEDIATE						
Intermediate 1	12.25	9.625	2,863	NEW	J-55/36#		Y; 63 BBLS
Intermediate 2							
Intermediate 3							
Production	8.75/8.50	5.5	18,720	NEW	HCP-110/20#		Y; 0 BBLS
Tubing				NEW			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	361	15.60	1.19	429.59	SURFACE	8
Coal	SEE INTERMEDIATE						
Intermediate 1	CLASS A	1,183	16.00	1.12	1324.96	SURFACE	8
Intermediate 2							
Intermediate 3							
Production	CLASS A	3,655	15.60	1.18	4312.90	SURFACE	24
Tubing							

Drillers TD (ft) 18,720' Loggers TD (ft) 18,720'

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

Plug back procedure N/A

Kick off depth (ft) 6,649'

Check all wireline logs run caliper density deviated/directional induction
 neutron resistivity gamma ray temperature sonic

Well cored Yes No Conventional Sidewall Were cuttings collected Yes No

DESCRIBE THE CENTRALIZER PLACEMENT USED FOR EACH CASING STRING _____

SURFACE: 7 CENTRALIZERS - EVERY THIRD JOINT OF CASING

INTERMEDIATE: 24 CENTRALIZERS - EVERY THIRD JOINT OF CASING

PRODUCTION: 181 CENTRALIZERS - EVERY THIRD JOINT FROM SURFACE TO TOP OF CURVE, THEN EVERY JOINT UNTIL TD

WAS WELL COMPLETED AS SHOT HOLE Yes No DETAILS _____

WAS WELL COMPLETED OPEN HOLE? Yes No DETAILS _____

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

SOUTHWESTERN ENERGY

Location: Wetzel County, WV
 Field: Wetzel
 Facility: SWN A WTZ Pad

Slot: Slot 03
 Well: SWN A WTZ 3H
 Wellbore: SWN A WTZ 3H PWB

Plot reference wellpath is SWN A WTZ 3H PWP Rev-B.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: 1368.1 feet	Depths are in feet
Mean Sea Level to Ground level (At Slot, Slot 03): -1342.1 feet	Created by: atemjpn on 2019-05-08
Coordinates are in feet referenced to Slot	Database: WA_MPL_EASTERNUS_Defm

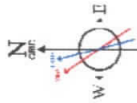


Location Information

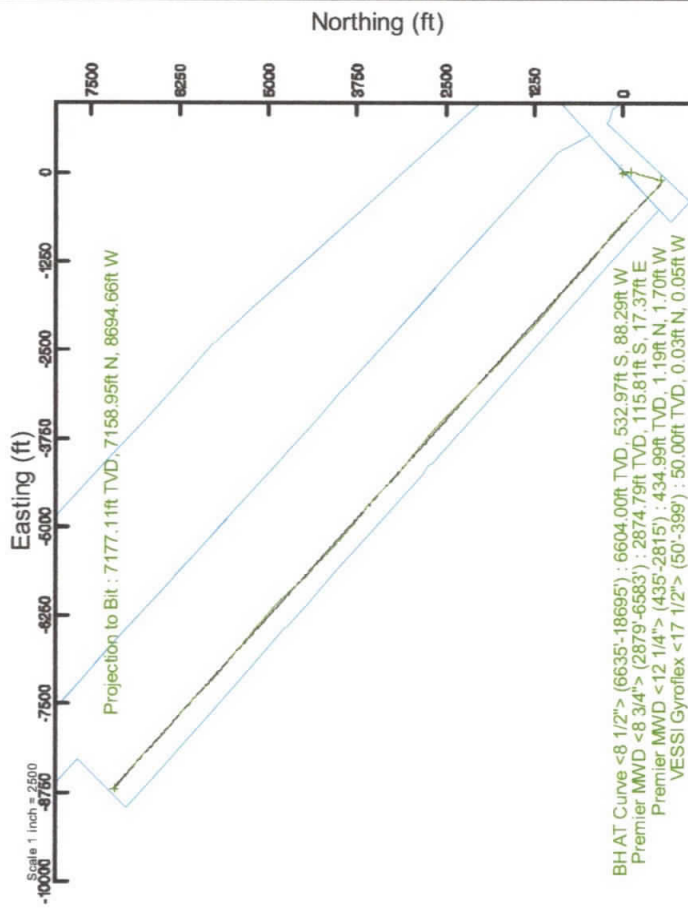
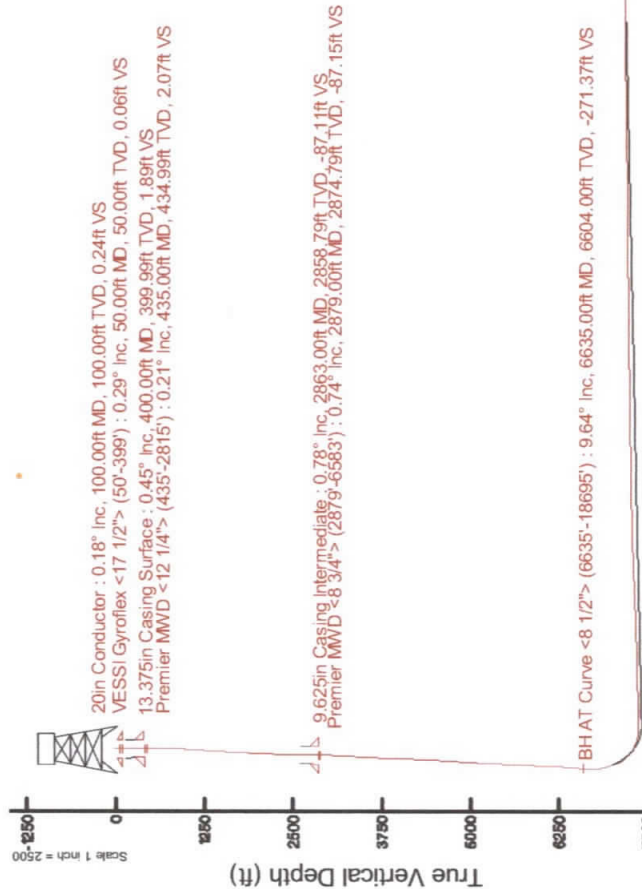
Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SWN A WTZ Pad	1741684.774	14411391.536	39°40'57.656"N	80°38'24.198"W
Slot	Local E (ft)	Local N (ft)	Latitude	Longitude
Slot 03	-33.59	121.99	39°40'57.319"N	80°38'22.639"W
SDC 46 (KB) to Ground level (At Slot, Slot 03)	26ft			
Mean Sea Level to Ground level (At Slot, Slot 03)	-1342.1ft			
SDC 46 (KB) to Mean Sea Level	1368.1ft			

