



west virginia department of environmental protection

Office of Oil and Gas
601 57th Street, S.E.
Charleston, WV 25304
(304) 926-0450
fax: (304) 926-0452

Jim Justice , Governor
Austin Caperton , Cabinet Secretary
www.dep.wv.gov

Tuesday, September 19, 2017
WELL WORK PERMIT
Horizontal 6A / New Drill

SWN PRODUCTION COMPANY, LLC
POST OFFICE BOX 12359

SPRING, TX 773914954

Re: Permit approval for EDWIN BUNNER MRN 5H
47-049-02461-00-00

This well work permit 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 any additional specific 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 of 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.

Per 35 CSR 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- 0450.

James A. Martin
Chief

Operator's Well Number: EDWIN BUNNER MRN 5H
Farm Name: EDWIN L. BUNNER & SANDRA J. BUNNER
U.S. WELL NUMBER: 47-049-02461-00-00
Horizontal 6A / New Drill
Date Issued: 9/19/2017

Promoting a healthy environment.

09/22/2017

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. This proposed activity may require permit coverage from the United States Army Corps of Engineers (USACE). Through this permit, you are hereby being advised to consult with USACE regarding this proposed activity.
2. If the operator encounters an unanticipated void, or an anticipated void at an unanticipated depth, the operator shall notify the inspector within 24 hours. Modifications to the casing program may be necessary to comply with W. Va. Code § 22-6A-5a (12), which requires drilling to a minimum depth of thirty feet below the bottom of the void, and installing a minimum of twenty (20) feet of casing. Under no circumstance should the operator drill more than one hundred (100) feet below the bottom of the void or install less than twenty (20) feet of casing below the bottom of the void.
3. When compacting fills, each lift before compaction shall not be more than 12 inches in height, and the moisture content of the fill material shall be within limits as determined by the Standard Proctor Density test of the actual soils used in specific engineered fill, ASTM D698, Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort, to achieve 95 % compaction of the optimum density. Each lift shall be tested for compaction, with a minimum of two tests per lift per acre of fill. All test results shall be maintained on site and available for review.
4. 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.
5. 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.
6. Pursuant to the requirements pertaining to the sampling of domestic water supply wells/springs the operator shall, no later than thirty (30) days after receipt of analytical data provide a written copy to the Chief and any of the users who may have requested such analyses.
7. 24 hours prior to the initiation of the completion process the operator shall notify the Chief or his designee.
8. During the completion process the operator shall monitor annular pressures and report any anomaly noticed to the chief or his designee immediately.
9. 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.
10. During the casing and cementing process, in the event cement does not return to the surface, the oil and gas inspector shall be notified within 24 hours.

PERMIT CONDITIONS

11. 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.

WW-6B
(04/15)

API NO. 47-049 - _____
 OPERATOR WELL NO. Edwin Bunner MRN 5H
 Well Pad Name: Edwin Bunner 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 49-Marion 19-Winfield 368-Gladesville
 Operator ID County District Quadrangle

2) Operator's Well Number: Edwin Bunner MRN 5H Well Pad Name: Edwin Bunner Pad

3) Farm Name/Surface Owner: Edwin Bunner Public Road Access: Bunner Ridge Road

4) Elevation, current ground: 1466.9' Elevation, proposed post-construction: 1466.9'

5) Well Type (a) Gas X Oil _____ Underground Storage _____

Other _____

(b) If Gas Shallow X Deep _____

Horizontal X

*SDew
6/28/2017*

6) Existing Pad: Yes or No Yes

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):
Target Formation- Marcellus, Target Top TVD- 7263', Target Base TVD- 7365', Anticipated Thickness- 102', Associated Pressure- 4721

8) Proposed Total Vertical Depth: 7317'

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 14878'

11) Proposed Horizontal Leg Length: 7045.99'

12) Approximate Fresh Water Strata Depths: 268'

13) Method to Determine Fresh Water Depths: from petrophysics and existing wells

14) Approximate Saltwater Depths: 657'

15) Approximate Coal Seam Depths: N/A

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: _____
 Owner: _____

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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	H-40	94#	100'	100'	CTS
Fresh Water	13 3/8"	New	H-40	48#	408'	408'	399 sx/CTS
Coal	9 5/8"	New	J-55	36#	2880'	2880'	1121 sx/CTS
Intermediate	7"	New	J-55	20#	If Needed	If Needed	If Needed/As Needed
Production	5 1/2"	New	HCP-110	20#	14878'	14878'	lead 505sx 7' 1584sx/100' inside 100' 
Tubing	2 3/8"	New	HCP-110	4.7#	Approx. 7317'	Approx. 7317'	
Liners							

*SDW
6/28/2017*

TYPE	Size (in)	Wellbore Diameter (in)	Wall Thickness (in)	Burst Pressure (psi)	Anticipated Max. Internal Pressure (psi)	Cement Type	Cement Yield (cu. ft./k)
Conductor	30"	30"	.375"	443	81	Class A	1.19/50% Excess
Fresh Water	20"	26"	.375"	2110	81	Class A	1.19/50% Excess
Coal	13 3/8"	17.5"	0.380	2740	633	Class A	1.19/50% Excess
Intermediate	9 5/8"	12 1/4"	0.395	3950	1768	Class A	1.19/50% Excess
Production	5 1/2"	8 3/4"	0.361	12360	9500	Class A	1.20/50% Excess
Tubing	2 3/8"	4.778"	0.190	Approx 8193'	Approx 8193'		
Liners							

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PACKERS

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

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19) Describe proposed well work, including the drilling and plugging back of any pilot hole:

Drill and stimulate any potential zones between and including the Benson to Marcellus. **If we should encounter a void place basket above and below void area- balance cement to bottom of void and grout from basket to surface. Run casing not less than 20' below void nor more than 50' below void. (*If freshwater is encountered deeper than anticipated it must be protected, set casing 50' below and cts.)

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): 5.3

22) Area to be disturbed for well pad only, less access road (acres): 4.6

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 ***

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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.

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*Note: Attach additional sheets as needed.

June 29, 2017

Ms. Laura Adkins
Office of Oil & Gas
601 57th Street
Charleston, WV 25304

RE: Proposed New Well Edwin Bunner MRN 5H

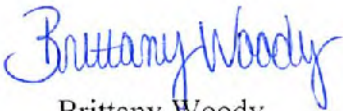
Dear Ms. Adkins

SWN has reviewed the area of the above mentioned well and discovered no shallow wells within 500' of the lateral. This well is situated on the Bunner's property, in Winfield District, Marion County, West Virginia.

If you have any questions or desire additional information, please me at 304-884-1614

Thank you.

Sincerely,



Brittany Woody
Regulatory Analyst
Southwestern Energy Production Company, LLC
PO Box 1300
Jane Lew, WV 26378

470-1802461

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09/22/2017

Schlumberger Cement Additives

Product Name	Product Use	Chemical Name	CAS Number
Surface Intermediate	S001	calcium chloride	10043-52-4
	S001	calcium chloride	10043-52-4
Kick Off Plug	D080	sodium polynaphthalene sulfonate	9008-63-3
	D801	aromatic polymer derivative	proprietary
Production-Lead	D047	polypropylene glycol	25322-69-4
	D167	aliphatic amide polymer	proprietary
	D154	non-crystalline silica	7631-86-9
	D400	boric acid	10043-35-3
	D046	polypropylene glycol fullers earth (attapulgite)	25322-69-4 8031-18-3
	D201	retarder	14808-60-7
	D202	dispersant	proprietary
	D046	dispersant	proprietary
Production-Tail	D046	polypropylene glycol	25322-69-4
	D167	fullers earth (attapulgite)	8031-18-3
Production-Tail	D065	aliphatic amide polymer	proprietary
	D201	sodium polynaphthalene sulfonate	9008-63-3
	D153	sodium sulfite	7757-82-6
	D201	chrySTALLINE silica	14808-60-7
	D153	metal oxide chrySTALLINE silica	proprietary 14808-60-7

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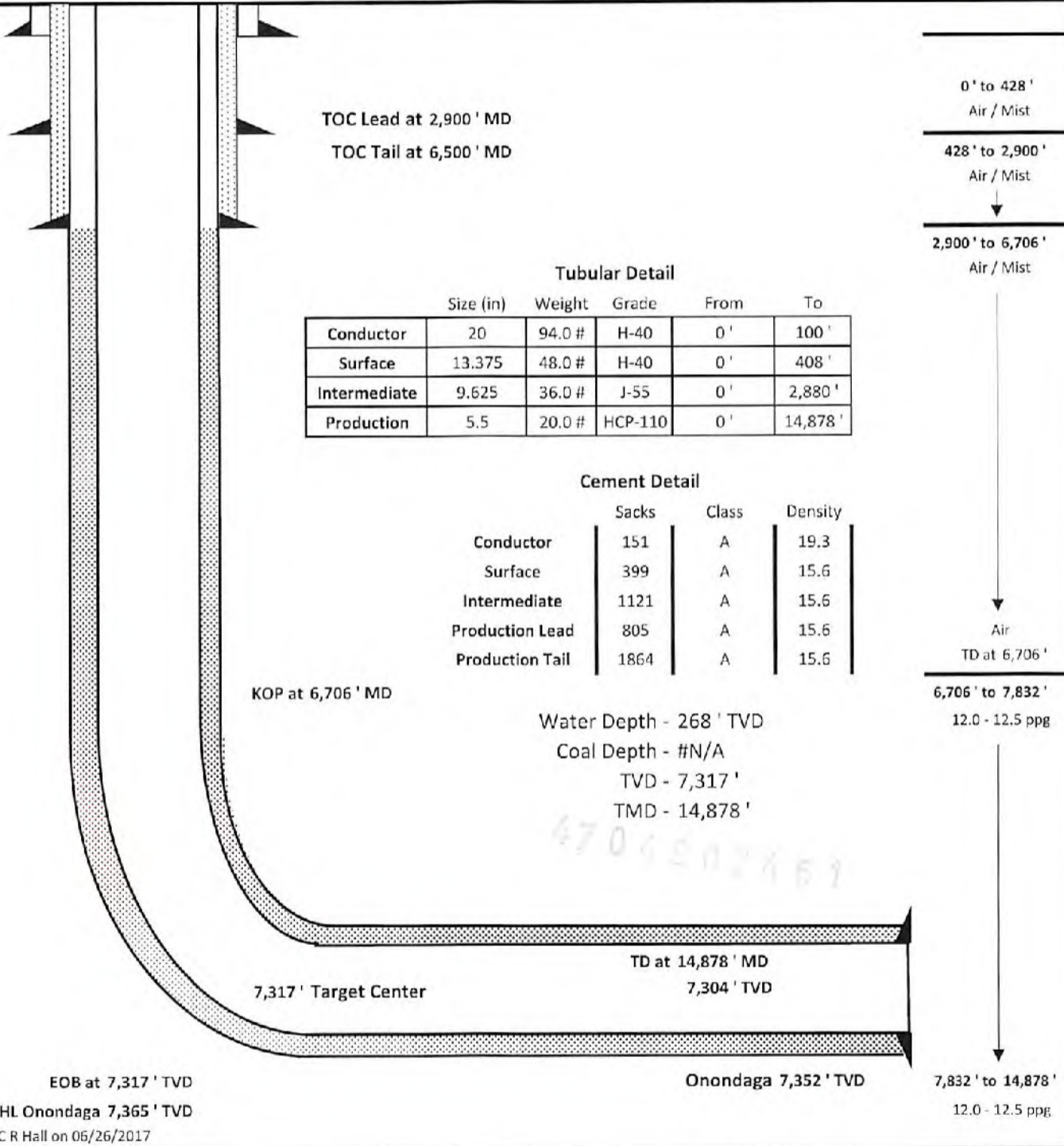
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Southwestern Energy Company

Proposed Drilling Program

Well: EDWIN BUNNER MRN 5 Re-entry Rig: TBD
 Field: OSAGE FIELD Prospect: OSAGE
 County: MARION State: WV
 SHL: 39.4621 Latitude -79.9944 Longitude
 BHL: 39.4813 Latitude -80.0071 Longitude
 KB Elev: 1,493 ft MSL KB: 26 ft AGL GL Elev: 1,467 ft MSL



Tubular Detail

	Size (in)	Weight	Grade	From	To
Conductor	20	94.0 #	H-40	0'	100'
Surface	13.375	48.0 #	H-40	0'	408'
Intermediate	9.625	36.0 #	J-55	0'	2,880'
Production	5.5	20.0 #	HCP-110	0'	14,878'

Cement Detail

	Sacks	Class	Density
Conductor	151	A	19.3
Surface	399	A	15.6
Intermediate	1121	A	15.6
Production Lead	805	A	15.6
Production Tail	1864	A	15.6

Water Depth - 268' TVD
 Coal Depth - #N/A
 TVD - 7,317'
 TMD - 14,878'

Created by: C R Hall on 06/26/2017

09/22/2017

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WW-9
(4/16)

API Number 47 - 103 - _____
Operator's Well No. Edwin Burner MRN 5H

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

FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name SWN Production Company, LLC OP Code 494512924

Watershed (HUC 10) Laurel Run of Whiteday Creek of Upper Monongahela River Quadrangle Gladesville

Do you anticipate using more than 5,000 bbls of water to complete the proposed well work? Yes No

Will a pit be used? Yes No

If so, please describe anticipated pit waste: closed loop system in place at this time- cuttings will be taken to a permitted landfill

Will a synthetic liner be used in the pit? Yes No If so, what ml? _____

Proposed Disposal Method For Treated Pit Wastes:

- Land Application
- Underground Injection (UIC Permit Number _____)
- Reuse (at API Number at next anticipated well, API # will be included with the WR-34/DDMR &/or permit addendum)
- Off Site Disposal (Supply form WW-9 for disposal location)
- Other (Explain flow back fluids will be put in steel tanks and reused or taken to a permitted disposal facility)

*SDW
6/28/2017*

Will closed loop system be used? If so, describe: yes

Drilling medium anticipated for this well (vertical and horizontal)? Air, freshwater, oil based, etc. oil drill to KOP, fluid drill with SCBM from KOP to TD

-If oil based, what type? Synthetic, petroleum, etc. synthetic oil base

Additives to be used in drilling medium? see attached sheets

Drill cuttings disposal method? Leave in pit, landfill, removed offsite, etc. landfill

-If left in pit and plan to solidify what medium will be used? (cement, lime, sawdust) _____

-Landfill or offsite name/permit number? meadow SWF-1032, 55 grading SWF 4902, Northwestern SWF 1025, Short Creek 1034/WW109517/CID28726, Carbon Limestone 28726-CID28726

Arden Landfill 100/2, American U2-12954, Country wide 38390/CID38390, Pine Grove 13688

Permittee shall provide written notice to the Office of Oil and Gas of any load of drill cuttings or associated waste rejected at any West Virginia solid waste facility. The notice shall be provided within 24 hours of rejection and the permittee shall also disclose where it was properly disposed.

I certify that I understand and agree to the terms and conditions of the GENERAL WATER POLLUTION PERMIT issued on August 1, 2005, by the Office of Oil and Gas of the West Virginia Department of Environmental Protection. I understand that the provisions of the permit are enforceable by law. Violations of any term or condition of the general permit and/or other applicable law or regulation can lead to enforcement action.

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this application form and all attachments thereto 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 or imprisonment.

Company Official Signature _____
Company Official (Typed Name) Dee Southall
Company Official Title Regulatory Supervisor

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4704302401
WV Department of
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Subscribed and sworn before me this 20th day of June, 2017

Brittany R Woody
My commission expires 11/27/2017

Notary Public



SWN Production Company, LLC

Proposed Revegetation Treatment: Acres Disturbed 5.3 Prevegetation pH _____

Lime as determined by pH test min. 2 Tons/acre or to correct to pH 4.6

Fertilizer type 10-20-20

Fertilizer amount 600 lbs/acre

Mulch Hay/Straw 2.5 Tons/acre

Seed Mixtures

Temporary

Permanent

Seed Type lbs/acre

Seed Type lbs/acre

****See Attachment**

Attach:

Maps(s) of road, location, pit and proposed area for land application (unless engineered plans including this info have been provided). If water from the pit will be land applied, include dimensions (L x W x D) of the pit, and dimensions (L x W), and area in acreage, of the land application area.

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: [Signature]

Comments: Existing Pad. Upgrade ETS if/ as necessary Per WV DEP ETS manual

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Title: oil and gas inspector

Date: 6/28/2017

Field Reviewed? () Yes () No

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Drilling Mediums

Synthetic Oil

Brine

Barite

Calcium Chloride

Lime

Organophilic Bentonite

Primary and Secondary Emulsifiers

Gilsonite

Calcium Carbonate

Friction Reducers

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WVD Seeding Specification

R²
A → V⁺

To Order Seed contact Lyndsi Eddy Flippo office 570-996-4271 cell 501-269-5451 lyndsi_eddy@swn.com (please allow 7 to 10 days for delivery)

NON-ORGANIC PROPERTIES		
Seed Mixture: ROW Mix	SWN Supplied	
Orchardgrass	40%	
Timothy	15%	
Annual Ryegrass	15%	
Brown Top Millet	5%	
Red Top	5%	
Medium Red Clover	5%	All legumes are innoculated at 5x normal rate
White Clover	5%	
Birdsfoot Trefoil	5%	
Rough Bluegrass	5%	
Apply @ 100lbs per acre April 16th- Oct. 14th		Apply @ 200lbs per acre Oct. 15th- April 15th PLUS 50lbs per acre of Winter Wheat

SOIL AMENDMENTS	
10-20-20 Fertilizer	*Apply @ 500lbs per Acre
Pelletized Lime	Apply @ 2 Tons per Acre
*unless otherwise dictated by soil test results	

Seeding Calculation Information:
1452' of 30' ROW/LOD is One Acre
871' of 50' ROW/LOD is One Acre
622' of 70' ROW/LOD is One Acre

Synopsis:
Every 622 linear feet in a 70' ROW/LOD, you should be using (2) 50lb bags of seed, (4) 50lb bags of fertilizer and (80) 50lb bags of Lime (2x seed in winter months + 50lb Winter Wheat/ac).

Special Considerations:
Landowner Special Considerations including CREP program participants require additional guidance that is not given here. Discuss these requirements with SWN supervision at the beginning of the project to allow time for special seed delivery.

ORGANIC PROPERTIES	
Seed Mixture: SWN Production Organic Mix	SWN Supplied
Organic Timothy	50%
Organic Red or White Clover	50%
OR	
Organic Perennial Ryegrass	50%
Organic Red or White Clover	50%
Apply @ 100lbs per acre April 16th- Oct. 14th	
Apply @ 200lbs per acre Oct. 15th- April 15th	
Organic Fertilizer @ 200lbs per Acre	Pelletized Lime @ 2 Tons per Acre

WETLANDS (delineated as jurisdictional wetlands)	
Seed Mixture: Wetland Mix	SWN Supplied
VA Wild Ryegrass	20%
Annual Ryegrass	20%
Fowl Bluegrass	20%
Cosmos 'Sensation'	10%
Redtop	5%
Golden Tickseed	5%
Maryland Senna	5%
Showy Tickseed	5%
Fox Sedge	2.5%
Soft Rush	2.5%
Woolgrass	2.5%
Swamp Verbena	2.5%
Apply @ 25lbs per acre April 16th- Oct. 14th	
Apply @ 50lbs per acre Oct. 15th- April 15th	
NO FERTILIZER OR LIME INSIDE WETLAND LIMITS	

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MARCELLUS WELL DRILLING PROCEDURES AND WELL SITE SAFETY PLAN



SWN Production Company, LLC
179 Innovation Drive
Jane Lew, West Virginia 26378

API NO. 47-XXX-XXXXX
WELL NAME: Edwin Bunner MRN 5H
Gladesville QUAD
Winfield DISTRICT
Marion COUNTY, WEST VIRGINIA

Submitted by:

6/26/2017

Dee Southall

Title: Regulatory Supervisor SWN Production Co., LLC

Approved by:

Date:

Title:

Approved by:

Date:

Title:

SWN PRODUCTION COMPANY, LLC

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09/22/2017

JACKSON SURVEYING INC.

