

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

API 47-095-02492 County TYLER District McELROY
Quad SHIRLEY Pad Name SHR31 Field/Pool Name _____
Farm name SECKMAN Well Number SHR31EHSM
Operator (as registered with the OOG) CNX GAS COMPANY, LLC
Address 1000 CONSOL ENERGY DRIVE City CANONSBURG State PA Zip 15317

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey
Top hole Northing 337902.83 (NAD 27) Easting 1626634.24 (NAD 27)
Landing Point of Curve Northing 336733.16 (NAD 27) Easting 1629620.43 (NAD 27)
Bottom Hole Northing 329115.14 (NAD 27) Easting 1632220.96 (NAD 27)

Elevation (ft) 1091 GL Type of Well New Existing Type of Report Interim Final
Permit Type Deviated Horizontal Horizontal 6A Vertical Depth Type Deep Shallow
Type of Operation Convert Deepen Drill Plug Back Redrilling Rework Stimulate
Well Type Brine Disposal CBM Gas Oil Secondary Recovery Solution Mining Storage Other _____
Type of Completion Single Multiple Fluids Produced Brine Gas NGL Oil Other _____
Drilled with Cable Rotary

Drilling Media Surface hole Air Mud Fresh Water Intermediate hole Air Mud Fresh Water Brine
Production hole Air Mud Fresh Water Brine

Mud Type(s) and Additive(s)
SYNTHETIC BASED FLUID
ADDITIVES: CARBO-TEC, SURF-COTE, CARBO-GEL II, NEXT-FLC, CALCIUM CHLORIDE, MIL-LIME

Date permit issued 4/9/2018 Date drilling commenced 4/7/2018 Date drilling ceased 7/17/2018
Date completion activities began 8/9/2018 Date completion activities ceased 8/16/2018
Verbal plugging (Y/N) N Date permission granted N/A Granted by N/A

Please note: Operator is required to submit a plugging application within 5 days of verbal permission to plug

RECEIVED
Office of Oil and Gas
NOV 7 2018
WV Department of
Environmental Protection

Freshwater depth(s) ft 150' Open mine(s) (Y/N) depths N
Salt water depth(s) ft 1850' Void(s) encountered (Y/N) depths N
Coal depth(s) ft TRACE: 800', 870', 1240', & 1510' Cavern(s) encountered (Y/N) depths N

Is coal being mined in area (Y/N) N

Reviewed
[Signature]
1/3/2019

Reviewed by:
[Signature]

WR-35
Rev. 8/23/13

API 47-095 - 02492 Farm name SECKMAN Well number SHR31EHSM

CASING STRINGS	Hole Size	Casing Size	Depth	New or Used	Grade wt/ft	Basket Depth(s)	Did cement circulate (Y/ N) * Provide details below*
Conductor	24"	20"	112	NEW	94lb/ft	N/A	GROUT TO SURFACE
Surface	17.5"	13.375"	689	NEW	J-55 54.5lb/ft	N/A	Y - CEMENT TO SURFACE
Coal							
Intermediate 1	12.25"	9.625"	2723	NEW	J-55 36lb/ft	N/A	Y - CEMENT TO SURFACE
Intermediate 2							
Intermediate 3							
Production	8.75" & 8.5"	5.5"	16159	NEW	Q-125 20lb/ft	N/A	Y - TOC @ 2223'
Tubing	5.5"	2.875	8,039.0	NEW	P-110 6.5 lb/ft	N/A	N/A
Packer type and depth set	N/A						

Comment Details ALL DEPTHS ARE REFERENCED TO RKB = 29' GLE

CEMENT DATA	Class/Type of Cement	Number of Sacks	Slurry wt (ppg)	Yield (ft ³ /sks)	Volume (ft ³)	Cement Top (MD)	WOC (hrs)
Conductor							
Surface	CLASS A	572	15.6	1.197	685	0	8
Coal							
Intermediate 1	CLASS A	864	15.6	1.186	1024	0	8
Intermediate 2							
Intermediate 3							
Production	NEOCEM	3265	15	1.128	3683	2223	8
Tubing							

Drillers TD (ft) 16,176 Loggers TD (ft) 16,176
 Deepest formation penetrated MARCELLUS Plug back to (ft) N/A
 Plug back procedure N/A

Kick off depth (ft) 7501

Check all wireline logs run caliper density deviated/directional induction
 neutron resistivity gamma ray temperature sonic

