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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, February 26, 2019  
 WELL WORK PERMIT  
 Horizontal 6A / New Drill

CNX GAS COMPANY LLC  
 POST OFFICE BOX 1248

JANE LEW, WV 263786506

Re: Permit approval for SHR38FHSM  
 47-095-02571-00-00

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: SHR38FHSM  
 Farm Name: JAMES E. ASH ET AL  
 U.S. WELL NUMBER: 47-095-02571-00-00  
 Horizontal 6A New Drill  
 Date Issued: 2/26/2019

# 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.

## 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).

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    Tyler    Centerville    West Union  
Operator ID    County    District    Quadrangle

2) Operator's Well Number: SHR38FHSM    Well Pad Name: SHR38

3) Farm Name/Surface Owner: Ash    Public Road Access: Duckworth Ridge Road

4) Elevation, current ground: 1026'    Elevation, proposed post-construction: 1012' ✓

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

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

6) Existing Pad: Yes or No    No ✓

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):  
✓ Target formation is Marcellus Shale @ 6460'-6505' TVD, 45' thick, expected formation pressure ~4000 psi ✓

8) Proposed Total Vertical Depth: 6480' ✓

9) Formation at Total Vertical Depth: Marcellus Shale (will not penetrate Onondaga)

10) Proposed Total Measured Depth: 16,408' ✓

11) Proposed Horizontal Leg Length: 9371' ✓

12) Approximate Fresh Water Strata Depths: 114', 209', 225', 415' ✓

13) Method to Determine Fresh Water Depths: Offset well information ✓

14) Approximate Saltwater Depths: 1932' ✓

15) Approximate Coal Seam Depths: No known mineable coal seams; trace @ 108', 1208' ✓

16) Approximate Depth to Possible Void (coal mine, karst, other): None anticipated ✓

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: \_\_\_\_\_

18) CASING AND TUBING PROGRAM

TYPE	Size (in)	New or Used	Grade	Weight per ft. (lb/ft)	FOOTAGE: For Drilling (ft)	INTERVALS: Left in Well (ft)	CEMENT: Fill-up (Cu. Ft.)/CTS
Conductor	20	New	L/S	<94.0	100	100	96 / CTS
Fresh Water	13.375	New	J-55	54.5	565	565	392 / CTS
Coal	N/A						
Intermediate	9.625	New	J-55	36.0	2550	2550	827 / CTS
Production	5.5	New	P-110	20.0	16408	16408	3175 / TC @ 2050'
Tubing	2.375	New	J-55	4.7		TBD	N/A
Liners	N/A						

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11/29/2018

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	20	24	0.375	N/A	N/A	Type 1	1.18
Fresh Water	13.375	17.5	0.380	2730	<500	Class A	1.19
Coal	N/A						
Intermediate	9.625	12.25	0.352	3520	<2815	Class A	1.19
Production	5.5	8.75 x 8.5	0.361	12360	~10000 during frac	Class H	1.10
Tubing	2.375	N/A	0.190	7700	N/A	N/A	N/A
Liners	N/A						

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Kind:	N/A			WV Department of Environmental Protection
Sizes:				
Depths Set:				

WW-6B  
(10/14)

API NO. 47- \_\_\_\_\_

03/01/2019

OPERATOR WELL NO. SHR38FHSM

Well Pad Name: SHR38

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

Utilize conductor rig to set 20" conductor into solid rock and cement back to surface. MIRU drilling rig. Air drill 17-1/2" hole. Run and cement 13-3/8" fresh water casing. Note that there are no known mineable coal seams in this area. Air drill 12-1/4" hole. Run and cement 9-5/8" intermediate casing. Air drill 8-3/4" production hole to curve KOP (this section is typically directionally drilled with a slant/tangent profile for anti-collision and for lateral spacing). Displace hole with 12.0-12.8 ppg SOBMs. Drill 8-1/2" curve from KOP to landing point. Continue drilling 8-1/2" lateral to TD (geosteer this section to remain in Marcellus target window). Perform clean-up cycle to condition well. Run and cement 5-1/2" production casing. Suspend well and skid to next well or RDMO drilling rig.

Feb  
11/01/2018

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

Run CBL to ~60 degrees in the curve and back to surface to determine production casing TOC. Test production casing and toe prep well. MIRU stimulation/hydraulic fracturing equipment. Fracture well by pumping required number of stages utilizing plug-and-perf method. Max anticipated treating pressure is ~10,000 psi and max anticipated treating pump rate is 80-90 bpm. Number of stages and stage spacing to be finalized after drilling. After last stimulation stage, drill out frac plugs and clean-out well to PBSD. Flow back and clean-up well. Tie well into production. Run tubing when required.

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 15.57

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22) Area to be disturbed for well pad only, less access road (acres): 6.97

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23) Describe centralizer placement for each casing string:

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Fresh water string: centralize shoe joint and every other joint to surface - utilize bow spring centralizers. Intermediate string: centralize shoe joint and every 3rd joint to surface - utilize bow spring centralizers. Production string: centralize every joint from shoe to TOC - utilize single piece/rigid bow centralizers. Actual centralizer placement may be changed based on hole conditions.

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

Fresh water string: Class A cement with 1%-3% CaCl<sub>2</sub> and 1/4 pps cello-flake/LCM. Intermediate string: Class A cement with 0%-2% CaCl<sub>2</sub> and 1/4 pps cello-flake/LCM. Production string: Class H cement or Class H:Poz blend with dry blend and/or liquid additives including retarder, suspension agent, gas block, defoamer, fluid loss control, extender, dispersant, anti-settling agent. Actual cement blends may vary slightly depending upon cementing service company utilized.

25) Proposed borehole conditioning procedures:

Air sections are typically vertical holes - will ensure the hole is clean at section TD prior to TOOH to run casing (may require mist and/or soap to clean the hole). For the production hole - once at TD, circulate at max flowrate with max rotation until the shakers clean-up (typically requires multiple bottoms-up). For the production casing - once on bottom with casing, circulate a minimum of one hole volume prior to pumping cement.

\*Note: Attach additional sheets as needed.

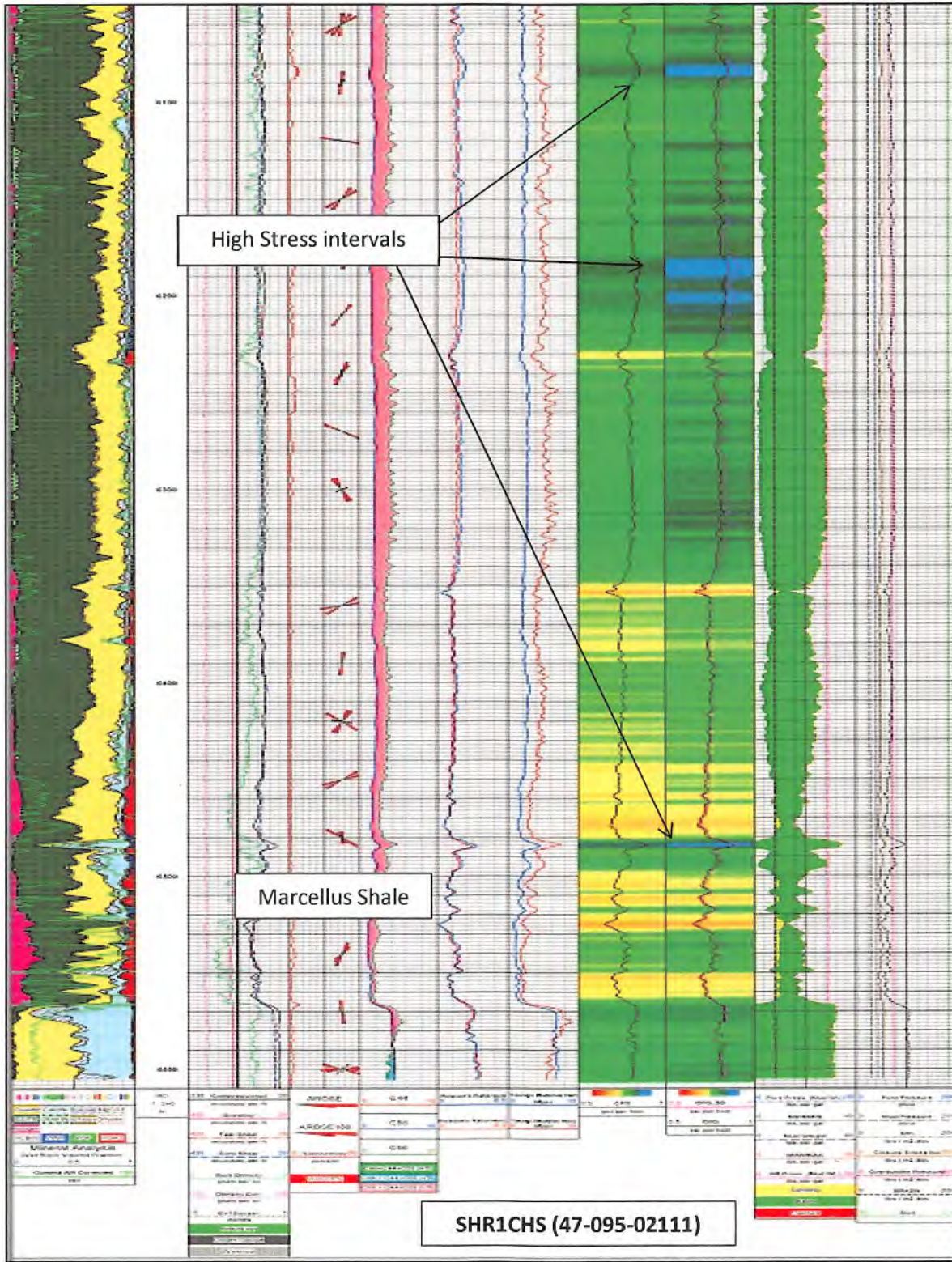
Figure 4. All wells within 500' buffer around the SHR38 pad have been reviewed and listed below. Three pre-permit wells had no data (highlighted pink).

