

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

API 47-051-01885 County MARSHALL District LIBERTY
Quad CAMERON 7 1/2' Pad Name GLADYS BRIGGS-MSH-PAD1 Field/Pool Name VICTORY FIELD
Farm name JAMES RODNEY BRIGGS, ROGER JACOB BRIGGS & JOHN DEAN BRIGGS Well Number GLADYS BRIGGS MSH 210H
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 4,401,982.387 Easting 532,907.978
Landing Point of Curve Northing 4,402,321.740 Easting 533,402.496
Bottom Hole Northing 4,401,065.449 Easting 534,897.259

Elevation (ft) 1382.7' 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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Date permit issued 11/16/2016 Date drilling commenced 11/22/2016 Date drilling ceased 02/07/2017
Date completion activities began 03/12/2017 Date completion activities ceased 04/17/2017
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 732.02' Open mine(s) (Y/N) depths N
Salt water depth(s) ft 1220.02' Void(s) encountered (Y/N) depths N
Coal depth(s) ft 1099.02' Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

APPROVED
NAME: [Signature]
DATE: 8/28/17

Reviewed by: [Signature]
09/15/2017

API 47-051 - 01885 Farm name JAMES RODNEY BRIGGS, ROGER JACOB BRIGGS & JOHN DEAN BRIGGS Well number GLADYS BRIGGS MSH 210H

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	822	NEW	J-55/54.5#		Y; 85 BBLs RETURNED
Coal	SEE INTERMEDIATE						
Intermediate 1	12.25	9.625	2649	NEW	J-55/36#		Y; 70 BBLs RETURNED
Intermediate 2							
Intermediate 3							
Production	8.75/8.50	5.5	14528	NEW	HCP-110/20#		Y
Tubing		2.375	7956	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 Cement				SURFACE	24
Surface	CLASS A	980	15.60	1.20	1176	SURFACE	8
Coal	SEE INTERMEDIATE						
Intermediate 1	CLASS A	1155	16.0	1.12	1293.6	SURFACE	8
Intermediate 2							
Intermediate 3							
Production	CLASS A	1036/1480	15.60	1.22/1.19	1263.92/1761.2	SURFACE	24
Tubing							

Drillers TD (ft) 14,528' Loggers TD (ft) 14,528'

Deepest formation penetrated MARCELLUS Plug back to (ft) N/A

Plug back procedure _____ RECEIVED Office of Oil and Gas

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Kick off depth (ft) 6,657'

Check all wireline logs run caliper density deviated/directional induction
 neutron resistivity gamma ray temperature sonic

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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- 051 - 01885 Farm name JAMES RODNEY BRIGGS, ROGER JACOB BRIGGS & JOHN DEAN BRIGGS Well number GLADYS BRIGGS MSH 210H

PRODUCING FORMATION(S)	DEPTHS		
MARCELLUS	7134.75	TVD	7932.76 MD

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Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump
 SHUT-IN PRESSURE Surface 1,700 psi Bottom Hole _____ psi DURATION OF TEST _____ hrs
 OPEN FLOW Gas _____ mcfpd Oil _____ bpd NGL _____ bpd Water _____ bpd GAS MEASURED BY
 Estimated Orifice Pilot

LITHOLOGY/ FORMATION	TOP		BOTTOM		DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H ₂ S, ETC)
	DEPTH IN FT NAME	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 110 SCHLUMBERGER DRIVE City SUGAR LAND State TX Zip 77478
 Stimulating Company KEANE FRAC
 Address 2121 SAGE ROAD City HOUSTON State TX Zip 77056

Please insert additional pages as applicable.

Completed by Elizabeth Gee Telephone 832-796-7632
 Signature  Title Staff Regulatory Analyst Date 07/11/2017

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

09/15/2017

Well Name:

GLADYS BRIGGS MSH 210H

47051018850000

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	N/A	N/A	732.02	732.00	
Top of Salt Water	1220.02	1220.00	N/A	N/A	
Pittsburgh Coal	1099.02	1098.90	1108.00	1107.87	
Big Injun (ss)	2331.02	2331.00	2495.02	2495.00	
Berea (siltstone)	2843.00	2843.00	2898.00	2895.72	
Rhinstreet (shale)	6894.42	6486.15	7256.25	6781.11	
Cashaqua (shale)	7256.25	6781.11	7420.65	6896.28	
Middlesex (shale)	7420.65	6896.28	7566.87	6986.26	
Burket (shale)	7566.87	6986.26	7608.87	7009.35	
Tully (ls)	7608.87	7009.35	7654.91	7032.71	
Mahantango (shale)	7654.91	7032.71	7932.76	7134.75	
Marcellus (shale)	7932.76	7134.75	N/A	N/A	GAS

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GLADYS BRIGGS MSH 210H
FRAC STAGE SUMMARY

