

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

API 47 - 103 - 03130 County WETZEL District PROCTOR
Quad WILEYVILLE, WV Pad Name WILLIAM RITCHEA WTZ PAD Field/Pool Name VICTORY FIELD
Farm name WILLIAM D & SHIRLEY E RITCHEA Well Number WILLIAM RITCHEA WTZ 201H
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 4,391,143.231 Easting 529,209.939
Landing Point of Curve Northing 4,390,954.171 Easting 528,910.598
Bottom Hole Northing 4,392,309.422 Easting 527,243.643

Elevation (ft) 1563' 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 7/31/15 Date drilling commenced 9/22/15 Date drilling ceased 10/25/15
Date completion activities began 9/24/16 Date completion activities ceased 11/17/16
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 522' MD Open mine(s) (Y/N) depths _____
Salt water depth(s) ft 770' MD Void(s) encountered (Y/N) depths _____
Coal depth(s) ft 1482.85' MD Cavern(s) encountered (Y/N) depths _____

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

APPROVED

NAME: Sean A. [Signature]

DATE: 3-17-17

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Environmental Protection

05/26/2017

API 47-103 - 03130 Farm name WILLIAM RITCHEA WTZ 201H Well number WILLIAM RITCHEA WTZ 201H

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	126	NEW	J-55/94#		Y
Surface	17.5	13.375	672	NEW	J-55/54.5#		Y; 27 BBLs RETURNED
Coal	SEE INTERMEDIATE						
Intermediate 1	12.25	9.625	3011	NEW	J-55/40#		Y; 60 BBLs RETURNED
Intermediate 2							
Intermediate 3							
Production	8.75/8.50	5.5	15504	NEW	HCP-110/20#		Y
Tubing		2.375	8015	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	150	17.20			SURFACE	24
Surface	CLASS A	558	15.60	1.19	664.02	SURFACE	8
Coal	SEE INTERMEDIATE						
Intermediate 1	CLASS A	1130	15.60	1.19	1344.70	SURFACE	8
Intermediate 2							
Intermediate 3							
Production	CLASS A	930/1675	15.60	1.23/1.19	1143.90/1993.25	SURFACE	24
Tubing							

Drillers TD (ft) ^{15504'} _____ Loggers TD (ft) ^{15504'} _____
 Deepest formation penetrated MARCELLUS Plug back to (ft) N/A
 Plug back procedure _____

Kick off depth (ft) ^{6567'} _____

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

Well cored Yes No Conventional Sidewall Were cuttings collected Yes No

DESCRIBE THE CENTRALIZER PLACEMENT USED FOR EACH CASING STRING _____

SURFACE: 7 CENTRALIZERS - EVERY THIRD JOINT OF CASING

INTERMEDIATE: 24 CENTRALIZERS - EVERY THIRD JOINT OF CASING

PRODUCTION: 181 CENTRALIZERS - EVERY THIRD JOINT FROM SURFACE TO TOP OF CURVE, THEN EVERY JOINT UNTIL TD

WAS WELL COMPLETED AS SHOT HOLE Yes No DETAILS _____

WAS WELL COMPLETED OPEN HOLE? Yes No DETAILS _____

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

API 47- 103 - 03130 Farm name WILLIAM RITCHEA WTZ 201H Well number WILLIAM RITCHEA WTZ 201H

<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>		
<u>MARCELLUS</u>	<u>7538.53'</u>	<u>TVD</u>	<u>7957.15'</u> <u>MD</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump

SHUT-IN PRESSURE Surface 1475 psi Bottom Hole _____ psi DURATION OF TEST _____ hrs

OPEN FLOW Gas 2885 mcfpd Oil 94 bpd NGL _____ bpd Water 37 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>		
	<u>SEE</u>	<u>ATTACHMENT</u>	<u>3</u>		

Please insert additional pages as applicable.

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

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

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

Stimulating Company DOWELL SCHLUMBERGER
Address 11111 KATY FWY # 200 City HOUSTON State TX Zip 77070

Please insert additional pages as applicable.

Completed by DENISE GRANTHAM Telephone 832-796-6139
Signature Denise Grantham Title REGULATORY TECHNICIAN

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Submittal of Hydraulic Fracturing Chemical Disclosure Information Attach copy of FRACFOCUS Registry **05/26/2017**

