

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

API 47 - 095 - 02489 County TYLER District McELROY
Quad SHIRLEY Pad Name SHR31 Field/Pool Name _____
Farm name SECKMAN Well Number SHR31BHSM
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 337877.96 (NAD 27) Easting 1626580.38 (NAD 27)
Landing Point of Curve Northing 337193.47 (NAD 27) Easting 1627081.98 (NAD 27)
Bottom Hole Northing 329331.62 (NAD 27) Easting 1629735.94 (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 4/6/2018 Date drilling commenced 4/7/2018 Date drilling ceased 6/22/2018
Date completion activities began 7/26/2018 Date completion activities ceased 8/8/2018
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

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
J. Craig Plewa
1/3/2019

Reviewed by:
JCB

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WR-35
Rev. 8/23/13

API 47- 095 - 02489 Farm name SECKMAN Well number SHR31BHSM

CASING STRINGS	Hole Size	Casing Size	Depth	New or Used	Grade w/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"	687	NEW	J-55 54.5lb/ft	N/A	Y - CEMENT TO SURFACE
Coal							
Intermediate 1	12.25"	9.625"	2715	NEW	J-55 36lb/ft	N/A	Y - CEMENT TO SURFACE
Intermediate 2							
Intermediate 3							
Production	8.75" & 8.5"	5.5"	15432	NEW	Q-125 20lb/ft	N/A	Y - TOC @ 2215
Tubing	5.5"	2.875	6,994.7	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	522	15.6	1.197	624	0	8
Coal							
Intermediate 1	CLASS A	864	15.6	1.186	1024	0	8
Intermediate 2							
Intermediate 3							
Production	NEOCEM	3080	15	1.126	3468	2215	8
Tubing							

Drillers TD (ft) 15,458 Loggers TD (ft) 15,458
 Deepest formation penetrated MARCELLUS Plug back to (ft) N/A
 Plug back procedure N/A

Kick off depth (ft) 6198.82 MD

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

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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 _____

WR-35
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API 47- 095 - 02489 Farm name SECKMAN Well number SHR31BHSM

<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>	
<u>Marcellus</u>	<u>6721'</u> TVD	<u>8314'</u> MD
_____	_____	_____
_____	_____	_____

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump

SHUT-IN PRESSURE Surface 1550 psi Bottom Hole _____ psi DURATION OF TEST _____ hrs

OPEN FLOW Gas 4198 mcfpd Oil 96 bpd NGL _____ bpd Water 912 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 _____

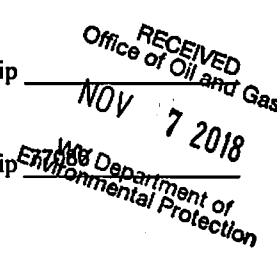
Cementing Company SEE ATTACHMENT
Address _____ City _____ State _____ Zip _____