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	3/13/2017	85	8,371	8,827	4,325	496,380	9,214	
2	3/14/2017	79	8,475	8,775	4,357	498,320	7,212	
3	3/14/2017	80	8,203	8,685	4,306	350,480	8,743	
4	3/14/2017	76	8,788	9,085	5,043	502,660	7,452	
5	3/14/2017	81	8,555	8,974	5,400	493,060	7,344	
6	3/15/2017	75	8,145	8,549	4,592	498,200	7,648	
7	3/15/2017	82	8,397	8,767	4,689	495,460	7,113	
8	3/15/2017	81	8,440	8,742	5,095	500,780	6,793	
9	3/16/2017	84	8,553	8,842	4,806	497,080	6,781	
10	3/16/2017	88	8,500	8,922	4,515	497,660	7,137	
11	3/16/2017	86	8,572	8,874	4,566	499,260	6,295	
12	3/16/2017	87	8,693	8,919	4,872	501,940	6,506	
13	3/16/2017	89	8,552	8,966	5,378	485,180	6,670	
14	3/17/2017	87	8,184	8,758	4,694	500,600	6,233	
15	3/17/2017	87	7,943	8,632	5,153	499,600	5,951	
16	3/17/2017	87	8,347	8,671	5,607	499,300	6,121	
17	3/17/2017	89	8,355	8,695	4,596	500,760	5,940	
18	3/17/2017	88	8,414	8,748	5,007	500,120	5,753	
19	3/18/2017	87	8,390	8,955	5,179	498,660	5,593	
20	3/18/2017	88	8,216	8,863	4,898	499,300	5,588	
21	3/18/2017	89	8,376	8,701	4,686	494,880	5,597	
22	3/18/2017	89	8,148	8,576	4,802	496,020	6,439	
23	3/19/2017	89	8,258	8,730	5,172	500,880	5,467	
24	3/19/2017	88	8,123	8,957	5,684	498,500	5,141	
25	3/19/2017	87	8,212	8,790	5,612	511,080	3,930	

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**GLADYS BRIGGS MSH 210H
PERF SUMMARY**

STAGE NUM	Perf Date	Perf Top MD	Perf Bottom MD	# SHOTS PER STG
1	3/13/2017	14,222	14,419	42
2	3/14/2017	13,962	14,159	42
3	3/14/2017	13,702	13,899	36
4	3/14/2017	13,442	13,639	36
5	3/14/2017	13,182	13,379	36
6	3/15/2017	12,922	13,122	36
7	3/15/2017	12,662	12,859	36
8	3/15/2017	12,402	12,599	36
9	3/16/2017	12,142	12,339	36
10	3/16/2017	11,882	12,079	36
11	3/16/2017	11,622	11,819	36
12	3/16/2017	11,366	11,559	36
13	3/16/2017	11,102	11,299	36
14	3/17/2017	10,842	11,039	36
15	3/17/2017	10,582	10,779	36
16	3/17/2017	10,322	10,516	27
17	3/17/2017	10,062	10,259	36
18	3/17/2017	9,802	9,999	36
19	3/18/2017	9,542	9,739	36
20	3/18/2017	9,282	9,479	36
21	3/18/2017	9,022	9,219	36
22	3/18/2017	8,762	8,959	36
23	3/19/2017	8,502	8,699	36
24	3/19/2017	8,242	8,439	36
25	3/19/2017	7,982	8,177	27

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Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	3/26/2017
Job End Date:	4/3/2017
State:	West Virginia
County:	Marshall
API Number:	47-051-01873-00-00
Operator Name:	Southwestern Energy
Well Name and Number:	Gladys Briggs 205H
Latitude:	39.76717300
Longitude:	-80.61583000
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	7,195
Total Base Water Volume (gal):	9,201,268
Total Base Non Water Volume:	0



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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
Water	SWN	Carrier/Base Fluid	Water	7732-18-5	100.00000	82.75720	None
Sand (Proppant)	Keane	Proppant	Crystalline silica: Quartz (SiO2)	14808-60-7	100.00000	15.90567	None
Hydrochloric Acid (15%)	Keane	Acidizing	Water	7732-18-5	85.00000	1.03179	None
			Hydrochloric Acid	7647-01-0	15.00000	0.18208	None
KFR-17	Keane	Friction Reducer	Distillates (petroleum), hydrotreated light	64742-47-8	45.00000	0.02480	None
			ethanediol	107-21-1	10.00000	0.00551	None
			Fatty alcohols ethoxylated	Proprietary	2.00000	0.00110	None
			Alcohols, C12-16, ethoxylated	68213-24-1	2.00000	0.00110	None
KFR-28	Keane	Friction Reducer	Distillates (petroleum), hydrotreated light	64742-47-8	30.00000	0.01440	None
			Oxyalkylated alcohol	Proprietary	5.00000	0.00240	None
			ammonium chloride	12125-02-9	5.00000	0.00240	None

