

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

API 47-103-03198 County WETZEL District PROCTOR  
Quad WILEYVILLE Pad Name MARGARET SUE KELLEY PAD1 Field/Pool Name VICTORY  
Farm name MARGARET SUE KELLEY Well Number MARGARET SUE KELLEY WTZ 5H  
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 4,393,245.81 Easting 525,892.58  
Landing Point of Curve Northing 4,393,677.54 Easting 525,792.37  
Bottom Hole Northing 4,394,631.30 Easting 524,661.37

Elevation (ft) 1422.5' 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 10/10/2017 Date drilling commenced 01/27/2018 Date drilling ceased 05/27/2018  
Date completion activities began 08/18/2018 Date completion activities ceased 09/28/2018  
Verbal plugging (Y/N) N Date permission granted N/A Granted by N/A RECEIVED Office of Oil and Gas

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

Freshwater depth(s) ft 512' Open mine(s) (Y/N) depths N  
Salt water depth(s) ft 1,930' Void(s) encountered (Y/N) depths N  
Coal depth(s) ft 1,225' Cavern(s) encountered (Y/N) depths N  
Is coal being mined in area (Y/N) N

Reviewed

Reviewed by:  
DmH  
2-21-18

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API 47- 103 - 03198 Farm name MARGARET SUE KELLEY Well number MARGARET SUE KELLEY WTZ 5H

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	648'	NEW	J-55/54.50#		Y, 8 BBLS
Coal	SEE INTERMEDIATE						
Intermediate 1	12.25	9.625	2,838'	NEW	J-55/36#		Y
Intermediate 2							
Intermediate 3							
Production	8.75/8.50	5.5	12,812'	NEW	HCP-110/20#		Y
Tubing		2.375	7,648'	NEW	L-80/4.7#		N
Packer type and depth set							

Comment Details \_\_\_\_\_

CEMENT DATA	Class/Type of Cement	Number of Sacks	Slurry wt (ppg)	Yield (ft <sup>3</sup> /sks)	Volume (ft <sup>3</sup> )	Cement Top (MD)	WOC (hrs)
Conductor	CLASS A	GROUT TO SURFACE				SURFACE	24
Surface	CLASS A	556	15.60	1.20	667.20	SURFACE	8
Coal	SEE INTERMEDIATE						
Intermediate 1	CLASS A	1,140	16.00	1.12	1,276.80	SURFACE	8
Intermediate 2							
Intermediate 3							
Production	CLASS A	2,184	15.60	1.19	2,598.96	SURFACE	24
Tubing							

Drillers TD (ft) 12,812' Loggers TD (ft) 12,812'  
 Deepest formation penetrated MARCELLUS Plug back to (ft) N/A  
 Plug back procedure N/A

Kick off depth (ft) 6,323'

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 \_\_\_\_\_







MARGARET SUE KELLEY WTZ 5H

ATTACHMENT 1

PERF REPORT

STAGE NUM	Perf Date	Perf Bottom MI	Perf Top MD2	# SHOTS PER STG
1	7/14/2018	12,718	12,624	33
2	8/19/2018	12,591	12,484	42
3	8/19/2018	12,451	12,344	42
4	8/19/2018	12,311	12,204	42
5	8/20/2018	12,171	12,064	42
6	8/20/2018	12,031	11,924	42
7	8/20/2018	11,891	11,784	42
8	8/21/2018	11,751	11,644	42
9	8/21/2018	11,611	11,504	42
10	8/21/2018	11,471	11,364	42
11	8/22/2018	11,331	11,224	42
12	8/23/2018	11,191	11,084	42
13	8/24/2018	11,048	10,944	42
14	8/24/2018	10,911	10,804	42
15	8/24/2018	10,771	10,664	42
16	8/25/2018	10,630	10,524	42
17	8/25/2018	10,491	10,384	42
18	8/27/2018	10,349	10,244	42
19	8/28/2018	10,211	10,104	42
20	8/28/2018	10,071	9,964	42
21	8/29/2018	9,931	9,824	42
22	8/29/2018	9,791	9,684	42
23	8/30/2018	9,651	9,544	42
24	8/30/2018	9,511	9,404	42
25	8/30/2018	9,371	9,264	42
26	8/30/2018	9,231	9,124	42
27	8/31/2018	9,082	8,984	42
28	9/1/2018	8,951	8,844	42
29	9/1/2018	8,811	8,704	42
30	9/1/2018	8,671	8,564	42
31	9/2/2018	8,531	8,424	42
32	9/2/2018	8,391	8,284	42
33	9/2/2018	8,251	8,144	42
34	9/2/2018	8,111	8,004	42
35	9/2/2018	7,971	7,861	42
36	9/3/2018	7,831	7,724	42
37	9/3/2018	7,688	7,584	42

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**MARGARET SUE KELLEY Wtz 5H  
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	8/19/2018	80.4	7,298	7,133	4,383	273,380	6,020	0
2	8/19/2018	97.3	8,329	6,063	4,670	280,140	4,446	0
3	8/19/2018	95.3	8,213	6,508	4,633	279,000	4,751	0
4	8/19/2018	85.1	7,716	6,291	4,368	276,820	4,543	0
5	8/20/2018	92.7	8,241	6,018	4,626	279,060	4,335	0
6	8/20/2018	88.8	8,172	5,886	4,209	299,030	4,217	0
7	8/20/2018	86.7	7,894	5,748	4,735	280,320	4,718	0
8	8/21/2018	85.5	7,808	5,742	4,728	276,880	4,908	0
9	8/21/2018	95.7	8,230	6,321	5,410	277,000	4,053	0
10	8/22/2018	87.4	7,638	5,321	5,533	267,120	6,041	0
11	8/23/2018	85	7,769	6,098	4,642	276,660	4,540	0
12	8/23/2018	85	7,380	5,419	5,420	271,080	4,262	0
13	8/24/2018	98.3	8,061	5,976	4,387	290,250	4,296	0
14	8/24/2018	95.8	8,044	5,907	4,791	270,580	4,058	0
15	8/24/2018	87.6	7,631	6,151	4,889	272,040	4,067	0
16	8/25/2018	97.1	7,505	4,640	4,273	276,380	4,176	0
17	8/25/2018	87.4	7,377	5,796	9,180	274,120	8,073	0
18	8/28/2018	84.6	6,975	5,582	4,493	280,800	4,966	0
19	8/28/2018	88.5	7,293	5,595	4,139	274,300	5,322	0
20	8/29/2018	96.4	7,570	5,500	4,320	277,200	4,053	0
21	8/29/2018	100.2	7,624	5,182	4,506	264,480	3,920	0
22	8/29/2018	91	7,001	5,366	4,458	271,780	4,332	0
23	8/30/2018	89.7	7,211	5,539	4,497	271,120	4,317	0
24	8/30/2018	100.4	7,712	5,583	4,609	274,280	3,595	0
25	8/30/2018	98.9	7,488	5,475	4,177	286,790	4,351	0
26	8/31/2018	92.1	7,108	5,430	4,529	286,290	4,420	0
27	9/1/2018	95.3	7,258	5,731	4,206	280,270	4,289	0
28	9/1/2018	93.4	7,106	5,503	4,140	274,780	4,004	0
29	9/1/2018	100.2	7,335	5,290	4,108	274,980	4,095	0
30	9/1/2018	93.2	7,045	5,410	4,371	267,100	4,141	0
31	9/2/2018	95.3	6,950	4,940	4,087	268,860	4,015	0
32	9/2/2018	97.1	7,338	5,428	4,229	267,900	4,171	0
33	9/2/2018	98.7	7,157	5,202	4,363	254,650	3,676	0
34	9/2/2018	91.4	7,141	5,854	3,661	267,460	3,982	0
35	9/3/2018	95.9	6,726	5,053	4,233	275,840	3,707	0
36	9/3/2018	96.3	7,349	5,734	4,007	281,860	4,046	0
37	9/3/2018	99.5	7,155	5,711	4,001	274,540	3,499	0

