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

API 47 - 009 _ 00207	County BROOM	KE D	istrict BUFFAI	LO	
Quad BETHANY		K OWEN BRK PAD F			LE
Farm name OWEN, MARK			Well Number N		
Operator (as registered with the C	OOG) SWN PRODUCTI	ON COMPANY, LLC			100000
Address PO BOX 12359	City SP	RING	State TX	Zip	77391-2359
As Drilled location NAD 83/U Top hole	TM Attach an as-drill Northing 4,452,324.750	ed plat, profile view, and Easti	deviation survey ng 538,685.763	t	
Landing Point of Curve	Northing 4,452,096.455	Eastir	1g 539,051.462		
Bottom Hole	Northing 4,450,692.802	Eastir	ng <u>539,676.925</u>		
Elevation (ft) 1,165.5'	GL Type of Well	■New □ Existing	Type of Rep	ort Interim	≣Final
Permit Type Deviated	Horizontal Horizon	ntal 6A 🗆 Vertical	Depth Type	□ Deep	Shallow
Type of Operation □ Convert	□ Deepen ■ Drill t	Plug Back 🗆 Redrill	ing □ Rewor	k 📕 Stimula	ite
Well Type □ Brine Disposal □	CBM ■ Gas □ Oil □ Se	condary Recovery Sol	ution Mining	Storage DC	Other
Type of Completion ■ Single □ Drilled with □ Cable ■ Rotat Drilling Media Surface hole	у	iced □ Brine ■Gas	□ NGL □ Oi		Water □ Brine
Production hole Air Mud			ne ean un	iud 🗅 Fiesii	water brine
Mud Type(s) and Additive(s) SOBM	Tresii water 🗆 Biiii				
Date permit issued09/01/20	17 Date drilling com	menced 11/26/2017	Date drilli	ng ceased	02/11/2018
Date completion activities began	04/22/2018	_ Date completion activ	ities ceased	05/09/201	8
Verbal plugging (Y/N)N	Date permission grante	dN/A	_ Granted by	N/A	v
Please note: Operator is required	to submit a plugging applic	eation within 5 days of ve	rbal permission	to plug	RECEIVED Office of Oil and Gas
Freshwater depth(s) ft	300'	Open mine(s) (Y/N) de	pths	N	JUL 1 2 2018
Salt water depth(s) ft	856'	Void(s) encountered (Y		Ŋ	WV Department of nvironmental Protection
Coal depth(s) ft	332'	Cavern(s) encountered			1
Is coal being mined in area (Y/N)	N				
				Revie	ewed byz

Rev. 8/23/13										
API 47- 009	_ 00207	Farm nai	ne_OW	VEN, MAR	<u>K</u>		W	ell numbe	r MARK	OWEN BRK 10H
CASING STRINGS	Hole Size	Casing Size	Dept		w or sed	Grade wt/ft		Basket Depth(s)		I cement circulate (Y/ N) Provide details below*
Conductor	24	20	126		IEW	J-5	5/94#			Υ
Surface	17.5	13.375	413	, N	IEW	J-55	/54.50#			Y, 20 bbls
Coal	SEE SURFACE									
Intermediate 1	12.25	9.625	1,73	4' N	IEW	J-5	5/36#			Y, 30 bbls
Intermediate 2										
Intermediate 3										
Production	8.75/8.50	5.5	11,81	15' N	IEW	HCP-	110/20#			Υ
Tubing		2.375	6,50	8' N	IEW	P-1	10/4.7#			N
Packer type and de	epth set	•								
CEMENT	Class/Type	Number		Slurry		/ield	Volum	e	Cement	woc
DATA	of Cement	of Sacks	1	wt (ppg)	<u>(ft</u>	³ /sks)	(ft. ² .)		Top (MD)	(hrs)
Conductor	CLASS A	GROUT TO SUF	FACE	15.60		1.20			SURFACE	24
Surface	CLASS A	406	_	15.60	1	1.20	487.2	2	SURFACE	8
Coal	SEE SURFAC		_		ļ					
Intermediate 1	CLASS A	656		15.60	1	1.19	780.6	4	SURFACE	8
Intermediate 2					 					
Intermediate 3					<u> </u>					
Production	CLASS A	2,084	_	15.60	1	1.19	2,479.	96	SURFACE	24
Tubing	L						<u> </u>			
Drillers TD (ft Deepest forma Plug back pro	tion penetrated	MARCELLUS				D (ft) 11, to (ft) N/				· · · · · · · · · · · · · · · · · · ·
Kick off depth Check all wire		■ caliper	■ den		deviate gamma	ed/directi a ray		induction tempera	'	sonic
Well cored [Yes 🖪 No	Conventio	nal	Sidewall		W	ere cuttin	gs collect	ted □ Ye:	s No
DESCRIBE T	HE CENTRALI	ZER PLACEME	NT US	ED FOR EA	CH C	ASING S	TRING _			
SURFACE: 7 CENTR	RALIZERS - EVERY THIR	D JOINT OF CASING				<u>-</u>				
		RY THIRD JOINT OF CAS		O TOP OF CURY	E THEN !	VERY IOINT	INTI TO			RECEIVE Office of Oil ar
FRODUCTION: 181 (CENTRALIZERS - EVER	Y THIRD JOINT FROM S	URFAUE I	O TOP OF CURVI	c, intn t	VERT JUINT	OHILL ID			
WAS WELL (COMPLETED A	S SHOT HOLE	□ Ye	es 🖪 No	DE	ETAILS				JUL 1 2 7
WAS WELL (COMPLETED C	PEN HOLE?	□ Yes	■ No	DET	AILS _				Environmental F
WERE TRAC	ERS USED 🗆	Yes A No	TYPE	E OF TRAC	ER(S)	USED _				

API 47- 009 - 00207 Farm name OWEN, MARK Well number MARK OWEN BRK 10H

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					
		-						
				-				
								DECEMED
								RECEIVED Office of Oil and Gas
								JUL 1 2 2018
								JUL 1 2 2010

Please insert additional pages as applicable.

