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west virginia department of environmental protection

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

Austin Caperton, Cabinet Secretary  
[www.dep.wv.gov](http://www.dep.wv.gov)

Tuesday, July 31, 2018  
WELL WORK PERMIT  
Horizontal 6A / New Drill

CNX GAS COMPANY LLC  
POST OFFICE BOX 1248

JANE LEW, WV 263786506

Re: Permit approval for MAJ6HHSU  
47-051-02010-00-00

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

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

Per 35 CSR 4-5.2.g this permit will expire in two (2) years from the issue date unless permitted well work is commenced. If there are any questions, please feel free to contact me at (304) 926- 0450.

James A. Martin  
Chief

Operator's Well Number: MAJ6HHSU  
Farm Name: CNX LAND, LLC  
U.S. WELL NUMBER: 47-051-02010-00-00  
Horizontal 6A New Drill  
Date Issued: 7/31/2018

# 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

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1. This proposed activity may require permit coverage from the United States Army Corps of Engineers (USACE). Through this permit, you are hereby being advised to consult with USACE regarding this proposed activity.
2. If the operator encounters an unanticipated void, or an anticipated void at an unanticipated depth, the operator shall notify the inspector within 24 hours. Modifications to the casing program may be necessary to comply with W. Va. Code § 22-6A-5a (12), which requires drilling to a minimum depth of thirty feet below the bottom of the void, and installing a minimum of twenty (20) feet of casing. Under no circumstance should the operator drill more than one hundred (100) feet below the bottom of the void or install less than twenty (20) feet of casing below the bottom of the void.
3. When compacting fills, each lift before compaction shall not be more than 12 inches in height, and the moisture content of the fill material shall be within limits as determined by the Standard Proctor Density test of the actual soils used in specific engineered fill, ASTM D698, Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort, to achieve 95 % compaction of the optimum density. Each lift shall be tested for compaction, with a minimum of two tests per lift per acre of fill. All test results shall be maintained on site and available for review.
4. Operator shall install signage per § 22-6A-8g (6) (B) at all source water locations included in their approved water management plan within 24 hours of water management plan activation.
5. Oil and gas water supply wells will be registered with the Office of Oil and Gas and all such wells will be constructed and plugged in accordance with the standards of the Bureau for Public Health set forth in its Legislative rule entitled *Water Well Regulations*, 64 C.S.R. 19. Operator is to contact the Bureau of Public Health regarding permit requirements. In lieu of plugging, the operator may transfer the well to the surface owner upon agreement of the parties. All drinking water wells within fifteen hundred feet of the water supply well shall be flow tested by the operator upon request of the drinking well owner prior to operating the water supply well.
6. Pursuant to the requirements pertaining to the sampling of domestic water supply wells/springs the operator shall, no later than thirty (30) days after receipt of analytical data provide a written copy to the Chief and any of the users who may have requested such analyses.
7. 24 hours prior to the initiation of the completion process the operator shall notify the Chief or his designee.
8. During the completion process the operator shall monitor annular pressures and report any anomaly noticed to the chief or his designee immediately.
9. If any explosion or other accident causing loss of life or serious personal injury occurs in or about a well or well work on a well, the well operator or its contractor shall give notice, stating the particulars of the explosion or accident, to the oil and gas inspector and the Chief, within 24 hours of said accident.
10. During the casing and cementing process, in the event cement does not return to the surface, the oil and gas inspector shall be notified within 24 hours.

API Number: 4705102010

## PERMIT CONDITIONS

11. The operator shall provide to the Office of Oil and Gas the dates of each of the following within 30 days of their occurrence: completion of construction of the well pad, commencement of drilling, cessation of drilling, completion of any other permitted well work, and completion of the well. Such notice shall be provided by sending an email to [DEPOOGNotify@wv.gov](mailto:DEPOOGNotify@wv.gov).



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west virginia department of environmental protection

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Oil and Gas Conservation Commission  
601 57<sup>th</sup> Street SE, Charleston, WV 25304  
304-926-0499 Ext 1274

Barry K. Lay, Chairman  
dep.wv.gov

June 4, 2018

Department of Environmental Protection  
Office of Oil and Gas  
Charleston, WV 25304

RE: Application for Deep Well Permit – API #47-051-02010

COMPANY: CNX Gas Company, LLC

FARM: MAJ6HHSU

COUNTY: Marshall DISTRICT: Webster QUAD: Majorsville

The deep well review of the application for the above company is Approved to drill to the Point Pleasant for completion.

The applicant has complied with the provision of Chapter 22C-9, of the Code of West Virginia, nineteen hundred and thirty-one (1931), as amended, Oil and Gas Conservation Commission as follows:

1. Comments to Notice of Deviation filed? None
2. Provided a certified copy of duly acknowledged and recorded consent and easement form from all surface owners? yes
3. Provided a tabulation of all deep wells within one mile of the proposed location, including the API number of all deep wells: 47-051-01938; MAJ6EHSUT; CNX Gas Company, LLC
4. Provided a plat showing that the proposed location is a distance of 400+ feet from the nearest lease line or unit boundary and showing the following wells drilled to or capable of producing from the objective formation within 3,000 feet of the proposed location.

Sincerely,

A handwritten signature in blue ink that reads "Susan Rose".

Susan Rose  
Administrator

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

1) Well Operator: CNX Gas Company, LLC 494458046 Marshall Webster Majorsville  
Operator ID County District Quadrangle

2) Operator's Well Number: MAJ6HHSU Well Pad Name: MAJ6HSU

3) Farm Name/Surface Owner: Majorsville Public Road Access: Lone Oak Road

4) Elevation, current ground: 1370.14 Elevation, proposed post-construction: 1345.4

5) Well Type (a) Gas X Oil \_\_\_\_\_ Underground Storage \_\_\_\_\_  
Other \_\_\_\_\_

(b) If Gas Shallow \_\_\_\_\_ Deep X  
Horizontal X

6) Existing Pad: Yes or No no

*Handwritten signature*  
*2/13/18*

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):  
Point Pleasant, 11,850' TVDGL, 78', 10,757psi (0.9 psi/ft. pressure gradient)

8) Proposed Total Vertical Depth: 11,850'

9) Formation at Total Vertical Depth: Point Pleasant

10) Proposed Total Measured Depth: 18,223

11) Proposed Horizontal Leg Length: 5,968

12) Approximate Fresh Water Strata Depths: 378'

13) Method to Determine Fresh Water Depths: 2,500' radius search

14) Approximate Saltwater Depths: N/A

15) Approximate Coal Seam Depths: 772' (Pittsburgh)

16) Approximate Depth to Possible Void (coal mine, karst, other): 769'

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: \_\_\_\_\_

*JW*  
2/13/18

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

The general well work will be conducted in a fashion to efficiently place a production string of casing to total depth of the subject well bore. The vertical portion of the wellbore will be drilled with a combination of air percussion hammers, roller cone drill bits, and bent housing motors. Air/mist will be utilized to drill this interval. The horizontal portion of the wellbore will be drilled utilizing a synthetic based mud system with a density capable of suppressing bottom hole pressure at depth. All strings of casing will be permanently cemented in place in accordance with all guidelines and restrictions. No pilot hole will be drilled on this well.

20) Describe fracturing/stimulating methods in detail, including anticipated max pressure and max rate:

The stimulation will be multiple stages divided over the lateral length of the well. Stage spacing is dependent upon engineering design. Slickwater fracturing technique will also be utilized on each stage using sand, water, and chemicals.  
Max Pressure - 14,500 psi. Max Rate - 100 bbl/min.

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 13.0

22) Area to be disturbed for well pad only, less access road (acres): 5.4

23) Describe centralizer placement for each casing string:

Centralizers will be placed per CNX sop of casing running. Typical surface/intermediate casings will be 1:3 from shoe to surface. Isolation strings will be 1:2 to planned TOC. Production strings will be 1:1 from the shoe to KOP, and 1:2 through the planned TOC.

24) Describe all cement additives associated with each cement type:

See attached.

25) Proposed borehole conditioning procedures:

Conditioning will be conducted as needed. All factors will be adjusted per hole conditions. All returns from the well bore must be consistent with a stable hole, returning minimal cuttings, while exhibiting a non-existent gas flow prior to tripping out.

\*Note: Attach additional sheets as needed.

18)

**CASING AND TUBING PROGRAM**

TYPE	Size (in)	New or Used	Grade	Weight per ft. (lb/ft)	FOOTAGE: For Drilling (ft)	INTERVALS: Left in Well (ft)	CEMENT: Fill-up (Cu. Ft.)/CTS
Conductor	30	N	A-252	99	129	100	188/CTS
Fresh Water	24	N	X-52N	94	478	428	253/CTS
Coal	18.625	N	J-55	87.5	867	817	667/CTS
Intermediate	13.375	N	NT-80LHE	68	3356	3306	2235/CTS
Production	5.5	N	Q-125VAXP	23	18223	18173	2763/TOC@5000'
Tubing							
Liners	9.625	N	P-110HP	43.5	11100	11050	1653/TOC@5000'

*2/12/18*

TYPE	Size (in)	Wellbore Diameter (in)	Wall Thickness (in)	Burst Pressure (psi)	Anticipated Max. Internal Pressure (psi)	Cement Type	Cement Yield (cu. ft./k)
Conductor	30	36	0.312		50	A	1.18
Fresh Water	24	26	.344		400	A	1.18
Coal	18.625	22	0.435	2250	1400	A	1.18
Intermediate	13.375	17.5	0.480	4930	3250	A	1.18
Production	5.5	8.5	0.415	19040	9000	A	1.56
Tubing							
Liners	6.25	12.25	0.435	9900	6700	A	2.28

**PACKERS**

Kind:	NONE			
Sizes:				
Depths Set:				

CNX potential cement additives as of 1/1/18

JW  
2/13/18

Conductor:

- CaCl<sub>2</sub>

Surface: + Coal

- BWOC Calcium Chloride

Intermediate:

- BWOC Calcium Chloride
- Gas Block
- Powdered Defoamer
- Polyflake LCM
- Low Temp. Retarder
- Suspension Agent
- Fluid Loss Additive
- Sodium Chloride

Production:

- BWOC Calcium Chloride
- Gas Block
- Gels
- Powdered Defoamer
- Suspension Agent
- Low Temp. Retarder



705102010



**DRILLING WELL PLAN**

**MAJ-6H  
Utica HZ**

**MAJ-6H**

Ground Elevation	1343			SHL (NAD27)				N: 524252.813 E:1705926.955					
SHL (NAD83)	N: 524290.027 E: 1674492.151			BHL (NAD 27)				N:520297.58 E: 1711906.531					
HOLE	RIG	CASING	GEOLOGY	TOP	BTTM	MUD	CEMENT	Centralizers	Conditioning	BITS	COMMENTS		
36"	Conductor Rig	30"	Conductor	TVD (GLKB)		AIR	Grout To Surface	N/A	Ensure clean hole at TD	Auger	Stabilize surface fill/soil		
					100								
26"		24"	Deepest Water Well	-	378	AIR	TOC=Surface 20% OHXS	Centralized every 3 joints to surface	Pump Fresh water ahead of cement	Air Percussion Hammer/Carbide Bit	Run casing to isolate fresh water producing zones		
			Surface Isolation		426								
22"		16.625"	Roof Coal Zone	769	772	AIR	TOC=Surface 20% OHXS	Centralized every 3 joints to surface	Pump Brine water ahead of cement	Air Percussion Hammer/Carbide Bit	Run Casing to isolate minable coal seams.		
			Pittsburgh Coal	772	777								
17.5"		13.375"	Coal Protection String		817	AIR	Gas Block Blend TOC=surface 20% OHXS	Centralized every 45' to 100' from surface.	Pump Brine water ahead of cement	Air Percussion Hammer/Carbide Bit	Run Casing to isolate the storage interval/shallow gas.		
			Big Lime	1,954	1,981								
			Big Injun Top	1,982	2,123								
			Big Injun Base	2,124	2,799								
			50 Foot	2,800	2,833								
			Gordon	2,834	2,859								
			Fourth	2,860	2,955								
Fifth	2,956												
Int. 1 Casing String		3,306											
12.25"	N/A	9.625"	Rhinestreet	6,247	6,631	AIR	TOC 5,000' 20% OHXS	Centralized every 2 joints to surface	Fill and circulate with SOBMs for a min. of one (1) complete circulation prior to cementing.	Tri-Cone / Directional Air Motor to maintain vertical control	Run casing to isolate the Salina formation protect the Queenston from hydrostatic pressure fracture. Shoe should be set ~800' below the Queenston top.		
			Tully	6,632	6,659								
			Hamilton	6,660	6,774								
			Marcellus	6,775	6,829								
			Onondaga	6,830	6,924								
			Oriskany	6,925	6,970								
			Helderberg/Keyser	6,971	7,264								
			Salina	7,265	8,444								
			Lockport	8,445	8,596								
			Rochester-Rose Hill	8,597	8,615								
			Pecker Shell	8,616	8,626								
			Tuscarora ("Clinton")	8,627	8,898								
Queenston	8,897												
Int. 2 Casing String		10,697											
8.5" Curve		5.5"	Reedville	10,600	11,796	AIR	TOC is 5,000'. 10% OHXS	Centralized every 2 joints to TOC	Circulate with SOBMs for a min. of one (1) complete circulation prior to cementing.	PDC Drill bit and RSS BHA	Run casing to isolate the producing zone through the curve/lateral.		
			Utica	11,797	11,849								
8.5" Lateral		5.5"	Point Pleasant	11,850	12,069	14.0 SOBMs		Centralized every joint to KOP					
			Trenton	12,070	12,170								
			Prod Casing		18,183								

5,968' Lateral

89.0° Planned Inclination  
145° Planned Azimuth

BHL  
11,850' TVD  
18,223' MD

WW-9  
(4/16)

API Number 47-051-02010  
Operator's Well No. MAJ10 G, H, HSU

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

FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name CNX Gas Company, LLC OP Code 494458046

Watershed (HUC 10) Wheeling Creek Quadrangle Majorsville

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: \_\_\_\_\_

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 47-001-00561, 47-097-01514, 47-097-01613, 34-013-2-0609 )
- Reuse (at API Number MAJ10 Wells- API TBD )
- Off Site Disposal (Supply form WW-9 for disposal location)
- Other (Explain No pits )

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

Drilling medium anticipated for this well (vertical and horizontal)? Air, freshwater, oil based, etc. Vertical: air from spu/airline to curve kick-off point (KOP). Horizontal: synthetic oil-based mud (SOBM) from curve KOP to lateral TD

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

Additives to be used in drilling medium? Bactericide, Polymers, and Weighting Agents

Drill cuttings disposal method? Leave in pit, landfill, removed offsite, etc. Land Application of soil conductor cuttings only, rock cuttings will be taken to an approved Landfill

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

-Landfill or offsite name/permit number? See attached.

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

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

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this application form and all attachments thereto and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment.

Company Official Signature *Raymond Hoon*

Company Official (Typed Name) Raymond Hoon

Company Official Title Supervisor - Permitting

Subscribed and sworn before me this 12<sup>th</sup> day of February, 2018

*Douglas E. Smith*

Notary Public

My commission expires 12-6-2020

COMMONWEALTH OF PENNSYLVANIA  
NOTARIAL SEAL  
Douglas E. Smith, Notary Public  
Cecil Twp., Washington County  
My Commission Expires Dec. 6, 2020  
MEMBER, PENNSYLVANIA ASSOCIATION OF NOTARIES

08/03/2018

**CNX Gas Company, LLC**

Proposed Revegetation Treatment: Acres Disturbed 13.0 Prevegetation pH 6.5

Lime according to pH test Tons/acre or to correct to pH 7.0

Fertilizer type 10-20-20

Fertilizer amount 500 lbs/acre

Mulch hay or straw @ 2 Tons/acre

**Seed Mixtures**

Temporary		Permanent	
Seed Type	lbs/acre	Seed Type	lbs/acre
Orchard Grass	25	Orchard Grass	25
Birdsfoot Trefoil	15	Birdsfoot Trefoil	15
Ladino Clover	10	Ladino Clover	10

**Attach:**

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

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: *Jim Anderson*

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Title: Oil & Gas Inspector Date: 2/13/18

Field Reviewed?  Yes  No

Disclaimer: Vendors have been approved for the below category by ENV. UPDATED AGREEMENT with MSCM MUST BE CONFIRMED.

RISE APPROVED NON-HAZARDOUS WASTE DISPOSAL FACILITIES (version 05-23-2016)

Republic Services (Allied Waste) Industrial Landfills		Gas Specific Waste Streams			Other Accepted Waste Streams								Contact Information	
Landfill	Location	Drill * Cuttings	Waste Liners	Waste Brine	Contaminated Soil (Including Petroleum)	Construction & Demolition Waste	Industrial Waste	Sludge	Friable Asbestos	Non-Friable Asbestos	Process Waste	Solidification Services	Municipal Solid Waste	
McLean County	Bloomington	IL	X	X	X	X	X	X	X	X	X		X	
ERC/Coles County	Charleston	IL	X	X	X	X	X	X	X	X	X		X	
Brickyard Disposal	Danville	IL	X	X	X	X	X	X	X	X	X		X	
Southern Illinois Regional	De Soto	IL											X	
Lee County	Dixon	IL	X	X	X	X	X	X	X	X	X		X	
Upper Rock Island	East Moline	IL	X	X	X	X	X	X	X	X	X		X	
Bond County	Greensville	IL	X	X	X	X	X	X	X	X	X		X	
Illinois	Hoopeston	IL	X	X	X	X	X	X	X	X	X		X	
LandComp	LaSalle	IL	X	X	X	X	X	X	X	X	X		X	
Litchfield-Hillsboro	Litchfield	IL	X	X	X	X	X	X	X	X	X		X	
Envirotech	Morris	IL	X	X	X	X	X	X	X	X	X		X	
Livingston	Pontiac	IL	X	X	X	X	X	X	X	X	X	X	X	
Roxana	Roxana	IL	X	X	X	X	X	X	X	X	X		X	
Sangamon Valley	Springfield	IL	X	X	X	X	X	X	X	X	X		X	
Benson Valley	Frankfort	KY	X	X	X	X	X	X	X	X	X		X	
Blue Ridge	Irvine	KY	X	X	X	X	X	X	X	X	X		X	
Morehead	Morehead	KY	X	X	X	X	X	X	X	X	X		X	
Rush Valley	Rush	KY	X	X	X	X	X	X	X	X	X	X	X	
Cherokee Run	Bellefontaine	OH			X	X	X	X	X	X	X		X	
Williams County	Bryan	OH			X	X	X	X	X	X	X		X	
County Environmental	Carew	OH			X	X	X	X	X	X	X		X	
Celina	Celina	OH			X	X	X	X	X	X	X		X	
Carbon-Limestone**	Lowellville	OH	X	X	X	X	X	X	X	X	X	X	X	Jack Palermo:
Countywide Landfill**	East Sparta	OH	X	X	X	X	X	X	X	X	X		X	work: 330-536-8013
Lorain County	Oberlin	OH			X	X	X	X	X	X	X		X	cell: 330-806-9660
Oakland Marsh	Shiloh	OH			X	X	X	X	X	X	X		X	
Imperial	Imperial	PA			X	X	X	X	X	X	X		X	Barbara Harsanyi:
Conestoga	Morgantown	PA			X	X	X	X	X	X	X		X	work: 330-536-8013 x 120
Brunswick	Lawrenceville	VA			X	X	X	X	X	X	X		X	cell: 330-423-7267
King and Queen	Little Plymouth	VA			X	X	X	X	X	X	X		X	
Old Dominion	Richmond	VA			X	X	X	X	X	X	X		X	
Sycamore	Hurricane	WV			X	X	X	X	X	X	X		X	
Short Creek	Wheeling (Short Creek)	WV	X	X	X	X	X	X	X	X	X		X	
Carter Valley	Church Hill	TN											X	

4705102010

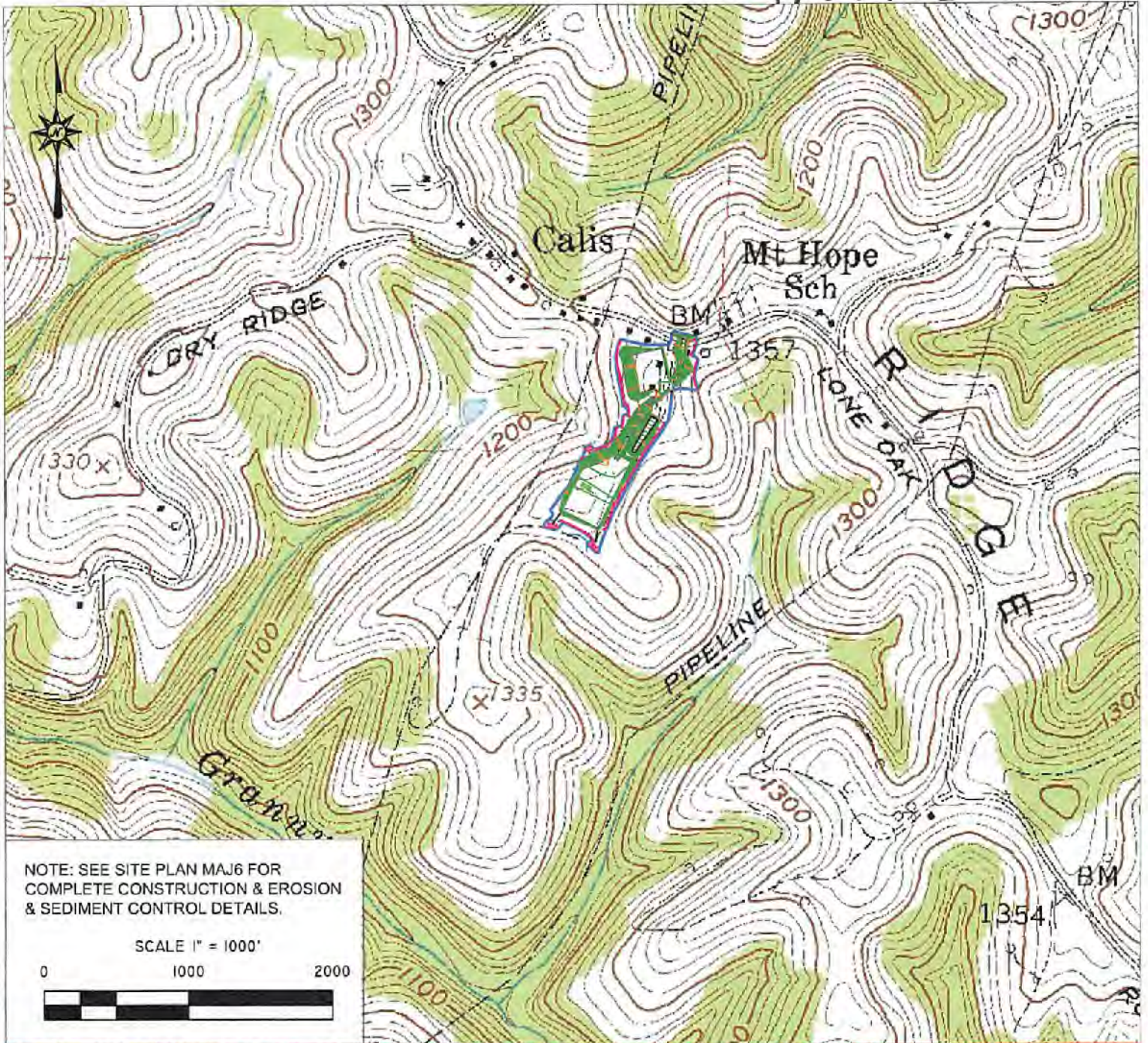
Waste Management Industrial Landfills		Gas Specific Waste Streams			Other Accepted Waste Streams								Contact Information	
Landfill	Location	Drill * Cuttings	Waste Liners	Waste Brine	Contaminated Soil (Including Petroleum)	Construction & Demolition Waste	Industrial Waste	Sludge	Friable Asbestos	Non-Friable Asbestos	Process Waste	Solidification Services	Municipal Solid Waste	
Arden Landfill	Washington	PA	X	X	X	X	X	X			X	X	X	Scott Allen: 412-604-2256
South Hills (Armoni)	South Park	PA	X	X		X	X	X			X	X	X	
Kelly Run	Elizabeth	PA	X	X	X	X	X	X			X	X	X	
Valley Landfill	Irwin	PA	X	X	X	X	X	X	X	X	X	X	X	
Evergreen Landfill	Blainsville	PA	X	X	X	X	X						X	
Charleston Landfill (Kanawha County)	Charleston	WV	X	X	X	X	X	X			X		X	
Meadow Hill Landfill	Bridgeport	WV	X	X	X	X	X	X	X	X	X	X	X	
Northwestern Landfill	Parkersburg	WV	X	X		X	X	X			X	X	X	
S&S Grading Landfill	Clarksburg	WV	X	X	X	X	X	X			X		X	
American Landfill	Waynesburg	OH	X	X	X	X	X	X	X	X	X	X	X	
Suburban RDF	Glenford	OH	X	X	X	X	X	X	X	X	X	X	X	
Coshocton Landfill***	Coshocton	OH	X	X	X	X	X	X					X	
Mahoning Landfill	New Springfield	OH	X	X	X	X	X	X			X	X	X	Patty Landolt: 262-532-8001 John Miller: 1-800-963-4776

Additional Landfills		Gas Specific Waste Streams			Other Accepted Waste Streams								Contact Information	
Landfill	Location	Drill* Cuttings	Waste Liners	Waste Brine	Contaminated Soil (Including Petroleum)	Construction & Demolition Waste	Industrial Waste	Sludge	Friable Asbestos	Non-Friable Asbestos	Process Waste	Solidification Services	Municipal Solid Waste	
Westmoreland Waste (WWLC Group)	111 Conner Lane, Belle Vernon, PA 15012	PA	X	X	X	X	X	X	X	X		X	X	Mike Home: 412-552-4427 Mark Thomas: 724-929-7694
MAX Environmental (Bulger Facility)	200 Max Drive, Bulger, PA 15019	PA	X	X	X	X	X	X				X	X	Carl Spadaro: 412-343-4900 cell: 412-445-9789
MAX Environmental (Yukon Facility)	233 MAX Lane, Yukon, PA 15693	PA	X	X	X	X	X	X				X	X	Joe Teterick: 740-275-2887 joet@els-company.com
Apex Sanitary landfill (Apex Environmental)	11 County Road 78, Amsterdam, Ohio 43903	OH	X	X	X	X	X	X				X	X	Carl Walter: 513-623-2471
Rumpke, Mt. Sterling (Rumpke Consolidated)	30 Lanson Rd, Jeffersonville, KY 40337	KY	X	X	X	X	X	X	X	X			X	Bruce Crouch: Work: 606-864-7996 Cell: 606-219-0261
Laurel Ridge Landfill (Waste Connections of KY)	3612 E State Highway 552, Lily, KY 40740	KY	X	X	X	X	X	X	X	X	X		X	
Advanced Disposal	Chestnut Valley 1184 McClellandtown Rd, McClellandtown, PA 15458	PA	X	X	X	X	X	X					X	Tony Labenne 6184 Route 219, Brockway, PA 15824 814-590-9906
	Greentree Landfill; 635 Toby Rd.; Kersey, PA	PA	X	X	X	X	X	X					X	
	Mosteller Landfill; 7035 Glades Pike Rd.; Somerset, PA	PA	X	X	X	X	X	X					X	

\*\* Ohio "TENORM" - requires Radium 226/228 analysis by load before leaving the well pad. Solid waste landfills in Ohio can only accept TENORM waste with combined concentration less than 5 picocuries per gram above the natural background level.  
 \*\*\* Accepts drilling wastes but profile for disposal is not currently completed.  
 X Waste stream accepted by facility.  
 Waste stream is not or may not be accepted by facility. Contact facility directly to verify waste streams accepted.  
 New PADEP rules regarding "TENORM" testing requirement are pending.

Notes: \* Drill Cuttings include frac sand for the purpose of this table (Contact facility directly to verify waste streams accepted).

4705102010



**Blue Mountain Inc.**  
 10125 MASON DIXON HIGHWAY  
 BURTON, WV 26562  
 PHONE: (304) 662-6486

PREPARED FOR:  
 CNX GAS COMPANY LLC  
 1000 CONSOL ENERGY DRIVE  
 CANONSBURG, PA 15317

**MAJ6 WELL**  
 TOPO SECTION OF MAJORSVILLE 7.5'  
 USGS TOPO QUADRANGLE

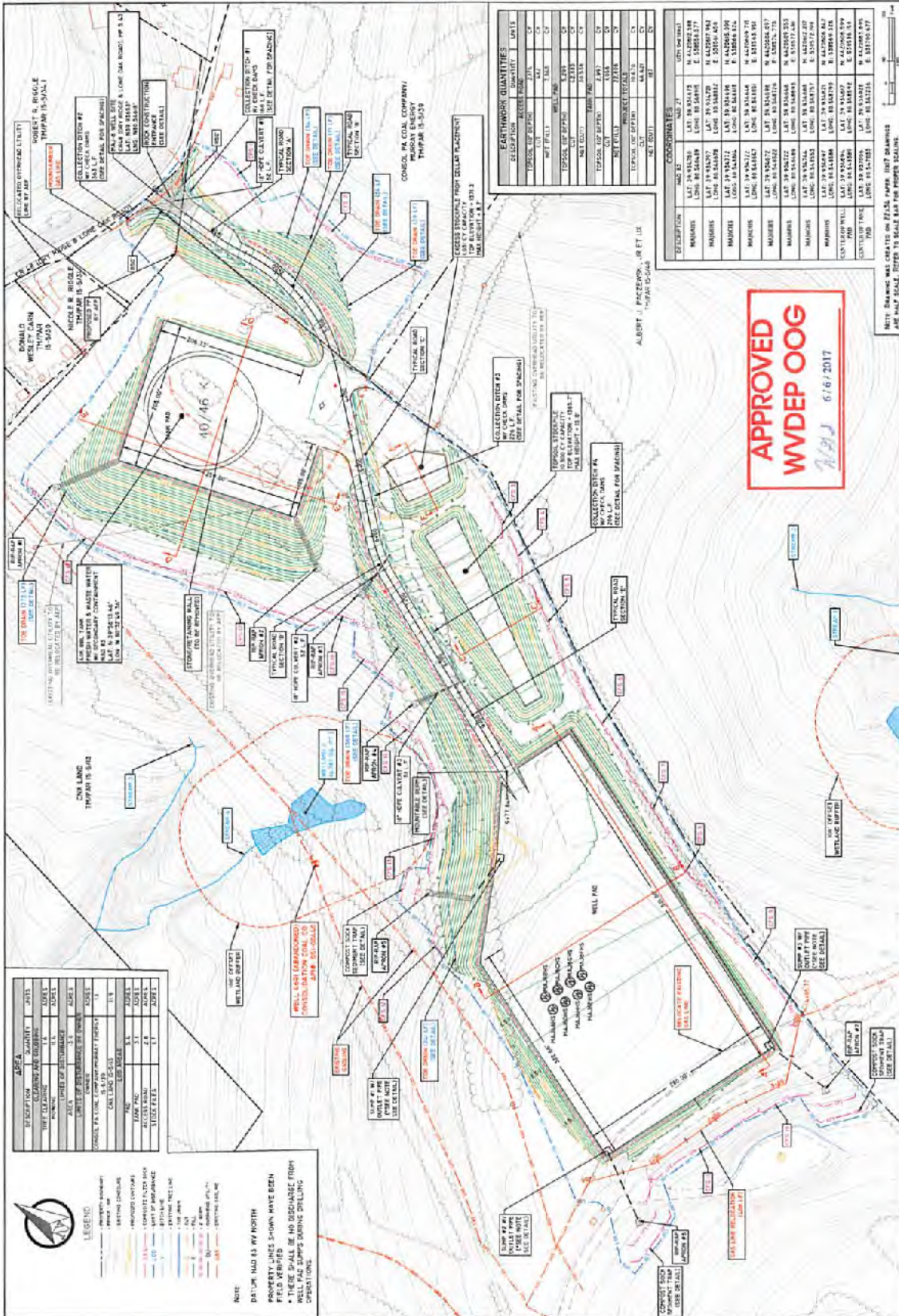
FORM WW9

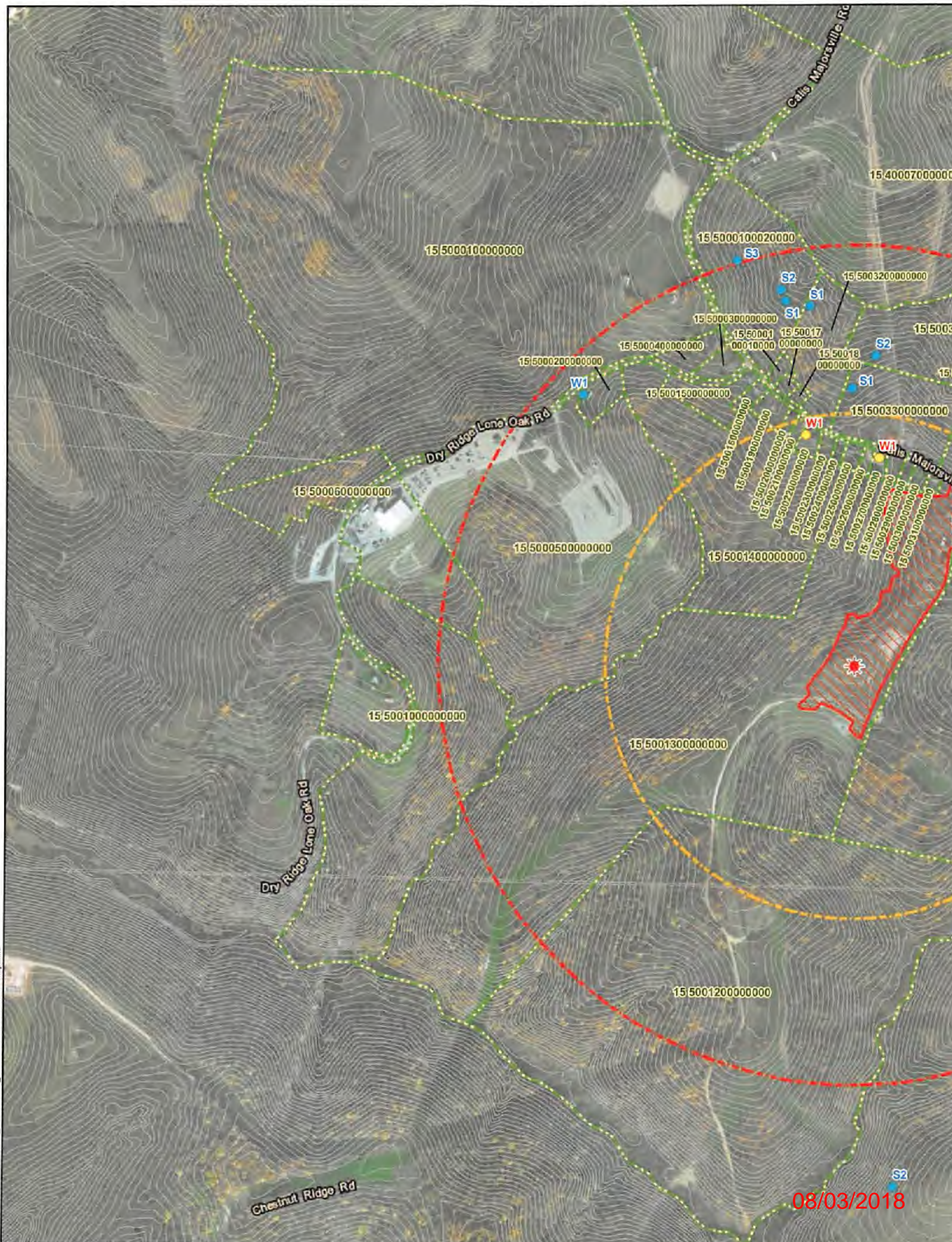
JANUARY 29, 2018

Blue Mountain Inc.  
 Engineers and Land Surveyors  
 16427 Mount Pleasant Blvd.  
 Harrisburg, PA 17112  
 Phone: 717.531.4418

MAJ-5 Well Site  
 OVERALL PROPOSED SITE PLAN  
 CNX GAS COMPANY, LLC  
 200 HALLAM ROAD  
 WASHINGTON, PA 15201

CONSULTING CONTRACT: 17-054  
 DATE: 11/27/14  
 DRAWN BY: JFM  
 CHECKED BY: JFM  
 SCALE: 1"=40'  
 SHEET NO. 6  
 PROJECT NO. PA-14-0001










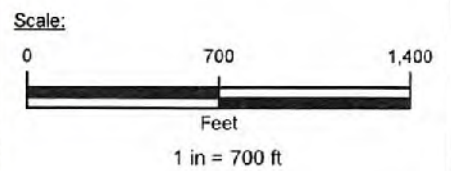


08/03/2018



47 0 5 1 0 20 10  
**LEGEND**

-  MAJ6 Gas Well
-  MAJ6 Sources
-  Inventoried, Not Sampled
-  WellPadBoundary
-  2,500 Foot Radius
-  1,500 Foot Radius
-  Parcel Boundaries



**Map References:**

- Supply information collected and provided by Moody and Associates, Inc.
- 7½ minute quadrangle: Majorsville, WV
- Base aerial imagery retrieved from ESRI online database, World Imagery with World Transportation overlay.

**Notes:**

- This drawing is the property of CNX Gas Company, LLC, and contains information that is proprietary and confidential in nature. It may not be copied or otherwise reproduced in whole or in part without prior written consent.

