

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

API 47-009-00190 County BROOKE District BUFFALO  
Quad BETHANY Pad Name ALAN H. DEGARMO PAD Field/Pool Name PANHANDLE FIELD WET  
Farm name ALAN H. DEGARMO & MARY DEGARMO Well Number ALAN H. DEGARMO BRK 5H  
Operator (as registered with the OOG) SWN PRODUCTION COMPANY, LLC  
Address PO BOX 12359 City SPRING State TX Zip 77391-2359

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey  
Top hole Northing 4,455,197.262 Easting 536,394.767  
Landing Point of Curve Northing 4,455,320.105 Easting 536,548.886  
Bottom Hole Northing 4,457,101.890 Easting 535,653.697

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 10/02/2017 Date drilling ceased 11/02/2017  
Date completion activities began 01/08/2018 Date completion activities ceased 3/01/2018  
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

Reviewea  
*Handwritten signature and date: [Signature] 6/11/18*

Reviewed by:  
*Handwritten signature and date: [Signature] 07/20/2018*

API 47-009 - 00190 Farm name ALAN H. DEGARMO & MARY DEGARMO Well number ALAN H. DEGARMO BRK 5H

CASING STRINGS	Hole Size	Casing Size	Depth	New or Used	Grade wt/ft	Basket Depth(s)	Did cement circulate (Y/ N) * Provide details below*
Conductor	26	20	126	NEW	J-55/94#		Y
Surface	17.5	13.375	345	NEW	J-55/54.50#	159.7 & 201.5	Y
Coal	SEE SURFACE						
Intermediate 1	12.25	9.625	1688	NEW	J-55/36#		Y, 38 BBLs
Intermediate 2							
Intermediate 3							
Production	8.75/8.50	5.5	12772	NEW	HCP-110/20#		Y
Tubing		2.375	6468	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 <sup>3</sup> /sks)	Volume (ft <sup>3</sup> )	Cement Top (MD)	WOC (hrs)
Conductor	CLASS A	GROUT TO SURFACE				SURFACE	24
Surface	CLASS A	486	15.60	1.19	578.34	SURFACE	8
Coal	SEE SURFACE						
Intermediate 1	CLASS A	656	15.60	1.19	780.64	SURFACE	8
Intermediate 2							
Intermediate 3							
Production	CLASS A	2311	15.60	1.19	2750.09	SURFACE	24
Tubing							

Drillers TD (ft) 12772 Loggers TD (ft) 12772  
 Deepest formation penetrated MARCELLUS Plug back to (ft) N/A  
 Plug back procedure N/A

Kick off depth (ft) 5035

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 \_\_\_\_\_



API 47- 009 - 00190 Farm name ALAN H. DEGARMO & MARY DEGARMO Well number ALAN H. DEGARMO BRK 5H

PRODUCING FORMATION(S)	DEPTHS	
MARCELLUS	5886	TVD 6198 MD

Please insert additional pages as applicable.

GAS TEST  Build up  Drawdown  Open Flow OIL TEST  Flow  Pump  
 SHUT-IN PRESSURE Surface 917 psi Bottom Hole \_\_\_\_\_ psi DURATION OF TEST \_\_\_\_\_ hrs  
 OPEN FLOW Gas 5,877 mcfpd Oil 696 bpd NGL \_\_\_\_\_ bpd Water 499 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 <sub>2</sub> S, ETC)
	DEPTH IN FT NAME TVD	DEPTH IN FT TVD	DEPTH IN FT MD	DEPTH IN FT MD	
	0		0		
	SEE	ATTACHMENT	3		

Please insert additional pages as applicable.