WV Department of Environmental Protection WR-35 Rev. 8/23/13

API 47- 009	_ 00207	Farm i	name OWEN,	MARK		Well number	MARK OW	EN BRK 10H
PRODUCING MARCELLUS	FORMATION		<u>DEPTHS</u> 3,041'	_TVD	6,437'	MD		
Please insert ac	Iditional pages	as applicable.		_	-			
GAS TEST	□ Build up	□ Drawdown	□ Open Flow		OIL TEST	Flow Pump		
SHUT-IN PRE	SSURE Sur	face 2503	_psi Botto	m Hole_	psi	DURATION C	F TEST	hrs
OPEN FLOW	Gas	Oil	NGL opd		Water 194 bpd	GAS MEASU		□ Pilot
LITHOLOGY/ FORMATION	TOP DEPTH IN FT NAME TVD	BOTTOM DEPTH IN FT TVD	TOP DEPTH IN FT MD	BOTTO DEPTH II	N FT DESCRIBE	ROCK TYPE AND LUID (FRESHWAT		
	0		0					
	SEE	ATTACHMENT	3	-				
			,					
1								
Disease in cost of	141411							
	dditional pages							
Address PO BO	actor SVVN DRII DX 12359	LLING COMPAN	City	SPRING		State TX	Zip 77391	-2359
	A 11.00 A	acopp.	City			State		
	any WEATHER		City	CANONS	SBURG	State PA	Zip 15317	
		70 620 64	- 1 m - (m)			— ; "''ō" ——		array (Ta)
Address 110 St	CHLUMBERGER	MBERGER WEL DRIVE	City	SUGAR	LAND	State TX	Zip 77478	RECEIVED Office of Oil and Gas
		ELL SERVICES	0			7 7 7 7 7		JUL 1 2 2018
Stimulating Co	ompany US W DUSTRIAL PARK		City	JANE LE	EW.	State WV	Zip 26378	
All and the first the second	dditional pages		<i>—</i> ,					WV Department of Environmental Protecti
Completed by	Elizabeth Gee	bat	Tirlo St	aff Regula	Telephone	832-796-7632	02/11	MA18
Signature	1	my.	Title St	- I Julia		Date _		+00.
Submittal of H	ydraulic Fractu	ring Chemical I	Disclosure Infor	mation	Attach copy of	of FRACFOCUS	Registry	

MARK OWEN BRK 10H ATTACHMENT 1 PERF REPORT

		PERFICE	O	
STAGE NUM	Perf Date	Perf Top MD	Perf Bottom MD	# SHOTS PER STG
1	4/2/2018	11,701	11,594	42
2	4/23/2018	11,561	11,454	42
3	4/23/2018	11,421	11,314	42
4	4/23/2018	11,281	11,174	42
5	4/23/2018	11,141	11,034	42
6	4/24/2018	11,001	10,894	42
7	4/24/2018	10,861	10,754	42
8	4/24/2018	10,723	10,614	42
9	4/24/2018	10,581	10,479	42
10	4/24/2018	10,441	10,334	42
11	4/25/2018	10,301	10,194	42
12	4/25/2018	10,161	10,054	42
13	4/25/2018	10,019	9,914	42
14	4/28/2018	9,881	9,774	42
15	4/28/2018	9,741	9,634	42
16	4/29/2018	9,601	9,497	42
17	4/29/2018	9,461	9,354	42
18	4/29/2018	9,321	9,214	42
19	4/29/2018	9,181	9,074	42
20	4/29/2018	9,041	8,934	42
21	4/30/2018	8,901	8,794	42
22	4/30/2018	8,757	8,654	42
23	4/30/2018	8,621	8,511	42
24	4/30/2018	8,482	8,374	42
25	4/30/2018	8,341	8,234	42
26	4/30/2018	8,201	8,084	42
27	5/1/2018	8,059	7,954	42
28	5/1/2018	7,921	7,817	42
29	5/1/2018	7,781	7,674	42
30	5/1/2018	7,641	7,534	42
31	5/1/2018	7,501	7,394	
32	5/1/2018	7,361	7,254	
33		7,221	7,115	
34		7,081	6,974	
35			6,834	
36	5/2/2018	6,801	6,691	42
37		6,661	6,554	

