

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

API 47-103-03196 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 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 4,393,253.45 Easting 525,888.72
Landing Point of Curve Northing 4,393,447.04 Easting 525,665.64
Bottom Hole Northing 4,394,447.02 Easting 524,473.87

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 01/26/2018 Date drilling ceased 07/07/2018
Date completion activities began 09/04/2018 Date completion activities ceased 10/02/2018
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 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

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Reviewed by DMH DEC 21 2018
2-21-19 WVD Department of Environmental Protection

API 47- 103 - 03196

Farm name MARGARET SUE KELLEY

Well number MARGARET SUE KELLEY 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	638'	NEW	J-55/54.50#		Y
Coal	SEE INTERMEDIATE						
Intermediate 1	12.25	9.625	2,858'	NEW	J-55/36#		Y
Intermediate 2							
Intermediate 3							
Production	8.75/8.50	5.5	12,743'	NEW	HCP-110/20#		Y
Tubing		2.375	7,589'	NEW	P-110/4.7#		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	665	15.60	1.20	798	SURFACE	8
Coal	SEE INTERMEDIATE						
Intermediate 1	CLASS A	1,131	16.00	1.12	1,266.72	SURFACE	8
Intermediate 2							
Intermediate 3							
Production	CLASS A	2,185	15.60	1.19	2,600.15	SURFACE	24
Tubing							

Drillers TD (ft) 12,743' Loggers TD (ft) 12,743'
 Deepest formation penetrated MARCELLUS Plug back to (ft) N/A
 Plug back procedure N/A

Kick off depth (ft) 6,375'

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

Well cored Yes No Conventional Sidewall Were cuttings collected Yes No

DESCRIBE THE CENTRALIZER PLACEMENT USED FOR EACH CASING STRING _____

SURFACE: 7 CENTRALIZERS - EVERY THIRD JOINT OF CASING
 INTERMEDIATE: 24 CENTRALIZERS - EVERY THIRD JOINT OF CASING
 PRODUCTION: 181 CENTRALIZERS - EVERY THIRD JOINT FROM SURFACE TO TOP OF CURVE, THEN EVERY JOINT UNTIL TD

WAS WELL COMPLETED AS SHOT HOLE Yes No DETAILS _____

WAS WELL COMPLETED OPEN HOLE? Yes No DETAILS _____

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

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MARGARET SUE KELLEY WTZ 3H

ATTACHMENT 1

PERF REPORT

STAGE NUM	Perf Date	Perf Bottom MI	Perf Top MD2	# SHOTS PER STG
1	9/3/2018	12,652	12,552	33
2	9/4/2018	12,516	12,409	42
3	9/4/2018	12,376	12,269	42
4	9/6/2018	12,236	12,129	42
5	9/6/2018	12,096	11,994	42
6	9/7/2018	11,956	11,849	42
7	9/7/2018	11,816	11,709	42
8	9/8/2018	11,676	11,569	42
9	9/8/2018	11,536	11,429	42
10	9/8/2018	11,396	11,287	42
11	9/9/2018	11,256	11,149	42
12	9/9/2018	11,116	11,009	42
13	9/10/2018	10,976	10,869	42
14	9/10/2018	10,836	10,729	42
15	9/11/2018	10,696	10,589	42
16	9/11/2018	10,556	10,449	42
17	9/12/2018	10,416	10,311	42
18	9/12/2018	10,276	10,169	42
19	9/12/2018	10,136	10,029	42
20	9/13/2018	9,996	9,889	42
21	9/14/2018	9,856	9,749	42
22	9/14/2018	9,716	9,609	42
23	9/14/2018	9,576	9,469	42
24	9/14/2018	9,436	9,329	42
25	9/15/2018	9,296	9,189	42
26	9/15/2018	9,156	9,049	42
27	9/15/2018	9,016	8,909	42
28	9/15/2018	8,876	8,769	42
29	9/15/2018	8,736	8,629	42
30	9/16/2018	8,596	8,489	42
31	9/16/2018	8,456	8,349	42
32	9/16/2018	8,311	8,209	42
33	9/17/2018	8,176	8,069	42
34	9/17/2018	8,036	7,929	42
35	9/17/2018	7,888	7,789	42
36	9/17/2018	7,756	7,649	42

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MARGARET SUE KELLEY 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	9/3/2018	95.7	7,813	8,230	3,906	270,780	4,558	0
2	9/4/2018	92.3	7,824	6,035	4,549	274,880	4,940	0
3	9/5/2018	92.3	7,886	5,878	5,035	276,400	5,196	0
4	9/6/2018	89	7,932	6,362	4,700	262,980	4,578	0
5	9/6/2018	90.9	7,702	6,603	4,938	284,600	5,481	0
6	9/7/2018	89.9	7,936	5,883	4,828	283,380	4,710	0
7	9/7/2018	90.1	7,964	6,340	4,867	270,180	5,783	0
8	9/8/2018	90.4	7,679	5,063	4,965	275,080	4,849	0
9	9/8/2018	89.4	7,781	6,376	5,099	282,720	5,156	0
10	9/9/2018	89.9	7,729	6,268	5,091	282,480	5,005	0
11	9/9/2018	88.1	7,631	5,981	5,185	268,900	4,709	0
12	9/10/2018	82.8	7,812	6,602	5,012	288,020	6,698	0
13	9/10/2018	89.3	7,607	5,295	5,135	273,860	4,603	0
14	9/10/2018	92.8	7,475	6,153	4,687	266,260	5,515	0
15	9/11/2018	91	7,469	5,593	4,823	275,900	4,530	0
16	9/11/2018	92.2	7,365	6,016	4,941	264,920	4,585	0
17	9/12/2018	83.5	7,180	6,023	4,996	266,900	5,195	0
18	9/12/2018	93.8	7,859	5,523	5,056	271,220	4,503	0
19	9/13/2018	99.9	8,006	6,148	5,118	275,000	4,422	0
20	9/13/2018	91.7	7,109	5,525	5,119	276,720	4,558	0
21	9/14/2018	90.2	7,249	6,179	4,774	278,700	4,807	0
22	9/14/2018	93.2	7,194	5,817	4,848	275,580	4,399	0
23	9/14/2018	98.6	7,553	5,650	4,523	283,640	4,351	0
24	9/14/2018	98.6	7,756	5,912	4,750	283,640	4,362	0
25	9/15/2018	96.8	7,548	5,971	5,349	279,180	4,182	0
26	9/15/2018	92.7	7,245	5,119	5,236	291,760	4,511	0
27	9/15/2018	93.3	7,364	5,285	4,708	289,800	4,742	0
28	9/15/2018	96	7,704	5,607	4,899	287,120	4,369	0
29	9/16/2018	96.3	7,730	5,551	5,077	276,340	4,197	0
30	9/16/2018	91.4	7,537	5,181	4,894	276,940	4,492	0
31	9/16/2018	90.3	7,082	5,545	5,263	284,480	4,134	0
32	9/16/2018	87.3	7,246	5,900	4,769	275,960	4,559	0
33	9/17/2018	99.6	7,501	5,837	4,787	278,600	4,275	0
34	9/17/2018	90.7	7,119	5,546	4,927	275,700	4,273	0
35	9/17/2018	98.2	7,598	5,885	5,287	271,680	4,350	0
36	9/18/2018	99.3	7,460	6,098	4,816	278,160	3,801	0

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MARGARET SUE KELLEY WTZ 3H

47103031960000

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)	6551.00	6551.00	6932.00	6864.00	
Cashaqua (shale)	6837.00	6832.00	6949.00	6944.00	
Middlesex (shale)	6949.00	6944.00	7035.00	7030.00	
Burket (shale)	7035.00	7030.00	7056.00	7051.00	
Tully (ls)	7056.00	7051.00	7081.00	7076.00	
Mahantango (shale)	7081.00	7076.00	7166.00	7161.00	
Marcellus (shale)	7166.00	7161.00	NA	NA	GAS

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Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	9/3/2018
Job End Date:	9/18/2018
State:	West Virginia
County:	Wetzel
API Number:	47-103-03196-00-00
Operator Name:	Southwestern Energy
Well Name and Number:	Margaret Sue Kelley WTZ 3H
Latitude:	39.68872670
Longitude:	-80.69807660
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	7,141
Total Base Water Volume (gal):	7,060,771
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	84.16086	Density = 8.330
Fresh Water	Operator	Base Fluid					
			Produced Water	7732-18-5	100.00000	1.19867	Density = 9.000

Ingredients	Listed Above	Listed Above					
			Water	7732-18-5	100.00000	0.30220	
Nalco BIOC11139A	Nalco Champion	Biocide					
				Listed Below			
Nalco SCAL16486A	Nalco Champion	Scale Inhibitor					
				Listed Below			
SAND-COMMON WHITE-100 MESH, SSA-2, BULK (100003676)	Halliburton	Proppant					
				Listed Below			
HYDROCHLORIC ACID	Halliburton	Solvent					
				Listed Below			
FDP-S1176-15	Halliburton	Friction Reducer					
				Listed Below			
SAND-PREMIUM WHITE-40/70, BULK	Halliburton	Proppant					
				Listed Below			
IC-004	Economy Polymers & Chemicals	Additive					