### PRE-DRILL WATER SURVEY

### MAJ6 Gas Well Water Source Map

Webster District,  
Marshall County, WV

Project #: 17-227-03

Prepared for :

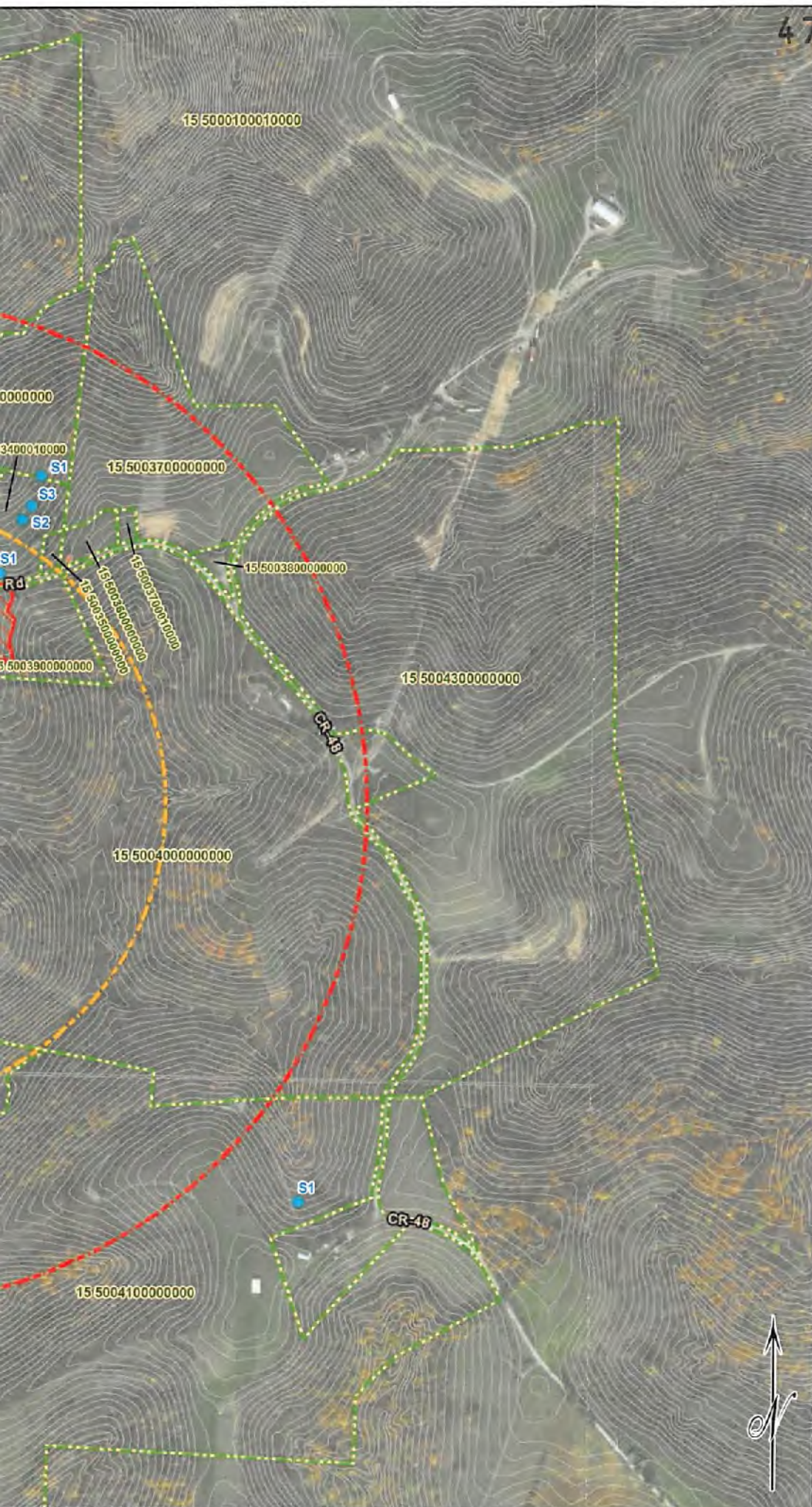


199 Johnson Road  
Building 2, Suite 101  
Houston, PA 15342  
Office: (724) 746-5200  
Fax: (724) 746-5603  
www.moody-s.com



08/03/2018

Drawn by:	MPS	Date:	01/26/18
Checked by:	MC	Revision:	



# Site Safety Plan for MAJ6HSUT Well Pad

## CNX Gas Company, LLC.

*JM*  
2/13/18



BHL is located on topo map 12,487 feet south of Latitude: 39° 57' 30"  
 SHL is located on topo map 8,601 feet south of Latitude: 39° 57' 30"

- NOTES:
1. There are no water wells or developed springs within 250' of proposed well.
  2. Proposed well is greater than 100' from perennial stream, wetland, pond, reservoir or lake.
  3. There are no native trout streams within 300' of proposed well.
  4. Proposed well is greater than 1000' from surface groundwater intakes or public water supply.
  5. It is not the purpose or intention of this plat to represent surveyed locations of the surface or mineral parcels depicted hereon. The location of the boundary lines, as shown, are based on record deed descriptions, field evidence found and/or tax map position, unless otherwise noted.
  6. There are no existing buildings within 625' of proposed well.

**SURFACE HOLE LOCATION (SHL)**  
 UTM 17-NAD83(M)  
 N:4420809.55  
 E:538577.49  
 NAD83, WV NORTH  
 N:524290.027  
 E:1674492.151  
 LAT/LON-NAD83  
 LAT:39°56'04.997"  
 LON:80°32'54.565"

**APPROX. LANDING POINT**  
 UTM 17-NAD83(M)  
 N:4420893.74  
 E:539129.56  
 NAD83, WV NORTH  
 N:525192.262  
 E:1676319.357  
 LAT/LON-NAD83  
 LAT:39°56'14.123"  
 LON:80°32'21.243"

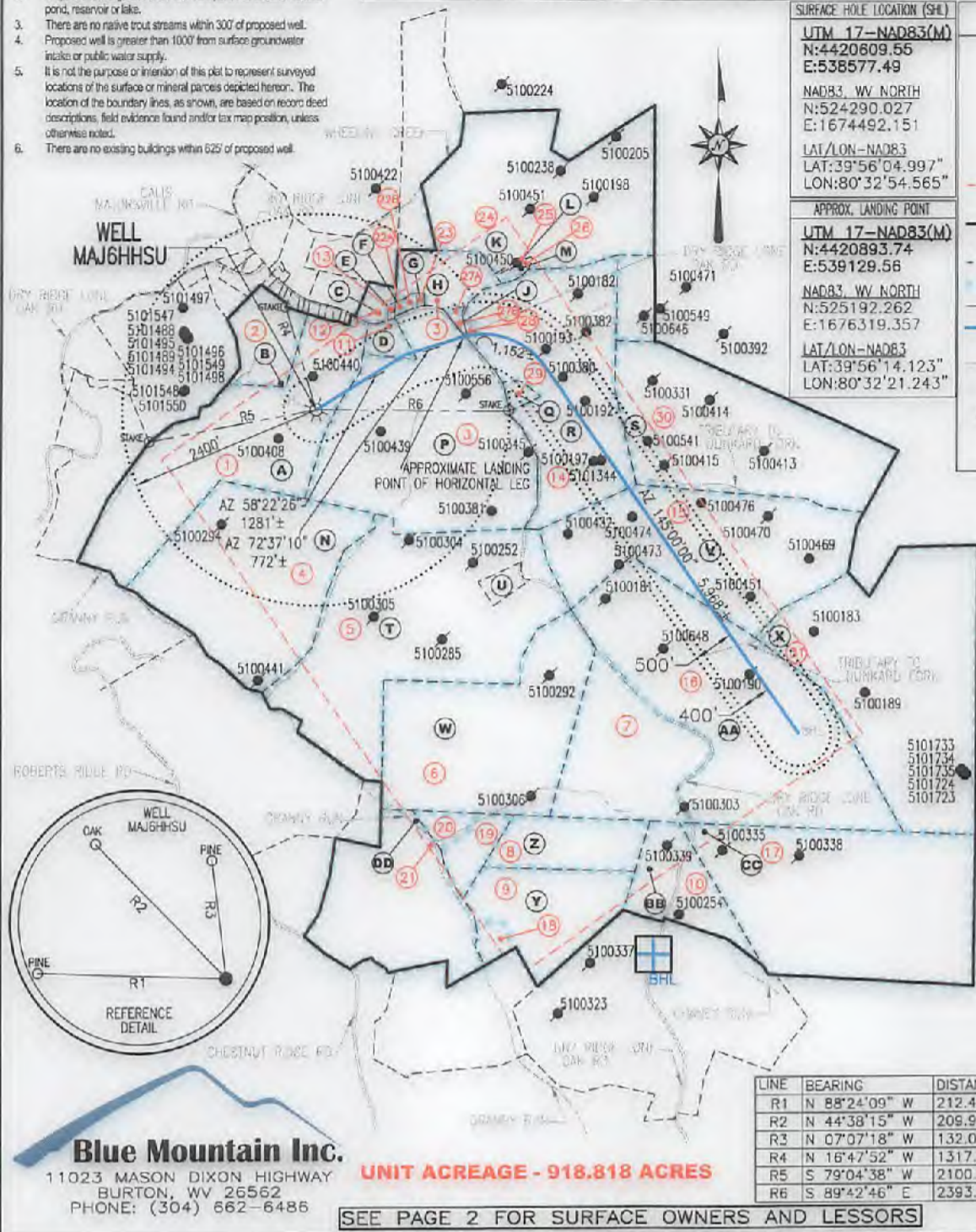
**LEGEND**

- TOPO MAP POINT
- WELL
- ALL ARE POINTS UNLESS OTHERWISE NOTED.
- LESSORS
- SURFACE OWNERS
- UNIT BOUNDARY
- MINERAL TRACT BOUNDARY
- PARCEL LINES
- LEASE BOUNDARY
- WELL REFERENCE
- PROPOSED HORIZONTAL WELL
- ROAD
- STREAM CENTER LINE

**EXISTING GAS WELLS**

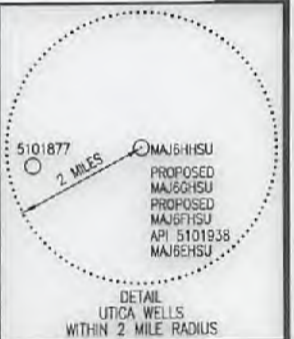
- EXISTING WELLS
- PLUGGED WELLS

BHL is located on topo map 7,574 feet west of Longitude: 80° 30' 00"  
 SHL is located on topo map 1,913 feet west of Longitude: 80° 32' 30"



**BOTTOM HOLE LOCATION (BHL)**  
 UTM 17-NAD83(M)  
 N:4419435.09  
 E:540419.39  
 NAD83, WV NORTH  
 N:520334.930  
 E:1680471.820  
 LAT/LON-NAD83  
 LAT:39°55'26.595"  
 LON:80°31'37.222"

LINE	BEARING	DISTANCE
R1	N 88°24'09" W	212.42'
R2	N 44°38'15" W	209.92'
R3	N 07°07'18" W	132.09'
R4	N 16°47'52" W	1317.46'
R5	S 79°04'38" W	2100.12'
R6	S 89°42'46" E	2393.39'



**Blue Mountain Inc.**  
 11023 MASON DIXON HIGHWAY  
 BURTON, WV 26562  
 PHONE: (304) 662-6486

**UNIT ACREAGE - 918.818 ACRES**

SEE PAGE 2 FOR SURFACE OWNERS AND LESSORS

FILE #: MAJ6HHSU  
 DRAWING #: MAJ6HHSU  
 SCALE: 1" = 2000'  
 MINIMUM DEGREE OF ACCURACY: 1/2500  
 PROVEN SOURCE OF ELEVATION: U.S.G.S. MONUMENT THOMAS 1498.81'

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 REGULATIONS ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

Signed: *George D. Six*  
 R.P.E.: \_\_\_\_\_ L.L.S.: P.S. No. 2000



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS WVDEP  
 OFFICE OF OIL & GAS  
 601 57TH STREET  
 CHARLESTON, WV 25304

DATE: JANUARY 31, 2018  
 OPERATOR'S WELL #: MAJ6HHSU  
 API WELL #: 47 51 **D2010 H6A**  
 STATE COUNTY PERMIT

Well Type:  Oil  Waste Disposal  Production  Deep  Gas  Liquid Injection  Storage  Shallow

WATERSHED: WHEELING CREEK ELEVATION: 1367.87'

COUNTY/DISTRICT: MARSHALL / WEBSTER QUADRANGLE: MAJORSVILLE, WV 7.5'

SURFACE OWNER: CNX LAND, LLC ACREAGE: 95.23± **08/03/2018**

OIL & GAS ROYALTY OWNER: CNX GAS COMPANY LLC ACREAGE: 1679.35±

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: POINT PLEASANT ESTIMATED DEPTH: TVD: 11,850± TMD: 18,223±

WELL OPERATOR: CNX GAS COMPANY LLC DESIGNATED AGENT: CHRIS TURNER

Address: 1000 CONSOL ENERGY DRIVE Address: 1 DOMINION DRIVE  
 City: CANONSBURG State: PA Zip Code: 15317 City: JANE LEW State: WV Zip Code: 26378

# MAJ6HHSU

## PAGE 2 OF 2

	SURFACE OWNER	DIST-TM/PAR
A	CNX LAND, LLC	15-5/13
B	CONSOLIDATION COAL COMPANY	15-5/14
C	ROBERT R. RIGGLE	15-5/34.1
D	CONSOL MINING COMPANY LLC	15-5/39
E	ROBERT R. RIGGLE ET UX	15-5/35
F	MT HOPE CEMETERY ASSOC	15-5/36
G	MT HOPE CEMETERY	15-5/37.1
H	ALBERT J. PACZEWSKI JR. ET UX	15-5/37
J	BOARD OF EDUCATION	15-5/38
K	DANFORD & DEBORAH A. O'BRIAN	15-4/14
L	ELIZABETH ANN CAIN - LIFE	15-4/14.2
M	ELIZABETH ANN CAIN - LIFE	15-4/14.1
N	CNX LAND, LLC	15-5/12
P	ALBERT J. PACZEWSKI, JR. ET UX	15-5/40
Q	BRIAN K. & MARY MILLIKEN TRUST	15-5/43.1
R	BRIAN K. & MARY MILLIKEN - TRUST	15-5/43
S	CHARLES ALBERT WITSBERGER II	15-5/44
T	RANDALL B. SCHMIDT	15-5/41
U	RANDALL B. SCHMIDT	15-5/41.1
V	MIKE ROSS INC	15-5/42
W	RANDALL B. SCHMIDT	15-11/10
X	TIM M. TURLEY & TAMMY JENKINS	15-5/48
Y	CNX LAND, LLC	15-11/12
Z	CNX LAND, LLC	15-11/11
AA	ROGER D. MCCrackEN ET AL	15-11/21
BB	MICHAEL S. RIGGLE	15-11/20
CC	MICHAEL S. RIGGLE	15-11/19
DD	DAVID L. KINNEY ET AL	15-11/9

	LESSOR	DIST-TM/PAR
1	ELMER AND OTA HARTLEY	15-5/13
2	HAZEL SAMMONS	P/O 15-5/14
3	THOMAS J. AND RUTH ELDER	15-5/37
		15-5/40
4	ELLSWORTH H. AND BESSIE E. HARSH	15-5/12
	MILDRED HARSH	
	PAUL HARSH	
	CATHERINE H. AND GEORGE E. MCCARRIAN	
	SHERE E. AND BARBARA HARSH	
	JOHN A. AND LUCILLE HARSH	
5	SANDRA C. KOONTZ	15-5/41
	DRY RIDGE RESOURCES, LLC	15-5/41.1
	MARTHA KAY AND CHARLES D. HILL	
6	SANDRA C. KOONTZ	15-11/10
	DRY RIDGE RESOURCES LLC	
	MARTHA KAY AND CHARLES D. HILL	
7, 16	AUGUST W. CHAMBERS, ET AL	P/O 15-11/21
	CHESTNUT HOLDINGS	
8	MARGARET MORAN	15-11/11
9, 18	MARGARET MORAN	P/O 15-11/12
19, 20		
10	MICHAEL S. RIGGLE	15-11/20
11	H. B. CHAMBERS	15-5/39
	AUGUST AND BESSIE CHAMBERS	
	GAIL DOLAN	
12	ROBERT R. AND DONNA S. RIGGLE	15-5/34.1
13	ROBERT R. AND DONNA S. RIGGLE	15-5/35
14	BRIAN K. AND MARY LYNN MILLIKEN	P/O 15-5/43
	JAY K. AND PATRICIA L. WALLACE	
	SARA JANE WALLACE	
15	J. L. AND ELIZABETH V. CROW	15-5/42
17	MICHAEL S. RIGGLE	15-11/19
21	DAVID L. AND RAYMOND P. KINNEY	15-11/9
22A, 22B	CAROLL L. COOPER & DALES GITTINGS, CO TRUSTEES OF THE MOUNT HOPE CEMETERY ASSOCIATION	P/O 15-5/36
	VIRGINIA M. BLAKE AND LAURENCE F. PARSONS	
23	MOUNT HOPE CEMETERY ASSOCIATION	15-5/37.1
24	ELLSWORTH H. AND THELMA L. SCHERICH	15-4/14
	JACKIE L. FRYE	
	RICHARD P. AND MARY LEE BARTO	
	SCOTT DOUGLAS REED	
	ROBERT B. ELLIOTT	
	TIERRA OIL COMPANY	
25	JACKIE L. FRYE	15-4/14.2
	RICHARD P. AND MARY LEE BARTO	
	SCOTT DOUGLAS REED	
	ROBERT B. ELLIOTT	
	TIERRA OIL COMPANY	
	ELIZABETH ANN CAIN(LIFE TENANT) AND JACK A. AND NANCY C. CAIN(REMAINDERMEN)	
26	JACKIE L. FRYE	15-4/14.1
	RICHARD P. AND MARY LEE BARTO	
	SCOTT DOUGLAS REED	
	ROBERT B. ELLIOTT	
	TIERRA OIL COMPANY	
	ELIZABETH ANN CAIN(LIFE TENANT) AND JACK A. AND NANCY C. CAIN(REMAINDERMEN)	
27A, 27B	THOMAS J. AND RUTH L. ELDER	P/O 15-5/38
	THE BOARD OF EDUCATION OF MARSHALL CO.	
28	THE BOARD OF EDUCATION OF MARSHALL CO.	P/O 15-5/43
29	BRIAN K. AND MARY LYNN MILLIKEN	15-5/43.1
30	J. L. AND ELIZABETH V. CROW	P/O 15-5/44
31	DORCAS DOMAN, FRANCIS E. DOMAN AND JUNE DOMAN	15-5/48

SURFACE HOLE LOCATION (SHL)  
**UTM 17-NAD83(M)**  
 N:4420609.55  
 E:538577.49  
 NAD83, WV NORTH  
 N:524290.027  
 E:1674492.151  
 LAT/LON-NAD83  
 LAT:39°56'04.997"  
 LON:80°32'54.565"

APPROX. LANDING POINT  
**UTM 17-NAD83(M)**  
 N:4420893.74  
 E:539129.56  
 NAD83, WV NORTH  
 N:525192.262  
 E:1676319.357  
 LAT/LON-NAD83  
 LAT:39°56'14.123"  
 LON:80°32'21.243"

BOTTOM HOLE LOCATION (BHL)  
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 N:520334.930  
 E:1680471.820  
 LAT/LON-NAD83  
 LAT:39°55'26.595"  
 LON:80°32'37.222"

08/03/2018

47-051-02010 H6A

**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 attached				

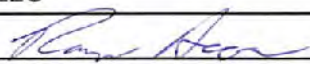
**Acknowledgement of Possible Permitting/Approval  
In Addition to the Office of Oil and Gas**

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

RECEIVED  
Office of Oil and Gas  
FEB 15 2018  
WV Department of  
Environmental Protection

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

Well Operator: CNX Gas Company, LLC  
By: Raymond Hoon   
Its: Permitting Supervisor

4705102010

Tract ID	Title QLS #	Grantor, Lessor, etc	Grantee, Lessee, etc	Royalty	Book/Page
1	202217000/ T112220	Elmer Hartley and Ota Hartley, his wife	Manufacturer's Light and Heat Company	1/8	342/63
		Manufacturer's Light and Heat Company	Columbia Gas Transmission Corporation	Assignment	422/204
		Columbia Gas Transmission Corporation	Columbia Gas Transmission LLC	Merger/Name Change	683/459
		Columbia Gas Transmission LLC	NISource Energy Ventures	Assignment	AB 21/428
		NISource Energy Ventures	CNX Gas Company LLC with Joinder Columbia Gas Transmission LLC	Sublease	685/136; Rerecorded 693/414
		NISource Energy Ventures	CNX Gas Company LLC with Joinder Columbia Gas Transmission LLC	Corrective Memo of Sublease	697/295
		Columbia Gas Transmission LLC	CNX Gas Company LLC	First Amendment to Sublease	729/446
		NISource Energy Ventures	CNX Gas Company LLC with Joinder Columbia Gas Transmission LLC	Second Amendment to Sublease	782/1; re-recorded MRB 21/497
		NISource Energy Ventures	Columbia Energy Ventures, LLC	Name Change	848/97
		Columbia Energy Ventures LLC	CNX Gas Company LLC and Columbia Gas Transmission as a Joinder	Sublease	848/97
		Columbia Energy Ventures, LLC; CNX Gas Company, LLC; Columbia Gas Transmission	CNX Gas Company LLC and Columbia Gas Transmission as a Joinder	Amendment	864/234
		Columbia Energy Ventures, LLC	CNX Gas Company LLC	Assignment	AB 33/533
Columbia Energy Ventures, LLC	CNX Gas Company LLC	Assignment	AB 34/279		
2	202220000/ T112223	Hazel Sammons	Manufacturer's Light and Heat Company	1/8	DB. 326/511
		Manufacturer's Light and Heat Company	Columbia Gas Transmission Corporation	Merger/Name Change	422/204
		Columbia Gas Transmission Corporation	Columbia Gas Transmission LLC	Merger/Name Change	683/459
		Columbia Gas Transmission LLC	NISource Energy Ventures	Assignment	AB 21/428
		NISource Energy Ventures	CNX Gas Company LLC with Joinder Columbia Gas Transmission LLC	Sublease	685/136; Rerecorded 693/414
		NISource Energy Ventures	CNX Gas Company LLC with Joinder Columbia Gas Transmission LLC	Corrective Memo of Sublease	697/295
		Columbia Gas Transmission LLC	CNX Gas Company LLC	First Amendment to Sublease	729/446
		NISource Energy Ventures	CNX Gas Company LLC with Joinder Columbia Gas Transmission LLC	Second Amendment to Sublease	782/1; re-recorded MRB 21/497
		NISource Energy Ventures	Columbia Energy Ventures, LLC	Name Change	848/97
		Columbia Energy Ventures LLC	CNX Gas Company LLC and Columbia Gas Transmission as a Joinder	Sublease	848/97
		Columbia Energy Ventures, LLC	CNX Gas Company LLC	Assignment	AB 33/553
		3	204020000/ T114126	Thomas J. & Ruth Elder	Columbia Gas Transmission Corporation
Albert J. Paczewski, Jr. and Vicky J. Paczewski	Columbia Gas Transmission Corporation			Modification	667/398
Columbia Gas Transmission Corporation	Columbia Gas Transmission LLC			Merger/Name Change	683/459
Columbia Gas Transmission LLC	NISource Energy Ventures			Assignment	AB 21/428
NISource Energy Ventures	CNX Gas Company LLC with Joinder Columbia Gas Transmission LLC			Sublease	685/136; Rerecorded 693/414
NISource Energy Ventures	CNX Gas Company LLC with Joinder Columbia Gas Transmission LLC			Corrective Memo of Sublease	697/295
Columbia Gas Transmission LLC	CNX Gas Company LLC			First Amendment to Sublease	729/446
NISource Energy Ventures	CNX Gas Company LLC with Joinder Columbia Gas Transmission LLC			Second Amendment to Sublease	782/1; re-recorded MRB 21/497
NISource Energy Ventures	Columbia Energy Ventures, LLC			Name Change	848/97
Columbia Energy Ventures LLC	CNX Gas Company LLC and Columbia Gas Transmission as a Joinder			Sublease	848/97
Columbia Energy Ventures, LLC; CNX Gas Company, LLC; Columbia Gas Transmission	N/A			Amendment	864/234
Columbia Energy Ventures, LLC	CNX Gas Company LLC			Assignment	34/466
Columbia Energy Ventures, LLC	CNX Gas Company LLC	Assignment	AB 34/478		
4	202215000/ T112218	Ellsworth H. Harsh and Bessie E. Harsh; Mildred Harsh, widow, Paul Harsh, single, Catherine H. and George E. McCarrlan, her husband; Shere E. and Barbara Harsh, his wife; John A. and Lucille Harsh, his wife.	Columbia Gas Transmission Corporation	1/8	434/158
		Columbia Gas Transmission Corporation	Columbia Gas Transmission LLC	Merger/Name Change	683/459
		Columbia Gas Transmission LLC	NISource Energy Ventures	Assignment	AB 21/428
		NISource Energy Ventures	CNX Gas Company LLC with Joinder Columbia Gas Transmission LLC	Sublease	685/136; Rerecorded 693/414
		NISource Energy Ventures	CNX Gas Company LLC with Joinder Columbia Gas Transmission LLC	Corrective Memo of Sublease	697/295
		Columbia Gas Transmission LLC	CNX Gas Company LLC	First Amendment to Sublease	729/446
		NISource Energy Ventures	CNX Gas Company LLC with Joinder Columbia Gas Transmission LLC	Second Amendment to Sublease	782/1; re-recorded MRB 21/497
		NISource Energy Ventures	Columbia Energy Ventures, LLC	Name Change	848/97
		Columbia Energy Ventures LLC	CNX Gas Company LLC and Columbia Gas Transmission as a Joinder	Sublease	848/97
		NISource Energy Ventures	Columbia Energy Ventures, LLC	Name Change	848/97

WV Department of Environmental Protection

FEB 15 2018

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Office of Oil and Gas

08/03/2018  
LCS

4705102010

		Columbia Energy Ventures, LLC; CNX Gas Company, LLC; Columbia Gas Transmission	N/A	Amendment	864/234
		Columbia Energy Ventures, LLC	CNX Gas Company LLC	Assignment	AB 33/553
		Columbia Energy Ventures, LLC	CNX Gas Company LLC	Assignment	AB 34/279
5 (3 Leases)	206581000/ T116814	Sandra C. Kooztz	CNX Gas Company LLC	17%	776/28; re-recorded 778/280
		CNX Gas Company LLC	Noble Energy, Inc.	Assignment	AB 31/558
		Noble Energy, Inc.	HG Energy, Inc.	Assignment	AB. 39/1
		HG Energy, Inc.	CNX Gas Company LLC	Joint Operating Agreement	Copy Included
		Dry Ridge Resources, LLC	TH Exploration	18%	869/210
		TH Exploration	CNX Gas Company LLC	Assignment	37/9
		Martha Kay Hill and Charles D. Hill	TH Exploration	18%	865/394
		TH Exploration	CNX Gas Company LLC	Assignment	37/9
6 (3 Leases)	206581000/ T116814	Sandra C. Kooztz	CNX Gas Company LLC	17%	776/28; re-recorded 778/280
		CNX Gas Company LLC	Noble Energy, Inc.	Assignment	AB 31/558
		Noble Energy, Inc.	HG Energy, Inc.	Assignment	AB. 39/1
		HG Energy, Inc.	CNX Gas Company LLC	Joint Operating Agreement	Copy included
		Dry Ridge Resources, LLC	TH Exploration	18%	869/210
		TH Exploration	CNX Gas Company LLC	Assignment	37/9
		Martha Kay Hill and Charles D. Hill	TH Exploration	18%	865/394
		TH Exploration	CNX Gas Company LLC	Assignment	37/9
7 (2 Leases)	204643000/ T114764	August W. Chambers, et al.	Columbia Gas Transmission Corporation	1/8	529/255
		Glenn E Chambers, et ux.	Columbia Gas Transmission Corporation	Lease Modification	667/156
		Betty Hewitt	Columbia Gas Transmission Corporation	Lease Modification	667/162
		Columbia Gas Transmission Corporation	Columbia Gas Transmission LLC	Merger/Name Change	683/459
		NiSource Energy Ventures	CNX Gas Company LLC with joinder Columbia Gas Transmission LLC	Sublease	685/136; Rerecorded 693/414
		NiSource Energy Ventures	CNX Gas Company LLC with joinder Columbia Gas Transmission LLC	Corrective Memo of Sublease	697/295
		Columbia Gas Transmission LLC	CNX Gas Company LLC	First Amendment to Sublease	729/446
		NiSource Energy Ventures	CNX Gas Company LLC with joinder Columbia Gas Transmission LLC	Second Amendment to Sublease	782/1; re-recorded MRB 21/497
		NiSource Energy Ventures	Columbia Energy Ventures, LLC	Name Change	848/97
		Columbia Energy Ventures LLC	CNX Gas Company LLC and Columbia Gas Transmission as a joinder	Sublease	848/97
		Columbia Energy Ventures LLC	CNX Gas Company LLC	Assignment	36/298
		Chestnut Holdings	Fossil Creek Ohio	20%	848/218
		Fossil Creek Ohio	CNX Gas Company LLC	Assignment	37/18
8 (Fee Tracts)	T115474	Margaret Moran	Consol Pennsylvania Coal Company	100% Consol (DEED)	668/330
		Consol Pennsylvania Coal Company	CNX Gas Company LLC	Deed	804/189
9 (Fee Tracts)	T115475	Margaret Moran	Consol Pennsylvania Coal Company	100% Consol (DEED)	668/330
		Consol Pennsylvania Coal Company	CNX Gas Company LLC	Deed	804/189
10	202142000/ T112145	Michael S. Riggie	CNX Gas Company LLC	17%	907/534
11	202213000/ T112216	H. B. Chambers, single; August Chambers and Bessie Chambers, his wife; and Gail Dolan, widow	Manufacturer's Light & Heat Company	1/8	326/92
		Manufacturer's Light & Heat Company	Columbia Gas Transmission Corporation	Merger/Name Change	422/204
		Columbia Gas Transmission Corporation	Columbia Gas Transmission LLC	Merger/Name Change	683/459
		Columbia Gas Transmission LLC	NiSource Energy Ventures	Assignment	AB 21/428
		Columbia Energy Ventures LLC	CNX Gas Company LLC and Columbia Gas Transmission as a joinder	Sublease	848/97
		Columbia Energy Ventures, LLC	CNX Gas Company LLC	Assignment	AB 36/298
		CNX Gas Company LLC	Noble Energy, Inc.	Assignment	AB 37/169
		Noble Energy, Inc.	HG Energy II Appalachia, LLC	Assignment	AB 39/1
		HG Energy II Appalachia, LLC	CNX Gas Company LLC	Joint Operating Agreement	Copy Included
12	202218000/T112221	Robert R. Riggie and Donna S. Riggie, husband and wife	CNX Gas Company LLC	Lease	Copy Included
13	202765000/ T112775	Robert R. Riggie and Donna S. Riggie, husband and wife	CNX Gas Company LLC	Lease	Copy Included
14	205123000/ T115273	Brian K. Milliken and Mary Lynn Milliken, husband and wife; Jay K. Wallace and Patricia L. Wallace, husband and wife; Sara Jane Wallace, single	Noble Energy, Inc.	18%	806/307
		Noble Energy, Inc.	CNX Gas Company LLC	Assignment	AB 344/177
		CNX Gas Company LLC	Noble Energy, Inc.	Assignment	AB 37/169
		Noble Energy, Inc.	HG Energy II Appalachia, LLC	Assignment	AB 39/1
		HG Energy II Appalachia, LLC	CNX Gas Company LLC	Joint Operating Agreement	Copy Included

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15	202209000/ T112212	J. L. Crow and Elizabeth V. Crow, husband and wife	L. B. Beatty	1/8	74/386
		Wheeling Natural Gas Company	Manufacturer's Light & Heat Company	Assignment	148/389
		Manufacturer's Light & Heat Company	Union Gasoline & Oil Corporation	Assignment	197/120
		Union Gasoline & Oil Corporation	Preston Oil Company	Assignment	AB 2/136
		Preston Oil Company	Manufacturer's Light & Heat Company	Assignment	AB 2/225
		Manufacturer's Light & Heat Company	Columbia Gas Transmission Corporation	Merger/Name Change	422/204
		Columbia Gas Transmission Corporation	Columbia Gas Transmission LLC	Merger/Name Change	683/459
		Columbia Gas Transmission LLC	NISource Energy Ventures	Assignment	AB 21/428
		NISource Energy Ventures	Columbia Energy Ventures, LLC	Name Change	848/97
		Columbia Energy Ventures LLC	CNX Gas Company LLC and Columbia Gas Transmission as a Joinder	Sublease	848/97
Columbia Energy Ventures, LLC	CNX Gas Company LLC	Assignment	AB 34/466		
16 (2 leases)	204994000/ T115134	August W. Chambers, et al.	Columbia Gas Transmission Corporation	1/8	529/255
		Columbia Gas Transmission Corporation	Columbia Gas Transmission LLC	Merger/Name Change	683/459
		NISource Energy Ventures	Columbia Energy Ventures, LLC	Name Change	848/97
		Columbia Energy Ventures LLC	CNX Gas Company LLC and Columbia Gas Transmission as a Joinder	Sublease	848/97
		Columbia Energy Ventures LLC	CNX Gas Company LLC	Assignment	36/298
		Chestnut Holdings	Fossil Creek Ohio	20%	848/218
Fossil Creek Ohio	CNX Gas Company LLC	Assignment	40/276		
17	205052000/T115194	Michael S. Riggle	CNX Gas Company LLC	Lease	Copy Included
18 (Fee Tracts)	T115475	Margaret Moran	Consol Pennsylvania Coal Company	100% Consol (DEED)	668/330
		Consol Pennsylvania Coal Company	CNX Gas Company LLC	Deed	804/189
19 (Fee Tracts)	T115475	Margaret Moran	Consol Pennsylvania Coal Company	100% Consol (DEED)	668/330
		Consol Pennsylvania Coal Company	CNX Gas Company LLC	Deed	804/189
20 (Fee Tracts)	T115475	Margaret Moran	Consol Pennsylvania Coal Company	100% Consol (DEED)	668/330
		Consol Pennsylvania Coal Company	CNX Gas Company LLC	Deed	804/189
21	206315000/ T115471	David L. Kinney & Raymond P. Kinney	CNX Gas Company LLC	15%	701/421
22A (2 leases)	204023000/ T114129	Carroll L. Cooper & Dale Gittings, as Co-Trustees of the Mt. Hope Cemetery Association	CNX Gas Company LLC	15%	744/146
		CNX Gas Company LLC	Noble Energy, Inc.	Assignment	AB 28/623
		CNX Gas Company LLC	Noble Energy, Inc.	Assignment	AB 37/169
		Noble Energy, Inc.	HG Energy II Appalachia, LLC	Assignment	AB 39/1
		HG Energy II Appalachia, LLC	CNX Gas Company LLC	Joint Operating Agreement	Copy Included
		Virginia M. Blake Parsons and Laurence F. Parsons, wife and husband	Noble Energy, Inc.	12.5%	805/550
		Noble Energy, Inc.	CNX Gas Company LLC	Assignment	AB 33/28
		CNX Gas Company LLC	Noble Energy, Inc.	Assignment	AB 37/169
		Noble Energy, Inc.	HG Energy II Appalachia, LLC	Assignment	AB 39/1
		HG Energy II Appalachia, LLC	CNX Gas Company LLC	Joint Operating Agreement	Copy Included
22B (2 leases)	204023000/ T114129	Carroll L. Cooper & Dale Gittings, as Co-Trustees of the Mt. Hope Cemetery Association	CNX Gas Company LLC	15%	744/146
		CNX Gas Company LLC	Noble Energy, Inc.	Assignment	AB 28/623
		CNX Gas Company LLC	Noble Energy, Inc.	Assignment	AB 37/169
		Noble Energy, Inc.	HG Energy II Appalachia, LLC	Assignment	AB 39/1
		HG Energy II Appalachia, LLC	CNX Gas Company LLC	Joint Operating Agreement	Copy Included
		Virginia M. Blake Parsons and Laurence F. Parsons, wife and husband	Noble Energy, Inc.	12.5%	805/550
		Noble Energy, Inc.	CNX Gas Company LLC	Assignment	AB 33/28
		CNX Gas Company LLC	Noble Energy, Inc.	Assignment	AB 37/169
		Noble Energy, Inc.	HG Energy II Appalachia, LLC	Assignment	AB 39/1
		HG Energy II Appalachia, LLC	CNX Gas Company LLC	Joint Operating Agreement	Copy Included
23	204021000/T114127	Mount Hope Cemetery Association	CNX Gas Company LLC	15%	764/236
		CNX Gas Company LLC	Noble Energy, Inc.	Assignment	32/459
		CNX Gas Company LLC	Noble Energy, Inc.	Assignment	AB 37/169
		Noble Energy, Inc.	HG Energy II Appalachia, LLC	Assignment	AB 39/1
		HG Energy II Appalachia, LLC	CNX Gas Company LLC	Joint Operating Agreement	Copy Included
24 (6 leases)	204552000/T114673	Ellsworth H. Scherich and Thelma L. Scherich both doing business in their soul and separate right	CNX Gas Company LLC	15%	689/117
		Jackie L. Frye	CNX Gas Company LLC	15%	700/265
		Richard P. Barto and Mary Lee Barto, his wife	CNX Gas Company LLC	15%	700/268
		Scott Douglas Reed	CNX Gas Company LLC	15%	701/409
		Robert B. Elliott	CNX Gas Company LLC	17%	707/260
		Tierra Oil Company	CNX Gas Company LLC	Lease	Copy Included
25 (6 leases)	206305000/ T115461	Jackie L. Frye	CNX Gas Company LLC	15%	700/265
		Richard P. Barto and Mary Lee Barto, his wife	CNX Gas Company LLC	15%	700/268
		Scott Douglas Reed	CNX Gas Company LLC	15%	701/409
		Robert B. Elliott	CNX Gas Company LLC	17%	707/260
		Tierra Oil Company	CNX Gas Company LLC	Lease	Copy Included
		Elizabeth Ann Cain (Life Tenant), widow, and Jack A. Cain and Nancy C. Cain, husband and wife (Remaindermen)	Noble Energy, Inc.	18%	794/355
		Noble Energy, Inc.	HG Energy II Appalachia, LLC	Assignment	AB 39/1
HG Energy II Appalachia, LLC	CNX Gas Company LLC	Joint Operating Agreement	Copy Included		

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26 (5 leases)	205305000/ T115462	Jackie L. Frye	CNX Gas Company LLC	15%	700/265
		Richard P. Barto and Mary Lee Barto, his wife	CNX Gas Company LLC	15%	700/268
		Scott Douglas Reed	CNX Gas Company LLC	15%	701/409
		Robert B. Elliott	CNX Gas Company LLC	17%	707/260
		Tierra Oil Company	CNX Gas Company LLC	Lease	Copy Included
		Elizabeth Ann Cain (Life Tenant), widow, and Jack A. Cain and Nancy C. Cain, husband and wife (Remaindermen)	Noble Energy, Inc.	18%	794/355
		Noble Energy, Inc.	HG Energy II Appalachia, LLC	Assignment	AB 39/1
		HG Energy II Appalachia, LLC	CNX Gas Company LLC	Joint Operating Agreement	Copy Included
27A (2 leases)	206580000/ T116813	Thomas J. Elder & Ruth L. Elder	Columbia Gas Transmission Corporation		515/473
		Albert J. Paczewski, Jr. and Vicky J. Paczewski	Columbia Gas Transmission Corporation	Modification 1/8	667/398
		Columbia Gas Transmission Corporation	Columbia Gas Transmission LLC	Merger/Name Change	683/459
		Columbia Gas Transmission LLC	NISource Energy Ventures	Assignment	AB 21/428
		Columbia Energy Ventures LLC	CNX Gas Company LLC and Columbia Gas Transmission as a joinder	Sublease	848/97
		Columbia Energy Ventures, LLC	CNX Gas Company LLC	Assignment	AB 34/466
		The Board of Education of the County of Marshall	CNX Gas Company LLC	Lease	Copy Included
27B (2 leases)	206580000/ T116813	Thomas J. Elder & Ruth L. Elder	Columbia Gas Transmission Corporation		515/473
		Albert J. Paczewski, Jr. and Vicky J. Paczewski	Columbia Gas Transmission Corporation	Modification 1/8	667/398
		Columbia Gas Transmission Corporation	Columbia Gas Transmission LLC	Merger/Name Change	683/459
		Columbia Gas Transmission LLC	NISource Energy Ventures	Assignment	AB 21/428
		Columbia Energy Ventures LLC	CNX Gas Company LLC and Columbia Gas Transmission as a joinder	Sublease	848/97
		Columbia Energy Ventures, LLC	CNX Gas Company LLC	Assignment	AB 34/466
		The Board of Education of the County of Marshall	CNX Gas Company LLC	Lease	Copy Included
28	285567000	The Board of Education of the County of Marshall	CNX Gas Company LLC	Lease	Copy Included
29	285569000	Brian K. Milliken and Mary Lynn Milliken, husband and wife	Noble Energy, Inc.	18%	803/325
		Noble Energy, Inc.	CNX Gas Company LLC	Assignment	AB 33/28
		CNX Gas Company LLC	Noble Energy, Inc.	Assignment	AB 37/159
		Noble Energy, Inc.	HG Energy II Appalachia, LLC	Assignment	AB 39/1
		HG Energy II Appalachia, LLC	CNX Gas Company LLC	Joint Operating Agreement	Copy Included
30	202210000/ T112213	J. L. Crow and Elizabeth V. Crow, husband and wife	L. B. Beatty	1/8	74/386
		Wheeling Natural Gas Company	Manufacturer's Light & Heat Company	Assignment	148/389
		Manufacturer's Light & Heat Company	Union Gasoline & Oil Corporation	Assignment	197/120
		Union Gasoline & Oil Corporation	Preston Oil Company	Assignment	AB 2/136
		Preston Oil Company	Manufacturer's Light & Heat Company	Assignment	AB 2/225
		Manufacturer's Light & Heat Company	Columbia Gas Transmission Corporation	Merger/Name Change	422/204
		Columbia Gas Transmission Corporation	Columbia Gas Transmission LLC	Merger/Name Change	683/459
		Columbia Gas Transmission LLC	NISource Energy Ventures	Assignment	AB 21/428
		NISource Energy Ventures	Columbia Energy Ventures, LLC	Name Change	848/97
		Columbia Energy Ventures LLC	CNX Gas Company LLC and Columbia Gas Transmission as a joinder	Sublease	848/97
Columbia Energy Ventures, LLC	CNX Gas Company LLC	Assignment	AB 34/466		
31	204995000/ T115135	Dorcas Doman, Francis E. Doman and June Doman	Columbia Gas Transmission Corporation		515/485
		Tammy Turley Jenkins	Columbia Gas Transmission Corporation	Modification 1/8	670/312
		Timothy M. Turley	Columbia Gas Transmission Corporation	Modification 1/8	670/318
		Columbia Gas Transmission Corporation	Columbia Gas Transmission LLC	Merger/Name Change	683/459
		Columbia Gas Transmission LLC	NISource Energy Ventures	Assignment	AB 21/428
		NISource Energy Ventures	Columbia Energy Ventures, LLC	Name Change	848/97
		Columbia Energy Ventures LLC	CNX Gas Company LLC and Columbia Gas Transmission as a joinder	Sublease	848/97
		Columbia Energy Ventures, LLC	CNX Gas Company LLC	Assignment	36/298

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**MEMORANDUM OF OPERATING AGREEMENT – MAJ6HSU**

STATE AND COUNTY: West Virginia, County of Marshall

OPERATOR: CNX Gas Company LLC  
1000 Consol Energy Drive  
Canonsburg, PA 15317

NON-OPERATOR: HG Energy II Appalachia, LLC  
5260 Dupont Road  
Parkersburg, WV 26101

EFFECTIVE DATE: December 1, 2017

Operator and Non-Operator(s) named above (individually, a "Party", and collectively, the "Parties"), have entered into that certain Joint Operating Agreement (the "Agreement") dated as of the Effective Date stated above, covering the lands, leases, interests, and depth(s) (the "Contract Area"), all identified in Exhibit "A, A-1 and A-2" to this Memorandum.