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

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



SHIRLEY31BHSM – PERF SUMMARY – ATTACHMENT 1

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
1	7/26/2018	15,280.0	15,376.8	24	Marcellus Shale
2	7/26/2018	15,070.7	15,222.3	40	Marcellus Shale
3	7/27/2018	14,883.7	15,035.3	40	Marcellus Shale
4	7/27/2018	14,696.7	14,848.3	40	Marcellus Shale
5	7/28/2018	14,509.7	14,661.3	40	Marcellus Shale
6	7/28/2018	14,322.7	14,474.3	40	Marcellus Shale
7	7/28/2018	14,063.0	14,225.0	40	Marcellus Shale
8	7/29/2018	13,863.0	14,025.0	40	Marcellus Shale
9	7/29/2018	13,663.0	13,825.0	40	Marcellus Shale
10	7/29/2018	13,463.0	13,625.0	40	Marcellus Shale
11	7/30/2018	13,263.0	13,425.0	40	Marcellus Shale
12	7/30/2018	13,063.0	13,225.0	40	Marcellus Shale
13	7/30/2018	12,863.0	13,025.0	40	Marcellus Shale
14	7/31/2018	12,663.0	12,825.0	40	Marcellus Shale
15	7/31/2018	12,463.0	12,625.0	40	Marcellus Shale
16	7/31/2018	12,263.0	12,425.0	40	Marcellus Shale
17	8/1/2018	12,063.0	12,225.0	40	Marcellus Shale
18	8/1/2018	11,863.0	12,025.0	40	Marcellus Shale
19	8/1/2018	11,663.0	11,825.0	40	Marcellus Shale
20	8/1/2018	11,463.0	11,625.0	40	Marcellus Shale
21	8/2/2018	11,263.0	11,425.0	40	Marcellus Shale
22	8/2/2018	11,063.0	11,225.0	40	Marcellus Shale
23	8/2/2018	10,863.0	11,025.0	40	Marcellus Shale
24	8/3/2018	10,663.0	10,825.0	40	Marcellus Shale
25	8/3/2018	10,463.0	10,625.0	40	Marcellus Shale
26	8/3/2018	10,263.0	10,425.0	40	Marcellus Shale
27	8/3/2018	10,063.0	10,225.0	40	Marcellus Shale
28	8/4/2018	9,863.0	10,025.0	40	Marcellus Shale
29	8/4/2018	9,663.0	9,825.0	40	Marcellus Shale
30	8/4/2018	9,463.0	9,625.0	40	Marcellus Shale
31	8/5/2018	9,263.0	9,425.0	40	Marcellus Shale
32	8/5/2018	9,063.0	9,225.0	40	Marcellus Shale
33	8/5/2018	8,863.0	9,025.0	40	Marcellus Shale
34	8/5/2018	8,663.0	8,825.0	40	Marcellus Shale
35	8/6/2018	8,463.0	8,625.0	40	Marcellus Shale
36	8/6/2018	8,263.0	8,425.0	40	Marcellus Shale
37	8/6/2018	8,063.0	8,225.0	40	Marcellus Shale
38	8/6/2018	7,863.0	8,025.0	40	Marcellus Shale
39	8/7/2018	7,663.0	7,825.0	40	Marcellus Shale
40	8/7/2018	7,463.0	7,625.0	40	Marcellus Shale
41	8/7/2018	7,263.0	7,425.0	40	Marcellus Shale
42	8/7/2018	7,063.0	7,225.0	40	Marcellus Shale

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SHIRLEY31BHSM – 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	7/26/2018	98	8,554.0	7,979.0	4,541.0	400,000.0	7,127.00	N/A
2	7/27/2018	83	8,262.0	5,605.0	4,063.0	399,651.0	7,053.19	N/A
3	7/27/2018	83	7,961.0	5,799.0	4,501.0	399,651.0	7,326.69	N/A
4	7/27/2018	91	8,577.0	8,209.0	4,421.0	404,820.0	7,005.00	N/A
5	7/28/2018	97	8,488.0	8,276.0	4,618.0	400,000.0	6,328.00	N/A
6	7/28/2018	84	7,993.0	5,953.0	4,561.0	402,000.0	7,337.71	N/A
7	7/28/2018	86	8,013.0	8,224.0	4,341.0	400,000.0	7,055.00	N/A
8	7/29/2018	86	7,939.0	6,190.0	4,174.0	400,000.0	7,165.88	N/A
9	7/29/2018	83	7,994.0	6,242.0	4,133.0	400,000.0	6,219.52	N/A
10	7/29/2018	88	8,276.0	8,035.0	4,479.0	400,000.0	6,502.00	N/A
11	7/30/2018	83	8,146.0	6,539.0	4,006.0	404,000.0	6,061.31	N/A
12	7/30/2018	81	8,097.0	8,139.0	4,921.0	350,000.0	5,095.00	N/A
13	7/31/2018	83	8,402.0	7,757.0	4,545.0	354,000.0	5,123.00	N/A
14	7/31/2018	81	7,814.0	6,439.0	5,207.0	400,000.0	7,129.31	N/A
15	7/31/2018	88	8,098.0	7,096.0	4,795.0	400,000.0	5,931.00	N/A
16	8/1/2018	89	8,085.0	7,200.0	4,393.0	400,000.0	5,886.00	N/A
17	8/1/2018	89	7,983.0	5,455.0	4,657.0	400,000.0	5,547.43	N/A
18	8/1/2018	87	8,127.0	5,757.0	3,956.0	400,000.0	5,453.38	N/A
19	8/1/2018	95	8,599.0	5,490.0	3,874.0	403,000.0	5,924.00	N/A
20	8/2/2018	91	8,304.0	6,166.0	4,012.0	399,760.0	5,926.00	N/A
21	8/2/2018	94	8,693.0	5,332.0	3,892.0	404,440.0	5,424.10	N/A
22	8/2/2018	94	8,612.0	5,798.0	3,834.0	399,900.0	5,834.98	N/A
23	8/3/2018	95	8,441.0	6,250.0	3,902.0	403,100.0	5,721.00	N/A
24	8/3/2018	96	8,320.0	6,117.0	3,638.0	399,999.0	5,841.98	N/A
25	8/3/2018	91	8,358.0	4,566.0	3,610.0	405,150.0	6,006.98	N/A
26	8/3/2018	98	8,317.0	5,206.0	3,399.0	400,800.0	5,679.00	N/A
27	8/4/2018	99	8,713.0	6,235.0	0.0	328,750.0	5,449.00	N/A
28	8/4/2018	96	8,476.0	6,915.0	3,275.0	405,000.0	6,162.29	N/A
29	8/4/2018	100	8,337.0	5,220.0	3,927.0	404,500.0	5,778.95	N/A
30	8/4/2018	100	8,341.0	5,223.0	3,832.0	404,770.0	5,716.00	N/A
31	8/5/2018	97	8,236.0	5,888.0	3,615.0	399,322.0	5,920.98	N/A
32	8/5/2018	96	8,205.0	5,426.0	3,480.0	400,000.0	5,538.00	N/A
33	8/5/2018	100	8,392.0	5,687.0	4,298.0	389,250.0	5,521.02	N/A
34	8/5/2018	100	8,372.0	6,016.0	3,831.0	401,860.0	5,517.02	N/A
35	8/6/2018	100	8,252.0	5,687.0	3,960.0	400,550.0	5,644.00	N/A
36	8/6/2018	99	8,383.0	5,690.0	3,635.0	400,000.0	5,514.52	N/A
37	8/6/2018	98	8,193.0	5,612.0	4,235.0	402,500.0	5,377.50	N/A
38	8/6/2018	100	8,269.0	6,059.0	3,808.0	404,710.0	5,554.00	N/A
39	8/7/2018	100	8,471.0	7,083.0	3,685.0	381,110.0	5,460.98	N/A
40	8/7/2018	96	8,135.0	6,293.0	3,523.0	402,000.0	5,529.50	N/A
41	8/7/2018	94	7,539.0	5,343.0	3,613.0	404,119.0	5,619.38	N/A
42	8/8/2018	89	8,012.0	5,495.0	3,498.0	400,750.0	6,133.98	N/A