RECEIVED Office of Oil and Gas

JUL 1 2 2018

WV Department of Environmental Protection

MARK OWEN BRK 10H ATTACHMENT 2 STIM REPORT

1 4/22/2018 89.5 7,074 4,551 4,595 279,700 6,066 0 2 4/23/2018 87 6,865 6,251 4,803 279,500 4,616 0 3 4/23/2018 89.5 6,878 5,801 4,750 281,380 4,661 0 4 4/23/2018 89.1 6,836 3,951 4,667 282,360 5,177 0 5 4/23/2018 99.3 7,007 4,440 4,587 280,210 5,024 0 6 4/24/2018 99.2 6,728 5,333 4,566 280,300 4,098 0 8 4/24/2018 99.2 6,728 5,333 4,566 280,300 4,098 0 8 4/24/2018 99.2 6,728 5,333 4,566 280,300 4,098 0 9 4/24/2018 89.2 6,728 5,333 4,566 280,300 4,098 0 10 4/25/2018 99.3 6,555 5,421 4,518 280,440 5,053 0<			Ave Pump	Ave	Max		Amount of	Amount of	Amount of
2 4/23/2018 87 6,865 6,251 4,803 279,500 4,616 0 3 4/23/2018 89.5 6,878 5,801 4,750 281,380 4,661 0 5 4/23/2018 89.1 6,836 3,951 4,667 282,360 5,177 0 5 4/23/2018 90.3 7,007 4,440 4,587 280,210 5,024 0 6 4/24/2018 89.7 7,121 5,922 5,057 279,440 4,615 0 8 4/24/2018 89.2 6,728 5,333 4,566 280,300 4,098 0 8 4/24/2018 81.2 7,286 4,061 4,826 280,440 5,053 0 10 4/25/2018 90.3 6,555 5,421 4,518 280,400 3,981 0 11 4/25/2018 90.3 6,565 4,262 4,843 278,670 4,045 0 12	STAGE NUM	Stim Date	Rate (BPM)	Treatment	Breakdown	ISIP (PSI)	Proppant (lbs)	water bbls	nitrogen/othe
3 4/23/2018 89.5 6,878 5,801 4,750 281,380 4,661 0 4 4/23/2018 89.1 6,836 3,951 4,667 282,360 5,177 0 5 4/23/2018 90.3 7,007 4,440 4,587 280,210 5,024 0 6 4/24/2018 89.7 7,121 5,922 5,057 279,440 4,615 0 7 4/24/2018 90.2 6,728 5,333 4,566 280,300 4,098 0 8 4/24/2018 88.6 6,975 6,080 4,780 281,580 4,113 0 9 4/24/2018 90.2 7,286 4,061 4,826 280,440 5,053 0 10 4/25/2018 90.3 6,555 5,421 4,518 280,400 3,981 0 12 4/25/2018 90 6,904 6,545 4,760 279,960 4,090 0 13		1 4/22/2018	89.5	7,074	4,551	4,595	279,700	6,066	0
4 4/23/2018 89.1 6,836 3,951 4,667 282,360 5,177 0 5 4/23/2018 90.3 7,007 4,440 4,587 280,210 5,024 0 6 4/24/2018 89.7 7,121 5,922 5,057 279,440 4,615 0 7 4/24/2018 88.6 6,975 6,080 4,780 281,580 4,113 0 9 4/24/2018 88.6 6,975 6,080 4,780 281,580 4,113 0 10 4/25/2018 90.3 6,555 5,421 4,518 280,440 5,053 0 11 4/25/2018 90.3 6,585 5,421 4,518 280,400 3,981 0 12 4/25/2018 90.3 6,864 4,282 4,843 278,670 4,095 0 12 4/25/2018 90.6 6,944 6,545 4,760 279,960 4,090 0 13		2 4/23/2018	87	6,865	6,251	4,803	279,500	4,616	0
5 4/23/2018 90.3 7,007 4,440 4,587 280,210 5,024 0 6 4/24/2018 89.7 7,121 5,922 5,057 729,440 4,615 0 7 4/24/2018 90.2 6,728 5,333 4,566 280,300 4,098 0 8 4/24/2018 98.6 6,975 6,080 4,780 281,580 4,113 0 9 4/24/2018 91.2 7,286 4,061 4,826 280,400 5,953 0 10 4/25/2018 90.3 6,555 5,421 4,518 280,400 3,981 0 11 4/25/2018 90.3 6,864 4,282 4,843 278,670 4,045 0 12 4/25/2018 90.6 6,944 6,545 4,760 279,960 4,090 0 13 4/28/2018 87.2 6,880 8,427 4,708 280,000 3,955 0 14		3 4/23/2018	89.5	6,878	5,801	4,750	281,380	4,661	0
6 4/24/2018 89.7 7,121 5,922 5,057 279,440 4,615 0 7 4/24/2018 90.2 6,728 5,333 4,566 280,300 4,098 0 8 4/24/2018 88.6 6,975 6,080 4,780 281,580 4,113 0 9 4/24/2018 91.2 7,286 4,061 4,826 280,440 5,053 0 10 4/25/2018 90.3 6,555 5,421 4,518 280,400 3,981 0 11 4/25/2018 90.3 6,864 4,282 4,843 278,670 4,045 0 12 4/25/2018 90 6,904 6,545 4,760 279,960 4,090 0 13 4/28/2018 87.2 6,880 8,427 4,708 280,900 3,955 0 14 4/28/2018 90 6,946 6,545 4,760 279,960 4,090 0 15 4/28/2018 89.8 6,860 6,339 4,553 281,370 4,152 0 16 4/29/2018 89.4 6,648 5,425 4,555 281,370 4,152 0 17 4/29/2018 89.4 6,648 5,425 4,555 280,000 4,099 0 18 4/29/2018 89.4 6,768 5,976 4,519 281,000 4,099 0 18 4/29/2018 89.5 6,757 5,855 4,357 281,250 4,128 0 19 4/29/2018 89.6 6,649 6,519 5,068 280,060 4,067 0 20 4/29/2018 89.6 6,649 6,519 5,068 280,060 4,067 0 21 4/30/2018 90.2 6,369 6,659 4,621 279,540 4,002 0 22 4/30/2018 90.2 6,369 6,659 4,621 279,540 4,002 0 22 4/30/2018 90.6 6,486 5,801 4,583 279,990 4,057 0 24 4/30/2018 90.2 6,369 6,659 4,621 279,540 4,002 0 25 4/30/2018 90.6 6,486 5,801 4,583 279,990 4,057 0 26 5/1/2018 90.5 6,486 6,629 4,591 280,070 4,417 0 26 5/1/2018 90.6 6,486 6,629 4,591 280,400 3,971 0 27 5/1/2018 90.7 6,463 6,116 4,996 279,770 3,963 0 28 5/1/2018 90.7 6,463 6,116 4,996 279,770 3,963 0 29 5/1/2018 90.7 6,463 6,116 4,996 279,770 3,963 0 29 5/1/2018 90.7 6,463 6,116 4,996 279,770 3,963 0 29 5/1/2018 90.7 6,463 6,119 4,963 280,150 3,970 0 29 5/1/2018 90.9 6,544 6,159 4,963 280,150 3,970 0 29 5/1/2018 90.9 6,341 6,885 4,791 280,370 3,972 0 30 5/1/2018 90.9 6,341 6,885 4,791 280,370 3,896 0 31 5/1/2018 89.9 5,592 6,137 4,865 280,230 3,885 0 36 5/2/2018 90.6 6,059 6,429 4,345 290,000 3,967 0		4 4/23/2018	89.1	6,836	3,951	4,667	282,360	5,177	0
7 4/24/2018 90.2 6,728 5,333 4,566 280,300 4,098 0 8 4/24/2018 88.6 6,975 6,080 4,780 281,580 4,113 0 9 4/24/2018 91.2 7,286 4,061 4,826 280,440 5,053 0 10 4/25/2018 90.3 6,555 5,421 4,518 280,400 3,981 0 11 4/25/2018 90.3 6,864 4,282 4,843 278,670 4,045 0 12 4/25/2018 90 6,904 6,545 4,760 279,960 4,090 0 13 4/28/2018 87.2 6,880 8,427 4,760 279,960 4,090 0 14 4/28/2018 89.6 6,860 6,339 4,553 281,370 4,152 0 15 4/28/2018 89.4 6,648 5,425 4,555 280,030 4,154 0 17		5 4/23/2018	90.3	7,007	4,440	4,587	280,210	5,024	0
