

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

API 47 - 103 - 03195 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 UD-B WTZ 2H
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 4,393,246.89 Easting 525,885.31
Landing Point of Curve Northing 4,393,302.11 Easting 525,638.60
Bottom Hole Northing 4,394,362.70 Easting 524,377.68

Elevation (ft) 1422.9' 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 01/28/2018 Date drilling ceased 05/13/2018
Date completion activities began 09/04/2018 Date completion activities ceased 10/03/2018
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

RECEIVED
Office of Oil and Gas
DEC 21 2018
WV Department of
Environmental Protection

Reviewed by:
DmH
2-21-19

API 47- 103 - 03195 Farm name MARGARET SUE KELLEY Well number MARGARET SUE KELLEY UD-8 WTZ 2H

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	641'	NEW	J-55/54.50#		Y, 8 BBLS
Coal	SEE INTERMEDIATE						
Intermediate 1	12.25	9.625	2,851'	NEW	J-55/36#		Y, 11.5 BBLS
Intermediate 2							
Intermediate 3							
Production	8.75/8.50	5.5	12,895'	NEW	HCP-110/20#		Y
Tubing		2.375	7,405'	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	530	15.60	1.20	636	SURFACE	8
Coal	SEE INTERMEDIATE						
Intermediate 1	CLASS A	1,143	16.00	1.19	1,360.17	SURFACE	8
Intermediate 2							
Intermediate 3							
Production	CLASS A	2,133	15.60	1.19	2,538.27	SURFACE	24
Tubing							

Drillers TD (ft) 12,895' Loggers TD (ft) 12,895'
 Deepest formation penetrated BURKET Plug back to (ft) N/A
 Plug back procedure N/A

Kick off depth (ft) 6,145'

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

RECEIVED
Office of Oil and Gas
DEC 21 2018

WV Department of
Environmental Protection

WAS WELL COMPLETED AS SHOT HOLE Yes No DETAILS _____

WAS WELL COMPLETED OPEN HOLE? Yes No DETAILS _____

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

API 47- 103 - 03195

Farm name MARGARET SUE KELLEY

Well number MARGARET SUE KELLEY UD-8 WTZ 2H

PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
	SEE	ATTACHMENT	1		

Please insert additional pages as applicable.

STIMULATION INFORMATION PER STAGE

Complete a separate record for each stimulation stage.

Stage No.	Stimulations Date	Ave Pump Rate (BPM)	Ave Treatment Pressure (PSI)	Max Breakdown Pressure (PSI)	ISIP (PSI)	Amount of Proppant (lbs)	Amount of Water (bbls)	Amount of Nitrogen/other (units)
		SEE	ATTACHMENT	2				

RECEIVED
Office of Oil and Gas
DEC 21 2018
WV Department of Environmental Protection

Please insert additional pages as applicable.

API 47- 103 - 03195 Farm name MARGARET SUE KELLEY Well number MARGARET SUE KELLEY UD-B WTZ 2H

PRODUCING FORMATION(S)	DEPTHS	
BURKET	7,021'	TVD 7,355' MD

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump
 SHUT-IN PRESSURE Surface 1,153 psi Bottom Hole _____ psi DURATION OF TEST _____ hrs
 OPEN FLOW Gas 6085 mcfpd Oil 240 bpd NGL _____ bpd Water 386 bpd GAS MEASURED BY Estimated Orifice Pilot

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

Please insert additional pages as applicable.

Drilling Contractor SWN DRILLING COMPANY
 Address PO BOX 12359 City SPRING State TX Zip 77391-2359
 Logging Company WEATHERFORD
 Address 584 HACKERS CREEK RD City JANE LEW State WV Zip 26378
 Cementing Company SCHLUMBERGER OILFIELD SERVICES
 Address 1080 US-33 City WESTON State WV Zip 26452
 Stimulating Company HALLIBURTON
 Address 3000 N SAM HOUSTON PKWY E City HOUSTON State TX Zip 77032

RECEIVED
Office of Oil and Gas
DEC 21 2018
WV Department of Environmental Protection

Please insert additional pages as applicable.

Completed by Elizabeth Gee Telephone 832-796-7632
 Signature  Title Staff Regulatory Analyst Date 12/20/2018

Submittal of Hydraulic Fracturing Chemical Disclosure Information Attach copy of FRACFOCUS Registry

MARGARET SUE KELLEY UD-B WTZ 2H

ATTACHMENT 1

PERF REPORT

STAGE NUM	Perf Date	Perf Bottom MI	Perf Top MD2	# SHOTS PER STG
1	8/12/2018	12,783	12,676	42
2	8/13/2018	12,643	12,536	42
3	8/14/2018	12,503	12,396	42
4	8/14/2018	12,363	12,256	42
5	8/14/2018	12,223	12,116	42
6	8/15/2018	12,083	11,976	42
7	8/15/2018	11,943	11,836	42
8	8/15/2018	11,803	11,696	42
9	8/15/2018	11,663	11,556	42
10	8/16/2018	11,523	11,416	42
11	8/16/2018	11,383	11,276	42
12	8/16/2018	11,243	11,136	42
13	8/17/2018	11,103	10,996	42
14	8/17/2018	10,963	10,856	42
15	8/17/2018	10,823	10,716	42
16	8/18/2018	10,683	10,576	42
17	8/23/2018	10,543	10,436	42
18	8/23/2018	10,397	10,296	42
19	9/3/2018	10,263	10,156	42
20	9/4/2018	10,123	10,016	42
21	9/4/2018	9,983	9,876	42
22	9/5/2018	9,843	9,736	42
23	9/6/2018	9,703	9,596	42
24	9/7/2018	9,563	9,454	42
25	9/7/2018	9,423	9,316	42
26	9/7/2018	9,283	9,176	42
27	9/8/2018	9,143	9,036	42
28	9/8/2018	9,003	8,896	42
29	9/9/2018	8,855	8,756	42
30	9/9/2018	8,723	8,616	42
31	9/10/2018	8,583	8,478	42
32	9/10/2018	8,443	8,336	42
33	9/10/2018	8,295	8,196	42
34	9/11/2018	8,163	8,056	42
35	9/11/2018	8,023	7,918	42
36	9/12/2018	7,883	7,776	42
37	9/12/2018	7,738	7,636	42
38	9/13/2018	7,603	7,496	42

RECEIVED
Office of Oil and Gas
DEC 21 2018
WV Department of
Environmental Protection

MARGARET SUE KELLEY UD-B Wtz 2H

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/other
1	8/13/2018	90.7	7,020	5,499	3,218	274,100	6,677	0
2	8/14/2018	90.1	7,266	6,951	3,334	270,020	4,781	0
3	8/14/2018	88.6	7,127	6,795	3,507	276,320	4,299	0
4	8/14/2018	92	7,289	7,149	3,319	268,880	4,659	0
5	8/14/2018	91.1	6,730	6,730	3,478	282,330	4,943	0
6	8/15/2018	90	7,291	6,273	3,495	274,440	4,325	0
7	8/15/2018	100.1	7,798	6,344	3,596	274,520	4,083	0
8	8/16/2018	91	7,136	6,401	3,739	277,660	4,588	0
9	8/16/2018	99.6	7,858	6,418	3,620	272,780	4,276	0
10	8/16/2018	99.2	7,674	6,519	3,692	271,140	3,807	0
11	8/16/2018	90.5	7,103	6,572	3,670	273,660	4,520	0
12	8/17/2018	91	7,206	5,873	3,363	270,160	5,851	0
13	8/17/2018	99.9	7,590	6,511	3,709	279,560	3,686	0
14	8/17/2018	97.9	7,464	6,633	3,751	283,250	3,556	0
15	8/17/2018	92.2	7,098	6,343	3,639	271,880	4,301	0
16	8/23/2018	90	6,983	6,226	3,623	274,720	4,388	0
17	8/23/2018	99.5	7,463	6,700	3,696	276,460	4,144	0
18	9/3/2018	92.2	7,108	6,441	3,686	265,200	4,353	0
19	9/4/2018	98.8	7,277	6,444	3,723	273,600	4,302	0
20	9/4/2018	99.5	7,248	6,246	3,939	271,540	4,358	0
21	9/5/2018	98.7	7,307	6,195	3,927	264,920	4,258	0
22	9/6/2018	94.6	6,922	6,914	3,879	292,060	4,702	0
23	9/6/2018	86.7	6,778	6,467	4,047	272,580	5,403	0
24	9/7/2018	98.8	7,198	6,097	3,878	249,890	4,219	0
25	9/7/2018	88.9	6,893	6,977	4,048	267,900	4,454	0
26	9/8/2018	89.9	6,703	7,037	3,933	265,620	4,516	0
27	9/8/2018	90	6,715	5,054	3,889	276,400	4,562	0
28	9/8/2018	97.2	7,122	7,340	3,874	267,940	4,571	0
29	9/9/2018	89.6	6,786	6,799	3,839	276,940	4,527	0
30	9/9/2018	100	6,998	7,125	3,959	272,040	4,528	0
31	9/10/2018	90	6,806	7,115	3,983	276,140	4,566	0
32	9/10/2018	86.9	6,726	7,109	3,738	262,200	5,326	0
33	9/11/2018	100.4	7,034	7,193	3,918	267,860	4,369	0
34	9/11/2018	98.4	7,090	6,611	3,965	271,980	4,121	0
35	9/12/2018	90.9	6,889	7,477	3,971	272,160	5,190	0
36	9/12/2018	99.9	7,172	6,633	3,890	273,860	4,316	0
37	9/12/2018	100.6	6,844	6,871	3,874	283,200	4,310	0
38	9/13/2018	87.2	6,267	6,218	3,909	277,280	4,425	0



MARGARET SUE KELLEY UD-B WTZ 2H

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)	6915.00	6827.00	7094.00	6936.00	
Middlesex (shale)	7094.00	6936.00	7355.00	7021.00	
Burket (shale)	7355.00	7021.00	NA	NA	GAS

RECEIVED
Office of Oil and Gas
DEC 21 2018
WV Department of
Environmental Protection

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	8/12/2018
Job End Date:	9/13/2018
State:	West Virginia
County:	Wetzel
API Number:	47-103-03195-00-00
Operator Name:	Southwestern Energy
Well Name and Number:	Margaret Sue Kelley UD-B WTZ 2H
Latitude:	39.68866760
Longitude:	-80.69811760
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,997
Total Base Water Volume (gal):	7,247,123
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	84.96074	Density = 8.330
Ingredients	Listed Above	Listed Above					
			Water	7732-18-5	100.00000	0.37311	

RECEIVED
 Office of Oil and Gas
 DEC 21 2018
 West Virginia Department of Environmental Protection

CI-200	Economy Polymers & Chemicals	Corrosion Inhibitor					
				Listed Below			
HYDROCHLORI C ACID	Halliburton	Solvent					
				Listed Below			
Nalco SCAL16486A	NALCO Champion	Scale Inhibitor					
				Listed Below			
SAND- PREMIUM WHITE-40/70, BULK	Halliburton	Proppant					
				Listed Below			
FDP-S1176-15	Halliburton	Friction Reducer					
				Listed Below			
Nalco BIOC11139A	NALCO Champion	Biocide					
				Listed Below			
SAND-COMMON WHITE-100 MESH, SSA-2, BULK (100003676)	Halliburton	Proppant					
				Listed Below			
IC-001	Economy Polymers & Chemicals	Additive					

RECEIVED
 Office of Oil and Gas
 DEC 21 2018
 Environmental Protection
 Department of