API	STATE	COUNTY	LATITUDE	LONGITUDE	OPERATOR	STATUS	WELL_NAME	WELL_NO	TD	FMTD	ELEVATION
4701702361	WV	Doddridge	39.33791934	-80.82344913	Industrial Gas Associates	Oil and Gas	L G Hammer 2		2396	Weir	990
4701702462	WV	Doddridge	39.34440133	-80.82341523	J & J Enterprises, Inc. Now Doddridge 2936	not available	Paul Strickling		Dodd 2936	Dodd 2936	830
4701702396	WV	Doddridge	39.34430639	-80.82337929	J & J Enterprises, Inc.	Gas	P Strickling 1		4900	Benson	845
4701703058	WV	Doddridge	39.34116734	-80.8266802	J & J Enterprises, Inc.	Gas	Middle Island		5117	Alexander	1039
4701703252	WV	Doddridge	39.33671524	-80.82565321	J & J Enterprises, Inc.	Gas	W & V McCutcheon		5500	Alexander	1092
4701703586	WV	Doddridge	39.37483806	-80.83367761	Never Drilled (Canceled permit)	Not Drilled	Never Drilled (Canceled)		not drilled	not drilled	960
4701771437	WV	Doddridge	39.33436122	-80.82657418	Hope Natural Gas Company	not available	McCutchan-Haines				1135
4701771535	WV	Doddridge	39.33871526	-80.82489324	Hope Natural Gas Company	not available	NA Joseph				977
4709500097	WV	Tyler	39.37191314	-80.84222593	Pigott, L. G.	Gas	John Ash	1	2005	Big Injun (undiff)	941
4709500103	WV	Tyler	39.38803655	-80.84941881	Bachelor, D.	Oil and Gas	D D Davis	1	1925	Big Injun (undiff)	946
4709500113	WV	Tyler	39.38780257	-80.85102277	Oper in Min. owner fld. no code assign (Orphan well prot)	Oil and Gas	D D Davis	2	1885	Big Injun (undiff)	830
4709500120	WV	Tyler	39.38344545	-80.84290196	Oper in Min. owner fld. no code assign (Orphan well prot)	Dry w/ Gas Show	W C Pierson / Josephs Mills	1	1952	Squaw	873
4709500123	WV	Tyler	39.38858257	-80.85033279	Oper in Min. owner fld. no code assign (Orphan well prot)	Dry w/ Gas Show	D D Davis	3	1883	Big Injun (undiff)	803
4709500208	WV	Tyler	39.39188259	-80.84805585	Bachelor, D.	Dry w/ Oil & Gas Show	Frank H Ash	1	2109	Price Fm & equivs	927
4709500300	WV	Tyler	39.35951588	-80.83941496	Prior, Ferrell L.	Gas	Alexander Doak Heirs	1	1836	Big Injun (undiff)	785
4709500508	WV	Tyler	39.3854884	-80.84398493	Equitable Gas Co.	Gas	W N Moore		1900	Big Injun (undiff)	867
4709500577	WV	Tyler	39.34307445	-80.83071912	Industrial Gas Associates	Oil and Gas	Delmer Mulvay	1	2209	Berea Ss	760
4709500780	WV	Tyler	39.35004941	-80.82286032	J & J Enterprises, Inc.	Gas	Izetta B Garner	6	4501	Benson	790
4709500876	WV	Tyler	39.38557401	-80.84080595	L. & M. Petroleum Co.	Gas	Jacob L Dillon	1	2387	Berea Ss	975
4709500924	WV	Tyler	39.38476329	-80.83833904	J & J Enterprises, Inc.	Gas	W Paul McCutchen		5122	Alexander	735
4709500955	WV	Tyler	39.3483235	-80.82911817	J & J Enterprises, Inc.	Gas	Jay & Mary Collins		5279	Alexander	883
4709500956	WV	Tyler	39.35286655	-80.82763921	J & J Enterprises, Inc.	Gas	Jay & Mary Collins		5430	Alexander	1028
4709501036	WV	Tyler	39.35339266	-80.83313209	J & J Enterprises, Inc.	Gas	Edwin D Mulvay et ux		5177	Benson	763
4709501011	WV	Tyler	39.37483806	-80.83367761	Never Drilled (Canceled permit)	Not Drilled	Never Drilled (Canceled)		not drilled	not drilled	960
4709501107	WV	Tyler	39.3568727	-80.83182713	Union Drilling, Inc.	Gas	Karen Jane Osborne	3	5306	Alexander	763
4709501108	WV	Tyler	39.35687256	-80.82472829	Union Drilling, Inc.	Gas	Karen Jane Osborne	1	5240	Alexander	978
4709501109	WV	Tyler	39.35759761	-80.837443	Union Drilling, Inc.	Gas	Karen Jean Osborne	2	5325	Alexander	943
4709501178	WV	Tyler	39.37483806	-80.83367761	Never Drilled (Canceled permit)	Not Drilled	Never Drilled (Canceled)		not drilled	not drilled	960
4709501206	WV	Tyler	39.37483806	-80.83367761	Never Drilled (Canceled permit)	Not Drilled	Never Drilled (Canceled)		not drilled	not drilled	960
4709501226	WV	Tyler	39.3728251	-80.839312	DAC, Inc.	Dry	Verna O Ash	1	5140	Benson	1013
4709501227	WV	Tyler	39.37456504	-80.83428712	DAC, Inc.	Gas w/ Oil Show	Verna O Ash	2	5142	Benson	986
4709501234	WV	Tyler	39.37084915	-80.8436089	DAC, Inc.	Gas	James E Ash	1	5096	Benson	303
4709501235	WV	Tyler	39.38838857	-80.85052578	DAC, Inc.	Gas	Geneva Fouts Bullman	1	4690	Benson	812
4709501237	WV	Tyler	39.37006898	-80.83520209	DAC, Inc.	Gas	Verna O Ash	3	5157	Benson	1029
4709501238	WV	Tyler	39.37722216	-80.83837803	DAC, Inc.	Gas	Edna Dillon	1	5129	Benson	957
4709501254	WV	Tyler	39.36731382	-80.82921722	Stonewall Gas Co., Inc.	Gas	Charles Lee Cumberledge	1	5150	Benson	1018
4709501266	WV	Tyler	39.37780228	-80.8441709	Arnold Oil Co., Inc.	Dry	David A Preston	1	4868	Benson	747
4709501269	WV	Tyler	39.3808472	-80.83783106	Arnold Oil Co., Inc.	Gas	Lawrence Meroer	1	5007	Benson	850
4709501283	WV	Tyler	39.38592343	-80.8452929	Arnold Oil Co., Inc.	Gas	Bruce & Veronica Smith	1	5009	Benson	863
4709501285	WV	Tyler	39.38954841	-80.84062202	Arnold Oil Co., Inc.	Gas	James C Ferrell	1	5100	Benson	1032
4709501286	WV	Tyler	39.39534969	-80.8505278	Coastal Corp. The	Gas w/ Oil Show	Robert H Tennant	1	5005	Benson	826
4709501300	WV	Tyler	39.36122369	-80.82790623	Stonewall Gas Co., Inc.	Gas	John R Pratt	2	5150	Benson	949
4709501304	WV	Tyler	39.37384024	-80.84585185	Coastal Corp. The	Gas	Duane Clark et al	1	4923	Benson	758
4709501312	WV	Tyler	39.37483806	-80.83367761	Never Drilled (Canceled permit)	Not Drilled	Never Drilled (Canceled)		not drilled	not drilled	960
4709501314	WV	Tyler	39.36107879	-80.83295012	Eastern American Energy Corp.	Gas	Charles Daughtery et al	3	5090	Benson	926
4709501318	WV	Tyler	39.36658893	-80.83576207	Eastern American Energy Corp.	Gas	Charles Daughtery et al	1	5167	Benson	1012
4709501332	WV	Tyler	39.37483806	-80.83367761	Never Drilled (Canceled permit)	Not Drilled	Never Drilled (Canceled)		not drilled	not drilled	960
4709501336	WV	Tyler	39.38635824	-80.83482814	Arnold Oil Co., Inc.	Gas	Elmer Cecil	1	5083	Benson	956
4709501338	WV	Tyler	39.38215313	-80.83277518	Arnold Oil Co., Inc.	Gas	Timothy N Ingoglia	1	5045	Benson	943
4709501350	WV	Tyler	39.3857785	-80.84902981	Arnold Oil Co., Inc.	Gas	Ryan J Lind et ux	1	4907	Benson	785
4709501351	WV	Tyler	39.39172362	-80.84939658	Arnold Oil Co., Inc.	Gas	Robert H Tennant	2	5034	Benson	924
4709501382	WV	Tyler	39.38563332	-80.83968703	Arnold Oil Co., Inc.	Gas	Matthew Ash	3	5136	Benson	1049
4709501383	WV	Tyler	39.38331337	-80.84398492	Arnold Oil Co., Inc.	Gas	Matthew Ash	4	5117	Benson	1027
4709501405	WV	Tyler	39.37282494	-80.8309022	DAC, Inc.	Dry	Conrad Costlow	1-A	2136	Big Injun (undiff)	976
4709501428	WV	Tyler	39.38070228	-80.84192896	Arnold Oil Co., Inc.	Gas	Lawrence Mercer His	5	5002	Benson	833
4709501486	WV	Tyler	39.37152	-80.83520209	DAC, Inc.	Dry	Verna O Ash	4	2155	Big Injun (undiff)	1036
4709501951	WV	Tyler	39.39563978	-80.8548267	Sancho Oil & Gas	Gas w/ Oil Show	Donna Marie Vandine	2	6280	Marcellus Sh	728
4709502245	WV	Tyler	39.37127601	-80.83562008	Never Drilled (Canceled permit)	Not Drilled	JE Ash et al		SHR08L	not drilled	1019
4709530346	WV	Tyler	39.38142731	-80.84267595	Pittsburgh & W/V Gas	Gas	Lucretia Mercer	2	2101	Squaw	954
4709530650	WV	Tyler	39.37388707	-80.83688306	Hope Natural Gas Company	Gas	P P Doak		1992	Big Injun (undiff)	972
4709530657	WV	Tyler	39.35807958	-80.8247173	Hope Natural Gas Company	Gas	A U Davis		1972	Big Injun (undiff)	885
4709530824	WV	Tyler	39.37910719	-80.83856504	Travis, C. Q., et al	Gas	Lawrence Mercer	1	1904	Squaw	738
4709530855	WV	Tyler	39.34821857	-80.83255109	Hope Natural Gas Company	Gas	Wm Smith		1836	Big Injun (undiff)	763
4709530887	WV	Tyler	39.37490217	-80.84080697	Hope Natural Gas Company	Gas	Marlin M Grove	1	2010	Big Injun (undiff)	903
4709570182	WV	Tyler	39.37884113	-80.8357641	South Penn Oil (S. Penn Nat. Gas)	not available	John Mercer	1	1841	Big Injun (undiff)	770
4709590038	WV	Tyler	39.37907618	-80.83782105							774

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SHR38 Pad Frac SOG Review / CRSD Review Thursday, November 8, 2018

Figure 1. Stratigraphic intervals of high stress should serve as adequate confining layers, or frac barriers, for a Marcellus frac, seen below in the SHR1C Stress Profile log.