WILLIAM RITCHEA WTZ 201H

Perf Stage Summary

STAGE NUM	Perf Date	Perf Top MD	Perf Bottom MD	# SHOTS PER STG
1	9/24/2016	15,282	15,389	42
2	9/24/2016	15,142	15,249	42
3	9/25/2016	15,002	15,109	42
4	9/25/2016	14,862	14,969	42
5	9/25/2016	14,722	14,829	42
6	9/25/2016	14,582	14,689	42
7	9/25/2016	14,442	14,549	42
8	9/26/2016	14,302	14,409	42
9	9/26/2016	14,162	14,269	42
10	9/26/2016	14,022	14,129	42
11	9/27/2016	13,882	13,989	42
12	9/27/2016	13,742	13,849	42
13	9/27/2016	13,602	13,709	42
14	9/27/2016	13,462	13,569	42
15	9/27/2016	13,322	13,429	42
16	9/27/2016	13,182	13,289	42
17	9/28/2016	13,042	13,149	42
18	9/28/2016	12,902	13,009	42
19	9/28/2016	12,762	12,869	42
20	9/28/2016	12,622	12,729	42
21	9/28/2016	12,482	12,589	42
22	9/27/2016	12,342	12,449	42
23	9/29/2016	12,202	12,309	42
24	9/29/2016	12,062	12,169	42
25	9/29/2016	11,922	12,029	42
26	9/29/2016	11,782	11,889	42
27	9/30/2016	11,642	11,749	42
28	10/1/2016	11,502	11,609	42
29	10/1/2016	11,362	11,469	42
30	10/1/2016	11,222	11,329	42
31	10/1/2016	11,082	11,189	42
32	10/21/2016	10,942	11,049	42
33	10/21/2016	10,802	10,909	42
34	10/21/2016	10,662	10,769	42
35	10/22/2016	10,522	10,629	42
36	10/22/2016	10,382	10,489	42
37	10/22/2016	10,242	10,349	42
38	10/22/2016	10,102	10,209	42
39	10/23/2016	9,962	10,069	42
40	10/23/2016	9,822	9,929	42
41	10/23/2016	9,682	9,789	42
42	10/23/2016	9,542	9,649	42
43	10/23/2016	9,402	9,509	42
44	10/23/2016	9,262	9,369	42
45	10/24/2016	9,122	9,229	42
46	10/24/2016	8,982	9,089	42
47	10/24/2016	8,842	8,949	42
48	10/24/2016	8,702	8,809	42
49	10/24/2016	8,562	8,669	42
50	10/24/2016	8,422	8,529	42
51	10/25/2016	8,282	8,389	42
52	10/25/2016	8,142	8,249	42

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WILLIAM RITCHEA Wtz 201H
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	9/24/2016	88	8,798	9,006	4,029	500,840	8,218	
2	9/24/2016	85	8,748	9,013	4,642	501,060	8,012	
3	9/25/2016	81	8,485	8,965	4,795	486,460	8,658	
4	9/25/2016	84	8,423	8,953	5,175	495,980	7,855	
5	9/25/2016	75	8,528	9,011	4,848	501,180	7,908	
6	9/25/2016	86	8,696	9,062	5,503	479,440	7,687	
7	9/25/2016	74	8,617	9,174	3,947	502,040	9,517	
8	9/26/2016	85	8,456	8,992	4,937	505,680	8,958	
9	9/26/2016	89	8,561	9,022	4,887	504,540	7,451	
10	9/26/2016	91	8,859	9,022	4,724	501,100	7,501	
11	9/27/2016	88	8,724	9,142	4,478	500,440	7,429	
12	9/27/2016	87	8,352	8,969	4,617	506,380	7,648	
13	9/27/2016	89	8,477	8,975	4,640	503,100	7,438	
14	9/27/2016	85	8,335	8,930	5,249	499,360	7,488	
15	9/27/2016	98	8,720	9,165	5,176	502,200	7,501	
16	9/27/2016	90	8,654	9,038	5,421	502,440	7,297	
17	9/28/2016	96	8,661	9,045	5,297	500,980	7,284	
18	9/28/2016	93	8,481	8,856	5,249	496,060	7,338	
19	9/28/2016	95	8,484	8,734	5,330	504,520	7,274	
20	9/28/2016	97	8,845	9,159	5,297	502,880	7,300	
21	9/28/2016	90	8,909	9,141	4,069	501,440	7,340	
22	9/27/2016	93	8,786	9,122	5,216	501,100	7,246	
23	9/29/2016	95	8,604	8,891	5,252	499,400	7,129	
24	9/29/2016	90	8,379	8,926	5,736	476,222	8,441	
25	9/29/2016	95	8,745	9,170	4,603	500,358	7,594	
26	9/29/2016	92	8,808	9,234	5,340	483,160	7,061	
27	9/30/2016	97	8,759	9,192	4,233	502,500	7,146	
28	10/1/2016	100	8,646	9,189	4,712	501,120	7,170	
29	10/1/2016	98	8,437	8,949	5,519	500,480	7,305	
30	10/1/2016	96	8,563	8,881	5,606	500,740	7,075	
31	10/1/2016	94	8,773	9,154	5,412	501,840	9,499	
32	10/21/2016	97	8,324	8,841	5,312	503,820	7,909	
33	10/21/2016	100	8,564	9,030	5,401	497,680	7,580	
34	10/21/2016	95	8,519	9,159	5,157	512,600	7,928	
35	10/22/2016	99	8,599	9,107	4,943	500,500	7,317	
36	10/22/2016	97	8,651	9,058	5,041	498,280	7,042	
37	10/22/2016	97	8,504	8,942	4,999	498,260	7,481	
38	10/22/2016	99	8,456	8,933	5,323	497,040	7,413	
39	10/23/2016	99	8,339	8,878	4,818	498,880	7,380	
40	10/23/2016	95	8,759	9,222	4,817	499,680	8,039	
41	10/23/2016	100	8,278	8,640	5,039	500,360	7,528	
42	10/23/2016	99	8,045	8,582	4,722	500,140	7,420	
43	10/23/2016	100	8,068	8,768	4,552	499,900	7,408	
44	10/23/2016	94	7,726	8,589	5,524	503,820	7,418	
45	10/24/2016	99	8,175	8,727	5,030	499,480	7,374	
46	10/24/2016	100	8,140	8,710	4,754	500,960	7,429	
47	10/24/2016	100	8,089	8,836	4,690	500,720	7,291	
48	10/24/2016	100	7,330	8,491	4,439	498,420	7,368	
49	10/24/2016	98	7,043	8,201	4,395	497,140	7,236	
50	10/24/2016	98	7,088	7,899	4,038	496,440	7,326	
51	10/25/2016	99	6,701	8,030	4,396	498,080	7,224	
52	10/25/2016	97	7,509	8,836	3,806	500,400	7,368	

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Well Name: WILLIAM RITCHEA WTZ 201H