Well cored Yes No Conventional Sidewall Were cuttings collected Yes No

DESCRIBE THE CENTRALIZER PLACEMENT USED FOR EACH CASING STRING _____

SURFACE: Centralize every other joint from shoe to surface
INTERMEDIATE: Centralize every 3rd joint from shoe to surface
PRODUCTION: Centralize every joint from shoe to KOP - then every 3rd joint from KOP to TOC

WAS WELL COMPLETED AS SHOT HOLE Yes No DETAILS Plug and Perforation _____

WAS WELL COMPLETED OPEN HOLE? Yes No DETAILS _____

WERE TRACERS USED Yes No TYPE OF TRACER(S) USED _____

RECEIVED
 Office of Oil and Gas
 NOV 7 2018
 WV Department of
 Environmental Protection

API 47-095 - 02492 Farm name SECKMAN Well number SHR31EHSM

PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
	SEE	ATTACHMENT	1		

Please insert additional pages as applicable.

STIMULATION INFORMATION PER STAGE

Complete a separate record for each stimulation stage.

Stage No.	Stimulations Date	Ave Pump Rate (BPM)	Ave Treatment Pressure (PSI)	Max Breakdown Pressure (PSI)	ISIP (PSI)	Amount of Proppant (lbs)	Amount of Water (bbls)	Amount of Nitrogen/other (units)
		SEE	ATTACHMENT	2				

RECEIVED
Office of Oil and Gas
NOV 7 2018
WV Department of Environmental Protection

Please insert additional pages as applicable.

WR-35
Rev. 8/23/13

API 47- 095 - 02492 Farm name SECKMAN Well number SHR31EHSM

<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>		
<u>Marcellus</u>	<u>6704'</u>	<u>TVD</u>	<u>7998'</u> <u>MD</u>
_____	_____	_____	_____
_____	_____	_____	_____

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump

SHUT-IN PRESSURE Surface 1650 psi Bottom Hole _____ psi DURATION OF TEST _____ hrs

OPEN FLOW Gas 4275 mcfpd Oil 96 bpd NGL _____ bpd Water 1104 bpd GAS MEASURED BY Estimated Orifice Pilot

LITHOLOGY/ FORMATION	TOP DEPTH IN FT NAME TVD	BOTTOM DEPTH IN FT TVD	TOP DEPTH IN FT MD	BOTTOM DEPTH IN FT MD	DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H ₂ S, ETC)
UNDIFFERENTIATED LIME	0	150	0	150	LIMESTONE
UNDIFFERENTIATED SAND	150	170	150	170	SANDSTONE
UNDIFFERENTIATED SILT	170	520	170	520	SILTSTONE
UNDIFFERENTIATED SAND	520	650	520	650	SANDSTONE
UNDIFFERENTIATED SILT	650	960	650	960	SILTSTONE
UNDIFFERENTIATED LIME	960	1010	960	1010	LIMESTONE
UNDIFFERENTIATED SILT	1010	1100	1010	1100	SILTSTONE
UNDIFFERENTIATED LIME	1100	1160	1100	1160	LIMESTONE
UNDIFFERENTIATED SILT	1160	1340	1160	1340	SILTSTONE
UNDIFFER. SAND / LIME	1340	1700	1340	1700	SANDSTONE / LIMESTONE
UNDIFFERENTIATED SAND	1700	2060	1700	2060	SANDSTONE
BIG LIME	2060	2100	2060	2100	LIMESTONE
BIG INJUN	2100	2210	2100	2210	SANDSTONE
PIERCE	2210	2410	2210	2410	STILSTONE

Please insert additional pages as applicable.

Drilling Contractor SEE ATTACHMENT
Address _____ City _____ State _____ Zip _____

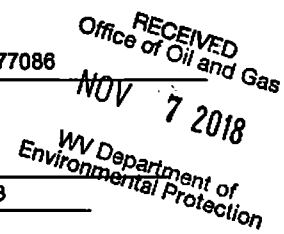
Logging Company _____
Address _____ City _____ State _____ Zip _____

Cementing Company SEE ATTACHMENT
Address _____ City _____ State _____ Zip _____

Stimulating Company KEANE
Address 5825 North Sam Houston Parkway West Suite 600 City Houston State TX Zip 77086

Please insert additional pages as applicable.