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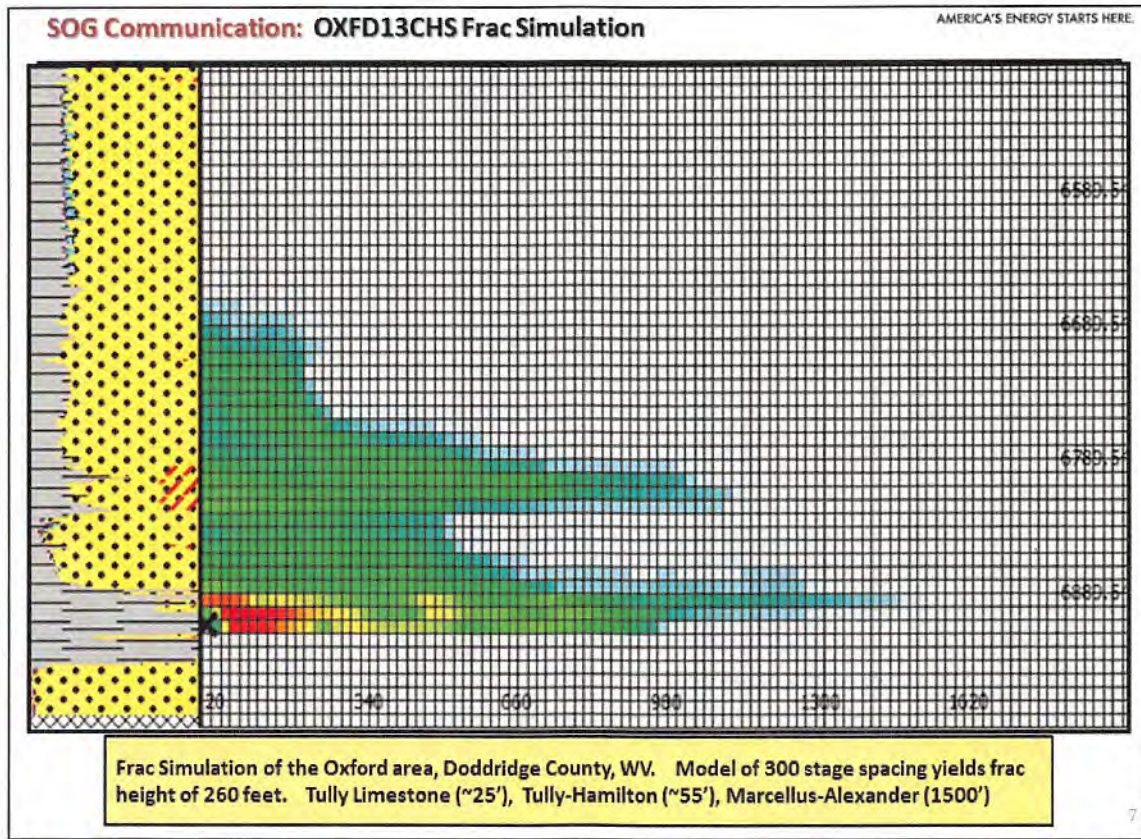
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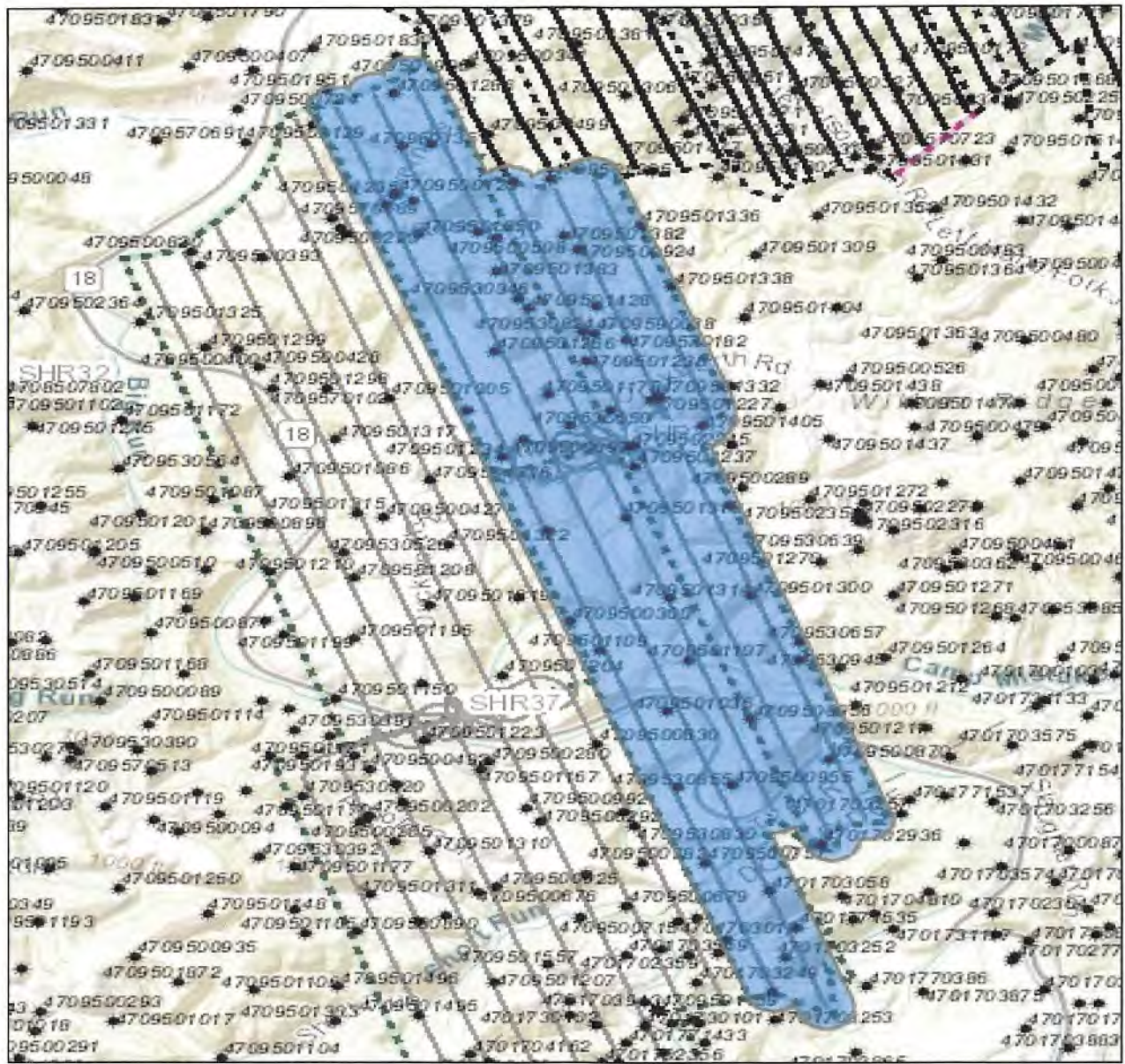
Figure 2. Stratigraphic intervals of high stress should serve as adequate frac barriers for a Marcellus frac. The frac modeling example below is from the Oxford area of western Doddridge County, where the Marcellus and adjacent shallower shales are lithologically similar to Pennsboro. Frac modeling only yields frac height of approximately 300' and falls far short of the 1000' required to communicate with the Alexander or Benson formations. Therefore, faulting is the primary suspect for upward frac migration.



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Figure 3. All wells within 500' buffer around the SHR38 pad have been reviewed and listed below.



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## SHR38 Pad Frac - SOG Review

In accordance with WVDEP 35CSR8 Section 5.11, all known shallow oil and gas (SOG) wells have been identified within a 500' radius of the SHR38 pad. Any SOG well that falls within the Area of Review (AOR) has been reviewed and is provided in a list that includes API, Operator, Well Name, Well Number, Current Status, Total Depth, and Producing Formation at Total Depth. See following pages, including (Figures 3 and 4).

The Marcellus Shale of the Shirley area is found at an approximate True Vertical Depth (TVD) of 6500'. In the Shirley area, there are very few producing formations between the Big Injun and the Benson Sand. Most wells are either approximately 2000' or 5000' deep. Although there are a significant number of SOG Communication events in the Shirley area, it is highly unlikely that communication will occur with any wells producing from formations shallower than the Benson Sand, found at an approximate TVD of 5000'. This is based on previous experience and study of SOG Communication with Marcellus fracs throughout Ritchie and Doddridge counties.

The current hypothesis for SOG Communication is that Marcellus frac fluids and pressure intersect and migrate up a nearby fault that acts as a conduit for upward migration and intersection with high permeability reservoirs of the Alexander and Benson. Both of these reservoirs are primarily depleted, allowing an easier pressure migration throughout these formations. Geomechanical data is collected from dipole sonic logs. CNX's nearest sonic data is from the SHR1C well (Figure 1), immediately north of the SHR38 pad. Frac modeling (Figure 2) of the Marcellus in the area does not show significant upward frac growth. In fact, typical frac height would need to be more than double to reach the Alexander, approximately 1000' above the Marcellus Shale.

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### SHR38 Cement Additives

Fresh water string: Class A cement with 1%-3% CaCl<sub>2</sub> and 1/4 pps cello-flake/LCM. ✓  
Intermediate string: Class A cement with 0%-2% CaCl<sub>2</sub> and 1/4 pps cello-flake/LCM. ✓  
Production string: Class H cement or Class H:Poz blend with dry blend and/or liquid additives including retarder, suspension agent, gas block, defoamer, fluid loss control, extender, dispersant, anti-settling agent. Actual cement blends may vary slightly depending upon cementing service company utilized.