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

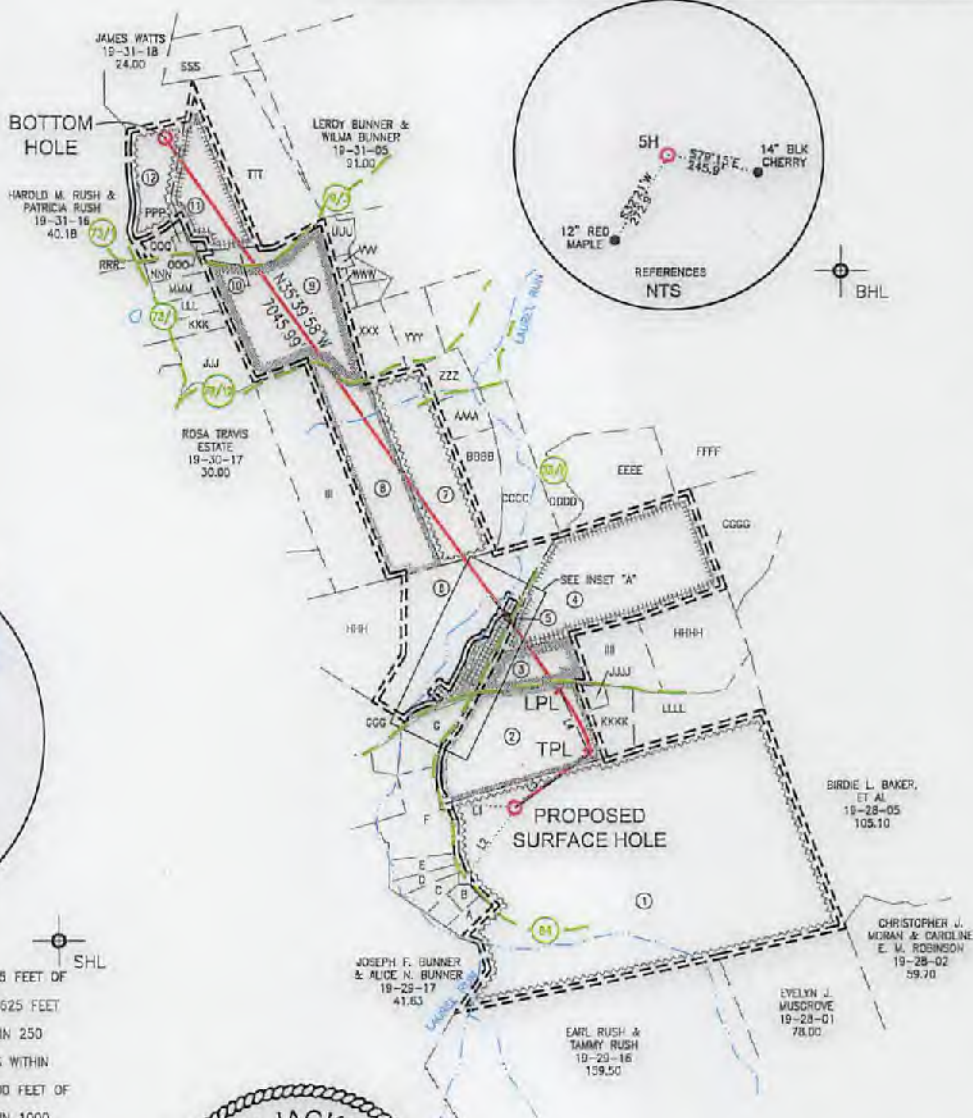
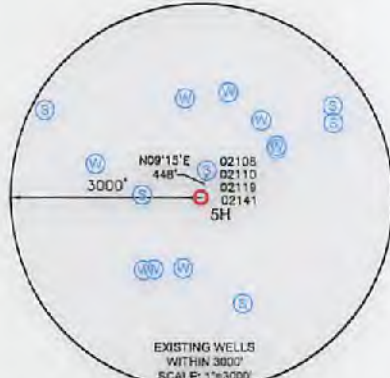
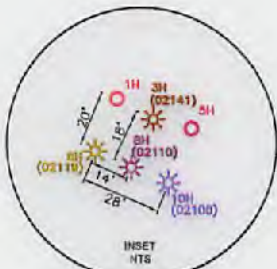
GRID NORTH
UTM, NAD83 DATUM, ZONE 17, US FT

SURFACE HOLE LOCATION (SHL):
UTM (NAD83, ZONE 17, METERS): NORTHING: 4,368,546.175 EASTING: 585,504.039
TURNING POINT LOCATION (TPL):
UTM (NAD83, ZONE 17, METERS): NORTHING: 4,368,714.172 EASTING: 586,738.132
LANDING POINT (LPL):
UTM (NAD83, ZONE 17, METERS): NORTHING: 4,368,916.816 EASTING: 586,645.442
BOTTOM HOLE LOCATION (BHL):
UTM (NAD83, ZONE 17, METERS): NORTHING: 4,370,661.604 EASTING: 585,393.245

LINE	BEARING	DISTANCE	DESCRIPTION	MONUMENT
L1	N 86°46'42" W	731.04'	SHL TO LANDMARK	1/2" REBAR FOUND
L2	S 36°14'20" W	913.51'	SHL TO LANDMARK	1/2" REBAR FOUND
L3	N 54°20'06" E	945.33'	SHL TO LANDMARK	TPL
LINE	BEARING	DISTANCE	CURVE LENGTH	DESCRIPTION
L4	N 24°34'46" W	731.09'	753.07'	TPL TO LPL

BOTTOM HOLE 6805'
SURFACE HOLE 13788'

(FAIRMONT EAST) Longitude: 80°00'00"
(GLADESVILLE) Longitude: 79°57'30"



WELL RESTRICTIONS

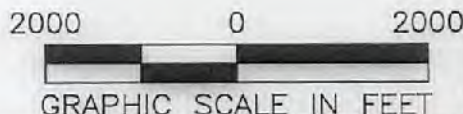
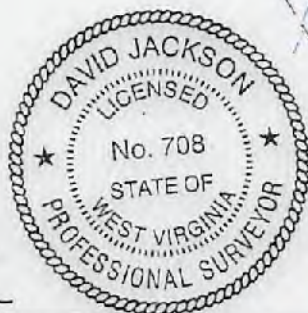
- NO OCCUPIED DWELLINGS > 2500 SQ FT. WITHIN 625 FEET OF CENTER OF PAD.
- NO AGRICULTURE BUILDINGS > 2500 SQ FT. WITHIN 625 FEET OF CENTER OF PAD.
- NO WATER WELLS OR DEVELOPED SPRINGS ARE WITHIN 250 FEET OF PROPOSED WELL.
- PERENNIAL STREAMS, LAKES, PONDS, OR RESERVOIRS WITHIN 1000 FEET OF THE LIMITS OF DISTURBANCE.
- NO NATURALLY PRODUCING TROUT STREAM WITHIN 300 FEET OF LIMITS OF DISTURBANCE.
- NO GROUND INTAKE OR PUBLIC WATER SUPPLY WITHIN 1000 FEET OF WELL PAD, LIMITS OF DISTURBANCE, E & S CONTROLS OR PUBLIC WATER SUPPLY.

NOTES ON SURVEY

- SURFACE AND ROYALTY OWNER INFORMATION AND THEIR BOUNDARIES SHOWN HEREON WERE PLOTTED FROM DEEDS AND/OR TAX PARCEL MAPS PROVIDED BY CLIENT AND/OR FIELD LOCATIONS.
 - THIS PLAT DOES NOT REPRESENT A BOUNDARY SURVEY OF THE PARCELS SHOWN HEREON.
 - ALL INSETS ARE GRID NORTH UNLESS OTHERWISE DEPICTED.
- I, THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND REGULATIONS ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

P.S. 708

David L Jackson



COMPANY: **SWN** Production Company, LLC

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS
WVDEP
OFFICE OF OIL & GAS
601 57TH STREET
CHARLESTON, WV 25034

MINIMUM DEGREE OF ACCURACY: 1/200
PROVEN SURVEY SOURCE OF ELEVATION: GRADE GPS (NAVD 88, US FT)

EDWIN BUNNER MRN
OPERATOR'S WELL #: 5H
API WELL #: 47 STATE 049 COUNTY 02461 PERMIT HGA

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

WATERSHED: LAUREL RUN OF WHITEDAY CREEK OF UPPER MONONGAHELA RIVER (HUC-10) ELEVATION: 1466.9'

DISTRICT: WINFIELD COUNTY: MARION QUADRANGLE: GLADESVILLE, WV

SURFACE OWNER: SEE TRACT 1 ON PAGE 2 ACREAGE: ±193.25

OIL & GAS ROYALTY OWNER: SEE TRACT 1 ON PAGE 2 ACREAGE: ±193.25

DRILL DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD FORMATION PERFORATE NEW FORMATION

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

TARGET FORMATION: MARCELLUS ESTIMATED DEPTH: 7,317' **09/22/2017**

WELL OPERATOR: SWN PRODUCTION COMPANY, LLC DESIGNATED AGENT: DEE SOUTHALL
ADDRESS: P.O. BOX 1300 ADDRESS: P.O. BOX 1300
CITY: JANE LEW STATE: WV ZIP CODE: 26378 CITY: JANE LEW STATE: WV ZIP CODE: 26378

LEGEND:	— SURVEYED BOUNDARY	REVISIONS:	DATE: 07-05-2017
○ PROPOSED SURFACE HOLE / BOTTOM HOLE	— DRILLING UNIT		
⊙ EXISTING / PRODUCING WELLHEAD	== LEASE BOUNDARY		
LPL* LANDING POINT LOCATION	— PROPOSED PATH		
⊕ EXISTING WATER WELL			
⊙ EXISTING SPRING			
			DRAWN BY: N. MANO
			SCALE: 1" = 2000'
			DRAWING NO:
			WELL LOCATION PLAT



JACKSON SURVEYING
INC.

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

WELL BORE TABLE FOR SURFACE / ROYALTY OWNERS			
TRACT	SURFACE OWNER (S) / ROYALTY OWNER (R)	TAX PARCEL	ACRES
1	EDWIN L. BUNNER & SANDRA J. BUNNER, BERNICE E. MILLER, BARBARA A. GREENE, MYRON R. MILLER, RICHARD T. MORGAN, JR., RICHARD EARL HUGHES, KENITA K. MASSARO & EUGENE J. MASSARO, CATHY JO KELLEY, CRYSTAL D. HAYNES, LUCILLE MCKINNEY, STEPHEN DWIGHT HUGHES, PAMELA ROSE SNYDER, JASON MULIK, CHRYSTLE DAWN BOLYARD, JUDITH JEANNETTE CLINE, TERESA WILLIAMS, VALERIE D. BOLTON, LESTER PRICE LAKE, NANCY L. HILL, A.K.A. NANCY L. SOSSOMAN, NAOMI CLAUDINE LAKE, RANDY WAYNE LAKE, LARRY JACKSON SHUTTLEWORTH, TERRY ROBERTS SHUTTLEWORTH, DARRELL L. SHUTTLESWORTH, JIMMY EUGENE LAKE, JUDY STAINBROOK, KENNETH LEO LAKE, JR., WILLIAM E. LAKE & JOYCE E. LAKE, RICHARD A. LAKE, JR., CRYSTAL LAKE BOUND, MICHAEL R. LAKE (S)/(R)	19-28-8	193.25
TRACT	SURFACE OWNER	TAX PARCEL	ACRES
2	LUELLA M. ROBE (S)	19-28-7	33.66
3	FRANKLIN T. BUNNER & VIRGINIA K. BUNNER (S)	19-30-3.1	10.00
4	EDWIN D. BUNNER (S)	19-30-2	50.84
5	DEANNA F. HUMPHREY & JAMES R. HUMPHREY	19-30A-05	0.057
6	ROBERT LEE HARR & DORIS GLENNA HARR, TRUSTEES OF THE ROBERT LEE HARR & DORIS GLENNA HARR TRUST (S)	19-30-01	53.13
7	GARY RUSSELL RUSH (S)	19-30-16.3	28.79
8	PATRICK W. KNIGHT & MEREDITH B. KNIGHT (S)	19-30-16.2	30.60
9	JOHN R. PHEASANT (S)	19-31-4	38.75
10	LUTHER HUFFMAN; MELONY A. (HUFFMAN) COLLINSWORTH(S)	19-31-12.4	3.03
11	LUTHER HUFFMAN; MELONY A. (HUFFMAN) COLLINSWORTH(S)	19-31-12.1	21.89
12	NANCY ALICE COTTRELL & LEO EUGENE COTTRELL (S)	19-31-13	14.10

ADJOINING OWNERS TABLE				ADJOINING OWNERS TABLE			
TRACT	SURFACE OWNER	TAX PARCEL	ACRES	TRACT	SURFACE OWNER	TAX PARCEL	ACRES
A	MISTY FLUHARTY	19-29-19.7	2.00	VV	EVERETT E. WATKINS, JR.	19-30A-57	0.057
B	LEAH A. HARLOW	19-29-19.11	1.50	WW	WINFORD C. MCHENRY & RUSSELL A. MCHENRY & VIRGINIA D. SHAW	19-30A-68	0.057
C	VIRGINIA K. BUNNER & FRANKLIN BUNNER	19-29-19.5	2.452	XX	ROBERT B. STEVENSON & SUSAN L. STEVENSON	19-30A-69	0.057
D	FRANKLIN T. BUNNER & VIRGINIA K. BUNNER	19-29-19.6	2.452	YY	ROBERT B. STEVENSON & SUSAN L. STEVENSON	19-30A-70	0.057
E	EARL F. HUFFMAN, JR. & CAROL A. HUFFMAN	19-29-19.9	2.452	ZZ	LARRY K. TROUT & JOANNE TROUT	19-30A-71	0.057
F	EARL V. RUSH, JR. & TAMMY S. RUSH	19-29-19.4	12.355	AAA	EARL F. HUFFMAN, JR. & STEPHEN V. HIXENBAUGH	19-30A-72	0.052
G	LINDA PERKINS	19-29-18	6.62	BBB	EARL F. HUFFMAN, JR. & STEPHEN V. HIXENBAUGH	19-30A-73	0.057
H	ROBERT L. HARR & DORIS G. HARR, TRUSTEES	19-30A-22	0.057	CCC	ROBERT L. HARR & DORIS G. HARR, TRUSTEES	19-30A-74	0.057
I	ROBERT L. HARR & DORIS G. HARR, TRUSTEES	19-30A-21	0.057	DDD	ROBERT L. HARR & DORIS G. HARR, TRUSTEES	19-30A-75	0.052
J	ROBERT L. HARR & DORIS G. HARR, TRUSTEES	19-30A-20	0.057	EEE	ROBERT L. HARR & DORIS G. HARR, TRUSTEES	19-30A-76	0.052
K	ROBERT L. HARR & DORIS G. HARR, TRUSTEES	19-30A-19	0.057	FFF	ROBERT L. HARR & DORIS G. HARR, TRUSTEES	19-30A-77	0.046
L	ROBERT L. HARR & DORIS G. HARR, TRUSTEES	19-30A-18	0.057	GGG	ANITA C. PRIEST	19-29-19	12.355
M	ROBERT L. HARR & DORIS G. HARR, TRUSTEES	19-30A-17	0.057	HHH	JOHN R. MERRIFIELD & CHRISTIE G. MERRIFIELD	19-30-1.1	25.544
N	NANCY C. WELCH & MELINDA J. BRAGG	19-30A-16	0.057	III	CHARLES B. HULDERMAN & RACHEL A. HULDERMAN	19-30-16.1	30.5
O	NANCY C. WELCH & MELINDA J. BRAGG	19-30A-15	0.057	JJJ	LEO L. MORRIS	19-31-3.1	8.945
P	NANCY C. WELCH & MELINDA J. BRAGG	19-30A-14	0.057	KKK	WILLIAM R. LAYMAN & DEBORAH J. LAYMAN	19-31-15.1	2.933
Q	ROBERT L. HARR & DORIS G. HARR, TRUSTEES	19-30A-13	0.057	LLL	WILLIAM R. LAYMAN & DEBORAH J. LAYMAN	19-31-15.2	2.933
R	THOMAS G. EVERLY & CINDY L. EVERLY	19-30A-12	0.057	MMM	JENNIFER L. COTTRELL	19-31-15.3	2.933
S	THOMAS G. EVERLY & CINDY L. EVERLY	19-30A-11	0.057	NNN	JENNIFER L. COTTRELL	19-31-15.4	2.933
T	THOMAS G. EVERLY & CINDY L. EVERLY	19-30A-10	0.057	OOO	LUTHER HUFFMAN C/O JAMES HUFFMAN	19-31-14	0.50
U	CHRISTOPHER L. EDDY & TAMMY R. EDDY	19-30A-09	0.057	PPP	ELIZABETH A. RAMSEY	19-31-12.2	0.21
V	CHRISTOPHER L. EDDY & TAMMY R. EDDY	19-30A-08	0.057	QQQ	LEO E. COTTRELL & NANCY A. COTTRELL	19-31-13.1	1.90
W	ROBERT R. CLARK & PAUL R.W. CLARK	19-30A-07	0.057	RRR	CARL M. RUSH & SUE RUSH	19-31-16.1	1.15
X	ROBERT R. CLARK & ARMELLA J.F. CLARK	19-30A-6	0.057	SSS	DONALD HAYHURST, JANE HAYHURST, PAUL HAYHURST & EDITH HAYHURST	19-31-12.3	6.00
Y	ROGER A. SANDERS & BETTY M. SANDERS	19-30A-03	0.057	TTT	HENRY HUFFMAN	19-31-12	26.13
Z	ROGER A. SANDERS & BETTY M. SANDERS	19-30A-04	0.057	UUU	BARBARA E. HUFFMAN & KENNETH HUFFMAN	19-30-16.6	26.91
AA	ROBERT W. BENSON & BOBBI J. BENSON	19-30A-79	0.14	VVV	KENNETH HUFFMAN, JR.	19-30-16.18	0.58
BB	WAYNE SANDERS & MYRTLE SANDERS	19-30A-01	0.044	WWW	STEPHEN HIXENBAUGH, SR. & CONNIE HIXENBAUGH	19-30-16.11	1.00
CC	ROBERT W. BENSON & BOBBI J. BENSON	19-30A-02	0.044	XXX	STEVEN A. RUSH & CONNIE C. RUSH	19-30-16.13	7.08
DD	JAMES R. HUMPHREY & DEANNA F. CLARK	19-30A-39	0.04	YYY	JASON L. RUSH	19-30-16.29	7.70
EE	ROBERT R. CLARK & ARMELLA J.F. CLARK	19-30A-38	0.052	ZZZ	RUSSELL RUSH & KATHARINA E. RUSH	19-30-16.12	3.47
FF	ROBERT R. CLARK & PAUL R.W. CLARK	19-30A-37	0.057	AAAA	RUSSELL RUSH & KATHARINA E. RUSH	19-30-16.19	3.47
GG	CHRISTOPHER L. EDDY & TAMMY R. EDDY	19-30A-36	0.057	BBBB	GARY R. BIDDLE, SR. & WILMA J. BIDDLE	19-30-16.22	8.31
HH	CHRISTOPHER L. EDDY & TAMMY R. EDDY	19-30A-35	0.057	CCCC	WILMA BIDDLE & GARY BIDDLE, SR.	19-30-16	11.52
II	THOMAS G. EVERLY & CINDY L. EVERLY	19-30A-34	0.057	DDDD	GARY R. BIDDLE, SR. & WILMA J. BIDDLE	19-30-15	3.42
JJ	BETTY PIER	19-30A-40	0.049	EEEE	CHRISTOPHER T. SHAFFER & DIANE M. SHAFFER	19-30-14.1	20.36
KK	ROBERT L. BENSON	19-30A-41	0.077	FFFF	HAROLD E. LANGLEY & ELEANOR E. LANGLEY & DEBORAH K. LANGLEY	19-30-11	28.50
LL	ROBERT L. BENSON & ETHEL L. BENSON	19-30A-67	0.056	GGGG	ALBERT L. LANGLEY & ANNA M. LANGLEY, C/O A. LEE LANGLEY III	19-30-05	23.60
MM	RONALD E. YOUNG & DOUGLAS A. YOUNG	19-30A-66	0.057	HHHH	EDWIN D. BUNNER & SANDRA BUNNER	19-30-04	20.00
NN	SHARON A. SYMENSKI	19-30A-65	0.057	IIII	SETH A. KLINE	19-30-03	10.00
OO	RICHARD LESSON	19-30A-64	0.057	JJJJ	ROBERT F. DONALDSON & MICHELE DONALDSON	19-28-6.2	1.301
PP	RICHARD LESSON	19-30A-63	0.051	KKKK	SALLY A. DONALDSON	19-28-6.1	6.199
QQ	KIMBERLY WELLS	19-30A-62	0.057	LLLL	EDWIN D. BUNNER & LANA J. BUNNER	19-28-06	12.50
RR	KIMBERLY WELLS	19-30A-61	0.057				
SS	MARJORIE W. CASSELL & DAVID B. CASSELL	19-30A-60	0.057				
TT	FRANCINE R. WILLIAMS	19-30A-59	0.057				
UU	WINFORD C. MCHENRY & DONNA J. MCHENRY	19-30A-58	0.057				

