

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

RECEIVED
Office of Oil and Gas
OCT 11 2022
WV Department of
Environmental Protection

API 47-051-02316 County Marshall District Franklin
Quad Powhatan Point 7.5' Pad Name McMasters Field/Pool Name _____
Farm name Robert L. Shields, et al Well Number McMasters N-12HU
Operator (as registered with the OOG) Tug Hill Operating, LLC
Address 380 Southpointe Boulevard, Plaza II, Suite 200 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 4,401,149.08 Easting 518,197.03
Landing Point of Curve Northing 4,401,127.36 Easting 517,912.13
Bottom Hole Northing 4,403,964.54 Easting 516,292.55

Elevation (ft) 1207.75' 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)
SOBM; Base oil, osmotic inhibitor, weighting agent, viscosifier, emulsifier, hardness buffer, fluid loss additive, LCM, Shale inhibitor, de-foamer, soaping agent, coagulant, flocculant; specific additives per WSSP and Permit.

Date permit issued 8/17/2020 Date drilling commenced 8/4/2021 spud: 6/4/2021 big rig: 9/3/2021 Date drilling ceased 1/31/2022
Date completion activities began 7/28/2022 Date completion activities ceased 8/11/2022
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 828' Open mine(s) (Y/N) depths N
Salt water depth(s) ft 1332' Void(s) encountered (Y/N) depths N
Coal depth(s) ft 727-733', 822-828' Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) _____

APPROVED
Reviewed by:
STRADGOLD
10-13-2022
10/21/2022

API 47-051-02316

Farm name Robert L. Shields, et al

Well number McMasters N-12HU

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	36"	30"	120'	NEW	94.5#	N/A	Y
Surface	26"	20"	900'	NEW	106.5#	N/A	Y
Coal							
Intermediate 1	17 1/2"	13 3/8"	2,653'	NEW	54.5#	N/A	Y
Intermediate 2	12 1/4"	9 5/8"	10,100'	NEW	47#	N/A	Y
Intermediate 3							
Production	8 1/2"	5 1/2"	22,403'	NEW	23#	N/A	Y
Tubing		2 7/8"	11,202'	NEW	4.7#	N/A	Y
Packer type and depth set							

Comment Details _____

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	A	452	15.6	1.18	533.36	0	8
Surface	A	1610	15.6	1.19	1.19	0	8
Coal							
Intermediate 1	A	2115	15.6	1.18	2495.7	0	8
Intermediate 2	A	4035	14.5	1.28	5164.8	0	8
Intermediate 3							
Production	A	5430	16.5	1.03	5592.9	0	8
Tubing							

Drillers TD (ft) 22,456'

Loggers TD (ft) n/a

Deepest formation penetrated Trenton

Plug back to (ft) n/a

Plug back procedure n/a

Kick off depth (ft) 10,270'

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 3 centralizers on surface casing at equal distance.

Intermediate - 1 centralizer every other joint.
 Production - one centralizer every other joint in lateral, one centralizer every joint through curve, one centralizer every other joint to surface.

WAS WELL COMPLETED AS SHOT HOLE Yes No DETAILS _____

WAS WELL COMPLETED OPEN HOLE? Yes No DETAILS _____

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

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WV Department of Environmental Protection

API 47- 051 - 02316 Farm name Robert L. Shields, et al Well number McMasters N-12HU

PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
	*see attached				

Please insert additional pages as applicable.

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Office of Oil and Gas

STIMULATION INFORMATION PER STAGE

OCT 11 2022

Complete a separate record for each stimulation stage.

WV Department of
Environmental Protection

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)
	attached							

Please insert additional pages as applicable.

