

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

API 47 - 009 - 00159 County BROOKE District BUFFALO
Quad STUEBENVILLE Pad Name MILDRED MANI BRK PAD Field/Pool Name PANHANDLE
Farm name MILDRED MANI & ERICK PHILIP Well Number MILDRED MANI BRK 205H
Operator (as registered with the OOG) SWN PRODUCTION COMPANY LLC
Address PO BOX 12359 City SPRING State TX Zip 77397-2359

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey
Top hole Northing 4456021.30 Easting 534904.88
Landing Point of Curve Northing 4456240.12 Easting 535255.34
Bottom Hole Northing 4457534.75 Easting 534736.58

Elevation (ft) 1073' 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 07/30/2015 Date drilling commenced 08/08/2015 Date drilling ceased 09/01/2015
Date completion activities began 12/14/2015 Date completion activities ceased 01/14/2016
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 300' Open mine(s) (Y/N) depths N
Salt water depth(s) ft ~~520'~~ 802' Void(s) encountered (Y/N) depths N
Coal depth(s) ft 140' Cavern(s) encountered (Y/N) depths N

Is coal being mined in area (Y/N) N

APPROVED

NAME: Jackie Thornton
DATE: 7/5/16

Received
Office of Oil & Gas
JUL 05 2016

AK RBD
10/21/2016
10/19/16

API 47-009 - 00159 Farm name MILDRED MANI & ERICK PHILIP Well number MILDRED MANI BRK 205H

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	28	20	190'	N	J-55/ 94#		Y
Surface	17.5	13.375	421'	N	J-55/ 54.50#		Y
Coal	SEE SURFACE						
Intermediate 1	12.25	9.625	1510'	N	J-55/ 40#		Y
Intermediate 2							
Intermediate 3							
Production	8.75 TO 8.50	5.5	10907'	N	P-110/20#		Y
Tubing		2.375	6242'	N	P-110/4.70#		N
Packer type and depth set		N/A					

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	A	435	15.7	1.29	561	SURFACE	24
Surface	A	415	15.6	1.20	498	SURFACE	8
Coal	SEE SURFACE						
Intermediate 1	A	580	15.6	1.18	684	SURFACE	8
Intermediate 2							
Intermediate 3							
Production	A	1085/1170	15.6	1.24	2796	SURFACE	24
Tubing							

Drillers TD (ft) 10911' Loggers TD (ft) 10911

Deepest formation penetrated MARCELLUS Plug back to (ft) NA

Plug back procedure NA

Kick off depth (ft) 5268'

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 _____

ALL CASING STRINGS RAN WITH A CENTRALIZER AT A MINIMUM OF 1 PER EVERY 3RD JOINT OF CASING

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 _____

Received
Office of Oil & Gas

JUL 05 2016

API 47- 009 - 00159 Farm name MILDRED MANI & ERICK PHILIP Well number MILDRED MANI BRK 205H

PRODUCING FORMATION(S)	DEPTHS	
<u>MARCELLUS</u>	<u>5677'</u> TVD	<u>6123'</u> MD
_____	_____	_____
_____	_____	_____
_____	_____	_____

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump

SHUT-IN PRESSURE Surface 1118 psi Bottom Hole _____ psi DURATION OF TEST _____ hrs

OPEN FLOW Gas 2663.99 mcfpd Oil 310.15 bpd NGL _____ bpd Water 177.54 bpd GAS MEASURED BY Estimated Orifice Pilot

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

Please insert additional pages as applicable.

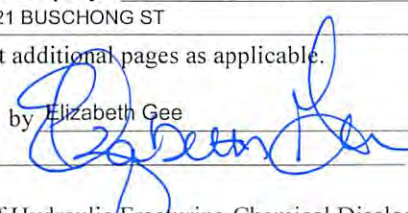
Drilling Contractor SWN DRILLING
Address PO BOX 12359 City SPRING State TX Zip 77391-2359

Logging Company NINE ENERGY SERVICES
Address 16945 NORTHCHASE DR, STE 1600 City HOUSTON State TX Zip 77060

Cementing Company SCHLUMBERGER
Address 110 SCHLUMBERGER DRIVE City SUGAR LAND State TX Zip 77478

Stimulating Company DOWELL SCHLUMBERGER
Address 1121 BUSCHONG ST City HOUSTON State TX Zip 77039

Please insert additional pages as applicable.

Completed by Elizabeth Gee Telephone 832-796-7632
Signature  Title Sr. Regulatory Analyst Date 06/30/2016

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

10/21/2016

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	12/14/2015
Job End Date:	12/18/2015
State:	West Virginia
County:	Brooke
API Number:	47-009-00159-00-00
Operator Name:	Southwestern Energy
Well Name and Number:	Mildred Mani 205H
Longitude:	-80.58956100
Latitude:	40.25392039
Datum:	NAD83
Federal/Tribal Well:	NO
True Vertical Depth:	5,670
Total Base Water Volume (gal):	5,945,184
Total Base Non Water Volume:	0