Operator and Non-Operator represent that the officers executing this Memorandum and such Agreement have the requisite corporate authority to act by and on behalf of the Parties, and further that each own or represent the Working Interest (the "Interest") in the Contract area set opposite their respective names:

<u>NAME OF PARTY</u>	<u>WORKING INTEREST (8/8THS)</u>
CNX Gas Company LLC	88.4602%
HG Energy II Appalachia, LLC	<u>11.5398%</u>
	100 %

Article VII.B. of the Agreement entitled "Liens and Payment Defaults", provides for the creation and attachment of a lien for default in payment of sums due under the terms of the Agreement. The Parties desire the right to file and perfect such a lien, and, in order to enable each Party to do so, the terms of the Agreement are incorporated into this Memorandum for all purposes. A complete copy of the Agreement is maintained at the Offices of the Operator and each Non-Operator.

This Memorandum is placed of record for the purpose of placing all persons on notice of the existence of the Agreement. The Agreement shall be deemed to be binding on Operator and Non-Operator and their respective successors and assigns, and in full force and effect until modified, or the Leases on the Contract Area expire. All modifications may be evidenced by an amendment to this Memorandum being placed of record.

This Memorandum is signed by Operator and Non-Operator as of the date of the acknowledgement of each party's signatures below, but is deemed effective for all purposes as of the Effective Date set out above.

(Signature pages to follow, remainder of this page left intentionally blank)

OPERATOR:  
CNX Gas Company LLC

NON-OPERATOR(S)  
HG ENERGY II APPALACHIA, LLC

By: \_\_\_\_\_  
Printed Name: Alexander J. Reyes  
Title: Vice President

By:  \_\_\_\_\_  
Printed Name: Jared Hall  
Title: President

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MEMORANDUM OF OPERATING AGREEMENT – MAJ6HSU

STATE AND COUNTY: West Virginia, County of Marshall

OPERATOR: CNX Gas Company LLC  
1000 Consol Energy Drive  
Canonsburg, PA 15317

NON-OPERATOR: HG Energy II Appalachia, LLC  
5260 Dupont Road  
Parkersburg, WV 26101

EFFECTIVE DATE: December 1, 2017

Operator and Non-Operator(s) named above (individually, a "Party", and collectively, the "Parties"), have entered into that certain Joint Operating Agreement (the "Agreement") dated as of the Effective Date stated above, covering the lands, leases, interests, and depth(s) (the "Contract Area"), all identified in Exhibit "A, A-1 and A-2" to this Memorandum.

Operator and Non-Operator represent that the officers executing this Memorandum and such Agreement have the requisite corporate authority to act by and on behalf of the Parties, and further that each own or represent the Working Interest (the "Interest") in the Contract area set opposite their respective names:

<u>NAME OF PARTY</u>	<u>WORKING INTEREST (I/B/THS)</u>
CNX Gas Company LLC	88.4602%
HG Energy II Appalachia, LLC	11.5398%
	100 %

Article VII.B. of the Agreement entitled "Liens and Payment Defaults", provides for the creation and attachment of a lien for default in payment of sums due under the terms of the Agreement. The Parties desire the right to file and perfect such a lien, and, in order to enable each Party to do so, the terms of the Agreement are incorporated into this Memorandum for all purposes. A complete copy of the Agreement is maintained at the Offices of the Operator and each Non-Operator.

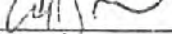
This Memorandum is placed of record for the purpose of placing all persons on notice of the existence of the Agreement. The Agreement shall be deemed to be binding on Operator and Non-Operator and their respective successors and assigns, and in full force and effect until modified, or the Leases on the Contract Area expire. All modifications may be evidenced by an amendment to this Memorandum being placed of record.

This Memorandum is signed by Operator and Non-Operator as of the date of the acknowledgement of each party's signatures below, but is deemed effective for all purposes as of the Effective Date set out above.

(Signature pages to follow, remainder of this page left intentionally blank)

OPERATOR:  
CNX Gas Company LLC

NON-OPERATOR(S)  
HG ENERGY II APPALACHIA, LLC

By:   
Printed Name: Alexander J. Reyes  
Title: Vice President

By: \_\_\_\_\_  
Printed Name: Jared Hall  
Title: President

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Acknowledgements

STATE: WEST VIRGINIA §  
COUNTY: WOOD §

On this, the 20th day of December, 2017, before me, the undersigned, a Notary Public in and for said State, personally appeared Jared Hall, personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument and acknowledged to me that he/she executed the same in his/her capacity and that by his/her signature on the instrument, he/she executed same on behalf of HG Energy II Appalachia, LLC.

In witness whereof, I hereunto set my hand and official seal.

MY COMMISSION EXPIRES:

\_\_\_\_\_  
NOTARY PUBLIC

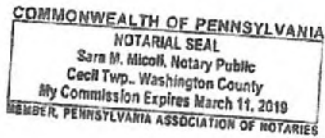
Commonwealth  
STATE: Pennsylvania §  
COUNTY: Washington §

On this, the 20th day of December, 2017, before me, the undersigned, a Notary Public in and for said State, personally appeared Alexander J. Beniers, personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument and acknowledged to me that he/she executed the same in his/her capacity and that by his/her signature on the instrument, he/she executed same on behalf of CINX Gas Company LLC.

In witness whereof, I hereunto set my hand and official seal.

MY COMMISSION EXPIRES: 3/11/19

Sara M. Meacham  
NOTARY PUBLIC



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**Exhibit "A"**

**Attached to and made a part of that certain Operating Agreement dated December 1, 2017, between CNX Gas Company LLC, as Operator and HG Energy II Appalachia, LLC, as Non-Operator**

**1. Description of Lands Subject to this Agreement:**

Those certain oil and gas leases and/or oil and gas interests located within the Contract Area (MAJ 6 Utica Shale Unit) that is shown on the unit plat attached hereto as Exhibit "A-1".

**2. Restrictions, if any as to Depths, Formations, and Substances:**

INSOFAR AND ONLY INSOFAR as the Leases cover from the base of the Queenston shale (as seen by the September 5, 2006 Schlumberger GR/LDT/CNL Platform Express electric log from Fortuna Energy, Inc's Starvaggi #1 well (API 037-125-22278) located in Hanover Township, Washington County, Pennsylvania, at a depth of 10,530 ft KB) to the top of the Trenton limestone (as seen by the same well, at a depth of 10,856 ft KB).

**3. Parties to Agreement**

HG Energy II Appalachia, LLC  
5260 Dupont Road  
Parkersburg, West Virginia 26101

CNX Gas Company, LLC  
1000 CONSOL Energy Drive  
Canonsburg, PA 15317

**4. Percentages or Fractional Interests of Parties to this Agreement:**

<u>Parties</u>	<u>Working Interest Initial Well - MAJ6 Unit</u>
HG Energy II Appalachia, LLC	11.5398%
CNX Gas Company, LLC	88.4602%
	100.0000%

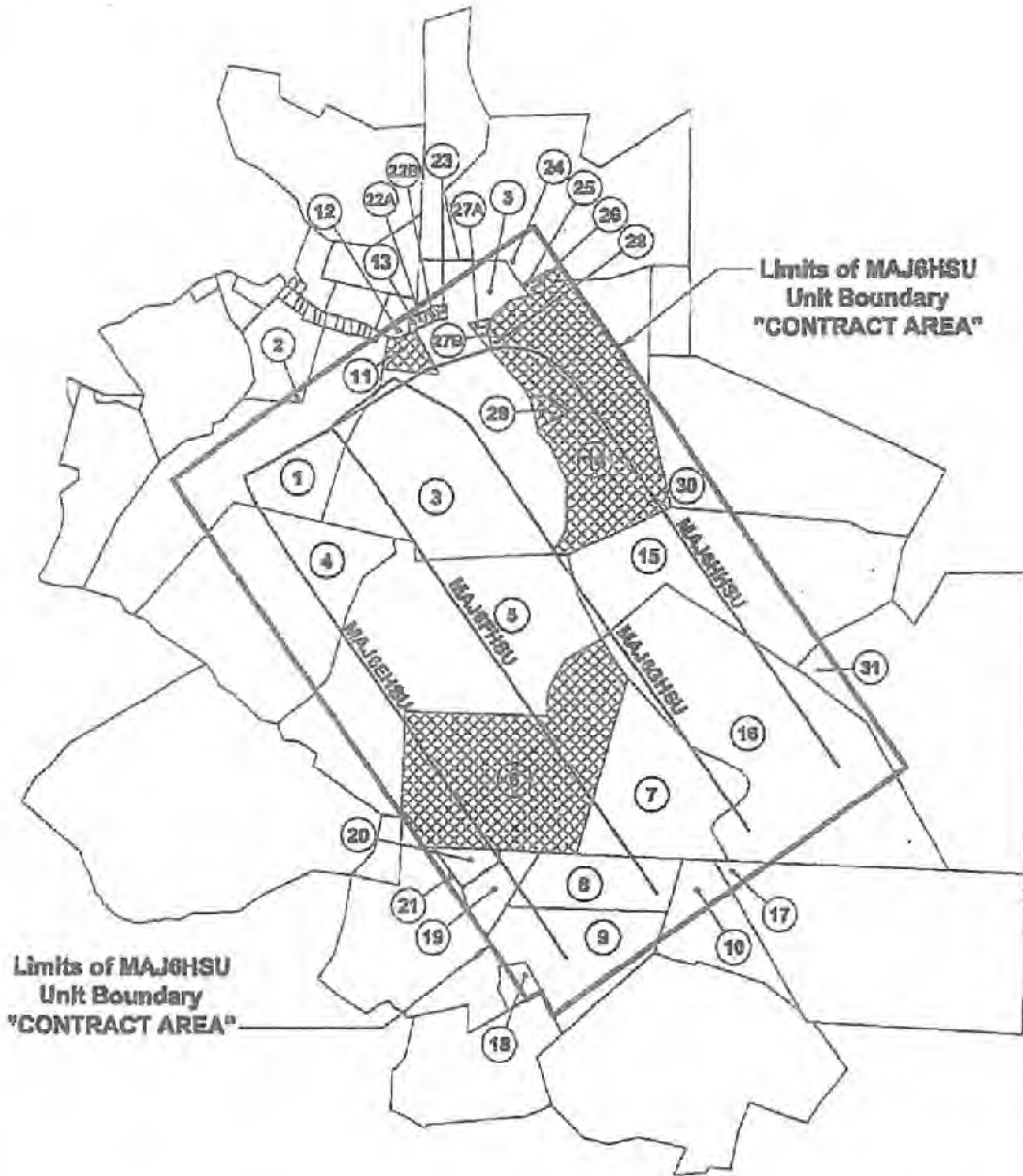
**5. Oil and Gas Leases and/or Oil and Gas Interests Subject to this Agreement:**

The oil and gas leases or oil and gas interests, or portions thereof, Exhibit "A-2" attached hereto.

listed on

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Exhibit A-1



Limits of MAJ6HSU Unit Boundary "CONTRACT AREA"

Limits of MAJ6HSU Unit Boundary "CONTRACT AREA"

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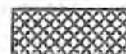
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(Scale in feet)  
Date: 12/13/2017

MAJ6HSU Unit Boundary:  
"CONTRACT AREA" = 918,818 Acres



Tracts with HG Interest

## Exhibit "A-2"

Attached to and made a part of that certain Operating Agreement dated December 1, 2017,  
between CNX Gas Company LLC, as Operator, and HG Energy II Appalachia, LLC, as Non-operator

Tract ID	Tax Map Parcel Number	Lessor	Lessee	Lease Date	Recording	Lease Burden	Unit Acres
1	p/o 15-5-13	Elmer & Ota Hartley	Manufacturers Light and Heat Company	2/24/1960	342/63	100%	55.962
2	p/o 15-5-14	Hazel Sammons	Manufacturers Light and Heat Company	12/7/1959	326/511	100%	0.565
3	p/o 15-5-37 15-5-40	Thomas J. Elder and Ruth L. Elder	Columbia Gas Transmission Corporation	3/19/1986	515/473	0%	133.216
4	p/o 15-5-12	Ellsworth H. Harsh and Bessie E. Harsh et al.	Columbia Gas Transmission Corporation	3/7/1973	434/158	0%	54.206
5	p/o 15-5-41 15-5-41.1	Martha Kaye Hill and Charles D. Hill	TH Exploration, LLC	11/6/2014	865/394	0%	127.095
		Dry Ridge Resources, LLC	TH Exploration, LLC	12/2/2014	869/210	100%	
6	p/o 15-11-10	Martha Kaye Hill and Charles D. Hill	TH Exploration, LLC	11/6/2014	865/394	100%	97.193
		Dry Ridge Resources, LLC	TH Exploration, LLC	12/2/2014	869/210	100%	
		Sandra C. Kowitz	CNX Gas Company LLC	12/4/201	776/28	100%	
7	p/o 15-11-21	August W. Chambers et al	Columbia Gas Transmission Corporation	3/6/1986	520/225	100%	56.484
		Chestnut Holdings	Fossil Creek (Ohio) LLC	11/18/2014	848/218	100%	
8	15-11-11	CNX Gas Company LLC				100%	26.151
9	p/o 15-11-12	CNX Gas Company LLC				100%	35.169
10	p/o 15-11-20	Michael S. Riggle	CNX Gas Company	11/16/2016	907/534	100%	8.862
11	15-5-39	H.B. Chambers et al.	Manufacturers Light and Heat Company	4/28/1958	326/92	100%	4.952
12	p/o 15-5-34.1	Cecil Hartley and Edith Hartley	Manufacturers Light and Heat Company	12/17/1949	239/435	100%	1.222
13	15-5-35	Robert R. Riggle and Donna S. Riggle	CNX Gas Company LLC	12/2/2017	not yet recorded	100%	0.388
14	p/o 15-5-43	Brian K. Milliken and Mary Lynn Milliken et al	Noble Energy, Inc.	7/23/2013	806/307	100%	80.572
15	p/o 15-5-42	J. L. Crow and Elizabeth V. Crow	L. B. Beatty	7/10/1900	74/386	100%	62.841
16	p/o 15-11-21	August W. Chambers et al.	Columbia Gas Transmission Corporation	3/6/1986	520/225	100%	119.735
		Chestnut Holdings	Fossil Creek (Ohio) LLC	11/18/2014	848/218	100%	
17	p/o 15-11-19	Michael S. Riggle	CNX Gas Company LLC	11/30/2017	not yet recorded	100%	2.618
18	p/o 15-11-12	CNX Gas Company LLC				100%	2.022
19	p/o 15-11-12	CNX Gas Company LLC				100%	9.826
20	p/o 15-11-12	CNX Gas Company LLC				100%	4.842

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21	p/o 15-11-9	David L. Kinney and Raymond P. Kinney	CNX Gas Company LLC	9/9/2009	800/449		%	1.306
22A	p/o 15-5-36	Mt. Hope Cemetery Association	CNX Gas Company LLC	5/12/2011	744/146		%	0.449
22B	p/o 15-5-36	Virginia M. Blake Parsons and Laurence F. Parsons	Noble Energy, Inc.	9/3/2013	805/550		%	0.607
23	15-5-37.1	Mt. Hope Cemetery Assoc.	CNX Gas Company LLC	12/9/2011	764/236		%	0.355
24	p/o 15-4-14	Hilsworth H. Scherich and Theima L. Scherich	CNX Gas Company LLC	8/11/2009	768/447		%	6.687
		Jackie L. Frye	CNX Gas Company LLC	11/24/2009	768/443		%	
		Richard C. Berto and Mary Lee Berto	CNX Gas Company LLC	11/11/2009	700/268		%	
		Scott Douglas Reed	CNX Gas Company LLC	11/4/2009	701/409		%	
		Robert B. Elliott	CNX Gas Company LLC	1/6/2010	707/260		0%	
		Tierra Oil Company, LLC	CNX Gas Company LLC	11/3/2017	950/292		0%	
25	15-4-14.2	Jackie L. Frye	CNX Gas Company LLC	11/24/2009	768/443		0%	0.298
		Richard C. Berto and Mary Lee Berto	CNX Gas Company LLC	11/11/2009	700/268		0%	
		Scott Douglas Reed	CNX Gas Company LLC	11/4/2009	701/409		0%	
		Robert B. Elliott	CNX Gas Company LLC	1/6/2010	707/260		0%	
		Elizabeth Ann Cain; Jack A. Cain and Nancy C. Cain	Noble Energy, Inc.	3/13/2013	794/355		0%	
		Tierra Oil Company, LLC	CNX Gas Company LLC	11/3/2017	950/287		0%	
26	15-4-14.1	Jackie L. Frye	CNX Gas Company LLC	11/24/2009	768/443		0%	1.421
		Richard C. Berto and Mary Lee Berto	CNX Gas Company LLC	11/11/2009	700/268		0%	
		Scott Douglas Reed	CNX Gas Company LLC	11/4/2009	701/409		0%	
		Robert B. Elliott	CNX Gas Company LLC	1/6/2010	707/260		0%	
		Elizabeth Ann Cain; Jack A. Cain and Nancy C. Cain	Noble Energy, Inc.	3/13/2013	794/355		0%	
		Tierra Oil Company, LLC	CNX Gas Company LLC	11/3/2017	950/287		0%	
27A	p/o 15-5-38	Thomas J. Elder and Ruth Elder	Columbia Gas Transmission Corporation	3/17/1986	515/473		0%	0.385
27B	p/o 15-5-38	Board of Education of Marshall County, WV	CNX Gas Company LLC	12/4/2017	not yet recorded		0%	0.630
28	15-5-43	Board of Education of Marshall County, WV	CNX Gas Company LLC	12/4/2017	not yet recorded		%	0.460
29	15-5-43.1	Brian K. Milliken and Mary Lynn Milliken	Noble Energy, Inc.	7/23/2013	803/325		%	2.323
30	p/o 15-5-44	J. L. Crow and Elizabeth V. Crow	L. B. Beatty	7/10/1900	74/386	roy am	res s via notes	11.307
31	p/o 15-5-48	Dorcas Doman, Francis E. Doman and June Doman	Columbia Gas Transmission Corporation	3/6/1986	515/485		%	8.169
								918.818

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**MEMORANDUM OF LEASE  
(West Virginia)**

**THIS MEMORANDUM OF LEASE** (this "**Memorandum**") is made and entered into effective as of the 4<sup>th</sup> day of December, 2017 (the "**Effective Date**"), by and between **The Board of Education of Marshall County, WV**, with an address at PO Box 578, 2700 Fourth Street, Moundsville, WV, 26041 ("**Lessor**"), and **CNX Gas Company LLC**, a Virginia limited liability company, with an address at CNX Center, 1000 CONSOL Energy Drive, Canonsburg, Pennsylvania 15317-6506 ("**Lessee**") (each a "**Party**," and together the "**Parties**").

WHEREAS, Lessor and Lessee have entered into a certain Oil and Gas Lease further described below (the "**Lease**") whereby Lessor has leased to Lessee certain oil and gas estates, interests and appurtenant rights more particularly described below and in the Lease; and

WHEREAS, in lieu of recording the Lease, the Parties have executed, acknowledged and delivered this Memorandum for recordation pursuant to Act of June 2, 1959, P.L. 454 § 2, codified at 21 P.S. § 405 et seq.

NOW, THEREFORE, Lessor and Lessee, intending to be legally bound, hereby publish and give notice of the tenancy created and certain of the rights granted by and obligations under the Lease, as follows:

**1. NAME AND ADDRESS OF LESSOR:**

The Board of Education of Marshall County, WV  
PO Box 578, 2700  
Moundsville, WV, 26041

**2. NAME AND ADDRESS OF LESSEE:**

CNX Gas Company LLC  
1000 CONSOL Energy Drive  
Canonsburg, PA 15317

**3. DATE OF LEASE EXECUTION/EFFECTIVE DATE:**

Date of execution of Lease: December 4<sup>th</sup>, 2017

Effective Date of Lease: December 4<sup>th</sup>, 2017

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4. **DESCRIPTION OF SUBJECT PREMISES:**

Lessor hereby grants and leases exclusively to Lessee, its successors and assigns, all the oil, gas, and their liquid and/or gaseous constituents, whether hydrocarbon or non-hydrocarbon and all other substances produced therewith (collectively, whether any of the foregoing, the "**Leased Oil/Gas**") from all subsurface strata, formations, voids, and zones underlying the Leased Premises (as defined in **Section 2** of this Lease), together with a non-exclusive subsurface easement through all formations for the purpose of accessing, exploring, developing, and producing the Leased Oil/Gas. Lessor hereby grants and leases exclusively to Lessee all rights necessary, convenient, or incident to explore, drill, develop, produce, treat, transport and market Leased Oil/Gas and otherwise operate on and about the Leased Premises and any lands pooled or unitized therewith (being a Unit as defined and discussed in **Section 7** of this Lease) using all available methods and techniques under current and future technology, including, without limitation, the following rights: to have full and free access over and through the Leased Premises; to conduct geological, geophysical, core drilling and other exploratory work; to drill, re-drill, lengthen, re-work, stimulate, fracture, plug, remove and/or abandon vertical or horizontal wells, and to inject under pressure water, air, brine and other fluids and substances (including, without limitation, non-domestic water from the Leased Premises, free of cost) into subsurface strata and/or withdraw the same therefrom; to erect and operate drill sites and drilling rigs and related facilities to treat, separate, compress, dehydrate, process, gather, and measure and shut-in Leased Oil/Gas, together with all other equipment, structures and facilities that Lessee deems desirable for use in its operations; to construct, use and operate roads, utility lines, canals, impoundments and pits; to install and operate pipelines, tanks, pumps, compressors, condensers and other equipment and facilities for use in transporting Leased Oil/Gas from the Leased Premises and from other lands, over and through the Leased Premises (all of the foregoing activities are collectively referred to herein as "**Operations**"); and to have and enjoy all rights and privileges reasonably necessary or appropriate to effectuate the purposes of this Lease.

The premises being leased hereunder is located in Webster District, in the County of Marshall, in the State of West Virginia, Property Tax Parcel Identification No. 15-5-38 and 15-5-43, and is bounded formerly or currently as follow:

On the North by lands of 15-5-37 \_\_\_\_\_;  
 On the East by lands of 15-5-43 \_\_\_\_\_;  
 On the South by lands of 15-5-40 \_\_\_\_\_;  
 On the West by lands of 15-5-40 \_\_\_\_\_;

including lands acquired by The Board of Education, Webster District, Marshall County, West Virginia from T.B. Elder by instrument dated August 5, 1899 and recorded at Book 62, Page 291 containing approximately 1.0388 acres; and lands acquired by The Board of Education, Webster District, Marshall County, West Virginia from Thomas H. Genin by instrument dated October 12, 1867 and recorded in Book 17, Page 292 containing

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approximately .5 acres, for all purposes of this Lease whether actually more or less and whether the tax map is correct, including small strips or parcels of contiguous land covered under Lessor's source of title (collectively, the "Leased Premises").

5. TERM OF LEASE:

A. Primary Term. This Lease shall remain in force for a term of five (5) years following the Effective Date (the "Primary Term").

B. Secondary Term. This Lease shall remain in full force and continue following the Primary Term as to the entirety of the Leased Premises for so long thereafter as any of the following circumstances exist (such period, the "Secondary Term"): (i) Lessee is conducting any Operations on the Leased Premises or any lands pooled or unitized therewith (being a Unit as defined and discussed in Section 7 of this Lease); (ii) any of the Leased Oil/Gas are being produced from the Leased Premises or any lands pooled or unitized therewith (being a Unit); (iii) any well on the Leased Premises or on any lands pooled or unitized therewith (being a Unit) is Shut-In (as defined and discussed in Section 4(C) of this Lease); or (iv) this Lease is otherwise extended by Force Majeure (as defined and discussed in Section 10(A) of this Lease), Equitable Tolling (as defined and discussed in Section 10(B) of this Lease), or other terms hereof. The Primary Term (as it may be extended hereunder) and the Secondary Term are collectively referred to herein as the "Term."

6. RENEWAL OR EXTENSION RIGHTS:

The Lease may be extended for an additional term of 5 years after expiration of the primary term, which will expire on December 4<sup>th</sup>, 2022.

7. RIGHT OF PURCHASE, RIGHT OF FIRST REFUSAL AND/OR OPTIONS:

In the event that Lessor receives from any third party any bona fide offer to grant an additional oil and/or gas lease covering all or part of the Leased Premises within the Term, Lessor shall provide Lessee with a written notice of such offer by certified mail, including the proposed lessee's name, bonus consideration and royalty consideration, and a true, correct and complete copy of the proposed lease. Lessee shall have ninety (90) days following receipt of such written notice to elect to exercise a right of first refusal, in Lessee's sole and absolute discretion, to enter into an oil and gas lease with Lessor on the same terms and conditions as set forth in the proposed lease. Should Lessee so elect, Lessee shall notify Lessor in writing within such ninety (90) day period and submit therewith a lease with Lessee containing the same terms and conditions and, if so desired by Lessee, a memorandum of such lease for recordation. Within ten (10) days after

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receipt of such signed lease and memorandum of lease (if any) back from Lessor, Lessor shall counter-sign and return such lease and memorandum of lease (if any) to Lessee together with the bonus payment required under such lease. No single exercise of the foregoing right of first refusal shall exhaust any rights granted hereunder to subsequent offers covering all or any part of the Leased Premises. Any additional lease granted to any third party by Lessor in violation of the provisions of this Section 14 shall be null and void. The provisions of this Section 14 shall not be deemed to waive, nullify or otherwise affect Lessee's right to extend the Primary Term pursuant to Section 3(A) of this Lease.

**8. EXECUTION:**

This Memorandum may be executed in any number of counterparts, each having the same validity and all of which shall constitute but one and the same instrument.

**THIS MEMORANDUM IS NOT A COMPLETE SUMMARY OF THE LEASE. IN THE EVENT OF A CONFLICT BETWEEN THE TERMS OF THIS MEMORANDUM AND THOSE OF THE LEASE, THE TERMS OF THE LEASE SHALL CONTROL.**

[Signature and notary pages follow]

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IN WITNESS WHEREOF, Lessor and Lessee, intending to be legally bound, have executed this Memorandum effective as of the Effective Date (whether executed by either Party on, before or after the Effective Date).

**LESSOR:**  
**The Board of Education of Marshall County, WV**

By: Jeffrey R. Cool  
Its: Secretary.

**LESSEE:**  
**CNX GAS COMPANY LLC**

By: \_\_\_\_\_

Name: Michael L. Holiday  
Title: Assistant Vice-President

Date: \_\_\_\_\_, 2017

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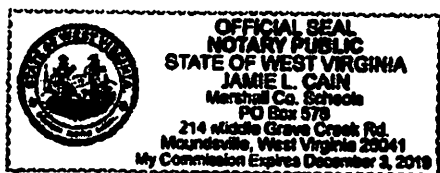
ACKNOWLEDGMENTS

STATE OF WEST VIRGINIA  
COUNTY OF Marshall

The foregoing instrument was acknowledged before me on the 4<sup>th</sup> day of December 2017 by Shirley Crook who acknowledged himself/herself to be the Secretary of The Board of Education of Marshall County, WV, and that he/she as such, being authorized to do so, executed the foregoing instrument on behalf of The Board of Education of Marshall County, WV

In witness hereof, I hereunto set my hand and official seal.

(Notarial Seal)



Jamie L. Cain  
NOTARY PUBLIC

My commission expires: December 3, 2019

COMMONWEALTH OF PENNSYLVANIA  
COUNTY OF WASHINGTON

The foregoing instrument was acknowledged before me on the \_\_\_ day of \_\_\_\_\_, 2017 by Michael L. Holiday who acknowledged himself to be the Assistant Vice-President of CNX Gas Company LLC, a Virginia limited liability company, and that he as such, being authorized to do so, executed the foregoing instrument on behalf of the company.

In witness hereof, I hereunto set my hand and official seal.

(Notarial Seal)

\_\_\_\_\_  
NOTARY PUBLIC  
My commission expires \_\_\_\_\_

Prepared by/Return to: CNX Gas Company LLC, 1000 CONSOL Energy Drive, Canonsburg, PA 15311

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WV Department of  
Environmental Protection

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**MEMORANDUM OF LEASE**

**THIS MEMORANDUM OF LEASE** (this "**Memorandum**") is made and entered into effective as of the 2<sup>nd</sup> day of December, 2017 (the "**Effective Date**"), by and between **Robert R. Riggle and Donna Riggle, his wife, as joint tenants with the right of survivorship**, of 1702 Dry Ridge Road, Cameron, WV 26033 ("**Lessor**"), and **CNX GAS COMPANY LLC**, a Virginia limited liability company, with an address at CNX Center, 1000 CONSOL Energy Drive, Canonsburg, Pennsylvania 15317-6506 ("**Lessee**") (each a "**Party**," and together the "**Parties**").

WHEREAS, Lessor and Lessee have entered into a certain Oil and Gas Lease further described below (the "**Lease**") whereby Lessor has leased to Lessee certain oil and gas estates, interests and appurtenant rights more particularly described below and in the Lease; and

WHEREAS, in lieu of recording the Lease, the Parties have executed, acknowledged and delivered this Memorandum for recordation pursuant to Act of June 2, 1959, P.L. 454 § 2, codified at 21 P.S. § 405 et seq.

NOW, THEREFORE, Lessor and Lessee, intending to be legally bound, hereby publish and give notice of the tenancy created and certain of the rights granted by and obligations under the Lease, as follows:

**1. NAME AND ADDRESS OF LESSOR:**

Robert R. Riggle and Donna Riggle  
1702 Dry Ridge Road  
Cameron, WV 26033

**2. NAME AND ADDRESS OF LESSEE:**

CNX Gas Company LLC  
CNX Center  
1000 CONSOL Energy Drive  
Canonsburg, PA 15317

**3. DATE OF LEASE EXECUTION/EFFECTIVE DATE:**

Date of execution of Lease: December 2, 2017

Effective Date of Lease: December 2, 2017



**4. DESCRIPTION OF SUBJECT PREMISES:**

Lessor hereby grants and leases exclusively to Lessee, its successors and assigns, all the oil, gas, and their liquid and/or gaseous constituents, whether hydrocarbon or non-hydrocarbon and all other substances produced therewith (collectively, whether any of the foregoing, the "Leased Oil/Gas") to include only those strata and formations lying two hundred (200) feet above and two (200) feet below the formation commonly known as the Utica-Point Pleasant formation, or the stratigraphic equivalent thereof, underlying the Leased Premises (as defined in Section 2 of this Lease), together with a non-exclusive subsurface easement through all formations for the purpose of accessing, exploring, developing, and producing the Leased Oil/Gas.

Lessor hereby grants and leases exclusively to Lessee all rights necessary, convenient, or incident to explore, drill, develop, produce, treat, transport and market Leased Oil/Gas and otherwise operate on and about the Leased Premises and any lands pooled or unitized therewith (being a Unit as defined and discussed in Section 7 of this Lease) using all available methods and techniques under current and future technology, including, without limitation, the following rights: to have full and free access over and through the Leased Premises; to conduct geological, geophysical, core drilling and other exploratory work; to drill, re-drill, lengthen, re-work, stimulate, fracture, plug, remove and/or abandon vertical or horizontal wells, and to inject under pressure water, air, brine and other fluids and substances (including, without limitation, non-domestic water from the Leased Premises, free of cost) into subsurface strata and/or withdraw the same therefrom; to erect and operate drill sites and drilling rigs and related facilities to treat, separate, compress, dehydrate, process, gather, and measure and shut-in Leased Oil/Gas, together with all other equipment, structures and facilities that Lessee deems desirable for use in its operations; to construct, use and operate roads, utility lines, canals, impoundments and pits; to install and operate pipelines, tanks, pumps, compressors, condensers and other equipment and facilities for use in transporting Leased Oil/Gas from the Leased Premises and from other lands, over and through the Leased Premises (all of the foregoing activities are collectively referred to herein as "Operations"); and to have and enjoy all rights and privileges reasonably necessary or appropriate to effectuate the purposes of this Lease.

The premises being leased hereunder is located in Webster District, in the County of Marshall, in the State of West Virginia, Property Tax Parcel Identification Number 15-5-35, including lands acquired by Robert R. Riggle and Donna Riggle, as joint tenants with the right of survivorship, from Robert W. Kagler, Deputy Commissioner of Forfeited and Delinquent Lands for Marshall County, WV, by Deed dated April 18, 1991 and recorded in Deed Book 558, Page 178, and described for the purposes of this agreement as containing a total of 0.4545 Leasehold acres, whether actually more or less and whether the tax map is correct, including small strips or parcels of contiguous land covered under Lessor's source of title (collectively, the "Leased Premises").

**5. TERM OF LEASE:**

**A. Primary Term.** This Lease shall remain in force for a term of five (5) years following the Effective Date (the "**Primary Term**").

**B. Secondary Term.** This Lease shall remain in full force and continue following the Primary Term as to the entirety of the Leased Premises for so long thereafter as any of the following circumstances exist (such period, the "**Secondary Term**"): (i) Lessee is conducting any Operations on the Leased Premises or any lands pooled or unitized therewith (being a Unit as defined and discussed in **Section 7** of this Lease); (ii) any of the Leased Oil/Gas are being produced from the Leased Premises or any lands pooled or unitized therewith (being a Unit); (iii) any well on the Leased Premises or on any lands pooled or unitized therewith (being a Unit) is Shut-In (as defined and discussed in **Section 4(C)** of this Lease); or (iv) this Lease is otherwise extended by Force Majeure (as defined and discussed in **Section 10(A)** of this Lease), Equitable Tolling (as defined and discussed in **Section 10(B)** of this Lease), or other terms hereof. The Primary Term (as it may be extended hereunder) and the Secondary Term are collectively referred to herein as the "**Term**."

**6. RENEWAL OR EXTENSION RIGHTS:**

NONE.

**7. RIGHT OF PURCHASE, RIGHT OF FIRST REFUSAL AND/OR OPTIONS:**

In the event that Lessor receives from any third party any bona fide offer to grant an additional oil and/or gas lease covering all or part of the Leased Premises within the Term, Lessor shall provide Lessee with a written notice of such offer by certified mail, including the proposed lessee's name, bonus consideration and royalty consideration, and a true, correct and complete copy of the proposed lease. Lessee shall have ninety (90) days following receipt of such written notice to elect to exercise a right of first refusal, in Lessee's sole and absolute discretion, to enter into an oil and gas lease with Lessor on the same terms and conditions as set forth in the proposed lease. Should Lessee so elect, Lessee shall notify Lessor in writing within such ninety (90) day period and submit therewith a lease with Lessee containing the same terms and conditions and, if so desired by Lessee, a memorandum of such lease for recordation. Within ten (10) days after receipt of such signed lease and memorandum of lease (if any) back from Lessor, Lessor shall counter-sign and return such lease and memorandum of lease (if any) to Lessee together with the bonus payment required under such lease. No single exercise of the foregoing right of first refusal shall exhaust any rights granted hereunder to subsequent offers covering all or any part of the Leased Premises. Any additional lease granted to any third party by Lessor in violation of the provisions of this **Section 14** shall be null and void. The provisions of this **Section 14** shall not be deemed to waive, nullify or otherwise affect Lessee's right to extend the Primary Term pursuant to **Section 3(A)** of this Lease.

