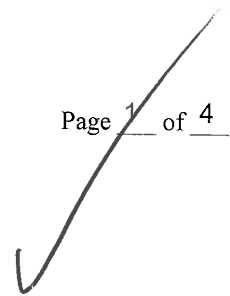


State of West Virginia
Department of Environmental Protection - Office of Oil and Gas
Well Operator's Report of Well Work



API 47 - 103 - 03129 County WETZEL District PROCTOR
Quad WILEYVILLE, WV Pad Name WILLIAM RITCHEA-WTZ-PAD Field/Pool Name VICTORY FIELD
Farm name RITCHEA, WILLIAM D & SHIRLEY E Well Number WILLIAM RITCHEA WTZ 3H
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 4,391,142.769 Easting 529,214.238
Landing Point of Curve Northing 4,391,085.168 Easting 528,802.986
Bottom Hole Northing 4,392,535.626 Easting 527,337.794

Elevation (ft) 1563.3' 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 9/26/15 Date drilling ceased 12/02/15
Date completion activities began 9/20/16 Date completion activities ceased 11/27/16
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 536.40' MD Open mine(s) (Y/N) depths Office of Oil and Gas
Salt water depth(s) ft 784.90' MD Void(s) encountered (Y/N) depths Office of Oil and Gas
Coal depth(s) ft 1479' MD Cavern(s) encountered (Y/N) depths FEB 10 2017
Is coal being mined in area (Y/N) N FEB 10 2017

APPROVED
NAME: Swan
DATE: 3-17-17
Department of Environmental Protection
05/26/2017

API 47- 103 - 03129 Farm name WILLIAM RITCHEA WTZ 3H Well number WILLIAM RITCHEA WTZ 3H

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	713	NEW	J-55/54.5#		Y; 53 BBLS RETURNED
Coal	SEE INTERMEDIATE						
Intermediate 1	12.25	9.625	2992	NEW	J-55/40#		Y; 6 BBLS RETURNED
Intermediate 2							
Intermediate 3							
Production	8.75/8.50	5.5	15514	NEW	HCP-110/20#		Y
Tubing		2.375	7977	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	155	17.20			SURFACE	24
Surface	CLASS A	555	15.60	1.20	666	SURFACE	8
Coal	SEE INTERMEDIATE						
Intermediate 1	CLASS A	1123	15.60	1.20	1347.6	SURFACE	8
Intermediate 2							
Intermediate 3							
Production	CLASS A	970/1160	15.60	1.23/1.19	1193.1/1380.4	SURFACE	24
Tubing							

Drillers TD (ft) 15514' Loggers TD (ft) 15514'

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

Plug back procedure _____

Kick off depth (ft) 6580'

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

Well cored Yes No Conventional Sidewall Were cuttings collected Yes No

DESCRIBE THE CENTRALIZER PLACEMENT USED FOR EACH CASING STRING _____

SURFACE: 7 CENTRALIZERS - EVERY THIRD JOINT OF CASING

INTERMEDIATE: 24 CENTRALIZERS - EVERY THIRD JOINT OF CASING

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

WAS WELL COMPLETED AS SHOT HOLE Yes No DETAILS _____

WAS WELL COMPLETED OPEN HOLE? Yes No DETAILS _____

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

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API 47- 103 - 03129 Farm name WILLIAM RITCHEA WTZ 3H Well number WILLIAM RITCHEA WTZ 3H

PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
	SEE	ATTACHMENT	1		

Please insert additional pages as applicable.

STIMULATION INFORMATION PER STAGE

Complete a separate record for each stimulation stage.

Stage No.	Stimulations 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 (units)
		SEE	ATTACHMENT	2				

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Please insert additional pages as applicable.

WV Department of
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API 47- 103 - 03129 Farm name RITCHEA, WILLIAM D & SHIRLEY E Well number WILLIAM RITCHEA WTZ 3H

<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>		
<u>MARCELLUS</u>	<u>7538.33'</u>	<u>TVD</u>	<u>7906.72'</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 1650 psi Bottom Hole _____ psi DURATION OF TEST _____ hrs
 OPEN FLOW Gas Oil NGL Water GAS MEASURED BY
94 mcfpd 0 bpd _____ bpd 957 bpd Estimated Orifice Pilot

<u>LITHOLOGY/ FORMATION</u>	<u>TOP</u>	<u>BOTTOM</u>	<u>TOP</u>	<u>BOTTOM</u>	<u>DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H₂S, ETC)</u>
	<u>DEPTH IN FT NAME TVD</u>	<u>DEPTH IN FT TVD</u>	<u>DEPTH IN FT MD</u>	<u>DEPTH IN FT MD</u>	
	<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 E & P WIRELINE
 Address 7650 COUNTY ROAD 48 City ROSHARON State TX Zip 77583
 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 77079

Please insert additional pages as applicable.