Completed by Michael Honce Telephone 304-884-2138
Signature [Signature] Title Superintendent Completions Date 10/30/2018



Submittal of Hydraulic Fracturing Chemical Disclosure Information Attach copy of FRACFOCUS Registry

SHIRLEY31EHSM – PERF SUMMARY – ATTACHMENT 1

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
1	8/9/2018	16,005.1	16,103.8	24	Marcellus Shale
2	8/9/2018	15,782.3	15,945.9	40	Marcellus Shale
3	8/10/2018	15,580.3	15,743.9	40	Marcellus Shale
4	8/10/2018	15,378.3	15,541.9	40	Marcellus Shale
5	8/10/2018	15,176.3	15,339.9	40	Marcellus Shale
6	8/11/2018	14,974.3	15,137.9	40	Marcellus Shale
7	8/11/2018	14,772.3	14,935.9	40	Marcellus Shale
8	8/11/2018	14,570.3	14,733.9	40	Marcellus Shale
9	8/11/2018	14,368.3	14,531.9	40	Marcellus Shale
10	8/11/2018	14,166.3	14,329.9	40	Marcellus Shale
11	8/12/2018	13,964.3	14,127.9	40	Marcellus Shale
12	8/12/2018	13,762.3	13,925.9	40	Marcellus Shale
13	8/12/2018	13,560.3	13,723.9	40	Marcellus Shale
14	8/12/2018	13,358.3	13,521.9	40	Marcellus Shale
15	8/12/2018	13,156.3	13,319.9	40	Marcellus Shale
16	8/12/2018	12,954.3	13,117.9	40	Marcellus Shale
17	8/12/2018	12,752.3	12,915.9	40	Marcellus Shale
18	8/13/2018	12,550.3	12,713.9	40	Marcellus Shale
19	8/13/2018	12,348.3	12,511.9	40	Marcellus Shale
20	8/13/2018	12,146.3	12,309.9	40	Marcellus Shale
21	8/13/2018	11,944.3	12,107.9	40	Marcellus Shale
22	8/13/2018	11,742.3	11,905.9	40	Marcellus Shale
23	8/13/2018	11,540.3	11,703.9	40	Marcellus Shale
24	8/14/2018	11,338.3	11,501.9	40	Marcellus Shale
25	8/14/2018	11,136.3	11,299.9	40	Marcellus Shale
26	8/14/2018	10,934.3	11,097.9	40	Marcellus Shale
27	8/14/2018	10,732.3	10,895.9	40	Marcellus Shale
28	8/14/2018	10,530.3	10,693.9	40	Marcellus Shale
29	8/14/2018	10,328.3	10,491.9	40	Marcellus Shale
30	8/15/2018	10,126.3	10,289.9	40	Marcellus Shale
31	8/15/2018	9,924.3	10,087.9	40	Marcellus Shale
32	8/15/2018	9,722.3	9,885.9	40	Marcellus Shale
33	8/15/2018	9,520.3	9,683.9	40	Marcellus Shale
34	8/15/2018	9,318.3	9,481.9	40	Marcellus Shale
35	8/15/2018	9,116.3	9,279.9	40	Marcellus Shale
36	8/16/2018	8,914.3	9,077.9	40	Marcellus Shale
37	8/16/2018	8,712.3	8,875.9	40	Marcellus Shale
38	8/16/2018	8,510.3	8,673.9	40	Marcellus Shale
39	8/16/2018	8,308.3	8,471.9	40	Marcellus Shale
40	8/16/2018	8,106.3	8,269.9	40	Marcellus Shale