Received
 Office of Oil & Gas
 MAR 18 2016



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
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.							
Proppant Transport	Schlumberger	Acid Corrosion Inhibitor, Acid Breaker, Gelling Agent, Friction Reducer, Fluid Loss Additive, Propping Agent					
			Water (Including Mix Water Supplied by Client)*	NA		85.20383	
			Quartz, Crystalline silica	14808-60-7	97.92983	14.48986	
			Hydrochloric acid	7647-01-0	1.55945	0.23074	
			Ammonium sulfate	7783-20-2	0.21181	0.03134	
			Acrylamide, 2-acrylamido-2-methylpropanesulfonic acid, sodium salt polymer	38193-60-1	0.15633	0.02313	
			Guar gum	9000-30-0	0.10025	0.01483	
			Polymer of 2-acrylamido-2-methylpropanesulfonic acid sodium salt and methyl acrylate	136793-29-8	0.01675	0.00248	
			Urea	57-13-6	0.01028	0.00152	
			Diammonium peroxodisulphate	7727-54-0	0.00295	0.00044	
			Propan-2-ol	67-63-0	0.00292	0.00043	
			Non-crystalline silica (impurity)	7631-86-9	0.00239	0.00035	

		Sodium sulfate	7757-82-6	0.00240	0.00035
		Fatty acid, tall-oil reaction products with acetophenone	68188-40-9	0.00114	0.00017
		Alcohols, C12-C16, ethoxylated	68551-12-2	0.00095	0.00014
		Isodecanol w/6-7 Moles Ethylene Oxide	26183-52-8	0.00064	0.00009
		2-Propenamid (impurity)	79-06-1	0.00051	0.00008
		Cinnamaldehyde	104-55-2	0.00042	0.00006
		Tetrasodium ethylenediaminetetraacetate	64-02-8	0.00027	0.00004
		Amines, tallow alkyl, ethoxylated	61791-26-2	0.00012	0.00002
		Dimethyl siloxanes and silicones	63148-62-9	0.00015	0.00002
		Glycols, polyethylene, monotetradecyl ether	27306-79-2	0.00004	0.00001
		Dodecyl poly(oxyethylene) ether	9002-92-0	0.00005	0.00001
		Decamethyl cyclopentasiloxane	541-02-6	0.00001	
		Dodecamethylcyclohexasiloxane	540-97-6	0.00001	
		Copper(II) sulfate	7758-98-7	0.00001	
		Siloxanes and silicones, dimethyl, reaction products with silica	67762-90-7	0.00002	
		Octamethylcyclotetrasiloxane	556-67-2	0.00002	

* 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)

Received
Office of Oil & Gas
MAR 18 2016

MILDRED MANI BRK 205 - STIMULATION INFORMATION

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	12/14/2015	2	6,858	7,319	3,814	497,040	7,253	
2	12/14/2015	2	6,790	7,884	4,120	500,840	7,357	
3	12/15/2015	2	6,900	9,647	4,418	500,600	9,432	
4	12/15/2015	2	7,494	9,278	4,362	502,600	10,293	
5	12/15/2015	2	7,337	8,893	4,487	482,260	10,518	
6	12/16/2015	2	6,907	8,341	4,183	501,280	7,323	
7	12/16/2015	2	6,922	7,378	4,486	500,740	7,974	
8	12/16/2015	2	6,733	7,015	4,153	500,660	7,553	
9	12/16/2015	2	6,850	7,924	4,219	500,600	7,552	
10	12/16/2015	2	6,674	7,643	4,502	504,080	7,406	
11	12/17/2015	2	6,700	9,205	4,552	499,020	8,919	
12	12/17/2015	2	6,592	6,492	4,571	501,580	7,092	
13	12/17/2015	2	6,703	7,557	4,144	500,960	7,103	
14	12/17/2015	2	6,746	8,723	4,470	500,560	11,096	
15	12/17/2015	2	6,900	9,319	4,221	484,940	9,980	
16	12/18/2015	2	6,682	8,644	4,418	497,520	7,502	
17	12/18/2015	2	6,494	6,983	4,571	500,960	7,199	
TOTAL			6,840	9,647	4,335	8,476,240	141,552	

Received
Office of Oil & Gas

MAR 18 2016

10/21/2016

MILDRED MANI BRK 205 - PERFORATION RECORD

STAGE NUM	Perf Date	Perf Top MD	Perf Bottom MD	# SHOTS PER STG
1	12/14/2015	10,585	10,782	42
2	12/14/2015	10,325	10,522	42
3	12/15/2015	10,065	10,262	42
4	12/15/2015	9,805	10,002	42
5	12/15/2015	9,545	9,742	42
6	12/16/2015	9,285	9,485	42
7	12/16/2015	9,025	9,222	42
8	12/16/2015	8,765	8,962	42
9	12/16/2015	8,505	8,702	42
10	12/16/2015	8,245	8,442	42
11	12/17/2015	7,985	8,182	42
12	12/17/2015	7,725	7,922	42
13	12/17/2015	7,465	7,662	42
14	12/17/2015	7,205	7,402	42
15	12/17/2015	6,940	7,143	42
16	12/18/2015	6,685	6,882	42
17	12/18/2015	6,425	6,622	42