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MARGARET SUE KELLEY WTZ 5H

47103031980000

Attachment 3

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	512.00	512.00	
Top of Salt Water	1930.00	1930.00	NA	NA	
Pittsburgh Coal	1225.00	1225.00	2225.00	2225.00	
Maxton (ss)	2225.00	2225.00	2424.00	2424.00	
Big Injun (ss)	2424.00	2424.00	2995.00	2995.00	
Berea (siltstone)	2995.00	2995.00	6551.00	6551.00	
Rhinestreet (shale)	6814.00	6735.00	6969.00	6866.00	
Cashaqua (shale)	6969.00	6866.00	7065.00	6939.00	
Middlesex (shale)	7065.00	6939.00	7191.00	7023.00	
Burket (shale)	7191.00	7023.00	7232.00	7047.00	
Tully (ls)	7232.00	7047.00	7279.00	7071.00	
Mahantango (shale)	7279.00	7071.00	7525.00	7157.00	
Marcellus (shale)	7525.00	7157.00	NA	NA	GAS

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## Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	8/19/2018
Job End Date:	9/3/2018
State:	West Virginia
County:	Wetzel
API Number:	47-103-03198-00-00
Operator Name:	Southwestern Energy
Well Name and Number:	Margaret Sue Kelley WTZ 5H
Latitude:	39.68865800
Longitude:	-80.69803170
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	7,151
Total Base Water Volume (gal):	6,863,116
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	Operator	Base Fluid					
			Water	7732-18-5	100.00000	83.94944	Density = 8.340
Ingredients	Listed Above	Listed Above					
			Water	7732-18-5	100.00000	1.01864	



SAND-PREMIUM WHITE-40/70, BULK	Halliburton	Proppant					
				Listed Below			
NALCO BIOC11139A	NALCO Champion Company	Biocide					
				Listed Below			
SAND-COMMON WHITE-100 MESH, SSA-2, BULK (100003676)	Halliburton	Proppant					
				Listed Below			
EXCELERATE LX-1	Halliburton	Friction Reducer					
				Listed Below			
NALCO SCAL16486A	NALCO Champion Company	Scale Inhibitor					
				Listed Below			
CI-200	Economy Polymers & Chemicals	Corrosion Inhibitor					
				Listed Below			
IC-001	Economy Polymers & Chemicals	Additive					
				Listed Below			
HYDROCHLORIC ACID	Halliburton						

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				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	14.96051	
			Hydrochloric acid	7647-01-0	15.00000	0.14401	
			Polyacrylate	Proprietary	30.00000	0.02724	
			Hydrotreated light petroleum distillate	64742-47-8	30.00000	0.02724	
			Fatty acid ester	Proprietary	5.00000	0.00908	
			Benzyl-(C12-C16 Alkyl)-Dimethyl-Ammonium Chloride	68424-85-1	30.00000	0.00735	
			Sodium chloride	7647-14-5	5.00000	0.00454	
			Ethoxyalted fatty acid	Proprietary	5.00000	0.00454	
			Ammonium chloride	12125-02-9	5.00000	0.00454	
			Nitriloacetic Acid, Trisodium Salts	5064-31-3	42.00000	0.00287	
			Glutaraldehyde	111-30-8	10.00000	0.00245	
			Methanol	67-56-1	80.00000	0.00214	
			Amine Triphosphate	Proprietary	30.00000	0.00156	Denise Tuck, Halliburton, 3000 N. Sam Houston Pkwy E., Houston, TX 77032, 281-871-6226
			Ethylene Glycol	107-21-1	30.00000	0.00156	
			Ethanol	64-17-5	5.00000	0.00122	
			Fatty Acids	Trade Secret	10.00000	0.00027	
			Sodium Hydroxide	1310-73-2	2.00000	0.00014	

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

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

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

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

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

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Margaret Sue Kelley WTZ 5H  
Wetzel Co, WV  
SDC 40  
**Plan vs Actual**

**Plan Data for Margaret Sue Kelley WTZ 5H**

Plan Point Information: (Scale Factor = 0.999608)  
DogLeg Severity Unit: %/100.00ft Position offsets from Slot centre

MD	Inc	Az	TVD	+N/-S	+E/-W	VSec	DLS	Toolface	Comments
(USft)	(°)	(°)	(USft)	(USft)	(USft)	(USft)	(DLSU)	(°)	(°)
0.00	0.00	0.00	-0.00	-0.00	0.00	-0.00	0.00	0.0	
26.00	0.00	0.00	26.00	-0.00	0.00	-0.00	0.00	0.0	KB Offset
800.00	0.00	0.00	800.00	-0.00	0.00	-0.00	0.00	0.0	Nudge KOP
1125.00	6.50	45.00	1124.30	13.02	13.02	1.08	2.00	45.0	Build/Turn
1252.70	8.50	32.70	1250.91	26.08	23.23	4.06	2.00	315.0	Hold
6439.02	8.50	32.70	6380.27	671.17	437.37	211.07	0.00	0.0	Curve KOP 7° DLS
7426.34	70.00	310.26	7130.61	1083.63	78.14	757.79	7.00	274.4	Build/Turn 9° DLS
7651.91	90.30	310.05	7169.00	1226.19	-90.83	976.51	9.00	359.4	Landing Point
12813.05	90.30	310.05	7142.00	4547.46	-4041.26	6081.30	0.00	0.0	PBHL MSK5H

Target Set Information: (Scale Factor = 0.999608)  
Name: Margaret Sue Kelley WTZ 5H  
Position offsets from Slot centre

Name	TVD	+N/-S	+E/-W	Northing	Easting	Lat	Long
	(USft)	(USft)	(USft)	(USft)	(USft)	(°)	(°)
LP MSK5H	7169.00	1118.84	36.96	14414625.73	1725403.02	39.691729	-80.697887
PBHL MSK5H	7142.00	4547.46	-4041.26	14418053.01	1721326.40	39.701178	-80.712339

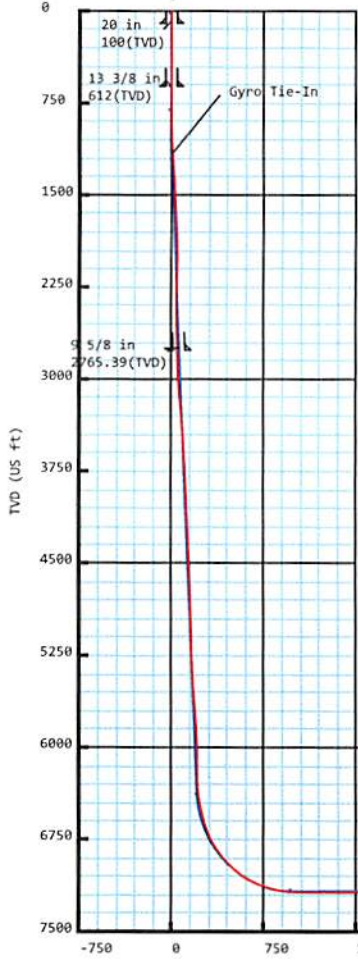


**Plan Data for Margaret Sue Kelley WTZ 5H**

Formation Point Information:

Name	TVD	Elevation	MD
	(USft)	(USft)	(USft)
Onondaga	7189.00	0.00	-1.00
Base Fresh Water	512.00	936.40	512.00
Upper Rhinestreet	623.00	825.40	623.00
Top of Salt Water	962.00	486.40	962.00
Pittsburgh Coal	1242.00	206.40	1243.69
Maxton	2217.00	-768.60	2229.52
Big Lime	2335.00	-886.60	2348.83
Big Injun	2416.00	-967.60	2430.73
Base Big Injun	2659.00	-1210.60	2676.42
Berea	3008.00	-1559.60	3029.30
Gordon Sandstone	3173.00	-1724.60	3196.13
Lower Rhinestreet	6589.00	-5140.60	6652.81
Basal Rhinestreet	6724.00	-5275.60	6798.95
Cashaqua	6812.00	-5363.60	6901.17
Middlesex	6922.00	-5473.60	7042.38
Lower Middlesex	6949.00	-5500.60	7080.48
Burket	7008.00	-5559.60	7170.95
Tully	7028.00	-5579.60	7204.61
Mahantango	7051.00	-5602.60	7245.87
Levanna	7139.00	-5690.60	7452.32
Upper Marcellus	7149.00	-5700.60	7488.53