RECEIVED
Office of Oil and Gas
NOV 7 2018
Department of
Environmental Protection

SHIRLEY31EHSM – FRAC SUMMARY – ATTACHMENT 2

Stage No.	Stimulations Date	Ave Pump Rate (BPM)	Ave Treatment Pressure (PSI)	Max Breakdown Pressure (PSI)	ISIP (PSI)	Amount of Proppant (lbs)	Amount of Water (bbls)	Amount of Nitrogen/other (units)
1	8/9/2018	90	8,665.0	7,791.0	3,749.0	399,630.0	7,058.98	N/A
2	8/10/2018	87	8,986.0	7,854.0	4,898.0	400,000.0	6,589.00	N/A
3	8/10/2018	90	8,969.0	7,634.0	4,629.0	400,000.0	6,461.00	N/A
4	8/10/2018	83	8,770.0	6,583.0	3,351.0	401,000.0	6,195.00	N/A
5	8/10/2018	87	8,727.0	5,709.0	3,665.0	401,000.0	6,517.00	N/A
6	8/11/2018	94	8,824.0	6,448.0	4,785.0	400,000.0	6,494.00	N/A
7	8/11/2018	91	8,783.0	7,793.0	4,604.0	400,000.0	6,620.00	N/A
8	8/11/2018	90	8,336.0	6,517.0	5,076.0	400,000.0	6,442.00	N/A
9	8/11/2018	94	8,838.0	5,878.0	3,880.0	400,950.0	6,427.00	N/A
10	8/11/2018	97	8,848.0	5,419.0	3,985.0	400,040.0	6,514.98	N/A
11	8/12/2018	94	8,779.0	5,179.0	4,164.0	400,880.0	6,369.00	N/A
12	8/12/2018	92	8,855.0	6,099.0	4,139.0	400,000.0	6,272.00	N/A
13	8/12/2018	91	8,843.0	6,586.0	4,396.0	400,000.0	6,138.00	N/A
14	8/12/2018	91	8,837.0	6,276.0	4,107.0	400,000.0	5,986.00	N/A
15	8/12/2018	95	8,867.0	5,207.0	4,492.0	400,000.0	6,041.00	N/A
16	8/12/2018	96	8,792.0	5,875.0	3,931.0	400,549.0	6,364.00	N/A
17	8/13/2018	98	8,794.0	5,992.0	4,069.0	400,450.0	6,492.00	N/A
18	8/13/2018	97	8,514.0	6,216.0	3,843.0	403,430.0	6,451.00	N/A
19	8/13/2018	97	8,755.0	6,586.0	4,160.0	375,648.0	5,961.00	N/A
20	8/13/2018	96	8,743.0	6,517.0	4,607.0	400,000.0	6,207.00	N/A
21	8/13/2018	94	8,696.0	6,138.0	4,814.0	401,740.0	5,921.00	N/A
22	8/13/2018	94	8,735.0	6,152.0	3,690.0	402,530.0	5,886.00	N/A
23	8/13/2018	98	8,655.0	6,022.0	3,916.0	400,600.0	5,903.00	N/A
24	8/14/2018	97	8,772.0	6,147.0	3,665.0	400,570.0	6,123.00	N/A
25	8/14/2018	96	8,761.0	5,793.0	4,623.0	402,000.0	5,778.00	N/A
26	8/14/2018	98	8,756.0	5,897.0	4,820.0	400,000.0	5,680.00	N/A
27	8/14/2018	98	8,649.0	5,207.0	4,557.0	400,000.0	5,711.00	N/A
28	8/14/2018	100	8,635.0	5,920.0	3,741.0	400,940.0	5,820.00	N/A
29	8/15/2018	99	8,610.0	5,063.0	3,793.0	401,390.0	5,717.00	N/A
30	8/15/2018	100	8,515.0	5,183.0	3,966.0	400,780.0	5,657.00	N/A
31	8/15/2018	96	8,663.0	6,034.0	4,598.0	400,000.0	5,839.00	N/A
32	8/15/2018	97	8,685.0	6,144.0	4,957.0	400,000.0	5,743.00	N/A
33	8/15/2018	96	8,311.0	6,586.0	4,565.0	400,000.0	5,891.00	N/A
34	8/15/2018	96	8,302.0	6,379.0	3,871.0	390,000.0	5,665.00	N/A
35	8/15/2018	100	8,375.0	5,890.0	3,586.0	401,131.0	5,949.02	N/A
36	8/16/2018	100	8,072.0	4,871.0	3,793.0	402,000.0	6,003.00	N/A
37	8/16/2018	97	8,425.0	6,586.0	4,207.0	400,000.0	5,758.00	N/A
38	8/16/2018	96	8,297.0	6,862.0	4,501.0	398,000.0	5,651.00	N/A
39	8/16/2018	98	8,317.0	6,966.0	4,501.0	403,491.0	5,628.00	N/A
40	8/16/2018	99	7,765.0	4,780.0	3,828.0	406,500.0	5,765.00	N/A

RECEIVED
Office of Oil and Gas
NOV 7 2018
WV Department of
Environmental Protection

