

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

API 47 - 009 - 00191 County BROOKE District BUFFALO
Quad BETHANY Pad Name ALAN H. DEGARMO BRK PAD Field/Pool Name PANHANDLE FIELD WET
Farm name ALAN H. DEGARMO & MARY DEGARMO Well Number ALAN H. DEGARMO BRK 205H
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 4,455,197.663 Easting 536,399.034
Landing Point of Curve Northing 4,455,441.004 Easting 536,746.122
Bottom Hole Northing 4,458,002.006 Easting 535,545.388


Elevation (ft) 1204 GL Type of Well New Existing Type of Report Interim Final
Permit Type Deviated Horizontal Horizontal 6A Vertical Depth Type Deep Shallow
Type of Operation Convert Deepen Drill Plug Back Redrilling Rework Stimulate
Well Type Brine Disposal CBM Gas Oil Secondary Recovery Solution Mining Storage Other _____
Type of Completion Single Multiple Fluids Produced Brine Gas NGL Oil Other _____
Drilled with Cable Rotary
Drilling Media Surface hole Air Mud Fresh Water Intermediate hole Air Mud Fresh Water Brine
Production hole Air Mud Fresh Water Brine
Mud Type(s) and Additive(s)
SOBM

Date permit issued 5/31/2017 Date drilling commenced 10/03/2017 Date drilling ceased 11/15/2017
Date completion activities began 12/28/2017 Date completion activities ceased 03/04/2018
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 212 Open mine(s) (Y/N) depths N
Salt water depth(s) ft 428 Void(s) encountered (Y/N) depths N
Coal depth(s) ft 271 Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

Reviewed by:  6-11-18

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API 47-009 - 00191 Farm name ALAN H. DEGARMO & MARY DEGARMO Well number ALAN H. DEGARMO BRK 205H

CASING STRINGS	Hole Size	Casing Size	Depth	New or Used	Grade w/ft	Basket Depth(s)	Did cement circulate (Y/N) * Provide details below*
Conductor	26	20	126	NEW	J-55/94#		Y
Surface	17.5	13.375	365	NEW	J-55/54.50#	198.49'/160.03'	Y
Coal	SEE SURFACE						
Intermediate 1	12.25	9.625	1697	NEW	J-55/36#		Y
Intermediate 2							
Intermediate 3							
Production	8.75/8.50	5.5	15675	NEW	HCP-110/20#		Y
Tubing		2.375	6469	NEW	P-110/4.7#		N
Packer type and depth set							

Comment Details Packer Top - 253.72', Bottom - 236.77'

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	486	15.60	1.19	578.34	SURFACE	8
Coal	SEE SURFACE						
Intermediate 1	CLASS A	635	15.60	1.20	762	SURFACE	8
Intermediate 2							
Intermediate 3							
Production	CLASS A	2938	15.60	1.19	3496.22	SURFACE	24
Tubing							

Drillers TD (ft) 15675 Loggers TD (ft) 15675
 Deepest formation penetrated MARCELLUS Plug back to (ft) N/A
 Plug back procedure N/A

Kick off depth (ft) 5230

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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PRODUCING FORMATION(S)	DEPTHS	
<u>MARCELLUS</u>	<u>5893</u> TVD	<u>6428</u> MD
_____	_____	_____
_____	_____	_____

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump

SHUT-IN PRESSURE Surface 1114 psi Bottom Hole _____ psi DURATION OF TEST _____ hrs

OPEN FLOW Gas 3,416 mcfpd Oil 569 bpd NGL _____ bpd Water 509 bpd GAS MEASURED BY Estimated Orifice Pilot

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

Please insert additional pages as applicable.

Drilling Contractor SWN DRILLING COMPANY
Address PO BOX 12359 City SPRING State TX Zip 77391-2359

Logging Company WEATHERFORD
Address 2000 ST. JAMES PLACE City HOUSTON State TX Zip 77056

Cementing Company SCHLUMBERGER WELL SERVICES
Address 1080 US HWY 33 EAST City WESTON State WV Zip 26452

Stimulating Company HALLIBURTON ENERGY SERVICES
Address 5416 ELK RIVER ROAD City BLUE CREEK State WV Zip 25026

Please insert additional pages as applicable.

Completed by BOBBY WILLIS Telephone 832-796-2884
Signature [Signature] Title REGULATORY ANALYST Date 05/09/18

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

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Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	12/30/2017
Job End Date:	2/13/2018
State:	West Virginia
County:	Brooke
API Number:	47-009-00191-00-00
Operator Name:	Southwestern Energy
Well Name and Number:	Alan H DeGarmo BRK 205H
Latitude:	40.24643600
Longitude:	-80.57203900
Datum:	NAD27
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	5,879
Total Base Water Volume (gal):	20,140,859
Total Base Non Water Volume:	0



Hydraulic Fracturing Fluid Composition:

Trade Name	Supplier	Purpose	Ingredients	Chemical Abstract Service Number (CAS #)	Maximum Ingredient Concentration in Additive (% by mass)**	Maximum Ingredient Concentration in HF Fluid (% by mass)**	Comments
Fresh Water	Operator	Base Fluid					
			Water	7732-18-5	100.00000	83.26854	Density = 8.330
Ingredients	Listed Above	Listed Above					
			Water	7732-18-5	100.00000	1.07492	

