

west virginia department of environmental protection

Office of Oil and Gas 601 57th Street SE Charleston, WV 25304 (304) 926-0450 (304) 926-0452 fax Earl Ray Tomblin, Governor Randy C. Huffman, Cabinet Secretary www.dep.wv.gov

October 23, 2015

WELL WORK PERMIT

Rework/Horizontal 6A Well

This permit, API Well Number: 47-5101308, issued to SWN PRODUCTION COMPANY, LLC, is evidence of permission granted to perform the specified well work at the location described on the attached pages and located on the attached plat, subject to the provisions of Chapter 22 of the West Virginia Code of 1931, as amended, and all rules and regulations promulgated thereunder, and to all conditions and provisions outlined in the pages attached hereto. Notification shall be given by the operator to the Oil and Gas Inspector at least 24 hours prior to the construction of roads, locations, and/or pits for any permitted work. In addition, the well operator shall notify the same inspector 24 hours before any actual well work is commenced and prior to running and cementing casing. Spills or emergency discharges must be promptly reported by the operator to 1-800-642-3074 and to the Oil and Gas inspector.

Please be advised that form WR-35, Well Operators Report of Well Work is to be submitted to this office within 90 days completion of permitted well work, as should form WR-34 Discharge Monitoring Report within 30 days of discharge of pits, if applicable. Failure to abide by all statutory and regulatory provisions governing all duties and operations hereunder may result in suspension or revocation of this permit and, in addition, may result in civil and/or criminal penalties being imposed upon the operators.

In addition to the applicable requirements of this permit, and the statutes and rules governing oil and gas activity in WV, this permit may contain specific conditions which must be followed. Permit conditions are attached to this cover letter.

Per 35CSR-4-5.2.g this permit will expire in two (2) years from the issue date unless permitted well work is commenced. If there are any questions, please feel free to contact me at (304) 926-0499 ext. 1654.

James Martin

Chief

Operator's Well No: 831314 ROBERT BONNETTE 6H

Farm Name: BONNETTE, ROBERT & LINDA

API Well Number: 47-5101308

Permit Type: Rework/Horizontal 6A Well

Date Issued: 10/23/2015

Promoting a healthy environment.

API Number: <u>051-01308</u>

PERMIT CONDITIONS

West Virginia Code § 22-6A-8(d) allows the Office of Oil and Gas to place specific conditions upon this permit. Permit conditions have the same effect as law. Failure to adhere to the specified permit conditions may result in enforcement action.

CONDITIONS

- 1. Operator shall install signage per § 22-6A-8g (6) (B) at all source water locations included in their approved water management plan within 24 hours of water management plan activation.
- 2. Oil and gas water supply wells will be registered with the Office of Oil and Gas and all such wells will be constructed and plugged in accordance with the standards of the Bureau for Public Health set forth in its Legislative rule entitled Water Well Regulations, 64 C.S.R. 19. Operator is to contact the Bureau of Public Health regarding permit requirements. In lieu of plugging, the operator may transfer the well to the surface owner upon agreement of the parties. All drinking water wells within fifteen hundred feet of the water supply well shall be flow tested by the operator upon request of the drinking well owner prior to operating the water supply well.
- 3. If any explosion or other accident causing loss of life or serious personal injury occurs in or about a well or well work on a well, the well operator or its contractor shall give notice, stating the particulars of the explosion or accident, to the oil and gas inspector and the Chief, within 24 hours of said accident.
- 4. The operator shall provide to the Office of Oil and Gas the dates of each of the following within 30 days of their occurrence: completion of construction of the well pad, commencement of drilling, cessation of drilling, completion of any other permitted well work, and completion of the well. Such notice shall be provided by sending an email to DEPOOGNotify@wv.gov.

API NO. 47-51 - 01308 PW
OPERATOR WELL NO. Bonnette MSH 6H
Well Pad Name: Bonnette MSH Pad

STATE OF WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS WELL WORK PERMIT APPLICATION

1) Well Operator: SWN Production Co., LLC 494512924 51-Marshall 5-Meade 681-Wileyville Operator ID County District Quadrangle Operator ID County District Quadrangle Well Pad Name: Bonnette MSH Pad 3) Farm Name/Surface Owner: Robert and Linda Bonnette Public Road Access: Fish Creek 4) Elevation, current ground: 1457' Elevation, proposed post-construction: 1457' 5) Well Type (a) Gas X Oil Underground Storage Other Re-frac Deep Horizontal Deep Horizontal Deep Horizontal Deep Horizontal Deep Formation-Marcellus, Target Top TVD- 7074', Target Base TVD- 8024', Anticipated Thickness- 50', Associated Pressure- 4739 8) Proposed Total Vertical Depth: Marcellus 11599' 11) Proposed Horizontal Leg Length: 4179' 12) Approximate Fresh Water Strata Depths: from log analysis and nearby water wells 14) Approximate Saltwater Depths: None 15) Approximate Coal Seam Depths: 375' 16) Approximate Depth to Possible Void (coal mine, karst, other): None that we are aware of. 17) Does Proposed Well location contain coal seams Horizontal Leg Length: Depth: Seam: Depth: Seam: Depth: Seam: Depth: Seam: Downer: Owner: Owne		
2) Operator's Well Number: Bonnette MSH 6H Well Pad Name: Bonnette MSH Pad 3) Farm Name/Surface Owner: Robert and Linda Bonnette Public Road Access: Fish Creek 4) Elevation, current ground: 1457' Elevation, proposed post-construction: 1457' 5) Well Type (a) Gas X Oil Underground Storage Other Re-frac (b) If Gas Shallow X Deep Horizontal Froposed Target Formation(s), Depth(s), Anticipated Thickness and Associated Pressure(s): Target Formation-Marcellus, Target Top TVD-7074', Target Base TVD-8024', Anticipated Thickness-50', Associated Pressure-4739 8) Proposed Total Vertical Depth: 7166' 9) Formation at Total Vertical Depth: Marcellus 10) Proposed Horizontal Leg Length: 11599' 11) Proposed Horizontal Leg Length: 4179' 12) Approximate Fresh Water Strata Depths: from log analysis and nearby water wells 14) Approximate Coal Seam Depths: 375' 16) Approximate Depth to Possible Void (coal mine, karst, other): None that we are aware of. 17) Does Proposed Well location contain coal seams directly overlying or adjacent to an active mine? Yes No X (a) If Yes, provide Mine Info: Name: Depth: Seam:	1) Well Operator: SW	N Production Co., LLC 494512924 51-Marshall 5-Meade 681- Wileyville
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Depth: Seam:		
Seam:	(a) If Yes, provide Mi	ne Info: Name:
		Depth:
Owner:		Seam:
		Owner:

Page 1 of 3

Well Pad Name: Bonnette MSH Pad

18)

CASING AND TUBING PROGRAM

TYPE	Size (in)	New or Used	Grade	Weight per ft. (lb/ft)	FOOTAGE: For Drilling (ft)	INTERVALS: Left in Well (ft)	CEMENT: Fill-up (Cu. Ft.)/CTS
Conductor	20"	New	J-55	94#	80'	80'	CTS
Fresh Water	13 3/8"	New	J-55	54.5#	1231'	1231'	448 sx/CTS
Coal	9 5/8"	New	J-55	40#	2888'	2888'	1279sx/CTS
Intermediate	7"	New	P-110	20#	If Needed	If Needed	If Needed/As Needed
Production	5 1/2"	New	P-110	20#	11,599'	11,599'	2799 sx/100' inside intermediate
Tubing	2 3/8'	New	P-110	4.7#	Approx. 7420'	Approx. 7420'	
Liners							

pe 10/14/15

TYPE	Size (in)	Wellbore Diameter (in)	Wall Thickness (in)	Burst Pressure (psi)	Max. Associated Surface Pressure (psi)	Cement Type	Cement Yield (cu. ft./k)
Conductor	20"	30"	0.25	2120	81	Class A	1.19/50% Excess
Fresh Water	13 3/8"	17.5"	0.380	2740	633	Class A	1.19/50% Excess
Coal	9 5/8"	12 1/4"	0.395	3950	1768	Class A	1.19/50% Excess
Intermediate	7"	8 3/4"	0.317	4360	3250	Class A	1.20/15% Excess
Production	5 1/2"	8 3/4"	0.361	12360	9500	Class A	1.20/15% Excess
Tubing	2 3/8"	4.778"	0.190				
Liners							

PACKERS

Kind:	10K Arrowset AS1-X	
Sizes:	5 1/2"	
Depths Set:		

Page 2 of 3

WW-6B (10/14)

ADINA 7, 0, 5 1 0 1 3 0 8

OPERATOR WELL NO. Bonnette MSH 6H
Well Pad Name: Bonnette MSH Pad

19) Describe proposed well work, including the drilling and plugging back of any pilot hole:
None. We will be temporarily isolating existing perforations in the horizontal section of the wellbore. The chemical used to isolate the perforations is degradable at subsurface conditions and will decay then flowback with time. New perforations will be created and stimulated in addition to those existing.
20) Describe fracturing/stimulating methods in detail, including anticipated max pressure and max rate:
Well will be perforated within the target formation and stimulated with a slurry of water, sand, and chemical additives at a high rate. This will be performed in stages with the plug and perf method along the wellbore until the entire lateral has been stimulated within the target formation. All stage plugs are then drilled out and the well is flowed back to surface. The well is produced through surface facilities consisting of high pressure production unites, vertical separation units, water and oil storage tanks. Max press and anticipated max rate- 9000 lbs @ 80 barrels a minute.
21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 13.4
22) Area to be disturbed for well pad only, less access road (acres): 11.6
23) Describe centralizer placement for each casing string:
All casing strings will be ran with a centralizer at a minimum of 1 per every 3 joints of casing.
24) Describe all cement additives associated with each cement type:
See Attachment ***
25) Proposed borehole conditioning procedures:
All boreholes will be conditioned with circulation and rotation for a minimum of one bottoms up and continuing until operator is satisfied with borehole conditions.

Received
Office of Oil & Gas

AUG 26 2015

^{*}Note: Attach additional sheets as needed.