Received
Office of Oil & Gas
MAR 18 2016

10/21/2016

MILDRED MANI BRK 205H

LITHOLOGY/FORMATION	TOP DEPTH, TVD (FT)	BOTTOM DEPTH, TVD (FT)	TOP DEPTH, MD (FT)	BOTTOM DEPTH, MD (FT)	QUANTITY AND TYPE OF FLUID
Base of Fresh Water	N.A.	300.00	N.A.	300.00	
Top of Salt Water	802.00	N.A.	802.00	N.A.	
Pittsburgh Coal	133.00	140.00	133.00	140.00	
Big Injun (ss)	1214.92	1751.36	1215.00	1751.70	
Berea (siltstone)	1751.36	5151.10	1751.70	5289.22	
Rhinestreet (shale)	5151.10	5388.08	5289.22	5550.97	
Cashaqua (shale)	5388.08	5441.28	5550.97	5618.17	
Middlesex (shale)	5441.28	5491.09	5618.17	5687.01	
Burket (shale)	5491.09	5513.95	5687.01	5720.66	
Tully (ls)	5513.95	5569.12	5720.66	5810.71	
Mahantango (shale)	5569.12	5677.01	5810.71	6123.13	
Marcellus (shale)	5677.01	N.A.	6123.13	N.A.	

Received
Office of Oil & Gas

MAR 18 2016



320 O'Bryan Lane • Van Buren, AR 72956
Office: 479.474.7916 • Fax: 479.474.2450
Surveying • handa-inc.com

LINE	BEARING	DISTANCE	DESCRIPTION	MONUMENT
L1	S 89°30'22" E	1433.14'	SHL TO LANDMARK	FOUND IRON PIPE
L2	S 47°45'53" E	975.39'	SHL TO LANDMARK	FOUND IRON PIPE
L3	N 05°04'41" E	177.42'	SHL TO REF. PNT.	1/2" Ø REBAR SET
L4	S 31°09'47" W	13.65'	SHL TO REF. PNT.	MILDRED MANI BRK 5H WELL HEAD 009-00091
LINE	CHORD BEARING	CHORD DIST.	CURVE LENGTH	DESCRIPTION
L5	N 58°01'15" E	1355.51'		SHL TO LP
L6	N 21°50'09" W	4575.76'		LP TO BHL

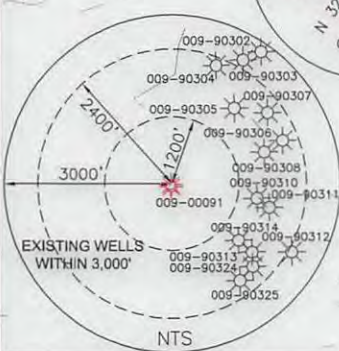
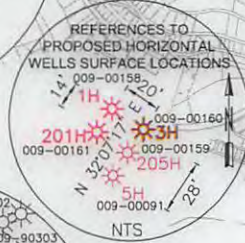
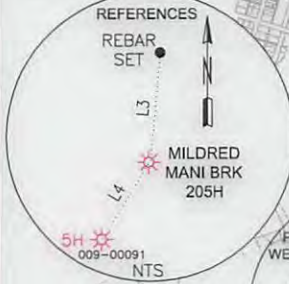
Latitude: 40°17'30"

Longitude: 80°35'00"

NOTES ON SURVEY

- COORDINATE 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/OR FIELD LOCATIONS.
- THIS PLAT DOES NOT REPRESENT A BOUNDARY SURVEY OF THE PARCELS SHOWN HEREON.
- NO OCCUPIED DWELLINGS AND AGRICULTURE BUILDINGS GREATER THAN 2500 SQ FT. WITHIN 625 FEET OF PROPOSED CENTER OF PAD.
- NO WATER WELLS OR DEVELOPED SPRINGS WITHIN 250 FEET OF PROPOSED WELL.
- NO PERENNIAL STREAMS, LAKES, PONDS, OR RESERVOIRS WITHIN 100 FEET OF THE LIMITS OF DISTURBANCE.
- NO NATURALLY PRODUCING TROUT STREAM WITHIN 300 FEET OF LIMITS OF DISTURBANCE.
- NO GROUND INTAKE OR PUBLIC WATER SUPPLY WITHIN 1000 FEET OF WELL PAD, LIMITS OF DISTURBANCE, E & S CONTROLS OR PUBLIC WATER SUPPLY.

TRACT	SURFACE OWNER (S) ROYALTY OWNER (R)	TAX PARCEL	ACRES	LEASE NUMBER
1	ERIC PHILIP BAUER (S/R)	B27-26	95.00	1-329350-002
1	MILDRED MANI (S/R)	B27-26	95.00	1-324207-001
1	MILES BAUER (R)	B27-26	95.00	1-324207-002
2	STARVAGGI INDUSTRIES (S/R)	B27-22	167.00	1-324527-000
3	LARRY B. ARACICH & SHELLY D. ARACICH (S/R)	B27-23	5.44	47-000011-000
4	ERIC PHILIP BAUER (S/R)	B27-21	207.00	1-329350-002
4	MILDRED MANI (S/R)	B27-21	207.00	1-324207-001
4	MILES BAUER (R)	B27-21	207.00	1-324207-002
5	WILLIAM C. HARVEY & MARY B. HARVEY (S/R)	B27H-23	0.360	47-000524-000
6	PATRICIA A. ANTAL (S/R)	B27H-25	0.300	1-343033-000
7	BARRY L. KIRKLEY (S/R)	B27H-29	1.334	47-000558-000
9	BERNARD J. DINARDO JR & IRENE A. DINARDO (S)	B27H-32	1.320	47-002708-000



SURFACE HOLE LOCATION (SHL): UTM (NAD83, ZONE 17, METERS): NORTHING: 4,456,021.304 EASTING: 534,904.876
LANDING POINT (LP): UTM (NAD83, ZONE 17, METERS): NORTHING: 4,456,240.118 EASTING: 535,255.335
BOTTOM HOLE LOCATION (BHL): UTM (NAD83, ZONE 17, METERS): NORTHING: 4,457,534.746 EASTING: 534,736.580



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.