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HYDROCHLORIC ACID	Halliburton	Solvent					
				Listed Below			
SAND-PREMIUM WHITE-40/70, BULK	Halliburton	Proppant					
				Listed Below			
CALCIUM CHLORIDE - HI-TEST PELLETS	Halliburton	Accelerator					
				Listed Below			
HAI-150E	Halliburton	Corrosion Inhibitor					
				Listed Below			
SCAL16486A	NALCO	Scale Inhibitor					
				Listed Below			
FR-76	Halliburton	Friction Reducer					
				Listed Below			
BIOC11219A	NALCO	Biocide					
				Listed Below			
SAND-COMMON WHITE-100 MESH, SSA-2, BULK (100003676)	Halliburton	Proppant					

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				Listed Below			
FDP-S1176-15	Halliburton	Friction Reducer					
				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	15.59113	
			Hydrochloric acid	7647-01-0	15.00000	0.15326	
			Hydrotreated light petroleum distillate	64742-47-8	30.00000	0.02659	
			Inorganic salt	Proprietary	30.00000	0.01501	
			Acrylamide acrylate copolymer	Proprietary	30.00000	0.01501	Denise Tuck, Halliburton, 3000 N. Sam Houston Pkwy E., Houston, TX 77032, 281-871-6226
			Methanol	67-56-1	60.00000	0.01367	
			Polyacrylate	Proprietary	30.00000	0.01159	
			Benzyl-Dimethyl-Ammonium Chloride	68424-85-1	30.00000	0.00684	
			Glutaraldehyde	111-30-8	10.00000	0.00228	
			Sodium chloride	7647-14-5	5.00000	0.00201	
			Sorbitan, mono-9-octadecenoate, (Z)	1338-43-8	5.00000	0.00193	
			Castor oil, ethoxylated	61791-12-6	5.00000	0.00193	
			Ammonium chloride	12125-02-9	5.00000	0.00193	
			9-Octadecenamide, n,n-bis-2(hydroxy-ethyl)-,(Z)	93-83-4	5.00000	0.00193	
			Amine Triphosphate	Proprietary	30.00000	0.00157	
			Ethylene Glycol	107-21-1	30.00000	0.00157	
			Calcium chloride	10043-52-4	96.00000	0.00155	
			Non-hazardous food substance	Proprietary	100.00000	0.00031	
			Strontium chloride	10476-85-4	5.00000	0.00008	
			Potassium chloride	7447-40-7	5.00000	0.00008	

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* Total Water Volume sources may include various types of water including fresh water, produced water, and recycled water
** Information is based on the maximum potential for concentration and thus the total may be over 100%
*** If you are calculating a percentage of total ingredients do not add the water volume below the green line to the water volume above the green line

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

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Well Name:

Alan H Degarmo BRK 205H

47009001910000

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	212.00	212.00	
Top of Salt Water	428.00	428.00	NA	NA	
Pittsburgh Coal	271.00	271.00	NA	NA	
Pottsville (ss)	420.00	420.00	499.00	499.00	
Mauch Chunk (shale)	501.00	501.00	1279.00	1279.00	
Raven Cliff (ss)	755.00	755.00	951.00	951.00	
Maxton (ss)	1144.00	1144.00	1205.00	1205.00	
Greenbriar (ls)	1279.00	1279.00	1458.00	1458.00	
Big Injun (ss)	1458.00	1458.00	1601.00	1601.00	
Berea (siltstone)	1948.00	1948.00	1999.00	1999.00	
Rhinstreet (shale)	5581.00	5354.00	5864.00	5593.00	
Cashaqua (shale)	5864.00	5593.00	5926.00	5641.00	
Middlesex (shale)	5926.00	5641.00	6020.00	5706.00	
Burket (shale)	6020.00	5706.00	6043.00	5721.00	
Tully (ls)	6043.00	5721.00	6143.00	5779.00	
Mahantango (shale)	6143.00	5779.00	6428.00	5893.00	
Marcellus (shale)	6428.00	5893.00	NA	NA	GAS

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**ALAN H DEGARMO BRK 205H
ATTACHMENT 1
PERF REPORT**

STAGE NUM	Perf Date	Perf Top MD	Perf Bottom MD	# SHOTS PER STG
1	12/29/2017	15,459	15,568	42
2	12/30/2017	15,319	15,428	42
3	12/31/2017	15,039	15,148	42
4	12/31/2017	15,179	15,288	42
5	1/1/2018	14,899	15,008	42
6	1/1/2018	14,759	14,868	42
7	1/11/2018	14,619	14,728	42
8	1/12/2018	14,479	14,588	42
9	1/13/2018	14,339	14,448	42
10	1/14/2018	14,199	14,308	42
11	1/14/2018	14,059	14,168	42
12	1/15/2018	13,919	14,028	42
13	1/15/2018	13,779	13,886	42
14	1/16/2018	13,639	13,748	42
15	1/17/2018	13,499	13,608	42
16	1/17/2018	13,359	13,468	42
17	1/17/2018	13,219	13,328	42
18	1/17/2018	13,079	13,188	42
19	1/18/2018	12,939	13,048	42
20	1/18/2018	12,799	12,908	42
21	1/18/2018	12,659	12,768	42
22	1/18/2018	12,519	12,628	42
23	1/19/2018	12,379	12,488	42
24	1/19/2018	12,239	12,348	42
25	1/19/2019	12,099	12,208	42
26	1/20/2018	11,959	12,068	42
27	1/20/2018	11,819	11,926	42
28	1/20/2018	11,679	11,788	42
29	1/21/2018	11,539	11,648	42
30	1/21/2018	11,399	11,508	42
31	1/22/2018	11,259	11,368	43
32	1/23/2018	11,119	11,228	41
33	1/30/2018	10,979	11,086	42
34	1/25/2018	10,839	10,946	42
35	1/25/2018	10,699	10,808	42
36	1/27/2018	10,559	10,668	42
37	1/27/2018	10,419	10,526	42
38	1/28/2018	10,279	10,388	42
39	1/28/2018	10,139	10,248	42
40	1/29/2018	9,999	10,108	42
41	1/29/2018	9,859	9,968	42
42	1/30/2018	9,719	9,828	42
43	1/31/2018	9,579	9,686	42