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**DRILLING WELL PLAN**  
**SHR38FHSM (Marcellus HZ)**  
**Marcellus Shale Horizontal**  
**Tyler County, WV**

Ground Elevation			1012 GL Elevation		SHR38FHSM SHL			N 320162.54, E 1622491.12 (NAD27)		
Azimuth			161°		SHR38FHSM LP			N 319955.36, E 1621838.67 (NAD27)		
WELLBORE DIAGRAM			161°		SHR38FHSM BHL			N 311095.09, E 1624889.5 (NAD27)		
HOLE	CASING	GEOLOGY	MD	TVD	MUD	CEMENT	CENTRALIZERS	CONDITIONING	COMMENTS	
	24"	20" L/S	Conductor	100	100	AIR	To Surface	N/A	N/A	Stabilize surface fill/soil
	17-1/2"	13-3/8" 54.5# J-55 BTC	Shallowest Fresh Water		114	AIR / FW Mist	15.6 ppg Class A + 1% to 3% CaCl2 + 1/4 pps Flake 20% OH Excess Yield = 1.19 TOC @ surface	Centralize every other joint from shoe to surface Bow spring centralizers	Ensure the hole is clean at section TD	Set through fresh water zones Cemented to surface No known mineable coal seams
			Deepest Fresh Water		415					
			Fresh Water Casing	565	565					
	12-1/4"	9-5/8" 36.0# J-55 LTC	No known coal zones		N/A	AIR / Soap	15.6 ppg Class A + 0% to 2% CaCl2 + 1/4 pps Flake 20% OH Excess Yield = 1.19 TOC @ surface	Centralize every 3rd joint from shoe to surface Bow spring centralizers	Soap the hole as needed and ensure the hole is clean at section TD	Set through potential salt water zones Cemented to surface Casing to be set below the Big Injun and Berea and into Devonian Shale
			Big Lime		1867					
			Big Injun		1932					
			Price		2072					
			Weir		2232					
			Berea		2422					
	8-3/4" Tangent	5-1/2" 20.0# P-110 VAR	Gordon		2642	AIR	15.0 ppg Class H with additives (retarder, suspension agent, gas block, defoamer, fluid loss, extender, etc.) 10% OH Excess Yield = 1.10 TOC @ >= 500' above 9-5/8" shoe	Centralize every joint from shoe to TOC Single-piece/rigid bow centralizers	Once at TD, circulate at max flowrate with max rotation until shakers clean-up (typically requires multiple bottoms-up) Once on bottom with casing, circulate a minimum of one hole volume prior to pumping cement	Note: Actual centralizer placement may be changed due to hole conditions Note: Actual cement blends may vary slightly depending upon service company utilized
			Warren		3337					
			Benson		4917					
			Alexander		5162					
			Cashaqua		6162					
Middlesex				6267						
West River				6307						
Burkett				6377						
Tully				6407						
Hamilton				6428						
Marcellus		6447								
8-1/2" Curve & Lateral		Production Casing	16408	6480	12.0-12.8 ppg SOBMs					

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LP @ +/- 6480' TVD      8-3/4" x 8-1/2" Hole - Cemented Long String 5-1/2" 20.0# P-110 VAR      +/- 9371' Lateral      TD @ +/- 6480' TVD

*JEB*  
11/29/2010

4709502571

WW-9  
(4/16)

API Number 47 - \_\_\_\_\_ - \_\_\_\_\_  
Operator's Well No. SHR38FHSM

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) Headwaters Middle Island Creek Quadrangle West Union

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: no pits

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

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 SHR35 wells API TBD )
- Off Site Disposal (Supply form WW-9 for disposal location)
- Other (Explain No Pits )

*JOB 11/29/2018*

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 spud/surface 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

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Environmental Protection

Subscribed and sworn before me this 27<sup>th</sup> day of November, 20 18

*Judy L Snyder*

My commission expires 10-31-2021

Notary Public Commonwealth of Pennsylvania

Notarial Seal  
JUDY L SNYDER - Notary Public  
CECIL TWP, WASHINGTON COUNTY  
My Commission Expires Oct 31, 2021

**CNX Gas Company, LLC**

Proposed Revegetation Treatment: Acres Disturbed 15.57 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: [Signature]

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

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

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Environmental Protection

Title: Oil & Gas Date: 11/29/2018

Field Reviewed?  Yes  No

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

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

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	Hoopesston	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	
Environtech	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	
Roxana	Roxana	IL	X	X	X	X	X	X	X	X	X	X	X	
Saverton Valley	Springfield	IL	X	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	
Green 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	X	
Williams County	Bryan	OH			X	X	X	X	X	X	X		X	
County Environmental	Carey	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	
Countryside Landfill**	East Sparta	OH	X	X	X	X	X	X	X	X	X	X	X	
Lorain County	Oberlin	OH			X	X	X	X	X	X	X		X	
Oakland Marsh	Shiloh	OH			X	X	X	X	X	X	X		X	
Imperial	Imperial	PA			X	X	X	X	X	X	X		X	
Conestoga	Morantown	PA			X	X	X	X	X	X	X		X	
Brunswick	Lawrenceville	VA			X	X	X	X	X	X	X		X	
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	

317-921-1667 or 480-627-2700  
1-800-634-0215

Jack Palermo:  
work: 330-536-8013  
cell: 330-806-9660  
  
Barbara Hansany:  
work: 330-536-8013 x 120  
cell: 330-423-7267

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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	X	
South Hills (Armoni)	South Park	PA	X	X	X	X	X	X	X		X	X	X	
Kelly Run	Elizabeth	PA	X	X	X	X	X	X	X		X	X	X	
Valley Landfill	Irwin	PA	X	X	X	X	X	X	X		X	X	X	
Evergreen Landfill	Blairsville	PA	X	X	X	X	X	X	X	X	X	X	X	
Charleston Landfill (Kanawha County)	Charleston	WV	X	X	X	X	X	X			X		X	
Meadowfill Landfill	Bridgetown	WV	X	X	X	X	X	X	X	X	X	X	X	
Northwestern Landfill	Parkersburg	WV	X	X	X	X	X	X	X	X	X	X	X	
S&S Grading Landfill	Clarksburg	WV	X	X	X	X	X	X			X	X	X	
American Landfill	Wesnesburg	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	X	X	
Mahoning Landfill	New Springfield	OH	X	X	X	X	X	X		X	X		X	

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	
MAX Environmental (Hulger Facility)	200 Max Drive, Bulger, PA 15019	PA	X	X	X	X	X	X				X	X	
MAX Environmental (Yukon Facility)	233 MAX Lane, Yukon, PA 15698	PA	X	X	X	X	X	X				X	X	
Apex Sanitary landfill (Apex Environmental)	11 County Road 78, Amsterdam, Ohio 43903	OH	X	X	X	X	X	X				X	X	
Rumpke, Mt. Sterling (Rumpke Consolidated)	30 Larison Rd, Jeffersonville, KY 40337	KY	X	X	X	X	X	X	X	X			X	
Laurel Ridge Landfill (Waste Connections of KY)	3612 B State Highway 552, Liberty, 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	
	Greentree Landfill; 635 Toby Rd.; Kensey, PA	PA	X	X	X	X	X	X					X	
	Mostoller Landfill; 7035 Glades Pike Rd.; Somersot, 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).

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# Site Safety Plan for Well SHR38FHSM

## CNX Gas Company, LLC.



*gob*  
*11/29/2018*

# Approval Sheet

The Office of Oil and Gas and the Oil and Gas Conservation Commission have set forth minimum requirements for necessary equipment and procedures that must be addressed in a Safety Plan ("Plan") and shall be submitted and approved prior to drilling a deep well. A deep well shall be any well which meets the definition as provided for in Chapter 22C, Article 9 of the West Virginia Code.

A site specific Safety Plan must be submitted with each deep well application or no later than one week prior to spudding. Approved Plans shall be maintained and available at the drilling rig at all times.

The Office of Oil and Gas must approve all changes and modifications to previously approved plans.

This plan has met the requirements of the Policy Statement Deep Well Drilling Procedures and Site Safety Plan Requirements as set forth by:

West Virginia Division of Environmental Protection, Office of Oil and Gas

And

West Virginia Oil and Gas Conservation Commission.