KB: 1448.4'  
GL: 1422.4'



**Plan Data for Margaret Sue Kelley WTZ 5H**

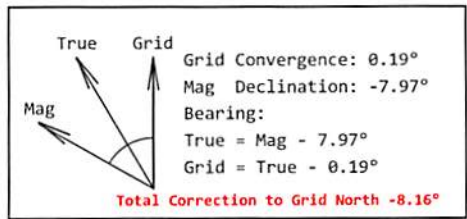
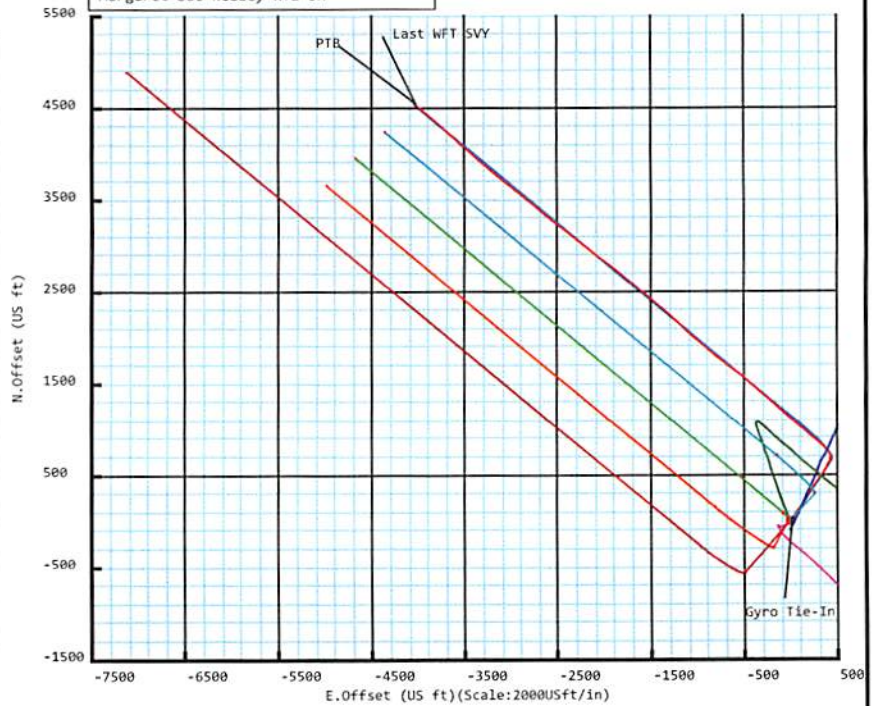
Field: SOUTHWESTERN WETZEL CO, WV UTM NAD 83 (17N)  
Map Unit: USft Vertical Reference Datum (VRD): Mean Sea Level  
Projected Coordinate System: NAD83 / UTM zone 17N

Site: Margaret Sue Kelley WTZ Pad  
Unit: USFeet TVD Reference:  
Company Name: SOUTHWESTERN ENERGY

Position: Northing: 14413498.28USft Latitude: 39.688633°  
Easting: 1725348.27USft Longitude: -80.698095°  
North Reference: Grid Grid Convergence: 0.19°  
Elevation Above VRD: 1422.40USft

Slot: Margaret Sue Kelley WTZ 5H  
Position:  
Offset is from Site centre  
+N/-S: 9.06USft Northing: 14413507.33USft Latitude: 39.688658°  
+E/-W: 17.82USft Easting: 1725366.08USft Longitude: -80.698032°  
Elevation Above VRD: 1422.40USft

Well: Margaret Sue Kelley WTZ 5H  
Type: Main-Well  
File Number: NE-13141544  
Plan Folder: P1 Plan: P1:V4  
Vertical Section: Position offset of origin from Slot centre:  
+N/-S: 0.00USft Azimuth: 318.37°  
+E/-W: 0.00USft  
Magnetic Parameters:  
Model: Field Strength: Declination: Dip: Date:  
HDGM 2016 52282(nT) -7.97° 66.88° 2018-05-11



Drawing By: Vilaphanh (Cot) Sinakone  
Date: 10 May 2018  
Office Name: Weatherford Drilling Services  
Address: 12101 Cutten Road  
Houston, TX 77066  
Phone: 281-701-4760





# Weatherford®

## Margaret Sue Kelley WTZ 5H

<b>Field Name:</b> SOUTHWESTER N_WETZEL CO, WV UTM NAD 83 (17N)	<b>Map Units:</b> US ft	<b>Company Name:</b> SOUTHWESTERN ENERGY		
	<b>Vertical Reference Datum (VRD):</b> Mean Sea Level	<b>Projected Coordinate System:</b> NAD83 / UTM zone 17N		
	<b>Comment:</b>			
<b>Site:</b> Margaret Sue Kelley WTZ Pad	<b>Units:</b> US ft	<b>North Reference:</b> Grid	<b>Convergence Angle:</b> 0.19	
	<b>Position:</b>	<b>Northing:</b> 14413498.28 US ft	<b>Latitude:</b> 39.688633	
		<b>Easting:</b> 1725348.27 US ft	<b>Longitude:</b> -80.698095	
<b>Elevation above MSL:</b> 1422.40 US ft	<b>Comment:</b>			
<b>Slot:</b> Margaret Sue Kelley WTZ 5H	<b>Position (Relative to Site Centre)</b>			
	<b>+N/-S:</b> 9.06 US ft	<b>Northing:</b> 14413507.33 US ft	<b>Latitude:</b> 39.688658	
	<b>+E/-W:</b> 17.82 US ft	<b>Easting:</b> 1725366.08 US ft	<b>Longitude:</b> -80.698032	
	<b>Slot TVD Reference:</b> Ground Elevation			
<b>Elevation above MSL:</b> 1422.40 US ft	<b>Comment:</b>			
<b>Well:</b> Margaret Sue Kelley WTZ 5H	<b>Type:</b> Main well	<b>UWI:</b>		
	<b>File Number:</b> NE-13141544	<b>Comment:</b>		
	<b>Closure Distance:</b> 6085.82 US ft	<b>Closure Azimuth:</b> 318.43°		
	<b>Vertical Section: Position of Origin (Relative to Slot centre)</b>			
	<b>+N/-S:</b> -0.00 US ft	<b>+E/-W:</b> 0.00 US ft	<b>Az:</b> 318.37°	
<b>Drill floor: Survey Name: Definitive Survey</b>				
<b>Rig Height (Drill Floor):</b> 26.00 US ft	<b>Elevation above MSL:</b> 1448.40 US ft	<b>Inclination:</b> 0.00°	<b>Azimuth:</b> 0.00°	
<b>Survey Name: Definitive Survey</b>				
<b>Date:</b> 29/Mar/2018	<b>Survey Tool:</b> See Survey Tool Ranges below.	<b>Comment:</b>	<b>Company:</b>	
<b>Magnetic Model:</b>				
<b>Model Name:</b> HDGM 2016	<b>Date:</b> 11/May/2018	<b>Field Strength:</b> 52282.0 nT	<b>Declination:</b> -7.97°	<b>Dip:</b> 66.88°
<b>Tie Point:</b>				
<b>MD:</b> 0.00 US ft	<b>Inclination:</b> 0.00°	<b>Azimuth:</b> 0.00°	<b>TVD:</b> -0.00 US ft	<b>North Offset:</b> -0.00 US ft
				<b>East Offset:</b> 0.00 US ft

## 5D Survey Report

## Survey Tool Ranges:

Name	Start MD(usft)	End MD(usft)	Source Survey
GYRO_GC_WIR+DPIPE_GYD	0.00	1179.00	Gyro
MWD	1179.00	2776.00	WFT MWD_01
MWD	2776.00	7444.00	WFT MWD_02
MWD	7444.00	12812.00	WFT MWD_03

