west virginia department of environmental protection

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

Earl Ray Tomblin, Governor
Randy C. Huffman, Cabinet Secretary
www.dep.wv.gov

April 20, 2015

WELL WORK PERMIT

Horizontal 6A Well

This permit, API Well Number: 47-10303053, issued to SWN PRODUCTION COMPANY, LLC, is evidence of permission granted to perform the specified well work at the location described on the attached pages and located on the attached plat, subject to the provisions of Chapter 22 of the West Virginia Code of 1931, as amended, and all rules and regulations promulgated thereunder, and to all conditions and provisions outlined in the pages attached hereto. Notification shall be given by the operator to the Oil and Gas Inspector at least 24 hours prior to the construction of roads, locations, and/or pits for any permitted work. In addition, the well operator shall notify the same inspector 24 hours before any actual well work is commenced and prior to running and cementing casing. Spills or emergency discharges must be promptly reported by the operator to 1-800-642-3074 and to the Oil and Gas inspector.

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

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

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

James Martin
Chief

Operator's Well No: 5H
Farm Name: RIDGETOP CAPITAL, LP
API Well Number: 47-10303053
Permit Type: Horizontal 6A Well
Date Issued: 04/20/2015

Promoting a healthy environment.

API Number: 47 1 0 3 0 3 0 5 3

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 fifty (50) 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. 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.

8. 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.

9. Operator shall provide the Office of Oil & Gas notification of the date that drilling commenced on this well. Such notice shall be provided by sending an email to DEPOOGNotify@wv.gov within 30 days of commencement of drilling.

4710303053

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

Earl Ray Tomblin, Governor
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April 6, 2015

Chesapeake Appalachia, LLC
P.O. Box 1300
Jane Lew, WV 26378
AND
SWN Production Company, LLC
P.O. Box 12359
Spring, TX 77391

Re: Transfer – H6A Well Work Application
API# 47-103-03053
Operator Well No. 5H
Well Pad Name: Ridgetop Land Ventures

Dear Permittee:

This letter serves as notice of approval of transfer of H6A well work permit application number 47-103-03053 from Chesapeake Appalachia, LLC to SWN Production Company. The permit application being transferred, effective today, was received by our office on 10/21/2014 from Chesapeake Appalachia, LLC, and the above API number was assigned.

Please be advised that you are required to adhere to any and all conditions, criteria, and design standards outlined in the permit application as submitted by the previous owner. If deviation from the submitted permit application is needed, a request must be submitted and the permit application modified. Within 90 days of the receipt of approval by the secretary, the transferee shall give notice to all persons entitled per WV Code § 22-6A-10(b).

Should you have any questions or need further assistance, you may contact me at 304.926.0499 ext. 1652.

Sincerely,

for Gene Smith
Assistant Chief, OOG

GS/jn

Cc: Derek Haught, OOG Inspector

103-03053

4710303053

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

March 24, 2015

West Virginia Department of Environmental Protection
Office of Oil & Gas
601 57th Street
Charleston, West Virginia 26304

Re Transfer of Well Work Permit Applications

Ladies and Gentlemen:

On December 22, 2014 but effective as of July 1, 2014 Chesapeake Appalachia, L.L.C. ("CALLC") transferred to SWN Production Company, LLC ("SWN PC") all of CALLC's right, title and interest in and to the oil and gas wells (the "Subject Wells") described on Exhibit A enclosed herewith.

Accordingly, CALLC and SWN PC seek the transfer of the Well Work Permit Applications pending for the Subject Wells and do hereby confirm to the West Virginia Department of Environmental Protection that CALLC consents to such transfers and that SWN PC agrees to accept such transfers.

Please let us know whether the Department will require any additional information or materials in connection with these transfers.

Sincerely yours,

SWN Production Company, LLC

By _____
Derek Cutright, its General Manager

Chesapeake Appalachia, L.L.C.

By _____
Name: SHAWN FIELDS
Title: VICE-PRESIDENT, A&D

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MAR 27 2015
Office of Oil and Gas
WV Dept. of Environmental Protection

4710303053

STATE OF TEXAS

COUNTY OF HARRIS

This instrument was acknowledged before me on March 24, 2015, by Derek Cutright, General Manager of SWN Production Company, LLC, a Texas limited liability company, on behalf of said company.

Jennifer Richards

Notary Public
Printed Name: Jennifer Richards

(SEAL)

JENNIFER RICHARDS
My Commission Expires
September 27, 2016

STATE OF OKLAHOMA

COUNTY OF Oklahoma

This instrument was acknowledged before me on March 25, 2015 by Shawn Fields, Vice President, A+D of Chesapeake Appalachia, L.L.C. an Oklahoma limited liability company, on behalf of said company.

Colby Anderson

Notary Public
Printed Name: COLBY ANDERSON
My Commission Expires: 6/15/2018

COLBY ANDERSON NOTARY # 10004791 EXP. 06/15/18 PUBLIC STATE OF OKLAHOMA

(SEAL)

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Office of Oil and Gas
WV Dept. of Environmental Protection

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

4710303053

EXHIBIT A

Well Name	API #
Betty Schafer MSH 201H	47-051-01776
Betty Schafer 210H	47-051-01777
Gladys Briggs MSH 6H	47-051-01788
Linda Greathouse BRK 3H	47-009-00097
Edward Zatta BRK 10H	47-009-00118
Ridgetop Land Ventures WTZ 5H	47-103-03053

Received

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WW-6B
(10/14)

4710303053

API NO. 47- 103 -
OPERATOR WELL NO. Ridgetop Land Ventures WTZ 5H
Well Pad Name: Ridgetop Land Ventures 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 (Operator ID) | 103-Wetzel (County) | 7-Proctor (District) | 681-Wileyville (Quadrangle)

2) Operator's Well Number: Ridgetop Land Ventures WTZ 5H Well Pad Name: Ridgetop Land Ventures PAD

3) Farm Name/Surface Owner: Ridgetop Capital, LP Public Road Access: _____

4) Elevation, current ground: 1436' Elevation, proposed post-construction: 1436'

5) Well Type (a) Gas x Oil _____ Underground Storage _____
Other _____
(b)If Gas Shallow x Deep _____
Horizontal x

6) Existing Pad: Yes or No yes

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Associated Pressure(s):
Target formation- Marcellus Target top TVD- 7329' Target base TVD- 7349' Anticipated thickness-50 Associated Pressure- 4650

8) Proposed Total Vertical Depth: 7281'

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 13,550'

11) Proposed Horizontal Leg Length: 4572'

12) Approximate Fresh Water Strata Depths: 698'

13) Method to Determine Fresh Water Depths: Data was gathered from e-logs, drillers logs, and from nearby water wells

14) Approximate Saltwater Depths: 1911'

15) Approximate Coal Seam Depths: 1340'

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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WW-6B
(9/13)

18)

CASING AND TUBING PROGRAM

TYPE	Size	New or Used	Grade	Weight per ft. (lb/ft)	FOOTAGE: For Drilling	INTERVALS: Left in Well	CEMENT: Fill-up (Cu. Ft.)
Conductor	20"	New	H-40	94#	122'	122'	CTS
Fresh Water	13 3/8"	New	J-55	54.5#	808'	808'	731 sx/CTS
Coal	9 5/8"	New	J-55	40#	2972'	2972'	1116 sx/CTS
Intermediate	7"	New	HCP-110	20#	If Needed	If Needed	If Needed/As Needed
Production	5 1/2"	New	HCP-110	20#	13,550'	13,550'	Lead 1098 to Tail #311 sx/102 [illegible]
Tubing	2 3/8"	New	N-80	4.7#	Approx. 8078'	Approx. 8078'	
Liners							

DMH 4-14-15

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

PACKERS

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

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(9/13)

4710303053

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 the 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 units, vertical separation units, water and oil storage tanks. Max press and anticipated max rate-9000 lbs @ 80 barrells a minute.

DMH
9-2-14

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 7.6

22) Area to be disturbed for well pad only, less access road (acres): 6.6

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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OCT 21 2014

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.

SLB Cement Additives ***Ref: 2013-78

	Product Name	Product Use	Chemical Name	CAS Number
Surface	D046	antifoam	Fuller's earth (attapulgite)	8031-18-3
			Polypropylene glycol	25322-69-4
	D130	polyester flake - lcm	polyethylene terephthalate	25038-59-9
	S001	calcium chloride	calcium chloride	10043-52-4
	SPACER			
	D130	polyester flake - lcm	polyethylene terephthalate	25038-59-9
	D020	bentonite extender	bentonite	1302-78-9
Intermediate	D046	antifoam	Fuller's earth (attapulgite)	8031-18-3
			Polypropylene glycol	25322-69-4
	D130	polyester flake - lcm	polyethylene terephthalate	25038-59-9
	D044	granulated salt	sodium chloride	7647-14-5
	D153	Anti-Settling Agent	chrystalline silica	14808-60-7
	SPACER			
	D020	bentonite extender	bentonite	1302-78-9
	D130	polyester flake - lcm	polyethylene terephthalate	25038-59-9
Kick Off Plug	D080	cement liquid dispersant	product classified as non-hazardous.	
	D801	mid-temp retarder	product classified as non-hazardous	
	D047	antifoam agent	polypropylene glycol	25322-69-4
	SPACER			
	B389	MUDPUSH* Express	Carbohydrate	proprietary
	D206	Antifoaming Agent	Silica Organic Polymer	proprietary
	D031	barite	barium sulfate	7727-43-7
	B220	surfactant	fatty acid amine	proprietary
			ethoxylated alcohol	proprietary
			glycerol	56-81-5
			2.2'-Iminodiethanol	111-42-2
	D167	UNIFLAC* S	aliphatic amide polymer	proprietary

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Production - Lead	D154	low-temperature extender	non-crystalline silica	7631-86-9
	D400	EasyBLOK	boric acid	10043-35-3
	D046	antifoam	Fuller's earth (attapulgite)	8031-18-3
			Polypropylene glycol	25322-69-4
	D201	basic cements enabler	chrystalline silica	14808-60-7
			metal oxide	proprietary
	D202	low-temperature solid dispersant	sulphonated synthetic polymer	proprietary
			formaldehyde (impurity)	50-00-0
	D046	antifoam	Fuller's earth (attapulgite)	8031-18-3
			Polypropylene glycol	25322-69-4
	D167	UNIFLAC* S	aliphatic amide polymer	proprietary
	D065	TIC* Dispersant	Sodium Polynaphthalene Sulfonate	9008-63-3
			Sodium Sulfate	7757-82-6
	D201	basic cements enabler	chrystalline silica	14808-60-7
			metal oxide	proprietary
	D153	Anti-Settling Agent	chrystalline silica	14808-60-7
	SPACER			
	B389	MUDPUSH* Express	Carbohydrate	proprietary
	D206	Antifoaming Agent	Silica Organic Polymer	proprietary
	D031	barite	barium sulfate	7727-43-7
	B220	surfactant	fatty acid amine	proprietary
			ethoxylated alcohol	proprietary
			glycerol	56-81-5
			2.2'-Iminodiethanol	111-42-2