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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	6632		6823	SHALE
BURKETT	6632	6653	6823	6875	BLACK SHALE
TULLY	6653	6672	6875	6930	LIMESTONE
HAMILTON	6672	6691	6930	7013	BLACK SHALE
MARCELLUS	6691	6999	7013	7206	BLACK SHALE
TD				15,458	

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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

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Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	7/26/2018
Job End Date:	8/8/2018
State:	West Virginia
County:	Tyler
API Number:	47-095-02489-00-00
Operator Name:	CNX Gas Company LLC
Well Name and Number:	SHR31 BHSM
Latitude:	39.42021150
Longitude:	-80.82166400
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,739
Total Base Water Volume (gal):	10,910,844
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	83.80789	None
Sand (Proppant)	Keane	Proppant	Crystalline silica: Quartz (SiO2)	14808-60-7	100.00000	15.33668	None
Hydrochloric Acid (7.5%)	Keane	Acid Inhibitor	Water	7732-18-5	92.50000	0.67225	None
			Hydrochloric Acid	7647-01-0	7.50000	0.05451	None
KFR-23	Keane	Friction Reducer	Water	7732-18-5	50.00000	0.04638	None
			copolymer of 2-propenamide	69418-26-4	20.00000	0.01855	None
			Distillates (petroleum), hydrotreated light	64742-47-8	20.00000	0.01855	None
			Alcohols, C12-16, ethoxylated	68551-12-2	2.00000	0.00186	None
			oleic acid diethanolamide	93-83-4	2.00000	0.00186	None
KSI-22	Keane	Scale Inhibitor	Methanol	67-56-1	50.00000	0.00632	None