## Wellpath created using minimum curvature.

## Survey Points: (Relative to Slot centre)(TVD relative to Drill Floor) (Scale factor 0.999608)

MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	VS (US ft)	N.Offset (US ft)	E.Offset (US ft)	Latitude (° ' ")	Longitude (° ' ")	DLS (°/100US ft)	Comment
0.00	0.00	0.00	-0.00	0.00	-0.00	0.00	39.688658	-80.698032	0.00	
26.00	0.00	0.00	26.00	0.00	-0.00	0.00	39.688658	-80.698032	0.00	
100.00	0.16	226.62	100.00	-0.00	-0.07	-0.08	39.688658	-80.698032	0.22	
200.00	0.18	125.25	200.00	-0.16	-0.26	-0.05	39.688657	-80.698032	0.26	
300.00	0.28	185.30	300.00	-0.48	-0.59	0.06	39.688656	-80.698031	0.25	
400.00	0.11	27.20	400.00	-0.61	-0.75	0.08	39.688656	-80.698031	0.38	
500.00	0.03	107.17	500.00	-0.60	-0.67	0.15	39.688656	-80.698031	0.11	
539.00	0.24	156.47	539.00	-0.69	-0.75	0.19	39.688656	-80.698031	0.57	
630.00	0.08	68.40	630.00	-0.89	-0.90	0.33	39.688656	-80.698031	0.28	
723.00	2.04	49.27	722.98	-0.94	0.20	1.64	39.688659	-80.698026	2.11	
815.00	4.30	38.33	814.83	-0.36	3.98	5.02	39.688669	-80.698014	2.53	
900.00	5.81	34.29	899.50	1.24	10.03	9.42	39.688686	-80.697998	1.82	
1000.00	6.96	31.45	998.88	4.24	19.38	15.43	39.688711	-80.697977	1.19	
1100.00	7.79	26.04	1098.05	8.58	30.64	21.57	39.688742	-80.697955	1.08	
1179.00	8.33	26.38	1176.27	12.75	40.58	26.46	39.688769	-80.697937	0.69	Gyro Tie-In
1237.00	8.88	25.09	1233.62	16.10	48.40	30.23	39.688791	-80.697924	1.00	
1330.00	8.48	28.82	1325.55	21.23	60.91	36.58	39.688825	-80.697901	0.74	
1422.00	8.62	31.36	1416.53	25.52	72.74	43.44	39.688857	-80.697876	0.44	
1515.00	8.15	32.09	1508.54	29.40	84.27	50.56	39.688889	-80.697851	0.52	
1608.00	8.08	35.56	1600.60	32.70	95.17	57.87	39.688919	-80.697825	0.53	
1701.00	8.88	33.76	1692.59	35.96	106.46	65.66	39.688950	-80.697797	0.91	
1793.00	8.22	31.17	1783.56	39.70	117.99	73.01	39.688981	-80.697771	0.83	
1886.00	8.37	31.31	1875.59	43.65	129.46	79.97	39.689013	-80.697746	0.16	
1979.00	4.85	45.43	1967.96	45.84	138.01	86.29	39.689036	-80.697723	4.14	
2072.00	3.45	59.79	2060.72	45.49	142.17	91.51	39.689048	-80.697705	1.86	
2164.00	2.74	64.95	2152.59	44.31	144.50	95.89	39.689054	-80.697689	0.83	
2254.00	2.05	68.73	2242.51	43.14	145.99	99.34	39.689058	-80.697677	0.79	
2347.00	2.22	55.41	2335.44	42.34	147.62	102.37	39.689062	-80.697666	0.56	
2440.00	3.88	42.67	2428.31	42.43	150.95	105.99	39.689071	-80.697653	1.92	
2532.00	4.61	39.72	2520.06	43.30	156.09	110.46	39.689086	-80.697637	0.83	
2625.00	5.27	39.95	2612.71	44.48	162.24	115.59	39.689102	-80.697619	0.71	
2715.00	5.05	34.33	2702.35	46.05	168.68	120.48	39.689120	-80.697602	0.61	
2776.00	4.75	31.17	2763.12	47.45	173.05	123.30	39.689132	-80.697591	0.66	
2902.00	4.49	23.90	2888.72	51.04	182.03	128.00	39.689157	-80.697575	0.51	
2995.00	7.18	17.82	2981.23	55.50	190.89	131.25	39.689181	-80.697563	2.96	
3088.00	10.42	21.01	3073.12	62.32	204.28	136.05	39.689218	-80.697546	3.52	
3180.00	11.14	22.96	3163.50	69.96	220.23	142.50	39.689261	-80.697523	0.88	
3273.00	11.14	23.04	3254.74	77.66	236.77	149.52	39.689307	-80.697498	0.02	
3366.00	11.70	27.33	3345.90	84.89	253.41	157.37	39.689352	-80.697469	1.09	
3459.00	11.54	27.16	3437.00	91.64	270.07	165.94	39.689398	-80.697439	0.18	
3551.00	12.00	31.62	3527.06	97.73	286.40	175.16	39.689443	-80.697406	1.11	
3644.00	11.99	31.44	3618.03	103.33	302.87	185.26	39.689488	-80.697370	0.04	
3737.00	11.87	33.74	3709.03	108.56	319.07	195.61	39.689532	-80.697333	0.53	
3830.00	11.24	31.47	3800.14	113.61	334.75	205.66	39.689575	-80.697297	0.84	
3922.00	10.74	31.85	3890.45	118.65	349.68	214.86	39.689616	-80.697264	0.55	
4012.00	12.72	39.04	3978.57	122.65	364.50	225.53	39.689657	-80.697226	2.73	
4105.00	11.87	37.10	4069.44	126.18	380.09	237.75	39.689699	-80.697182	1.02	
4197.00	10.95	37.45	4159.62	129.68	394.57	248.77	39.689739	-80.697143	1.00	
4290.00	10.35	35.38	4251.02	133.23	408.39	258.98	39.689777	-80.697107	0.77	