09/22/2017

REVISIONS:	COMPANY:	 	
	OPERATOR'S	EDWIN BUNNER MRN	
	WELL #:	5H	
	DISTRICT:	COUNTY:	STATE:
	WINFIELD	MARION	WV
			DATE: 07-05-2017
			DRAWN BY: N. MANO
			SCALE: N/A
			DRAWING NO:
			WELL LOCATION PLAT 2

WELL BORE TABLE FOR SURFACE \ ROYALTY OWNERS

TRACT	SURFACE OWNER	TAX PARCEL	ACRES
1	SURFACE OWNER (2) \ ROYALTY OWNER (R) EDWIN J. BUNNER & SANDRA J. BUNNER BERNICE E. MILLER, BARBARA A. GREENE, MYRON R. MILLER, RICHARD T. MORGAN, JR., RICHARD EARL HUGHES, KENITA K. MASSARO & EUGENE J. MASSARO, CATHY JO KELLEY, CRYSTAL D. HAYNES, LUCILLE MCKINNEY, STEPHEN DWIGHT HUGHES, PAMELA ROSE SNYDER, JASON MULIK, CHRYSLE DAWN BOLYARD, JUDITH JEANNETTE CLINE, TERESA WILLIAMS, VALERIE D. BOLTON, LESTER PRICE LAKE, NANCY J. HILL, A.K.A. NANCY L. SOSSOMAN, NAOMI CLAUDINE LAKE, RANDY WAYNE LAKE, LARRY JACKSON SHUTTLEWORTH, TERRY ROBERTS SHUTTLEWORTH, DARRELL L. SHUTTLEWORTH, JIMMY EUGENE LAKE, JUDY STAINBROOK, KENNETH LEO LAKE, JR., WILLIAM E. LAKE & JOYCE E. LAKE, RICHARD A. LAKE, JR., CRYSTAL LAKE BOUND, MICHAEL R. LAKE (2) \ (R)	19-28-8	193.25
2	SURFACE OWNER LUELLA M. ROBE (2)	19-28-7	33.68
3	FRANKLIN T. BUNNER & VIRGINIA K. BUNNER (2)	19-30-31	10.00
4	EDWIN D. BUNNER (2)	19-30-2	50.84
5	DEANNA F. HUMPHREY & JAMES R. HUMPHREY	19-30A-02	0.057
6	ROBERT LEE HARR & DORIS GLENN HARR, TRUSTEES OF THE ROBERT LEE HARR & DORIS GLENN HARR TRUST (2)	19-30-01	23.13
7	GARY RUSSELL RUSH (2)	19-30-18.3	28.78
8	PATRICK W. KNIGHT & MEREDITH B. KNIGHT (2)	19-30-18.2	30.80
9	JOHN R. PHEASANT (2)	19-31-4	28.75
10	LUTHER HUFFMAN; MELONY A. (HUFFMAN) COLLINSWORTH(2)	19-31-12.4	3.03
11	LUTHER HUFFMAN; MELONY A. (HUFFMAN) COLLINSWORTH(2)	19-31-12.1	21.88
12	NANCY ALICE COTTRELL & LEO EUGENE COTTRELL (2)	19-31-13	14.10

ADJOINING OWNERS TABLE

TRACT	SURFACE OWNER	TAX PARCEL	ACRES
A	MISTY FLUHARTY	19-28-18.7	2.00
B	LEAH A. HARLOW	19-29-18.11	1.50
C	VIRGINIA K. BUNNER & FRANKLIN BUNNER	19-29-18.5	2.452
D	FRANKLIN T. BUNNER & VIRGINIA K. BUNNER	19-29-18.6	2.452
E	EARL F. HUFFMAN, JR. & CAROL A. HUFFMAN	19-29-18.9	2.452
F	EARL V. RUSH, JR. & TAMMY S. RUSH	19-29-18.4	12.252
G	LINDA PERKINS	19-29-18	6.82
H	ROBERT L. HARR & DORIS G. HARR, TRUSTEES	19-30A-22	0.057
I	ROBERT L. HARR & DORIS G. HARR, TRUSTEES	19-30A-21	0.057
J	ROBERT L. HARR & DORIS G. HARR, TRUSTEES	19-30A-20	0.057
K	ROBERT L. HARR & DORIS G. HARR, TRUSTEES	19-30A-19	0.057
L	ROBERT L. HARR & DORIS G. HARR, TRUSTEES	19-30A-18	0.057
M	ROBERT L. HARR & DORIS G. HARR, TRUSTEES	19-30A-17	0.057
N	NANCY C. WELCH & MELINDA J. BRAGG	19-30A-16	0.057
O	NANCY C. WELCH & MELINDA J. BRAGG	19-30A-15	0.057
P	NANCY C. WELCH & MELINDA J. BRAGG	19-30A-14	0.057
Q	ROBERT L. HARR & DORIS G. HARR, TRUSTEES	19-30A-13	0.057
R	THOMAS G. EVERLY & CINDY L. EVERLY	19-30A-12	0.057
S	THOMAS G. EVERLY & CINDY L. EVERLY	19-30A-11	0.057
T	THOMAS G. EVERLY & CINDY L. EVERLY	19-30A-10	0.057
U	CHRISTOPHER J. EDDY & TAMMY R. EDDY	19-30A-09	0.057
V	CHRISTOPHER J. EDDY & TAMMY R. EDDY	19-30A-08	0.057
W	ROBERT R. CLARK & ARMELIA J.F. CLARK	19-30A-07	0.057
X	ROBERT R. CLARK & ARMELIA J.F. CLARK	19-30A-6	0.057
Y	ROGER A. SANDERS & BETTY M. SANDERS	19-30A-03	0.057
Z	ROGER A. SANDERS & BETTY M. SANDERS	19-30A-04	0.057
AA	ROBERT W. BENSON & BOBBI J. BENSON	19-30A-29	0.14
BB	WAYNE SANDERS & MYRTLE SANDERS	19-30A-01	0.044
CC	ROBERT W. BENSON & BOBBI J. BENSON	19-30A-02	0.044
DD	JAMES R. HUMPHREY & DEANNA F. CLARK	19-30A-39	0.04
EE	ROBERT R. CLARK & ARMELIA J.F. CLARK	19-30A-38	0.052
FF	ROBERT R. CLARK & PAUL R.W. CLARK	19-30A-37	0.057
GG	CHRISTOPHER J. EDDY & TAMMY R. EDDY	19-30A-36	0.057
HH	CHRISTOPHER J. EDDY & TAMMY R. EDDY	19-30A-35	0.057
II	THOMAS G. EVERLY & CINDY L. EVERLY	19-30A-34	0.057
JJ	BETTY PIER	19-30A-40	0.049
KK	ROBERT L. BENSON	19-30A-41	0.077
LL	ROBERT L. BENSON & ETHEL J. BENSON	19-30A-67	0.058
MM	RONALD E. YOUNG & DOUGLAS A. YOUNG	19-30A-68	0.057
NN	SHARON A. SYMENSKI	19-30A-65	0.057
OO	RICHARD LESSON	19-30A-64	0.057
PP	RICHARD LESSON	19-30A-63	0.057
QQ	KIMBERLY WELLS	19-30A-62	0.057
RR	KIMBERLY WELLS	19-30A-61	0.057
SS	MARJORIE W. CASSELL & DAVID B. CASSELL	19-30A-60	0.057
TT	FRANCINE R. WILLIAMS	19-30A-59	0.057
UU	WINFORD C. MCHEERY & DONNA J. MCHEERY	19-30A-58	0.057

REVISIONS:

COMPANY: SWN Production Company, LLC

OPERATOR'S: EDWIN BUNNER MRYN

WELL #: 2H

DISTRICT: MARION COUNTY, WV STATE

DATE: 07-02-2017

DRAWN BY: N. MAND

SCALE: N/A

DRAWING NO.:


WELL LOCATION PLAT 2

09/22/2017

JACKSON SURVEYING
 INC.
 P.O. Box 1460
 677 W. Main St.
 Clarksburg, WV 26302
 304-623-5651



09/22/2017

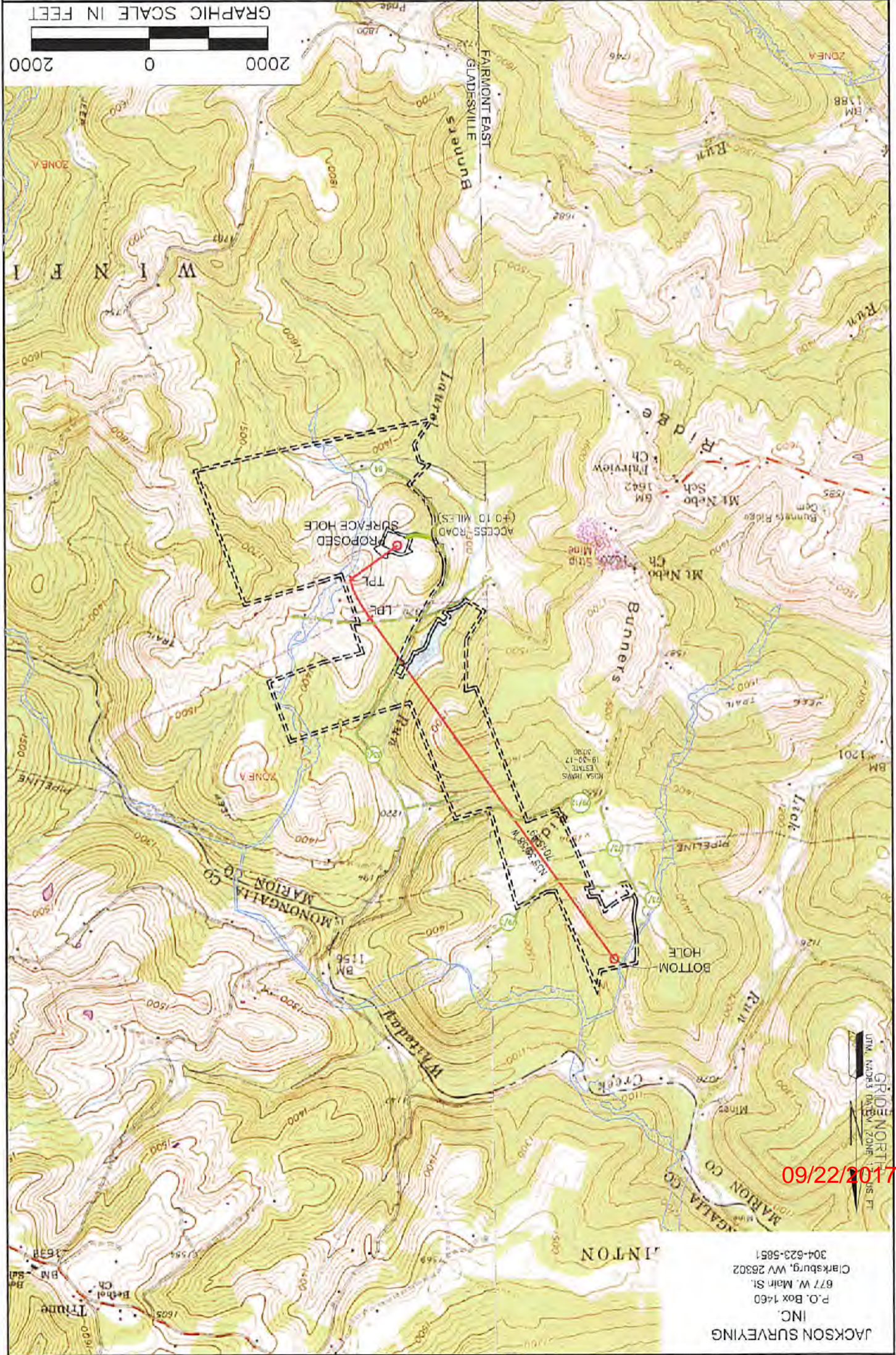
REVISIONS:	COMPANY:		
	OPERATOR'S	EDWIN BUNNER MRN	
	WELL #:	5H	
	DISTRICT:	COUNTY:	STATE:
	WINFIELD	MARION	WV
			DATE: 07-05-2017
			DRAWN BY: N. MANO
			SCALE: N/A
			DRAWING NO:
			WELL LOCATION PLAT 3



09/22/2017

DATE: 07-05-2017		DRAWN BY: N. MANO		SCALE: N/A		DRAWING NO:		WELL LOCATION PLAT 3	
EDWIN BUNNER MRN		STATE: WV		COUNTY: MARION		DISTRICT:		WELL #:	
OPERATOR'S		SH		COMPANY:		WINFIELD		REVISIONS:	
swn		swn		Production Company, LLC		Production Company, LLC			
swn		swn		Production Company, LLC		Production Company, LLC			

WELL OPERATOR: SWN PRODUCTION COMPANY, LLC Office of Oil and Gas		WELL (FARM) NAME: EDWIN BUNNER MRN	
ADDRESS: P.O. BOX 1300 JANE LEW, WV 26378		COUNTY - CODE MARION - 049	DISTRICT; WINTFIELD
SURFACE OWNER: WV Department of Environmental Protection		USGS 7 1/2 QUADRANGLE MAP NAME GLADESVILLE, WV	
SEE TRACT 1 ON PAGE 2			



**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 –

- (1) 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:

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

See "Exhibit A"

RECEIVED
Office of Oil and Gas

JUL 11 2017

WV Department of
Environmental Protection

**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.

Well Operator: SWN Production Company, LLC.

By: 

Its: Staff Landman

EXHIBIT "A"

Attached to and made a part of the State of West Virginia Oil and Gas Permit Form, WW-6A1, by SWN Production Company, L.L.C., Operator

Edwin Bunner 5H

Marion County, West Virginia

Tract #	Tax Parcel	Lease Number	Lessor	Lessee	Royalty	BK/PG	Surface Owner	Book/Page Must describe The Parcel	Deeded Acreage	Leased
1	19-28-8	723852-001	Edwin L. Bunner and Sandra J. Bunner, husband and wife	Chesapeake Appalachia, LLC	12.50%	1027/227	Edwin L. Bunner and Sandra J. Bunner, Bernice E. Miller, Barbara A. Greene, Myron R. Miller, Richard T. Morgan, Jr., Richard Earl Hughes, Kenita K. Massaro and Eugene J. Massaro, Cathy Jo Kelley, Crystal D. Haynes, Lucille McKinney, Stephen Dwight Hughes, Pamela Rose Snyder, Jason Mulik, Chrystle Dawn Bolyard, Judith Jeanette Cline, Teresa Williams, Valerie D. Bolton, Lester Price Lake, Nancy L. Hill, a.k.a. Nancy L. Sossoman, Naomi Claudine Lake, Randy Wayne Lake, Larry Jackson Shuttlesworth, Terry Roberts Shuttlesworth, Darrell L. Shuttlesworth, Jimmy Eugene Lake, Judy Stainbrook, Kenneth Leo Lake, Jr., William E. Lake and Joyce E. Lake, Richard A. Lake, Jr., Crystal Lake Bound, Michael R. Lake	1168/654	193.250000	193.250000
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		48/438				
1	19-28-8	726260-001	Bernice E. Miller, single	Chesapeake Appalachia, LLC	12.50%	1062/482	Edwin L. Bunner and Sandra J. Bunner, Bernice E. Miller, Barbara A. Greene, Myron R. Miller, Richard T. Morgan, Jr., Richard Earl Hughes, Kenita K. Massaro and Eugene J. Massaro, Cathy Jo Kelley, Crystal D. Haynes, Lucille McKinney, Stephen Dwight Hughes, Pamela Rose Snyder, Jason Mulik, Chrystle Dawn Bolyard, Judith Jeanette Cline, Teresa Williams, Valerie D. Bolton, Lester Price Lake, Nancy L. Hill, a.k.a. Nancy L. Sossoman, Naomi Claudine Lake, Randy Wayne Lake, Larry Jackson Shuttlesworth, Terry Roberts Shuttlesworth, Darrell L. Shuttlesworth, Jimmy Eugene Lake, Judy Stainbrook, Kenneth Leo Lake, Jr., William E. Lake and Joyce E. Lake, Richard A. Lake, Jr., Crystal Lake Bound, Michael R. Lake	1168/654	193.250000	193.250000
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		48/438				

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EXHIBIT "A"

Attached to and made a part of the State of West Virginia Oil and Gas Permit Form, WW-6A1, by SWN Production Company, L.L.C., Operator
 Edwin Bunner 5H
 Marion County, West Virginia

Tract #	Tax Parcel	Lease Number	Lessor	Lessee	Royalty	BK/PG	Surface Owner	Book/Page Must describe The Parcel	Deeded Acreage	Leased
1	19-28-8	726260-002	Barbara A. Greene, married, dealing in her sole and separate property	Chesapeake Appalachia, LLC	12.50%	1062/475	Edwin L. Bunner and Sandra J. Bunner, Bernice E. Miller, Barbara A. Greene, Myron R. Miller, Richard T. Morgan, Jr., Richard Earl Hughes, Kenita K. Massaro and Eugene J. Massaro, Cathy Jo Kelley, Crystal D. Haynes, Lucille McKinney, Stephen Dwight Hughes, Pamela Rose Snyder, Jason Mulik, Chrystle Dawn Bolyard, Judith Jeanette Cline, Teresa Williams, Valerie D. Bolton, Lester Price Lake, Nancy L. Hill, a.k.a. Nancy L. Sossoman, Naomi Claudine Lake, Randy Wayne Lake, Larry Jackson Shuttlesworth, Terry Roberts Shuttlesworth, Darrell L. Shuttlesworth, Jimmy Eugene Lake, Judy Stainbrook, Kenneth Leo Lake, Jr., William E. Lake and Joyce E. Lake, Richard A. Lake, Jr., Crystal Lake Bound, Michael R. Lake	1168/654	193.250000	193.250000
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		48/438				
1	19-28-8	726260-003	Myron R. Miller, single, by James R. Miller, true and lawful attorney	Chesapeake Appalachia, LLC	12.50%	1063/343	Edwin L. Bunner and Sandra J. Bunner, Bernice E. Miller, Barbara A. Greene, Myron R. Miller, Richard T. Morgan, Jr., Richard Earl Hughes, Kenita K. Massaro and Eugene J. Massaro, Cathy Jo Kelley, Crystal D. Haynes, Lucille McKinney, Stephen Dwight Hughes, Pamela Rose Snyder, Jason Mulik, Chrystle Dawn Bolyard, Judith Jeanette Cline, Teresa Williams, Valerie D. Bolton, Lester Price Lake, Nancy L. Hill, a.k.a. Nancy L. Sossoman, Naomi Claudine Lake, Randy Wayne Lake, Larry Jackson Shuttlesworth, Terry Roberts Shuttlesworth, Darrell L. Shuttlesworth, Jimmy Eugene Lake, Judy Stainbrook, Kenneth Leo Lake, Jr., William E. Lake and Joyce E. Lake, Richard A. Lake, Jr., Crystal Lake Bound, Michael R. Lake	1168/654	193.250000	193.250000
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		48/438				