KFEAC-30	Keane	Iron Control					
			acetic acid	64-19-7	60.00000	0.00307	None
			Citric acid	77-92-9	40.00000	0.00204	None
KGFR-1	Keane	Friction Reducer					
			Acrylamide modified polymer	Proprietary	30.00000	0.00376	None
			Modified amino compound	Proprietary	5.00000	0.00063	None
KAI-13	Keane	Acid Inhibitor					
			ethanediol	107-21-1	40.00000	0.00101	None
			dipropylene glycol, monomethyl ether	34590-94-8	20.00000	0.00051	None
			Ethoxylated alcohol	68131-39-5	10.00000	0.00025	None
			Cinnamaldehyde	104-55-2	10.00000	0.00025	None
			Tar bases, quinoline derivs., benzyl chloride-quaternized	72480-70-7	10.00000	0.00025	None
			formic acid	64-18-6	10.00000	0.00025	None
			propan-2-ol	67-63-0	5.00000	0.00013	None
Ingredients shown above are subject to 29 CFR 1910.1200(i) and appear on Material Safety Data Sheets (MSDS). Ingredients shown below are Non-MSDS.							
Other Chemical(s)	Listed Above	See Trade Name(s) List					
			Water	7732-18-5	85.00000	1.03179	
			ethanediol	107-21-1	10.00000	0.00551	
			Oxyalkylated alcohol	Proprietary	5.00000	0.00240	
			ammonium chloride	12125-02-9	5.00000	0.00240	
			Citric acid	77-92-9	40.00000	0.00204	
			Fatty alcohols ethoxylated	Proprietary	2.00000	0.00110	
			Alcohols, C12-16, ethoxylated	68213-24-1	2.00000	0.00110	
			Modified amino compound	Proprietary	5.00000	0.00063	
			dipropylene glycol, monomethyl ether	34590-94-8	20.00000	0.00051	
			Cinnamaldehyde	104-55-2	10.00000	0.00025	
			formic acid	64-18-6	10.00000	0.00025	
			Ethoxylated alcohol	68131-39-5	10.00000	0.00025	
			Tar bases, quinoline derivs., benzyl chloride-quaternized	72480-70-7	10.00000	0.00025	
			propan-2-ol	67-63-0	5.00000	0.00013	
			Water	7732-18-5	92.50000		

* Total Water Volume sources may include fresh water, produced water, and/or recycled water

** Information is based on the maximum potential for concentration and thus the total may be over 100%

Note: For Field Development Products (products that begin with FDP), MSDS level only information has been provided.

Ingredient information for chemicals subject to 29 CFR 1910.1200(i) and Appendix D are obtained from suppliers Material Safety Data Sheets (MSDS)

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Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	3/13/2017
Job End Date:	3/19/2017
State:	West Virginia
County:	Marshall
API Number:	47-051-01885-00-00
Operator Name:	Southwestern Energy
Well Name and Number:	Gladys Briggs 210H
Latitude:	39.76713300
Longitude:	-80.61578100
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	7,185
Total Base Water Volume (gal):	6,739,679
Total Base Non Water Volume:	0



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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
Water	SWN	Carrier/Base Fluid	Water	7732-18-5	100.00000	80.79454	None
Sand (Proppant)	Keane	Proppant	Crystalline silica: Quartz (SiO2)	14808-60-7	100.00000	17.69260	None
Hydrochloric Acid (15%)	Keane	Acidizing	Water	7732-18-5	85.00000	1.18807	None
			Hydrochloric Acid	7647-01-0	15.00000	0.20966	None
KFR-17	Keane	Friction Reducer	Distillates (petroleum), hydrotreated light	64742-47-8	45.00000	0.02966	None
			ethanediol	107-21-1	10.00000	0.00659	None
			Fatty alcohols ethoxylated	Proprietary	2.00000	0.00132	None
			Alcohols, C12-16, ethoxylated	68213-24-1	2.00000	0.00132	None
KFR-28	Keane	Friction Reducer	Distillates (petroleum), hydrotreated light	64742-47-8	30.00000	0.01213	None
			ammonium chloride	12125-02-9	5.00000	0.00202	None
			Oxyalkylated alcohol	Proprietary	5.00000	0.00202	None

KFEAC-30	Keane	Iron Control					
			acetic acid	64-19-7	60.00000	0.00353	None
			Citric acid	77-92-9	40.00000	0.00235	None
KAI-13	Keane	Acid Inhibitor					
			ethanediol	107-21-1	40.00000	0.00116	None
			dipropylene glycol, monomethyl ether	34590-94-8	20.00000	0.00058	None
			formic acid	64-18-6	10.00000	0.00029	None
			Ethoxylated alcohol	68131-39-5	10.00000	0.00029	None
			Cinnamaldehyde	104-55-2	10.00000	0.00029	None
			Tar bases, quinoline derivs., benzyl chloride-quaternized	72480-70-7	10.00000	0.00029	None
			propan-2-ol	67-63-0	5.00000	0.00015	None

Ingredients shown above are subject to 29 CFR 1910.1200(i) and appear on Material Safety Data Sheets (MSDS). Ingredients shown below are Non-MSDS.