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## 5D Survey Report

Survey Points: (Relative to Slot centre)(TVD relative to Drill Floor) (Scale factor 0.999608)											
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	VS (US ft)	N.Offset (US ft)	E.Offset (US ft)	Latitude (° ' ")	Longitude (° ' ")	DLS (%/100US ft)	Comment	
4383.00	9.43	33.21	4342.64	137.10	421.58	267.99	39.689813	-80.697074	1.07		
4476.00	8.65	33.01	4434.48	140.95	433.82	275.97	39.689846	-80.697046	0.84		
4569.00	7.97	30.90	4526.50	144.74	445.21	283.09	39.689878	-80.697020	0.80		
4661.00	8.03	33.19	4617.61	148.34	456.07	289.89	39.689907	-80.696996	0.35		
4754.00	9.00	38.78	4709.58	151.25	467.17	298.00	39.689938	-80.696967	1.37		
4847.00	8.06	36.32	4801.55	153.82	478.10	306.42	39.689968	-80.696937	1.08		
4939.00	8.28	37.99	4892.62	156.36	488.51	314.31	39.689996	-80.696909	0.35		
5029.00	10.23	42.10	4981.45	158.41	499.55	323.66	39.690026	-80.696876	2.29		
5122.00	9.91	39.14	5073.01	160.59	511.89	334.25	39.690060	-80.696838	0.65		
5212.00	9.60	38.46	5161.71	163.13	523.77	343.81	39.690093	-80.696804	0.37		
5304.00	9.59	35.46	5252.43	166.16	536.02	353.02	39.690126	-80.696771	0.54		
5397.00	9.53	31.85	5344.14	170.08	548.87	361.58	39.690161	-80.696740	0.65		
5490.00	9.53	28.56	5435.85	174.88	562.17	369.32	39.690198	-80.696713	0.59		
5582.00	9.10	23.81	5526.64	180.49	575.52	375.90	39.690234	-80.696689	0.96		
5675.00	9.06	19.98	5618.48	187.03	589.13	381.37	39.690272	-80.696669	0.65		
5768.00	9.27	18.28	5710.29	194.26	603.12	386.22	39.690310	-80.696652	0.37		
5860.00	8.68	22.86	5801.16	200.97	616.55	391.25	39.690347	-80.696634	1.01		
5953.00	7.90	30.82	5893.19	205.92	628.51	397.25	39.690380	-80.696613	1.49		
6046.00	7.76	30.83	5985.33	209.74	639.39	403.74	39.690410	-80.696589	0.15		
6139.00	7.24	43.17	6077.54	212.16	649.06	410.97	39.690436	-80.696564	1.82		
6228.00	7.82	48.02	6165.77	212.71	657.20	419.30	39.690458	-80.696534	0.97		
6275.00	8.33	46.30	6212.30	212.85	661.69	424.14	39.690471	-80.696517	1.20		
6321.00	8.42	39.80	6257.81	213.47	666.58	428.71	39.690484	-80.696500	2.07		
6368.00	7.99	23.58	6304.34	215.36	672.21	432.22	39.690499	-80.696488	4.99		
6414.00	8.53	8.17	6349.87	218.90	678.52	433.98	39.690517	-80.696481	4.94		
6460.00	9.53	356.00	6395.30	224.12	685.70	434.20	39.690536	-80.696481	4.67		
6507.00	11.57	348.22	6441.51	231.29	694.19	432.97	39.690560	-80.696485	5.28		
6553.00	13.26	341.83	6486.43	240.13	703.72	430.38	39.690586	-80.696494	4.73		
6599.00	14.37	336.53	6531.10	250.40	713.97	426.46	39.690614	-80.696508	3.66		
6646.00	15.71	330.64	6576.49	262.16	724.87	421.02	39.690644	-80.696527	4.32		
6692.00	17.26	327.61	6620.60	274.98	736.06	414.31	39.690675	-80.696551	3.85		
6752.00	21.07	326.28	6677.27	294.45	752.55	403.55	39.690720	-80.696589	6.39		
6798.00	23.54	325.16	6719.82	311.77	766.97	393.71	39.690760	-80.696624	5.45		
6845.00	27.39	322.07	6762.25	331.89	783.21	381.70	39.690805	-80.696666	8.66		
6891.00	31.90	318.36	6802.22	354.61	800.65	367.11	39.690853	-80.696718	10.58		
6937.00	35.76	315.23	6840.43	380.20	819.28	349.56	39.690904	-80.696780	9.20		
6984.00	37.93	312.50	6878.04	408.29	838.80	329.23	39.690958	-80.696852	5.78		
7030.00	41.32	310.78	6913.47	437.41	858.27	307.30	39.691011	-80.696929	7.75		
7077.00	45.69	309.93	6947.55	469.44	879.21	282.65	39.691069	-80.697017	9.38		
7120.00	48.49	309.91	6976.82	500.59	899.42	258.49	39.691125	-80.697102	6.51		
7166.00	49.79	310.19	7006.92	535.01	921.81	231.86	39.691186	-80.697197	2.86		
7213.00	53.62	310.90	7036.04	571.55	945.78	203.84	39.691253	-80.697296	8.23		
7259.00	58.80	312.00	7061.61	609.49	971.09	175.21	39.691322	-80.697397	11.43		
7305.00	63.11	311.82	7083.94	649.44	997.95	145.28	39.691396	-80.697503	9.38		
7351.00	67.07	311.53	7103.31	690.87	1025.68	114.13	39.691473	-80.697614	8.63		
7398.00	70.13	311.21	7120.46	734.30	1054.60	81.29	39.691552	-80.697730	6.54		
7444.00	72.68	311.05	7135.13	777.54	1083.27	48.45	39.691631	-80.697847	5.55		
7491.00	74.33	311.51	7148.47	822.26	1113.00	14.59	39.691713	-80.697967	3.63		
7537.00	77.13	311.74	7159.81	866.53	1142.61	-18.73	39.691795	-80.698085	6.11		
7583.00	81.63	312.17	7168.28	911.45	1172.83	-52.35	39.691878	-80.698204	9.83		
7630.00	85.74	312.95	7173.45	957.91	1204.42	-86.75	39.691965	-80.698326	8.90		
7676.00	89.32	313.15	7175.43	1003.66	1235.79	-120.32	39.692052	-80.698444	7.79		
7769.00	88.95	312.19	7176.84	1096.19	1298.81	-188.69	39.692225	-80.698687	1.11		
7862.00	89.01	309.15	7178.49	1188.33	1359.41	-259.21	39.692392	-80.698937	3.27		
7952.00	90.86	312.05	7178.60	1277.48	1417.97	-327.54	39.692554	-80.699179	3.82		
8044.00	90.00	311.52	7177.91	1368.87	1479.27	-396.13	39.692723	-80.699422	1.10		
8137.00	91.11	311.42	7177.00	1461.19	1540.85	-465.82	39.692892	-80.699668	1.20		
8230.00	90.80	307.68	7175.45	1553.06	1600.05	-537.50	39.693056	-80.699923	4.03		
8323.00	90.80	307.44	7174.16	1644.40	1656.74	-611.22	39.693212	-80.700184	0.26		

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## 5D Survey Report

Survey Points: (Relative to Slot centre)(TVD relative to Drill Floor) (Scale factor 0.999608)										
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	VS (US ft)	N.Offset (US ft)	E.Offset (US ft)	Latitude (° ' ")	Longitude (° ' ")	DLS (%/100US ft)	Comment
8415.00	90.99	308.42	7172.72	1734.87	1713.28	-683.77	39.693368	-80.700441	1.08	
8508.00	91.05	307.72	7171.06	1826.35	1770.62	-756.98	39.693526	-80.700700	0.76	
8601.00	90.99	311.05	7169.41	1918.18	1829.61	-828.84	39.693688	-80.700955	3.58	
8694.00	91.05	310.96	7167.75	2010.40	1890.62	-899.01	39.693856	-80.701204	0.12	
8786.00	91.11	310.20	7166.02	2101.53	1950.46	-968.87	39.694021	-80.701451	0.83	
8879.00	91.23	309.97	7164.12	2193.54	2010.33	-1040.01	39.694186	-80.701703	0.28	
8972.00	91.17	313.62	7162.17	2285.90	2072.29	-1109.31	39.694357	-80.701949	3.92	
9065.00	90.43	313.97	7160.87	2378.59	2136.64	-1176.44	39.694534	-80.702187	0.88	
9158.00	90.43	312.77	7160.17	2471.23	2200.50	-1244.04	39.694710	-80.702426	1.29	
9248.00	90.88	312.35	7159.14	2560.76	2261.37	-1310.32	39.694878	-80.702661	0.68	
9340.00	90.25	310.75	7158.24	2652.10	2322.39	-1379.17	39.695046	-80.702905	1.87	
9433.00	90.18	310.76	7157.89	2744.28	2383.10	-1449.62	39.695213	-80.703154	0.08	
9526.00	90.37	311.63	7157.44	2836.55	2444.35	-1519.60	39.695382	-80.703402	0.96	
9619.00	90.68	309.97	7156.59	2928.73	2505.11	-1589.99	39.695550	-80.703652	1.82	
9711.00	90.62	309.38	7155.55	3019.67	2563.85	-1660.80	39.695712	-80.703903	0.64	
9804.00	90.55	310.18	7154.60	3111.62	2623.35	-1732.26	39.695876	-80.704156	0.86	
9897.00	90.80	310.08	7153.50	3203.65	2683.28	-1803.36	39.696041	-80.704408	0.29	
9990.00	90.74	308.95	7152.25	3295.53	2742.45	-1875.10	39.696204	-80.704662	1.22	
10083.00	90.49	306.90	7151.25	3386.98	2799.61	-1948.45	39.696361	-80.704922	2.22	
10175.00	90.68	306.97	7150.31	3477.15	2854.89	-2021.99	39.696514	-80.705183	0.22	
10268.00	90.55	308.03	7149.32	3568.47	2911.50	-2095.76	39.696670	-80.705444	1.15	
10358.00	90.71	309.00	7148.33	3657.14	2967.54	-2166.18	39.696824	-80.705694	1.09	
10451.00	90.62	310.20	7147.25	3749.04	3026.81	-2237.83	39.696988	-80.705948	1.29	
10543.00	90.88	309.00	7146.04	3839.95	3085.45	-2308.71	39.697149	-80.706199	1.33	
10636.00	90.62	308.65	7144.82	3931.66	3143.75	-2381.16	39.697310	-80.706456	0.47	
10726.00	90.86	308.29	7143.66	4020.31	3199.74	-2451.61	39.697464	-80.706706	0.48	
10818.00	90.56	307.93	7142.52	4110.83	3256.51	-2524.00	39.697621	-80.706962	0.51	
10911.00	90.55	309.55	7141.62	4202.51	3314.70	-2596.53	39.697781	-80.707219	1.74	
11004.00	90.62	310.14	7140.67	4294.48	3374.29	-2667.93	39.697946	-80.707472	0.64	
11097.00	90.74	310.54	7139.57	4386.56	3434.48	-2738.81	39.698111	-80.707724	0.45	
11189.00	90.92	310.18	7138.24	4477.65	3494.06	-2808.91	39.698276	-80.707972	0.44	
11282.00	90.80	309.14	7136.84	4569.57	3553.40	-2880.49	39.698439	-80.708226	1.13	
11375.00	90.43	308.19	7135.84	4661.23	3611.50	-2953.10	39.698599	-80.708483	1.10	
11467.00	90.80	309.09	7134.85	4751.90	3668.95	-3024.96	39.698758	-80.708738	1.06	
11560.00	90.62	309.77	7133.70	4843.76	3728.01	-3096.79	39.698920	-80.708992	0.76	
11653.00	90.80	310.17	7132.55	4935.75	3787.75	-3168.05	39.699085	-80.709245	0.47	
11745.00	90.43	310.66	7131.56	5026.86	3847.39	-3238.09	39.699249	-80.709493	0.67	
11838.00	90.68	310.24	7130.66	5118.97	3907.72	-3308.86	39.699416	-80.709744	0.53	
11931.00	90.86	312.21	7129.41	5211.23	3969.00	-3378.80	39.699584	-80.709992	2.13	
12024.00	90.12	312.21	7128.62	5303.69	4031.48	-3447.68	39.699757	-80.710236	0.80	
12117.00	89.45	312.50	7128.96	5396.18	4094.14	-3516.41	39.699929	-80.710479	0.79	
12206.00	89.82	312.69	7129.53	5484.72	4154.37	-3581.92	39.700095	-80.710712	0.47	
12299.00	89.57	312.41	7130.03	5577.24	4217.26	-3650.43	39.700268	-80.710954	0.40	
12389.00	90.18	312.53	7130.22	5666.76	4278.03	-3716.82	39.700436	-80.711190	0.69	
12478.00	89.38	311.20	7130.56	5755.19	4337.42	-3783.10	39.700599	-80.711424	1.74	
12571.00	89.81	310.17	7131.22	5847.35	4398.05	-3853.62	39.700766	-80.711674	1.20	
12663.00	89.82	309.77	7131.52	5938.36	4457.14	-3924.12	39.700929	-80.711924	0.43	
12756.00	89.82	310.23	7131.81	6030.37	4516.92	-3995.36	39.701094	-80.712177	0.49	
12789.00	89.69	310.38	7131.95	6063.04	4538.27	-4020.53	39.701153	-80.712266	0.60	
12812.00	89.69	310.38	7132.08	6085.82	4553.17	-4038.05	39.701194	-80.712328	0.00	Last WFT SVY PTB