WR-35 Rev (9-11)

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

DATE:	4-11-2012	
API#:	47-051-01308	

arm name: Bonnette 6H	_ Operator Well No.: 831314 _ Quadrangle: Wileyville				
OCATION: Elevation: 1,45					
District: Meade	County: Mar	shall			
Latitude: 1,025	Feet South of 39 Deg		n. ⁰⁰ Se	c.	
Longitude 13,700	Feet West of 80 Deg	g. 42 Mir	n. 30 Se	c.	
Company: Chesapea	ike Appalachia, L.L.C.				
Address: P.O. Box	18496	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
Oklahoma City, OK 73	3154-0496	20"	80'	80'	Driven
Agent: Eric Gillespi	ie	13 3/8"	1231'	1231'	448 Cu. Ft.
Inspector: Bill Hat	field	9 5/8"	2888'	2888'	1279 Cu. Ft.
Date Permit Issued:	9-18-2009	5 1/2"	11599'	11599'	2799 Cu. Ft.
Date Well Work Com	menced: 7-2-2011				
Date Well Work Com	7040044				
Verbal Plugging:					
Date Permission grant	ed on:				
Rotary Cable					
Total Vertical Depth					
Total Measured Dept					
Fresh Water Depth (1					
Salt Water Depth (ft.					
Is coal being mined in					
Coal Depths (ft.): 375					
Void(s) encountered (1					
Producing formation Mar Gas: Initial open flow_ Final open flow 3,253*	MCF/d Oil: Initial open for MCF/d Final open flow ween initial and final tests 139	zone depth (ft) low B w 76 Bt Hours	7,335-11,458' bl/d bl/d * *Calculat	•	neet)
Second producing format	ion Pay zo	ne depth (ft)			
Gas: Initial open flow	MCF/d Oil: Initial open f	lowB			
	MCF/d Final open flow				
	ween initial and final tests				
Static rock Pressure_		trans			

all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

Marlene Welliams 8/3/20 Signature Date

Were core samples taken? Yes	No	Were cuttings caught d	uring drilling? Yes	No
Were Electrical, Mechanical or Geop	hysical logs recorded on	this well? If yes, please list_		
NOTE: IN THE AREA BELO FRACTURING OR STIMULATI DETAILED GEOLOGICAL RE COAL ENCOUNTERED BY THE	NG, PHYSICAL CHAI CORD OF THE TOP	NGE, ETC. 2). THE WELL S AND BOTTOMS OF A	LOG WHICH IS A SALL FORMATIONS,	YSTEMATIC
Perforated Intervals, Fracturing, or S	timulating:			
(See Attached)				·
Plug Back Details Including Plug Typ	pe and Depth(s):			
Formations Encountered: Surface:	Тор Г	Depth /	Bottom)	<u>Depth</u>
(See Attached)				
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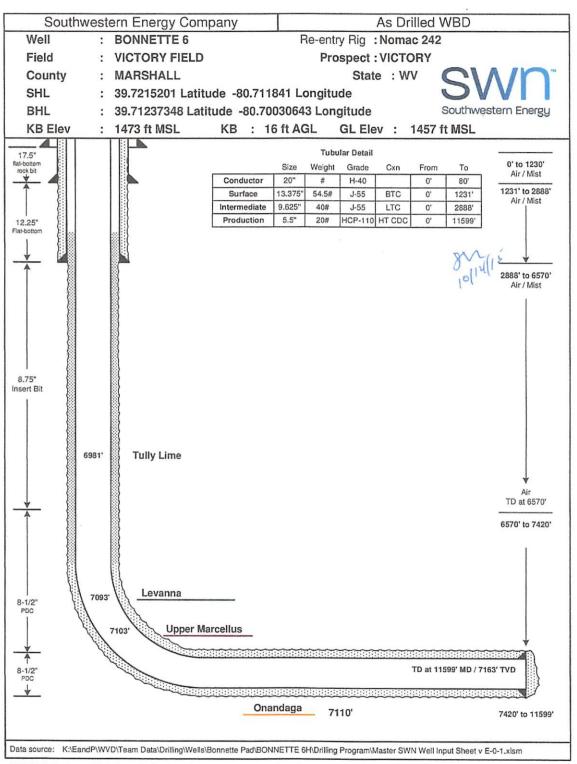
PERFORATION RECORD ATTACHMENT

Well Number and Name: Bonnette 6H 831314

PERFO	RATION RE	CORD			S'	FIMULATIO	N RECOR	D		*
	Interval P	erforated				FI	uid		ng Agent	Average
Date	From	То	Date	Interval	Treated	Type	Amount	Туре	Amount	Injection
5/13/2012	11076	11458	5/13/2012	11076	11458	Slk wtr	9923	Sand	462220	76
5/13/2012	10380	10924	5/13/2012	10380	10924	Sik wtr	10358	Sand	594540	83
5/14/2012	9718	10324	5/14/2012	9718	10324	Slk wtr	10119	Sand	594480	80
5/14/2012	9112	9659	5/14/2012	9112	9659	Slk wtr	10616	Sand	594720	85
5/16/2012	8506	9053	5/16/2012	8506	9053	Sik wtr	11121	Sand	575968	81
5/17/2012	7900	8447	5/17/2012	7900	8447	Sik wtr	10852	Sand	596160	84
5/17/2012	7335	7841	5/17/2012	7335	7841	Slk wtr	9897	Sand	595700	85
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HORIZONTAL WELL (No Maximum TVD of	<u> </u>	······································					
wellbore:	7166 ft TVD @ 11599 ft MD						
Formation/Lithology	Top Depth, MD (ft)	Top Depth, TVD (ft)	Bottom Depth, MD (ft)	Bottom Depth, TVD (ft)			
SHALE/SS	0	0	36	3(
SHALE	36	36	130	130			
SHALE/LS	130	130	200	200			
LS/SHALE	200	200	340	340			
SHALE/LS	340	340	434	434			
SHALE/SS LS/SS	434 470	434	470	470			
SHALE/SS		470	548	548			
SS/LS	548 600	548 600	600 650	600 650			
SS/SHALE	650	650	697	697			
SHALE/SS	697	697	800	800			
SS SIACE/33	800	800	850	850			
SS/SHALE	850	850	900	900			
SS	900	900	950	950			
SS/LS	950	950	1006	1006			
LS/SHALE	1006	1006	1070	1070			
LS	1070	1070	1080	1080			
LS/SHALE	1080	1080	1100	1100			
COAL	1100	1100	1108	1108			
LS/SHALE	1108	1108	1238	1238			
LS	1238	1238	1330	1330			
LS/SS	1330	1330	1400	1400			
LS/SS	1400	1400	1500	1500			
SHALE/SS	1500	1500	1550	1550			
SS/SHALE	1550	1550	1626	1626			
SHALE/SS	1626	1626	1650	1650			
LS/SHALE	1650	1650	1716	1716			
LS/SS	1716	1716	1740	1740			
SS/LS	1740	1740	1750	1750			
SS/SHALE	1750	1750	1794	1794			
SS	1794	1794	1812	1812			
SS/SHALE	1812	1812	2000	2000			
LS/SHALE	2000	2000	2052	2052			
SHALE/SS	2052	2052	2100	2100			
SS/SHALE	2100	2100	2200	2200			
SHALE/SS	2200	2200	2250	2250			
LS/SHALE	2250	2250	2350	2350			
LS/SS	2350	2350	2405	2405			
SS/SHALE	2405	2405	2466	2466			
SS	2466	2466	2530	2530			

SS/SHALE	2530	2530	2560	2560
SS/LS	2560	2560	2572	2572
SS/SHALE	2572	2572	2620	2620
SHALE/LS	2620	2620	6604	6603
SHALE/LS	6604	6603	6642	6641
LS/SHALE	6642	6641	6704	6703
SHALE	6704	6703	6750	6747
LS/SHALE	6750	6747	6850	6838
SHALE	6850	6838	6900	6884
LS/SHALE	6900	6884	7011	6962
Tully	7011	6962	7059	6992
Hamilton	7059	6992	7236	7066
Marcellus	7236	7066	7291	7080
Purcell	7291	7080	7306	7083
LS/SHALE	7306	7083	7600	7094
SHALE/LS	7600	7094	8106	7108
SHALE	8106	7108	8300	7112
SHALE/LS	8300	7112		
End of Well			11599	7166



NOTE: This drawing was created for the Reentry Rig. The depths and lengths shown in the plat are referenced to Reentry Rig RKB.

WW-9 (9/13)

API Number 47 -	51		
Operator's	s Well No.	Bonnette MSH 6H	

STATE OF WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION OFFICE OF OIL AND GAS

FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name_ SWN Production Co., LLC		OP Code _494512924
Watershed (HUC 10) Whetstone Creek	Quadrangle	681- Wileyville
Elevation 1429.6'	County_51-Marshall	District_ 5- Meade
	bbls of water to complete the proposed	
If so, please describe anticipate	od pit waste.	this time- cuttings will be taken to a permitted landfill.
Will a synthetic liner be used in	n the pit? Yes No I	f so, what ml.?
Proposed Disposal Method For	Treated Pit Wastes:	
Reuse (at AI Off Site Disp	Injection (UIC Permit Number 20007 PI Number at next anticipated well, API# will be incosal (Supply form WW-9 for disposal le	cluded with the WR-34/DDMR &/or permit addendum.
Will closed loop system be used? If so,	describe: Yes	
Drilling medium anticipated for this we	ll (vertical and horizontal)? Air, freshwa	ter, oil based, etc. Air and salt saturate mud
-If oil based, what type? Synth	etic, petroleum, etc. Synthetic Oil Base	
Additives to be used in drilling medium	? see attached sheets	
Drill cuttings disposal method? Leave i	n pit, landfill, removed offsite, etc. landfill	
-If left in pit and plan to solidif	y what medium will be used? (cement, I	ime, sawdust)
Arden Landtill 100/2, America I certify that I understand and on August 1, 2005, by the Office of Oil provisions of the permit are enforceable law or regulation can lead to enforcement of law application form and all attachments obtaining the information, I believe the	agree to the terms and conditions of the and Gas of the West Virginia Department by law. Violations of any term or contraction. that I have personally examined and a thereto and that, based on my inquiry at the information is true, accurate, and in, including the possibility of fine or impossibility.	Received
	Λ .	Office of Oil & Gas
Subscribed and sworn before me this	M. Cox	, 20 /3 AUG. 26 2015
My commission expires /2 - 9	-2022	10/23/20/