Completed by DENISE GRANTHAM Telephone 832-796-6139
 Signature Dennis Grantham Title REGULATORY TECHNICIAN Date 2-9-2017

WILLIAM RITCHEA Wtz 3H
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	9/20/2016	63	8,750	9,197	3,750	222,869	12,095	
2	9/21/2016	68	7,594	8,661	4,459	542,141	14,034	
3	9/22/2016	98	8,617	8,982	4,560	500,460	7,850	
4	9/23/2016	97	8,801	9,049	4,969	501,500	8,005	
5	9/23/2016	90	8,350	8,970	4,331	500,460	8,646	
6	9/23/2016	87	8,313	9,466	4,681	505,340	8,425	
7	9/23/2016	92	8,555	9,089	4,560	500,300	7,743	
8	9/23/2016	102	8,844	9,077	5,667	476,180	7,465	
9	9/24/2016	100	8,755	9,061	4,676	471,200	7,416	
10	10/8/2016	89	8,425	8,901	4,901	500,880	8,052	
11	10/8/2016	91	8,746	9,195	4,654	500,300	7,751	
12	10/8/2016	91	8,640	9,292	4,599	500,140	7,638	
13	10/9/2016	97	8,652	9,532	5,411	455,600	7,926	
14	10/9/2016	97	8,609	9,069	4,408	501,000	8,056	
15	10/9/2016	89	8,415	9,097	5,548	490,140	9,445	
16	10/9/2016	97	8,270	8,772	4,625	502,460	7,965	
17	10/10/2016	97	8,161	8,705	4,751	485,060	7,602	
18	10/9/2016	98	8,117	9,010	4,604	505,480	7,822	
19	10/10/2016	96	8,253	8,923	4,648	502,400	7,820	
20	10/11/2016	95	7,879	8,785	4,556	501,020	7,905	
21	10/11/2016	99	8,170	8,555	4,798	501,520	8,914	
22	10/11/2016	98	7,997	8,545	4,880	474,980	7,722	
23	10/11/2016	94	8,207	8,983	5,096	497,520	8,093	
24	10/11/2016	94	8,132	8,860	4,938	497,060	7,676	
25	10/12/2016	96	7,916	8,948	4,514	504,760	7,473	
26	10/12/2016	100	8,036	8,917	4,267	501,720	7,402	
27	10/12/2016	100	8,083	9,026	4,410	502,340	7,407	
28	10/12/2016	99	8,046	9,014	4,980	502,280	7,387	

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WILLIAM RITCHEA WTZ 3H

Perf Stage Summary

STAGE NUM	Perf Date	Perf Top MD	Perf Bottom MD	# SHOTS PER STG
1	9/20/2016	15,201	15,411	75
2	9/21/2016	14,951	15,148	75
3	9/22/2016	14,670	14,926	60
4	9/23/2016	14,478	14,628	48
5	9/23/2016	14,171	14,368	42
6	9/23/2016	13,911	14,108	42
7	9/23/2016	13,651	13,848	42
8	9/23/2016	13,391	13,588	42
9	9/24/2016	13,131	13,328	42
10	10/8/2016	12,871	13,068	42
11	10/8/2016	12,611	12,808	42
12	10/8/2016	12,351	12,548	42
13	10/9/2016	12,091	12,288	42
14	10/9/2016	11,831	12,028	42
15	10/9/2016	11,571	11,768	42
16	10/9/2016	11,311	11,508	42
17	10/10/2016	11,051	11,248	42
18	10/9/2016	10,791	10,988	42
19	10/10/2016	10,531	10,728	42
20	10/11/2016	10,271	10,468	42
21	10/11/2016	10,011	10,208	42
22	10/11/2016	9,751	9,948	42
23	10/11/2016	9,491	9,688	42
24	10/11/2016	9,231	9,428	42
25	10/12/2016	8,971	9,168	42
26	10/12/2016	8,711	8,908	42
27	10/12/2016	8,451	8,648	42
28	10/12/2016	8,191	8,388	42

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Well Name: WILLIAM RITCHEA Wtz 3H

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.	536.40	536.39	
Top of Salt Water	784.90	784.89	N.A.	N.A.	
Pittsburgh Coal	1479.00	1478.97	1486.00	1485.97	
Big Injun (ss)	2908.75	2908.58	3258.05	3257.83	
Berea (siltstone)	3258.05	3257.83	6938.57	6889.12	
Rhinstreet (shale)	6938.57	6889.12	7299.08	7209.78	
Cashaqua (shale)	7299.08	7209.78	7441.07	7317.44	
Middlesex (shale)	7441.07	7317.44	7576.25	7404.91	
Burket (shale)	7576.25	7404.91	7620.40	7430.08	
Tully (ls)	7620.40	7430.08	7667.29	7454.36	
Mahantango (shale)	7667.29	7454.36	7906.72	7538.33	
Marcellus (shale)	7906.72	7538.33	N.A.	N.A.	GAS

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Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	9/20/2016
Job End Date:	10/12/2016
State:	West Virginia
County:	Wetzel
API Number:	47-103-03129-00-00
Operator Name:	Southwestern Energy
Well Name and Number:	William Ritchea WTZ 3H
Latitude:	39.66959900
Longitude:	-80.65933800
Datum:	NAD27
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	7,500
Total Base Water Volume (gal):	8,787,652
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, Crosslinker, Propping Agent, Fluid Loss Additive					