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.	522.00	N.A.	522.00	
Top of Salt Water	770.00	N.A.	770.00	N.A.	
Pittsburgh Coal	1482.85	2904.79	1484.48	2907.20	
Big Injun (ss)	2904.79	3256.80	2907.20	3259.25	
Berea (siltstone)	3256.80	7122.53	3259.25	7189.29	
Rhinstreet (shale)	7122.53	7192.69	7189.29	7285.94	
Cashaqua (shale)	7192.69	7309.73	7285.94	7459.06	
Middlesex (shale)	7309.73	7397.95	7459.06	7602.21	
Burket (shale)	7397.95	7430.91	7602.21	7657.86	
Tully (ls)	7430.91	7450.33	7657.86	7696.40	
Mahantango (shale)	7450.33	7538.53	7696.40	7957.15	
Marcellus (shale)	7538.53	N.A.	7957.15	N.A.	Gas

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Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	9/24/2016
Job End Date:	10/25/2016
State:	West Virginia
County:	Wetzel
API Number:	47-103-03130-00-00
Operator Name:	Southwestern Energy
Well Name and Number:	William Ritchea WTZ 201H
Latitude:	39.66960600
Longitude:	-80.65943800
Datum:	NAD27
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	7,550
Total Base Water Volume (gal):	16,049,102
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
Water	Schlumberger	Acid Corrosion Inhibitor, AntiFoam Agent, Acid, Breaker, Gelling Agent, Friction Reducer, Fluid Loss Additive , Propping Agent					

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			Water (Including Mix Water Supplied by Client)*	7732-18-5		83.58427
Items above are Trade Names with the exception of Base Water . Items below are the individual ingredients.						
			Quartz, Crystalline silica	14808-60-7	98.67325	16.19793
			Hydrochloric acid	7647-01-0	1.00926	0.16568
			Ammonium sulfate	7783-20-2	0.14801	0.02430
			Acrylamide, 2-acrylamido-2-methylpropanesulfonic acid, sodium salt polymer	38193-60-1	0.10924	0.01793
			Guar gum	9000-30-0	0.03109	0.00510
			Polymer of 2-acrylamido-2-methylpropanesulfonic acid sodium salt and methyl acrylate	136793-29-8	0.01171	0.00192
			Urea	57-13-6	0.00719	0.00118
			Propan-2-ol	67-63-0	0.00233	0.00038
			Sodium sulfate	7757-82-6	0.00168	0.00028
			Non-crystalline silica (impurity)	7631-86-9	0.00157	0.00026
			Fatty acid, tall-oil reaction products with acetophenone	68188-40-9	0.00091	0.00015
			Alcohols, C12-C16, ethoxylated	68551-12-2	0.00076	0.00012
			Diammonium peroxidisulphate	7727-54-0	0.00061	0.00010
			Polypropylene glycol	25322-69-4	0.00051	0.00008
			Isodecanol w/6-7 Moles Ethylene Oxide	26183-52-8	0.00051	0.00008
			2-Propenamid (impurity)	79-06-1	0.00036	0.00006
			Cinnamaldehyde	104-55-2	0.00033	0.00005
			Tetrasodium ethylenediaminetetraacetate	64-02-8	0.00019	0.00003
			Dimethyl siloxanes and silicones	63148-62-9	0.00010	0.00002

				Amines, tallow alkyl, ethoxylated	61791-26-2	0.00010	0.00002	
				Dodecyl poly (oxyethylene) ether	9002-92-0	0.00004	0.00001	
				Dodecamethylcyclohexa siloxane	540-97-6			
				Siloxanes and silicones, dimethyl, reaction products with silica	67762-90-7	0.00001		
				Copper(II) sulfate	7758-98-7			
				Octamethylcyclotetrasiloxane	556-67-2	0.00001		
				Decamethyl cyclopentasiloxane	541-02-6	0.00001		
				Glycols, polyethylene, monotetradecyl ether	27306-79-2	0.00003		

* 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)

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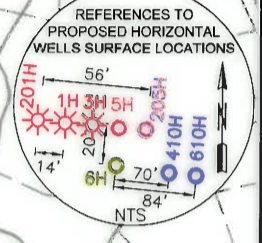
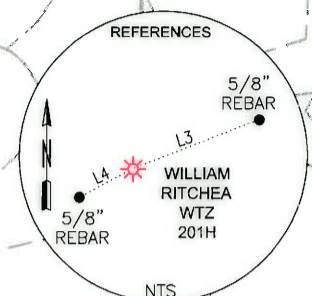
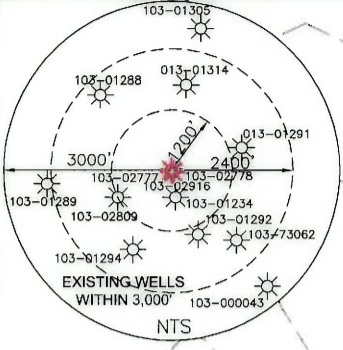
320 O'Bryan Lane • Van Buren, AR 72956
Office: 479.474.7916 • Fax: 479.474.2450
Surveying • handa-inc.com

LINE	BEARING	DISTANCE	DESCRIPTION	MONUMENT
L1	N 73°23'43" W	1293.15'	SHL TO LANDMARK	5/8" REBAR
L2	S 46°17'43" W	837.31'	SHL TO LANDMARK	5/8" REBAR
L3	N 68°55'54" E	323.47'	SHL TO REF. PNT.	5/8" REBAR
L4	S 62°37'48" W	215.31'	SHL TO REF. PNT.	5/8" REBAR
LINE	BEARING	DISTANCE	CURVE LENGTH	DESCRIPTION
L5	S 57°43'27" W	1161.57'		SHL TO LP
L6	N 81°02'39" W	1228.42'	1302.00'	LP TO PT
L7	N 45°00'11" W	6017.96'		PT TO BHL