10/21/2022

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OCT 11 2012
WV Department of Environmental Protection

McMasters N-12HU
STIMULATION INFORMATION PER STAGE

Stage No.	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	82.00	12116	12494	7390	247960	6,633	0
2	86.00	11624	8859	7757	508080	8,089	0
3	87.00	11785	10288	8306	502640	8,046	0
4	86.00	11767	9799	7312	503600	8,116	0
5	87.00	11631	9068	7633	509880	8,184	0
6	85.00	11247	9065	8781	503620	8,055	0
7	82.00	11263	9423	8076	502140	8,217	0
8	87.00	11284	9419	7846	507580	7,959	0
9	83.00	11547	9812	7531	507520	8,033	0
10	85.00	11043	10915	7462	502460	9,359	0
11	87.00	11138	8856	8133	500840	7,937	0
12	88.00	11145	9786	8302	508240	7,861	0
13	86.00	10811	8841	8235	501120	8,019	0
14	85.00	10630	8381	8028	496820	7,857	0
15	86.00	10964	8879	7691	500940	7,850	0
16	87.00	10822	8468	8148	503680	7,969	0
17	86.00	10673	7873	7336	606800	8,130	0
18	85.00	11079	7773	7946	504900	8,157	0
19	87.00	11114	10826	7551	502760	8,010	0
20	87.00	10785	8698	8032	502580	8,769	0
21	86.00	10753	9034	8009	502400	7,887	0
22	86.00	10732	9161	8407	500120	7,953	0
23	87.00	11068	9063	7878	508040	7,964	0
24	87.00	10705	8778	8042	500360	7,951	0
25	86.00	10468	8745	7940	502380	7,933	0
26	87.00	10289	8213	7932	505700	7,923	0
27	87.00	10471	8389	8519	510920	8,007	0
28	87.00	10508	8523	7964	506100	7,880	0
29	87.00	10597	8687	8250	501630	7,830	0
30	86.00	10467	9021	7884	500280	7,938	0
31	88.00	10352	8088	8021	506280	7,969	0
32	88.00	10466	8356	7854	500860	7,709	0

OCT 11 2022

Stage No.	Ave. Pump Rate (BPM)	Ave Treatment Pressure (PSI)	Max Breakdown Pressure (PSI)	ISIP (PSI)	Amount of Proppant (lbs)	Amount of Water (bbls)	Amount of Treatment of Fluid Protection Nitrogen/other (units)
33	87.00	10490	8604	7654	498400	7,869	0
34	87.00	10499	8871	8419	504140	7,816	0
35	87.00	10621	8807	7939	496020	7,703	0
36	87.00	10592	9440	9377	507700	7,808	0
37	85.00	10343	8593	7998	502860	7,784	0
38	87.00	10396	8640	7862	509800	7,779	0
39	87.00	10598	8580	8371	502660	7,763	0
40	86.00	10363	8863	7854	505160	7,766	0
41	87.00	10375	9519	8466	493000	7,751	0
42	87.00	10260	9555	8045	504600	7,733	0
43	86.00	10553	9786	8089	505140	7,737	0
44	87.00	10446	9458	8587	510800	8,758	0
45	86.00	10359	8920	7765	499260	7,678	0
46	86.00	10203	9339	8021	502720	7,776	0
47	86.00	9906	9119	7944	501460	7,706	0
48	88.00	10324	8797	8541	505660	7,699	0
49	87.00	10048	8497	8026	509910	7,762	0
50	85.00	9879	9366	7753	499840	7,871	0
51	87.00	9902	9282	8323	501240	7,560	0
52	85.00	10243	8757	8005	502200	7,554	0
53	86.00	9878	8849	8003	500940	7,642	0
54	88.00	9860	8796	8367	511160	7,710	0

