

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

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API 47-095-02650 County TYLER District CENTERVILLE
Quad WEST UNION Pad Name SHR38 Field/Pool Name _____
Farm name ASH Well Number SHR38KHSM
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 4358028.26 Easting 514181.61
Landing Point of Curve Northing 4358040.61 Easting 513974.62
Bottom Hole Northing 4360793.31 Easting 512977.67

Elevation (ft) 1,011' 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: ABS MUL (EMULSIFIER), CALCIUM CHLORIDE, FLR PLUS (GILSONITE), CLAYTONE EM (SUSPENSION AGENT), AES WA II (WETTING AGENT), LIME

Date permit issued 10.18.2019 Date drilling commenced 12.11.2019 Date drilling ceased 12.22.2019
Date completion activities began 2/18/2021 Date completion activities ceased 2/26/2021
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 225' Open mine(s) (Y/N) depths N
Salt water depth(s) ft 1,920' Void(s) encountered (Y/N) depths N
Coal depth(s) ft 430, 580, 900 TRACES: 160, 260, 1380, 1400, 1480, 1500 Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

Reviewed by:

JMH

08/27/2021

API 47-095 - 02650

Farm name ASH

Well number SHR38KHSM

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"	100'	NEW	94 lb/ft	N/A	Y - GROUT TO SURFACE
Surface	17.5"	13.375"	600'	NEW	J-55 54.5 lb/ft	N/A	Y - CEMENT TO SURFACE
Coal							
Intermediate 1	12.25"	9.625"	2,559'	NEW	J-55 36 lb/ft	N/A	Y - CEMENT TO SURFACE
Intermediate 2							
Intermediate 3							
Production	8.75" & 8.5"	5.5"	16,622'	NEW	P-110CY 20 lb/ft	N/A	Y - TOC @ 459'
Tubing	5.5"	2.875"	6,985'	NEW	P-110CY 8.5 lb/ft	N/A	N/A
Packer type and depth set							

Comment Details ALL DEPTHS ARE REFERENCE TO GROUND LEVEL (-29' KB)

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	HALCEM	500	15.8	1.169	585	0	8
Coal							
Intermediate 1	HALCEM	845	15.8	1.147	970	0	8
Intermediate 2							
Intermediate 3							
Production	EXP NEOCEM / NEOCEM	1,150(L) / 2,415 (T)	15	1.136 (L) / 1.132 (T)	1,306 (L) / 2,734 (T)	459'	8
Tubing							

Drillers TD (ft) 16,855'

Loggers TD (ft) 16,855'

Deepest formation penetrated MARCELLUS

Plug back to (ft) N/A

Plug back procedure N/A

Kick off depth (ft) 5,627' (GL)

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 = 8: Centralize every other joint from shoe to surface

INTERMEDIATE = 31: Centralize every other joint from shoe to surface

PRODUCTION = 343: Centralize every joint from shoe 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

08/27/2021

API 47- 095 - 02650 Farm name ASH Well number SHR38KHSM

PRODUCING FORMATION(S) DEPTHS
MARCELLUS 6503.29 TVD 6794 MD

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump
 SHUT-IN PRESSURE Surface 1350 psi Bottom Hole psi DURATION OF 24 hrs
 OPEN FLOW Gas Oil NGL Water GAS MEASURED BY
 7632.2 mcfpd 137 bpd bpd 910 bpd Estimated Orifice Pilot

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LITHOLOGY/ FORMATION	TOP		BOTTOM		DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H ₂ S, ETC)
	DEPTH IN FT NAME TVD	DEPTH IN FT TVD	DEPTH IN FT MD	DEPTH IN FT MD	
	0		0		
					FORMATION LOG ATTACHED

Please insert additional pages as applicable.

Drilling Contractor PATTERSON UTI DRILLING
 Address 207 Carlton Drive City Eighty Four State PA Zip 15330

Logging Company Workover Solutions
 Address 13996 US-6 City Mansfield State PA Zip 16933

Cementing Company HALLIBURTON
 Address 121 Champion Way, Suite #210 City Canonsburg State PA Zip 15317

Stimulating Company NexTier Oilfield Solutions Inc.
 Address 3990 Rogerdale Rd City Houston State TX Zip 77042

Please insert additional pages as applicable.