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% Concentration Used
0.2% BWOC
0.125 lb/sk
2% BWOC
1 lb/bbl
20 lb/bbl
0.2% BWOC
0.125 lb/sk
10% BWOW
0.15% BWOC
20 lb/bbl
1 lb/bbl
0.05 gal/sk
0.01 gal/sk
0.02 gal/sk
1 lb/bbl
0.1 gal/bbl
310 lb/bbl
1 gal/bbl
0.35% BWOC

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6% BWOC	
0.8% BWOC	
0.2% BWOC	
0.2% BWOC	
0.3% BWOC	
0.2% BWOC	
0.35% BWOC	
0.25% BWOC	
0.2% BWOC	
0.2% BWOC	
proprietary	
proprietary	
7727-43-7	
proprietary	
proprietary	
56-81-5	
111-42-2	

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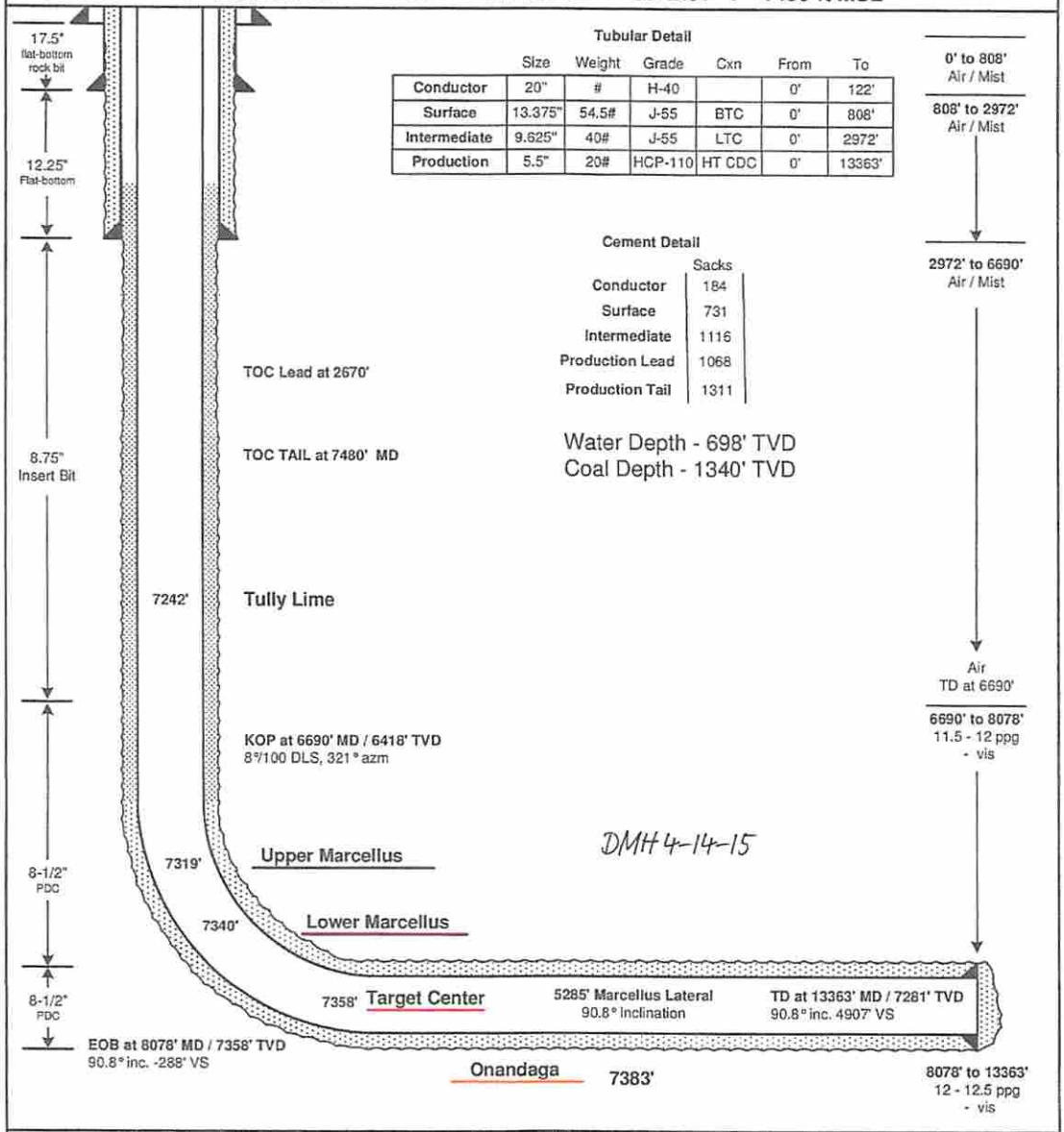
Southwestern Energy Company		Proposed Drilling Program
Well	: ~~RIDGETOP LAND VENTURES~~ WTZ 5	Re-entry Rig : Nomac 337
Field	: VICTORY FIELD	Prospect : VICTORY
County	: WETZEL	State : WV
SHL	: 39.66589 Latitude 80.673194 Longitude	
BHL	: 39.676447 Latitude 80.684032 Longitude	
KB Elev	: 1458 ft MSL KB : 22 ft AGL GL Elev : 1436 ft MSL	

SWN Southwestern Energy



Tubular Detail

	Size	Weight	Grade	Cxn	From	To
Conductor	20"	#	H-40		0'	122'
Surface	13.375"	54.5#	J-55	BTC	0'	808'
Intermediate	9.625"	40#	J-55	LTC	0'	2972'
Production	5.5"	20#	HCP-110	HT CDC	0'	13363'

Cement Detail

	Sacks
Conductor	184
Surface	731
Intermediate	1116
Production Lead	1068
Production Tail	1311

Water Depth - 698' TVD
Coal Depth - 1340' TVD

DMH 4-14-15

Data source: K:\EandP\WVD\Team Data\Drilling\Wells\Ridgetop LV Pad\RIDGETOP LAND VENTURES WTZ 5H\Drilling Program\Master SWN Well Input Sheet v E-0-1.xlsm

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

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WW-9
(9/13)

4710303053

API Number 47 - 103 - _____
Operator's Well No. Ridgetop Land Ventures WTZ 5H

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

FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name SWN Production Co., LLC OP Code 49447757

Watershed (HUC 10) Middle Ohio North Quadrangle 681- Wileyville

Elevation 1436' County 103-Wetzel District 7- Proctor

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 2D0072539/ 2D0413175/ 2D0610306/ 2D0610317)
- ■ 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.

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

Drilling medium anticipated for this well (vertical and horizontal)? Air, freshwater, oil based, etc. Air drill to KOP, Fluid drill with SOBM 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, SS Grading SWF- 4002, Northwestern SWF- 1026, Short Creek 1034/WV0109517/CID34726, Carbon Limestone 24736/CID28726
Arden Landfill 10072, American 02-12954, Country Wide 38390/CID38390, Pine Grove 13688

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.

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Company Official Signature _____

Company Official (Typed Name) Dee Southall

Company Official Title Regulatory Supervisor

Subscribed and sworn before me this 15th day of April, 2015

Brittany R Woody Notary Public

My commission expires 11/27/22

OFFICIAL SEAL
Notary Public, State of West Virginia
BRITTANY R WOODY
3302 Old Elkins Road
Buckhannon, WV 26201
My commission expires November 27, 2022

4710303053

Form WW-9

Operator's Well No. Ridgetop Land Ventures WTZ 5H

Chesapeake Appalachia, LLC

Proposed Revegetation Treatment: Acres Disturbed 10 +/- Prevegetation pH _____

Lime as determined by pH test min. 2 Tons/acre or to correct to pH 6.5

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
White Clover	15	White Clover	15
Red Top	15	Red Top	15
Orchard Grass	20	Orchard Grass	20

Attach:
Drawing(s) of road, location, pit and proposed area for land application (unless engineered plans including this info have been provided)

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: _____

Comments: _____

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Title: Oil + Gas Inspector Date: 9-2-14

Field Reviewed? (✓) Yes ( ) No

4710303053

Marcellus Well Drilling Procedures
And Site Safety Plan

SWN Production Co., LLC

47 - 051 -
Well name: Ridgetop Land Ventures WTZ 5H
Wileyville, Quad
Proctor, District
Wetzel County, West Virginia

Submitted by:

Danielle Southall Date: 4/14/2015

Title Regulatory Supervisor SWN Production Co., LLC

Approved by:

Date: 4/14/2015

Title: Oil & Gas Inspector

Approved by:

Date:

Title:

SWN Production Co., LLC – Confidential

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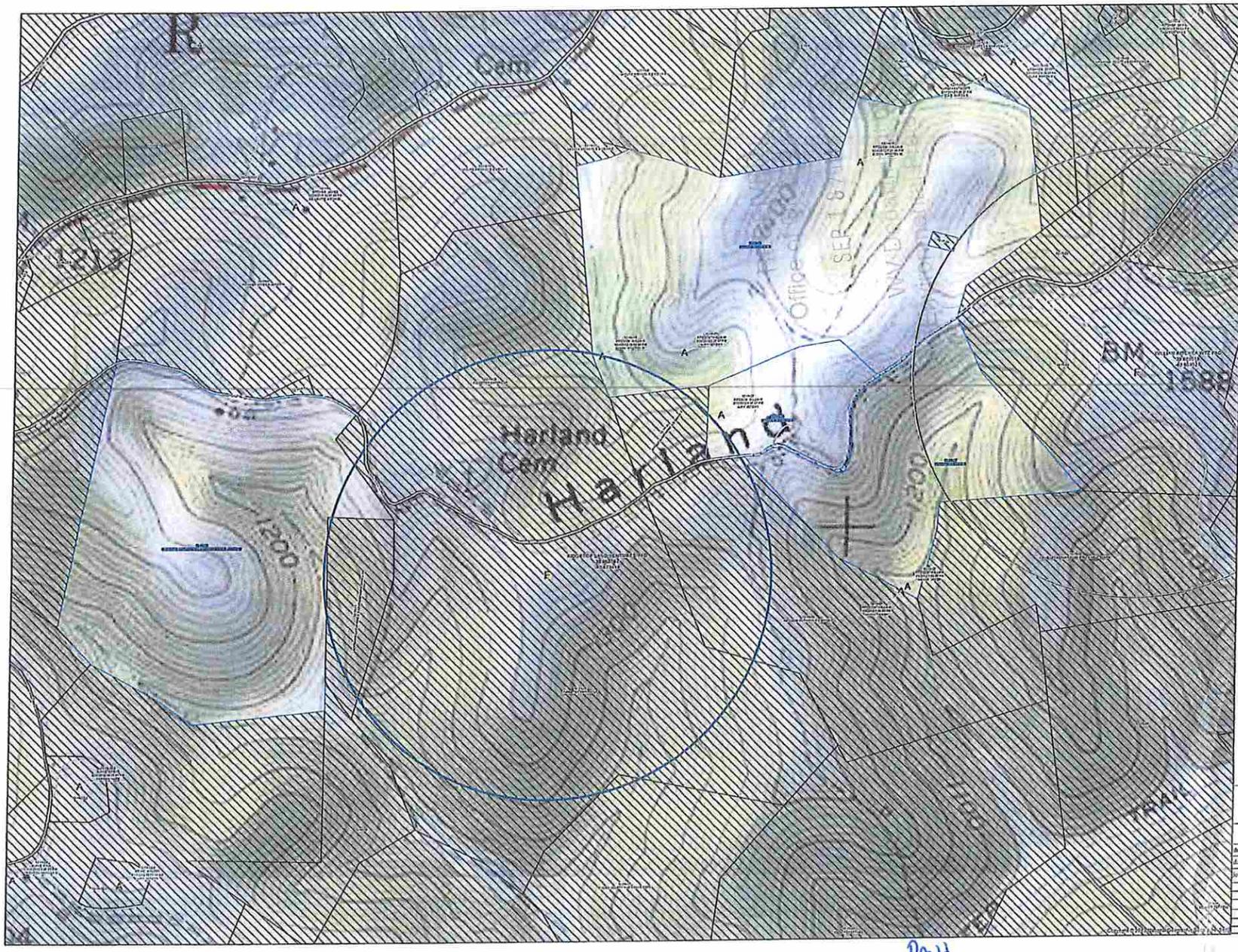
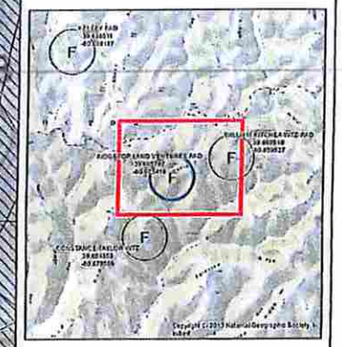


Legend

- F Other CHK Site
- F RIDGETOP LAND VENTURES PAD - 911971
- Roads
- A Baseline Sampling Location
- USGS NWIS Water Quality Well
- USGS NWIS Water Level Well
- USGS NURE Well
- 1500' Radius of Other CHK Site
- 1500' Radius of Site
- Other Parcels
- Parcels Within 1500' of Site With Potential Water Sources - 3 Parcels Highlighted



RIDGETOP LAND VENTURES PAD - 911971
39.665787
-80.673418

Map Coordinate System:
NAD 1983 StatePlane West Virginia North FIPS 4701 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983

Notes:
1. CHK is abbreviation for Chesapeake Energy.
2. Parcel information from Chesapeake Energy.

3

0 300 600 1,200
Feet

Chesapeake Energy
RIDGETOP LAND VENTURES PAD - 911971
Wetzel County, West Virginia

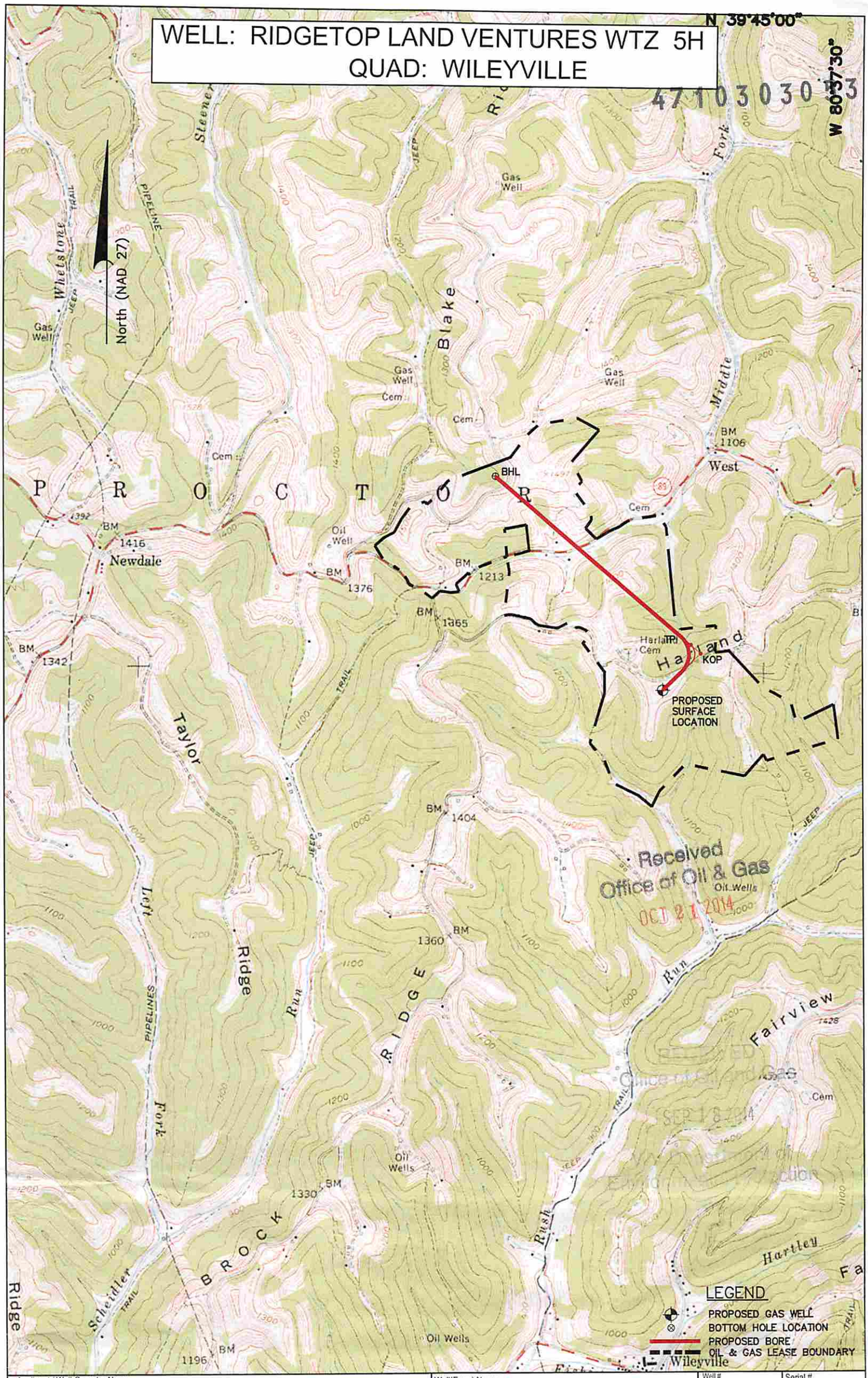
Site Parcel Map

drawn JEB	checked	approved	figure no
date 3/14/2013	date	date	1
job no. 20051V0010		file no.	
revisions	date	revision	

SAIC

DMH
9-2-14

WELL: RIDGETOP LAND VENTURES WTZ 5H
QUAD: WILEYVILLE



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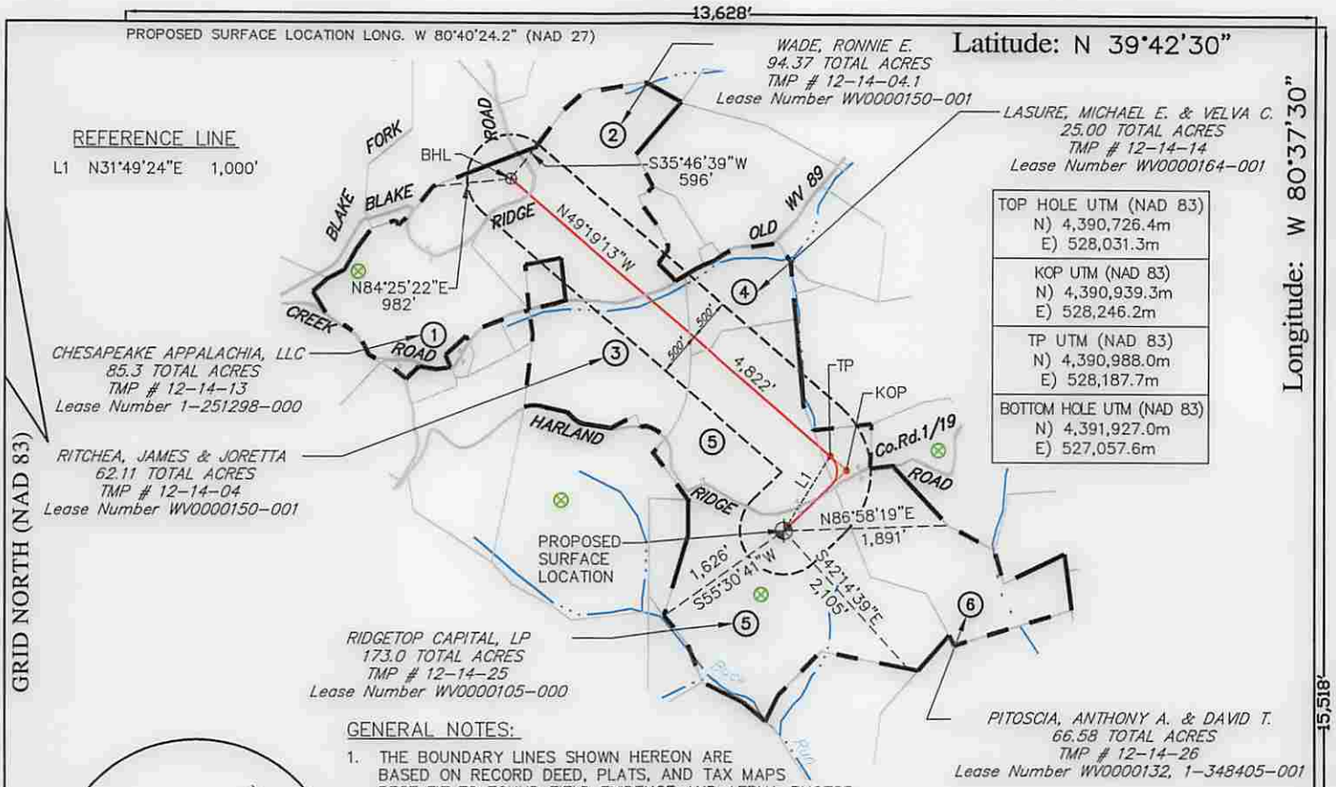
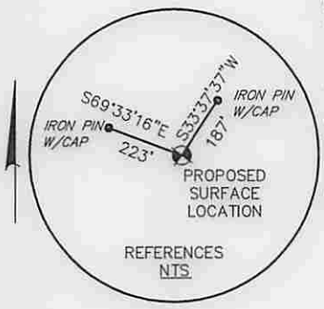
Applicant / Well Operator Name CHESAPEAKE OPERATING, LLC.	Well(Farm) Name RIDGETOP LAND VENTURES WTZ	Well # 5H	Serial #
Address PO BOX 18496 OKLAHOMA CITY, OK 73154–0496	County - Code WETZEL – 103	District PROCTOR	
Surface Landowner / Lessor RIDGETOP CAPITAL, LP	USGS 7½ Quadrangle Map Name WILEYVILLE, W.VA.		