Approved this day \_\_\_\_\_ of month \_\_\_\_\_, 20\_\_ by

\_\_\_\_\_ Date: \_\_\_\_\_

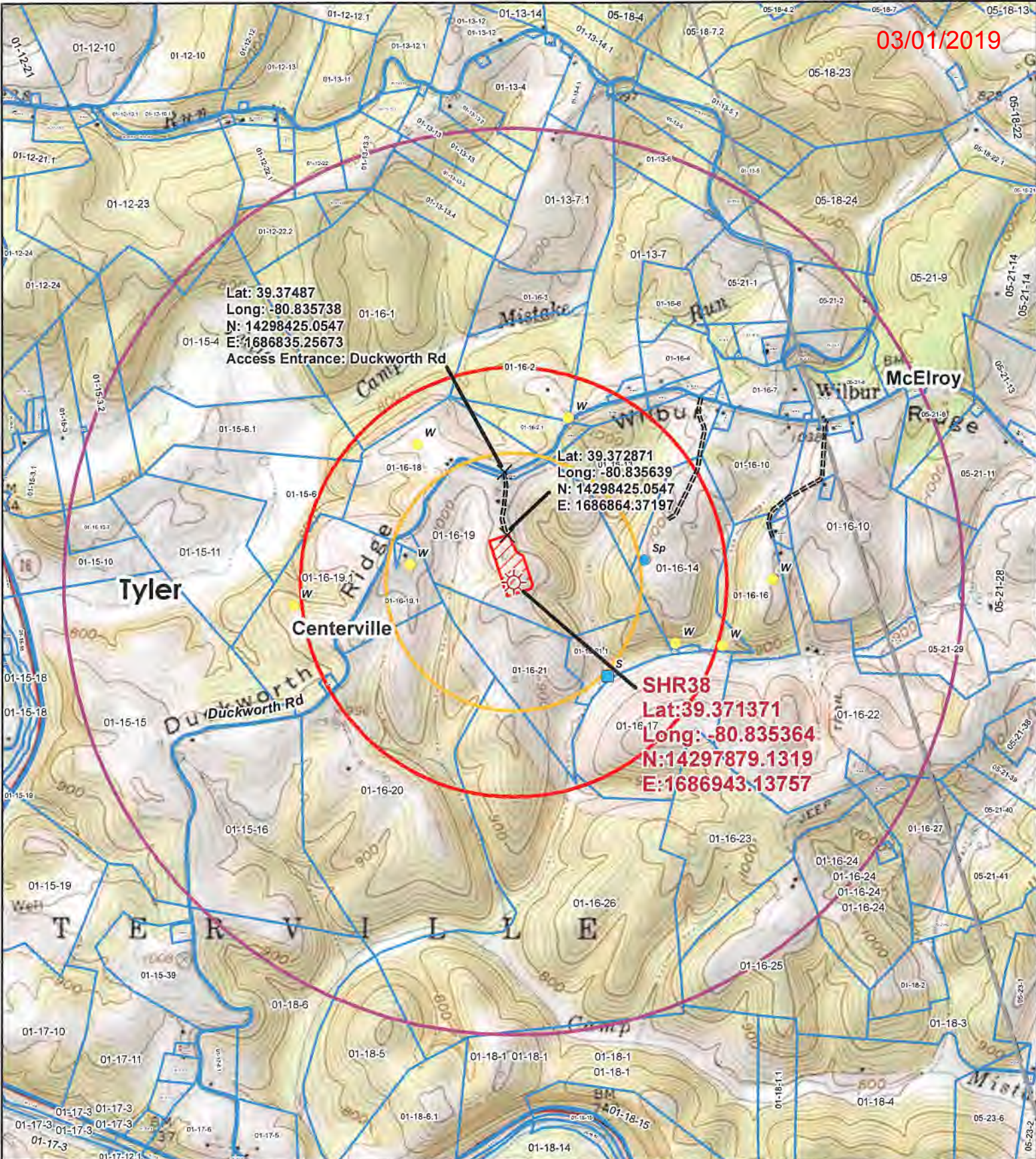
\_\_\_\_\_ Date: \_\_\_\_\_

03/01/2019

Lat: 39.37487  
Long: -80.835738  
N: 14298425.0547  
E: 1686835.25673  
Access Entrance: Duckworth Rd

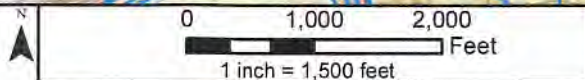
Lat: 39.372871  
Long: -80.835639  
N: 14298425.0547  
E: 1686864.37197

**SHR38**  
Lat: 39.371371  
Long: -80.835364  
N: 14297879.1319  
E: 1686943.13757



**Legend**

- Wellbore
- Access Points
- Sp
- St
- W
- Access Road
- Surface Parcel
- Well Pad
- 1,500 Foot Buffer
- 2,500 Foot Buffer
- 1 Mile Buffer



Original Date: 5/8/2018	Prepared By: GIS
Revision Date: 5/8/2018	Approved By: GIS

Topographic Well Map  
**SHR38**

This map is property of CNX Land Resources Inc. and contains information that is proprietary and confidential in nature and may not be copied or reproduced without prior written consent.  
© Copyright CNX Land Resources Inc. 2011

NOTES:

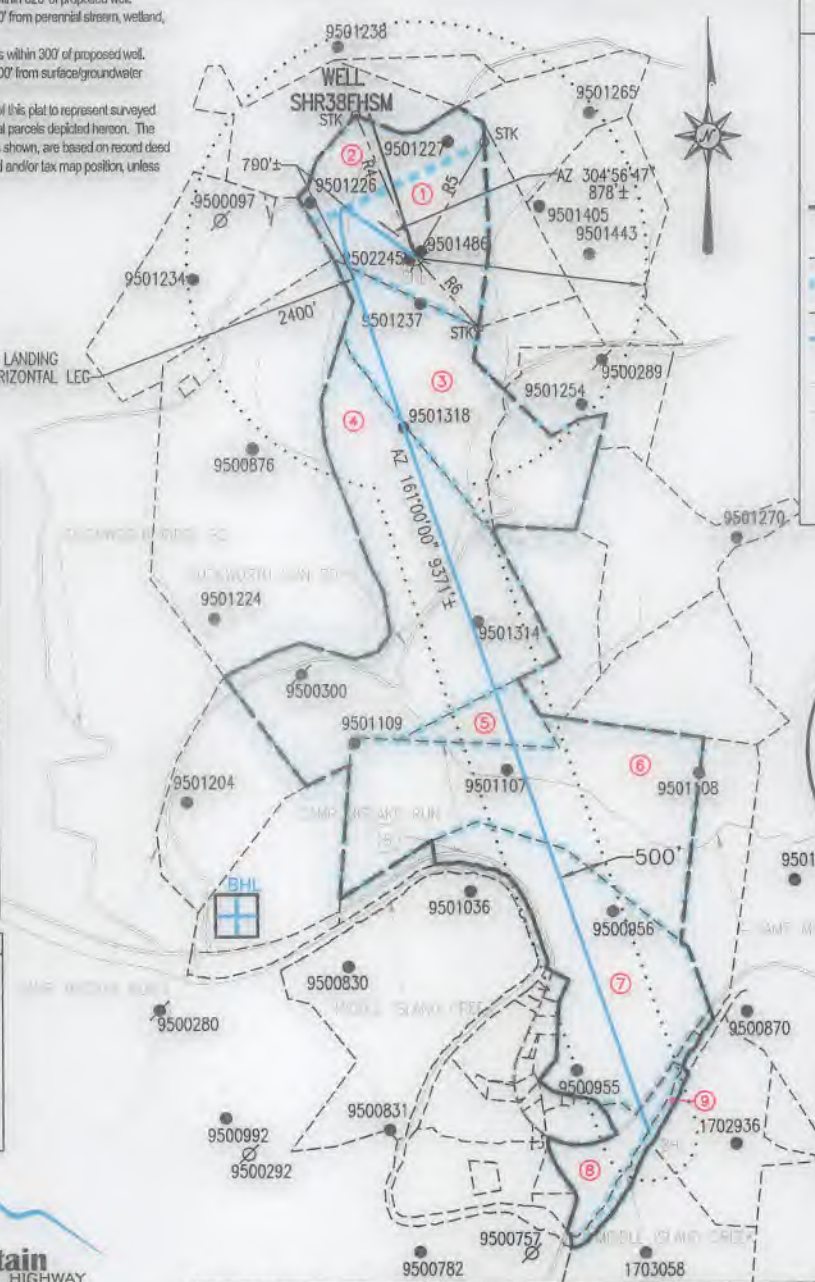
1. There are no water wells or developed springs within 250' of proposed well.
2. There are no existing buildings within 625' of proposed well.
3. Proposed well is greater than 100' from perennial stream, wetland, pond, reservoir or lake.
4. There are no native trout streams within 300' of proposed well.
5. Proposed well is greater than 1000' from surface/groundwater intake or public water supply.
6. 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.

BHL is located on topo map 10,377 feet south of Latitude: 39° 22' 30"  
 SHL is located on topo map 1,306 feet south of Latitude: 39° 22' 30"

**SURFACE HOLE LOCATION (SHL)**  
 UTM 17-NAD83  
 N:4358006.97  
 E:514194.94  
 NAD83, WV NORTH  
 N:320197.529  
 E:1591049.968  
 LAT/LON DATUM-NAD83  
 LAT:39°22'17.087"  
 LON:80°50'06.740"

**APPROX. LANDING POINT**  
 UTM 17-NAD83  
 N:4357940.53  
 E:513997.22  
 NAD83, WV NORTH  
 N:319990.326  
 E:1590397.525  
 LAT/LON DATUM-NAD83  
 LAT:39°22'14.944"  
 LON:80°50'15.008"

**BOTTOM HOLE LOCATION (BHL)**  
 UTM 17-NAD83  
 N:4355256.76  
 E:514971.70  
 NAD83, WV NORTH  
 N:311130.121  
 E:1593448.336  
 LAT/LON DATUM-NAD83  
 LAT:39°20'47.827"  
 LON:80°49'34.497"

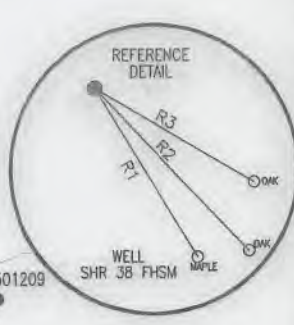


**LEGEND**

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

**GAS WELLS**

- EXISTING WELLS
- PLUGGED WELLS
- ABANDON WELLS



LINE	BEARING	DISTANCE
R1	S 31°13'58" E	159.02'
R2	S 43°25'13" E	180.49'
R3	S 59°33'31" E	148.71'
R4	N 23°35'07" W	1572.27'
R5	N 31°30'21" E	1360.72'
R6	S 42°35'34" E	967.65'

SEE PAGE 2 FOR SURFACE OWNERS AND LESSORS

FILE #: SHR 38 FHSM  
 DRAWING #: SHR 38 FHSM  
 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

**GEORGE D. SIX**  
 LICENSED  
 No. 2000  
 STATE OF WEST VIRGINIA  
 PROFESSIONAL SURVEYOR

PLACE SEAL HERE

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



DATE: NOVEMBER 20, 2018  
 OPERATOR'S WELL #: SHR 38 FHSM  
 API WELL #: 47 95 02571  
 STATE COUNTY PERMIT

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

WATERSHED: HEADWATERS MIDDLE ISLAND CREEK ELEVATION: 1012±  
 COUNTY/DISTRICT: TYLER / CENTERVILLE QUADRANGLE: WEST UNION, WV 7.5'  
 SURFACE OWNER: JAMES E. ASH ET AL ACREAGE: 111±  
 OIL & GAS ROYALTY OWNER: JAMES E. ASH ET AL ACREAGE: 520.254±