Form WW-9

0 5 1 0 1 3 0 0 Operator's Well No. Bonnette MSH 6H

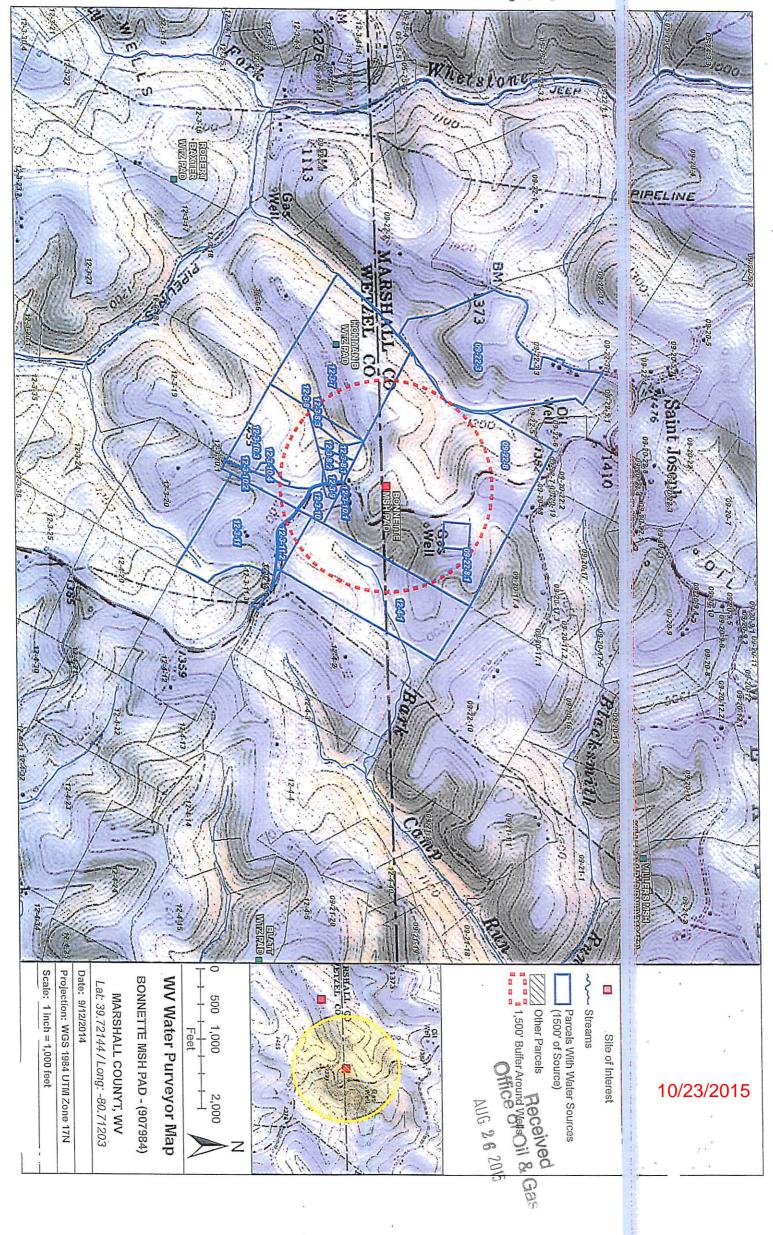
roposed Revegetation Treatm	ment: Acres Disturbed	8.4 Prevegetation pl	Н
Lime as determined by pH test	Tons/acre or to correct	ct to pH 6.5	
Fertilizer type)-20		
Fertilizer amount_60	00	lbs/acre	
{Mulch} Hay/Stra	aw 2.5	Tons/acre	
		Seed Mixtures	
Ten	nporary	Perma	nent
Seed Type	lbs/acre	Seed Type	lbs/acre
White Grove	15	White Grove	15
Red Top	15	Red Top	15
Orchard Grass	20	Orchard Grass	20
Orawing(s) of road, location, provided)		land application (unless engineered plans in	cluding this info have been
rovided) Photocopied section of involv	ed 7.5' topographic sheet.		
Prawing(s) of road, location, provided) Photocopied section of involved lan Approved by:	ed 7.5' topographic sheet.		
Prawing(s) of road, location, provided) hotocopied section of involv	ed 7.5' topographic sheet.		
Orawing(s) of road, location, provided)	ed 7.5' topographic sheet.		
Prawing(s) of road, location, provided) thotocopied section of involved lan Approved by:	ed 7.5' topographic sheet.		
Prawing(s) of road, location, provided) Photocopied section of involved Plan Approved by:	ed 7.5' topographic sheet.		

Marcellus Well Drilling Procedures And Site Safety Plan

SWN Production Co., LLC

47 - 051 - 01368 Well name: Bonnette MSH 6H Wileyville, Quad Meade, District Marshall County, West Virginia

Submitted by: Danielle Southall	7/15/2015 Date:
Title Regulatory Supervisor	SWN Production Co., LLC
Approved by: Yeur Tulidore Title:	Date: 8/9/18/8/18/18
Approved by:	
	Date:
Title:	
SWN Production Co., LLC – Confidential	



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

LINE DESCRIPTION		DESCRIPTION DISTANCE	
L1	N 10'02'13" W	2,457.21	SHL TO FENCE CORNER
L2	S 29'43'47" E	1,031.89	SHL TO 34" W.O.
L3	S 27'57'08" E	504.74	SHL TO LPL
L4	S 61*34'00" E	332.20'	SHL TO 16" ELM
L5	S 48'21'55" W	362.05	SHL TO 16" SYCA.

Latitude: 39°45'00'

TRACT	SURFACE OWNER (S) / ROYALTY OWNER (R)	TAX PARCEL	ACRES
1	ROBERT WILLIAM BONNETTE ET UX (S)/ ANDREW STEIN (R)	09-22-08	126.53
2	PAUL & CYNTHIA FOX (S)/C.P. HERRICK (R)	12-04-01	56.00
3	PAUL & CYNTHIA FOX (S)/ C.P. HERRICK (R)	12-04-02	74.70
4	LAWRENCE E. BLATT JR. (S)/ JOSEPH C. & HILDA WEIGAND (R)	12-03-11.3	7.42
5	PATSY L. DULANEY & DENNIS L. ROMANOSKI (S)/ LAVINA M. BAUER, LAURA BATES, LEONA PIETRO, A/K/A LEONA J. ESTEP PIETRO, VIRGINIA ANN MILLER, KATHALEEN C. LEWIS, PAUL EDWARD ESTEP, ANNE CHRISTINE GRIFFITH, JOHN LAWRENCE ESTEP, MARY CATHERINE WEST, JANET L. OLESKY, A/K/A JANET L. ESTEP DIESKY, F/K/A JANET L. ESTEP, MARY A. HUFF, A/K/A MARY A. ESTEP HUFF, F/K/A MARY A. ESTEP, BARBARA A. CRAWFORD, A/K/A BARBARA A. ESTEP, WILLIAM D. PIERSON, A/K/A BILL PIERSON, CHARLES J. ESTEP, PATSY L. DULANEY, WILLIAM GATCHELL, & JAY LEE HOWELL, A/K/A JAY HOWELL (R)	12-04-12	52.00
6	LAWRENCE E. BLATT (S)/ HOWARD & CHRISTINA BLATT, ET AL (R)	12-04-13	22.14
7	EILEEN KLUG ET AL & JOAN LOUISE KLUG (S)/JOAN L. KLUG, ATTORNEY—IN—FACT FOR ROBERT A. KLUG, MARTIN L. KLUG, EILEEN J. KLUG, & RAYMOND E. KLUG (R)	12-04-22	48.00

NOTES ON SURVEY

COORDINATES SYSTEM IS UTM, NAD B3 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 FIELD
LOCATIONS.
THIS PLAT DOES NOT REPRESENT A BOUNDARY SURVEY OF
THE PARCELS SHOWN HEREON.
A DWELLING IS LOCATED S14'16W 535' FROM THE CENTER
OF PAD.
NO WATER WELLS OR DEVELOPED SPRINGS WITHIN DEED CENTER

A DWELLING IS LOCATED STATEM 535 FROM THE CENTER OF PAD.

NO WATER WELLS OR DEVELOPED SPRINGS WITHIN 250 FEET OF PROPOSED WELL.

NO PERENNIAL STREAMS, LAKES, PONDS, RESERVOIRS OR WETLANDS WITHIN 100 FEET OF THE LIMITS OF DISTURBANCE.

NO NATURALLY PRODUCING TROOT STREAM WITHIN 300 FEET OF LIMITS OF DISTURBANCE.

ALL WELLS WITHIN 500' OF THE HORIZONTAL LEG ARE SHOWN ON THIS PLAT BASED UPON INFORMATION TAKEN FROM DEP MAPPING, WELL PLATS AND AERIAL PHOTOS.

REFERENCES US FT BONNETTE MSH 47-051-01308H NORT ZONE N NTS

SURFACE HOLE LOCATION (SHL): GEOGRAPHIC (NAD83): ATITUDE: 39.721522° ONGITUDE: -80.711843

TM (NAD83, ZONE 17, FEET): ORTHING: 14,425,460.918 ASTING: 1.721,442.312

ASTING: 1,721,442.312 TM (NADB3, ZONE 17, METERS): ORTHING: 4,396,889.282 ASTING: 524,696.666

GEOGRAPHIC (NAD83): ATITUDE: 39.720295 ONGITUDE: -80.711006

ITM (NAD83, ZONE 17, FEET): IORTHING: 14,425,015.061 ASTING: 1,721,678.902

JTM (NAD83, ZONE 17, METERS) NORTHING: 4,396,753.384 ASTING: 524.768.779

BOTTOM HOLE LOCATION (BHL)

SEOGRAPHIC (NAD83): ATITUDE: 39.712380* ONGITUDE: -80.700311*

UTM (NAD83, ZONE 17, FEET):
NORTHING: 14,422,143,011
EASTING: 1,724,696.052

JTM (NAD83, ZONE 17, METERS):
NORTHING: 4,395,877.981

ASTING: 525,688.408

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 TH
DEPARTMENT OF ENVIRONMENTAL PROTECTION.

ONIO JACKS CENSE STATE OF SOLUTION VIRGINAL

SWN PRODUCTION COMPANY, LLC

"BONNETTE MSH 6H "

ELEV: 1,427.6

₩ 0665 (25)

Meade Dist. Wetzel Co. Proctor Dist.

EXISTING WELLS

SURFACE HOLE

GRAPHIC SCALE FFFT

0

SWN

2000

BONNETTE MSH

2000

Production Company, LLC Production Company™

(+) DENOTES LOCATION OF WELL ON MINIMUM UNITED STATES TOPOGRAPHIC MAPS

OFFICE OF OIL & GAS 601 57TH STREET CHARLESTON, WV 25034

DEGREE OF ACCURACY:

1/200

PROVEN SURVEY SOURCE OF GRADE GPS ELEVATION: (NAVD 88, US FT)

OPERATOR'S WELL #:

API WELL #:

47 051 01308 STATE COUNTY PERMIT

PRODUCTION WASTE DISPOSAL LIQUID INJECTION DEEP GAS X STORAGE SHALLOW X WATERSHED: WHETSTONE CREEK OF UPPER OHIO RIVER 2 ELEVATION: 1,427.6' DISTRICT: MEADE QUADRANGLE: WILEYVILLE 7 1/2' COUNTY: MARSHALL SURFACE OWNER: ROBERT WILLIAM BONNETTE ET UX ACREAGE: 126.53 ac. ACREAGE: 126.53 ac. OIL & GAS ROYALTY OWNER: ANDREW STEIN DRILL DEEPER FRACTURE OR STIMULATE X PLUG OFF OLD FORMATION REDRILL PERFORATE NEW FORMATION X

