

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

API 47-051-02133 County MARSHALL District LIBERTY
Quad LITTLETON Pad Name YOCUM MSH PAD Field/Pool Name VICTORY FIELD WET
Farm name JOSEPH LEE AND MICHAEL D. YOCUM Well Number YOCUM MSH 1H
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 4,398,196.510 Easting 535,684.290
Landing Point of Curve Northing 4,398,030.910 Easting 535,484.350
Bottom Hole Northing 4,400,455.880 Easting 532,788.640

Elevation (ft) 1079.4' 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

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WV Department of
Environmental Protection

Date permit issued 1/8/2019 Date drilling commenced 1/20/2019 Date drilling ceased 2/19/2019
Date completion activities began 5/6/2019 Date completion activities ceased _____
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 437 Open mine(s) (Y/N) depths N
Salt water depth(s) ft 894 Void(s) encountered (Y/N) depths N
Coal depth(s) ft 878 Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

Reviewed

Jim Nicholson
Alicia Shanton 1/23/2020

Reviewed by: _____

API 47-051 - 02133 Farm name JOSEPH LEE AND MICHAEL D. YOCUM Well number YOCUM MSH 1H

CASING STRINGS	Hole Size	Casing Size	Depth	New or Used	Grade wt/ft	Basket Depth(s)	Did cement circulate (Y/N) * Provide details below*
Conductor	24	20	126	NEW	J-55/94#		Y
Surface	17.5	13.375	537	NEW	J-55/54.50#		Y, 25 BBLS
Coal	SEE INTERMEDIATE						
Intermediate 1	12.25	9.625	2478	NEW	J-55/36#		Y, 42 BBLS
Intermediate 2							
Intermediate 3							
Production	8.75/8.50	5.5	19465	NEW	HCP-110/20#		Y, 51 BBLS
Tubing				NEW			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	479	15.60	1.20	574.8	SURFACE	8
Coal	SEE INTERMEDIATE						
Intermediate 1	CLASS A	760	15.60	1.19	904.4	SURFACE	8
Intermediate 2							
Intermediate 3							
Production	CLASS A	3,515	15.60	1.19	4,182.85	SURFACE	24
Tubing							

Drillers TD (ft) 19,465 Loggers TD (ft) 19,465
 Deepest formation penetrated MARCELLUS Plug back to (ft) N/A
 Plug back procedure N/A

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Kick off depth (ft) 6,216'

SEP 19 2019

Check all wireline logs run caliper density deviated/directional induction neutron resistivity gamma ray temperature
 WV Department of Environmental Protection

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 _____

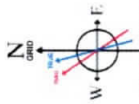
WAS WELL COMPLETED OPEN HOLE? Yes No DETAILS _____

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

SOUTHWESTERN ENERGY

Location: Marshall County, WV
 Field: Marshall
 Facility: Yocum MSH Pad
 Well: Yocum MSH 1H
 Slot: Slot 1H
 Wellbore: Yocum MSH 1H PWB

Plot reference wellpath is Yocum MSH 1H PWP Rev-B 0	Grid System: NAD83 / UTM Zone 17 North, US feet
True vertical depths are referenced to SDC 46 (KB)	North Reference: Grid north
Measured depths are referenced to SDC 46 (KB)	Scale: True distance
SDC 46 (KB) to Mean Sea Level: 1079.4 feet	Depths are in feet
Mean Sea Level to Mud line (At Slot: Slot 1H): -1053.4 feet	Created by: atjenjen on 2019-03-04
Coordinates are in feet referenced to Slot	Database: WA_MPL_EASTERNUS_Defm



User specified Dip: 66.80° Field: 52332 nT
 Magnetic North is 8.45 degrees West of True North (at 05/Feb/2019)
 To correct azimuth from True to Grid subtract 0.27 degrees
 To correct azimuth from Magnetic to Grid subtract 8.72 degrees