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 Edwin Bunner 5H
 Marion County, West Virginia

Tract #	Tax Parcel	Lease Number	Lessor	Lessee	Royalty	BK/PG	Surface Owner	Book/Page Must describe The Parcel	Deeded Acreage	Leased
1	19-28-8	726260-004	Richard T. Morgan, Jr., single	Chesapeake Appalachia, LLC	12.50%	1063/141	Edwin L. Bunner and Sandra J. Bunner, Bernice E. Miller, Barbara A. Greene, Myron R. Miller, Richard T. Morgan, Jr., Richard Earl Hughes, Kenita K. Massaro and Eugene J. Massaro, Cathy Jo Kelley, Crystal D. Haynes, Lucille McKinney, Stephen Dwight Hughes, Pamela Rose Snyder, Jason Mulik, Chrystle Dawn Bolyard, Judith Jeanette Cline, Teresa Williams, Valerie D. Bolton, Lester Price Lake, Nancy L. Hill, a.k.a. Nancy L. Sossoman, Naomi Claudine Lake, Randy Wayne Lake, Larry Jackson Shuttleworth, Terry Roberts Shuttleworth, Darrell L. Shuttlesworth, Jimmy Eugene Lake, Judy Stainbrook, Kenneth Leo Lake, Jr., William E. Lake and Joyce E. Lake, Richard A. Lake, Jr., Crystal Lake Bound, Michael R. Lake	1168/654	193.250000	193.250000
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		48/438				
1	19-28-8	726260-005	Richard Earl Hughes, married, dealing in his sole and separate property	Chesapeake Appalachia, LLC	12.50%	1063/148	Edwin L. Bunner and Sandra J. Bunner, Bernice E. Miller, Barbara A. Greene, Myron R. Miller, Richard T. Morgan, Jr., Richard Earl Hughes, Kenita K. Massaro and Eugene J. Massaro, Cathy Jo Kelley, Crystal D. Haynes, Lucille McKinney, Stephen Dwight Hughes, Pamela Rose Snyder, Jason Mulik, Chrystle Dawn Bolyard, Judith Jeanette Cline, Teresa Williams, Valerie D. Bolton, Lester Price Lake, Nancy L. Hill, a.k.a. Nancy L. Sossoman, Naomi Claudine Lake, Randy Wayne Lake, Larry Jackson Shuttleworth, Terry Roberts Shuttleworth, Darrell L. Shuttlesworth, Jimmy Eugene Lake, Judy Stainbrook, Kenneth Leo Lake, Jr., William E. Lake and Joyce E. Lake, Richard A. Lake, Jr., Crystal Lake Bound, Michael R. Lake	1168/654	193.250000	193.250000
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		48/438				

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Edwin Bunner 5H

Marion County, West Virginia

Tract #	Tax Parcel	Lease Number	Lessor	Lessee	Royalty	BK/PG	Surface Owner	Book/Page Must describe The Parcel	Deeded Acreage	Leased
1	19-28-8	726260-006	Kenita K. Massaro and Eugene J. Massaro, wife and husband	Chesapeake Appalachia, LLC	12.50%	1063/145	Edwin L. Bunner and Sandra J. Bunner, Bernice E. Miller, Barbara A. Greene, Myron R. Miller, Richard T. Morgan, Jr., Richard Earl Hughes, Kenita K. Massaro and Eugene J. Massaro, Cathy Jo Kelley, Crystal D. Haynes, Lucille McKinney, Stephen Dwight Hughes, Pamela Rose Snyder, Jason Mulik, Chrystle Dawn Bolyard, Judith Jeanette Cline, Teresa Williams, Valerie D. Bolton, Lester Price Lake, Nancy L. Hill, a.k.a. Nancy L. Sossoman, Naomi Claudine Lake, Randy Wayne Lake, Larry Jackson Shuttleworth, Terry Roberts Shuttleworth, Darrell L. Shuttlesworth, Jimmy Eugene Lake, Judy Stainbrook, Kenneth Leo Lake, Jr., William E. Lake and Joyce E. Lake, Richard A. Lake, Jr., Crystal Lake Bound, Michael R. Lake	1168/654	193.250000	193.250000
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		48/438				
1	19-28-8	726260-007	Reta Carol Maxson, single, and Cathy Jo Kelley, single (Cathy Jo Kelly, Crystal D. Haynes)	Chesapeake Appalachia, LLC	12.50%	1063/137	Edwin L. Bunner and Sandra J. Bunner, Bernice E. Miller, Barbara A. Greene, Myron R. Miller, Richard T. Morgan, Jr., Richard Earl Hughes, Kenita K. Massaro and Eugene J. Massaro, Cathy Jo Kelley, Crystal D. Haynes, Lucille McKinney, Stephen Dwight Hughes, Pamela Rose Snyder, Jason Mulik, Chrystle Dawn Bolyard, Judith Jeanette Cline, Teresa Williams, Valerie D. Bolton, Lester Price Lake, Nancy L. Hill, a.k.a. Nancy L. Sossoman, Naomi Claudine Lake, Randy Wayne Lake, Larry Jackson Shuttleworth, Terry Roberts Shuttleworth, Darrell L. Shuttlesworth, Jimmy Eugene Lake, Judy Stainbrook, Kenneth Leo Lake, Jr., William E. Lake and Joyce E. Lake, Richard A. Lake, Jr., Crystal Lake Bound, Michael R. Lake	1168/654	193.250000	193.250000
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		48/438				

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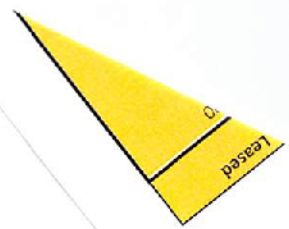
Marion County, West Virginia

Tract #	Tax Parcel	Lease Number	Lessor	Lessee	Royalty	BK/PG	Surface Owner	Book/Page Must describe The Parcel	Deeded Acreage	
1	19-28-8	725260-008	Lucille McKinney, single	Chesapeake Appalachia, LLC	12.50%	1063/504	Edwin L. Bunner and Sandra J. Bunner, Bernice E. Miller, Barbara A. Greene, Myron R. Miller, Richard T. Morgan, Jr., Richard Earl Hughes, Kenita K. Massaro and Eugene J. Massaro, Cathy Jo Kelley, Crystal D. Haynes, Lucille McKinney, Stephen Dwight Hughes, Pamela Rose Snyder, Jason Mulik, Chrystle Dawn Bolyard, Judith Jeanette Cline, Teresa Williams, Valerie D. Bolton, Lester Price Lake, Nancy L. Hill, a.k.a. Nancy L. Sossoman, Naomi Claudine Lake, Randy Wayne Lake, Larry Jackson Shuttleworth, Terry Roberts Shuttleworth, Darrell L. Shuttlesworth, Jimmy Eugene Lake, Judy Stainbrook, Kenneth Leo Lake, Jr., William E. Lake and Joyce E. Lake, Richard A. Lake, Jr., Crystal Lake Bound, Michael R. Lake	1168/654	193.250000	193.25000
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		48/438				
1	19-28-8	726260-009	Edwin L. Bunner and Sandra J. Bunner, husband and wife	Chesapeake Appalachia, LLC	12.50%	1063/547	Edwin L. Bunner and Sandra J. Bunner, Bernice E. Miller, Barbara A. Greene, Myron R. Miller, Richard T. Morgan, Jr., Richard Earl Hughes, Kenita K. Massaro and Eugene J. Massaro, Cathy Jo Kelley, Crystal D. Haynes, Lucille McKinney, Stephen Dwight Hughes, Pamela Rose Snyder, Jason Mulik, Chrystle Dawn Bolyard, Judith Jeanette Cline, Teresa Williams, Valerie D. Bolton, Lester Price Lake, Nancy L. Hill, a.k.a. Nancy L. Sossoman, Naomi Claudine Lake, Randy Wayne Lake, Larry Jackson Shuttleworth, Terry Roberts Shuttleworth, Darrell L. Shuttlesworth, Jimmy Eugene Lake, Judy Stainbrook, Kenneth Leo Lake, Jr., William E. Lake and Joyce E. Lake, Richard A. Lake, Jr., Crystal Lake Bound, Michael R. Lake	1168/654	193.250000	193.250000
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		48/438				

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 Edwin Bunner 5H
 Marion County, West Virginia

Tract #	Tax Parcel	Lease Number	Lessor	Lessee	Royalty	BK/PG	Surface Owner	Book/Page Must describe The Parcel	Deeded Acreage	Leased
1	19-28-8	726260-010	Stephen Dwight Hughes, married dealing in his sole and separate property	Chesapeake Appalachia, LLC	12.50%	1064/109	Edwin L. Bunner and Sandra J. Bunner, Bernice E. Miller, Barbara A. Greene, Myron R. Miller, Richard T. Morgan, Jr., Richard Earl Hughes, Kenita K. Massaro and Eugene J. Massaro, Cathy Jo Kelley, Crystal D. Haynes, Lucille McKinney, Stephen Dwight Hughes, Pamela Rose Snyder, Jason Mulik, Chrystle Dawn Bolyard, Judith Jeanette Cline, Teresa Williams, Valerie D. Bolton, Lester Price Lake, Nancy L. Hill, a.k.a. Nancy L. Sossoman, Naomi Claudine Lake, Randy Wayne Lake, Larry Jackson Shuttleworth, Terry Roberts Shuttleworth, Darrell L. Shuttlesworth, Jimmy Eugene Lake, Judy Stainbrook, Kenneth Leo Lake, Jr., William E. Lake and Joyce E. Lake, Richard A. Lake, Jr., Crystal Lake Bound, Michael R. Lake	1168/654	193.250000	193.250000
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		48/438				
1	19-28-8	726260-011	Pamela Rose Snyder, married, dealing in her sole and separate property	Chesapeake Appalachia, LLC	12.5% Oil 15% Gas	1055/677	Edwin L. Bunner and Sandra J. Bunner, Bernice E. Miller, Barbara A. Greene, Myron R. Miller, Richard T. Morgan, Jr., Richard Earl Hughes, Kenita K. Massaro and Eugene J. Massaro, Cathy Jo Kelley, Crystal D. Haynes, Lucille McKinney, Stephen Dwight Hughes, Pamela Rose Snyder, Jason Mulik, Chrystle Dawn Bolyard, Judith Jeanette Cline, Teresa Williams, Valerie D. Bolton, Lester Price Lake, Nancy L. Hill, a.k.a. Nancy L. Sossoman, Naomi Claudine Lake, Randy Wayne Lake, Larry Jackson Shuttleworth, Terry Roberts Shuttleworth, Darrell L. Shuttlesworth, Jimmy Eugene Lake, Judy Stainbrook, Kenneth Leo Lake, Jr., William E. Lake and Joyce E. Lake, Richard A. Lake, Jr., Crystal Lake Bound, Michael R. Lake	1168/654	193.250000	193.250000
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		48/438				

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 Edwin Bunner 5H
 Marion County, West Virginia

Tract #	Tax Parcel	Lease Number	Lessor	Lessee	Royalty	BK/PG	Surface Owner	Book/Page Must describe The Parcel	Deeded Acreage	Leased
1	19-28-8	726260-012	Jason Mulik, single	Chesapeake Appalachia, LLC	12.50%	1065/554	Edwin L. Bunner and Sandra J. Bunner, Bernice E. Miller, Barbara A. Greene, Myron R. Miller, Richard T. Morgan, Jr., Richard Earl Hughes, Kenita K. Massaro and Eugene J. Massaro, Cathy Jo Kelley, Crystal D. Haynes, Lucille McKinney, Stephen Dwight Hughes, Pamela Rose Snyder, Jason Mulik, Chrystle Dawn Bolyard, Judith Jeanette Cline, Teresa Williams, Valerie D. Bolton, Lester Price Lake, Nancy L. Hill, a.k.a. Nancy L. Sossoman, Naomi Claudine Lake, Randy Wayne Lake, Larry Jackson Shuttleworth, Terry Roberts Shuttleworth, Darrell L. Shuttlesworth, Jimmy Eugene Lake, Judy Stainbrook, Kenneth Leo Lake, Jr., William E. Lake and Joyce E. Lake, Richard A. Lake, Jr., Crystal Lake Bound, Michael R. Lake	1168/654	193.250000	193.250000
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		48/438				
1	19-28-8	726260-013	Chrystle Dawn Bolyard, single	Chesapeake Appalachia, LLC	12.5% Oil 15% Gas	1065/683	Edwin L. Bunner and Sandra J. Bunner, Bernice E. Miller, Barbara A. Greene, Myron R. Miller, Richard T. Morgan, Jr., Richard Earl Hughes, Kenita K. Massaro and Eugene J. Massaro, Cathy Jo Kelley, Crystal D. Haynes, Lucille McKinney, Stephen Dwight Hughes, Pamela Rose Snyder, Jason Mulik, Chrystle Dawn Bolyard, Judith Jeanette Cline, Teresa Williams, Valerie D. Bolton, Lester Price Lake, Nancy L. Hill, a.k.a. Nancy L. Sossoman, Naomi Claudine Lake, Randy Wayne Lake, Larry Jackson Shuttleworth, Terry Roberts Shuttleworth, Darrell L. Shuttlesworth, Jimmy Eugene Lake, Judy Stainbrook, Kenneth Leo Lake, Jr., William E. Lake and Joyce E. Lake, Richard A. Lake, Jr., Crystal Lake Bound, Michael R. Lake	1168/654	193.250000	193.250000
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		48/438				

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Edwin Bunner 5H
Marion County, West Virginia

Tract #	Tax Parcel	Lease Number	Lessor	Lessee	Royalty	BK/PG	Surface Owner	Book/Page Must describe The Parcel	Deeded Acreage	Leased
1	19-28-8	726260-014	Judith Jeanette Cline, married, dealing in her sole and separate property	Chesapeake Appalachia, LLC	12.5% Oil 15% Gas	1065/680	Edwin L. Bunner and Sandra J. Bunner, Bernice E. Miller, Barbara A. Greene, Myron R. Miller, Richard T. Morgan, Jr., Richard Earl Hughes, Kenita K. Massaro and Eugene J. Massaro, Cathy Jo Kelley, Crystal D. Haynes, Lucille McKinney, Stephen Dwight Hughes, Pamela Rose Snyder, Jason Mulik, Chrystle Dawn Bolyard, Judith Jeanette Cline, Teresa Williams, Valerie D. Bolton, Lester Price Lake, Nancy L. Hill, a.k.a. Nancy L. Sossoman, Naomi Claudine Lake, Randy Wayne Lake, Larry Jackson Shuttleworth, Terry Roberts Shuttleworth, Darrell L. Shuttlesworth, Jimmy Eugene Lake, Judy Stainbrook, Kenneth Leo Lake, Jr., William E. Lake and Joyce E. Lake, Richard A. Lake, Jr., Crystal Lake Bound, Michael R. Lake	1168/654	193.250000	193.250000
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		48/438				
1	19-28-8	726260-015	Teresa Williams, married, dealing in her sole and separate property	Chesapeake Appalachia, LLC	18.50%	1069/220	Edwin L. Bunner and Sandra J. Bunner, Bernice E. Miller, Barbara A. Greene, Myron R. Miller, Richard T. Morgan, Jr., Richard Earl Hughes, Kenita K. Massaro and Eugene J. Massaro, Cathy Jo Kelley, Crystal D. Haynes, Lucille McKinney, Stephen Dwight Hughes, Pamela Rose Snyder, Jason Mulik, Chrystle Dawn Bolyard, Judith Jeanette Cline, Teresa Williams, Valerie D. Bolton, Lester Price Lake, Nancy L. Hill, a.k.a. Nancy L. Sossoman, Naomi Claudine Lake, Randy Wayne Lake, Larry Jackson Shuttleworth, Terry Roberts Shuttleworth, Darrell L. Shuttlesworth, Jimmy Eugene Lake, Judy Stainbrook, Kenneth Leo Lake, Jr., William E. Lake and Joyce E. Lake, Richard A. Lake, Jr., Crystal Lake Bound, Michael R. Lake	1168/654	193.250000	193.250000
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		48/438				

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Edwin Bunner 5H
Marion County, West Virginia

Tract #	Tax Parcel	Lease Number	Lessor	Lessee	Royalty	BK/PG	Surface Owner	Book/Page Must describe The Parcel	Deeded Acreage	Leased
1	19-28-8	726260-016	Valerie D. Bolton, married, dealing in her sole and separate property	Chesapeake Appalachia, LLC	18.50%	1069/218	Edwin L. Bunner and Sandra J. Bunner, Bernice E. Miller, Barbara A. Greene, Myron R. Miller, Richard T. Morgan, Jr., Richard Earl Hughes, Kenita K. Massaro and Eugene J. Massaro, Cathy Jo Kelley, Crystal D. Haynes, Lucille McKinney, Stephen Dwight Hughes, Pamela Rose Snyder, Jason Mulik, Chrystle Dawn Bolyard, Judith Jeanette Cline, Teresa Williams, Valerie D. Bolton, Lester Price Lake, Nancy L. Hill, a.k.a. Nancy L. Sossoman, Naomi Claudine Lake, Randy Wayne Lake, Larry Jackson Shuttleworth, Terry Roberts Shuttleworth, Darrell L. Shuttlesworth, Jimmy Eugene Lake, Judy Stainbrook, Kenneth Leo Lake, Jr., William E. Lake and Joyce E. Lake, Richard A. Lake, Jr., Crystal Lake Bound, Michael R. Lake	1168/654	193.250000	193.250000
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		48/438				
1	19-28-8	726260-017	Lester Price Lake, single	Chesapeake Appalachia, LLC	18.50%	1069/221	Edwin L. Bunner and Sandra J. Bunner, Bernice E. Miller, Barbara A. Greene, Myron R. Miller, Richard T. Morgan, Jr., Richard Earl Hughes, Kenita K. Massaro and Eugene J. Massaro, Cathy Jo Kelley, Crystal D. Haynes, Lucille McKinney, Stephen Dwight Hughes, Pamela Rose Snyder, Jason Mulik, Chrystle Dawn Bolyard, Judith Jeanette Cline, Teresa Williams, Valerie D. Bolton, Lester Price Lake, Nancy L. Hill, a.k.a. Nancy L. Sossoman, Naomi Claudine Lake, Randy Wayne Lake, Larry Jackson Shuttleworth, Terry Roberts Shuttleworth, Darrell L. Shuttlesworth, Jimmy Eugene Lake, Judy Stainbrook, Kenneth Leo Lake, Jr., William E. Lake and Joyce E. Lake, Richard A. Lake, Jr., Crystal Lake Bound, Michael R. Lake	1168/654	193.250000	193.250000
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		48/438				

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Edwin Bunner 5H
Marion County, West Virginia