Comments

APL 47-103-03232-0000
 BH Job #: 109767282
 Rig: SDC 46
 Duration: 04/22/2019 - 04/28/2019



User specified Dip: 86.77° Field: 52289 mT
 Magnetic North is 86.77 degrees West of True North (at 16Apr2019)
 Grid North is 0.23 degrees East of True North
 To correct azimuth from Magnetic to Grid subtract 8.40 degrees



**SWN A WTZ 3H
ATTACHMENT 1
PERF REPORT**

STAGE				# SHOTS
NUM	Perf Date	Perf Bottom MD	Perf Top MD2	PER STG
1	12/10/2019	18,674	18,495	36
2	12/23/2019	18,458	18,282	36
3	12/25/2019	18,246	18,072	36
4	1/5/2020	18,039	17,863	36
5	1/15/2020	17,825	17,654	36
6	1/21/2020	17,621	17,440	36
7	1/22/2020	17,412	17,235	36
8	1/22/2020	17,202	17,026	36
9	1/23/2020	16,993	16,817	36
10	1/24/2020	16,784	16,607	36
11	1/25/2020	16,574	16,398	36
12	1/25/2020	16,365	16,189	36
13	1/26/2020	16,156	15,980	36
14	1/26/2020	15,947	15,770	36
15	1/27/2020	15,737	15,561	36
16	1/28/2020	15,528	15,356	36
17	1/29/2020	15,320	15,142	36
18	1/29/2020	15,110	14,933	36
19	1/30/2020	14,900	14,724	36
20	1/30/2020	14,691	14,515	36
21	1/31/2020	14,482	14,301	36
22	2/1/2020	14,272	14,096	36
23	2/1/2020	14,059	13,887	36
24	2/2/2020	13,854	13,677	36
25	2/2/2020	13,645	13,468	36
26	2/3/2020	13,435	13,259	36
27	2/3/2020	13,226	13,050	36
28	2/4/2020	13,017	12,845	36
29	2/5/2020	12,807	12,630	36
30	2/5/2020	12,594	12,422	36
31	2/6/2020	12,389	12,212	36
32	2/7/2020	12,180	12,003	36
33	2/7/2020	11,970	11,794	36
34	2/8/2020	11,761	11,583	36
35	2/9/2020	11,555	11,375	36
36	2/9/2020	11,342	11,166	36
37	2/10/2020	11,133	10,957	36
38	2/10/2020	10,924	10,748	36
39	2/10/2020	10,715	10,538	36
40	2/11/2020	10,505	10,329	36
41	2/13/2020	10,299	10,120	36
42	2/15/2020	10,087	9,910	36
43	2/15/2020	9,878	9,701	36
44	2/15/2020	9,668	9,492	36
45	2/16/2020	9,459	9,283	36
46	2/16/2020	9,250	9,073	36
47	2/17/2020	9,040	8,869	36
48	2/17/2020	8,831	8,655	36
49	2/18/2020	8,622	8,445	36
50	2/19/2020	8,413	8,236	36
51	2/19/2020	8,203	8,027	36
52	2/20/2020	7,999	7,818	36
53	2/20/2020	7,785	7,608	36