				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	14.59949	
			Hydrochloric acid	7647-01-0	15.00000	0.04809	
			Hydrotreated light petroleum distillate	64742-47-8	30.00000	0.02627	
			Polyacrylate	Proprietary	30.00000	0.02627	
			Methanol	67-56-1	80.00000	0.01288	
			Benzyl-(C12-C16 Alkyl)-Dimethyl-Ammonium Chloride	68424-85-1	30.00000	0.00555	
			Castor oil, ethoxylated	61791-12-6	5.00000	0.00438	
			Ammonium chloride	12125-02-9	5.00000	0.00438	
			9-Octadecenamide, n,n-bis-2(hydroxy-ethyl)-,(Z)	93-83-4	5.00000	0.00438	
			Sobitan, mono-9-octadecenoate, (Z)	1338-43-8	5.00000	0.00438	
			Sodium chloride	7647-14-5	5.00000	0.00438	
			Glutaraldehyde	111-30-8	10.00000	0.00185	
			Amine Triphosphate	Proprietary	30.00000	0.00157	Denise Tuck, Halliburton, 3000 N. Sam Houston Pkwy E., Houston, TX 77032, 281-871-6226
			Ethylene Glycol	107-21-1	30.00000	0.00157	
			Faty Acids	Trade Secret	10.00000	0.00022	
			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 CFR 1910.200(i) and Appendix D are obtained from suppliers Material Safety Data Sheets (MSDS)

RECEIVED
 Office of Oil and Gas
 DEC 21 2018
 Environmental Protection
 Department of



Margaret Sue Kelley WZ 2H
Wetzel Co, WV
SDC 40
Plan vs Actual

Plan Data for Margaret Sue Kelley WZ 2H

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	0.0 KB Offset
1450.00	0.00	0.00	1450.00	0.00	0.00	0.00	0.00	0.0	0.0 Nudge KOP
1600.00	3.00	250.00	1599.93	-1.34	-3.69	2.17	2.00	250.0	Build/Turn
1733.39	4.00	208.15	1733.09	-6.64	-9.16	3.43	2.00	269.6	Hold
6222.02	4.00	208.15	6210.79	-282.72	-156.87	-41.67	0.00	0.0	Curve KOP 7° DLS
7231.75	70.00	307.25	6988.30	11.67	-610.14	497.64	7.00	100.5	Build/Turn 9° DLS
7463.28	90.65	310.06	7027.00	153.58	-787.29	724.35	9.00	7.9	Landing Point
12895.29	90.65	310.06	6965.00	3649.40	-4944.46	6142.98	0.00	0.0	PBHL MSK2H

Target Set Information: (Scale Factor = 0.999608)
Name: Margaret Sue Kelley WZ 2H
Position offsets from Slot centre

Name	TVD	+N/-S	+E/-W	Northing	Easting	Lat	Long
(USft)	(USft)	(USft)	(USft)	(USft)	(USft)	(°)	(°)
LP MSK2H	7027.00	29.02	-639.18	14413539.80	1724702.99	39.688753	-80.700388
PBHL MSK2H	6965.00	3649.40	-4944.46	14417158.76	1720399.40	39.698731	-80.715645



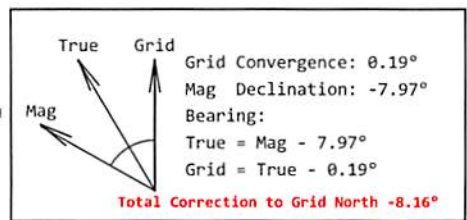
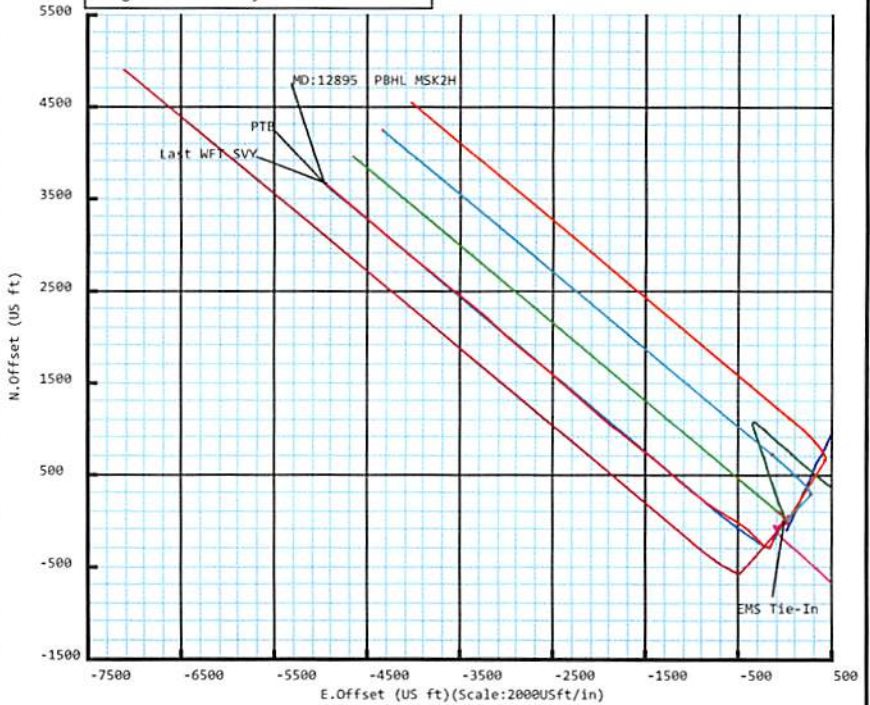
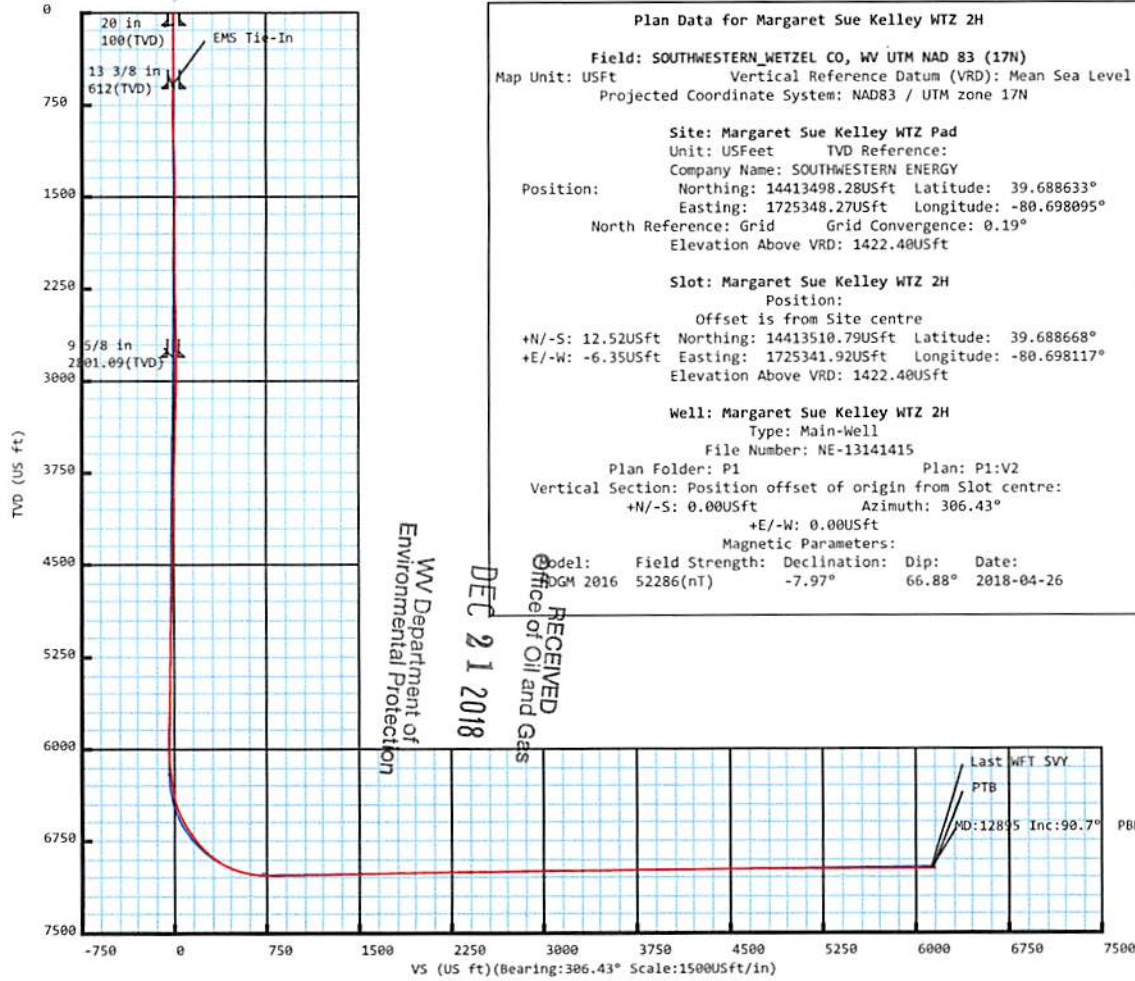
Plan Data for Margaret Sue Kelley WZ 2H

Formation Point Information:

Name	TVD	Elevation	MD
(USft)	(USft)	(USft)	(USft)
Burket	7033.00	0.00	-1.00
Tully	7040.00	0.00	-1.00
Base Fresh Water	512.00	936.40	512.00
Top of Salt Water	962.00	486.40	962.00
Pittsburgh Coal	1242.00	206.40	1242.00
Maxton	2217.00	-768.60	2218.48
Big Lime	2335.00	-886.60	2336.77
Big Injun	2416.00	-967.60	2417.97
Base Big Injun	2659.00	-1210.60	2661.56
Berea	3008.00	-1559.60	3011.41
Gordon Sandstone	3173.00	-1724.60	3176.81
Upper Rhinestreet	6536.00	-5087.60	6556.39
Lower Rhinestreet	6685.00	-5236.60	6726.87
Basal Rhinestreet	6748.00	-5299.60	6806.39
Cashqua	6824.00	-5375.60	6912.14
Middlesex	6934.00	-5485.60	7100.99
Lower Middlesex	6962.00	-5513.60	7162.74
Geneseo	6988.00	-5539.60	7230.88
Geneseo 1	7008.00	-5559.60	7299.19
Burket Shale	7021.00	-5572.60	7367.80
Burket 2	7026.00	-5577.60	7419.37

- Margaret Sue Kelley WZ 2H
- Margaret Sue Kelley WZ 1H
- Margaret Sue Kelley WZ 3H
- Margaret Sue Kelley WZ 4H
- Margaret Sue Kelley WZ 5H
- Margaret Kelley WZ 8H
- Margaret Kelley WZ 10H
- Margaret Kelley WZ 14H
- Margaret Sue Kelley WZ 2H

KB: 1448.4'
GL: 1422.4'



Drawing By: Vilaphanh (Cot) Sinakone
Date: 26 April 2018
Office Name: Weatherford Drilling Services
Address: 12101 Cutten Road
Houston, TX 77066
Phone: 281-701-4760



Weatherford®

Margaret Sue Kelley WTZ 2H

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 2H	Position (Relative to Site Centre)		
	+N/-S: 12.52 US ft	Northing: 14413510.79 US ft	Latitude: 39.688668
	+E/-W: -6.35 US ft	Easting: 1725341.92 US ft	Longitude: -80.698117
	Slot TVD Reference: Ground Elevation		
Elevation above MSL: 1422.40 US ft		Comment:	