LITHOLOGIES CONTINUED

LITHOLOGY / FORMATION	TOP DEPTH IN FT NAME TVD	BOTTOM DEPTH IN FT NAME TVD	TOP DEPTH IN FT NAME MD	BOTTOM DEPTH IN FT NAME MD	DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H2S, ETC)
WEIR	2410	2590	2410	2590	SANDSTONE / SILTSTONE
BEREA	2590	2620	2590	2620	SHALE / TRACES SILTSTONE
DEVONIAN SHALE	2620	3010	2620	3010	GREY SHALE
GORDON	3010	3547	3010	3550	SANDSTONE / SILTSTONE
WARREN SAND	3547	3936	3550		SANDSTONE
L HURON	3936	5099			SHALE / SILTSTONE
BENSON	5099	5338			SILTSTONE
ALEXANDER	5338	6387			SILTSTONE / TRACES OF SHALE
CASHAQUA	6387	6531			SHALE
MIDDLE SEX	6531	6630		7708	SHALE
BURKETT	6630	6664	7708	7824	BLACK SHALE
TULLY	6664	6691	7824	7953	LIMESTONE
HAMILTON	6691	6707	7953	8068	BLACK SHALE
MARCELLUS	6707	6714	8068	8106	BLACK SHALE
TD				16,176	

RECEIVED
Office of Oil and Gas
NOV 7 2018
WV Department of
Environmental Protection

02/15/2019



SHR31EHSM

47-095-02492

DRILLING CONTRACTOR

TOPHOLE

DECKER DRILLING, INC
11565 OH-676
VINCENT, OH 45784

KOP TO TD

PATTERSON-UTI DRILLING COMPANY
207 CARLTON DRIVE
EIGHTY FOUR, PA 15330

CEMENTING COMPANY

TOPHOLE

BJ SERVICES
11211 FARM TO MARKET 2920
TOMBALL, TX 77375

PRODUCTION

HALLIBURTON
121 CHAMPION WAY SUITE #210
CANONSBURG, PA 15317

RECEIVED
Office of Oil and Gas
NOV 7 2018
WV Department of
Environmental Protection

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	8/9/2018
Job End Date:	8/16/2018
State:	West Virginia
County:	Tyler
API Number:	47-095-02492-00-00
Operator Name:	CNX Gas Company LLC
Well Name and Number:	SHR31 EHSM
Latitude:	39.42028390
Longitude:	-80.82147320
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,732
Total Base Water Volume (gal):	10,597,188
Total Base Non Water Volume:	0



Hydraulic Fracturing Fluid Composition:

Trade Name	Supplier	Purpose	Ingredients	Chemical Abstract Service Number (CAS #)	Maximum Ingredient Concentration in Additive (% by mass)**	Maximum Ingredient Concentration in HF Fluid (% by mass)**	Comments
Water	Ascent	Carrier/Base Fluid					
			Water	7732-18-5	100.00000	84.09329	None
Sand (Proppant)	Keane	Proppant					
			Crystalline silica: Quartz (SiO2)	14808-60-7	100.00000	15.23005	None
Hydrochloric Acid (7.5%)	Keane	Acid Inhibitor					
			Water	7732-18-5	92.50000	0.51352	None
			Hydrochloric Acid	7647-01-0	7.50000	0.04164	None
KFR-23	Keane	Friction Reducer					
			Water	7732-18-5	50.00000	0.04310	None
			copolymer of 2-propenamamide	69418-26-4	20.00000	0.01724	None
			Distillates (petroleum), hydrotreated light	64742-47-8	20.00000	0.01724	None
			Alcohols, C12-16, ethoxylated	68551-12-2	2.00000	0.00172	None
			oleic acid diethanolamide	93-83-4	2.00000	0.00172	None
KSI-22	Keane	Scale Inhibitor					
			Methanol	67-56-1	50.00000	0.00642	None

RECEIVED
 Office of Oil and Gas
 WV Department of
 Environmental Protection
 AUG 7 2018