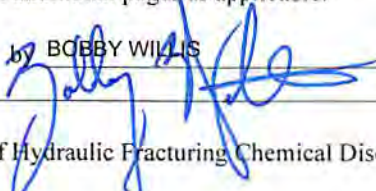
Drilling Contractor SWN DRILLING COMPANY  
 Address PO BOX 12359 City SPRING State TX Zip 77391-2359

Logging Company WEATHERFORD  
 Address 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 5146 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  Title REGULATORY ANALYST Date 5/15/2018

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



**ALAN H DEGARMO BRK 5H**

STAGE NUM	Perf Date	Perf Top MD	Perf Bottom MD	# SHOTS PER STG
1	1/30/2018	12,560	12,672	42
2	1/11/2018	12,416	12,528	42
3	1/12/2018	12,272	12,384	42
4	1/18/2018	12,128	12,240	42
5	1/19/2018	11,984	12,096	42
6	1/19/2018	11,840	11,952	42
7	1/19/2018	11,696	11,808	42
8	1/20/2018	11,552	11,664	42
9	1/20/2018	11,408	11,520	42
10	1/20/2018	11,264	11,376	42
11	1/20/2018	11,120	11,232	42
12	1/21/2018	10,976	11,088	42
13	1/21/2018	10,832	10,944	42
14	1/22/2018	10,688	10,800	42
15	1/23/2018	10,544	10,656	42
16	1/24/2018	10,400	10,512	42
17	1/24/2018	10,256	10,368	42
18	1/25/2018	10,112	10,224	42
19	1/26/2018	9,968	10,080	42
20	1/27/2018	9,824	9,936	42
21	1/27/2018	9,680	9,792	42
22	1/28/2018	9,536	9,648	42
23	1/28/2018	9,392	9,504	42
24	1/29/2018	9,248	9,360	42
25	1/30/2018	9,104	9,216	42
26	1/30/2018	8,960	9,072	42
27	1/31/2018	8,816	8,928	42
28	2/1/2018	8,672	8,784	42
29	2/2/2018	8,528	8,640	42
30	2/2/2018	8,384	8,496	42
31	2/3/2018	8,240	8,352	42
32	2/3/2018	8,096	8,208	42
33	2/4/2018	7,952	8,064	42
34	2/5/2018	7,808	7,916	42
35	2/5/2018	7,664	7,776	42
36	2/5/2018	7,520	7,632	42
37	2/6/2018	7,376	7,488	42
38	2/6/2018	7,232	7,344	42
39	2/7/2018	7,088	7,200	42
40	2/9/2018	6,944	7,056	42
41	2/9/2018	6,800	6,912	42
42	2/9/2018	6,656	6,768	42
43	2/10/2018	6,512	6,624	42