**SWN A WTZ 3H
ATTACHMENT 2
STIM REPORT**

STAGE NUM	Stim Date	Ave Pump Rate (BPM)	Ave Treatment	Max Breakdown	ISIP (PSI)	Amount of Proppant (lbs)	Amount of water bbls	Amount of nitrogen/othe
1	12/23/2019	65	7,964	6,650	4,265	253,270	9,840	0
2	12/24/2019	52	6,945	5,630	4,530	330,400	9,427	0
3	12/25/2019	61	7,319	5,406	4,689	314,870	8,921	0
4	1/12/2020	70	8,059	6,040	4,984	306,360	8,660	0
5	1/21/2020	73	8,290	6,412	4,906	311,930	7,881	0
6	1/22/2020	70	8,201	6,517	4,817	309,490	7,492	0
7	1/22/2020	69	8,221	6,179	4,456	311,330	7,780	0
8	1/23/2020	71	7,807	6,629	4,456	309,220	7,773	0
9	1/24/2020	56	7,243	6,040	4,480	184,330	8,328	0
10	1/25/2020	71	8,303	5,895	5,160	250,630	6,268	0
11	1/25/2020	74	8,072	6,025	4,590	248,250	6,790	0
12	1/26/2020	77	8,339	5,861	4,294	313,990	6,773	0
13	1/26/2020	90	8,552	5,544	4,754	311,300	6,748	0
14	1/27/2020	83	8,218	5,649	4,652	311,240	7,086	0
15	1/28/2020	74	8,197	6,114	4,862	313,100	6,540	0
16	1/28/2020	86	8,680	5,688	4,678	309,140	6,612	0
17	1/29/2020	84	8,513	6,432	4,750	315,080	7,200	0
18	1/29/2020	90	8,685	5,641	4,888	313,480	6,293	0
19	1/30/2020	86	8,476	6,178	4,122	313,010	7,212	0
20	1/31/2020	89	8,521	5,489	4,870	315,230	6,464	0
21	1/31/2020	86	8,402	4,715	5,121	308,370	6,514	0
22	2/1/2020	87	8,431	6,391	4,612	309,760	7,220	0
23	2/2/2020	86	8,371	5,532	4,926	312,560	6,459	0
24	2/2/2020	85	8,331	6,684	4,285	312,670	7,036	0
25	2/3/2020	89	8,507	5,489	4,812	310,960	6,356	0
26	2/3/2020	93	8,510	6,157	4,315	312,400	7,555	0
27	2/4/2020	88	8,422	6,582	4,480	309,490	8,959	0
28	2/4/2020	88	8,494	5,414	5,225	254,810	6,833	0
29	2/5/2020	90	8,269	5,998	5,705	269,280	7,071	0
30	2/6/2020	87	8,118	5,184	4,596	319,530	7,455	0
31	2/7/2020	89	8,161	5,930	4,532	323,940	7,385	0
32	2/7/2020	86	8,064	5,978	4,759	317,030	7,408	0
33	2/8/2020	87	8,279	6,087	4,774	229,430	7,075	0
34	2/9/2020	86	8,109	5,907	5,266	213,390	6,230	0
35	2/9/2020	81	7,674	6,142	4,487	320,980	7,765	0
36	2/9/2020	75	8,306	5,621	4,865	205,070	7,406	0
37	2/10/2020	91	7,967	6,164	4,650	313,680	7,583	0
38	2/10/2020	90	7,943	6,051	4,635	314,140	7,563	0
39	2/11/2020	89	8,084	6,182	5,051	314,030	7,698	0
40	2/13/2020	84	8,068	6,277	4,938	313,850	7,739	0
41	2/14/2020	87	7,941	6,101	5,460	246,980	6,482	0
42	2/15/2020	85	8,092	6,120	5,004	244,170	7,075	0
43	2/15/2020	87	8,044	6,234	4,615	315,710	7,680	0
44	2/16/2020	88	7,979	6,328	4,987	319,170	6,927	0
45	2/16/2020	85	7,972	5,609	5,644	232,420	6,419	0
46	2/17/2020	88	8,152	5,591	5,037	315,600	6,487	0
47	2/17/2020	94	8,060	5,897	6,811	309,220	7,064	0
48	2/18/2020	90	8,010	5,781	4,830	318,000	7,120	0
49	2/18/2020	99	8,040	5,948	4,983	314,330	7,043	0
50	2/19/2020	91	7,918	6,397	4,639	320,790	7,253	0
51	2/20/2020	92	7,797	6,499	4,628	323,390	7,682	0
52	2/20/2020	90	7,756	5,776	4,532	325,020	7,680	0
53	2/21/2020	86	8,043	5,946	4,477	317,510	7,528	0

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	12/23/2019
Job End Date:	2/21/2020
State:	West Virginia
County:	Wetzel
API Number:	47-103-03232-00-00
Operator Name:	Southwestern Energy
Well Name and Number:	SWN A WTZ 3
Latitude:	39.68258867
Longitude:	-80.63962204
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	7,247
Total Base Water Volume (gal):	16,175,396
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
HCL	SWN Well Services	Solvent					
				Listed Below			
Base Water	Operator	Base Fluid					
				Listed Below			

Tolcide PS 50A	SWN Well Services	Biocide							
					Listed Below				
SWN FRW-13LA	SWN Well Services	Friction Reducer							
					Listed Below				
Econo-CI200	SWN Well Services	Corrosion Inhibitor							
					Listed Below				
Sand	SWN Well Services	Proppant							
					Listed Below				
Ecopol-FEAC	SWN Well Services	Iron Control							
					Listed Below				
Plexaid 655WG	SWN Well Services	Scale Inhibitor							
					Listed Below				
Items above are Trade Names with the exception of Base Water . Items below are the individual ingredients.									
			Water		7732-18-5	100.00000	89.32686	Density = 8.345	
			Crystalline Silica, quartz		14808-60-7	100.00000	10.41170		
			Water		7732-18-5	85.00000	0.19166		
			Petroleum Distillates, Hydrotreated		64742-47-8	25.00000	0.02839		
			Hydrochloric Acid		7647-01-0	15.00000	0.01736		
			Tetrakis		55566-30-8	55.00000	0.01403		
			Glycerin		56-81-5	50.00000	0.00294		
			Ammonium Chloride		12125-02-9	2.00000	0.00227		

				68551-12-2	1.50000	0.00170
				93-83-4	1.50000	0.00170
				15827-60-8	10.00000	0.00059
				397256-50-7	1.00000	0.00026
				64-19-7	37.50000	0.00023
				67-56-1	80.00000	0.00014
				77-92-9	22.50000	0.00014
				68951-67-7	9.67400	0.00002
				61790-12-3	5.02700	0.00001
				68527-49-1	4.74600	0.00001
				127-08-2	0.02200	0.00000
				50-00-0	0.00400	0.00000