			2-propenoic acid, polymer with 2-methyl-2-[(1-oxo-2-propenyl)amino]-1-propensulfonic acid monosodium salt and sodium phosphinite	110224-99-2	10.00000	0.00128	None
MBC-516	Keane	Biocide	glutaral	111-30-8	26.70000	0.00442	None
			didecyldimethylammonium chloride	7173-51-5	8.00000	0.00132	None
			quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	58424-85-1	5.30000	0.00088	None
			Ethanol	64-17-5	2.80000	0.00046	None
KWG-111LS	Keane	Gel	Guar gum	9000-30-0	55.00000	0.00214	None
			Distillates (petroleum), hydrotreated light	64742-47-8	55.00000	0.00214	None
KFEAC-30	Keane	Iron Control	acetic acid	64-19-7	60.00000	0.00108	None
			Citric acid	77-92-9	40.00000	0.00072	None
KAI-12	Keane	Acid Inhibitor	Methanol	67-56-1	90.00000	0.00009	None
			isopropyl alcohol	67-63-0	5.00000	0.00000	None
			prop-2-yn-1-ol	107-19-7	5.00000	0.00000	None
			Alcohols, C7-9-iso-, C8-rich	68526-83-0	5.00000	0.00000	None
			xylene	1330-20-7	5.00000	0.00000	None
			Fatty imidazoline	61790-69-0	5.00000	0.00000	None
			ethylbenzene	100-41-4	1.00000	0.00000	None
KWBO-2	Keane	Breaker	Sodium persulfate	7775-27-1	99.00000	0.00009	None
Ingredients shown above are subject to 29 CFR 1910.1200(i) and appear on Material Safety Data Sheets (MSDS). Ingredients shown below are Non-MSDS.							
Other Chemical(s)	Listed Above	See Trade Name(s) List					
			Water	7732-18-5	92.50000	0.51352	
			Distillates (petroleum), hydrotreated light	64742-47-8	20.00000	0.01724	
			copolymer of 2-propenamide	69418-26-4	20.00000	0.01724	
			Distillates (petroleum), hydrotreated light	64742-47-8	55.00000	0.00214	
			oleic acid diethanolamide	93-83-4	2.00000	0.00172	
			Alcohols, C12-16, ethoxylated	68551-12-2	2.00000	0.00172	
			didecyldimethylammonium chloride	7173-51-5	8.00000	0.00132	
			2-propenoic acid, polymer with 2-methyl-2-[(1-oxo-2-propenyl)amino]-1-propensulfonic acid monosodium salt and sodium phosphinite	110224-99-2	10.00000	0.00128	
			quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	58424-85-1	5.30000	0.00088	

RECEIVED
 Office of Oil and Gas
 NOV 7 2018
 MN Department of
 Environmental Protection

			Citric acid	77-92-9	40.00000	0.00072
			Ethanol	64-17-5	2.80000	0.00046
			Alcohols, C7-9-Iso-, C8-rich	68526-83-0	5.00000	0.00000
			Fatty imidazoline	81790-89-0	5.00000	0.00000
			xylene	1330-20-7	5.00000	0.00000
			isoproyl alcohol	67-63-0	5.00000	0.00000
			prop-2-yn-1-ol	107-19-7	5.00000	0.00000
			ethylbenzene	100-41-4	1.00000	0.00000
			Water	7732-18-5	85.00000	

* Total Water Volume sources may include fresh water, produced water, and/or recycled water

** Information is based on the maximum potential for concentration and thus the total may be over 100%

Note: For Field Development Products (products that begin with FDP), MSDS level only information has been provided.

Ingredient information for chemicals subject to 29 CFR 1910.1200(f) and Appendix D are obtained from suppliers Material Safety Data Sheets (MSDS)

RECEIVED
 Office of Oil and Gas
 NOV 7 2018
 WV Department of
 Environmental Protection

SURFACE HOLE LOCATION (SHL)
 UTM 17 - NAD83
 N: 4363432.833(m)
 E: 515367.079(m)
 NAD27 VV NORTH
 N: 337903.253(ft)
 E: 1626834.674(ft)
 LAT/LON - NAD83
 LAT: N39.4202839
 LON: W80.8214732

APPROXIMATE LANDING POINT
 UTM 17 - NAD83
 N: 4363091.565(m)
 E: 516282.646(m)
 NAD27 VV NORTH
 N: 336733.160(ft)
 E: 1629620.430(ft)
 LAT/LON - NAD83
 LAT: N39.4171921
 LON: W80.8108450

BOTTOM HOLE LOCATION (BHL)
 UTM 17 - NAD83
 N: 4360781.554(m)
 E: 517106.867(m)
 NAD27 VV NORTH
 N: 329107.651(ft)
 E: 1632198.626(ft)
 LAT/LON - NAD83
 LAT: N39.3963614
 LON: W80.8013292