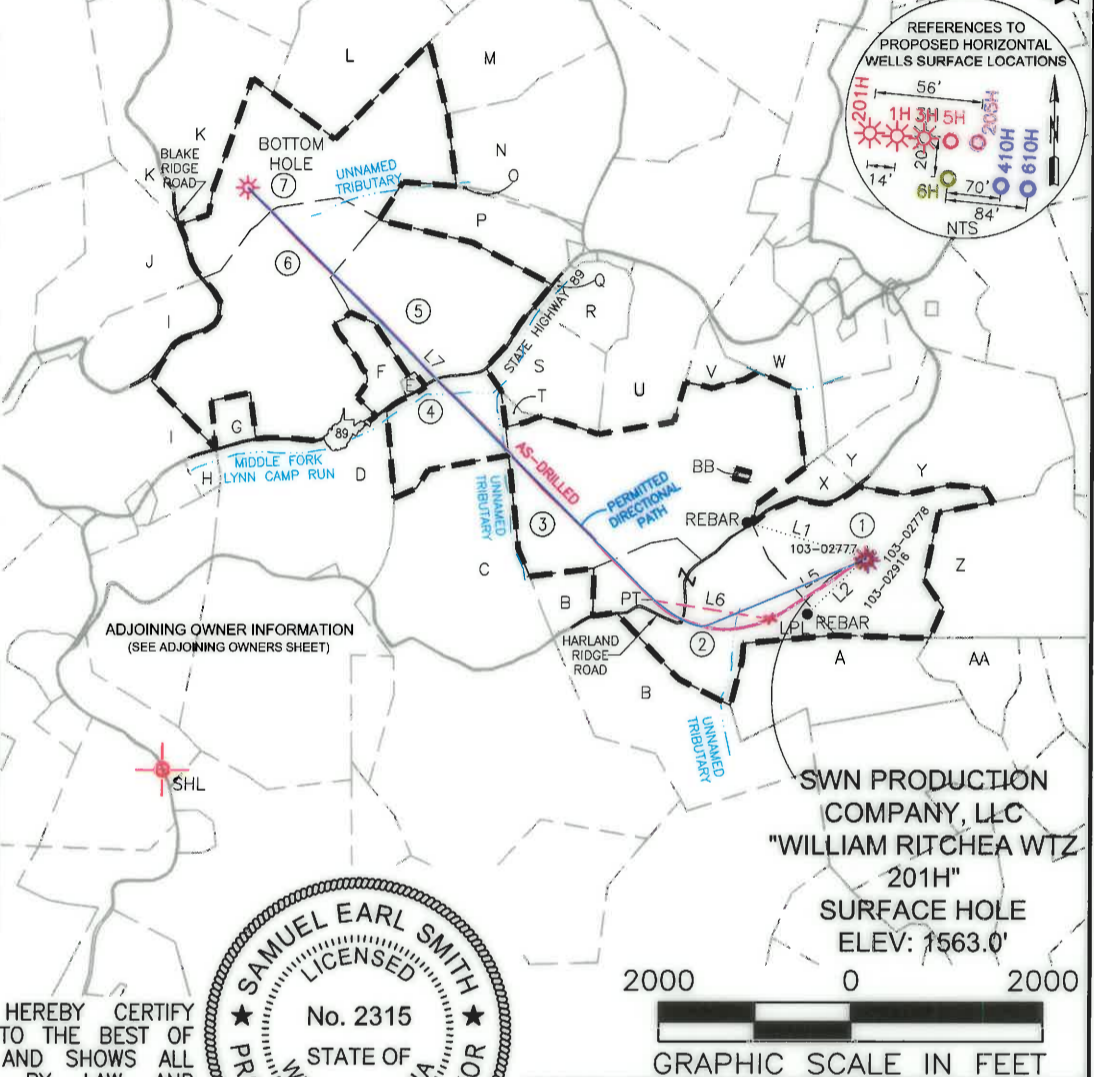
Latitude: 39°42'30"

Longitude: 80°37'30"

TRACT	SURFACE OWNER (S) / ROYALTY OWNER (R)	TAX PARCEL	ACRES
1	WILLIAM D RITCHEA & SHIRLEY E RITCHEA (S/R)	12-15-21	62.00
2	WILLIAM R PITOSCIA (S) TASA CORPORATION (R)	12-14-27	57.00
3	WILLIAM R PITOSCIA (S) TASA CORPORATION (R) HERBERT W LINDSAY & MARIE LINDSAY (R) RUSSELL RAND & GWENDOLYN RAND (R)	12-14-16	104.01
4	MICHAEL E LASURE & VELVA C LASURE (S/R)	12-14-14	25.00
5	MICHAEL E LASURE & VELVA C LASURE (S) RAY C HERMAN & ROSE M HERMAN & DAIL A HERMAN (R)	12-14-6	52.89
6	RAY C HERMAN & DAIL A HERMAN (R) RONNIE E WADE & YVONNE M WADE (S) HAROLD H BLAKE & DONNA M BLAKE (R)	12-14-4.1	94.37
7	NORMAN E KEENEY JR & NANCY M KEENEY (S) OTIS SIMMONS & MABEL SIMMONS, ETHEL RAMSEY & ELMER RAMSEY, & HAROLD SIMMONS & ROXIE SIMMONS (R)	12-9-45	100.00



- 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.