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WV Department of  
Environmental Protection

WR-36  
Rev. 5/08

Date: 12/20/2018  
Operators Well Number: MARGARET SUE KELLEY WTZ 5H  
API Well No: 47-103 - 03198

**State of West Virginia  
Department of Environmental Protection  
Office of Oil and Gas**

Well Operator's Report of  
Initial Gas-Oil Ratio

Well Operator SWN PRODUCTION COMPANY LLC Designated Agent \_\_\_\_\_  
Address PO BOX 12359 Address \_\_\_\_\_  
SPRING, TX 77391-2359 \_\_\_\_\_  
\_\_\_\_\_

Geological Target Formation: MARCELLUS Depth 7,525' MD/7,157' TVD feet  
Perforation Interval 7,584' - 12,718' feet

Guidelines for testing:

1. A minimum of gas vented or flared.
2. A 24 hour pre-flow into pipelines or tanks.
3. Uniform producing rate during the 24 hour test per test period.
4. Measurement standards as for Form WR-39, "Report of Annual Production" (see 35CSR4-15)
5. Separate Form WR-36 for each producing formation in a multiple completion.

**TEST DATA**

Start of Test Date	Time	End of Test Date	Time	Duration of Test
Tubing Pressure	Casing Pressure	Separator Pressure	Separator Temperature	
Oil Production During Test	Gas Production During Test	Water Production During Test		
BBLs	MCF	BBLs	-Salinity	
Oil Gravity	Producing Method (flowing, pumping, gas lift etc.)			
API				

**GAS PRODUCTION**

Measurement Method Flange Tap <input type="checkbox"/> Pipe Tap <input type="checkbox"/> L-10 <input type="checkbox"/>		Positive Choke <input type="checkbox"/>
		Positive flow prover <input type="checkbox"/>
Orifice diameter	Pipe Diameter (inside)	Nominal Choke Size inches 17
Differential Pressure range	Max. Static pressure range	Prover and Orifice diameter - inches
Differential		Static
Gas Gravity (Air = 1.0)	Flowing Temperature	Gas Temperature
Measured	Estimated	
24 Hour Coefficient	24 Hour coefficient pressure PSIA	

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Environmental Protection

**TEST RESULTS**

Daily Oil	Daily Water	Daily Gas	Gas/Oil Ratio
69.6	120	4,162	

  
Well Operator  
BY ELIZABETH GEE  
ITS: DESIGNATED REPRESENTATIVE



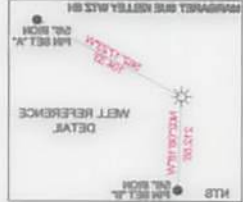




LATITUDE: 39.43.30" SURFACE HOLE

LATITUDE: 39.43.30" BOTTOM HOLE

LINE	BEARING	DISTANCE
L1	223°12'52"	105.84'
L2	112°13'42"	342.92'



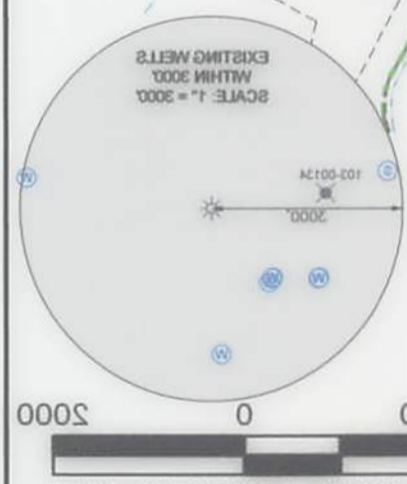
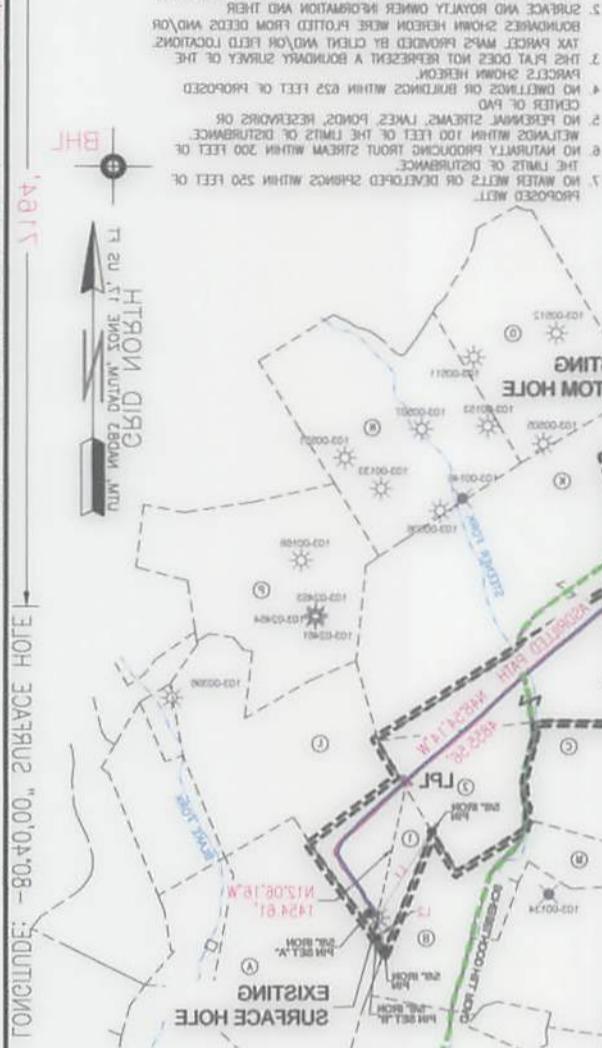
TRACT	OWNER	TAX PARCEL	ACRES
1	BLAKE REALTY, L.L.C.	13-0-00-00	0.00
2	BLAKE REALTY, L.L.C.	13-0-00-00	0.00
3	BLAKE REALTY, L.L.C.	13-0-00-00	0.00
4	BLAKE REALTY, L.L.C.	13-0-00-00	0.00
5	BLAKE REALTY, L.L.C.	13-0-00-00	0.00
6	BLAKE REALTY, L.L.C.	13-0-00-00	0.00
7	BLAKE REALTY, L.L.C.	13-0-00-00	0.00
8	BLAKE REALTY, L.L.C.	13-0-00-00	0.00
9	BLAKE REALTY, L.L.C.	13-0-00-00	0.00
10	BLAKE REALTY, L.L.C.	13-0-00-00	0.00