Well: Margaret Sue Kelley WTZ 2H	Type: Main well	UWI:
	File Number: NE-13141415	Comment:
	Closure Distance: 6155.96 US ft	Closure Azimuth: 306.51°
	Vertical Section: Position of Origin (Relative to Slot centre)	
	+N/-S: 0.00 US ft	+E/-W: 0.00 US ft Az: 306.43°

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

RECEIVED
Office of Oil and Gas
DEC 21 2018
WV Department of
Environmental Protection

Survey Name: Definitive Survey			
Date: 29/Mar/2018	Survey Tool: See Survey Tool Ranges below.	Comment:	Company:

Magnetic Model:			
Model Name: HDGM 2016	Date: 26/Apr/2018	Field Strength: 52286.0nT	Declination: -7.97° Dip: 66.88°

Tie Point:					
MD: 0.00 US ft	Inclination: 0.00°	Azimuth: 0.00°	TVD: -0.00 US ft	North Offset: 0.00 US ft	East Offset: 0.00 US ft

5D Survey Report

Survey Tool Ranges:

Name	Start MD(usft)	End MD(usft)	Source Survey
EMS	0.00	602.00	EMS
MFAC_US_V2	602.00	1334.00	WFT_MFAC_01
MWD	1334.00	1798.00	WFT_MWD_01
MFAC_US_V2	1798.00	1891.00	WFT_MFAC_02
MWD	1891.00	2790.00	WFT_MWD_02
MWD	2790.00	6785.00	WFT_MWD_03
MWD	6785.00	12895.00	WFT_MWD_04

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	39.688668	-80.698117	0.00	
204.00	0.20	95.94	204.00	-0.31	-0.04	0.35	39.688668	-80.698116	0.10	
295.00	0.20	118.74	295.00	-0.60	-0.13	0.65	39.688667	-80.698115	0.09	
386.00	1.20	122.84	385.99	-1.71	-0.72	1.59	39.688666	-80.698112	1.10	
463.00	0.50	147.04	462.98	-2.83	-1.44	2.45	39.688664	-80.698109	1.00	
555.00	0.60	148.04	554.98	-3.65	-2.19	2.92	39.688662	-80.698107	0.11	
602.00	0.70	153.94	601.98	-4.14	-2.65	3.18	39.688660	-80.698106	0.26	EMS Tie-In
691.00	1.09	137.48	690.96	-5.45	-3.77	3.99	39.688657	-80.698103	0.52	
737.00	1.33	153.56	736.95	-6.35	-4.57	4.53	39.688655	-80.698101	0.90	
784.00	0.97	201.89	783.95	-6.94	-5.42	4.62	39.688653	-80.698101	2.12	
876.00	2.32	264.98	875.91	-5.74	-6.31	2.47	39.688650	-80.698109	2.25	
923.00	2.79	271.21	922.86	-4.09	-6.37	0.38	39.688650	-80.698116	1.16	
1012.00	2.53	323.74	1011.78	-0.45	-4.74	-2.94	39.688655	-80.698128	2.66	
1059.00	2.92	337.98	1058.73	1.57	-2.79	-4.01	39.688660	-80.698132	1.66	
1152.00	2.03	351.78	1151.64	4.74	1.03	-5.13	39.688671	-80.698136	1.15	
1241.00	0.65	20.34	1240.62	5.99	3.07	-5.18	39.688676	-80.698136	1.68	
1334.00	0.37	99.76	1333.61	5.87	3.51	-4.70	39.688677	-80.698134	0.74	
1427.00	1.15	192.90	1426.61	5.23	2.55	-4.61	39.688675	-80.698134	1.32	
1520.00	1.91	198.36	1519.57	4.37	0.17	-5.31	39.688668	-80.698136	0.83	
1612.00	2.15	195.05	1611.51	3.27	-2.95	-6.24	39.688660	-80.698140	0.29	
1705.00	2.39	221.41	1704.44	2.80	-6.09	-7.98	39.688651	-80.698146	1.14	
1798.00	2.93	238.96	1797.34	3.88	-8.77	-11.30	39.688644	-80.698158	1.04	
1891.00	3.64	227.47	1890.19	5.36	-11.99	-15.51	39.688635	-80.698173	1.04	
1983.00	3.54	221.32	1982.01	6.16	-16.10	-19.54	39.688624	-80.698187	0.43	
2076.00	3.69	217.70	2074.83	6.47	-20.62	-23.26	39.688611	-80.698200	0.29	
2169.00	4.01	225.31	2167.62	7.04	-25.28	-27.40	39.688599	-80.698215	0.65	
2258.00	4.05	235.84	2256.40	8.56	-29.23	-32.22	39.688588	-80.698232	0.83	
2351.00	4.36	246.89	2349.15	11.44	-32.46	-38.19	39.688579	-80.698254	0.93	
2444.00	4.36	239.33	2441.88	14.61	-35.65	-44.48	39.688570	-80.698276	0.62	
2537.00	3.91	232.27	2534.64	16.85	-39.40	-50.03	39.688560	-80.698296	0.73	
2629.00	3.08	230.83	2626.47	18.32	-42.88	-54.42	39.688551	-80.698311	0.91	
2719.00	2.71	231.32	2716.35	19.47	-45.74	-57.96	39.688543	-80.698324	0.41	
2790.00	2.89	222.71	2787.27	20.10	-48.10	-60.48	39.688536	-80.698333	0.64	
2902.00	3.17	218.41	2899.11	20.52	-52.60	-64.32	39.688524	-80.698347	0.32	
2995.00	3.33	209.49	2991.96	20.28	-56.97	-67.25	39.688512	-80.698357	0.57	
3087.00	4.32	195.48	3083.76	18.72	-62.63	-69.49	39.688496	-80.698365	1.47	
3180.00	4.03	194.20	3176.51	16.23	-69.18	-71.23	39.688479	-80.698371	0.33	
3273.00	4.52	196.39	3269.25	13.74	-75.86	-73.06	39.688460	-80.698378	0.67	
3366.00	5.05	200.27	3361.93	11.34	-83.22	-75.51	39.688440	-80.698387	0.67	
3458.00	4.44	200.01	3453.61	9.21	-90.36	-78.14	39.688420	-80.698396	0.66	
3551.00	4.68	201.41	3546.32	7.21	-97.27	-80.75	39.688401	-80.698406	0.28	
3644.00	5.66	198.68	3638.94	4.82	-105.15	-83.61	39.688380	-80.698416	1.09	
3737.00	5.10	200.73	3731.53	2.31	-113.36	-86.54	39.688357	-80.698426	0.64	
3829.00	5.00	198.81	3823.17	-0.01	-120.98	-89.28	39.688336	-80.698436	0.21	
3922.00	4.56	200.70	3915.85	-2.24	-128.28	-91.89	39.688316	-80.698446	0.50	
4012.00	4.21	198.77	4005.59	-4.21	-134.75	-94.22	39.688299	-80.698454	0.42	

RECEIVED
Office of Oil and Gas

DEC 21 2018

WV Department of
Environmental Protection

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
4104.00	4.08	199.86	4097.34	-6.17	-141.03	-96.42	39.688282	-80.698462	0.17	
4197.00	4.27	202.34	4190.10	-7.96	-147.34	-98.86	39.688264	-80.698471	0.28	
4290.00	4.82	200.92	4282.81	-9.85	-154.19	-101.57	39.688245	-80.698480	0.60	
4383.00	4.56	200.66	4375.49	-11.89	-161.30	-104.27	39.688226	-80.698490	0.28	
4476.00	4.54	199.75	4468.20	-13.96	-168.22	-106.82	39.688207	-80.698499	0.08	
4568.00	4.54	199.16	4559.91	-16.08	-175.09	-109.24	39.688188	-80.698508	0.05	
4661.00	4.38	197.26	4652.63	-18.34	-181.96	-111.50	39.688169	-80.698516	0.23	
4754.00	4.73	199.01	4745.34	-20.66	-188.98	-113.81	39.688150	-80.698524	0.40	
4846.00	4.79	199.76	4837.02	-22.89	-196.18	-116.34	39.688130	-80.698533	0.09	
4939.00	5.31	198.41	4929.66	-25.34	-203.91	-119.01	39.688109	-80.698543	0.57	
5029.00	5.76	199.77	5019.24	-27.92	-212.12	-121.85	39.688087	-80.698553	0.52	
5122.00	5.92	203.43	5111.76	-30.34	-220.91	-125.34	39.688062	-80.698566	0.44	
5211.00	5.07	215.89	5200.35	-31.41	-228.31	-129.47	39.688042	-80.698580	1.64	
5304.00	3.35	208.47	5293.10	-31.82	-234.02	-133.18	39.688027	-80.698593	1.94	
5397.00	2.86	202.13	5385.96	-32.77	-238.56	-135.34	39.688014	-80.698601	0.64	
5489.00	4.00	205.81	5477.79	-33.93	-243.58	-137.61	39.688000	-80.698609	1.26	
5582.00	4.78	204.32	5570.52	-35.34	-250.03	-140.61	39.687983	-80.698620	0.85	
5675.00	4.98	199.84	5663.18	-37.31	-257.36	-143.58	39.687963	-80.698631	0.46	
5767.00	3.69	181.82	5754.92	-40.13	-264.07	-145.03	39.687944	-80.698636	2.02	
5860.00	1.94	160.68	5847.81	-43.13	-268.55	-144.60	39.687932	-80.698635	2.16	
5953.00	2.01	213.50	5940.76	-44.51	-271.39	-144.98	39.687924	-80.698636	1.89	
6046.00	6.26	240.68	6033.50	-42.51	-275.24	-150.31	39.687914	-80.698655	4.91	
6092.00	7.36	246.94	6079.18	-39.99	-277.62	-155.21	39.687907	-80.698672	2.88	
6138.00	8.16	254.16	6124.76	-36.49	-279.67	-161.06	39.687902	-80.698693	2.74	
6185.00	8.25	263.24	6171.28	-31.99	-280.97	-167.61	39.687898	-80.698716	2.76	
6228.00	8.50	268.40	6213.82	-27.24	-281.43	-173.86	39.687897	-80.698739	1.84	
6275.00	8.13	279.47	6260.33	-21.54	-280.98	-180.61	39.687898	-80.698763	3.49	
6321.00	7.78	292.39	6305.89	-15.62	-279.26	-186.69	39.687903	-80.698784	3.95	
6367.00	9.41	297.18	6351.37	-8.89	-276.35	-192.92	39.687911	-80.698806	3.87	
6414.00	13.14	297.93	6397.46	0.19	-272.09	-201.06	39.687923	-80.698835	7.94	
6460.00	17.12	302.60	6441.86	12.12	-265.99	-211.39	39.687940	-80.698872	9.04	
6506.00	20.49	308.20	6485.40	26.93	-257.36	-223.42	39.687963	-80.698914	8.30	
6553.00	24.03	311.59	6528.89	44.69	-245.92	-237.05	39.687995	-80.698963	8.01	
6599.00	26.91	313.79	6570.42	64.34	-232.50	-251.57	39.688032	-80.699014	6.59	
6646.00	29.80	315.97	6611.77	86.42	-216.74	-267.37	39.688075	-80.699070	6.53	
6692.00	32.34	317.08	6651.17	109.78	-199.50	-283.70	39.688123	-80.699128	5.66	
6738.00	34.15	315.73	6689.64	134.62	-181.25	-301.09	39.688173	-80.699190	4.25	
6785.00	35.87	313.70	6728.14	161.30	-162.29	-320.25	39.688225	-80.699257	4.42	
6839.00	39.32	313.22	6770.92	193.99	-139.63	-344.17	39.688288	-80.699342	6.41	
6885.00	42.84	315.17	6805.59	223.93	-118.55	-365.82	39.688346	-80.699419	8.14	
6932.00	47.29	314.02	6838.78	256.86	-95.21	-389.52	39.688410	-80.699503	9.62	
6978.00	50.07	308.29	6869.16	291.26	-72.52	-415.53	39.688473	-80.699595	11.13	
7025.00	52.93	304.82	6898.42	328.03	-50.64	-445.08	39.688533	-80.699700	8.39	
7071.00	57.25	303.53	6924.74	365.71	-29.47	-476.28	39.688591	-80.699810	9.67	
7114.00	62.06	302.39	6946.46	402.74	-9.29	-507.42	39.688647	-80.699921	11.42	
7161.00	66.08	301.98	6967.01	444.88	13.22	-543.18	39.688709	-80.700047	8.59	
7207.00	69.51	301.14	6984.39	487.31	35.50	-579.47	39.688771	-80.700176	7.65	
7253.00	73.14	300.82	6999.11	530.69	57.93	-616.82	39.688832	-80.700309	7.92	
7299.00	77.12	301.26	7010.92	574.94	80.85	-654.91	39.688896	-80.700444	8.70	
7346.00	80.84	301.82	7019.90	620.90	104.98	-694.22	39.688962	-80.700583	8.00	
7392.00	83.76	303.21	7026.06	666.37	129.48	-732.65	39.689030	-80.700719	7.02	
7439.00	86.54	303.58	7030.04	713.13	155.25	-771.75	39.689101	-80.700858	5.97	
7485.00	90.00	305.21	7031.42	759.07	181.22	-809.68	39.689173	-80.700992	8.31	
7578.00	90.74	307.86	7030.82	852.06	236.58	-884.40	39.689325	-80.701257	2.96	
7670.00	90.49	306.39	7029.84	944.05	292.10	-957.75	39.689478	-80.701517	1.62	
7763.00	90.86	310.09	7028.74	1036.98	349.65	-1030.77	39.689637	-80.701776	4.00	
7856.00	90.86	311.44	7027.34	1129.70	410.37	-1101.20	39.689804	-80.702025	1.45	
7946.00	90.99	310.48	7025.89	1219.41	469.36	-1169.16	39.689967	-80.702266	1.08	
8039.00	91.11	310.38	7024.19	1312.16	529.66	-1239.93	39.690133	-80.702517	0.17	