SURFACE HOLE LOCATION (SHL):
UTM (NAD83, ZONE 17, METERS):
NORTHING: 4,391,143.231
EASTING: 529,209.939
LANDING POINT LOCATION (LPL):
UTM (NAD83, ZONE 17, METERS):
NORTHING: 4,390,954.171
EASTING: 528,910.598
BOTTOM HOLE LOCATION (BHL):
UTM (NAD83, ZONE 17, METERS):
NORTHING: 4,392,309.422
EASTING: 527,243.643

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.



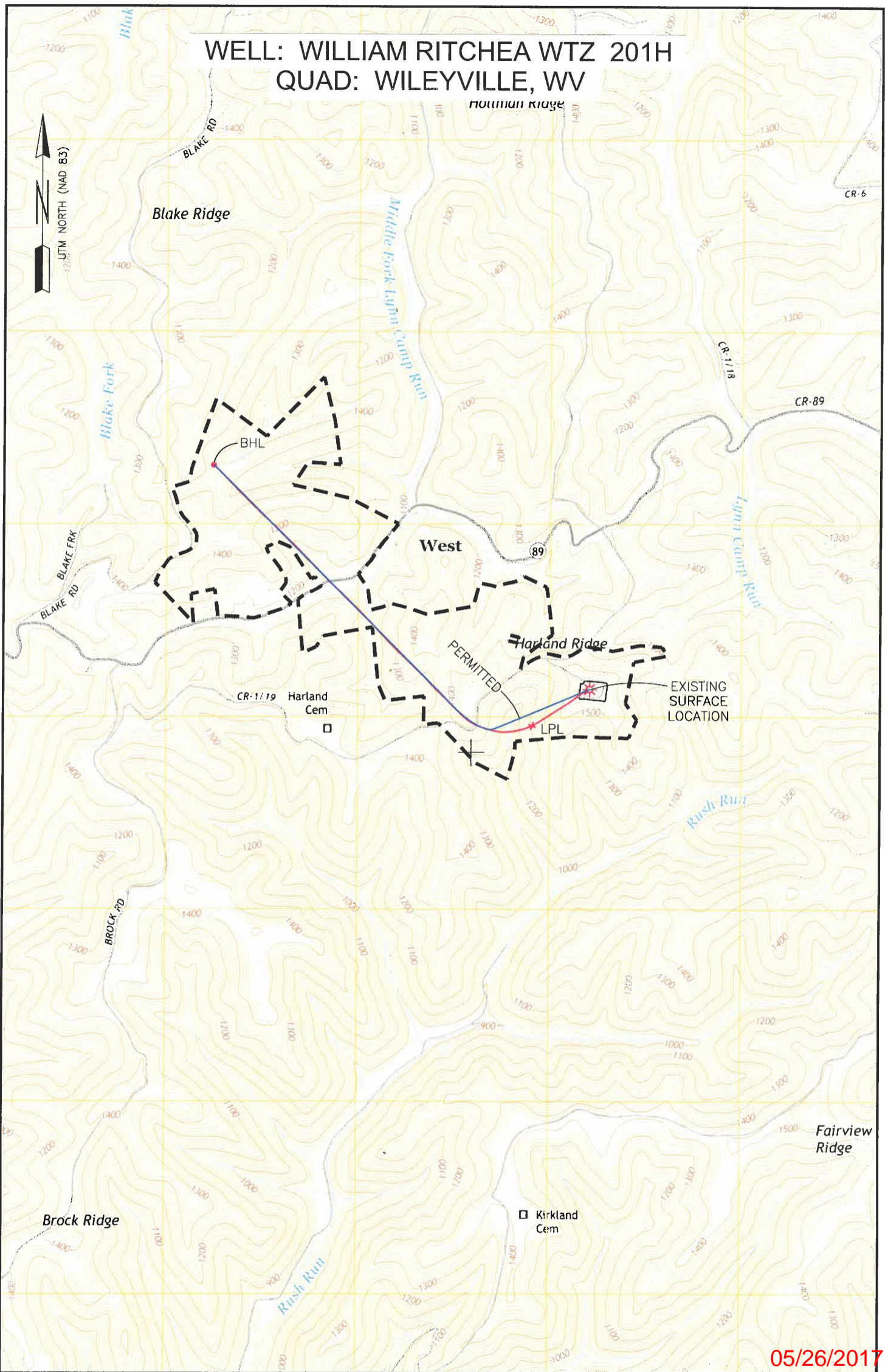
P.S. 2315 *Samuel Earl Smith* 07-27-16

	(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS	MINIMUM DEGREE OF ACCURACY: 1/200	COMPANY: SWN Production Company, LLC
	WVDEP OFFICE OF OIL & GAS 601 57TH STREET CHARLESTON, WV 25034	SURVEY GRADE GPS ELEVATION: (NAVD 88, US FT)	OPERATOR'S WELL #: WILLIAM RITCHEA Wtz 201H API WELL #: 47 103 03130 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: LITTLE FISHING CREEK ELEVATION: 1563.0' DISTRICT: PROCTOR COUNTY: WETZEL QUADRANGLE: WILEYVILLE, WV SURFACE OWNER: WILLIAM D & SHIRLEY E RITCHEA ACREAGE: ±62.00 OIL & GAS ROYALTY OWNER: WILLIAM D & SHIRLEY E RITCHEA ACREAGE: ±62.00	
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		ESTIMATED DEPTH: 7,409	