**MCMASTERS N-12HU
PERFORATION RECORD**

OCT 11 2022

WV Department of
Environmental Protection

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD. Ft.	Number of Perforations	Formation(s)
1	7/28/2022	22,205	22,255	12	Utica
2	7/24/2022	21,978	22,154	48	Utica
3	7/24/2022	21,779	21,954	48	Utica
4	7/25/2022	21,580	21,755	48	Utica
5	7/25/2022	21,381	21,556	48	Utica
6	7/25/2022	21,182	21,357	48	Utica
7	7/26/2022	20,983	21,158	48	Utica
8	7/26/2022	20,784	20,959	48	Utica
9	7/26/2022	20,585	20,760	48	Utica
10	7/26/2022	20,386	20,561	48	Utica
11	7/27/2022	20,186	20,362	48	Utica
12	7/27/2022	19,987	20,163	48	Utica
13	7/27/2022	19,788	19,963	48	Utica
14	7/28/2022	19,589	19,764	48	Utica
15	7/28/2022	19,390	19,565	48	Utica
16	7/28/2022	19,191	19,366	48	Utica
17	7/28/2022	18,992	19,167	48	Utica
18	7/29/2022	18,793	18,968	48	Utica
19	7/29/2022	18,594	18,769	48	Utica
20	7/29/2022	18,395	18,570	48	Utica
21	7/29/2022	18,195	18,371	48	Utica
22	7/30/2022	17,996	18,172	48	Utica
23	7/30/2022	17,797	17,972	48	Utica
24	7/30/2022	17,598	17,773	48	Utica
25	7/30/2022	17,399	17,574	48	Utica
26	7/31/2022	17,200	17,375	48	Utica
27	7/31/2022	17,001	17,176	48	Utica
28	7/31/2022	16,802	16,977	48	Utica
29	7/31/2022	16,603	16,778	48	Utica
30	8/1/2022	16,404	16,579	48	Utica
31	8/1/2022	16,204	16,380	48	Utica
32	8/1/2022	16,005	16,181	48	Utica
33	8/2/2022	15,806	15,981	48	Utica
34	8/2/2022	15,607	15,782	48	Utica
35	8/2/2022	15,408	15,583	48	Utica
36	8/3/2022	15,209	15,384	48	Utica
37	8/3/2022	15,010	15,185	48	Utica
38	8/4/2022	14,811	14,986	48	Utica
39	8/4/2022	14,612	14,787	48	Utica
40	8/4/2022	14,413	14,588	48	Utica
41	8/5/2022	14,213	14,389	48	Utica

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD. Ft.	Number of Perforations	Formation(s)
42	8/5/2022	14,014	14,190	48	Utica
43	8/6/2022	13,815	13,990	48	Utica
44	8/6/2022	13,616	13,791	48	Utica
45	8/7/2022	13,417	13,592	48	Utica
46	8/7/2022	13,218	13,393	48	Utica
47	8/8/2022	13,019	13,194	48	Utica
48	8/8/2022	12,820	12,995	48	Utica
49	8/9/2022	12,621	12,796	48	Utica
50	8/9/2022	12,422	12,597	48	Utica
51	8/10/2022	12,222	12,398	48	Utica
52	8/10/2022	12,023	12,199	48	Utica
53	8/11/2022	11,824	11,999	48	Utica
54	8/11/2022	11,625	11,800	48	Utica