8 4/24/2018 88.6 6,975 6,080 4,780 281,580 4,113 0 9 4/24/2018 91.2 7,286 4,061 4,826 280,400 5,053 0 10 4/25/2018 90.3 6,555 5,421 4,518 280,400 3,981 0 11 4/25/2018 90.3 6,564 4,282 4,843 278,670 4,045 0 12 4/25/2018 90 6,904 6,545 4,760 279,960 4,090 0 13 4/28/2018 87.2 6,880 8,427 4,708 280,900 3,955 0 14 4/28/2018 89. 6,848 7,870 4,822 280,040 4,105 0 15 4/28/2018 89. 6,648 5,425 4,553 281,370 4,152 0 16 4/29/2018 89.4 6,648 5,976 4,519 281,000 4,099 0 18		6 4/24/2018	89.7	7,121	5,922	5,057	279,440	4,615	0
9 4/24/2018 91.2 7,286 4,061 4,826 280,440 5,053 0 10 4/25/2018 90.3 6,555 5,421 4,518 280,400 3,981 0 11 4/25/2018 90.3 6,864 4,282 4,843 2778,670 4,045 0 12 4/25/2018 90 6,904 6,545 4,760 279,960 4,090 0 13 4/28/2018 87.2 6,880 8,427 4,708 280,900 3,955 0 14 4/28/2018 90 6,848 7,870 4,822 280,040 4,105 0 15 4/28/2018 89.8 6,860 6,339 4,553 281,370 4,152 0 16 4/29/2018 89.4 6,648 5,425 4,555 280,030 4,154 0 17 4/29/2018 89.4 6,648 5,976 4,519 281,000 4,099 0 18 4/29/2018 89 6,757 5,855 4,357 281,250 4,128 0 19 4/29/2018 89.6 6,649 6,519 5,068 280,060 4,057 0 20 4/29/2018 89.6 6,649 6,519 5,068 280,060 4,069 0 21 4/30/2018 90.2 6,369 6,659 4,621 279,540 4,002 0 22 4/30/2018 90.2 6,648 6,497 4,892 279,550 4,010 0 25 4/30/2018 90.2 6,648 6,497 4,892 279,550 4,010 0 25 4/30/2018 90.2 6,648 6,497 4,892 279,550 4,010 0 26 5/1/2018 90.5 6,486 6,629 4,591 280,570 3,963 0 28 5/1/2018 90.7 6,463 6,112 4,824 279,850 3,967 0 29 5/1/2018 90.7 6,463 6,112 4,824 279,850 3,967 0 20 5/1/2018 90.3 6,279 5,291 4,697 279,770 3,963 0 28 5/1/2018 90.3 6,279 5,291 4,697 279,770 3,963 0 30 5/1/2018 90.3 6,279 5,291 4,697 279,770 3,963 0 31 5/1/2018 90.9 6,341 6,885 4,791 280,370 3,896 0 32 5/2/2018 90.9 6,341 6,885 4,791 280,370 3,896 0 33 5/2/2018 90.9 6,341 6,885 4,791 280,370 3,896 0 34 5/2/2018 89.9 6,369 6,579 4,789 280,140 3,881 0 34 5/2/2018 89.9 6,369 6,579 4,789 280,140 3,881 0 35 5/2/2018 90.9 6,341 6,885 4,791 280,370 3,896 0 36 5/2/2018 90.9 6,341 6,885 4,791 280,370 3,896 0		7 4/24/2018	90.2	6,728	5,333	4,566	280,300	4,098	0
10 4/25/2018 90.3 6,555 5,421 4,518 280,400 3,981 0 11 4/25/2018 90.3 6,864 4,282 4,843 278,670 4,045 0 12 4/25/2018 90 6,904 6,545 4,760 279,960 4,090 0 13 4/28/2018 90 6,848 7,870 4,782 280,900 3,955 0 14 4/28/2018 90 6,848 7,870 4,822 280,040 4,105 0 15 4/28/2018 89.8 6,860 6,339 4,553 281,370 4,152 0 16 4/29/2018 89.4 6,648 5,425 4,555 280,030 4,154 0 17 4/29/2018 89.4 6,768 5,976 4,519 281,000 4,099 0 18 4/29/2018 89.6 6,768 5,976 4,519 281,000 4,057 0 20		8 4/24/2018	88.6	6,975	6,080	4,780	281,580	4,113	0
11 4/25/2018 90.3 6,864 4,282 4,843 278,670 4,045 0 12 4/25/2018 90 6,904 6,545 4,760 279,960 4,090 0 13 4/28/2018 87.2 6,880 8,427 4,708 280,900 3,955 0 14 4/28/2018 90 6,848 7,870 4,822 280,040 4,105 0 15 4/28/2018 89.8 6,860 6,339 4,553 281,370 4,152 0 16 4/29/2018 89.4 6,648 5,425 4,555 280,030 4,154 0 17 4/29/2018 89.4 6,768 5,976 4,519 281,000 4,099 0 18 4/29/2018 89.6 6,757 5,855 4,357 281,250 4,128 0 19 4/29/2018 89.6 6,649 6,519 5,068 280,060 4,057 0 20 4/29/2018 89.6 6,649 6,519 5,068 280,060 4,057		9 4/24/2018	91.2	7,286	4,061	4,826	280,440	5,053	0
12 4/25/2018 90 6,904 6,545 4,760 279,960 4,090 0 13 4/28/2018 87.2 6,880 8,427 4,708 280,900 3,955 0 14 4/28/2018 90 6,848 7,870 4,822 280,040 4,105 0 15 4/28/2018 89.8 6,860 6,339 4,555 281,370 4,152 0 16 4/29/2018 89.4 6,648 5,425 4,555 280,030 4,154 0 17 4/29/2018 89.4 6,768 5,976 4,519 281,000 4,099 0 18 4/29/2018 89.6 6,757 5,855 4,357 281,250 4,128 0 19 4/29/2018 85.2 6,338 6,357 4,755 280,060 4,057 0 20 4/29/2018 89.6 6,649 6,519 5,068 280,060 4,067 0 21	10	0 4/25/2018	90.3	6,555	5,421	4,518	280,400	3,981	0
13 4/28/2018 87.2 6,880 8,427 4,708 280,900 3,955 0 14 4/28/2018 90 6,848 7,870 4,822 280,040 4,105 0 15 4/28/2018 89.8 6,860 6,339 4,553 281,370 4,152 0 16 4/29/2018 89.4 6,648 5,425 4,555 280,030 4,154 0 17 4/29/2018 89.4 6,768 5,976 4,519 281,000 4,099 0 18 4/29/2018 89.6 6,757 5,855 4,357 281,250 4,128 0 19 4/29/2018 85.2 6,338 6,357 4,755 280,060 4,057 0 20 4/29/2018 85.6 6,649 6,519 5,068 280,060 4,057 0 20 4/29/2018 89.6 6,649 6,519 5,068 280,060 4,069 0 21 4/30/2018 90.2 6,369 6,659 4,621 279,540 4,002	1	1 4/25/2018	90.3	6,864	4,282	4,843	278,670	4,045	0
14 4/28/2018 90 6,848 7,870 4,822 280,040 4,105 0 15 4/28/2018 89.8 6,860 6,339 4,553 281,370 4,152 0 16 4/29/2018 89.4 6,648 5,425 4,555 280,030 4,154 0 17 4/29/2018 89.4 6,768 5,976 4,519 281,000 4,099 0 18 4/29/2018 89 6,757 5,855 4,357 281,250 4,128 0 19 4/29/2018 85.2 6,338 6,357 4,755 280,060 4,057 0 20 4/29/2018 89.6 6,649 6,519 5,068 280,060 4,069 0 21 4/30/2018 90.2 6,369 6,659 4,621 279,540 4,002 0 22 4/30/2018 91.6 6,645 6,156 4,686 280,280 4,057 0 23 4/30/2018 90.6 6,486 5,801 4,583 279,990 4,059	1.	2 4/25/2018	90	6,904	6,545	4,760	279,960	4,090	0
15 4/28/2018 89.8 6,860 6,339 4,553 281,370 4,152 0 16 4/29/2018 89.4 6,648 5,425 4,555 280,030 4,154 0 17 4/29/2018 89.4 6,768 5,976 4,519 281,000 4,099 0 18 4/29/2018 89 6,757 5,855 4,357 281,250 4,128 0 19 4/29/2018 85.2 6,338 6,357 4,755 280,660 4,057 0 20 4/29/2018 89.6 6,649 6,519 5,068 280,060 4,069 0 21 4/30/2018 90.2 6,369 6,659 4,621 279,540 4,002 0 22 4/30/2018 91.6 6,645 6,156 4,686 280,280 4,057 0 23 4/30/2018 90.6 6,486 5,801 4,583 279,990 4,059 0 24 4/30/2018 90.2 6,648 6,497 4,892 279,550 4,010	1	3 4/28/2018	87.2	6,880	8,427	4,708	280,900	3,955	0