Other Chemical(s)	Listed Above	See Trade Name(s) List					
			Water	7732-18-5	85.00000	1.18807	
			ethanediol	107-21-1	10.00000	0.00659	
			Citric acid	77-92-9	40.00000	0.00235	
			ammonium chloride	12125-02-9	5.00000	0.00202	
			Oxyalkylated alcohol	Proprietary	5.00000	0.00202	
			Alcohols, C12-16, ethoxylated	68213-24-1	2.00000	0.00132	
			Fatty alcohols ethoxylated	Proprietary	2.00000	0.00132	
			dipropylene glycol, monomethyl ether	34590-94-8	20.00000	0.00058	
			Tar bases, quinoline derivs., benzyl chloride-quaternized	72480-70-7	10.00000	0.00029	
			Ethoxylated alcohol	68131-39-5	10.00000	0.00029	
			formic acid	64-18-6	10.00000	0.00029	
			Cinnamaldehyde	104-55-2	10.00000	0.00029	
			propan-2-ol	67-63-0	5.00000	0.00015	
			Water	7732-18-5	92.50000		

* Total Water Volume sources may include fresh water, produced water, and/or recycled water

** Information is based on the maximum potential for concentration and thus the total may be over 100%

Note: For Field Development Products (products that begin with FDP), MSDS level only information has been provided.

Ingredient information for chemicals subject to 29 CFR 1910.1200(i) and Appendix D are obtained from suppliers Material Safety Data Sheets (MSDS)

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SHL

9,118'

BHL

2,605'

JACKSON SURVEYING INC.

P.O. Box 1460
677 W. Main St.
Clarksburg, WV 26302
304-623-5851

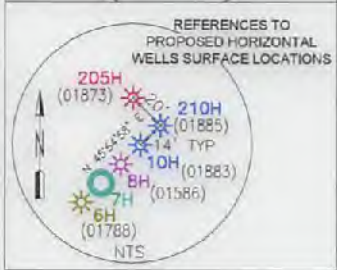
Latitude: 39°47'30" N

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 WITHIN 300 FEET OF LIMITS OF DISTURBANCE.
- ALL WELLS WITHIN 500' OF THE HORIZONTAL LEG ARE SHOWN ON THIS PLAT BASED UPON INFORMATION TAKEN FROM DEP MAPPING AND AERIAL PHOTOS.

TRACT	SURFACE OWNER (S) / ROYALTY OWNER (R)	TAX PARCEL	ACRES
1	JAMES RODNEY BRIGGS, ROGER JACOB BRIGGS & JOHN DEAN BRIGGS (S)	7-16-02	121.43
2	JAMES RODNEY BRIGGS, ROGER JACOB BRIGGS & JOHN DEAN BRIGGS (S)	7-16-3	10.00
3	JOHN DEAN BRIGGS & PATTY KAY BRIGGS (S)	7-16-4	81.25
4	THELMA YEATER (LIFE) REMAINDERMEN: JOHN LEE YEATER, SUSAN JANE YEATER & JOSEPH EDWARD YEATER (S)	7-16-29	40.41
5	RICHARD M. YEATER & DEBRA S. YEATER (S)	7-16-29.1	18.39
6	GEORGE R. CUMPTON & NANCY K. CUMPTON (S)	7-16-24	115.72
7	GEORGE R. CUMPTON (S)	7-16-27	20.00
8	JOHN M. BUTLER (S)	7-16-26.1	19.56
9	DAVID T. BUTLER (LIFE) REMAINDERMEN: JOHN BUTLER & BENJAMIN BUTLER (S)	7-16-26	26.34
10	JOHN MATTHEW BUTLER (S)	7-16-39	43.65
11	VINCENT E. LEMASTERS (S)	07-16-01	4.00
12	JACK BRIGGS (S)	07-16-02.1	1.02
13	JOHN D. BRIGGS & PATTY K. BRIGGS (S)	07-16-02.2	1.03

SURFACE HOLE LOCATION (SHL):
UTM (NAD83, ZONE 17, METERS):
NORTHING: 4,401,982.369
EASTING: 532,908.000
LANDING POINT LOCATION (LPL):
UTM (NAD83, ZONE 17, METERS):
NORTHING: 4,402,361.136
EASTING: 533,355.176
BOTTOM HOLE LOCATION (BHL):
UTM (NAD83, ZONE 17, METERS):
NORTHING: 4,401,065.230
EASTING: 534,897.546