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McMasters N-12HU

Lithology Information

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
Maxton	1917	2010	1917	2010	Sandstone
Big Lime	2010	2065	2010	2065	Limestone
Big Injun	2065	2361	2065	2361	Sandstone
Weir	2361	2548	2361	2549	Sandstone
Berea	2548	2850	2549	2851	Sandstone
Gordon	2850	2913	2851	2914	Sandstone
Fifty Foot	2913	3486	2914	3488	Sandstone
Speechley	3486	4885	3488	4888	Sandstone
Benson	4885	5266	4888	5269	Sandstone
Alexander	5266	5855	5269	5858	Siltstone
Rhinestreet	5855	6283	5858	6287	Black Shale
Middlesex	6283	6359	6287	6363	Black Shale
Geneseo/Burkett	6359	6385	6363	6389	Black Shale
Tully	6385	6418	6389	6422	Limestone
Hamilton	6418	6467	6422	6471	Gray Shale
Marcellus	6467	6517	6471	6521	Black Shale
Onondaga	6517	6736	6521	6740	Limestone
Oriskany	6736	6833	6740	6837	Sandstone
Helderberg	6833	7205	6837	7209	Limestone
Salina	7205	8217	7209	8240	Salt/Anhydrite/LS
Lockport	8217	8582	8240	8612	Dolomite
Rose Hill	8582	8857	8612	8894	Shale
Packer Shell	8857	9066	8894	9107	Limestone
Clinton/Tuscarora	9066	9155	9107	9198	Sandstone
Juniata/Queenston	9155	9910	9198	9968	Red Shale
Reedsville	9910	10883	9968	11009	Gray Shale
Utica	10883	11143	11009	11467	Black Shale
Point Pleasant	11143	-	11467	-	Shale/Limestone

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	7/28/2022
Job End Date:	8/11/2022
State:	West Virginia
County:	Marshall
API Number:	47-051-02316-00-00
Operator Name:	Tug Hill Operating, LLC
Well Name and Number:	McMasters N 12HU
Latitude:	39.76007400
Longitude:	-80.78756400
Datum:	NAD27
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	11,088
Total Base Water Volume (gal):	17,951,598
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	Tug Hill Operating	Carrier/Base Fluid	Water	7732-18-5	100.00000	84.37645	None
Sand (40/70 White Proppant)	Tug Hill Operating	Proppant					
Sand (100 Mesh Proppant)	Tug Hill Operating	Proppant	Silica Substrate	14808-60-7	100.00000	11.99817	None
Hydrochloric Acid (7.5%)	CNR	Acidizing	Silica Substrate	14808-60-7	100.00000	3.23398	None
			Water	7732-18-5	85.00000	0.22787	None
			Hydrochloric Acid (Hydrogen Chloride)	7647-01-0	37.00000	0.09919	None
StimStream FR 9800	Chemstream	Friction Reducer	Alkanes, C16-20-iso-	90622-59-6	25.00000	0.01940	None
			Butene, homopolymer	9003-29-6	25.00000	0.01940	None
MC MX 9-4743	Multi-Chem	Biocide	Ethoxylated alcohols (C12-18)	68213-23-0	3.00000	0.00233	None
LD-7750W	Multi-Chem	Scale Inhibitor	Sodium Nitrate	7631-99-4	60.00000	0.02139	None

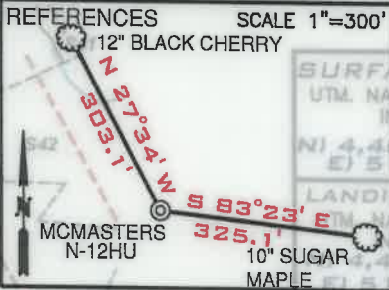
			Methanol	67-56-1	60.00000	0.00491	None
			Phosphonic Acid Salt	Proprietary	5.00000	0.00041	None
ProHib 100	CNR	Acid Inhibitor					
			2-Butoxyethanol	111-76-2	60.00000	0.00052	None
			Proprietary material	Proprietary	30.00000	0.00026	None
			Proprietary non-ionic surfactant	Proprietary	20.00000	0.00017	None
			Proprietary corrosion inhibitor	Proprietary	10.00000	0.00009	None
			Proprietary ethoxylated alcohol	Proprietary	10.00000	0.00009	None
ProFE 105	CNR	Iron Control					
			Citric Acid	77-92-9	20.00000	0.00021	None
			Acetic Acid	64-19-7	5.00000	0.00005	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	85.00000	0.22787	
			Butene, homopolymer	9003-29-6	25.00000	0.01940	
			Ethoxylated alcohols (C12-18)	68213-23-0	3.00000	0.00233	
			Phosphonic Acid Salt	Proprietary	5.00000	0.00041	
			Proprietary material	Proprietary	30.00000	0.00026	
			Proprietary non-ionic surfactant	Proprietary	20.00000	0.00017	
			Proprietary corrosion inhibitor	Proprietary	10.00000	0.00009	
			Proprietary ethoxylated alcohol	Proprietary	10.00000	0.00009	
			Acetic Acid	64-19-7	5.00000	0.00005	