Completed by Michael Honce Telephone 304-406-8909
 Signature [Signature] Title Completions Superintendent Date 6/11/2021

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

08/27/2021

SHR38KHSM – PERFORATION RECORD – ATTACHMENT 1

Stage No.	Perforation Date	Perforation from MD ft.	Perforation to MD ft.	Number of Perforations	Formation(s)
1	2/16/2021	16,487.7	16,592.0	24	Marcellus Shale
2	2/18/2021	16,245.1	16,426.0	40	Marcellus Shale
3	2/18/2021	16,021.1	16,202.0	40	Marcellus Shale
4	2/18/2021	15,797.1	15,978.0	40	Marcellus Shale
5	2/18/2021	15,573.1	15,754.0	40	Marcellus Shale
6	2/19/2021	15,349.1	15,530.0	40	Marcellus Shale
7	2/19/2021	15,125.1	15,306.0	40	Marcellus Shale
8	2/19/2021	14,901.1	15,082.0	40	Marcellus Shale
9	2/19/2021	14,677.1	14,858.0	40	Marcellus Shale
10	2/19/2021	14,453.1	14,634.0	40	Marcellus Shale
11	2/19/2021	14,229.1	14,410.0	40	Marcellus Shale
12	2/20/2021	14,005.1	14,186.0	40	Marcellus Shale
13	2/20/2021	13,781.1	13,962.0	40	Marcellus Shale
14	2/20/2021	13,557.1	13,738.0	40	Marcellus Shale
15	2/20/2021	13,333.1	13,514.0	40	Marcellus Shale
16	2/20/2021	13,109.1	13,290.0	40	Marcellus Shale
17	2/21/2021	12,885.1	13,066.0	40	Marcellus Shale
18	2/21/2021	12,662.0	12,842.0	40	Marcellus Shale
19	2/21/2021	12,439.0	12,619.0	40	Marcellus Shale
20	2/22/2021	12,216.0	12,396.0	40	Marcellus Shale
21	2/22/2021	11,993.0	12,173.0	40	Marcellus Shale
22	2/22/2021	11,770.0	11,950.0	40	Marcellus Shale
23	2/22/2021	11,547.0	11,727.0	40	Marcellus Shale
24	2/22/2021	11,324.0	11,504.0	40	Marcellus Shale
25	2/22/2021	11,101.0	11,281.0	40	Marcellus Shale
26	2/23/2021	10,878.0	11,058.0	40	Marcellus Shale
27	2/23/2021	10,655.0	10,835.0	40	Marcellus Shale
28	2/23/2021	10,432.0	10,612.0	40	Marcellus Shale
29	2/23/2021	10,209.0	10,389.0	40	Marcellus Shale
30	2/23/2021	9,986.0	10,166.0	40	Marcellus Shale
31	2/23/2021	9,763.0	9,943.4	40	Marcellus Shale
32	2/24/2021	9,540.0	9,720.4	40	Marcellus Shale
33	2/24/2021	9,317.0	9,497.4	40	Marcellus Shale
34	2/24/2021	9,094.0	9,274.4	40	Marcellus Shale
35	2/24/2021	8,871.0	9,051.4	40	Marcellus Shale
36	2/25/2021	8,648.0	8,828.4	40	Marcellus Shale
37	2/25/2021	8,425.0	8,605.4	40	Marcellus Shale
38	2/25/2021	8,202.0	8,382.4	40	Marcellus Shale
39	2/25/2021	7,979.0	8,159.4	40	Marcellus Shale
40	2/25/2021	7,756.0	7,936.4	40	Marcellus Shale
41	2/26/2021	7,533.0	7,713.4	40	Marcellus Shale