<b>SURFACE HOLE LOCATION (SH):</b> UTM (NAD83, ZONE 17, METERS): NORTHING: 4393248.81 EASTING: 525892.83
<b>LANDING POINT LOCATION (LPL):</b> UTM (NAD83, ZONE 17, METERS): NORTHING: 4393288.88 EASTING: 525907.88
<b>BOTTOM HOLE LOCATION (BH):</b> UTM (NAD83, ZONE 17, METERS): NORTHING: 4394831.25 EASTING: 524881.23

<b>SURFACE HOLE LOCATION (SH):</b> UTM (NAD83, ZONE 17, METERS): NORTHING: 4393248.81 EASTING: 525892.83
<b>LANDING POINT LOCATION (LPL):</b> UTM (NAD83, ZONE 17, METERS): NORTHING: 4393277.54 EASTING: 525923.23
<b>BOTTOM HOLE LOCATION (BH):</b> UTM (NAD83, ZONE 17, METERS): NORTHING: 4394831.20 EASTING: 524881.23



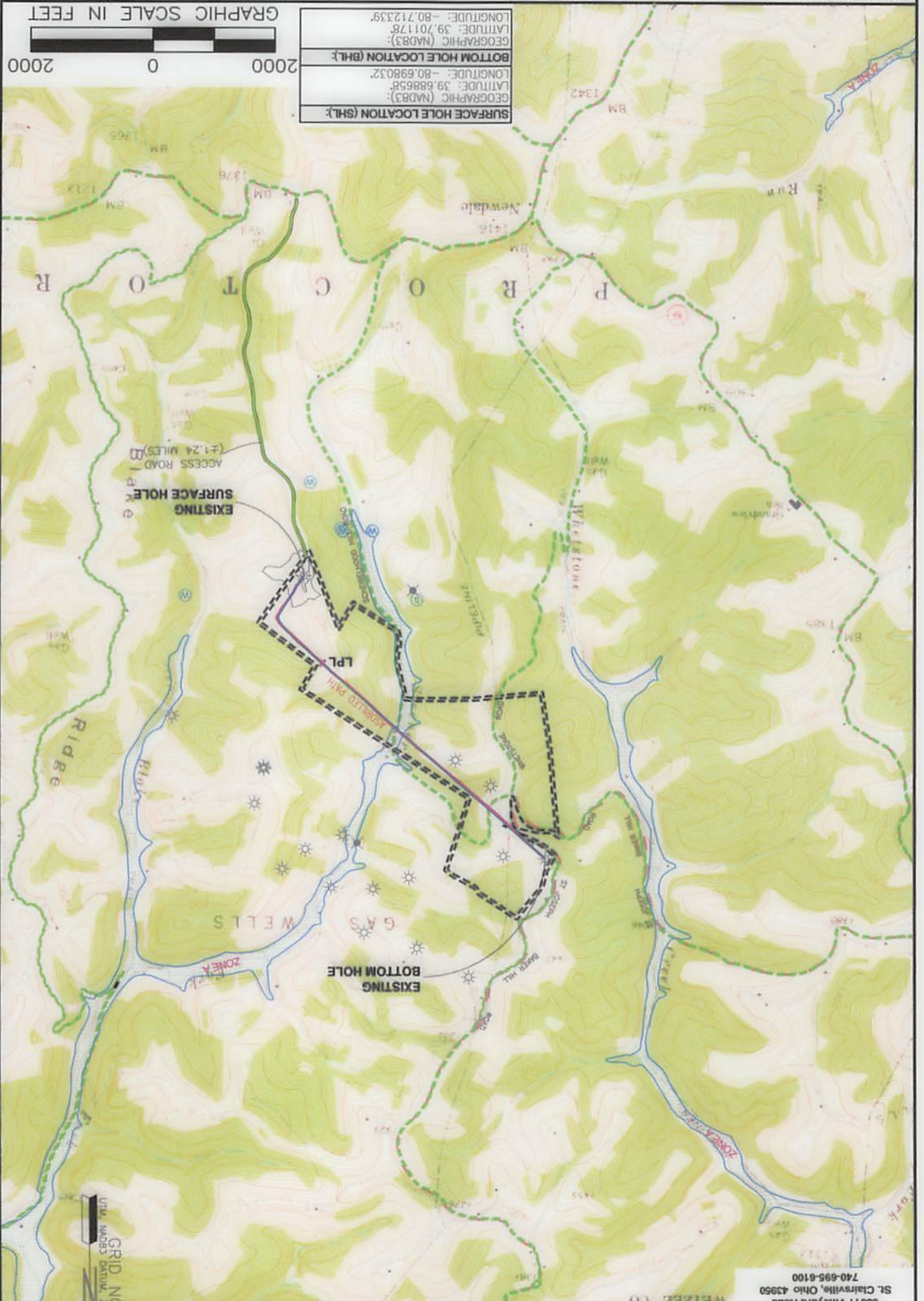
I, THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAN IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION BY LAW AND REGULATIONS ISSUED AND ENFORCED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.



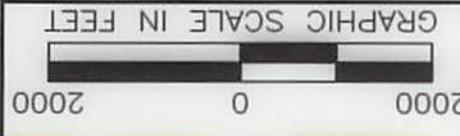
COMPANY: **SWN** Production Company, L.L.C.  
 SWN Production Company, L.L.C.

