

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

API 47 - 009 - 00198 County BROOKE District BUFFALO
Quad BETHANY Pad Name JOHN GOOD PAD Field/Pool Name PANHANDLE FIELD WET
Farm name JOHN P. GOOD JR. IRREVOCABLE TRUST Well Number JOHN GOOD JR BRK 406H
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 4,452,689.285 Easting 535,673.624
Landing Point of Curve Northing 4,452,210.139 Easting 534,935.653
Bottom Hole Northing 4,449,790.385 Easting 535,914.276

Elevation (ft) 1152.6 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 6/6/17 Date drilling commenced 6/25/17 Date drilling ceased 8/18/17
Date completion activities began 11/28/17 Date completion activities ceased 1/4/18
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 326 Open mine(s) (Y/N) depths N
Salt water depth(s) ft 448 Void(s) encountered (Y/N) depths N
Coal depth(s) ft 308 Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N Office of Oil and Gas

Reviewed
E. Blc 5-10-18

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API 47-009 - 00198 Farm name JOHN P. GOOD JR. IRREVOCABLE TRUST Well number JOHN GOOD JR BRK 406H

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	380	NEW	J-55/48#		Y
Coal	SEE SURFACE						
Intermediate 1	12.25	9.625	1702	NEW	J-55/36#		Y
Intermediate 2							
Intermediate 3							
Production	8.75	5.5	15515	NEW	HCP-110/20#		Y
Tubing		2.375	6845	NEW	L-80/4.7#		N
Packer type and depth set							

Comment Details _____

CEMENT DATA	Class/Type of Cement	Number of Sacks	Slurry wt (ppg)	Yield (ft ³ /sks)	Volume (ft ³)	Cement Top (MD)	WOC (hrs)
Conductor	CLASS A	GROUT TO SURFACE				SURFACE	24
Surface	CLASS A	378	15.60	1.20	453.6	SURFACE	8
Coal	SEE SURFACE						
Intermediate 1	CLASS A	642	15.60	1.18	757.56	SURFACE	8
Intermediate 2							
Intermediate 3							
Production	CLASS A	2942	15.60	1.19	3500.98	SURFACE	24
Tubing							

Drillers TD (ft) 15556 Loggers TD (ft) _____
 Deepest formation penetrated MARCELLUS Plug back to (ft) N/A
 Plug back procedure N/A

Kick off depth (ft) 6086

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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Perf Summary

Attachment 1

STAGE NUM	Perf Date	Perf Top MD	Perf Bottom MD	# SHOTS PER STG
1	10/1/2017	15,292	15,392	42
2	11/28/2017	15,152	15,259	42
3	11/28/2017	15,013	15,119	42
4	11/28/2017	14,872	14,979	42
5	11/29/2017	14,732	14,839	42
6	11/29/2017	14,592	14,699	42
7	11/29/2017	14,452	14,559	42
8	11/29/2017	14,312	14,419	42
9	11/30/2017	14,172	14,279	42
10	11/30/2017	14,032	14,139	42
11	11/30/2017	13,892	13,999	42
12	11/30/2017	13,752	13,859	42
13	12/1/2017	13,612	13,719	42
14	12/1/2017	13,472	13,579	42
15	12/1/2017	13,332	13,439	42
16	12/1/2017	13,192	13,299	42
17	12/2/2017	13,052	13,159	42
18	12/2/2017	12,912	13,019	42
19	12/2/2017	12,772	12,879	42
20	12/3/2017	12,632	12,739	42
21	12/3/2017	12,492	12,599	42
22	12/3/2017	12,352	12,459	42
23	12/3/2017	12,212	12,319	42
24	12/4/2017	12,072	12,179	42
25	12/4/2017	11,932	12,039	42
26	12/4/2017	11,792	11,899	42
27	12/4/2017	11,652	11,759	42
28	12/5/2017	11,512	11,619	42
29	12/5/2017	11,372	11,479	42
30	12/5/2017	11,232	11,339	42
31	12/5/2017	11,092	11,199	42
32	12/6/2017	10,952	11,059	42
33	12/6/2017	10,812	10,919	42
34	12/6/2017	10,672	10,779	42
35	12/6/2017	10,532	10,639	42
36	12/6/2017	10,392	10,499	42
37	12/7/2017	10,252	10,359	42
38	12/7/2017	10,112	10,219	42
39	12/7/2017	9,972	10,079	42
40	12/7/2017	9,832	9,939	42
41	12/8/2017	9,692	9,799	42
42	12/8/2017	9,552	9,659	42
43	12/8/2017	9,412	9,519	42

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Attachment 1

STAGE NUM	Perf Date	Perf Top MD	Perf Bottom MD	# SHOTS PER STG
44	12/8/2017	9,272	9,379	42
45	12/9/2017	9,132	9,239	42
46	12/9/2017	8,992	9,099	42
47	12/9/2017	8,852	8,959	42
48	12/9/2017	8,712	8,819	42
49	12/10/2017	8,572	8,679	42
50	12/10/2017	8,432	8,539	42
51	12/10/2017	8,292	8,399	42
52	12/10/2017	8,152	8,259	42
53	12/10/2017	8,012	8,119	42
54	12/11/2017	7,872	7,979	42
55	12/11/2017	7,732	7,839	42
56	12/11/2017	7,592	7,699	42
57	12/11/2017	7,452	7,559	42
58	12/12/2017	7,312	7,419	42
59	12/12/2017	7,172	7,279	42
60	12/12/2017	7,032	7,139	42
61	12/12/2017	6,892	6,999	42

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Frac Summary

Attachment 2

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	11/28/2017	89	8,020	8,382	3,514	279,940	6,325	
2	11/28/2017	99	8,623	8,928	3,854	264,940	5,611	
3	11/28/2017	84	8,080	8,402	3,620	276,260	5,299	
4	11/29/2017	86	8,231	8,514	3,977	284,920	5,117	
5	11/29/2017	93	8,155	8,971	3,813	271,380	5,001	
6	11/29/2017	89	8,340	8,874	3,836	279,640	4,990	
7	11/29/2017	89	8,149	8,572	3,909	285,560	4,940	
8	11/30/2017	87	8,144	8,709	3,864	290,100	5,143	
9	11/30/2017	95	8,154	8,439	4,073	287,300	4,938	
10	11/30/2017	90	8,426	8,697	4,253	283,440	4,688	
11	11/30/2017	85	8,415	8,861	3,982	287,600	5,139	
12	11/30/2017	97	7,880	8,473	4,283	282,860	4,948	
13	12/1/2017	95	8,583	9,027	4,081	281,280	5,200	
14	12/1/2017	99	8,296	8,641	4,331	274,520	4,846	
15	12/1/2017	95	8,062	8,398	4,123	278,960	4,964	
16	12/2/2017	85	7,997	9,436	4,169	278,640	4,733	
17	12/2/2017	98	8,076	8,527	3,870	283,220	4,907	
18	12/2/2017	95	7,875	8,861	4,060	279,000	4,767	
19	12/3/2017	96	7,965	9,078	3,979	289,560	4,927	
20	12/3/2017	98	7,656	8,039	4,305	285,420	4,883	
21	12/3/2017	98	8,683	9,074	3,755	287,700	4,728	
22	12/3/2017	92	8,018	9,257	4,492	284,980	4,621	
23	12/3/2017	93	7,907	8,549	4,372	279,540	4,848	
24	12/4/2017	89	7,832	8,852	4,009	285,600	4,923	
25	12/4/2017	97	7,799	9,333	3,964	279,935	4,824	
26	12/4/2017	97	7,956	8,285	4,099	286,070	4,821	
27	12/4/2017	96	7,568	7,912	4,029	287,015	4,738	
28	12/5/2017	97	7,503	7,933	4,317	282,000	4,633	
29	12/5/2017	100	7,558	7,821	4,124	281,040	4,793	
30	12/5/2017	96	8,474	8,851	4,146	284,260	4,761	
31	12/6/2017	94	7,766	8,333	4,211	283,960	4,618	
32	12/6/2017	95	7,868	8,783	4,038	283,340	4,678	
33	12/6/2017	99	8,276	8,606	4,537	282,300	4,411	
34	12/6/2017	99	8,357	8,917	4,326	279,180	4,542	
35	12/6/2017	95	7,706	8,268	4,362	277,500	4,490	
36	12/7/2017	93	7,691	8,310	4,196	281,440	4,613	
37	12/7/2017	99	7,529	7,997	4,152	284,320	4,567	
38	12/7/2017	99	8,091	8,536	4,377	275,040	4,300	
39	12/7/2017	91	8,117	9,046	4,034	280,040	4,474	
40	12/8/2017	95	7,381	7,685	4,417	276,480	4,558	
41	12/8/2017	98	7,815	8,425	4,019	283,380	4,738	
42	12/8/2017	93	8,064	9,236	4,169	283,500	4,457	
43	12/8/2017	98	7,512	8,222	4,273	282,760	4,626	
44	12/9/2017	95	7,371	8,226	4,247	283,320	4,353	
45	12/9/2017	90	7,435	8,605	4,345	291,860	4,606	

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Frac Summary

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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
46	12/9/2017	94	7,716	8,888	4,076	282,540	4,418	
47	12/9/2017	99	7,271	7,660	4,115	280,500	4,490	
48	12/10/2017	100	7,474	8,004	4,362	279,680	4,373	
49	12/10/2017	96	7,129	7,834	4,041	279,420	4,353	
50	12/10/2017	98	7,673	8,867	4,184	282,560	4,475	
51	12/10/2017	98	7,672	8,714	4,370	275,080	4,347	
52	12/10/2017	100	6,907	7,148	4,247	275,620	4,230	
53	12/11/2017	95	7,558	8,192	4,271	277,240	4,096	
54	12/11/2017	98	7,057	8,034	4,180	275,160	4,925	
55	12/11/2017	100	7,011	7,361	4,417	283,040	4,318	
56	12/11/2017	100	6,703	6,893	4,344	279,920	4,296	
57	12/11/2017	100	7,551	8,160	4,221	280,000	4,221	
58	12/12/2017	97	6,782	7,415	4,249	279,120	4,068	
59	12/12/2017	100	6,754	7,974	4,352	280,540	4,053	
60	12/12/2017	99	7,193	8,207	4,283	280,460	4,076	
61	12/12/2017	98	6,912	7,323	4,140	276,720	4,193	