PLUG & ABANDON

PROPOSED SURFACE HOLE / BOTTOM HOLE EXISTING / PRODUCING WELLHEAD

PLUGGED & ABANDONED WELL CUT CONDUCTOR

CLEAN OUT & REPLUG OTHER CHANGE X (SPECIFY) ASDRILLED FRAC10/23/201 ESTIMATED DEPTH: 7,163' TVD 11,599' TMC

TARGET FORMATION: MARCELLUS WELL OPERATOR: SWN PRODUCTION COMPANY, LLC

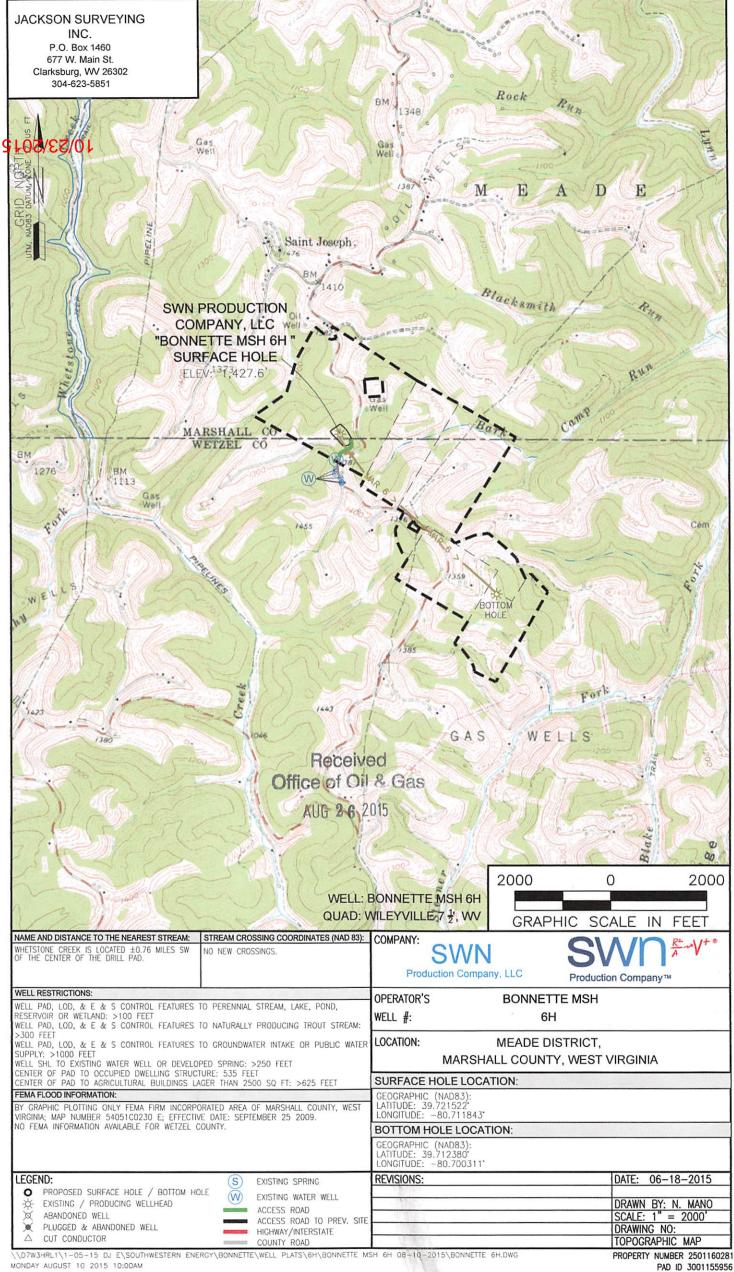
DESIGNATED AGENT: DEE SOUTHALL ADDRESS: P.O. BOX 1300

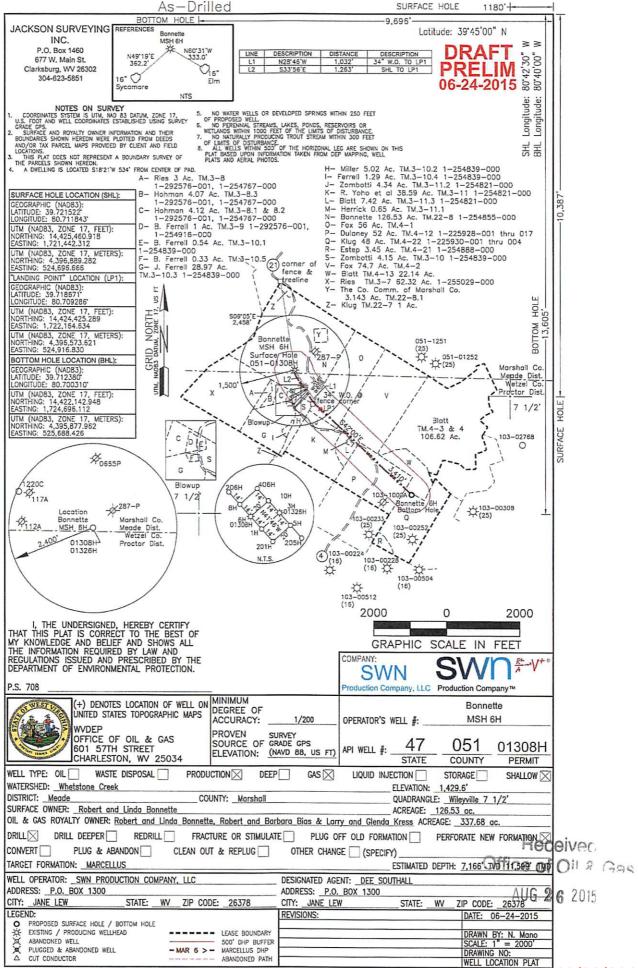
JANE LEW

ADDRESS: P.O. BOX 1300 STATE: WV ZIP CODE: 26378

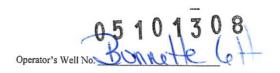
REVISIONS:

- LEASE BOUNDARY - MAR 6 > - MARCELLUS DHP
ABANDONED PATH STATE: ZIP CODE: 26378 DATE: 06-18-2015 DRAWN BY: N. SCALE: 1" =
DRAWING NO: WELL LOCATION PLAT





WW-6A1 (5/13)



INFORMATION SUPPLIED UNDER WEST VIRGINIA CODE Chapter 22, Article 6A, Section 5(a)(5) IN LIEU OF FILING LEASE(S) AND OTHER CONTINUING CONTRACT(S)

Under the oath required to make the verification on page 1 of this Notice and Application, I depose and say that I am the person who signed the Notice and Application for the Applicant, and that -

- the tract of land is the same tract described in this Application, partly or wholly depicted in the accompanying plat, and described in the Construction and Reclamation Plan;
- (2) the parties and recordation data (if recorded) for lease(s) or other continuing contract(s) by which the Applicant claims the right to extract, produce or market the oil or gas are as follows:

Number	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page
Lease Name or				

Acknowledgement of Possible Permitting/Approval In Addition to the Office of Oil and Gas

The permit applicant for the proposed well work addressed in this application hereby acknowledges the possibility of the need for permits and/or approvals from local, state, or federal entities in addition to the DEP, Office of Oil and Gas, including but not limited to the following:

- WV Division of Water and Waste Management
- · WV Division of Natural Resources WV Division of Highways
- U.S. Army Corps of Engineers
- U.S. Fish and Wildlife Service
- · County Floodplain Coordinator

The applicant further acknowledges that any Office of Oil and Gas permit in no way overrides, replaces, or nullifies the need for other permits/approvals that may be necessary and further affirms that all needed permits/approvals should be acquired from the appropriate authority before the affected activity is initiated.

Tuil	duction Compa	arry, LLC		
SENIOR		WEST	VIRGINIA	DAIZION
	Tuil	Teil How	Tul How	70 11

Office of Oil & Gas

AUG. 26 2015

1		LEASE #	LESSOR	LESSEE M. A. Branches	ROYALTY	BK/PG
	09-22-08	1-254855-000	Andrew Stein, widower	The Manufacturer's Light and Heat Company	12.50%	272/265
			The Manufacturer's Light and Heat Company	Columbia Gas Transmission Corporation		422/204
\perp			Columbia Gas Transmission Corporation	Chesapeake Appalachia, L.L.C.		662/332
			Chesapeake Appalachia, L.L.C.	SWN Production Company, L.L.C.		33/110
2	12-04-01	1-254904-000	C.P. Herrick, single	The Manufacturer's Light and Heat Company	12.50%	44A/216
			The Manufacturer's Light and Heat Company	Columbia Gas Transmission Corporation		84A/129
			Columbia Gas Transmission Corporation	Chesapeake Appalachia, L.L.C.		90A/242
			Chesapeake Appalachia, L.L.C.	SWN Production Company, L.L.C.		157A/540
3	12-04-02	1-254904-000	C.P. Herrick, single	The Manufacturer's Light and Heat Company	12.50%	44A/216
			The Manufacturer's Light and Heat Company	Columbia Gas Transmission Corporation		84A/129
			Columbia Gas Transmission Corporation	Chesapeake Appalachia, L.L.C.		90A/242
			Chesapeake Appalachia, L.L.C.	SWN Production Company, L.L.C.		157A/540
4	12-03-11.3	1-254821-000	Joseph C. Weigand and Hilda Weigand, his wife, et al	The Manufacturer's Light and Heat Company	12.50%	45A/377
			The Manufacturer's Light and Heat Company	Columbia Gas Transmission Corporation		84A/129
			Columbia Gas Transmission Corporation	Chesapeake Appalachia, L.L.C.		90A/242
			Chesapeake Appalachia, L.L.C.	SWN Production Company, L.L.C.		157A/540
5	12-04-12	1-225928-001	Lavina M. Bauer, a widow	Chesapeake Appalachia, L.L.C.	12.50%	108A/805
			Chesapeake Appalachia, L.L.C.	SWN Production Company, L.L.C.		157A/540
		1-225928-002	Laura Bates, a married woman dealing in her sole and separate property	Chesapeake Appalachia, L.L.C.	12.50%	108A/818
			Chesapeake Appalachia, L.L.C.	SWN Production Company, L.L.C.		157A/540
	Office	1-225928-003	Leona Pietro, a/k/a Leona J. Estep Pietro, a married woman dealing in her sole and separate property	Chesapeake Appalachia, L.L.C.	12.50%	108A/369
Т	GD _ 4	מ	Chesapeake Appalachia, L.L.C.	SWN Production Company, L.L.C.		157A/540
	of C	1-225928-004	Virginia Ann Miller, a married woman dealing in her sole and separate property	Chesapeake Appalachia, L.L.C.	12.50%	108A/822
	2015	<u> </u>	Chesapeake Appalachia, L.L.C.	SWN Production Company, L.L.C.		157A/540

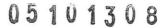
Chesapeake Appalachia, L.L.C.

18.75%

117A/250

Patsy L. Dulaney, a single woman and Dennis L.