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ATTACHMENT 1
PERF REPORT**

STAGE NUM	Perf Date	Perf Top MD	Perf Bottom MD	# SHOTS PER STG
44	1/31/2018	9,439	9,548	42
45	2/2/2018	9,299	9,408	42
46	2/2/2018	9,159	9,268	42
47	2/3/2018	9,019	9,126	42
48	2/3/2018	8,879	8,988	42
49	2/4/2018	8,739	8,848	42
50	2/4/2018	8,599	8,708	42
51	2/5/2018	8,459	8,568	42
52	2/5/2018	8,316	8,428	42
53	2/6/2018	8,179	8,288	42
54	2/6/2018	8,039	8,148	42
55	2/7/2018	7,899	8,008	42
56	2/9/2018	7,759	7,868	42
57	2/9/2018	7,619	7,728	42
58	2/9/2018	7,479	7,588	42
59	2/10/2018	7,339	7,448	42
60	2/10/2018	7,199	7,308	42
61	2/10/2018	7,059	7,166	42
62	2/11/2018	6,919	7,026	42
63	2/11/2018	6,779	6,888	42
64	2/12/2018	6,639	6,748	42
65	2/13/2018	6,499	6,608	42

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ALAN H DEGARMO BRK 205H

ATTACHMENT 2

STIM REPORT

STAGE NUM	Stim Date	Ave Pump Rate (BPM)	Ave Treatment	Max Breakdown	ISIP (PSI)	Amount of Proppant (lbs)	Amount of water bbls	Amount of nitrogen/othe
1	12/30/2017	84	8,324	8,787	3,953	529,100	9,755	
2	12/31/2017	91	8,115	8,513	4,449	500,800	8,117	
3	12/31/2017	71	8,250	9,391	6,780	513,260	10,683	
4	1/1/2018	84	8,462	9,215	3,473	473,920	8,515	
5	1/1/2018	88	8,085	8,434	4,620	497,760	8,136	
6	1/11/2018	87	8,185	8,736	4,642	489,420	7,581	
7	1/11/2018	90	7,744	8,605	4,306	505,840	8,434	
8	1/13/2018	92	8,162	9,300	4,584	493,040	8,212	
9	1/14/2018	95	9,168	8,493	4,340	509,040	7,992	
10	1/14/2018	98	8,350	8,818	3,885	515,340	8,147	
11	1/14/2018	94	7,878	8,373	4,353	471,400	9,710	
12	1/15/2018	98	8,153	8,783	3,930	508,320	7,845	
13	1/16/2018	93	8,239	9,159	3,947	489,540	7,749	
14	1/17/2018	95	7,781	8,284	4,368	509,000	7,954	
15	1/17/2018	94	7,838	8,203	3,886	496,360	7,565	
16	1/17/2018	92	8,083	8,788	4,354	505,000	7,423	
17	1/17/2018	95	7,793	8,732	4,248	451,080	7,130	
18	1/18/2018	76	8,115	9,507	3,759	497,760	10,626	
19	1/18/2018	81	8,109	9,110	3,640	513,280	10,425	
20	1/18/2018	90	7,487	8,728	4,242	476,620	7,760	
21	1/18/2018	98	7,816	8,434	4,340	505,240	7,881	
22	1/19/2018	99	7,782	8,242	4,193	506,600	7,592	
23	1/19/2018	27	8,083	9,138	6,817	9,580	2,849	
24	1/19/2018	98	7,583	8,056	4,238	508,360	6,786	
25	1/20/2018	96	7,634	8,165	4,195	499,360	7,714	
26	1/20/2018	91	7,504	8,158	4,563	503,700	7,223	
27	1/20/2018	91	7,674	9,145	4,301	505,140	8,495	
28	1/21/2018	99	7,748	8,321	4,344	518,220	6,491	
29	1/21/2018	89	7,177	9,046	5,110	474,610	6,613	
30	1/22/2018	87	7,854	9,476	4,653	337,810	8,394	
31	1/22/2018	28	6,315	9,489	4,514	4,200	2,431	
32	1/23/2018	94	7,104	7,660	4,313	517,580	7,795	
33	1/25/2018	97	7,280	7,580	4,459	504,220	7,466	
34	1/25/2018	95	7,372	8,522	4,536	512,200	7,321	
35	1/27/2018	99	7,786	8,403	4,677	493,700	8,202	
36	1/27/2018	99	7,326	7,830	4,384	504,120	7,384	
37	1/28/2018	99	7,779	7,373	4,350	492,860	6,867	
38	1/28/2018	98	7,399	8,174	4,380	491,940	7,247	
39	1/29/2018	100	7,646	9,032	4,524	497,820	7,509	
40	1/29/2018	99	7,671	8,732	4,358	492,140	6,745	
41	1/30/2018	99	8,491	8,927	4,352	495,660	7,528	
42	1/31/2018	95	7,946	9,038	4,313	511,140	7,706	
43	1/31/2018	96	7,541	8,901	4,433	504,794	7,536	
44	2/1/2018	97	7,423	8,190	4,191	495,640	6,960	
45	2/2/2018	99	7,364	8,453	4,516	501,420	7,401	
46	2/2/2018	98	7,782	8,630	4,343	501,340	6,879	
47	2/3/2018	73	6,605	8,515	4,153	500,900	8,197	
48	2/3/2018	100	7,369	8,083	4,011	511,020	7,076	
49	2/4/2018	97	7,338	8,277	4,510	502,320	8,483	
50	2/5/2018	98	7,173	8,686	4,100	468,480	6,762	
51	2/5/2018	100	7,233	7,601	4,590	498,100	7,169	
52	2/6/2018	99	7,190	7,771	4,410	503,020	6,861	
53	2/6/2018	99	6,968	7,765	3,919	498,840	7,110	