8. **EXECUTION:**

This Memorandum may be executed in any number of counterparts, each having the same validity and all of which shall constitute but one and the same instrument.

**THIS MEMORANDUM IS NOT A COMPLETE SUMMARY OF THE LEASE. IN THE EVENT OF A CONFLICT BETWEEN THE TERMS OF THIS MEMORANDUM AND THOSE OF THE LEASE, THE TERMS OF THE LEASE SHALL CONTROL.**

[Signature and notary pages follow]

**IN WITNESS WHEREOF**, Lessor and Lessee, intending to be legally bound, have executed this Memorandum effective as of the Effective Date (whether executed by either Party on, before or after the Effective Date).

**IN WITNESS WHEREOF**, the Parties, intending to be legally bound, have executed this Lease effective as of the Effective Date (whether executed by either Party on, before or after the Effective Date).

**LESSOR:**

Robert R. Riggle  
Name: Robert R. Riggle  
Date: 12-2, 2017

Donna Riggle  
Name: Donna Riggle  
Date: December 2, 2017

**LESSEE:  
CNX GAS COMPANY LLC**

By: \_\_\_\_\_

Name: Michael L. Holiday  
Title: Assistant Vice-President

Date: \_\_\_\_\_, 2017

[Notary page follows]

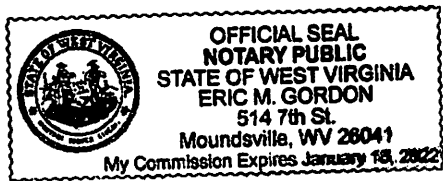
ACKNOWLEDGMENTS

STATE OF WEST VIRGINIA  
COUNTY OF MARSHALL

On this, the 2nd day of December, 2017, before me, a Notary Public, the undersigned officer, personally appeared **Robert R. Riggle and Donna Riggle**, known to me (or satisfactorily proven) to be the person(s) whose names are subscribed to the within instrument, and acknowledged that they executed the same for the purposes therein contained.

In witness hereof, I hereunto set my hand and official seal.

(Notarial Seal)



[Signature]  
NOTARY PUBLIC

My commission expires: Jan 18, 2022

COMMONWEALTH OF PENNSYLVANIA  
COUNTY OF WASHINGTON

The foregoing instrument was acknowledged before me on the \_\_\_\_\_ day of \_\_\_\_\_, 2017 by **Michael L. Holiday**, who acknowledged himself to be the **Assistant Vice-President** of **CNX Gas Company LLC**, a Virginia limited liability company, and that he as such, being authorized to do so, executed the foregoing instrument on behalf of the company, in my said State.

In witness hereof, I hereunto set my hand and official seal.

(Notarial Seal)

\_\_\_\_\_  
NOTARY PUBLIC

My commission expires \_\_\_\_\_

Prepared by/Return to: CNX Gas Company LLC, 1000 CONSOL Energy Drive, Canonsburg, PA 15317-6506

**OIL AND GAS LEASE  
(PAID-UP LEASE – WEST VIRGINIA)**

Lease No. 8875

**THIS OIL AND GAS LEASE** (this "Lease") is made and entered into effective as of the 3<sup>rd</sup> day of November 2017 (the "Effective Date"), by and between **Tierra Oil Company, LLC**, of PO Box 700968, San Antonio, TX 78270 ("Lessor"), and **CNX GAS COMPANY LLC**, a Virginia limited liability company, with an address at CNX Center, 1000 CONSOL Energy Drive, Canonsburg, Pennsylvania 15317-6506 ("Lessee") (each a "Party," and together the "Parties").

In consideration of the mutual covenants and agreements contained herein and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged by Lessor, the Parties agree as follows:

1. **LEASE GRANT.** Lessor hereby grants and leases exclusively to Lessee, its successors and assigns, all the oil, gas, and their liquid and/or gaseous constituents, whether hydrocarbon or non-hydrocarbon and all other substances produced therewith (collectively, whether any of the foregoing, the "Leased Oil/Gas") from 100' above the top of the Utica formation to 100' below the bottom of the Trenton formation, underlying the Leased Premises (as defined in Section 2 of this Lease), together with a non-exclusive subsurface easement through all formations for the purpose of accessing, exploring, developing, and producing the Leased Oil/Gas. Lessor hereby grants and leases exclusively to Lessee all rights necessary, convenient, or incident to explore, drill, develop, produce, treat, transport and market Leased Oil/Gas and otherwise operate on and about the Leased Premises and any lands pooled or unitized therewith (being a Unit as defined and discussed in Section 7 of this Lease) using all available methods and techniques under current and future technology, including, without limitation, the following rights: to have full and free access over and through the Leased Premises; to conduct geological, geophysical, core drilling and other exploratory work; to drill, re-drill, lengthen, re-work, stimulate, fracture, plug, remove and/or abandon vertical or horizontal wells, and to inject under pressure water, air, brine and other fluids and substances (including, without limitation, non-domestic water from the Leased Premises, free of cost) into subsurface strata and/or withdraw the same therefrom; to erect and operate drill sites and drilling rigs and related facilities to treat, separate, compress, dehydrate, process, gather, and measure and shut-in Leased Oil/Gas, together with all other equipment, structures and facilities that Lessee deems desirable for use in its operations; to construct, use and operate roads, utility lines, canals, impoundments and pits; to install and operate pipelines, tanks, pumps, compressors, condensers and other equipment and facilities for use in transporting Leased Oil/Gas from the Leased Premises and from other lands, over and through the Leased Premises (all of the foregoing activities are collectively referred to herein as "Operations"); and to have and enjoy all rights and privileges reasonably necessary or appropriate to effectuate the purposes of this Lease.

2. **LEASED PREMISES.** The premises being leased hereunder is located in Webster District, in the County of Marshall, in the State of West Virginia, Property Tax Parcel Identification Number 15-4-14, including lands acquired by Tierra Oil Company, from Thomas H. Elliot Irrevocable Trust, Bank One, West Virginia, N.A., Trustee, by deed dated July 15, 2002 and recorded in Deed Book 627, Page 583, and described for the purposes of this agreement as containing a total of 118.16 Leasehold acres, whether actually more or less and whether the tax map is correct, including small strips or parcels of contiguous land covered under Lessor's source of title (collectively, the "Leased Premises").

3. **LEASE TERM.**

A. **Primary Term.** This Lease shall remain in force for a term of Five (5) years following the Effective Date (the "Primary Term")

B. **Secondary Term.** This Lease shall remain in full force and continue following the Primary Term as to the entirety of the Leased Premises for so long thereafter as any of the following circumstances exist (such period, the "Secondary Term"): (i) Lessee is conducting any Operations on the Leased Premises or any lands pooled or unitized therewith (being a Unit as defined and discussed in Section 7 of this Lease); (ii) any of the Leased Oil/Gas are being produced from the Leased Premises or any lands pooled or unitized therewith (being a Unit); (iii) any well on the Leased Premises or on any lands pooled or unitized therewith (being a Unit) is Shut-In (as defined and discussed in Section

4(C) of this Lease); or (iv) this Lease is otherwise extended by Force Majeure (as defined and discussed in Section 10(A) of this Lease), Equitable Tolling (as defined and discussed in Section 10(B) of this Lease), or other terms hereof. The Primary Term (as it may be extended hereunder) and the Secondary Term are collectively referred to herein as the "Term."

**C. Dry Hole and Cessation of Production.** At any time during the Term, if on the Leased Premises or any Unit: (i) prior to discovery of Leased Oil/Gas, a well or wells not capable of producing in paying quantities is drilled (a "Dry Hole"), or (ii) all production of the Leased Oil/Gas (whether or not in paying quantities) ceases for any cause or reason whatsoever ("Cessation of Production"), then this Lease shall remain in force and shall not terminate if Lessee either commences and pursues any Operations, or otherwise obtains or restores production on the Leased Premises or on any Unit within ninety (90) days after completion of Operations on such Dry Hole or after such Cessation of Production, as the case may be, whether or not such ninety (90) days extends beyond the Primary Term; provided, however, that notwithstanding the foregoing, if the Dry Hole or Cessation of Production occurs within the Primary Term, no action, Operations, production or any payment by Lessee whatsoever shall be required during the Primary Term.

**D. Disputes Concerning Extension.** If there is ever any dispute concerning the extension of this Lease beyond the Primary Term by reason of any of the alternative circumstances specified herein, the payment to Lessor of prescribed payments provided for herein shall be conclusive evidence that this Lease has been extended beyond the Primary Term.

#### 4. PAYMENTS TO LESSOR.

**A. Bonus Payment.** Lessee agrees to pay Lessor, in accordance with and subject to the terms and conditions of that certain Order of Payment between the Parties delivered in connection with the execution of this Lease (the "Order of Payment"), the sum per net acre of the Leased Premises specified in the Order of Payment (the "Bonus Payment"). This Lease is a "paid-up" lease, and upon payment of the Bonus Payment, no further rental payments shall be due to Lessor during the initial Primary Term, and Lessee shall have the right and privilege to drill and operate or not to drill or operate for Leased Oil/Gas during the Primary Term.

**B. Production Royalty.** Lessee shall pay to Lessor the following royalties on production of Leased Oil/Gas from the Leased Premises (the "Production Royalty"), proportionate to Lessor's percentage of ownership of such Leased Oil/Gas and subject to adjustments hereunder due to the Pooling Ratio (as defined and discussed in Section 8 hereof) or Shut-In, as applicable:

(i) **Oil.** Lessee shall pay Lessor a royalty equal to Eighteen percent (18 %) of the gross proceeds received by Lessee for all oil produced and marketed from the Leased Premises, minus any and all Deductions (as defined below).

(ii) **Gas.** Lessee shall pay Lessor a royalty equal to Eighteen percent (18 %) of the gross proceeds received by Lessee for the sale of all gas, including casinghead gas or natural gas liquids and all other gaseous, vaporous and liquid hydrocarbons or any combination thereof, produced and marketed from the Leased Premises, minus any and all Deductions. At Lessee's election, the volumes, sales price and/or the value of any Deductions may be determined on an allocated well, field-wide or Unit-wide basis, or other reasonable and prudent determination of the volume and value of the gas and its constituents produced and sold from the Leased Premises or any Unit.

"Deductions" means Lessor's share of any reasonable costs incurred or allocated between the wellhead and the point of sale, including: (a) all costs actually incurred by Lessee, including, without limitation, those paid to third parties (whether or not affiliated with Lessee), and all losses of produced volumes whether by use as fuel, line loss, flaring, venting or otherwise from and after the wellhead to the point of sale by Lessee; and (b) all costs of heating, treating, sweetening, gathering, separating (other than condensate separated at the well), dehydrating, compressing, metering, processing, manufacturing, transporting and trucking (from and after the wellhead to the point of sale), marketing, and blending, and the sales charges, commissions and fees paid to third parties (whether or not affiliated with Lessee). In the event that any extraneous substance (being any substance that is obtained from sources other than the Leased Premises or lands in a Unit) is injected into subsurface strata in connection with secondary, tertiary, or other enhanced recovery operations hereunder, then any like substance thereafter produced hereunder or contained in the Leased Oil/Gas thereafter produced hereunder from such strata shall be deemed to be part of the extraneous substance so

injected until the total volume thereof equals the total volume of the extraneous substance so injected, and no Production Royalty shall be payable hereunder on any such extraneous substance.

(iii) **Taxes.** Lessor agrees to pay any and all taxes levied or assessed upon its interest in the production of Leased Oil/Gas from the Leased Premises, and Lessee is hereby authorized to pay such taxes and assessments on behalf of Lessor and to deduct the amount so paid from any monies payable to Lessor hereunder.

(iv) **Payments.** Production Royalties shall be paid monthly to Lessor no later than the last day of the third calendar month following the calendar month in which production occurred; provided, however, that Lessee, at its discretion, may withhold any payments until the total due to Lessor equals or exceeds One Hundred Dollars (\$100).

**C. Shut-In.** If at any time during the Term, production from a well is interrupted or shall cease or Lessee shall elect not to market, produce or sell the production from a well that is capable of producing ("Shut-In") for a period of ninety (90) consecutive days or longer, and there is no other producing well on the Leased Premises or any Unit and no circumstances of Force Majeure or Equitable Tolling exist, a shut-in rental shall thereafter accrue at the rate of [Twenty Five Dollars (\$25.00) per net acre per year] ("Shut-In Rental"). Shut-In Rental need not be paid and will not accrue during the Primary Term. Shut-In Rentals shall be payable twelve (12) months following the time such well is Shut-In and annually thereafter until such time as production is re-established (or Lessee surrenders this Lease), subject to proration for any partial year that a well resumes actual production. Lessee shall have the right to elect at any time and from time to time during the Term to interrupt or not to market, produce or sell the production from any well that is capable of producing Leased Oil/Gas on the Leased Premises or any Unit. Lessee shall be under no obligation whatsoever to produce or market any Leased Oil/Gas from any such Shut-In well, and the Shut-In Rental shall be a full and adequate substitute for the Production Royalty. If a Shut-In occurs, any Shut-In well shall nonetheless be deemed to be a producing well and shall serve to maintain this Lease in full force and effect.

**D. Recoupment.** In the event that Lessee makes any over-payment of the Bonus Payment, Production Royalties, Shut-In Rental or any other sums paid to Lessor under this Lease due to miscalculation of the amount payable, to Lessor owning less than the entire undivided ownership of the Leased Oil/Gas (as further discussed in Section 11(C) hereof), or to breach of this Lease by Lessor, Lessee shall have the right, without limitation of any other rights and remedies of Lessee under this Lease or applicable law, to recover any such over-payment from Lessor or to recoup any such over-payment against any subsequent payments due to Lessor hereunder.

**5. DIVISION ORDERS.** Upon request by Lessee from time to time, Lessor shall execute one (1) or more Division Orders certifying Lessor's interest in production of the Leased Oil/Gas.

**6. PAYMENTS.** Lessee shall make or tender all payments due under this Lease to Lessor at Lessor's last known address. Payments may be tendered by first class mail, electronically (subject to Lessor's delivery of appropriate electronic payment instructions) or any comparable method, and payment shall be deemed complete upon mailing, dispatch or deposit (as the case may be).

**7. POOLING/UNITIZATION RIGHT; UNIT DECLARATION.** Lessor grants to Lessee, and Lessee may exercise in Lessee's sole judgment, at any time and from time to time during the Term, Pooling Rights (as defined below) under this Lease. "Pooling Rights" include Lessee's right, but not the obligation, to pool, unitize or combine into one (1) or more separate drilling or production unit(s) or pool(s), plans or agreements the Leased Premises or any part thereof or any strata therein with any other lands, leases, pool(s), unit(s) or interests held by Lessee or any third party (each a "Unit"), whether before or after drilling, when in Lessee's sole judgment it is necessary or advisable to create such Units. Lessee is hereby designated as the applicant for drilling permits and other permits with respect to Units. Creation of a Unit in one (1) or more instances shall not exhaust Lessee's Pooling Rights, and Lessee shall have the recurring right but not the obligation to revise in any manner and at any time the size, shape, or conditions of operation of any Unit formed by expansion or contraction or both, including, without limitation, the drilling of multiple wells or laterals within said Unit. Said Pooling Rights may be exercised as to any one (1) or more depths, strata or formations, through any type of wells and any combination of any drilling or recovery techniques, whether now known or developed in the future. Lessee may create contiguous Units which utilize the same surface pads and facilities. Within a reasonable time after the creation or revision of any Unit hereunder by Lessee, Lessee shall file of record a written declaration describing the Unit or revised Unit and stating the effective date of creation or revision of the Unit (a "Unit Declaration"). At any time that any Unit is not being operated as aforesaid, the Unit Declaration relative to



such Unit may be surrendered and canceled of record by Lessee. Such cancellation or surrender shall not cause a surrender or cancellation of this Lease. The exercising of Pooling Rights and the provisions hereof shall not operate to transfer title of any interest in the Leased Premises.

**8. EFFECT OF POOLING OPERATIONS.** Any Operations anywhere on a Unit that includes all or any part of the Leased Premises shall be treated for all purposes of this Lease (except for the determination of production for the calculation of any Production Royalties to be paid to Lessor) as if said activities were conducted on well(s) or lateral portion(s) thereof located on the Leased Premises, whether or not such activities, well(s) or laterals are on the Leased Premises. Notwithstanding anything contained in this Lease to the contrary, when any portion(s) of the Leased Premises is committed to a Unit, this Lease with respect to such portion(s) of the Leased Premises shall be subject to the terms and conditions of the Unit order or Unit Declaration, including any formula prescribed therein for the allocation of net proceeds, sales price, deductions, production and the payment of the Production Royalty or Shut-In Rental from the Unit. Notwithstanding anything herein to the contrary, if Lessee exercises its Pooling Rights, then production for calculating the Production Royalty and any Shut-In Rental shall be calculated and adjusted based on any method determined by Lessee in good faith, including utilizing the proportion that the net acreage of the Leased Premises contained in the Unit bears to the total acreage in the Unit (the "Pooling Ratio").

**9. LAWS.** Each of Lessee and Lessor shall comply in all material respects, with respect to its respective operations on and use of the Leased Premises, with all applicable federal, state and local laws and ordinances, and all rules, regulations, orders and decrees of all governmental bodies and agencies having jurisdiction over such operations (collectively, "Laws"). Lessee shall not be deemed to be in breach of this Lease, or held liable for damages hereunder, with respect to any failure of Lessee to comply with the provisions of this Lease if such compliance is effectively prevented by Laws.

**10. FORCE MAJEURE; EQUITABLE TOLLING.**

**A. Force Majeure.** "Force Majeure" means any one (1) or more of the following events or circumstances: past, present or future Laws; lack of easements or access; war, sabotage, terrorism, rebellion, insurrection, riot or armed hostilities; inability to obtain permits, authorizations, utilities or other approvals or services; any coal, stone, or other mining or drilling or related activities; labor disturbance, strike, or shortage of labor, equipment, water or other materials; weather, fire, explosion, flood, or other "act of God"; lack of pipelines to transport Leased Oil/Gas from the Leased Premises or any Unit; and any other event or circumstance or act of third parties beyond the reasonable control of Lessee. If any activity, production or Operations permitted or required hereunder, or the performance by Lessee of any covenant, agreement or requirement hereunder (in each case including on, from or with respect to any lands in a Unit), or Lessee's enjoyment of the benefits of this Lease, may be interrupted or delayed, directly or indirectly, by reason of circumstances of Force Majeure, then Lessee shall be relieved from such obligations without liability during the duration of such circumstances of Force Majeure, and this Lease shall not expire, terminate or be subject to forfeiture because of such interruption or delay, and the Term shall automatically be extended during such period of Force Majeure and for a period of six (6) months following the end thereof.

**B. Equitable Tolling.** The Parties agree that it is in their mutual interest not to require Lessee to engage in Operations or production of Leased Oil/Gas during any period of time in which the validity of this Lease or Lessee's rights hereunder are challenged, contested or disputed. If any activity, production or Operations permitted or required hereunder, or the performance by Lessee of any covenant, agreement or requirement hereunder (in each case including on, from or with respect to any lands in a Unit), or Lessee's enjoyment of the benefits of this Lease, may be interrupted or delayed, directly or indirectly, by reason of acts or judicial, arbitration, administrative or regulatory proceedings of Lessor or any third party that inhibit Lessee's access to the Leased Premises or other lands in a Unit, its Operations or production, or if Lessor or any third party should file judicial or arbitration claims or counterclaims or file or record documents challenging the validity or enforceability of this Lease, seeking avoidance of or relief from Lessor's obligations hereunder, or repudiating Lessee's enjoyment of the benefits of this Lease or its entitlement to the Leased Oil/Gas under this Lease, then this Lease shall not expire, terminate or be subject to forfeiture because of such interruption or delay or because of the passage of time during which such matters are being adjudicated or addressed (regardless of whether such claims or counterclaims are subsequently settled or otherwise withdrawn) or such documents remain filed or of record, and the Term shall automatically be tolled and extended during such period (including the pendency of any such judicial, arbitration, administrative or regulatory proceeding) and for a period of six (6) months following the end thereof ("Equitable Tolling").

**11. TITLE.**

**A. Warranty.** Lessor warrants title to the Leased Premises and the Leases Oil/Gas and agrees to defend the same to Lessee and Lessee's successors and assigns, forever, against the lawful claims and demands of all persons claiming by, through, or under Lessor, but against none other. Lessor further represents and warrants that on the Effective Date, (i) the Leased Premises are free from all liens and encumbrances made by Lessor, (ii) Lessor is not currently receiving any bonus, rental, production royalty or other payments as the result of any prior oil and/or gas lease covering any or all of the Leased Premises, and (iii) there are no producing wells or gas storage facilities currently existing on the Leased Premises. Should any third party having title to the Leased Premises or any portion thereof fail to execute this Lease, this Lease shall nevertheless be binding upon all parties who do execute it as Lessor.

**B. Liens.** Lessee may, at its option, pay, discharge or redeem any overdue tax, mortgage, encumbrance, or other lien existing, levied or assessed on or against the Leased Premises or Lessor's ownership of any Leased Oil/Gas, including interest, penalties and fees, and deduct a proportionate share of the amount so paid from the Production Royalties, Shut-In Rentals, Bonus Payment or other sums due to Lessor under this Lease.

**C. Lesser Interest.** If Lessor owns less than the entire undivided ownership of the Leased Oil/Gas, then the Production Royalties, Shut-In Rentals, Bonus Payment and other sums due to Lessor under this Lease shall be reduced or adjusted to the proportion of Lessor's interest in any such Leased Oil/Gas, and any over-payments resulting therefrom shall be subject to recovery or recoupment pursuant to Section 4(D) hereof.

**D. Ownership Change.** Lessee shall not be bound by or recognize any change of ownership of the Leased Oil/Gas or the Leased Premises, or in the right of other parties to receive rentals, Production Royalties, Shut-In Rentals, the Bonus Payment or other payments hereunder, or of Lessor's address, until thirty (30) days after Lessee has been furnished with evidence satisfactory to Lessee, in its sole discretion, of such change of ownership or right of others to receive payments or of address. Pending the receipt of such evidence, Lessee may elect either to continue to make or to withhold payments as if such change had not occurred.

**E. Entireties.** If Lessor shall now or hereafter own the Leased Premises in severalty or in separate tracts, the Leased Premises nevertheless shall be developed and operated as one lease, and all Production Royalties, Shut-In Rentals, Bonus Payment or other sums due to Lessor under this Lease shall be treated as an entirety and shall be divided among, and paid to, such separate owners in the proportion that the acreage owned by each such separate owner bears to the entire leased acreage of the Leased Premises.

**12. CURE RIGHTS.** If Lessor believes that Lessee is in default of any of its obligations under this Lease, Lessor shall not exercise any right or remedy or institute any legal action against Lessee unless and until Lessee has received prior written notice from Lessor fully describing the alleged default or other demand, and then only if Lessee fails or refuses to commence actions to materially remedy the alleged default or other demand within ninety (90) days after receipt of such notice. Lessee reserves the right to dispute the alleged default or other demand. This Lease shall be construed against termination, forfeiture, cancellation or expiration and in favor of giving effect to the continuation of this Lease where the circumstances exist to maintain this Lease in effect under any of the alternative mechanisms set forth herein. Notwithstanding any other provisions of this Lease to the contrary, Lessor hereby expressly acknowledges and agrees that payments and other obligations of Lessee under this Lease are special covenants and not conditions to Lessee's occupancy and enjoyment of the Leased Premises and its rights under this Lease, and that no breach on the part of Lessee, and no failure of Lessee to cure any such breach, shall afford Lessor the right to terminate this Lease or evict Lessee from the Leased Premises or otherwise interfere with its quiet use and enjoyment of the Leased Premises, and Lessor hereby irrevocably waives such rights.

**13. SURRENDER.** Lessee may surrender this Lease or the Leased Premises to Lessor, in whole or in part (including, without limitation, any depth or formation), at any time and from time to time, by recording a release or an instrument of surrender or by delivery to Lessor of a duly executed surrender thereof in person or by mail. Upon such recording or delivery, this Lease shall be null and void as to that part or formation of the Leased Premises surrendered; and Lessee thereupon shall be released and discharged from all obligations, covenants and conditions as to the part of the Leased Premises surrendered; and thereafter the rentals and other sums payable hereunder shall be proportionately reduced. Notwithstanding any surrender by Lessee, Lessee shall retain and/or have reasonable and convenient easements for pipelines, pole lines, roadways and other facilities through and over the portions of the

Leased Premises surrendered for the purpose of Operations and reclamation on the portions of the Leased Premises retained, and/or on other lands.

**14. RIGHT OF FIRST REFUSAL TO LEASE.** In the event that Lessor receives from any third party any bona fide offer to grant an additional oil and/or gas lease covering all or part of the Leased Premises within the Term, Lessor shall provide Lessee with a written notice of such offer by certified mail, including the proposed lessee's name, bonus consideration and royalty consideration, and a true, correct and complete copy of the proposed lease. Lessee shall have ninety (90) days following receipt of such written notice to elect to exercise a right of first refusal, in Lessee's sole and absolute discretion, to enter into an oil and gas lease with Lessor on the same terms and conditions as set forth in the proposed lease. Should Lessee so elect, Lessee shall notify Lessor in writing within such ninety (90) day period and submit therewith a lease with Lessee containing the same terms and conditions and, if so desired by Lessee, a memorandum of such lease for recordation. Within ten (10) days after receipt of such signed lease and memorandum of lease (if any) back from Lessor, Lessor shall counter-sign and return such lease and memorandum of lease (if any) to Lessee together with the bonus payment required under such lease. No single exercise of the foregoing right of first refusal shall exhaust any rights granted hereunder to subsequent offers covering all or any part of the Leased Premises. Any additional lease granted to any third party by Lessor in violation of the provisions of this Section 14 shall be null and void. The provisions of this Section 14 shall not be deemed to waive, nullify or otherwise affect Lessee's right to extend the Primary Term pursuant to Section 3(A) of this Lease.

**15. LEASE DEVELOPMENT.** There is no covenant on the part of Lessee to develop the Leased Premises within a certain period of time or at all, and there shall be no leasehold forfeiture or damages hereunder for any implied covenant to produce, and any such covenant that might otherwise be implied is hereby disclaimed and rejected by Lessee. The Production Royalties, Shut-In Rentals, Bonus Payment and other sums due to Lessor under this Lease are and shall be accepted by Lessor as full and adequate consideration for all of the rights and privileges granted to Lessee herein.

**16. GENERAL PROVISIONS.**

**A. Construction.** This Lease shall be construed as a whole and in accordance with the fair meaning of its language. The language of this Lease (including, without limitation, Section 3 hereof) shall never be read as language of special limitation. Capitalized terms or defined terms used in this Lease shall have the meanings set forth herein except as otherwise clearly indicated.

**B. Severability.** Should any provision of this Lease be held, ruled or otherwise rendered invalid or unenforceable for any reason, the remaining Lease parts or provisions shall remain in full force and effect.

**C. Binding Effect; Assignment.** This Lease shall be binding upon and inure to the benefit of the Parties and their respective heirs, successors and assigns. This Lease may be assigned, pledged or otherwise transferred by Lessee in whole or in part, whereupon the assignee or transferee shall thereafter be solely liable for all payments and obligations imposed under this Lease or by Laws or otherwise with respect to that portion of this Lease so assigned or transferred. If any assignee or transferee of Lessee hereunder shall default in its proportional share of payments to be made or other obligations with respect to any portion of this Lease so assigned or transferred, such default shall not operate to defeat or affect the rights of Lessee with respect to any portion of this Lease retained by Lessee.

**D. Lease Execution.** This Lease shall not be considered fully executed or binding on Lessee until Lessee's authorized corporate representative has signed this Lease.

**E. Notices.** All notices and/or payments under this Lease shall be directed to each Party at its address set forth on the first page of this Lease or to such other address as such Party may designate by written notice to the other Party, and, except as herein otherwise provided, the deposit in the mail of any written notice so addressed with postage prepaid shall be notice of the contents of such writing.

**F. Entire Contract.** This Lease, the Lease Memorandum (if any) discussed in Section 16(G) hereof, and the Order of Payment contain the entire understanding and agreement between Lessor and Lessee with respect to the subject matter hereof, and no verbal warranties, representations or promises have been made or relied upon by Lessor or

Lessee supplementing, modifying or as an inducement to this Lease. The Parties agree that except as expressly stated in this Lease, the Lease Memorandum (if any) and the Order of Payment, no covenants, obligations or conditions to be paid or performed on the part of Lessee whatsoever shall be read into or implied in this Lease; and Lessee shall not be in default hereunder with respect to any covenant, obligation or condition not expressly set forth in this Lease.

**G. Recording; Further Assurances.** Lessee may record this Lease or a memorandum of this Lease (a "Lease Memorandum"), and upon request, Lessor agrees to execute and deliver to Lessee, without additional compensation, any such Lease Memorandum and other affidavits, ratifications, amendments, permit applications and other instruments as may be required or reasonably requested by Lessee to carry out the purposes of this Lease.

**H. No Third Party Beneficiaries.** This Lease shall not be construed to create any rights or remedies in any third parties or the general public.

**I. Essence of Bargain.** Lessor acknowledges and agrees that the rights of Lessee under this Lease are the result of bargained-for exchange and are of the essence of Lessee's bargain for the consideration provided to Lessor under and in connection with this Lease.

**J. Governing Law.** This Lease shall be governed by and construed in accordance with the laws of the State of West Virginia without regard to its conflicts of law provisions.

**K. Amendment of Description of Leased Premises.** The Parties acknowledge that the information in Section 2 hereof describing the Leased Premises, including the legal description of the lands, the estates and the total acreage to be covered by this Lease (the "Lease Information"), was obtained from public records of the county in which the Leased Premises is located but may not accurately reflect the lands and the total acreage intended to be covered by this Lease. Accordingly, after Lessee completes its due diligence concerning the title and ownership of the Leased Premises, if Lessee determines that there is a material discrepancy in the Lease Information, Lessor hereby agrees to execute any documents requested by Lessee, including a new lease agreement, to more accurately reflect the lands, estates and interests to be covered by this Lease. Lessor hereby agrees that Lessee may make corrections or additions to this Lease, the Lease Memorandum (if any), any Unit Declaration(s), and the Order of Payment (the "Related Documents"), to more accurately reflect the lands, estates and acreage to be covered by this Lease, including chain-of-title, deed references and ownership interests of record, without further action by Lessor, and Lessee may notify Lessor of such corrections or additions by providing Lessor with a copy of the recorded Lease, Lease Memorandum or Unit Declaration, whereupon Lessor shall be deemed to have consented to and be bound by the same; and for this purpose, Lessor hereby appoints Lessee as Lessor's true and lawful attorney-in-fact to make such corrections or additions to this Lease and the Related Documents and to file them of record.

**L. Counterparts.** This Lease and any documents associated herewith may be executed by the Parties in any number of counterparts, each having the same validity and all of which shall constitute but one and the same such instrument.

**17. ADDENDUM.** This Lease contains an ADDENDUM TO OIL AND GAS LEASE between Lessor and Lessee which includes additional terms and conditions, which Addendum is attached hereto and incorporated herein by reference.

**[SIGNATURE AND NOTARY PAGES FOLLOW]**

4705102010

IN WITNESS WHEREOF, the Parties, intending to be legally bound, have executed this Lease effective as of the Effective Date (whether executed by either Party on, before or after the Effective Date).

**LESSOR: TIERRA OIL COMPANY, LLC**

X W. Chris Barnhill

Name: W. Chris Barnhill  
Title: President

Date: November 3<sup>rd</sup>, 2017

**LESSEE:  
CNX GAS COMPANY LLC**

By: Michael L. Holiday

Name: Michael L. Holiday  
Title: Assistant Vice-President

Date: November 16, 2017

PP CY

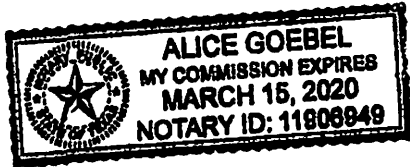
[NOTARY PAGE FOLLOWS]

ACKNOWLEDGMENTS **4705102010**

STATE OF TEXAS  
COUNTY OF COMAL

The foregoing instrument was acknowledged before me on the 6th day of November, 2017 by **W. Chris Barnhill**, who acknowledged himself to be the **President of Tierra Oil Company, LLC**, and that he as such, being authorized to do so, executed the foregoing instrument on behalf of the company, in my said State.  
In witness hereof, I hereunto set my hand and official seal.

(Notarial Seal)



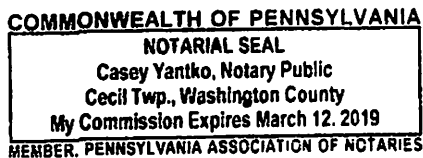
Alice Goebel  
NOTARY PUBLIC

My commission expires: March 15, 2020

COMMONWEALTH OF PENNSYLVANIA  
COUNTY OF WASHINGTON

The foregoing instrument was acknowledged before me on the 16th day of November, 2017 by **Michael L. Hollday**, who acknowledged himself to be the **Assistant Vice-President of CNX Gas Company LLC**, a Virginia limited liability company, and that he as such, being authorized to do so, executed the foregoing instrument on behalf of the company, in my said State.  
In witness hereof, I hereunto set my hand and official seal.

(Notarial Seal)



Casey Yantko  
NOTARY PUBLIC

My commission expires 3-12-2019

Prepared by/Return to: CNX Gas Company LLC, 1000 CONSOL Energy Drive, Canonsburg, PA 15317-6506

4705102010

**Do Not Record**  
**ADDENDUM TO OIL AND GAS LEASE**  
**(PAID-UP LEASE – WEST VIRGINIA)**

Lease No. 8875

This Addendum is attached to and made a part of that certain Oil and Gas Lease dated November 3, 2017, by and between **Tierra Oil Company, LLC**, as Lessor, and **CNX GAS COMPANY LLC**, a Virginia limited liability company, as Lessee (the "**Lease**"). Notwithstanding anything to the contrary in the Lease, this Addendum shall amend and control the Lease terms wherever in conflict and/or inconsistent with the Lease. This Addendum is an integral part of the Lease, and is incorporated into and made a part of the Lease. Capitalized terms used in this Addendum shall have the meaning as set forth in the Lease.

**PUGH CLAUSE.** At the end of the primary term, all acreage not included in a proration unit as designated by the West Virginia Oil Conservation division and all depths 100 feet below the deepest producing formation shall be automatically eliminated from this lease and revert to Lessor, unless Lessee is drilling a Well on the Leased Premises or on lands pooled therewith, in which event the lease will be held in its entirety as long as not more than one hundred twenty (120) days elapse between the completion of one well and the commencement of another. "Completion" shall be defined as (1) the date on which a dry hole is plugged or (2) the date certified to the West Virginia Oil Conservation Division as the date a well has been completed as a producing well, whichever be appropriate.

**COMMENCEMENT OF OPERATIONS.** "Commencement" shall be defined as the date drilling operations are commenced on the Leased Premises or on lands pooled therewith with a drilling rig that has sufficient capability to reach the total depth of the well bore.

**NO EXTENSION OF PRIMARY TERM.** Lessee shall not have the option to extend the primary term as defined as the "Extension Option" in Section 3, and any provisions relating to said "Extension Option" are hereby stricken.

**NO DEDUCTIONS.** It is expressly agreed that all royalty to be paid hereunder shall be delivered to Lessor free of all costs of transportation, compression, processing, treatment, purification, dehydration, separation, stabilization, manufacturing, measuring or marketing the oil gas, or other hydrocarbons covered by this lease. In no event shall Lessor receive a price that is less than the price received by Lessee.

**PRODUCTION ROYALTY.** Lessee shall continue without interruption, to pay Lessor for all oil, gas or other hydrocarbons produced during any period of injection and/or extraction of extraneous substances. As defined in Section 4 B (ii).

**SHUT-IN ROYALTIES.** This lease shall not be maintained in force by payment of shut-in royalties for a period in excess of one (1) year for any one period and in the aggregate more than three (3) years. Shut-in royalty payments shall equal \$25.00 per net acre.

(B3066257.2)

**DIVISION ORDERS.** Lessee agrees that no division order shall constitute a valid amendment to this lease and Lessee further agrees that the execution of a division order or related document shall not be a prerequisite to the disbursement of royalties payable under this lease. Furthermore, within one hundred and twenty (120) days following the actual date of first sale of oil or gas from a well located on the leased premises or lands pooled therewith, Lessee shall pay, or cause to be paid to Lessor, such sums as shall have accrued to Lessor as royalty under this lease and thereafter such payment shall be made monthly without necessity of the execution by Lessor, or any other party, of a division order or transfer order.

**INDEMNIFICATION.** Lessee agrees to protect, indemnify and hold harmless Lessor, its officers, directors, agents and employees from every kind and character of liens, damages, losses, expenses, demands, claims and causes of action claimed by or arising in favor of any person, firm or corporation whatsoever, including without limitation, Lessee, its officers, directors, agents, employees and its contractors or subcontractors, or their officers, directors, agents and employees on account of personal injuries, death claims or damages to property or any persons arising from any causes whatsoever ( including, but not limited to the pollution of air, water, land , minerals, animal and botanical life and any other natural resources and the violation or claimed violation of any and all federal, state and local laws, environmental or other, now in effect of which hereafter may become effective) caused by the operations on the leased premises or entrance onto the leased premises conducted by Lessee, its assignees, contractors, sub-contractors or other entities. Lessee, at its own expense, shall defend any suit or action brought against Lessor based on any such alleged injury, death or damage and Lessee shall pay all damages, costs and expenses, including attorney's fees in connection therewith or in any manner resulting therefrom. Lessor shall have the right to participate in said suit or action if it so elects, at Lessor's expense.

**REPORTS.** Within thirty (30) days of Lessee's receipt of Lessor's written request, Lessee agrees to furnish Lessor with copies (digital copies if available) of any and all reports filed with the appropriate governmental agency, as well as surveys.

**RECORDING.** Lessee shall furnish Lessor with a copy of a recorded lease within one hundred and twenty (120) days after the execution of this lease.

**POOLING/UNITIZATION RIGHTS.** Lessee's rights and obligations under this Article 7, shall, at all times, be in full compliance with the Pooling and Unitization Regulations provided by the State of West Virginia or other regulatory body.

**NO WARRANTY OF TITLE.** This lease is executed by Lessor without any warranties of title or otherwise, whether statutory, express or implied, and any warranty which may be implied by law is expressly disclaimed.