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				Water (Including Mix Water Supplied by Client)*	7732-18-5			84.17264
Items above are Trade Names with the exception of Base Water. Items below are the individual ingredients.								
				Quartz, Crystalline silica	14808-60-7		98.34258	15.56504
				Hydrochloric acid	7647-01-0		1.29105	0.20434
				Ammonium sulfate	7783-20-2		0.15187	0.02404
				Acrylamide, 2-acrylamido-2-methylpropanesulfonic acid, sodium salt polymer	38193-60-1		0.11209	0.01774
				Guar gum	9000-30-0		0.06230	0.00986
				Polymer of 2-acrylamido-2-methylpropanesulfonic acid sodium salt and methyl acrylate	136793-29-8		0.01201	0.00190
				Urea	57-13-6		0.00737	0.00117
				Potassium borate	1332-77-0		0.00695	0.00110
				Propan-2-ol	67-63-0		0.00282	0.00045
				Potassium hydroxide	1310-58-3		0.00257	0.00041
				Glycerol	56-81-5		0.00227	0.00036
				Non-crystalline silica (impurity)	7631-86-9		0.00169	0.00027
				Sodium sulfate	7757-82-6		0.00172	0.00027
				Fatty acid, tall-oil reaction products with acetophenone	68188-40-9		0.00110	0.00017
				Diammonium peroxodisulphate	7727-54-0		0.00109	0.00017
				Alcohols, C12-C16, ethoxylated	68551-12-2		0.00092	0.00015
				Isodecanol w/6-7 Moles Ethylene Oxide	26183-52-8		0.00062	0.00010
				Cinnamaldehyde	104-55-2		0.00040	0.00006
				2-Propenamid (impurity)	79-06-1		0.00037	0.00006
				Polypropylene glycol	25322-69-4		0.00030	0.00005

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						64-02-8	0.00019	0.00003	
						25038-72-6	0.00017	0.00003	
						61791-26-2	0.00012	0.00002	
						63148-62-9	0.00011	0.00002	
						9002-92-0	0.00005	0.00001	
						27306-79-2	0.00004	0.00001	
						7758-98-7			
						67762-90-7	0.00001		
						9002-84-0			
						14807-96-6	0.00001		
						540-97-6			
						556-67-2	0.00001		
						541-02-6	0.00001		

* 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%
 *** We 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

Not for use in developing products (products that begin with FDP), MSDS level only information has been provided.
 Information of chemicals subject to 29 CFR 1910.1200(i) and Appendix D are obtained from suppliers Material Safety Data Sheets (MSDS)

Office of
 WV Department of
 Environmental Protection



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°37'57" W	1320.56'	SHL TO LANDMARK	5/8" REBAR
L2	S 47°42'27" W	855.89'	SHL TO LANDMARK	5/8" REBAR
L3	N 66°32'56" E	298.70'	SHL TO REF. PNT.	5/8" REBAR
L4	S 66°14'43" W	239.30'	SHL TO REF. PNT.	5/8" REBAR
LINE	BEARING	DISTANCE	CURVE LENGTH	DESCRIPTION
L5	N 76°46'53" W	669.10'		SHL TO LP
L6	N 45°07'24" W	7343.90'		LP TO BHL

TRACT	SURFACE OWNER (S) / ROYALTY OWNER (R)	TAX PARCEL	ACRES
1	WILLIAM D RITCHEA & SHIRLEY E RITCHEA (S/R)	12-15-21	62.00
3	WILLIAM R PITOSCIA (S) TASA CORPORATION (R) HERBERT W LINDSAY & MARIE LINDSAY (R) RUSSELL RAND & GWENDOLYN RAND (R)	12-14-16	104.01
2	LEMASTERS CEMETERY (S)	12-15-2	0.35
6	WILLIAM D RITCHEA & SHIRLEY E RITCHEA (S/R) LEWIS F BLAKE & OPAL M BLAKE (R) ALBERT WOODSTUFF (R)	12-14-9	88.37
5	WAYNE HUGGINS & SANDRA HUGGINS (S) LEWIS F BLAKE & OPAL M BLAKE (R) ALBERT WOODSTUFF (R)	12-14-9.1	12.69
4	WAYNE L GODDARD (S) LEWIS F BLAKE & OPAL M BLAKE (R) ALBERT WOODSTUFF (R)	12-14-9.3	0.16
7	MICHAEL E LASURE & VELVA C LASURE (S) RAY C HERMAN & ROSE HERMAN (R) DAIL A HERMAN (R) RAY C HERMAN & DAIL A HERMAN (R)	12-14-6	52.89
8	WAYNE HUGGINS & SANDRA M HUGGINS (S) F E BUCHNER (R), WILLARD HERMAN (R), DALE A HERMAN (R), RAY C HERMAN (R), DORA HALL PALMER (R), & FRANKIE E WOODSTUFF & ALBERT WOODSTUFF (R)	12-9-46.1	25.00
9	NORMAN E KEENEY JR & NANCY M KEENEY (S) OTIS SIMMONS & MABEL SIMMONS (R) ETHEL RAMSEY & ELMER RAMSEY (R) HAROLD SIMMONS & ROXIE SIMMONS (R)	12-9-45	100.00
10	VERIL JEROME BLAKE, RODNEY BLAKE & JEROME MICHAEL (S) EDWARD A NEUMAN & ISABELLE NEUMAN (R), FRANCES ALMA EMMERT (R), MARY A BARNES (R), LORETTA M SAPPINGTON (R), & JOHN A NOON & ALISON NOON (R) THE MARY E TRACY TRUST DATED APRIL 6, 1910 (R)	12-9-4	50.00