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Well Name: John Good Jr BRK 406H 47009001980000

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	326.00	326.00	
Top of Salt Water	448.00	448.00	NA	NA	
Pittsburgh Coal	308.00	308.00	312.00	312.00	
Pottsville (ss)	440.00	440.00	477.00	477.00	
Mauch Chunk (shale)	639.00	639.00	1302.00	1302.00	
Raven Cliff (ss)	789.00	789.00	946.00	946.00	
Maxton (ss)	1130.00	1130.00	1302.00	1302.00	
Greenbriar (ls)	1302.00	1302.00	1448.00	1446.00	
Big Injun (ss)	1448.00	1446.00	1589.00	1585.00	
Berea (siltstone)	1932.00	1899.00	5666.00	5324.00	
Rhinestreet (shale)	5666.00	5324.00	5876.00	5524.00	
Cashaqua (shale)	5876.00	5524.00	6359.00	5611.00	
Middlesex (shale)	6359.00	5611.00	6456.00	5676.00	
Burket (shale)	6456.00	5676.00	6476.00	5689.00	
Tully (ls)	6476.00	5689.00	6569.00	5745.00	
Mahantango (shale)	6569.00	5745.00	6847.00	5861.00	
Marcellus (shale)	6847.00	5861.00	NA	NA	GAS

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Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	11/28/2017
Job End Date:	12/12/2017
State:	West Virginia
County:	Brooke
API Number:	47-009-00198-00-00
Operator Name:	Southwestern Energy
Well Name and Number:	John Good Jr. BRK 406H
Latitude:	40.22380000
Longitude:	-80.58070700
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	5,945
Total Base Water Volume (gal):	11,811,915
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	83.70896	Density = 8.340
	Listed Above	Listed Above					
			Water	7732-18-5	100.00000	1.58152	

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			Acrylamide acrylate copolymer	Proprietary	30.00000	0.02451	Denise Tuck, Halliburton, 3000 N. Sam Houston Pkwy E., Houston, TX 77032, 281-871-6226
			Inorganic salt	Proprietary	30.00000	0.02451	
			Amine Triphosphate	Proprietary	30.00000	0.00922	
			Ethylene Glycol	107-21-1	30.00000	0.00922	
			Methanol	67-56-1	60.00000	0.00227	
			Non-hazardous food substance	Proprietary	100.00000	0.00117	
			Benzyl-(C12-C16 Alkyl)-Dimethyl-Ammonium	68424-85-1	30.00000	0.00113	
			Glutaraldehyde	111-30-8	10.00000	0.00038	

* 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)



SWN
Southwestern Energy

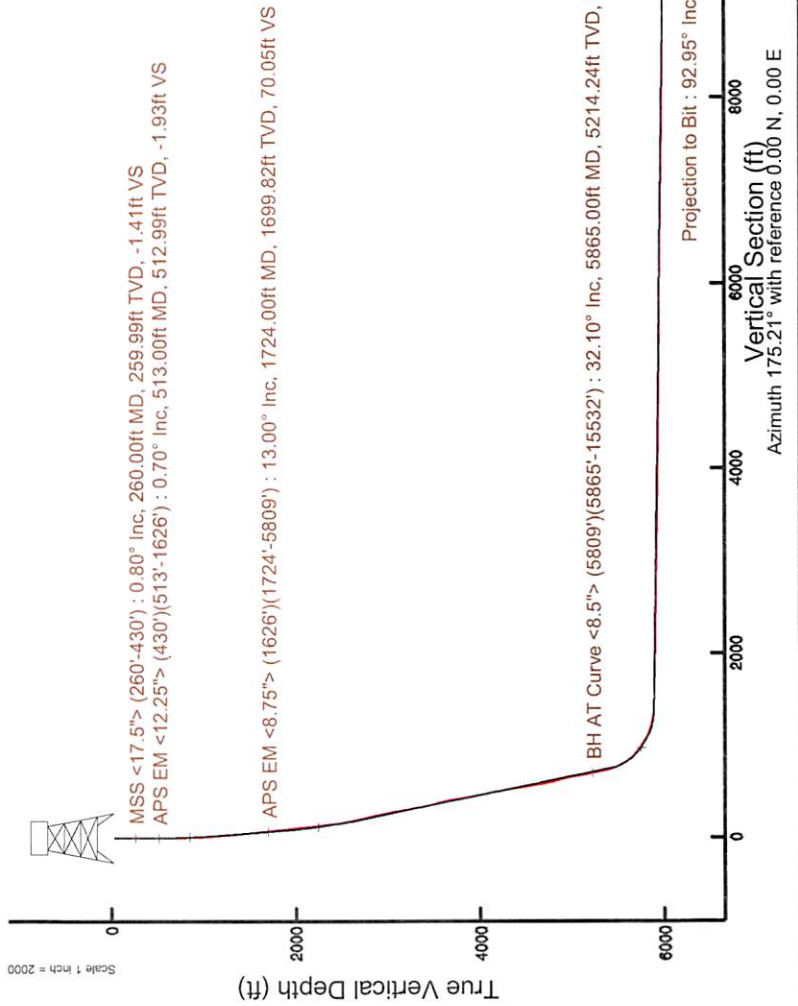
SOUTHWESTERN ENERGY

Location: Brooke County, WV
 Slot: Slot #406
 Well: John Good Jr BRK 406H
 Field: Brooke
 Facility: John Good Jr BRK Pad Wellbore: John Good Jr BRK 406H PWB

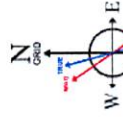
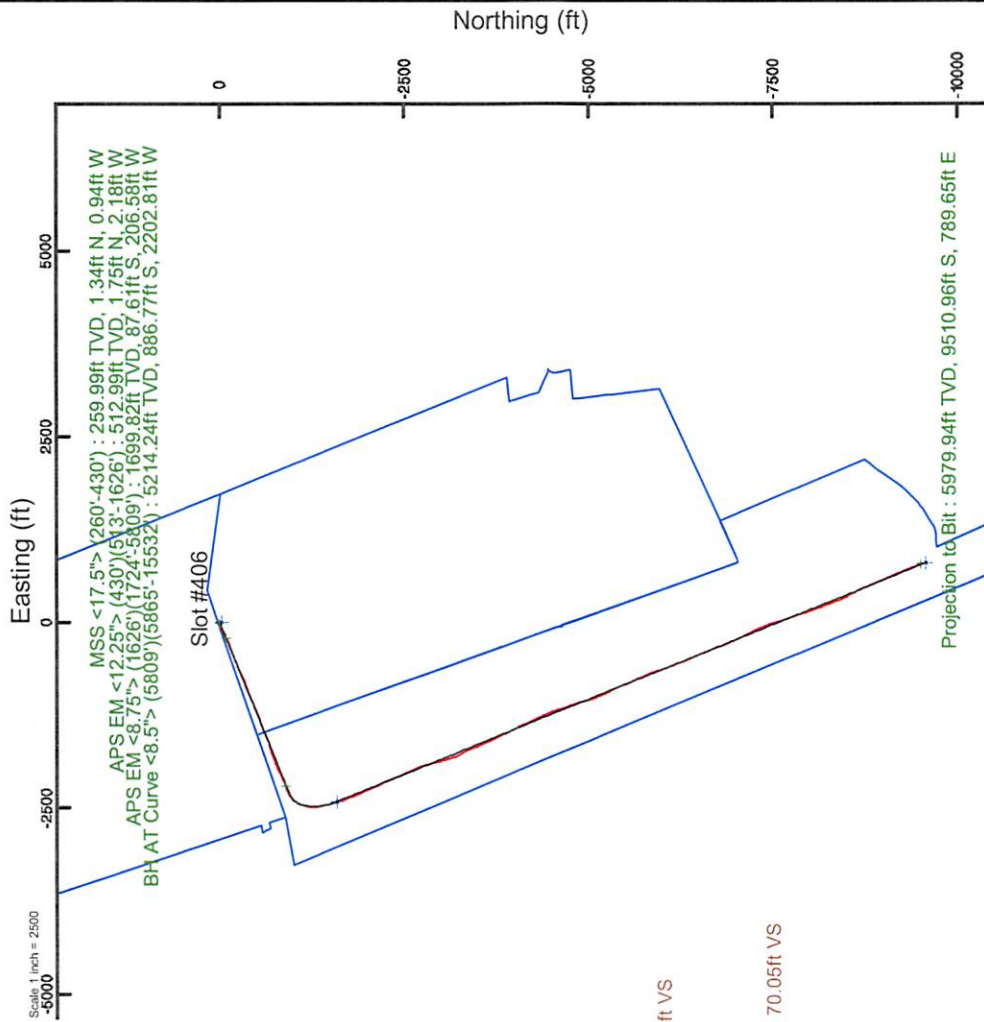
Plot reference wellpath is John Good Jr BRK 406H PWP Rev-A.0 Grid System: NAD83 / UTM Zone 17 North, US feet
 True vertical depths are referenced to SDC-46 (RKB) North Reference: Grid north
 Measured depths are referenced to SDC-46 (RKB) Scale: True distance
 SDC-46 (RKB) to Mean Sea Level: 1178.6 feet Depths are in feet
 Mean Sea Level to Ground level (At Slot: Slot #406): -1152.6 feet Created by: amarc on 2017-08-18
 Coordinates are in feet referenced to Slot Database: WA_MPL_EASTERNUS_Defn

Location Information			
Facility Name	Grid East (US ft)	Grid North (US ft)	Longitude
John Good Jr BRK Pad	1757463.232	14608504.851	80°34'50.452"W
Slot	Local N (ft)	Grid East (US ft)	Grid North (US ft)
Slot #406	26.59	-7.36	1757455.880
SDC-46 (RKB) to Ground level (At Slot: Slot #406)			14608531.430
Mean Sea Level to Ground level (At Slot: Slot #406)			26ft
SDC-46 (RKB) to Mean Sea Level			-1152.6ft
			1178.6ft