Tract #	Tax Parcel	Lease Number	Lessor	Lessee	Royalty	BK/PG	Surface Owner	Book/Page Must describe The Parcel	Deeded Acreage	Leased
1	19-28-8	726260-018	Nancy L. Hill, a.k.a. Nancy L. Sossoman, married, dealing in her sole and separate property	Chesapeake Appalachia, LLC	18.50%	1069/219	Edwin L. Bunner and Sandra J. Bunner, Bernice E. Miller, Barbara A. Greene, Myron R. Miller, Richard T. Morgan, Jr., Richard Earl Hughes, Kenita K. Massaro and Eugene J. Massaro, Cathy Jo Kelley, Crystal D. Haynes, Lucille McKinney, Stephen Dwight Hughes, Pamela Rose Snyder, Jason Mulik, Chrystle Dawn Bolyard, Judith Jeanette Cline, Teresa Williams, Valerie D. Bolton, Lester Price Lake, Nancy L. Hill, a.k.a. Nancy L. Sossoman, Naomi Claudine Lake, Randy Wayne Lake, Larry Jackson Shuttleworth, Terry Roberts Shuttleworth, Darrell L. Shuttlesworth, Jimmy Eugene Lake, Judy Stainbrook, Kenneth Leo Lake, Jr., William E. Lake and Joyce E. Lake, Richard A. Lake, Jr., Crystal Lake Bound, Michael R. Lake	1168/654	193.250000	193.250000
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		48/438				
1	19-28-8	726260-019	Naomi Claudine Lake, single (James Lake, Randy Lake)	Chesapeake Appalachia, LLC	12.5% Oil	1065/567	Edwin L. Bunner and Sandra J. Bunner, Bernice E. Miller, Barbara A. Greene, Myron R. Miller, Richard T. Morgan, Jr., Richard Earl Hughes, Kenita K. Massaro and Eugene J. Massaro, Cathy Jo Kelley, Crystal D. Haynes, Lucille McKinney, Stephen Dwight Hughes, Pamela Rose Snyder, Jason Mulik, Chrystle Dawn Bolyard, Judith Jeanette Cline, Teresa Williams, Valerie D. Bolton, Lester Price Lake, Nancy L. Hill, a.k.a. Nancy L. Sossoman, Naomi Claudine Lake, Randy Wayne Lake, Larry Jackson Shuttleworth, Terry Roberts Shuttleworth, Darrell L. Shuttlesworth, Jimmy Eugene Lake, Judy Stainbrook, Kenneth Leo Lake, Jr., William E. Lake and Joyce E. Lake, Richard A. Lake, Jr., Crystal Lake Bound, Michael R. Lake	1168/654	193.250000	193.250000
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		48/438				

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 Edwin Bunner 5H
 Marion County, West Virginia

Tract #	Tax Parcel	Lease Number	Lessor	Lessee	Royalty	BK/PG	Surface Owner	Book/Page Must describe The Parcel	Deeded Acreage	Leased
1	19-28-8	726260-020	Randy Wayne Lake, single	Chesapeake Appalachia, LLC	12.5% Oil	1065/573	Edwin L. Bunner and Sandra J. Bunner, Bernice E. Miller, Barbara A. Greene, Myron R. Miller, Richard T. Morgan, Jr., Richard Earl Hughes, Kenita K. Massaro and Eugene J. Massaro, Cathy Jo Kelley, Crystal D. Haynes, Lucille McKinney, Stephen Dwight Hughes, Pamela Rose Snyder, Jason Mulik, Chrystle Dawn Bolyard, Judith Jeanette Cline, Teresa Williams, Valerie D. Bolton, Lester Price Lake, Nancy L. Hill, a.k.a. Nancy L. Sossoman, Naomi Claudine Lake, Randy Wayne Lake, Larry Jackson Shuttleworth, Terry Roberts Shuttleworth, Darrell L. Shuttleworth, Jimmy Eugene Lake, Judy Stainbrook, Kenneth Leo Lake, Jr., William E. Lake and Joyce E. Lake, Richard A. Lake, Jr., Crystal Lake Bound, Michael R. Lake	1168/654	193.250000	193.250000
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		48/438				
1	19-28-8	726260-021	Larry Jackson Shuttleworth, married, dealing in his sole and separate property (Mary M Shuttleworth, Robin Shuttleworth Sharp, Margaret Shuttleworth Darr)	Chesapeake Appalachia, LLC	12.5% Oil 15% Gas	1035/579	Edwin L. Bunner and Sandra J. Bunner, Bernice E. Miller, Barbara A. Greene, Myron R. Miller, Richard T. Morgan, Jr., Richard Earl Hughes, Kenita K. Massaro and Eugene J. Massaro, Cathy Jo Kelley, Crystal D. Haynes, Lucille McKinney, Stephen Dwight Hughes, Pamela Rose Snyder, Jason Mulik, Chrystle Dawn Bolyard, Judith Jeanette Cline, Teresa Williams, Valerie D. Bolton, Lester Price Lake, Nancy L. Hill, a.k.a. Nancy L. Sossoman, Naomi Claudine Lake, Randy Wayne Lake, Larry Jackson Shuttleworth, Terry Roberts Shuttleworth, Darrell L. Shuttleworth, Jimmy Eugene Lake, Judy Stainbrook, Kenneth Leo Lake, Jr., William E. Lake and Joyce E. Lake, Richard A. Lake, Jr., Crystal Lake Bound, Michael R. Lake	1168/654	193.250000	193.250000
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		48/438				

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 Edwin Bunner 5H
 Marion County, West Virginia

Tract #	Tax Parcel	Lease Number	Lessor	Lessee	Royalty	BK/PG	Surface Owner	Book/Page Must describe The Parcel	Deeded Acreage	Leased
1	19-28-8	725260-022	Terry Roberts Shuttleworth, single	Chesapeake Appalachia, LLC	12.5% Oil 15% Gas	1065/585	Edwin L. Bunner and Sandra J. Bunner, Bernice E. Miller, Barbara A. Greene, Myron R. Miller, Richard T. Morgan, Jr., Richard Earl Hughes, Kenita K. Massaro and Eugene J. Massaro, Cathy Jo Kelley, Crystal D. Haynes, Lucille McKinney, Stephen Dwight Hughes, Pamela Rose Snyder, Jason Mulik, Chrystle Dawn Bolyard, Judith Jeanette Cline, Teresa Williams, Valerie D. Bolton, Lester Price Lake, Nancy L. Hill, a.k.a. Nancy L. Sossoman, Naomi Claudine Lake, Randy Wayne Lake, Larry Jackson Shuttleworth, Terry Roberts Shuttleworth, Darrell L. Shuttlesworth, Jimmy Eugene Lake, Judy Stainbrook, Kenneth Leo Lake, Jr., William E. Lake and Joyce E. Lake, Richard A. Lake, Jr., Crystal Lake Bound, Michael R. Lake	1168/654	193.250000	193.250000
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		48/438				
1	19-28-8	726260-023	Darrell L. Shuttlesworth, married, dealing in his sole and separate property	Chesapeake Appalachia, LLC	12.5% Oil 15% Gas	1065/582	Edwin L. Bunner and Sandra J. Bunner, Bernice E. Miller, Barbara A. Greene, Myron R. Miller, Richard T. Morgan, Jr., Richard Earl Hughes, Kenita K. Massaro and Eugene J. Massaro, Cathy Jo Kelley, Crystal D. Haynes, Lucille McKinney, Stephen Dwight Hughes, Pamela Rose Snyder, Jason Mulik, Chrystle Dawn Bolyard, Judith Jeanette Cline, Teresa Williams, Valerie D. Bolton, Lester Price Lake, Nancy L. Hill, a.k.a. Nancy L. Sossoman, Naomi Claudine Lake, Randy Wayne Lake, Larry Jackson Shuttleworth, Terry Roberts Shuttleworth, Darrell L. Shuttlesworth, Jimmy Eugene Lake, Judy Stainbrook, Kenneth Leo Lake, Jr., William E. Lake and Joyce E. Lake, Richard A. Lake, Jr., Crystal Lake Bound, Michael R. Lake	1168/654	193.250000	193.250000
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		48/438				

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 Edwin Bunner 5H
 Marion County, West Virginia

Tract #	Tax Parcel	Lease Number	Lessor	Lessee	Royalty	BK/PG	Surface Owner	Book/Page Must describe The Parcel	Deeded Acreage	Leased
1	19-28-8	726260-024	Jimmy Eugene Lake, married, dealing in his sole and separate property	Chesapeake Appalachia, LLC	12.50%	1065/570	Edwin L. Bunner and Sandra J. Bunner, Bernice E. Miller, Barbara A. Greene, Myron R. Miller, Richard T. Morgan, Jr., Richard Earl Hughes, Kenita K. Massaro and Eugene J. Massaro, Cathy Jo Kelley, Crystal D. Haynes, Lucille McKinney, Stephen Dwight Hughes, Pamela Rose Snyder, Jason Mulik, Chrystle Dawn Bolyard, Judith Jeanette Cline, Teresa Williams, Valerie D. Bolton, Lester Price Lake, Nancy L. Hill, a.k.a. Nancy L. Sossoman, Naomi Claudine Lake, Randy Wayne Lake, Larry Jackson Shuttleworth, Terry Roberts Shuttleworth, Darrell L. Shuttlesworth, Jimmy Eugene Lake, Judy Stainbrook, Kenneth Leo Lake, Jr., William E. Lake and Joyce E. Lake, Richard A. Lake, Jr., Crystal Lake Bound, Michael R. Lake	1168/654	193.250000	193.250000
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		48/438				
1	19-28-8	726260-025	Terry Wayne Lake, married dealing in his sole and separate property	Chesapeake Appalachia, LLC	15.00%	1065/560	Edwin L. Bunner and Sandra J. Bunner, Bernice E. Miller, Barbara A. Greene, Myron R. Miller, Richard T. Morgan, Jr., Richard Earl Hughes, Kenita K. Massaro and Eugene J. Massaro, Cathy Jo Kelley, Crystal D. Haynes, Lucille McKinney, Stephen Dwight Hughes, Pamela Rose Snyder, Jason Mulik, Chrystle Dawn Bolyard, Judith Jeanette Cline, Teresa Williams, Valerie D. Bolton, Lester Price Lake, Nancy L. Hill, a.k.a. Nancy L. Sossoman, Naomi Claudine Lake, Randy Wayne Lake, Larry Jackson Shuttleworth, Terry Roberts Shuttleworth, Darrell L. Shuttlesworth, Jimmy Eugene Lake, Judy Stainbrook, Kenneth Leo Lake, Jr., William E. Lake and Joyce E. Lake, Richard A. Lake, Jr., Crystal Lake Bound, Michael R. Lake	1168/654	193.250000	193.250000
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		48/438				

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Edwin Bunner SH

Marion County, West Virginia

Tract #	Tax Parcel	Lease Number	Lessor	Lessee	Royalty	BK/PG	Surface Owner	Book/Page Must describe The Parcel	Deeded Acreage	Leased
1	19-28-8	726260-026	Vina Judith Ann Lake, single (Family Tree Corporation)	Chesapeake Appalachia, LLC	15.00%	1065/564	Edwin L. Bunner and Sandra J. Bunner, Bernice E. Miller, Barbara A. Greene, Myron R. Miller, Richard T. Morgan, Jr., Richard Earl Hughes, Kenita K. Massaro and Eugene J. Massaro, Cathy Jo Kelley, Crystal D. Haynes, Lucille McKinney, Stephen Dwight Hughes, Pamela Rose Snyder, Jason Mulik, Chrystle Dawn Bolyard, Judith Jeanette Cline, Teresa Williams, Valerie D. Bolton, Lester Price Lake, Nancy L. Hill, a.k.a. Nancy L. Sossoman, Naomi Claudine Lake, Randy Wayne Lake, Larry Jackson Shuttleworth, Terry Roberts Shuttleworth, Darrell L. Shuttlesworth, Jimmy Eugene Lake, Judy Stainbrook, Kenneth Leo Lake, Jr., William E. Lake and Joyce E. Lake, Richard A. Lake, Jr., Crystal Lake Bound, Michael R. Lake	1168/654	193.250000	193.250000
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		48/438				
1	19-28-8	726260-027	Tawnya Ann Lake, single	Chesapeake Appalachia, LLC	15.00%	1065/557	Edwin L. Bunner and Sandra J. Bunner, Bernice E. Miller, Barbara A. Greene, Myron R. Miller, Richard T. Morgan, Jr., Richard Earl Hughes, Kenita K. Massaro and Eugene J. Massaro, Cathy Jo Kelley, Crystal D. Haynes, Lucille McKinney, Stephen Dwight Hughes, Pamela Rose Snyder, Jason Mulik, Chrystle Dawn Bolyard, Judith Jeanette Cline, Teresa Williams, Valerie D. Bolton, Lester Price Lake, Nancy L. Hill, a.k.a. Nancy L. Sossoman, Naomi Claudine Lake, Randy Wayne Lake, Larry Jackson Shuttleworth, Terry Roberts Shuttleworth, Darrell L. Shuttlesworth, Jimmy Eugene Lake, Judy Stainbrook, Kenneth Leo Lake, Jr., William E. Lake and Joyce E. Lake, Richard A. Lake, Jr., Crystal Lake Bound, Michael R. Lake	1168/654	193.250000	193.250000
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		48/438				

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Edwin Bunner 5H

Marion County, West Virginia

Tract #	Tax Parcel	Lease Number	Lessor	Lessee	Royalty	BK/PG	Surface Owner	Book/Page Must describe The Parcel	Deeded Acreage	Leased
1	19-28-8	725260-028	Edwin Merle Lake Jr., single	Chesapeake Appalachia, LLC	15.00%	1065/551	Edwin L. Bunner and Sandra J. Bunner, Bernice E. Miller, Barbara A. Greene, Myron R. Miller, Richard T. Morgan, Jr., Richard Earl Hughes, Kenita K. Massaro and Eugene J. Massaro, Cathy Jo Kelley, Crystal D. Haynes, Lucille McKinney, Stephen Dwight Hughes, Pamela Rose Snyder, Jason Mulik, Chrystle Dawn Bolyard, Judith Jeanette Cline, Teresa Williams, Valerie D. Bolton, Lester Price Lake, Nancy L. Hill, a.k.a. Nancy L. Sossoman, Naomi Claudine Lake, Randy Wayne Lake, Larry Jackson Shuttleworth, Terry Roberts Shuttleworth, Darrell L. Shuttleworth, Jimmy Eugene Lake, Judy Stainbrook, Kenneth Leo Lake, Jr., William E. Lake and Joyce E. Lake, Richard A. Lake, Jr., Crystal Lake Bound, Michael R. Lake	1168/654	193.250000	193.250000
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		48/438				
1	19-28-8	726260-029	Judy Stainbrook, married, dealing in her sole and separate property	Chesapeake Appalachia, LLC	12.50%	1065/548	Edwin L. Bunner and Sandra J. Bunner, Bernice E. Miller, Barbara A. Greene, Myron R. Miller, Richard T. Morgan, Jr., Richard Earl Hughes, Kenita K. Massaro and Eugene J. Massaro, Cathy Jo Kelley, Crystal D. Haynes, Lucille McKinney, Stephen Dwight Hughes, Pamela Rose Snyder, Jason Mulik, Chrystle Dawn Bolyard, Judith Jeanette Cline, Teresa Williams, Valerie D. Bolton, Lester Price Lake, Nancy L. Hill, a.k.a. Nancy L. Sossoman, Naomi Claudine Lake, Randy Wayne Lake, Larry Jackson Shuttleworth, Terry Roberts Shuttleworth, Darrell L. Shuttleworth, Jimmy Eugene Lake, Judy Stainbrook, Kenneth Leo Lake, Jr., William E. Lake and Joyce E. Lake, Richard A. Lake, Jr., Crystal Lake Bound, Michael R. Lake	1168/654	193.250000	193.250000
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		48/438				

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 Edwin Bunner 5H
 Marion County, West Virginia

Tract #	Tax Parcel	Lease Number	Lessor	Lessee	Royalty	BK/PG	Surface Owner	Book/Page Must describe The Parcel	Deeded Acreage	Leased
1	19-28-8	723995-030	Carl L. Lake Jr., single (Black Gold Group, Ltd.)	Chesapeake Appalachia, LLC	12.50%	1065/545	Edwin L. Bunner and Sandra J. Bunner, Bernice E. Miller, Barbara A. Greene, Myron R. Miller, Richard T. Morgan, Jr., Richard Earl Hughes, Kenita K. Massaro and Eugene J. Massaro, Cathy Jo Kelley, Crystal D. Haynes, Lucille McKinney, Stephen Dwight Hughes, Pamela Rose Snyder, Jason Mulik, Chrystle Dawn Bolyard, Judith Jeanette Cline, Teresa Williams, Valerie D. Bolton, Lester Price Lake, Nancy L. Hill, a.k.a. Nancy L. Sossoman, Naomi Claudine Lake, Randy Wayne Lake, Larry Jackson Shuttleworth, Terry Roberts Shuttleworth, Darrell L. Shuttlesworth, Jimmy Eugene Lake, Judy Stainbrook, Kenneth Leo Lake, Jr., William E. Lake and Joyce E. Lake, Richard A. Lake, Jr., Crystal Lake Bound, Michael R. Lake	1168/654	193.250000	193.250000
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		48/438				
1	19-28-8	726260-031	Kenneth Leo Lake, Jr., single (Black Gold Group, Ltd.)	Chesapeake Appalachia, LLC	12.50%	1066/209	Edwin L. Bunner and Sandra J. Bunner, Bernice E. Miller, Barbara A. Greene, Myron R. Miller, Richard T. Morgan, Jr., Richard Earl Hughes, Kenita K. Massaro and Eugene J. Massaro, Cathy Jo Kelley, Crystal D. Haynes, Lucille McKinney, Stephen Dwight Hughes, Pamela Rose Snyder, Jason Mulik, Chrystle Dawn Bolyard, Judith Jeanette Cline, Teresa Williams, Valerie D. Bolton, Lester Price Lake, Nancy L. Hill, a.k.a. Nancy L. Sossoman, Naomi Claudine Lake, Randy Wayne Lake, Larry Jackson Shuttleworth, Terry Roberts Shuttleworth, Darrell L. Shuttlesworth, Jimmy Eugene Lake, Judy Stainbrook, Kenneth Leo Lake, Jr., William E. Lake and Joyce E. Lake, Richard A. Lake, Jr., Crystal Lake Bound, Michael R. Lake	1168/654	193.250000	193.250000
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		48/438				

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 Edwin Bunner 5H
 Marion County, West Virginia

Tract #	Tax Parcel	Lease Number	Lessor	Lessee	Royalty	BK/PG	Surface Owner	Book/Page Must describe The Parcel	Deeded Acreage	Leased
1	19-28-8	726260-032	William E. Lake and Joyce E. Lake, husband and wife	Chesapeake Appalachia, LLC	12.50%	1056/206	Edwin L. Bunner and Sandra J. Bunner, Bernice E. Miller, Barbara A. Greene, Myron R. Miller, Richard T. Morgan, Jr., Richard Earl Hughes, Kenita K. Massaro and Eugene J. Massaro, Cathy Jo Kelley, Crystal D. Haynes, Lucille McKinney, Stephen Dwight Hughes, Pamela Rose Snyder, Jason Mulik, Chrystle Dawn Bolyard, Judith Jeanette Cline, Teresa Williams, Valerie D. Bolton, Lester Price Lake, Nancy L. Hill, a.k.a. Nancy L. Sossoman, Naomi Claudine Lake, Randy Wayne Lake, Larry Jackson Shuttleworth, Terry Roberts Shuttleworth, Darrell L. Shuttlesworth, Jimmy Eugene Lake, Judy Stainbrook, Kenneth Leo Lake, Jr., William E. Lake and Joyce E. Lake, Richard A. Lake, Jr., Crystal Lake Bound, Michael R. Lake	1168/654	193.250000	193.250000
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		48/438				
1	19-28-8	726260-033	Richard A. Lake Jr., married, dealing in his sole and separate property	Chesapeake Appalachia, LLC	12.50%	1067/124	Edwin L. Bunner and Sandra J. Bunner, Bernice E. Miller, Barbara A. Greene, Myron R. Miller, Richard T. Morgan, Jr., Richard Earl Hughes, Kenita K. Massaro and Eugene J. Massaro, Cathy Jo Kelley, Crystal D. Haynes, Lucille McKinney, Stephen Dwight Hughes, Pamela Rose Snyder, Jason Mulik, Chrystle Dawn Bolyard, Judith Jeanette Cline, Teresa Williams, Valerie D. Bolton, Lester Price Lake, Nancy L. Hill, a.k.a. Nancy L. Sossoman, Naomi Claudine Lake, Randy Wayne Lake, Larry Jackson Shuttleworth, Terry Roberts Shuttleworth, Darrell L. Shuttlesworth, Jimmy Eugene Lake, Judy Stainbrook, Kenneth Leo Lake, Jr., William E. Lake and Joyce E. Lake, Richard A. Lake, Jr., Crystal Lake Bound, Michael R. Lake	1168/654	193.250000	193.250000
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		48/438				