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:	REVISIONS:	DATE: 09-28-2015
PROPOSED SURFACE HOLE / BOTTOM HOLE EXISTING / PRODUCING WELLHEAD ABANDONED WELL PLUGGED & ABANDONED WELL CUT CONDUCTOR	LEASE BOUNDARY AS-DRILLED PATH PERMITTED DIRECTIONAL PATH	Δ REVISED DHP & BOTTOM HOLE AND ADDED ADJOINING OWNER INFORMATION, 09-16-2015 Δ REVISED SHL, LP, & BHL FOR ASDRILLED DIRECTIONAL PATH, 10-30-2015 Δ UPDATED PER. DIR. PATH, ADDED LPL COORDS. 07-25-2016
		DRAWN BY: S. HUTSON SCALE: 1" = 2000' DRAWING NO: 59254 WELL LOCATION PLAT

WELL: WILLIAM RITCHEA WTZ 201H
QUAD: WILEYVILLE, WV



05/26/2017

NOTE:
 THE PRUPOSE OF THIS PLAT IS FOR THE LOCATION OF PROPOSED GAS
 WELLS AND DOES NOT REPRESENT A CLOSED BOUNDARY SURVEY.
 PROPERTY LINE AND OWNERS WERE OBTAINED FROM VARIOUS FIELD
 EVIDENCE, TAX RECORDS AND AERIAL MAPPING.

LEGEND
 - - - - - EXTERNAL LEASE LINE

Applicant / Well Operator Name SWN PRODUCTION COMPANY, LLC	Well (Farm) Name WILLIAM RITCHEA WTZ	Well # 201H	Serial #
Address PO BOX 1300, JANE LEW, WV 76378	County - Code WTEZEL - 103	District PROCTOR	
Surface Landowner / Lessor WILLIAM D. & SHIRLEY E. RITCHEA	USGS 7 1/2 Quadrangle Map Name WILEYVILLE, WV		



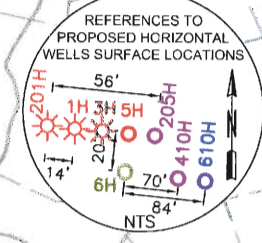
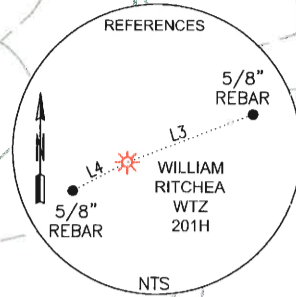
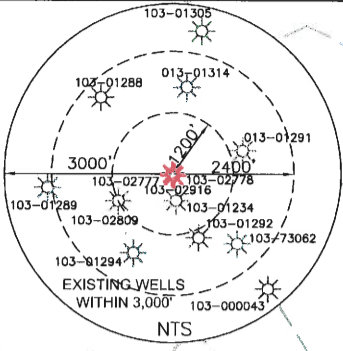
320 O'Brien Lane • Van Buren, AR 72956
Office: 479.474.7916 • Fax: 479.474.2450
Surveying • handa-inc.com

LINE	BEARING	DISTANCE	DESCRIPTION	MONUMENT
L1	N 73°23'43" W	1293.15'	SHL TO LANDMARK	5/8" REBAR
L2	S 46°17'43" W	837.31'	SHL TO LANDMARK	5/8" REBAR
L3	N 68°55'54" E	323.47'	SHL TO REF. PNT.	5/8" REBAR
L4	S 62°37'48" W	215.31'	SHL TO REF. PNT.	5/8" REBAR
LINE	BEARING	DISTANCE	CURVE LENGTH	DESCRIPTION
L5	S 57°43'27" W	1161.57'		SHL TO LP
L6	N 81°02'39" W	1228.42'	1302.00'	LP TO PT
L7	N 45°00'11" W	6017.96'		PT TO BHL

Latitude: 39°42'30"

Longitude: 80°37'30"