SURFACE HOLE LOCATION (SHL)
 UTM 17 - NAD83
 N: 4363432.703(m)
 E: 515366.950(m)
 NAD27 VV NORTH
 N: 337902.830(ft)
 E: 1626634.240(ft)
 LAT/LON - NAD83
 LAT: N39.4202828
 LON: W80.8214747

APPROXIMATE LANDING POINT
 UTM 17 - NAD83
 N: 4363089.352(m)
 E: 516287.188(m)
 NAD27 VV NORTH
 N: 336725.644(ft)
 E: 1629635.211(ft)
 LAT/LON - NAD83
 LAT: N39.4171729
 LON: W80.8107923

BOTTOM HOLE LOCATION (BHL)
 UTM 17 - NAD83
 N: 4360783.951(m)
 E: 517113.633(m)
 NAD27 VV NORTH
 N: 329115.140(ft)
 E: 1632220.960(ft)
 LAT/LON - NAD83
 LAT: N39.3963828
 LON: W80.8012508

SHL is located on topo map **13,860** feet south of Latitude: **39° 27' 30"**
 BHL is located on topo map **7,401** feet south of Latitude: **39° 25' 00"**

LINE	BEARING	DISTANCE
R1	N32°43'10"E	487.92'
R2	N61°28'08"E	353.91'
R3	N28°58'00"W	267.83'
R4	N61°28'08"E	353.91'
R5	S48°55'28"E	810.36'

LEGEND

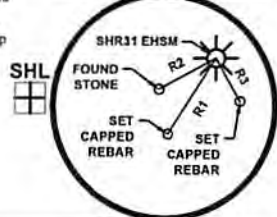
- TOPO MAP POINT
- PROPOSED WELL
- WATER SOURCE
- LEASED NUMBER BASED ON ATTACHED WW6A1
- ALL ARE POINTS UNLESS OTHERWISE NOTED
- MINERAL TRACT BOUNDARY
- PARCEL LINES
- PROPOSED HORIZONTAL WELL
- WELL REFERENCE
- STREAM/WATERWAY
- ROAD
- AS-DRILLED HORIZONTAL WELL
- UNIT BOUNDARY

WELLS WITHIN 3000'

- EXISTING GAS WELL
- RECORD GAS WELL

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

REFERENCE DETAIL



Sheffler & Company, Inc.
 ENGINEERING • SURVEYING
 1712 Mount Nebo Road Phone: 412-219-4509
 Sewickley, PA 15143 Email: info@shefflerCo.com

AS-DRILLED PLAT

FILE #: **SHR 31 EHSM**
 DRAWING #: **3801 - SHR31E WELL - AD -DWG**
 SCALE: **1"=2000'**
 MINIMUM DEGREE OF ACCURACY: **1/2500**
 PROVEN SOURCE OF ELEVATION: **USGS MONUMENT A 142: 724.61'**

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: *[Signature]*
 R.P.E.: **21452** L.L.S.: P.S. NO. _____



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

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

WATERSHED: **McELROY CREEK** ELEVATION: **1,111.0'**
 COUNTY/DISTRICT: **TYLER / MCELROY** QUADRANGLE: **SHIRLEY, WV**
 SURFACE OWNER: **ALLEN W. SECKMAN, ET AL.** ACREAGE: **30.48**
 OIL & GAS ROYALTY OWNER: **ALLEN W. SECKMAN, ET AL.** ACREAGE: **30.48**

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

TARGET FORMATION: **MARCELLUS** ESTIMATED DEPTH: **TVD: 6,725' ± TMD: 16,240' ±**
 WELL OPERATOR: **CNX GAS COMPANY, LLC** DESIGNATED AGENT: **CHRIS TURNER**
 Address: **1000 CONSOL ENERGY DRIVE** Address: **1 DOMINION DRIVE**
 City **CANONSBURG** State **PA** Zip Code **15317** City **JANE LEW** State **WV** Zip Code **26378**

DATE: **November 6, 2018**
 OPERATOR'S WELL #: **SHR 31 EHSM**
 API WELL # **47 095**
 STATE COUNTY PERMIT

RECEIVED Office of Oil and Gas
 NOV 9 2018
 WV Department of Environmental Protection