Well Profile Data					
Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	VS (ft)
Tie On	26.00	0.000	247.925	26.00	0.00
Start Nudge	500.00	0.000	247.925	500.00	0.00
End Nudge	1200.00	14.000	247.925	1193.06	-31.98
Start Build	1784.30	14.000	247.925	1760.00	-85.11
End Build	2806.40	34.442	247.925	2687.18	-241.86
Curve KOP	6110.27	34.442	247.925	5411.89	-944.12
Landing Point	7003.55	89.281	158.065	5886.00	-1589.73
Total Depth	15614.79	89.281	158.065	5994.00	-9576.95
				803.29	0.00
				1382.66	0.00
				9610.58	0.00



API: 47-009-00198-0000
 Job#: 8698650
 Rig: SDC-46
 Duration: 08/08/17 - 08/16/17



User specified Dip: 67.74° Field: 52710 nt
 Magnetic North is 8.32 degrees West of True North (at 01/Aug/2017)
 To correct azimuth from True to Grid subtract 0.27 degrees
 To correct azimuth from Magnetic to Grid subtract 8.59 degrees

Projection to Bit : 92.95° Inc, 15556.00ft MD, 5979.94ft TVD, 9543.68ft VS
 Projection to Bit : 92.95° Inc, 15556.00ft MD, 5214.24ft TVD, 699.73ft VS
 Vertical Section (ft)
 Azimuth 175.21° with reference 0.00 N, 0.00 E

Scale 1 inch = 2000

REFERENCE WELLPATH IDENTIFICATION

Operator	SOUTHWESTERN ENERGY	Slot	Slot #406
Area	Brooke County, WV	Well	John Good Jr BRK 406H
Field	Brooke	Wellbore	John Good Jr BRK 406H AWB
Facility	John Good Jr BRK Pad		

REPORT SETUP INFORMATION

Projection System	NAD83 / UTM Zone 17 North, US feet	Software System	WellArchitect® 5.1
North Reference	Grid	User	Amarcar
Scale	0.999616	Report Generated	18/Aug/2017 at 10:22
Convergence at slot	0.27° East	Database/Source file	WA_MPL_EASTERNUS_Defn/John_Good_Jr_BRK_406H_AWP_Proj_15556_.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	26.59	-7.36	1757455.88	14608531.43	40°13'25.929"N	80°34'50.545"W
Facility Reference Pt			1757463.23	14608504.85	40°13'25.666"N	80°34'50.452"W
Field Reference Pt			0.00	0.00	0°00'00.000"	85°29'19.478"W

WELLPATH DATUM

Calculation method	Minimum curvature	SDC-46 (RKB) to Facility Vertical Datum	26.00ft
Horizontal Reference Pt	Slot	SDC-46 (RKB) to Mean Sea Level	1178.60ft
Vertical Reference Pt	SDC-46 (RKB)	SDC-46 (RKB) to Ground Level at Slot (Slot #406)	26.00ft
MD Reference Pt	SDC-46 (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	175.21°

REFERENCE WELLPATH IDENTIFICATION

Operator	SOUTHWESTERN ENERGY	Slot	Slot #406
Area	Brooke County, WV	Well	John Good Jr BRK 406H
Field	Brooke	Wellbore	John Good Jr BRK 406H AWB
Facility	John Good Jr BRK Pad		

WELLPATH DATA (170 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]
0.00†	0.000	324.880	0.00	0.00	0.00	0.00	1757455.88	14608531.43	40°13'25.929"N	80°34'50.545"W	0.00	0.000	0.00	0.00	0.00
26.00	0.000	324.880	26.00	0.00	0.00	0.00	1757455.88	14608531.43	40°13'25.929"N	80°34'50.545"W	0.00	0.000	0.00	0.00	0.00
260.00	0.800	324.880	259.99	-1.41	1.34	-0.94	1757454.94	14608532.77	40°13'25.942"N	80°34'50.557"W	1.63	324.880	0.34	0.34	-15.01
383.00	0.200	251.880	382.99	-2.10	1.97	-1.64	1757454.24	14608533.40	40°13'25.949"N	80°34'50.566"W	2.56	320.286	0.62	-0.49	-59.35
430.00	0.000	245.680	429.99	-2.08	1.95	-1.72	1757454.16	14608533.38	40°13'25.948"N	80°34'50.567"W	2.59	318.602	0.43	-0.43	230.04
513.00	0.700	247.180	512.99	-1.93	1.75	-2.18	1757453.70	14608533.18	40°13'25.946"N	80°34'50.573"W	2.80	308.710	0.84	0.84	-135.93
606.00	2.590	249.430	605.94	-1.18	0.79	-4.67	1757451.21	14608532.22	40°13'25.937"N	80°34'50.605"W	4.74	279.604	2.03	2.03	2.42
699.00	4.970	257.350	698.73	-0.06	-0.83	-10.57	1757445.31	14608530.60	40°13'25.921"N	80°34'50.682"W	10.61	265.513	2.61	2.56	8.52
791.00	7.720	256.810	790.16	1.39	-3.11	-20.48	1757435.41	14608528.32	40°13'25.899"N	80°34'50.809"W	20.71	261.357	2.99	2.99	-0.59
884.00	9.910	254.910	882.06	3.74	-6.62	-34.29	1757421.60	14608524.81	40°13'25.865"N	80°34'50.988"W	34.92	259.070	2.38	2.35	-2.04
977.00	11.410	250.660	973.45	7.48	-11.75	-50.70	1757405.20	14608519.68	40°13'25.815"N	80°34'51.199"W	52.04	256.949	1.82	1.61	-4.57
1070.00	11.410	245.990	1064.62	12.82	-18.54	-67.78	1757388.13	14608512.90	40°13'25.749"N	80°34'51.420"W	70.27	254.701	0.99	0.00	-5.02
1162.00	12.410	245.580	1154.63	19.13	-26.33	-85.10	1757370.82	14608505.11	40°13'25.673"N	80°34'51.644"W	89.08	252.806	1.09	1.09	-0.45
1255.00	13.740	247.170	1245.22	25.91	-34.75	-104.37	1757351.55	14608496.69	40°13'25.591"N	80°34'51.893"W	110.01	251.586	1.48	1.43	1.71
1348.00	14.160	246.020	1335.48	33.07	-43.66	-124.95	1757330.98	14608487.79	40°13'25.504"N	80°34'52.159"W	132.36	250.740	0.54	0.45	-1.24
1441.00	15.180	245.300	1425.45	40.96	-53.37	-146.40	1757309.53	14608478.08	40°13'25.409"N	80°34'52.436"W	155.83	249.972	1.11	1.10	-0.77
1533.00	14.310	241.910	1514.42	49.56	-63.76	-167.38	1757288.57	14608467.70	40°13'25.307"N	80°34'52.707"W	179.11	249.148	1.33	-0.95	-3.68
1626.00	14.180	237.290	1604.56	59.44	-75.32	-187.10	1757268.85	14608456.14	40°13'25.193"N	80°34'52.962"W	201.70	248.071	1.23	-0.14	-4.97
1724.00	13.000	238.250	1699.82	70.05	-87.61	-206.58	1757249.38	14608443.85	40°13'25.073"N	80°34'53.214"W	224.39	247.018	1.23	-1.20	0.98
1817.00	14.810	241.450	1790.09	79.59	-98.80	-225.91	1757230.05	14608432.67	40°13'24.963"N	80°34'53.464"W	246.57	246.379	2.11	1.95	3.44
1910.00	20.670	247.120	1878.63	89.48	-110.87	-251.50	1757204.48	14608420.60	40°13'24.845"N	80°34'53.794"W	274.86	246.210	6.56	6.30	6.10
2002.00	20.800	244.760	1964.68	100.23	-124.15	-281.24	1757174.75	14608407.33	40°13'24.715"N	80°34'54.178"W	307.42	246.181	0.92	0.14	-2.57
2095.00	19.370	249.710	2052.02	110.12	-136.54	-310.64	1757145.36	14608394.94	40°13'24.594"N	80°34'54.558"W	339.33	246.273	2.39	-1.54	5.32
2187.00	18.950	250.910	2138.93	117.89	-146.72	-339.07	1757116.94	14608384.77	40°13'24.495"N	80°34'54.925"W	369.45	246.602	0.63	-0.46	1.30
2280.00	22.760	250.620	2225.82	126.15	-157.63	-370.32	1757085.70	14608373.86	40°13'24.389"N	80°34'55.329"W	402.47	246.943	4.10	4.10	-0.31
2372.00	26.460	252.150	2309.45	135.27	-169.82	-406.63	1757049.41	14608361.67	40°13'24.270"N	80°34'55.798"W	440.67	247.333	4.08	4.02	1.66
2465.00	28.010	252.630	2392.14	144.71	-182.69	-447.20	1757008.85	14608348.81	40°13'24.145"N	80°34'56.321"W	483.08	247.779	1.68	1.67	0.52
2558.00	30.310	249.260	2473.35	155.92	-197.53	-490.00	1756966.07	14608333.98	40°13'24.000"N	80°34'56.874"W	528.31	248.045	3.04	2.47	-3.62
2650.00	30.800	247.500	2552.58	169.46	-214.76	-533.47	1756922.62	14608316.75	40°13'23.832"N	80°34'57.436"W	575.07	248.072	1.11	0.53	-1.91
2743.00	32.820	245.850	2631.60	185.06	-234.19	-578.47	1756877.64	14608297.33	40°13'23.642"N	80°34'58.017"W	624.07	247.960	2.36	2.17	-1.77

REFERENCE WELLPATH IDENTIFICATION

Operator	SOUTHWESTERN ENERGY	Slot	Slot #406
Area	Brooke County, WV	Well	John Good Jr BRK 406H
Field	Brooke	Wellbore	John Good Jr BRK 406H AWB
Facility	John Good Jr BRK Pad		