NOTES ON SURVEY

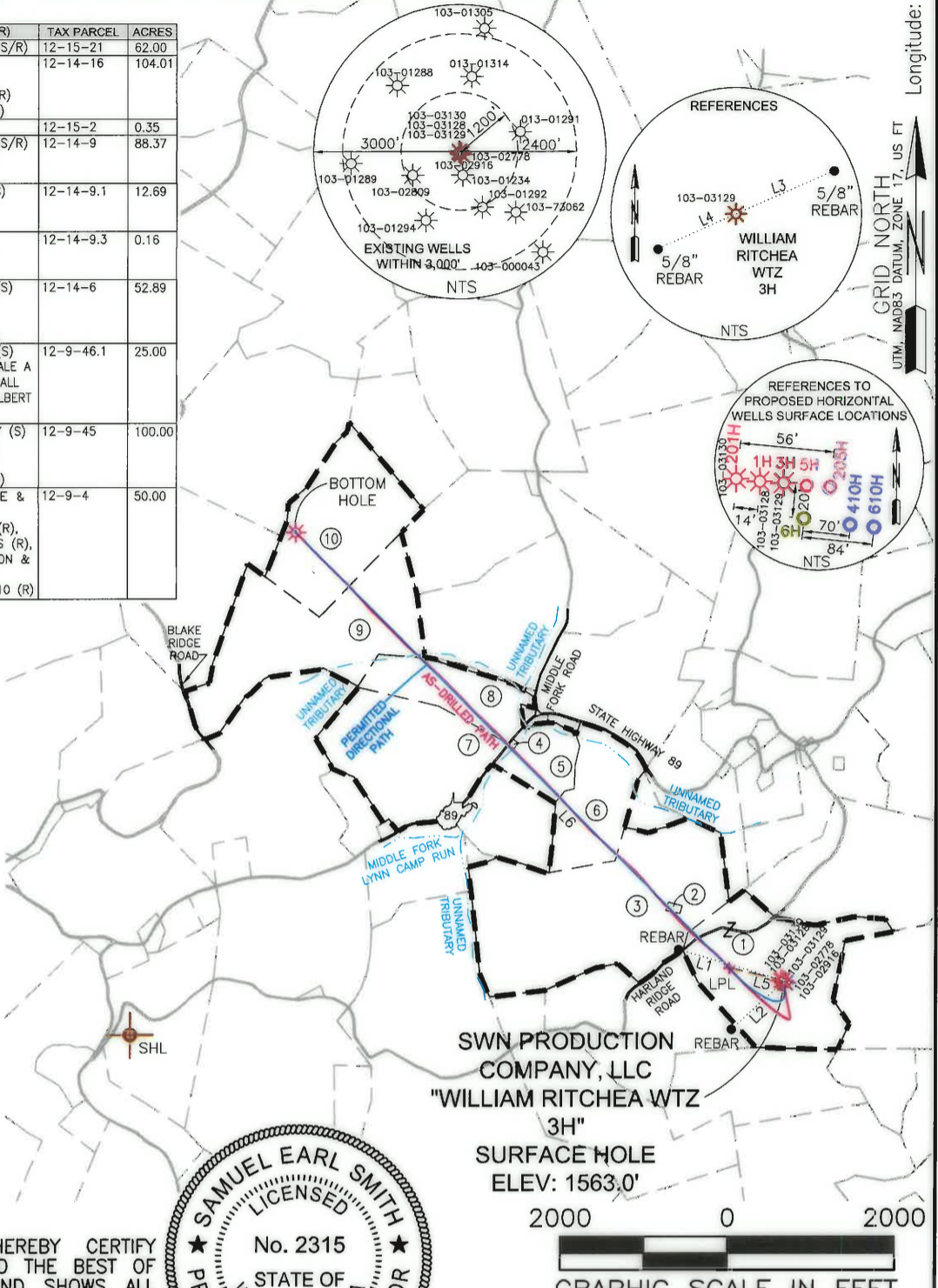
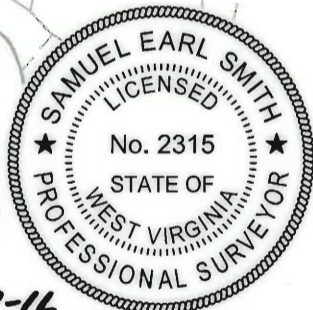
- COORDINATE SYSTEM IS UTM, NAD 83 DATUM, ZONE 17, U.S. FOOT AND WELL COORDINATES ESTABLISHED USING SURVEY GRADE GPS.
- SURFACE AND ROYALTY OWNER INFORMATION AND THEIR BOUNDARIES SHOWN HEREON WERE PLOTTED FROM DEEDS AND/OR TAX PARCEL MAPS PROVIDED BY CLIENT AND/OR FIELD LOCATIONS.
- THIS PLAT DOES NOT 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: 4,391,142.404 EASTING: 529,218.488
LANDING POINT LOCATION (LPL): UTM (NAD83, ZONE 17, METERS): NORTHING: 4,391,189.038 EASTING: 529,019.950
BOTTOM HOLE LOCATION (BHL): UTM (NAD83, ZONE 17, METERS): NORTHING: 4,392,768.433 EASTING: 527,433.740