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SHR38KDHS - STIMULATION INFORMATION PER STAGE - 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	2/15/2021	88	8,463.0	9,542.0	2,916.0	331,000.00	6,249.0	N/A
2	2/16/2021	95	8,605.0	9,393.0	3,308.0	400,000.00	6,243.82	N/A
3	2/16/2021	97	8,781.0	9,349.0	3,571.0	398,000.00	6,238.8	N/A
4	2/17/2021	99	8,823.0	9,429.0	3,358.0	405,000.00	6,233.79	N/A
5	2/18/2021	98	8,902.0	9,607.0	3,141.0	354,000.00	6,228.78	N/A
6	2/19/2021	97	8,877.0	9,369.0	3,749.0	403,500.00	6,224.0	N/A
7	2/19/2021	98	8,660.0	9,304.0	4,268.0	400,000.00	6,219.0	N/A
8	2/19/2021	99	8,699.0	9,415.0	4,006.0	400,000.00	6,214.0	N/A
9	2/19/2021	99	8,680.0	9,470.0	4,264.0	366,000.00	6,209.0	N/A
10	2/20/2021	97	8,585.0	9,566.0	4,679.0	400,000.00	6,204.0	N/A
11	2/20/2021	97	8,570.0	9,313.0	3,829.0	400,000.00	6,199.0	N/A
12	2/20/2021	98	8,359.0	9,172.0	5,122.0	400,000.00	6,194.0	N/A
13	2/20/2021	99	8,311.0	9,089.0	4,918.0	400,000.00	6,189.0	N/A
14	2/20/2021	100	8,565.0	9,260.0	4,334.0	400,000.00	6,184.0	N/A
15	2/21/2021	97	8,350.0	9,883.0	5,716.0	350,000.00	6,179.0	N/A
16	2/21/2021	100	8,172.0	9,053.0	3,449.0	400,000.00	6,174.0	N/A
17	2/21/2021	98	8,219.0	9,137.0	3,832.0	400,000.00	6,169.0	N/A
18	2/22/2021	99	8,307.0	9,099.0	4,156.0	380,000.00	6,164.0	N/A
19	2/22/2021	100	8,039.0	9,166.0	3,954.0	400,000.00	6,159.0	N/A
20	2/22/2021	100	8,218.0	9,364.0	4,190.0	400,000.00	6,154.0	N/A
21	2/22/2021	100	8,187.0	8,856.0	4,390.0	400,000.00	6,149.0	N/A
22	2/22/2021	99	8,186.0	8,650.0	3,599.0	400,000.00	6,144.0	N/A
23	2/22/2021	100	8,151.0	9,781.0	4,180.0	375,000.00	6,139.0	N/A
24	2/23/2021	99	8,012.0	8,605.0	4,151.0	400,000.00	6,134.0	N/A
25	2/23/2021	100	7,901.0	8,931.0	3,705.0	400,000.00	6,129.0	N/A
26	2/23/2021	100	8,141.0	8,958.0	4,428.0	400,000.00	6,124.0	N/A
27	2/23/2021	100	7,770.0	8,206.0	4,324.0	400,000.00	6,119.0	N/A
28	2/23/2021	99	7,786.0	8,338.0	3,469.0	400,000.00	6,114.0	N/A
29	2/23/2021	100	7,960.0	8,946.0	4,311.0	395,000.00	6,108.0	N/A
30	2/24/2021	100	7,620.0	8,982.0	3,514.0	400,000.00	6,103.0	N/A
31	2/24/2021	100	7,611.0	9,057.0	3,554.0	400,000.00	6,098.0	N/A
32	2/24/2021	102	7,729.0	8,974.0	4,020.0	400,000.00	6,093.0	N/A
33	2/24/2021	102	7,572.0	8,688.0	3,755.0	400,000.00	6,088.0	N/A
34	2/25/2021	97	7,521.0	8,913.0	3,901.0	400,000.00	6,083.0	N/A
35	2/25/2021	103	7,616.0	8,918.0	3,827.0	400,000.00	6,078.0	N/A
36	2/25/2021	103	7,643.0	8,187.0	3,603.0	400,000.00	6,073.0	N/A
37	2/25/2021	102	7,496.0	8,628.0	3,960.0	400,000.00	6,068.0	N/A
38	2/25/2021	103	7,320.0	7,903.0	3,561.0	400,000.00	6,063.0	N/A
39	2/26/2021	103	7,685.0	8,979.0	3,631.0	404,000.00	6,058.0	N/A
40	2/26/2021	103	7,503.0	9,231.0	4,702.0	400,000.00	6,053.0	N/A
41	2/26/2021	101	7,291.0	8,935.0	3,844.0	400,000.00	6,048.0	N/A