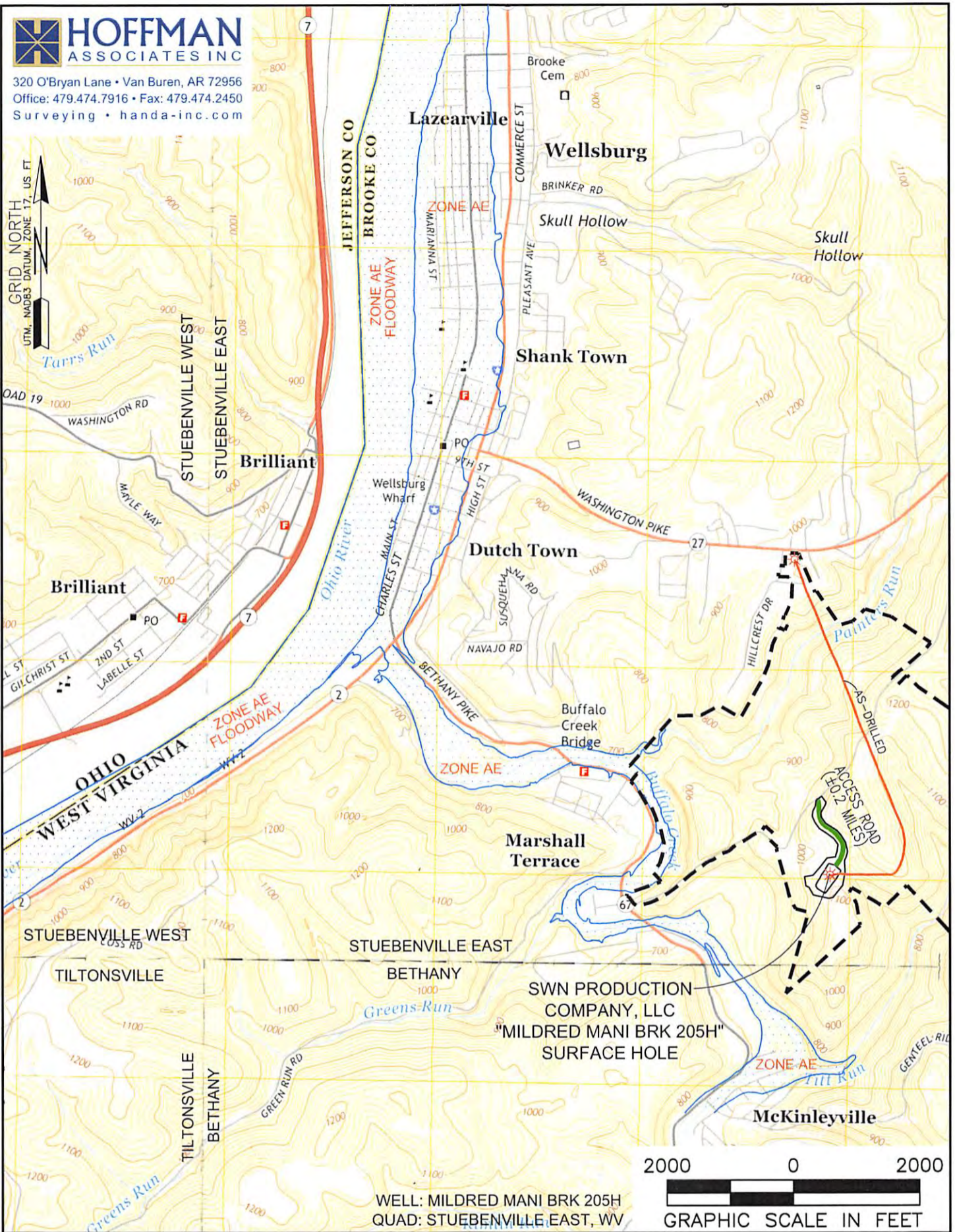
P.S. 2315

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS WVDEP OFFICE OF OIL & GAS 601 57TH STREET CHARLESTON, WV 25034	MINIMUM DEGREE OF ACCURACY: 1/200 PROVEN SURVEY SOURCE OF GRADE GPS ELEVATION: (NAVD 88, US FT)	COMPANY: SWN Production Company, LLC MILDRED MANI BRK OPERATOR'S WELL #: 205H API WELL #: 47 09 00159 STATE COUNTY PERMIT
	WELL TYPE: OIL <input type="checkbox"/> WASTE DISPOSAL <input type="checkbox"/> PRODUCTION <input type="checkbox"/> DEEP <input type="checkbox"/> GAS <input checked="" type="checkbox"/> LIQUID INJECTION <input type="checkbox"/> STORAGE <input type="checkbox"/> SHALLOW <input checked="" type="checkbox"/>	WATERSHED: BUFFALO CREEK DISTRICT: BUFFALO COUNTY: BROOKE SURFACE OWNER: MILDRED MANI & ERIK PHILIP BAUER OIL & GAS ROYALTY OWNER: MILDRED MANI & ERIK PHILIP BAUER