07/20/2018

ALAN H DEGARMO BRK 5H  
ATTACHMENT 2  
STIM REPORT

STAGE NUM	Stim 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
1	1/11/2018	98	7,776	8,103	3,817	484,700	8,138	
2	1/11/2018	98	7,819	8,148	4,057	505,420	8,002	
3	1/18/2018	94	7,758	8,947	4,388	517,540	7,861	
4	1/19/2018	94	7,571	7,935	4,186	517,980	7,617	
5	1/19/2018	92	7,680	9,673	5,852	474,400	7,361	
6	1/19/2018	89	6,950	8,699	4,597	476,140	7,428	
7	1/19/2018	99	7,568	8,182	4,334	502,580	6,816	
8	1/20/2018	90	7,997	9,084	3,701	504,660	7,822	
9	1/20/2018	100	7,435	9,073	4,666	507,740	6,973	
10	1/20/2018	97	7,617	8,210	4,265	509,840	6,994	
11	1/21/2018	97	7,383	7,849	4,148	520,940	6,760	
12	1/21/2018	92	7,309	8,362	4,230	502,430	7,041	
13	1/22/2018	96	7,677	8,622	4,708	510,800	7,149	
14	1/23/2018	98	7,466	8,771	4,509	517,450	6,892	
15	1/24/2018	88	7,047	7,747	4,413	495,140	7,344	
16	1/24/2018	95	6,747	7,086	4,186	504,960	7,428	
17	1/25/2018	97	7,330	8,135	4,499	503,120	7,718	
18	1/26/2018	97	7,564	8,823	4,508	501,900	7,503	
19	1/27/2018	93	7,101	7,732	4,215	501,520	6,896	
20	1/27/2018	97	7,240	7,871	4,533	503,080	6,787	
21	1/28/2018	101	7,306	8,099	4,594	503,300	7,120	
22	1/28/2018	100	7,328	8,479	4,404	492,860	7,448	
23	1/29/2018	98	7,468	8,325	4,452	497,720	6,888	
24	1/29/2018	97	7,182	8,880	4,116	506,040	7,881	
25	1/30/2018	96	7,751	9,082	3,895	497,700	7,526	
26	1/31/2018	98	7,508	8,770	4,511	509,460	7,418	
27	2/1/2018	97	7,776	8,769	4,293	500,840	7,317	
28	2/2/2018	99	7,345	7,804	3,990	506,760	7,641	
29	2/2/2018	99	7,084	7,807	4,554	494,720	6,779	
30	2/3/2018	99	7,592	8,556	4,009	503,580	7,340	
31	2/3/2018	100	7,004	7,959	4,053	506,660	7,474	
32	2/4/2018	101	7,148	7,678	4,020	509,900	7,432	
33	2/4/2018	100	7,187	8,096	4,234	515,140	7,258	
34	2/5/2018	100	6,848	7,104	4,311	525,060	7,368	
35	2/5/2018	100	6,839	8,216	3,927	502,100	6,716	
36	2/6/2018	99	6,758	7,448	4,418	499,560	7,078	
37	2/6/2018	99	6,875	7,823	3,966	500,480	7,153	
38	2/7/2018	99	6,877	7,366	4,176	494,200	7,036	
39	2/9/2018	98	6,434	7,133	3,554	511,720	6,793	
40	2/9/2018	99	7,079	7,703	4,345	493,770	7,027	
41	2/9/2018	98	6,948	7,845	4,466	512,520	6,925	
42	2/10/2018	99	6,399	7,942	4,608	502,820	6,654	
43	2/10/2018	99	6,742	7,247	4,242	494,620	5,957	





Well Name: Alan H Degarmo BRK 5H

47009001900000

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	
Rhinestreet (shale)	5614.00	5517.00	5698.00	5589.00	
Cashaqua (shale)	5698.00	5589.00	5755.00	5637.00	
Middlesex (shale)	5755.00	5637.00	5835.00	5699.00	
Burket (shale)	5835.00	5699.00	5856.00	5714.00	
Tully (ls)	5856.00	5714.00	5942.00	5772.00	
Mahantango (shale)	5942.00	5772.00	6198.00	5886.00	
Marcellus (shale)	6198.00	5886.00	NA	NA	GAS

## Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	1/11/2018
Job End Date:	2/10/2018
State:	West Virginia
County:	Brooke
API Number:	47-009-00197-00-00
Operator Name:	Southwestern Energy
Well Name and Number:	Alan H DeGarmo BRK 5H
Latitude:	40.24642047
Longitude:	-80.57228869
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	5,879
Total Base Water Volume (gal):	12,939,618
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	83.01372	Density = 8.340
Ingredients	Listed Above	Listed Above					
			Water	7732-18-5	100.00000	0.44618	