RECEIVED
Office of Oil and Gas

DEC 21 2018

WV Department of
Environmental Protection

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
8132.00	91.17	310.72	7022.34	1404.90	590.11	-1310.59	39.690300	-80.702767	0.37	
8224.00	90.99	309.39	7020.60	1496.70	649.30	-1380.99	39.690463	-80.703017	1.46	
8317.00	91.54	307.75	7018.55	1589.61	707.27	-1453.68	39.690623	-80.703274	1.86	
8410.00	91.29	308.72	7016.25	1682.54	764.80	-1526.71	39.690781	-80.703533	1.08	
8502.00	91.29	309.18	7014.18	1774.42	822.63	-1598.24	39.690941	-80.703787	0.50	
8595.00	90.68	308.67	7012.58	1867.32	881.05	-1670.58	39.691102	-80.704043	0.85	
8688.00	90.86	308.40	7011.33	1960.25	938.98	-1743.32	39.691261	-80.704301	0.35	
8781.00	90.80	307.51	7009.99	2053.21	996.17	-1816.64	39.691419	-80.704561	0.96	
8874.00	90.80	309.25	7008.69	2146.14	1053.91	-1889.53	39.691578	-80.704819	1.87	
8966.00	90.92	311.08	7007.31	2237.93	1113.24	-1959.83	39.691742	-80.705068	1.99	
9059.00	90.74	311.51	7005.96	2330.58	1174.60	-2029.69	39.691911	-80.705316	0.50	
9152.00	90.74	311.66	7004.76	2423.20	1236.33	-2099.25	39.692081	-80.705562	0.16	
9242.00	90.74	310.64	7003.60	2512.89	1295.54	-2167.01	39.692244	-80.705802	1.13	
9335.00	90.74	311.21	7002.39	2605.59	1356.46	-2237.27	39.692412	-80.706051	0.61	
9427.00	90.68	310.37	7001.25	2697.32	1416.56	-2306.92	39.692578	-80.706298	0.92	
9520.00	90.92	310.83	6999.96	2790.06	1477.07	-2377.53	39.692744	-80.706548	0.56	
9613.00	90.88	312.70	6998.50	2882.64	1539.01	-2446.88	39.692915	-80.706794	2.01	
9706.00	90.62	312.75	6997.28	2975.08	1602.10	-2515.20	39.693089	-80.707036	0.28	
9799.00	90.37	310.33	6996.47	3067.70	1663.77	-2584.80	39.693259	-80.707283	2.62	
9891.00	90.31	308.73	6995.93	3159.56	1722.32	-2655.75	39.693420	-80.707534	1.74	
9984.00	90.49	307.93	6995.28	3252.50	1780.00	-2728.70	39.693579	-80.707793	0.88	
10077.00	90.74	308.52	6994.28	3345.45	1837.54	-2801.76	39.693738	-80.708052	0.69	
10170.00	90.62	311.52	6993.18	3438.25	1897.33	-2872.97	39.693902	-80.708304	3.23	
10263.00	90.56	310.66	6992.22	3530.94	1958.45	-2943.06	39.694071	-80.708552	0.93	
10352.00	90.74	312.52	6991.21	3619.57	2017.52	-3009.61	39.694234	-80.708788	2.10	
10445.00	90.68	313.41	6990.06	3711.96	2080.90	-3077.66	39.694408	-80.709029	0.96	
10537.00	90.68	313.43	6988.97	3803.26	2144.13	-3144.48	39.694582	-80.709266	0.02	
10630.00	90.68	312.72	6987.86	3895.63	2207.64	-3212.41	39.694757	-80.709507	0.76	
10720.00	90.56	309.43	6986.89	3985.32	2266.76	-3280.24	39.694920	-80.709747	3.66	
10813.00	90.62	309.70	6985.93	4078.18	2326.00	-3351.93	39.695084	-80.710001	0.30	
10906.00	90.49	310.13	6985.03	4171.00	2385.67	-3423.26	39.695248	-80.710254	0.48	
10998.00	90.25	308.90	6984.43	4262.86	2444.20	-3494.23	39.695409	-80.710505	1.36	
11091.00	90.49	308.34	6983.83	4355.79	2502.25	-3566.89	39.695569	-80.710763	0.66	
11184.00	90.49	309.25	6983.04	4448.71	2560.51	-3639.37	39.695730	-80.711020	0.98	
11276.00	90.56	310.06	6982.20	4540.56	2619.22	-3710.20	39.695892	-80.711271	0.88	
11369.00	90.31	309.52	6981.49	4633.39	2678.74	-3781.65	39.696056	-80.711524	0.64	
11462.00	89.94	307.99	6981.29	4726.32	2736.95	-3854.18	39.696216	-80.711781	1.69	
11554.00	90.18	308.82	6981.19	4818.26	2794.10	-3926.27	39.696374	-80.712037	0.94	
11647.00	90.00	308.09	6981.04	4911.20	2851.94	-3999.10	39.696533	-80.712295	0.81	
11740.00	89.88	309.77	6981.14	5004.11	2910.37	-4071.44	39.696694	-80.712551	1.81	
11833.00	90.12	310.20	6981.14	5096.93	2970.13	-4142.70	39.696859	-80.712804	0.53	
11925.00	90.00	310.46	6981.05	5188.72	3029.68	-4212.83	39.697023	-80.713052	0.31	
12018.00	90.00	310.94	6981.05	5281.46	3090.32	-4283.34	39.697190	-80.713302	0.52	
12111.00	90.00	311.66	6981.05	5374.12	3151.70	-4353.21	39.697359	-80.713550	0.77	
12201.00	90.00	311.41	6981.05	5463.76	3211.38	-4420.58	39.697524	-80.713789	0.28	
12293.00	90.25	310.98	6980.84	5555.45	3271.97	-4489.80	39.697690	-80.714034	0.54	
12383.00	90.12	309.60	6980.55	5645.24	3330.17	-4558.45	39.697851	-80.714277	1.54	
12473.00	90.19	310.37	6980.31	5735.07	3388.00	-4627.41	39.698010	-80.714522	0.86	
12565.00	90.06	310.73	6980.11	5826.83	3447.81	-4697.31	39.698175	-80.714769	0.42	
12658.00	90.18	311.47	6979.92	5919.52	3508.95	-4767.39	39.698343	-80.715018	0.81	
12751.00	90.06	310.99	6979.72	6012.19	3570.24	-4837.34	39.698512	-80.715266	0.53	
12843.00	89.91	309.18	6979.74	6104.00	3629.48	-4907.72	39.698676	-80.715515	1.97	
12872.00	89.91	308.82	6979.79	6132.97	3647.73	-4930.26	39.698726	-80.715595	1.24	
12895.00	89.91	308.82	6979.83	6155.95	3662.15	-4948.18	39.698766	-80.715658	0.00	Last WFT SVY PTB

RECEIVED
Office of Oil and Gas
DEC 21 2018
WV Department of
Environmental Protection



Weatherford®

SURVEY REPORT

Report Date: 7/2/2018
 Customer: SWN Production Co., LLC Field: Victory
 Job Name: NE-13141516 Rig: SDC 40
 Well Name: Margaret Sue Kelley Wtz Rig Loc: Wetzel Co., WV

Survey Calculation Method: Minimum Curvature						
Magnetic Reference	Target Direction	Total Magnetic Field	Magnetic Dip Angle	Magnetic Declination	Grid Convergence	Total Correction
Grid North	310.21 deg	52273 nT	66.88 deg	-7.97 deg	0.19 deg	-8.16 deg
Survey Tie-On	Depth	INC	AZ	TVD	NS	EW
	0.00 ft	0.00 deg	0.00 deg	0.00 ft	0.00 ft	0.00 ft

Depth (ft)	Inc (deg)	Azm (deg)	TVD (ft)	Well Head			Dogleg (deg/100ft)
				NS (ft)	EW (ft)	Vsect (ft)	
100.00	0.10	141.29	100.00	-0.07	0.05	-0.09	0.10
200.00	0.22	14.62	200.00	0.05	0.16	-0.09	0.29
300.00	0.18	19.85	300.00	0.38	0.26	0.05	0.04
400.00	0.21	52.81	400.00	0.64	0.46	0.06	0.11
500.00	0.13	117.63	500.00	0.70	0.71	-0.09	0.19
600.00	0.15	305.75	600.00	0.72	0.70	-0.07	0.28
779.00	1.69	260.94	778.97	0.44	-2.10	1.89	0.89
872.00	2.57	297.84	871.91	1.20	-5.30	4.82	1.70
961.00	3.84	312.20	960.77	4.14	-9.27	9.75	1.68
1054.00	5.22	308.47	1053.48	8.86	-14.89	17.09	1.52
1147.00	6.23	305.44	1146.01	14.42	-22.31	26.35	1.13
1236.00	6.53	311.67	1234.46	20.58	-30.03	36.22	0.85
1329.00	6.64	316.97	1326.85	28.03	-37.65	46.84	0.66
1422.00	6.07	322.56	1419.28	35.86	-44.30	56.99	0.90
1515.00	5.83	327.85	1511.78	43.77	-49.81	66.29	0.64
1607.00	5.27	331.56	1603.35	51.44	-54.31	74.68	0.72
1700.00	3.60	336.41	1696.06	57.87	-57.51	81.28	1.84
1793.00	2.09	317.31	1788.95	61.79	-59.83	85.58	1.90
1886.00	2.20	268.76	1881.89	63.00	-62.76	88.60	1.90
1978.00	1.44	253.50	1973.85	62.63	-65.63	90.56	0.97
2071.00	0.84	215.81	2066.83	61.75	-67.15	91.15	1.00
2162.00	0.75	175.86	2157.82	60.61	-67.50	90.68	0.60
2252.00	0.39	115.66	2247.82	59.89	-67.18	89.97	0.72
2344.00	0.25	60.79	2339.81	59.86	-66.73	89.60	0.35
2437.00	0.47	91.35	2432.81	59.95	-66.17	89.23	0.31
2530.00	1.17	88.02	2525.80	59.97	-64.84	88.23	0.75
2622.00	2.08	86.89	2617.76	60.09	-62.23	86.32	0.99
2712.00	1.90	81.24	2707.71	60.41	-59.13	84.15	0.30
2797.00	1.28	44.00	2792.68	61.31	-57.07	83.17	1.38
2902.00	1.72	15.72	2897.64	63.67	-55.83	83.74	0.81
2994.00	0.80	302.96	2989.63	65.35	-56.00	84.95	1.81
3087.00	0.81	298.93	3082.62	66.02	-57.12	86.24	0.06
3180.00	0.95	298.28	3175.61	66.70	-58.37	87.64	0.15
3273.00	1.13	303.60	3268.59	67.57	-59.81	89.30	0.22
3365.00	1.14	297.05	3360.57	68.49	-61.38	91.10	0.14