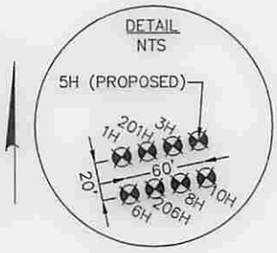
GENERAL NOTES:

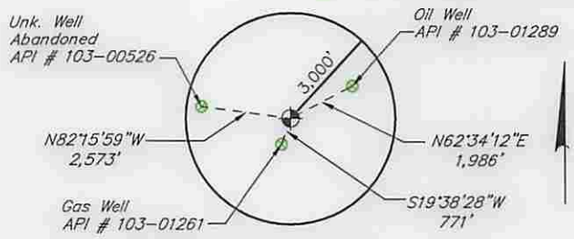
1. THE BOUNDARY LINES SHOWN HEREON ARE BASED ON RECORD DEED, PLATS, AND TAX MAPS BEST FIT TO FOUND FIELD EVIDENCE AND AERIAL PHOTOS.
2. THIS PLAT DOES NOT REPRESENT AN ACTUAL BOUNDARY SURVEY OF THE INDIVIDUAL PARCELS.
3. THERE ARE NO WATER WELLS OR DEVELOPED SPRINGS WITHIN 250' OF PROPOSED WELL.
4. THERE ARE NO EXISTING OCCUPIED DWELLINGS OR BUILDINGS WITHIN 625' OF PROPOSED WELL.
5. THE PROPOSED WELL IS GREATER THAN 100' FROM PERENNIAL STREAM, WETLAND, POND, RESERVOIR OR LAKE.
6. THERE ARE NO NATIVE TROUT STREAMS WITHIN 300' OF PROPOSED WELL.



LEGEND

- PROPOSED GAS WELL
- PROPOSED BORE
- TIE LINE
- OIL & GAS LEASE BOUNDARY
- PROPERTY LINE
- STREAM LINE
- EXISTING GAS WELL





FILE #: 087569007

DRAWING #: 087569007 WELL PLAT

SCALE: 1" = 2,000'

MINIMUM DEGREE OF ACCURACY: 1/200

PROVEN SOURCE OF ELEVATION: SUBMETER MAPPING GPS

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 THE RULES ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

SIGNED: C. R. West

R.P.E.: _____ L.L.S.: 2241

CRAIG ROBERT WEST LICENSED No. 2241 STATE OF WEST VIRGINIA PROFESSIONAL SURVEYOR

PLACE SEAL HERE

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

WVDEP
OFFICE OF OIL & GAS
601 57TH STREET
CHARLESTON, WV 25304

DATE: APRIL 14, 2015

OPERATOR'S WELL #: RIDGETOP LAND VENTURES WTZ 5H

API WELL #: 47 (STATE) 103 (COUNTY) 03053H6A (PERMIT)

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

WATERSHED: LITTLE FISHING CREEK

ELEVATION: 1,436' (AS-BUILT)

COUNTY/DISTRICT: WETZEL / PROCTOR

QUADRANGLE: WILEYVILLE, W.VA.

SURFACE OWNER: RIDGETOP CAPITAL, LP

ACREAGE: 173 ±

OIL & GAS ROYALTY OWNER: RIDGETOP CAPITAL, LP

ACREAGE: 173 ±

DRILL ☒ CONVERT ☐ DRILL DEEPER ☐ REDRILL ☐ FRACTURE OR STIMULATE ☒

PLUG OFF OLD FORMATION ☐ PERFORATE NEW FORMATION ☐ PLUG & ABANDON ☐

CLEAN OUT & REPLUG ☐ OTHER CHANGE ☐ (SPECIFY): _____

TARGET FORMATION: MARCELLUS

ESTIMATED DEPTH: 12,783' TMD / 7,300' TVD

WELL OPERATOR: SWN PRODUCTION CO., 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

WW-6A1
(5/13)

Operator's Well No. Ridgetop Land Ventures WTZ 5H

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 & Gas
OCT 21 2014

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.

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Office of Oil and Gas
SEP 18 2014
WV Department of
Environmental Protection

Well Operator: Chesapeake Appalachia, LLC
By: Dee Southall
Its: Regulatory Analyst II

WW-6A1PT
(01/15)

API No.: 47 - 103 - 4710303053

INFORMATION SUPPLIED UNDER WEST VIRGINIA CODE
UNDER WV CODE § 22-6A-7(m)
IN LIEU OF FILING LEASE(S) AND OTHER CONTINUING CONTRACT(S)

Under the oath, I depose and say that I am the person who signed the Application for Transfer of Well Work Permit and that 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
1-251298-000	Chesapeake Appalachia,LLC	SWN Production Company, LLC	12.50%	See assignment attached
WV0000150-001	Chesapeake Appalachia,LLC	SWN Production Company, LLC	12.50%	See assignment attached
WV0000164-001	Chesapeake Appalachia,LLC	SWN Production Company, LLC	12.50%	See assignment attached
WV0000105-000	Chesapeake Appalachia,LLC	SWN Production Company, LLC	12.50%	See assignment attached
WV0000132-000	Chesapeake Appalachia,LLC	SWN Production Company, LLC	12.50%	See assignment attached
1-348405-001	Chesapeake Appalachia,LLC	SWN Production Company, LLC	17%	See assignment attached

Transferee Company: SWN Production Company, LLC

Printed Name: Dee Southall

Title: Regulatory Supervisor

Signature: p.p. Brittany Woody, Engineering Regulatory Analyst

Date: 4/6/2015

Ridgetop Land Ventures WTZ 5H

#	TMP	Lease #	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Bk/Pg
1)	12-14-13	1-251298-000	James P Messenger and Karen J Messenger, his wife	Chesapeake Appalachia, L.L.C.	12.50%	92A/650
2)	12-14-4.1	WV0000150-001	Harold H. Blake and/or Donna M. Blake, husband and wife	Haddad and Brooks, Inc.	12.50%	82A/105
			Haddad and Brooks, Inc.	Chesapeake Appalachia, L.L.C.		104A/230
3)	12-14-4	WV0000150-001	Harold H. Blake and/or Donna M. Blake, husband and wife	Haddad and Brooks, Inc.	12.50%	82A/105
			Haddad and Brooks, Inc.	Chesapeake Appalachia, L.L.C.		104A/230
4)	12-14-14	WV0000164-001	Michael E. Lasure and Velva C. Lasure, husband and wife	Haddad and Brooks, Inc.	12.50%	79A/192
			Haddad and Brooks, Inc.	Chesapeake Appalachia, L.L.C.		104A/230
5)	12-14-25	WV0000105-000	Everett Goddard and Hazel Goddard, his wife	Mobay Chemical Corporation	12.50%	63A/471
			Mobay Chemical Corporation	Haddad and Brooks, Inc.		65A/67
			Haddad and Brooks, Inc.	Sun Exploration and Production Company		65A/195
			Haddad and Brooks, Inc.	Natmin Development Corporation		67A/516
			Sun Exploration and Production Company	Sun Operating Limited Partnership		69A/502
			Sun Operating Limited Partnership, by Sun Exploration and Production Company, as Managing General Partner	Haddad and Brooks, Inc.		70A/265
			Natmin Development Corporation	Haddad and Brooks, Inc.		71A/350
			Haddad and Brooks, Inc.	Chesapeake Appalachia, L.L.C.		102A/302
6)	12-14-26	WV0000132-000	TASA Corporation, formerly TASA Coal Company	Haddad and Brooks, Inc.	12.50%	66A/575
			Haddad and Brooks, Inc.	Natmin Development Corporation		67A/333
			Haddad and Brooks, Inc.	Sun Exploration and Production Company		67A/623
			Sun Exploration and Production Company	Sun Operating Limited Partnership		69A/502
			Sun Operating Limited Partnership, by Sun Exploration and Production Company, as Managing General Partner	Haddad and Brooks, Inc.		70A/265
			Natmin Development Corporation	Haddad and Brooks, Inc.		71A/350
			Haddad and Brooks, Inc.	Chesapeake Appalachia, L.L.C.		102A/302
		1-348405-001	Robert C. Morgan and Vickie Morgan, a/k/a Vicky Morgan, his wife	Chesapeake Appalachia, L.L.C.	17.00%	134/301

4710303053

DELIVER: TRACY J HOWELL

4710303053

ASSIGNMENT, BILL OF SALE AND CONVEYANCE

STATE OF WEST VIRGINIA §
§
COUNTY OF WETZEL §

THIS ASSIGNMENT, BILL OF SALE AND CONVEYANCE (this "**Assignment**"), dated effective as of July 1, 2014 at 7:00 a.m. Central Time (the "**Effective Time**"), is made by **CHESAPEAKE APPALACHIA, L.L.C.**, an Oklahoma limited liability company ("**Assignor**") to **SWN PRODUCTION COMPANY, LLC**, a Texas limited liability company, formerly known as Southwestern Energy Production Company, a Texas corporation ("**Assignee**"). This Assignment is executed and delivered in connection with and pursuant to the terms of that certain Purchase and Sale Agreement between Assignor and Assignee dated October 14, 2014 (the "**Purchase Agreement**"). Capitalized terms used and not otherwise defined herein shall have the meanings assigned to such terms in the Purchase Agreement.

