10/14/2022

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

API <u>47</u> <u>103</u> <u>03421</u> Co	ounty WETZEL	District PROCTOR	2
Quad WILEYVILLE P	ad Name SWN A WTZ PAD	Field/Pool Name VIC	CTORY FIELD WET
Farm name SWN PRODUCTION COMP	ANY, LLC	Well Number SWN	
Operator (as registered with the OOG) SWI	N PRODUCTION COMPA	NY, LLC	
Address PO BOX 12359	City SPRING	State TX	Zip 77391-2359
Top hole Northin  Landing Point of Curve Northin	ttach an as-drilled plat, profile 12  4,392,602.03 24,392,363.72 4,394,275.86	view, and deviation survey  Easting 530,900.71  Easting 530,530.02  Easting 528,401.87	
Elevation (ft)1,343.2' GL	Type of Well ■New □ Exi	sting Type of Report	□Interim ■Final
Permit Type   Deviated   Horizont	al • Horizontal 6A 🗆 🕽	Vertical Depth Type	□ Deep ■ Shallow
Type of Operation □ Convert □ Deepen	■ Drill □ Plug Back	□ Redrilling □ Rework	■ Stimulate
Well Type □ Brine Disposal □ CBM ■ G	as □ Oil □ Secondary Recov	rery   Solution Mining   Sto	orage   Other
Type of Completion ■ Single □ Multiple  Drilled with □ Cable ■ Rotary  Drilling Media Surface hole ■ Air □ M  Production hole ■ Air ■ Mud □ Fresh  Mud Type(s) and Additive(s)	Fluids Produced	■Gas □ NGL □ Oil rmediate hole ■ Air □ Mud	AUG 0 4 2022
SOBM			WV Department of Environmental Protection
Date completion activities began 4/2	22/0000		ceased1/19/2022 5/8/2022 N/A
Please note: Operator is required to submit a	plugging application within 5	days of verbal permission to p	lug
Freshwater depth(s) ft307'	Open mine(s	s) (Y/N) depths	N
Salt water depth(s) ft1342'	Void(s) enco	ountered (Y/N) depths	N
Coal depth(s) ft 1249'		acountered (Y/N) depths	N
Is coal being mined in area (Y/N)	N APPROVE	1 OCT 0 1 2022	Reviewed by:
	Leman	1 OCT 11 1 2022	10/14/20

API 47- 103	_ 03421	Farm name_S	WN PRODUCT	ION C	OMPANY,	LLCWe	ll numbe	SWN A V	VTZ 1H
CASING STRINGS	Hole Size	Casing	Nev Depth Us	v or	Grade wt/ft		Basket Depth(s)	Did ce	ment circulate (Y/N) vide details below*
Conductor	24	20	136 NI	EW	J-55	5/94#	1.()		Y
Surface	17.5	13.375	387 NI	EW	J-55/	54.5#			Y / 18 BBLS
Coal	SEE SURFACE								
Intermediate 1	12.25	9.625 2	889 NI	EW	J-55	5/36#			Y / 78 BBL\$
Intermediate 2									
Intermediate 3									
Production	8.75/8.50	5.5 17	7325 NI	EW	HCP-1	110/20#			Y / 90 BBLS
Tubing			NI	EW					N
Packer type and d	epth set								
Comment Details	:								
CEMENT	Class/Type	Number	Slurry		ield	Volume	•	Cement	WOC
DATA Conductor	of Cement CLASS A	of Sacks GROUT TO SURFACE	wt (ppg)	(ft	³/sks)	(ft 3)		Top (MD)	(hrs)
Surface	CLASS A	372	45.00	- 4	00	110.11	_	SURFACE	24
Coal	SEE SURFAC		15.60	1	.20	446.40	,	SURFACE	8
Intermediate 1	CLASS A	379 / 800	15.60 / 16.00	4.40	/ 4 40	447.00.44	200	OLIDEA OF	
Intermediate 2	OLAGG A	3/9/600	15.60 / 16.00	1.18	/ 1.12	447.22 / 8	896	SURFACE	8
Intermediate 3									
Production	CLASS A	2,881	15.00	1	.29	2.746.4		CUDEACE	0.4
Tubing	OLAGO A	2,001	15.00		.29	3,716.4	9	SURFACE	24
Drillers TD (f Deepest forma Plug back pro	ation penetrated ocedure N/A	MARCELLUS	_	_	O (ft) 17,3 to (ft) 17,2			Office	RECEIVED e of Oil and Gas
Check all wire	eline logs run	<del>-</del>	15321	deviate gamma	ed/direction		induction tempera	n	G 0 4 2022  Department of Internation
Well cored	□ Yes 💄 No	Conventional	Sidewall		We	ere cutting	gs collec	ted 🗆 Yes	■ No
DESCRIBE T	HE CENTRALI	ZER PLACEMENT (	U <b>SED FOR EA</b>	.CH CA	SING ST	ΓRING			
	RALIZERS - EVERY THIR								
		RY THIRD JOINT OF CASING							
PRODUCTION: 334	CENTRALIZERS - EVER	RY THIRD JOINT FROM SURFAC	CE TO TOP OF CURVE	, THEN E	ERY JOINT U	INTIL TD			
WAS WELL	COMPLETED A	S SHOT HOLE	Yes 🚪 No	DE	TAILS				
WAS WELL	COMPLETED C	PEN HOLE? 🗆 Y	es 🖪 No	DETA	AILS _				
WERE TRAC	ERS USED 🗆	Yes No TY	PE OF TRACI	ER(S) U	JSED				