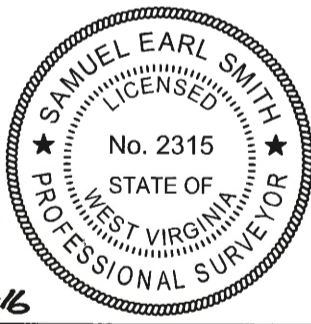
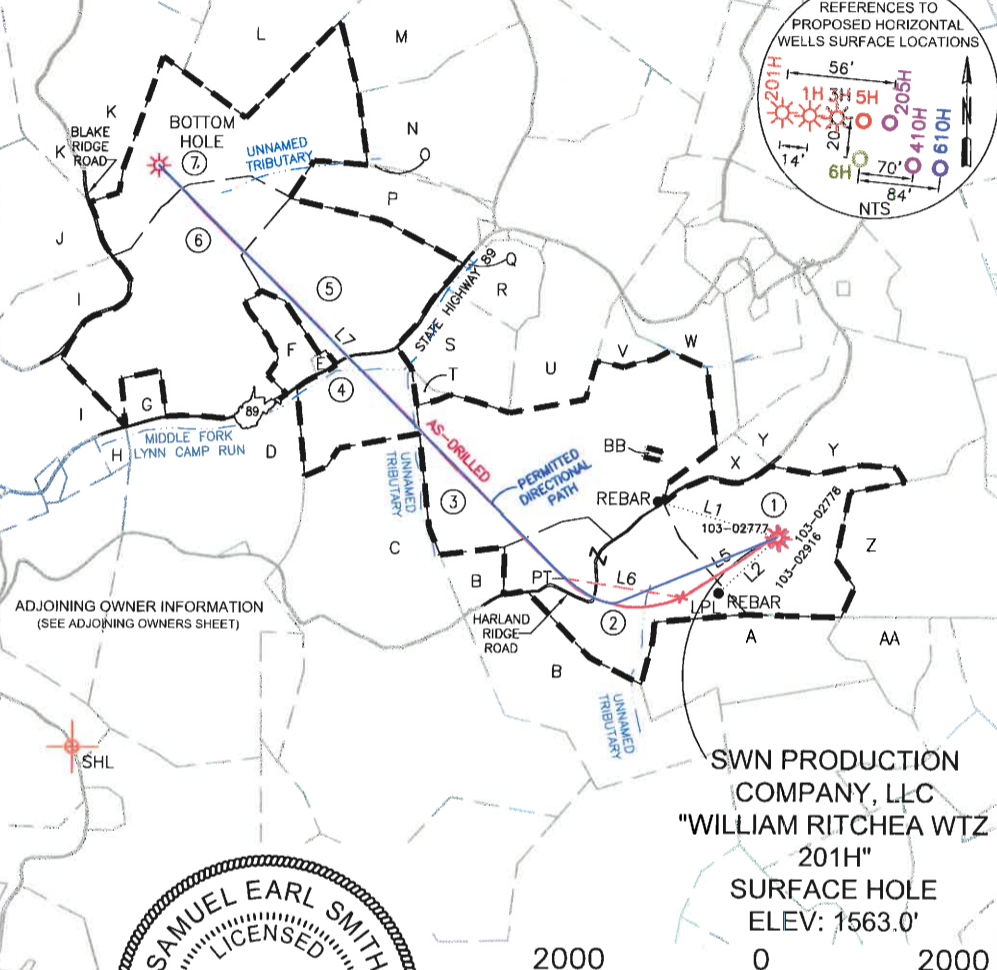
TRACT	SURFACE OWNER (S) / ROYALTY OWNER (R)	TAX PARCEL	ACRES
1	WILLIAM D RITCHEA & SHIRLEY E RITCHEA (S/R)	12-15-21	62.00
2	WILLIAM R PITOSCIA (S) TASA CORPORATION (R)	12-14-27	57.00
3	WILLIAM R PITOSCIA (S) TASA CORPORATION (R) HERBERT W LINDSAY & MARIE LINDSAY (R) RUSSELL RAND & GWENDOLYN RAND (R)	12-14-16	104.01
4	MICHAEL E LASURE & VELVA C LASURE (S/R)	12-14-14	25.00
5	MICHAEL E LASURE & VELVA C LASURE (S) RAY C HERMAN & ROSE M HERMAN & DAIL A HERMAN (R)	12-14-6	52.89
6	RAY C HERMAN & DAIL A HERMAN (R) RONNIE E WADE & YVONNE M WADE (S) HAROLD H BLAKE & DONNA M BLAKE (R)	12-14-4.1	94.37
7	NORMAN E KEENEY JR & NANCY M KEENEY (S) OTIS SIMMONS & MABEL SIMMONS, ETHEL RAMSEY & ELMER RAMSEY, & HAROLD SIMMONS & ROXIE SIMMONS (R)	12-9-45	100.00



NOTES ON SURVEY

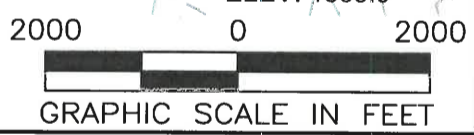
- COORDINATE SYSTEM IS UTM, NAD 83 DATUM, ZONE 17, U.S. FOOT AND WELL COORDINATES ESTABLISHED USING SURVEY GRADE GPS.
- SURFACE AND ROYALTY OWNER INFORMATION AND THEIR BOUNDARIES SHOWN HEREON WERE PLOTTED FROM DEEDS AND/OR TAX PARCEL MAPS PROVIDED BY CLIENT AND/OR FIELD LOCATIONS.
- THIS PLAT DOES NOT 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.

SURFACE HOLE LOCATION (SHL):
UTM (NAD83, ZONE 17, METERS): NORTHING: 4,391,143.231 EASTING: 529,209.939
LANDING POINT LOCATION (LPL):
UTM (NAD83, ZONE 17, METERS): NORTHING: 4,390,954.171 EASTING: 528,910.598
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P.S. 2315 *Samuel Earl Smith* 07-27-16



COMPANY: **SWN** Production Company, LLC

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS WVDEP OFFICE OF OIL & GAS 601 57TH STREET CHARLESTON, WV 25034	MINIMUM DEGREE OF ACCURACY: 1/200 PROVEN SOURCE OF ELEVATION: SURVEY GRADE GPS (NAVD 88, US FT)	COMPANY: WILLIAM RITCHEA WTZ OPERATOR'S WELL #: 201H API WELL #: 47 103 03130 STATE COUNTY PERMIT
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WELL TYPE: OIL WASTE DISPOSAL PRODUCTION DEEP GAS LIQUID INJECTION STORAGE SHALLOW

WATERSHED: LITTLE FISHING CREEK ELEVATION: 1563.0'