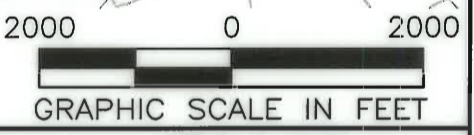
I, THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND REGULATIONS ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

P.S. 2315

07-27-16



SWN PRODUCTION COMPANY, LLC
"WILLIAM RITCHEA WTZ 3H"
SURFACE HOLE
ELEV: 1563.0'



COMPANY: SWN SWN
Production Company, LLC 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 SURVEY SOURCE OF GRADE GPS ELEVATION: (NAVD 88, US FT)

WILLIAM RITCHEA WTZ
OPERATOR'S WELL #: 3H
API WELL #: 47 103 03129
STATE COUNTY PERMIT

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

WATERSHED: LITTLE FISHING CREEK
DISTRICT: PROCTOR COUNTY: WETZEL
SURFACE OWNER: WILLIAM D & SHIRLEY E RITCHEA
OIL & GAS ROYALTY OWNER: WILLIAM D & SHIRLEY E RITCHEA

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

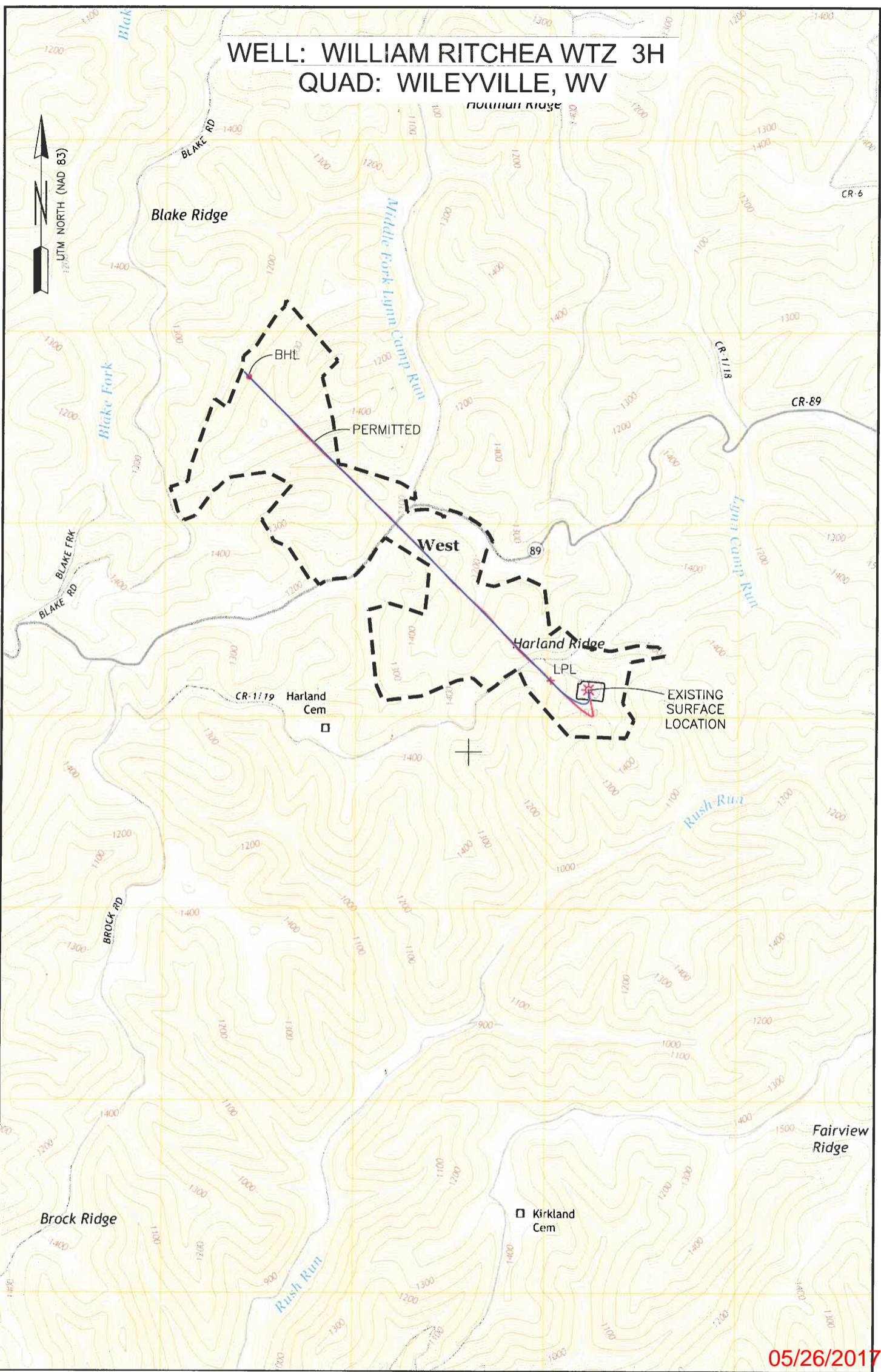
TARGET FORMATION: MARCELLUS DEPTH: 7,562' TD 13,514' TMD