**NO RIGHT OF FIRST REFUSAL TO LEASE.** Lessor does not grant to Lessee the Right of First Refusal to lease the oil and/or gas covering all or part of the Leased Premises within the Primary Term of this Lease. As defined in Section 14.

**OPERATIONS.** All operations conducted by Lessee or its assigns pursuant to this lease shall be conducted at the sole risk and expense of Lessee in a proper and workmanlike manner and in accordance with all applicable laws and regulations of the constituted authorities.



4705102010

**IN WITNESS WHEREOF**, the parties hereto have executed this Addendum to Oil and Gas Lease as of the day and year first above written.

**LESSOR:  
TIERRA OIL COMPANY, LLC**

x  \_\_\_\_\_

Name: W. Chris Barnhill  
Title: President

**LESSEE:  
CNX Gas Company LLC**

By  \_\_\_\_\_

Name: Michael L. Holiday  
Title: Assistant Vice-President

 CY

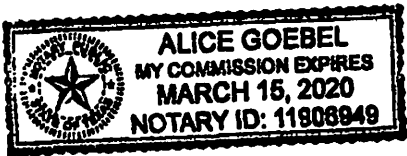
4705102010

ACKNOWLEDGEMENTS

STATE OF TEXAS  
COUNTY OF COMAL

The foregoing instrument was acknowledged before me on the 6<sup>th</sup> day of November, 2017 by **W. Chris Barnhill** who acknowledged himself to be the **President of Tierra Oil Company, LLC**, and that he as such, being authorized to do so, executed the foregoing instrument on behalf of the company, in my said State.

In witness hereof, I hereunto set my hand and official seal.  
(Notarial Seal)

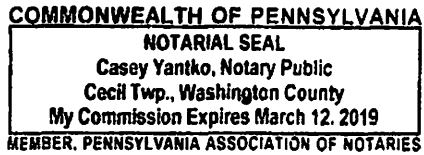


Alice Goebel  
NOTARY PUBLIC  
My commission expires March 15, 2020

COMMONWEALTH OF PENNSYLVANIA  
COUNTY OF WASHINGTON

The foregoing instrument was acknowledged before me on the 16<sup>th</sup> day of November, 2017 by **Michael L. Holiday**, who acknowledged himself to be the **Assistant Vice-President of CNX Gas Company LLC**, and that he, being authorized to do so, executed the foregoing instrument on behalf of the of the limited liability company.

In witness hereof, I hereunto set my hand and official seal.  
(Notarial Seal)



Casey Yantko  
NOTARY PUBLIC  
My commission expires 3-12-2019

(B3066257.2)

**AMENDMENT AND RATIFICATION OF  
OIL AND GAS LEASE**

THIS AMENDMENT AND RATIFICATION OF OIL AND GAS LEASE ("Lease Modification") made the 2nd day of December, 2017, by and between **Robert R. Riggle and Donna S. Riggle, husband and wife**, with an address at 1702 Dry Ridge Road, Cameron, WV 26033 ("Lessor"), and **COLUMBIA ENERGY VENTURES, LLC**, a Delaware limited liability company, (f/k/a NiSource Energy Ventures, LLC), with an address of 1700 MacCorkle Avenue SE, Post Office Box 1273, Charleston, West Virginia 25325-1273 ("CEVCO"), **COLUMBIA GAS TRANSMISSION, LLC**, a Delaware limited liability company, with an address of 1700 MacCorkle Avenue SE, Post Office Box 1273, Charleston, West Virginia 25325-1273, as owner of the storage rights under the Lease (as defined below) ("Columbia", together with CEVCO, collectively "Lessee") and **CNX GAS COMPANY LLC**, a Virginia limited liability company, with an address of 1000 CONSOL Energy Drive, Canonsburg, Pennsylvania 15317 ("Sublessee").

**WHEREAS**, Lessor is the owner of a certain tract or parcel of land located in Webster District, in the County of Marshall, in State of West Virginia, containing 4.25 acres, more or less, being Property Tax Parcel Identification Number 15-5-34.1 ("Leased Property"), which is subject to that certain oil and gas lease, dated February 24, 1960, from Cecil Hartley and Edith Hartley, his wife, to The Manufacturers Light and Heat Company and recorded in the Office of the Recorder of Deeds of Marshall County, West Virginia in Deed Book 342, Page 59, including any amendments and ratifications thereto, being Lessee's Lease Number 19428 ("Lease");

**WHEREAS**, Lessee owns or controls the oil and gas under the Lease, which Lease is held by production and/or storage;

**WHEREAS**, Sublessee has acquired certain oil and gas production rights under the Lease in and to depths from the base of the Queenston shale (as seen by the September 5, 2006 Schlumberger GR/LDT/CNL Platform Express electric log from Fortuna Energy, Inc.'s Starvaggi #1 well (API 037-125-22278) located in Hanover Township, Washington County, Pennsylvania, at a depth of 10,530 ft KB) to the top of the Trenton limestone (as seen by the same well, at a depth of 10,856 ft KB) (the "Utica Formation") pursuant to that certain Oil & Gas Sublease Agreement dated December 29, 2014, as amended by that certain Oil & Gas Sublease Agreement dated April 30, 2015 (the "Sublease"), memoranda of which are recorded in the Office of the Recorder of Deeds of Greene County, Pennsylvania in Deed Book 477, Page 241 and Deed Book 480, Page 1972, respectively;

**WHEREAS**, the Leased Property, for purposes of this Lease Modification only, is limited to the Utica Formation which is hereinafter referred to as the "Leased Premises";

Prepared by/Return to: CNX Gas Company LLC, 1000 CONSOL Energy Drive, Canonsburg, PA 15317

**WHEREAS**, Lessor and Sublessee, with the consent of Lessee, desire to amend and ratify the Lease, as to the Leased Premises, in accordance with the terms and conditions herein set forth.

**NOW THEREFORE**, in consideration of the Leased Premises and the sum of Ten Dollars (\$10.00) paid to Lessor and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, and of the covenants hereinafter contained, Lessor and Sublessee (with the consent of Lessee) hereby amend and modify the Lease, as to the Leased Premises, as follows:

The Lease, as to the Leased Premises, is amended to include the following provisions:

- 1. Pooling.** Lessor grants Sublessee the right but not the obligation to pool, unitize or combine into separate drilling or production unit(s) or pool(s), the Leased Premises, or any part thereof, with other lands, leases, pool(s), unit(s) or interests, whether before or after drilling, or whether contiguous, held by Sublessee or others, when in Sublessee's judgment it is necessary or advisable to create such pools/units. Subject to any other contractual limitations, any such pool shall not exceed 1280 acres, provided however, that larger pools may be created to conform to any well spacing or unit pattern prescribed by any governmental authority or to meet industry standards. Pooling in one or more instances shall not exhaust Sublessee's pooling rights hereunder, and Sublessee shall have the recurring right but not the obligation to revise in any manner and at any time the size, shape, or conditions of operation of any pool(s)/unit(s) formed by expansion or contraction or both, including the drilling of multiple wells or legs within said pool/unit. Said pooling rights may be exercised through any type of wells or combination of any drilling or recovery techniques, whether now known or developed in the future. Sublessee may create contiguous pools/units, which pools/units utilize the same surface pads and facilities. Within a reasonable time after the creation or revision of pools/units hereunder by Sublessee, Sublessee shall file of record a written declaration describing the pool/unit or revised pool/unit and stating the effective date of creation or revision of the pool/unit.

Any operations, production, drilling, or reworking anywhere on a pool/unit that includes all or any part of the Leased Premises shall be treated for all purposes of the Lease (except for the determination of production for the calculation any royalties to be paid to Lessor and of free gas) as if said activities were conducted on or well(s) or legs were located on the Leased Premises whether or not the above activities, well(s) or legs were on the Leased Premises.

If Sublessee exercises its pooling rights, then production for calculating Lessor's royalty, including any Shut-In (as defined below) royalty under the Lease, shall be adjusted based on any method determined by Sublessee in good faith, including without

limitation, utilizing the proportion that the Leased Premises acreage in the pool/unit bears to the total acreage in the pool/unit. If any revisions occur to the pool/unit, to the extent any portion of the Leased Premises is included in or excluded from the pool/unit, the proportion of pool/unit production on which royalties are payable to Lessor shall thereafter be adjusted accordingly. Notwithstanding anything contained in the Lease to the contrary, when any portion of the Leased Premises are committed to a pool/unit, the Lease, with respect to such portion of the Leased Premises, shall be subject to the terms and conditions of the pool/unit order or declaration, including any formula prescribed therein for the allocation of production/royalty from a pool/unit.

Neither any pooling nor provisions hereof shall operate as a transfer to title of any interest in the Leased Premises.

At any time the pool is not being operated as aforesaid, the declaration of pooling may be surrendered and canceled of record. Such cancellation or surrender shall not cause a surrender or cancellation of the Lease.

2. **Royalty.** For wells drilled on the Lease after the Effective Date (as defined below), Sublessee covenants to pay Lessor, proportionate to Lessor's percentage of ownership, a royalty equal to **Eighteen** percent (18%) of the Gross Proceeds (as defined below) for oil, gas and the constituents thereof owned by Lessor and produced and sold from the Leased Premises or any unit by Sublessee, subject to adjustments due to pooling or to Shut-In (as defined below), as applicable ("**Production Royalty**"). "**Gross Proceeds**" shall mean the actual average gross price received by Sublessee for gas and the constituents thereof owned by Lessor and produced and sold from either the Leased Premises or the Leased Premises and lands that are pooled/unitized therewith ("**Sales Price**") without deduction, directly or indirectly, for the cost of producing, gathering, storing, separating, treating, dehydrating, compressing, processing, transporting, and marketing the oil, gas, and other products produced hereunder to transform the product into marketable form. At Sublessee's election (without any input from Lessee), the volumes, and/or Sales Price may be determined on an allocated well, ~~field-wide~~ or unit-wide basis, ~~or other reasonable and prudent determination by Sublessee~~ (without any input from Lessee) of the volume and value of the gas and its constituents produced and sold from the Leased Premises or lands pooled/unitized therewith. No Production Royalty will be paid on used, lost or unaccounted for leased minerals or on the value or volume of natural gas liquids or other byproducts or constituents contained in the leased minerals. Sublessee covenants to pay the Production Royalty monthly to Lessor no later than the last day of the third (3<sup>rd</sup>) calendar month following the calendar month in which production occurred; provided, however, that Sublessee, at its discretion, may withhold any payments until the total due Lessor equals or exceeds One Hundred Dollars (\$100.00). All payments shall be deemed to be made when sent by first class mail, postage pre-paid.

NE 12/2/11  
 HX-12-2

3. **Shut-In.** For wells drilled on the Lease after the Effective Date (as defined below), Sublessee shall have the right to elect at any time, and from time to time to interrupt or not to market, produce or sell the production from any well that is capable of producing the leased minerals in commercial quantities on the Leased Premises or lands pooled/unitized therewith ("**Shut-In**"); provided that the determinations, timing and procedures for any such shut-in shall comply with the laws of the state in which the Leased Premises are located. A well shall be considered to be Shut-In whenever the valves are closed and production at a well capable of producing in commercial quantities is temporarily halted to repair or clean the well, to allow reservoir pressure to build, or for lack of market. Sublessee shall be under no obligation whatsoever to produce or market any leased minerals from any such Shut-In well and Sublessee shall pay a Shut-In royalty as a substitute for the Production Royalty. If a Shut-In occurs, any Shut-In well shall nonetheless be deemed to be a commercially producing well and shall serve to maintain the Lease in full force and effect. During Shut-In, Sublessee shall have the right to rework, stimulate, or deepen any well on the Leased Premises or any lands pooled/unitized therewith or to drill a new well on the Leased Premises or any lands pooled/unitized therewith in an effort to re-establish production, whether from an original producing formation or from a different formation. If the production from the only producing well on the Leased Premises or any lands pooled/unitized therewith is interrupted for a period of less than ninety (90) consecutive days, the Lease shall remain in full force and effect without payment of Production Royalty or Shut-In royalty. If a well is Shut-In for a period of ninety (90) consecutive days or longer, and there is no other producing well on the Leased Premises or any lands pooled/unitized therewith and no Force Majeure (as defined below) exists, a Shut-In royalty shall thereafter accrue at the rate of Five Dollars (\$5.00) per net acre per year for an oil or gas well. Shut-In royalties shall be payable twelve (12) months following the time such well is Shut-In and annually thereafter until such time as production is re-established (or Sublessee surrenders the Lease), subject to proration for any partial year that a well resumes actual production. The word "well" as used in this Paragraph expressly excludes storage wells.
4. **Force Majeure.** If any activity or operation permitted or required hereunder, or the performance by Sublessee of any covenant, agreement or requirement, is delayed or interrupted, directly or indirectly, by reason of a Force Majeure, the Lease shall not terminate because of such interruption or delay, and at Sublessee's option, the period of such interruption or delay shall be added to the term hereof; and the Lease shall automatically be extended during such period of Force Majeure. Sublessee shall not be liable to Lessor for failure to perform any operations, or failure to produce any leased minerals, or failure to perform any other covenant, agreement or requirement of the Lease, whether express or implied, during such period of Force Majeure. Sublessee shall be relieved from all obligations under the Lease during the continuance of such Force Majeure, except for the obligation to pay Production Royalties due for leased

minerals owned by Lessor and produced and sold prior to the commencement of such Force Majeure. "**Force Majeure**" means any one or more of the following: any past or future law, act, order, rules, regulation or requirement of the Government of the United States or any state or other governmental body, or any agency, officer, representative or authority of any of them, or because of delay or inability to get access or easement, or war, sabotage, rebellion, insurrection, riot, armed hostilities, failure of purchasers or carriers to take or transport such production, inability to obtain necessary permits, authorizations, services, water, electricity, fuel, governmental moratoriums, or adverse weather conditions, or delays or interruptions due to any coal, stone, or other mining or drilling or related activities, or inability to obtain a satisfactory market for production, or drilling operations or production is interrupted by civil action initiated by any interested party, whether arising from the Lease, this Lease Modification or otherwise with respect to the Leased Premises, act of God, labor disturbance, strike, civil disturbance, shortage of equipment or materials, fire, explosion, or flood, or any other event beyond the control of Sublessee, including interruptions caused by the acts of third parties over whom Sublessee has no control or regulatory delays associated with any approval process required for conducting operations.

5. **Sublease.** Lessee is consenting to the modifications to the Lease contained herein and agrees that Sublessee's rights and obligations with respect to the Lease and Lessor (as described in the Sublease), are subject to the modifications contained herein and such modifications shall be binding on any successors or assigns of the parties hereto of either the Lease or the Sublease. Lessor acknowledges the existence of the Sublease and agrees that Sublessee (and its successors and assigns) shall have privity of contract with Lessor (and its successors and assigns) with respect to the terms of this Lease Modification and the terms of the Lease that are amended by this Lease Modification and Sublessee shall have the right to enforce the terms of this Lease Modification and the terms of the Lease that are amended by this Lease Modification directly against Lessor (and its successors and assigns).
  
6. **Lessee Disclaimer.** Lessee joins in this Lease Modification for the purpose of consenting to an agreement reached between Lessor and Sublessee related to the Lease. Lessee has not made any independent determination of whether the Lessor parties to this Lease Modification are, in fact, the parties vested with the interests claimed or the parties entitled to any payments hereunder. Lessee's consent by executing this Lease Modification shall not be used as proof of knowledge of Lessee of vesting, ownership, entitlement, etc. as to the Lessor named herein. Lessor agrees, as evidenced by its/their signatures hereon, that this Lease Modification is enforceable against Lessor and does modify the Lease, however Lessor will look solely to Sublessee for payment obligations and/or any covenants under this Lease Modification, and further agrees that it/they will have no claim against Lessee for any cause of action, whether in law or equity, arising hereunder.

7. **Ratification.** Except as otherwise expressly amended by this Lease Modification, Lessor acknowledges and agrees that the Lease and all terms and provisions therein are in full force and effect and the Lease, as amended hereby, is ratified, approved and confirmed in all respects, including but not limited to all actions and payments made by Sublessee.
8. **Successors and Assigns.** The terms, conditions, limitations and covenants of the Lease and this Lease Modification shall be binding upon, and shall inure to the benefit of, the parties hereto and their respective heirs, personal representatives, sublessees, successors and assigns.
9. **Severability.** In the event any term or provision of this Lease Modification shall be declared invalid, void or unenforceable it shall not affect the validity of any other term or provision hereof, all of which shall remain valid, binding and enforceable.
10. **Amendments.** No amendment or waiver of any provisions of this Lease Modification shall be effective unless in writing and signed by the parties hereto.
11. **Entire Agreement.** This Lease Modification contains the entire agreement of the parties with respect to the matters contained herein and all prior agreements and understandings of any kind or nature, relative to this Lease Modification, are hereby superseded.
12. **Recitals.** The recitals to this Lease Modification are incorporated herein and, by this reference, made a substantive part hereof.
13. **Effective Date.** Notwithstanding anything to the contrary herein contained it is agreed that the effective date of this Lease Modification shall be December 2, 2017 ("**Effective Date**").
14. **Counterparts.** This Lease and any documents associated herewith may be executed by the Parties in any number of counterparts, each having the same validity and all of which shall constitute but one and the same such instrument.

See addendum attached hereto and made a part hereof

(Signature and Acknowledgment pages to follow)



Witness the following signatures and seals the day and year first above written

Witness:

Lessor:

\_\_\_\_\_

Robert R. Riggle  
Name: Robert R. Riggle

\_\_\_\_\_

Donna S. Riggle  
Name: Donna S. Riggle

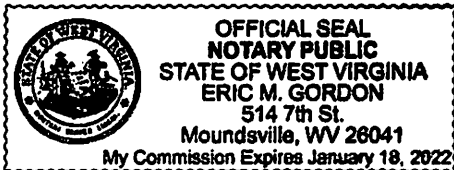
**ACKNOWLEDGMENT**

**[Individual Lessor]**  
**STATE OF WEST VIRGINIA**  
**COUNTY OF MARSHALL**

The foregoing instrument was acknowledged before me on the 2nd day of December 2017 by **Robert R. Riggle and Donna S. Riggle**, whose names are signed hereto, in my said State.

In witness hereof, I hereunto set my hand and official seal.  
(Notarial Seal)

Eric M. Gordon  
NOTARY PUBLIC  
My commission expires Jan 18, 2022



RECEIVED  
Office of Oil and Gas  
FEB 15 2018  
WV Department of  
Environmental Protection

Prepared by/Return to: CNX Gas Company LLC, 1000 CONSOL Energy Drive, Canonsburg, PA 15317

4705102010

Witness:

\_\_\_\_\_

Lessee:

**COLUMBIA ENERGY VENTURES, LLC**

By: \_\_\_\_\_

Name: \_\_\_\_\_

Its: \_\_\_\_\_

**ACKNOWLEDGMENT**

**[Lessee]**

STATE/Commonwealth of \_\_\_\_\_

County of \_\_\_\_\_

The foregoing instrument was acknowledged before me on the \_\_\_\_ day of \_\_\_\_\_, 2017 by \_\_\_\_\_ who acknowledged himself/herself to be the \_\_\_\_\_ of **Columbia Energy Ventures, LLC**, a Delaware limited liability company, and that he/she as such, being authorized to do so, executed the foregoing instrument on behalf of the company.

In witness hereof, I hereunto set my hand and official seal.

(Notarial Seal)

\_\_\_\_\_  
NOTARY PUBLIC

Witness:

\_\_\_\_\_

Lessee:

COLUMBIA GAS TRANSMISSION, LLC

By: \_\_\_\_\_

Name: \_\_\_\_\_

Its: \_\_\_\_\_

[Lessee]

STATE/Commonwealth of \_\_\_\_\_  
COUNTY OF \_\_\_\_\_

The foregoing instrument was acknowledged before me on the \_\_\_\_ day of \_\_\_\_\_, 2017 by \_\_\_\_\_ who acknowledged himself/herself to be the \_\_\_\_\_ of Columbia Gas Transmission, LLC, a Delaware limited liability company, and that he/she as such, being authorized to do so, executed the foregoing instrument on behalf of the company.

In witness hereof, I hereunto set my hand and official seal.  
(Notarial Seal)

\_\_\_\_\_  
NOTARY PUBLIC

4705102010

Witness:

\_\_\_\_\_

Sublessee:

CNX GAS COMPANY LLC

By: \_\_\_\_\_

Name: \_\_\_\_\_

Its: \_\_\_\_\_

[Sublessee]

COMMONWEALTH OF PENNSYLVANIA  
COUNTY OF WASHINGTON

The foregoing instrument was acknowledged before me on the \_\_\_\_ day of \_\_\_\_\_, 2017 by \_\_\_\_\_ who acknowledged himself/herself to be the \_\_\_\_\_ of CNX Gas Company LLC, a Virginia limited liability company, and that he/she as such, being authorized to do so, executed the foregoing instrument on behalf of the company.

In witness hereof, I hereunto set my hand and official seal.  
(Notarial Seal)

\_\_\_\_\_  
NOTARY PUBLIC

RECEIVED  
Office of Oil and Gas

FEB 15 2018

WV Department of  
Environmental Protection

Prepared by/Return to: CNX Gas Company LLC, 1000 CONSOL Energy Drive, Canonsburg, PA 15317

**ADDENDUM**

Attached to and made a part of that certain Amendment and Ratification of Oil and Gas Lease dated December 2, 2017, by and between **Robert R. Riggle and Donna S. Riggle, husband and wife**, whose address is 1702 Dry Ridge Road, Cameron, WV 26033 ("**Lessor**"), and **COLUMBIA ENERGY VENTURES, LLC**, a Delaware limited liability company, (f/k/a NiSource Energy Ventures, LLC), with an address of 1700 MacCorkle Avenue SE, Post Office Box 1273, Charleston, West Virginia 25325-1273 ("**CEVCO**"), **COLUMBIA GAS TRANSMISSION, LLC**, a Delaware limited liability company, with an address of 1700 MacCorkle Avenue SE, Post Office Box 1273, Charleston, West Virginia 25325-1273, as owner of the storage rights under the Lease (as defined below) ("**Columbia**", together with CEVCO, collectively "**Lessee**") and **CNX GAS COMPANY LLC**, a Virginia limited liability company, with an address of 1000 CONSOL Energy Drive, Canonsburg, Pennsylvania 15317.

NOW THEREFORE, in addition to provisions previously set forth in the attached Amendment and Ratification of Oil and Gas Lease to which this Addendum is attached, it is hereby further agreed that:

1. **No Use of Surface Water**: Sublessee shall not use water from Lessor's wells, ponds, lakes, or reservoirs located upon the Leased Premises, and there shall be no discharge of any water onto Lessor's property without the written consent of Lessor.
2. **Gas Storage**: Notwithstanding anything to the contrary contained in the Lease, Sublessee is not granted any right whatsoever to use the leasehold, or any portion thereof, for gas storage purposes. If Lessor wishes to enter into an agreement regarding gas storage using the leased premises with a third party, Lessor shall first give Sublessee written notice of the identity of the third party, the price or the consideration for which the third party is prepared to offer, the effective date and closing date of the transaction and any other information respecting the transaction which Sublessee believes would be material to the exercise of the offering. Lessor does hereby grant Sublessee the first option and right to purchase the gas storage rights by matching and tendering to the Lessor any third party's offering. Nothing in the paragraph requires Lessor to give or sell such storage rights.
3. **Warranty of Title**: It is understood that Lessor warrants title to said property only in respects that the title is good to the best of Lessor's knowledge and Sublessee agrees that no claims will be made against Lessor pertaining to warranty of title.
4. **Disposal Wells**: Notwithstanding anything to the contrary contained in the Lease, Sublessee is not granted any right whatsoever to use the leasehold, or any portion thereof, for construction and/or operation of any disposal well or water disposal facilities.

West Virginia Department of  
 Environmental Protection

FEB 15 2018

RECEIVED  
 Office of Oil and Gas

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**Surface Use:** Sublessee agrees that, without a separate agreement, Sublessee shall not have the right to use in any manner the surface of Lessor's property including but not limited to the right to drill wells, construct pipelines, and/or install any other facilities including the construction of sledge and/or water ponds, and access roads on the surface of the Leased Premises.

**Ad Valorem Tax:** Sublessee agrees to pay 84% of any increase in ad valorem taxes attributable to, or resulting from, the assessment of oil and gas due to production from the leased premises.

**Depth Restriction (Utica):** The Leased Premises shall now include those strata and formations lying two hundred (200) feet above to two hundred (200) feet below the formation commonly known as the Utica- Point Pleasant formation, or the stratigraphic equivalent thereof. Lessee shall have the right to drill through any other formation to access the leased formations herein.

This Addendum shall not affect the terms and conditions set out in the Amendment and Ratification of Oil and Gas lease to which this instrument is attached except as specifically set forth herein.

Witness the following signatures and seals the day and year first above written

**Witness:**

\_\_\_\_\_

\_\_\_\_\_

**Lessor:**

  
\_\_\_\_\_  
Name: Robert R. Riggle

  
\_\_\_\_\_  
Name: Donna S. Riggle

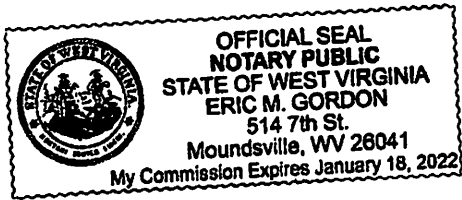
4705102010

**ACKNOWLEDGMENT**

**[Individual Lessor]**  
**STATE OF WEST VIRGINIA**  
**COUNTY OF MARSHALL**

The foregoing instrument was acknowledged before me on the 15<sup>th</sup> day of January, 2018 by **Robert R. Riggle and Donna S. Riggle**, whose names are signed hereto, in my said State. In witness hereof, I hereunto set my hand and official seal.  
(Notarial Seal)

  
\_\_\_\_\_  
NOTARY PUBLIC  
My commission expires Jan 18, 2022



4705102010

Witness:

\_\_\_\_\_

Lessee:

**COLUMBIA ENERGY VENTURES, LLC**

By: \_\_\_\_\_

Name: \_\_\_\_\_

Its: \_\_\_\_\_

**ACKNOWLEDGMENT**

**[Lessee]**

STATE/Commonwealth of \_\_\_\_\_

County of \_\_\_\_\_

The foregoing instrument was acknowledged before me on the \_\_\_\_ day of \_\_\_\_\_, 2017 by \_\_\_\_\_ who acknowledged himself/herself to be the \_\_\_\_\_ of **Columbia Energy Ventures, LLC**, a Delaware limited liability company, and that he/she as such, being authorized to do so, executed the foregoing instrument on behalf of the company.

In witness hereof, I hereunto set my hand and official seal.

(Notarial Seal)

\_\_\_\_\_  
NOTARY PUBLIC



4705102010

Witness:

\_\_\_\_\_

Lessee:

COLUMBIA GAS TRANSMISSION, LLC

By: \_\_\_\_\_

Name: \_\_\_\_\_

Its: \_\_\_\_\_

[Lessee]

STATE/Commonwealth of \_\_\_\_\_

County of \_\_\_\_\_

The foregoing instrument was acknowledged before me on the \_\_\_\_ day of \_\_\_\_\_, 2017 by \_\_\_\_\_ who acknowledged himself/herself to be the \_\_\_\_\_ of Columbia Gas Transmission, LLC, a Delaware limited liability company, and that he/she as such, being authorized to do so, executed the foregoing instrument on behalf of the company.

In witness hereof, I hereunto set my hand and official seal.

(Notarial Seal)

\_\_\_\_\_  
NOTARY PUBLIC

4705102010

Witness:

\_\_\_\_\_

Sublessee:

CNX GAS COMPANY LLC

By: \_\_\_\_\_

Name: \_\_\_\_\_

Its: \_\_\_\_\_

[Sublessee]

COMMONWEALTH OF PENNSYLVANIA  
COUNTY OF WASHINGTON

The foregoing instrument was acknowledged before me on the \_\_\_\_ day of \_\_\_\_\_, 2017 by \_\_\_\_\_ who acknowledged himself/herself to be the \_\_\_\_\_ of CNX Gas Company LLC, a Virginia limited liability company, and that he/she as such, being authorized to do so, executed the foregoing instrument on behalf of the company.

In witness hereof, I hereunto set my hand and official seal.  
(Notarial Seal)

\_\_\_\_\_  
NOTARY PUBLIC

Prepared by/Return to: CNX Gas Company LLC, 1000 CONSOL Energy Drive, Canonsburg, PA 15317

WV Department of  
Environmental Protection

FEB 15 2018

RECEIVED  
Office of Oil and Gas

4705102010

**AMENDMENT AND RATIFICATION OF  
OIL AND GAS LEASE**

**THIS AMENDMENT AND RATIFICATION OF OIL AND GAS LEASE (“Lease Modification”) made the 2nd day of December, 2017, by and between Robert R. Riggle and Donna S. Riggle, his wife, with an address at 1702 Dry Ridge Road, Cameron, WV 26033 (“Lessor”), and COLUMBIA ENERGY VENTURES, LLC, a Delaware limited liability company, (f/k/a NiSource Energy Ventures, LLC), with an address of 1700 MacCorkle Avenue SE, Post Office Box 1273, Charleston, West Virginia 25325-1273 (“CEVCO”), COLUMBIA GAS TRANSMISSION, LLC, a Delaware limited liability company, with an address of 1700 MacCorkle Avenue SE, Post Office Box 1273, Charleston, West Virginia 25325-1273, as owner of the storage rights under the Lease (as defined below) (“Columbia”, together with CEVCO, collectively “Lessee”) and CNX GAS COMPANY LLC, a Virginia limited liability company, with an address of 1000 CONSOL Energy Drive, Canonsburg, Pennsylvania 15317 (“Sublessee”).**

**WHEREAS, Lessor is the owner of a certain tract or parcel of land located in Webster District, in the County of Marshall, in State of West Virginia, containing 5.935 acres, more or less, being Property Tax Parcel Identification Number 15-5-33 (“Leased Property”), which is subject to that certain oil and gas lease, dated June 5, 1961, from Ada A. Church, a widow, to The Manufacturers Light and Heat Company and recorded in the Office of the Recorder of Deeds of Marshall County, West Virginia in Deed Book 342, Page 437, including any amendments and ratifications thereto.**

**WHEREAS, Lessee owns or controls the oil and gas under the Lease, which Lease is held by production and/or storage;**

**WHEREAS, Sublessee has acquired certain oil and gas production rights under the Lease in and to depths from the base of the Queenston shale (as seen by the September 5, 2006 Schlumberger GR/LDT/CNL Platform Express electric log from Fortuna Energy, Inc.’s Starvaggi #1 well (API 037-125-22278) located in Hanover Township, Washington County, Pennsylvania, at a depth of 10,530 ft KB) to the top of the Trenton limestone (as seen by the same well, at a depth of 10,856 ft KB) (the “Utica Formation”) pursuant to that certain Oil & Gas Sublease Agreement dated December 29, 2014, as amended by that certain Oil & Gas Sublease Agreement dated April 30, 2015 (the “Sublease”), memoranda of which are recorded in the Office of the Recorder of Deeds of Greene County, Pennsylvania in Deed Book 477, Page 241 and Deed Book 480, Page 1972, respectively;**

**WHEREAS, the Leased Property, for purposes of this Lease Modification only, is limited to the Utica Formation which is hereinafter referred to as the “Leased Premises”;**

Prepared by/Return to: CNX Gas Company LLC, 1000 CONSOL Energy Drive, Canonsburg, PA 15317

WV Department of  
Environmental Protection

FEB 15 2018

Office of Oil and Gas

08/03/2018

**WHEREAS**, Lessor and Sublessee, with the consent of Lessee, desire to amend and ratify the Lease, as to the Leased Premises, in accordance with the terms and conditions herein set forth.

**NOW THEREFORE**, in consideration of the Leased Premises and the sum of Ten Dollars (\$10.00) paid to Lessor and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, and of the covenants hereinafter contained, Lessor and Sublessee (with the consent of Lessee) hereby amend and modify the Lease, as to the Leased Premises, as follows:

The Lease, as to the Leased Premises, is amended to include the following provisions:

- 1. Pooling.** Lessor grants Sublessee the right but not the obligation to pool, unitize or combine into separate drilling or production unit(s) or pool(s), the Leased Premises, or any part thereof, with other lands, leases, pool(s), unit(s) or interests, whether before or after drilling, or whether contiguous, held by Sublessee or others, when in Sublessee's judgment it is necessary or advisable to create such pools/units. Subject to any other contractual limitations, any such pool shall not exceed 1280 acres, provided however, that larger pools may be created to conform to any well spacing or unit pattern prescribed by any governmental authority or to meet industry standards. Pooling in one or more instances shall not exhaust Sublessee's pooling rights hereunder, and Sublessee shall have the recurring right but not the obligation to revise in any manner and at any time the size, shape, or conditions of operation of any pool(s)/unit(s) formed by expansion or contraction or both, including the drilling of multiple wells or legs within said pool/unit. Said pooling rights may be exercised through any type of wells or combination of any drilling or recovery techniques, whether now known or developed in the future. Sublessee may create contiguous pools/units, which pools/units utilize the same surface pads and facilities. Within a reasonable time after the creation or revision of pools/units hereunder by Sublessee, Sublessee shall file of record a written declaration describing the pool/unit or revised pool/unit and stating the effective date of creation or revision of the pool/unit.

Any operations, production, drilling, or reworking anywhere on a pool/unit that includes all or any part of the Leased Premises shall be treated for all purposes of the Lease (except for the determination of production for the calculation any royalties to be paid to Lessor and of free gas) as if said activities were conducted on or well(s) or legs were located on the Leased Premises whether or not the above activities, well(s) or legs were on the Leased Premises.

If Sublessee exercises its pooling rights, then production for calculating Lessor's royalty, including any Shut-In (as defined below) royalty under the Lease, shall be adjusted based on any method determined by Sublessee in good faith, including without limitation, utilizing the proportion that the Leased Premises acreage in the pool/unit

bears to the total acreage in the pool/unit. If any revisions occur to the pool/unit, to the extent any portion of the Leased Premises is included in or excluded from the pool/unit, the proportion of pool/unit production on which royalties are payable to Lessor shall thereafter be adjusted accordingly. Notwithstanding anything contained in the Lease to the contrary, when any portion of the Leased Premises are committed to a pool/unit, the Lease, with respect to such portion of the Leased Premises, shall be subject to the terms and conditions of the pool/unit order or declaration, including any formula prescribed therein for the allocation of production/royalty from a pool/unit.

Neither any pooling nor provisions hereof shall operate as a transfer to title of any interest in the Leased Premises.

At any time the pool is not being operated as aforesaid, the declaration of pooling may be surrendered and canceled of record. Such cancellation or surrender shall not cause a surrender or cancellation of the Lease.

2. **Royalty.** For wells drilled on the Lease after the Effective Date (as defined below), Sublessee covenants to pay Lessor, proportionate to Lessor's percentage of ownership, a royalty equal to **Eighteen percent (18%)** of the Gross Proceeds (as defined below) for oil, gas and the constituents thereof owned by Lessor and produced and sold from the Leased Premises or any unit by Sublessee, subject to adjustments due to pooling or to Shut-In (as defined below), as applicable ("**Production Royalty**"). "**Gross Proceeds**" shall mean the actual average gross price received by Sublessee for gas and the constituents thereof owned by Lessor and produced and sold from either the Leased Premises or the Leased Premises and lands that are pooled/unitized therewith ("**Sales Price**") without deduction, directly or indirectly, for the cost of producing, gathering, storing, separating, treating, dehydrating, compressing, processing, transporting, and marketing the oil, gas, and other products produced hereunder to transform the product into marketable form. At Sublessee's election (without any input from Lessee), the volumes, and/or Sales Price may be determined on an allocated well, ~~field-wide~~ or unit-wide basis, ~~or other reasonable and prudent determination by Sublessee~~ (without any input from Lessee) of the volume and value of the gas and its constituents produced and sold from the Leased Premises or lands pooled/unitized therewith. No Production Royalty will be paid on used, lost or unaccounted for leased minerals or on the value or volume of natural gas liquids or other byproducts or constituents contained in the leased minerals. Sublessee covenants to pay the Production Royalty monthly to Lessor no later than the last day of the third (3<sup>rd</sup>) calendar month following the calendar month in which production occurred; provided, however, that Sublessee, at its discretion, may withhold any payments until the total due Lessor equals or exceeds One Hundred Dollars (\$100.00). All payments shall be deemed to be made when sent by first class mail, postage pre-paid.

RRR 12-21  
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3. **Shut-In.** For wells drilled on the Lease after the Effective Date (as defined below), Sublessee shall have the right to elect at any time, and from time to time to interrupt or not to market, produce or sell the production from any well that is capable of producing the leased minerals in commercial quantities on the Leased Premises or lands pooled/unitized therewith ("**Shut-In**"); provided that the determinations, timing and procedures for any such shut-in shall comply with the laws of the state in which the Leased Premises are located. A well shall be considered to be Shut-In whenever the valves are closed and production at a well capable of producing in commercial quantities is temporarily halted to repair or clean the well, to allow reservoir pressure to build, or for lack of market. Sublessee shall be under no obligation whatsoever to produce or market any leased minerals from any such Shut-In well and Sublessee shall pay a Shut-In royalty as a substitute for the Production Royalty. If a Shut-In occurs, any Shut-In well shall nonetheless be deemed to be a commercially producing well and shall serve to maintain the Lease in full force and effect. During Shut-In, Sublessee shall have the right to rework, stimulate, or deepen any well on the Leased Premises or any lands pooled/unitized therewith or to drill a new well on the Leased Premises or any lands pooled/unitized therewith in an effort to re-establish production, whether from an original producing formation or from a different formation. If the production from the only producing well on the Leased Premises or any lands pooled/unitized therewith is interrupted for a period of less than ninety (90) consecutive days, the Lease shall remain in full force and effect without payment of Production Royalty or Shut-In royalty. If a well is Shut-In for a period of ninety (90) consecutive days or longer, and there is no other producing well on the Leased Premises or any lands pooled/unitized therewith and no Force Majeure (as defined below) exists, a Shut-In royalty shall thereafter accrue at the rate of Five Dollars (\$5.00) per net acre per year for an oil or gas well. Shut-In royalties shall be payable twelve (12) months following the time such well is Shut-In and annually thereafter until such time as production is re-established (or Sublessee surrenders the Lease), subject to proration for any partial year that a well resumes actual production. The word "well" as used in this Paragraph expressly excludes storage wells.
4. **Force Majeure.** If any activity or operation permitted or required hereunder, or the performance by Sublessee of any covenant, agreement or requirement, is delayed or interrupted, directly or indirectly, by reason of a Force Majeure, the Lease shall not terminate because of such interruption or delay, and at Sublessee's option, the period of such interruption or delay shall be added to the term hereof; and the Lease shall automatically be extended during such period of Force Majeure. Sublessee shall not be liable to Lessor for failure to perform any operations, or failure to produce any leased minerals, or failure to perform any other covenant, agreement or requirement of the Lease, whether express or implied, during such period of Force Majeure. Sublessee shall be relieved from all obligations under the Lease during the continuance of such Force Majeure, except for the obligation to pay Production Royalties due for leased minerals owned by Lessor and produced and sold prior to the commencement of such Force Majeure. "**Force Majeure**" means any one or more of the following: any past or

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future law, act, order, rules, regulation or requirement of the Government of the United States or any state or other governmental body, or any agency, officer, representative or authority of any of them, or because of delay or inability to get access or easement, or war, sabotage, rebellion, insurrection, riot, armed hostilities, failure of purchasers or carriers to take or transport such production, inability to obtain necessary permits, authorizations, services, water, electricity, fuel, governmental moratoriums, or adverse weather conditions, or delays or interruptions due to any coal, stone, or other mining or drilling or related activities, or inability to obtain a satisfactory market for production, or drilling operations or production is interrupted by civil action initiated by any interested party, whether arising from the Lease, this Lease Modification or otherwise with respect to the Leased Premises, act of God, labor disturbance, strike, civil disturbance, shortage of equipment or materials, fire, explosion, or flood, or any other event beyond the control of Sublessee, including interruptions caused by the acts of third parties over whom Sublessee has no control or regulatory delays associated with any approval process required for conducting operations.