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				Listed Below			
CI-200	Economy Polymers & Chemicals	Corrosion Inhibitor					
				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	14.27114	
			Hydrochloric acid	7647-01-0	15.00000	0.03710	
			Hydrotreated light petroleum distillate	64742-47-8	30.00000	0.02744	
			Polyacrylate	Proprietary	30.00000	0.02744	
			Methanol	67-56-1	80.00000	0.01295	
			Benzyl-(C12-C16 Alkyl)- Dimethyl-Ammonium Chloride	68424-85-1	30.00000	0.00579	
			Sodium chloride	7647-14-5	5.00000	0.00457	
			Sobitan, mono-9- octadecenoate, (Z)	1338-43-8	5.00000	0.00457	
			9-Octadecenamide, n,n- bis-2(hydroxy-ethyl)-,(Z)	93-83-4	5.00000	0.00457	
			Ammonium chloride	12125-02-9	5.00000	0.00457	
			Castor oil, ethoxylated	61791-12-6	5.00000	0.00457	
			Glutaraldehyde	111-30-8	10.00000	0.00193	
			Amine Triphosphate	Proprietary	30.00000	0.00154	Denise Tuck, Halliburton, 3000 N. Sam Houston Pkwy E., Houston, TX 77032, 281-871-6226
			Ethylene Glycol	107-21-1	30.00000	0.00154	
			Fatty Acids	Trade Secret	10.00000	0.00017	
			Nitriloacetic Acid, Trisodium Salt	5064-31-3			
			Sodium Hydroxide	1310-73-2			

- * 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

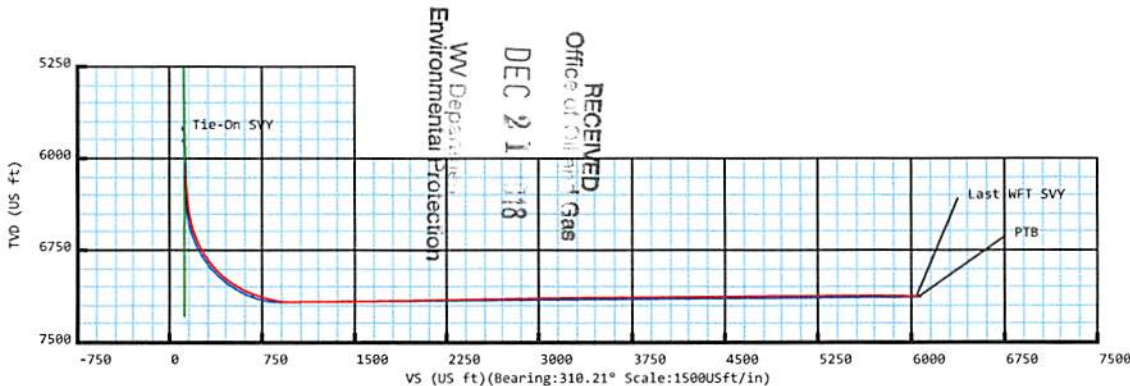
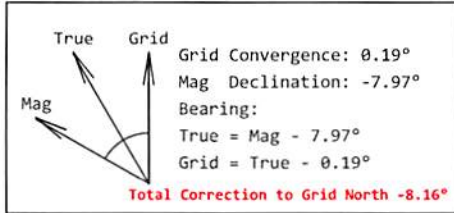
Note: For Field Development Products (products that begin with FDP), MSDS level only information has been provided.
Ingredient information for chemicals subject to 29 CFR 1910.1200(i) and Appendix D are obtained from suppliers Material Safety Data Sheets (MSDS)



Margaret Sue Kelley WTZ 3H Lateral
Wetzel Co, WV
SDC 40
Plan vs Actual



Weatherford



Plan Data for Margaret Sue Kelley WTZ 3H_Lateral

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)	(°)	(°)
5767.00	0.10	311.53	5762.31	86.59	-85.01	120.78	0.23	188.7	Tie-On SVY
5779.00	0.12	311.75	5774.31	86.60	-85.03	120.80	0.14	1.5	Interpolated ST KOP
5873.15	2.00	310.10	5868.44	87.73	-86.36	122.54	2.00	358.3	Hold
6399.08	2.00	310.10	6394.05	99.55	-100.40	140.89	0.00	0.0	Curve KOP 7° DLS
7370.51	70.00	310.10	7134.63	446.15	-511.96	678.74	7.00	0.0	Build 9° DLS
7597.78	90.45	310.10	7173.00	589.66	-682.36	901.43	9.00	0.0	Landing Point
12772.65	90.45	310.10	7132.00	3923.05	-4640.40	6074.10	0.00	0.0	PBHL MSK3H

Target Set Information: (Scale Factor = 0.999608)
Name: Margaret Sue Kelley WTZ 3H
Position offsets from Slot centre

Name	TVD	+N/-S	+E/-W	Northing	Easting	Lat	Long
(USft)	(USft)	(USft)	(USft)	(USft)	(USft)	(°)	(°)
LP MSK3H	7173.00	439.48	-503.98	14413971.58	1724849.55	39.689938	-80.699862
PBHL MSK3H	7132.00	3923.06	-4640.40	14417453.79	1720714.75	39.699538	-80.714521

Plan Data for Margaret Sue Kelley WTZ 3H_Lateral

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 3H
Position:
Offset is from Site centre
+N/-S: 34.01USft Northing: 14413532.27USft Latitude: 39.688727°
+E/-W: 5.07USft Easting: 1725353.33USft Longitude: -80.698077°
Elevation Above VRD: 1422.40USft

Well: Margaret Sue Kelley WTZ 3H_Lateral
Type: Side-Track
File Number: NE-13141516
Plan Folder: P1 Plan: P1:V3
Vertical Section: Position offset of origin from Slot centre:
+N/-S: 0.00USft Azimuth: 310.21°
+E/-W: -0.00USft
Magnetic Parameters:
Model: Field Strength: Declination: Dip: Date:
HDGM 2016 52273(nT) -7.97° 66.88° 2018-06-05

Plan Data for Margaret Sue Kelley WTZ 3H_Lateral

Formation Point Information:

Name	TVD Elevation	MD
(USft)	(USft)	(USft)
Base Fresh Water	N/A	N/A
Top of Salt Water	N/A	N/A
Pittsburgh Coal	N/A	N/A
Maxton	2217.00	-768.60
Big Lime	2335.00	-886.60
Big Injun	2416.00	-967.60
Base Big Injun	2659.00	-1210.60
Berea	3007.00	-1558.60
Gordon Sandstone	3173.00	-1724.60
Onondaga Limestone	7189.00	-5740.60
Upper Rhinestreet	6523.00	-5074.60
Lower Rhinestreet	6589.00	-5140.60
Basal Rhinestreet	6724.00	-5275.60
Cashaqua	6812.00	-5363.60
Middlesex	6922.00	-5473.60
Lower Middlesex	6949.00	-5500.60
Burket	7008.00	-5559.60
Tully	7028.00	-5579.60
Mahantango	7051.00	-5602.60
Levanna	7139.00	-5690.60
Upper Marcellus	7149.00	-5700.60



Drawing By: Vilaphanh (Cot) Sinakone
Date: 25 June 2018
Office Name: Weatherford Drilling Services
Address: 12101 Cutten Road
Houston, TX 77066
Phone: 281-701-4760



Weatherford®

Margaret Sue Kelley WTZ 3H_Lateral

Field Name: SOUTHWESTER N_WETZEL CO, WV UTM NAD 83 (17N)	Map Units: US ft	Company Name: SOUTHWESTERN ENERGY	
	Vertical Reference Datum (VRD): Mean Sea Level	Projected Coordinate System: NAD83 / UTM zone 17N	
	Comment:		
Site: Margaret Sue Kelley WTZ Pad	Units: US ft	North Reference: Grid	Convergence Angle: 0.19
	Position:	Northing: 14413498.28 US ft	Latitude: 39.688633
		Easting: 1725348.27 US ft	Longitude: -80.698095
Elevation above MSL: 1422.40 US ft	Comment:		
Slot: Margaret Sue Kelley WTZ 3H	Position (Relative to Site Centre)		
	+N/-S: 34.01 US ft	Northing: 14413532.27 US ft	Latitude: 39.688727
	+E/-W: 5.07 US ft	Easting: 1725353.33 US ft	Longitude: -80.698077
	Slot TVD Reference: Ground Elevation		
Elevation above MSL: 1422.40 US ft	Comment:		
Well: Margaret Sue Kelley WTZ 3H_Lateral	Type: Sidetrack	UWI:	
	Parent: Margaret Sue Kelley WTZ 3H_Pilot	Tie Point Method: MD	
	File Number: NE-13141516	Comment:	
	Closure Distance: 6075.55 US ft	Closure Azimuth: 310.15°	
	Vertical Section: Position of Origin (Relative to Slot centre)		
	+N/-S: 0.00 US ft	+E/-W: -0.00 US ft	Az: 310.21°