16 4/29/2018 89.4 6,648 5,425 4,555 280,030 4,154 0 17 4/29/2018 89.4 6,768 5,976 4,519 281,000 4,099 0 18 4/29/2018 89 6,757 5,855 4,357 281,250 4,128 0 19 4/29/2018 85.2 6,338 6,357 4,755 280,060 4,057 0 20 4/29/2018 89.6 6,649 6,519 5,068 280,060 4,057 0 21 4/30/2018 90.2 6,369 6,659 4,621 279,540 4,002 0 22 4/30/2018 91.6 6,645 6,156 4,686 280,280 4,057 0 23 4/30/2018 90.6 6,486 5,801 4,583 279,990 4,059 0 24 4/30/2018 90.2 6,648 6,497 4,892 279,550 4,010 0 25 4/30/2018 90.5 6,648 6,497 4,892 279,550 4,010	14	4 4/28/2018	90	6,848	7,870	4,822	280,040	4,105	0
17 4/29/2018 89.4 6,768 5,976 4,519 281,000 4,099 0 18 4/29/2018 89 6,757 5,855 4,357 281,250 4,128 0 19 4/29/2018 85.2 6,338 6,357 4,755 280,060 4,057 0 20 4/29/2018 89.6 6,649 6,519 5,068 280,060 4,069 0 21 4/30/2018 90.2 6,369 6,659 4,621 279,540 4,002 0 22 4/30/2018 91.6 6,645 6,156 4,686 280,280 4,057 0 23 4/30/2018 90.6 6,486 5,801 4,583 279,990 4,059 0 24 4/30/2018 90.2 6,648 6,497 4,892 279,550 4,010 0 25 4/30/2018 89.6 6,501 6,716 4,913 280,570 4,417 0 26 5/1/2018 90.5 6,486 6,629 4,591 280,440 3,971	1	5 4/28/2018	89.8	6,860	6,339	4,553	281,370	4,152	0
18 4/29/2018 89 6,757 5,855 4,357 281,250 4,128 0 19 4/29/2018 85.2 6,338 6,357 4,755 280,060 4,057 0 20 4/29/2018 89.6 6,649 6,519 5,068 280,060 4,069 0 21 4/30/2018 90.2 6,369 6,659 4,621 279,540 4,002 0 22 4/30/2018 91.6 6,645 6,156 4,686 280,280 4,057 0 23 4/30/2018 90.6 6,486 5,801 4,583 279,990 4,059 0 24 4/30/2018 90.2 6,648 6,497 4,882 279,550 4,010 0 25 4/30/2018 89.6 6,501 6,716 4,913 280,570 4,417 0 26 5/1/2018 90.5 6,486 6,629 4,591 280,440 3,971 0 27 5/1/2018 91 6,538 6,496 4,996 279,970 3,963 <	10	6 4/29/2018	89.4	6,648	5,425	4,555	280,030	4,154	0
19 4/29/2018 85.2 6,338 6,357 4,755 280,060 4,057 0 20 4/29/2018 89.6 6,649 6,519 5,068 280,060 4,069 0 21 4/30/2018 90.2 6,369 6,659 4,621 279,540 4,002 0 22 4/30/2018 91.6 6,645 6,156 4,686 280,280 4,057 0 23 4/30/2018 90.6 6,486 5,801 4,583 279,990 4,059 0 24 4/30/2018 90.2 6,648 6,497 4,892 279,550 4,010 0 25 4/30/2018 89.6 6,501 6,716 4,913 280,570 4,417 0 26 5/1/2018 90.5 6,486 6,629 4,591 280,440 3,971 0 27 5/1/2018 91 6,538 6,496 4,996 279,970 3,963 0 28 5/1/2018 90.7 6,463 6,112 4,824 279,850 3,967	1	7 4/29/2018	89.4	6,768	5,976	4,519	281,000	4,099	0
20 4/29/2018 89.6 6,649 6,519 5,068 280,060 4,069 0 21 4/30/2018 90.2 6,369 6,659 4,621 279,540 4,002 0 22 4/30/2018 91.6 6,645 6,156 4,686 280,280 4,057 0 23 4/30/2018 90.6 6,486 5,801 4,583 279,990 4,059 0 24 4/30/2018 90.2 6,648 6,497 4,892 279,550 4,010 0 25 4/30/2018 89.6 6,501 6,716 4,913 280,570 4,417 0 26 5/1/2018 90.5 6,486 6,629 4,591 280,440 3,971 0 27 5/1/2018 91 6,538 6,496 4,996 279,970 3,963 0 28 5/1/2018 90.7 6,463 6,112 4,824 279,850 3,967 0 29 5/1/2018 90.3 6,279 5,291 4,697 279,730 3,972 <	13	8 4/29/2018	89	6,757	5,855	4,357	281,250	4,128	0
21 4/30/2018 90.2 6,369 6,659 4,621 279,540 4,002 0 22 4/30/2018 91.6 6,645 6,156 4,686 280,280 4,057 0 23 4/30/2018 90.6 6,486 5,801 4,583 279,990 4,059 0 24 4/30/2018 90.2 6,648 6,497 4,892 279,550 4,010 0 25 4/30/2018 89.6 6,501 6,716 4,913 280,570 4,417 0 26 5/1/2018 90.5 6,486 6,629 4,591 280,440 3,971 0 27 5/1/2018 91 6,538 6,496 4,996 279,970 3,963 0 28 5/1/2018 90.7 6,463 6,112 4,824 279,850 3,967 0 29 5/1/2018 90.3 6,279 5,291 4,697 279,730 3,972 0 30 5/1/2018 91.3 6,214 6,159 4,963 280,150 3,920 <t< td=""><td>19</td><td>9 4/29/2018</td><td>85.2</td><td>6,338</td><td>6,357</td><td>4,755</td><td>280,060</td><td>4,057</td><td>0</td></t<>	19	9 4/29/2018	85.2	6,338	6,357	4,755	280,060	4,057	0
22 4/30/2018 91.6 6,645 6,156 4,686 280,280 4,057 0 23 4/30/2018 90.6 6,486 5,801 4,583 279,990 4,059 0 24 4/30/2018 90.2 6,648 6,497 4,892 279,550 4,010 0 25 4/30/2018 89.6 6,501 6,716 4,913 280,570 4,417 0 26 5/1/2018 90.5 6,486 6,629 4,591 280,440 3,971 0 27 5/1/2018 91 6,538 6,496 4,996 279,970 3,963 0 28 5/1/2018 91 6,538 6,496 4,996 279,970 3,963 0 28 5/1/2018 90.7 6,463 6,112 4,824 279,850 3,967 0 29 5/1/2018 90.3 6,279 5,291 4,697 279,730 3,972 0 30 5/1/2018 91.3 6,214 6,159 4,963 280,150 3,920 0	21	0 4/29/2018	89.6	6,649	6,519	5,068	280,060	4,069	0
23 4/30/2018 90.6 6,486 5,801 4,583 279,990 4,059 0 24 4/30/2018 90.2 6,648 6,497 4,892 279,550 4,010 0 25 4/30/2018 89.6 6,501 6,716 4,913 280,570 4,417 0 26 5/1/2018 90.5 6,486 6,629 4,591 280,440 3,971 0 27 5/1/2018 91 6,538 6,496 4,996 279,970 3,963 0 28 5/1/2018 90.7 6,463 6,112 4,824 279,850 3,967 0 29 5/1/2018 90.3 6,279 5,291 4,697 279,730 3,972 0 30 5/1/2018 91.3 6,214 6,159 4,963 280,150 3,920 0 31 5/1/2018 89.9 5,952 6,137 4,865 280,230 4,305 0 32 5/2/2018 90.9 6,341 6,885 4,791 280,370 3,881	2:	1 4/30/2018	90.2	6,369	6,659	4,621	279,540	4,002	0
24 4/30/2018 90.2 6,648 6,497 4,892 279,550 4,010 0 25 4/30/2018 89.6 6,501 6,716 4,913 280,570 4,417 0 26 5/1/2018 90.5 6,486 6,629 4,591 280,440 3,971 0 27 5/1/2018 91 6,538 6,496 4,996 279,970 3,963 0 28 5/1/2018 90.7 6,463 6,112 4,824 279,850 3,967 0 29 5/1/2018 90.3 6,279 5,291 4,697 279,730 3,972 0 30 5/1/2018 91.3 6,214 6,159 4,963 280,150 3,920 0 31 5/1/2018 89.9 5,952 6,137 4,865 280,230 4,305 0 32 5/2/2018 89.9 6,369 6,579 4,789 280,140 3,881 0 34 5/2/2018 90 6,308 6,298 4,603 280,230 3,858 0 </td <td>2:</td> <td>2 4/30/2018</td> <td>91.6</td> <td>6,645</td> <td>6,156</td> <td>4,686</td> <td>280,280</td> <td>4,057</td> <td>0</td>	2:	2 4/30/2018	91.6	6,645	6,156	4,686	280,280	4,057	0