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: ▲ REVISED SHL LONGITUDE, 07-22-2015 ▲ UPDATED WITH AS-DRILLED DIRECTIONAL PATH, 12-07-2015 ▲ UPDATED PER. DIR. PATH, ADDED LPL COORDS. 07-25-2016	DATE: 12-02-2015 DRAWN BY: S. HUTSON SCALE: 1" = 2000' DRAWING NO: 59340 WELL LOCATION PLAT
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**WELL: WILLIAM RITCHEA WTZ 3H
 QUAD: WILEYVILLE, WV**



05/26/2017

NOTE:
 THE PROPOSE 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 # 3H	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'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°37'57" W	1320.56'	SHL TO LANDMARK	5/8" REBAR
L2	S 47°42'27" W	855.89'	SHL TO LANDMARK	5/8" REBAR
L3	N 66°32'56" E	298.70'	SHL TO REF. PNT.	5/8" REBAR
L4	S 66°14'43" W	239.30'	SHL TO REF. PNT.	5/8" REBAR
LINE	BEARING	DISTANCE	CURVE LENGTH	DESCRIPTION
L5	N 76°46'53" W	669.10'		SHL TO LP
L6	N 45°07'24" W	7343.90'		LP TO BHL

TRACT	SURFACE OWNER (S) / ROYALTY OWNER (R)	TAX PARCEL	ACRES
1	WILLIAM D RITCHEA & SHIRLEY E RITCHEA (S/R)	12-15-21	62.00
3	WILLIAM R PITOSCIA (S) TASA CORPORATION (R) HERBERT W LINDSAY & MARIE LINDSAY (R) RUSSELL RAND & GWENDOLYN RAND (R)	12-14-16	104.01
2	LEMASTERS CEMETERY (S)	12-15-2	0.35
6	WILLIAM D RITCHEA & SHIRLEY E RITCHEA (S/R) LEWIS F BLAKE & OPAL M BLAKE (R) ALBERT WOODSTUFF (R)	12-14-9	88.37
5	WAYNE HUGGINS & SANDRA HUGGINS (S) LEWIS F BLAKE & OPAL M BLAKE (R) ALBERT WOODSTUFF (R)	12-14-9.1	12.69
4	WAYNE L GODDARD (S) LEWIS F BLAKE & OPAL M BLAKE (R) ALBERT WOODSTUFF (R)	12-14-9.3	0.16
7	MICHAEL E LASURE & VELVA C LASURE (S) RAY C HERMAN & ROSE HERMAN (R) DAIL A HERMAN (R) RAY C HERMAN & DAIL A HERMAN (R)	12-14-6	52.89
8	WAYNE HUGGINS & SANDRA M HUGGINS (S) F E BUCHNER (R), WILLARD HERMAN (R), DALE A HERMAN (R), RAY C HERMAN (R), DORA HALL PALMER (R), & FRANKIE E WOODSTUFF & ALBERT WOODSTUFF (R)	12-9-46.1	25.00
9	NORMAN E KEENEY JR & NANCY M KEENEY (S) OTIS SIMMONS & MABEL SIMMONS (R) ETHEL RAMSEY & ELMER RAMSEY (R) HAROLD SIMMONS & ROXIE SIMMONS (R)	12-9-45	100.00
10	VERIL JEROME BLAKE, RODNEY BLAKE & JEROME MICHAEL (S) EDWARD A NEUMAN & ISABELLE NEUMAN (R), FRANCES ALMA EMMERT (R), MARY A BARNES (R), LORETTA M SAPPINGTON (R), & JOHN A NOON & ALISON NOON (R) THE MARY E TRACY TRUST DATED APRIL 6, 1910 (R)	12-9-4	50.00