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Edwin Bunner 5H

Marion County, West Virginia

Tract #	Tax Parcel	Lease Number	Lessor	Lessee	Royalty	BK/PG	Surface Owner	Book/Page Must describe The Parcel	Deeded Acreage	Leased
1	19-28-8	726260-034	Crystal Lake Bound, single	Chesapeake Appalachia, LLC	12.50%	1067/121	Edwin L. Bunner and Sandra J. Bunner, Bernice E. Miller, Barbara A. Greene, Myron R. Miller, Richard T. Morgan, Jr., Richard Earl Hughes, Kenita K. Massaro and Eugene J. Massaro, Cathy Jo Kelley, Crystal D. Haynes, Lucille McKinney, Stephen Dwight Hughes, Pamela Rose Snyder, Jason Mulik, Chrystle Dawn Bolyard, Judith Jeanette Cline, Teresa Williams, Valerie D. Bolton, Lester Price Lake, Nancy L. Hill, a.k.a. Nancy L. Sossoman, Naomi Claudine Lake, Randy Wayne Lake, Larry Jackson Shuttleworth, Terry Roberts Shuttleworth, Darrell L. Shuttlesworth, Jimmy Eugene Lake, Judy Stainbrook, Kenneth Leo Lake, Jr., William E. Lake and Joyce E. Lake, Richard A. Lake, Jr., Crystal Lake Bound, Michael R. Lake	1168/654	193.250000	193.250000
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		48/438				
1	19-28-8	726260-035	Edwin L. Bunner and Sandra J. Bunner, husband and wife	Chesapeake Appalachia, LLC	12.50%	1066/508	Edwin L. Bunner and Sandra J. Bunner, Bernice E. Miller, Barbara A. Greene, Myron R. Miller, Richard T. Morgan, Jr., Richard Earl Hughes, Kenita K. Massaro and Eugene J. Massaro, Cathy Jo Kelley, Crystal D. Haynes, Lucille McKinney, Stephen Dwight Hughes, Pamela Rose Snyder, Jason Mulik, Chrystle Dawn Bolyard, Judith Jeanette Cline, Teresa Williams, Valerie D. Bolton, Lester Price Lake, Nancy L. Hill, a.k.a. Nancy L. Sossoman, Naomi Claudine Lake, Randy Wayne Lake, Larry Jackson Shuttleworth, Terry Roberts Shuttleworth, Darrell L. Shuttlesworth, Jimmy Eugene Lake, Judy Stainbrook, Kenneth Leo Lake, Jr., William E. Lake and Joyce E. Lake, Richard A. Lake, Jr., Crystal Lake Bound, Michael R. Lake	1168/654	193.250000	193.250000
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		48/438				

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Edwin Bunner 5H
Marion County, West Virginia

Tract #	Tax Parcel	Lease Number	Lessor	Lessee	Royalty	BK/Pg	Surface Owner	Book/Page Must describe The Parcel	Deeded Acreage	Leased
1	19-28-8	726260-036	Michael R. Lake, single	Chesapeake Appalachia, LLC	12.50%	1067/140	Edwin L. Bunner and Sandra J. Bunner, Bernice E. Miller, Barbara A. Greene, Myron R. Miller, Richard T. Morgan, Jr., Richard Earl Hughes, Kenita K. Massaro and Eugene J. Massaro, Cathy Jo Kelley, Crystal D. Haynes, Lucille McKinney, Stephen Dwight Hughes, Pamela Rose Snyder, Jason Mulik, Chrystle Dawn Bolyard, Judith Jeanette Cline, Teresa Williams, Valerie D. Bolton, Lester Price Lake, Nancy L. Hill, a.k.a. Nancy L. Sossoman, Naomi Claudine Lake, Randy Wayne Lake, Larry Jackson Shuttleworth, Terry Roberts Shuttleworth, Darrell L. Shuttleworth, Jimmy Eugene Lake, Judy Stainbrook, Kenneth Leo Lake, Jr., William E. Lake and Joyce E. Lake, Richard A. Lake, Jr., Crystal Lake Bound, Michael R. Lake	1168/654	193.250000	193.250000
				Chesapeake Appalachia, LLC	SWN Production Company, LLC	48/438	4704902467			
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2	19-28-7	724680-000	Lowell D. Robe, married, dealing in his sole and separate property (Luella M. Robe)	Chesapeake Appalachia, LLC	12.50%	1036/307	Luella M. Robe	584/156	33.6600	33.660000
				Chesapeake Appalachia, LLC	SWN Production Company, LLC	48/438				
3	19-30-3.1	726264-000	Camden D. Bunner and Carolyn E. Bunner, husband and wife (Franklin T. Bunner and Virginia K. Bunner, husband and wife, JTWROS)	Chesapeake Appalachia, LLC	12.50%	1062/692	Franklin T. Bunner and Virginia K. Bunner, husband and wife, JTWROS	867/227	10.000000	10.000000
				Chesapeake Appalachia, LLC	SWN Production Company, LLC	48/438				
4	19-30-2	723654-000	Edwin Dean Bunner and Lana J. Bunner, husband and wife	Chesapeake Appalachia, LLC	12.50%	1064/556	Edwin D. Bunner	973/826	50.840000	50.840000
				Chesapeake Appalachia, LLC	SWN Production Company, LLC	48/438				
5	19-30A-5	730609-000	I. L. Morris and Mike Ross Inc. (I. L. Morris)	Chesapeake Appalachia, LLC	12.5% Oil 15% Gas	1073/240	Deanna F. Humphrey & James R. Humphrey	949/506	0.057000	0.057000
				Chesapeake Appalachia, LLC	SWN Production Company, LLC	48/438				
6	19-30-1	730609-000	I. L. Morris and Mike Ross Inc. (I. L. Morris)	Chesapeake Appalachia, LLC	12.5% Oil 15% Gas	1073/240	Robert Lee Harr and Doris Glenna Harr, Trustees of the Robert Lee Harr and Doris Glenna Harr Trust	890/162	53.130000	53.130000
				Chesapeake Appalachia, LLC	SWN Production Company, LLC	48/438				
6	19-30-1	730609-000	I. L. Morris and Mike Ross Inc. (I. L. Morris)	Chesapeake Appalachia, LLC	12.5% Oil 15% Gas	1073/240	Robert Lee Harr and Doris Glenna Harr, Trustees of the Robert Lee Harr and Doris Glenna Harr Trust	890/162	53.130000	53.130000
				Chesapeake Appalachia, LLC	SWN Production Company, LLC	48/438				
7	19-30-16.3	723693-000	JoAnn Jane Rush, a single woman	Chesapeake Appalachia, LLC	12.50%	1025/440	Gary Russell Rush	950/1060	28.790000	28.790000
				Chesapeake Appalachia, LLC	SWN Production Company, LLC	48/438				
8	19-30-16.2	723693-000	JoAnn Jane Rush, a single woman	Chesapeake Appalachia, LLC	12.50%	1025/440	Patrick W. Knight and Meredith B. Knight	1151/479	30.600000	30.600000
				Chesapeake Appalachia, LLC	SWN Production Company, LLC	48/438				

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Edwin Bunner 5H
Marion County, West Virginia

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			Eagle Explorations, Inc. Carlyle Explorations, Inc., Carlyle Petroleum Inc., West Jay Petroleums, Inc., and Revenue Resources (U.S.), Inc.	Talus Properties Limited Partnership		10/491	<p>RECEIVED Office of Oil and Gas</p> <p>JUL 11 2017</p> <p>WV Department of Environmental Protection</p> <p>4704902441</p>			
			Westfort Petroleum, Ltd.	Huban Oil Corporation		10/1078				
			Westfort Petroleum, Ltd.	Conell Exploration Corporation		10/1096				
			Conell Exploration Corporation	Alamco, Inc.		11/101				
			Westfort Petroleum, Inc.	Alamco, Inc.		11/136				
			Huban Oil Corporation	Alamco, Inc.		11/193				
			America Delta Petroleum, Inc.	Alamco, Inc.		11/285				
			Atlantic Energy (USA) Corporation	Alamco, Inc.		11/402				
			Carlyle Energy, Inc. (as successor by merger with Eagle Explorations, Inc., West Jay Petroleums, Inc., and Revenue Resources (U.S.), Inc.)	Talus Properties Limited Partnership		11/502				
			Talus Properties	Alamco, Inc.		11/928				
			The Appalachian Company	SQP, Inc.		12/199				
			SQP, Inc.	Alamco, Inc.		12/403				
			Phillips Petroleum Company	Alamco, Inc.		13/394				
			Alamco, Inc.	Columbia Natural Resources, Inc.		952/428				
			Columbia Natural Resources, LLC	Chesapeake Appalachia, LLC		1009/656				
			Chesapeake Appalachia, LLC	Statoilhydro USA Onshore Properties, Inc.		35/225				
			Statoilhydro USA Onshore Properties, Inc.	SWN Production Company, LLC		48/610				
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		48/438				
10	19-31-12.4	730724-001	Doris W. Bunner, single	Chesapeake Appalachia, LLC	12.5% Oil 15% Gas	1079/245	Luther Huffman; Melony A. (Huffman) Collinsworth	848/569	3.030000	3.030000
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		48/438				
10	19-31-12.4	730724-002	Ida Mae Walls, single	Chesapeake Appalachia, LLC	12.5% Oil 15% Gas	1079/235	Luther Huffman; Melony A. (Huffman) Collinsworth	848/569	3.030000	3.030000
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		48/438				
10	19-31-12.4	730724-003	Mary V. Williams, single	Chesapeake Appalachia, LLC	12.5% Oil 15% Gas	1079/231	Luther Huffman; Melony A. (Huffman) Collinsworth	848/569	3.030000	3.030000
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		48/438				
10	19-31-12.4	739213-001	Genevieve G. Elswick and Paul Elswick, her husband; Barbara O. Berkey and Calvin L. Berkey, her husband; E. Melvins Chipps, Jr. and Joann Chipps, his wife (Genevieve G. Elswick aka Genevieve Wine, Barbara O. Berkey, Melvin Chipps, Jr. aka Melvin Chipps aka Earnest Melvin Chipps, Jr.)	Allegheny Land and Mineral Company	12.50%	834/470	Luther Huffman; Melony A. (Huffman) Collinsworth	848/569	3.030000	3.030000

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 Edwin Bunner 5H
 Marion County, West Virginia

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			Allegheny Land and Mineral Company	Phillips Petroleum Company		8/209				
			Phillips Petroleum Company	Watson and Swanson, Inc.		8/532				
			Watson and Swanson, Inc.	Westfort Petroleum, Ltd.		8/744				
			Westfort Petroleum, Ltd.	Corsair Petroleum		8/980				
			Westfort Petroleum, Ltd.	Prosper Petroleum		8/1021				
			Westfort Petroleum, Ltd.	West Jay Petroleum		9/64				
			Corsair Petroleum	Allegheny Land and Mineral Company		9/83				
			Prosper Petroleum	Allegheny Land and Mineral Company		9/122				
			Westfort Petroleum, Ltd.	Westfort Petroleum, Inc.		9/156				
			Westfort Petroleum, Ltd.	American Delta Petroleum, Inc.		9/230				
			Westfort Petroleum, Ltd.	D. L. Siemens, Inc.		9/253				
			Westfort Petroleum, Ltd.	Irvco Industries, Inc.		9/317				
			Irvco Industries, Inc.	Allegheny Land and Mineral Company		9/335				
			D. L. Siemens, Inc.	Allegheny Land and Mineral Company		9/374				
			Allegheny Land and Mineral Company	The Appalachian Company		9/455				
			Westfort Petroleum, Ltd.	Allegheny Land and Mineral Company		9/565				
			Westfort Petroleum, Ltd.	Cluain Investments Corp.		9/623				
			Cluain Investments Corp. and Wesgeo Enterprises Corp	Allegheny Land and Mineral Company		9/661				
			Westfort Petroleum, Ltd.	Atlantic Energy Corp., Inc.		9/870				
			Cluain Investments Corp. and Wesgeo Enterprises Corp	Alamco, Inc., formerly Allegheny Land and Mineral Company		9/896				
			Atlantic Energy Corp., Inc.	Brightview Resources, Inc.		10/439				
			Eagle Explorations, Inc. Carlyle Explorations, Inc., Carlyle Petroleum Inc., West Jay Petroleums, Inc., and Revenue Resources (U.S.), Inc.	Talus Properties Limited Partnership		10/491				
			Westfort Petroleum, Ltd.	Huban Oil Corporation		10/1078				
			Westfort Petroleum, Ltd.	Conell Exploration Corporation		10/1096				
			Conell Exploration Corporation	Alamco, Inc.		11/101				
			Westfort Petroleum, Inc.	Alamco, Inc.		11/136				
			Huban Oil Corporation	Alamco, Inc.		11/193				
			America Delta Petroleum, Inc.	Alamco, Inc.		11/285				
			Atlantic Energy (USA) Corporation	Alamco, Inc.		11/402				
			Carlyle Energy, Inc. (as successor by merger with Eagle Explorations, Inc., West Jay Petroleums, Inc., and Revenue Resources (U.S.), Inc.)	Talus Properties Limited Partnership		11/502				
			Talus Properties	Alamco, Inc.		11/928				
			The Appalachian Company	SQP, Inc.		12/199				
			SQP, Inc.	Alamco, Inc.		12/403				
			Phillips Petroleum Company	Alamco, Inc.		13/394				

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EXHIBIT "A"

Attached to and made a part of the State of West Virginia Oil and Gas Permit Form, WW-6A1, by SWN Production Company, L.L.C., Operator
Edwin Bunner 5H
Marion County, West Virginia

Tract #	Tax Parcel	Lease Number	Lessor	Lessee	Royalty	BK/PG	Surface Owner	Book/Page Must describe The Parcel	Deeded Acreage	Leased
			Alamco, Inc. Columbia Natural Resources, LLC Chesapeake Appalachia, LLC Statoilhydro USA Onshore Properties, Inc. Chesapeake Appalachia, LLC	Columbia Natural Resources, Inc. Chesapeake Appalachia, LLC Statoilhydro USA Onshore Properties, Inc. SWN Production Company, LLC SWN Production Company, LLC		952/428 1009/656 35/49 48/510 48/438				
10	19-31-12.4	730724-016	Eva Chipps, single Chesapeake Appalachia, LLC	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.5% Oil 15% Gas	1089/463 48/438	Luther Huffman; Melony A. (Huffman) Collinsworth	848/569	3.030000	3.030000
10	19-31-12.4	739213-003	Laco J. Lambert, a widower (Beverly M. Hennes Brown aka Beverly M. Hennes aka Beverly M. Brown, James B. Lambert, Sara B. Huntz, Laquita B. Breen, Carol E. Jeffries)	Allegheny Land and Mineral Company	12.50%	834/476	Luther Huffman; Melony A. (Huffman) Collinsworth	848/569	3.030000	3.030000
			Allegheny Land and Mineral Company	Phillips Petroleum Company		8/209				
			Phillips Petroleum Company	Watson and Swanson, Inc.		8/532				
			Watson and Swanson, Inc.	Westfort Petroleum, Ltd.		8/744				
			Westfort Petroleum, Ltd.	Corsair Petroleum		8/980				
			Westfort Petroleum, Ltd.	Prosper Petroleum		8/1021				
			Westfort Petroleum, Ltd.	West Jay Petroleum		9/54				
			Corsair Petroleum	Allegheny Land and Mineral Company		9/83				
			Prosper Petroleum	Allegheny Land and Mineral Company		9/122				
			Westfort Petroleum, Ltd.	Westfort Petroleum, Inc.		9/166				
			Westfort Petroleum, Ltd.	American Delta Petroleum, Inc.		9/230				
			Westfort Petroleum, Ltd.	D. L. Siemens, Inc.		9/253				
			Westfort Petroleum, Ltd.	Irvco Industries, Inc.		9/317				
			Irvco Industries, Inc.	Allegheny Land and Mineral Company		9/335				
			D. L. Siemens, Inc.	Allegheny Land and Mineral Company		9/374				
			Allegheny Land and Mineral Company	The Appalachian Company		9/455				
			Westfort Petroleum, Ltd.	Allegheny Land and Mineral Company		9/565				
			Westfort Petroleum, Ltd.	Cluain Investments Corp.		9/623				
			Cluain Investments Corp. and Wesgeo Enterprises Corp	Allegheny Land and Mineral Company		9/661				
			Westfort Petroleum, Ltd.	Atlantic Energy Corp., Inc.		9/870				
			Cluain Investments Corp. and Wesgeo Enterprises Corp	Alamco, Inc., formerly Allegheny Land and Mineral Company		9/896				
			Atlantic Energy Corp., Inc.	Brightview Resources, Inc.		10/439				
			Eagle Explorations, Inc. Carlyle Explorations, Inc., Carlyle Petroleum Inc., West Jay Petroleums, Inc., and Revenue Resources (U.S.), Inc.	Talus Properties Limited Partnership		10/491				

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Edwin Bunner 5H
Marion County, West Virginia

Tract #	Tax Parcel	Lease Number	Lessor	Lessee	Royalty	BK/Pg	Surface Owner	Book/Page Must describe The Parcel	Deeded Acreage	Leased
			Westfort Petroleum, Ltd.	Huban Oil Corporation		10/1078	<p>RECEIVED Office of Oil and Gas JUL 11 2017 WV Department of Environmental Protection</p>			
			Westfort Petroleum, Ltd.	Conell Exploration Corporation		10/1096				
			Conell Exploration Corporation	Alamco, Inc.		11/101				
			Westfort Petroleum, Inc.	Alamco, Inc.		11/136				
			Huban Oil Corporation	Alamco, Inc.		11/193				
			America Delta Petroleum, Inc.	Alamco, Inc.		11/285				
			Atlantic Energy (USA) Corporation	Alamco, Inc.		11/402				
			Carlyle Energy, Inc. (as successor by merger with Eagle Explorations, Inc., West Jay Petroleum, Inc., and Revenue Resources (U.S.), Inc.)	Talus Properties Limited Partnership		11/502				
			Talus Properties	Alamco, Inc.		11/928				
			The Appalachian Company	SQP, Inc.		12/199				
			SQP, Inc.	Alamco, Inc.		12/403				
			Phillips Petroleum Company	Alamco, Inc.		13/394				
			Alamco, Inc.	Columbia Natural Resources, Inc.		952/428				
			Columbia Natural Resources, LLC	Chesapeake Appalachia, LLC		1009/656				
			Chesapeake Appalachia, LLC	Statoilhydro USA Onshore Properties, Inc.		35/57				
			Statoilhydro USA Onshore Properties, Inc.	SWN Production Company, LLC		48/510				
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		48/438				
10	19-31-12.4	730724-004	Donald Elmus Moran, married, dealing in his sole and separate property	Chesapeake Appalachia, L.L.C.	12.5% Oil 15% Gas	1080/333	Luther Huffman; Melony A. (Huffman) Collinsworth	848/569	3.030000	3.030000
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		48/438				
10	19-31-12.4	730724-005	Ray Junior Moran, aka, Ray Junion Moran, married, dealing in his sole and separate property	Chesapeake Appalachia, L.L.C.	12.5% Oil 15% Gas	1080/569	Luther Huffman; Melony A. (Huffman) Collinsworth	848/569	3.030000	3.030000
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		48/438				
10	19-31-12.4	730724-006	Nancy L. Hamilton, a.k.a., Nancy L. Moran Slaughter, married, dealing in her sole and separate property	Chesapeake Appalachia, L.L.C.	12.5% Oil 15% Gas	1080/547	Luther Huffman; Melony A. (Huffman) Collinsworth	848/569	3.030000	3.030000
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		48/438				
10	19-31-12.4	730724-007	Sarah Ann Moran Daniel, single	Chesapeake Appalachia, L.L.C.	12.5% Oil 15% Gas	1080/543	Luther Huffman; Melony A. (Huffman) Collinsworth	848/569	3.030000	3.030000
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		48/438				
10	19-31-12.4	730724-008	Susan Moran Hinerman, married, dealing in her sole and separate property	Chesapeake Appalachia, L.L.C.	12.5% Oil 15% Gas	1083/40	Luther Huffman; Melony A. (Huffman) Collinsworth	848/569	3.030000	3.030000
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		48/438				
10	19-31-12.4	730724-018	Robert Wayne Moran, married, dealing in his sole and separate property	Chesapeake Appalachia, L.L.C.	12.50%	1135/787	Luther Huffman; Melony A. (Huffman) Collinsworth	848/569	3.030000	3.030000
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		48/438				