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API: 47-095-02650		FARM NAME: ASH			WELL NUMBER: SHR38KHSM	
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)	
Undifferentiated Sand	0	250	0	250	Sandstone / Traces Of Siltstone & Limestone & Coal	
Undifferentiated Sand	0	250	0	250	Sandstone / Traces Of Siltstone & Limestone & Coal	
Undifferentiated Silt	250	300	250	300	Siltstone / Traces Of Sandstone & Coal	
Undifferentiated Sand	300	400	300	400	Sandstone / Traces Of Siltstone & Limestone	
Undifferentiated Shale	400	430	400	430	Red Shale / Traces Of Siltstone	
Washington Coal	430	431	430	431	Sandstone / Red Shale / Coal	
Undifferentiated Sand	431	480	431	480	Sandstone / Red Shale	
Undifferentiated Shale	480	510	480	510	Red Shale / Traces Of Sandstone & Gray Shale	
Undifferentiated Quartz	510	580	510	580	Quartz / Traces Of Red Shale, Siltstone & Sandstone	
Waynesburg Coal	580	582	580	582	Quartz / Traces Of Gray Shale, Coal, Siltstone & Sandstone	
Undifferentiated Sand	582	610	582	610	Sandstone / Traces Of Gray Shale, Quartz & Siltstone	
Undifferentiated Silt	610	740	610	740	Siltstone / Traces Of Gray Shale, Quartz & Siltstone	
Undifferentiated Sand	740	760	740	760	Sandstone / Traces Of Red Shale	
Undifferentiated Shale	760	900	760	900	Red Shale / Traces Of Siltstone, Sandstone, Limestone	
Pittsburgh Coal	900	901	900	901	Sandstone / Coal	
Undifferentiated Sand	901	940	901	940	Sandstone / Traces Of Gray Shale, Limestone & Siltstone	
Undifferentiated Shale	940	980	940	980	Red Shale / Traces Of Limestone & Sandstone	
Undifferentiated Sand	980	1,000	980	1,000	Sandstone / Traces Of Red Shale	
Undifferentiated Shale	1,000	1,040	1,000	1,040	Gray Shale / Traces Of Limestone, Siltstone & Sandstone	
Undifferentiated Sand	1,040	1,060	1,040	1,060	Sandstone / Siltstone	
Undifferentiated Quartz	1,060	1,100	1,060	1,100	Quartz / Traces Of Sandstone & Siltstone	
Undifferentiated Lime	1,100	1,120	1,100	1,120	Limestone / Traces Of Sandstone & Siltstone	
Undifferentiated Sand	1,120	1,160	1,120	1,160	Sandstone / Siltstone	
Undifferentiated Silt	1,160	1,280	1,160	1,280	Siltstone / Traces Of Sandstone & Limestone	
Undifferentiated Quartz	1,280	1,320	1,280	1,320	Quartz	
Undifferentiated Silt	1,320	1,340	1,320	1,340	Siltstone / Traces Of Sandstone	
Undifferentiated Quartz	1,340	1,380	1,340	1,380	Quartz / Traces Of Siltstone & Sandstone	
Upper Kitanning	1,380	1,480	1,380	1,480	Quartz & Siltstone / Traces Of Sandstone & Coal	
Lower Kitanning	1,480	1,840	1,480	1,840	Sandstone & Siltstone / Traces Of Quartz & Coal	
Big Lime	1,840	1,920	1,840	1,920	Limestone / Traces Of Siltstone	
Big Injun	1,920	2,060	1,920	2,060	Sandstone & Limestone / Traces Of Siltstone	
Price	2,060	2,210	2,060	2,210	Siltstone / Traces Of Red Shale	
Weir	2,210	2,360	2,210	2,360	Sandstone & Siltstone / Traces Of Limestone	

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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)
Berea	2,360	2,540	2,360	2,540	Siltstone
Gordon	2,540	3,350	2,540	3,350	Siltstone / Traces Of Sandstone & Pyrite
Warren Sand	3,350	4,940	3,350	4,940	Siltstone & Sandstone
Benson	4,940	5,150	4,940	5,150	Siltstone & Sandstone
Alexander	5,150	6,296	5,150	6,444	Siltstone / Traces Of Gray Shale
Middlesex	6,296	6,336	6,444	6,495	Gray Shale / Traces Of Siltstone
West River	6,336	6,407	6,495	6,601	Gray Shale
Burket	6,407	6,442	6,601	6,666	Gray Shale
Tully	6,442	6,463	6,666	6,722	Gray Shale
Hamilton	6,463	6,478	6,722	6,768	Gray Shale & Limestone
Upper Marcellus	6,478	6,498	6,768	6,890	Gray Shale
Middle Marcellus	6,498		6,890		Gray Shale
TD - Marcellus					

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DRILLING CONTRACTOR

PATTERSON-UTI DRILLING COMPANY
4000 TOWN CENTER BOULEVARD SUITE 240
CANONSBURG, PA 15317

CEMENTING COMPANY

HALLIBURTON
121 CHAMPION WAY SUITE #210
CANONSBURG, PA 15317

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Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	2/18/2021
Job End Date:	2/26/2021
State:	West Virginia
County:	Tyler
API Number:	47-095-02650-00-00
Operator Name:	CNX Gas Company LLC
Well Name and Number:	SHR38 M2 KHSM
Latitude:	39.37160500
Longitude:	-80.83536000
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,551
Total Base Water Volume (gal):	11,286,150
Total Base Non Water Volume:	0