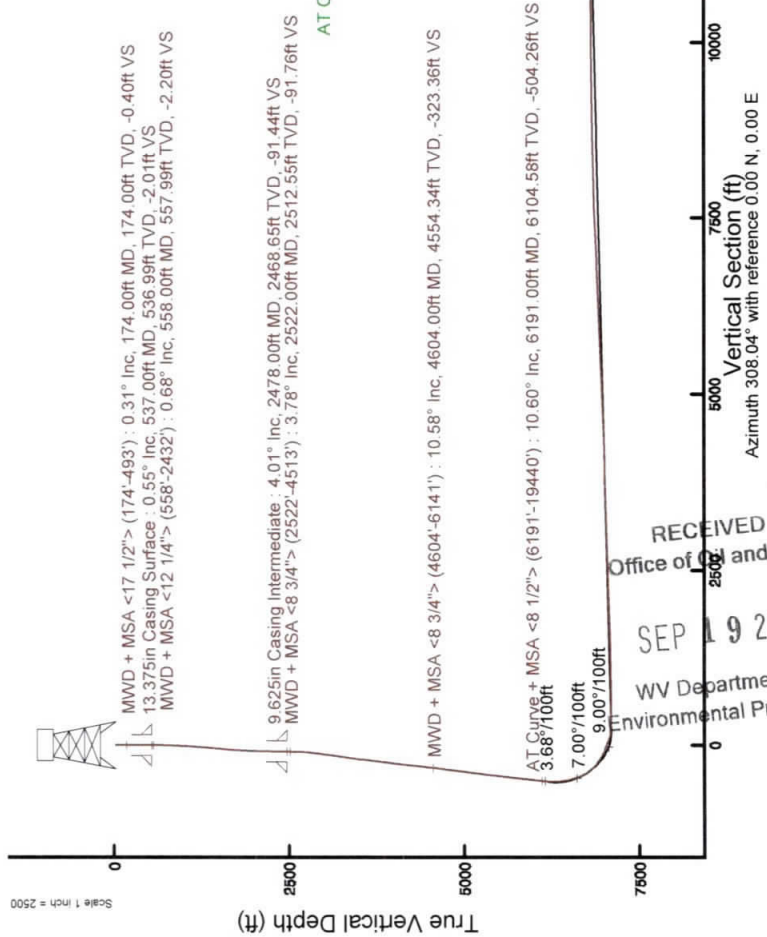
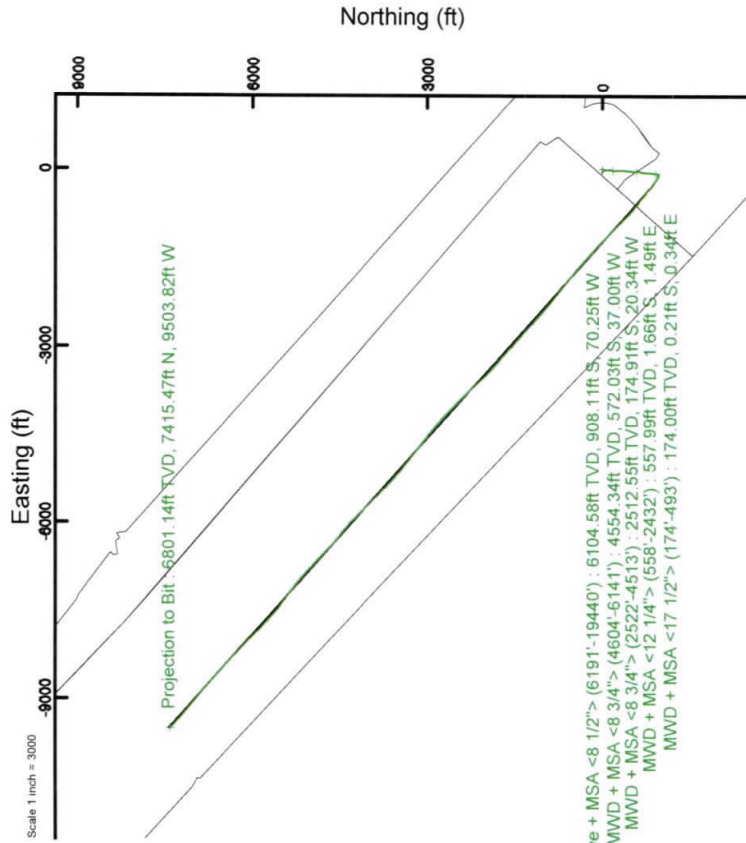


Location Information

Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
Yocum MSH Pad	1757446.734	14429785.622	39°43'58.836"N	80°35'01.424"W
Slot	Local E (ft)	Grid East (US ft)	Latitude	Longitude
Slot 1H	-35.92	1757490.869	39°43'58.479"N	80°35'00.861"W
SDC 46 (KB) to Mud line (At Slot: Slot 1H)	44.15	1757490.869	26ft	
Mean Sea Level to Mud line (At Slot: Slot 1H)			-1053.4ft	
SDC 46 (KB) to Mean Sea Level			1079.4ft	