DISTRICT: PROCTOR COUNTY: WETZEL QUADRANGLE: WILEYVILLE, WV

SURFACE OWNER: WILLIAM D & SHIRLEY E RITCHEA ACREAGE: ±62.00

OIL & GAS ROYALTY OWNER: WILLIAM D & SHIRLEY E RITCHEA ACREAGE: ±62.00

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: 7,409 IVD 13,504 IMD

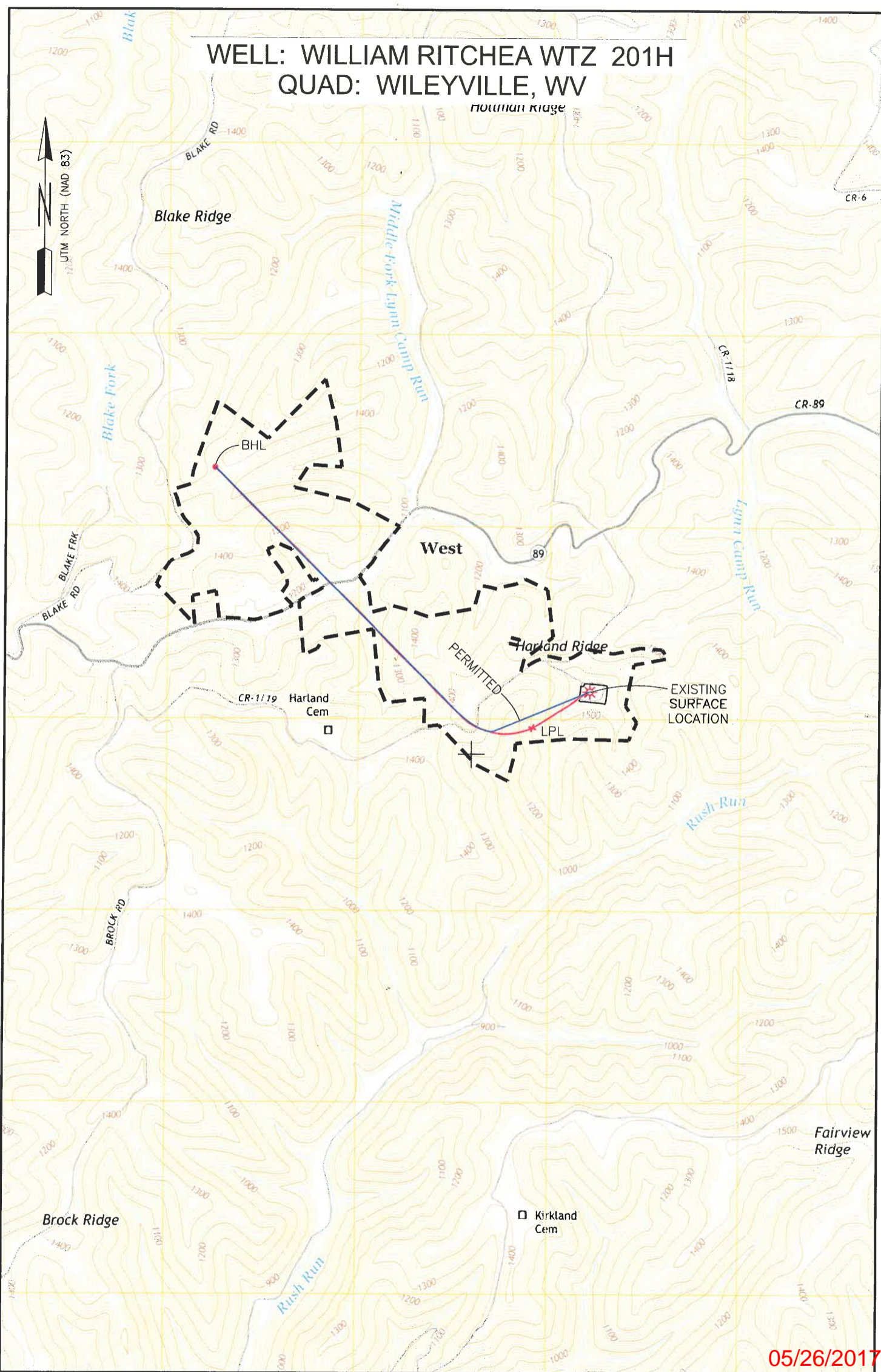
WELL OPERATOR: SWN PRODUCTION COMPANY, LLC ADDRESS: P.O. BOX 1300 CITY: JANE LEW STATE: WV ZIP CODE: 26378	DESIGNATED AGENT: DEE SOUTHALL ADDRESS: P.O. BOX 1300 CITY: JANE LEW STATE: WV ZIP CODE: 26378
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LEGEND: ○ PROPOSED SURFACE HOLE / BOTTOM HOLE ✖ EXISTING / PRODUCING WELLHEAD ✖ ABANDONED WELL ✖ PLUGGED & ABANDONED WELL △ CUT CONDUCTOR - - - LEASE BOUNDARY - - - AS-DRILLED PATH - - - PERMITTED DIRECTIONAL PATH	REVISIONS: △ REVISED DHP & BOTTOM HOLE AND ADDED △ ADJOINING OWNER INFORMATION, 09-16-2015 △ REVISED SHL, LP, & BHL FOR ASDRILLED △ DIRECTIONAL PATH, 10-30-2015 △ UPDATED PER. DIR. PATH, ADDED LPL COORDS. 07-25-2016	DATE: 09-28-2015 DRAWN BY: S. HUTSON SCALE: 1" = 2000' DRAWING NO: 59254 WELL LOCATION PLAT
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WELL: WILLIAM RITCHEA WTZ 201H

QUAD: WILEYVILLE, WV

MOUNTAIN RIDGE



05/26/2017

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LEGEND
 EXTERNAL LEASE LINE

Applicant / Well Operator Name SWN PRODUCTION COMPANY, LLC	Well (Farm) Name WILLIAM RITCHEA WTZ	Well # 201H	Serial #
Address PO BOX 1300, JANE LEW, WV 76378	County - Code WTEZEL - 103	District PROCTOR	
Surface Landowner / Lessor WILLIAM D. & SHIRLEY E. RITCHEA	USGS 7 1/2 Quadrangle Map Name WILEYVILLE, WV		