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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	Operator	Carrier/Base Fluid	Water	7732-18-5	100.00000	84.81422	None
Proppant (Sand)	Nextier	Proppant	Crystalline silica: Quartz (SiO2)	14808-60-7	100.00000	14.55386	None
7.5% HCl	Chemstream	Acid	Water	7732-18-5	92.50000	0.52108	None
7.5% HCl	Chemstream	Acid	Hydrochloric Acid	7647-01-0	7.50000	0.04225	None
StimStream FR 9800	Chemstream	Friction Reducer	Water	7732-18-5	47.00000	0.01823	None
StimStream SC-398	Chemstream	Scale Inhibitor	Non-Hazardous substances	Proprietary	90.00000	0.01146	None
StimStream FR 9800	Chemstream	Friction Reducer	butene, homopolymer	9003-29-6	25.00000	0.00970	None
StimStream FR 9800	Chemstream	Friction Reducer	alkanes, C16-20-iso-	90622-59-6	25.00000	0.00970	None
Clearal 268	Chemstream	Biocide	Non-Hazardous substances	Proprietary	80.00000	0.00816	None

CoilStream VB 625	Chemstream	Gelling Agent					
			Heavy Aliphatic Naphtha	64742-96-7	60.00000	0.00294	None
CoilStream VB 625	Chemstream	Gelling Agent					
			Guara Gum	9000-30-0	50.00000	0.00245	None
Clearal 268	Chemstream	Biocide					
			Glutaraldehyde	111-30-8	20.00000	0.00204	None
StimStream SC-398	Chemstream	Scale Inhibitor					
			Bis(HexaMethylene Triamone Penta(Methylene Phosonic Acid) (BHMT))	34690-00-1	10.00000	0.00127	None
StimStream FR 9800	Chemstream	Friction Reducer					
			Alcohols, C12-18, ethoxylated	68213-23-0	3.00000	0.00116	None
PVS Iron Control 1	Chemstream	Iron Control					
			Citric Acid	77-92-9	50.50000	0.00050	None
PVS Iron Control 1	Chemstream	Iron Control					
			Water	7732-18-5	49.50000	0.00049	None
ACI-250	Chemstream	Acid Inhibitor					
			Methyl Alcohol	67-56-1	45.00000	0.00033	None
Clearal 268	Chemstream	Biocide					
			Didecyl dimethyl ammonium chloride	7173-51-5	3.00000	0.00031	None
Clearal 268	Chemstream	Biocide					
			Quaternary Ammonium Compounds	68424-85-1	3.00000	0.00031	None
Ammonium Persulfate	Chemstream	Breaker					
			Ammonium persulfate	7727-54-0	100.00000	0.00025	None
CoilStream VB 625	Chemstream	Gelling Agent					
			Trade Secret	Proprietary	5.00000	0.00024	None
Clearal 268	Chemstream	Biocide					
			Ethanol	64-17-5	1.50000	0.00015	None
CoilStream VB 625	Chemstream	Gelling Agent					
			Trade Secret	Proprietary	3.00000	0.00015	None
CoilStream VB 625	Chemstream	Gelling Agent					
			Trade Secret	Proprietary	3.00000	0.00015	None
ACI-250	Chemstream	Acid Inhibitor					
			Ethylene Glycol	107-21-1	20.00000	0.00015	None
ACI-250	Chemstream	Acid Inhibitor					
			Trade Secret	Proprietary	15.00000	0.00011	None
ACI-250	Chemstream	Acid Inhibitor					
			Water	7732-18-5	10.00000	0.00007	None
ACI-250	Chemstream	Acid Inhibitor					
			N, N-Dimethylformamide	68-12-2	10.00000	0.00007	None
ACI-250	Chemstream	Acid Inhibitor					
			2-Butoxyethanol	111-76-2	5.00000	0.00004	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.