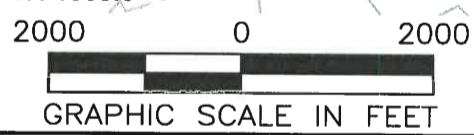
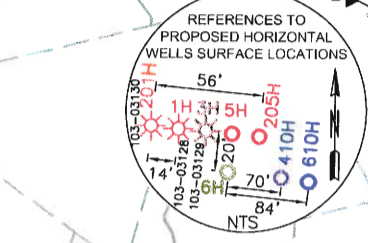
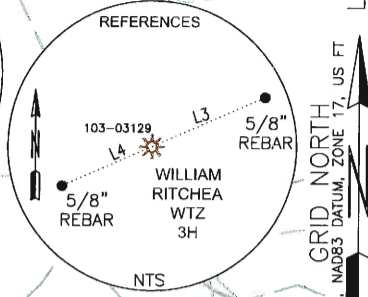
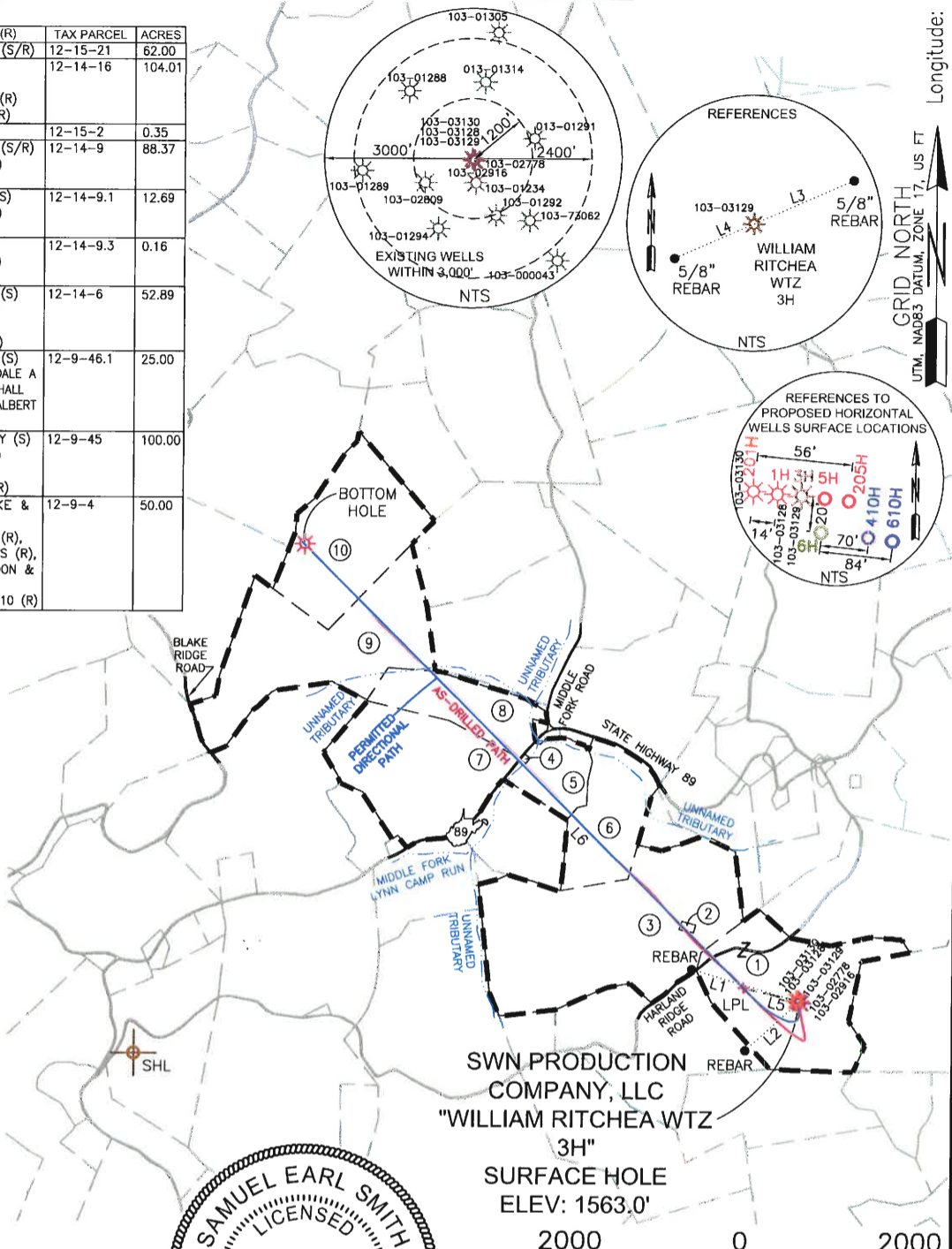
NOTES ON SURVEY

- 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: 4,391,142.404 EASTING: 529,218.488
LANDING POINT LOCATION (LPL): UTM (NAD83, ZONE 17, METERS): NORTHING: 4,391,189.038 EASTING: 529,019.950
BOTTOM HOLE LOCATION (BHL): UTM (NAD83, ZONE 17, METERS): NORTHING: 4,392,768.433 EASTING: 527,433.740