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

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

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

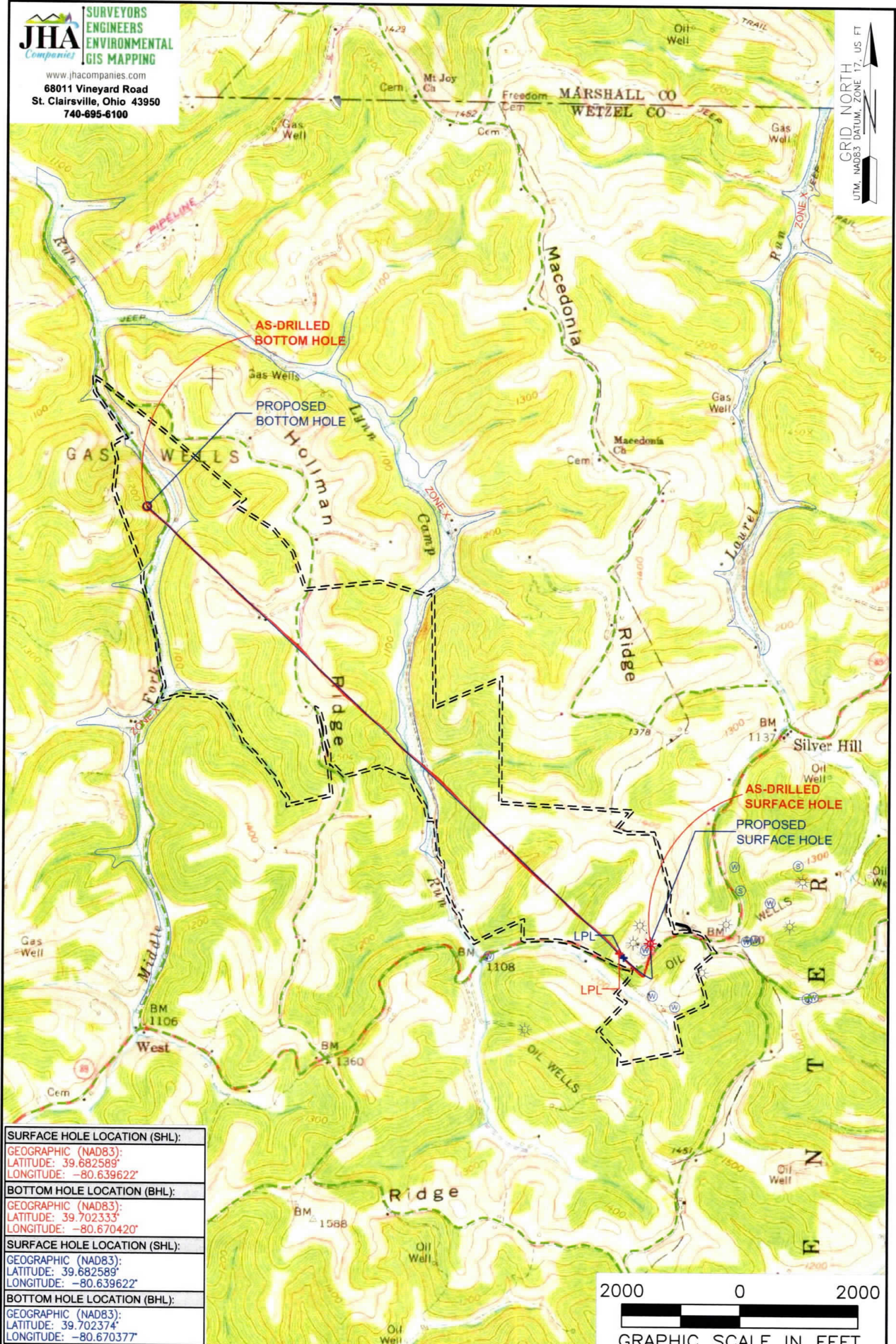
Note: For Field Development Products (products that begin with FDP), MSDS level only information has been provided.
 Ingredient information for chemicals subject to 29 CFR 1910.1200(i) and Appendix D are obtained from suppliers Material Safety Data Sheets (MSDS)



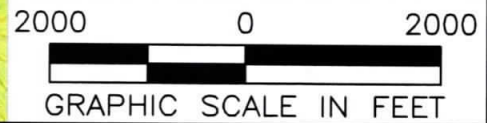
Well Name: SWN A Wtz 3H

47103032320000

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	300.00	300.00	
Top of Salt Water	1341.00	1341.00	NA	NA	
Pittsburgh Coal	1245.00	1245.00	1317.00	1317.00	
Pottsville (ss)	1317.00	1317.00	1781.00	1781.00	
Raven Cliff (ss)	1781.00	1781.00	1870.00	1870.00	
Maxton (ss)	1870.00	1870.00	2437.00	2437.00	
Big Injun (ss)	2437.00	2437.00	3039.00	3039.00	
Berea (siltstone)	3039.00	3039.00	6727.00	6695.00	
Rhinestreet (shale)	6727.00	6695.00	7041.00	7002.00	
Cashaqua (shale)	7041.00	7002.00	7176.00	7124.00	
Middlesex (shale)	7176.00	7124.00	7299.00	7220.00	
Burket (shale)	7299.00	7220.00	7342.00	7248.00	
Tully (ls)	7342.00	7248.00	7381.00	7271.00	
Mahantango (shale)	7381.00	7271.00	7572.00	7352.00	
Marcellus (shale)	7572.00	7352.00	NA	NA	GAS



SURFACE HOLE LOCATION (SHL):
GEOGRAPHIC (NAD83): LATITUDE: 39.682589° LONGITUDE: -80.639622°
BOTTOM HOLE LOCATION (BHL):
GEOGRAPHIC (NAD83): LATITUDE: 39.702333° LONGITUDE: -80.670420°
SURFACE HOLE LOCATION (SHL):
GEOGRAPHIC (NAD83): LATITUDE: 39.682589° LONGITUDE: -80.639622°
BOTTOM HOLE LOCATION (BHL):
GEOGRAPHIC (NAD83): LATITUDE: 39.702374° LONGITUDE: -80.670377°



- 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:

○	EXISTING BOTTOM HOLE	—	ACCESS ROAD
☼	EXISTING / PRODUCING WELLHEAD	—	PUBLIC ROAD
LPL	EXISTING LANDING POINT LOCATION	○	FLOOD PLAIN
○	PROPOSED SURFACE HOLE / BOTTOM HOLE	---	LEASE BOUNDARY
LPL*	PROPOSED LANDING POINT LOCATION	—	ASDRILLED PATH
		—	PROPOSED PATH

WELL OPERATOR: SWN PRODUCTION COMPANY, LLC	WELL (FARM) NAME: SWN A WTZ	WELL # 3H	SERIAL # XXXX
ADDRESS: 1300 FORT PIERPONT DRIVE, SUITE 201, MORGANTOWN WV, 26508	COUNTY - CODE WETZEL - 103	DISTRICT; PROCTOR	API # 47-103-03232
SURFACE OWNER: SWN PRODUCTION COMPANY, LLC	USGS 7 1/2 QUADRANGLE MAP NAME WILEYVILLE, WV		

LATITUDE: 39°42'30" BOTTOM HOLE 12767'

LATITUDE: 39°42'30" SURFACE HOLE

4102'