DRILL <input type="checkbox"/> DRILL DEEPER <input type="checkbox"/> REDRILL <input type="checkbox"/> FRACTURE OR STIMULATE <input type="checkbox"/> PLUG OFF OLD FORMATION <input type="checkbox"/> PERFORATE NEW FORMATION <input type="checkbox"/> CONVERT <input type="checkbox"/> PLUG & ABANDON <input type="checkbox"/> CLEAN OUT & REPLUG <input type="checkbox"/> OTHER CHANGE <input checked="" type="checkbox"/> (SPECIFY) AS-DRILLED TARGET FORMATION: MARCELLUS DEPTH: 5,700' TMD TO 9,911' 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	--- LEASE BOUNDARY --- AS-DRILLED PATH --- PERMITTED DIRECTIONAL PATH --- DIRECTIONAL PATH --- ABANDONED PATH	REVISIONS: △ REVISED SHL, LP, & BHL FOR ASDRILLED DIRECTIONAL PATH 11-04-2015 △ REVISED ASDRILLED & PERMITTED DIRECTIONAL PATH COLOR, ADDED LP COORDINATES. 01-29-2016	DATE: 10-21-2015 DRAWN BY: J. HARNESS SCALE: 1" = 2000' DRAWING NO: 59394 WELL LOCATION PLAT
---	---	--	--

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



WELL: MILDRED MANI BRK 205H
QUAD: STUEBENVILLE EAST, WV



NAME AND DISTANCE TO THE NEAREST STREAM: TITT RUN IS LOCATED ±0.31 MILES SOUTHEAST OF THE DRILL PAD.		STREAM CROSSING COORDINATES (NAD 83): NO NEW CROSSINGS.		COMPANY: SWN Production Company, LLC		SWN Production Company™	
WELL RESTRICTIONS: WELL PAD, LOD, & E & S CONTROL FEATURES TO PERENNIAL STREAM, LAKE, POND, RESERVOIR OR WETLAND: >100 FEET WELL PAD, LOD, & E & S CONTROL FEATURES TO NATURALLY PRODUCING TROUT STREAM: >300 FEET WELL PAD, LOD, & E & S CONTROL FEATURES TO GROUNDWATER INTAKE OR PUBLIC WATER SUPPLY: >1000 FEET WELL SHL TO EXISTING WATER WELL OR DEVELOPED SPRING: >250 FEET CENTER OF PAD TO OCCUPIED DWELLING STRUCTURE: >625 FEET CENTER OF PAD TO AGRICULTURAL BUILDINGS LARGER THAN 2500 SQ FT: >625 FEET				OPERATOR'S MILDRED MANI BRK		WELL #: 205H	
FEMA FLOOD INFORMATION: BY GRAPHIC PLOTTING ONLY FEMA FIRM UNINCORPORATED AREA OF BROOKE COUNTY, WEST VIRGINIA; MAP NUMBERS 54009C0090 D, 54009C0130 D, & 54009C0088 D; EFFECTIVE DATE APRIL, 19, 2010.				LOCATION: BUFFALO DISTRICT, BROOKE COUNTY, WEST VIRGINIA		SURFACE HOLE LOCATION: GEOGRAPHIC (NAD83): LATITUDE: 40.253920° LONGITUDE: -80.589561°	
LEGEND: ○ PROPOSED SURFACE HOLE / BOTTOM HOLE ⊙ EXISTING / PRODUCING WELLHEAD ⊘ ABANDONED WELL ⊘ PLUGGED & ABANDONED WELL △ CUT CONDUCTOR				BOTTOM HOLE LOCATION: GEOGRAPHIC (NAD83): LATITUDE: 40.267562° LONGITUDE: -80.591458°		DATE: 10-21-2015	
<ul style="list-style-type: none"> ○ PROPOSED SURFACE HOLE / BOTTOM HOLE ⊙ EXISTING / PRODUCING WELLHEAD ⊘ ABANDONED WELL ⊘ PLUGGED & ABANDONED WELL △ CUT CONDUCTOR ⊙ EXISTING WATER WELL — ACCESS ROAD — ACCESS ROAD TO PREV. SITE — HIGHWAY/INTERSTATE — COUNTY ROAD 				REVISIONS:		DRAWN BY: J. HARNESSE SCALE: 1" = 2000' DRAWING NO: 59394 TOPOGRAPHIC MAP	

10/21/2016



320 O'Bryan Lane • Van Buren, AR 72956
Office: 479.474.7916 • Fax: 479.474.2450
Surveying • handa-inc.com

LINE	BEARING	DISTANCE	DESCRIPTION	MONUMENT
L1	S 89°30'22" E	1433.14'	SHL TO LANDMARK	FOUND IRON PIPE
L2	S 47°45'53" E	975.39'	SHL TO LANDMARK	FOUND IRON PIPE
L3	N 05°04'41" E	177.42'	SHL TO REF. PNT.	1/2" Ø REBAR SET
L4	S 31°09'47" W	13.65'	SHL TO REF. PNT.	MILDRED MANI BRK 5H WELL HEAD 009-00091
LINE	CHORD BEARING	CHORD DIST.	CURVE LENGTH	DESCRIPTION
L5	N 58°01'15" E	1355.51'		SHL TO LP
L6	N 21°50'09" W	4575.76'		LP TO BHL