WELLPATH DATA (170 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]
2836.00	33.290	245.750	2709.55	201.92	-254.98	-624.74	1756831.38	14608276.55	40°13'23.439"N	80°34'58.615"W	674.77	247.798	0.51	0.51	-0.11
2929.00	32.610	245.210	2787.59	219.00	-275.97	-670.76	1756785.38	14608255.57	40°13'23.233"N	80°34'59.209"W	725.31	247.636	0.80	-0.73	-0.58
3021.00	31.840	242.310	2865.42	236.92	-297.64	-714.76	1756741.40	14608233.90	40°13'23.021"N	80°34'59.778"W	774.25	247.392	1.88	-0.84	-3.15
3117.00	32.430	246.160	2946.73	255.18	-319.82	-760.73	1756695.45	14608211.74	40°13'22.804"N	80°35'00.372"W	825.22	247.198	2.22	0.61	4.01
3210.00	32.250	247.870	3025.30	270.71	-339.24	-806.52	1756649.67	14608192.32	40°13'22.614"N	80°35'00.963"W	874.97	247.187	1.00	-0.19	1.84
3303.00	32.830	249.880	3103.70	284.77	-357.26	-853.18	1756603.03	14608174.30	40°13'22.438"N	80°35'01.566"W	924.96	247.279	1.32	0.62	2.16
3395.00	33.500	252.290	3180.72	297.04	-373.57	-900.79	1756555.44	14608158.01	40°13'22.279"N	80°35'02.180"W	975.18	247.476	1.61	0.73	2.62
3488.00	34.400	250.210	3257.87	309.58	-390.27	-949.96	1756506.29	14608141.31	40°13'22.117"N	80°35'02.815"W	1027.00	247.666	1.58	0.97	-2.24
3580.00	35.740	249.160	3333.16	323.74	-408.63	-999.52	1756456.74	14608122.96	40°13'21.938"N	80°35'03.455"W	1079.83	247.764	1.60	1.46	-1.14
3673.00	34.830	246.150	3409.08	339.92	-429.03	-1049.20	1756407.08	14608102.56	40°13'21.738"N	80°35'04.097"W	1133.53	247.760	2.11	-0.98	-3.24
3766.00	35.370	245.950	3485.17	357.47	-450.74	-1098.07	1756358.23	14608080.86	40°13'21.526"N	80°35'04.728"W	1186.99	247.683	0.59	0.58	-0.22
3859.00	35.890	245.360	3560.76	375.61	-473.07	-1147.43	1756308.89	14608058.54	40°13'21.308"N	80°35'05.366"W	1241.13	247.594	0.67	0.56	-0.63
3951.00	33.810	245.780	3636.26	393.28	-494.82	-1195.29	1756261.05	14608036.80	40°13'21.095"N	80°35'05.984"W	1293.67	247.512	2.28	-2.26	0.46
4044.00	33.870	250.010	3713.51	408.68	-514.30	-1243.25	1756213.11	14608017.33	40°13'20.905"N	80°35'06.604"W	1345.43	247.527	2.53	0.06	4.55
4137.00	33.080	250.530	3791.09	421.91	-531.62	-1291.53	1756164.85	14608000.02	40°13'20.736"N	80°35'07.227"W	1396.67	247.627	0.90	-0.85	0.56
4230.00	33.860	250.020	3868.67	435.13	-548.93	-1339.81	1756116.59	14607982.71	40°13'20.567"N	80°35'07.851"W	1447.90	247.721	0.89	0.84	-0.55
4323.00	36.260	251.220	3944.79	448.57	-566.64	-1390.21	1756066.21	14607965.01	40°13'20.394"N	80°35'08.501"W	1501.25	247.825	2.68	2.58	1.29
4415.00	35.920	249.920	4019.13	462.26	-584.66	-1441.31	1756015.12	14607946.99	40°13'20.218"N	80°35'09.161"W	1555.38	247.920	0.91	-0.37	-1.41
4508.00	35.110	245.750	4094.84	478.37	-605.02	-1491.33	1755965.13	14607926.65	40°13'20.020"N	80°35'09.807"W	1609.38	247.918	2.75	-0.87	-4.48
4601.00	33.970	245.150	4171.45	496.19	-626.92	-1539.29	1755917.19	14607904.75	40°13'19.805"N	80°35'10.427"W	1662.06	247.840	1.28	-1.23	-0.65
4693.00	33.550	249.790	4247.95	511.77	-646.51	-1586.48	1755870.02	14607885.17	40°13'19.614"N	80°35'11.036"W	1713.15	247.829	2.84	-0.46	5.04
4786.00	34.640	254.190	4324.97	523.66	-662.59	-1636.03	1755820.48	14607869.10	40°13'19.457"N	80°35'11.676"W	1765.12	247.952	2.90	1.17	4.73
4879.00	34.410	253.210	4401.59	534.18	-677.38	-1686.62	1755769.91	14607854.31	40°13'19.314"N	80°35'12.329"W	1817.57	248.119	0.65	-0.25	-1.05
4974.00	34.630	251.600	4479.87	546.11	-693.66	-1737.94	1755718.61	14607838.04	40°13'19.155"N	80°35'12.992"W	1871.25	248.242	0.99	0.23	-1.69
5067.00	35.810	250.860	4555.84	559.07	-710.92	-1788.72	1755667.86	14607820.79	40°13'18.987"N	80°35'13.647"W	1924.81	248.325	1.35	1.27	-0.80
5160.00	37.460	251.420	4630.47	572.56	-728.85	-1841.23	1755615.36	14607802.86	40°13'18.812"N	80°35'14.325"W	1980.24	248.404	1.81	1.77	0.60
5253.00	35.970	248.450	4705.02	587.18	-747.90	-1893.45	1755563.16	14607783.82	40°13'18.626"N	80°35'15.000"W	2035.80	248.446	2.49	-1.60	-3.19
5345.00	34.780	246.030	4780.04	603.59	-768.48	-1942.56	1755514.07	14607763.24	40°13'18.425"N	80°35'15.634"W	2089.04	248.416	2.00	-1.29	-2.63
5438.00	33.310	242.410	4857.10	622.20	-791.09	-1989.44	1755467.21	14607740.65	40°13'18.204"N	80°35'16.240"W	2140.95	248.315	2.69	-1.58	-3.89
5530.00	32.310	242.790	4934.43	641.37	-814.03	-2033.69	1755422.97	14607717.71	40°13'17.979"N	80°35'16.812"W	2190.56	248.185	1.11	-1.09	0.41

REFERENCE WELLPATH IDENTIFICATION

Operator	SOUTHWESTERN ENERGY	Slot	Slot #406
Area	Brooke County, WV	Well	John Good Jr BRK 406H
Field	Brooke	Wellbore	John Good Jr BRK 406H AWB
Facility	John Good Jr BRK Pad		

WELLPATH DATA (170 stations)

MD	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]
5623.00	34.930	247.810	5011.88	658.82	-835.46	-2080.47	1755376.22	14607696.29	40°13'17.769"N	80°35'17.416"W	2241.95	248.121	4.11	2.82	5.40
5716.00	33.230	246.090	5088.91	675.13	-855.85	-2128.42	1755328.28	14607675.91	40°13'17.570"N	80°35'18.035"W	2294.05	248.095	2.10	-1.83	-1.85
5809.00	32.670	247.540	5166.95	691.09	-875.76	-2174.91	1755281.81	14607656.00	40°13'17.376"N	80°35'18.636"W	2344.61	248.067	1.04	-0.60	1.56
5865.00	32.100	249.420	5214.24	699.73	-886.77	-2202.81	1755253.92	14607645.00	40°13'17.268"N	80°35'18.996"W	2374.60	248.072	2.07	-1.02	3.36
5958.00	34.550	248.670	5291.94	713.96	-905.05	-2250.52	1755206.23	14607626.73	40°13'17.090"N	80°35'19.612"W	2425.68	248.092	2.67	2.63	-0.81
6051.00	34.890	247.860	5368.38	729.40	-924.67	-2299.72	1755157.05	14607607.12	40°13'16.898"N	80°35'20.248"W	2478.65	248.096	0.62	0.37	-0.87
6144.00	35.180	237.200	5444.60	749.94	-949.23	-2346.92	1755109.87	14607582.57	40°13'16.657"N	80°35'20.858"W	2531.61	247.979	6.58	0.31	-11.46
6236.00	37.710	223.090	5518.74	781.31	-984.20	-2388.50	1755068.30	14607547.61	40°13'16.314"N	80°35'21.396"W	2583.33	247.606	9.50	2.75	-15.34
6329.00	43.220	210.890	5589.58	826.36	-1032.41	-2424.36	1755032.45	14607499.42	40°13'15.839"N	80°35'21.861"W	2635.03	246.933	10.35	5.92	-13.12
6422.00	48.250	202.330	5654.53	883.19	-1091.92	-2453.94	1755002.89	14607439.93	40°13'15.252"N	80°35'22.246"W	2685.91	246.013	8.52	5.41	-9.20
6514.00	52.930	195.020	5712.97	948.36	-1159.21	-2476.52	1754980.32	14607372.67	40°13'14.588"N	80°35'22.541"W	2734.39	244.917	7.97	5.09	-7.95
6607.00	55.520	184.400	5767.43	1021.26	-1233.41	-2489.10	1754967.74	14607298.49	40°13'13.856"N	80°35'22.707"W	2777.94	243.640	9.67	2.78	-11.42
6699.00	64.040	172.430	5813.82	1100.36	-1312.58	-2486.55	1754970.29	14607219.36	40°13'13.073"N	80°35'22.679"W	2811.73	242.172	14.55	9.26	-13.01
6792.00	73.850	165.520	5847.23	1186.45	-1397.57	-2469.82	1754987.02	14607134.40	40°13'12.233"N	80°35'22.469"W	2837.81	240.496	12.62	10.55	-7.43
6885.00	78.250	163.800	5869.64	1275.15	-1484.58	-2445.93	1755010.89	14607047.42	40°13'11.372"N	80°35'22.166"W	2861.22	238.744	5.06	4.73	-1.85
6977.00	85.750	164.470	5882.44	1364.49	-1572.15	-2421.05	1755035.76	14606959.89	40°13'10.505"N	80°35'21.850"W	2886.72	237.002	8.18	8.15	0.73
7070.00	89.200	162.940	5886.54	1455.52	-1661.31	-2394.99	1755061.82	14606870.76	40°13'09.623"N	80°35'21.520"W	2914.78	235.252	4.06	3.71	-1.65
7163.00	88.520	160.430	5888.39	1545.92	-1749.58	-2365.77	1755091.02	14606782.53	40°13'08.749"N	80°35'21.148"W	2942.43	233.516	2.80	-0.73	-2.70
7256.00	88.280	157.290	5890.98	1635.11	-1836.27	-2332.25	1755124.53	14606695.87	40°13'07.891"N	80°35'20.721"W	2968.38	231.785	3.38	-0.26	-3.38
7348.00	88.430	156.800	5893.62	1722.49	-1920.95	-2296.38	1755160.39	14606611.22	40°13'07.053"N	80°35'20.264"W	2993.90	230.087	0.56	0.16	-0.53
7441.00	88.400	156.310	5896.20	1810.50	-2006.24	-2259.39	1755197.36	14606525.96	40°13'06.208"N	80°35'19.792"W	3021.57	228.396	0.53	-0.03	-0.53
7534.00	88.490	156.170	5898.72	1898.48	-2091.33	-2221.94	1755234.81	14606440.90	40°13'05.366"N	80°35'19.315"W	3051.34	226.734	0.18	0.10	-0.15
7627.00	89.170	155.470	5900.62	1986.19	-2176.15	-2183.85	1755272.87	14606356.12	40°13'04.526"N	80°35'18.829"W	3082.99	225.101	1.05	0.73	-0.75
7720.00	89.170	153.460	5901.97	2073.15	-2260.05	-2143.77	1755312.94	14606272.25	40°13'03.695"N	80°35'18.317"W	3115.06	223.487	2.16	0.00	-2.16
7813.00	89.170	157.940	5903.31	2160.77	-2344.78	-2105.51	1755351.18	14606187.55	40°13'02.856"N	80°35'17.829"W	3151.38	221.922	4.82	0.00	4.82
7905.00	89.110	158.270	5904.70	2248.70	-2430.14	-2071.21	1755385.47	14606102.23	40°13'02.011"N	80°35'17.392"W	3193.03	220.441	0.36	-0.07	0.36
7998.00	89.170	155.830	5906.09	2337.05	-2515.76	-2034.95	1755421.71	14606016.64	40°13'01.163"N	80°35'16.930"W	3235.75	218.969	2.62	0.06	-2.62
8091.00	89.200	154.660	5907.41	2424.45	-2600.20	-1996.01	1755460.64	14605932.23	40°13'00.327"N	80°35'16.433"W	3277.98	217.511	1.26	0.03	-1.26
8184.00	89.170	156.070	5908.74	2511.91	-2684.73	-1957.25	1755499.38	14605847.74	40°12'59.490"N	80°35'15.938"W	3322.44	216.093	1.52	-0.03	1.52
8276.00	89.230	163.110	5910.02	2600.45	-2770.89	-1925.19	1755531.43	14605761.61	40°12'58.637"N	80°35'15.530"W	3374.05	214.791	7.65	0.07	7.65