SCAL16486A	NALCO	Scale Inhibitor					
				Listed Below			
SAND-COMMON WHITE-100 MESH, SSA-2, BULK (100003676)	Halliburton	Proppant					
				Listed Below			
FDP-S1176-15	Halliburton	Friction Reducer					
				Listed Below			
HAI-150E	Halliburton	Corrosion Inhibitor					
				Listed Below			
FR-76	Halliburton	Friction Reducer					
				Listed Below			
Hydrochloric Acid	Halliburton	Solvent					
				Listed Below			
BIOC11219A	NALCO	Biocide					
				Listed Below			
SAND- PREMIUM WHITE-40/70, BULK	Halliburton	Proppant					
				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	16.47888	
			Hydrochloric acid	7647-01-0	15.00000	0.05947	
			Hydrotreated light petroleum distillate	64742-47-8	30.00000	0.02485	
			Methanol	67-56-1	60.00000	0.01353	
			Polyacrylate	Proprietary	30.00000	0.01284	
			Acrylamide acrylate copolymer	Proprietary	30.00000	0.01201	Denise Tuck, Halliburton, 3000 N. Sam Houston Pkwy E., Houston, TX 77032, 281-871-6226
			Inorganic salt	Proprietary	30.00000	0.01201	
			Benzyl-(C12-C16 Alkyl)-Dimethyl-Ammonium Chloride	68424-85-1	30.00000	0.00676	
			Glutaraldehyde	111-30-8	10.00000	0.00225	
			Castor oil, ethoxylated	61791-12-6	5.00000	0.00214	
			Sorbitan, mono-9-octadecenoate, (Z)	1338-43-8	5.00000	0.00214	
			9-Octadecenamide, n,n-bis-2(hydroxy-ethyl)-,(Z)	93-83-4	5.00000	0.00214	
			Ammonium chloride	12125-02-9	5.00000	0.00214	
			Sodium chloride	7647-14-5	5.00000	0.00214	
			Ethylene Glycol	107-21-1	30.00000	0.00157	
			Amine Triphosphate	Proprietary	30.00000	0.00157	
			Sodium Phosphate	7632-05-5	30.00000	0.00157	
			Non-hazardous food substance	Proprietary	100.00000	0.00030	

\* 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)

Via Federal Express

May 15, 2018

State of West Virginia  
Department of Environmental Protection  
Office of Oil & Gas  
601 57<sup>th</sup> Street  
Charleston, WV 25304

**RE:** SWN Production Company, LLC  
Operator ID: 494512924  
Regulatory Filings: WR-34 & WR-35

To Whom It May Concern:

Please find enclosed forms WR-34 Discharge Monitoring Report and WR-35 Well Operator's Report of Well Work for the Alan H. Degarmo BRK 1H (API 47-009-00193) and Alan H. Degarmo BRK 5H (API 47-009-00190).

If you have any questions or require additional information, please contact me via email at [bobby\\_willis@swn.com](mailto:bobby_willis@swn.com) or telephone at (832) 796-2884.

Sincerely,



Bobby Willis  
Regulatory Analyst  
SW Appalachia Division

/bw  
Encl.

RECEIVED  
Office of Oil and Gas  
MAY 16 2018  
WV Department of  
Environmental Protection



Latitude: 40°15'00" (SHL) SURFACE HOLE 8486'

Latitude: 40°17'30" (BHL) BOTTOM HOLE 10835'

Longitude: 80°32'30" (SHL) SURFACE HOLE 1203'

Longitude: 80°32'30" (BHL) BOTTOM HOLE 10184'



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

PERMIT SURFACE HOLE LOCATION (SHL):

UTM (NAD83, ZONE 17, METERS):  
NORTHING: 4,455,197.288  
EASTING: 536,394.785

PERMIT LANDING POINT (LPL):

UTM (NAD83, ZONE 17, METERS):  
NORTHING: 4,455,327.161  
EASTING: 536,554.061

PERMIT BOTTOM HOLE LOCATION (BHL):

UTM (NAD83, ZONE 17, METERS):  
NORTHING: 4,457,107.998  
EASTING: 535,853.476

SURFACE HOLE LOCATION (SHL):

UTM (NAD83, ZONE 17, METERS):  
NORTHING: 4,455,197.262  
EASTING: 536,394.767

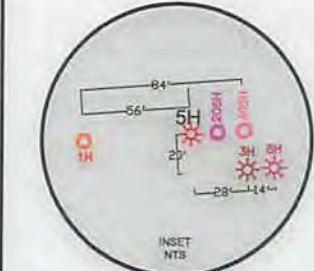
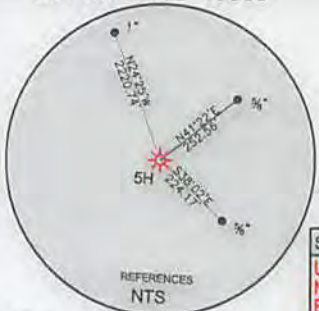
LANDING POINT (LPL):