Latitude: 40°17'30"

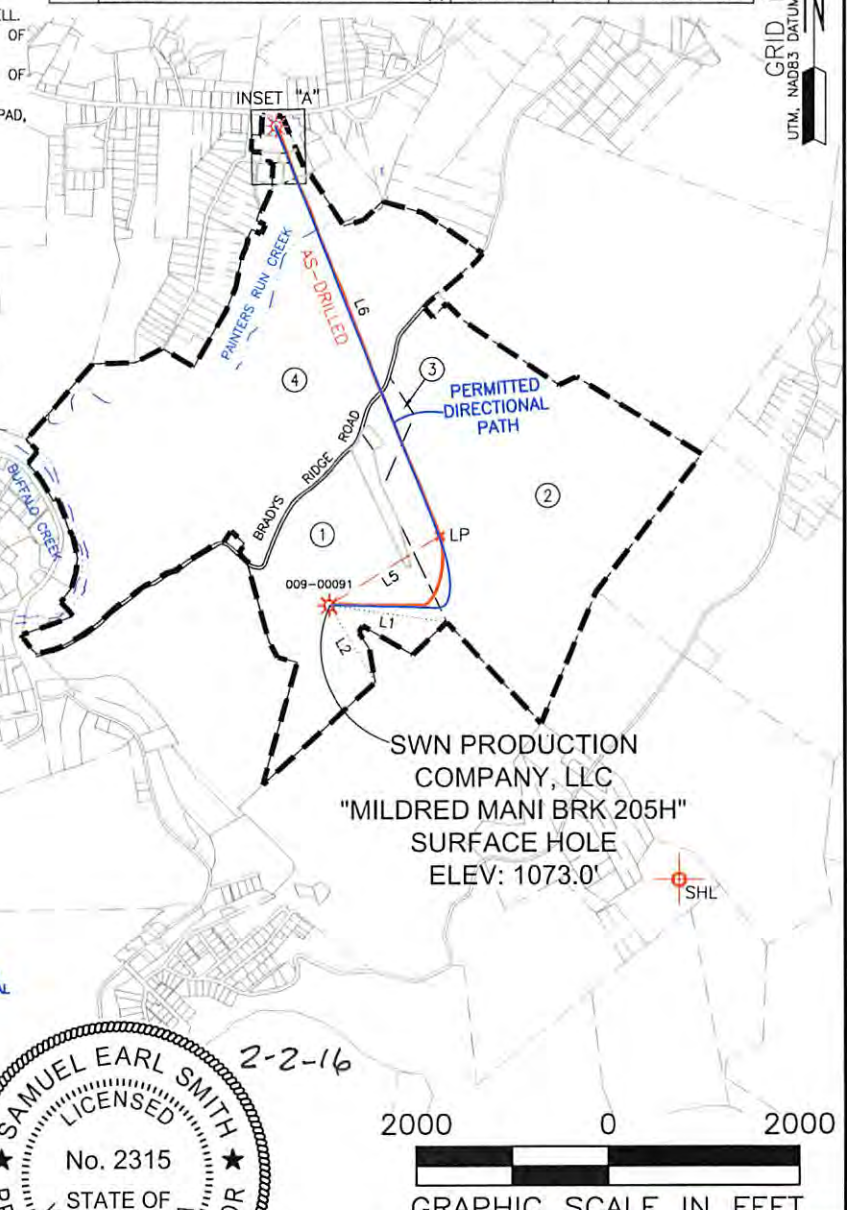
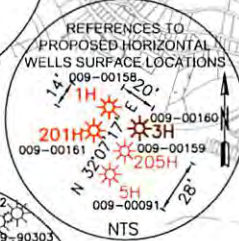
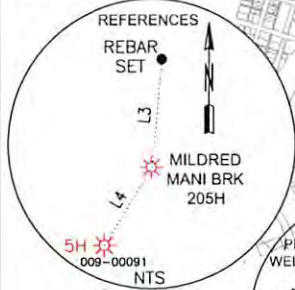
1734'

Longitude: 80°35'00"

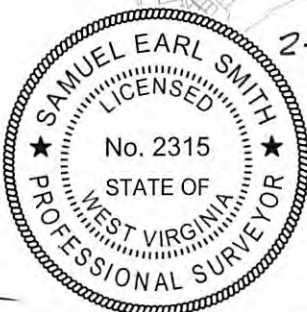
NOTES ON SURVEY

- COORDINATE 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/OR FIELD LOCATIONS.
- THIS PLAT DOES NOT REPRESENT A BOUNDARY SURVEY OF THE PARCELS SHOWN HEREON.
- NO OCCUPIED DWELLINGS AND AGRICULTURE BUILDINGS GREATER THAN 2500 SQ FT. WITHIN 625 FEET OF PROPOSED CENTER OF PAD.
- NO WATER WELLS OR DEVELOPED SPRINGS WITHIN 250 FEET OF PROPOSED WELL.
- NO PERENNIAL STREAMS, LAKES, PONDS, OR RESERVOIRS WITHIN 100 FEET OF THE LIMITS OF DISTURBANCE.
- NO NATURALLY PRODUCING TROUT STREAM WITHIN 300 FEET OF LIMITS OF DISTURBANCE.
- NO GROUND INTAKE OR PUBLIC WATER SUPPLY WITHIN 1000 FEET OF WELL PAD, LIMITS OF DISTURBANCE, E & S CONTROLS OR PUBLIC WATER SUPPLY.