Drill floor: Survey Name: Definitive Survey
Rig Height (Drill Floor): 26.00 US ft **Elevation above MSL:** 1448.40 US ft **Inclination:** 0.00° **Azimuth:** 0.00°

Survey Name: Definitive Survey

Date: 05/Jun/2018 **Survey Tool:** See Survey Tool Ranges below. **Comment:** **Company:**

Magnetic Model:

Model Name: HDGM **Date:** 05/Jun/2018 **Field Strength:** 52273.0 nT **Declination:** -7.97° **Dip:** 66.88°

Tie Point:

MD: 5767.00 US ft **Inclination:** 0.10° **Azimuth:** 311.53° **TVD:** 5762.31 US ft **North Offset:** 86.59 US ft **East Offset:** 85.01 US ft

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5D Survey Report

Survey Tool Ranges:			
Name	Start MD(USft)	End MD(USft)	Source Survey
GYRO_GC_WIR+DPIPE_GYD	0.00	600.00	Gyro
MFAC_US_V2	600.00	961.00	MFAC_01
MWD	961.00	2071.00	WFT_MWD_1_01
MWD	2071.00	2530.00	WFT_MWD_2_01
MWD	2530.00	2797.00	WFT_MWD_3_01
MWD	2797.00	5767.00	WFT_MWD_4_02
MWD	5767.00	6513.00	WFT_MWD_07
MWD	6513.00	12743.00	WFT_MWD_11

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	39.688727	-80.698077	0.00	
100.00	0.10	141.29	100.00	-0.09	-0.07	0.05	39.688726	-80.698076	0.10	
200.00	0.22	14.62	200.00	-0.09	0.05	0.16	39.688727	-80.698076	0.29	
300.00	0.18	19.85	300.00	0.05	0.38	0.26	39.688728	-80.698076	0.04	
400.00	0.21	52.81	400.00	0.06	0.64	0.46	39.688728	-80.698075	0.11	
500.00	0.13	117.63	500.00	-0.09	0.70	0.71	39.688729	-80.698074	0.19	
600.00	0.15	305.75	600.00	-0.07	0.72	0.70	39.688729	-80.698074	0.28	Gyro Tie-In
779.00	1.69	260.94	778.97	1.89	0.44	-2.10	39.688728	-80.698084	0.89	
872.00	2.57	297.84	871.91	4.82	1.20	-5.30	39.688730	-80.698095	1.70	
961.00	3.84	312.20	960.77	9.75	4.14	-9.27	39.688738	-80.698110	1.68	
1054.00	5.22	308.47	1053.48	17.09	8.86	-14.89	39.688751	-80.698129	1.52	
1147.00	6.23	305.44	1146.01	26.35	14.42	-22.31	39.688766	-80.698156	1.13	
1236.00	6.53	311.67	1234.46	36.22	20.58	-30.03	39.688783	-80.698183	0.85	
1329.00	6.64	316.97	1326.85	46.84	28.03	-37.65	39.688804	-80.698210	0.66	
1422.00	6.07	322.56	1419.28	56.99	35.86	-44.30	39.688826	-80.698234	0.90	
1515.00	5.83	327.85	1511.78	66.29	43.77	-49.81	39.688847	-80.698253	0.64	
1607.00	5.27	331.56	1603.35	74.68	51.44	-54.31	39.688868	-80.698269	0.72	
1700.00	3.60	336.41	1696.07	81.28	57.87	-57.51	39.688886	-80.698280	1.84	
1793.00	2.09	317.31	1788.95	85.58	61.79	-59.83	39.688897	-80.698289	1.90	
1886.00	2.20	268.76	1881.89	88.60	63.00	-62.76	39.688900	-80.698299	1.90	
1978.00	1.44	253.50	1973.85	90.56	62.63	-65.63	39.688899	-80.698309	0.97	
2071.00	0.84	215.81	2066.83	91.15	61.75	-67.15	39.688897	-80.698315	1.00	
2162.00	0.75	175.86	2157.82	90.68	60.61	-67.50	39.688894	-80.698316	0.60	
2252.00	0.39	115.66	2247.82	89.97	59.89	-67.18	39.688892	-80.698315	0.72	
2344.00	0.25	60.79	2339.81	89.60	59.86	-66.73	39.688892	-80.698313	0.35	
2437.00	0.47	91.35	2432.81	89.23	59.95	-66.17	39.688892	-80.698311	0.31	
2530.00	1.17	88.02	2525.80	88.23	59.97	-64.84	39.688892	-80.698306	0.75	
2622.00	2.08	86.89	2617.76	86.32	60.09	-62.23	39.688892	-80.698297	0.99	
2712.00	1.90	81.24	2707.71	84.15	60.41	-59.13	39.688893	-80.698286	0.30	
2797.00	1.28	44.00	2792.68	83.17	61.31	-57.07	39.688895	-80.698279	1.38	
2902.00	1.72	15.72	2897.64	83.74	63.67	-55.83	39.688902	-80.698274	0.81	
2994.00	0.80	302.96	2989.63	84.95	65.35	-56.00	39.688907	-80.698275	1.81	
3087.00	0.81	298.93	3082.62	86.24	66.02	-57.12	39.688908	-80.698279	0.06	
3180.00	0.95	298.28	3175.61	87.64	66.70	-58.37	39.688910	-80.698283	0.15	
3273.00	1.13	303.60	3268.59	89.30	67.57	-59.81	39.688913	-80.698288	0.22	
3365.00	1.14	297.05	3360.57	91.10	68.49	-61.38	39.688915	-80.698294	0.14	
3458.00	1.26	260.51	3453.55	92.66	68.74	-63.22	39.688916	-80.698300	0.82	
3551.00	1.32	266.59	3546.53	94.10	68.51	-65.29	39.688915	-80.698308	0.16	
3644.00	1.29	262.15	3639.51	95.57	68.31	-67.40	39.688915	-80.698315	0.11	
3736.00	1.09	296.44	3731.49	97.11	68.55	-69.21	39.688916	-80.698322	0.79	
3829.00	1.10	300.09	3824.47	98.85	69.39	-70.77	39.688918	-80.698327	0.08	
3922.00	1.05	321.84	3917.45	100.56	70.51	-72.07	39.688921	-80.698332	0.44	
4012.00	1.07	324.34	4007.44	102.19	71.84	-73.07	39.688925	-80.698335	0.06	
4104.00	1.05	324.26	4099.42	103.84	73.23	-74.07	39.688928	-80.698339	0.02	
4197.00	1.04	310.93	4192.41	105.51	74.47	-75.20	39.688932	-80.698343	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
4290.00	1.05	316.02	4285.39	107.20	75.64	-76.43	39.688935	-80.698347	0.10	
4383.00	0.93	306.57	4378.38	108.80	76.70	-77.63	39.688938	-80.698352	0.22	
4475.00	0.95	319.80	4470.37	110.30	77.73	-78.72	39.688941	-80.698355	0.24	
4568.00	0.72	304.79	4563.36	111.64	78.65	-79.70	39.688943	-80.698359	0.34	
4661.00	0.63	314.89	4656.35	112.73	79.34	-80.54	39.688945	-80.698362	0.16	
4754.00	0.72	321.56	4749.34	113.81	80.16	-81.27	39.688947	-80.698364	0.13	
4846.00	0.67	314.88	4841.34	114.92	80.99	-82.01	39.688950	-80.698367	0.10	
4939.00	0.14	351.86	4934.33	115.54	81.49	-82.41	39.688951	-80.698369	0.61	
5029.00	0.09	16.59	5024.33	115.65	81.67	-82.40	39.688952	-80.698368	0.08	
5121.00	0.31	21.21	5116.33	115.76	81.97	-82.29	39.688952	-80.698368	0.24	
5211.00	0.47	345.44	5206.33	116.14	82.55	-82.30	39.688954	-80.698368	0.32	
5304.00	0.37	315.89	5299.33	116.75	83.14	-82.60	39.688956	-80.698369	0.25	
5396.00	0.51	319.86	5391.33	117.45	83.66	-83.07	39.688957	-80.698371	0.16	
5489.00	0.63	325.11	5484.32	118.36	84.40	-83.63	39.688959	-80.698373	0.14	
5582.00	0.93	328.45	5577.31	119.57	85.46	-84.32	39.688962	-80.698375	0.33	
5674.00	0.31	330.78	5669.31	120.51	86.31	-84.83	39.688964	-80.698377	0.67	
5767.00	0.10	311.53	5762.31	120.83	86.59	-85.01	39.688965	-80.698378	0.23	Tie-On SVY
5867.00	0.39	342.32	5862.31	121.20	86.97	-85.18	39.688966	-80.698378	0.31	
5913.00	0.35	317.64	5908.30	121.47	87.22	-85.33	39.688967	-80.698379	0.35	
5959.00	0.43	327.31	5954.30	121.78	87.47	-85.51	39.688968	-80.698379	0.22	
6099.00	3.37	313.21	6094.21	126.39	90.73	-88.80	39.688977	-80.698391	2.11	
6145.00	4.72	300.22	6140.10	129.60	92.61	-91.42	39.688982	-80.698400	3.53	
6235.00	4.88	291.04	6229.78	136.87	95.85	-98.19	39.688991	-80.698424	0.87	
6328.00	6.07	300.51	6322.36	145.45	99.77	-106.12	39.689002	-80.698453	1.60	
6374.00	6.60	298.06	6368.08	150.43	102.24	-110.55	39.689008	-80.698468	1.29	
6420.00	8.85	291.57	6413.66	156.37	104.79	-116.17	39.689015	-80.698488	5.24	
6467.00	10.17	297.16	6460.01	163.84	108.01	-123.23	39.689024	-80.698513	3.42	
6513.00	12.06	297.03	6505.15	172.47	112.05	-131.12	39.689035	-80.698541	4.11	
6570.00	15.58	294.14	6560.49	185.63	117.89	-143.41	39.689052	-80.698585	6.29	
6617.00	18.50	297.94	6605.42	198.99	123.97	-155.77	39.689068	-80.698629	6.65	
6663.00	22.22	302.69	6648.54	214.75	132.09	-169.54	39.689091	-80.698678	8.84	
6710.00	25.26	307.00	6691.56	233.58	142.92	-185.03	39.689121	-80.698732	7.44	
6753.00	27.68	311.29	6730.06	252.73	155.04	-199.87	39.689154	-80.698785	7.17	
6800.00	30.70	316.06	6771.09	275.58	170.89	-216.40	39.689198	-80.698844	8.11	
6846.00	34.03	316.58	6809.94	300.06	188.70	-233.40	39.689247	-80.698904	7.26	
6892.00	37.89	314.21	6847.17	326.96	207.90	-252.38	39.689300	-80.698971	8.92	
6939.00	39.88	312.64	6883.75	356.41	228.18	-273.81	39.689356	-80.699047	4.72	
6985.00	43.01	310.95	6918.23	386.84	248.45	-296.52	39.689411	-80.699127	7.23	
7032.00	46.94	310.68	6951.47	420.06	270.16	-321.65	39.689471	-80.699216	8.37	
7078.00	52.28	310.50	6981.27	455.08	292.95	-348.25	39.689534	-80.699311	11.61	
7124.00	56.24	310.23	7008.13	492.41	317.12	-376.70	39.689601	-80.699411	8.62	
7171.00	57.87	310.63	7033.69	531.85	342.70	-406.72	39.689671	-80.699518	3.54	
7217.00	59.74	311.09	7057.52	571.19	368.44	-436.47	39.689742	-80.699623	4.15	
7264.00	64.99	311.22	7079.31	612.81	395.84	-467.81	39.689818	-80.699734	11.17	
7310.00	68.89	311.51	7097.32	655.12	423.80	-499.57	39.689895	-80.699847	8.50	
7356.00	70.67	311.44	7113.22	698.27	452.39	-531.91	39.689973	-80.699961	3.87	
7403.00	71.84	311.70	7128.32	742.76	481.92	-565.21	39.690055	-80.700079	2.54	
7449.00	74.09	312.06	7141.80	786.72	511.28	-597.95	39.690136	-80.700195	4.95	
7495.00	76.14	312.37	7153.62	831.15	541.15	-630.88	39.690218	-80.700312	4.50	
7542.00	79.91	312.59	7163.37	877.08	572.20	-664.78	39.690304	-80.700432	8.03	
7588.00	85.37	313.24	7169.26	922.64	603.25	-698.18	39.690389	-80.700550	11.95	
7635.00	89.45	313.66	7171.38	969.50	635.53	-732.25	39.690478	-80.700671	8.73	
7681.00	91.05	316.13	7171.18	1015.34	667.99	-764.84	39.690567	-80.700786	6.40	
7774.00	90.68	314.59	7169.77	1107.96	734.16	-830.17	39.690750	-80.701018	1.70	
7864.00	90.00	310.89	7169.24	1197.85	795.23	-896.26	39.690918	-80.701252	4.18	
7956.00	90.18	308.89	7169.10	1289.84	854.22	-966.85	39.691081	-80.701502	2.18	
8049.00	90.12	309.34	7168.85	1382.83	912.90	-1039.00	39.691242	-80.701758	0.49	
8142.00	90.06	308.78	7168.71	1475.81	971.50	-1111.22	39.691404	-80.702014	0.61	
8231.00	90.79	307.94	7168.05	1564.76	1026.73	-1181.00	39.691556	-80.702261	1.25	