UTM (NAD83, ZONE 17, METERS):  
NORTHING: 4,455,320.105  
EASTING: 536,548.886

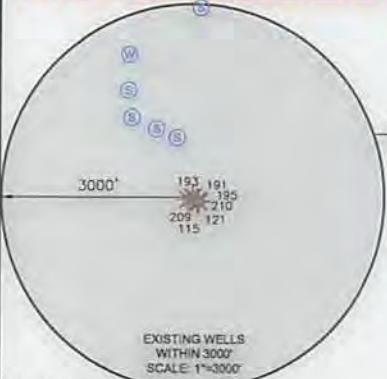
BOTTOM HOLE LOCATION (BHL):

UTM (NAD83, ZONE 17, METERS):  
NORTHING: 4,457,101.890  
EASTING: 535,653.697

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



AS-DRILLED



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 969 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.

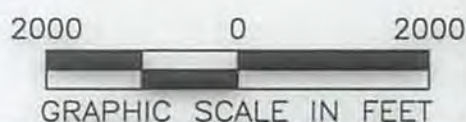
NOTES ON SURVEY

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.
4. 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

*Dennis E. Miller*



COMPANY: **SWN** Production Company, LLC



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

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

ALAN H DEGARMO BRK  
OPERATOR'S WELL #: 5H  
API WELL #: 47 STATE 009 COUNTY 00190 PERMIT

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

WATERSHED: UPPER OHIO SOUTH ELEVATION: 1204.0  
DISTRICT: BUFFALO COUNTY: BROOKE QUADRANGLE: BETHANY  
SURFACE OWNER: ALAN H. DEGARMO & MARY KAY DEGARMO LIFE ESTATE ACREAGE: 140.97±  
OIL & GAS ROYALTY OWNER: ALAN H. DEGARMO ACREAGE: 140.97±

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

CONVERT  PLUG & ABANDON  CLEAN OUT & REPLUG  OTHER CHANGE  (SPECIFY) **ASDRILLED** 07/20/2018  
TARGET FORMATION: MARCELLUS ESTIMATED DEPTH: 5851 TVD 12,772 TMD

WELL OPERATOR: SWN PRODUCTION COMPANY, LLC DESIGNATED AGENT: DEE SOUTHALL  
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:	PROPOSED SURFACE HOLE / BOTTOM HOLE	SURVEYED BOUNDARY	REVISIONS:	DATE: 04-18-2017
	EXISTING / PRODUCING WELLHEAD	DRILLING UNIT		
LPL	LEASE BOUNDARY	ASDRILLED PATH		
EXISTING WATER WELL	PROPOSED PATH			
EXISTING SPRING				





# AS-DRILLED

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

WELL BORE TABLE FOR SURFACE OWNERS			
TRACT	SURFACE OWNER	TAX PARCEL	ACRES
1	ALAN H. DEGARMO AND MARY KAY DEGARMO LIFE ESTATE	3-B33-20	140.97
2	WEST VIRGINIA DEPARTMENT OF TRANSPORTATION, DIVISION OF HIGHWAYS	GENTEEL RIDGE ROAD	1.68