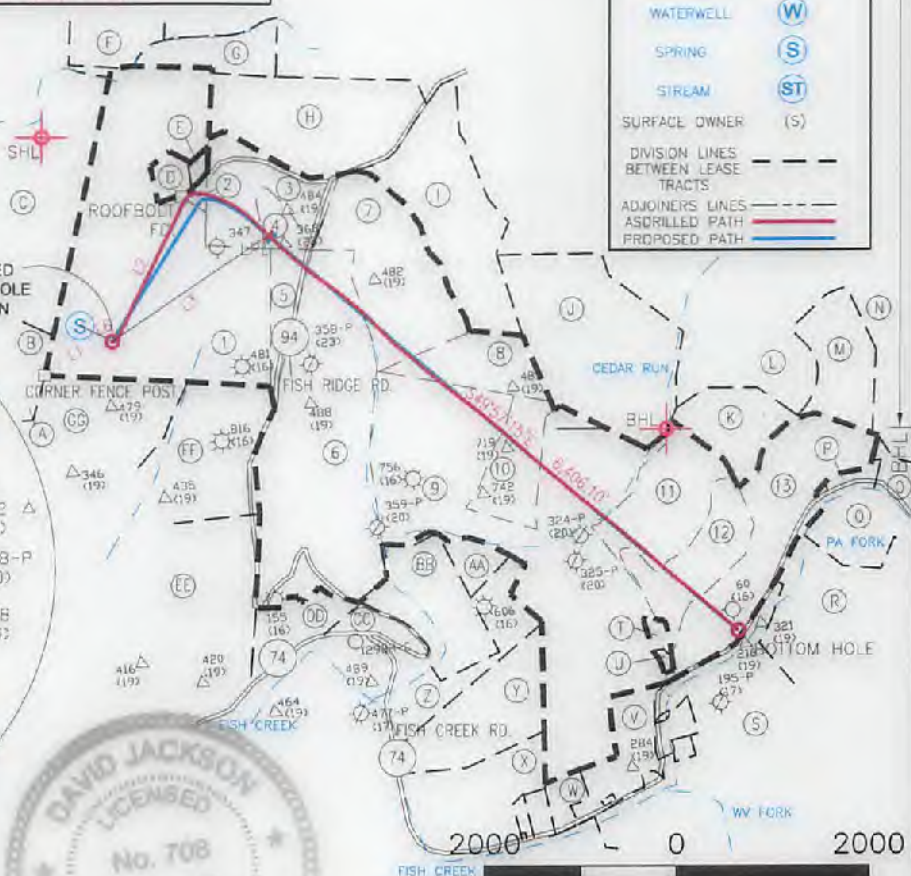
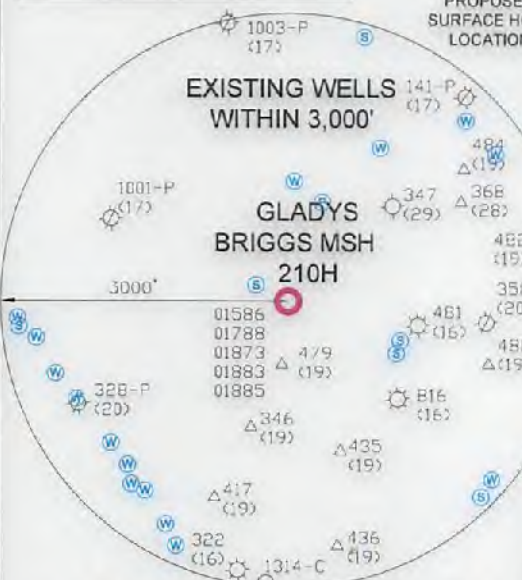
SURFACE HOLE LOCATION (SHL):
UTM (NAD83, ZONE 17, METERS):
NORTHING: 4,401,982.369
EASTING: 532,907.978
LANDING POINT LOCATION (LPL):
UTM (NAD83, ZONE 17, METERS):
NORTHING: 4,402,321.740
EASTING: 533,402.496
BOTTOM HOLE LOCATION (BHL):
UTM (NAD83, ZONE 17, METERS):
NORTHING: 4,401,065.449
EASTING: 534,897.259

LINE	BEARING	DISTANCE	DESCRIPTION
L1	S 63°08'01" W	789.88'	SHL TO CNR FP
L2	N 25°21'48" E	1,668.58'	SHL TO ROOFPBOLT
L4	S 91°04'48" W	536.29'	SHL TO 12" TREE OF HEAVEN
L5	S 31°13'20" E	181.03'	SHL TO 18" LOCUST
L6	N 63°45'13" W	376.50'	SHL TO WATER RESERVOIR (SPRING)

LINE	BEARING	DISTANCE	CURVE LENGTH	DESCRIPTION
L3	N 55°32'27" E	1,967.70'	2714.42'	SHL TO LPL

LEGEND

- WATERWELL (W)
- SPRING (S)
- STREAM (ST)
- SURFACE OWNER (S)
- DIVISION LINES BETWEEN LEASE TRACTS (---)
- ADJOINERS LINES (---)
- ASDRILLED PATH (---)
- PROPOSED PATH (---)



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. 708 *David L. Jackson*

COMPANY: **SWN** Production Company, LLC **swn** R⁺ V⁺ A⁺ Production Company™

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS WVDEP OFFICE OF OIL & GAS 601 57TH STREET CHARLESTON, WV 25034	MINIMUM DEGREE OF ACCURACY: 1/200 PROVEN SOURCE OF ELEVATION: SURVEY GRADE GPS (NAVD 88, US FT)	GLADYS BRIGGS MSH OPERATOR'S WELL #: 210H API WELL #: 47 STATE 051 COUNTY 01885 PERMIT
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WELL TYPE: OIL WASTE DISPOSAL PRODUCTION DEEP GAS LIQUID INJECTION STORAGE SHALLOW