1-225928-015





SWN Production Company, LLC P O Box 12359 Spring, Texas 77391-2359 www.swn.com

July 31, 2015

Ms. Laura Cooper WV DEP Office of Oil & Gas 601 57th St., SE Charleston, WV 25304

RE: SWN's proposed refract of the Bonnette MSH 6H in Marshall County, West Virginia, Drilling under Villers Road and St. Joseph Baker Hill Road

Dear Ms. Cooper:

SWN Production Company, LLC ("SWN") is applying for a drilling permit for the above referenced well. The State of West Virginia has raised some concern as to SWN's right to drill under Villers Road and St. Joseph Baker Hill Road. Please be advised that SWN has leased all mineral owners under said route as it relates to the above-referenced well and unit.

Thank you and should you have any questions please feel free to contact the undersigned at (832) 796-6259 or by email at thill@swn.com.

Sincerely,

Travis Hill Senior Landman

SWN Production Company, LLC

10000 Energy Drive Spring, TX 77389-4954 R2 soV+

The Right People doing the Right Things, wisely investing the cash flow from our underlying Assets, will create Value+⁹

Received
Office of Oil & Gas

AUG 26 2015

STATE OF WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS NOTICE CERTIFICATION 5 1 0 1 3 0 8

Notice has been given: Pursuant to the provisions in West Virginia Code § 22-6A, the Operator has provided the required parties with the Notice Forms listed below for the tract of land as follows: State:	Date of Notic	ce Certification:	AP	PI No. 47	'- 51 -	
Notice has been given: Pursuant to the provisions in West Virginia Code § 22-6A, the Operator has provided the required parties with the Notice Forms listed below for the tract of land as follows: State:						
Pursuant to the provisions in West Virginia Code § 22-6A, the Operator has provided the required parties with the Notice Forms listed below for the tract of land as follows: State:			We	ell Pad N	lame: Bonnette	e MSH Pad
below for the tract of land as follows: State:						
State: WTO COUNTY: 51-Marshall S1-Marshall S1-Marshall Public Road Access: Fish Creek Generally used farm name: Public Road Access: Fish Creek Generally used farm name: Public Road Access: Fish Creek Watershed: Whetstone Creek Pursuant to West Virginia Code § 22-6A-7(b), every permit application filed under this section shall be on a form as may be prescribed by the secretary, shall be verified and shall contain the following information: (14) A certification from the operator that (1) it has provided the owners of the surface described in subdivisions (1), (2) and (4), subsection (b), section from the operator that (1) it has provided the owners of the surface described in subdivisions (1), (2) and (4), subsection (b), section from the operator that (1) it has provided the owners of the surface described in subdivisions (1), (2) and (4), subsection (b), section from the operator that (1) it has provided the owners of the surface owner individed the owners of subsection (b), section sixteen of this article, (ii) that the requirement was deemed satisfied as a result of giving the surface owner notice of entry to survey pursuant to subsection (a), section ten of this article, the requirement was deemed satisfied as a result of giving the surface owner notice of this article was required to surface owner, and Pursuant to West Virginia Code § 22-6A. It (16), the applicant shall tender proof of and certify to the secretary that the notice requirements of section ten of this article have been completed by the applicant. Pursuant to West Virginia Code § 22-6A, the Operator has attached proof to this Notice Certification that the Operator has properly served the required parties with the following: PLEASE CHECK ALL THAT APPLY 1. NOTICE OF SEISMIC ACTIVITY or NOTICE NOT REQUIRED BECAUSE NOT RECEIVED NOT REQUIRED 2. NOTICE OF ENTRY FOR PLAT SURVEY WAS CONDUCTED WRITTEN WAIVER BY SURFACE OWNER (PLEASE ATTACH) 1. A. NOTICE OF PLANNED OPERATION 1. RECEIVED NOT REQUIRED RECEIVED RECEIVED RECEIVED			§ 22-6A, the Operator has provide	d the req	uired parties w	vith the Notice Forms listed
County: 51-Marshall District: 5-Macde Public Road Access: Flat Creek Public Road Access: Generally used farm name: Public Road Access: Generally used in public and public used in public Road Access: Generally used in public and p			r.		504000 7	
District: Quadrangle: Watershed:			IIIN/IN/AIIX4	_		
Quadrangle: Watershed: Whetstone Creek Pursuant to West Virginia Code § 22-6A-7(b), every permit application filed under this section shall be on a form as may be prescribed by the secretary, shall be verified and shall contain the following information: (14) A certification from the operator that (i) it has provided the owners of the surface described in subdivisions (1), (2) and (4), subsection (b), section ten of this article, the information required by subsections (b) and (c), section sixteen of this article; (ii) that the requirement was deemed satisfied as a result of giving the surface owner notice of entry to survey pursuant to subsection (a), section ten of this article six-a; or (iii) the notice requirements of subsection (b), section sixteen of this article were waived in writing by the surface owner; and Pursuant to West Virginia Code § 22-6A-11(b), the applicant shall tender proof of and certify to the secretary that the notice requirements of section ten of this article have been completed by the applicant. Pursuant to West Virginia Code § 22-6A, the Operator has attached proof to this Notice Certification that the Operator has properly served the required parties with the following: *PLEASE CHECK ALL THAT APPLY 1. NOTICE OF SEISMIC ACTIVITY or NOTICE NOT REQUIRED BECAUSE NO SEISMIC ACTIVITY WAS CONDUCTED 2. NOTICE OF ENTRY FOR PLAT SURVEY or NOTICE NOT REQUIRED BECAUSE NOTICE OF ENTRY FOR PLAT SURVEY WAS CONDUCTED 3. NOTICE OF INTENT TO DRILL or NOTICE NOT REQUIRED BECAUSE NOTICE OF ENTRY FOR PLAT SURVEY WAS CONDUCTED 4. NOTICE OF PLANNED OPERATION 3. NOTICE OF PLANNED OPERATION 3. PLEASE ATTACH 3. PLEASE ATTACH 3. PUBLIC NOTICE 1. RECEIVED 3. RECEIVED 3. RECEIVED 3. PUBLIC NOTICE	•					
Pursuant to West Virginia Code § 22-6A-7(b), every permit application filed under this section shall be on a form as may be prescribed by the secretary, shall be verified and shall contain the following information: (14) A certification from the operator that (i) it has provided the owners of the surface described in subdivisions (1), (2) and (4), subsection (b), section ten of this article, the information required by subsections (b) and (c), section sixteen of this article; (ii) that the requirement was deemed satisfied as a result of giving the surface owner notice of entry to survey pursuant to subsection (a), section ten of this article six-a; or (iii) the notice requirements of subsection (b), section sixteen of this article were waived in writing by the surface owner; and Pursuant to West Virginia Code § 22-6A-, the Operator has attached proof to the secretary that the notice requirements of section ten of this article have been completed by the applicant. Pursuant to West Virginia Code § 22-6A, the Operator has attached proof to this Notice Certification that the Operator has properly served the required parties with the following: *PLEASE CHECK ALL THAT APPLY 1. NOTICE OF SEISMIC ACTIVITY or NOTICE NOT REQUIRED BECAUSE NO SEISMIC ACTIVITY WAS CONDUCTED 2. NOTICE OF ENTRY FOR PLAT SURVEY or NOTICE NOT REQUIRED BECAUSE NOTICE OF ENTRY FOR PLAT SURVEY WAS CONDUCTED 3. NOTICE OF INTENT TO DRILL or NOTICE NOT REQUIRED BECAUSE NOTICE OF ENTRY FOR PLAT SURVEY WAS CONDUCTED WRITTEN WAIVER BY SURFACE OWNER (PLEASE ATTACH) 4. NOTICE OF PLANNED OPERATION RECEIVED 3. PUBLIC NOTICE RECEIVED RECEIVED RECEIVED						
Pursuant to West Virginia Code § 22-6A-7(b), every permit application filed under this section shall be on a form as may be prescribed by the secretary, shall be verified and shall contain the following information: (14) A certification from the operator that (i) it has provided the owners of the surface described in subdivisions (1), (2) and (4), subsection (b), section ten of this article, the information required by subsections (b) and (c), section sixteen of this article; (ii) that the requirement was deemed satisfied as a result of giving the surface owner notice of entry to survey pursuant to subsection (a), section ten of this article six-a; or (iii) the notice requirements of subsection (b), section sixteen of this article were waived in writing by the surface owner; and Pursuant to West Virginia Code § 22-6A-11(b), the applicant shall tender proof of and certify to the secretary that the notice requirements of section ten of this article have been completed by the applicant. Pursuant to West Virginia Code § 22-6A, the Operator has attached proof to this Notice Certification that the Operator has properly served the required parties with the following: *PLEASE CHECK ALL THAT APPLY 1. NOTICE OF SEISMIC ACTIVITY or NOTICE NOT REQUIRED BECAUSE NO SEISMIC ACTIVITY WAS CONDUCTED 2. NOTICE OF ENTRY FOR PLAT SURVEY or NOTICE NOT REQUIRED BECAUSE NOTICE OF ENTRY FOR PLAT SURVEY WAS CONDUCTED 3. NOTICE OF INTENT TO DRILL or NOTICE NOT REQUIRED BECAUSE NOTICE OF ENTRY FOR PLAT SURVEY WAS CONDUCTED OR WRITTEN WAIVER BY SURFACE OWNER (PLEASE ATTACH) 4. NOTICE OF PLANNED OPERATION 5. PUBLIC NOTICE 5. PUBLIC NOTICE			Generally used failing	name.	Bonnette	
prescribed by the secretary, shall be verified and shall contain the following information: (14) A certification from the operator that (i) it has provided the owners of the surface described in subdivisions (1), (2) and (4), subsection (b), section ten of this article, this information required by subsections (b) and (c), section sixteen of this article; (ii) that the requirement was deemed satisfied as a result of giving the surface owner notice of entry to survey pursuant to subsection (a), section ten of this article six-a; or (iii) the notice requirements of subsection (b), section sixteen of this article were waived in writing by the surface owner; and Pursuant to West Virginia Code § 22-6A-11(b), the applicant shall tender proof of and certify to the secretary that the notice requirements of section ten of this article have been completed by the applicant. Pursuant to West Virginia Code § 22-6A, the Operator has attached proof to this Notice Certification that the Operator has properly served the required parties with the following: *PLEASE CHECK ALL THAT APPLY 1. NOTICE OF SEISMIC ACTIVITY or NOTICE NOT REQUIRED BECAUSE NO SEISMIC ACTIVITY WAS CONDUCTED 2. NOTICE OF ENTRY FOR PLAT SURVEY or NOT NOTICE NOT REQUIRED BECAUSE NOTICE OF ENTRY FOR PLAT SURVEY WAS CONDUCTED 3. NOTICE OF INTENT TO DRILL or NOTICE NOT REQUIRED BECAUSE NOTICE OF ENTRY FOR PLAT SURVEY WAS CONDUCTED RECEIVED/NOT REQUIRED 4. NOTICE OF PLANNED OPERATION 4. NOTICE OF PLANNED OPERATION 5. PUBLIC NOTICE 7. RECEIVED 8. RECEIVED 9. RECEIVED 10. RECEIVED 11. RECEIVED 12. RECEIVED 13. RECEIVED 14. NOTICE OF PLANNED OPERATION 15. PUBLIC NOTICE 16. RECEIVED 17. RECEIVED	Waterbried.					
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■ 6. NOTICE OF APPLICATION	■ 5. PUB	BLIC NOTICE				☐ RECEIVED
	■ 6. NOT	FICE OF APPLICATION				□ RECEIVED

Required Attachments:

The Operator shall attach to this Notice Certification Form all Notice Forms and Certifications of Notice that have been provided to the required parties and/or any associated written waivers. For the Public Notice, the operator shall attach a copy of the Class II Legal Advertisement with publication date verification or the associated Affidavit of Publication. The attached Notice, Forms and Certifications of Notice shall serve as proof that the required parties have been noticed as required und fiftee viguality Code § 22-6A. Pursuant to West Virginia Code § 22-6A-11(b), the Certification of Notice to the person may be made by affidavit of personal service, the return receipt card or other postal receipt for certified mailing.