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
8324.00	91.17	310.27	7166.46	1657.72	1085.38	-1253.15	39.691718	-80.702517	2.54	
8417.00	91.23	312.48	7164.51	1750.67	1146.83	-1322.92	39.691887	-80.702764	2.38	
8510.00	90.86	310.88	7162.81	1843.63	1208.66	-1392.36	39.692057	-80.703010	1.77	
8602.00	91.29	308.46	7161.09	1935.60	1267.37	-1463.16	39.692219	-80.703261	2.67	
8695.00	91.29	308.85	7158.99	2028.54	1325.45	-1535.77	39.692379	-80.703518	0.42	
8788.00	91.17	308.80	7157.00	2121.49	1383.74	-1608.20	39.692540	-80.703775	0.14	
8880.00	90.99	308.60	7155.26	2213.44	1441.25	-1679.99	39.692699	-80.704029	0.29	
8973.00	90.86	307.94	7153.76	2306.38	1498.85	-1753.00	39.692857	-80.704288	0.72	
9066.00	91.05	306.97	7152.21	2399.26	1555.40	-1826.81	39.693013	-80.704550	1.06	
9158.00	90.86	308.49	7150.68	2491.15	1611.68	-1899.56	39.693168	-80.704807	1.66	
9251.00	90.86	309.69	7149.28	2584.12	1670.32	-1971.74	39.693330	-80.705063	1.29	
9344.00	90.62	310.23	7148.08	2677.11	1730.04	-2043.01	39.693495	-80.705316	0.64	
9437.00	90.99	310.44	7146.77	2770.10	1790.23	-2113.90	39.693661	-80.705567	0.46	
9529.00	91.05	310.53	7145.13	2862.09	1849.95	-2183.86	39.693825	-80.705815	0.12	
9622.00	91.29	310.04	7143.24	2955.07	1910.07	-2254.79	39.693991	-80.706066	0.59	
9712.00	90.86	311.32	7141.55	3045.05	1968.73	-2323.03	39.694152	-80.706308	1.50	
9805.00	90.79	311.82	7140.21	3138.01	2030.43	-2392.60	39.694322	-80.706555	0.54	
9894.00	90.55	311.82	7139.17	3226.97	2089.77	-2458.92	39.694486	-80.706790	0.27	
9984.00	90.86	311.16	7138.06	3316.94	2149.39	-2526.33	39.694650	-80.707028	0.81	
10076.00	90.49	310.22	7136.98	3408.93	2209.36	-2596.08	39.694815	-80.707276	1.10	
10169.00	90.55	309.60	7136.13	3501.92	2269.03	-2667.42	39.694980	-80.707528	0.67	
10262.00	90.35	309.70	7135.40	3594.92	2328.37	-2739.02	39.695143	-80.707782	0.24	
10355.00	90.35	310.59	7134.83	3687.91	2388.33	-2810.11	39.695309	-80.708034	0.96	
10447.00	90.31	310.17	7134.30	3779.91	2447.93	-2880.19	39.695473	-80.708282	0.46	
10540.00	90.49	311.95	7133.65	3872.90	2509.01	-2950.31	39.695641	-80.708531	1.92	
10633.00	90.68	311.52	7132.70	3965.86	2570.92	-3019.70	39.695812	-80.708777	0.51	
10726.00	90.25	309.37	7131.95	4058.85	2631.24	-3090.47	39.695978	-80.709028	2.36	
10818.00	90.12	308.41	7131.65	4150.82	2689.00	-3162.08	39.696137	-80.709281	1.05	
10911.00	90.06	308.50	7131.51	4243.78	2746.84	-3234.91	39.696297	-80.709540	0.12	
11004.00	90.62	309.35	7130.95	4336.75	2805.27	-3307.26	39.696458	-80.709796	1.09	
11096.00	90.68	309.56	7129.91	4428.74	2863.73	-3378.29	39.696619	-80.710048	0.24	
11189.00	90.68	309.62	7128.81	4521.73	2922.99	-3449.95	39.696782	-80.710302	0.06	
11282.00	90.62	308.70	7127.75	4614.70	2981.71	-3522.06	39.696944	-80.710557	0.99	
11374.00	90.62	309.98	7126.76	4706.69	3040.03	-3593.20	39.697105	-80.710809	1.39	
11467.00	90.88	310.06	7125.54	4799.68	3099.83	-3664.42	39.697270	-80.711062	0.29	
11560.00	90.92	310.05	7124.08	4892.67	3159.67	-3735.59	39.697434	-80.711314	0.04	
11652.00	90.44	309.35	7122.99	4984.65	3218.43	-3806.37	39.697596	-80.711565	0.92	
11745.00	90.37	310.00	7122.33	5077.65	3277.80	-3877.95	39.697760	-80.711819	0.70	
11838.00	89.94	310.64	7122.08	5170.65	3337.98	-3948.86	39.697926	-80.712070	0.83	
11931.00	90.25	310.38	7121.92	5263.64	3398.39	-4019.56	39.698092	-80.712320	0.44	
12023.00	90.18	310.48	7121.58	5355.64	3458.05	-4089.59	39.698257	-80.712569	0.13	
12116.00	90.31	310.53	7121.18	5448.64	3518.46	-4160.31	39.698423	-80.712819	0.15	
12209.00	90.31	309.40	7120.68	5541.64	3578.19	-4231.58	39.698588	-80.713072	1.22	
12301.00	89.57	308.99	7120.77	5633.62	3636.33	-4302.88	39.698748	-80.713325	0.92	
12394.00	89.57	310.57	7121.47	5726.61	3695.83	-4374.35	39.698912	-80.713578	1.70	
12487.00	89.32	309.87	7122.37	5819.61	3755.88	-4445.36	39.699077	-80.713830	0.80	
12580.00	89.26	309.10	7123.53	5912.59	3815.01	-4517.13	39.699240	-80.714084	0.83	
12672.00	89.63	309.11	7124.42	6004.57	3873.04	-4588.52	39.699400	-80.714337	0.40	
12720.00	89.21	308.65	7124.90	6052.56	3903.17	-4625.88	39.699483	-80.714469	1.30	Last WFT SVY
12743.00	89.21	308.65	7125.22	6075.55	3917.53	-4643.84	39.699523	-80.714533	0.00	PTB