Comments

API: 47-051-02133-0000
 BH Job #: 109617003
 Rig: SDC 46
 Duration: 02/11/2019 - 02/15/2019



5.5in Casing Production : 89.98° Inc, 19465.00ft MD, 6801.14ft TVD, 12054.52ft VS
 Projection to Bit : 89.98° Inc, 19465.00ft MD, 6801.14ft TVD, 12054.52ft VS

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 WV Department of Environmental Protection

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	5/6/2019
Job End Date:	6/18/2019
State:	West Virginia
County:	Marshall
API Number:	47-051-02133-30-00
Operator Name:	Southwestern Energy
Well Name and Number:	Yocum MSH 1H
Latitude:	39.73291200
Longitude:	-80.58357200
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,926
Total Base Water Volume (gal):	17,291,194
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	Halliburton	Base Fluid	Water	7732-18-5	100.00000	85.21248	Density = 8.34
Produced Water	Halliburton	Base Fluid	Water	7732-18-5	100.00000	3.93220	Density = 8.34



Ingredients	Listed Above	Listed Above						
			Water		7732-18-5	100.00000	0.69760	
Excellerate LX-1	Halliburton	Friction Reducer			Listed Below			
					Listed Below			
SCAL 16486A	Nalco (Champion)	Scale Inhibitor			Listed Below			
					Listed Below			
Sand-Premium White-40/70	Halliburton	Proppant			Listed Below			
					Listed Below			
HYDROCHLORI C ACID	Halliburton	Solvent			Listed Below			
					Listed Below			
FSTI-IC-001	FSTI	Iron Control Agent			Listed Below			
					Listed Below			
Sand-Common White-100 Mesh, SSA-2	Halliburton	Proppant			Listed Below			
					Listed Below			
MC LD-2850	MultiChem	Friction Reducer			Listed Below			
					Listed Below			
BE-9	Halliburton	Biocide						

				Listed Below					
FSTI-CI-01	FSTI	Acid Corrosion Inhibitor		Listed Below					
Items above are Trade Names with the exception of Base Water. Items below are the individual ingredients.									
			Crystalline silica, quartz	14808-60-7	100.00000	10.09778			
			Hydrochloric acid	7647-01-0	15.00000	0.09717			
			Hydrotreated light petroleum distillate	64742-47-8	30.00000	0.02631			
			Polyacrylate	Proprietary	30.00000	0.01759			
			Ethanedanium, N,N,N-trimethyl-2-[(1-oxo-2-propen-1-yl)oxy]-, chloride (1:1), polymer with 2-propenamide	69418-26-4	30.00000	0.00871			
			Ammonium chloride	12125-02-9	10.00000	0.00584			
			Sodium chloride	7647-14-5	10.00000	0.00584			
			Ethoxylated fatty acid	Proprietary	5.00000	0.00293			
			Fatty acid ester	Proprietary	5.00000	0.00293			
			Castor oil, ethoxylated	61791-12-6	10.00000	0.00290			
			Acetic acid	64-19-7	60.00000	0.00195			
			Amine Triphosphate	Proprietary	30.00000	0.00186			
			Ethylene glycol	107-21-1	30.00000	0.00186			
			Alcohols, C12-16, ethoxylated	68551-12-2	5.00000	0.00145			
			9-Octadecenamide, n,n-bis-2(hydroxy-ethyl)-,(Z)	93-83-4	5.00000	0.00145			
			Sorbitan monooleate polyoxyethylene derivative	9005-65-6	5.00000	0.00145			
			Citric acid	77-92-9	40.00000	0.00130			
			Tributyl tetradecyl phosphonium chloride	81741-28-8	10.00000	0.00117			
			Methanol	67-56-1	80.00000	0.00075			