AUG. 26 2015

Certification of Notice is hereby given:

THEREFORE, I ________, have read and understand the notice requirements within West Virginia Code § 22-6A. I certify that as required under West Virginia Code § 22-6A, I have served the attached copies of the Notice Forms, identified above, to the required parties through personal service, by registered mail or by any method of delivery that requires a receipt or signature confirmation. I certify under penalty of law that I have personally examined and am familiar with the information submitted in this Notice Certification and all attachments, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Address:

Well Operator: SWN Production Co., LLC

By: Dee Southall

Its: Regulatory Supervisor

Telephone: 832-796-1614

| Spring, TX 77391-4954 |
| Facsimile: | 92816182780@fax.com |
| Email: | Dee Southall@swn.com |

P.O. Box 12359

OFFICIAL SEAL
NOTAL PUBLIC State of West Virginia
ELSIE M COX
218 Worthington Drive
Bridgeport, WV 28330-1449
My commission expires December 9, 2022

Subscribed and sworn before me this 11th day of August 2015

Notary Public

My Commission Expires 12-9-2022

Oil and Gas Privacy Notice:

The Office of Oil and Gas processes your personal information, such as name, address and telephone number, as part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use or your personal information, please contact DEP's Chief Privacy Officer at deprivacyofficer@wv.gov.

Office of Oil & Gas AUG 2 6 2015 WW-6A (9-13) API NO. 47 951 10 130 8
OPERATOR WELL NO. Bonnette MSH 6H
Well Pad Name: Bonnette MSH Pad

STATE OF WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS NOTICE OF APPLICATION

Noti	ce Time Requirement	nt: notice shall be provided	d no later tha	n the filing date of permit application.
		Date Permit Applicatio	n Filed:	
Noti	ce of:			
V	PERMIT FOR ANY WELL WORK			ROVAL FOR THE AN IMPOUNDMENT OR PIT
Deli	very method pursua	nt to West Virginia Code	e § 22-6A-10	(b)
П	PERSONAL	✓ REGISTERED	П метно	OD OF DELIVERY THAT REQUIRES A
	SERVICE	MAIL		PT OR SIGNATURE CONFIRMATION
regis sedin the storial and description of the storial and description of the storial and the	tered mail or by any ment control plan required of the tract on vind gas leasehold being ribed in the erosion and ator or lessee, in the every coal seams; (4) The owner, if the surface traction of the surface traction of the work, if the surface traction of the section (b) of this section (b) of this section of this article to the R. § 35-8-5.7.a required.	nethod of delivery that required by section seven of this which the well is or is proposed developed by the proposed developed developed by the proposed developed developed by the proposed developed dev	res a receipt of article, and the sed to be local well work, if mitted pursual character tractor tracement, constructions article; (5) And within one to animals; and hore than three to, the applicant to section echolder is not or shall also princed to be a receipt to the section of the sect	as required by this article shall deliver, by personal service or by a signature confirmation, copies of the application, the erosion and ne well plat to each of the following persons: (1) The owners of record of ted; (2) The owners of record of the surface tract or tracts overlying the the surface tract is to be used for roads or other land disturbance as into subsection (c), section seven of this article; (3) The coal owner, oposed to be drilled is located [sic] is known to be underlain by one or cts overlying the oil and gas leasehold being developed by the proposed function, enlargement, alteration, repair, removal or abandonment of any any surface owner or water purveyor who is known to the applicant to thousand five hundred feet of the center of the well pad which is used to (6) The operator of any natural gas storage field within which the extensits in common or other co-owners of interests described in at may serve the documents required upon the person described in the eight, article one, chapter eleven-a of this code. (2) Notwithstanding any notice to a landowner, unless the lien holder is the landowner. W. Va. evolde the Well Site Safety Plan ("WSSP") to the surface owner and any as provided in section 15 of this rule.
☑ A	pplication Notice	☑ WSSP Notice ☑ E&S	Plan Notice	☑ Well Plat Notice is hereby provided to:
	JRFACE OWNER(s)		1	☐ COAL OWNER OR LESSEE
	e: Robert & Linda Bonnette			Name: Consolidated Coal Company %Leatherwood
	ress: 8 Amy Anna Drive		•	Address: 1000 Consol Energy Drive Canonsburg, PA 15317
	dsville, WV 26074			COAL OPERATOR
Nam				Name:
Auu	1055.			Address:
ПSI	IRFACE OWNER(s)	(Road and/or Other Distu	rbance)	Tradition.
		(Itoua una/or outer Bista	· ounce)	SURFACE OWNER OF WATER WELL
Add	ress:			AND/OR WATER PURVEYOR(s)
				Name: *** See Attachment #1
Nam				Address:
Add	ress:			
				OPERATOR OF ANY NATURAL GAS STORAGE FIELD
_		(Impoundments or Pits)		Name: Hecentary
Nam	e:			Name: Received Address: Office of Care
Add	ress:			*Please attach additional forms if necessary G. 26

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Date	Pad No.	Pad Name	Full Parcel ID	Owner	Owner Address	Owner City	Owner State	Owner Zip	Owner Phone No.	Water	ed/Known Source nt (Y/N)?	
9/12/2014	907984	BONNETTE MSH PAD	09-22-8	BONNETTE ROBERT WILLIAM ET UX	109 AMY ANNA DR	MOUNDSVILLE	WV	26041			Y	
9/12/2014	907984	BONNETTE MSH PAD	09-22-8.1	COUNTY COMMISSION OF MARSHALL	PO BOX 459	MOUNDSVILLE	WV	26041			Ÿ	
9/12/2014	907984	BONNETTE MSH PAD	12-3-10.3	FERRELL DOROTHY E X 2	RR1 BOX 168	PROCTOR	WV	26055			Ÿ	
2/12/2014	907984	BONNETTE MSH PAD	12-3-10.4	FERRELL JOHN W	RR 1 BOX 165F	PROCTOR	WV	26055	-	***************************************	Y	
/12/2014	907984	BONNETTE MSH PAD	12-4-1	FOX PAUL & CYNTHIA	RT 1 BOX 163	PROCTOR	WW	26055	304_455_3817		v	-
	00,000	DUNINE LIE WOLLLAD	12-5-0.1	HOLIMAN DOINALD L	RR 1 BOX 169	PROCIOR	VVV	20000			Y	
/12/2014	907984	BONNETTE MSH PAD	09-22-3	MILLER HILARY G & MARK H	4537 ST JOSEPH RD	PROCTOR	WV	26055	·		Ÿ	men
/12/2014	907984	BONNETTE MSH PAD	12-3-10.2	MILLER JOHN MICHAEL ETAL	137 HUDSON HILLS ROAD	PITTSBORO	NC	27312		SO	Ÿ	
/12/2014	907984	BONNETTE MSH PAD	12-3-7	RIES HENRY W X2	10 MEADOW DR	WHEELING	WV	26003		(T)	Ÿ	-
/12/2014	907984	BONNETTE MSH PAD	12-3-11	YOHO DENVER F	RT 1 BOX 164 A	PROCTOR	WV	26055		15	Ÿ	"Biss
2/12/2014	907984	BONNETTE MSH PAD	12-3-11.2	ZOMBOTTI DELORES	RR1 BOX 167	PROCTOR	WV	26055			Yo	
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WW-6A (8-13)

05101308
API NO. 47-51 OPERATOR WELL NO. Bonnette MSH 6H
Well Pad Name: Bonnette MSH Pad

Notice is hereby given:

Pursuant to West Virginia Code § 22-6A-10(b), notice is hereby given that the undersigned well operator has applied for a permit for well work or for a certificate of approval for the construction of an impoundment or pit.

This Notice Shall Include:

Pursuant to W. Va. Code § 22-6A-10(b), this notice shall include: (1) copies of the application; (2) the erosion and sediment control plan required by section seven of this article; and (3) the well plat.

Pursuant to W. Va. Code § 22-6A-10(f), this notice shall include: (1) a statement of the time limits for filing written comments; (2) who may file written comments; (3) the name and address of the secretary for the purpose of filing the comments and obtaining additional information; and (4) a statement that the persons may request, at the time of submitting written comments, notice of the permit decision and a list of persons qualified to test water.

Pursuant to W. Va. Code R. § 35-8-5.7.a, the operator shall provide the Well Site Safety Plan to the surface owner and any water purveyor or surface owner subject to notice and water testing as provided in section 15 of this rule.

Pursuant to W. Va. Code R. § 35-8-15.2.c, this notice shall: (1) contain a statement of the surface owner's and water purveyor's right to request sampling and analysis; (2) advise the surface owner and water purveyor of the rebuttable presumption for contamination or deprivation of a fresh water source or supply; advise the surface owner and water purveyor that refusal to allow the operator to conduct a pre-drilling water well test constitutes a method to rebut the presumption of liability; (3) advise the surface owner and water purveyor of his or her independent right to sample and analyze any water supply at his or her own expense; advise the surface owner and water purveyor whether or not the operator will utilize an independent laboratory to analyze any sample; and (4) advise the surface owner and or water purveyor that he or she can obtain from the Chief a list of water testing laboratories in the subject area capable of and qualified to test water supplies in accordance with standard acceptable methods.

Additional information related to horizontal drilling may be obtained from the Secretary, at the WV Department of Environmental Protection headquarters, located at 601 57th Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting www.dep.wv.gov/oil-and-gas/pages/default.aspx.