* 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)

**MCMASTERS LEASE
WELL N-12HU
327.5983 ACRES**



TOP HOLE LATITUDE: 39°47'30"
BOTTOM HOLE LATITUDE: 39°47'30"
WELL N-12HU
327.5983 ± ACRES

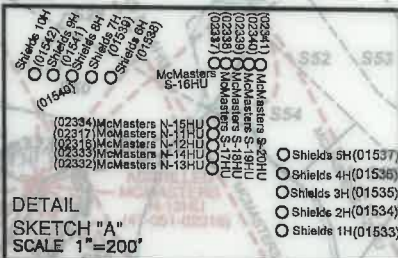
SCALE 1" = 2000'

LINE	BEARING	DISTANCE
L1	N 70°33' W	1428.71'
L2	S 41°21' W	1275.99'
L3	S 05°27' E	15.59'
L4	S 26°09' W	627.83'

LEGEND

- LEASE TRACTS
- SURFACE TRACTS
- WELL LATERAL
- POINT PLEASANT LEGS
- UNIT BOUNDARY
- (A) LEASE # (SEE 6A1 FORM)
- 400' BORE PATH OFFSET
- 500' WELL BORE OFFSET

ASDRILLED LEG
PERMITTED LEG



CURVE	CHORD BEARING	CHORD LENGTH	RADIUS	ARC LENGTH
C1	S 27°40' W	130.85'	260.06'	132.27'
C2	N 53°30' W	9.10'	5.45'	10.78'
C3	N 03°53' W	29.85'	65.15'	30.11'
C4	S 72°06' W	67.84'	62.13'	71.76'
C5	N 54°30' W	70.88'	174.35'	71.38'
C6	N 42°09' W	518.63'	2672.73'	519.45'
C7	S 31°09' E	232.87'	1169.19'	233.28'

SURFACE HOLE
UTM. NAD83, ZONE 17
IN METERS
N) 4,401,149.08
E) 518,197.03

LANDING POINT 1
UTM. NAD83, ZONE 17
IN METERS
N) 4,401,127.36
E) 517,912.13

BOTTOM HOLE
UTM. NAD83, ZONE 17
IN METERS
N) 4,403,964.54
E) 516,292.55

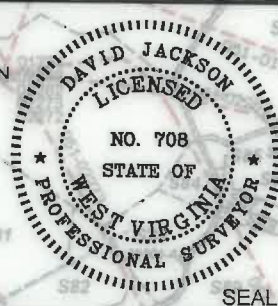
(+)(TH) DENOTES LOCATION ON UNITED STATES TOPOGRAPHIC MAPS

- NOTES**
- BORE PATH BASED ON GRID NORTH.
 - NO WATER WELLS WITHIN 250' OF WELL WERE FOUND, NO DWELLINGS WITHIN 625' OF PAD CENTER WERE FOUND.
 - OWNERSHIP TAKEN FROM PUBLIC RECORDS OF MARSHALL COUNTY, WV IN MARCH, 2019. COORDINATES AND WELL TIES BASED UPON DIFFERENTIAL GPS MEASUREMENTS.
 - WELL LOCATION REFERENCES ARE BASED UPON THE MAGNETIC MERIDIAN.
 - ALL DEEP WELLS SHOWN ON THIS PLAT.
 - BOUNDARIES ALONG ROADWAYS ARE BASED UPON MEMORANDUM BY DICKIE, MCCAMEY & CHILCOTE, P.C. FILE 0058304.0401147