TRACT	SURFACE OWNER (S) ROYALTY OWNER (R)	TAX PARCEL	ACRES	LEASE NUMBER
1	ERIC PHILIP BAUER (S/R)	B27-26	95.00	1-329350-002
1	MILDRED MANI (S/R)	B27-26	95.00	1-324207-001
1	MILES BAUER (R)	B27-26	95.00	1-324207-002
2	STARVAGI INDUSTRIES (S/R)	B27-22	167.00	1-324527-000
3	LARRY B. ARACICH & SHELLY D. ARACICH (S/R)	B27-23	5.44	47-000011-000
4	ERIC PHILIP BAUER (S/R)	B27-21	207.00	1-329350-002
4	MILDRED MANI (S/R)	B27-21	207.00	1-324207-001
4	MILES BAUER (R)	B27-21	207.00	1-324207-002
5	WILLIAM C. HARVEY & MARY B. HARVEY (S/R)	B27H-23	0.360	47-000524-000
6	PATRICIA A. ANTAL (S/R)	B27H-25	0.300	1-343033-000
7	BARRY L. KIRTLEY (S/R)	B27H-29	1.334	47-000558-000
9	BERNARD J. DINARDO JR & IRENE A. DINARDO (S)	B27H-32	1.320	47-002708-000



SURFACE HOLE LOCATION (SHL): UTM (NAD83, ZONE 17, METERS): NORTHING: 4,456,021.304 EASTING: 534,904.876
LANDING POINT (LP): UTM (NAD83, ZONE 17, METERS): NORTHING: 4,456,240.118 EASTING: 535,255.335
BOTTOM HOLE LOCATION (BHL): UTM (NAD83, ZONE 17, METERS): NORTHING: 4,457,534.746 EASTING: 534,736.580



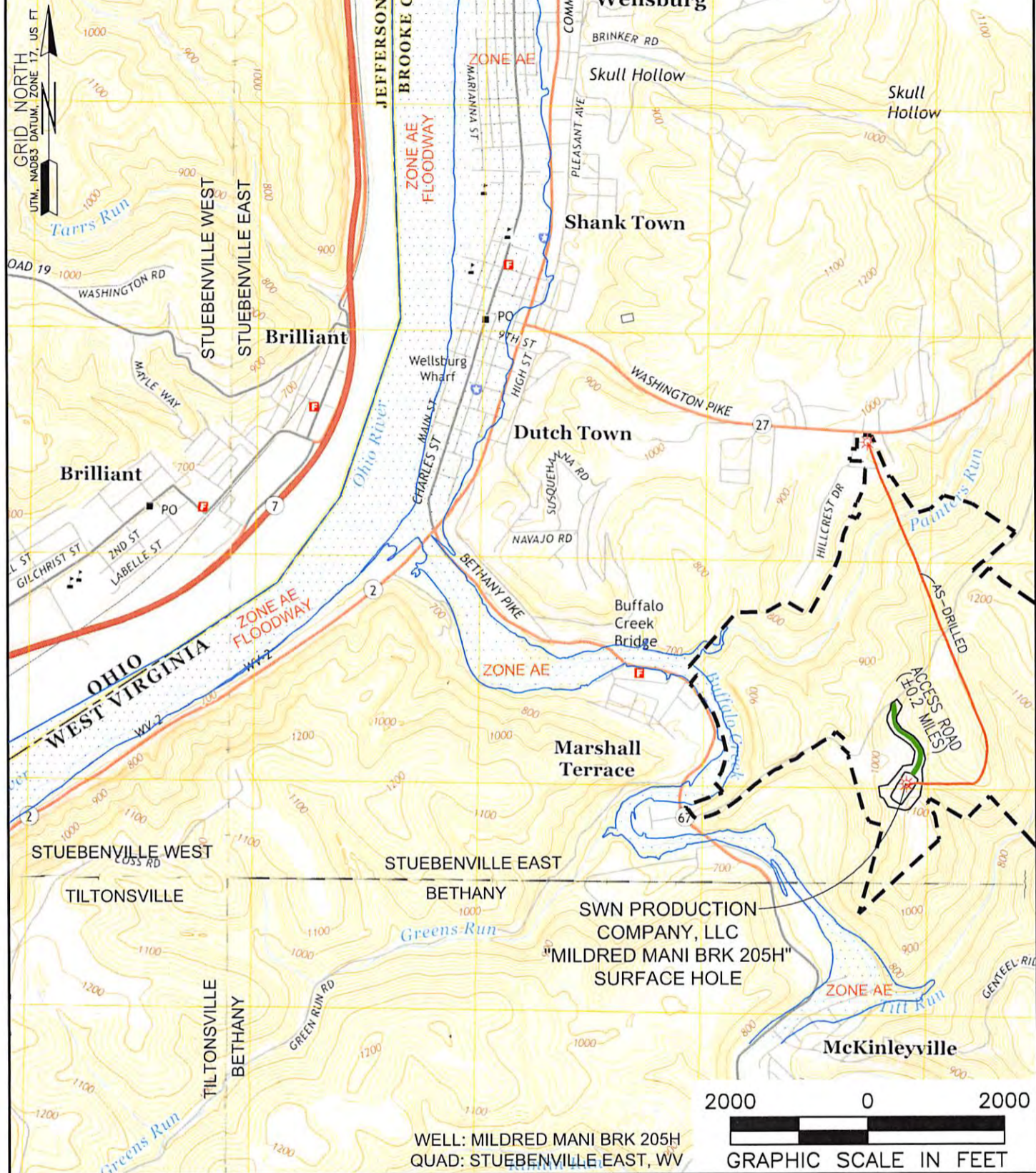
I, THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND REGULATIONS ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