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WV Department of Environmental Protection

* 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%

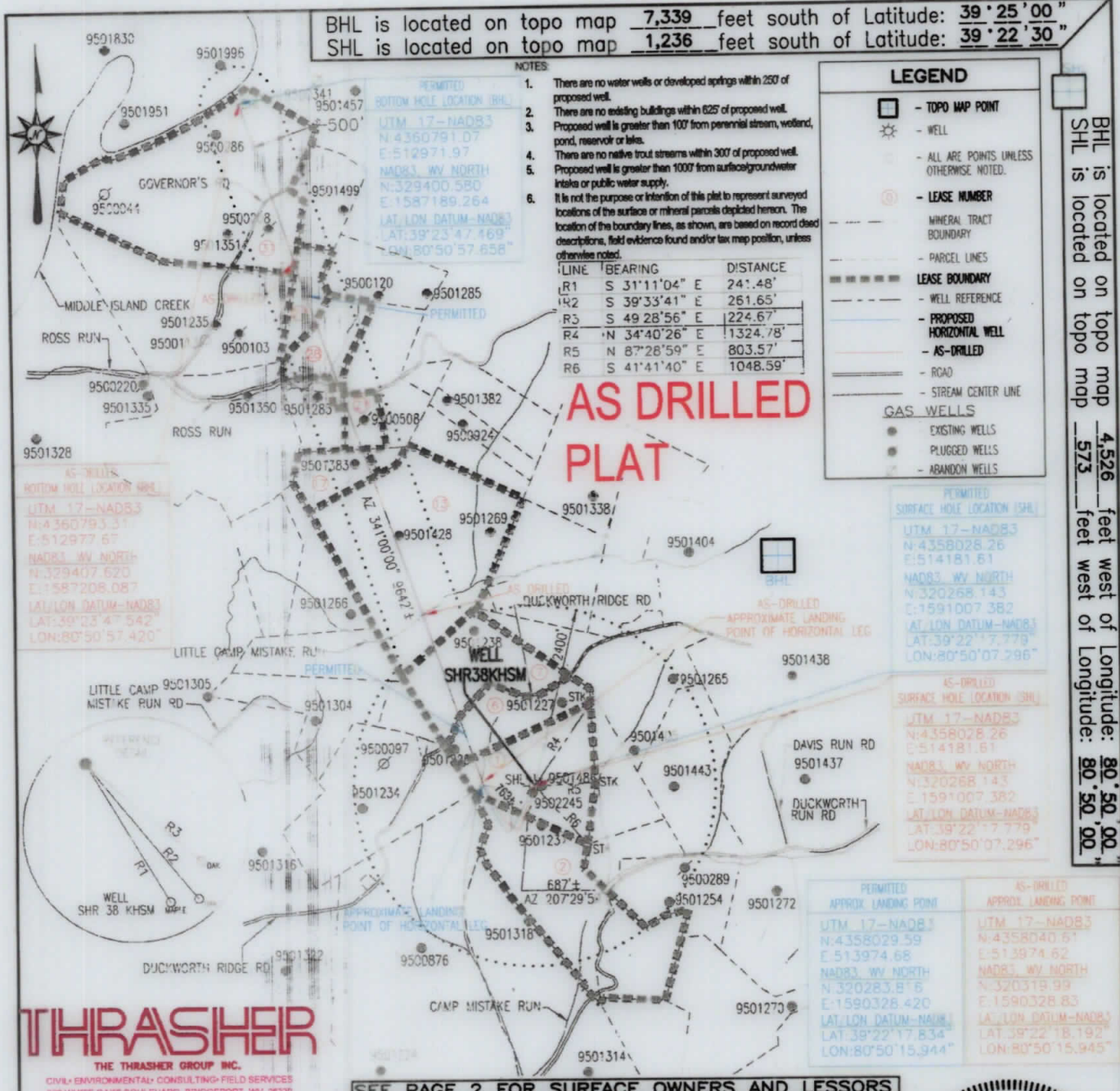
Note: For Field Development Products (products that begin with FDP), MSDS level only information has been provided.
Ingredient information for chemicals subject to 29 CFR 1910.1200(i) and Appendix D are obtained from suppliers Material Safety Data Sheets (MSDS)

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Office of Oil and Gas

JUN 17 2021

WV Department of
Environmental Protection

BHL is located on topo map 7,339 feet south of Latitude: 39° 25' 00"
 SHL is located on topo map 1,236 feet south of Latitude: 39° 22' 30"



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 surficial groundwater intakes 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, are based on record deed descriptions, field evidence found and/or tax map position, unless otherwise noted.