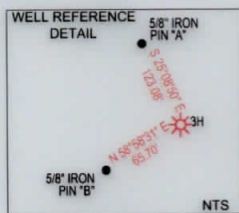


www.jhacompanies.com

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

NOTES ON SURVEY

1. COORDINATE SYSTEM IS UTM NAD 83 DATUM, ZONE 17, U.S. FOOT AND WELL COORDINATES ESTABLISHED USING SURVEY GRADE GPS.
2. SURFACE AND ROYALTY OWNER INFORMATION AND THEIR BOUNDARIES SHOWN HEREON WERE PLOTTED FROM DEEDS AND/OR TAX PARCEL MAPS PROVIDED BY CLIENT AND/OR FIELD LOCATIONS.
3. THIS PLAT DOES NOT REPRESENT A BOUNDARY SURVEY OF THE PARCELS SHOWN HEREON.
4. NO DWELLINGS OR BUILDINGS WITHIN 625 FEET OF PROPOSED CENTER OF PAD
5. NO PERENNIAL STREAMS, LAKES, PONDS, RESERVOIRS OR WETLANDS WITHIN 100 FEET OF THE LIMITS OF DISTURBANCE.
6. NO NATURALLY PRODUCING TROUT STREAM WITHIN 300 FEET OF THE LIMITS OF DISTURBANCE.
7. NO WATER WELLS OR DEVELOPED SPRINGS WITHIN 250 FEET OF PROPOSED WELL.



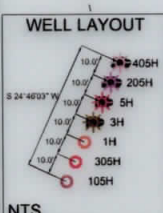
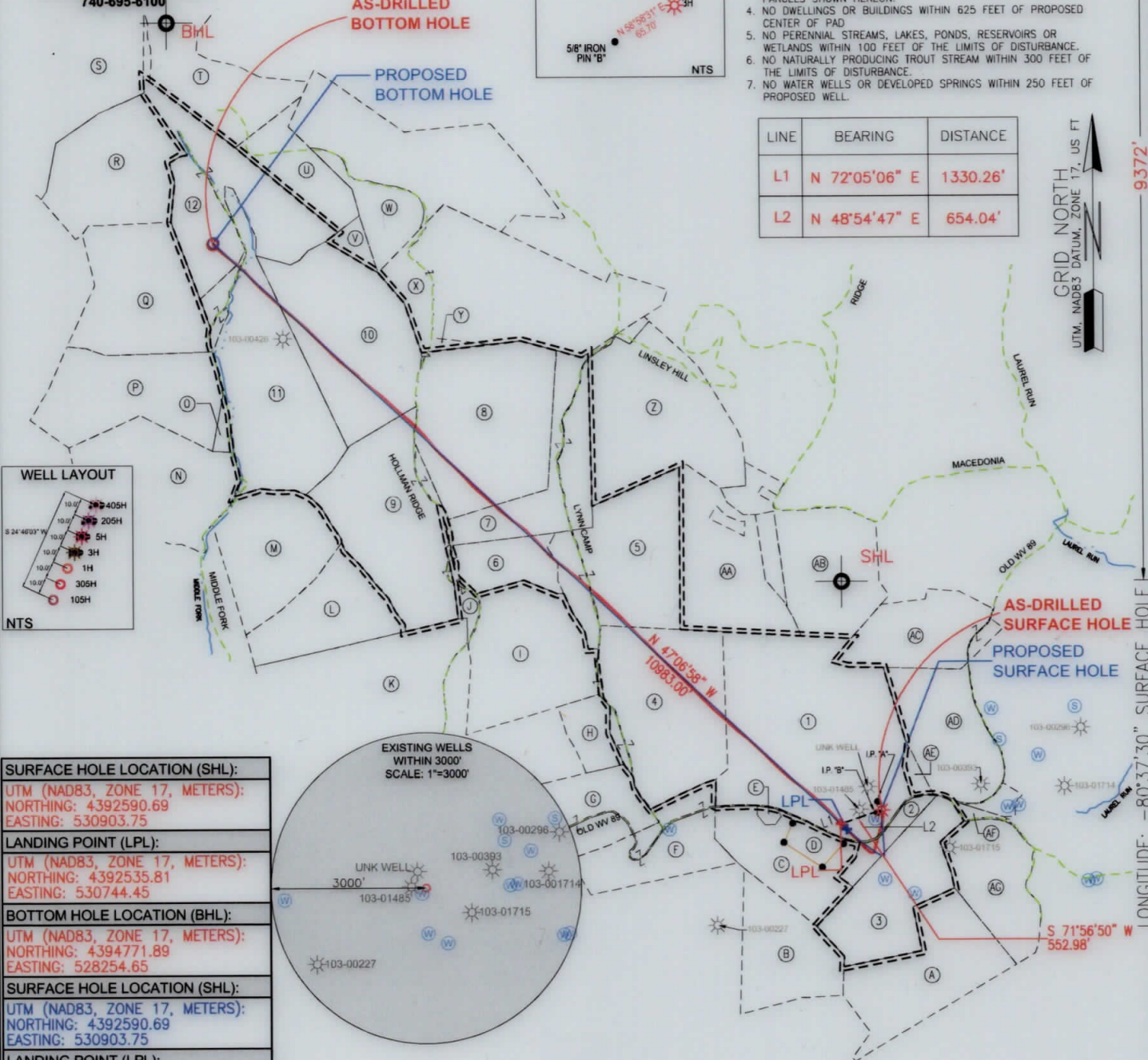
LINE	BEARING	DISTANCE
L1	N 72°05'06" E	1330.26'
L2	N 48°54'47" E	654.04'

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

LONGITUDE: -80°37'30" BOTTOM HOLE

9372'

LONGITUDE: -80°37'30" SURFACE HOLE



SURFACE HOLE LOCATION (SHL):
UTM (NAD83, ZONE 17, METERS): NORTHING: 4392590.69 EASTING: 530903.75
LANDING POINT (LPL):
UTM (NAD83, ZONE 17, METERS): NORTHING: 4392535.81 EASTING: 530744.45
BOTTOM HOLE LOCATION (BHL):
UTM (NAD83, ZONE 17, METERS): NORTHING: 4394771.89 EASTING: 528254.65
SURFACE HOLE LOCATION (SHL):
UTM (NAD83, ZONE 17, METERS): NORTHING: 4392590.69 EASTING: 530903.75
LANDING POINT (LPL):
UTM (NAD83, ZONE 17, METERS): NORTHING: 4392514.98 EASTING: 530769.96
BOTTOM HOLE LOCATION (BHL):
UTM (NAD83, ZONE 17, METERS): NORTHING: 4394776.37 EASTING: 528258.30



I, THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND REGULATIONS ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

P.S. 2041

COMPANY: **SWN** Production Company, LLC

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS

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

MINIMUM DEGREE OF ACCURACY: 1/200

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

OPERATOR'S WELL #: SWN A WTZ 3H

API WELL #: **47** STATE **103** COUNTY **03232** PERMIT

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

WATERSHED: UPPER OHIO SOUTH DISTRICT: PROCTOR COUNTY: WETZEL ELEVATION: 1,344.0'

SURFACE OWNER: SWN PRODUCTION COMPANY, LLC QUADRANGLE: WILEYVILLE, WV

OIL & GAS ROYALTY OWNER: RODNEY CALVERT, ET AL ACREAGE: ±128.24

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

CONVERT PLUG & ABANDON CLEAN OUT & REPLUG OTHER CHANGE (SPECIFY) **AS-DRILLED**

TARGET FORMATION: MARCELLUS ESTIMATED DEPTH: 7,374' TVD 18,720' TMD

WELL OPERATOR: SWN PRODUCTION COMPANY, LLC DESIGNATED AGENT: BRITTANY WOODY

ADDRESS: 1300 FORT PIERPONT DRIVE, SUITE 201 ADDRESS: 1300 FORT PIERPONT DRIVE, SUITE 201

CITY: MORGANTOWN STATE: WV ZIP CODE: 26508 CITY: MORGANTOWN STATE: WV ZIP CODE: 26508

LEGEND:

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

REVISIONS:	DATE: 05-04-2020
	DRAWN BY: R. GRIMES
	SCALE: 1" = 2000'
	DRAWING NO: 2016-519
	WELL LOCATION PLAT

WELL LOCATION PLAT	DRAWING NO: 2018-218
SCALE: 1" = 2000'	DRAWN BY: R. GRIMES
REVISIONS:	DATE: 02-04-2020

CITY: MORGANTOWN STATE: WV ZIP CODE: 26508
 WELL OPERATOR: SWN PRODUCTION COMPANY, LLC
 ADDRESS: 1300 FORT PIERPONT DRIVE, SUITE 201
 DESIGNATED AGENT: BRITANY WOODY

TARGET FORMATION: MARCELLUS
 CONVERT PLUG & ABANDON CLEAN OUT & REPLUG OTHER CHANGE (SPECIFY A2-DRILLED)
 DRILL DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD FORMATION PERFORATE NEW FORMATION

OIL & GAS ROYALTY OWNER: RODNEY CARVERT, ET AL
 SURFACE OWNER: SWN PRODUCTION COMPANY, LLC
 DISTRICT: PROCTOR COUNTY: WETZEL
 WATERSHED: UPPER OHIO SOUTH
 WELL TYPE: OIL WASTE DISPOSAL PRODUCTION DEEP GAS LIQUID INJECTION STORAGE SHALLOW

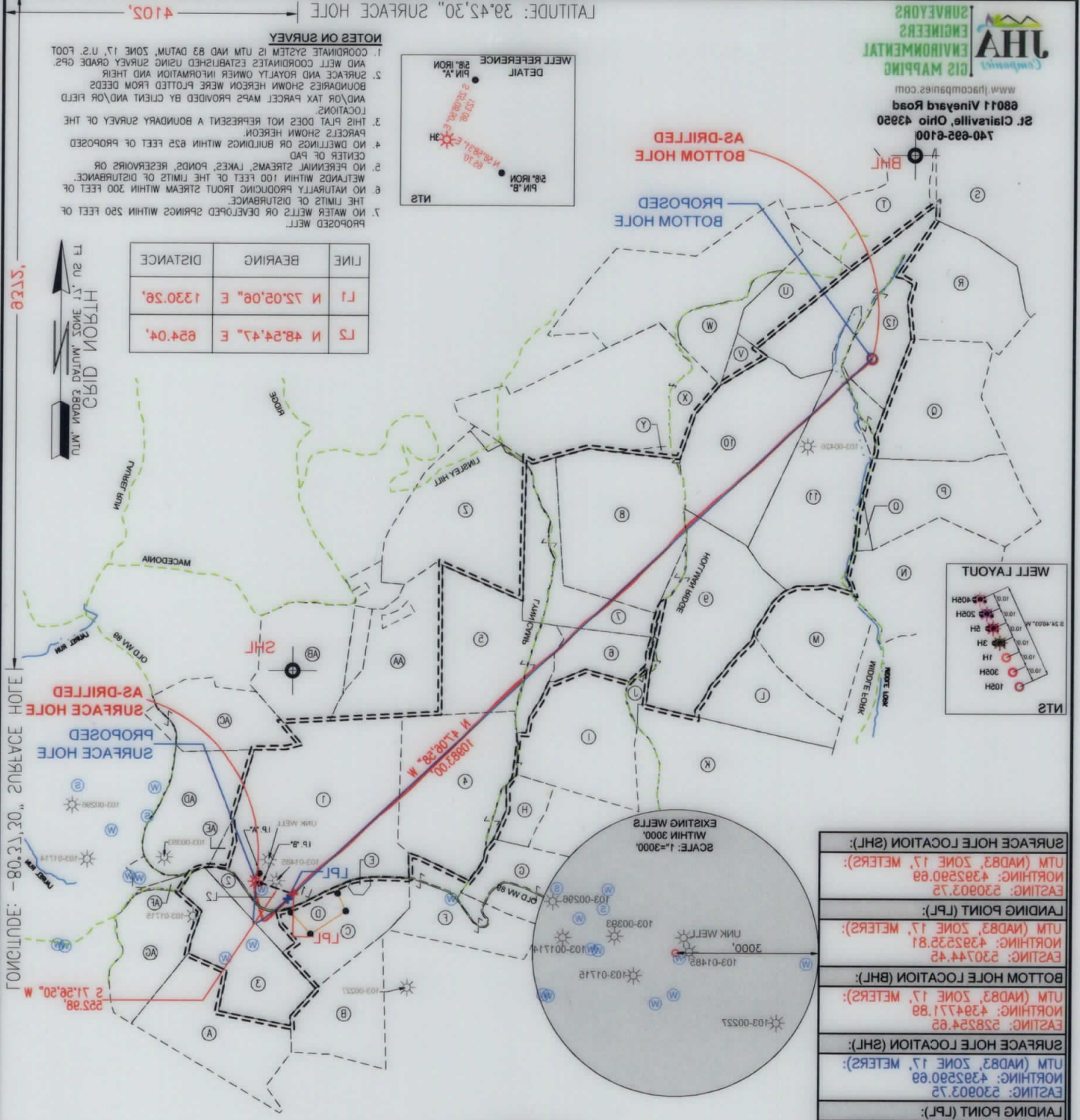
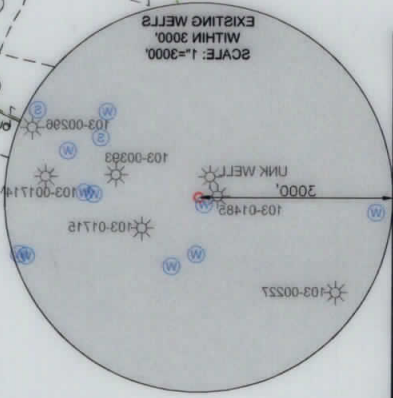
CHARLESTON, WV 25034
 OFFICE OF OIL & GAS
 801 27TH STREET
 WDEP
 UNITED STATES TOPOGRAPHIC MAPS (+) DENOTES LOCATION OF WELL ON
 ELEVATION: (NAD 83, US FT)
 SOURCE OF GRADE GPS
 PROVEN SURVEY
 ACCURACY: 1/500
 DEGREE OF
 MINIMUM