API 47- 103 \_ 03421

Farm name\_SWN PRODUCTION COMPANY, LLC\_Well number\_SWN A WTZ 1H

#### PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
	SEE	ATTACHMEN∎	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	<b>ATTACHMEN</b>	2				
								RECEIVED
								Office of Oil and Gas
								AUG 0 4 2022
							E	WV Dep⊋rtment of vironmental Protection

Please insert additional pages as applicable.

API 47- 103	03421	Farm r	name_SWN PRO	DUCTIO	N COMPAN	Y, LLC Well	number	SWN	A WTZ 1H
PRODUCING MARCELLUS	FORMATION(		<u>DEPTHS</u> 7,354'	_TVD	7,761'	MD			
Please insert ad	ditional pages a	s applicable.							
GAS TEST	□ Build up □	Drawdown	□ Open Flow		OIL TEST	□Flow	□ Pump		
SHUT-IN PRE	SSURE Surf	ace 2,871	_psi Botto	m Hole	ps	i DURA	TION C	F TES	T hrs
OPEN FLOW	Gas 20,072 mcf		NGL opd		Water 720 b		MEASU mated		BY fice □ Pilot
LITHOLOGY/ FORMATION	TOP DEPTH IN FT NAME TVD	BOTTOM DEPTH IN FT TVD	TOP DEPTH IN FT MD	BOTTO DEPTH IN MD	FT DESCR				D QUANTITYAND NE, OIL, GAS, H₂S, ETC)
	0	ATTACUMENT	0						(12, 615, 615, 1125, 1175)
	SEE	ATTACHMENT	3						
									RECEIVED
Please insert ad	  ditional pages a	s applicable.							Office of Oil and Gas
	ctor SWN DRIL		Υ						AUG 0 4 2022
Address PO BO			City	SPRING		State	TX	Zip	77391-2359 WV Dep∌rtment of
	any BAKER HU								Environmental Protection
Address 9110 G	GROGANS MILL RE	)	City	THE WO	ODLANDS	State	TX	Zip	77380
	npany SCHLUM CHLUMBERGER D		L SERVICES City	SUGARL	AND	State	TX	Zip	77478
Stimulating Co	X 12359	VELL SERVICE	S City	SPRING	_	State	TX	Zip	77391
Please insert ad	lditional pages a	s applicable.							
Completed by Signature	DENISE GRAN	antha	Title R	EGULATOF	Telepl	none 832-79	6-6139 Date_8	.1.2022	
Submittal of H	ydraulic Fractur	ing Chemical I	Disclosure Info	rmation	Attach co	py of FRAC			

Job Start Date:	4/23/2022	
Job End Date:	5/2/2022	ı
State:	West Virginia	
County:	Wetzel	
API Number:	47-103-03421-00-00	
Operator Name:	Southwestern Energy	Frac
Well Name and Number:	SWN A WTZ 1	i i de i
Latitude:	39.68269097	Chemical Disclos
Longitude:	-80.63965695	
Datum:	NAD83	CPOLINIDWATED
Federal Well:	NO	GROUNDWATER
Indian Well:	NO	PROTECTION COUNCIL
True Vertical Depth:	7,245	
tal Base Water Volume (gal):	15,655,506	
otal Base Non Water Volume:	0	