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
- AS-DRILLED
- ROAD
- STREAM CENTER LINE
- GAS WELLS
 - EXISTING WELLS
 - PLUGGED WELLS
 - ABANDON WELLS

BHL is located on topo map 4,526 feet west of Longitude: 80° 50' 00"
 SHL is located on topo map 573 feet west of Longitude: 80° 50' 00"

THRASHER
 THE THRASHER GROUP INC.
 CIVIL • ENVIRONMENTAL • CONSULTING • FIELD SERVICES
 600 WHITE OAKS BOULEVARD, BRIDGEPORT, WV 26330
 PHONE: (206) 824-4199 • FAX: (206) 824-7071

SEE PAGE 2 FOR SURFACE OWNERS AND LESSORS

FILE #: SHR 38 KHSM AS-DRILLED
 DRAWING #: SHR 38 KHSM AS-DRILLED
 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 A. Six*
 R.P.E.: _____ L.L.S.: P.S. No. 2000



PLACE SEAL HERE

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



DATE: JANUARY 23, 2020
 OPERATOR'S WELL #: SHR 38 KHSM AS-DRILLED
 API WELL #: 47 95 02650
 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: 469.252±

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: 16,620'±
 WELL OPERATOR CNX GAS COMPANY LLC DESIGNATED AGENT ANTHONY KENDZIORA
 Address 1000 CONSOL ENERGY DRIVE Address 1000 CONSOL ENERGY DRIVE
 City CANONSBURG State PA Zip Code 15317 City CANONSBURG State PA Zip Code 15317

08/27/2021

SHR 38 KHSM PAGE 2 OF 2

AS DRILLED PLAT

SURFACE OWNER	LESSOR	DIST-TM/PAR
1 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
2 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, AKA PHILLIP MARSHALL LEONIAN MARION RAY BACHELOR, AKA MARION R. BACHELOR AND GLORIA JEAN BACHELOR, H/W RITA G. JARVIS MIKE ROSS, INC. I. L. MORRIS JO ELLEN HARPER DAY MARY LEE LILLY ARMEN LEONIAN, AKA ARMEN LANHAM LEONIAN JOHN FULTON LEONIAN MILA ASH SAYLOR REVOCABLE TRUST, BY JOSEPH F. SILEK, JR BAILEY ANN MILLS WILLIAM PAUL HARPER DAVID PAUL LOCOCO MARY LYNNE SLATTERY, FKA MARY LYNNE LOCOCO DONALD VINCENT LOCOCO ROSE MARIE VANHEUVELN THERESA LEE ROBERTSON MARTHA SUE MUZIO, FKA MARTHA SUE LOCOCO MICHELLE LOCOCO BUSHMIRE, FKA MICHELLE LUCRETA BUSHMIRE ELIZABETH FLORENCE LOCOCO RALPH E. PHILLIPS AND VELINDA PHILLIPS, H/W BRC APPALACHIAN MINERALS I, LLC BRC APPALACHIAN MINERALS I, LLC	1-16/21
6 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
7 DIANA L. BOGER	EDNA DILLON SAMUEL DAVID DILLON AND DONNA L. DILLON, H/W HOWARD D. SPURLOCK AND MARIAN E. SPURLOCK, H/W EDITH M. DOAK PEARL G. MCINTYRE PAUL MCINTYRE KERMIT MCINTYRE AND RUTH MCINTYRE, H/W SHEILA L. GUY EDITH W. MCINTYRE	P/O 1-16/18
13 KENNETH G. WRIGHT TRUST, KENNETH G. WRIGHT-TRUSTEE	FRANKLIN L. MERCER AND RUTH L. MERCER, H/W AND FRANKLIN L. MERCER, ATTORNEY-IN-FACT FOR ROGER N. MERCER AND GLORIA MERCER, H/W DELORES ROSSI LUTHER ROGERS AND ANITA ROGERS, H/W MARIE MERCER HARLEY EDWIN SPENCER AND ALICE RUTH SPENCER, H/W THE KENNETH G. WRIGHT TRUST, DATED 12/21/2010, BY KENNETH G. WRIGHT, TRUSTEE	1-16/1
17 KENNETH G. WRIGHT TRUST, KENNETH G. WRIGHT-TRUSTEE	FRANKLIN L. MERCER AND RUTH MERCER, H/W AND FRANKLIN L. MERCER, ATTORNEY-IN-FACT FOR ROGER N. MERCER AND GLORIA MERCER, H/W DELORES ROSSI ANITA ROGERS AND LUTHER ROGERS, W/H MARIE MERCER THE KENNETH G. WRIGHT TRUST, DATED DECEMBER 21, 2010, BY KENNETH G. WRIGHT, TRUSTEE CONRAD E. COSTILOW SHELBY ROGERS GEORGE, A/K/A SHELBY R. GEORGE PATRICIA LEMLEY AND MELVIN LEMLEY, W/H PATRICIA CIAFARDO AND JOSEPH J. CIAFARDO, W/H BRADLEY EISMINGER AND SHIRLEY EISMINGER, F/K/A SHIRLEY GEORGE GARY W. GEORGE, SR. (INDIVIDUALLY), AND GARY W. GEORGE, SR. (REMAINDER INTEREST OF FRANCES M. GEORGE) BETH ANN MADDEN (INDIVIDUALLY) AND BETH ANN MADDEN (REMAINDER INTEREST OF FRANCE M. GEORGE) FRANCES M. GEORGE, A/K/A FRANCES MOORE GEORGE VIRGINIA H. LEMASTERS FAMILY TRUST, BY D. LARRY LEMASTERS, TRUSTEE LINDA SUE GEORGE COEN, F/K/A, LINDA SUE GEORGE DONALD ROBERT GEORGE DONALD EDWARD GEORGE, JR. AND DARLYN J. GEORGE, H/W LULA MAE JOHNSON BY HER ATTORNEY-IN-FACT, SANDRA LEE HARMAN GREGORY C. NICHOLSON KIMBERLY ANN SHAMBLIN, A/K/A KIMBERLY A. ROUSH AND GREGORY S. ROUSH, W/H WILLIAM E. NICHOLSON CYNTHIA ANN ZONTS AND ROBERT FRANCIS ZONTS, W/H DEBORAH A. WAYCHOFF, F/K/A DEBORAH ANN COLE BRENDA COLE JAMES HENRY COLE MIKUEL ANN PARRISH DONNA PARRISH A/K/A DONNA RAHALL WILLIAM MICHAEL PARRISH AND CYNTHIA PARRISH, H/W CHRISTINA R. LORENCE, F/K/A CHRISTINA R. COLE	1-12/22.2
21 LAWRENCE DEAN MOORE	ROBERT L. UNDERWOOD AND VICTORIA M. UNDERWOOD, H/W	1-12/22
27 THOMAS VAN DE BUNT	JAMES C. FERRELL AND LA JETTA FERRELL, H/W	1-12/12
28 LAWRENCE DEAN MOORE AND JULIE ANN MARKLE	MARY J. MOORE	1-12/13
LAWRENCE DEAN MOORE		1-12/13.2
31 JEFFREY J. AND KAY A. HEIKENFELD	ROBERT H. TENNANT, A SINGLE MAN AND	1-12/11
JAMES F. AND PATRICIA A. WOODS	OPAL V. TENNANT, A WIDOW	1-12/11.1