5. **Sublease.** Lessee is consenting to the modifications to the Lease contained herein and agrees that Sublessee's rights and obligations with respect to the Lease and Lessor (as described in the Sublease), are subject to the modifications contained herein and such modifications shall be binding on any successors or assigns of the parties hereto of either the Lease or the Sublease. Lessor acknowledges the existence of the Sublease and agrees that Sublessee (and its successors and assigns) shall have privity of contract with Lessor (and its successors and assigns) with respect to the terms of this Lease Modification and the terms of the Lease that are amended by this Lease Modification and Sublessee shall have the right to enforce the terms of this Lease Modification and the terms of the Lease that are amended by this Lease Modification directly against Lessor (and its successors and assigns).
6. **Lessee Disclaimer.** Lessee joins in this Lease Modification for the purpose of consenting to an agreement reached between Lessor and Sublessee related to the Lease. Lessee has not made any independent determination of whether the Lessor parties to this Lease Modification are, in fact, the parties vested with the interests claimed or the parties entitled to any payments hereunder. Lessee's consent by executing this Lease Modification shall not be used as proof of knowledge of Lessee of vesting, ownership, entitlement, etc. as to the Lessor named herein. Lessor agrees, as evidenced by its/their signatures hereon, that this Lease Modification is enforceable against Lessor and does modify the Lease, however Lessor will look solely to Sublessee for payments, obligations and/or any covenants under this Lease Modification, and further agrees that it/they will have no claim against Lessee for any cause of action, whether in law or in equity, arising hereunder.
7. **Ratification.** Except as otherwise expressly amended by this Lease Modification, Lessor acknowledges and agrees that the Lease and all terms and provisions therein are

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in full force and effect and the Lease, as amended hereby, is ratified, approved and confirmed in all respects, including but not limited to all actions and payments made by Sublessee.

8. **Successors and Assigns.** The terms, conditions, limitations and covenants of the Lease and this Lease Modification shall be binding upon, and shall inure to the benefit of, the parties hereto and their respective heirs, personal representatives, sublessees, successors and assigns.
9. **Severability.** In the event any term or provision of this Lease Modification shall be declared invalid, void or unenforceable it shall not affect the validity of any other term or provision hereof, all of which shall remain valid, binding and enforceable.
10. **Amendments.** No amendment or waiver of any provisions of this Lease Modification shall be effective unless in writing and signed by the parties hereto.
11. **Entire Agreement.** This Lease Modification contains the entire agreement of the parties with respect to the matters contained herein and all prior agreements and understandings of any kind or nature, relative to this Lease Modification, are hereby superseded.
12. **Recitals.** The recitals to this Lease Modification are incorporated herein and, by this reference, made a substantive part hereof.
13. **Effective Date.** Notwithstanding anything to the contrary herein contained it is agreed that the effective date of this Lease Modification shall be December 2, 2017 ("**Effective Date**").
14. **Counterparts.** This Lease and any documents associated herewith may be executed by the Parties in any number of counterparts, each having the same validity and all of which shall constitute but one and the same such instrument.

See addendum attached hereto and made a part hereof

(Signature and Acknowledgment pages to follow)



4705102010

Witness the following signatures and seals the day and year first above written

Witness:

Lessor:

\_\_\_\_\_  
  
\_\_\_\_\_

Robert R. Riggle  
Name: Robert R. Riggle

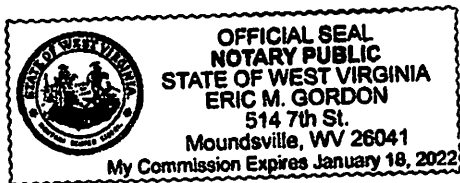
Donna S. Riggle  
Name: Donna S. Riggle

**ACKNOWLEDGMENT**

**[Individual Lessor]**  
STATE OF WEST VIRGINIA  
COUNTY OF MARSHALL

The foregoing instrument was acknowledged before me on the 2nd day of December, 2017 by **Robert R. Riggle and Donna S. Riggle**, whose names are signed hereto, in my said State.

In witness hereof, I hereunto set my hand and official seal.  
(Notarial Seal)



Eric M. Gordon  
NOTARY PUBLIC  
My commission expires Jan 18, 2022

4705102010

Witness:

\_\_\_\_\_

Lessee:

**COLUMBIA ENERGY VENTURES, LLC**

By: \_\_\_\_\_

Name: \_\_\_\_\_

Its: \_\_\_\_\_

**ACKNOWLEDGMENT**

**[Lessee]**

STATE/Commonwealth of \_\_\_\_\_

COUNTY OF \_\_\_\_\_

The foregoing instrument was acknowledged before me on the \_\_\_\_ day of \_\_\_\_\_, 2017 by \_\_\_\_\_ who acknowledged himself/herself to be the \_\_\_\_\_ of Columbia Energy Ventures, LLC, a Delaware limited liability company, and that he/she as such, being authorized to do so, executed the foregoing instrument on behalf of the company.

In witness hereof, I hereunto set my hand and official seal.

(Notarial Seal)

\_\_\_\_\_  
NOTARY PUBLIC

4705102010

Witness:

\_\_\_\_\_

Lessee:

COLUMBIA GAS TRANSMISSION, LLC

By: \_\_\_\_\_

Name: \_\_\_\_\_

Its: \_\_\_\_\_

[Lessee]

STATE/Commonwealth of \_\_\_\_\_

County of \_\_\_\_\_

The foregoing instrument was acknowledged before me on the \_\_\_ day of \_\_\_\_\_, 2017 by \_\_\_\_\_ who acknowledged himself/herself to be the \_\_\_\_\_ of Columbia Gas Transmission, LLC, a Delaware limited liability company, and that he/she as such, being authorized to do so, executed the foregoing instrument on behalf of the company.

In witness hereof, I hereunto set my hand and official seal.

(Notarial Seal)

\_\_\_\_\_  
NOTARY PUBLIC

4705102010

Witness:

\_\_\_\_\_

Sublessee:

CNX GAS COMPANY LLC

By: \_\_\_\_\_

Name: \_\_\_\_\_

Its: \_\_\_\_\_

**[Sublessee]**  
COMMONWEALTH OF PENNSYLVANIA  
COUNTY OF WASHINGTON

The foregoing instrument was acknowledged before me on the \_\_\_ day of \_\_\_\_\_, 2017 by \_\_\_\_\_ who acknowledged himself/herself to be the \_\_\_\_\_ of CNX Gas Company LLC, a Virginia limited liability company, and that he/she as such, being authorized to do so, executed the foregoing instrument on behalf of the company.

In witness hereof, I hereunto set my hand and official seal.  
(Notarial Seal)

\_\_\_\_\_  
NOTARY PUBLIC

**ADDENDUM**

Attached to and made a part of that certain Amendment and Ratification of Oil and Gas Lease dated December 2, 2017, by and between **Robert R. Riggle and Donna S. Riggle, his wife**, whose address is 1702 Dry Ridge Road, Cameron, WV 26033 ("**Lessor**"), and **COLUMBIA ENERGY VENTURES, LLC**, a Delaware limited liability company, (f/k/a NiSource Energy Ventures, LLC), with an address of 1700 MacCorkle Avenue SE, Post Office Box 1273, Charleston, West Virginia 25325-1273 ("**CEVCO**"), **COLUMBIA GAS TRANSMISSION, LLC**, a Delaware limited liability company, with an address of 1700 MacCorkle Avenue SE, Post Office Box 1273, Charleston, West Virginia 25325-1273, as owner of the storage rights under the Lease (as defined below) ("**Columbia**"), together with CEVCO, collectively ("**Lessee**") and **CNX GAS COMPANY LLC**, a Virginia limited liability company, with an address of 1000 CONSOL Energy Drive, Canonsburg, Pennsylvania 15317.

NOW THEREFORE, in addition to provisions previously set forth in the attached Amendment and Ratification of Oil and Gas Lease to which this Addendum is attached, it is hereby further agreed that:

**No Use of Surface Water:** Sublessee shall not use water from Lessor's wells, ponds, lakes, or reservoirs located upon the Leased Premises, and there shall be no discharge of any water onto Lessor's property without the written consent of Lessor.

**Gas Storage:** Notwithstanding anything to the contrary contained in the Lease, Sublessee is not granted any right whatsoever to use the leasehold, or any portion thereof, for gas storage purposes. If Lessor wishes to enter into an agreement regarding gas storage using the leased premises with a third party, Lessor shall first give Sublessee written notice of the identity of the third party, the price or the consideration for which the third party is prepared to offer, the effective date and closing date of the transaction and any other information respecting the transaction which Sublessee believes would be material to the exercise of the offering. Lessor does hereby grant Sublessee the first option and right to purchase the gas storage rights by matching and tendering to the Lessor any third party's offering. Nothing in the paragraph requires Lessor to give or sell such storage rights.

**Warranty of Title:** It is understood that Lessor warrants title to said property only in respects that the title is good to the best of Lessor's knowledge and Sublessee agrees that no claims will be made against Lessor pertaining to warranty of title.

**Disposal Wells:** Notwithstanding anything to the contrary contained in the lease, Sublessee is not granted any right whatsoever to use the leasehold, or any portion thereof, for construction and/or operation of any disposal well or water disposal facilities.

**Surface Use:** Sublessee agrees that, without a separate agreement, Sublessee shall not have the right to use in any manner the surface of Lessor's property including but not limited to the

right to drill wells, construct pipelines, and/or install any other facilities including the construction of sledge and/or water ponds, and access roads on the surface of the Leased Premises.

**Ad Valorem Tax:** Sublessee agrees to pay 84% of any increase in ad valorem taxes attributable to, or resulting from, the assessment of oil and gas due to production from the leased premises.

**Depth Restriction (Utica):** The Leased Premises shall now include those strata and formations lying two hundred (200) feet above to two hundred (200) feet below the formation commonly known as the Utica-Point Pleasant formation, or the stratigraphic equivalent thereof. Lessee shall have the right to drill through any other formation to access the leased formations herein.

This Addendum shall not affect the terms and conditions set out in the Amendment and Ratification of Oil and Gas lease to which this instrument is attached except as specifically set forth herein.

(signature and acknowledgement pages follow)

4705102010

Witness the following signatures and seals the day and year first above written

Witness:

Lessor:

\_\_\_\_\_

Robert R. Riggle  
Name: Robert R. Riggle

\_\_\_\_\_

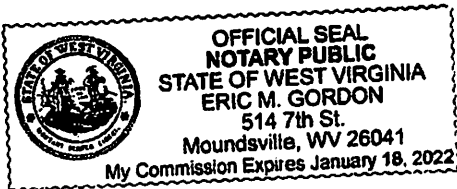
Donna S. Riggle  
Name: Donna S. Riggle

**ACKNOWLEDGMENT**

**[Individual Lessor]**  
STATE OF WEST VIRGINIA  
COUNTY OF MARSHALL

The foregoing instrument was acknowledged before me on the 15<sup>th</sup> day of January, 2018  
by **Robert R. Riggle and Donna S. Riggle**, whose names are signed hereto, in my said State.  
In witness hereof, I hereunto set my hand and official seal.  
(Notarial Seal)

[Signature]  
NOTARY PUBLIC  
My commission expires Jan 18, 2022



4705102010

Witness:

\_\_\_\_\_

Lessee:

**COLUMBIA ENERGY VENTURES, LLC**

By: \_\_\_\_\_

Name: \_\_\_\_\_

Its: \_\_\_\_\_

**ACKNOWLEDGMENT**

**[Lessee]**

STATE/Commonwealth of \_\_\_\_\_

County of \_\_\_\_\_

The foregoing instrument was acknowledged before me on the \_\_\_\_ day of \_\_\_\_\_, 2017 by \_\_\_\_\_ who acknowledged himself/herself to be the \_\_\_\_\_ of **Columbia Energy Ventures, LLC**, a Delaware limited liability company, and that he/she as such, being authorized to do so, executed the foregoing instrument on behalf of the company.

In witness hereof, I hereunto set my hand and official seal.

(Notarial Seal)

\_\_\_\_\_  
NOTARY PUBLIC



4705102010

Witness:

\_\_\_\_\_

Lessee:

**COLUMBIA GAS TRANSMISSION, LLC**

By: \_\_\_\_\_

Name: \_\_\_\_\_

Its: \_\_\_\_\_

**[Lessee]**

STATE/Commonwealth of \_\_\_\_\_

County of \_\_\_\_\_

The foregoing instrument was acknowledged before me on the \_\_\_\_ day of \_\_\_\_\_, 2017 by \_\_\_\_\_ who acknowledged himself/herself to be the \_\_\_\_\_ of **Columbia Gas Transmission, LLC**, a Delaware limited liability company, and that he/she as such, being authorized to do so, executed the foregoing instrument on behalf of the company.

In witness hereof, I hereunto set my hand and official seal.

(Notarial Seal)

\_\_\_\_\_  
NOTARY PUBLIC

4705102010

Witness:

\_\_\_\_\_

Sublessee:

CNX GAS COMPANY LLC

By: \_\_\_\_\_

Name: \_\_\_\_\_

Its: \_\_\_\_\_

[Sublessee]

COMMONWEALTH OF PENNSYLVANIA

COUNTY OF WASHINGTON

The foregoing instrument was acknowledged before me on the \_\_\_\_ day of \_\_\_\_\_, 2017 by \_\_\_\_\_ who acknowledged himself/herself to be the \_\_\_\_\_ of CNX Gas Company LLC, a Virginia limited liability company, and that he/she as such, being authorized to do so, executed the foregoing instrument on behalf of the company.

In witness hereof, I hereunto set my hand and official seal.

(Notarial Seal)

\_\_\_\_\_  
NOTARY PUBLIC

7728339.1

Prepared by/Return to: CNX Gas Company LLC, 1000 CONSOL Energy Drive, Canonsburg, PA 15317

**MEMORANDUM OF LEASE**  
**(West Virginia - Utica formation)**

THIS MEMORANDUM OF LEASE (this "Memorandum") is made and entered into effective as of the 30th day of November, 2017 (the "Effective Date"), by and between Michael S. Riggle with an address at 3648 Dry Ridge Road, Cameron, West Virginia 26033 ("Lessor"), and CNX Gas Company LLC, a Virginia limited liability company, with an address at 1000 CONSOL Energy Drive, Canonsburg, Pennsylvania 15317-6506 ("Lessee") (each a "Party," and together the "Parties").

WHEREAS, Lessor and Lessee have entered into a certain Oil and Gas Lease further described below (the "Lease") whereby Lessor has leased to Lessee certain oil and gas estates, interests and appurtenant rights more particularly described below and in the Lease; and

WHEREAS, in lieu of recording said Lease, Lessor and Lessee have executed, acknowledged and delivered this Memorandum of Lease pursuant to West Virginia Code Section 40-1-8.

NOW, THEREFORE, Lessor and Lessee, intending to be legally bound, hereby publish and give notice of the tenancy created and certain of the rights granted by and obligations under the Lease, as follows:

**2. NAME AND ADDRESS OF LESSOR:**

Michael S. Riggle  
 3648 Dry Ridge Road  
 Cameron, West Virginia 26033

**2. NAME AND ADDRESS OF LESSEE:**

CNX Gas Company LLC  
 1000 CONSOL Energy Drive  
 Canonsburg, PA 15317

**3. DATE OF LEASE EXECUTION/EFFECTIVE DATE:**

Date of execution of Lease: 11/30/17  
 Effective Date of Lease: 11/30/17

**4. DESCRIPTION OF SUBJECT PREMISES:**

Lessor hereby grants and leases exclusively to Lessee, its successors and assigns, all the oil, gas, and their liquid and/or gaseous constituents, whether hydrocarbon or non-hydrocarbon and all other substances produced therewith (collectively, whether any of the foregoing, the "Leased Oil/Gas") from all subsurface strata, formations, voids, and zones underlying the Leased Premises (as defined in Section 2 of this Lease) from 200' above the top of the Utica formation to 200' below the bottom of the Utica formation, together with a non-exclusive subsurface easement through any and all formations for the purpose of accessing, exploring, developing, and producing the Leased Oil/Gas. Lessor hereby grants and leases exclusively to Lessee all rights necessary, convenient, or incident to explore, drill, develop, produce, treat, transport and market the Leased Oil/Gas and otherwise operate on and about the Leased Premises and any lands pooled or unitized therewith (being a Unit as defined and discussed in Section 7 of this Lease) using all available methods and techniques under current and future technology, including, without limitation, the following rights: to have full and free access over and through the Leased Premises; to conduct geological, geophysical, core drilling and other exploratory work; to drill, re-drill, lengthen, re-work, stimulate, fracture, plug, re-perforate and/or abandon vertical or horizontal wells, and to inject under pressure water, air, brine and other fluids and substances (including, without limitation, non-domestic water from the Leased Premises, free of cost) into subsurface strata and/or withdraw the same therefrom; to erect and operate drill sites and drilling rigs and related facilities to treat,

separate, compress, dehydrate, process, gather, and measure and shut-in Leased Oil/Gas, together with all other equipment, structures and facilities that Lessee deems desirable for use in its operations; to construct, use and operate roads, utility lines, canals, impoundments and pits; to install and operate pipelines, tanks, pumps, compressors, condensers and other equipment and facilities for use in transporting Leased Oil/Gas from the Leased Premises and from other lands, over and through the Leased Premises (all of the foregoing activities are collectively referred to herein as "**Operations**"); and to have and enjoy all rights and privileges reasonably necessary or appropriate to effectuate the purposes of this Lease.

The premises being leased hereunder is located in Webster District, in the County of Marshall, in the State of West Virginia, Property Tax Parcel Identification No. 15-0011-0019-0000, and is bounded formerly or currently as follow:

On the North by lands of Tim M. Turley et al.;  
 On the East by lands of GAHC LP;  
 On the South by lands of CONSOL Pennsylvania Coal Co;  
 On the West by lands of Michael S. Riggle;

including lands acquired by Michael S. Riggle from Ralph Curtis Riggle by instrument dated June 28, 2013 and recorded in Book 800, Page 423, containing approximately 133.61 acres, for all purposes of this Lease whether actually more or less and whether the tax map is correct, including small strips or parcels of contiguous land covered under Lessor's source of title (collectively, the "**Leased Premises**").

5. **TERM OF LEASE:**

**A. Primary Term.** This Lease shall remain in force for a term of five (5) years following the Effective Date (the "**Primary Term**").

**B. Secondary Term.** This Lease shall remain in full force and continue following the Primary Term as to the entirety of the Leased Premises for so long thereafter as any of the following circumstances exist (such period, the "**Secondary Term**"): (i) Lessee is conducting any Operations on the Leased Premises or any lands pooled or unitized therewith (being a Unit as defined and discussed in **Section 7** of this Lease); (ii) any of the Leased Oil/Gas are being produced from the Leased Premises or any lands pooled or unitized therewith (being a Unit); (iii) any well on the Leased Premises or on any lands pooled or unitized therewith (being a Unit) is Shut-In (as defined and discussed in **Section 4(C)** of this Lease); or (iv) this Lease is otherwise extended by Force Majeure (as defined and discussed in **Section 10(A)** of this Lease), Equitable Tolling (as defined and discussed in **Section 10(B)** of this Lease), or other terms hereof. The Primary Term (as it may be extended hereunder) and the Secondary Term are collectively referred to herein as the "**Term**."

6. **RENEWAL OR EXTENSION RIGHTS:**

Lessee shall have the recurring option to extend the Primary Term for Five (5) additional one (1) year periods (the "**Extension Option**").

7. **RIGHT OF PURCHASE, RIGHT OF FIRST REFUSAL AND/OR OPTIONS:**

In the event that Lessor receives from any third party any bona fide offer to grant an additional oil and/or gas lease covering all or part of the Leased Premises within the Term, Lessor shall provide Lessee with a written notice of such offer by certified mail, including the proposed lessee's name, bonus consideration and royalty consideration, and a true, correct and complete copy of the proposed lease. Lessee shall have ninety (90) days following receipt of such written notice to elect to exercise a right of first refusal, in Lessee's sole and absolute discretion, to enter into an oil and gas lease with Lessor on the same terms and conditions as set forth in the proposed lease. Should Lessee so elect, Lessee shall notify Lessor in writing within such sixty (60) day period and submit therewith a lease with Lessee containing the same terms and conditions and, if so desired by Lessee, a memorandum of such lease for recordation. Within ten (10) days after receipt of such signed lease and memorandum of lease (if any) back from Lessor, Lessor

shall counter-sign and return such lease and memorandum of lease (if any) to Lessee together with the bonus payment required under such lease. No single exercise of the foregoing right of first refusal shall exhaust any rights granted hereunder to subsequent offers covering all or any part of the Leased Premises. Any additional lease granted to any third party by Lessor in violation of the provisions of this Section 14 shall be null and void. The provisions of this Section 14 shall not be deemed to waive, nullify or otherwise affect Lessee's right to extend the Primary Term pursuant to Section 3(A) of this Lease.]

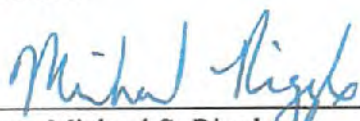
8. **EXECUTION:**

This Memorandum may be executed in any number of counterparts, each having the same validity and all of which shall constitute but one and the same instrument.

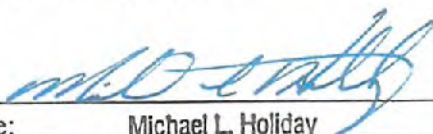
**THIS MEMORANDUM IS NOT A COMPLETE SUMMARY OF THE LEASE. IN THE EVENT OF A CONFLICT BETWEEN THE TERMS OF THIS MEMORANDUM AND THOSE OF THE LEASE, THE TERMS OF THE LEASE SHALL CONTROL.**

IN WITNESS WHEREOF, Lessor and Lessee, intending to be legally bound, have executed this Memorandum effective as of the Effective Date (whether executed by either Party on, before or after the Effective Date).

**LESSOR:**

  
Name: Michael S. Riggle  
Date: 11-30-17

**LESSEE:**

CNX Gas Company LLC  
By:   
Name: Michael L. Holiday  
Title: Assistant Vice President  
Date: 1-5-18



08/03/2018

4705102010

ACKNOWLEDGMENTS

STATE OF West Virginia  
COUNTY OF Marshall

The foregoing instrument was acknowledged before me on the 30 day of Nov, 20 17  
by Michael S. Riggle, whose name(s) is signed hereto, in my said State.  
In witness hereof, I hereunto set my hand and official seal.  
(Notarial Seal)

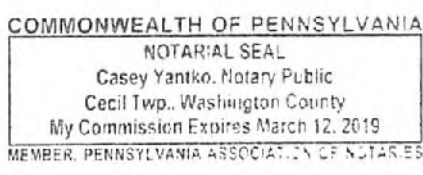
Kathryn S. Evans  
NOTARY PUBLIC  
My commission expires 4-24-21



COMMONWEALTH OF PENNSYLVANIA  
COUNTY OF WASHINGTON

The foregoing instrument was acknowledged before me on the 5<sup>th</sup> day of January,  
20 18 by Michael L. Holiday, who acknowledged himself to be  
the Assistant Vice President of CNX Gas Company LLC, a  
Virginia limited liability company, and that he/she as such, being authorized to do so, executed  
the foregoing instrument.  
In witness hereof, I hereunto set my hand and official seal.  
(Notarial Seal)

Casey Yantko  
NOTARY PUBLIC  
My commission expires 3-12-2019



08/03/2018

4705102010

OIL AND GAS LEASE  
(WEST VIRGINIA)

Lease No. 9273

**THIS OIL AND GAS LEASE** (this "**Lease**") is made and entered into effective as of the **30th** day of **November, 2017** (the "**Effective Date**"), by and between **Michael S. Riggle** with an address at 3648 Dry Ridge Road, Cameron, West Virginia 26033 ("**Lessor**"), and **CNX Gas Company LLC**, a Virginia limited liability company, with an address at 1000 CONSOL Energy Drive, Canonsburg, Pennsylvania 15317-6506 ("**Lessee**") (each a "**Party**," and together the "**Parties**").

In consideration of the mutual covenants and agreements contained herein and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged by Lessor, the Parties agree as follows:

1. **LEASE GRANT.** Lessor hereby grants and leases exclusively to Lessee, its successors and assigns, all the oil, gas, and their liquid and/or gaseous constituents, whether hydrocarbon or non-hydrocarbon and all other substances produced therewith (collectively, whether any of the foregoing, the "**Leased Oil/Gas**") from all subsurface strata, formations, voids, and zones underlying the Leased Premises (as defined in **Section 2** of this Lease) from **200' above the top of the Utica formation to 200' below the bottom of the Utica formation**, together with a non-exclusive subsurface easement through any and all formations for the purpose of accessing, exploring, developing, and producing the Leased Oil/Gas. Lessor hereby grants and leases exclusively to Lessee all rights necessary, convenient, or incident to explore, drill, develop, produce, treat, transport and market Leased Oil/Gas and otherwise operate on and about the Leased Premises and any lands pooled or unitized therewith (being a Unit as defined and discussed in **Section 7** of this Lease) using all available methods and techniques under current and future technology, including, without limitation, the following rights: to have full and free access over and through the Leased Premises; to conduct geological, geophysical, core drilling and other exploratory work; to drill, re-drill, lengthen, re-work, stimulate, fracture, plug, remove and/or abandon vertical or horizontal wells, and to inject under pressure water, air, brine and other fluids and substances (~~including, without limitation, non-domestic water from the Leased Premises, free of cost~~) into subsurface strata and/or withdraw the same therefrom; to erect and operate drill sites and drilling rigs and related facilities to treat, separate, compress, dehydrate, process, gather, and measure and shut-in Leased Oil/Gas, together with all other equipment, structures and facilities that Lessee deems desirable for use in its operations; to construct, use and operate roads, utility lines, canals, impoundments and pits; to install and operate pipelines, tanks, pumps, compressors, condensers and other equipment and facilities for use in transporting Leased Oil/Gas from the Leased Premises and from other lands, over and through the Leased Premises (all of the foregoing activities are collectively referred to herein as "**Operations**"); and to have and enjoy all rights and privileges reasonably necessary or appropriate to effectuate the purposes of this Lease.

2. **LEASED PREMISES.** The premises being leased hereunder is located in Webster District, in the County of Marshall, in the State of West Virginia, Property Tax Parcel Identification No. 15-0011-0019-0000, and is bounded formerly or currently as follow:

On the North by lands of Tim M. Turley et al.;

On the East by lands of GAHC LP;

On the South by lands of CONSOL Pennsylvania Coal Co.;

On the West by lands of Michael S. Riggle;

08/03/2018

including lands acquired by Michael S. Riggle from Ralph Curtis Riggle by instrument dated June 28, 2013 and recorded in Book 800, Page 423, containing approximately 133.61 acres, for all purposes of this Lease whether actually more or less and whether the tax map is correct, including small strips or parcels of contiguous land covered under Lessor's source of title (collectively, the "Leased Premises").

### 3. LEASE TERM.

**A. Primary Term.** This Lease shall remain in force for a term of Five (5) years following the Effective Date (the "Primary Term"). Lessee shall have the recurring option to extend the Primary Term for Five (5) additional one (1) year periods (the "Extension Option") by paying to Lessor an annual installment payment equal to One Thousand Fifty Dollars (\$1050) per net acre ~~specified in the Order of Payment (as defined and discussed in Section 4(A) of this Lease)~~ for each net acre of the Leased Premises then covered by this Lease and not being maintained by other Lease provisions, the first of which installments shall be due on or before the expiration of the Primary Term and the balance of which installments shall be due on subsequent anniversaries thereof (subject to Lessee's right to elect not to exercise the Extension Option for any such period). If so extended through Lessee's exercise of the Extension Option, all references herein to the Primary Term shall mean the Primary Term as so extended.

**B. Secondary Term.** This Lease shall remain in full force and continue following the Primary Term as to the entirety of the Leased Premises for so long thereafter as any of the following circumstances exist (such period, the "Secondary Term"): (i) Lessee is conducting any Operations on the Leased Premises or any lands pooled or unitized therewith (being a Unit as defined and discussed in Section 7 of this Lease); (ii) any of the Leased Oil/Gas are being produced from the Leased Premises or any lands pooled or unitized therewith (being a Unit); (iii) any well on the Leased Premises or on any lands pooled or unitized therewith (being a Unit) is Shut-In (as defined and discussed in Section 4(C) of this Lease); or (iv) this Lease is otherwise extended by Force Majeure (as defined and discussed in Section 10(A) of this Lease), Equitable Tolling (as defined and discussed in Section 10(B) of this Lease), or other terms hereof. The Primary Term (as it may be extended hereunder) and the Secondary Term are collectively referred to herein as the "Term."

**C. Dry Hole and Cessation of Production.** At any time during the Term, if on the Leased Premises or any Unit: (i) prior to discovery of Leased Oil/Gas, a well or wells not capable of producing in paying quantities is drilled (a "Dry Hole"), or (ii) all production of the Leased Oil/Gas (whether or not in paying quantities) ceases for any cause or reason whatsoever ("Cessation of Production"), then this Lease shall remain in force and shall not terminate if Lessee either commences and pursues any Operations, or otherwise obtains or restores production on the Leased Premises or on any Unit within ninety (90) days after completion of Operations on such Dry Hole or after such Cessation of Production, as the case may be, whether or not such ninety (90) days extends beyond the Primary Term; **provided, however,** that notwithstanding the foregoing, if the Dry Hole or Cessation of Production occurs within the Primary Term, no action, Operations, production or any payment by Lessee whatsoever shall be required during the Primary Term.

**D. Disputes Concerning Extension.** If there is ever any dispute concerning the extension of this Lease beyond the Primary Term by reason of any of the alternative circumstances specified herein, the timely payment to Lessor of prescribed payments provided for herein shall be conclusive evidence that this Lease has been extended beyond the Primary Term.

### 4. PAYMENTS TO LESSOR.

**A. Bonus Payment.** Lessee agrees to pay Lessor, in accordance with and subject to the terms and conditions of that certain Master Agreement between the Parties executed in connection with the execution of this Lease, the sum paid for the Leased Premises specified in the Master Agreement (the "Bonus Payment"). This Lease is a "paid-up" lease, and upon payment of the Bonus Payment, no further rental payments shall be due to Lessor during the initial Primary Term, and Lessee shall have the right and privilege to drill and operate or not to drill or operate for Leased Oil/Gas during the Primary Term.

**B. Production Royalty.** Lessee shall pay to Lessor the following royalties on production of Leased Oil/Gas from the Leased Premises (the "Production Royalty"), proportionate to Lessor's percentage of ownership of such Leased Oil/Gas and subject to adjustments hereunder due to the Pooling Ratio (as defined and discussed in Section 8 hereof) or Shut-In, as applicable: (i) **Oil.** Lessee shall pay Lessor a royalty equal to **eighteen percent (18%)** of the gross proceeds received by Lessee for all oil produced and marketed from the Leased Premises, minus any and all Deductions (as defined below). 08/03/2018



(ii) **Gas.** Lessee shall pay Lessor a royalty equal to **eighteen percent (18%)** of the gross proceeds received by Lessee for the sale of all gas, including casinghead gas or natural gas liquids and all other gaseous, vaporous and liquid hydrocarbons or any combination thereof, produced and marketed from the Leased Premises, minus any and all Deductions. At Lessee's election, the volumes, sales price and/or the value of any Deductions may be determined on an allocated well, ~~field-wide~~ or Unit-wide basis, ~~or other reasonable and prudent determination~~ of the volume and value of the gas and its constituents produced and sold from the Leased Premises or any Unit.

**"Deductions"** means Lessor's share of any reasonable costs incurred or allocated between the wellhead and the point of sale, including: (a) all costs actually incurred by Lessee, including, without limitation, those paid to third parties (whether or not affiliated with Lessee), and all losses of produced volumes whether by use as fuel, line loss, flaring, venting or otherwise from and after the wellhead to the point of sale by Lessee; and (b) all costs of heating, treating, sweetening, gathering, separating (other than condensate separated at the well), dehydrating, compressing, metering, processing, manufacturing, transporting and trucking (from and after the wellhead to the point of sale), marketing, and blending, and the sales charges, commissions and fees paid to third parties (whether or not affiliated with Lessee). In the event that any extraneous substance (being any substance that is obtained from sources other than the Leased Premises or lands in a Unit) is injected into subsurface strata in connection with secondary, tertiary, or other enhanced recovery operations hereunder, then any like substance thereafter produced hereunder or contained in the Leased Oil/Gas thereafter produced hereunder from such strata shall be deemed to be part of the extraneous substance so injected until the total volume thereof equals the total volume of the extraneous substance so injected, and no Production Royalty shall be payable hereunder on any such extraneous substance.

(iii) **Taxes.** Lessor agrees to pay any and all taxes levied or assessed upon its interest in the production of Leased Oil/Gas from the Leased Premises, and Lessee is hereby authorized to pay such taxes and assessments on behalf of Lessor and to deduct the amount so paid from any monies payable to Lessor hereunder.

(iv) **Payments.** Production Royalties shall be paid monthly to Lessor no later than the last day of the third calendar month following the calendar month in which production occurred; **provided, however,** that Lessee, at its discretion, may withhold any payments until the total due to Lessor equals or exceeds One Hundred Dollars (\$100).

**C. Shut-In.** If at any time during the Term, production from a well is interrupted or shall cease or Lessee shall elect not to market, produce or sell the production from a well that is capable of producing ("**Shut-In**") for a period of ninety (90) consecutive days or longer, and there is no other producing well on the Leased Premises or any Unit and no circumstances of Force Majeure or Equitable Tolling exist, a shut-in rental shall thereafter accrue at the rate of Fifty Dollars (\$50.00) per net acre per year ("**Shut-In Rental**"). Shut-In Rental need not be paid and will not accrue during the Primary Term. Shut-In Rentals shall be payable twelve (12) months following the time such well is Shut-In and annually thereafter until such time as production is re-established (or Lessee surrenders this Lease), subject to proration for any partial year that a well resumes actual production. Lessee shall have the right to elect at any time and from time to time during the Term to interrupt or not to market, produce or sell the production from any well that is capable of producing Leased Oil/Gas on the Leased Premises or any Unit. Lessee shall be under no obligation whatsoever to produce or market any Leased Oil/Gas from any such Shut-In well, and the Shut-In Rental shall be a full and adequate substitute for the Production Royalty. If a Shut-In occurs, any Shut-In well shall nonetheless be deemed to be a producing well and shall serve to maintain this Lease in full force and effect.

**D. Recoupment.** In the event that Lessee makes any over-payment of the Bonus Payment, Production Royalties, Shut-In Rental or any other sums paid to Lessor under this Lease due to miscalculation of the amount payable, to Lessor owning less than the entire undivided ownership of the Leased Oil/Gas (as further discussed in **Section 11(C)** hereof), or to breach of this Lease by Lessor, Lessee shall have the right, to recoup any such over-payment against any subsequent payments due to Lessor hereunder, which shall be Lessee's exclusive remedy for over-payment of any type.

5. **DIVISION ORDERS.** Upon request by Lessee from time to time, Lessor shall receive one (1) or more Division Orders identifying Lessor's interest in production of the Leased Oil/Gas. 08/03/2018

6. **PAYMENTS.** Lessee shall make or tender all payments due under this Lease to Lessor at Lessor's last known address. Payments may be tendered by first class mail, electronically

(subject to Lessor's delivery of appropriate electronic payment instructions) or any comparable method, and payment shall be deemed complete upon mailing, dispatch or deposit (as the case may be).

**7. POOLING/UNITIZATION RIGHT; UNIT DECLARATION.** Lessor grants to Lessee, and Lessee may exercise in Lessee's sole judgment, at any time and from time to time during the Term, Pooling Rights (as defined below) under this Lease. "**Pooling Rights**" include Lessee's right, but not the obligation, to pool, unitize or combine into one (1) or more separate drilling or production unit(s) or pool(s), plans or agreements the Leased Premises or any part thereof or any strata therein with any other lands, leases, pool(s), unit(s) or interests held by Lessee or any third party (each a "**Unit**"), whether before or after drilling, when in Lessee's sole judgment it is necessary or advisable to create such Units. Lessee is hereby designated as the applicant for drilling permits and other permits with respect to Units. Creation of a Unit in one (1) or more instances shall not exhaust Lessee's Pooling Rights, and Lessee shall have the recurring right but not the obligation to revise in any manner and at any time the size, shape, or conditions of operation of any Unit formed by expansion or contraction or both, including, without limitation, the drilling of multiple wells or laterals within said Unit. Said Pooling Rights may be exercised as to any one (1) or more depths, strata or formations, through any type of wells and any combination of any drilling or recovery techniques, whether now known or developed in the future. Lessee may create contiguous Units which utilize the same surface pads and facilities. Within a reasonable time after the creation or revision of any Unit hereunder by Lessee, Lessee shall file of record a written declaration describing the Unit or revised Unit and stating the effective date of creation or revision of the Unit (a "**Unit Declaration**"). At any time that any Unit is not being operated as aforesaid, the Unit Declaration relative to such Unit may be surrendered and canceled of record by Lessee. Such cancellation or surrender shall not cause a surrender or cancellation of this Lease. The exercising of Pooling Rights and the provisions hereof shall not operate to transfer title of any interest in the Leased Premises.