P.S. 2315

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS WVDEP OFFICE OF OIL & GAS 601 57TH STREET CHARLESTON, WV 25034	MINIMUM DEGREE OF ACCURACY: 1/200 PROVEN SURVEY SOURCE OF ELEVATION: GRADE GPS (NAVD 88, US FT)	COMPANY: SWN Production Company, LLC MILDRED MANI BRK OPERATOR'S WELL #: 205H API WELL #: 47 09 00159 STATE COUNTY PERMIT
	WELL TYPE: OIL <input type="checkbox"/> WASTE DISPOSAL <input type="checkbox"/> PRODUCTION <input type="checkbox"/> DEEP <input type="checkbox"/> GAS <input checked="" type="checkbox"/> LIQUID INJECTION <input type="checkbox"/> STORAGE <input type="checkbox"/> SHALLOW <input checked="" type="checkbox"/>	WATERSHED: BUFFALO CREEK DISTRICT: BUFFALO COUNTY: BROOKE SURFACE OWNER: MILDRED MANI & ERIK PHILIP BAUER OIL & GAS ROYALTY OWNER: MILDRED MANI & ERIK PHILIP BAUER

DRILL <input type="checkbox"/> DRILL DEEPER <input type="checkbox"/> REDRILL <input type="checkbox"/> FRACTURE OR STIMULATE <input type="checkbox"/> PLUG OFF OLD FORMATION <input type="checkbox"/> PERFORATE NEW FORMATION <input type="checkbox"/> CONVERT <input type="checkbox"/> PLUG & ABANDON <input type="checkbox"/> CLEAN OUT & REPLUG <input type="checkbox"/> OTHER CHANGE <input checked="" type="checkbox"/> (SPECIFY) AS-DRILLED TARGET FORMATION: MARCELLUS	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	- - - - LEASE BOUNDARY - - - - AS-DRILLED PATH - - - - PERMITTED DIRECTIONAL PATH - - - - ABANDONED PATH	REVISIONS: △ REVISED SHL, LP, & BHL FOR ASDRILLED DIRECTIONAL PATH 11-04-2015 △ REVISED ASDRILLED & PERMITTED DIRECTIONAL PATH COLOR, ADDED LP COORDINATES. 01-29-2016	DATE: 10-21-2015 DRAWN BY: J. HARNESS SCALE: 1" = 2000' DRAWING NO: 59394 WELL LOCATION PLAT
---	---	---	--



WELL: MILDRED MANI BRK 205H
QUAD: STUEBENVILLE EAST, WV



NAME AND DISTANCE TO THE NEAREST STREAM: TITT RUN IS LOCATED ±0.31 MILES SOUTHEAST OF THE DRILL PAD.		STREAM CROSSING COORDINATES (NAD 83): NO NEW CROSSINGS.		COMPANY: 	
WELL RESTRICTIONS: WELL PAD, LOD, & E & S CONTROL FEATURES TO PERENNIAL STREAM, LAKE, POND, RESERVOIR OR WETLAND: >100 FEET WELL PAD, LOD, & E & S CONTROL FEATURES TO NATURALLY PRODUCING TROUT STREAM: >300 FEET WELL PAD, LOD, & E & S CONTROL FEATURES TO GROUNDWATER INTAKE OR PUBLIC WATER SUPPLY: >1000 FEET WELL SHL TO EXISTING WATER WELL OR DEVELOPED SPRING: >250 FEET CENTER OF PAD TO OCCUPIED DWELLING STRUCTURE: >625 FEET CENTER OF PAD TO AGRICULTURAL BUILDINGS LARGER THAN 2500 SQ FT: >625 FEET		OPERATOR'S MILDRED MANI BRK		WELL #: 205H	
FEMA FLOOD INFORMATION: BY GRAPHIC PLOTTING ONLY FEMA FIRM UNINCORPORATED AREA OF BROOKE COUNTY, WEST VIRGINIA; MAP NUMBERS 54009C0090 D, 54009C0130 D, & 54009C0088 D; EFFECTIVE DATE APRIL, 19, 2010.		LOCATION: BUFFALO DISTRICT, BROOKE COUNTY, WEST VIRGINIA		SURFACE HOLE LOCATION: GEOGRAPHIC (NAD83): LATITUDE: 40.253920° LONGITUDE: -80.589561°	
LEGEND: 		BOTTOM HOLE LOCATION: GEOGRAPHIC (NAD83): LATITUDE: 40.267562° LONGITUDE: -80.591458°		REVISIONS: DATE: 10-21-2015	
				DRAWN BY: J. HARNISS SCALE: 1" = 2000' DRAWING NO: 59394 TOPOGRAPHIC MAP	

10/21/2016