DRILL  CONVERT  DRILL DEEPER  REDRILL  FRACTURE OR STIMULATE   
 PLUG OFF OLD FORMATION  PERFORATE NEW FORMATION  PLUG & ABANDON   
 CLEAN OUT & REPLUG  OTHER CHANGE  (SPECIFY): \_\_\_\_\_

TARGET FORMATION: MARCELLUS ESTIMATED DEPTH: TVD: 6,480± TMD: 16,408±  
 WELL OPERATOR CNX GAS COMPANY LLC DESIGNATED AGENT CHRIS TURNER  
 Address 1000 CONSOL ENERGY DRIVE Address 1 DOMINION DR.  
 City CANONSBURG State PA Zip Code 15317 City JANE LEW State WV Zip Code 26378

# SHR 38 FHSM

## PAGE 2 OF 2

	SURFACE OWNER	LESSOR	DIST-TM/PAR
1 2	JAMES E. ASH ET AL	VERNA O. ASH, JAMES E. ASH AND THELMA B. ASH, BESSIE HAUGHT AND HAROLD WARNER ERNEST G. SECKMAN AND O. JOANNE SECKMAN RALPH E. PHILLIPS AND VELINDA PHILLIPS, H/W	P/O 1-16/19
3	RICHARD H. METCALF JOHN R. ANDERS II	JOHN MICHAEL LEONIAN JOSEPH ROBERT LEONIAN MARGO L. KIEHL AND CHARLES F. KIEHL, W/H BERDINA ROSE AND NORMAN W. ROSE, W/H PHILLIP LEONIAN, A/K/A PHILLIP MARSHALL LEONIAN MARION RAY BACHELOR, A/K/A MARION R. BACHELOR AND CLORIA JEAN BACHELOR, H/W RITA G. JARVIS MIKE ROSS, INC I. L. MORRIS JO ELLEN HARPER DAY MARY LEE LILLY ARMEN LEONIAN, A/K/A ARMEN LANHAM LEONIAN JOHN FULTON LEONIAN NILA ASH SAYLOR REVOCABLE TRUST, BY JOSEPH F. SILEK, JR. BAILEY ANN MILLS WILLIAM PAUL HARPER DAVID VINCENT LOCOCO MARY LYNNE SLATTERY, F/K/A MARY LYNNE LOCOCO DONALD VINCENT LOCOCO ROSE MARIE VANHEUVELN THERESA LEE ROBERTSON MARTHA SUE MUZIO, F/K/A MARTHA SUE LOCOCO MICHELLE LOCOCO BUSHMIRE, F/K/A MICHELLE LUCRETIA BUSHMIRE ELIZABETH FLORENCE LOCOCO RALPH E. PHILLIPS AND VELINDA PHILLIPS, H/W BRC APPALACHIAN MINERALS I, LLC BRC APPALACHIAN MINERALS I, LLC	1-16/17 & 1-16/21
4 5	D. RALPH THACKER & J. MAURICE CARLISLE JR.	CHARLES W. HENDERSON AND DOROTHY M. HENDERSON, H/W AND CHARLES W. HENDERSON, POWER OF ATTORNEY FOR THE A. I. DOAK HEIRS JOHN A. CONKLIN AND JEAN CONKLIN, H/W GEORGE B. CONKLIN AND JEAN CONKLIN, H/W BETTY L. CONKLIN ROBERT LEE REED LEWIS H. REED AND CAROL J. REED, H/W KATHY PRANGER VIRGINIA O'REAR AND RALPH O'REAR, W/H ROBERT H. MELVIN BETTY L. MELVIN MARY S. LARTZ AND WILLIAM LARTZ, W/H LILLIAN CRABILL AND WILLIAM CRABILL, W/H MELISSA COLL ROBERT BARTHOLOMEW AND BARBARA BARTHOLOMEW, H/W PHILLIP L. MELVIN JOANNE GREENMAN AND GERALD GREENMAN, H/W	1-16/26
6	STEVEN E. MALICKI JR. FRED M. DOTSON JR. KAREN DOTSON KEVIN DOTSON STEVEN E. MALICKI JR.	PAUL W. HYLBERT AND CHARLOTTE J. HYLBERT, H/W	1-18/1 & 1-18/1.1
7	MARY MONNIE COLLINS	CECILIA LOUISE BOOMER AND JAMES BOOMER, W/H WOODBERRY ROYALTY, INC. NANCY FOUT AND JOHN FOUT, W/H THERESA MARIE SMITH, SINGLE JAY COLLINS AND MARY M. COLLINS, H/W	1-18/15
8	EDWIN D. & PATRICIA L. MULVAY	CECILIA LOUISE BOOMER AND JAMES BOOMER, W/H WOODBERRY ROYALTY, INC. NANCY FOUT AND JOHN FOUT, W/H GLENDA L. HEDRICK THERESA MARIE SMITH, SINGLE EDWIN DELMER MULVAY AND PATRICIA L. MULVAY, H/W	1-18/18
9	WEST VIRGINIA DIVISION OF NATURAL RESOURCES	WEST VIRGINIA DIVISION OF NATURAL RESOURCES	N/A

03/01/2019

**SURFACE HOLE LOCATION (SHL)**  
UTM 17-NAD83  
 N:4358006.97  
 E:514194.94  
 NAD83, WV NORTH  
 N:320197.529  
 E:1591049.968  
 LAT/LON DATUM-NAD83  
 LAT:39°22'17.087"  
 LON:80°50'06.740"

**APPROX. LANDING POINT**  
UTM 17-NAD83  
 N:4357940.53  
 E:513997.22  
 NAD83, WV NORTH  
 N:319990.326  
 E:1590397.525  
 LAT/LON DATUM-NAD83  
 LAT:39°22'14.944"  
 LON:80°50'15.008"

**BOTTOM HOLE LOCATION (BHL)**  
UTM 17-NAD83  
 N:4355256.76  
 E:514971.70  
 NAD83, WV NORTH  
 N:311130.121  
 E:1593448.336  
 LAT/LON DATUM-NAD83  
 LAT:39°20'47.827"  
 LON:80°49'34.497"

47-095-02571

**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				

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

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

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

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

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





<u>Tract ID</u>	<u>Tax Map &amp; Parcel</u>	<u>Title Opinion QLS #</u>	<u>Grantor, Lessor, etc</u>	<u>Grantee, Lessee, etc</u>	<u>Royalty</u>	<u>Book/Page</u>
6	TMP 1-18-1 & 1-18-1.1	258995000	Paul W. Hylbert and Charlotte J. Hylbert, h/w KEPCO, INC. Eastern Kentucky Production Company Equitable Resources Energy Company EnerVest East Limited Partnership The Houston Exploration Company Seneca-Upshur Petroleum, Inc. Seneca-Upshur Petroleum, LLC Antero Resources Appalachian Corporation  Antero Resources Corporation Noble Energy, Inc.	KEPCO, INC. Eastern Kentucky Production Company Equitable Resources Energy Company EnerVest East Limited Partnership The Houston Exploration Company Seneca-Upshur Petroleum, Inc. Seneca-Upshur Petroleum, LLC Antero Resources Appalachian Corporation Antero Resources Corporation  Noble Energy, Inc and CNX Gas Company, LLC CNX Gas Company, LLC	Not less than 1/8 Name Change Merger Assignment Assignment Assignment Assignment Assignment Name Change  Assignment Assignment	242/513 WVSOS WVSOS 313/145 402/132 342/160 344/158 381/540 402/132 WVSOS 425/701 427/564 550/273
7	TMP 1-18-15	259010000	Cecilia Louise Boomer and James Boomer, w/h Woodberry Royalty, Inc. Nancy Fout and John Fout, w/h Theresa Marie Smith, single Noble Energy, Inc. Noble Energy, Inc. Noble Energy, Inc. Noble Energy, Inc.  Jay Collins and Mary M. Collins, h/w Exxon Corporation Exxon Mobile Corporation XTO Energy Inc. Noble Energy, Inc. Noble Energy, Inc.	Noble Energy, Inc. Noble Energy, Inc. Noble Energy, Inc. Noble Energy, Inc. CNX Gas Company, LLC CNX Gas Company, LLC CNX Gas Company, LLC CNX Gas Company, LLC  Exxon Corporation Exxon Mobile Corporation XTO Energy Inc. Noble Energy, Inc. CNX Gas Company, LLC CNX Gas Company, LLC	Not less than 1/8 Not less than 1/8 Not less than 1/8 Not less than 1/8 Assignment Assignment Assignment Assignment  Not less than 1/8 Merger Assignment Assignment Assignment	480/823 482/760 492/296 480/831 513/299 521/80 542/134 550/273  209/152 WVSOS 496/126 515/278 542/147 550/273
8	TMP 1-18-18	259052000	Cecilia Louise Boomer and James Boomer, w/h Woodberry Royalty, Inc. Nancy Fout and John Fout, w/h Glenda L. Hedrick Theresa Marie Smith, single Edwin Delmer Mulvay and Patricia L. Mulvay, h/w Noble Energy, Inc. Noble Energy, Inc. Noble Energy, Inc. Noble Energy, Inc.	Noble Energy, Inc. Noble Energy, Inc. Noble Energy, Inc. Noble Energy, Inc. Noble Energy, Inc. Noble Energy, Inc. CNX Gas Company, LLC CNX Gas Company, LLC CNX Gas Company, LLC CNX Gas Company, LLC	Not less than 1/8 Not less than 1/8 Not less than 1/8 Not less than 1/8 Not less than 1/8 Not less than 1/8 Assignment Assignment Assignment Assignment	480/823 482/760 492/296 458/763 480/831 488/396 513/299 521/80 542/134 550/273
9	N/A	N/A	West Virginia Division of Natural Resources Antero Resources Corporation	Antero Resources Corporation CNX Gas Company, LLC	Not less than 1/8 Affidavit of Agreement	553/295 624/332

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03/01/2019



Erika Whetstone  
Permitting Manager  
Work: 724-485-4035  
Mobile: 724-317-2224  
Email: erikawhetstone@cnx.com

CNX Center  
1000 CONSOL Energy Drive  
Canonsburg, PA 15317-6506  
724-485-4000



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

**RE: Road Letter SHR38 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 blue handwritten signature that reads 'Erika Whetstone'.