Depth (ft)	Inc (deg)	Azm (deg)	TVD (ft)	Well Head		VSect (ft)	Dogleg (deg/100ft)
				NS (ft)	EW (ft)		
3458.00	1.26	260.51	3453.55	68.74	-63.22	92.66	0.82
3551.00	1.32	266.59	3546.53	68.51	-65.29	94.09	0.16
3644.00	1.29	262.15	3639.51	68.31	-67.40	95.57	0.11
3736.00	1.09	296.44	3731.49	68.55	-69.21	97.11	0.79
3829.00	1.10	300.09	3824.47	69.39	-70.77	98.85	0.08
3922.00	1.05	321.84	3917.45	70.51	-72.07	100.56	0.44
4012.00	1.07	324.34	4007.44	71.84	-73.07	102.19	0.06
4104.00	1.05	324.26	4099.42	73.23	-74.07	103.84	0.02
4197.00	1.04	310.93	4192.41	74.47	-75.20	105.51	0.26
4290.00	1.05	316.02	4285.39	75.64	-76.43	107.20	0.10
4383.00	0.93	306.57	4378.38	76.70	-77.63	108.80	0.22
4475.00	0.95	319.80	4470.37	77.73	-78.72	110.30	0.24
4568.00	0.72	304.79	4563.36	78.65	-79.70	111.64	0.34
4661.00	0.63	314.89	4656.35	79.34	-80.54	112.73	0.16
4754.00	0.72	321.56	4749.34	80.16	-81.27	113.81	0.13
4846.00	0.67	314.88	4841.34	80.99	-82.01	114.92	0.10
4939.00	0.14	351.86	4934.33	81.49	-82.41	115.54	0.61
5029.00	0.09	16.59	5024.33	81.67	-82.40	115.65	0.08
5121.00	0.31	21.21	5116.33	81.97	-82.29	115.76	0.24
5211.00	0.47	345.44	5206.33	82.55	-82.30	116.14	0.32
5304.00	0.37	315.89	5299.33	83.14	-82.60	116.75	0.25
5396.00	0.51	319.86	5391.32	83.66	-83.07	117.45	0.16
5489.00	0.63	325.11	5484.32	84.40	-83.63	118.36	0.14
5582.00	0.93	328.45	5577.31	85.46	-84.32	119.57	0.33
5674.00	0.31	330.78	5669.31	86.31	-84.83	120.51	0.67
5767.00	0.10	311.53	5762.30	86.59	-85.01	120.83	0.23
5867.00	0.39	342.32	5862.30	86.97	-85.18	121.20	0.31
5913.00	0.35	317.64	5908.30	87.22	-85.33	121.47	0.35
5959.00	0.43	327.31	5954.30	87.47	-85.51	121.78	0.22
6099.00	3.37	313.21	6094.21	90.73	-88.80	126.39	2.11
6145.00	4.72	300.22	6140.09	92.61	-91.42	129.60	3.53
6235.00	4.88	291.04	6229.78	95.85	-98.19	136.87	0.87
6328.00	6.07	300.51	6322.36	99.77	-106.12	145.45	1.60
6374.00	6.60	298.06	6368.08	102.24	-110.55	150.43	1.29
6420.00	8.85	291.57	6413.66	104.79	-116.17	156.37	5.24
6467.00	10.17	297.16	6460.01	108.01	-123.23	163.84	3.42
6513.00	12.06	297.03	6505.15	112.05	-131.12	172.47	4.11
6570.00	15.58	294.14	6560.49	117.89	-143.41	185.63	6.29
6617.00	18.50	297.94	6605.42	123.97	-155.77	198.99	6.65
6663.00	22.22	302.69	6648.54	132.09	-169.54	214.75	8.84
6710.00	25.26	307.00	6691.56	142.92	-185.03	233.58	7.44
6753.00	27.68	311.29	6730.06	155.04	-199.87	252.73	7.17
6800.00	30.70	316.06	6771.09	170.89	-216.40	275.58	8.11
6846.00	34.03	316.58	6809.94	188.70	-233.40	300.06	7.26
6892.00	37.89	314.21	6847.17	207.90	-252.38	329.96	6.82
6939.00	39.88	312.64	6883.75	228.18	-273.81	356.41	4.72
6985.00	43.01	310.95	6918.23	248.45	-296.52	386.81	4.23
7032.00	46.94	310.68	6951.47	270.16	-321.65	420.06	8.37
7078.00	52.28	310.50	6981.27	292.95	-348.25	455.88	15.51
7124.00	56.24	310.23	7008.13	317.12	-376.70	492.41	8.62

RECEIVED
Office of Oil and Gas
DEC 21 2018
WV Department of
Environmental Protection

Depth (ft)	Inc (deg)	Azm (deg)	TVD (ft)	Well Head		VSect (ft)	Dogleg (deg/100ft)
				NS (ft)	EW (ft)		
7171.00	57.87	310.63	7033.69	342.70	-406.72	531.85	3.54
7217.00	59.74	311.09	7057.51	368.44	-436.47	571.19	4.15
7264.00	64.99	311.22	7079.31	395.84	-467.81	612.81	11.17
7310.00	68.89	311.51	7097.32	423.80	-499.57	655.12	8.50
7356.00	70.67	311.44	7113.22	452.39	-531.91	698.27	3.87
7403.00	71.84	311.70	7128.32	481.92	-565.21	742.76	2.54
7449.00	74.09	312.06	7141.80	511.28	-597.95	786.72	4.95
7495.00	76.14	312.37	7153.61	541.15	-630.88	831.15	4.50
7542.00	79.91	312.59	7163.36	572.20	-664.78	877.08	8.03
7588.00	85.37	313.24	7169.25	603.25	-698.18	922.64	11.95
7635.00	89.45	313.66	7171.38	635.53	-732.25	969.50	8.73
7681.00	91.05	316.13	7171.18	667.99	-764.84	1015.34	6.40
7774.00	90.68	314.59	7169.77	734.16	-830.17	1107.96	1.70
7864.00	90.00	310.89	7169.24	795.23	-896.26	1197.85	4.18
7956.00	90.18	308.89	7169.09	854.22	-966.85	1289.84	2.18
8049.00	90.12	309.34	7168.85	912.90	-1039.00	1382.83	0.49
8142.00	90.06	308.78	7168.71	971.50	-1111.22	1475.81	0.61
8231.00	90.79	307.94	7168.04	1026.73	-1181.00	1564.76	1.25
8324.00	91.17	310.27	7166.45	1085.38	-1253.15	1657.72	2.54
8417.00	91.23	312.48	7164.51	1146.83	-1322.92	1750.67	2.38
8510.00	90.86	310.88	7162.81	1208.66	-1392.36	1843.62	1.77
8602.00	91.29	308.46	7161.08	1267.37	-1463.16	1935.60	2.67
8695.00	91.29	308.85	7158.99	1325.45	-1535.77	2028.54	0.42
8788.00	91.17	308.80	7156.99	1383.74	-1608.20	2121.49	0.14
8880.00	90.99	308.60	7155.26	1441.25	-1679.99	2213.44	0.29
8973.00	90.86	307.94	7153.76	1498.85	-1753.00	2306.38	0.72
9066.00	91.05	306.97	7152.21	1555.40	-1826.81	2399.25	1.06
9158.00	90.86	308.49	7150.67	1611.68	-1899.56	2491.15	1.66
9251.00	90.86	309.69	7149.28	1670.32	-1971.74	2584.12	1.29
9344.00	90.62	310.23	7148.08	1730.04	-2043.01	2677.11	0.64
9437.00	90.99	310.44	7146.77	1790.23	-2113.90	2770.10	0.46
9529.00	91.05	310.53	7145.13	1849.95	-2183.86	2862.09	0.12
9622.00	91.29	310.04	7143.23	1910.07	-2254.79	2955.07	0.59
9712.00	90.86	311.32	7141.55	1968.73	-2323.03	3045.05	1.50
9805.00	90.79	311.82	7140.21	2030.43	-2392.60	3138.01	0.54
9894.00	90.55	311.82	7139.17	2089.77	-2458.92	3226.97	0.27
9984.00	90.86	311.16	7138.06	2149.39	-2526.33	3316.94	0.81
10076.00	90.49	310.22	7136.97	2209.36	-2596.08	3408.93	1.10
10169.00	90.55	309.60	7136.13	2269.03	-2667.42	3501.92	0.67
10262.00	90.35	309.70	7135.40	2328.37	-2739.02	3594.92	0.24
10355.00	90.35	310.59	7134.83	2388.33	-2810.11	3687.91	0.96
10447.00	90.31	310.17	7134.30	2447.93	-2880.19	3779.91	0.46
10540.00	90.49	311.95	7133.65	2509.01	-2950.31	3872.90	1.92
10633.00	90.68	311.52	7132.70	2570.92	-3019.70	3965.86	0.51
10726.00	90.25	309.37	7131.95	2631.24	-3090.47	4058.85	2.36
10818.00	90.12	308.41	7131.65	2689.00	-3162.08	4150.82	1.05
10911.00	90.06	308.50	7131.51	2746.84	-3234.91	4243.78	0.12
11004.00	90.62	309.35	7130.95	2805.27	-3307.26	4336.75	0.09
11096.00	90.68	309.56	7129.91	2863.73	-3378.29	4428.74	0.24
11189.00	90.68	309.62	7128.81	2922.99	-3449.95	4521.73	0.06