REFERENCE WELLPATH IDENTIFICATION

Operator	SOUTHWESTERN ENERGY	Slot	Slot #406
Area	Brooke County, WV	Well	John Good Jr BRK 406H
Field	Brooke	Wellbore	John Good Jr BRK 406H AWB
Facility	John Good Jr BRK Pad		

WELLPATH DATA (170 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]
8369.00	89.140	166.840	5911.35	2691.95	-2860.69	-1901.09	1755555.52	1460567.185	40°12'57.748"N	80°35'15.225"W	3434.77	213.606	4.01	-0.10	4.01
8461.00	89.260	166.630	5912.63	2782.93	-2950.22	-1879.98	1755576.62	14605582.35	40°12'56.863"N	80°35'14.958"W	3498.31	212.507	0.26	0.13	-0.23
8554.00	89.200	164.240	5913.88	2874.57	-3040.22	-1856.60	1755600.00	14605492.39	40°12'55.972"N	80°35'14.662"W	3562.29	211.412	2.57	-0.06	-2.57
8647.00	89.230	162.260	5915.16	2965.53	-3129.26	-1829.80	1755626.79	14605403.38	40°12'55.091"N	80°35'14.322"W	3624.97	210.316	2.13	0.03	-2.13
8740.00	89.110	155.750	5916.50	3054.78	-3216.03	-1796.50	1755660.07	14605316.64	40°12'54.232"N	80°35'13.898"W	3683.78	209.188	7.00	-0.13	-7.00
8833.00	89.020	152.390	5918.02	3141.50	-3299.64	-1755.85	1755700.71	146052233.06	40°12'53.404"N	80°35'13.379"W	3737.73	208.019	3.61	-0.10	-3.61
8925.00	89.170	156.130	5919.48	3227.39	-3382.49	-1715.90	1755740.64	14605150.25	40°12'52.583"N	80°35'12.869"W	3792.83	206.898	4.07	0.16	4.07
9018.00	89.200	158.940	5920.80	3315.98	-3468.42	-1680.37	1755776.16	14605064.35	40°12'51.733"N	80°35'12.416"W	3854.03	205.849	3.02	0.03	3.02
9111.00	89.200	158.910	5922.10	3405.24	-3555.19	-1646.94	1755809.58	14604977.62	40°12'50.874"N	80°35'11.990"W	3918.13	204.856	0.03	0.00	-0.03
9200.00	88.520	154.010	5923.87	3489.48	-3636.74	-1611.41	1755845.09	14604896.10	40°12'50.066"N	80°35'11.537"W	3977.75	203.898	5.56	-0.76	-5.51
9293.00	89.110	151.110	5925.79	3575.28	-3719.25	-1568.57	1755887.52	14604813.62	40°12'49.249"N	80°35'10.990"W	4036.48	202.867	3.18	0.63	-3.12
9386.00	89.230	158.420	5927.14	3662.35	-3803.31	-1528.95	1755927.52	14604729.59	40°12'48.416"N	80°35'10.485"W	4099.13	201.900	7.86	0.13	7.86
9478.00	89.230	156.570	5928.38	3749.98	-3888.29	-1493.74	1755962.72	14604644.64	40°12'47.575"N	80°35'10.036"W	4165.34	201.015	2.01	0.00	-2.01
9571.00	89.200	151.840	5929.65	3836.76	-3971.99	-1453.28	1756003.16	14604560.97	40°12'46.746"N	80°35'09.519"W	4229.51	200.097	5.09	-0.03	-5.09
9664.00	89.260	153.440	5930.90	3922.63	-4054.58	-1410.55	1756045.88	14604478.42	40°12'45.928"N	80°35'08.974"W	4292.93	199.182	1.72	0.06	1.72
9756.00	89.290	158.140	5932.07	4009.37	-4138.46	-1372.83	1756083.58	14604394.57	40°12'45.097"N	80°35'08.492"W	4360.22	198.352	5.11	0.03	5.11
9849.00	89.290	157.180	5933.22	4098.03	-4224.47	-1337.49	1756118.91	14604308.59	40°12'44.246"N	80°35'08.042"W	4431.14	197.568	1.03	0.00	-1.03
9942.00	89.050	154.260	5934.57	4185.68	-4309.22	-1299.26	1756157.13	14604223.87	40°12'43.406"N	80°35'07.554"W	4500.83	196.778	3.15	-0.26	-3.14
10034.00	89.380	154.430	5935.83	4271.64	-4392.15	-1259.43	1756196.94	14604140.98	40°12'42.585"N	80°35'07.046"W	4569.15	196.000	0.40	0.36	0.18
10127.00	89.420	159.650	5936.80	4359.97	-4477.74	-1223.16	1756233.19	14604055.42	40°12'41.738"N	80°35'06.584"W	4641.80	195.278	5.61	0.04	5.61
10220.00	89.320	162.660	5937.83	4450.17	-4565.74	-1193.13	1756263.21	14603967.45	40°12'40.867"N	80°35'06.202"W	4719.07	194.645	3.24	-0.11	3.24
10313.00	89.350	160.850	5938.91	4540.60	-4654.06	-1164.02	1756292.32	14603879.17	40°12'39.992"N	80°35'05.832"W	4797.42	194.042	1.95	0.03	-1.95
10405.00	89.350	159.230	5939.95	4629.39	-4740.52	-1132.61	1756323.70	14603792.74	40°12'39.137"N	80°35'05.432"W	4873.95	193.437	1.76	0.00	-1.76
10498.00	89.290	160.280	5941.05	4719.02	-4827.77	-1100.44	1756355.87	14603705.52	40°12'38.273"N	80°35'05.023"W	4951.60	192.841	1.13	-0.06	1.13
10591.00	89.420	165.110	5942.10	4809.78	-4916.53	-1072.78	1756383.51	14603616.80	40°12'37.395"N	80°35'04.672"W	5032.21	192.309	5.20	0.14	5.19
10684.00	89.380	165.940	5943.07	4901.45	-5006.57	-1049.54	1756406.75	14603526.79	40°12'36.504"N	80°35'04.378"W	5115.40	191.840	0.89	-0.04	0.89
10776.00	89.420	158.110	5944.04	4990.95	-5094.01	-1021.17	1756435.11	14603439.39	40°12'35.638"N	80°35'04.017"W	5195.35	191.336	8.51	0.04	-8.51
10869.00	89.290	156.890	5945.09	5079.53	-5179.92	-985.58	1756470.68	14603353.51	40°12'34.788"N	80°35'03.564"W	5272.85	190.773	1.32	-0.14	-1.31
10962.00	89.480	153.640	5946.08	5166.94	-5264.37	-946.68	1756509.57	14603269.09	40°12'33.951"N	80°35'03.067"W	5348.82	190.194	3.50	0.20	-3.49
11055.00	89.600	153.320	5946.83	5253.32	-5347.59	-905.15	1756551.08	14603185.91	40°12'33.127"N	80°35'02.537"W	5423.65	189.607	0.37	0.13	-0.34