1. Assignment. For and in consideration of Ten Dollars ($10.00) and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Assignor does hereby **GRANT, BARGAIN, SELL, CONVEY, ASSIGN, TRANSFER, SET OVER, AND DELIVER** unto Assignee, all of Assignor's right, title, and interest in and to the following, subject to the terms and reservations hereof and specifically **LESS AND EXCEPT** the Excluded Assets (as hereinafter defined) (the "**Properties**"):

1.1 the oil, gas and mineral leases shown on Exhibit "A" attached hereto, and the operating rights, working interests, net revenue interests, and other rights to crude oil, natural gas, casinghead gas, condensate, natural gas liquids, and other liquid or gaseous hydrocarbons ("**Hydrocarbons**") therein, whether producing or non-producing ("**Real Property Interests**");

1.2 the oil and gas wells shown on Exhibit "B" attached hereto ("**Wells**"), and all tangible personal property, equipment, fixtures and improvements related to the operation of a Well or Wells which was charged to the joint account of the working interest owners in such Well or Wells but excluding items considered part of overhead and any Excluded Assets (each of the foregoing being referred to herein as, "**Lease Owned**"), including all injection wells, salt water disposal facilities, well heads, casing, tubing, pumps, motors, gauges, valves, heaters, treaters, water lines, vessels, tanks, boilers, separators, treating equipment, compressors, other equipment, automation systems including meters and related telemetry on wells, power lines, telephone and communication lines and other appurtenances owned in connection with production, treating, storing, transportation or marketing of Hydrocarbons from the Wells, to the extent each of the foregoing is Lease Owned;

1.3 all presently existing unitization, pooling and/or communitization agreements, declarations or designations and statutorily, judicially or administratively created drilling, spacing and/or production units, whether recorded or unrecorded, insofar as the same are attributable or allocated to the lands covered by the Real Property Interests and all lands pooled or unitized therewith (the "**Lands**"), and Assignor's interest in and to the properties covered or units created thereby which are attributable to the Real Property Interests;

1.4 all presently existing and valid Hydrocarbon sales agreements, operating agreements, gathering agreements, transportation agreements, farmout and farmin agreements, unitization, pooling and communitization agreements, purchase agreements, exploration agreements, area of mutual interest agreements, exchange and processing contracts and agreements, partnership and joint venture agreements and any other contracts, agreements and instruments (other than that certain Development Agreement dated November 24, 2008 entered into by Chesapeake Appalachia, L.L.C. and Statoil USA Onshore Properties Inc. (the "**Development Agreement**") (except as and to the extent described in Section 5.14 of the

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Purchase Agreement), to the extent the above agreements cover, are attributable to or relate to the Lands or the Wells, or any interest pooled, communitized or unitized therewith, including, without limitation, those contracts and agreements described on Exhibit "C" attached to the Purchase Agreement ("**Contracts**");

1.5 all Hydrocarbons in, on, under or produced from or attributable to the Lands from and after the Effective Time and the proceeds thereof;

1.6 all rights and privileges with respect to the use of the surface, including rights of ingress and egress, and subsurface depths under the lands covered by or subject to any of the Real Property Interests, or otherwise arising under or derived from the Properties, in each case, to the extent related to the ownership and operation of, or which may be necessary for the use, development or operation of, the Properties, including, but not limited to, all easements, subsurface easements, surface leases, servitudes and rights of way used or held for use in connection with the production of Hydrocarbons from the Lands ("**Easements**");

1.7 all rights, benefits and obligations arising from or in connection with any gas production, pipeline, storage, processing, transportation or other imbalance or unsatisfied through-put obligations attributable to Hydrocarbons produced from the Lands ("**Gas Imbalances**") as of the Effective Time;

1.8 all licenses, orders, franchises, registrations, permits, consents, approvals, variances, exemptions, waivers, rights, water rights (including water withdrawal, storage, discharge, treatment, injection and disposal rights related to the Properties) and other authorizations of all Governmental Authorities that are required to permit its operation of the Properties as presently operated by Assignor (the "**Permits**"), but only to the extent such Permits are transferrable; and

1.9 the Records.

It is the intent of Assignor to convey and this Assignment hereby conveys to Assignee, subject to the reservations and conditions herein contained, from and after the Effective Time, Assignor's interest in the Properties, regardless of errors in description, any incorrect or misspelled names, or any mistranscribed or incorrect recording references.

TO HAVE AND TO HOLD all and singular of Assignor's interest in such Properties together with all rights, titles, interests, estates, remedies, powers, and privileges thereunto appertaining unto Assignee and Assignee's successors and assigns forever; subject to the following matters:

a. royalties, overriding royalties and similar burdens on production to the extent the foregoing are Permitted Encumbrances;

b. liens for Taxes for which payment is not due or which are being contested in good faith by appropriate proceedings;

c. liens of mechanics, materialmen, warehousemen, landlords, vendors, and carriers and any similar Liens arising by operation of law which, in each instance, arise in the ordinary course of business, for sums not yet due or which are being contested in good faith by appropriate proceedings;

d. operating agreements, unit agreements, unitization and pooling designations and declarations, and all other Contracts to the extent the foregoing are Permitted Encumbrances;

e. easements, surface leases, and other rights and plat restrictions, zoning laws, restrictive covenants and conditions, regulatory authority of governmental authorities, and building and other land use laws and similar encumbrances;

f. all rights to consent by, required notices to, filings with or other actions by governmental authorities in connection with the sale, disposition, transfer or conveyance of

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federal, state, tribal, or other governmental oil and gas leases or interests therein or related thereto, or the transfer of operations of any of the Wells, where the same are customarily obtained subsequent to the assignment, disposition or transfer of such oil and gas leases or interests therein, or such operations;

g. conventional rights of reassignment obligating the lessee to reassign or offer to reassign its interests in any lease prior to a release or abandonment of such lease;

h. required non-governmental third party consents to assignments which have been obtained or waived by the appropriate parties or which cannot be unreasonably withheld, and preferential rights to purchase which have been waived by the appropriate parties or for which the time period for asserting such rights has expired without the exercise of such rights;

i. rights of tenants-in-common in and to the Properties;

j. all defects or irregularities of title, if any, affecting the Properties which do not, individually or in the aggregate, adversely interfere in any material way with the present or future operation or use of the Properties subject thereto or affected thereby and which would be accepted by a reasonably prudent and sophisticated buyer engaged in the business of owning, developing and operating oil and gas properties in the same geographical location with knowledge of all the facts and appreciation of their legal significance;

k. all defects or irregularities (i) arising out of lack of corporate authorization or a variation in corporate name, (ii) that have been cured or remedied by applicable statutes of limitation or statutes for prescription, (iii) consisting of the failure to recite marital status in documents or omissions of heirship proceedings, (iv) that have been cured by possession under applicable statutes of limitation, (v) resulting from lack of survey or failure to record releases of liens, production payments or mortgages that have expired by their own terms or the enforcement of which are barred by applicable statutes of limitation, or (vi) to the extent affecting any depths other than the Marcellus Formation, and if within the Utica Area, the Utica Formation, or if relative to a Well, the Producing Formation for such Well;

l. rights vested in or reserved to any governmental authority to regulate the Properties, to terminate any right, power, franchise, license or permit afforded by such governmental authority, or to purchase, condemn or expropriate any of the Properties;

m. requirements to coordinate activities and operations with those having coal, gas storage, utility, timber or other similar rights and operations on, above or below the Properties and any drilling and operating limitations to which the Properties may be subject by reason of rights in favor of any such surface or subsurface owners or operators arising as a matter of law or regulation or pursuant to the terms or provisions of any Real Property Interests or of any Contracts listed on Schedule 3.8 to the Purchase Agreement;

n. "free gas" arrangements for household or agricultural or domestic or similar use under the terms of any oil and gas lease that is part of the Properties; and

o. the Purchase Agreement.

2. Excluded Assets. Assignor specifically excepts from this Assignment and reserves unto itself the following (the "**Excluded Assets**"):

2.1 Assignor's minute books, financial and income tax records and legal records (other than title records);

2.2 any existing or future refund of costs, taxes or expenses borne by any of Assignor, its Affiliates or its or their respective predecessors in title attributable to the period prior to the Effective Time;

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2.3 any and all proceeds from production and from the settlements of contract disputes with purchasers of Hydrocarbons or byproducts from the Lands, including settlement of take-or-pay disputes, insofar as said proceeds are attributable to periods of time prior to the Effective Time;

2.4 all rights and interests of Assignor or any of its Affiliates (i) under any policy or agreement of insurance or indemnity (including any rights, claims or causes of action of Assignor and its Affiliates against third parties under any indemnities or hold harmless agreements and any indemnities received in connection with Assignor's or any of its Affiliates' prior acquisition of any of the Properties) to the extent and only to the extent such rights and interests relate to the ownership of the Properties prior to the Effective Time and (ii) under any bond;

2.5 all Hydrocarbons produced from the Properties with respect to all periods prior to the Effective Time and all proceeds from the disposition thereof other than inventory for which an adjustment is made under the Purchase Agreement;

2.6 all of Assignor's and its Affiliates' proprietary computer software, patents, trade secrets, copyrights, names, trademarks, logos and other intellectual property;

2.7 all accounts receivable and audit rights arising under any of the applicable contracts or otherwise with respect to the Properties with respect to any period prior to the Effective Time or to any of the Excluded Assets, except for any Gas Imbalances;

2.8 (i) all Geological and Geophysical Information, and (ii) all other information which the Assignor is prohibited from sharing by agreement with a third party;

2.9 all claims of Assignor or any of its Affiliates for refunds of or loss carry forwards with respect to (1) production, ad valorem or any other taxes attributable to any period prior to the Effective Time, (2) income or franchise taxes, or (3) any taxes attributable to Assignor's Excluded Assets;

2.10 all "virtual courthouses" of Assignor or any of its Affiliates, all of their respective exclusive use arrangements with title abstract facilities and all documents and instruments of Assignor or any of its Affiliates that may be protected by an attorney-client privilege and all data that cannot be disclosed to Assignee as a result of confidentiality arrangements under agreements with third parties (other than title opinions and other title records relating to the Properties);

2.11 all surface fee interests, surface leasehold and other surface property interests and all buildings, offices, field offices and yards (but excluding the Easements);

2.12 all non-Lease Owned equipment;

2.13 automation systems including meters and related telemetry, licensed radio frequencies and associated communications infrastructure including towers, antennas, data links and network circuits, except any such items which are Lease Owned equipment;

2.14 all drilling rigs and related equipment, work over rigs and related equipment, tools and other equipment brought onto a well site temporarily for purposes of drilling, reworking or maintaining a well, all vehicles, and any other non-Lease Owned equipment, inventory, machinery, tools and other personal property;

2.15 all non-Lease Owned salt water disposal wells, systems and related equipment and clean water wells, systems and equipment;

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2.16 all Gathering Assets;

2.17 (1) all mineral interests and lessor royalties owned by Assignor and its Affiliates including, without limitation, any and all mineral interests burdened by or relating to any of the

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Real Property Interests or burdened by other oil, gas and mineral leases, and (2) all overriding royalty interests owned by Assignor or its Affiliates, to the extent they do not, individually or in the aggregate, reduce Assignor's interest in any Property below the Net Revenue Interest for such Property;

2.18 all non-Lease Owned gathering lines, flow lines, gas lines, gas processing and gathering line compression facilities, tubing, pumps, motors, gauges, valves and other systems, machinery and equipment constituting part of or comprising gas gathering systems or assets, and all rights of way, easements and other contracts relating to the ownership, operation or maintenance of any of the foregoing;

2.19 all rights, title and interest of Assignor under the Development Agreement (except as and to the extent described in Section 5.14 of the Purchase Agreement);

2.20 (i) the Midstream Consent Contracts; (ii) the ATEX Agreement; and (iii) the FERC Jurisdictional Contracts.