RECEIVED
Office of Oil and Gas
DEC 21 2018

Depth (ft)	Inc (deg)	Azm (deg)	TVD (ft)	Well Head		Vsect (ft)	Dogleg (deg/100ft)
				NS (ft)	EW (ft)		
11282.00	90.62	308.70	7127.75	2981.71	-3522.06	4614.70	0.99
11374.00	90.62	309.98	7126.76	3040.03	-3593.20	4706.69	1.39
11467.00	90.88	310.06	7125.54	3099.83	-3664.42	4799.68	0.29
11560.00	90.92	310.05	7124.08	3159.67	-3735.59	4892.67	0.04
11652.00	90.44	309.35	7122.99	3218.43	-3806.37	4984.65	0.92
11745.00	90.37	310.00	7122.33	3277.80	-3877.95	5077.65	0.70
11838.00	89.94	310.64	7122.08	3337.98	-3948.86	5170.65	0.83
11931.00	90.25	310.38	7121.92	3398.39	-4019.56	5263.64	0.44
12023.00	90.18	310.48	7121.58	3458.05	-4089.59	5355.64	0.13
12116.00	90.31	310.53	7121.18	3518.46	-4160.31	5448.64	0.15
12209.00	90.31	309.40	7120.68	3578.19	-4231.58	5541.64	1.22
12301.00	89.57	308.99	7120.77	3636.33	-4302.88	5633.62	0.92
12394.00	89.57	310.57	7121.47	3695.83	-4374.35	5726.61	1.70
12487.00	89.32	309.87	7122.37	3755.88	-4445.36	5819.61	0.80
12580.00	89.26	309.10	7123.52	3815.01	-4517.13	5912.59	0.83
12672.00	89.63	309.11	7124.42	3873.04	-4588.51	6004.57	0.40
12720.00	89.21	308.65	7124.90	3903.17	-4625.88	6052.56	1.30
Projected to Total Depth:							
12743.00	89.21	308.65	7125.22	3917.53	-4643.84	6075.55	0.00

- * MS Survey surveys from 100.00 ft MF to 600.00 ft MD *
- * Weatherford surveys from 779.00 ft MD to 12720.00 ft MD *
- * TD at 12743.00 ft MD *
- * The total correction is -8.16 deg relative to Grid North *

RECEIVED
Office of Oil and Gas

DEC 21 2018

WV Department of
Environmental Protection

WR-36
Rev. 5/08

Date: 12/20/2018
Operators Well Number: MARGARET SUE KELLEY UD-B WTZ 2H
API Well No: 47-103 - 03195

**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: BURKET Depth 7355' MD/7021' TVD feet
Perforation Interval 7496' - 12783' 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 19
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	

TEST RESULTS

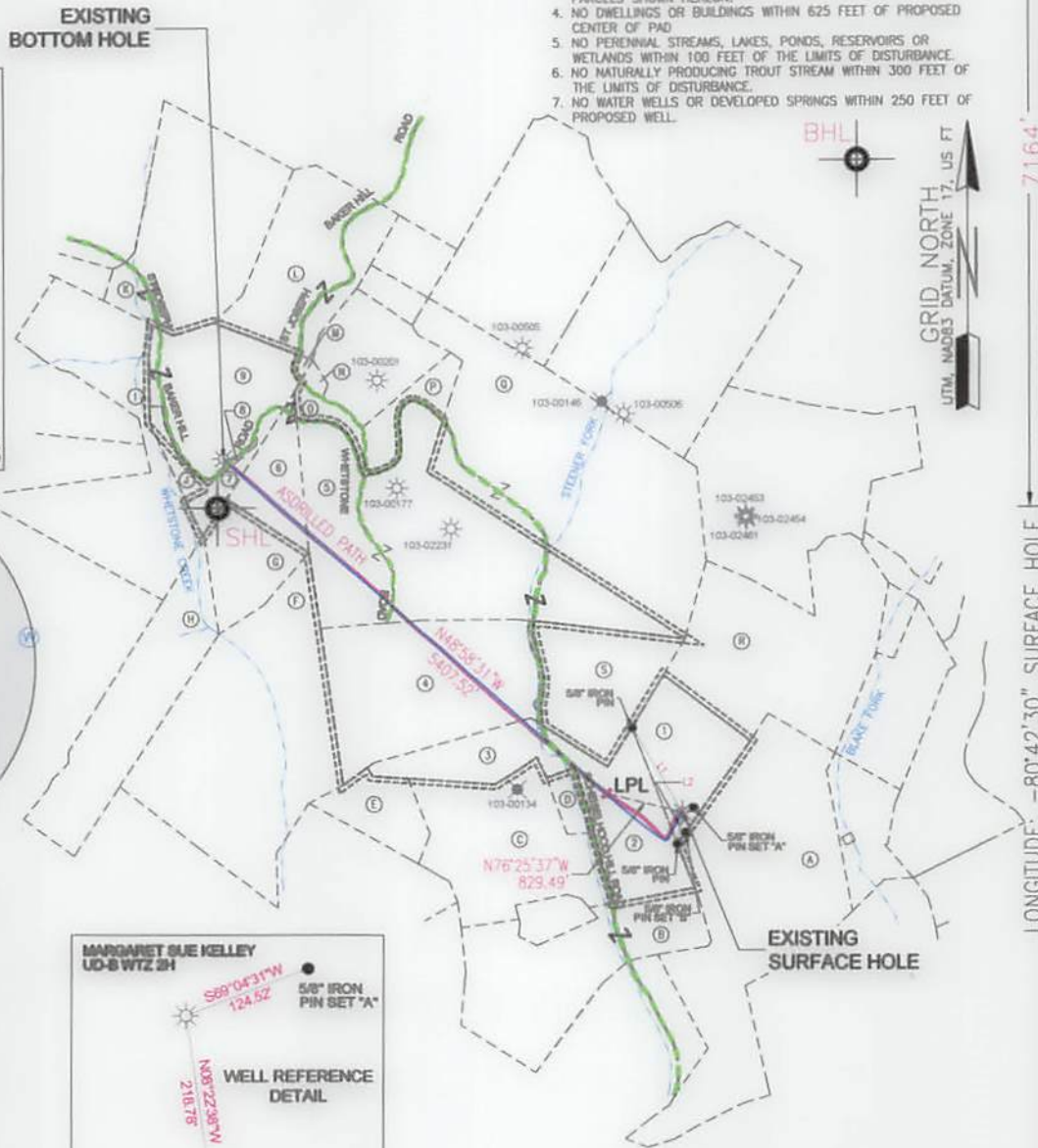
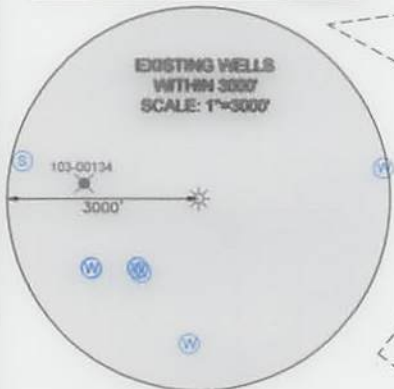
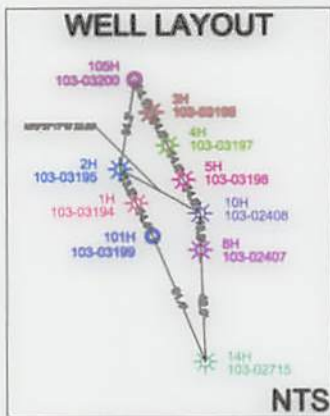
Daily Oil 240	Daily Water 386	Daily Gas 6085	Gas-Oil Ratio RECEIVED Office of Oil and Gas
-------------------------	---------------------------	--------------------------	--


 BY ELIZABETH GEE Well Operator
 ITS: DESIGNATED REPRESENTATIVE
DEC 21 2018
 WV Department of Environmental Protection

JHA SURVEYORS
ENGINEERS
ENVIRONMENTAL
GIS MAPPING
www.jhacompanies.com
68011 Vineyard Road
St. Clairsville, Ohio 43080
740-895-8100

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 SPRING WITHIN 300 FEET OF THE LIMITS OF DISTURBANCE.
7. NO WATER WELLS OR DEVELOPED SPRINGS WITHIN 250 FEET OF PROPOSED WELL.

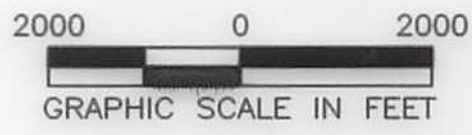


SURFACE HOLE LOCATION (SHL): UTM (NAD83, ZONE 17, METERS): NORTHING: 4393246.85 EASTING: 525885.28
LANDING POINT LOCATION (LPL): UTM (NAD83, ZONE 17, METERS): NORTHING: 4393255.70 EASTING: 525690.53
BOTTOM HOLE LOCATION (BHL): UTM (NAD83, ZONE 17, METERS): NORTHING: 4394358.78 EASTING: 524378.79



LINE	BEARING	DISTANCE
L1	S31°15'39"E	1040.80'
L2	N09°09'11"E	342.27'

SURFACE HOLE LOCATION (SHL): UTM (NAD83, ZONE 17, METERS): NORTHING: 4393246.89 EASTING: 525885.31
LANDING POINT LOCATION (LPL): UTM (NAD83, ZONE 17, METERS): NORTHING: 4393302.11 EASTING: 525638.60
BOTTOM HOLE LOCATION (BHL): UTM (NAD83, ZONE 17, METERS): NORTHING: 4394362.70 EASTING: 524377.68



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 *Howard D. Kemp* 12/6/18

COMPANY: **SWN** Production Company, LLC **SWN** Production Company™

(+) 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)	OPERATOR'S WELL #: MARGARET SUE KELLEY UD-B Wtz 2H API WELL #: 47 103 03195 STATE COUNTY PERMIT
---	--	--

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

WATERSHED: FISH CREEK
 DISTRICT: PROCTOR COUNTY: WETZEL
 SURFACE OWNER: MARGARET SUE KELLEY
 OIL & GAS ROYALTY OWNER: BLAKE REALTY, L.L.C.

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: BURKET SHALE ESTIMATED DEPTH: 7,031' TVD 12,895' TMD