**YOCUM MSH 1
ATTACHMENT 1
PERF REPORT**

STAGE NUM	Perf Date	Perf Top MD	Perf Bottom MD	# SHOTS PER STG
1	5/1/2019	19,423	19,326	36
2	5/7/2019	19,292	19,116	24
3	5/7/2019	19,082	18,906	24
4	5/8/2019	18,872	18,696	24
5	5/8/2019	18,662	18,486	24
6	5/9/2019	18,452	18,276	24
7	5/9/2019	18,242	18,066	18
8	5/10/2019	18,032	17,856	18
9	5/10/2019	17,822	17,646	18
10	5/10/2019	17,612	17,436	18
11	5/11/2019	17,402	17,226	18
12	5/11/2019	17,192	17,016	18
13	5/12/2019	16,982	16,806	18
14	5/12/2019	16,772	16,596	18
15	5/12/2019	16,562	16,386	18
16	5/13/2019	16,352	16,176	18
17	5/13/2019	16,142	15,966	18
18	5/13/2019	15,932	15,756	18
19	5/13/2019	15,722	15,546	18
20	5/13/2019	15,512	15,336	24
21	5/14/2109	15,302	15,126	18
22	5/15/2019	15,092	14,916	18
23	5/15/2019	14,853	14,706	18
24	5/15/2019	14,672	14,496	18
25	5/16/2019	14,462	14,286	18
26	5/16/2019	14,252	14,076	18
27	5/16/2019	14,042	13,866	18
28	5/16/2019	13,832	13,656	18
29	5/17/2019	13,623	13,446	36
30	5/17/2019	13,412	13,236	36
31	5/17/2019	13,198	13,026	18
32	5/18/2019	12,989	12,816	18
33	5/29/2019	12,780	12,606	18
34	5/30/2019	12,572	12,396	18
35	5/30/2019	12,362	12,186	18
36	5/31/2019	12,152	11,976	18
37	5/31/2019	11,942	11,766	18
38	6/3/2019	11,732	11,556	18
39	6/4/2019	11,522	11,346	36
40	6/5/2019	11,313	11,136	24
41	6/6/2019	11,103	10,926	24
42	6/6/2019	10,892	10,716	24
43	6/6/2019	10,682	10,506	18
44	6/7/2019	10,472	10,296	18
46	6/10/2019	10,038	9,876	18
47	6/10/2019	9,842	9,666	18
48	6/11/2019	9,632	9,456	18
49	6/12/2019	9,422	9,246	18
50	6/16/2019	9,212	9,036	36
51	6/16/2019	9,002	8,826	36
52	6/17/2019	8,792	8,616	36
53	6/17/2019	8,582	8,406	36
54	6/17/2019	8,373	8,196	36
55	6/17/2019	8,162	7,986	36
56	6/18/2019	7,949	7,776	36