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			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	0.00126	None
MBC-516	Keane	Biocide					
			glutaral	111-30-8	26.70000	0.00428	None
			didecyltrimethylammonium chloride	7173-51-5	8.00000	0.00128	None
			quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	68424-85-1	5.30000	0.00085	None
			Ethanol	64-17-5	2.80000	0.00045	None
KWG-111LS	Keane	Gel					
			Distillates (petroleum), hydrotreated light	64742-47-8	55.00000	0.00254	None
			Guar gum	9000-30-0	55.00000	0.00254	None
KFEAC-30	Keane	Iron Control					
			acetic acid	64-19-7	60.00000	0.00146	None
			Citric acid	77-92-9	40.00000	0.00098	None
KAI-12	Keane	Acid Inhibitor					
			Methanol	67-56-1	90.00000	0.00012	None
			prop-2-yn-1-ol	107-19-7	5.00000	0.00001	None
			Fatty imidazoline	61790-69-0	5.00000	0.00001	None
			Alcohols, C7-9-iso-, C8-rich	68526-83-0	5.00000	0.00001	None
			xylene	1330-20-7	5.00000	0.00001	None
			isopropyl alcohol	67-63-0	5.00000	0.00001	None
			ethylbenzene	100-41-4	1.00000	0.00000	None
KWBO-2	Keane	Breaker					
			Sodium persulfate	7775-27-1	99.00000	0.00006	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	0.67225	
			Distillates (petroleum), hydrotreated light	64742-47-8	20.00000	0.01855	
			copolymer of 2-propenamide	69418-26-4	20.00000	0.01855	
			Distillates (petroleum), hydrotreated light	64742-47-8	55.00000	0.00254	
			oleic acid diethanolamide	93-83-4	2.00000	0.00186	
			Alcohols, C12-16, ethoxylated	68551-12-2	2.00000	0.00186	
			didecyltrimethylammonium chloride	7173-51-5	8.00000	0.00128	
			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	0.00126	
			Citric acid	77-92-9	40.00000	0.00098	

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			88424-85-1	5.30000	0.00085
		Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl chlorides			
		Ethanol	84-17-5	2.80000	0.00045
		Fatty imidazoline	51790-69-0	5.00000	0.00001
		Xylene	1330-20-7	5.00000	0.00001
		prop-2-yn-1-ol	107-19-7	5.00000	0.00001
		Alcohols, C7-9-iso-, C8-rich	88526-83-0	5.00000	0.00001
		isopropyl alcohol	67-63-0	5.00000	0.00001
		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)

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 WV Department of
 Environmental Protection

SURFACE HOLE LOCATION (SHL)
 UTM 17 - NAD83
 N: 4363424.756(m)
 E: 515350.678(m)
 NAD27 WV NORTH
 N: 337877.647(ft)
 E: 1626580.409(ft)
 LATA/LON - NAD83
 LAT: N39.4202115
 LON: W80.8216640

APPROXIMATE LANDING POINT
 UTM 17 - NAD83
 N: 4363218.871(m)
 E: 515506.962(m)
 NAD27 WV NORTH
 N: 337193.465(ft)
 E: 1627081.981(ft)
 LATA/LON - NAD83
 LAT: N39.4183535
 LON: W80.8198531

SHL is located on topo map 13,885 feet south of Latitude: 39° 27' 30"
 BHL is located on topo map 7,221 feet south of Latitude: 39° 25' 00"



SHL is located on topo map 8,473 feet west of Longitude: 80° 47' 30"
 BHL is located on topo map 5,194 feet west of Longitude: 80° 47' 30"

BOTTOM HOLE LOCATION (BHL)
 UTM 17 - NAD83
 N: 4360836.883(m)
 E: 516354.705(m)
 NAD27 WV NORTH
 N: 329330.470(ft)
 E: 1629733.420(ft)
 LATA/LON - NAD83
 LAT: N39.3968745
 LON: W80.8100630

SURFACE HOLE LOCATION (SHL)
 UTM 17 - NAD83
 N: 4363424.852(m)
 E: 515350.668(m)
 NAD27 WV NORTH
 N: 337877.960(ft)
 E: 1626580.380(ft)
 LATA/LON - NAD83
 LAT: N39.4202123
 LON: W80.8216641

APPROXIMATE LANDING POINT
 UTM 17 - NAD83
 N: 4363213.375(m)
 E: 515510.028(m)
 NAD27 WV NORTH
 N: 337175.256(ft)
 E: 1627091.742(ft)
 LATA/LON - NAD83
 LAT: N39.4183039
 LON: W80.8198176

BOTTOM HOLE LOCATION (BHL)
 UTM 17 - NAD83
 N: 4360837.248(m)
 E: 516355.467(m)
 NAD27 WV NORTH
 N: 329331.620(ft)
 E: 1629735.940(ft)
 LATA/LON - NAD83
 LAT: N39.3968778
 LON: W80.8100542