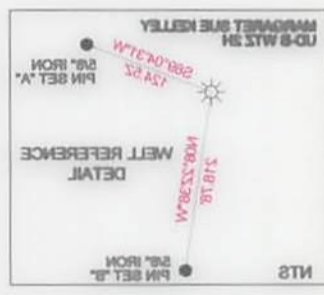
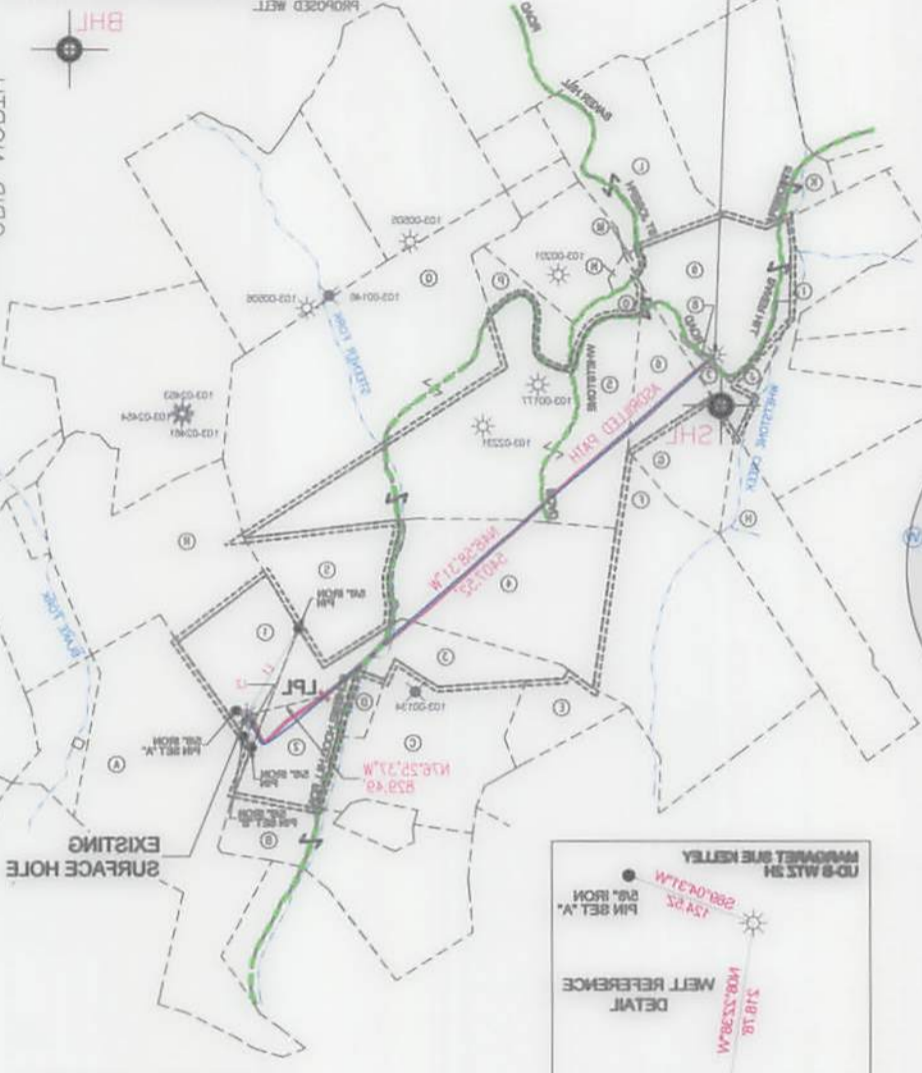
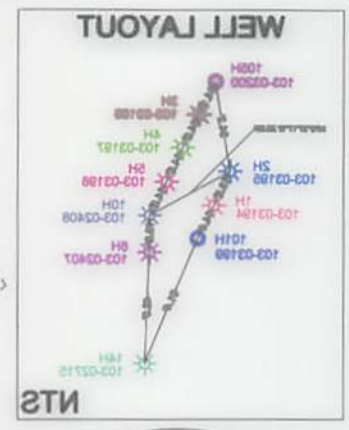
WELL OPERATOR: SWN PRODUCTION COMPANY, LLC ADDRESS: P.O. BOX 1300 CITY: JANE LEW STATE: WV ZIP CODE: 26378
 DESIGNATED AGENT: BRITTANY WOODY ADDRESS: P.O. BOX 1300 CITY: JANE LEW STATE: WV ZIP CODE: 26378

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

LATITUDE: 39.45.30" SURFACE HOLE

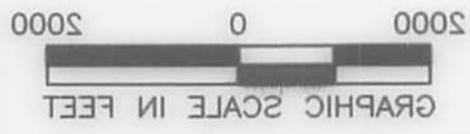
8880'

- NOTES ON SURVEY**
1. COORDINATE SYSTEM IS UTM AND 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 PARCELS PROVIDED BY CLIENT AND/OR FIELD LOCATIONS.
 3. THIS PLAN 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 PERMANENT STREAMS, LAKES, PONDS, RESERVOIRS OR WETLANDS WITHIN 100 FEET OF THE LIMITS OF DISTURBANCE.
 6. NO NATURALLY FORMING FLOODING FROM STREAM WITHIN 200 FEET OF THE LIMITS OF DISTURBANCE.
 7. NO WATER WELLS OR DEVELOPED SPRINGS WITHIN 250 FEET OF PROPOSED WELL.



LINE	BEARING	DISTANCE
L1	231°15'39"E	1040.60
L2	108°09'11"E	243.23

SURFACE HOLE LOCATION (B.H.)	
UTM (NAD83, ZONE 17, METERS):	4393248.82
NORTHING:	525882.28
LANDING POINT LOCATION (L.P.)	
UTM (NAD83, ZONE 17, METERS):	4393252.70
NORTHING:	525890.33
BOTTOM HOLE LOCATION (B.H.)	
UTM (NAD83, ZONE 17, METERS):	4394328.78
NORTHING:	524373.78
SURFACE HOLE LOCATION (B.H.)	
UTM (NAD83, ZONE 17, METERS):	4393248.89
NORTHING:	525882.21
LANDING POINT LOCATION (L.P.)	
UTM (NAD83, ZONE 17, METERS):	4393302.11
NORTHING:	525878.60
BOTTOM HOLE LOCATION (B.H.)	
UTM (NAD83, ZONE 17, METERS):	4394325.70
NORTHING:	524373.88



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.

Handwritten signature and date: 10/18/18

SWN Production Company, LLC
 COMPANY: SWN Production Company, LLC

MARGARET SUE KELLEY
 OPERATOR'S WELL # UD-B WTS 2H

103 03195
 STATE COUNTY PERMIT

47
 API WELL #

1300
 ACCURACY: DEGREE OF

PROVEN
 SOURCE OF GRADE GPS SURVEY

ELEVATION: (NAD 88, US FT)

WDEP
 OFFICE OF OIL & GAS
 601 27TH STREET
 CHARLESTON, WV 25034

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

WATERSHED: FISH CREEK

DISTRICT: PROCTOR

COUNTY: WETZEL

SURFACE OWNER: MARGARET SUE KELLEY

OIL & GAS ROYALTY OWNER: BLAKE REALTY, LLC

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: BURKET SHALE

WELL OPERATOR: SWN PRODUCTION COMPANY, LLC

DESIGNATED AGENT: BRITNAY WOODY

ADDRESS: P.O. BOX 1300

CITY: JANE LEW **STATE:** WA **ZIP CODE:** 28278

REVISIONS:

DATE: 12-08-2018

DRAWN BY: D. REED

SCALE: 1" = 2000'

DRAWING NO: 2018-823



WELL LOCATION PLAN

LEGEND:

- PROPOSED SURFACE HOLE \ BOTTOM HOLE
- EXISTING \ PRODUCING WELLS
- LANDING POINT LOCATION
- EXISTING WATER WELL
- EXISTING SPRING
- PROPOSED PATH
- ASBESTOS PATH
- LEASE BOUNDARY
- SURVEYED BOUNDARY



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	25.00
3	JOSEPH A. HOHMAN	12-9-24	21.00
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. HOHMAN, HUSBAND AND WIFE	12-8-9	35.60

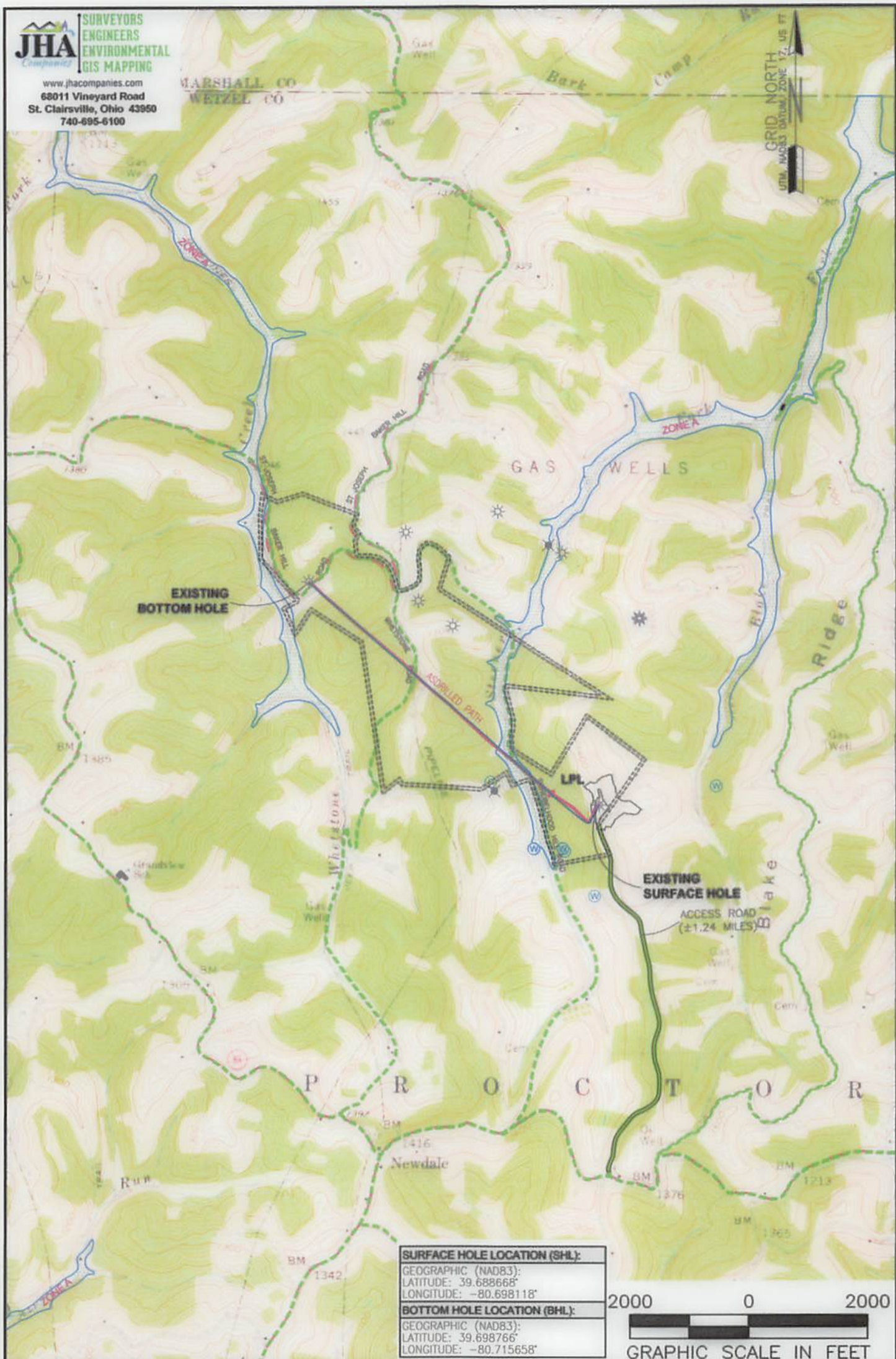
ADJOINING OWNERS TABLE			
TRACT	SURFACE OWNER	TAX PARCEL	ACRES
A	MARGARET SUE KELLEY	12-9-29	163.77
B	THOMAS J. KELLEY AND MARGARET SUE KELLEY, AS JOINT TENANTS WITH RIGHTS OF SURVIVORSHIP	12-9-34	52.00
C	THOMAS J. KELLEY AND MARGARET SUE KELLEY, AS JOINT TENANTS WITH RIGHTS OF SURVIVORSHIP	12-9-25	48.17
D	THOMAS J. KELLEY AND MARGARET SUE KELLEY, AS JOINT TENANTS WITH RIGHTS OF SURVIVORSHIP	12-9-26	5.00
E	JOSEPH A. HOHMAN	12-9-24.5	15.50
F	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
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, HIS WIFE	12-8-24.3	25.00
H	MATTHEW J. ROHR	12-8-24.2	48.65
I	JEREMY S. GODDARD AND ERIN P. GODDARD, HUSBAND AND WIFE	12-8-7	74.38
J	JEREMY S. GODDARD AND ERIN P. GODDARD, HUSBAND AND WIFE	12-8-8.1	5.40
K	ALBERT F. ESTEP, TRUSTEE OF THE ALBERT F. ESTEP IRREVOCABLE TRUST DATED MARCH 31, 2010	12-3-35	60.00
L	ALBERT F. ESTEP, TRUSTEE OF THE ALBERT F. ESTEP IRREVOCABLE TRUST DATED MARCH 31, 2010	12-3-36	49.38
M	JOHN BERNARD MILLER AND LORNA REBECCA MILLER, HIS WIFE	12-8-9.1	0.72
N	JOHN B. MILLER AND LORNA R. MILLER, HIS WIFE	12-8-11.2	1.33
O	STEVEN RAYMOND HOHMAN AND CATHERINE A. HOHMAN, HUSBAND AND WIFE	12-8-11.3	3.94
P	JOSEPH AND SUSANNA VILLERS (LIFE ESTATE) AND ROBERT FRANCIS VILLERS (REMAINDERMAN)	12-8-11.1	12.00
Q	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
R	MARGARET SUE KELLEY	12-9-17	74.38
S	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