WATERSHED: FISH CREEK OF UPPER OHIO RIVER 2 ELEVATION: 1,382.7'

DISTRICT: LIBERTY COUNTY: MARSHALL QUADRANGLE: CAMERON 7 1/2'

SURFACE OWNER: JAMES RODNEY BRIGGS, ROGER JACOB BRIGGS & JOHN DEAN BRIGGS ACREAGE: 121.43

OIL & GAS ROYALTY OWNER: DAVID BONAR; HARRISON J. BRIGGS & GLADYS R. BRIGGS ACREAGE: 121.43

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

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

TARGET FORMATION: MARCELLUS ESTIMATED DEPTH: 7,194' TO 14,326' TMD

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

LEGEND: ○ PROPOSED SURFACE HOLE / BOTTOM HOLE * EXISTING / PRODUCING WELLHEAD ✕ ABANDONED WELL ✕ PLUGGED & ABANDONED WELL △ CUT CONDUCTOR	REVISIONS: --- LEASE BOUNDARY --- ASDRILLED PATH --- PROPOSED PATH	DATE: 07-10-2017 DRAWN BY: N. MANO SCALE: 1" = 2000' DRAWING NO: WELL LOCATION PLAT
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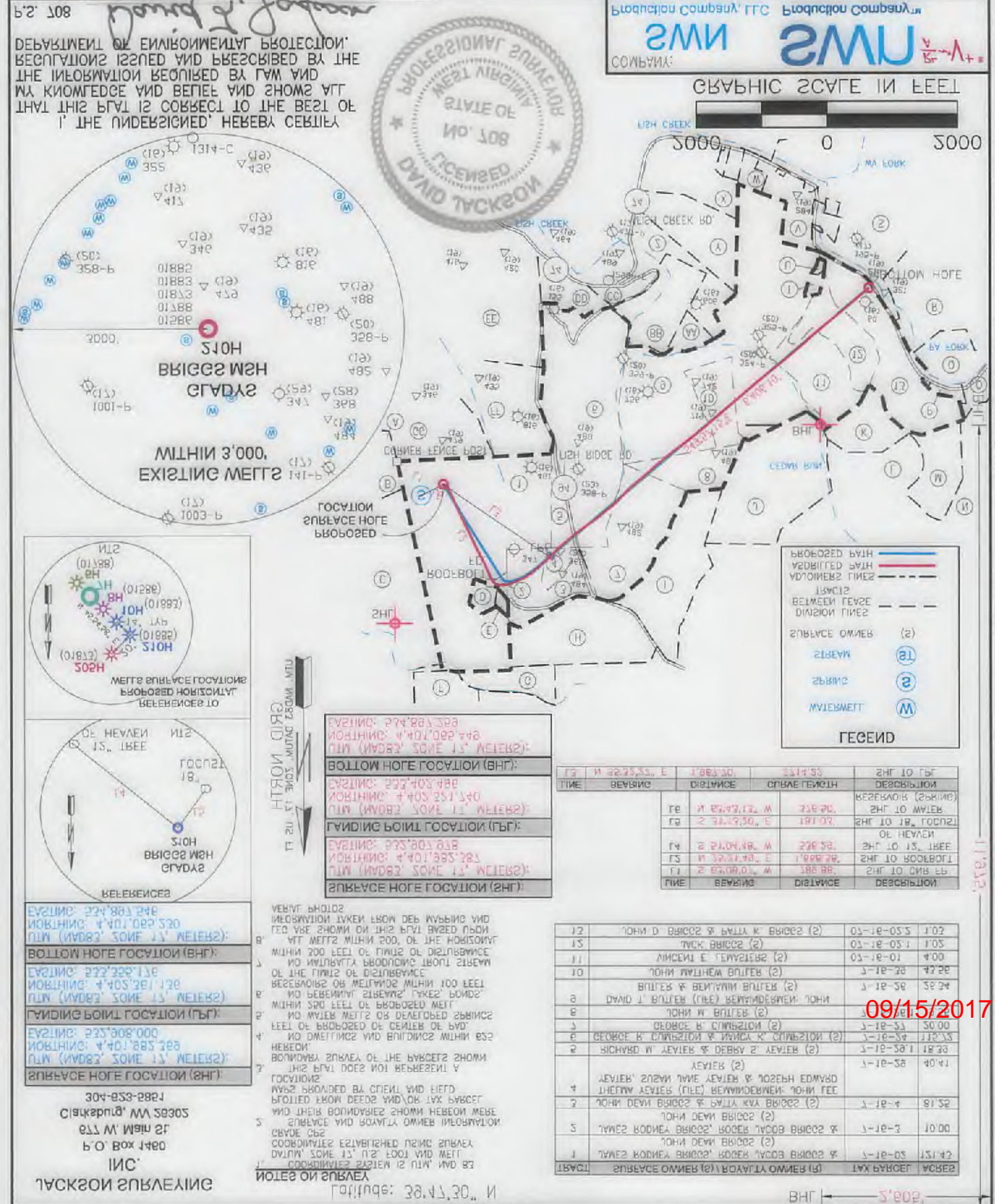
<ul style="list-style-type: none"> ○ CUI CONDUIT ○ BRIGGS & UNBIDDED MEET ○ UNBIDDED MEET ○ EXISTING \ UNBIDDED MEETHEAD ○ PROPOSED SURFACE HOGE \ BOTTOM HOGE 	<ul style="list-style-type: none"> — PROPOSED PATH — UNBIDDED PATH --- FEASE BOUNDARY 	MEET LOCATION BY: _____ DRAWING NO: _____ SCALE: 1" = 3000' DRAWN BY: M. MAHO DATE: 03-10-2013
CITY: WME GEM STATE: VA ZIP CODE: 20238 ADDRESS: P.O. BOX 1200 MEET OPERATOR: 2MI PRODUCTION COMPANY, LLC		CITY: WME GEM STATE: VA ZIP CODE: 20238 ADDRESS: P.O. BOX 1200 DESIGNATED AGENT: DEE ZOLTHATT