**YOCUM MSH 1H
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	5/7/2019	83.8	8,400	0	3,539	280,050	7,421	0
2	5/7/2019	71.3	8,491	5,951	4,330	314,930	8,094	0
3	5/8/2019	80.2	8,901	7,134	4,105	314,760	7,547	0
4	5/8/2019	72.3	8,468	5,732	4,447	313,820	7,482	0
5	5/9/2019	75.7	8,486	5,114	4,789	315,715	8,254	0
6	5/9/2019	76.6	8,869	5,945	4,602	340,020	8,099	0
7	5/10/2019	67	8,980	5,418	4,952	315,960	5,882	0
8	5/10/2019	63.6	8,499	6,000	4,643	314,908	6,193	0
9	5/10/2019	61.8	8,486	6,404	4,729	315,037	6,312	0
10	5/10/2019	60.9	8,545	5,863	4,780	315,895	5,989	0
11	5/11/2019	64.5	8,463	5,510	4,613	314,998	6,087	0
12	5/11/2019	65.9	8,654	6,089	4,688	319,475	6,213	0
13	5/12/2019	44.7	8,493	5,791	4,832	76,003	5,955	0
14	5/12/2019	60.1	8,456	5,826	4,579	315,001	6,231	0
15	5/12/2019	63	8,397	5,700	4,638	315,829	5,984	0
16	5/13/2019	61.9	8,453	5,355	4,667	319,003	6,003	0
17	5/13/2019	62.7	8,478	6,374	5,062	315,241	6,296	0
18	5/13/2019	66.3	8,450	6,019	4,564	315,658	6,378	0
19	5/13/2019	64.9	8,503	6,055	4,627	314,760	6,024	0
20	5/14/2019	72	8,466	6,107	4,660	315,819	5,874	0
21	5/15/2019	54.9	8,446	6,237	4,593	314,276	8,036	0
22	5/15/2019	61.8	8,566	6,528	6,864	206,073	5,108	0
23	5/15/2019	74.2	8,380	5,982	4,376	315,177	6,974	0
24	5/15/2019	56.3	8,291	5,751	4,427	315,240	9,330	0
25	5/16/2019	66.9	8,187	5,912	4,464	314,902	7,800	0
26	5/16/2019	60.6	8,382	6,220	5,963	236,101	6,661	0
27	5/16/2019	68.4	8,415	5,939	6,049	163,966	6,507	0
28	5/16/2019	62.7	7,958	5,889	4,443	314,890	10,199	0
29	5/17/2019	84.7	8,171	5,726	4,765	315,068	6,507	0
30	5/17/2019	86.5	8,061	5,737	4,723	316,630	7,095	0
31	5/18/2019	71.4	8,004	5,932	4,899	315,420	7,089	0
32	5/29/2019	60.6	7,452	5,833	4,621	314,917	8,703	0
33	5/30/2019	48.9	8,253	6,035	4,746	314,629	12,374	0
34	5/30/2019	67.1	8,390	6,223	4,781	314,860	8,462	0
35	5/31/2019	71	8,283	6,152	4,807	315,450	8,166	0
36	6/2/2019	74.5	8,317	6,148	4,624	316,900	8,097	0
37	6/3/2019	82.5	8,656	6,591	4,667	315,736	8,036	0
38	6/4/2019	62.6	8,387	6,342	5,306	316,679	9,235	0
39	6/5/2019	46.5	8,522	6,126	5,476	278,700	12,491	0
40	6/5/2019	90.5	8,308	6,154	5,738	311,570	7,536	0
41	6/6/2019	88.8	8,295	6,130	4,422	290,090	7,283	0
42	6/6/2019	85.3	8,136	5,833	5,010	171,860	6,221	0
43	6/7/2019	67.2	8,553	6,393	4,996	264,820	8,129	0
44	6/8/2019	62	7,885	6,409	6,231	291,640	9,157	0
46	6/10/2019	81.6	8,454	6,977	4,386	313,850	10,620	0
47	6/11/2019	79	8,422	6,124	4,588	315,530	8,204	0
48	6/11/2019	64.2	8,037	6,125	5,208	205,715	6,898	0
49	6/16/2019	89.9	7,891	6,251	5,527	316,130	9,089	0
50	6/16/2019	98.6	7,654	6,240	5,194	315,577	7,886	0
51	6/17/2019	99.5	7,463	6,352	5,074	315,841	7,895	0
52	6/17/2019	99.4	7,741	6,245	4,813	316,610	7,704	0
53	6/17/2019	98.2	7,729	6,310	5,099	276,300	7,401	0
54	6/17/2019	99.8	7,797	6,817	4,628	318,370	7,327	0
55	6/17/2019	98.4	7,667	6,524	4,815	317,459	7,712	0
56	6/18/2019	76996	7,696	5,944	4,789	317,240	6,540	0



Well Name: Yocum MSH 1H

ATTACHMENT 3
47051021330000

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	437.00	437.00	
Top of Salt Water	894.00	894.00	NA	NA	
Pittsburgh Coal	878.00	878.00	NA	NA	
Pottsville (ss)	980.00	980.00	1019.00	1019.00	
Raven Cliff (ss)	1508.00	1508.00	1605.00	1605.00	
Maxton (ss)	1864.00	1864.00	2063.00	2063.00	
Big Injun (ss)	2071.00	2063.00	2353.00	2344.00	
Berea (siltstone)	2686.00	2676.00	3628.00	3600.00	
Rhinestreet (shale)	6495.00	6404.00	6832.00	6721.00	
Cashagua (shale)	6832.00	6721.00	6990.00	6847.00	
Middlesex (shale)	6990.00	6847.00	7145.00	6941.00	
Burket (shale)	7145.00	6941.00	7208.00	6973.00	
Tully (ls)	7208.00	6973.00	7253.00	6992.00	
Mahantango (shale)	7253.00	6992.00	7676.00	7091.00	
Marcellus (shale)	7676.00	7091.00	NA	NA	GAS

THRASHER

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

Latitude: 39°47'30" (CAMERON)