FILE NUMBER _____
DRAWING NUMBER: MCMASTERS N-12HU REV1
SCALE: 1" = 2000'
MINIMUM DEGREE OF ACCURACY: 1/200
PROVEN SOURCE OF ELEVATION: SUBMETER MAPPING
GRADE GPS

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 RULES ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION

David L Jackson



JACKSON SURVEYING INC.
P.O. Box 1460
Clarksburg, WV 26302
304-623-5851

WVDEP
OFFICE OF OIL & GAS
601 57TH STREET, SE
CHARLESTON, WV 25304

WELL TYPE: OIL _____ GAS X LIQUID INJECTION _____ WASTE DISPOSAL _____
(IF "GAS") PRODUCTION X STORAGE _____ DEEP X SHALLOW _____
LOCATION ELEVATION 1207.75' WATERSHED (HUC 10) FISH CREEK (HUC-10)
DISTRICT FRANKLIN COUNTY MARSHALL
QUADRANGLE POWHATAN POINT 7.5' LEASE NUMBER SEE WW-6A1 FORM

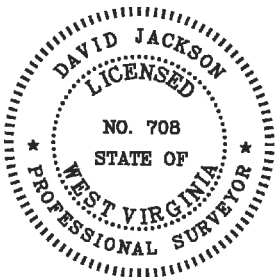
SURFACE OWNER ROBERT L. SHIELDS, ET AL ACREAGE 104.10/21/2022
OIL & GAS ROYALTY OWNER ROBERT L. SHIELDS, ET AL LEASE ACREAGE 104.11
PROPOSED WORK: DRILL _____ CONVERT _____ DRILL DEEPER _____ REDRILL _____ FRACTURE OR STIMULATE _____ PLUG OFF OLD FORMATION _____
PERFORATE NEW FORMATION _____ OTHER PHYSICAL CHANGE (SPECIFY) ASDRILLED
TARGET FORMATION POINT PLEASANT PLUG & ABANDON _____ CLEAN OUT & REPLUG _____
WELL OPERATOR TUG HILL OPERATING, LLC ESTIMATED DEPTH TVD: 10,985' TMD: 22,456'
ADDRESS 1320 SOUTH UNIVERSITY DRIVE, SUITE 500 FORT WORTH, TX 76107 DESIGNATED AGENT DARREN BROWN, CT CORP ADDRESS 5098 WASHINGTON STREET WEST, SUITE 407 CHARLESTON, WV 25313-1561