3. Special Warranty of Title. Assignor does hereby bind itself and its successors and assigns to warrant and defend all and singular title to the Properties unto Assignee and Assignee's successors and assigns, against every person whomsoever lawfully claiming or to claim the same or any part thereof with respect to actions by, through, or under Assignor during the period from the Effective Time to December 22, 2014, but not otherwise. This special warranty of title will continue after the delivery of this Assignment for a period of five (5) years and shall thereafter be of no further force or effect except that any claim under such special warranty of title which has been asserted prior to the end of such five (5) year period shall survive until such claim with respect thereto is resolved. The intended effect of such termination is to bar, from and after the date of termination, any claim or cause of action with respect to such special warranty of title. Further, Assignee is specifically assigned, and subrogated to, warranties of title which Assignor may have from its predecessors in interest (other than Affiliates of Assignor) to the extent applicable with respect to Assignor's interest in the Properties and to the extent Assignor may legally assign such rights and grant such subrogation.

4. Limitations on Representations and Warranties.

4.1 EXCEPT FOR THE EXPRESS AND SPECIFIC REPRESENTATIONS AND WARRANTIES OF ASSIGNOR IN THE PURCHASE AGREEMENT OR THIS ASSIGNMENT, ASSIGNEE ACKNOWLEDGES THAT ASSIGNOR HAS NOT MADE, AND ASSIGNOR HEREBY EXPRESSLY DISCLAIMS AND NEGATES, AND ASSIGNEE HEREBY EXPRESSLY WAIVES, ANY REPRESENTATION OR WARRANTY, EXPRESS, IMPLIED, AT COMMON LAW, BY STATUTE OR OTHERWISE, INCLUDING THOSE RELATING TO (a) PRODUCTION RATES, RECOMPLETION OPPORTUNITIES, DECLINE RATES, GAS BALANCING INFORMATION, OR THE QUALITY, QUANTITY OR VOLUME OF THE RESERVES OF HYDROCARBONS, IF ANY, ATTRIBUTABLE TO THE PROPERTIES OR ASSIGNOR'S INTEREST THEREIN, (b) THE ACCURACY, COMPLETENESS OR MATERIALITY OF ANY RECORDS, INFORMATION, DATA OR OTHER MATERIALS (WRITTEN OR ORAL) NOW, HERETOFORE OR HEREAFTER FURNISHED TO ASSIGNEE BY OR ON BEHALF OF ASSIGNOR, AND (c) THE ENVIRONMENTAL OR OTHER CONDITION OF THE PROPERTIES.

4.2 EXCEPT FOR THE EXPRESS REPRESENTATIONS AND WARRANTIES OF ASSIGNOR IN THE PURCHASE AGREEMENT OR THIS ASSIGNMENT, AND WITHOUT LIMITING THE GENERALITY OF THE FOREGOING, ASSIGNOR EXPRESSLY DISCLAIMS AND NEGATES, AND ASSIGNEE HEREBY WAIVES, AS TO PERSONAL PROPERTY, EQUIPMENT, INVENTORY, MACHINERY AND FIXTURES CONSTITUTING A PART OF THE PROPERTIES (a) ANY IMPLIED OR EXPRESS WARRANTY OF MERCHANTABILITY, (b) ANY IMPLIED OR EXPRESS WARRANTY OF FITNESS

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FOR A PARTICULAR PURPOSE, (c) ANY IMPLIED OR EXPRESS WARRANTY OF CONFORMITY TO MODELS OR SAMPLES OF MATERIALS, (d) ANY RIGHTS OF PURCHASERS UNDER APPROPRIATE STATUTES TO CLAIM DIMINUTION OF CONSIDERATION OR RETURN OF THE PURCHASE PRICE, (e) ANY IMPLIED OR EXPRESS WARRANTY OF FREEDOM FROM DEFECTS, WHETHER KNOWN OR UNKNOWN, (f) ANY AND ALL IMPLIED WARRANTIES EXISTING UNDER APPLICABLE LAW, AND (g) ANY IMPLIED OR EXPRESS WARRANTY REGARDING ENVIRONMENTAL LAWS, THE RELEASE OF SUBSTANCES, WASTES OR MATERIALS INTO THE ENVIRONMENT, OR PROTECTION OF THE ENVIRONMENT OR HEALTH, IT BEING THE EXPRESS INTENTION OF ASSIGNEE AND ASSIGNOR THAT THE PERSONAL PROPERTY, EQUIPMENT, INVENTORY, MACHINERY AND FIXTURES IN WHICH ASSIGNOR HAS ANY INTEREST ARE BEING ACCEPTED BY ASSIGNEE, "AS IS, WHERE IS, WITH ALL FAULTS" AND IN THEIR PRESENT CONDITION AND STATE OF REPAIR.

4.3 ASSIGNOR AND ASSIGNEE AGREE THAT, TO THE EXTENT REQUIRED BY APPLICABLE LAW TO BE EFFECTIVE, THE DISCLAIMERS OF CERTAIN WARRANTIES CONTAINED IN THIS SECTION 4 ARE "CONSPICUOUS" DISCLAIMERS FOR THE PURPOSES OF ANY APPLICABLE LAW, RULE OR ORDER.

5. Miscellaneous.

5.1. Cooperation. In addition to this Assignment, Assignor shall execute, acknowledge, and deliver to Assignee, in a timely manner and without further consideration, any documents or instruments that Assignee may reasonably require, including, without limitation, further assignments or conveyances required by any state or federal authority, deeds, and consents to further evidence the assignment and conveyance of the Properties by Assignor of its interest in the Properties to Assignee.

5.2. Choice of Law. This Assignment shall be governed by and construed in accordance with the law of the State of Texas, other than matters that are mandatorily governed by the law of the jurisdiction in which the Properties are located.

5.3. Successors and Assigns. This Assignment shall bind and inure to the benefit of Assignor and Assignee and their respective successors and assigns. Assignee acknowledges that certain of the Real Property Interests may contain a provision requiring that Assignee obtain, and for the benefit of the respective lessors under any such Real Property Interests Assignee hereby agrees to obtain, as and to the extent so required, the written consent of the respective lessors prior to any further assignment or subletting of rights by Assignee under such Real Property Interests.

5.4. Counterparts. This Assignment may be executed in multiple counterparts, each of which will be an original instrument, but all of which will constitute one assignment.

**[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK
SIGNATURE PAGES FOLLOW]**

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IN WITNESS WHEREOF, the undersigned Assignor has executed this instrument on the date of the acknowledgment annexed hereto, but effective for all purposes as of the Effective Time.

ASSIGNOR:

CHESAPEAKE APPALACHIA, L.L.C., an
Oklahoma limited liability company

By: _____
Douglas J. Jacobson
Executive Vice President

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WV Dept. of Environmental Protection

4710303053

ASSIGNOR ACKNOWLEDGMENT

STATE OF OKLAHOMA §
§
COUNTY OF OKLAHOMA §

This instrument was acknowledged before me on this 22 day of December, 2014, by Douglas J. Jacobson, as Executive Vice President of Chesapeake Appalachia, L.L.C., an Oklahoma limited liability company, as the act and deed and on behalf of such limited liability company.

Notary Public

My Commission Expires: 1-16-2017
Commission Number: 01000598

CINDY BROWN NOTARY # 01000598 EXP. 01/16/17 PUBLIC STATE OF OKLAHOMA

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WV Dept. of Environmental Protection

IN WITNESS WHEREOF, Assignee has executed this instrument on the date of the acknowledgment annexed hereto, but effective for all purposes as of the Effective Time.

ASSIGNEE:

SWN PRODUCTION COMPANY, LLC, a
Texas limited liability company

By: _____
Jim R. Dewbre
Sr. Vice President - Land

ASSIGNEE ACKNOWLEDGMENT

STATE OF OKLAHOMA §
§
COUNTY OF OKLAHOMA §

This instrument was acknowledged before me on this 22 day of December, 2014, by Jim R. Dewbre, as Sr. Vice President - Land of SWN Production Company, LLC, a Texas limited liability company, as the act and deed and on behalf of such limited liability company.

Linn D. Probasco
Notary Public

My Commission Expires: 1-13-18
Commission Number: 14000266

LINN D. PROBASCO NOTARY # 14000266 EXP. 01/13/18 PUBLIC STATE OF OKLAHOMA

Document prepared by Chesapeake Appalachia, L.L.C., P.O. Box 18496, Oklahoma City, Oklahoma 73154-0496.

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4710303053

Chesapeake ENERGY

Chris Branch
Landman II

July 21, 2014

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

Re: Chesapeake's Proposed Ridgetop Land Ventures WTZ 1H & 5H in Wetzel County, West Virginia Drilling Under Harlan Ridge Road and Old WV 89

Dear Ms. Cooper:

Chesapeake Appalachia, L.L.C. ("CHK") is applying for drilling permits for the above referenced wells. The State of West Virginia has raised some concern as to CHK's right to drill under Harlan Ridge Road and Old WV 89. Please be advised that CHK has leased all mineral owners under said route as it relates to the above-referenced well and unit.