STATE: WV
 COUNTY: PERMIT
 APL WELL #: 47
 OPERATOR'S WELL #: WT3 3H
 SWN A
 COMPANY: SWN Production Company, LLC



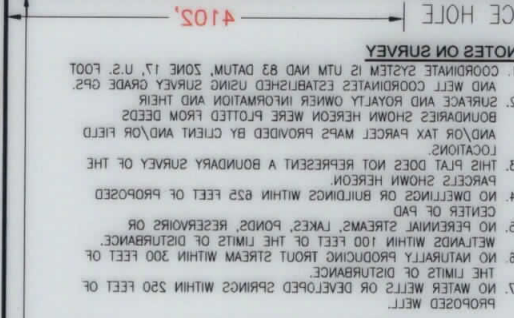
SURFACE HOLE LOCATION (SHL):	EASTING: 528258.30
BOTTOM HOLE LOCATION (BHL):	EASTING: 528254.82
LANDING POINT (LPL):	EASTING: 530744.45
SURFACE HOLE LOCATION (SHL):	EASTING: 528254.82
BOTTOM HOLE LOCATION (BHL):	EASTING: 528254.82
LANDING POINT (LPL):	EASTING: 530744.45
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LANDING POINT (LPL):	EASTING: 530744.45
SURFACE HOLE LOCATION (SHL):	EASTING: 528254.82
BOTTOM HOLE LOCATION (BHL):	EASTING: 528254.82
LANDING POINT (LPL):	EASTING: 530744.45



GRID NORTH
 82335.0
 4105.0

LINE	BEARING	DISTANCE
L1	N 72.02.06" E	1330.28'
L2	N 48.24.47" E	824.04'



NOTES ON SURVEY
 1. COORDINATE SYSTEM IS UTM NAD 83 DATUM, ZONE 17, U.S. FOOT
 2. SURFACE AND ROYALTY OWNER INFORMATION AND THEIR
 3. BOUNDARIES SHOWN HEREON WERE PLOTTED FROM DEEDS
 AND/OR TAX PARCEL MAPS PROVIDED BY CLIENT AND/OR FIELD
 LOCATIONS
 4. THIS PLAT DOES NOT REPRESENT A BOUNDARY SURVEY OF THE
 PARCELS SHOWN HEREON.
 5. NO PERENNIAL STREAMS, LAKES, PONDS, RESERVOIRS OR
 CENTER OF PAD
 6. NO DWELLINGS OR BUILDINGS WITHIN 625 FEET OF PROPOSED
 WETLANDS WITHIN 100 FEET OF THE LIMITS OF DISTURBANCE.
 7. NO NATURALLY PRODUCING TROUT STREAM WITHIN 300 FEET OF
 THE LIMITS OF DISTURBANCE.
 8. NO WATER WELLS OR DEVELOPED SPRINGS WITHIN 250 FEET OF
 PROPOSED WELL.



JHA ENGINEERS ENVIRONMENTAL GIS MAPPING
 88011 Vineyard Road
 St. Clairsville, Ohio 43950
 740-852-6100
 www.jhacompanies.com


WELL BORE TABLE FOR SURFACE / ROYALTY OWNERS		
TRACT	SURFACE OWNER (S) / ROYALTY OWNER (R)	TAX PARCEL
1	SWN PRODUCTION COMPANY, LLC (S) RODNEY CALVERT, ET AL (R)	12-10-29
TRACT	SURFACE OWNER	TAX PARCEL
2	RODNEY A. CALVERT	12-10-29.5
3	GARY G. YOCUM & LAVERNE F. YOCUM (LIFE ESTATE); CHRIS B. YOCUM (REMIANDERMAN)	12-15-9
4	SWN PRODUCTION COMPANY, LLC	12-10-28
5	SWN PRODUCTION COMPANY, LLC	12-10-15
6	SWN PRODUCTION COMPANY, LLC	12-10-14
7	SWN PRODUCTION COMPANY, LLC	12-10-10
8	MILLTREE PROPERTIES, LLC	12-10-9
9	COURTNEY E. RICHMOND & RHEA K. RICHMOND, HIS WIFE	12-10-13
10	ANDREW D. SHULUGA & ANDREA M. SHULUGA, CO-TRUSTEES OF THE ANDREW D. SHULUGA AND ANDREA M. SHULUGA REVOCABLE TRUST UDER DATE OF JANUARY 8, 2013	12-10-10
11	ANDREW D. SHULUGA & ANDREA M. SHULUGA, CO-TRUSTEES OF THE ANDREW D. SHULUGA AND ANDREA M. SHULUGA REVOCABLE TRUST UDER DATE OF JANUARY 8, 2013	12-9-15
12	MARK MASSARI	12-4-38