25 4/30/2018 89.6 6,501 6,716 4,913 280,570 4,417 0 26 5/1/2018 90.5 6,486 6,629 4,591 280,440 3,971 0 27 5/1/2018 91 6,538 6,496 4,996 279,970 3,963 0 28 5/1/2018 90.7 6,463 6,112 4,824 279,850 3,967 0 29 5/1/2018 90.3 6,279 5,291 4,697 279,730 3,972 0 30 5/1/2018 91.3 6,214 6,159 4,963 280,150 3,920 0 31 5/1/2018 89.9 5,952 6,137 4,865 280,230 4,305 0 32 5/2/2018 90.9 6,341 6,885 4,791 280,370 3,896 0 33 5/2/2018 89.9 6,369 6,579 4,789 280,140 3,881 0 34 5/2/2018 90 6,308 6,298 4,603 280,230 3,872 0 <td>2:</td> <td>3 4/30/2018</td> <td>90.6</td> <td>6,486</td> <td>5,801</td> <td>4,583</td> <td>279,990</td> <td>4,059</td> <td>0</td>	2:	3 4/30/2018	90.6	6,486	5,801	4,583	279,990	4,059	0
26 5/1/2018 90.5 6,486 6,629 4,591 280,440 3,971 0 27 5/1/2018 91 6,538 6,496 4,996 279,970 3,963 0 28 5/1/2018 90.7 6,463 6,112 4,824 279,850 3,967 0 29 5/1/2018 90.3 6,279 5,291 4,697 279,730 3,972 0 30 5/1/2018 91.3 6,214 6,159 4,963 280,150 3,920 0 31 5/1/2018 89.9 5,952 6,137 4,865 280,230 4,305 0 32 5/2/2018 90.9 6,341 6,885 4,791 280,370 3,896 0 33 5/2/2018 89.9 6,369 6,579 4,789 280,140 3,881 0 34 5/2/2018 90 6,308 6,298 4,603 280,230 3,872 0 35 5/2/2018 89.9 6,084 6,166 4,976 280,230 3,858 0 <td>24</td> <td>4 4/30/2018</td> <td>90.2</td> <td>6,648</td> <td>6,497</td> <td>4,892</td> <td>279,550</td> <td>4,010</td> <td>0</td>	24	4 4/30/2018	90.2	6,648	6,497	4,892	279,550	4,010	0
27 5/1/2018 91 6,538 6,496 4,996 279,970 3,963 0 28 5/1/2018 90.7 6,463 6,112 4,824 279,850 3,967 0 29 5/1/2018 90.3 6,279 5,291 4,697 279,730 3,972 0 30 5/1/2018 91.3 6,214 6,159 4,963 280,150 3,920 0 31 5/1/2018 89.9 5,952 6,137 4,865 280,230 4,305 0 32 5/2/2018 90.9 6,341 6,885 4,791 280,370 3,896 0 33 5/2/2018 89.9 6,369 6,579 4,789 280,140 3,881 0 34 5/2/2018 90 6,308 6,298 4,603 280,080 3,872 0 35 5/2/2018 89.9 6,084 6,166 4,976 280,230 3,858 0 36 5/2/2018 90.6 6,059 6,429 4,345 290,000 3,967 0 <td>2.</td> <td>5 4/30/2018</td> <td>89.6</td> <td>6,501</td> <td>6,716</td> <td>4,913</td> <td>280,570</td> <td>4,417</td> <td>0</td>	2.	5 4/30/2018	89.6	6,501	6,716	4,913	280,570	4,417	0
28 5/1/2018 90.7 6,463 6,112 4,824 279,850 3,967 0 29 5/1/2018 90.3 6,279 5,291 4,697 279,730 3,972 0 30 5/1/2018 91.3 6,214 6,159 4,963 280,150 3,920 0 31 5/1/2018 89.9 5,952 6,137 4,865 280,230 4,305 0 32 5/2/2018 90.9 6,341 6,885 4,791 280,370 3,896 0 33 5/2/2018 89.9 6,369 6,579 4,789 280,140 3,881 0 34 5/2/2018 90 6,308 6,298 4,603 280,080 3,872 0 35 5/2/2018 89.9 6,084 6,166 4,976 280,230 3,858 0 36 5/2/2018 90.6 6,059 6,429 4,345 290,000 3,967 0	20	5/1/2018	90.5	6,486	6,629	4,591	280,440	3,971	0
29 5/1/2018 90.3 6,279 5,291 4,697 279,730 3,972 0 30 5/1/2018 91.3 6,214 6,159 4,963 280,150 3,920 0 31 5/1/2018 89.9 5,952 6,137 4,865 280,230 4,305 0 32 5/2/2018 90.9 6,341 6,885 4,791 280,370 3,896 0 33 5/2/2018 89.9 6,369 6,579 4,789 280,140 3,881 0 34 5/2/2018 90 6,308 6,298 4,603 280,080 3,872 0 35 5/2/2018 89.9 6,084 6,166 4,976 280,230 3,858 0 36 5/2/2018 90.6 6,059 6,429 4,345 290,000 3,967 0	2	7 5/1/2018	91	6,538	6,496	4,996	279,970	3,963	0
30 5/1/2018 91.3 6,214 6,159 4,963 280,150 3,920 0 31 5/1/2018 89.9 5,952 6,137 4,865 280,230 4,305 0 32 5/2/2018 90.9 6,341 6,885 4,791 280,370 3,896 0 33 5/2/2018 89.9 6,369 6,579 4,789 280,140 3,881 0 34 5/2/2018 90 6,308 6,298 4,603 280,080 3,872 0 35 5/2/2018 89.9 6,084 6,166 4,976 280,230 3,858 0 36 5/2/2018 90.6 6,059 6,429 4,345 290,000 3,967 0	23	8 5/1/2018	90.7	6,463	6,112	4,824	279,850	3,967	0
31 5/1/2018 89.9 5,952 6,137 4,865 280,230 4,305 0 32 5/2/2018 90.9 6,341 6,885 4,791 280,370 3,896 0 33 5/2/2018 89.9 6,369 6,579 4,789 280,140 3,881 0 34 5/2/2018 90 6,308 6,298 4,603 280,080 3,872 0 35 5/2/2018 89.9 6,084 6,166 4,976 280,230 3,858 0 36 5/2/2018 90.6 6,059 6,429 4,345 290,000 3,967 0	2:	9 5/1/2018	90.3	6,279	5,291	4,697	279,730	3,972	0
32 5/2/2018 90.9 6,341 6,885 4,791 280,370 3,896 0 33 5/2/2018 89.9 6,369 6,579 4,789 280,140 3,881 0 34 5/2/2018 90 6,308 6,298 4,603 280,080 3,872 0 35 5/2/2018 89.9 6,084 6,166 4,976 280,230 3,858 0 36 5/2/2018 90.6 6,059 6,429 4,345 290,000 3,967 0	30	5/1/2018	91.3	6,214	6,159	4,963	280,150	3,920	0
33 5/2/2018 89.9 6,369 6,579 4,789 280,140 3,881 0 34 5/2/2018 90 6,308 6,298 4,603 280,080 3,872 0 35 5/2/2018 89.9 6,084 6,166 4,976 280,230 3,858 0 36 5/2/2018 90.6 6,059 6,429 4,345 290,000 3,967 0	3:	1 5/1/2018	89.9	5,952	6,137	4,865	280,230	4,305	0
34 5/2/2018 90 6,308 6,298 4,603 280,080 3,872 0 35 5/2/2018 89.9 6,084 6,166 4,976 280,230 3,858 0 36 5/2/2018 90.6 6,059 6,429 4,345 290,000 3,967 0	3:	2 5/2/2018			6,885	4,791	280,370	3,896	0
35 5/2/2018 89.9 6,084 6,166 4,976 280,230 3,858 0 36 5/2/2018 90.6 6,059 6,429 4,345 290,000 3,967 0	3:	3 5/2/2018	89.9	6,369	6,579	4,789	280,140	3,881	
36 5/2/2018 90.6 6,059 6,429 4,345 290,000 3,967 0	3	4 5/2/2018	90	6,308	6,298	4,603	280,080		
	3.	5 5/2/2018	89.9	6,084	6,166	4,976	280,230	3,858	
37 5/2/2018 90.7 6,125 6,587 4,246 287,030 4,073 0	3	5/2/2018	90.6	6,059	6,429	4,345	290,000	3,967	
	3	7 5/2/2018	90.7	6,125	6,587	4,246	287,030	4,073	0