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LATITUDE: 39°42'30" BOTTOM HOLE | 1734'

8848'

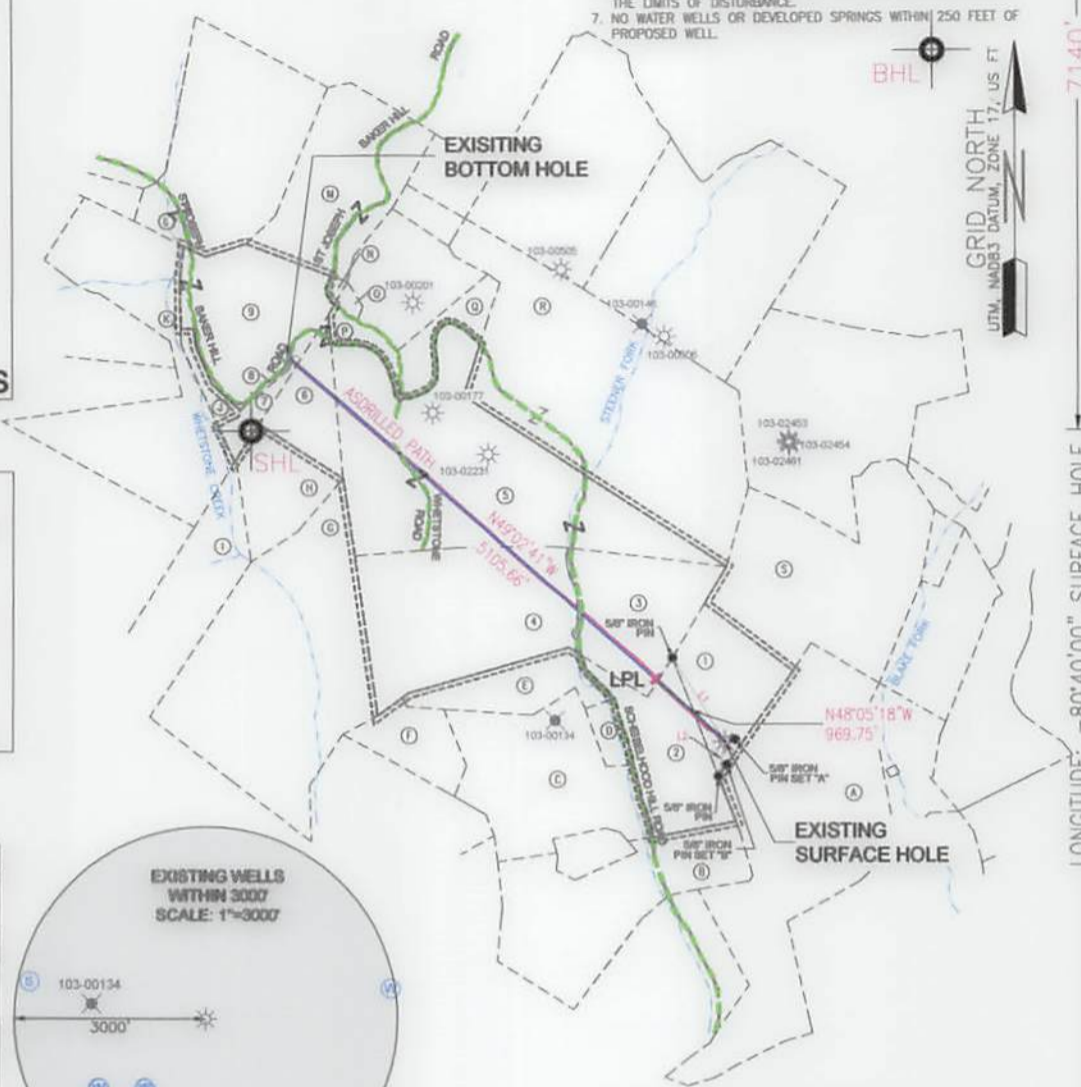
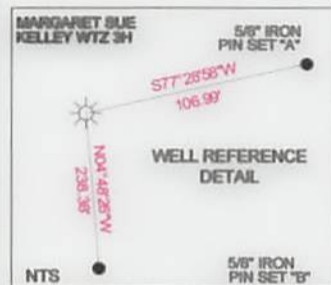
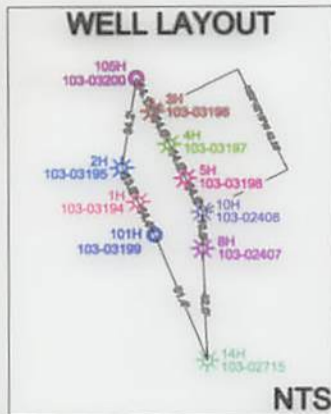
LATITUDE: 39°42'30" SURFACE HOLE



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

NOTES ON SURVEY

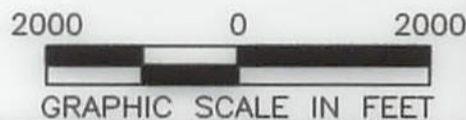
1. COORDINATE SYSTEM IS UTM NAD 83 DATUM, ZONE 17, U.S. FOOT AND WELL COORDINATES ESTABLISHED USING SURVEY GRADE GPS.
2. SURFACE AND ROYALTY OWNER INFORMATION AND THEIR BOUNDARIES SHOWN HEREON WERE PLOTTED FROM DEEDS AND/OR TAX PARCEL MAPS PROVIDED BY CLIENT AND/OR FIELD LOCATIONS.
3. THIS PLAT DOES 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.