WV Department of Environmental Protection







#### **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
Base Water	Operator	Base Fluid					
			Water	7732-18-5	100.00000	90.22692	Density = 8.345
Ingredients	Listed Above	Listed Above					
			Water	7732-18-5	85.00000	0.19192	

			Water	7732-18-5	85.00000	0.19192	
			Water	7732-18-5	85.00000	0.19192	
Ferriplex 80	SWN Well Services	Iron Control					
				Listed Below			
Plexslick V996	SWN Well Services	Friction Reducer					
				Listed Below			
FSTI-CI-02	SWN Well Services	Corrosion Inhibitor					
				Listed Below		ï	
Plexaid 655NM	SWN Well Services	Scale Inhibitor					
				Listed Below			
Tolicide 4Frac	SWN Well Services	Biocide					
				Listed Below			
Sand	SWN Well Services	Proppant					
				Listed Below			
HCL	SWN Well Services	Solvent					
				Listed Below			
Items above are Tr	ade Names with th		ter . Items below are the indi				
			Crystalline Silica, quartz	14808-60-7	100.00000	9.49818	
			Hydrochloric Acid	7647-01-0	15.00000	0.02692	

Tetrakis(Hydroxymethyl) Phosphonium Sulfate	55566-30-8	45.00000	0.00309	2 2 orf ction
Sodium Erythorbate	6381-77-7	100.00000	0.0009	nd Ga
Quaternary ammonium compounds	68424-85-1	7.50000	0.0005	of Oil a
Ethanol	64-17-5	2.50000	0.00017	AUG VV C
Ethylene glycol	107-21-1	40.00000	0.00011	Env
Cinnamaldehyde	104-55-2	10.00000	0.00003	700
Poly(oxy-1,2-ethanediyl), .alpha(nonylphenyl)- .omegahydroxy-	9016-45-9	10.00000	0.00003	
N,N-Dimethylformamide	68-12-2	10.00000	0.00003	
Isopropyl alcohol	67-63-0	5.00000	0.00001	
1-Octanol	111-87-5	5.00000	0.00001	
benzyl chloridequaternized	72480-70-7	5.00000	0.00001	
2-Butoxyethanol	111-76-2	5.00000	0.00001	
1-Decanol	112-30-1	5.00000	0.00001	
Triethyl phosphate	78-40-0	5.00000	0.00001	

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)

<sup>\*</sup> 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

#### SWN A WTZ 1H ATTACHMENT 1 PERF REPORT

		PERF REPOR	T		
STAGE NUM	Perf Date	Perf Bottom MD	Perf Top MD2	# SHOTS PER STG	
1	3/30/2022	17,235	17,141	36	
2	4/23/2022	17,107	16,929	36	
3	4/24/2022		16,717	36	
4	4/24/2022		16,506	36	
5	4/25/2022	16,473	16,294	36	
6	4/25/2022	16,261	16,083	36	
7		16,050	15,871	36	
8			15,660	36	
9	4/25/2022		15,448	36	
10	4/26/2022		15,237	36	
11	4/26/2022		15,025	36	
12	4/26/2022	14,992	14,814	36	
13	4/26/2022	14,781	14,602	36	
14	4/26/2022		14,391	36	
15	4/27/2022		14,180	36	
16	4/27/2022		13,968	36	
17	4/27/2022		13,757	36	
18	4/27/2022		13,545	36	
19	4/27/2022		13,334	36	
20	4/27/2022		13,122	36	
21	4/28/2022		12,911	36	RECEIVED
22	4/28/2022		12,699	36	ice of Oil and Gas
23	4/28/2022		12,488	36	IG 0 4 2022
24			12,276	36	UG 0 4 2022
25	4/28/2022		12,065	3/6\	Department of
26	4/28/2022		11,853	Enviro	mental Protection
27	4/29/2022		11,642	36	
28	4/29/2022		11,430	36	
29	4/29/2022		11,219	36	
30	4/29/2022		11,007	36	
31	4/29/2022		10,796	36	
32			10,584	36	
33	4/30/2022		10,373	36	
34			10,161	36	
35	4/30/2022		9,950	36	
36	4/30/2022		9,738	36	
37	5/1/2022		9,527	36	
38			9,315	36	
39	5/1/2022		9,104		
40			8,892	36	
41			8,681	36	
42			8,470		
43	5/2/2022	8,436	8,258	36	