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 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
54	2/7/2018	96	6,556	7,696	4,081	507,260	7,183	
55	2/8/2018	96	7,069	8,360	4,131	495,940	7,304	
56	2/9/2018	100	6,587	7,222	4,441	498,890	7,081	
57	2/9/2018	100	7,168	8,210	4,434	506,420	7,081	
58	2/10/2018	97	7,039	9,066	4,436	507,040	7,392	
59	2/10/2018	100	6,971	7,436	4,509	498,040	6,940	
60	2/10/2018	98	6,934	8,036	4,592	509,420	6,483	
61	2/11/2018	99	6,961	8,821	4,501	507,380	6,211	
62	2/11/2018	97	6,841	7,951	4,303	498,660	6,167	
63	2/12/2018	98	6,758	8,750	4,042	498,100	5,763	
64	2/12/2018	99	6,744	7,951	4,377	503,860	5,753	
65	2/13/2018	98	6,450	7,718	3,634	502,960	5,245	

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CIVIL & ENVIRONMENTAL CONSULTANTS, INC.
 600 MARKETPLACE AVENUE, SUITE 200
 BRIDGEPORT, WV 26330
 304-933-3119

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WELL BORE TABLE FOR SURFACE / ROYALTY OWNERS			
TRACT	SURFACE OWNER (S) / ROYALTY OWNER (R)	TAX PARCEL	ACRES
	ALAN H. DEGARMO & MARY KAY DEGARMO, LIFE ESTATE	3-B33-20	140.97
TRACT	SURFACE OWNER	TAX PARCEL	ACRES
1	WELLS-GIST LAND, CO., L.L.C.	3-B33-23	22.60
2	ALEXANDER & DONNA DIGHT	3-B28-21	0.74
3	LANA LOU GILKEY	3-B28-19	8.83
4	LARRY & JOAN NICHOLSON	3-B28E-16	1.13
5	MARY E. CROSS	3-B28E-18	1.0
6	KIMBERLY ANN RAGER	3-B28E-25	1.0
7	DONALD & VICKIE CONGELIO	3-B28E-13	0.50
8	THOMAS J. MARTINKA	3-B28E-07	0.50
9	KENNETH & ALLISON LEONARD	3-B28E-08	1.0
10	MICHAEL & SHERYL KOSCEVIC	3-B28A-17	2.90
11	SAMANTHA BAKER	3-B28A-02	11.40
12	WEST VIRGINIA DEPARTMENT OF TRANSPORTATION, DIVISION OF HIGHWAYS	GENTEEL RIDGE ROAD	1.68