<b>WELL TYPE:</b> OIL <input type="checkbox"/> WASTE DISPOSAL <input type="checkbox"/> PRODUCTION <input checked="" type="checkbox"/> DEEP <input type="checkbox"/> GAS <input type="checkbox"/> LIQUID INJECTION <input type="checkbox"/> STORAGE <input type="checkbox"/> SHALLOW <input checked="" type="checkbox"/>	<b>WATERSHED:</b> FISH CREEK	<b>PROCTOR:</b> COUNTY: WETZEL	<b>SURFACE OWNER:</b> MARGARET SUE KELLEY	<b>OIL &amp; GAS ROYALTY OWNER:</b> BLAKE REALTY, L.L.C.	<b>ACRAGE:</b> ±18.0	<b>ACRAGE:</b> ±18.0	<b>QUADRANGLE:</b> WILBYVILLE, WV	<b>ELEVATION:</b> 1432.8'	<b>STORAGE</b> <input type="checkbox"/> <b>LIQUID INJECTION</b> <input type="checkbox"/> <b>GAS</b> <input checked="" type="checkbox"/> <b>DEEP</b> <input type="checkbox"/> <b>PRODUCTION</b> <input checked="" type="checkbox"/> <b>SHALLOW</b> <input checked="" type="checkbox"/>
<b>WELL OPERATOR:</b> SWN PRODUCTION COMPANY, L.L.C.	<b>DESIGNATED AGENT:</b> BRITANNY WOODY	<b>ADDRESS:</b> P.O. BOX 1300	<b>CITY:</b> JANE LEW	<b>STATE:</b> WV	<b>ZIP CODE:</b> 26278	<b>DATE:</b> 12-08-2018	<b>REVISIONS:</b>	<b>LEGEND:</b> ○ EXISTING SPRING ● EXISTING WATER WELL * LPL LANDING POINT LOCATION ✱ EXISTING PRODUCING WELLS ○ PROPOSED SURFACE HOLE / BOTTOM HOLE --- SURVEYED BOUNDARY = LEASE BOUNDARY --- ASSESSMENT PATH --- PROPOSED PATH	
<b>WELL OPERATOR:</b> SWN PRODUCTION COMPANY, L.L.C.	<b>ADDRESS:</b> P.O. BOX 1300	<b>CITY:</b> JANE LEW	<b>STATE:</b> WV	<b>ZIP CODE:</b> 26278	<b>DATE:</b> 12-08-2018	<b>REVISIONS:</b>	<b>LEGEND:</b>	<b>WELL OPERATOR:</b> SWN PRODUCTION COMPANY, L.L.C.	
<b>WELL OPERATOR:</b> SWN PRODUCTION COMPANY, L.L.C.	<b>ADDRESS:</b> P.O. BOX 1300	<b>CITY:</b> JANE LEW	<b>STATE:</b> WV	<b>ZIP CODE:</b> 26278	<b>DATE:</b> 12-08-2018	<b>REVISIONS:</b>	<b>LEGEND:</b>	<b>WELL OPERATOR:</b> SWN PRODUCTION COMPANY, L.L.C.	





<b>SURFACE HOLE LOCATION (SHL):</b> GEOGRAPHIC (NAD83): LATITUDE: 39.688658 LONGITUDE: -80.698032
<b>BOTTOM HOLE LOCATION (BHL):</b> GEOGRAPHIC (NAD83): LATITUDE: 39.701178 LONGITUDE: -80.712339

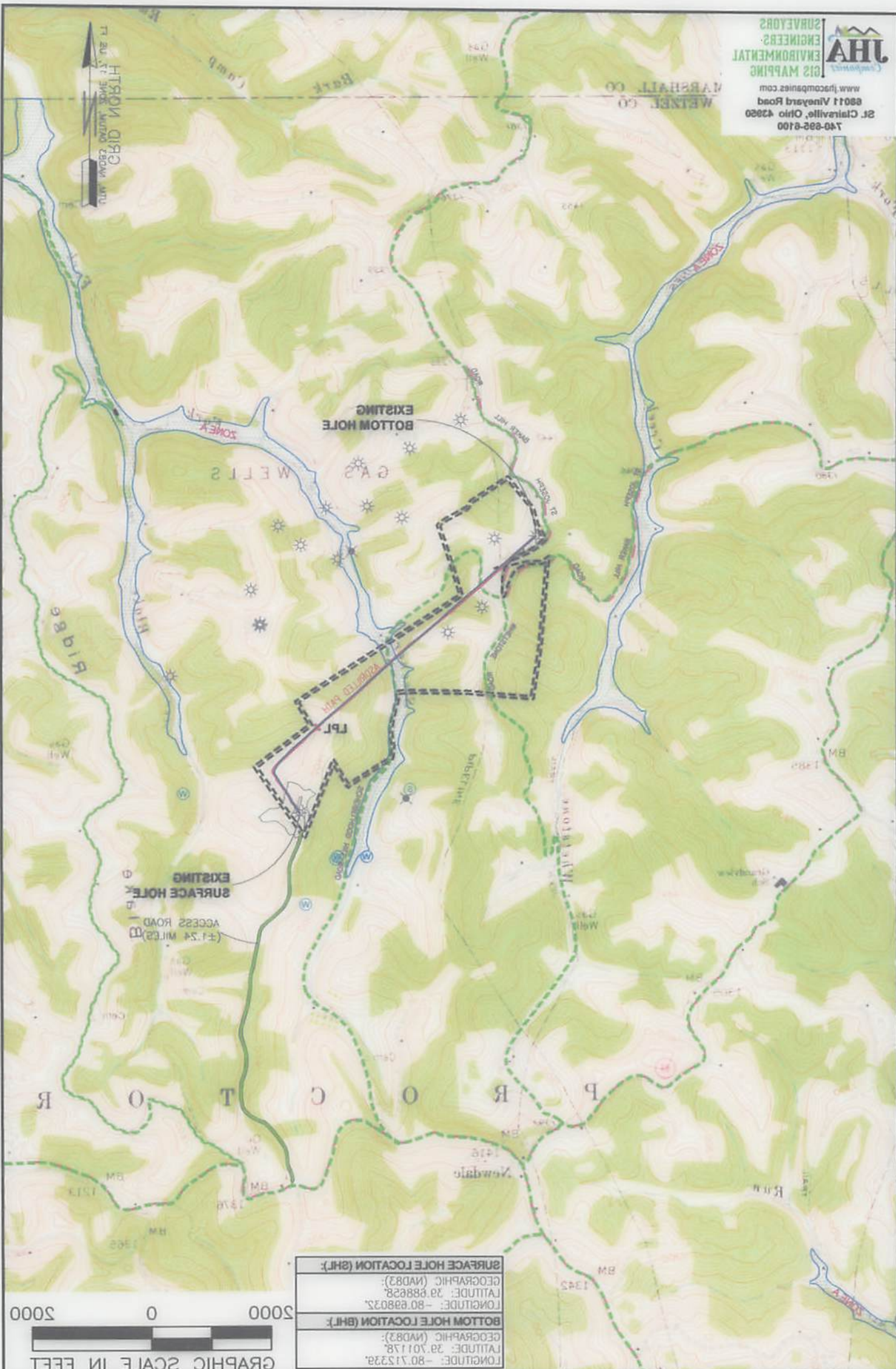


**LEGEND:**

- ACCESS ROAD
- PUBLIC ROAD
- ACCESS ROAD TO PREV. SITE
- LEASE BOUNDARY
- PROPOSED PATH
- ASORILED PATH
- PROPOSED SURFACE HOLE / BOTTOM HOLE
- EXISTING / PRODUCING WELTHEAD
- LANDING POINT LOCATION
- FLOOD PLAN

<b>WELL OPERATOR:</b> SWN PRODUCTION COMPANY, LLC	<b>WELL (FARM) NAME:</b> MARGARET SUE KELLEY WITZ	<b>WELL #</b> 5H	<b>SERIAL #</b> XXXX
<b>ADDRESS:</b> P.O. BOX 1300 JANE LEW, WV 26378	<b>COUNTY - CODE</b> WETZEL - 103	<b>DISTRICT:</b> PROCTOR	<b>USGS 7 1/2 QUADRANGLE MAP NAME:</b> WILEVILLE, WV
<b>SURFACE OWNER:</b> MARGARET SUE KELLEY	<b>PROPERTY NUMBER</b> 2501166356		





**LEGEND:**

FLOOD PLAIN	L.P.L. LANDING POINT LOCATION
EXISTING \ PRODUCING WELLS	PROPOSED SURFACE HOLE \ BOTTOM HOLE
LEASE BOUNDARY	ACCESS ROAD TO PREV. SITE
PROPOSED PATH	ACCESS ROAD
ADMITTED PATH	PUBLIC ROAD

<b>WELL (FARM) NAME:</b> MARGARET SUE KELLEY WTS		<b>WELL #</b> SH XXXX	<b>SERIAL #</b> XXXX
<b>WETZEL - CODE</b> - 103		<b>DISTRICT:</b>	
<b>WETZEL - CODE</b> - 103		<b>DISTRICT:</b>	
<b>USGS 7 1/2 QUADRANGLE MAP NAME:</b> WILLEVILLE, WV			

**WELL OPERATOR:** SWN PRODUCTION COMPANY, LLC  
**ADDRESS:** P.O. BOX 1300 JANE LEW. WV 26238  
**SURFACE OWNER:** MARGARET SUE KELLEY  
**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 WELLS ARE GRID NORTH UNLESS OTHERWISE DEPICTED.