TARGET FORMATION: MARSELTOS ESTIMATED DEPTH: 1789, LAD 14238, LMD

BRIGGS & UNBIDDED CLEAN OUT & REPAIR OTHER CHANGE (SPECIFY) UNBIDDED
 DRIFT DRIFT DEEBER BEDROCK FRASURE OF STIMULATE BRIGGS OFF OLD FORMATION BEFORE/ATE NEW FORMATION

OIG & CAS ROYALTY OWNER: DAVID BOYNE, HARRISON T BRIGGS & GRADY B BRIGGS
 SURFACE OWNER: WMEZ RODNEY BRIGGS, ROGER JACOB BRIGGS & JOHN DEAN BRIGGS
 DISTRICT: GIBERTIA COUNTY: MARSHALL
 WATERBED: EIGH CREEK OF NBBER OHIO BLUES 3
 MEET TYPE: OIG WATER DISPOST PRODUCTION DEEB CAS FLUID INJECTION STORAGE SHALLOM

CHANGE/STION: MA 20234 801 22TH STREET OFFICE OF OIG & CAS MADEB UNITED STATES TOPOGRAPHIC MAPS (+) DENOTES LOCATION OF MEET ON	ELEVATION: (HARD 88' US FT) SOURCE OF GRADE CBS BROKEN SURFACE ACCURACY: 1/300 DEGREE OF MINIMUM	STATE COUNTY PERMIT 74 021 01882 OPERATOR'S MEET #: 310H GRADY BRIGGS MSH
	PRODUCTION COMPANY, LLC PRODUCTION COMPANY, LLC COMPANY: 2MI 2MI	





JACKSON SURVEYING
 INC.
 P.O. Box 1460
 677 W. Main St.
 Clarksburg, WV 26302
 304-623-5851

ADJOINING OWNERS

TRACT	ADJOINING SURFACE OWNER (S)	TAX PARCEL	ACRES
A	MASON DIXON FARMS LLC (S)	07-17-19	22.80
B	D. GREIG PAETZOID ET UX (S)	07-10-08	50.77
C	DONALD G. BUZZARD ET EX (S)	07-10-07	164.13
D	PRESTON A. YEATER & HEATHER L. YEATER (S)	07-16-29.4	17.91
E	PRESTON A. YEATER & HEATHER L. YEATER (S)	07-16-29.2	4.92
F	MARILYN V. CLARK (S)	07-10-11	25.00
G	JAMES M. CLARK (S)	07-10-09	15.00
H	VINCENT E. LEMASTERS (S)	07-10-24	44.08
I	WILLIAM A. YEATER & STEPHANIE F. YEATER (S)	07-16-29.3	41.50
J	RUSSELL ALLEN DOTSON JR. & JODI D. DOTSON (S)	07-16-28	69.12
K	JOHN E. RIGGS & DALENA L. RIGGS (S)	07-16-33.1	12.00
L	DONALD REX QUIGLEY ET UX (S)	07-16-33	71.50
M	DAVID L. ELSON ET UX (S)	07-16-34	25.00
N	LAWRENCE WESLEY QUIGLEY ET UX (S)	07-16-36	146.78
O	LOUIS S. MCCLELLAND EST. (S)	07-16-37	13.74
P	JOHN E. RIGGS JR. ET UX (S)	07-16-38	3.25
Q	JOHN E. RIGGS JR. (S)	07-16-41	10.00
R	JUDITH A. BURGE & VIRGINIA L. BAILEY ET AL (S)	07-16-40	10.52
S	ROBERT THOMAS BARR (LIFE) (S)	07-16-25.1	75.79
T	DANNY ZIEGLER & MARK ROBERTS (S)	07-16-25.2	1.72
U	BEN F. ALLMAN (S)	07-16-25	0.72
V	GAIL CUMPTSON (S)	07-16-20	14.73
W	JAMES F. & JAMIE ANN DRUSCHEL ET AL (S)	07-19-23	4.43
X	CHARLES E. HORNER ET UX (LIFE) (S)	07-19-26	28.34
Y	CHARLES E. HORNER ET UX (LIFE) (S)	07-19-18	26.77
Z	CHARLES E. HORNER ET UX (LIFE) (S)	07-16-22	26.67
AA	CHARLES E. HORNER ET UX (LIFE) (S)	07-16-23	7.06
BB	MASON DIXON FARMS LLC (S)	07-16-06	69.72
CC	WILLIAM ZERVOS JR. (S)	07-16-21	3.00
DD	MICHAEL J. HORNER & ANNA M. HORNER (S)	07-16-23.1	24.99
EE	CHARLES C. COOK ET UX (S)	07-16-09	11.21
FF	COLUMBIA GAS TRANSMISSION CORP. (S)	07-19-10	55.15
GG	JACK J. BRIGGS (S)	07-16-05	37.88