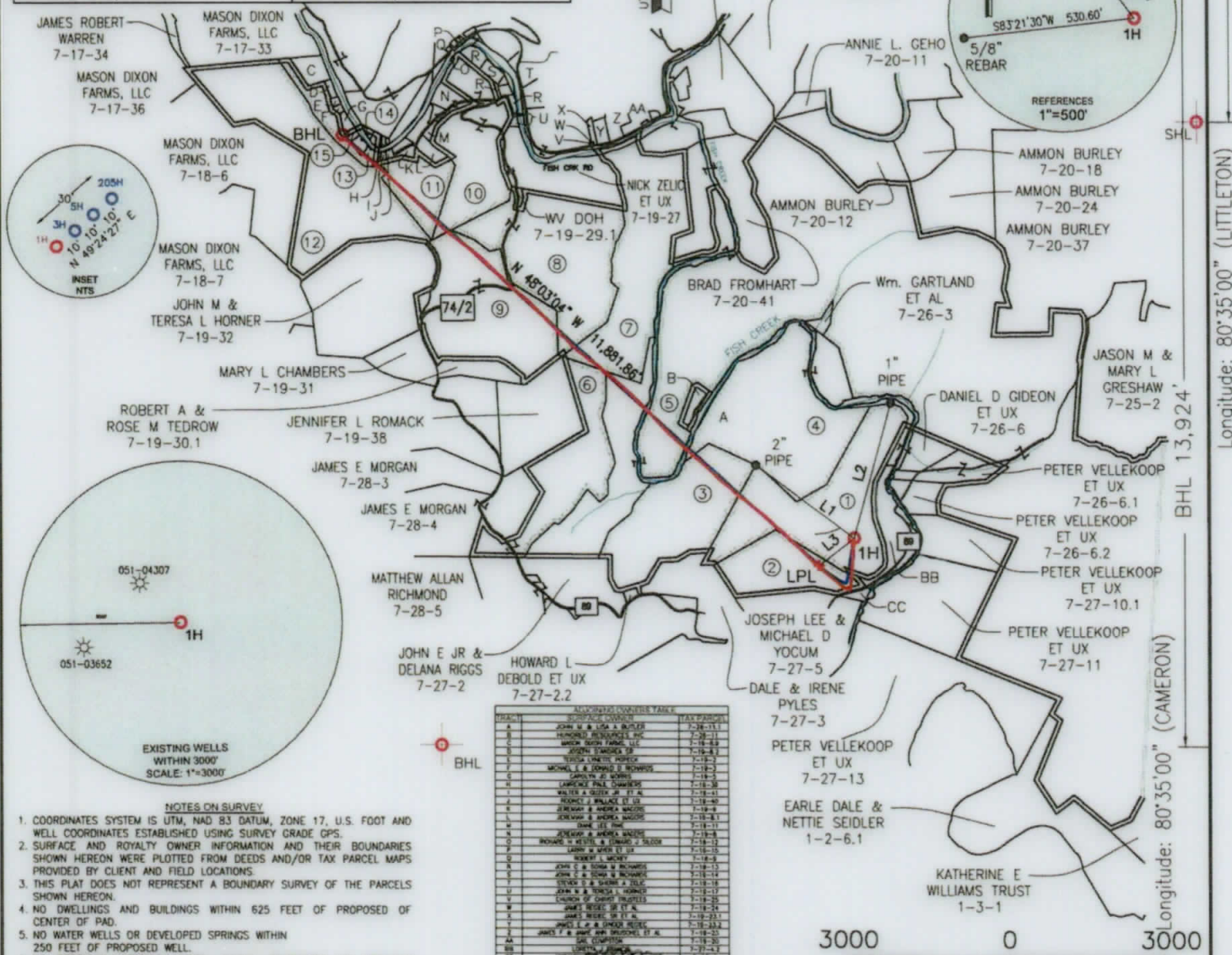
Latitude: 39°45'00" (LITTLETON) SHL 134'

BHL 9526'

LINE	BEARING	DISTANCE
L1	N 53°23'28" W	2278.91
L2	N 15°17'19" E	2590.04
L3	S 51°58'25" W	833.73

SURFACE HOLE LOCATION (SHL):		SURFACE HOLE LOCATION (SHL):	
UTM (NAD83, ZONE 17, METERS):		UTM (NAD83, ZONE 17, METERS):	
NORTHING: 4,398,196.511		NORTHING: 4,398,196.510	
EASTING: 535,684.289		EASTING: 535,684.290	
LANDING POINT LOCATION (LPL):		LANDING POINT LOCATION (LPL):	
UTM (NAD83, ZONE 17, METERS):		UTM (NAD83, ZONE 17, METERS):	
NORTHING: 4,398,039.965		NORTHING: 4,398,030.910	
EASTING: 535,484.110		EASTING: 535,484.350	
BOTTOM HOLE LOCATION (BHL):		BOTTOM HOLE LOCATION (BHL):	
UTM (NAD83, ZONE 17, METERS):		UTM (NAD83, ZONE 17, METERS):	
NORTHING: 4,400,460.887		NORTHING: 4,400,455.880	
EASTING: 532,790.579		EASTING: 532,788.640	