Erika Whetstone  
Permitting Manager

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

Date of Notice Certification: 11-28-18

API No. 47- \_\_\_\_\_  
Operator's Well No. SHR38FHSM  
Well Pad Name: SHR38

**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>514194.9390</u>
County: <u>Tyler</u>		Northing: <u>4358006.9690</u>
District: <u>Centerville</u>	Public Road Access: <u>Duckworth Ridge Road</u>	
Quadrangle: <u>West Union</u>	Generally used farm name: <u>Ash</u>	
Watershed: <u>Headwaters Middle Island 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.

<p>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:</p> <p>*PLEASE CHECK ALL THAT APPLY</p> <p><input type="checkbox"/> 1. NOTICE OF SEISMIC ACTIVITY or <input checked="" type="checkbox"/> NOTICE NOT REQUIRED BECAUSE NO SEISMIC ACTIVITY WAS CONDUCTED</p> <p><input type="checkbox"/> 2. NOTICE OF ENTRY FOR PLAT SURVEY or <input checked="" type="checkbox"/> NO PLAT SURVEY WAS CONDUCTED</p> <p><input checked="" type="checkbox"/> 3. NOTICE OF INTENT TO DRILL or <input type="checkbox"/> NOTICE NOT REQUIRED BECAUSE NOTICE OF ENTRY FOR PLAT SURVEY WAS CONDUCTED or</p> <p style="padding-left: 40px;"><input type="checkbox"/> WRITTEN WAIVER BY SURFACE OWNER (PLEASE ATTACH)</p> <p><input checked="" type="checkbox"/> 4. NOTICE OF PLANNED OPERATION</p> <p><input checked="" type="checkbox"/> 5. PUBLIC NOTICE</p> <p><input checked="" type="checkbox"/> 6. NOTICE OF APPLICATION</p>	<p><b>OOG OFFICE USE ONLY</b></p> <p><input type="checkbox"/> RECEIVED/ NOT REQUIRED</p> <p><input type="checkbox"/> RECEIVED</p> <p><input type="checkbox"/> RECEIVED/ NOT REQUIRED</p> <p><input type="checkbox"/> RECEIVED</p> <p><input type="checkbox"/> RECEIVED</p> <p><input type="checkbox"/> RECEIVED</p>
<p>RECEIVED Office of Oil and Gas DEC 4 2018 WV Department of Environmental Protection</p>	

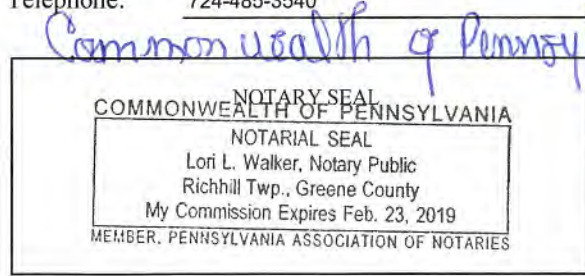
**Required Attachments:**

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

**Certification of Notice is hereby given:**

THEREFORE, I Raymond Hoon, 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 Address: 1000 Consol Energy Drive  
By: Raymond Hoon Canonsburg, PA 15317  
Its: Permitting Supervisor Facsimile: \_\_\_\_\_  
Telephone: 724-485-3540 Email: RaymondHoon@CNX.com



Subscribed and sworn before me this 29th day of November 2018.  
Lori L Walker Notary Public  
My Commission Expires February 23, 2019

**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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**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:** 11-26-18 **Date Permit Application Filed:** 11-28-18

**Notice of:**

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

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

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

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

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

SURFACE OWNER(s)  
Name: See attached  
Address: \_\_\_\_\_

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

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

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

SURFACE OWNER(s) (Impoundments or Pits)  
Name: \_\_\_\_\_  
Address: \_\_\_\_\_

COAL OWNER OR LESSEE  
Name: See attached  
Address: \_\_\_\_\_

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COAL OPERATOR  
Name: \_\_\_\_\_  
Address: \_\_\_\_\_

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SURFACE OWNER OF WATER WELL AND/OR WATER PURVEYOR(s)  
Name: See attached  
Address: \_\_\_\_\_

OPERATOR OF ANY NATURAL GAS STORAGE FIELD  
Name: \_\_\_\_\_  
Address: \_\_\_\_\_

\*Please attach additional forms if necessary

**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).

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**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

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 qualified to test water. **NOTE: YOU ARE NOT REQUIRED TO FILE ANY COMMENT.**

**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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**Notice is hereby given by:**

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

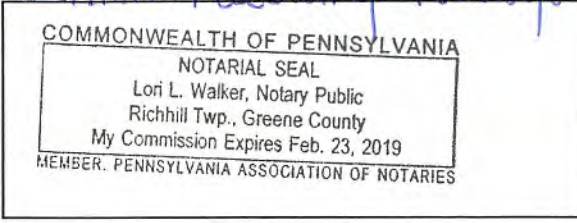
Address: 1000 Consol Energy Drive  
Canonsburg, PA 15317  
Facsimile: \_\_\_\_\_

**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).

*Commonwealth of Pennsylvania*

*County of Washington*



Subscribed and sworn before me this 29<sup>th</sup> day of November 2018.

*Lori L. Walker* Notary Public

My Commission Expires February 23, 2019

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**Surface Owners:**

James Eli Ash	8707 Middle Island Road Alma, WV, 26320
Becannray LLC	5042 Tyler Highway Sistersville, WV 26175
Nicole Eastham	34973 State Route 800 New Matamoras, OH
Alexandria Fetty	34973 State Route 800 New Matamoras, OH
Rachelle Hise	237 Holiday Avenue Woodsfield, OH 43793
Potts Place LLC	353 Foundry Street New Martinsville, WV 26155
STS Enterprises LLC	659 Jefferson Run Road Alma, WV 26320
Bessie Warner	771 McElroy Creek Road Alma, WV 26320

**Coal Owners:**

James Eli Ash	8707 Middle Island Road Alma, WV, 26320
Becannray LLC	5042 Tyler Highway Sistersville, WV 26175
Nicole Eastham	34973 State Route 800 New Matamoras, OH
Alexandria Fetty	34973 State Route 800 New Matamoras, OH
Rachelle Hise	237 Holiday Avenue Woodsfield, OH 43793
Potts Place LLC	353 Foundry Street New Martinsville, WV 26155
STS Enterprises LLC	659 Jefferson Run Road Alma, WV 26320
Bessie Warner	771 McElroy Creek Road Alma, WV 26320
Ralph E Phillips	6411 Veterans Highway New Martinsville, WV 26155

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

ASH, JAMES E  
8707 MIDDLE ISLAND RD ALMA WV 26320

ANDERS, JOHN R II  
804 PETERS RUN RD WHEELING WV 26003

COSTILOW, CONRAD  
13310 MIDDLE ISLAND RD WEST UNION WV 26456

03/01/2019

**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:** 11-26-18      **Date Permit Application Filed:** 11-28-18

**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: See attached.  
Address: \_\_\_\_\_  
\_\_\_\_\_

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Name: \_\_\_\_\_  
Address: \_\_\_\_\_ **DEC 4 2018**

WV Department of  
Environmental Protection

**Notice is hereby given:**

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

State:	<u>West Virginia</u>	UTM NAD 83	Easting:	<u>514194.9390</u>
County:	<u>Tyler</u>		Northing:	<u>4358006.9690</u>
District:	<u>Centerville</u>	Public Road Access:	<u>Duckworth Ridge Road</u>	
Quadrangle:	<u>West Union</u>	Generally used farm name:	<u>Ash</u>	
Watershed:	<u>Headwaters Middle Island Creek</u>			

**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).

**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).

**Surface Owners:**

James Eli Ash	8707 Middle Island Road Alma, WV, 26320
Becannray LLC	5042 Tyler Highway Sistersville, WV 26175
Nicole Eastham	34973 State Route 800 New Matamoras, OH
Alexandria Fetty	34973 State Route 800 New Matamoras, OH
Rachelle Hise	237 Holiday Avenue Woodsfield, OH 43793
Potts Place LLC	353 Foundry Street New Martinsville, WV 26155
STS Enterprises LLC	659 Jefferson Run Road Alma, WV 26320
Bessie Warner	771 McElroy Creek Road Alma, WV 26320

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03/01/2019

**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:** 11-26-18      **Date Permit Application Filed:** 11-28-18

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

- CERTIFIED MAIL                                       HAND  
RETURN RECEIPT REQUESTED                                      DELIVERY

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

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

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

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

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**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>514194.9390</u>
County:	<u>Tyler</u>		Northing:	<u>4358006.9690</u>
District:	<u>Centerville</u>	Public Road Access:	<u>Duckworth Ridge Road</u>	
Quadrangle:	<u>West Union</u>	Generally used farm name:	<u>Ash</u>	
Watershed:	<u>Headwaters Middle Island 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: \_\_\_\_\_

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**Surface Owners:**

James Eli Ash	8707 Middle Island Road Alma, WV, 26320
Becannray LLC	5042 Tyler Highway Sistersville, WV 26175
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Rachelle Hise	237 Holiday Avenue Woodsfield, OH 43793
Potts Place LLC	353 Foundry Street New Martinsville, WV 26155
STS Enterprises LLC	659 Jefferson Run Road Alma, WV 26320
Bessie Warner	771 McElroy Creek Road Alma, WV 26320

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WEST VIRGINIA DEPARTMENT OF TRANSPORTATION  
**Division of Highways**

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

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

April 27, 2018

Jill M. Newman  
Deputy Commissioner

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 SHR-38 Pad, Tyler County  
SHR-38FHSM Well Site

Dear Mr. Martin,

The West Virginia Division of Highways has issued Permit #06-2018-0331 for the subject site to CNX Gas Company LLC, for access to the State Road for the well site located off of Tyler County route 58/2 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,

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

Cc: Ray Hoon  
CNX Gas Company LLC  
CH, OM, D-6  
File

## Section V – 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

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WEST VIRGINIA COUNTY MAP



APPROVED WVDEP OOG

6/5/2018

SHRL38 Well Site

Site Design, Construction Plan, & Erosion and Sediment Control Plans

CNX Resources Corporation

Tyler County

Centerville District

Latitude 39.37161667°

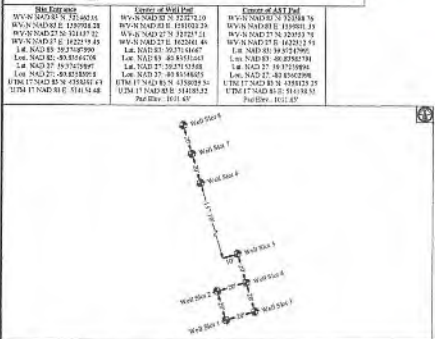
Longitude -80.83531447°

Headwaters Middle Island Creek Watershed

Pertinent Site Information
SHRL38 Well Site
Emergency Number: 304-758-4275
Centerville District, Tyler County, WV
Watershed: Headwaters Middle Island Creek Watershed
Site 911 Address:
CNX Emergency Number: 866-829-0103

Property Owner Information - SHRL38 Site
Table with columns for Owner, Parcel ID, Area, etc.