ADJOINING OWNERS TABLE			
TRACT	SURFACE OWNER	TAX PARCEL	ACRES
A	JOANN MYERS LIFE ESTATE & JAMES W. MYERS REMAINDER	3-B33-19	2.40
B	THOMAS M. & DEBORAH J. OLDAKER	3-B33-1	2.39
C	VERMURI HOME & GARDEN LLC.	3-B27-20	0.459
D	DAVID E. & DEBORAH CRAWFORD	3-B27-19	1.60
E	DAVID E. & DEBORAH CRAWFORD	3-B27H-50	5.69
F	JAMES & KRISTIE FLOYD	3-B27H-49	5.03
G	MARY B. WILSON NORTHCRAFT	3-B27H-48	11.06
H	MIRINDA SILVER MILLER & JOYCE IRENE SAWYER	3-B28E-3	191.0
I	JOEL LYNN ROGERS, SR.	3-B28E-4	1.0
J	JOEL LYNN ROGERS, SR.	3-B28E-14	1.02
K	CHAD E. ROGERS	3-B28E-15	1.0
L	RUSSELL D. HARVEY	3-B28E-5	1.0
M	GEORGE & DEBORAH STRAKA	3-B28E-2	5.7
N	KENNETH & SHEILA MOWDER	3-B28A-1	9.56
O	KENNETH & SHEILA MOWDER	4-CC27-137	1.49
P	ROBERT & MICHELLE FONNER	4-CC28-1	12.06
Q	HELEN E. MARTINDILL	3-B28A-3	1.90
R	JP MORGAN CHASE BANK (FORECLOSURE)	3-B28A-14	4.93
S	LINDA & AARON MOZINGO	3-B28A-15	1.438
T	LINDA & AARON MOZINGO	3-B28A-16	1.5
U	LARRY N. RICHARDS	3-B28A-20	1.31
V	JACKIE R. JR. & GLENDA S. COLLEY	3-B28A-19	0.873
W	JACKIE R. JR. & GLENDA S. COLLEY	3-B28A-18	0.503
X	GARY F. & JANET C. SEAVOLT	3-B28E-10	1.0
Y	JODY E. COWAN	3-B28E-9	1.0
Z	FRANK R. & SUSAN J. CANISTRARO	3-B28E-24	1.0
AA	FRANK R. & SUSAN J. CANISTRARO	3-B28E-19	1.0
BB	WAYNE A. & JOYCE A. ABERCROMBE	3-B28E-20	2.0
CC	ROBERT ALLEN & SHARON SWAIN	3-B28E-21	1.0
DD	ROBERT ALLEN & SHARON SWAIN	3-B28E-22	1.58
EE	KENNETH E. WILLIAMS	3-B28A-27	0.69
FF	HERMAN ALLEN & ANITA WILLIAMS	3-B28E-26	0.66
GG	CARL RICHARD SMITH	3-B28E-27	0.55
HH	CARL RICHARD SMITH	3-B28E-28	0.50
II	CALVIN D. & LYNETTE STANLEY	3-B28-1	0.85
JJ	CALVIN D. & LYNETTE STANLEY	3-B28-2	1.15
KK	CALVIN D. & LYNETTE STANLEY	3-B28-3	3.89
LL	RIKKI LEE & BRENDA SUE LONG	3-B28-4	0.50
MM	AMBER L. SUTAK	3-B28-5	0.50
NN	ROBIN ROBERT & SHARI L. REED	3-B28-6	0.50
OO	RICHARD C. SMITH	3-B28-7	0.50
PP	ROBERT C. STANLEY	3-B28-38.01	2.203

07/20/2018

REVISIONS:	COMPANY:		
	OPERATOR'S	ALAN H. DEGARMO BRK	DATE: 04-18-2018
	WELL #:	205H	DRAWN BY: K.E.S.
	DISTRICT:	BUFFALO	SCALE: N/A
	COUNTY:	BROOKE	DRAWING NO: 164-764
	STATE:	WV	WELL LOCATION PLAT 2



CIVIL & ENVIRONMENTAL CONSULTANTS, INC.
 600 MARKETPLACE AVENUE, SUITE 200
 BRIDGEPORT, WV 26330
 304-933-3119

ADJOINING OWNERS TABLE			
TRACT	SURFACE OWNER	TAX PARCEL	ACRES
QQ	REBECCA L. HALL	3-B28-36	1.0
RR	CHAD GRAHAM & TIFFANY PEARSON	3-B28-10	0.50
SS	THOMAS A. & MERCIDITA R. BLOXHAM	3-B28-11	0.50
TT	ROBERT & PAULA WHITE	3-B28-12	0.86
UU	GARY & ALLISON CAVALLO	3-B28-13	1.0
VV	GARY & ALLISON CAVALLO	3-B28-14	1.0
WW	GARY & ALLISON CAVALLO	3-B28-15	1.01
XX	WILLIAM M. & BONNIE L. WEAVER	3-B28-16	1.02
YY	RONALD W. OSTROSKY	3-B28-17	1.02
ZZ	GERALD D. & LEILA BRADY	3-B28-18	1.03
AAA	PARTICIA GRAHAM & PAULA BARANOWSKI	3-B28-28	2.24
BBB	FRED H. & KELLI J. WENZEL	3-B28-27	2.4
CCC	CHARLES L. & MADELINE MCGOWAN	3-B28-26	1.0
DDD	WELLS-GIST LAND CO., L.L.C.	3-B33-35	34.25
EEE	TRUSTEES OF THE STONE CHAPEL CHURCH	3-B33-36	0.3
FFF	JON T. & MARLENA L. SMITH	3-B33-37	2.0
GGG	LEONA LAROCHE, LAWRENCE MCLAUGHLIN & FLOYD HENNIS	3-B33-38	2.18
HHH	LEONA LAROCHE, LAWRENCE MCLAUGHLIN & FLOYD HENNIS	3-B33-39	1.1
III	CHARLES S. JR & ETHEL F. RUSSELL	3-B33-42	1.0
JJJ	LISA MERIGO	3-B33-44	1.0
KKK	NICHOLAS J. & AMY L. CROSS	3-B33-45	3.52
LLL	WELLS-GIST LAND CO., L.L.C.	3-B33-46	0.71
MMM	WELLS-GIST LAND CO., L.L.C.	3-B33-47	0.71
NNN	GROVER HAUGHT LIFE ESTATE & LAWRENCE MCLAUGHLIN SR. REMAINDER	3-B33-48	1.0
OOO	CARL E. DEGARMO JR.	3-B33-49	6.26
PPP	MELVIN PELUCHETTE	3-B33-52	4.32
QQQ	PATRICK DEGARMO	3-B33-20.2	1.53
RRR	KAYTHRYN DEGARMO	3-B33-20.1	2.50
SSS	WELLS-GIST LAND CO., L.L.C.	3-B33-24	26.41
TTT	MARY ANN CHARLTON & DAVID M. EDWARDS	3-B33-21	1.53
UUU	ALEXANDER & DONNA DIGHT	3-B28-22	0.67
VVV	ALEXANDER & DONNA DIGHT	3-B28-23	0.66
WWW	RYAN & CAROLYN BOOK	3-B28-25	1.60
XXX	ROBERT & TAMMY HOLMES	3-B28-24	0.50
YYY	JOHN & LUANNE SNYDER	3-B28-09	4.04
ZZZ	JOHN & LUANNE SNYDER	3-B28-08	4.38
AAAA	NANCY BARTLETT	3-B28E-17	6.13
BBBB	THOMAS J. MARTINKA	3-B28E-06	1.0