Well Name:

Mark Owen BRK 10H

47009002070000

ATTACHMENT 3

LITHOLOGY/FORMATION	тор DEPTH, MD (FT)	тор DEPTH, TVD (FT)	воттом рертн, мр (FT)	воттом рертн, тур (FT)	QUANTITY AND TYPE OF FLUID
Base of Fresh Water	00:00	0.00	300.00	300.00	
Top of Salt Water	856.00	856.00	NA	NA	
Pittsburgh Coal	332.00	332.00	387.00	387.00	
Pottsville (ss)	548.00	548.00	00.789	00'.289	
Mauch Chunk (shale)	00.789	687.00	850.00	850.00	
Raven Cliff (ss)	850.00	850.00	1063.00	1063.00	
Maxton (ss)	1205.00	1205.00	1265.00	1265.00	
Greenbriar (Is)	1348.00	1348.00	1502.00	1502.00	
Big Injun (ss)	1502.00	1502.00	1650.00	1650.00	
Berea (siltstone)	2010.00	2010.00	5449.00	5449.00	
Rhinestreet (shale)	5449.00	5449.00	5704.00	5704.00	
Cashaqua (shale)	5704.00	5704.00	5955.00	5761.00	
Middlesex (shale)	2907.00	5773.00	00.0009	5841.00	
Burket (shale)	00.0009	5841.00	6023.00	5857.00	
Tully (Is)	6023.00	5857.00	5107.00	5910.00	
Mahantango (shale)	5107.00	5910.00	6437.00	6041.00	
Marcellus (shale)	6437.00	6041.00	NA	NA	GAS

RECEIVED Gas JUL 12 2018 WV Department of Environmental Protection



5D Survey Report

SOUTHWESTERN ENERGY

SOUTHWESTERN_BROOKE CO, WV UTM NAD 83 Field Name:

(17N)

Site Name: Mark Owen Pad

Well Name: Mark Owen BRK 10H

Definitive survey Survey:

13 February 2018



RECEIVED Office of Oil and Gas

JUL 12 2018

Hydraulic Fracturing Fluid Product Component Information Disclosure

n	Total Base Non Water Volume:
6,296,799	Total Base Water Volume (gal):
6,154	True Vertical Depth:
NO	Indian Well:
NO	Federal Well:
NAD83	Datum:
-80.54532500	Longitude:
40.22045100	Latitude:
Mark Owen BRK 10H	Well Name and Number:
Southwestern Energy	Operator Name:
47-009-00207-00-00	API Number:
Brooke	County:
West Virginia	State:
5/2/2018	Job End Date:
4/22/2018	Job Start Date:







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Trade Name	Supplier	Purpose	Ingredients	Chemical Abstract Service, Number (CAS #)	Maximum Maximum Ingredient Concentration in Concentration in Additive HF Fluid (% by mass)**	Maximum Ingredient Concentration in HF Fluid (% by mass)**	Comments
Water	Southwestern Energy	Carrier/Base Fluid					
			Water	7732-18-5	100.00000	82.72715	
Sand	U.S. Well Services, LLC	Proppant					
			Crystalline Silica, quartz	14808-60-7	100.0000	16.36229	
HCL Acid (12.6%- 17.5%)	U.S. Well Services, LLC	Bulk Acid					
			Water	7732-18-5	87.40000	0.67106	
			Hydrogen Chloride	7647-01-0	17.50000	0.15602	
WFRA-2000	U.S. Well Services, LLC	Friction Reducer					
			Water	7732-18-5	00000009	0.03204	
			2-Propenoic acid, polymer with 29003-06-9 propenamide	6-90-8006	30.0000	0.01602	
Off	0,11		t distillate	64742-47-8	30.0000	0.01314	
BIOC哲图9A C	Nalco Champion	Anti-Bacterial Agent					
_	EC of		Methanol	64-17-5	00000009	0.00952	
1 2	EIVE Oil a		Benzyl-(C12-C16 Alkyl)- Dimethyl-Ammonium Chloride	68424-85-1	30.0000	0.00605	
20	000		Glutaraldehyde	111-30-8	10.00000	0.00202	
	Gas						

SCAL16486A	Nalco Champion	Scale Inhibitor					
			Ethylene Glycol	107-21-1	30.0000	0.00170	
			Amine Triphosphate	Proprietary	30.0000	0.00152	
AI-303	U.S. Well Services, LLC	Acid Corrosion Inhibitors					
			Ethylene glycol	107-21-1	40.0000	0.00033	
			Cinnamaldehyde	104-55-2	20.00000	0.00012	
			Formic acid	64-18-6	20.00000	0.00012	
			Butyl cellosolve	111-76-2	20.00000	0.00011	
			Polyether	60828-78-6	10.00000	0.00006	
			Acetophenone, thiourea, formal de 68527-49-1 hyde polymer	98527-49-1	5.00000	0.00003	
LT FLUSH SYSTE	T FLUSH SYSTEM I U.S. Well Services, LLC	Other					
			Mineral oil, petroleum distillates, 84742-53-6 hrdotreated light naphthenic	84742-53-6	100.0000	0.00074	
Ingredients shown	above are subject to 29 0	CFR 1910.1200(i) and	ngredients shown above are subject to 29 CFR 1910.1200(i) and appear on Material Safety Data Sheets (MSDS). Ingredients shown below are Non-MSDS.	ets (MSDS). Ingredient	s shown below are Non-N	ISDS.	