### SWN A WTZ 1H ATTACHMENT 1 PERF REPORT

STAGE NUM	Perf Date	Perf Bottom MD	Perf Top MD2	# SHOTS PER STG
44	5/2/2022	8,225	8,047	36
45	5/2/2022	8,013	7,835	36

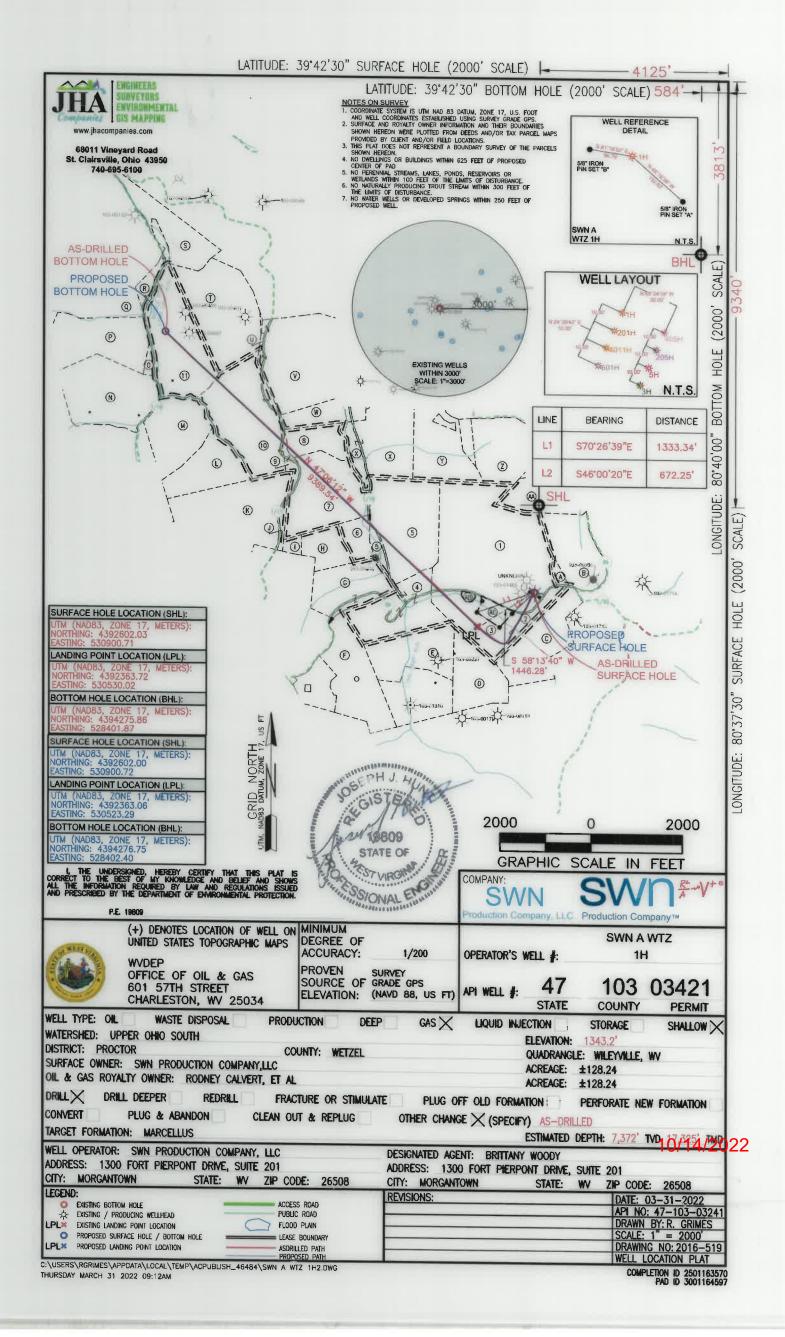
RECEIVED
Office of Oil and Gas

AUG 0 4 2022

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#### SWN A WTZ 1H ATTACHMENT 2 STIM REPORT