REFERENCE WELLPATH IDENTIFICATION

Operator	SOUTHWESTERN ENERGY	Slot	Slot #406
Area	Brooke County, WV	Well	John Good Jr BRK 406H
Field	Brooke	Wellbore	John Good Jr BRK 406H AWB
Facility	John Good Jr BRK Pad		

WELLPATH DATA (170 stations)

MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	Closure Dist (ft)	Closure Dir (°)	DLS (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
11147.00	89.630	157.080	5947.45	5339.75	-5431.08	-866.57	1756589.64	14603102.44	40°12'32.300"N	80°35'02.045"W	5499.78	189.066	4.09	0.03	4.09
11240.00	89.600	157.100	5948.07	5428.14	-5516.75	-830.37	1756625.83	14603016.82	40°12'31.452"N	80°35'01.584"W	5578.89	188.560	0.04	-0.03	0.02
11333.00	89.630	155.350	5948.70	5516.08	-5601.85	-792.88	1756663.31	14602931.75	40°12'30.609"N	80°35'01.106"W	5657.68	188.056	1.88	0.03	-1.88
11426.00	89.570	154.340	5949.35	5603.26	-5686.03	-753.35	1756702.82	14602847.60	40°12'29.776"N	80°35'00.601"W	5735.71	187.547	1.09	-0.06	-1.09
11518.00	89.540	156.130	5950.06	5689.72	-5769.56	-714.81	1756741.34	14602764.10	40°12'28.948"N	80°35'00.110"W	5813.67	187.063	1.95	-0.03	1.95
11611.00	89.570	161.810	5950.79	5778.97	-5856.33	-681.45	1756774.69	14602677.37	40°12'28.090"N	80°34'59.685"W	5895.84	186.637	6.11	0.03	6.11
11704.00	89.540	161.910	5951.51	5869.45	-5944.70	-652.50	1756803.63	14602589.03	40°12'27.215"N	80°34'59.317"W	5980.40	186.264	0.11	-0.03	0.11
11797.00	89.260	161.130	5952.48	5959.80	-6032.90	-623.02	1756833.10	14602500.86	40°12'26.342"N	80°34'58.942"W	6064.98	185.896	0.89	-0.30	-0.84
11890.00	89.420	159.660	5953.55	6049.70	-6120.50	-591.82	1756864.29	14602413.29	40°12'25.475"N	80°34'58.546"W	6149.05	185.523	1.59	0.17	-1.58
11983.00	89.320	158.830	5954.58	6139.11	-6207.46	-558.87	1756897.23	14602326.37	40°12'24.614"N	80°34'58.126"W	6232.57	185.145	0.90	-0.11	-0.89
12075.00	89.260	158.290	5955.72	6227.25	-6293.09	-525.24	1756930.84	14602240.78	40°12'23.766"N	80°34'57.698"W	6314.97	184.771	0.59	-0.07	-0.59
12168.00	89.260	156.870	5956.92	6315.87	-6379.05	-489.78	1756966.29	14602154.85	40°12'22.915"N	80°34'57.246"W	6397.82	184.390	1.53	0.00	-1.53
12261.00	89.320	156.540	5958.07	6404.05	-6464.46	-453.00	1757003.06	14602069.47	40°12'22.069"N	80°34'56.777"W	6480.31	184.008	0.36	0.06	-0.35
12354.00	89.320	157.160	5959.17	6492.31	-6549.96	-416.44	1757039.60	14601984.00	40°12'21.223"N	80°34'56.311"W	6563.19	183.638	0.67	0.00	0.67
12447.00	89.290	158.440	5960.30	6581.04	-6636.06	-381.30	1757074.72	14601897.93	40°12'20.370"N	80°34'55.884"W	6647.01	183.289	1.38	-0.03	1.38
12540.00	89.230	159.820	5961.50	6670.40	-6722.95	-348.18	1757107.84	14601811.08	40°12'19.510"N	80°34'55.442"W	6731.96	182.965	1.49	-0.06	1.48
12632.00	89.200	158.900	5962.76	6758.89	-6809.04	-315.75	1757140.25	14601725.02	40°12'18.658"N	80°34'55.029"W	6816.35	182.655	1.00	-0.03	-1.00
12725.00	89.230	157.400	5964.04	6847.79	-6895.34	-281.14	1757174.85	14601638.75	40°12'17.803"N	80°34'54.588"W	6901.07	182.335	1.61	0.03	-1.61
12818.00	89.170	158.110	5965.34	6936.49	-6981.41	-245.94	1757210.04	14601552.71	40°12'16.951"N	80°34'54.140"W	6985.74	182.018	0.77	-0.06	0.76
12910.00	89.140	153.040	5966.69	7023.11	-7065.14	-207.91	1757248.05	14601469.02	40°12'16.122"N	80°34'53.655"W	7068.20	181.686	5.51	-0.03	-5.51
13003.00	89.170	152.550	5968.07	7109.07	-7147.85	-165.40	1757290.54	14601386.34	40°12'15.303"N	80°34'53.112"W	7149.76	181.326	0.53	0.03	-0.53
13096.00	89.170	154.080	5969.41	7195.35	-7230.93	-123.64	1757332.29	14601303.29	40°12'14.480"N	80°34'52.579"W	7231.99	180.980	1.64	0.00	1.65
13189.00	89.200	156.890	5970.74	7282.88	-7315.53	-85.06	1757370.85	14601218.73	40°12'13.642"N	80°34'52.087"W	7316.02	180.666	3.02	0.03	3.02
13281.00	89.200	156.870	5972.02	7370.20	-7400.13	-48.94	1757406.96	14601134.16	40°12'12.804"N	80°34'51.627"W	7400.29	180.379	0.02	0.00	-0.02
13374.00	89.260	160.840	5973.27	7459.41	-7486.85	-15.40	1757440.48	14601047.48	40°12'11.946"N	80°34'51.200"W	7486.86	180.118	4.27	0.06	4.27
13467.00	89.170	167.830	5974.55	7550.68	-7576.33	9.69	1757465.57	14600958.03	40°12'11.061"N	80°34'50.882"W	7576.33	179.927	7.52	-0.10	7.52
13560.00	89.170	161.730	5975.89	7642.09	-7666.01	34.09	1757489.96	14600868.38	40°12'10.173"N	80°34'50.573"W	7666.09	179.745	6.56	0.00	-6.56
13653.00	89.480	157.930	5976.99	7731.73	-7753.29	66.15	1757522.01	14600781.14	40°12'09.309"N	80°34'50.165"W	7753.57	179.511	4.10	0.33	-4.09
13746.00	89.480	161.430	5977.83	7821.32	-7840.48	98.44	1757554.28	14600693.98	40°12'08.446"N	80°34'49.754"W	7841.10	179.281	3.76	0.00	3.76
13838.00	89.450	163.160	5978.69	7910.98	-7928.12	126.42	1757582.25	14600606.37	40°12'07.579"N	80°34'49.399"W	7929.13	179.086	1.88	-0.03	1.88

REFERENCE WELLPATH IDENTIFICATION

Operator	SOUTHWESTERN ENERGY	Slot	Slot #406
Area	Brooke County, WV	Well	John Good Jr BRK 406H
Field	Brooke	Wellbore	John Good Jr BRK 406H AWB
Facility	John Good Jr BRK Pad		

WELLPATH DATA (170 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS ["/100ft]	Build Rate ["/100ft]	Turn Rate ["/100ft]
13931.00	89.450	159.590	5979.59	8001.27	-8016.23	156.11	1757611.93	14600518.30	40°12'06.707"N	80°34'49.021"W	8017.75	178.884	3.84	0.00	-3.84
14024.00	89.450	158.650	5980.48	8090.62	-8103.12	189.26	1757645.06	14600431.44	40°12'05.846"N	80°34'48.600"W	8105.33	178.662	1.01	0.00	-1.01
14117.00	89.420	160.060	5981.40	8180.08	-8190.14	222.04	1757677.84	14600344.46	40°12'04.985"N	80°34'48.182"W	8193.15	178.447	1.52	-0.03	1.52
14210.00	89.480	160.140	5982.29	8269.86	-8277.58	253.70	1757709.48	14600257.05	40°12'04.119"N	80°34'47.780"W	8281.47	178.245	0.11	0.06	0.09
14302.00	89.480	157.990	5983.12	8358.22	-8363.50	286.57	1757742.34	14600171.16	40°12'03.269"N	80°34'47.361"W	8368.41	178.038	2.34	0.00	-2.34
14395.00	89.480	156.210	5983.97	8446.60	-8449.16	322.75	1757778.51	14600085.53	40°12'02.421"N	80°34'46.900"W	8455.32	177.812	1.91	0.00	-1.91
14488.00	89.450	151.430	5984.84	8533.17	-8532.59	363.77	1757819.51	14600002.13	40°12'01.594"N	80°34'46.377"W	8540.34	177.559	5.14	-0.03	-5.14
14581.00	89.480	150.520	5985.71	8617.97	-8613.91	408.89	1757864.61	14599920.85	40°12'00.789"N	80°34'45.800"W	8623.61	177.282	0.98	0.03	-0.98
14674.00	89.880	156.550	5986.23	8704.35	-8697.12	450.32	1757906.02	14599837.67	40°11'59.964"N	80°34'45.271"W	8708.77	177.036	6.50	0.43	6.48
14766.00	89.940	158.060	5986.37	8791.89	-8782.00	485.81	1757941.50	14599752.82	40°11'59.124"N	80°34'44.819"W	8795.42	176.834	1.64	0.07	1.64
14859.00	89.970	157.670	5986.44	8880.66	-8868.14	520.85	1757976.53	14599666.71	40°11'58.271"N	80°34'44.373"W	8883.43	176.639	0.42	0.03	-0.42
14952.00	90.030	157.640	5986.44	8969.33	-8954.16	556.21	1758011.87	14599580.73	40°11'57.419"N	80°34'43.923"W	8971.42	176.446	0.07	0.06	-0.03
15045.00	89.600	155.190	5986.74	9057.37	-9039.38	593.42	1758049.07	14599495.54	40°11'56.575"N	80°34'43.448"W	9058.84	176.244	2.67	-0.46	-2.63
15137.00	89.720	158.010	5987.29	9144.55	-9123.81	629.95	1758085.59	14599411.15	40°11'55.740"N	80°34'42.983"W	9145.53	176.050	3.07	0.13	3.07
15227.00	89.880	159.130	5987.60	9230.77	-9207.58	662.83	1758118.45	14599327.40	40°11'54.910"N	80°34'42.564"W	9231.41	175.883	1.26	0.18	1.24
15320.00	90.950	158.210	5986.93	9319.92	-9294.21	696.66	1758152.27	14599240.81	40°11'54.053"N	80°34'42.133"W	9320.28	175.713	1.52	1.15	-0.99
15413.00	91.200	156.990	5985.19	9408.55	-9380.17	732.09	1758187.69	14599154.88	40°11'53.201"N	80°34'41.682"W	9408.70	175.537	1.34	0.27	-1.31
15506.00	92.280	156.050	5982.36	9496.60	-9465.43	769.12	1758224.71	14599069.65	40°11'52.357"N	80°34'41.210"W	9496.63	175.355	1.54	1.16	-1.01
15532.00	92.950	155.630	5981.18	9521.10	-9489.13	779.76	1758235.33	14599045.97	40°11'52.122"N	80°34'41.074"W	9521.11	175.302	3.04	2.58	-1.62
15556.00	92.950	155.630	6979.94	9543.68	-9510.96	789.65	1758245.22	14599024.14	40°11'51.906"N	80°34'40.948"W	9543.69	175.254	0.00	0.00	0.00