Total Water Volume sources may include fresh water, produced water, and/or recycled water
 Information is based on the maximum potential for concentration and thus the total may be over 100%

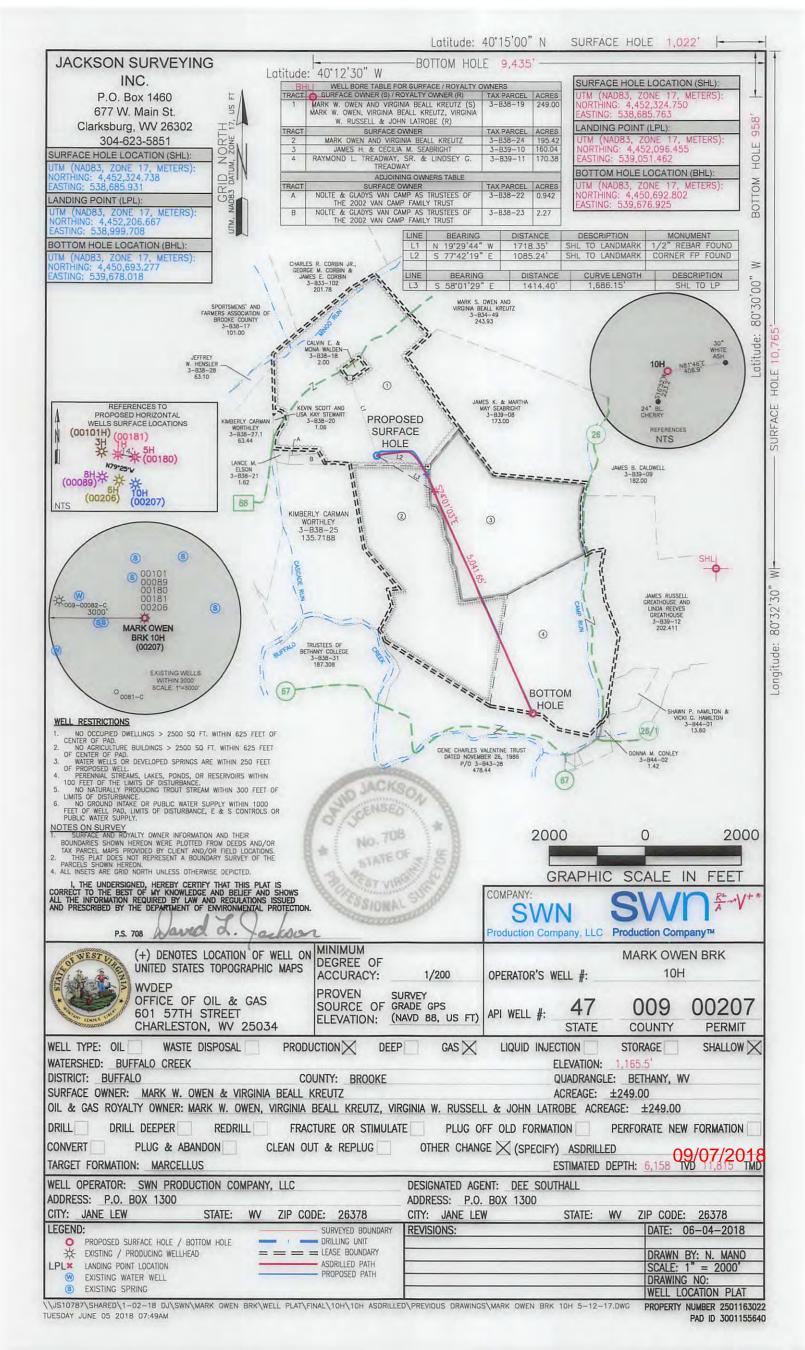
Note: For Field Development Products (products that begin with FDP), MSDS level only information has been provided. Ingredient information for chemicals subject to 29 CFR 1910.1200(i) and Appendix D are obtained from suppliers Material Safety Data Sheets (MSDS)

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WV Department of Environmental Protection

09/07/2018



JACKSON SURVEYING

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

TRACT	SURFACE OWNER (S) / ROYALTY OWNER (R)	TAY DADOEL	ACRES
TRACT		TAX PARCEL	ACKES
1	MARK WEAVER OWEN AND	3-B39-19	249.00
	VIRGINIA BEALL KREUTZ (S/R)		
TRACT	SURFACE OWNER	TAX PARCEL	ACRES
2	MARK OWEN AND VIRGINIA BEALL KREUTZ	3-B38-24	188.00
3	JAMES H. & CECILIA M. SEABRIGHT	3-B39-10	160.04
4	RAYMOND L. TREADWAY, SR. & LINDSEY G. TREADWAY	3-B39-11	170.38

ADJOINING OWNERS TABLE				
TRACT	SURFACE OWNER	TAX PARCEL	ACRES	
Α	NOLTE & GLADYS VAN CAMP AS TRUSTEES OF THE 11-04-02 VAN CAMP FAMILY TRUST	X-B38-22	0.94	
В	NOLTE & GLADYS VAN CAMP AS TRUSTEES OF THE 11-04-02 VAN CAMP FAMILY TRUST	X-B38-23	2.27	
С	MORRIS G. MAIN	X-B44-09	1.00	
D	MORRIS G. MAIN	X-B44-08	0.75	
E	CURTIS LEE NEAL AND LOUANN L. NEAL	X-B44-07	3.97	

09/07/2018 COMPANY: REVISIONS: SWN Production Company, LLC Production Company™ DATE: 06-04-2018 OPERATOR'S MARK OWENS BRK WELL #: DRAWN BY: N. MANO
SCALE: N/A
DRAWING NO:
WELL LOCATION PLAT 2 10H DISTRICT: BUFFALO COUNTY: BROOKE STATE: WV \\JS10787\SHARED\1-02-18 DJ\SWN\MARK OWEN BRK\WELL PLAT\FINAL\10H\10H ASDRILLED\PREVIOUS DRAWINGS\MARK OWEN BRK 10H 5-12-17.DWG
TUESDAY JUNE 05 2018 07:50AM