		Avo Buran	Aug	STIM REPORT				
TAGE NUM	Stim Date	Ave Pump	Ave	Max	tola tack	Amount of		Amount of
			Treatment	Breakdown	ISIP (PSI)	Proppant (lbs)		nitrogen/othe
	1 4/23/2022		9,176			176,040		0
	2 4/24/2022 3 4/24/2022		8,450			300,120		0
			7,805			306,360		0
	4 4/24/2022 5 4/25/2022		8,545			306,590		0
			8,348			306,050		0
	6 4/25/2022		8,676			304,180		0
	7 4/25/2022		8,643			308,470		0
	8 4/25/2022		8,910			306,560		0
	9 4/26/2022		8,784			305,560		0
1			8,604			311,340		0
1			8,486					0
1			8,439	<u> </u>		312,636	8,403	0
1			8,351			314,640	8,182	0
1			8,381		<u> </u>	309,630	8,517	0
1			8,668			308,590	8,398	0
1						303,840		0
1			8,237		· · · · · · · · · · · · · · · · · · ·	314,980	8,598	0
1							8,705	0
1			8,588				8,579	0
2			8,323				8,491	0
2						308,460	8,549	0
2			8,566			307,110	8,337	0
2			8,039			309,810	8,238	0
2			8,161			313,210	8,289	0
2					4,852	314,760	8,665	0
2						310,860	8,840	0
2						308,320	8,345	0
2						307,040	8,235	0
2						312,350	8,358	RECEIVEDO
3					4,807	307,090	7,973	ffice of Oil and G
3			8,627			311,630		0
3			8,369				8,301	AUG 0 4 282
3.			8,378			302,070	8,110	f. 0
3			8,033		4,750	309,930	8,046	WV Department
3			8,179			312,330	8,342	vironmental Prote
3			8,132			310,670		0
3						311,410		0
3					4,530	312,720	8,108	0
3			7,738	6,635	4,615	305,570		0
4			7,739		4,652	311,060		0
4					4,582	311,730		0
4				6,398	4,925	313,080		0
4				6,770	5,230			0
4				6,424	4,450			0
4	5 5/2/2022	93.3	7,816	6,550	4,435	265,220		0
	-,-,	50.0	7,010	0,550	4,433	203,220	7,661	0



LATITUDE: 39'42'30" SURFACE HOLE (2000' SCALE)

LATITUDE: 39'42'30" BOTTOM HOLE (2000' SCALE) 584'

	WELL BOTH THE ETTER SURFACEMENTAL PYCHAI	MINS.
THACE	SUPPACE OWNER ON / ROSALET CHANGE US.	TAXPART
3.	ROUNEY CALVERT OF ALIE	12-10-29
TEACE	MANAGEDWICE	TAX PARCE
2	CACVERT ROOMEY A	12-10-29.5
3	CALVERY RODNEYA	12-10-29.3
4	MAESSLY LAND AND TIMBER LLC	12-10-43
5	SWN PRODUCTION COMPANY LLC	12-10-28
6	SWN PRODUCTION COMPANY LLC	12-16-27
7	RITCHEA ROBERT C & JAMES	12-10-22
8	SWN PHODUCTION COMPANY LLC	12-10-14
9	RICHWIDNID CASSIDI PAIGE	12-10-21
10	RICHMOND CASSIDI PAIGE	12-10-13
11	SHULUGA ANDREW D & ANDREA M	12-9-15

THE REAL PROPERTY.	ASSESSING CHANGES SARCE:	
SAIT I	SIRFACE OWNER	TAX FARCE
A	SWIN PRODUCTION COMPANY	13-10-29.7
0.	YOHO NORMA F	1-7-40
C	HIJTCHISON MARGARET A	12-15-9
0	DREYER JOSEPH C	12-15-6
E	HAESSLY LAND AND TIMBER LLC	12-15-6
E	HAESSLY LAND AND THMBER LLC	12-15-5
6	HAESSLY HARDWOOD LUMBER CO	12-10-32
H	SWN PRODUCTION COMPANY LLL	12-10-26
1	HUGGINS JOSEPH DEAN	12-10-25
3	RITCHEA ROBERT C & JAMES L	12-10-24
K	HAESSLY HARDWOOD LUMBER CO	32-10-23
L.	HAESSLY LAND AND TIMBER ILL	12-16-20
141	HUGGINS MICHAEL A & PAIRICK W	12-9-23
N	GODDARD WAYNET	12-9-22
0	SHULUGA ANDREW D & ANDREA M	12-9-14
P:	SHULIGA ANDREW D & ANDREA M	12-9-13
Q	SHULUGA ANDREW D & ANDREA M	12-9-8
R	SHULUGA ANDREW D & ANDREA M	12-9-9
5	MASSARI MARK	12-4-38
T	SHULUGA ANDREW D & ANDREA M	12-10-1
U	SHULUGA ANDREW D & ANDREA M	12-10-9.1
٧	MILLTREE PROPERTIES LLC	12-10-9
W	SWN PRODUCTION COMPANY ILC	12-10-10
X	SWN PRODUCTION COMPANY LLC	12-10-15
Y	YOHO DARREN FIAL	12-10-16
Z	YOHO DARREN ETAL	12-10-18
AA	DURIG CORY & DAVID	1-7-2
AÐ	CALVERT RODNEY CTAL	32-10-29.1
AC	CALVERT RODNEY A	12-10-29.4