**8. EFFECT OF POOLING OPERATIONS.** Any Operations anywhere on a Unit that includes all or any part of the Leased Premises shall be treated for all purposes of this Lease (except for the determination of production for the calculation of any Production Royalties to be paid to Lessor) as if said activities were conducted on well(s) or lateral portion(s) thereof located on the Leased Premises, whether or not such activities, well(s) or laterals are on the Leased Premises. Notwithstanding anything contained in this Lease to the contrary, when any portion(s) of the Leased Premises is committed to a Unit, this Lease with respect to such portion(s) of the Leased Premises shall be subject to the terms and conditions of the Unit order or Unit Declaration, including any formula prescribed therein for the allocation of net proceeds, sales price, deductions, production and the payment of the Production Royalty or Shut-In Rental from the Unit. Notwithstanding anything herein to the contrary, if Lessee exercises its Pooling Rights, then production for calculating the Production Royalty and any Shut-In Rental shall be calculated and adjusted based on ~~any method determined by Lessee in good faith, including~~ utilizing the proportion that the net acreage of the Leased Premises contained in the Unit bears to the total acreage in the Unit (the "**Pooling Ratio**").

**9. LAWS.** Each of Lessee and Lessor shall comply in all material respects, with respect to its respective operations on and use of the Leased Premises, with all applicable federal, state and local laws and ordinances, and all rules, regulations, orders and decrees of all governmental bodies and agencies having jurisdiction over such operations (collectively, "**Laws**"). Lessee shall not be deemed to be in breach of this Lease, or held liable for damages hereunder, with respect to any failure of Lessee to comply with the provisions of this Lease if such compliance is effectively prevented by Laws.

**10. FORCE MAJEURE; EQUITABLE TOLLING.**

**A. Force Majeure.** "**Force Majeure**" means any one (1) or more of the following events or circumstances: ~~past, present or future Laws; lack of easements or access; war, sabotage, terrorism, rebellion, insurrection, riot or armed hostilities; inability to obtain permits, authorizations, utilities or other approvals or services; any coal, stone, or other mining or drilling or related activities; labor disturbance, strike, or shortage of labor, equipment, water or other materials; weather, fire, explosion, flood, or other "act of God"; lack of pipelines to transport~~ Leased Oil/Gas from the Leased Premises or any Unit; and any other event or circumstance or act of third parties beyond the reasonable control of Lessee. If any activity, production or Operations permitted or required hereunder, or the performance by Lessee of any covenant,

agreement or requirement hereunder (in each case including on, from or with respect to any lands in a Unit), or Lessee's enjoyment of the benefits of this Lease, may be interrupted or delayed, directly or indirectly, by reason of circumstances of Force Majeure, then Lessee shall be relieved from such obligations without liability during the duration of such circumstances of Force Majeure, and this Lease shall not expire, terminate or be subject to forfeiture because of such interruption or delay, and the Term shall automatically be extended during such period of Force Majeure and for a period of six (6) months following the end thereof.

**B. Equitable Tolling.** The Parties agree that it is in their mutual interest not to require Lessee to engage in Operations or production of Leased Oil/Gas during any period of time in which the validity of this Lease or Lessee's rights hereunder are challenged, contested or disputed. If any activity, production or Operations permitted or required hereunder, or the performance by Lessee of any covenant, agreement or requirement hereunder (in each case including on, from or with respect to any lands in a Unit), or Lessee's enjoyment of the benefits of this Lease, may be interrupted or delayed, directly or indirectly, by reason of acts or judicial, arbitration, administrative or regulatory proceedings of Lessor or any third party that inhibit Lessee's access to the Leased Premises or other lands in a Unit, its Operations or production, or if Lessor or any third party should file judicial or arbitration claims or counterclaims or file or record documents challenging the validity or enforceability of this Lease, seeking avoidance of or relief from Lessor's obligations hereunder, or repudiating Lessee's enjoyment of the benefits of this Lease or its entitlement to the Leased Oil/Gas under this Lease, then this Lease shall not expire, terminate or be subject to forfeiture because of such interruption or delay or because of the passage of time during which such matters are being adjudicated or addressed (regardless of whether such claims or counterclaims are subsequently settled or otherwise withdrawn) or such documents remain filed or of record, and the Term shall automatically be tolled and extended during such period (including the pendency of any such judicial, arbitration, administrative or regulatory proceeding) and for a period of six (6) months following the end thereof ("**Equitable Tolling**").

## 11. **TITLE.**

**A. Warranty.** Lessor warrants title to the Leased Premises and the Leased Oil/Gas and agrees to defend the same to Lessee and Lessee's successors and assigns, forever, against the lawful claims and demands of all persons claiming by, through, or under Lessor, but against none other. Lessor further represents and warrants that on the Effective Date, (i) the Leased Premises are free from all liens and encumbrances made by Lessor, (ii) Lessor is not currently receiving any bonus, rental, production royalty or other payment as the result of any prior oil and/or gas lease covering any or all of the Leased Premises, and (iii) there are no producing wells or gas storage facilities currently existing on the Leased Premises. Should any third party having title to the Leased Premises or any portion thereof fail to execute this Lease, this Lease shall nevertheless be binding upon all parties who do execute it as Lessor.

**B. Liens.** Lessee may, at its option, pay, discharge or redeem any overdue tax, mortgage, encumbrance, or other lien existing, levied or assessed on or against the Leased Premises or Lessor's ownership of any Leased Oil/Gas, including interest, penalties and fees, and deduct a proportionate share of the amount so paid from the Production Royalties, Shut-In Rentals, Bonus Payment or other sums due to Lessor under this Lease.

**C. Lesser Interest.** If Lessor owns less than the entire undivided ownership of the Leased Oil/Gas, then the Production Royalties, Shut-In Rentals, Bonus Payment and other sums due to Lessor under this Lease shall be reduced or adjusted to the proportion of Lessor's interest in any such Leased Oil/Gas, and any over-payments resulting therefrom shall be subject to recovery or recoupment pursuant to **Section 4(D)** hereof.

**D. Ownership Change.** Lessee shall not be bound by or recognize any change of ownership of the Leased Oil/Gas or the Leased Premises, or in the right of other parties to receive rentals, Production Royalties, Shut-In Rentals, the Bonus Payment or other payments hereunder, or of Lessor's address, until thirty (30) days after Lessee has been furnished with evidence satisfactory to Lessee, in its sole discretion, of such change of ownership or right of others to receive payments or of address. Pending the receipt of such evidence, Lessee may elect either to continue to make or to withhold payments as if such change had not occurred.

**E. Entireties.** If Lessor shall now or hereafter own the Leased Premises in severalty or in separate tracts, the Leased Premises nevertheless shall be developed and operated as one lease, and all Production Royalties, Shut-In Rentals, Bonus Payment or other sums due to Lessor under this Lease shall be treated as an entirety and shall be divided among, and paid to, such separate owners in the proportion that the acreage owned by each such separate owner bears to the entire leased acreage of the Leased Premises. 08/03/2018

12. **CURE RIGHTS.** If Lessor believes that Lessee is in default of any of its obligations under this Lease, Lessor shall not exercise any right or remedy or institute any legal action against Lessee unless and until Lessee has received prior written notice from Lessor fully describing the alleged default or other demand, and then only if Lessee fails or refuses to commence actions to materially remedy the alleged default or other demand within sixty (60) days after receipt of such notice. Lessee reserves the right to dispute the alleged default or other demand. This Lease shall be construed against termination, forfeiture, cancellation or expiration and in favor of giving effect to the continuation of this Lease where the circumstances exist to maintain this Lease in effect under any of the alternative mechanisms set forth herein. Notwithstanding any other provisions of this Lease to the contrary, ~~Lessor hereby expressly acknowledges and agrees that payments and other obligations of Lessee under this Lease are special covenants and not conditions to Lessee's occupancy and enjoyment of the Leased Premises and its rights under this Lease, and that no breach on the part of Lessee, and no failure of Lessee to cure any such breach, shall afford Lessor the right to terminate this Lease or evict Lessee from the Leased Premises or otherwise interfere with its quiet use and enjoyment of the Leased Premises, and Lessor hereby irrevocably waives such rights.~~

13. **SURRENDER.** Lessee may surrender this Lease or the Leased Premises to Lessor, in whole or in part (including, without limitation, any depth or formation), at any time and from time to time, by recording a release or an instrument of surrender or by delivery to Lessor of a duly executed surrender thereof in person or by mail. Upon such recording or delivery, this Lease shall be null and void as to that part or formation of the Leased Premises surrendered; and Lessee thereupon shall be released and discharged from all obligations, covenants and conditions as to the part of the Leased Premises surrendered; and thereafter the rentals and other sums payable hereunder shall be proportionately reduced. Notwithstanding any surrender by Lessee, Lessee shall retain and/or have reasonable and convenient easements for pipelines, pole lines, roadways and other facilities through and over the portions of the Leased Premises surrendered for the purpose of Operations and reclamation on the portions of the Leased Premises retained, and/or on other lands.

14. **RIGHT OF FIRST REFUSAL TO LEASE.** In the event that Lessor receives from any third party any bona fide offer to grant an additional oil and/or gas lease covering all or part of the Leased Premises within the Term, Lessor shall provide Lessee with a written notice of such offer by certified mail, including the proposed lessee's name, bonus consideration and royalty consideration, and a true, correct and complete copy of the proposed lease. Lessee shall have sixty (60) days following receipt of such written notice to elect to exercise a right of first refusal, in Lessee's sole and absolute discretion, to enter into an oil and gas lease with Lessor on the same terms and conditions as set forth in the proposed lease. Should Lessee so elect, Lessee shall notify Lessor in writing within such ninety (90) day period and submit therewith a lease with Lessee containing the same terms and conditions and, if so desired by Lessee, a memorandum of such lease for recordation. Within ten (10) days after receipt of such signed lease and memorandum of lease (if any) back from Lessor, Lessor shall counter-sign and return such lease and memorandum of lease (if any) to Lessee together with the bonus payment required under such lease. No single exercise of the foregoing right of first refusal shall exhaust any rights granted hereunder to subsequent offers covering all or any part of the Leased Premises. Any additional lease granted to any third party by Lessor in violation of the provisions of this Section 14 shall be null and void. The provisions of this Section 14 shall not be deemed to waive, nullify or otherwise affect Lessee's right to extend the Primary Term pursuant to Section 3(A) of this Lease.

15. **LEASE DEVELOPMENT.** There is no covenant on the part of Lessee to develop the Leased Premises within a certain period of time or at all, and there shall be no leasehold forfeiture or damages hereunder for any implied covenant to produce, **and any such covenant that might otherwise be implied is hereby disclaimed and rejected by Lessee.** The Production Royalties, Shut-In Rentals, Bonus Payment and other sums due to Lessor under this Lease are and shall be accepted by Lessor as full and adequate consideration for all of the rights and privileges granted to Lessee herein.

08/03/2018

16. **GENERAL PROVISIONS.**

A. **Construction.** This Lease shall be construed as a whole and in accordance with the fair meaning of its language. The language of this Lease (including, without limitation, Section 3

hereof) shall never be read as language of special limitation. Capitalized terms or defined terms used in this Lease shall have the meanings set forth herein except as otherwise clearly indicated.

**B. Severability.** Should any provision of this Lease be held, ruled or otherwise rendered invalid or unenforceable for any reason, the remaining Lease parts or provisions shall remain in full force and effect.

**C. Binding Effect; Assignment.** This Lease shall be binding upon and inure to the benefit of the Parties and their respective heirs, successors and assigns. This Lease may be assigned, pledged or otherwise transferred by Lessee in whole or in part, whereupon the assignee or transferee shall thereafter be solely liable for all payments and obligations imposed under this Lease or by Laws or otherwise with respect to that portion of this Lease so assigned or transferred. If any assignee or transferee of Lessee hereunder shall default in its proportional share of payments to be made or other obligations with respect to any portion of this Lease so assigned or transferred, such default shall not operate to defeat or affect the rights of Lessee with respect to any portion of this Lease retained by Lessee.

**D. Lease Execution.** This Lease shall not be considered fully executed or binding on Lessee until Lessee's authorized corporate representative has signed this Lease.

**E. Notices.** All notices and/or payments under this Lease shall be directed to each Party at its address set forth on the first page of this Lease or to such other address as such Party may designate by written notice to the other Party, and, except as herein otherwise provided, the deposit in the mail of any written notice so addressed with postage prepaid shall be notice of the contents of such writing.

**F. Entire Contract.** This Lease, the Lease Memorandum (if any) discussed in Section 16(G) hereof, and the Master Agreement contain the entire understanding and agreement between Lessor and Lessee with respect to the subject matter hereof, and no verbal warranties, representations or promises have been made or relied upon by Lessor or Lessee supplementing, modifying or as an inducement to this Lease. The Parties agree that except as expressly stated in this Lease, the Lease Memorandum (if any) and the Master Agreement, no covenants, obligations or conditions to be paid or performed on the part of Lessee whatsoever shall be read into or implied in this Lease; and Lessee shall not be in default hereunder with respect to any covenant, obligation or condition not expressly set forth in this Lease.

**G. Recording; Further Assurances.** Lessee may record this Lease or a memorandum of this Lease (a "Lease Memorandum"), and upon request, Lessor agrees to execute and deliver to Lessee, without additional compensation, any such Lease Memorandum and other affidavits, ratifications, amendments, permit applications and other instruments as may be required or reasonably requested by Lessee to carry out the purposes of this Lease.

**H. No Third Party Beneficiaries.** This Lease shall not be construed to create any rights or remedies in any third parties or the general public.

**I. Essence of Bargain.** Lessor acknowledges and agrees that the rights of Lessee under this Lease are the result of bargained-for exchange and are of the essence of Lessee's bargain for the consideration provided to Lessor under and in connection with this Lease.

**J. Governing Law.** This Lease shall be governed by and construed in accordance with the laws of the State of West Virginia without regard to its conflicts of law provisions.

**K. Amendment of Description of Leased Premises.** The Parties acknowledge that the information in Section 2 hereof describing the Leased Premises, including the legal description of the lands, the estates and the total acreage to be covered by this Lease (the "Lease Information"), was obtained from public records of the county in which the Leased Premises is located but may not accurately reflect the lands and the total acreage intended to be covered by this Lease. Accordingly, after Lessee completes its due diligence concerning the title and ownership of the Leased Premises, if Lessee determines that there is a material discrepancy in the Lease Information, Lessor hereby agrees to execute any documents requested by Lessee, including a new lease agreement, to more accurately reflect the lands, estates and interests to be covered by this Lease. Lessor hereby agrees that Lessee may make corrections or additions to this Lease, the Lease Memorandum (if any), any Unit Declaration(s), and the Master Agreement (the "Related Documents"), to more accurately reflect the lands, estates and acreage to be covered by this Lease, including chain-of-title, deed references and ownership interests of record, ~~without further action by Lessor, and Lessee may notify Lessor of such corrections or additions by providing Lessor with a copy of the recorded Lease, Lease Memorandum or Unit Declaration, whereupon Lessor shall be deemed to have consented to and be bound by the same,~~ and for this purpose, Lessor hereby appoints Lessee as Lessor's true and lawful attorney-in-fact ~~to make such corrections or additions to this Lease and the Related Documents and to file them of record.~~ 08/03/2018

4705102010

**L. Counterparts.** This Lease and any documents associated herewith may be executed by the Parties in any number of counterparts, each having the same validity and all of which shall constitute but one and the same such instrument.

17. **ADDENDUM.** This Lease contains an ADDENDUM TO OIL AND GAS LEASE between Lessor and Lessee which includes additional terms and conditions, which Addendum is attached hereto and incorporated herein by reference.

IN WITNESS WHEREOF, the Parties, intending to be legally bound, have executed this Lease effective as of the Effective Date (whether executed by either Party on, before or after the Effective Date).

LESSOR:

Michael Riggle  
Name: Michael S. Riggle

Date: 11/30/17

LESSEE:

CNX Gas Company LLC

By Michael L. Holiday

Name: Michael L. Holiday

Its: Assistant Vice President

ESV CY

08/03/2018

ACKNOWLEDGMENTS

4705102010

[Individual Lessor]

STATE OF West Virginia  
COUNTY OF Marshall

The foregoing instrument was acknowledged before me on the 30 day of Nov, 2017  
by Michael S. Riggle, whose name(s) is signed hereto, in my said State.  
In witness hereof, I hereunto set my hand and official seal.  
(Notarial Seal)

Kathryn S. Evans  
NOTARY PUBLIC  
My commission expires 4-24-21

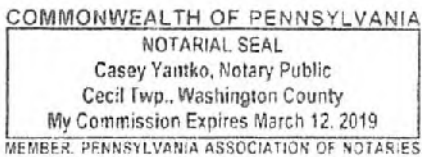


[CNX]

COMMONWEALTH OF PENNSYLVANIA  
COUNTY OF WASHINGTON

The foregoing instrument was acknowledged before me on the 5<sup>th</sup> day of January,  
20 18 by Michael L. Holiday, who acknowledged himself to be  
the Assistant Vice President of **CNX Gas Company LLC**, a  
Virginia limited liability company, and that he/she as such, being authorized to do so, executed  
the foregoing instrument.

In witness hereof, I hereunto set my hand and official seal.  
(Notarial Seal)



Casey Yantko  
NOTARY PUBLIC  
My commission expires 3-12-2019

RECEIVED  
Office of Oil and Gas  
August 15 2018  
WV Department of  
Environmental Protection  
08/03/2018

Do Not Record  
ADDENDUM TO OIL AND GAS LEASE  
(PAID-UP LEASE -WEST VIRGINIA)

4705102010

Lease No. 9273

This Addendum is attached to and made a part of that certain Oil and Gas Lease dated **November 30, 2017**, by and between Michael S. Riggle, as Lessor, and **CNX GAS COMPANY LLC**, a Virginia limited liability company, as Lessee (the "Lease"). Notwithstanding anything to the contrary in the Lease, this Addendum shall amend and control the Lease terms wherever in conflict and/or inconsistent with the Lease. This Addendum is an integral part of the Lease, and is incorporated into and made a part of the Lease. Capitalized terms used in this Addendum shall have the meaning as set forth in the Lease.

**Depth Limitation:** Lessor EXCEPTS AND RESERVES all formations other than those formations from 200' above the top of the Utica formation to 200' below the bottom of the Utica formation.

**Surface Use:** Lessee agrees that, without a separate agreement, Lessee shall not have the right to use in any manner, the surface of Lessor's property including the construction of sludge and/or water ponds, and access roads on the surface of the Leased Premises.

**Shut-In Limitation:** Following the Primary Term, this Lease may not be maintained in force and effect solely by virtue of the Shut-In clause for a period in excess of thirty-six (36) consecutive months; provided that Lessor shall not exercise any rights or remedies or take any action to terminate this Lease unless and until Lessor shall first provide written notice to Lessee, and Lessee shall fail within 180 days of receipt of such notice to commence Operations, resume production or take other appropriate action to maintain this Lease in force and effect.

**Gross Royalty:** It is agreed between the Lessor and Lessee that, notwithstanding any language herein to the contrary, all oil and gas or other proceeds accruing to the Lessor under this lease or by state law shall be without deduction, directly or indirectly, for the cost of production, gathering, storing, separating, treating, dehydrating, compressing, processing, transporting, and marketing the oil, gas, and other products produced hereunder to transform the product into marketable form

**Pugh Clause.**

(a) In the event a pooled unit is created which encompasses (i) some, but not all, of the Leased Premises and (ii) lands located outside of the Leased Premises, any drilling or reworking operations on or production from a well located anywhere on that pooled unit shall continue this Lease in full force and effect, but only as to that part of the Leased Premises contained within the pooled unit. Upon the Fifth (5<sup>th</sup>) anniversary of the Lease Effective Date, and notwithstanding extended term payments, Lessee shall surrender such portions of the Leased Premises not contained within a pooled unit by executing and recording a release of the same in the Marshall County Recorder's Office.

**OPERATIONS:** As used in this Lease, the term "Operations" shall be defined as any one or more of the following: the placement of a drilling rig on a drill site location on the Leased Premises or any land unitized or pooled therewith; and the actual commencement of the drilling of either the top hole or the lateral portion, as the case may be, of any well upon the Leased Premises or lands unitized or pooled therewith, or any other operations conducted in an effort to obtain, restore, reestablish, maintain or increase production of any leased minerals from the Premises and/or other lands unitized therewith.

**CHOICE OF LAW AND VENUE:**

All disputes are to be resolved under West Virginia law in West Virginia Circuit court.

IN WITNESS WHEREOF, the parties hereto have executed this Addendum to Oil and Gas Lease as of the day and year first above written.

RECEIVED  
Office of Oil and Gas  
FEB 15 2018  
WV Department of  
Environmental Protection



LESSOR:

Michael S. Riggle  
Michael S. Riggle

LESSEE:

CNX Gas Company LLC

By Michael L. Holiday  
Name Michael L. Holiday  
Title Assistant Vice President

*EP*

ACKNOWLEDGMENTS

STATE/Commonwealth of WV  
COUNTY OF OHIO

The foregoing instrument was acknowledged before me on the 30 day of Nov, 2017  
by Michael S. Riggle  
whose name(s) are signed hereto, in my said State.

In witness hereof, I hereunto set my hand and official seal.  
(Notarial Seal)

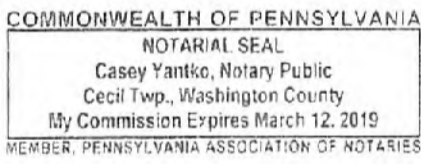


Kathryn S. Evans  
NOTARY PUBLIC  
My commission expires 4-24-21

COMMONWEALTH OF PENNSYLVANIA  
COUNTY OF WASHINGTON

The foregoing instrument was acknowledged before me on the 5<sup>th</sup> day of January, 2018  
by Michael L. Holiday, who acknowledged himself to be  
the Assistant Vice President of CNX Gas Company LLC, and  
that he, being authorized to do so, executed the foregoing instrument on behalf of the of the  
limited liability company, in my said State.

In witness hereof, I hereunto set my hand and official seal.  
(Notarial Seal)



Casey Yantko  
NOTARY PUBLIC  
My commission expires 3-12-2019

RECEIVED  
Office of Oil and Gas  
15 2018  
WV Department of  
Environmental Protection



Erika Whetstone  
Permitting Manager  
1000 Consol Energy Dr.  
Canonsburg, PA 15317  
(724) 485-4035

January 29, 2018

West Virginia Department of Environmental Protection  
Office of Oil & Gas  
601 57<sup>th</sup> Street, SE  
Charlestown, WV 25304-2345

**RE: Road Letter – MAJ6HSU Well Pad**

To Whom it May Concern:

CNX Gas Company LLC (CNX) has the right to drill, stimulate, and produce wells that are drilled under the County and State Roads as designated on the plans.

If any further information or correspondence is required, please contact me at (724) 485-4035 or [ErikaWhetstone@cnx.com](mailto:ErikaWhetstone@cnx.com).

Sincerely,

A handwritten signature in black ink that reads "Erika Whetstone".

Erika Whetstone  
Permitting Manager

RECEIVED  
Office of Oil and Gas

FEB 15 2018

WV Department of  
Environmental Protection

08/03/2018

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

Date of Notice Certification: 2-14-18

API No. 47- \_\_\_\_\_  
Operator's Well No. MAJ6HHSU  
Well Pad Name: MAJ6HHSU

**Notice has been given:**

Pursuant to the provisions in West Virginia Code § 22-6A, the Operator has provided the required parties with the Notice Forms listed below for the tract of land as follows:

State: <u>West Virginia</u>	UTM NAD 83	Easting: <u>538577.49</u>
County: <u>Marshall</u>		Northing: <u>4420609.553</u>
District: <u>Webster</u>	Public Road Access: <u>Dry Ridge Road-CR48</u>	
Quadrangle: <u>Majorsville</u>	Generally used farm name: <u>Consol</u>	
Watershed: <u>Wheeling Creek</u>		

Pursuant to West Virginia Code § 22-6A-7(b), every permit application filed under this section shall be on a form as may be prescribed by the secretary, shall be verified and shall contain the following information: (14) A certification from the operator that (i) it has provided the owners of the surface described in subdivisions (1), (2) and (4), subsection (b), section ten of this article, the information required by subsections (b) and (c), section sixteen of this article; (ii) that the requirement was deemed satisfied as a result of giving the surface owner notice of entry to survey pursuant to subsection (a), section ten of this article six-a; or (iii) the notice requirements of subsection (b), section sixteen of this article were waived in writing by the surface owner; and Pursuant to West Virginia Code § 22-6A-11(b), the applicant shall tender proof of and certify to the secretary that the notice requirements of section ten of this article have been completed by the applicant.

Pursuant to West Virginia Code § 22-6A, the Operator has attached proof to this Notice Certification that the Operator has properly served the required parties with the following:

\*PLEASE CHECK ALL THAT APPLY

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

**OOG OFFICE USE ONLY**

- RECEIVED/  
NOT REQUIRED
- RECEIVED
- RECEIVED/  
NOT REQUIRED
- RECEIVED
- RECEIVED
- RECEIVED

**Required Attachments:**

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

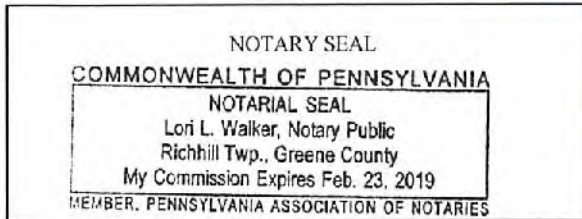
RECEIVED  
Office of Oil and Gas  
FEB 15 2018

**Certification of Notice is hereby given:**

THEREFORE, I Raymond Hoon *[Signature]*, 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: CNX Gas Company, LLC  
By: Raymond Hoon  
Its: Permitting Supervisor  
Telephone: 724-485-3540

Address: 1000 Consol Energy Drive  
Canonsburg, PA 15317  
Facsimile: \_\_\_\_\_  
Email: RaymondHoon@CNX.com



*Commonwealth of Pennsylvania*  
*County of Washington*  
Subscribed and sworn before me this 14th day of February 2018  
*Lori L. Walker* Notary Public  
My Commission Expires 2/23/19

**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](mailto:depprivacyofficer@wv.gov).

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Office of Oil and Gas

FEB 15 2018

08/03/2018  
WV Department of  
Environmental Protection

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: 2/2/18 Date Permit Application Filed: 2-14-18

RECEIVED  
Office of Oil and Gas

FEB 15 2018

Notice of:

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

WV Department of Environmental Protection

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

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

Pursuant to W. Va. Code § 22-6A-10(b) no later than the filing date of the application, the applicant for a permit for any well work or for a certificate of approval for the construction of an impoundment or pit as required by this article shall deliver, by personal service or by registered mail or by any method of delivery that requires a receipt or signature confirmation, copies of the application, the erosion and sediment control plan required by section seven of this article, and the well plat to each of the following persons: (1) The owners of record of the surface of the tract on which the well is or is proposed to be located; (2) The owners of record of the surface tract or tracts overlying the oil and gas leasehold being developed by the proposed well work, if the surface tract is to be used for roads or other land disturbance as described in the erosion and sediment control plan submitted pursuant to subsection (c), section seven of this article; (3) The coal owner, operator or lessee, in the event the tract of land on which the well proposed to be drilled is located [sic] is known to be underlain by one or more coal seams; (4) The owners of record of the surface tract or tracts overlying the oil and gas leasehold being developed by the proposed well work, if the surface tract is to be used for the placement, construction, enlargement, alteration, repair, removal or abandonment of any impoundment or pit as described in section nine of this article; (5) Any surface owner or water purveyor who is known to the applicant to have a water well, spring or water supply source located within one thousand five hundred feet of the center of the well pad which is used to provide water for consumption by humans or domestic animals; and (6) The operator of any natural gas storage field within which the proposed well work activity is to take place. (c)(1) If more than three tenants in common or other co-owners of interests described in subsection (b) of this section hold interests in the lands, the applicant may serve the documents required upon the person described in the records of the sheriff required to be maintained pursuant to section eight, article one, chapter eleven-a of this code. (2) Notwithstanding any provision of this article to the contrary, notice to a lien holder is not notice to a landowner, unless the lien holder is the landowner. W. Va. Code R. § 35-8-5.7.a requires, in part, that the operator shall also provide the Well Site Safety Plan ("WSSP") to the surface owner and any water purveyor or surface owner subject to notice and water testing as provided in section 15 of this rule.

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

SURFACE OWNER(s)

Name: CNX Land, LLC  
Address: 1000 Consol Energy Drive  
Canonsburg, PA 15317

Name: \_\_\_\_\_  
Address: \_\_\_\_\_

COAL OWNER OR LESSEE

Name: See attached.  
Address: \_\_\_\_\_

COAL OPERATOR

Name: \_\_\_\_\_  
Address: \_\_\_\_\_

SURFACE OWNER(s) (Road and/or Other Disturbance)

Name: Consol Mining Company LLC  
Address: 1000 Consol Energy Drive  
Canonsburg, PA 15317

Name: \_\_\_\_\_  
Address: \_\_\_\_\_

SURFACE OWNER OF WATER WELL AND/OR WATER PURVEYOR(s)

Name: See attached.  
Address: \_\_\_\_\_

SURFACE OWNER(s) (Impoundments or Pits)

Name: \_\_\_\_\_  
Address: \_\_\_\_\_

OPERATOR OF ANY NATURAL GAS STORAGE FIELD

Name: COLUMBIA GAS TRANSMISSION, LLC  
Address: P. O. BOX 1273  
CHARLESTON, WV 25325

\*Please attach additional forms if necessary

FEB 15 2018

**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 57<sup>th</sup> Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting [www.dep.wv.gov/oil-and-gas/pages/default.aspx](http://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

08/03/2018

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

**Water Well Testing:**

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

**Water Testing Laboratories:**

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

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

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

**Written Comment:**

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

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

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

WV Department of  
Environmental Protection

08/03/2018

**Time Limits and Methods for Filing Comments.**

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

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

**Comment Requirements**

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

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

**Permit Denial or Condition**

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

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

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

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

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Office of Oil and Gas

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WV Department of  
Environmental Protection

08/03/2018



**Notice is hereby given by:**

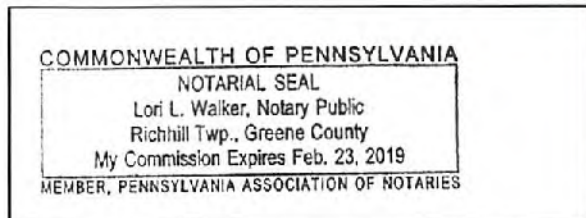
Well Operator: CNX Gas Company, LLC  
Telephone: 724-485-3540  
Email: RaymondHoon@CNX.com *Raymond Hoon*

Address: 1000 Consol Energy Drive  
Canonsburg, PA 15317  
Facsimile: \_\_\_\_\_

**Oil and Gas Privacy Notice:**

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

*Commonwealth of Pennsylvania  
County of Washington*



Subscribed and sworn before me this 14th day of February 2018  
*Lori L Walker* Notary Public  
My Commission Expires 2/23/19

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WV Department of  
Environmental Protection

08/03/2018

**WW6A Notice of Application - Attachment**

**Coal Owner(s):**

HCC Investments, Inc.  
824 N. Market St STE 900  
Wilmington, DE 19801

Conrhein Coal Company  
1000 Consol Energy Drive  
Canonsburg, PA 15317

Consol Pennsylvania Coal Company LLC  
1000 Consol Energy Drive  
Canonsburg, PA 15317

CNX Thermal Holdings LLC  
1000 Consol Energy Drive  
Canonsburg, PA 15317

**Surface Owner of Water Well and/or Water Purveyor(s):**

Robert R Riggle et ux  
RR4 Box 25A  
Cameron, WV 26033

Consolidation Coal Company  
1000 Consol Energy Drive  
Canonsburg, PA 15317

William Toland et ux  
1747 Dry Ridge Road  
Cameron, WV 26033

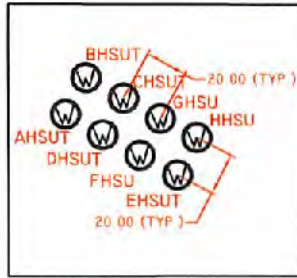
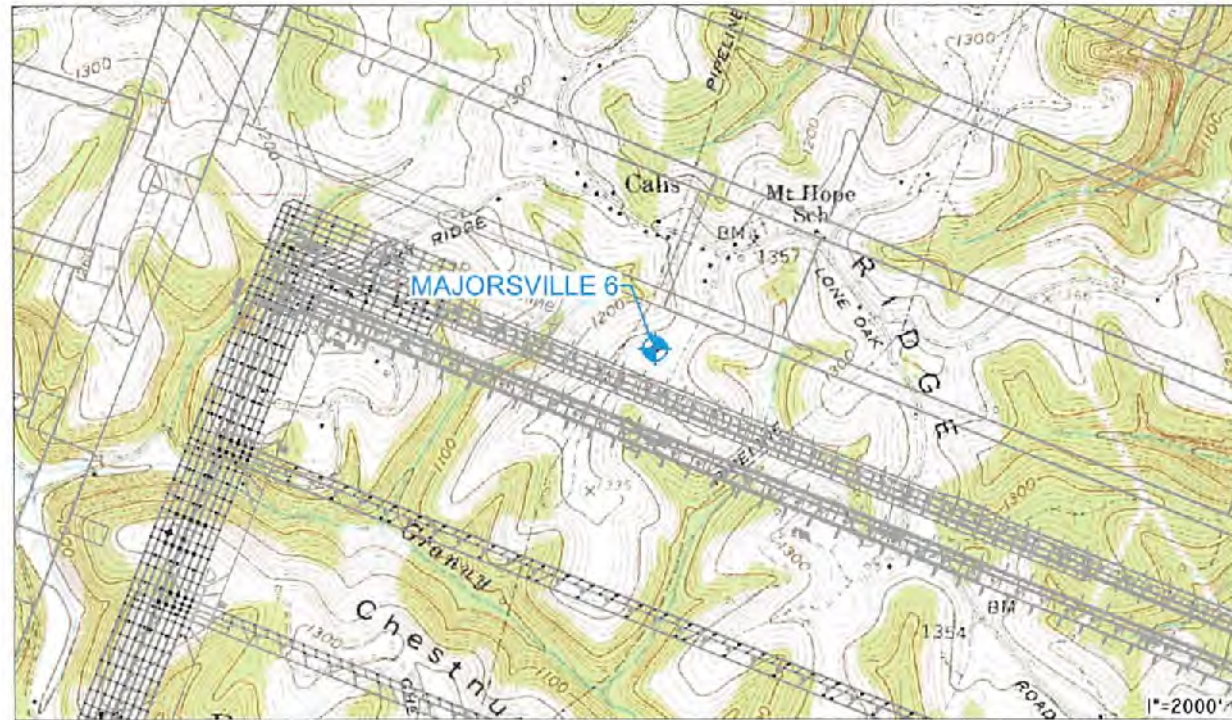
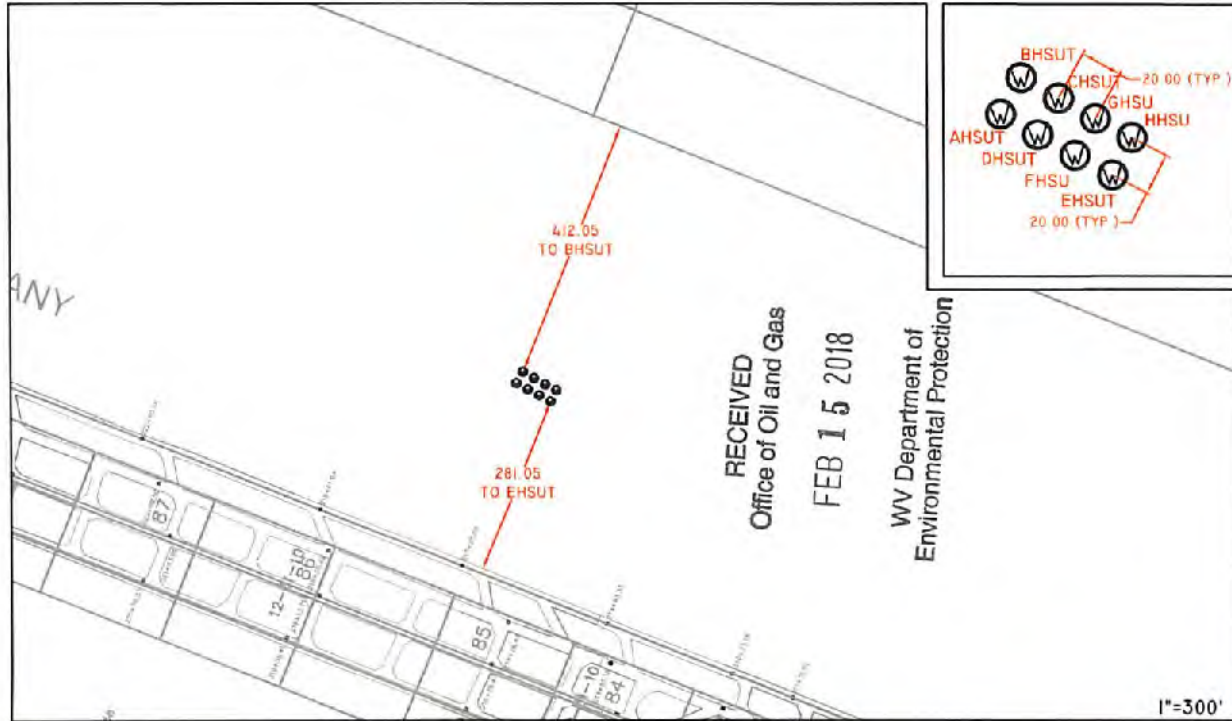
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WV Department of  
Environmental Protection  
Page 1 of 1

08/03/2018

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WELL AHSUT
COUNTY: MARSHALL
DISTRICT: WEBSTER
NAD 63 - WV NORTH N:524301.024 E:1674430.253 LAT:39°56'05.099" LON:80°32'55.361"
NAD 27 - WV NORTH N:524263.811 E:1705865.059 LAT:39°56'04.823" LON:80°32'56.095"
OHIO COUNTY MINE N:54934.700 E:124309.601
UTM NAD83 ZONE 17 M. N:4420612.588 E:538558.577

WELL BHSUT
COUNTY: MARSHALL
DISTRICT: WEBSTER
NAD 83 - WV NORTH N:524318.503 E:1674439.975 LAT:39°56'05.273" LON:80°32'55.239"
NAD 27 - WV NORTH N:524281.290 E:1705874.780 LAT:39°56'04.997" LON:80°32'55.972"
OHIO COUNTY MINE N:54951.727 E:124320.093
UTM NAD83 ZONE 17 M. N:4420617.962 E:538561.450

WELL CHSUT
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DISTRICT: WEBSTER
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NAD 27 - WV NORTH N:524271.567 E:1705892.258 LAT:39°56'04.903" LON:80°32'55.747"
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WELL DHSUT
COUNTY: MARSHALL
DISTRICT: WEBSTER
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NAD 27 - WV NORTH N:524254.089 E:1705882.537 LAT:39°56'04.729" LON:80°32'55.869"
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UTM NAD83 ZONE 17 M. N:4420609.715 E:538563.951

WELL EHSUT
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DISTRICT: WEBSTER
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DISTRICT: WEBSTER
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WELL GHSU
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DISTRICT: WEBSTER
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WELL FHSU
COUNTY: MARSHALL
DISTRICT: WEBSTER
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CNX GAS COMPANY, LLC  
200 EVERGREENE DRIVE  
WAYNESBURG, PA 15370