ADJOINING OWNERS TABLE			
TRACT	SURFACE OWNER	TAX PARCEL	ACRES
A	CHARLES STEWART	3-B33-55.1	1.01
B	JEFFERY L. MARTINDILL	3-B33-9	1.6
C	RICHARD C. & BONNIE OLENICK	3-B33-8	1.4
D	EDWARD FRANK MARKER III & TERESA ANN MARKER	3-B33-11	1.68
E	JOHN WILLIAM & HELEN DARLENE MCGOWAN	3-B33-15	2.49
F	JOHN WILLIAM & HELEN DARLENE MCGOWAN	3-B33-16	2.50
G	ROBERT ANTILL JR. & CYNTHIA ANTILL	3-B33-17.2	1.053
H	LEONARD F. WOODS III & LISA MARIE WOODS	3-B33-17.1	2.0
I	ROBERT ANTILL JR. & CYNTHIA ANTILL	3-B33-18	0.90
J	THOMAS M. & DEBORAH J. OLDAKER	3-B33-2	0.41
K	THOMAS M. & DEBORAH J. OLDAKER	3-B33-1	2.39
L	JOANN MYERS LIFE ESTATE & JAMES W. MYERS REMAINDER	3-B33-19	2.40
M	MICHEAL W. SOMON	3-B27-25	3.12
N	ANTHONY & KRYSTEN LONG	3-B27-24	0.68
O	LARRY B. & SHELLY ARACICH	3-B27-23	5.01
P	VERMURI HOME & GARDEN LLC.	3-B27-20	0.459
Q	DAVID E. & DEBORAH CRAWFORD	3-B27-19	1.60
R	DAVID E. & DEBORAH CRAWFORD	3-B27H-50	5.69
S	JAMES & KRISTIE FLOYD	3-B27H-49	5.03
T	MARY B. WILSON NORTHCRAFT	3-B27H-48	3.22
U	WILLIAM GEORGE ALLISON & CHERYL ANN ALLISON	3-B27H-48.1	18.49
V	ROBERT & LUANN SOMON	3-B28E-1	3.92
W	GEORGE & DEBORAH A STRAKA	3-B28E-2	3.46
X	RUSSELL D HERVEY	3-B28E-5	1.0
Y	JOEL LYNN ROGERS SR.	3-B28E-4	1.0
Z	JOEL LYNN ROGERS SR.	3-B28E-14	1.0
AA	CHAD E. ROGERS	3-B28E-15	1.0
BB	LARRY & JOAN NICHOLSON	3-B28E-16	1.13
CC	CALVIN STANLEY & LYNETTE STANLEY	3-B28-1	0.85
DD	CALVIN STANLEY & LYNETTE STANLEY	3-B28-2	1.15
EE	DANIEL STANLEY	3-B28-3	3.89
FF	JOHN & LUANNE SNYDER	3-B28-8	4.382
GG	JOHN & LUANNE SNYDER	3-B28-9	4.04
HH	LANA LOU GILKEY	3-B28-19	8.83
II	RYAN & CAROLYN BOOK	3-B28-25	1.60
JJ	ROBERT W & TAMMY L HOLMES	3-B28-24	0.5
KK	ALEXANDER & DONNA DIGHT	3-B28-21	0.74
LL	ALEXANDER & DONNA DIGHT	3-B28-22	0.67
MM	ALEXANDER & DONNA DIGHT	3-B28-23	0.66
NN	CHARLES & MADELIN MCGOWAN	3-B28-26	1.0
OO	TRUSTEES OF THE STONE CHAPEL CHURCH	3-B33-36	0.3
PP	JOH T & MARLENA L SMITH	3-B33-37	2.0
QQ	LEONA LAROCHE, LAWRENCE MCLAUGHLIN, & FLOYD HENNIS	3-B33-38	2.18
RR	LEONA LAROCHE, LAWRENCE MCLAUGHLIN, & FLOYD HENNIS	3-B33-39	1.1
SS	CHARLES & ETHEL RUSSELL	3-B33-42	1.0
TT	LISA MERIGO	3-B33-44	1.0
UU	AMY & NICKOLAS CROSS	3-B33-45	3.52
VV	KATHRYN DEGARMO	3-B33-20.1	2.50
WW	MARRY ANN CHARLTON & DAVID M. EDWARDS	3-B33-21	1.53
XX	PATRICK DEGARMO	3-B33-20.2	1.53