AS-DRILLED
SURFACE HOLE LOCATION (SHA)
UTM 17-NAD83
N:4358028.26
E:514181.61
NAD83 WY NORTH
N:320268.143
E:1591007.382
LAT/LON DATUM-NAD83
LAT:39°22'17.779"
LON:80°50'07.296"

AS-DRILLED
APPROX. LANDING POINT
UTM 17-NAD83
N:4358040.61
E:513974.62
NAD83 WY NORTH
N:320319.99
E:1590328.83
LAT/LON DATUM-NAD83
LAT:39°22'18.192"
LON:80°50'15.945"

AS-DRILLED
BOTTOM HOLE LOCATION (BHA)
UTM 17-NAD83
N:4360793.31
E:512977.67
NAD83 WY NORTH
N:329407.620
E:1587208.087
LAT/LON DATUM-NAD83
LAT:39°22'17.779"
LON:80°50'57.420"

PERMITTED
SURFACE HOLE LOCATION (SHA)
UTM 17-NAD83
N:4358028.26
E:514181.61
NAD83 WY NORTH
N:320268.143
E:1591007.382
LAT/LON DATUM-NAD83
LAT:39°22'17.779"
LON:80°50'07.296"

PERMITTED
APPROX. LANDING POINT
UTM 17-NAD83
N:4358029.59
E:513974.65
NAD83 WY NORTH
N:320263.816
E:1590328.420
LAT/LON DATUM-NAD83
LAT:39°22'17.834"
LON:80°50'15.944"

PERMITTED
BOTTOM HOLE LOCATION (BHA)
UTM 17-NAD83
N:4360791.07
E:512971.97
NAD83 WY NORTH
N:329400.580
E:1587189.264
LAT/LON DATUM-NAD83
LAT:39°22'17.779"
LON:80°50'57.658"

08/27/2021