Sincerely,

Chris Branch
Landman
Chesapeake Appalachia, LLC

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Chesapeake Energy Corporation
P.O. Box 18496 | Oklahoma City, OK 73154-0496 | 6100 N. Western Avenue | Oklahoma City, OK 73118
405-935-2478 | fax 405-849-2478 | cell 405-291-0143 | chris.branch@chk.com

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(1/12)

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

Date of Notice Certification: 9/15/14

API No. 47- 103 -
Operator's Well No. Ridgetop Land Ventures WTZ 5H
Well Pad Name: Ridgetop Land Ventures 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:	West Virginia	UTM NAD 83	Easting:	528013.5
County:	103-Wetzel		Northing:	4390722.3
District:	7- Proctor	Public Road Access:		Harlan Ridge Road
Quadrangle:	681-Wileyville	Generally used farm name:		Ridgetop Land Ventures
Watershed:	Middle Ohio North			

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
☐ 1. NOTICE OF SEISMIC ACTIVITY or	☒ NOTICE NOT REQUIRED BECAUSE NO SEISMIC ACTIVITY WAS CONDUCTED	☐ RECEIVED/ NOT REQUIRED
☐ 2. NOTICE OF ENTRY FOR PLAT SURVEY or	☒ NO PLAT SURVEY WAS CONDUCTED	☐ RECEIVED
☒ 3. NOTICE OF INTENT TO DRILL or	☐ NOTICE NOT REQUIRED BECAUSE NOTICE OF ENTRY FOR PLAT SURVEY WAS CONDUCTED or ☐ WRITTEN WAIVER BY SURFACE OWNER (PLEASE ATTACH)	☐ RECEIVED/ NOT REQUIRED
☒ 4. NOTICE OF PLANNED OPERATION		☐ RECEIVED
☒ 5. PUBLIC NOTICE		☐ RECEIVED
☒ 6. NOTICE OF APPLICATION		☐ RECEIVED

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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.

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Certification of Notice is hereby given:

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THEREFORE, I Dee Southall, 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:	Chesapeake Appalachia, LLC	Address:	PO Box 1300
By:	Dee Southall		Jane Lew, WV
Its:	Regulatory Analyst II	Facsimile:	304-471-2497
Telephone:	304-517-1416	Email:	danielle.southall@chk.com

NOTARY SEAL
OFFICIAL SEAL
Notary Public, State of West Virginia
BRITTANY R WOODY
3302 Old Elkins Road
Buckhannon, WV 26201
My commission expires November 27, 2022

Subscribed and sworn before me this 17th day of July 2014.

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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API NO. 47- 103 - 03053
OPERATOR WELL NO. Ridgetop Land Ventures WT-
Well Pad Name: Ridgetop Land Ventures PAD

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: 9/15/14 **Date Permit Application Filed:** 9/15/14

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.

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

☑ SURFACE OWNER(s)
Name: Ridgetop Capital, LP
Address: 491 Sylvania Drive
McMurray, PA 15317
Name:
Address:

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

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

☑ COAL OWNER OR LESSEE
Name: CNX Center %Leatherwood
Address: 1000 Consol Energy Drive
Canonsburg, PA 15317

☐ COAL OPERATOR
Name:
Address:

☑ SURFACE OWNER OF WATER WELL AND/OR WATER PURVEYOR(s)
Name: **SEE ATTACHMENT 1
Address:

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

*Please attach additional forms if necessary

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RIDGETOP CAPITAL LP	491 SYLVANIA DR	MCMURRAY	PA	15317	1000	Y	Y	NOT IDENTIFIE
PITOSCIA ANTHONY A & DAVID T	911 S ALBRIGHT MCKAY RD	BROOKFIELD	OH	44403	1000	N	N	NOT IDENTIFIE
PITOSCIA WILLIAM R	410 HILLSCREEK RD	BROOKFIELD	OH	44403	3000	Y	Y	NOT IDENTIFIE
LASURE MICHAEL E & VELVA C	HCR 26160 BOX 332	NEW MARTINSVILLE	WV	26155	3000	N	N	NOT IDENTIFIE
LASURE MICHAEL E & VELVA C	HCR 26160 BOX 332	NEW MARTINSVILLE	WV	26155	3000	N	N	NOT IDENTIFIE
PITOSCIA WILLIAM R	410 HILLSCREEK RD	BROOKFIELD	OH	44403	3000	N	N	NOT IDENTIFIE

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Attachment #1

RIDGETOP CAPITAL LP	491 SYLVANIA DR	MCMURRAY	PA	15317	1000	Y	Y	NOT IDENTIFIED				
PITOSCIA ANTHONY A & DAVID T	911 S ALBRIGHT MCKAY RD	BROOKFIELD	OH	44403	1000	N	N	NOT IDENTIFIED				
PITOSCIA WILLIAM R	410 HILLSCREEK RD	BROOKFIELD	OH	44403	3000	Y	Y	NOT IDENTIFIED				
LASURE MICHAEL E & VELVA C	HCR 26160 BOX 232	NEW MARTINSVILLE	WV	26155	3000	N	N	NOT IDENTIFIED				
LASURE MICHAEL E & VELVA C	HCR 26160 BOX 232	NEW MARTINSVILLE	WV	26155	3000	N	N	NOT IDENTIFIED				
PITOSCIA WILLIAM R	410 HILLSCREEK RD	BROOKFIELD	OH	44403	3000	N	N	NOT IDENTIFIED				

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(8-13)

API NO. 47- 103 -
OPERATOR WELL NO. Ridgetop Land Ventures WT
Well Pad Name: Ridgetop Land Ventures PAD

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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

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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.

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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.

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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

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

WW-6A
(8-13)

API NO. 47- 103 -
OPERATOR WELL NO. Ridgetop Land Ventures WT
Well Pad Name: Ridgetop Land Ventures PAD

Time Limits and Methods for Filing Comments.

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

47-103-0339

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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Office of Oil & Gas
OCT 21 2014

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WV Department of
Environmental Protection

WW-6A
(8-13)

API NO. 47- 103 - 03053
OPERATOR WELL NO. Ridgetop Land Ventures WT2
Well Pad Name: Ridgetop Land Ventures PAD

Notice is hereby given by:

Well Operator: Chesapeake Appalachia, LLC
Telephone: 304-517-1416
Email: danielle.southall@chk.com

Address: PO Box 1300
Jane Lew, WV 26378
Facsimile: 304-471-2497

Oil and Gas Privacy Notice:

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

OFFICIAL SEAL
Notary Public, State of West Virginia
BRITTANY R WOODY
3302 Old Elkins Road
Buckhannon, WV 26201
My commission expires November 27, 2022

Subscribed and sworn before me this 17th day of July, 2014.

Brittany R Woody Notary Public

My Commission Expires 11/27/2022

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WW-6A4
(1/12)

Operator Well No. Ridgetop Land Ventures 5H

4710303053

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: 07/21/2014 **Date Permit Application Filed:** 9/15/14

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: Ridgetop Capital, LP
Address: 491 Sylvania Drive
McMurray, PA 15317

Name:
Address:

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: West Virginia
County: Wetzel
District: Proctor
Quadrangle: Wileyville
Watershed: Middle Ohio North

UTM NAD 83 Easting: 528,031.3
Northing: 4,390,726.4
Public Road Access: Harland Ridge RT 1/19
Generally used farm name:

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.

Received
Office of Oil & Gas
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SEP 18 2014
WV Department of
Environmental Protection

Notice is hereby given by:

Well Operator: Chesapeake Appalachia LLC
Address: PO Box 1300, 179 Chesapeake Drive
Jane Lew, WV 26378
Telephone: 304-517-1416
Email: micah.feather@chk.com
Facsimile: 304-471-2497

Authorized Representative: Danielle Southall
Address: PO Box 1300, 179 Chesapeake Drive
Jane Lew, WV 26378
Telephone: 304-517-1416
Email: Danielle.Southall@chk.com
Facsimile: 304-471-2497

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.

WW-6A5
(1/12)

Operator Well No. Ridgetop Land Ventures 5H

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: 07/21/2014 **Date Permit Application Filed:** 9/15/14

4710303053

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

☒ CERTIFIED MAIL RETURN RECEIPT REQUESTED ☐ HAND 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: Ridgetop Capital, LP
Address: 491 Sylvania Drive
McMurray, PA 15317

Name:
Address:

Received
Office of Oil & Gas
OCT 21 2014

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: West Virginia
County: Wetzel
District: Proctor
Quadrangle: Wileyville
Watershed: Middle Ohio North

UTM NAD 83 Easting: 528,031.3
Northing: 4,390,726.4
Public Road Access: Harland Ridge RT 1/19
Generally used farm name:

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: Chesapeake Appalachia LLC
Telephone: 304-517-1416
Email: dee.swiger@chk.com

Address: PO Box 1300, 179 Chesapeake Drive
Jane Lew, WV 26378
Facsimile: 304-471-2497

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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WW-6RW
(1-12)

CHESAPAKE ENERGY - C/O MICAH C FEATHER
179 CHESAPEAKE DRIVE
JANE LEW, WV 26378-8601

47 1 0 3 0 3 0 5 3

API NO. 47- 103 - 02779
OPERATOR WELL NO. Ridgetop Land Ventures WT: 5 H
Well Pad Name: Ridgetop Land Ventures

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

WELL LOCATION RESTRICTION WAIVER

Instructions to Persons Named on Page WW-6A
The well operator named on page WW-6A is applying for a permit from the State of West Virginia to conduct oil or gas well work. Well work permits are valid for twenty-four (24) months. Please contact the listed well operator and the Office of Oil and Gas if you do not own any interest in the listed surface tract.

Well Location Restrictions
Pursuant to West Virginia Code § 22-6A-12(a), 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.

WAIVER

I, Bradley Carpenter, hereby state that I have read the Instructions to Persons Named on Page WW-6A and the associated provisions listed above, and that I have received copies of a Notice of Application, an Application for a Well Work Permit on Form WW-6A and attachments consisting of pages one (1) through _____, including the erosion and sediment control plan, if required, and the well plat, all for proposed well work on the tract of land as follows:

State:	West Virginia	UTM NAD 83	Easting:	528,025.4
County:	Wetzel		Northing:	4390725.0
District:	Proctor	Public Road Access:		Harlan Ridge Rt 1/19
Quadrangle:	Willeyville	Generally used farm name:		
Watershed:	Upper Ohio			

Carol S Haught
WETZEL County 11:30:24 AM
Instrument No 122456
Date Recorded 05/30/2012
Document Type MG
Pages Recorded 1
Book-Page
Recording Fee $10.00
Additional $5.00

Received
Office of Oil & Gas
OCT 21 2014

I further state that I have no objection to the planned work described in these materials, and I have no objection to a permit being issued on those materials and I therefore waive all well site restrictions listed under West Virginia Code § 22-6A-12(a).