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



COMPANY: **SWN** Production Company, LLC

WILLIAM RITCHEA WTZ
OPERATOR'S WELL #: 3H
API WELL #: 47 103 03129
STATE COUNTY PERMIT

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS	MINIMUM DEGREE OF ACCURACY: 1/200
WVDEP OFFICE OF OIL & GAS 601 57TH STREET CHARLESTON, WV 25034	PROVEN SURVEY SOURCE OF GRADE GPS ELEVATION: (NAVD 88, US FT)

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

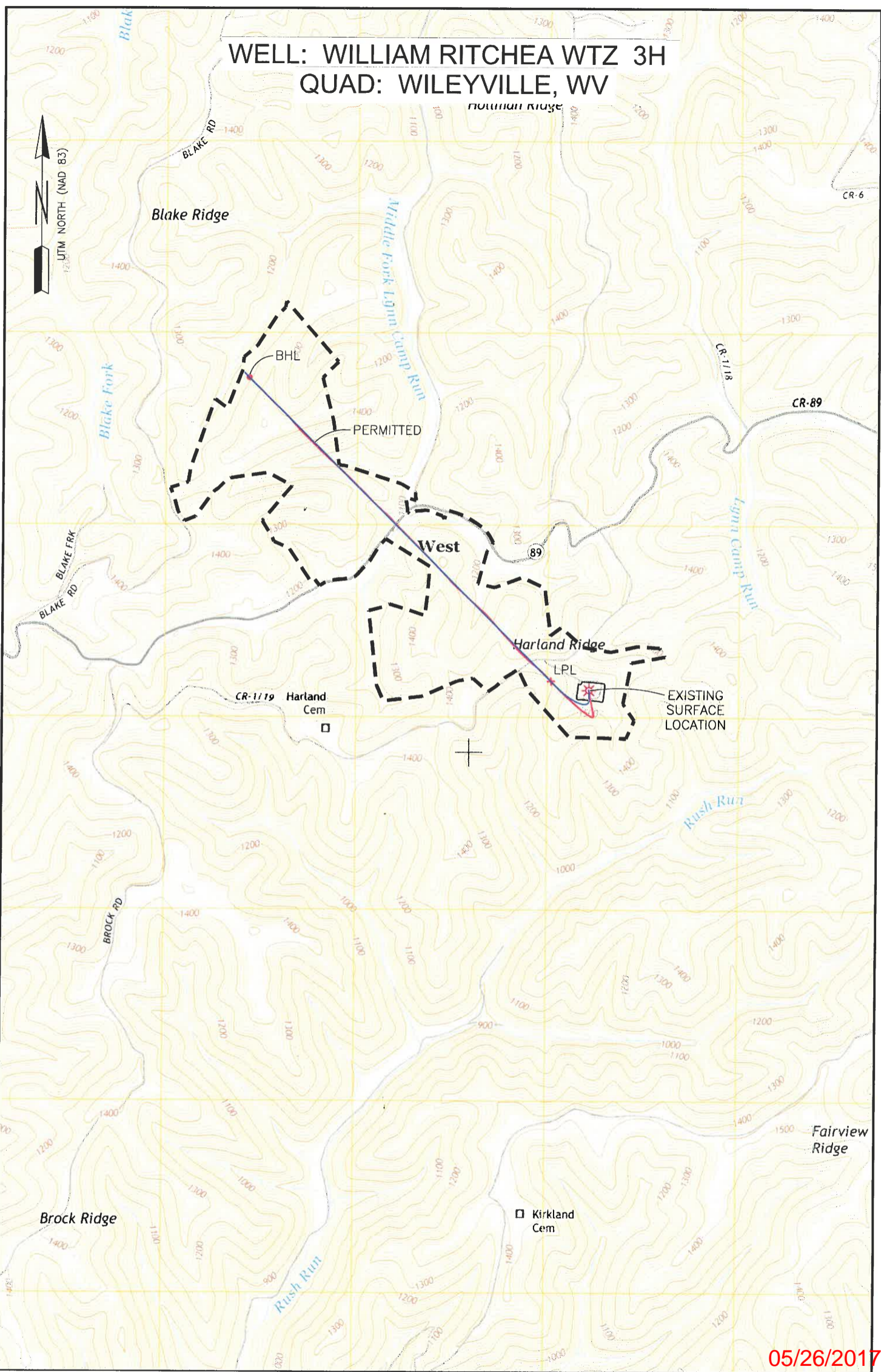
CONVERT PLUG & ABANDON CLEAN OUT & REPLUG OTHER CHANGE (SPECIFY) AS-DRILLED

TARGET FORMATION: MARCELLUS DEPTH: 7,562' TVD 15,514' 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	REVISIONS: - - - - - LEASE BOUNDARY - - - - - AS-DRILLED PATH - - - - - PERMITTED DIRECTIONAL PATH	DATE: 12-02-2015 DRAWN BY: S. HUTSON SCALE: 1" = 2000' DRAWING NO: 59340 WELL LOCATION PLAT
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