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 Edwin Bunner 5H
 Marion County, West Virginia

Tract #	Tax Parcel	Lease Number	Lessor	Lessee	Royalty	BK/PG	Surface Owner	Book/Page Must describe The Parcel	Deeded Acreage	Leased
11	19-31-12.1	739213-001	Genevieve G. Elswick and Paul Elswick, her husband; Barabara O. Berkey and Calvin L. Berkey, her husband; E. Melvin Chipps, Jr. and Joann Chipps, his wife (Genevieve G. Elswick aka Genevieve Wine, Barbara O. Berkey, Melvin Chipps, Jr. aka Melvin Chipps aka Earnest Melvin Chipps, Jr.)	Allegheny Land and Mineral Company	12.50%	834/470	Luther Huffman; Melony A. (Huffman) Collinsworth		21.890000	21.890000
			Allegheny Land and Mineral Company	Phillips Petroleum Company		8/209				
			Phillips Petroleum Company	Watson and Swanson, Inc.		8/532				
			Watson and Swanson, Inc.	Westfort Petroleum, Ltd.		8/744				
			Westfort Petroleum, Ltd.	Corsair Petroleum		8/980				
			Westfort Petroleum, Ltd.	Prosper Petroleum		8/1021				
			Westfort Petroleum, Ltd.	West Jay Petroleum		9/64				
			Corsair Petroleum	Allegheny Land and Mineral Company		9/83				
			Prosper Petroleum	Allegheny Land and Mineral Company		9/122				
			Westfort Petroleum, Ltd.	Westfort Petroleum, Inc.		9/166				
			Westfort Petroleum, Ltd.	American Delta Petroleum, Inc.		9/230				
			Westfort Petroleum, Ltd.	D. L. Siemens, Inc.		9/253				
			Westfort Petroleum, Ltd.	Irvco Industries, Inc.		9/317				
			Irvco Industries, Inc.	Allegheny Land and Mineral Company		9/335				
			D. L. Siemens, Inc.	Allegheny Land and Mineral Company		9/374				
			Allegheny Land and Mineral Company	The Appalachian Company		9/455				
			Westfort Petroleum, Ltd.	Allegheny Land and Mineral Company		9/555				
			Westfort Petroleum, Ltd.	Cluain Investments Corp.		9/623				
			Cluain Investments Corp. and Wesgeo Enterprises Corp	Allegheny Land and Mineral Company		9/651				
			Westfort Petroleum, Ltd.	Atlantic Energy Corp., Inc.		9/870				
			Cluain Investments Corp. and Wesgeo Enterprises Corp	Alamco, Inc., formerly Allegheny Land and Mineral Company		9/896				
			Atlantic Energy Corp., Inc.	Brightview Resources, Inc.		10/439				
			Eagle Explorations, Inc. Carlyle Explorations, Inc., Carlyle Petroleum Inc., West Jay Petroleums, Inc., and Revenue Resources (U.S.), Inc.	Talus Properties Limited Partnership		10/491				
			Westfort Petroleum, Ltd.	Huban Oil Corporation		10/1078				
			Westfort Petroleum, Ltd.	Conell Exploration Corporation		10/1096				
			Conell Exploration Corporation	Alamco, Inc.		11/101				
			Westfort Petroleum, Inc.	Alamco, Inc.		11/136				
			Huban Oil Corporation	Alamco, Inc.		11/193				

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EXHIBIT "A"

Attached to and made a part of the State of West Virginia Oil and Gas Permit Form, WW-6A1, by SWN Production Company, L.L.C., Operator
 Edwin Bunner 5H
 Marion County, West Virginia

Tract #	Tax Parcel	Lease Number	Lessor	Lessee	Royalty	BK/PG	Surface Owner	Book/Page Must describe The Parcel	Deeded Acreage	Leased
			Cluain Investments Corp. and Wesgeo Enterprises Corp	Alamco, Inc., formerly Allegheny Land and Mineral Company		9/896				
			Atlantic Energy Corp., Inc.	Brightview Resources, Inc.		10/439				
			Eagle Explorations, Inc. Carlyle Explorations, Inc., Carlyle Petroleum Inc., West Jay Petroleum, Inc., and Revenue Resources (U.S.), Inc.	Talus Properties Limited Partnership		10/491				
			Westfort Petroleum, Ltd.	Huban Oil Corporation		10/1078				
			Westfort Petroleum, Ltd.	Conell Exploration Corporation		10/1096				
			Conell Exploration Corporation	Alamco, Inc.		11/101				
			Westfort Petroleum, Inc.	Alamco, Inc.		11/136				
			Huban Oil Corporation	Alamco, Inc.		11/193				
			America Delta Petroleum, Inc.	Alamco, Inc.		11/285				
			Atlantic Energy (USA) Corporation	Alamco, Inc.		11/402				
			Carlyle Energy, Inc. (as successor by merger with Eagle Explorations, Inc., West Jay Petroleum, Inc., and Revenue Resources (U.S.), Inc.)	Talus Properties Limited Partnership		11/502				
			Talus Properties	Alamco, Inc.		11/928				
			The Appalachian Company	SQP, Inc.		12/199				
			SQP, Inc.	Alamco, Inc.		12/403				
			Phillips Petroleum Company	Alamco, Inc.		13/394				
			Alamco, Inc.	Columbia Natural Resources, Inc.		952/428				
			Columbia Natural Resources, LLC	Chesapeake Appalachia, LLC		1009/656				
			Chesapeake Appalachia, LLC	Statoilhydro USA Onshore Properties, Inc.		35/57				
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		48/438				
			Statoilhydro USA Onshore Properties, Inc.	SWN Production Company, LLC		48/510				
11	19-31-12.1	739213-002	Wilma E. Bunner, a widow (Doris W. Bunner, Ida Mae Ryan Wells, Mary V. Vincent Williams, aka Mary V. Williams)	Allegheny Land and Mineral Company	12.50%	834/482	Luther Huffman; Melony A. (Huffman) Collinsworth		21.890000	21.890000
			Allegheny Land and Mineral Company	Phillips Petroleum Company		8/209				
			Phillips Petroleum Company	Watson and Swanson, Inc.		8/532				
			Watson and Swanson, Inc.	Westfort Petroleum, Ltd.		8/744				
			Westfort Petroleum, Ltd.	Corsair Petroleum		8/980				
			Westfort Petroleum, Ltd.	Prosper Petroleum		8/1021				
			Westfort Petroleum, Ltd.	West Jay Petroleum		9/64				
			Corsair Petroleum	Allegheny Land and Mineral Company		9/83				
			Prosper Petroleum	Allegheny Land and Mineral Company		9/122				
			Westfort Petroleum, Ltd.	American Delta Petroleum, Inc.		9/230				
			Westfort Petroleum, Ltd.	D. L. Siemens, Inc.		9/253				
			Westfort Petroleum, Ltd.	Irvco Industries, Inc.		9/317				

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EXHIBIT "A"

Attached to and made a part of the State of West Virginia Oil and Gas Permit Form, WW-6A1, by SWN Production Company, L.L.C., Operator
 Edwin Bunner 5H
 Marion County, West Virginia

Tract #	Tax Parcel	Lease Number	Lessor	Lessee	Royalty	BK/PG	Surface Owner	Book/Page Must describe The Parcel	Deeded Acreage	Leased		
			Irvco Industries, Inc.	Allegheny Land and Mineral Company		9/335	<p>RECEIVED Office of Oil and Gas</p> <p>JUL 11 2017</p> <p>WV Department of Environmental Protection</p>					
			D. L. Siemens, Inc.	Allegheny Land and Mineral Company		9/374						
			Allegheny Land and Mineral Company	The Appalachian Company		9/455						
			Westfort Petroleum, Ltd.	Allegheny Land and Mineral Company		9/565						
			Westfort Petroleum, Ltd.	Cluain Investments Corp.		9/523						
			Cluain Investments Corp. and Wesgeo Enterprises Corp.	Allegheny Land and Mineral Company		9/661						
			Westfort Petroleum, Ltd.	Atlantic Energy Corp., Inc.		9/870						
			Cluain Investments Corp. and Wesgeo Enterprises Corp.	Alamco, Inc., formerly Allegheny Land and Mineral Company		9/896						
			Atlantic Energy Corp., Inc.	Brightview Resources, Inc.		10/439						
			Eagle Explorations, Inc. Carlyle Explorations, Inc., Carlyle Petroleum Inc., West Jay Petroleums, Inc., and Revenue Resources (U.S.), Inc.	Talus Properties Limited Partnership		10/491						
			Westfort Petroleum, Ltd.	Huban Oil Corporation		10/1078						
			Westfort Petroleum, Ltd.	Conell Exploration Corporation		10/1096						
			Conell Exploration Corporation	Alamco, Inc.		11/101						
			Westfort Petroleum, Inc.	Alamco, Inc.		11/136						
			Huban Oil Corporation	Alamco, Inc.		11/193						
			America Delta Petroleum, Inc.	Alamco, Inc.		11/285						
			Atlantic Energy (USA) Corporation	Alamco, Inc.		11/402						
			Carlyle Energy, Inc. (as successor by merger with Eagle Explorations, Inc., West Jay Petroleums, Inc., and Revenue Resources (U.S.), Inc.)	Talus Properties Limited Partnership		11/502						
			Talus Properties	Alamco, Inc.		11/928						
			The Appalachian Company	SQP, Inc.		12/199						
			SQP, Inc.	Alamco, Inc.		12/403						
			Phillips Petroleum Company	Alamco, Inc.		13/394						
			Alamco, Inc.	Columbia Natural Resources, Inc.		952/428						
			Columbia Natural Resources, LLC	Chesapeake Appalachia, LLC		1009/656						
			Chesapeake Appalachia, LLC	Statoilhydro USA Onshore Properties, Inc.		35/225						
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		48/438						
			Statoilhydro USA Onshore Properties, Inc.	SWN Production Company, LLC		48/610						
11	19-31-12.1	730724-001	Doris W. Bunner, single	Chesapeake Appalachia, LLC	12.5% Oil 15% Gas	1079/245				Luther Huffman; Melony A. (Huffman) Collinsworth	21.890000	21.890000
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		48/438						
11	19-31-12.1	730724-002	Ida Mae Wells, single	Chesapeake Appalachia, LLC	12.5% Oil 15% Gas	1079/235				Luther Huffman; Melony A. (Huffman) Collinsworth	21.890000	21.890000
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		48/438						

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Edwin Bunner 5H
Marion County, West Virginia

Tract #	Tax Parcel	Lease Number	Lessor	Lessee	Royalty	BK/PG	Surface Owner	Book/Page Must describe The Parcel	Deeded Acreage	Leased
11	19-31-12.1	730724-003	Mary V. Williams, single	Chesapeake Appalachia, LLC	12.5% Oil 15% Gas	1079/231	Luther Huffman; Melony A. (Huffman) Collinsworth		21.890000	21.890000
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		48/438				
11	19-31-12.1	730724-004	Donald Elmus Moran, married, dealing in his sole and separate property	Chesapeake Appalachia, LLC	12.5% Oil 15% Gas	1080/333	Luther Huffman; Melony A. (Huffman) Collinsworth		21.890000	21.890000
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		48/438				
11	19-31-12.1	730724-005	Ray Junior Moran, a/k/a Ray Junion Moran, married, dealing in his sole and separate property	Chesapeake Appalachia, LLC	12.5% Oil 15% Gas	1080/569	Luther Huffman; Melony A. (Huffman) Collinsworth		21.890000	21.890000
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		48/438				
11	19-31-12.1	730724-006	Nancy L. Hamilton, a/k/a Nancy L. Moran Slaughter, married, dealing in her sole and separate property	Chesapeake Appalachia, LLC	12.5% Oil 15% Gas	1080/547	Luther Huffman; Melony A. (Huffman) Collinsworth		21.890000	21.890000
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		48/438				
11	19-31-12.1	730724-007	Sarah Ann Moran Daniel, single	Chesapeake Appalachia, LLC	12.5% Oil 15% Gas	1080/543	Luther Huffman; Melony A. (Huffman) Collinsworth		21.890000	21.890000
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		48/438				
11	19-31-12.1	730724-008	Susan Moran Hinerman, married, dealing in her sole and separate property	Chesapeake Appalachia, LLC	12.5% Oil 15% Gas	1083/40	Luther Huffman; Melony A. (Huffman) Collinsworth		21.890000	21.890000
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		48/438				
11	19-31-12.1	730724-018	Robert Wayne Moran, married, dealing in his sole and separate property	Chesapeake Appalachia, LLC	12.50%	1135/787	Luther Huffman; Melony A. (Huffman) Collinsworth		21.890000	21.890000
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		48/438				
11	19-31-12.1	730724-016	Eva Chipps, single	Chesapeake Appalachia, LLC	12.5% Oil 15% Gas	1089/463	Luther Huffman; Melony A. (Huffman) Collinsworth		21.890000	21.890000
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		48/438				
12	19-31-13	730687-003	Leo Eugene Cottrell and Nancy Alice Cottrell, husband and wife	Chesapeake Appalachia, L.L.C.	12.50%	1077/169	Nancy Alice Cottrell and Leo Eugene Cottrell	808/1049	14.100000	14.100000
			Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		48/438				
12	19-31-13	730687-004	Leo Eugene Cottrell and Nancy Alice Cottrell, husband and wife	Chesapeake Appalachia, L.L.C.	12.50%	1077/166	Nancy Alice Cottrell and Leo Eugene Cottrell	808/1049	14.100000	14.100000
			Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		48/438				
12	19-31-13	730687-006	John L. Pheasant, a married man dealing in his sole and separate property	Chesapeake Appalachia, L.L.C.	15.00%	1078/609	Nancy Alice Cottrell and Leo Eugene Cottrell	808/1049	14.100000	14.100000
			Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		48/438				
12	19-31-13	730687-013	Rosedel Yvonne Faulkner, aka Yvonne Faulkner, married, dealing in her sole and separate property	Chesapeake Appalachia, L.L.C.	12.5% Oil 15% Gas	1078/493	Nancy Alice Cottrell and Leo Eugene Cottrell	808/1049	14.100000	14.100000
			Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		48/438				
12	19-31-13	730687-017	Richard R. Bunner, married, dealing in his sole and separate property	Chesapeake Appalachia, L.L.C.	15.00%	1080/574	Nancy Alice Cottrell and Leo Eugene Cottrell	808/1049	14.100000	14.100000

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Edwin Bunner 5H

Marion County, West Virginia

Tract #	Tax Parcel	Lease Number	Lessor	Lessee	Royalty	BK/PG	Surface Owner	Book/Page Must describe The Parcel	Deeded Acreage	Leased
			Chesapeake Appalachia, L.L.C.	SWN Production Company, LLC		48/438				
12	19-31-13	730687-010	Doris W. Bunner, single Chesapeake Appalachia, L.L.C.	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	1078/916 48/438	Nancy Alice Cottrell and Leo Eugene Cottrell	808/1049	14.100000	14.100000
12	19-31-13	730687-015	Ida Mae R. Walls, single Chesapeake Appalachia, L.L.C.	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	1079/242 48/438	Nancy Alice Cottrell and Leo Eugene Cottrell	808/1049	14.100000	14.100000
12	19-31-13	730687-009	Mary V. Williams aka Mary Virginia Vincent, single Chesapeake Appalachia, L.L.C.	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.5% Oil 15% Gas	1078/906 48/438	Nancy Alice Cottrell and Leo Eugene Cottrell	808/1049	14.100000	14.100000
12	19-31-13	730687-012	The Church of Christ at Mount Nebo, Winfield District, Marion County, West Virginia, by David Ryan, Frank Bunner and Dean Bunner, Trustees Chesapeake Appalachia, L.L.C.	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	1078/919 48/438	Nancy Alice Cottrell and Leo Eugene Cottrell	808/1049	14.100000	14.100000
12	19-31-13	730687-001	Camden D. Bunner, married, dealing in his sole and separate property Chesapeake Appalachia, L.L.C.	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.5% Oil 15% Gas	1076/725 48/438	Nancy Alice Cottrell and Leo Eugene Cottrell	808/1049	14.100000	14.100000
12	19-31-13	730687-008	Dortha Mae Stewart, married, dealing in her sole and separate property, by Jess Stewart, Jr., Power of Attorney Chesapeake Appalachia, L.L.C.	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	1078/502 48/438	Nancy Alice Cottrell and Leo Eugene Cottrell	808/1049	14.100000	14.100000
12	19-31-13	730687-011	Edwin L. Bunner, married, dealing in his sole and separate property Chesapeake Appalachia, L.L.C.	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	1078/499 48/438	Nancy Alice Cottrell and Leo Eugene Cottrell	808/1049	14.100000	14.100000
12	19-31-13	730687-002	Patricia Helen Rush, married, dealing in her sole and separate property Chesapeake Appalachia, L.L.C.	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.5% Oil 15% Gas	1076/722 48/438	Nancy Alice Cottrell and Leo Eugene Cottrell	808/1049	14.100000	14.100000
12	19-31-13	730687-023	Tilford G. Morris, single, by, Kevin D. Morris, Attorney-in-Fact Chesapeake Appalachia, L.L.C.	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.5% Oil 15% Gas	1089/471 48/438	Nancy Alice Cottrell and Leo Eugene Cottrell	808/1049	14.100000	14.100000
12	19-31-13	730687-014	Betty J. Graves, single Chesapeake Appalachia, L.L.C.	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.5% Oil 15% Gas	1078/490 48/438	Nancy Alice Cottrell and Leo Eugene Cottrell	808/1049	14.100000	14.100000
12	19-31-13	730687-007	Mary V. Pheasant, single Chesapeake Appalachia, L.L.C.	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	15.00%	1078/606 48/438	Nancy Alice Cottrell and Leo Eugene Cottrell	808/1049	14.100000	14.100000
12	19-31-13	730687-005	Nixon Graveyard, by Charles Davis Chesapeake Appalachia, L.L.C.	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.5% Oil 15% Gas	1078/487 48/438	Nancy Alice Cottrell and Leo Eugene Cottrell	808/1049	14.100000	14.100000
12	19-31-13	730687-016	Mt. Nebo Cemetery, by Evelyn J. Musgrove, aka Evelylin Musgrove Chesapeake Appalachia, L.L.C.	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.50%	1079/239 48/438	Nancy Alice Cottrell and Leo Eugene Cottrell	808/1049	14.100000	14.100000

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EXHIBIT "A"

Attached to and made a part of the State of West Virginia Oil and Gas Permit Form, WW-6A1, by SWN Production Company, L.L.C., Operator
 Edwin Bunner 5H
 Marion County, West Virginia

Tract #	Tax Parcel	Lease Number	Lessor	Lessee	Royalty	BK/PG	Surface Owner	Book/Page Must describe The Parcel	Deeded Acreage	Leased
12	19-31-13	730687-018	Louis Smith, married, dealing in his sole and separate property Chesapeake Appalachia, L.L.C.	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.5% Oil 15% Gas	1080/566 48/438	Nancy Alice Cottrell and Leo Eugene Cottrell	808/1049	14.100000	14.100000
12	19-31-13	730687-020	Roger Smith, single Chesapeake Appalachia, L.L.C.	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.5% Oil 15% Gas	1082/138 48/438	Nancy Alice Cottrell and Leo Eugene Cottrell	808/1049	14.100000	14.100000
12	19-31-13	730687-021	Harry Smith, Jr., single Chesapeake Appalachia, L.L.C.	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.5% Oil 15% Gas	1082/141 48/438	Nancy Alice Cottrell and Leo Eugene Cottrell	808/1049	14.100000	14.100000
12	19-31-13	730687-019	James A. Smith, married, dealing in his sole and separate property Chesapeake Appalachia, L.L.C.	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.5% Oil 15% Gas	1083/37 48/438	Nancy Alice Cottrell and Leo Eugene Cottrell	808/1049	14.100000	14.100000
12	19-31-13	730687-022	Burl Smith, single Chesapeake Appalachia, L.L.C.	Chesapeake Appalachia, L.L.C. SWN Production Company, LLC	12.5% Oil 15% Gas	1085/95 48/438	Nancy Alice Cottrell and Leo Eugene Cottrell	808/1049	14.100000	14.100000

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4704902401



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

June 26, 2017

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

RE: SWN's proposed New Well: Edwin Bunner MRN 5H in Marion County, West Virginia, Drilling under White Dry Creek- Brand Road, Pricketts Creek- Bunner Ridge Road, and Mudlick Run Road.