SURFACE HOLE LOCATION (3H SHL):
UTM (NAD83, ZONE 17, METERS): NORTHING: 4393253.42 EASTING: 525888.75
LANDING POINT LOCATION (3H LPL):
UTM (NAD83, ZONE 17, METERS): NORTHING: 4393387.33 EASTING: 525735.18
BOTTOM HOLE LOCATION (3H BHL):
UTM (NAD83, ZONE 17, METERS): NORTHING: 4394448.68 EASTING: 524474.91
SURFACE HOLE LOCATION (3H SHL):
UTM (NAD83, ZONE 17, METERS): NORTHING: 4393253.45 EASTING: 525888.72
LANDING POINT LOCATION (3H LPL):
UTM (NAD83, ZONE 17, METERS): NORTHING: 4393447.04 EASTING: 525665.64
BOTTOM HOLE LOCATION (3H BHL):
UTM (NAD83, ZONE 17, METERS): NORTHING: 4394447.02 EASTING: 524473.87



LINE	BEARING	DISTANCE
L1	S32°26'13\"/>	
L2	N10°28'10\"/>	



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

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS
WVDEP
OFFICE OF OIL & GAS
601 57TH STREET
CHARLESTON, WV 25034

MINIMUM DEGREE OF ACCURACY: 1/200
PROVEN SOURCE OF ELEVATION: SURVEY GRADE GPS (NAVD 88, US FT)

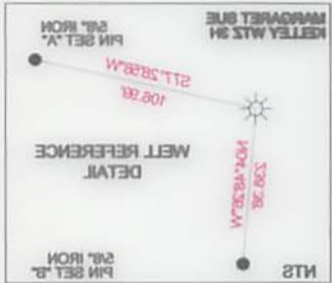
COMPANY: SWN Production Company, LLC
MARGARET SUE KELLEY Wtz
OPERATOR'S WELL #: 3H/3PH

API WELL #: 47 103 03196
STATE COUNTY PERMIT

WELL TYPE: OIL WASTE DISPOSAL PRODUCTION X DEEP GAS X LIQUID INJECTION STORAGE SHALLOW X
WATERSHED: FISH CREEK DISTRICT: PROCTOR COUNTY: WETZEL ELEVATION: 1422.5'
SURFACE OWNER: MARGARET SUE KELLEY QUADRANGLE: WILEYVILLE, WV
OIL & GAS ROYALTY OWNER: BLAKE REALTY, L.L.C. ACREAGE: ±18.0
ACREAGE: ±18.0
DRILL DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD FORMATION PERFORATE NEW FORMATION
CONVERT PLUG & ABANDON CLEAN OUT & REPLUG OTHER CHANGE X (SPECIFY) AS-DRILLED
TARGET FORMATION: MARCELLUS ESTIMATED DEPTH: 7,283' TVD 12,743' TMD

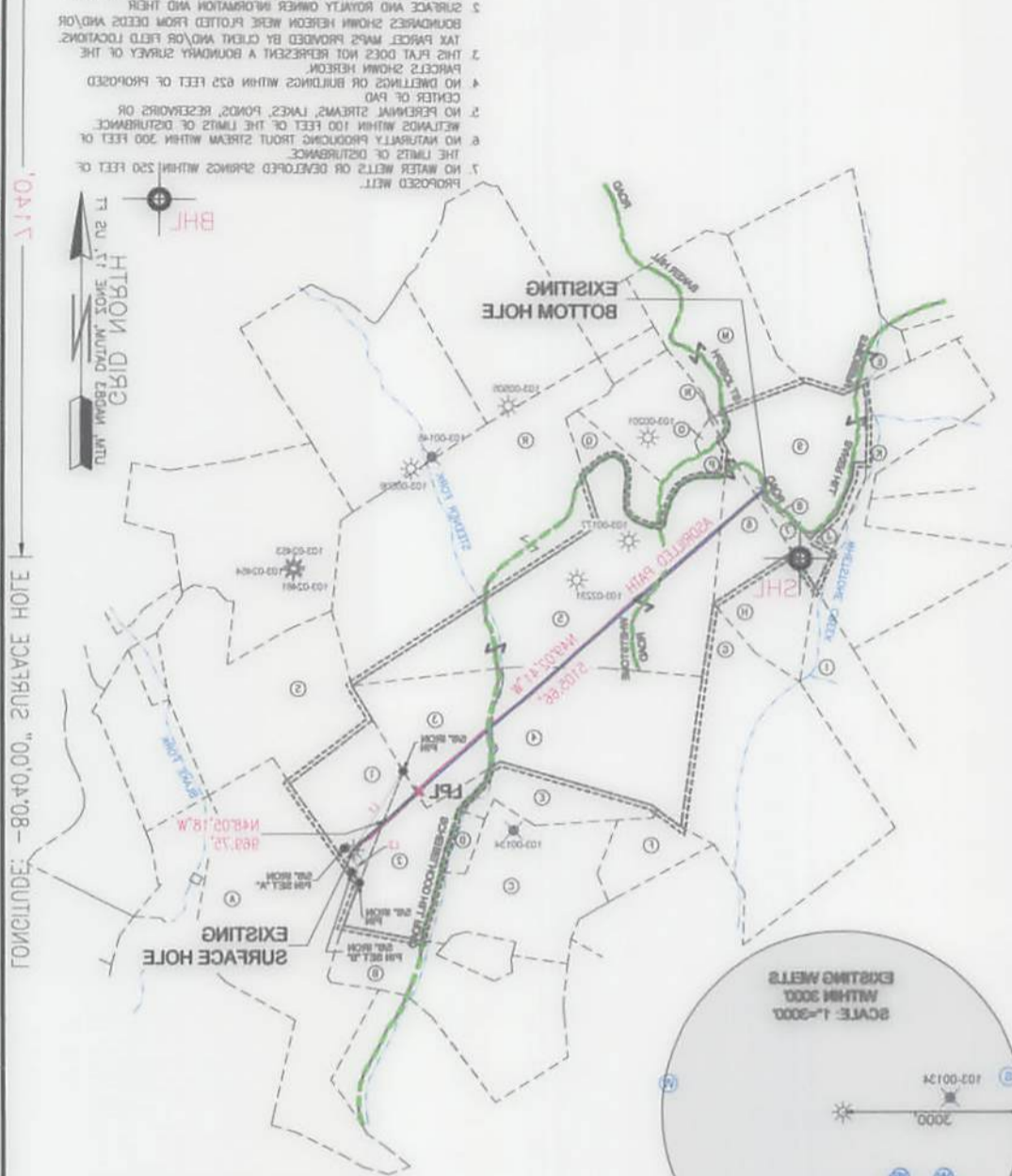
WELL OPERATOR: SWN PRODUCTION COMPANY, LLC DESIGNATED AGENT: BRITTANY WOODY
ADDRESS: P.O. BOX 1300 ADDRESS: P.O. BOX 1300
CITY: JANE LEW STATE: WV ZIP CODE: 26378 CITY: JANE LEW STATE: WV ZIP CODE: 26378

LEGEND:	REVISIONS:	DATE: 12-06-2018
○ PROPOSED SURFACE HOLE / BOTTOM HOLE	— SURVEYED BOUNDARY	
⊙ EXISTING / PRODUCING WELLHEAD	===== LEASE BOUNDARY	DRAWN BY: D. REED
LPL* LANDING POINT LOCATION	— AS-DRILLED PATH	SCALE: 1" = 2000'
⊕ EXISTING WATER WELL	— PROPOSED PATH	DRAWING NO: 2016-622
⊕ EXISTING SPRING		WELL LOCATION PLAT

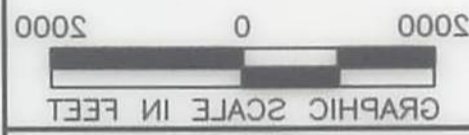


BOTTOM HOLE LOCATION (3H SHL): UTM (NAD83, ZONE 17, METERS): NORTHING: 4304448.88 EASTING: 524474.91
LANDING POINT LOCATION (3H LPL): UTM (NAD83, ZONE 17, METERS): NORTHING: 4304477.04 EASTING: 525882.84
SURFACE HOLE LOCATION (3H SHL): UTM (NAD83, ZONE 17, METERS): NORTHING: 4302523.42 EASTING: 525888.72
BOTTOM HOLE LOCATION (3H SHL): UTM (NAD83, ZONE 17, METERS): NORTHING: 4304448.88 EASTING: 524474.91
LANDING POINT LOCATION (3H LPL): UTM (NAD83, ZONE 17, METERS): NORTHING: 4302523.42 EASTING: 525888.72
SURFACE HOLE LOCATION (3H SHL): UTM (NAD83, ZONE 17, METERS): NORTHING: 4302523.42 EASTING: 525888.72

LATITUDE: 39.45.30" SURFACE HOLE
 8848'
 LATITUDE: 39.45.30" BOTTOM HOLE
 1334'



LINE	BEARING	DISTANCE
L1	S73.28.17"E	1028.96'
L2	N102.58.10"E	262.09'



I, THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAN 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 AND PREPARED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