REVISIONS:	COMPANY:	SWN Production Company LLC		<b>SW</b> 10/14/2022 Production Company™	
	OPERATOR'S WELL #:	SWN A WTZ 1H		DATE: 03-31-2022 API NO: 47-103-03241 DRAWN BY:R, GRIMES	
	DISTRICT: PROCTOR	COUNTY: WETZEL	STATE: WV	SCALE: N/A DRAWING NO:2016-519 WELL LOCATION PLAT	
				COMPLETION ID 2501163570 PAD ID 3001164597	

11	SHALLIGA ANDREW D'& ANDREA M	12-9-15
70	RICHMOND CASSIOLFANGE	12-10-13
9	RECHADING CASSIGLIMAGE	12-10-21
8	SWM PHIROUGENON COMPANY LLC	13-10-14
7	INTONEA ROBERT C. & JAMES L.	15:10:33
6	SWIN PRODUCTION COMPANY U.C.	13-10-57
5	SWM PRODUCTION COMPANY LLC	73:70:50
4	HAESSLY LAND AND TOWNER LLC	33-10-33
9	CALVERT RECOREY A	73-79-581
2	CALVERT RODINGLA	12-10-25-1
STREET, STREET	E-myscs DWIRGE	DECK HOLDS
1	SSEN PRODUCTION CONFANY LLC (S) RODINEY CALVEST, 87 AL (R)	12-10-29
1273	Pared officer to Leave to another lat	JEK STECK

## 10/14/2022

AC: ]	CALVENT RODRIEY A	12-10-29.4	
79	CALVERT RODMEY LTAL 12-		
PE -	DURIG CONV & DAVID 1-7-		
2	VOHO DANNEN ETAL	13-30-18	
A	YOHO BARREN FTAL	12:10:16	
X	SWM PRODUCTION COMPANY LLC	12-10-15	
M	SWN PRODUCTION COMPANY LLC	12-10-10	
Λ	MALLTHEE PROPERTIES LLC	75-70-3	
n	SHULUGA ANDREW D & ANDREA M	12-10-9.1	
1	SHULUGA ANDREW D & ANDREA M	75-70-7	
5	MASSARI MARK	15-4-30	
¥	SHULLICA ANDREW D.B. AMDREA M.	12:9-9	
0	SHULUGA ANDREW D & AMOREA IA	12.5-8	
b	SHUALINIA APIDRENY D & APIDREA M	17-9-13	
0	SHULLIGA AMDREW D. A. AMDREA M.	12-9-14	
M.	GODDALID WAYNE L	12-9-32	
W	HUGGINS MICHAEL A B. PATRICK W	12-9-33	
Г	HAESSLY LAND AND THABER LLC	12-10-39	
IC .	HARSSLY HARDWOOD LUMBER CO	12-10-23	
1	HITCHEA HOBITEL C & JAMES L	12-10-24	
1	HUGGINS JOSEPH DEAN	12-10-25	
H	SWEET PRODUCTION COMPANY LLC	12-30-35	
6	HARSSLY HANDWOOD LUMBER CO	12-10-13	
E.	HARESTER LAND AND FINANCH LLC	12-15-5	
E	HARSSLY LAND AND THUBER LLC	12-15-6	
D	DREYEN JOSEPH C	12-15-8	
6	HUTCHISON MARGARET A	13-15-9	
P	YOHO NORMA F	1-7-40	
V	SWIN PRODUCTION COMPANY	15:10:30:3	
ora .	: STHEPS COMMER.	MAXMAGE	

				COMPLETION ID 2501163570 PAD ID 3001164597
	OPERATOR'S  WELL #: DISTRICT: PROCTOR	SWN A WT  1H  COUNTY:  WETZEL	STATE:	DATE: 03-31-2022  API NO: 47-103-03241  DRAWN BY:R, GRIMES  SCALE: N/A  DRAWING NO:2016-519  WELL LOCATION PLAT
REVISIONS:	COMPANY:	SWN Production Company, LLC	Proc	SWD *V+°