Dear Ms. Adkins:

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 White Dry Creek- Brand Road, Pricketts Creek- Bunner Ridge Road, and Mudlick Run 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.

Sincerely,

Boston Smith
Staff Landman
SWN Production Company, LLC
PO Box 12359
Spring, TX 77391-2359

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

Date of Notice Certification: 7/10/17

API No. 47- 049 - _____
Operator's Well No. Edwin Bunner MRN 5H
Well Pad Name: Edwin Bunner Pad

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: <u>WV</u>	UTM NAD 83 Easting: <u>586504.039</u>
County: <u>49-Marion</u>	UTM NAD 83 Northing: <u>4368546.175</u>
District: <u>Winfield</u>	Public Road Access: <u>Bunner Ridge Road</u>
Quadrangle: <u>Gladesville</u>	Generally used farm name: <u>Edwin Bunner</u>
Watershed: <u>Monongahela River</u>	

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		OOG OFFICE USE ONLY
<input type="checkbox"/> 1. NOTICE OF SEISMIC ACTIVITY or <input type="checkbox"/> NOTICE NOT REQUIRED BECAUSE NO SEISMIC ACTIVITY WAS CONDUCTED		<input type="checkbox"/> RECEIVED/ NOT REQUIRED
<input type="checkbox"/> 2. NOTICE OF ENTRY FOR PLAT SURVEY or <input type="checkbox"/> NO PLAT SURVEY WAS CONDUCTED		<input type="checkbox"/> RECEIVED
<input type="checkbox"/> 3. NOTICE OF INTENT TO DRILL or <input type="checkbox"/> NOTICE NOT REQUIRED BECAUSE NOTICE OF ENTRY FOR PLAT SURVEY WAS CONDUCTED or <input type="checkbox"/> WRITTEN WAIVER BY SURFACE OWNER (PLEASE ATTACH)		<input type="checkbox"/> RECEIVED/ NOT REQUIRED
<input type="checkbox"/> 4. NOTICE OF PLANNED OPERATION	RECEIVED Office of Oil and Gas JUL 11 2017 WV Department of Environmental Protection	<input type="checkbox"/> RECEIVED
<input type="checkbox"/> 5. PUBLIC NOTICE		<input type="checkbox"/> RECEIVED
<input type="checkbox"/> 6. NOTICE OF APPLICATION		<input type="checkbox"/> RECEIVED

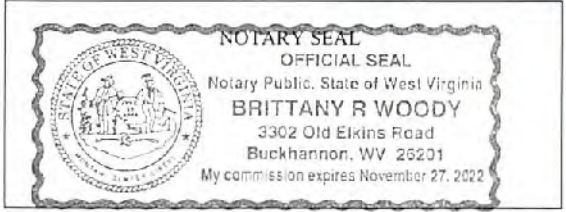
Required Attachments:

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 under West Virginia 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.

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.

Well Operator:	<u>SWN Production Co., LLC</u>	Address:	<u>P.O. Box 1300</u>
By:	<u>[Signature]</u>		<u>Jane Lew, WV 26378</u>
Its:		Facsimile:	
Telephone:	<u>304-884-1614</u>	Email:	<u>Dee_Southall@swn.com</u>



Subscribed and sworn before me this 26th day of June 2017.

Brittany R Woody Notary Public

My Commission Expires 11/27/22

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.

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

Notice Time Requirement: notice shall be provided no later than the filing date of permit application.

Date of Notice: 7/10/17 **Date Permit Application Filed:** 7/10/17
Notice of:

- PERMIT FOR ANY WELL WORK
- CERTIFICATE OF APPROVAL FOR THE CONSTRUCTION OF AN IMPOUNDMENT OR PIT

Delivery method pursuant to West Virginia Code § 22-6A-10(b)

- PERSONAL SERVICE
- REGISTERED MAIL
- METHOD OF DELIVERY THAT REQUIRES A RECEIPT OR SIGNATURE CONFIRMATION

Pursuant to W. Va. Code § 22-6A-10(b) no later than the filing date of the application, the applicant for a permit for any well work or for a certificate of approval for the construction of an impoundment or pit as required by this article shall deliver, by personal service or by registered mail or by any method of delivery that requires a receipt or signature confirmation, copies of the application, the erosion and sediment control plan required by section seven of this article, and the well plat to each of the following persons: (1) The owners of record of the surface of the tract on which the well is or is proposed to be located; (2) The owners of record of the surface tract or tracts overlying the oil and gas leasehold being developed by the proposed well work, if the surface tract is to be used for roads or other land disturbance as described in the erosion and sediment control plan submitted pursuant to subsection (c), section seven of this article; (3) The coal owner, operator or lessee, in the event the tract of land on which the well proposed to be drilled is located [sic] is known to be underlain by one or more coal seams; (4) The owners of record of the surface tract or tracts overlying the oil and gas leasehold being developed by the proposed well work, if the surface tract is to be used for the placement, construction, enlargement, alteration, repair, removal or abandonment of any impoundment or pit as described in section nine of this article; (5) Any surface owner or water purveyor who is known to the applicant to have a water well, spring or water supply source located within one thousand five hundred feet of the center of the well pad which is used to provide water for consumption by humans or domestic animals; and (6) The operator of any natural gas storage field within which the proposed well work activity is to take place. (c)(1) If more than three tenants in common or other co-owners of interests described in subsection (b) of this section hold interests in the lands, the applicant may serve the documents required upon the person described in the records of the sheriff required to be maintained pursuant to section eight, article one, chapter eleven-a of this code. (2) Notwithstanding any provision of this article to the contrary, notice to a lien holder is not notice to a landowner, unless the lien holder is the landowner. W. Va. Code R. § 35-8-5.7.a requires, in part, that the operator shall also provide the Well Site Safety Plan ("WSSP") 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.

Application Notice WSSP Notice E&S Plan Notice Well Plat Notice is hereby provided to:

SURFACE OWNER(s)
Name: Edwin Bunner
Address: 2035 Bunner Ridge Road
Fairmont, WV 26554
Name: _____
Address: _____

COAL OWNER OR LESSEE
Name: Edwin Bunner
Address: 2035 Bunner Ridge Road
Fairmont, WV 26554
 COAL OPERATOR
Name: _____
Address: _____

SURFACE OWNER(s) (Road and/or Other Disturbance)
Name: _____
Address: _____
Name: _____
Address: _____

SURFACE OWNER OF WATER WELL AND/OR WATER PURVEYOR(s)
Name: See Attachment #1
Address: _____

SURFACE OWNER(s) (Impoundments or Pits)
Name: _____
Address: _____

OPERATOR OF ANY NATURAL GAS STORAGE FIELD
Name: _____
Address: _____

*Please attach additional forms if necessary

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Edwin Bunner MRN Pad - Water Purveyors w/in 1500'

Sources

Landowner

Address

Edwin & Sandra Bunner	2035 Bunner Ridge Road, Fairmont, WV 26554	1 Well	/
Misty Fluharty	2854 Portfield Road, Richmond, IN 47374	1 Well	/
Earl & Tammy Rush	332 White Day Creek Road, Fairmont, WV 26554	1 Spring	/
Luella Robe	2108 Bunner Ridge Road, Fairmont, WV 26554	1 Spring	/
Sally Donaldson	63 Mingo Lane, Fairmont, WV 26554	1 Well	/
Claudia Fortney	12574 Butler Mill Road, Lapine, AL 36046	1 Well	/

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WW-6A
(8-13)

JUL 11 2017

API NO. 47- 049 -
OPERATOR WELL NO. Edwin Bunner MRN 5H
Well Pad Name: Edwin Bunner Pad

WV Department of
Environmental Protection

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 31, 2012, 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, by the secretary that the well location restrictions regarding occupied dwelling structures are inadequate or otherwise require alteration to address the items

09/22/2017

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

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WV Department of
Environmental Protection

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.**

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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.

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WW-6A
(8-13)

API NO. 47- 049 -
OPERATOR WELL NO. Edwin Bunner MRN 5H
Well Pad Name: Edwin Bunner Pad

Notice is hereby given by:

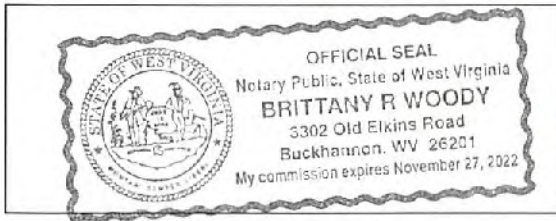
Well Operator: SWN Production Co., LLC
Telephone: 304-884-1614
Email: Dee_Southall@swn.com



Address: P.O. Box 1300
Jane Lew, WV 26378
Facsimile: _____

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.



Subscribed and sworn before me this 26th day of June 2017.
Brittany R Woody Notary Public
My Commission Expires 11/27/2022

47062-001

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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 Requirement: Notice shall be provided at least TEN (10) days prior to filing a permit application.

Date of Notice: 06/21/2017 **Date Permit Application Filed:** 7/11/17

Delivery method pursuant to West Virginia Code § 22-6A-16(b)

HAND DELIVERY CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Pursuant to W. Va. Code § 22-6A-16(b), at least ten days prior to filing a permit application, an operator shall, by certified mail return receipt requested or hand delivery, give the surface owner notice of its intent to enter upon the surface owner's land for the purpose of drilling a horizontal well: *Provided*, That notice given pursuant to subsection (a), section ten of this article satisfies the requirements of this subsection as of the date the notice was provided to the surface owner: *Provided, however*, That the notice requirements of this subsection may be waived in writing by the surface owner. The notice, if required, shall include the name, address, telephone number, and if available, facsimile number and electronic mail address of the operator and the operator's authorized representative.

Notice is hereby provided to the SURFACE OWNER(s):

Name: Edwin Bunner
Address: 2035 Bunner Ridge Road
Fairmont, WV 26554

Name: _____
Address: _____

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Notice is hereby given:

Pursuant to West Virginia Code § 22-6A-16(b), notice is hereby given that the undersigned well operator has an intent to enter upon the surface owner's land for the purpose of drilling a horizontal well on the tract of land as follows:

State:	<u>West Virginia</u>	UTM NAD 83 Easting:	<u>588,504.0</u>
County:	<u>Marion</u>	UTM NAD 83 Northing:	<u>4,368,546.2</u>
District:	<u>Winfield</u>	Public Road Access:	<u>Bunner Ridge Road</u>
Quadrangle:	<u>Gladesville</u>	Generally used farm name:	<u>Edwin Bunner MRN</u>
Watershed:	<u>Whiteday Creek</u>		

WV Department of
Environmental Protection

This Notice Shall Include:

Pursuant to West Virginia Code § 22-6A-16(b), this notice shall include the name, address, telephone number, and if available, facsimile number and electronic mail address of the operator and the operator's authorized representative. 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.

Notice is hereby given by:

Well Operator: SWN Production Company, LLC
Address: PO Box 1300, 179 Innovation Drive
Jane Lew, WV 26378
Telephone: 304-884-1645
Email: Randy_Orsburn@swn.com
Facsimile: 304-884-1691

Authorized Representative: Randy Orsburn
Address: PO Box 1300, 179 Innovation Drive
Jane Lew, WV 26378
Telephone: 304-884-1645
Email: Randy_Orsburn@swn.com
Facsimile: 304-884-1691

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.

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

Notice Time Requirement: notice shall be provided no later than the **filing date of permit application.**

Date of Notice: 06/21/2017 **Date Permit Application Filed:** 7/10/17

Delivery method pursuant to West Virginia Code § 22-6A-16(c)

- CERTIFIED MAIL HAND
RETURN RECEIPT REQUESTED DELIVERY

Pursuant to W. Va. Code § 22-6A-16(c), no later than the date for filing the permit application, an operator shall, by certified mail return receipt requested or hand delivery, give the surface owner whose land will be used for the drilling of a horizontal well notice of the planned operation. The notice required by this subsection shall include: (1) A copy of this code section; (2) The information required to be provided by subsection (b), section ten of this article to a surface owner whose land will be used in conjunction with the drilling of a horizontal well; and (3) A proposed surface use and compensation agreement containing an offer of compensation for damages to the surface affected by oil and gas operations to the extent the damages are compensable under article six-b of this chapter. (d) The notices required by this section shall be given to the surface owner at the address listed in the records of the sheriff at the time of notice.

Notice is hereby provided to the SURFACE OWNER(s)
(at the address listed in the records of the sheriff at the time of notice):

Name: Edwin Bunner
Address: 2035 Bunner Ridge Road
Fairmont, WV 25554

Name: _____
Address: _____

Notice is hereby given:

Pursuant to West Virginia Code § 22-6A-16(c), notice is hereby given that the undersigned well operator has developed a planned operation on the surface owner's land for the purpose of drilling a horizontal well on the tract of land as follows:

State:	<u>West Virginia</u>	UTM NAD 83	Easting:	<u>586,504.0</u>
County:	<u>Marion</u>		Northing:	<u>4,368,545.2</u>
District:	<u>Winfield</u>	Public Road Access:	<u>Bunner Ridge Road</u>	
Quadrangle:	<u>Gladesville</u>	Generally used farm name:	<u>Edwin Bunner MRN</u>	
Watershed:	<u>Whiteday Creek</u>			

This Notice Shall Include:

Pursuant to West Virginia Code § 22-6A-16(c), this notice shall include: (1) A copy of this code section; (2) The information required to be provided by W. Va. Code § 22-6A-10(b) to a surface owner whose land will be used in conjunction with the drilling of a horizontal well; and (3) A proposed surface use and compensation agreement containing an offer of compensation for damages to the surface affected by oil and gas operations to the extent the damages are compensable under article six-b of this chapter. 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 Operator: SWN Production Company, LLC
Telephone: 304-884-1645
Email: Randy_Orsburn@swn.com

Address: PO Box 1300, 179 Innovation Drive
Jane Lew, WV 26378
Facsimile: 304-884-1691

Oil and Gas Privacy Notice:

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WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

Division of Highways

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

Jim Justice
Governor

Thomas J. Smith, P. E.
Secretary of Transportation/
Commissioner of Highways

June 27, 2017

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 Edwin Bunner Pad 5H Well Site, Marion County

Dear Mr. Martin,

47-049-02461

The West Virginia Division of Highways transferred Permit #06-2011-0205 for the subject site to Southwestern Energy for access to the State Road for the well site located off of Marion County Route 84 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

Gary K. Clayton
Regional Maintenance Engineer
Central Office Oil & Gas Coordinator

Cc: Brittany Woody
Southwestern Energy
CH, OM, D-4
File

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Product Name	Product Use	Chemical Name	CAS Number
EC6734A (Champion Technologies)	Biocide	Hydrogen Peroxide	7722-84-1
		Acetic Acid	64-19-7
		Peroxyacetic Acid	79-21-0
GYPTRON T-390 (Champion Technologies)	Scale Inhibitor	Methanol	67-56-1
		Nonylphenol Ethoxylate	Proprietary
Bactron K-139 (Champion Technologies)	Biocide	Glutaraldehyde	111-30-8
		Quaternary Ammonium Compounds, Benzyl-C12-16-Alkyldimethyl, Chlorides	68424-85-1
		Ethanol	64-17-5
Bactron K-219 (Champion Technologies)	Biocide	Methanol	67-56-1
		Quaternary Ammonium Compounds, Benzyl-C12-16-Alkyldimethyl, Chlorides	68424-85-1
A264 (Schlumberger)	Corrosion Inhibitor	Methanol	67-56-1
		Aliphatic Acids	Proprietary
		Prop-2-yn-1-ol	107-19-7
		Aliphatic Alcohols, Ethoxylated #1	Proprietary
Myacide GA 25 (Schlumberger)	Biocide	Water	7732-18-5
		Glutaral	111-30-8
Scale Inhibitor B317 (Schlumberger)	Scale Inhibitor	Trisodium Ortho Phosphate	7601-54-9
		Ethane-1,2-diol	107-21-1
H215 (Schlumberger)	Hydrochloric Acid	Hydrochloric Acid	7647-01-0
J218 (Schlumberger)	Breaker	Diammonium Peroxidisulphate	7727-54-0
EB-Clean* J475 (Schlumberger)	Breaker	Diammonium Peroxidisulphate	7727-54-0
Water Gelling Agent J580 (Schlumberger)	Gel	Carbohydrate Polymer	Proprietary
Friction Reducer J609W (Schlumberger)	Friction Reducer	Ammonium Sulfate	7783-20-2
		Urea	57-13-6
Crosslinker J610 (Schlumberger)	Crosslinker	Potassium Hydroxide	1310-58-3
		Aliphatic Polyol	Proprietary
Iron Stabilizer L58 (Schlumberger)	Iron Stabilizer	Sodium Erythorbate	6381-77-7
40/70-Mesh Sand S012 (Schlumberger)	Sand	Crystalline Silica	14808-60-7
Sand S100 (Schlumberger)	Sand	Crystalline Silica	14808-60-7
EC6486A (Nalco Champion)	Scale Inhibitor	Amine Triphosphate	Proprietary
		Ethylene Glycol	107-21-1
SSA-2 (Halliburton)	Sand	Crystalline Silica	14808-60-7
FR-76 (Halliburton)	Friction Reducer	Inorganic salt	64742-47-8
		Hydrotreated light petroleum distillate	
LCA-1 (Halliburton)		Hydrotreated light petroleum distillate	Proprietary
SP BREAKER (Halliburton)	Breaker	Sodium Persulfate	7775-27-1

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Product Name	Product Use	Chemical Name	CAS Number
HAI-150E (Halliburton)	Corrosion Inhibitor	Methanol	NA
		Aliphatic Acids	
		Prop-2-yn-1-ol	
		Aliphatic Alcohols, Ethoxylated #1	
Diesel Fuel (Halliburton)		Diesel Fuel	68476-34-6
Hydrochloric Acid 10-30% (Halliburton)		Hydrochloric Acid	7647-01-0
WG-36 Gelling Agent (Halliburton)	Gel	Polysaccharide	9000-30-0
BC-140C (Halliburton)	Crosslinker		NA

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