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 checked="" type="checkbox"/> SHALLOW <input type="checkbox"/> WATERSHED: FISH CREEK DISTRICT: PROCTOR COUNTY: WETZEL SURFACE OWNER: MARGARET SUE KELLEY OIL & GAS ROYALTY OWNER: BLAKE REALTY, L.L.C. ACREAGE: ±18.0 ACREAGE: ±18.0 PERFORATE NEW FORMATION: <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"/> CONVERT: <input type="checkbox"/> PLUG & ABANDON <input type="checkbox"/> CLEAN OUT & REPLUG <input type="checkbox"/> OTHER CHANGE (SPECIFY) AS-DRILLED <input checked="" type="checkbox"/> TARGET FORMATION: MARCELLUS ESTIMATED DEPTH: 7,582' TVD 12,743' TMD	WELL OPERATOR: SWM PRODUCTION COMPANY, LLC ADDRESS: P.O. BOX 1300 CITY: JANE LEW STATE: WV ZIP CODE: 26378 DESIGNATED AGENT: BRITANNY WOODY DATE: 12-08-2018	LEGEND: ○ PROPOSED SURFACE HOLE / BOTTOM HOLE * EXISTING / PRODUCING WELLS LPL LANDING POINT LOCATION ⊙ EXISTING WATER WELL ⊙ EXISTING SPRING — SURVEYED BOUNDARY = LEASE BOUNDARY — ASORLLED PATH — PROPOSED PATH
UNITED STATES TOPOGRAPHIC MAPS (+) DENOTES LOCATION OF WELL ON ACCURACY: 1/500 PROVEN SOURCE OF GRADE GPS ELEVATION: (NAD 88, US FT) API WELL #: 47 STATE: 103 COUNTY PERMIT: 03196 OPERATOR'S WELL #: 3H3PH MARGARET SUE KELLEY WTS COMPANY: SWM Production Company, LLC Production Company, LLC	WEST VIRGINIA OFFICE OF OIL & GAS 601 57TH STREET CHARLESTON, WV 25034 WDEP	REVISIONS: DRAWN BY: D. REED SCALE: 1" = 2000' DRAWING NO: 2018-823 WELL LOCATION PLAN

WELL LOCATION PLAT		STATE: WV		COUNTY: WETZEL		DISTRICT: PROCTOR	
DRAWING NO: 2016-622		DATE: 12-06-2018		WELL #: MARGARET SUE KELLEY WIZ		OPERATOR'S: MARGARET SUE KELLEY WIZ	
SCALE: N/A		DRAWN BY: D. REED		3H/3PH			

REVISIONS: _____

COMPANY: **SWM** Production Company, LLC



TRACT	SURFACE OWNER	TAX PARCEL	ACRES
A	MARGARET SUE KELLEY	12-9-29	163.77
B	THOMAS J. KELLEY AND MARGARET SUE KELLEY, AS JOINT TENANTS WITH RIGHTS OF SURVIVORSHIP	12-9-34	52.00
C	THOMAS J. KELLEY AND MARGARET SUE KELLEY, AS JOINT TENANTS WITH RIGHTS OF SURVIVORSHIP	12-9-25	48.17
D	THOMAS J. KELLEY AND MARGARET SUE KELLEY, AS JOINT TENANTS WITH RIGHTS OF SURVIVORSHIP	12-9-26	5.00
E	JOSEPH A. HOHMAN	12-9-24	21.00
F	JOSEPH A. HOHMAN	12-8-24.5	15.50
G	ALBERT L. HOHMAN AND MARY L. HOHMAN, TRUSTEES OF THE HOHMAN REVOCABLE LIVING TRUST DATED AUGUST 8, 2014; JOSEPH A. HOHMAN AND DEBRA K. HOHMAN, HUSBAND AND WIFE	12-8-24	63.35
H	ALBERT L. HOHMAN AND MARY L. HOHMAN, TRUSTEES OF THE HOHMAN REVOCABLE LIVING TRUST DATED AUGUST 8, 2014; JOSEPH A. HOHMAN AND DEBRA K. HOHMAN, HUSBAND AND WIFE	12-8-24.3	25.00
I	MATTHEW J. ROHR	12-8-24.2	48.65
J	JEREMY S. GODDARD AND ERIN P. GODDARD, HUSBAND AND WIFE	12-8-8.1	5.40
K	JEREMY S. GODDARD AND ERIN P. GODDARD, HUSBAND AND WIFE	12-8-7	74.38
L	ESTEP ALBERT F., TRUSTEE OF THE ALBERT F. ESTEP IRREVOCABLE TRUST DATED MARCH 31, 2010	12-3-35	60.00
M	ESTEP ALBERT F., TRUSTEE OF THE ALBERT F. ESTEP IRREVOCABLE TRUST DATED MARCH 31, 2010	12-3-36	48.70
N	JOHN BERNARD MILLER AND LORNA REBECCA MILLER, HIS WIFE	12-8-9.1	1.00
O	JOHN BERNARD MILLER AND LORNA R. MILLER, HIS WIFE	12-8-11.2	1.10
P	STEVEN RAYMOND HOHMAN AND CATHERINE A. HOHMAN, HUSBAND AND WIFE	12-8-11.3	3.94
Q	JOSEPH AND SUSANNA VILLERS (LIFE ESTATE) AND ROBERT FRANCIS VILLERS (REMANDERMAN)	12-8-11.1	12.00
R	PATRICK A. SCHEIBELHOOD; THEODORE N. SCHEIBELHOOD; EDWARD L. SCHEIBELHOOD; THERESA SHUTLER; CLARA SCHEIBELHOOD; MARGARET SCHEIBELHOOD; MARSHA ECHARD; MARK SCHEIBELHOOD; MATTHEW SCHEIBELHOOD; NICHOLAS SCHEIBELHOOD	12-9-1	115.6
S	MARGARET SUE KELLEY	12-9-17	74.38


ADJOINING OWNERS TABLE

TRACT	SURFACE OWNER (S) / ROYALTY OWNER (R)	TAX PARCEL	ACRES
1	MARGARET SUE KELLEY (S) BLAKE REALTY, L.L.C. (R)	12-9-28	18.00
2	JOSEPH A. HOHMAN	12-9-27	25.00
3	PATRICK A. SCHEIBELHOOD; THEODORE N. SCHEIBELHOOD; EDWARD L. SCHEIBELHOOD; THERESA SHUTLER; CLARA SCHEIBELHOOD; MARGARET SCHEIBELHOOD; MARSHA ECHARD; MARK SCHEIBELHOOD; MATTHEW SCHEIBELHOOD; NICHOLAS SCHEIBELHOOD	12-9-16	35.00
4	LOIS J. ESTEP, A SINGLE WOMAN	12-8-25	65.00
5	ALBERT L. HOHMAN AND MARY L. HOHMAN TRUSTEES OF THE HOHMAN REVOCABLE LIVING TRUST DATED AUGUST 8, 2014	12-8-12	104.48
6	ALBERT L. HOHMAN AND MARY L. HOHMAN, TRUSTEES OF THE HOHMAN REVOCABLE LIVING TRUST DATED AUGUST 8, 2014	12-8-10	15.00
7	MATTHEW J. ROHR	12-8-8	8.50
8	JEREMY S. GODDARD AND ERIN P. GODDARD, HUSBAND AND WIFE	12-8-9.2	2.00
9	STEVEN HOHMAN RAYMOND & CATHERINE A.	12-8-9	35.60

WELL BORE TABLE FOR SURFACE / ROYALTY OWNERS

WELL BORE TABLE FOR SURFACE \ ROYALTY OWNERS			
TRACT	SURFACE OWNER (S) \ ROYALTY OWNER (R)	TAX PARCEL	ACRES
1	MARGARET SUE KELLEY (S) BLAKE REALTY, L.L.C. (R)	12-9-28	18.00
TRACT	SURFACE OWNER	TAX PARCEL	ACRES
2	JOSEPH A. HOHMAN	12-9-27	22.00
3	PATRICK A. SCHEIBELHOOD; THEODORE N. SCHEIBELHOOD; EDWARD L. SCHEIBELHOOD; THERESA SHULTER; CLARA SCHEIBELHOOD; MARGARET SCHEIBELHOOD; MARSHA ECHARD; MARK SCHEIBELHOOD; MATTHEW SCHEIBELHOOD; NICHOLAS SCHEIBELHOOD	12-9-16	32.00
4	LOIS J. ESTEP, A SINGLE WOMAN	12-8-25	62.00
5	ALBERT L. HOHMAN AND MARY L. HOHMAN TRUSTEES OF THE HOHMAN REVOCABLE LIVING TRUST DATED AUGUST 8, 2014	12-8-12	104.48
6	ALBERT L. HOHMAN AND MARY L. HOHMAN, TRUSTEES OF THE HOHMAN REVOCABLE LIVING TRUST DATED AUGUST 8, 2014	12-8-10	12.00
7	MATTHEW J. ROHR	12-8-8	8.20
8	JEREMY S. GODDARD AND ERIN P. GODDARD, HUSBAND AND WIFE	12-8-92	2.00
9	STEVEN HOHMAN RAYMOND & CATHERINE A.	12-8-9	32.60