ADJOINING OWNERS TABLE		
TRACT	SURFACE OWNER	TAX PARCEL
A	HAESSLY LAND & TIMBER, LLC, AN OHIO LIMITED LIABILITY COMPANY	12-15-10
B	JOSEPH C. DREYER	12-15-8
C	RODNEY A. CALVERT	12-10-29.3
D	RODNEY A. CALVERT	12-10-29.4
E	RODNEY CALVERT & ET AL	12-10-29.1
F	HAESSLY LAND & TIMBER, LLC, AN OHIO LIMITED LIABILITY COMPANY	12-10-33
G	HAESSLY LAND & TIMBER, LLC, AN OHIO LIMITED LIABILITY COMPANY	12-10-32
H	SWN PRODUCTION COMPANY, LLC	12-10-27
I	ROBERT C. RITCHEA & JAMES L. RITCHEA	12-10-22
J	ROBERT A. ROGERS & SUSAN J. ROGERS, HUSBAND AND WIFE, AND UNTO THE SURVIVOR OF THEM	12-10-21
K	HAESSLY LAND & TIMBER, LLC, AN OHIO LIMITED LIABILITY COMPANY	12-10-23
L	HAESSLY LAND & TIMBER, LLC, AN OHIO LIMITED LIABILITY COMPANY	12-10-20
M	MICHAEL ALLEN HUGGINS, PATRICK WANE HUGGINS & JOSEPH DEAN HUGGINS	12-9-23
N	WAYNE L. GODDARD	12-9-22
O	ANDREW D. SHULUGA & ANDREA M. SHULUGA, CO-TRUSTEES OF THE ANDREW D. SHULUGA AND ANDREA M. SHULUGA REVOCABLE TRUST	12-9-14
P	ANDREW D. SHULUGA & ANDREA M. SHULUGA, CO-TRUSTEES OF THE ANDREW D. SHULUGA AND ANDREA M. SHULUGA REVOCABLE TRUST	12-9-13
Q	ANDREW D. SHULUGA & ANDREA M. SHULUGA, CO-TRUSTEES OF THE ANDREW D. SHULUGA AND ANDREA M. SHULUGA REVOCABLE TRUST	12-9-8
R	JAMES L. BITHELL, FATHER & CHRISTOPHER P. BITHELL, SON, AS JOINT TENANTS WITH RIGHT OF SURVIVORSHIP	12-4-37
S	JAMES L. BITHELL, FATHER & CHRISTOPHER P. BITHELL, SON, AS JOINT TENANTS WITH RIGHT OF SURVIVORSHIP	12-4-26
T	CLAUDIA MECKEL-JONAS; ROBERT MECKEL; & ASTRID MECKEL-HAUPT, AS JOINT TENANTS WITH RIGHT OF SURVIVORSHIP	12-4-27
U	JAMES L. RITCHEA & HAZEL JORETTA RITCHEA	12-4-39
V	ROY L. WALTER, JR. & CHRIS WALTER, HUSBAND AND WIFE, AND UNTO THE SURVIVOR OF THEM	12-5-29
W	RICHARD W. MASTNEY & MARK MASSARI	12-5-20
X	ROBERT A. STOUT & SHERI L. STOUT, HUSBAND AND WIFE, AND UNTO THE SURVIVOR OF THEM	12-10-3
Y	ROBERT A. STOUT & SHERI L. STOUT, HUSBAND AND WIFE, AND UNTO THE SURVIVOR OF THEM	12-10-2
Z	SWN PRODUCTION COMPANY, LLC	12-10-11
AA	DARREN YOHO; KEVIN YOHO; BRADLEY YOHO; JEFFREY YOHO; DEBORAH YOHO	12-10-16
AB	DARREN YOHO; KEVIN YOHO; BRADLEY YOHO; JEFFREY YOHO; DEBORAH YOHO	12-10-18
AC	CORY DURIG & DAVID DURIG	01-07-2
AD	NORMA F. YOHO	01-07-40
AE	JACOB BICKERSTAFF & ANNA BICKERSTAFF, HUSBAND AND WIFE	12-10-29.2
AF	ERIC L. YEATER & AMANDA J. YEATER, HUSBAND AND WIFE	12-10-34
AG	HAESSLY LAND & TIMBER, LLC, AN OHIO LIMITED LIABILITY COMPANY	12-15-11

REVISIONS:	COMPANY:		
			
	OPERATOR'S	SWN A	DATE: 05-04-2020
	WELL #:	WTZ 3H	DRAWN BY: R. GRIMES
	DISTRICT:	COUNTY:	SCALE: N/A
	PROCTOR	WETZEL	DRAWING NO: 2016-519
		STATE:	WV
			WELL LOCATION PLAT

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V	ROY L. WALTER, JR. & CHRIS WALTER, HUSBAND AND WIFE, AND INTO THE SURVIVOR OF THEM	12-2-29
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AG	HAESLY LAND & TIMBER, LLC, AN OHIO LIMITED LIABILITY COMPANY	12-12-11

		COMPANY:		REVISIONS:
DATE: 02-04-2020	OPERATOR'S SWN A	WELL #: WT3 3H	DISTRICT: WETZEL	
DRAWN BY: R. GRIMES	STATE: WV	COUNTY: WETZEL	PROCTOR:	
SCALE: N/A				
DRAWING NO: 2018-218				
WELL LOCATION PLAT				