REFERENCE WELLPATH IDENTIFICATION

Operator	SOUTHWESTERN ENERGY		Slot	Slot #406
Area	Brooke County, WV		Well	John Good Jr BRK 406H
Field	Brooke		Wellbore	John Good Jr BRK 406H AWB
Facility	John Good Jr BRK Pad			

HOLE & CASING SECTIONS - Ref Wellbore: John Good Jr BRK 406H AWB Ref Wellpath: John Good Jr BRK 406H AWP Proj: 15556'

String/Diameter	Start MD [ft]	End MD [ft]	Interval [ft]	Start TVD [ft]	End TVD [ft]	Start N/S [ft]	Start E/W [ft]	End N/S [ft]	End E/W [ft]
17.5in Open Hole	26.00	500.00	474.00	26.00	499.99	0.00	0.00	1.81	-2.05
13.375in Casing Surface	26.00	380.00	354.00	26.00	379.99	0.00	0.00	1.97	-1.63
12.25in Open Hole	500.00	1723.00	1223.00	499.99	1698.84	1.81	-2.05	-87.49	-206.39
9.625in Casing Intermediate	26.00	1701.00	1675.00	26.00	1677.42	0.00	0.00	-84.85	-202.14
8.75in Open Hole	1723.00	5879.00	4156.00	1698.84	5226.07	-87.49	-206.39	-889.41	-2209.81
8.5in Open Hole	5879.00	15556.00	9677.00	5226.07	5979.94	-889.41	-2209.81	-9510.96	789.65

TARGETS

Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
John Good Jr BRK 406H LP Rev-3	5886.00	-1589.73	-2413.24	1755043.58	14606942.32	40°13'10.331"N	80°35'21.751"W	point
John Good Jr N LL	5897.00	-26.63	7.38	1757463.26	14608504.81	40°13'25.666"N	80°34'50.452"W	polygon
John Good Jr S LL	5897.00	-26.63	7.38	1757463.26	14608504.81	40°13'25.666"N	80°34'50.452"W	polygon
John Good Jr SW LL	5897.00	-26.63	7.38	1757463.26	14608504.81	40°13'25.666"N	80°34'50.452"W	polygon
John Good Jr BRK 406H BHL Rev-3	5994.00	-9576.95	803.28	1758258.85	14598958.18	40°11'51.253"N	80°34'40.777"W	point

REFERENCE WELLPATH IDENTIFICATION

Operator	SOUTHWESTERN ENERGY	Slot	Slot #406
Area	Brooke County, WV	Well	John Good Jr BRK 406H
Field	Brooke	Wellbore	John Good Jr BRK 406H AWB
Facility	John Good Jr BRK Pad		

WELLPATH COMPOSITION - Ref Wellbore: John Good Jr BRK 406H AWB Ref Wellpath: John Good Jr BRK 406H AWP Proj: 15556'

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
26.00	430.00	OWSG EMS rev2 - Standard	01_MSS <17.5"> (260'-430')	John Good Jr BRK 406H AWB
430.00	1626.00	BHI NaviTrak (Axial)	02_APS EM <12.25"> (430')(513'-1626')	John Good Jr BRK 406H AWB
1626.00	5809.00	BHI NaviTrak (Axial)	03_APS EM <8.75"> (1626')(1724'-5809')	John Good Jr BRK 406H AWB
5809.00	15532.00	BHI AutoTrak Curve (Short)	04_BH AT Curve <8.5"> (5809')(5865'-15532')	John Good Jr BRK 406H AWB
15532.00	15556.00	Blind Drilling (std)	Projection to bit	John Good Jr BRK 406H AWB

REFERENCE WELLPATH IDENTIFICATION

Operator	SOUTHWESTERN ENERGY	Slot	Slot #406
Area	Brooke County, WV	Well	John Good Jr BRK 406H
Field	Brooke	Wellbore	John Good Jr BRK 406H AWB
Facility	John Good Jr BRK Pad		

WELLPATH COMMENTS

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
260.00	0.800	324.880	259.99	MSS <17.5"> (260'-430')
513.00	0.700	247.180	512.99	APS EM <12.25"> (430')(513'-1626')
1724.00	13.000	238.250	1699.82	APS EM <8.75"> (1626')(1724'-5809')
5865.00	32.100	249.420	5214.24	BH AT Curve <8.5"> (5809')(5865'-15532')
15556.00	92.950	155.630	5979.94	Projection to Bit

COMMENTS

Wellpath general comments
API: 47-009-00198-0000
Job#: 8698650
Rig: SDC-46
Duration: 08/08/17 - 08/16/17

Top Hole Latitude: 40°15'00"

10,960'

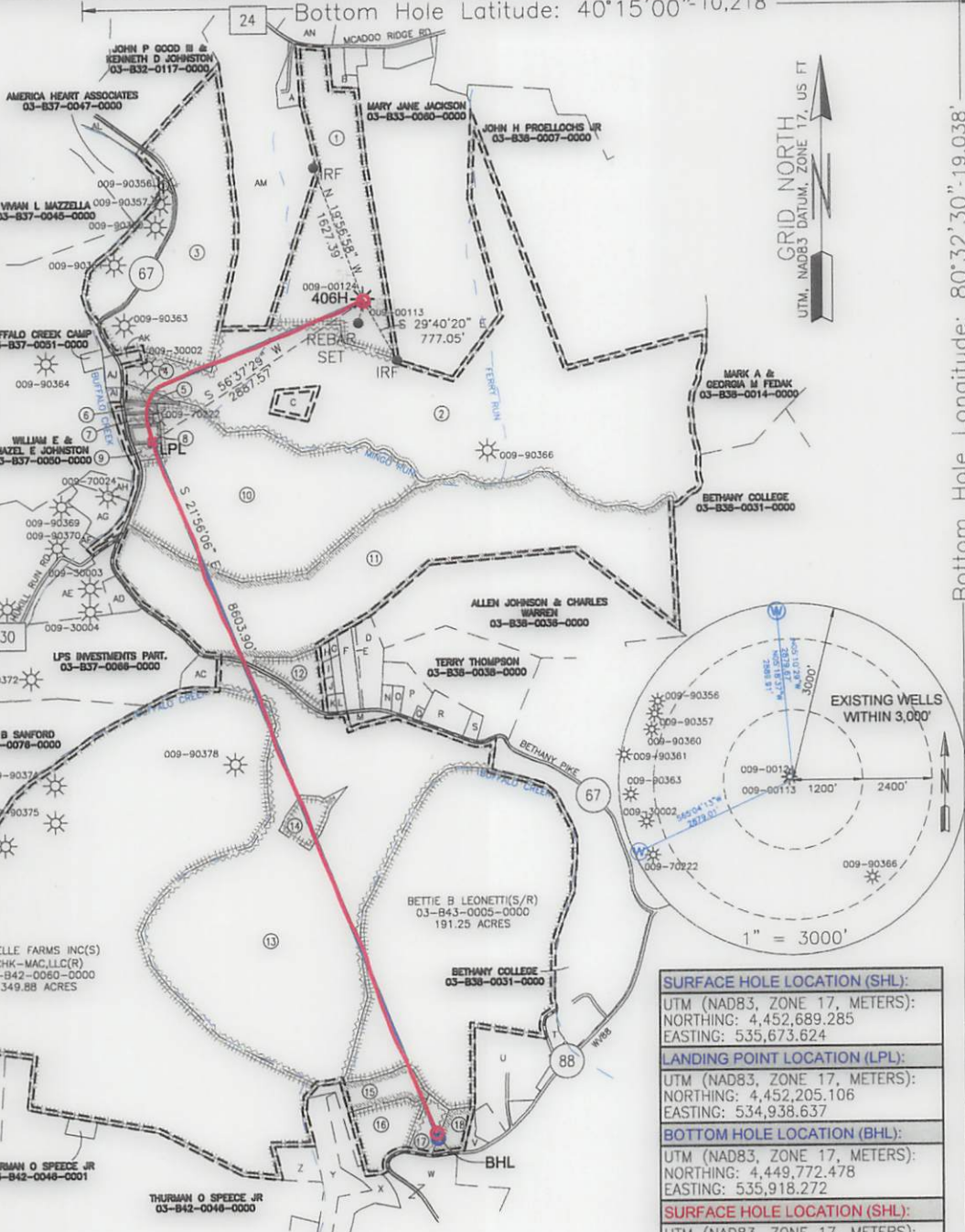
Bottom Hole Latitude: 40°15'00"-10,218'

THRASHER

THE THRASHER GROUP, INC.
600 WHITE OAKS BLVD.
BRIDGEPORT, WV 26330
PHONE 304-624-4108

NOTES ON SURVEY

- COORDINATES SYSTEM IS UTM, NAD 83 DATUM, ZONE 17, U.S. FOOT AND WELL COORDINATES ESTABLISHED USING SURVEY GRADE GPS.
- SURFACE AND ROYALTY OWNER INFORMATION AND THEIR BOUNDARIES SHOWN HEREON WERE PLOTTED FROM DEEDS AND/OR TAX PARCEL MAPS PROVIDED BY CLIENT AND FIELD LOCATIONS.
- THIS PLAT DOES NOT REPRESENT A BOUNDARY SURVEY OF THE PARCELS SHOWN HEREON.
- NO DWELLINGS AND BUILDINGS WITHIN 625 FEET OF PROPOSED OF CENTER OF PAD.
- NO WATER WELLS OR DEVELOPED SPRINGS WITHIN 250 FEET OF PROPOSED WELL.
- NO PERENNIAL STREAMS, LAKES, PONDS, RESERVOIRS OR WETLANDS WITHIN 100 FEET OF THE LIMITS OF DISTURBANCE.
- NO NATURALLY PRODUCING TROUT STREAM HAZEL E JOHNSTON 03-B37-0050-0000 WITHIN 300 FEET OF LIMITS OF DISTURBANCE.