AS-DRILLED

07/20/2018

REVISIONS:	COMPANY:			
	OPERATOR'S		ALAN H. DEGARMO BRK	DATE: 04-18-2018
	WELL #:		205H	DRAWN BY: K.E.S.
	DISTRICT:	COUNTY:	STATE:	SCALE: N/A
	BUFFALO	BROOKE	WV	DRAWING NO: 164-764
				WELL LOCATION PLAT 3

Longitude: 80°32'30"

SURFACE HOLE 8493'

Longitude: 80°32'30"

BOTTOM HOLE 11239'

BOTTOM HOLE 7262'

Latitude: 40°15'00"

Latitude: 40°17'30"



CIVIL & ENVIRONMENTAL CONSULTANTS, INC.
600 MARKETPLACE AVENUE, SUITE 200
BRIDGEPORT, WV 26330
304-933-3119

SURFACE HOLE LOCATION (SHL):

UTM (NAD83, ZONE 17, METERS):
NORTHING: 4,455,197.663
EASTING: 536,399.034
LANDING POINT (LPL):

UTM (NAD83, ZONE 17, METERS):
NORTHING: 4,455,441.004
EASTING: 535,746.122

BOTTOM HOLE LOCATION (BHL):

UTM (NAD83, ZONE 17, METERS):
NORTHING: 4,458,002.006
EASTING: 535,545.388

PERMIT SURFACE HOLE LOCATION (SHL):

UTM (NAD83, ZONE 17, METERS):
NORTHING: 4,455,197.616
EASTING: 536,399.017

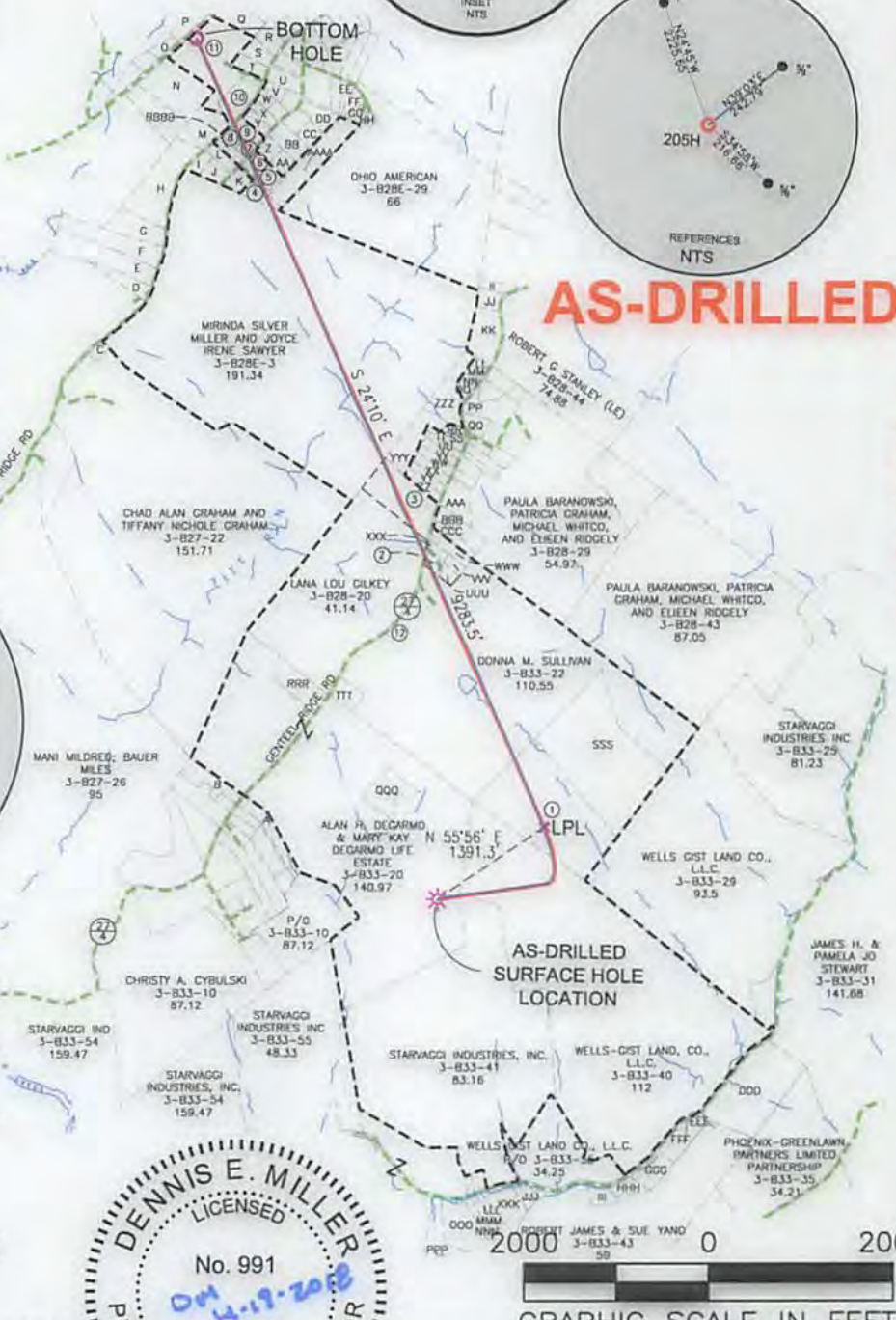
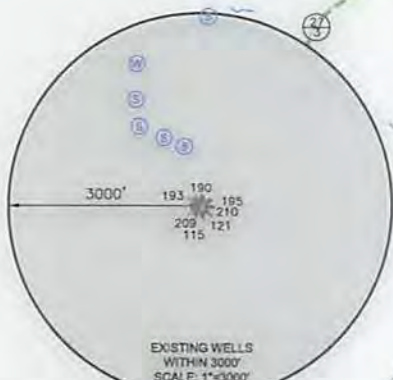
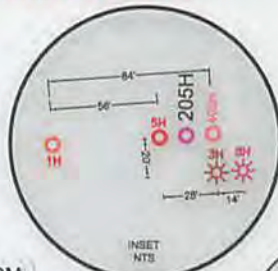
PERMIT LANDING POINT (LPL):