WELL SITE RESTRICTIONS BEING WAIVED	FOR EXECUTION BY A NATURAL PERSON
*Please check all that apply	Signature:
☐ EXISTING WATER WELLS	Print Name:
☐ DEVELOPED SPRINGS	Date:
☒ DWELLINGS	FOR EXECUTION BY A CORPORATION, ETC.
☐ AGRICULTURAL BUILDINGS	Company: Ridgetop Carpenter
	By:
	Its: Management
	Signature:
	Date:

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WV Department of
Environmental Protection

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.

4710303053

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

Division of Highways

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

Earl Ray Tomblin
Governor

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

March 26, 2015

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

Subject: DOH Permit for the Ridgetop Land Ventures Pad WTZ 5H Well Site, Wetzel County

Dear Mr. Martin,

The West Virginia Division of Highways has transferred Permit #06-2011-0617 to Southwestern Energy for access to the State Road for the well site located off of Wetzel County Route 1/19 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, P.E.
Regional Maintenance Engineer
Central Office Oil &Gas Coordinator

Received

MAR

Office of Oil and Gas
WV Dept. of Environmental Protection

Cc: Brittany Woody
Southwestern Energy
CH, OM, D-6
File

4710303053

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

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DMH
9-2-14

4710303053

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

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

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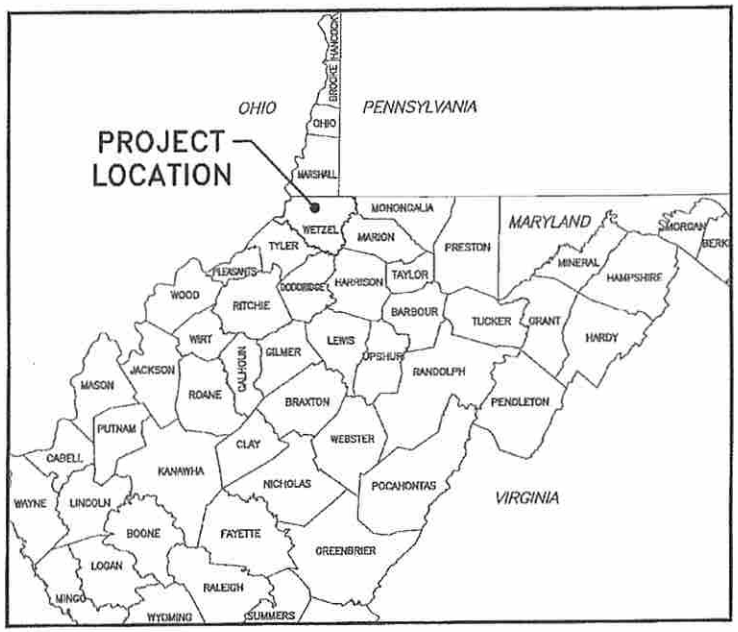
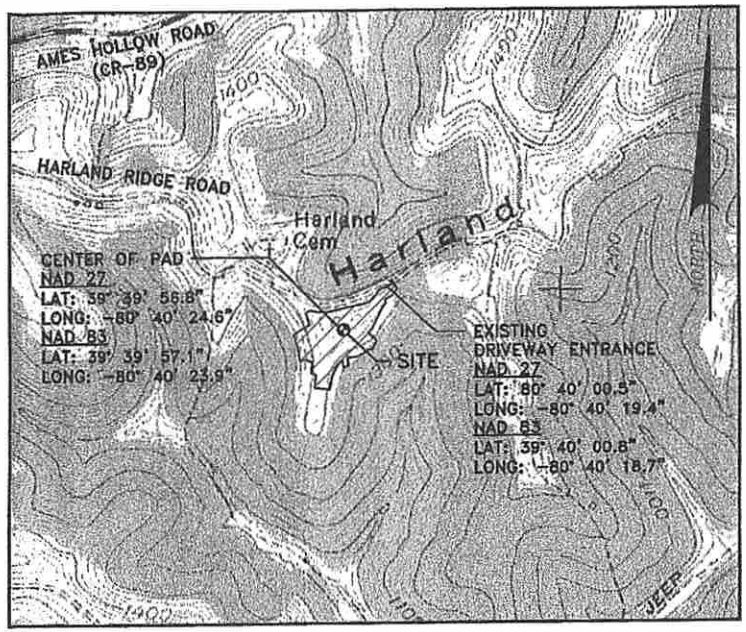
AS-BUILT SITE PLAN
FOR
RIDGETOP LAND VENTURES WTZ
PROCTOR DISTRICT, WETZEL COUNTY, WEST VIRGINIA

ERIC W. HERSHEY REGISTERED PROFESSIONAL ENGINEER STATE OF WEST VIRGINIA

DRAWN BY: JAR
DATE: 08/19/2014
SCALE: AS SHOWN
DWG. NO. 085-4110579



COUNTY MAP
N.T.S.



LOCATION MAP
SCALE – 1"=1000'

Dmh 3-4-15

WEST VIRGINIA 811
CALL BEFORE YOU DIG!
Dial 811 or 800.245.4848
Miss Utility of West Virginia

AT LEAST 48 HOURS, BUT NOT MORE THAN 10 WORKING DAYS (EXCLUDING WEEKENDS AND HOLIDAYS), PRIOR TO STARTING ANY EARTH DISTURBANCE ACTIVITIES, ALL CONTRACTORS INVOLVED IN THESE ACTIVITIES SHALL CONTACT MISS UTILITY OF WEST VIRGINIA AT 811 OR 1-800-245-4848.
TICKET #134203009

SWN Southwestern Energy®

OPERATOR
SWN PRODUCTION CO., LLC
P.O. BOX 1300
JANE LEW, WV 26378
832-796-1614

RECEIVED Office of Oil and Gas APR 14 2015 WV Department of Environmental Protection

SITE DATA

TOTAL DISTURBED AREA: 8.1 ACRES
ROAD DISTURBED AREA: 0.2 ACRES
PAD DISTURBED ACRES: 7.9 ACRES
ACCESS ROAD LENGTH: 362'
ACCESS ROAD AVERAGE WIDTH: 21.5'
WELL PAD ELEVATION: 1,436.2'

LIST OF DRAWINGS

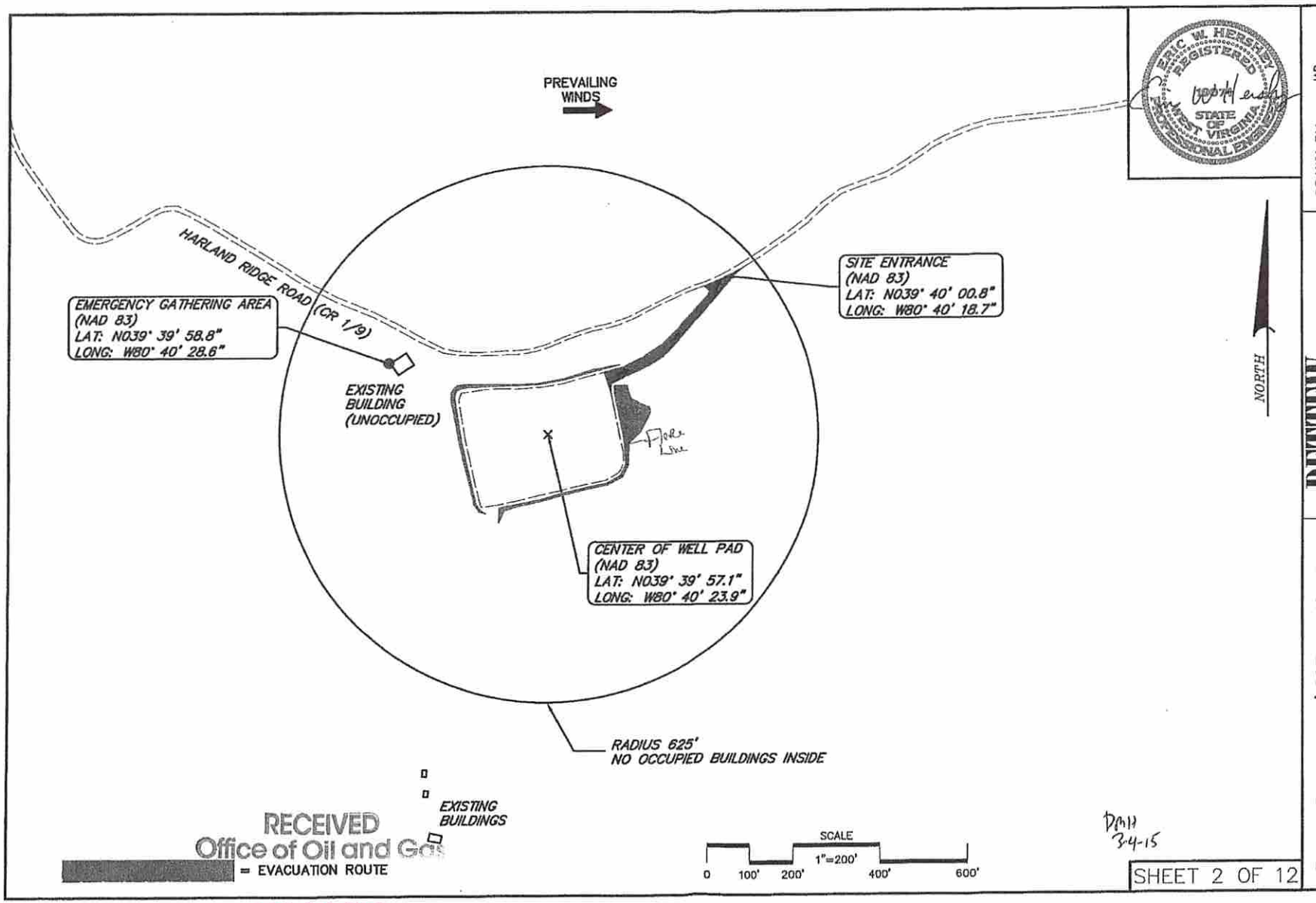
1 OF 12. . . . . COVER SHEET
2–3 OF 12 . . . . .EVACUATION ROUTE/ PREVAILING WINDS
4 OF 12. . . . . AS-BUILT SITE PLAN OVERVIEW
5–8 OF 12 . . . . .AS-BUILT SITE PLAN
9–11 OF 12 . . . . RECLAMATION PLAN
12 OF 12. . . . . DETAILS

SHEET 1 OF 12

RETTEW
RETTEW Associates, Inc.
8143 Stonehom Road, Suite 100, North Canton, OH 44720
Phone (330) 818-9770 - Fax (330) 818-9760
Engineers • Planners • Surveyors • Landscape Architects
Environmental Consultants

COVER SHEET FOR
RIDGETOP LAND VENTURES WTZ PAD
PROCTOR DISTRICT WETZEL COUNTY, WV

4710303053



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3-4-15

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WV Department of
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