Well Location Restrictions

Pursuant to W. Va. Code § 22-6A-12, Wells may not be drilled within two hundred fifty feet measured horizontally from any existing water well or developed spring used for human or domestic animal consumption. The center of well pads may not be located within six hundred twenty-five feet of an occupied dwelling structure, or a building two thousand five hundred square feet or larger used to house or shelter dairy cattle or poultry husbandry. This limitation is applicable to those wells, developed springs, dwellings or agricultural buildings that existed on the date a notice to the surface owner of planned entry for surveying or staking as provided in section ten of this article or a notice of intent to drill a horizontal well as provided in subsection (b), section sixteen of this article was provided, whichever occurs first, and to any dwelling under construction prior to that date. This limitation may be waived by written consent of the surface owner transmitted to the department and recorded in the real property records maintained by the clerk of the county commission for the county in which such property is located. Furthermore, the well operator may be granted a variance by the secretary from these distance restrictions upon submission of a plan which identifies the sufficient measures, facilities or practices to be employed during well site construction, drilling and operations. The variance, if granted, shall include terms and conditions the department requires to ensure the safety and protection of affected persons and property. The terms and conditions may include insurance, bonding and indemnification, as well as technical requirements. (b) No well pad may be prepared or well drilled within one hundred feet measured horizontally from any perennial stream, natural or artificial lake, pond or reservoir, or a wetland, or within three hundred feet of a naturally reproducing trout stream. No well pad may be located within one thousand feet of a surface or ground water intake of a public water supply. The distance from the public water supply as identified by the department shall be measured as follows: (1) For a surface water intake on a lake or reservoir, the distance shall be measured from the boundary of the lake or reservoir. (2) For a surface water intake on a flowing stream, the distance shall be measured from a semicircular radius extending upstream of the surface water intake. (3) For a groundwater source, the distance shall be measured from the wellhead or spring. The department may, in its discretion, waive these distance restrictions upon submission of a plan identifying sufficient measures, facilities or practices to be employed during well site construction, drilling and operations to protect the waters of the state. A waiver, if granted, shall impose any permit conditions as the secretary considers necessary. (c) Notwithstanding the foregoing provisions of this section, nothing contained in this section prevents an operator from conducting the activities permitted or authorized by a Clean Water Act Section 404 permit or other approval from the United States Army Corps of Engineers within any waters of the state or within the restricted areas referenced in this section. (d) The well location restrictions set forth in this section shall not apply to any well on a multiple well pad if at least one of the wells was permitted prior to the effective date of this article. (e) The secretary shall, by December 12, report to the Legislature on the noise, light, dust and volatile organic compounds generated by the drilling of horizontal wells as they relate to the well location restrictions regarding occupied dwelling structures pursuant to this section. Upon a finding, if any the secretary that the well location restrictions regarding occupied dwelling structures are inadequate or otherwise require alteration to address the items

WW-6A (8-13) 05101308

OPERATOR WELL NO. Bonnette MSH 6H

Well Pad Name: Bonnette MSH Pad

examined in the study required by this subsection, the secretary shall have the authority to propose for promulgation legislative rules establishing guidelines and procedures regarding reasonable levels of noise, light, dust and volatile organic compounds relating to drilling horizontal wells, including reasonable means of mitigating such factors, if necessary.

Water Well Testing:

Pursuant to West Virginia Code § 22-6A-10(d), notification shall be made, with respect to surface landowners identified in subsection (b) or water purveyors identified in subdivision (5), subsection (b) of this section, of the opportunity for testing their water well. The operator shall provide an analysis to such surface landowner or water purveyor at their request.

Water Testing Laboratories:

Pursuant to West Virginia Code § 22-6A-10(i), persons entitled to notice pursuant to subsection (b) of this section may contact the department to ascertain the names and locations of water testing laboratories in the subject area capable and qualified to test water supplies in accordance with standard accepted methods. In compiling that list of names the department shall consult with the state Bureau for Public Health and local health departments. A surface owner and water purveyor has an independent right to sample and analyze any water supply at his or her own expense. The laboratory utilized by the operator shall be approved by the agency as being certified and capable of performing sample analyses in accordance with this section.

Rebuttable Presumption for Contamination or Deprivation of a Fresh Water Source or Supply:

W. Va. Code § 22-6A-18 requires that (b) unless rebutted by one of the defenses established in subsection (c) of this section, in any action for contamination or deprivation of a fresh water source or supply within one thousand five hundred feet of the center of the well pad for horizontal well, there is a rebuttable presumption that the drilling and the oil or gas well or either was the proximate cause of the contamination or deprivation of the fresh water source or supply. (c) In order to rebut the presumption of liability established in subsection (b) of this section, the operator must prove by a preponderance of the evidence one of the following defenses: (1) The pollution existed prior to the drilling or alteration activity as determined by a predrilling or prealteration water well test. (2) The landowner or water purveyor refused to allow the operator access to the property to conduct a predrilling or prealteration water well test. (3) The water supply is not within one thousand five hundred feet of the well. (4) The pollution occurred more than six months after completion of drilling or alteration activities. (5) The pollution occurred as the result of some cause other than the drilling or alteration activity. (d) Any operator electing to preserve its defenses under subdivision (1), subsection (c) of this section shall retain the services of an independent certified laboratory to conduct the predrilling or prealteration water well test. A copy of the results of the test shall be submitted to the department and the surface owner or water purveyor in a manner prescribed by the secretary. (e) Any operator shall replace the water supply of an owner of interest in real property who obtains all or part of that owner's supply of water for domestic, agricultural, industrial or other legitimate use from an underground or surface source with a comparable water supply where the secretary determines that the water supply has been affected by contamination, diminution or interruption proximately caused by the oil or gas operation, unless waived in writing by that owner. (f) The secretary may order the operator conducting the oil or gas operation to: (1) Provide an emergency drinking water supply within twenty-four hours; (2) Provide temporary water supply within seventy-two hours; (3) Within thirty days begin activities to establish a permanent water supply or submit a proposal to the secretary outlining the measures and timetables to be used in establishing a permanent supply. The total time in providing a permanent water supply may not exceed two years. If the operator demonstrates that providing a permanent replacement water supply cannot be completed within two years, the secretary may extend the time frame on case-by-case basis; and (4) Pay all reasonable costs incurred by the real property owner in securing a water supply. (g) A person as described in subsection (b) of this section aggrieved under the provisions of subsections (b), (e) or (f) of this section may seek relief in court... (i) Notwithstanding the denial of the operator of responsibility for the damage to the real property owner's water supply or the status of any appeal on determination of liability for the damage to the real property owner's water supply, the operator may not discontinue providing the required water service until authorized to do so by the secretary or a court of competent jurisdiction.

Written Comment:

Pursuant to West Virginia Code § 22-6A-11(a), all persons described in subsection (b), section ten of this article may file written comments with the secretary as to the location or construction of the applicant's proposed well work within thirty days after the application is filed with the secretary. All persons described in West Virginia Code § 22-6A-10(b) may file written comments as to the location or construction of the applicant's proposed well work to the Secretary at:

Chief, Office of Oil and Gas
Department of Environmental Protection
601 57th St. SE
Charleston, WV 25304
(304) 926-0450

Received
Office of Oil 2 Can
AUG 26 2015

Such persons may request, at the time of submitting written comments, notice of the permit decision and a list of persons qualified to test water. NOTE: YOU ARE NOT REQUIRED TO FILE ANY COMMENT.

WW-6A (8-13) 05101308

API NO. 47-51 OPERATOR WELL NO. Bonnette MSH 6H
Well Pad Name: Bonnette MSH Pad

Time Limits and Methods for Filing Comments.

The law requires these materials to be served on or before the date the operator files its Application. You have THIRTY (30) DAYS after the filing date to file your comments. Comments must be filed in person or received in the mail by the Chief's office by the time stated above. You may call the Chief's office to be sure of the date. Check with your postmaster to ensure adequate delivery time or to arrange special expedited handling. If you have been contacted by the well operator and you have signed a "voluntary statement of no objection" to the planned work described in these materials, then the permit may be issued at any time.

Pursuant to West Virginia Code § 22-6A-11(c)(2), Any objections of the affected coal operators and coal seam owners and lessees shall be addressed through the processes and procedures that exist under sections fifteen, seventeen and forty, article six of this chapter, as applicable and as incorporated into this article by section five of this article. The written comments filed by the parties entitled to notice under subdivisions (1), (2), (4), (5) and (6), subsection (b), section ten of this article shall be considered by the secretary in the permit issuance process, but the parties are not entitled to participate in the processes and proceedings that exist under sections fifteen, seventeen or forty, article six of this chapter, as applicable and as incorporated into this article by section five of this article.

Comment Requirements

Your comments must be in writing and include your name, address and telephone number, the well operator's name and well number and the approximate location of the proposed well site including district and county from the application. You may add other documents, such as sketches, maps or photographs to support your comments.

Disclaimer: All comments received will be placed on our web site http://www.dep.wv.gov/oil-and-gas/Horizontal-Permits/Pages/default.aspx and the applicant will automatically be forwarded an email notice that such comments have been submitted. The applicant will be expected to provide a response to comments submitted by any surface owner, water purveyor or natural gas storage operator noticed within the application.

Permit Denial or Condition

The Chief has the power to deny or condition a well work permit. Pursuant to West Virginia Code § 22-6A-8(d), the permit may not be issued or be conditioned, including conditions with respect to the location of the well and access roads prior to issuance if the director determines that:

- (1) The proposed well work will constitute a hazard to the safety of persons;
- (2) The plan for soil erosion and sediment control is not adequate or effective;
- (3) Damage would occur to publicly owned lands or resources; or
- (4) The proposed well work fails to protect fresh water sources or supplies.

A permit may also be denied under West Virginia Code § 22-6A-7(k), the secretary shall deny the issuance of a permit if the secretary determines that the applicant has committed a substantial violation of a previously issued permit for a horizontal well, including the applicable erosion and sediment control plan associated with the previously issued permit, or a substantial violation of one or more of the rules promulgated under this article, and in each instance has failed to abate or seek review of the violation within the time prescribed by the secretary pursuant to the provisions of subdivisions (1) and (2), subsection (a), section five of this article and the rules promulgated hereunder, which time may not be unreasonable.

Pursuant to West Virginia Code § 22-6A-10(g), any person entitled to submit written comments to the secretary pursuant to subsection (a), section eleven of this article, shall also be entitled to receive from the secretary a copy of the permit as issued or a copy of the order modifying or denying the permit if the person requests receipt of them as a part of the written comments submitted concerning the permit application. Such persons may request, at the time of submitting written comments, notice of the permit decision and a list of persons qualified to test water.

Office of Oil 9

WW-6A (8-13)

OPERATOR WELL NO. Bonnette MSH 6H Well Pad Name: Bonnette MSH Pad

Notice is hereby given by:

Well Operator: SWN Production Co., LLC

Telephone: 832-796-1000 Email: Dee_Southall@swn.com Address: P.O. Box 12359

Spring, TX 77391-4954

Facsimile: 92816182780@fax.com

Oil and Gas Privacy Notice:

The Office of Oil and Gas processes your personal information, such as name, address and telephone number, as part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use or your personal information, please contact DEP's Chief Privacy Officer at depprivacyofficer@wv.gov.