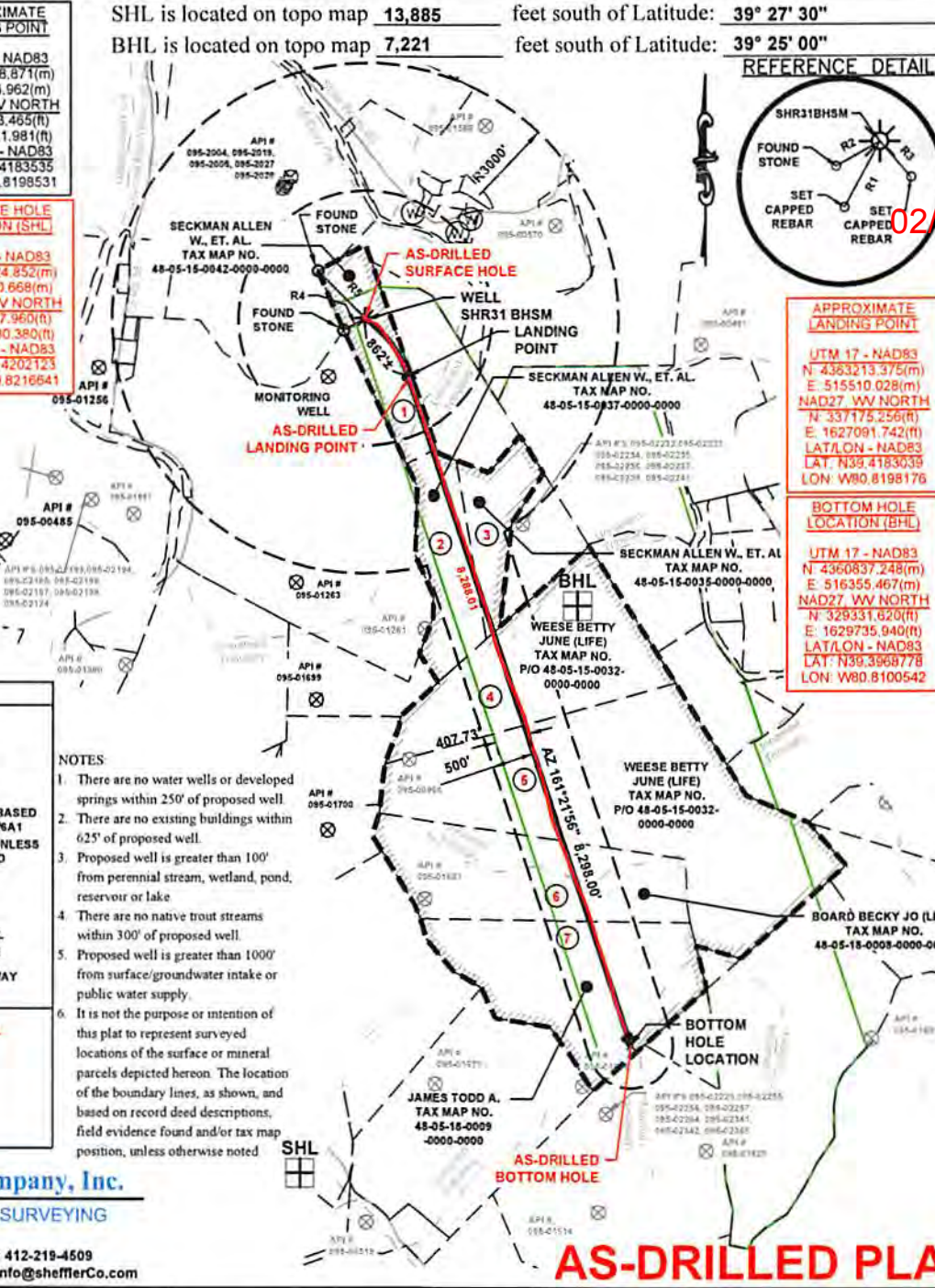
LINE	BEARING	DISTANCE
R1	N28°33'24"E	439.04'
R2	N60°42'56"E	294.73'
R3	N41°13'56"W	278.51'
R4	N80°42'56"E	294.73'
R5	S44°59'05"E	787.96'

LEGEND

- TOPO MAP POINT
- PROPOSED WELL
- WATER SOURCE
- LEASED NUMBER BASED ON ATTACHED WMA#1
- ALL ARE POINTS UNLESS OTHERWISE NOTED
- MINERAL TRACT BOUNDARY
- PARCEL LINES
- PROPOSED HORIZONTAL WELL
- WELL REFERENCE
- STREAM/WATERWAY
- ROAD
- AS-DRILLED HORIZONTAL WELL
- UNIT BOUDARY
- 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 hereon. 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.



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 BHSM
 DRAWING #: 3601 - SHR31B 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 (652.92 UNIT ACREAGE)

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: 15,440' ±
 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 BHSM
 API WELL # 47 095
 STATE COUNTY PERMIT

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 WV Department of Environmental Protection