ADJOINING OWNERS TABLE			
TRACT	SURFACE OWNER	TAX PARCEL	ACRES
A	MARGARET SUE KELLEY	12-9-29	163.77
B	THOMAS J. KELLEY AND MARGARET SUE KELLEY, AS JOINT TENANTS WITH RIGHTS OF SURVIVORSHIP	12-9-34	22.00
C	THOMAS J. KELLEY AND MARGARET SUE KELLEY, AS JOINT TENANTS WITH RIGHTS OF SURVIVORSHIP	12-9-25	48.17
D	THOMAS J. KELLEY AND MARGARET SUE KELLEY, AS JOINT TENANTS WITH RIGHTS OF SURVIVORSHIP	12-9-26	2.00
E	JOSEPH A. HOHMAN	12-9-24	21.00
F	JOSEPH A. HOHMAN	12-8-242	12.20
G	ALBERT L. HOHMAN AND MARY L. HOHMAN, TRUSTEES OF THE HOHMAN REVOCABLE LIVING TRUST DATED AUGUST 8, 2014; JOSEPH A. HOHMAN AND DEBRA K. HOHMAN, HUSBAND AND WIFE	12-8-24	63.32
H	ALBERT L. HOHMAN AND MARY L. HOHMAN, TRUSTEES OF THE HOHMAN REVOCABLE LIVING TRUST DATED AUGUST 8, 2014; JOSEPH A. HOHMAN AND DEBRA K. HOHMAN, HIS WIFE	12-8-243	22.00
I	MATTHEW J. ROHR	12-8-242	48.62
J	JEREMY S. GODDARD AND ERIN P. GODDARD, HUSBAND AND WIFE	12-8-81	2.40
K	JEREMY S. GODDARD AND ERIN P. GODDARD, HUSBAND AND WIFE	12-8-7	74.38
L	ESTEP ALBERT F., TRUSTEE OF THE ALBERT F. ESTEP IRREVOCABLE TRUST DATED MARCH 31, 2010	12-3-35	60.00
M	ESTEP ALBERT F., TRUSTEE OF THE ALBERT F. ESTEP IRREVOCABLE TRUST DATED MARCH 31, 2010	12-3-36	48.70
N	JOHN BERNARD MILLER AND LORNA REBECCA MILLER, HIS WIFE	12-8-91	1.00
O	JOHN BERNARD MILLER AND LORNA R. MILLER, HIS WIFE	12-8-112	1.10
P	STEVEN RAYMOND HOHMAN AND CATHERINE A. HOHMAN, HUSBAND AND WIFE	12-8-113	3.94
Q	JOSEPH AND SUSANNA MILLERS (LIFE ESTATE) AND ROBERT FRANCIS MILLERS (REMAINDERMAN)	12-8-111	12.00
R	PATRICK A. SCHEIBELHOOD; THEODORE N. SCHEIBELHOOD; EDWARD L. SCHEIBELHOOD; THERESA SHULTER; CLARA SCHEIBELHOOD; MARGARET SCHEIBELHOOD; MARSHA ECHARD; MARK SCHEIBELHOOD; MATTHEW SCHEIBELHOOD; NICHOLAS SCHEIBELHOOD	12-9-1	112.6
S	MARGARET SUE KELLEY	12-9-17	74.38

		COMPANY:		REVISIONS:	
DATE: 12-08-2018		OPERATOR: MARGARET SUE KELLEY WTS			
DRAWN BY: D. REED		WELL #: 3H3PH			
SCALE: N/A		COUNTY: WETZEL		DISTRICT:	
DRAWING NO: 2018-622		STATE: WV		PROCTOR:	
WELL LOCATION PLAT					
PROPERTY NUMBER 2501166326 PWD ID 2001122541					

PROJECT NAME: WABGABEL SUE KETTEL M/S

ADDRESS: 50 BOX 1300 WME TOWNSHIP MA 08238

OWNER: WABGABEL SUE KETTEL M/S

DATE: 12/10/2018

SCALE: AS SHOWN

PROJECT NO: 180123

DISTRICT: 1432811000

DATE: 12/10/2018

SCALE: AS SHOWN

7. THE MAP IS NOT TO BE USED FOR ANY PURPOSE OTHER THAN THAT FOR WHICH IT WAS PREPARED.

8. THE MAP IS NOT TO BE USED FOR ANY PURPOSE OTHER THAN THAT FOR WHICH IT WAS PREPARED.

9. THE MAP IS NOT TO BE USED FOR ANY PURPOSE OTHER THAN THAT FOR WHICH IT WAS PREPARED.

10. THE MAP IS NOT TO BE USED FOR ANY PURPOSE OTHER THAN THAT FOR WHICH IT WAS PREPARED.

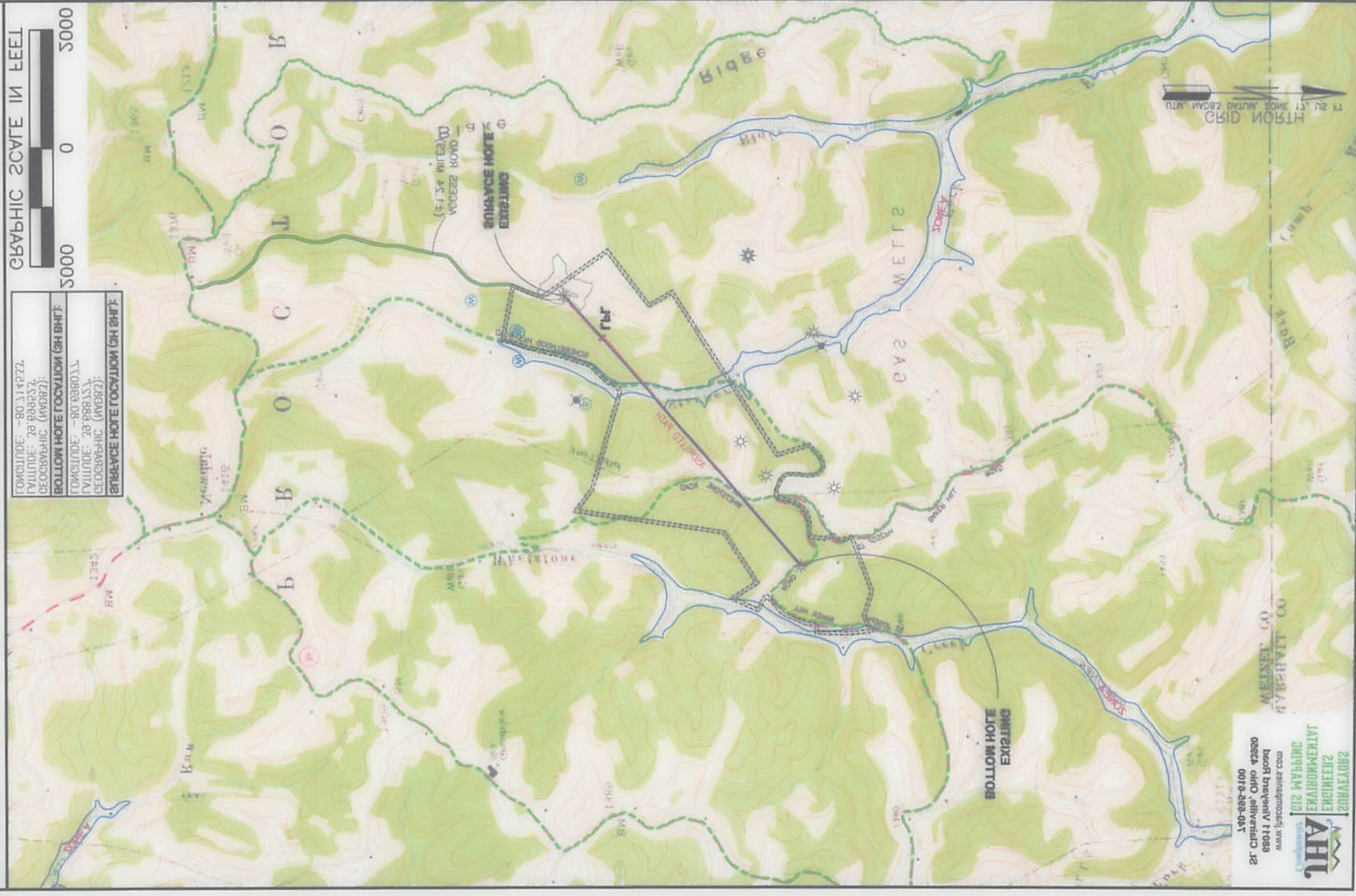
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GRIDLINE: -80 11 42 23	GRIDLINE: -80 08 08 00
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SECTION: 38 08 08 23	SECTION: 38 08 08 23



LEGEND:

- UNIMPROVED ROAD
- IMPROVED ROAD
- EXISTING EXHAUST SYSTEM
- EXISTING EXHAUST SYSTEM
- EXISTING EXHAUST SYSTEM
- EXISTING EXHAUST SYSTEM
- EXISTING EXHAUST SYSTEM
- EXISTING EXHAUST SYSTEM



140-888-8100
28 Cinnamon Circle #2800
68001 Alton Road
MASSACHUSETTS

AMT
ENGINEERS

2018-2019
ENGINEERS

WEINERT CO
SUSSEXVILLE CO