OFFICIAL SEAL Notary Public, State of West Virginia ELSIE M COX 216 Worthington Drive Bridgeport, WV 26330-1449 My commission expires December 9, 2022

Subscribed and sworn before me this 11th day of August 2015

Notary Public

My Commission Expires 12 - 9 - 2022

Received Office of Oil 8 AUG 26 2015

STATE OF WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS NOTICE OF INTENT TO DRILL

Pursuant to W. Va. Code § 22-6A-16(b), the Notice of Intent to Drill is only required if the notice requirements of W. Va. Code § 22-6A-10(a) have NOT been met or if the Notice of Intent to Drill requirement has NOT been waived in writing by the surface owner.

Notice Time I Date of Notice	Requirement: Notice shall be provided at lease: 08/17/2015 Date Permit	st TEN (10) days prior to filing a Application Filed:	
Delivery meth	od pursuant to West Virginia Code § 22-6.	A-16(b)	
☐ HAND DELIVE	CERTIFIED MAIL RY RETURN RECEIPT REQUE	STED	
receipt request drilling a horiz of this subsect subsection may	Va. Code § 22-6A-16(b), at least ten days pred or hand delivery, give the surface owner national well: <i>Provided</i> , That notice given pursion as of the date the notice was provided to the waived in writing by the surface owner. The provided is a provided to the company of the surface owner.	notice of its intent to enter upon the suant to subsection (a), section tends to surface owner: <i>Provided, how</i> . The notice, if required, shall include the surface owner.	ne surface owner's land for the purpose of on of this article satisfies the requirements ovever, That the notice requirements of this ude the name, address, telephone number,
	eby provided to the SURFACE OWNE		
	lliam Bonnette ET UX	Name:	
Address: 109 An Moundsville, WV 2		Address:	
	est Virginia Code § 22-6A-16(b), notice is he ner's land for the purpose of drilling a horizo West Virginia Marshall	ntal well on the tract of land as fo UTM NAD 83 Easting: Northing:	Hows: 524,696.666 4,396,889.282
District:	Meade	Public Road Access:	St. Joseph Baker Hill
	Wileyville 7 1/2'	Generally used farm name:	
Watershed:	Whetstone Creek of Upper Ohio River 2		
Pursuant to W facsimile num related to hori	Shall Include: Vest Virginia Code § 22-6A-16(b), this notion ber and electronic mail address of the oper zontal drilling may be obtained from the Section of Street, SE, Charleston, WV 25304 (304-	ator and the operator's authorized cretary, at the WV Department o	ed representative. Additional information f Environmental Protection headquarters,
Notice is her	eby given by:		
	SWN Production Company, LLC	Authorized Representative:	Dee Southall
Address:	PO Box 1300	Address:	PO Box 1300
	Jane Lew, WV 26378		Jane Lew, WV 26378
Telephone:	304-884-1611	Telephone:	304-884-1614
Email:	Micah_Feather@SWN.com	Email:	Dee_Southall@SWN.com
Facsimile:		Facsimile:	
		_	

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WW-6A5 (1/12)

Operator Well No. Bonnette MSH 6H

STATE OF WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS NOTICE OF PLANNED OPERATION

		equirement: notice shall be provide : 08/17/2015 Date Perm		er than the filing cation Filed:	date of permit	application.
Deliv	ery meth	od pursuant to West Virginia Cod	e § 22-6	A-16(c)		
		ED MAIL NRECEIPT REQUESTED		AND ELIVERY		
return the p required drillind dama	n receipt re lanned op red to be p ng of a ho ges to the he notices	equested or hand delivery, give the seration. The notice required by the provided by subsection (b), section to prizontal well; and (3) A proposed surface affected by oil and gas open	urface of subsection of this surface unations to	owner whose land ction shall include s article to a surfa- use and compense the extent the da	will be used for de: (1) A copy ace owner whos ation agreemen mages are comp	cation, an operator shall, by certified mail or the drilling of a horizontal well notice of of this code section; (2) The information e land will be used in conjunction with the t containing an offer of compensation for pensable under article six-b of this chapter. Sted in the records of the sheriff at the time
(at the Name Addre	e address			of notice):		
Pursu opera State:	tion on th	st Virginia Code § 22-6A-16(c), not se surface owner's land for the purpo West Virginia	ce is he	reby given that th illing a horizonta UTM NAD 8	l well on the tra	well operator has developed a planned ct of land as follows: 524,696.666 4,396,889.282
Coun Distri Quad	ict:	Marshall Meade Wileyville 7 1/2'		Public Road A	_	St. Joseph Baker Hill
		Whetstone Creek of Upper Ohio River 2				
Pursu to be horize surface inform heade	provided provided ontal well ce affecte mation rel	by W. Va. Code § 22-6A-10(b) to; and (3) A proposed surface use and by oil and gas operations to the eated to horizontal drilling may be ocated at 601 57 th Street, SE,	a surfad compension as a surface of a surfac	ace owner whose ensation agreeme e damages are co I from the Secret	e land will be unt containing and ompensable und tary, at the WV	code section; (2) The information required used in conjunction with the drilling of a noffer of compensation for damages to the der article six-b of this chapter. Additional Department of Environmental Protection or by visiting

DEP's Chief Privacy Officer at depprivacyofficer@wv.gov.

Office of Oil & Gas

AUG 26 2015



WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

Division of Highways

Earl Ray Tomblin Governor 1900 Kanawha Boulevard East • Building Five • Room 110 Charleston, West Virginia 25305-0430 • (304) 558-3505

Paul A. Mattox, Jr., P. E. Secretary of Transportation/ Commissioner of Highways

August 12, 2015

James A. Martin, Chief Office of Oil and Gas Department of Environmental Protection 601 57th Street, SE Charleston, WV 25304

Subject: DOH Permit for the Bonnette Pad Well Sites, Marshall County

Bonnette MSH 3H

Bonnette MSH 6H

Dear Mr. Martin,

The West Virginia Division of Highways has transferred Permit #06-2011-0105 for the subject site to Southwestern Energy for access to the State Road for the well site located off of Wetzel County Route 4 SLS.

The operator has signed an OIL AND GAS ROAD MAINTENANCE BONDING AGREEMENT and provided the required Bond. This operator is currently in compliance with the DOH OIL AND GAS POLICY dated January 3, 2012.

Very Truly Yours,

Gary K. Clayton

Regional Maintenance Engineer

Central Office Oil &Gas Coordinator

Dary K. Clayton

Cc: Brittany Woody Southwestern Energy

CH, OM, D-6

File

Received
Office of Oil & Gas

AUG 26 2015

Supplier Name	Product Name	Product Use	Chemical Name	CAS Number
NALCO ONESOURCE	EC6110A	Biocide	Ethanol	000064-17-5
			Glutaraldehyde (Pentanediol)	000111-30-8
			Quaternary Ammonium Compounds	N/A-063
	EC6629A	Biocide	No Hazardous Components	NONE
	WBK-133 OXIDIZER	Breaker	Ammonium Persulfate	007727-54-0
			Ammonium Persulfate	007727-54-0
	WBK-134	Breaker	Crystalline Silica (Quartz Sand, Silicon Dioxide)	014808-60-7
		WCS-631LC Clay Stabilizer	Proprietary Non Hazardous Salt	N/A-229
	WCS-631LC		Water	007732-18-5
	WFR-55LA	Friction Reducer	No Hazardous Components	NONE
	WGA-15L	Gel	Petroleum Distillate Hydrotreated Light	064742-47-8
VEATHERFORD			Potassium Carbonate	000584-08-7
	WPB-584-L Bu	Buffer	Potassium Hydroxide	001310-58-3
	WXL-101LE	Corsslinker	No Hazardous Components	NONE
	WXL-101LM	Crosslinker	Petroleum Distillate Hydrotreated Light	064742-47-8
		Crosslinker	Water	007732-18-5
			Ethylene Glycol	000107-21-
	WXL-105L		Boric Acid	010043-35-3
			Ethanolamine	000141-43-5
	B244 Green-Cide 25G	Biocide Glutaraldehyde		111-30-8
	L071 Temporary Clay Stabilizer	Clay Stabilizer	Cholinium Chloride	67-48-1
	Breaker J218		Diammonium Peroxidisulphate	7727-54-0
SCHLUMBERGER	EB-Clean* J475 Breaker	Breaker	Diammonium Peroxidisulphate	7727-54-0
			Distillates (petroleum),	64742-47-8
	Friction Reducer B315	Friction Reducer	Hydrotreated light Aliphatic Alcohol Glycol Ether	Proprietary
	Friction Reducer J609	Reducer	Ammonium Sulfate	7783-20-2

05101308

Supplier Name	Product Name	Product Use	Chemical Name	CAS Number
SCHLUMBERGER	Water Gelling Agent J580	Gel	Carbohydrate Polymer	Proprietary
	Scale Inhibitor B317	Scale Inhibitor	Trisodium ortho phosphate Ethane-1, 2-diol	7601-54-9 107-21-1
	Borate Crosslinker J532	0 - 5-1	Aliphatic polyol Sodium tetraborate decahydrate	Proprietary 1303- 96-4
	Crosslinker J610	Crosslinker	Aliphatic polyol Potassium hydroxide	Proprietary 1310- 58-3

Supplier Name	Product Name	Product Use	Chemical Name	CAS Number
	ALPHA 1427	Biocide	Didecyl Dimethyl Ammonium Chloride	007173-51-1
			Ethanol	000064-17-5
			Glutaraldehyde (Pentanediol)	000111-30-8
			Quaternary Ammonium Compound	068424-85-1
			Water	007732-18-5
	BF-7L	Buffer	Potassium Carbonate	000584-08-7
			Choline Chloride	000067-48-1
	ClayCare Clay S	Clay Stabilizer	Water	007732-18-5
BAKER HUGHES	Enzyme G-I	Breaker No Hazardous Components		NONE
	ENZYME G-NE	Breaker	No Hazardous Components	NONE
x = c	FRW-18	Friction Reducer	Petroleum Distillate Hydrotreated Light	064742-47-8
		1,0000	Petroleum Distillate Blend Polysaccharide Blend	N/A-014
		Gel		N/A-021
	SCALETROL 720 Scale Inhibitor		Diethylene Glycol	000111-46-6
		Ethylene Glycol	000107-21-1	
	XLW-32 Crosslin		Boric Acid	010043-35-3
		Crosslinker	Methanol (Methyl Alcohol)	000067-56-1
	APB01 (AMMONIUM PERSUFATE BREAKER)	Breaker	Ammonium Persulfate	007727-54-0
	B05 (LOW PH BUFFER)	Buffer	Acetic acid	000064-19-7
	BXL03 Borate XL Delayed	Crosslinker	No Hazardous Components	NONE
FRAC TECH	High Temp FRW-200	Friction Reducer	No Hazardous Components	NONE
SERVICES	HVG01 (TURQUOISE-1	Gelling Agent	Petroleum Distillate Hydrotreated Light	064742-47-8
	BULK) KCLS-4	Clay Stabilizer	No Hazardous Components	NONE
	LTB-1	Breaker	Ammonium Persulfate	N/A