MAJORSVILLE 6  
COAL EXHIBIT

REVISIONS	
DATE	TYPE
8-2-15	UPDATED MINE COORDINATES
10-2-15	UPDATED WELL LOCATIONS
1-25-16	UPDATED WELL NAMES

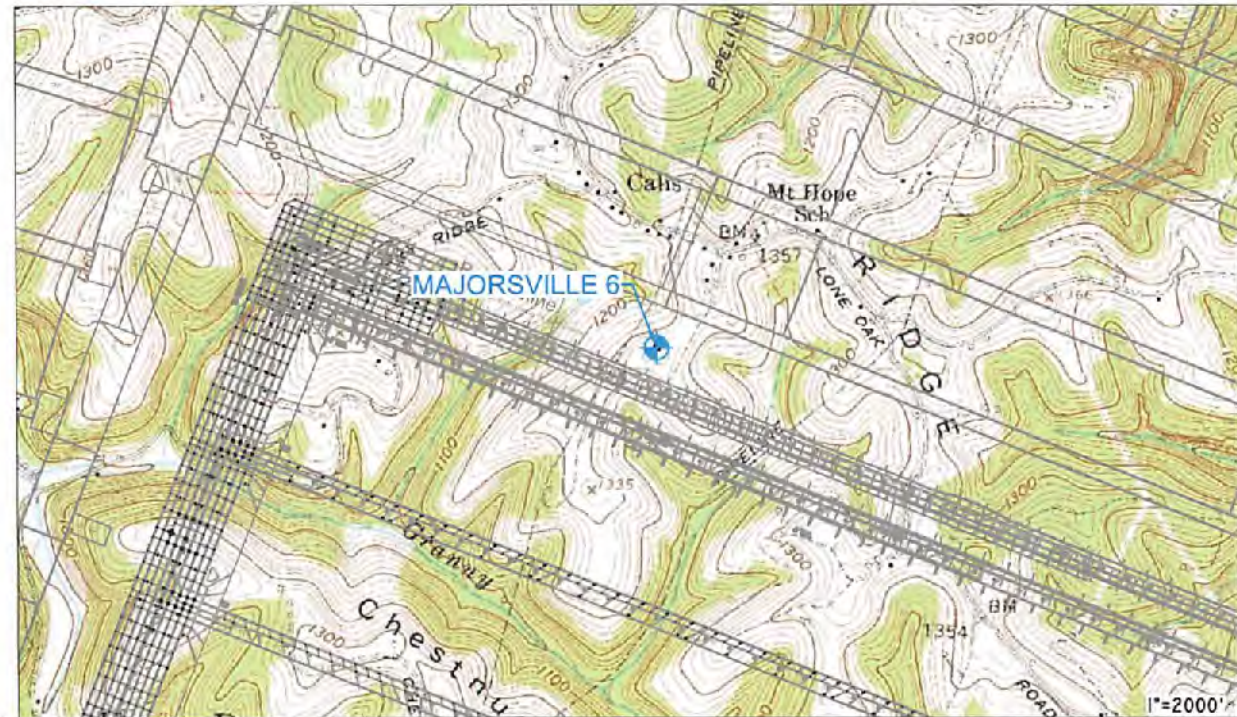
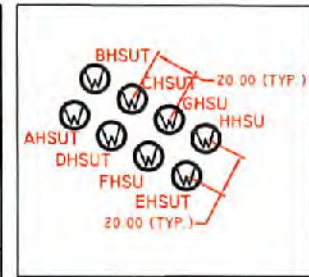
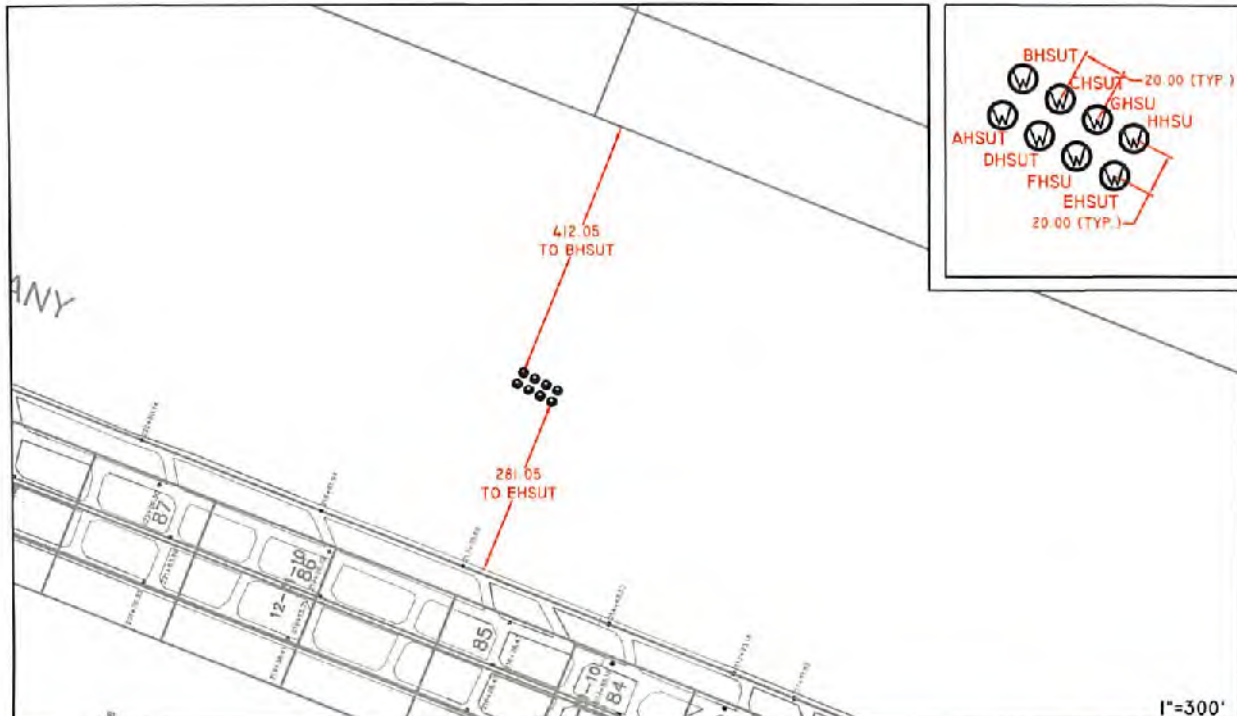


**GENERAL NOTES:**  
ALL DIMENSIONS RELATED TO COAL LOCATION (EXISTING AND/OR PROPOSED) ARE BASED ON INFO PROVIDED BY CONSOLIDATION COAL COMPANY. THIS INFO MAY NOT BE CURRENT WITH MINING PLANS. ANY QUESTIONS OR CONCERNS PERTAINING TO THE LOCATION OF COAL SHOULD BE DIRECTED TO CONSOLIDATION COAL COMPANY.

NOTE: DRAWING WAS CREATED ON 8.5x14 INCH PAPER.

DRAWN BY: SEC
CHECKED BY: MCH
DATE: 01/27/15
SCALE: AS SHOWN
JOB NO: 0509-15
DRAWING NAME: MAJORSVILLE

4705102010



WELL AHSUT	WELL BHSUT	WELL CHSUT	WELL DHSUT
COUNTY: MARSHALL	COUNTY: MARSHALL	COUNTY: MARSHALL	COUNTY: MARSHALL
DISTRICT: WEBSTER	DISTRICT: WEBSTER	DISTRICT: WEBSTER	DISTRICT: WEBSTER
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NOTE: DRAWING WAS CREATED ON 8.5x14 INCH PAPER.



CNK GAS COMPANY, LLC  
200 EVERGREENE DRIVE  
WAYNESBURG, PA 15370



MAJORSVILLE 6  
COAL EXHIBIT

REVISIONS	
DATE	TYPE
6-3-15	UPDATED MINE COORDINATES
5-24-15	UPDATED FILE LOCATIONS
5-15-15	UPDATED FILE NAMES

DRAWN BY: DEC  
CHECKED BY: MCH  
DATE: 05-27-15  
SCALE: AS SHOWN  
JOB NO: 050-15  
DRAWING NAME: MAJORSVILLE 6

SHEET NO. 1

**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:** 02/02/2018 **Date Permit Application Filed:** 2-14-18

**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: CNX Land, LLC  
Address: 1000 Consol Energy Drive  
Canonsburg, PA 15317

Name: Consol Mining Company LLC  
Address: 1000 Consol Energy Drive  
Canonsburg, PA 15317

**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: Marshall  
District: Webster  
Quadrangle: Majorsville  
Watershed: Wheeling Creek

UTM NAD 83 Easting: 538577.49  
Northing: 4420609.55  
Public Road Access: Dry Ridge Road-CR48  
Generally used farm name: Consol

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Office of Oil and Gas  
FEB 15 2018

**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 57<sup>th</sup> Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting [www.dep.wv.gov/oil-and-gas/pages/default.aspx](http://www.dep.wv.gov/oil-and-gas/pages/default.aspx).

WV Department of  
Environmental Protection

**Notice is hereby given by:**

Well Operator: CNX Gas Company, LLC  
Address: 1000 Consol Energy Drive  
Canonsburg, PA 15317  
Telephone: 724-485-3540  
Email: RaymondHoon@CNX.com  
Facsimile: \_\_\_\_\_

Authorized Representative: Raymond Hoon  
Address: 1000 Consol Energy Drive  
Canonsburg, PA 15317  
Telephone: 724-485-3540  
Email: RaymondHoon@CNX.com  
Facsimile: \_\_\_\_\_

**Oil and Gas Privacy Notice:**

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

08/03/2018

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: 02/02/2018 Date Permit Application Filed: 2-14-18

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: CNX Land, LLC  
Address: 1000 Consol Energy Drive  
Canonsburg, PA 15317

Name: Consol Mining Company LLC  
Address: 1000 Consol Energy Drive  
Canonsburg, PA 15317

Notice is hereby given:

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

State: <u>West Virginia</u>	UTM NAD 83	Easting: <u>538577.49</u>
County: <u>Marshall</u>		Northing: <u>4420609.553</u>
District: <u>Webster</u>	Public Road Access: <u>Dry Ridge Road-CR48</u>	
Quadrangle: <u>Majorsville</u>	Generally used farm name: <u>Consol</u>	
Watershed: <u>Wheeling Creek</u>		

This Notice Shall Include:

Pursuant to West Virginia Code § 22-6A-16(c), this notice shall include: (1) A copy of this code section; (2) The information required to be provided by W. Va. Code § 22-6A-10(b) to a surface owner whose land will be used in conjunction with the drilling of a horizontal well; and (3) A proposed surface use and compensation agreement containing an offer of compensation for damages to the surface affected by oil and gas operations to the extent the damages are compensable under article six-b of this chapter. Additional information related to horizontal drilling may be obtained from the Secretary, at the WV Department of Environmental Protection headquarters, located at 601 57<sup>th</sup> Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting [www.dep.wv.gov/oil-and-gas/pages/default.aspx](http://www.dep.wv.gov/oil-and-gas/pages/default.aspx).

Well Operator: CNX Gas Company, LLC  
Telephone: 724-485-3540  
Email: RaymondHoon@CNX.com

Address: 1000 Consol Energy Drive  
Canonsburg, PA 15317  
Facsimile: \_\_\_\_\_

Oil and Gas Privacy Notice:

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

RECEIVED  
Office of Oil and Gas

FEB 15 2018

WV Department of  
Environmental Protection **08/03/2018**

## Section VI – Proposed Additives to be used in Fracturing or Stimulations

Type: Water CAS: 7732-18-5

Type: Silica CAS: 14808-60-7

Type: Hydrochloric Acid CAS: 7647-01-0

Type: Copolymer of Two Propenamide CAS: 69418-26-4

Type: Petroleum distillate CAS: 64742-47-8

Type: Glutaraldehyde CAS: 111-30-8

Type: Ethylene glycol CAS: 107-21-1

Type: Diethylene glycol mono n-butyl ether CAS: 112-34-5

Type: Oleic acid diethanolamide CAS: 93-83-4

Type: Alcohols, C12-16, ethoxylated CAS: 68551-12-2

Type: Quaternary ammonium compound CAS: 68424-85-1

Type: Ammonium chloride CAS: 12125-02-9

Type: Short chained glycol ether CAS: 112-34-5

Type: Ethoxylated (C10-16) alcohols CAS: 68002-97-1

Type: Metanol CAS: 67-56-1

Type: Formaldehyde CAS: 50-00-0

Type: Thiourea CAS: 62-56-6

Type: Acetophenone CAS: 98-86-2

RECEIVED  
Office of Oil and Gas

FEB 15 2018

WV Department of  
Environmental Protection



4705702010

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

January 6, 2017

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

Subject: DOH Permit for the MAJ-6 Well Pad, Marshall County  
MAJ6EHSUT Well Site MAJ6FHSUT Well Site

Dear Mr. Martin,

The West Virginia Division of Highways has issued Permit #06-2016-0420 for the subject site to CNX Gas Company LLC for access to the State Road for the well site located off of Marshall County Route 48 SLS.

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

Very Truly Yours,

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

RECEIVED  
Office of Oil and Gas  
FEB 15 2018

Cc: Shannon Miller  
CNX Energy LLC.  
CH, OM, D-6  
File

WV Department of  
Environmental Protection

08/03/2018





470

4705102010

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

**Division of Highways**  
Office of the District Engineer/Manager  
District Six

Jim Justice  
Governor

1 DOT Drive · Moundsville, West Virginia 26041-2353 · (304) 843-4008

Gregory L. Bailey, P. E.  
Acting Commissioner  
of Highways

January 19, 2018

Raymond Hoon  
CNX Gas Company, LLC  
1000 Consol Energy Drive  
Canonsburg, PA 15317

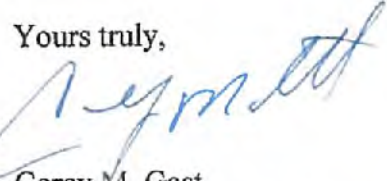
RE: Permit #06-2016-0420

Dear Mr. Hoon:

Your request for continuation of the above listed permit, per the conditions specified herein is hereby approved, subject to all conditions and stipulations included in the original permit documents and Addendum letter. This letter will serve as notice that the permit(s) will now expire one year from the date of this letter.

A copy of the permit and this letter shall be available on the job at all times while the work is in progress for inspection by the West Virginia Division of Highways personnel.

Please attach this letter to and make it a part of the specified Permit(s). If you have any questions or desire any additional information please contact Corey Gast at (304) 843-4019 between the business hours of 7:30 a.m. and 4:00 p.m.

Yours truly,  
  
Corey M. Gast  
Oil and Gas Coordinator

CMG:w

Cc: Gus H. Suwaid  
Permit Distribution List  
File

RECEIVED  
Office of Oil and Gas

FEB 15 2018

WV Department of  
Environmental Protection

**APPROVED  
WVDEP OOG**  
WJ/J 6/6/2017



CNX GAS COMPANY, LLC  
200 HALLAM ROAD  
WASHINGTON, PA 15301



LOCATION MAP  
SCALE: 1"=2000'

**PROPERTY OWNERS**

1. CONSOLIDATION COAL COMPANY/MURRAY ENERGY  
TM/PAR: 15-6/39
2. CNX LAND  
TM/PAR: 15-5/13

**ENTRANCE PERMIT**

CNX GAS COMPANY, LLC, WILL OBTAIN AN ENCROACHMENT PERMIT (FORM MM-109) FROM THE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS. PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES.

**MISS UTILITY**

MISS UTILITY OF WEST VIRGINIA WAS NOTIFIED FOR THE LOCATING OF UTILITIES PRIOR TO THIS PROJECT DESIGN (TICKET NO. 1510826722). IN ADDITION, MISS UTILITY WILL BE CONTACTED PRIOR TO THE START OF THE PROJECT.

**FLOODPLAIN NOTE**

THE PROPOSED LIMITS OF DISTURBANCE FOR THIS PROJECT ARE NOT LOCATED IN A FLOOD ZONE. PER THE FLOOD INSURANCE RATE MAP (FIRM) NUMBER S405100125E.

**SITE LOCATION**

HEADING EAST ON ROUTE 250 FROM MOUNDSVILLE APPROXIMATELY 14.5 MILES, TAKE A LEFT ONTO 891. HEAD EAST ON ROUTE 891 FOR 1.4 MILES TO TURN NORTH ON ROUTE 48. HEAD NORTH ON ROUTE 48 FOR APPROXIMATELY 5.4 MILES, AND THE SITE ENTRANCE WILL BE ON THE LEFT.

SHEET INDEX		SHEET INDEX	
DWG #	DRAWING NAME	DWG #	DRAWING NAME
1	COVER SHEET	10	ACCESS ROAD X-SECTIONS
2	GENERAL NOTES (1 OF 2)	11	PAD SECTIONS & PILE SECTIONS
3	GENERAL NOTES (2 OF 2)	12	RECLAMATION SITE PLAN
4	HALF-MILE BOUNDARY MAP	13	CONSTRUCTION DETAILS (1 OF 5)
5	EXISTING CONDITIONS	14	CONSTRUCTION DETAILS (2 OF 5)
6	OVERALL SITE PLAN	15	CONSTRUCTION DETAILS (3 OF 5)
7	OVERALL SITE PLAN W/ ORTHO	16	CONSTRUCTION DETAILS (4 OF 5)
8	WELL PAD SITE PLAN	17	CONSTRUCTION DETAILS (5 OF 5)
9	ACCESS ROAD PROFILES	18	MATERIAL QUANTITIES

# MAJ-6 WELL SITE

**ENTRANCE LOCATION**

NAD 83 - LAT: N 39° 56' 15.53"; LONG: W 80° 32' 46.44"  
NAD 27 - LAT: N 39° 56' 15.25"; LONG: W 80° 32' 47.17"  
UTM (METERS) - N: 4420935.260; E: 538768.666

**CENTER OF WELL PAD LOCATION**

NAD 83 - LAT: N 39° 56' 04.90"; LONG: W 80° 32' 54.20"  
NAD 27 - LAT: N 39° 56' 04.62"; LONG: W 80° 32' 54.93"  
UTM (METERS) - N: 4420606.599; E: 538586.158

**CENTER OF TANK PAD LOCATION**

NAD 83 - LAT: N 39° 56' 13.22"; LONG: W 80° 32' 49.32"  
NAD 27 - LAT: N 39° 56' 12.94"; LONG: W 80° 32' 50.05"  
UTM (METERS) - N: 4420863.695; E: 538700.677

WEBSTER DISTRICT,  
MARSHALL COUNTY, WEST VIRGINIA

DATE: JANUARY 11, 2017

**Blue Mountain Inc.**  
10125 Mason Dixon Hwy.  
Burton, WV 26362-9656  
Engineers and Land Surveyors  
(304) 662-6486



ACT 287 INFORMATION

NOTE: DRAWING WAS CREATED ON 22x34 PAPER. 11x17 DRAWINGS ARE HALF SCALE. REFER TO SCALE BAR FOR PROPER SCALING.



LOCATION MAP  
SCALE: 1"=2000'

**ENVIRONMENTAL NOTES**

A WETLAND DELINEATION WAS PERFORMED ON APRIL 29, 2015 & OCTOBER 31, 2016 BY BLUE MOUNTAIN INC. TO REVIEW THE SITE FOR WATERS AND WETLANDS THAT ARE MOST LIKELY WITHIN THE REGULATORY PURVIEW OF THE U.S. ARMY CORPS OF ENGINEERS AND/OR THE WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION. THE NOVEMBER 7, 2016 REPORT FOR THE THOMAS WELL SITE, WHICH WAS PREPARED BY BLUE MOUNTAIN INC., SUMMARIZES THE RESULTS OF THE FIELD DELINEATION. THE REPORT DOES NOT, IN ANY WAY, REPRESENT A JURISDICTIONAL DETERMINATION OF THE LANDWARD LIMITS OF WATERS AND WETLANDS WHICH MAY BE REGULATED BY THE USACE OR WVDEP. IT IS STRONGLY RECOMMENDED THAT THE AFOREMENTIONED AGENCIES BE CONSULTED IN AN EFFORT TO OBTAIN CONFIRMATION OF THE DELINEATION DESCRIBED BY THE REPORT PRIOR TO ENGAGING CONSTRUCTION ON THE PROPERTY DESCRIBED HEREIN. THE DEVELOPER SHALL OBTAIN THE APPROPRIATE PERMITS FROM THE FEDERAL AND/OR STATE REGULATORY AGENCIES PRIOR TO ANY PROPOSED IMPACTS TO WATERS OF THE U.S., INCLUDING WETLAND FILLS AND STREAM CROSSINGS.

**GEOTECHNICAL NOTES**

A SUBSURFACE INVESTIGATION OF THE PROPOSED SITE WAS PERFORMED IN THE FIELD BY NGE, LLC ON MAY 26, 2015. THE REPORTS PREPARED BY NGE, LLC DATED NOVEMBER 3, 2016 REFLECTS THE RESULTS OF THE SUBSURFACE INVESTIGATION. PLEASE REFER TO THE SUBSURFACE INVESTIGATION REPORT FOR ADDITIONAL INFORMATION, AS NEEDED.

**RESTRICTIONS**

1. THERE ARE NO NATURALLY PRODUCING TROUT STREAMS WITHIN 300' OF THE PAD & LOD.
2. THERE ARE NO GROUNDWATER INTAKE OR PUBLIC WATER SUPPLY FACILITIES WITHIN 1000' OF THE PAD AND LOD.
3. THERE ARE NO EXISTING WATER WELLS OR DEVELOPED SPRINGS WITHIN 250' OF THE WELLS BEING DRILLED.
4. THERE ARE NO OCCUPIED DWELLING STRUCTURES WITHIN 625' OF THE CENTER OF THE PAD.
5. THERE ARE NO AGRICULTURAL BUILDINGS LARGER THAN 2,500 SQUARE FEET WITHIN 625' OF THE CENTER OF THE PAD.
6. THERE ARE NO PERENNIAL STREAMS, LAKES, PONDS OR RESERVOIRS WITHIN 100' OF THE PROPOSED LIMITS OF DISTURBANCE.

**CERTIFICATION:**

I DO HEREBY CERTIFY TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF, THAT THE EROSION AND SEDIMENT CONTROL PLAN AND SITE RESTORATION PLAN AND POST CONSTRUCTION BMPs ARE TRUE AND CORRECT, REPRESENT ACTUAL FIELD CONDITIONS AND ARE IN ACCORDANCE WITH THE WEST VIRGINIA CODE AND THE DEPARTMENT'S RULES AND REGULATIONS. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT.

SIGNATURE: *[Signature]* DATE: 01/11/2017

**Blue Mountain Inc.**  
Engineers and Land Surveyors  
10125 Mason Dixon Hwy.  
Burton, WV 26362-9656

CNX GAS COMPANY, LLC  
200 HALLAM ROAD  
WASHINGTON, PA 15301

**MAJ-6 WELL SITE  
COVER SHEET**

REGULATIONS

DATE: 01/11/2017

CHECKED BY: JMO

DATE: 01/11/2017

SCALE: AS SHOWN

JOB NO:

DRAWING NAME: MAJ-6 DS-01

SHEET NO: 1

18852  
STATE OF WEST VIRGINIA  
PROFESSIONAL SURVEYOR



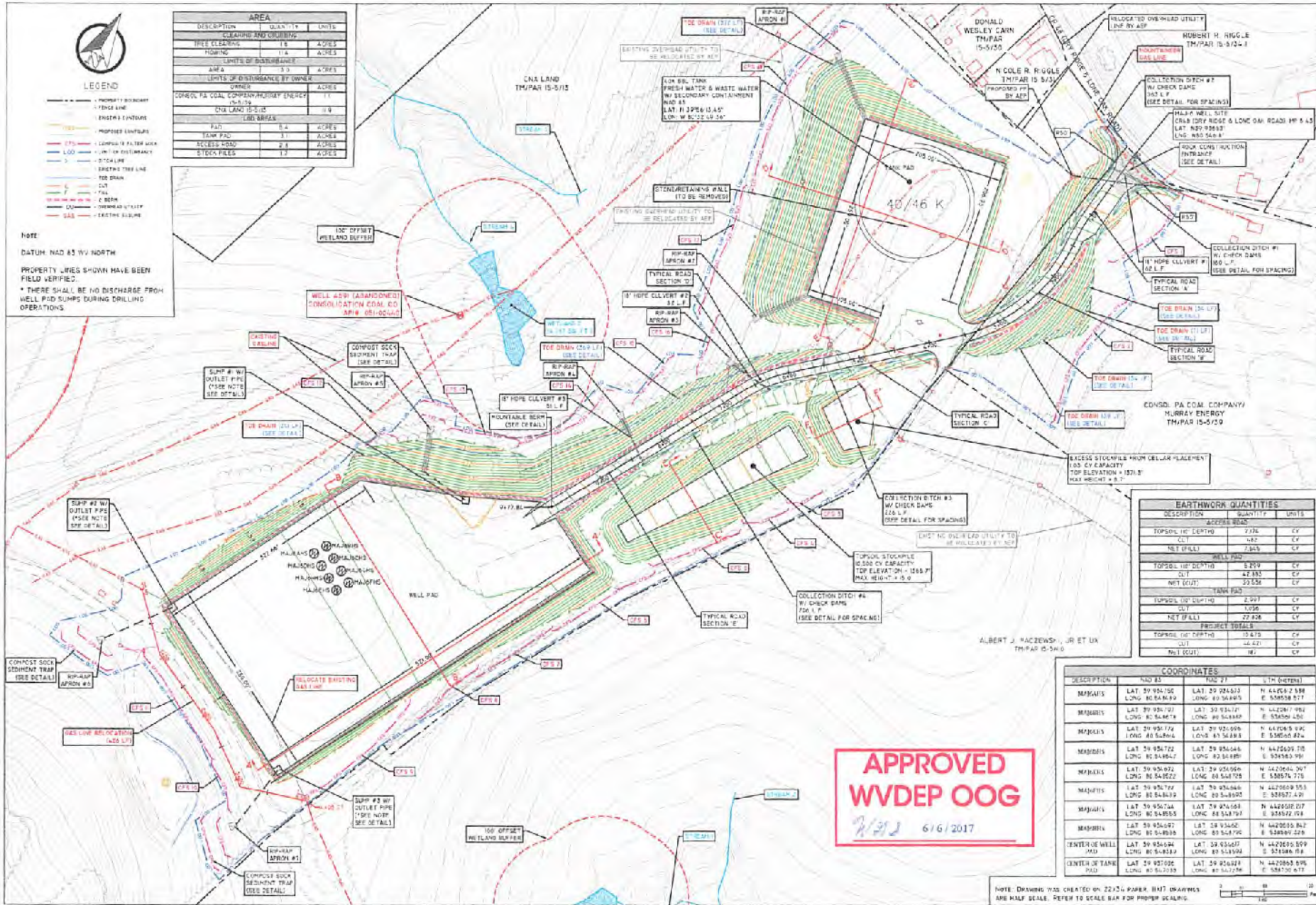
LEGEND

- - - PROPERTY BOUNDARY
- - - FENCE LINE
- - - ENGINE'S CONTAINS
- PROPOSED CENTERLINE
- (7.5' MIN) CLEARANCE FROM TRAILER
- (50' MIN) CLEARANCE FROM
- STAKE LINE
- EXISTING TREE LINE FOR DRAIN
- FOR
- FILL
- EXISTING UTILITY
- QUANTITY
- EXISTING ELEVATION

AREA		
DESCRIPTION	AREA (SQ FT)	UNITS
CLEARING AND GRUBBING		
TREE CLEARING	1.6	ACRES
HOUGHING	1.6	ACRES
LIMITS OF DISTURBANCE BY OWNER		
OWNER		
APR 4	3.3	ACRES
LIMITS OF DISTURBANCE BY ENGINEER		
OWNER		
CNA LAND 15-5/13	11.4	ACRES
LAND		
PAV	8.4	ACRES
TANK PAD	3.1	ACRES
ACCESS ROAD	2.8	ACRES
STOCK PILES	1.3	ACRES

Note

- DATUM: NAD 83 WJ NORTH
- PROPERTY LINES SHOWN HAVE BEEN FIELD VERIFIED.
- THERE SHALL BE NO DISCHARGE FROM WELL FROD SLUMPS DURING DRILLING OPERATIONS.



EARTHWORK QUANTITIES		
DESCRIPTION	QUANTITY	UNITS
<b>ACCESS ROAD</b>		
TOTAL HF DEPTH	2,936	CF
CUT	1,487	CF
NET (FULL)	2,936	CF
<b>WELL PAD</b>		
TOTAL HF DEPTH	5,279	CF
CUT	42,183	CF
NET (CUT)	33,324	CF
<b>TANK PAD</b>		
TOTAL HF DEPTH	2,937	CF
CUT	1,056	CF
NET (FULL)	27,828	CF
<b>PROJECT TOTALS</b>		
TOTAL HF DEPTH	13,472	CF
CUT	44,271	CF
NET (CUT)	18,174	CF

COORDINATES			
DESCRIPTION	NAD 83	FAD 27	UTM (ETERS)
MARSH	LAT: 39 04 19.00 LONG: 85 54 49.50	LAT: 29 28 45.53 LONG: 85 54 49.50	N 447642.589 E 536576.378
MARSH	LAT: 39 04 17.00 LONG: 85 54 47.75	LAT: 29 28 43.78 LONG: 85 54 47.75	N 447640.589 E 536574.378
MARSH	LAT: 39 04 15.00 LONG: 85 54 46.00	LAT: 29 28 42.03 LONG: 85 54 46.00	N 447638.589 E 536572.378
MARSH	LAT: 39 04 13.00 LONG: 85 54 44.25	LAT: 29 28 40.28 LONG: 85 54 44.25	N 447636.589 E 536570.378
MARSH	LAT: 39 04 11.00 LONG: 85 54 42.50	LAT: 29 28 38.53 LONG: 85 54 42.50	N 447634.589 E 536568.378
MARSH	LAT: 39 04 09.00 LONG: 85 54 40.75	LAT: 29 28 36.78 LONG: 85 54 40.75	N 447632.589 E 536566.378
MARSH	LAT: 39 04 07.00 LONG: 85 54 39.00	LAT: 29 28 35.03 LONG: 85 54 39.00	N 447630.589 E 536564.378
MARSH	LAT: 39 04 05.00 LONG: 85 54 37.25	LAT: 29 28 33.28 LONG: 85 54 37.25	N 447628.589 E 536562.378
MARSH	LAT: 39 04 03.00 LONG: 85 54 35.50	LAT: 29 28 31.53 LONG: 85 54 35.50	N 447626.589 E 536560.378
MARSH	LAT: 39 04 01.00 LONG: 85 54 33.75	LAT: 29 28 29.78 LONG: 85 54 33.75	N 447624.589 E 536558.378
MARSH	LAT: 39 03 59.00 LONG: 85 54 32.00	LAT: 29 28 28.03 LONG: 85 54 32.00	N 447622.589 E 536556.378
MARSH	LAT: 39 03 57.00 LONG: 85 54 30.25	LAT: 29 28 26.28 LONG: 85 54 30.25	N 447620.589 E 536554.378
MARSH	LAT: 39 03 55.00 LONG: 85 54 28.50	LAT: 29 28 24.53 LONG: 85 54 28.50	N 447618.589 E 536552.378
MARSH	LAT: 39 03 53.00 LONG: 85 54 26.75	LAT: 29 28 22.78 LONG: 85 54 26.75	N 447616.589 E 536550.378
MARSH	LAT: 39 03 51.00 LONG: 85 54 25.00	LAT: 29 28 21.03 LONG: 85 54 25.00	N 447614.589 E 536548.378
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MARSH	LAT: 39 03 45.00 LONG: 85 54 19.75	LAT: 29 28 15.78 LONG: 85 54 19.75	N 447608.589 E 536542.378
MARSH	LAT: 39 03 43.00 LONG: 85 54 18.00	LAT: 29 28 14.03 LONG: 85 54 18.00	N 447606.589 E 536540.378
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MARSH	LAT: 39 02 49.00 LONG: 85 53 30.75	LAT: 29 27 26.78 LONG: 85 53 30.75	N 447552.589 E 536486.378
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MARSH	LAT: 39 02 39.00 LONG: 85 53 22.00	LAT: 29 27 18.03 LONG: 85 53 22.00	N 447542.589 E 536476.378
MARSH	LAT: 39 02 37.00 LONG: 85 53 20.25	LAT: 29 27 16.28 LONG: 85 53 20.25	N 447540.589 E 536474.378
MARSH	LAT: 39 02 35.00 LONG: 85 53 18.50	LAT: 29 27 14.53 LONG: 85 53 18.50	N 447538.589 E 536472.378
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MARSH	LAT: 39 02 31.00 LONG: 85 53 15.00	LAT: 29 27 11.03 LONG: 85 53 15.00	N 447534.589 E 536468.378
MARSH	LAT: 39 02 29.00 LONG: 85 53 13.25	LAT: 29 27 09.28 LONG: 85 53 13.25	N 447532.589 E 536466.378
MARSH	LAT: 39 02 27.00 LONG: 85 53 11.50	LAT: 29 27 07.53 LONG: 85 53 11.50	N 447530.589 E 536464.378
MARSH	LAT: 39 02 25.00 LONG: 85 53 09.75	LAT: 29 27 05.78 LONG: 85 53 09.75	N 447528.589 E 536462.378
MARSH	LAT: 39 02 23.00 LONG: 85 53 08.00	LAT: 29 27 04.03 LONG: 85 53 08.00	N 447526.589 E 536460.378
MARSH	LAT: 39 02 21.00 LONG: 85 53 06.25	LAT: 29 27 02.28 LONG: 85 53 06.25	N 447524.589 E 536458.378
MARSH	LAT: 39 02 19.00 LONG: 85 53 04.50	LAT: 29 27 00.53 LONG: 85 53 04.50	N 447522.589 E 536456.378
MARSH	LAT: 39 02 17.00 LONG: 85 53 02.75	LAT: 29 26 58.78 LONG: 85 53 02.75	N 447520.589 E 536454.378
MARSH	LAT: 39 02 15.00 LONG: 85 53 01.00	LAT: 29 26 57.03 LONG: 85 53 01.00	N 447518.589 E 536452.378
MARSH	LAT: 39 02 13.00 LONG: 85 52 59.25	LAT: 29 26 55.28 LONG: 85 52 59.25	N 447516.589 E 536450.378
MARSH	LAT: 39 02 11.00 LONG: 85 52 57.50	LAT: 29 26 53.53 LONG: 85 52 57.50	N 447514.589 E 536448.378
MARSH	LAT: 39 02 09.00 LONG: 85 52 55.75	LAT: 29 26 51.78 LONG: 85 52 55.75	N 447512.589 E 536446.378
MARSH	LAT: 39 02 07.00 LONG: 85 52 54.00	LAT: 29 26 50.03 LONG: 85 52 54.00	N 447510.589 E 536444.378
MARSH	LAT: 39 02 05.00 LONG: 85 52 52.25	LAT: 29 26 48.28 LONG: 85 52 52.25	N 447508.589 E 536442.378
MARSH	LAT: 39 02 03.00 LONG: 85 52 50.50	LAT: 29 26 46.53 LONG: 85 52 50.50	N 447506.589 E 536440.378
MARSH	LAT: 39 02 01.00 LONG: 85 52 48.75	LAT: 29 26 44.78 LONG: 85 52 48.75	N 447504.589 E 536438.378
MARSH	LAT: 39 01 59.00 LONG: 85 52 47.00	LAT: 29 26 43.03 LONG: 85 52 47.00	N 447502.589 E 536436.378
MARSH	LAT: 39 01 57.00 LONG: 85 52 45.25	LAT: 29 26 41.28 LONG: 85 52 45.25	N 447500.589 E 536434.378
MARSH	LAT: 39 01 55.00 LONG: 85 52 43.50	LAT: 29 26 39.53 LONG: 85 52 43.50	N 447498.589 E 536432.378
MARSH	LAT: 39 01 53.00 LONG: 85 52 41.75	LAT: 29 26 37.78 LONG: 85 52 41.75	N 447496.589 E 536430.378
MARSH	LAT: 39 01 51.00 LONG: 85 52 40.00	LAT: 29 26 36.03 LONG: 85 52 40.00	N 447494.589 E 536428.378
MARSH	LAT: 39 01 49.00 LONG: 85 52 38.25	LAT: 29 26 34.28 LONG: 85 52 38.25	N 447492.589 E 536426.378
MARSH	LAT: 39 01 47.00 LONG: 85 52 36.50	LAT: 29 26 32.53 LONG: 85 52 36.50	N 447490.589 E 536424.378
MARSH	LAT: 39 01 45.00 LONG: 85 52 34.75	LAT: 29 26 30.78 LONG: 85 52 34.75	N 447488.589 E 536422.378
MARSH	LAT: 39 01 43.00 LONG: 85 52 33.00	LAT: 29 26 29.03 LONG: 85 52 33.00	N 447486.589 E 536420.378
MARSH	LAT: 39 01 41.00 LONG: 85 52 31.25	LAT: 29 26 27.28 LONG: 85 52 31.25	N 447484.589 E 536418.378
MARSH	LAT: 39 01 39.00 LONG: 85 52 29.50	LAT: 29 26 25.53 LONG: 85 52 29.50	N 447482.589 E 536416.378
MARSH	LAT: 39 01 37.00 LONG: 85 52 27.75	LAT: 29 26 23.78 LONG: 85 52 27.75	N 447480.589 E 536414.378
MARSH	LAT: 39 01 35.00 LONG: 85 52 26.00	LAT: 29 26 22.03 LONG: 85 52 26.00	N 447478.589 E 536412.378
MARSH	LAT: 39 01 33.00 LONG: 85 52 24.25	LAT: 29 26 20.28 LONG: 85 52 24.25	N 447476.589 E 536410.378
MARSH	LAT: 39 01 31.00 LONG: 85 52 22.50	LAT: 29 26 18.53 LONG: 85 52 22.50	N 447474.589 E 536408.378
MARSH	LAT: 39 01 29.00 LONG: 85 52 20.75	LAT: 29 26 16.78 LONG: 85 52 20.75	N 447472.589 E 536406.378
MARSH	LAT: 39 01 27.00 LONG: 85 52 19.00	LAT: 29 26 15.03 LONG: 85 52 19.00	N 447470.589 E 536404.378
MARSH	LAT: 39 01 25.00 LONG: 85 52 17.25	LAT: 29 26 13.28 LONG: 85 52 17.25	N 447468.589 E 536402.378
MARSH	LAT: 39 01 23.00 LONG: 85 52 15.50	LAT: 29 26 11.53 LONG: 85 52 15.50	N 447466.589 E 536400.378
MARSH	LAT: 39 01 21.00 LONG: 85 52 13.75	LAT: 29 26 09.78 LONG: 85 52 13.75	N 44