REVISIONS:	COMPANY:	 	
	OPERATOR'S	MARGARET SUE KELLEY UD-B WTZ	
	WELL #:	2H	
	DISTRICT:	COUNTY:	STATE:
	PROCTOR	WETZEL	WV
		DATE:	12-06-2018
		DRAWN BY:	D. REED
		SCALE:	N/A
		DRAWING NO:	2016-622
		WELL LOCATION	PLAT

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	JOSEPH A. HOHMAN	12-9-24	21.00
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	12-8-9.2	2.00
9	STEVEN HOHMAN RAYMOND & CATHERINE A. HOHMAN, HUSBAND AND WIFE	12-8-9	22.60

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	12-9-24.2	12.20
F	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
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, HIS WIFE	12-8-24.3	22.00
H	MATTHEW J. ROHR	12-8-24.2	48.62
I	JEREMY S. GODDARD AND ERIN P. GODDARD, HUSBAND AND WIFE	12-8-7	24.38
J	JEREMY S. GODDARD AND ERIN P. GODDARD, HUSBAND AND WIFE	12-8-8.1	2.40
K	ALBERT F. ESTEP, TRUSTEE OF THE ALBERT F. ESTEP IRREVOCABLE TRUST DATED MARCH 31, 2010	12-3-32	60.00
L	ALBERT F. ESTEP, TRUSTEE OF THE ALBERT F. ESTEP IRREVOCABLE TRUST DATED MARCH 31, 2010	12-3-36	49.38
M	JOHN BERNARD MILLER AND LORNA REBECCA MILLER, HIS WIFE	12-8-9.1	0.22
N	JOHN B. MILLER AND LORNA R. MILLER, HIS WIFE	12-8-11.2	1.33
O	STEVEN RAYMOND HOHMAN AND CATHERINE A. HOHMAN, HUSBAND AND WIFE	12-8-11.3	2.94
P	JOSEPH AND SUSANNA VILLERS (LIFE ESTATE) AND ROBERT FRANCIS VILLERS (REMAINDERMAN)	12-8-11.1	12.00
Q	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	112.6
R	MARGARET SUE KELLEY	12-9-17	24.38
S	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	22.00

			
REVISIONS:	COMPANY:	MARGARET SUE KELLEY UD-B-WT2	
	OPERATOR'S:	SH	
	WELL #:	SH	
	DISTRICT:	STATE:	WV
	PROCTOR:	COUNTY:	WETZEL
		DATE:	12-08-2018
		DRAWN BY:	D. REED
		SCALE:	N/A
		DRAWING NO.:	2018-622
		WELL LOCATION PLAT	
		PROPERTY NUMBER:	2501166226
		PAD ID:	2001122241



SURFACE HOLE LOCATION (SHL):
GEOGRAPHIC (NAD83):
LATITUDE: 39.688668°
LONGITUDE: -80.698118°
BOTTOM HOLE LOCATION (BHL):
GEOGRAPHIC (NAD83):
LATITUDE: 39.698766°
LONGITUDE: -80.715658°



NOTES ON SURVEY

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

LEGEND:

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

WELL OPERATOR: SWN PRODUCTION COMPANY, LLC	WELL (FARM) NAME: MARGARET SUE KELLEY UD-B WTZ	WELL # 2H	SERIAL # XXXX
ADDRESS: P.O. BOX 1300 JANE LEW, WV 26378	COUNTY - CODE WETZEL - 103	DISTRICT: PROCTOR	
SURFACE OWNER: MARGARET SUE KELLEY	USGS 7 1/2 QUADRANGLE MAP NAME: WILEYVILLE, WV		

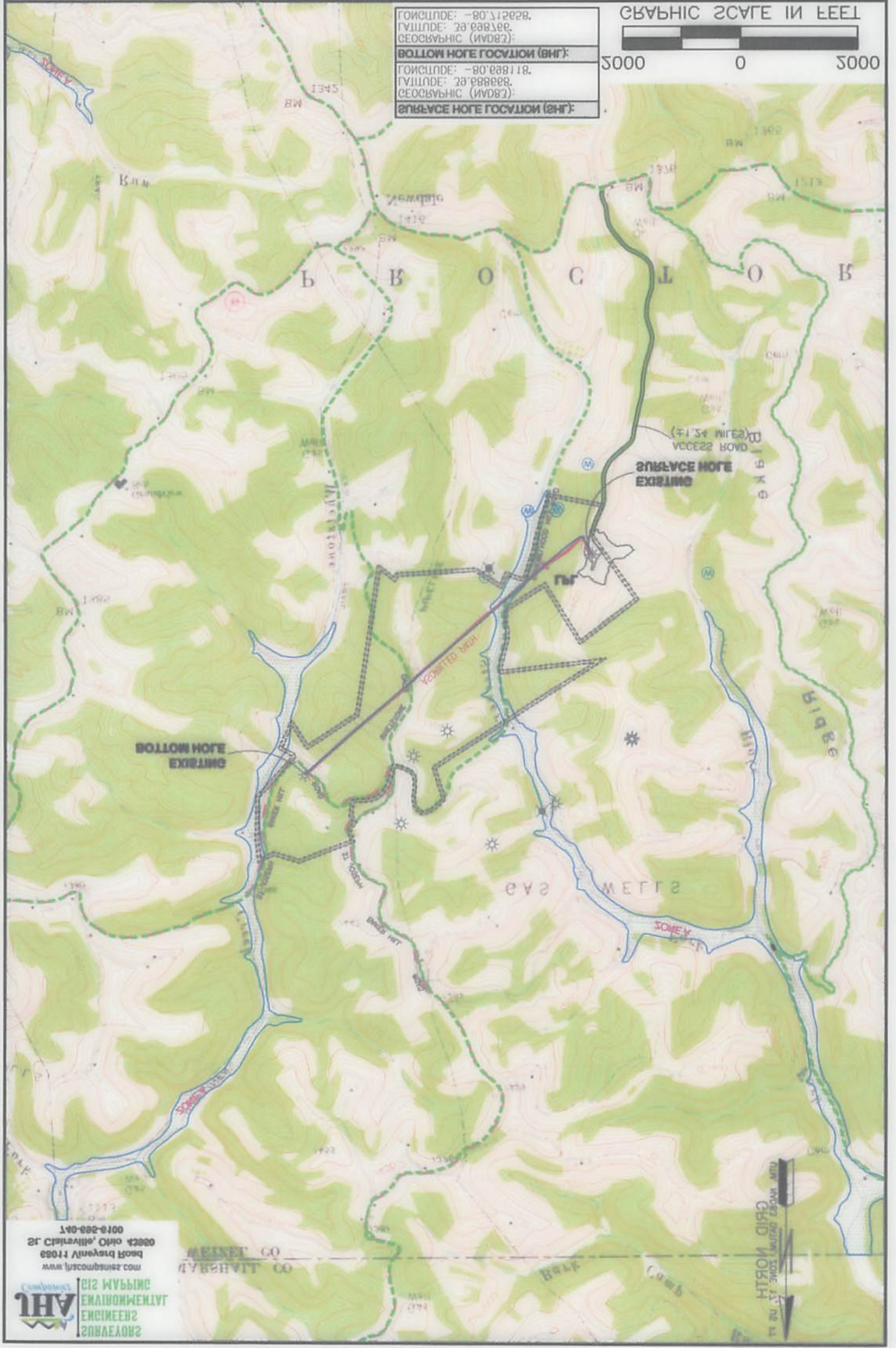
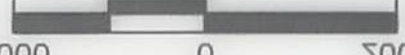
МЪСЪВЪИ ШЕ КЕТЕХ СЪВЪАСЕ ОМЪЕВЪ: Б'О BOX 1200 ЛМЕ ТЕМ' МА 20228 ADDRESS: 2MI БВОДНОСИОН СЪВЪИЪ ПТС МЕТ' БЪЕВЪЛОВЪ:	МЪТЪЛМЕ' МА У2С2 Δ 1\3 СЪВЪОБЪМЕ МЪВ' ИМЕ: МЕТ'ЕЛ - 103 СОПЪЛ - CODE БЪОСЛОБ ДЪЛЪВЪИ: ШХ XXXX 2E7MT
---	---

2 УТ ИДЕШЪ УМЕ СЪВМ НОШН ПЪТЪСЪ ОУНЕМЪСЪ ДЪСЪСЪДЪ
THE БЪСЕТЪЪЪЪ ШОМЪ НЪЕВЪИ
3 ДНО БЪЛ ДОЪЪ НОЪ НЪЕВЪЕМЪ А БОПЪИДЪА ШЪВЪЕЪ ОЪ
ПЪТЪ ГОСУДЪИЪ
ИДЪЛОЪ ПЪХ БЪСЕТ ПЪЪЪ БЪСЪДЪЕЪ ВЪ СЪЕМЪ ИДЪЛОЪ
БОПЪИДЪЕМЪ ШОМЪ НЪЕВЪИ МЪЕЪ БЪЛЛЕДЪ ЛЪОМ ДЕЕДЪ
1 ШЪВЪАСЕ ИДЪ БОМЪ ПЪА ОМЪИЪ ИНФОРМЪИОН ИДЪ ТЪЕР
НОТЕЪ ОИЪ ШЪВЪЕЪ

- | | |
|--------------------------------------|----------------------------|
| Б'ООО БЪИИ | У2ОБЪТЪДЪ БЪИИ |
| ГЪГ* ГИДЪИЪ БЪИИ ГОСУДЪИОН | БЪОБЪСЪДЪ БЪИИ |
| ЕХЪДЪИЪ \ БЪОДЪСЪИЪ МЪТЪЕЪДЪ | ПЪЕЪЕЪ БОПЪИДЪА |
| БЪОБЪСЪДЪ ШЪВЪАСЕ НОГЕ \ БОТЪОМ НОГЕ | У2СЪСЪЕЪ БОДЪ ОЪ БЪЕЪА ШЪЕ |
| ГЪСЪИМЪ: | БЪЕВЪИЪ БОДЪ |
| | У2СЪСЪЕЪ БОДЪ |

БОТЪОМ НОГЕ ГОСУДЪИОН (БНГ):
 ГОИШПЪДЪ: -80.212028,
 ГЪШПЪДЪ: 28.883288,
 СЪОСЪЪЪНЪСЪ (ИДЪБЪЪЪ):
У2ШЪВЪАСЕ НОГЕ ГОСУДЪИОН (ШНГ):
 ГОИШПЪДЪ: -80.881118,
 ГЪШПЪДЪ: 28.888888,
 СЪОСЪЪЪНЪСЪ (ИДЪБЪЪЪ):

СЪЪЪВЪИЪ СЪЪЪЕ ИИЪ ЕЕЕТЪ



140-882-0400
26 СЪИЛЪВЪИИ ОИЪ 42800
booft brpres@atl1068
www.lvscombbusiness.com

IAH CORPORATION
SIS MAPPING
ENVIRONMENTAL
ENGINEERS
SURVEYORS

MEISEL CO
LUBENAIT CO

USE NAD83 BOUNDARY TOWNSHIP 28 N
GRID NORTH