UTM (NAD83, ZONE 17, METERS):
NORTHING: 4,455,311.339
EASTING: 536,777.891

PERMIT BOTTOM HOLE LOCATION (BHL):

UTM (NAD83, ZONE 17, METERS):
NORTHING: 4,458,001.461
EASTING: 535,544.269

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



AS-DRILLED

AS-DRILLED SURFACE HOLE LOCATION

WELL RESTRICTIONS

1. NO OCCUPIED DWELLINGS > 2500 SQ FT, WITHIN 625 FEET OF CENTER OF PAD.
2. NO AGRICULTURE BUILDINGS > 2500 SQ FT, WITHIN 625 FEET OF CENTER OF PAD.
3. WATER WELLS OR DEVELOPED SPRINGS ARE WITHIN 957 FEET OF PROPOSED WELL.
4. PERENNIAL STREAMS, LAKES, PONDS, OR RESERVOIRS WITHIN 800 FEET OF THE LIMITS OF DISTURBANCE.
5. NO NATURALLY PRODUCING TROUT STREAM WITHIN 300 FEET OF LIMITS OF DISTURBANCE.
6. NO GROUND INTAKE OR PUBLIC WATER SUPPLY WITHIN 1000 FEET OF WELL PAD, LIMITS OF DISTURBANCE, E & S CONTROLS OR PUBLIC WATER SUPPLY.

NOTES ON SURVEY

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

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

P.S. 991



COMPANY: **SWN** Production Company, LLC



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

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

ALAN H. DEGARMO BRK
OPERATOR'S WELL #: 205H
API WELL #: 47 STATE 009 COUNTY 00191 PERMIT

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

WATERSHED: UPPER OHIO SOUTH
DISTRICT: BUFFALO COUNTY: BROOKE
SURFACE OWNER: ALAN H. DEGARMO & MARY KAY DEGARMO, LIFE ESTATE
OIL & GAS ROYALTY OWNER: ALAN H. DEGARMO