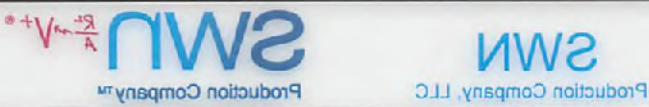
09/15/2017

REVISIONS:	COMPANY:		
	OPERATOR'S	GLADYS BRIGGS MSH	
	WELL #:	210H	
	LOCATION:	LIBERTY DISTRICT, MARSHALL COUNTY, WEST VIRGINIA	
		DATE:	07-10-2017
		DRAWN BY:	N. MANO
		SCALE:	N/A
		DRAWING NO:	
		ADJOINING OWNERS	

ADJOINING OWNERS

TRACT	ADJOINING SURFACE OWNER (S)	TAX PARCEL	ACRES
GC	JACK J. BRIGGS (S)	07-18-05	37.88
FF	COLUMBIA GAS TRANSMISSION CORP. (S)	07-18-08	52.18
EE	CHARLES C. COOK ET UX (S)	07-18-09	17.21
DD	MICHAEL J. HORNER & ANNA M. HORNER (S)	07-18-23.1	24.89
CC	WILLIAM ZERVOS JR. (S)	07-18-21	3.00
BB	MASON DIXON FARMS LLC (S)	07-18-06	69.72
AA	CHARLES E. HORNER ET UX (LIFE) (S)	07-18-23	7.08
Z	CHARLES E. HORNER ET UX (LIFE) (S)	07-18-22	28.67
Y	CHARLES E. HORNER ET UX (LIFE) (S)	07-18-18	28.77
X	CHARLES E. HORNER ET UX (LIFE) (S)	07-18-26	28.34
W	JAMES F. & JAMIE ANN DRUSCHEL ET AL (S)	07-18-23	4.43
V	GAIL CUMPTON (S)	07-18-20	14.73
U	BEN F. ALLMAN (S)	07-18-25	0.72
T	DANNY ZIEGLER & MARK ROBERTS (S)	07-18-23.2	1.72
S	ROBERT THOMAS BARR (LIFE) (S)	07-18-25.1	25.79
R	JUDITH A. BURGE & VIRGINIA L. BALLEW ET AL (S)	07-18-40	10.52
Q	JOHN E. RIGGS JR. (S)	07-18-41	10.00
P	JOHN E. RIGGS JR. ET UX (S)	07-18-38	2.28
O	LOUIS S. MCCLELLAND EST. (S)	07-18-37	13.74
N	LAWRENCE WESTLEY QUIGLEY ET UX (S)	07-18-36	148.78
M	DAVID L. ELSON ET UX (S)	07-18-34	28.00
L	DONALD REX QUIGLEY ET UX (S)	07-18-33	21.50
K	JOHN E. RIGGS & DALINA L. RIGGS (S)	07-18-32.1	12.00
J	JODI D. DOTSON (S)	07-18-28	69.12
I	RUSSELL ALLEN DOTSON JR. & WILLIAM A. YEATER & STEPHANIE F. YEATER (S)	07-18-29.3	41.50
H	VINCENT E. LEMASTERS (S)	07-10-24	44.08
G	JAMES M. CLARK (S)	07-10-09	12.00
F	MARILYN V. CLARK (S)	07-10-17	22.00
E	PRESTON A. YEATER & HEATHER L. YEATER (S)	07-18-29.2	4.92
D	PRESTON A. YEATER & HEATHER L. YEATER (S)	07-18-29.4	17.91
C	DONALD G. BUZZARD ET EX (S)	07-10-07	184.13
B	D. GREIG PATZOLD ET UX (S)	07-10-08	20.77
A	MASON DIXON FARMS LLC (S)	07-17-19	22.80

09/15/2017

		COMPANY:	REVISIONS:
DATE: 07-10-2017 DRAWN BY: N. MAND SCALE: N/A DRAWING NO: ADJOINING OWNERS	MARSHALL COUNTY, WEST VIRGINIA LIBERTY DISTRICT 210H GLADYS BRIGGS MSH	OPERATOR'S WELL #: LOCATION:	_____ _____ _____ _____ _____ _____