TRACT	SURFACE OWNER	TAX PARCEL
1	JOSEPH LEE & MICHAEL D. YOCUM (S)(R)	7-26-9
SURFACE OWNER		
2	JOSEPH LEE & MICHAEL D. YOCUM	7-27-4
3	DELORSE A. HORNER	7-26-10
4	CONSOLIDATED GAS SUPPLY CORPORATION	7-26-B
5	W. VA. WILDLIFE RESOURCES SECTION	7-24-1
6	JAMES E. MORGAN	7-26-14
7	M. PEGGY GRIBBEN REVOC. LIVING TRUST	7-19-28
8	M. PEGGY GRIBBEN REVOC. LIVING TRUST	7-19-29
9	DELORSE A. HORNER	7-19-30
10	JOHN M. & TERESA L. HORNER	7-19-12
11	MASON DIXON FARMS LLC	7-19-B.8
12	MASON DIXON FARMS LLC	7-19-1
13	MICHAEL T. & CARLA M. WHITEMORE	7-19-8.7
14	CAROLYN RUTH FRANCIS	7-19-7
15	MASON DIXON FARMS, LLC	7-19-6



TRACT	SURFACE OWNER	TAX PARCEL
1	JOSEPH LEE & MICHAEL D. YOCUM (S)(R)	7-26-9
2	JOSEPH LEE & MICHAEL D. YOCUM	7-27-4
3	DELORSE A. HORNER	7-26-10
4	CONSOLIDATED GAS SUPPLY CORPORATION	7-26-B
5	W. VA. WILDLIFE RESOURCES SECTION	7-24-1
6	JAMES E. MORGAN	7-26-14
7	M. PEGGY GRIBBEN REVOC. LIVING TRUST	7-19-28
8	M. PEGGY GRIBBEN REVOC. LIVING TRUST	7-19-29
9	DELORSE A. HORNER	7-19-30
10	JOHN M. & TERESA L. HORNER	7-19-12
11	MASON DIXON FARMS LLC	7-19-B.8
12	MASON DIXON FARMS LLC	7-19-1
13	MICHAEL T. & CARLA M. WHITEMORE	7-19-8.7
14	CAROLYN RUTH FRANCIS	7-19-7
15	MASON DIXON FARMS, LLC	7-19-6

- 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 PLAN 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 WITHIN 300 FEET OF LIMITS OF DISTURBANCE.

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

P.S. 2270 *M.S. Wolf 8/6/19*



COMPANY: **SWN** Production Company, LLC

YOCUM MSH
OPERATOR'S WELL #: 1H

API WELL #: **47 051 02133**
STATE COUNTY PERMIT

(+) 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 ELEVATION: (NAVD 88, US FT)

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

WATERSHED: FISH CREEK
DISTRICT: LIBERTY COUNTY: MARSHALL
SURFACE OWNER: JOSEPH LEE AND MICHAEL D. YOCUM
OIL & GAS ROYALTY OWNER: JOSEPH LEE AND MICHAEL D. YOCUM

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: 6,810' TVD 19,465' TMD

WELL OPERATOR: SWN PRODUCTION COMPANY, LLC
ADDRESS: 1300 FORT PIERPONT DRIVE SUITE 201
CITY: MORGANTOWN STATE: WV ZIP CODE: 26508

DESIGNATED AGENT: BRITTANY WOODY
ADDRESS: 1300 FORT PIERPONT DRIVE SUITE 201
CITY: MORGANTOWN STATE: WV ZIP CODE: 26508

LEGEND:
 PROPOSED SURFACE HOLE / BOTTOM HOLE
 EXISTING / PRODUCING WELLHEAD
 LPL * LANDING POINT LOCATION
 EXISTING WATER WELL
 EXISTING SPRING
 SURVEYED BOUNDARY
 DRILLING UNIT
 LEASE BOUNDARY
 PROPOSED PATH
 AS-DRILLED PATH

REVISIONS: _____ DATE: 8-16-2019

DRAWN BY: K. POTH
SCALE: 1" = 2000'
DRAWING NO: 030-3170
WELL LOCATION PLAT