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

CONVERT PLUG & ABANDON CLEAN OUT & REPLUG OTHER CHANGE (SPECIFY) **ASDRILLED**

TARGET FORMATION: MARCELLUS ESTIMATED DEPTH: 5,838.04 TVD 15,675 TMD

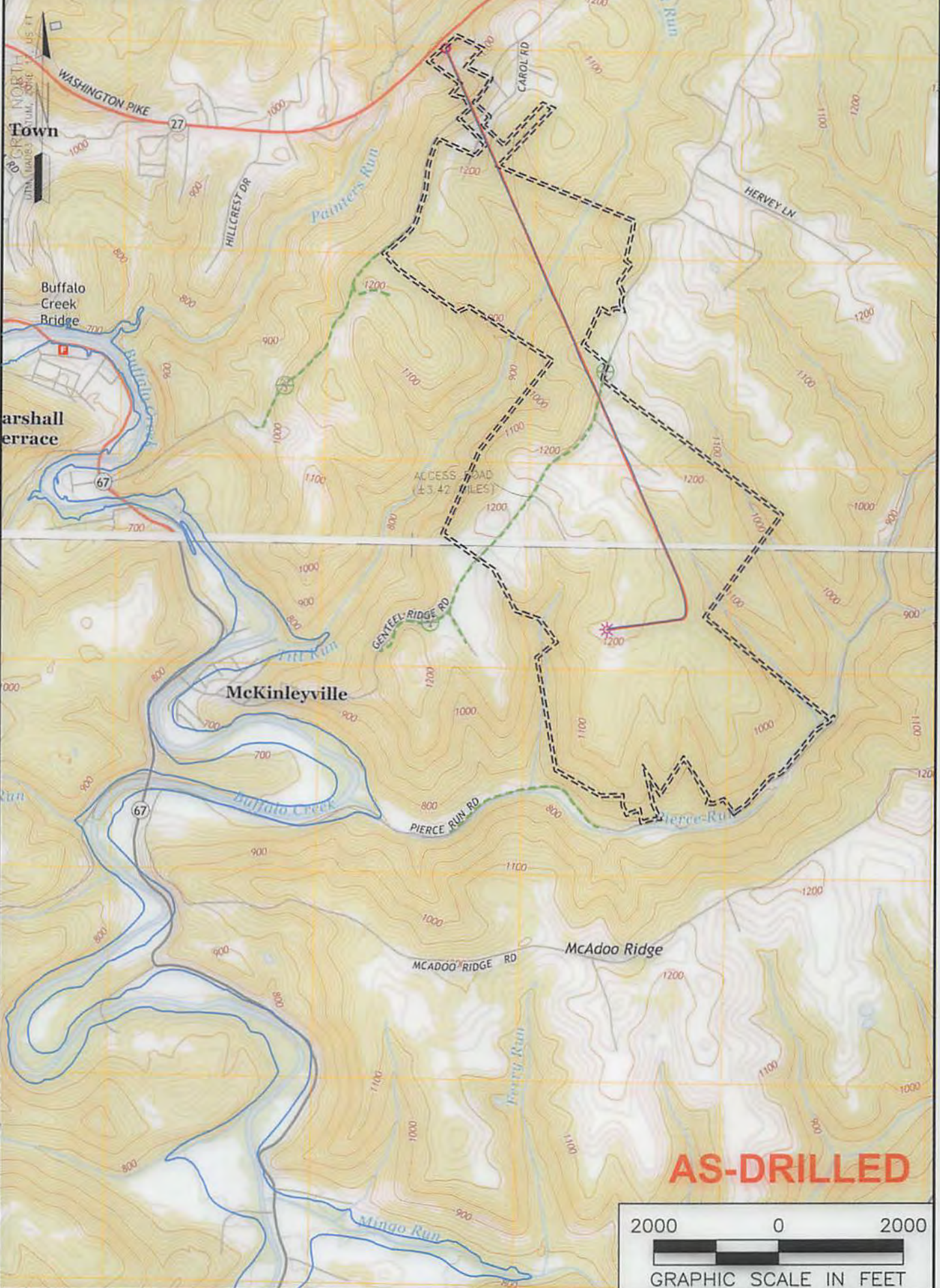
WELL OPERATOR: SWN PRODUCTION COMPANY, LLC
ADDRESS: P.O. BOX 1300
CITY: JANE LEW STATE: WV ZIP CODE: 26378

DESIGNATED AGENT: DEE SOUTHALL
ADDRESS: P.O. BOX 1300
CITY: JANE LEW STATE: WV ZIP CODE: 26378

LEGEND:	— SURVEYED BOUNDARY	— DRILLING UNIT	— LEASE BOUNDARY	— ASDRILLED PATH	— PROPOSED PATH
○ PROPOSED SURFACE HOLE / BOTTOM HOLE	○ EXISTING / PRODUCING WELLHEAD	○ LPL* LANDING POINT LOCATION	○ EXISTING WATER WELL	○ EXISTING SPRING	
REVISIONS:					
					DATE: 04-18-2018
					DRAWN BY: K.E.S.
					SCALE: 1" = 2000'
					DRAWING NO: 164-764
					WELL LOCATION PLAT



CIVIL & ENVIRONMENTAL CONSULTANTS, INC.
 600 MARKETPLACE AVENUE, SUITE 200
 BRIDGEPORT, WV 26330
 304-933-3119



AS-DRILLED



NOTES ON SURVEY

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.
 1. THIS PLAT DOES NOT REPRESENT A BOUNDARY SURVEY OF THE PARCELS SHOWN HEREON.
 4. ALL INSERTS ARE GRID NORTH UNLESS OTHERWISE DEPICTED.

LEGEND:

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

07/20/2018

WELL OPERATOR: SWN PRODUCTION COMPANY, LLC	WELL (FARM) NAME: ALAN H. DEGARMO BRK	WELL # 205H	SERIAL # XXXX
ADDRESS: P.O. BOX 1300 JANE LEW, WV 26378	COUNTY - CODE BROOKE - 009	DISTRICT; BUFFALO	
SURFACE OWNER: ALAN H. DEGARMO & MARY KAY DEGARMO, LIFE ESTATE	USGS 7 1/2 QUADRANGLE MAP NAME BETHANY, WV		