Bottom Hole Longitude: 80°32'30"-19,038'

Top Hole Longitude: 80°32'30"

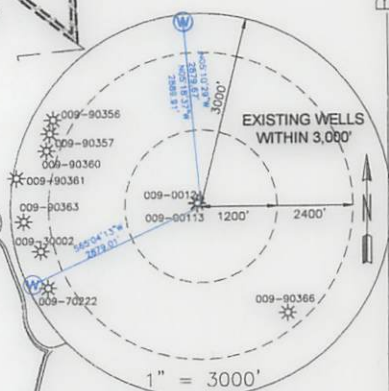
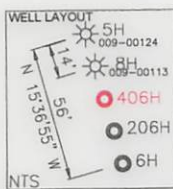
Top Hole Longitude: 80°32'30"

Top Hole Longitude: 80°32'30"

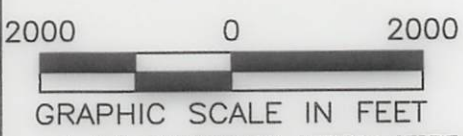
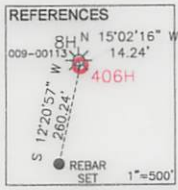
Top Hole Longitude: 80°32'30"

Top Hole Longitude: 80°32'30"

Top Hole Longitude: 80°32'30"



SURFACE HOLE LOCATION (SHL):
UTM (NAD83, ZONE 17, METERS):
NORTHING: 4,452,689.285
EASTING: 535,673.624
LANDING POINT LOCATION (LPL):
UTM (NAD83, ZONE 17, METERS):
NORTHING: 4,452,205.106
EASTING: 534,938.637
BOTTOM HOLE LOCATION (BHL):
UTM (NAD83, ZONE 17, METERS):
NORTHING: 4,449,772.478
EASTING: 535,918.272
SURFACE HOLE LOCATION (SHL):
UTM (NAD83, ZONE 17, METERS):
NORTHING: 4,452,689.285
EASTING: 535,673.624
LANDING POINT LOCATION (LPL):
UTM (NAD83, ZONE 17, METERS):
NORTHING: 4,452,210.139
EASTING: 534,935.653
BOTTOM HOLE LOCATION (BHL):
UTM (NAD83, ZONE 17, METERS):
NORTHING: 4,449,790.385
EASTING: 535,914.276



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. 2270 *M.S.W. 1/8/18*



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

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

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

OPERATOR'S WELL #: JOHN GOOD JR BRK 406H
 API WELL #: 47 STATE 009 COUNTY 00198 PERMIT

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

WATERSHED: BUFFALO CREEK ELEVATION: 1152.6'

DISTRICT: BUFFALO COUNTY: BROOKE QUADRANGLE: BETHANY

SURFACE OWNER: JOHN P. GOOD III, TRUSTEE OF THE JOHN P. GOOD JR. IRREVOCABLE TRUST ACREAGE: 66.57

OIL & GAS ROYALTY OWNER: JOHN P. GOOD JR. ACREAGE: 66.57

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: MARCELLUS ESTIMATED DEPTH: 5,988' TVD 15,556' 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:	— SURVEYED BOUNDARY	REVISIONS:	DATE: 01-08-2018
● PROPOSED SURFACE HOLE / BOTTOM HOLE	— DRILLING UNIT		
⊙ EXISTING / PRODUCING WELLHEAD	— LEASE BOUNDARY		
LPL * LANDING POINT LOCATION	— PROPOSED PATH		
⊙ EXISTING WATER WELL	— AS-DRILLED PATH		
⊙ EXISTING SPRING			

PROPERTY NUMBER 2501163297
 PAD ID 3001156341

THRASHER

THE THRASHER GROUP, INC.
600 WHITE OAKS BLVD.
BRIDGEPORT, WV 26330
PHONE 304-624-4108

TRACT	SURFACE OWNER	TAX PARCEL	ACRES
1	JOHN P. GOOD II, TRUSTEE OF THE JOHN P. GOOD JR. IRREVOCABLE TRUST	03-838-0001-0000	86.57
2	STARVAGGI INDUSTRIES INC	03-837-0053-0000	215.08
3	BONNIE LEE LUKACENA, SHELBY CARRELL, SHAYNE SCHUETZNER, SHANON SCHUETZNER, SHEY SCHUETZNER, CHERI SHARPE, JOHN THOMAS RODGERS, PAIGE ELIZABETH ROLLINS	03-837-0048-0000	81.50
4	VERNON E SMITH, REBECCA HALL, LAWRENCE PAUL SMITH, LINDA DARLENE CAREY, VERNON EUGENE SMITH JR	03-837-0054-0000	0.97
5	MARLIN G SR & JOY CRAWFORD	03-837-0055-0000	1.33
6	ERWIN R JR & ARLENE CORWIN	03-837-0056-0000	1.11
7	JEREMY S PERSINGER	03-837-0057-0000	1.07
8	TRAVIS POLEN	03-837-0059-0000	1.84
9	JOHN E & SHERRILL J RIPLEY	03-837-0061-0000	1.30
10	WILDA L RIPLEY, JOHN E & SHERRILL J RIPLEY	03-837-0062-0000	95.40
11	MELVIN E PELUCHETTE	03-837-0063-0000	109.39
12	SHAWN C ARACICH	03-837-0064-0000	8.30
13	ELLEN B SANFORD, ROBERT & EVELEYN CHEHL, STEPHEN & ANN PAULL, HARRY SANFORD, JAMES & JO ELLEN HAZLETT	03-838-0059-0000	203.93
14	JAMES A & JO ELLEN HAZLETT	03-843-0064-0000	5.74
15	WINDSOR POWER HOUSE COAL CO	03-843-0015-0000	5.74
16	MARY LOU CHAMBERS	03-843-0014-0000	11.25
17	MARY LOU CHAMBERS	03-843-0013-0000	3.77
18	MARY LOU CHAMBERS	03-843-0012-0000	2.00

TRACT	ADJOINER	TAX PARCEL
A	JOHN P. GOOD JR	03-832-0119-0000
B	JOHN P. GOOD JR	03-833-0057-0000
C	MARLIN G CRAWFORD	03-837-0053-0002
D	MARK T NICHOLSON	03-838-0045-0000
E	MARK T NICHOLSON	03-838-0046-0000
F	HARRY J LOWE	03-838-0047-0000
G	LESLIE & GAYLENE ELSON	03-838-0051-0000
H	LESLIE & GAYLENE ELSON	03-838-0052-0000
I	LESLIE & GAYLENE ELSON	03-838-0053-0000
J	LESLIE & GAYLENE ELSON	03-838-0054-0000
K	LESLIE & GAYLENE ELSON	03-838-0055-0000
L	LESLIE & GAYLENE ELSON	03-838-0048-0000
M	PENNY M STUMPF	03-838-0057-0000
N	MATHEW T NICHOLSON	03-838-0043-0000
O	MARK T NICHOLSON	03-838-0042-0001
P	ROY T NICHOLSON	03-838-0042-0000
Q	ROY T NICHOLSON	03-838-0041-0000
R	AMY LYNN RICE	03-838-0040-0000
S	GEORGE S RICE	03-838-0039-0000
T	BRIAN CORWIN	03-843-0026-0000
U	JOHN BECK	03-843-0006-0000
V	MARY WELLS CHAMBERS	03-843-0011-0000
W	WILLIAM P & YVONNE I GROOMS	03-843-0017-0000
X	WINDSOR POWER HOUSE COAL CO	03-843-0016-0000
Y	WINDSOR POWER HOUSE COAL CO	03-842-0048-0000
Z	THURMAN D SPEECE JR	03-842-0047-0000
AA	AUSTIN W WADE	03-842-0050-0000
AB	AUSTIN WADE	03-842-0080-0001
AC	JOHN B DAUGHERTY	03-837-0065-0000
AD	KETH LORAE	03-837-0067-0000
AE	THEODORE W BUNNELL	03-837-0068-0000
AF	WILLIAM E & HAZEL E JOHNSTON	03-837-0069-0000
AG	JOSEPH K BOBMAN	03-837-0069-0001
AH	JOSEPH K BOBMAN SR	03-837-0070-0000
AI	MARLIN G CRAWFORD SR	03-837-0055-0000
AJ	WILLIAM E & HAZEL E JOHNSTON	03-837-0053-0001
AK	CLEO KLAGES	03-837-0052-0000
AL	BONNIE LUKACENA	03-837-0049-0000
AM	MARSH LIVING TRUST	03-832-0118-0000
AN	BRIAN BRIGSALL	03-832-0120-0000

COMPANY:

SWN

Production Company, LLC

SWN ^{R+}/_A → V+⁺

Production Company™

JOHN GOOD JR

OPERATOR'S WELL #:

BRK 406H

REVISIONS:	DATE: 01-08-2018
	DRAWN BY: R. DOERR
	SCALE: 1" = 2000'
	DRAWING NO: 050-5700
	WELL LOCATION PLAT