Exhibit A: Final Design: Issue for Permitting



Well Data table listing well IDs, coordinates, and depths for 18 wells.



Acres Breakdown table showing land use types and acreages.
Disturbed Area table showing various land disturbance categories.

SHRL38 Well Site Quantities table showing volumes for various materials and activities.

Ephemeral Stream Impact (Linear Feet) table showing stream characteristics and impacts.

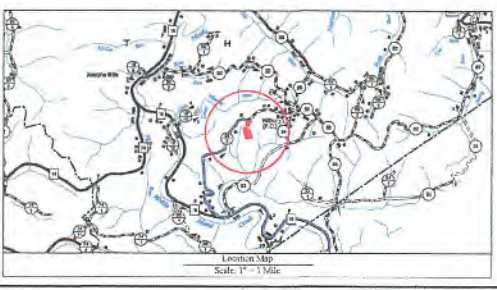
Project Contacts table listing key personnel and their roles.

Site/Sheet Information, Environmental, and Regulatory information.

MISS UTILITY OF WEST VIRGINIA logo and disclaimer text.

Approach Routes: From the intersection of US 80 and W.V. Rt. 18 near West Union, WV...

Site Locations (NAD 27) and Site Locations (NAD 83) tables with coordinates.



Well Location Restrictions: All pad construction complies with the following restrictions...



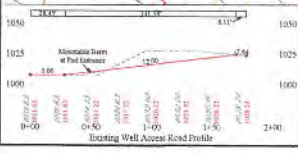
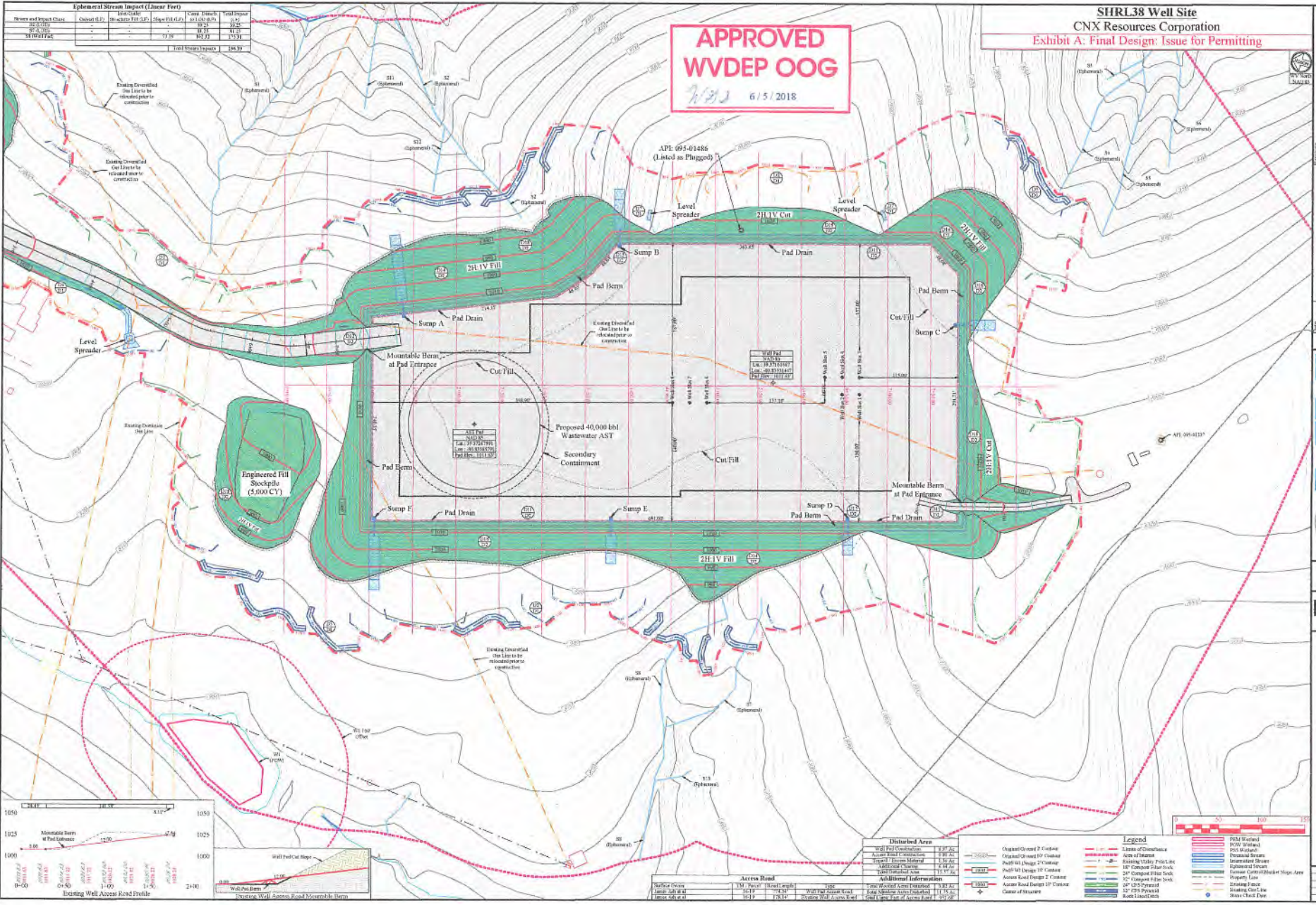
Sheet Description table listing sheet numbers and their corresponding descriptions.

Vertical sidebar containing logos for WVDEP, CNX, K&S Surveying, and project title: SHRL38 Well Site, Centerville District, Tyler County, WV.

Stream and Impact Class	Channel D.P.	Top of Bank	Channel F.P.P.P.	Edge F.P.P.P.	Top of Bank	Total Impact
21100101	-	1025	1025	1025	1025	325
21100102	-	1025	1025	1025	1025	325
21100103	-	1025	1025	1025	1025	325
21100104	-	1025	1025	1025	1025	325
21100105	-	1025	1025	1025	1025	325
21100106	-	1025	1025	1025	1025	325
21100107	-	1025	1025	1025	1025	325
21100108	-	1025	1025	1025	1025	325
21100109	-	1025	1025	1025	1025	325
21100110	-	1025	1025	1025	1025	325
21100111	-	1025	1025	1025	1025	325
21100112	-	1025	1025	1025	1025	325
21100113	-	1025	1025	1025	1025	325
21100114	-	1025	1025	1025	1025	325
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21100119	-	1025	1025	1025	1025	325
21100120	-	1025	1025	1025	1025	325
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21100147	-	1025	1025	1025	1025	325
21100148	-	1025	1025	1025	1025	325
21100149	-	1025	1025	1025	1025	325
21100150	-	1025	1025	1025	1025	325
21100151	-	1025	1025	1025	1025	325
21100152	-	1025	1025	1025	1025	325
21100153	-	1025	1025	1025	1025	325
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21100196	-	1025	1025	1025	1025	325
21100197	-	1025	1025	1025	1025	325
21100198	-	1025	1025	1025	1025	325
21100199	-	1025	1025	1025	1025	325
21100200	-	1025	1025	1025	1025	325

**APPROVED WVDEP OOG**  
 7/13/18 6/5/2018

**SHRL38 Well Site**  
 CNX Resources Corporation  
 Exhibit A: Final Design: Issue for Permitting



Surface Class	TM (ft)	W/C (ft)	Shoulder (ft)	Notes
Asphalt	10.0	10.0	5.0	10' Wide
Gravel	10.0	10.0	5.0	10' Wide
Grass	10.0	10.0	5.0	10' Wide

<p><b>Disturbed Area</b></p> <ul style="list-style-type: none"> <li>Well Pad Construction</li> <li>Access Road Construction</li> <li>Gravel Pit</li> <li>Stockpile</li> <li>Excavation</li> <li>Removal of Existing Vegetation</li> <li>Removal of Existing Structures</li> <li>Removal of Existing Utilities</li> <li>Removal of Existing Easements</li> <li>Removal of Existing Right-of-Way</li> <li>Removal of Existing Fences</li> <li>Removal of Existing Signs</li> <li>Removal of Existing Lighting</li> <li>Removal of Existing Paving</li> <li>Removal of Existing Curbs</li> <li>Removal of Existing Storm Drains</li> <li>Removal of Existing Sewer Lines</li> <li>Removal of Existing Gas Lines</li> <li>Removal of Existing Water Lines</li> <li>Removal of Existing Electric Lines</li> <li>Removal of Existing Telecommunications Lines</li> <li>Removal of Existing Other Utilities</li> </ul>	<p><b>Legend</b></p> <ul style="list-style-type: none"> <li>Property Line</li> <li>Easement</li> <li>Right-of-Way</li> <li>Utility Line</li> <li>Water Line</li> <li>Sewer Line</li> <li>Gas Line</li> <li>Electric Line</li> <li>Telecommunications Line</li> <li>Other Utility Line</li> <li>Other Structure</li> <li>Other Feature</li> <li>Other Object</li> <li>Other Symbol</li> <li>Other Color</li> <li>Other Line Style</li> <li>Other Fill Style</li> <li>Other Text</li> <li>Other Note</li> <li>Other Reference</li> <li>Other Information</li> </ul>
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THIS DOCUMENT PREPARED FOR CNX RESOURCES CORPORATION  
**Key Signature**  
 Date: 06/27/2018  
 Scale: As Shown  
 Designed By: JES  
 File No:  
 Sheet # of #