07/20/2018

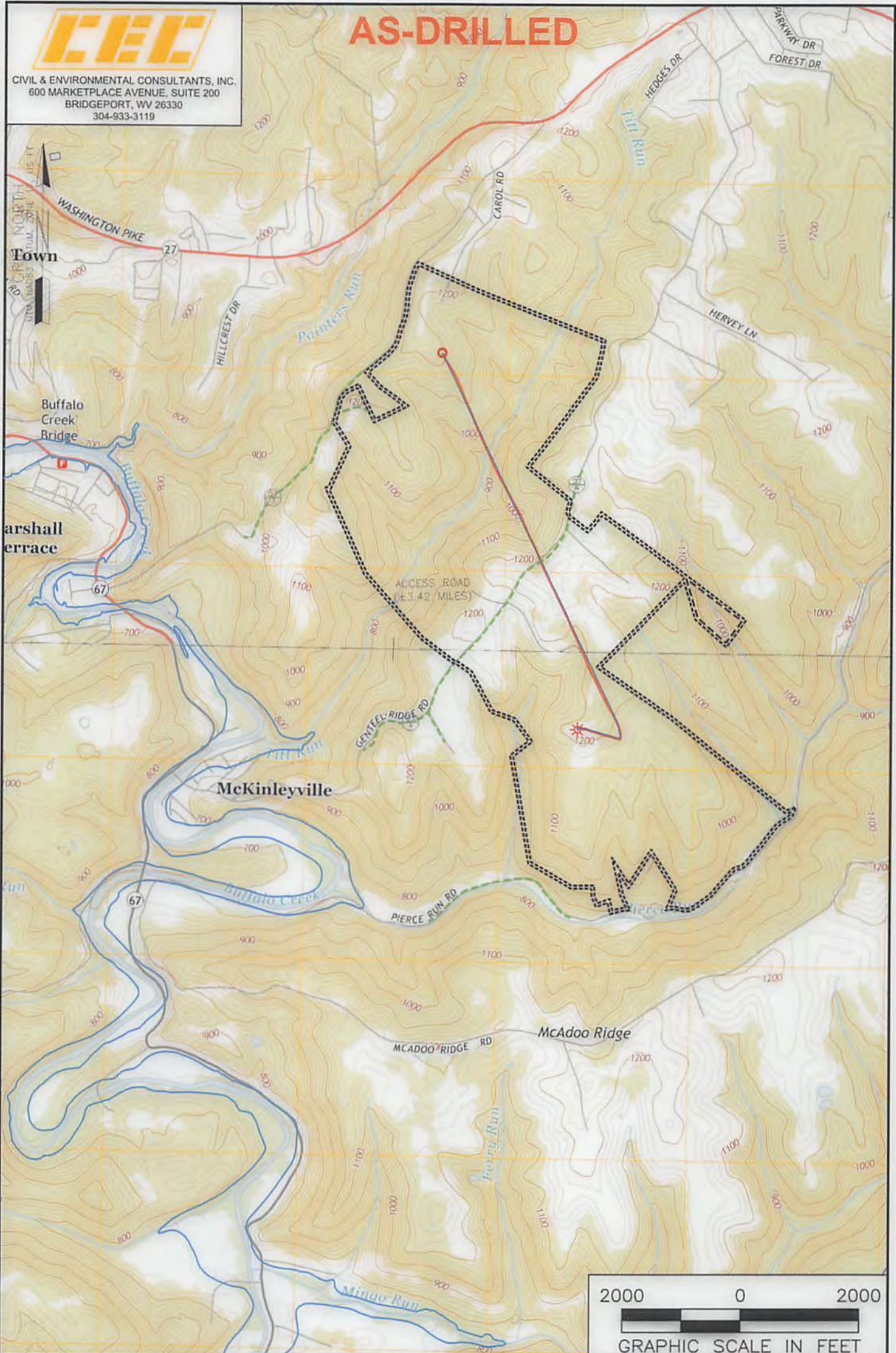
REVISIONS:	COMPANY:			DATE: 04-18-2017
				DRAWN BY: K.E.S.
	OPERATOR'S	ALAN H DEGARMO BRK		SCALE: N/A
	WELL #:	5H		DRAWING NO: 164-764
	DISTRICT:	COUNTY:	STATE:	WELL LOCATION PLAT 2
	BUFFALO	BROOKE	WV	





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**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.
4. 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

07/20/2018

WELL OPERATOR: SWN PRODUCTION COMPANY, LLC	WELL (FARM) NAME: ALAN H DEGARMO BRK	WELL # 5H	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		