COUNTY NAME PERMIT

**MCMASTERS LEASE
WELL N-12HU
327.5983 ± ACRES**

Number	TAX MAP -PARCEL	ADJOINER OWNER	ACRES	Number	TAX MAP -PARCEL	ADJOINER OWNER	ACRES
S1	05-23-11.1	John H. & Sonya D. Holliday	46.482	S61	05-18-29	Carl G. Berg	5.319
S2	05-23-11.4	Evelyn L. Hudson	10.879	S62	05-18-31	Kenneth E. Rastall	6.94
S3	05-23-13	Linda D. Greathouse	14.24	S63	05-18-32.1	Lori D. Carpenter	5.545
S4	05-23-9.2	Linda D. Greathouse	25.58	S64	05-18-32	Kenneth E. Rastall	5.335
S5	05-23-14	Dominion Transmission Inc.	59.5	S65	05-18-13.8	Lori D. Carpenter	5.545
S6	05-23-9.3	Linda D. Greathouse	17.5	S66	05-18-33	Sandra & Glenn Whisler	5.343
S7	05-23-08	Carl David & Suzanne L. Guseman	29.5	S67	05-17-12	James & Jill C. Corley	3.33
S8	05-23-05	Daniel D. Rhyand	118.5	S68	05-17-12.1	Williams Ohio Valley Midstream LLC	1.67
S9	05-23-04	Abe J. Hochstetler	100.7	S69	05-17-10.5	Williams Ohio Valley Midstream LLC	4.24
S10	05-23-06	James A. Channing Et Al	48.0	S70	05-17-10	James A. Corley Et Al	92.61
S11	05-23-03	Abe J. Hochstetler	50.0	S71	05-17-10.1	James A. & Jill C. Corley	4.51
S12	05-23-2.1	William L. & Janice M. Wayne	2.364	S72	05-17-9.1	Jeri J. White	1.0
S13	05-18-21	Curtis E. & Michelle J. Hall	43.119	S73	05-17-9.2	Jeri J. White	7.136
S14	05-18-21.1	Rodney & Rhonda Jackson	5.47	S74	05-17-11	Kenneth N. Corley Et Ux	120.0
S15	05-23-02	Daniel J. & Danielle D. Lilley	77.636	S75	05-17-9.4	Vicki L. Bowen	60.3
S16	05-18-22	Rodney & Rhonda Jackson	30.345	S76	05-17-9.3	James A. & Corley Et Ux	12.478
S17 B	05-18-24	Duane Brunn	102.0	S77	05-17-11.1	Randy W. Francis Et Ux	67.0
S18	05-18-23	XCL Midstream Operating LLC	110.0	S78	05-18-20	Wayne E. Channing Et Al	75.6
S19	05-19-18	Mark E. Yoho Et Ux	55.948	S79	05-18-21.2	David P. Lassar	1.0
S20 A	05-18-02	Robert L. Shields Et Al	104.11	S80	05-18-21.3	Stone Hill Minerals Holdings, LLC	0.811
S21 C	05-19-17	Mark A. Yoho	15.263	S81	05-23-8.1	William & Virginia Roupe	34.0
S22 D	05-19-16	Robert L. Shields & Donald Shields	11.612	S82	05-24-5.4	Thomas V. Tuttle Et Ux	38.244
S23 E	05-19-14	James & Sherry Beegle	18.356	S83	05-24-5.5	Sonny & Linda Lou Tagg	17.194
S24 F	05-18-1	Diana Henry Haynes & Carol C. Henry	62.908	S84	05-23-7.2	Florella Lou Weigand	6.354
S25 G	05-19-30	Ernie & Tammy Anderson	19.037	S85	05-23-7.1	Florella Lou Weigand	0.549
S26 H	05-19-13	Rona Lee Rice & Charles Franklin McCardle	94.925	S86	P/O 05-23-7	Terry E. Simms Et Ux	123.097
S27 I	05-19-13.1	Donald Shields	0.800	S87	05-24-5.1	James D. Watkins Et Ux	4.6
S28	05-18-3.1	Nikki L. & Jonathan Stevens	2.223	S88	05-24-5.2	James D. Watkins Et Ux	3.151
S29 J	05-19-8	CNX Gas Company LLC	40.0	S89	05-24-5	Robert C. Francis Et Ux (Life)	145.78
S30 M	05-19-7	Olan V. Rutan Et Ux	32.4801	S90	05-24-3.1	T.H. Exploration II LLC	5.50
S31 K	05-14-15	Robert L. Shields Et Al	53.0	S91	05-24-6	Terry E. Simms Et Ux	42.84
S32 L	05-14-14	Robert L. Shields Et Al	29.05	S92	05-23-10	Terry E. Simms Et Ux	38.95
S33 N	05-14-12	Dale R. Galleher Et Al	135.100	S93	05-23-11.7	Bryan L. Huggins	1.835
S34 O	05-14-12.1	Henry Wilson Plunkert Jr.	5.0	S94	05-23-11.2	Evelyn Hudson	1.154
S35 P	05-14-10	Wanda P. Rine, Life	126.03	S95	05-23-11	Roy F. Yoho	9.475
S36 Q	05-14-13	Ralph D. & Sally Jane Hoyt	222.18	S96	05-23-11.6	T.H. Exploration II, LLC	0.094
S37 R	05-14-9.2	Maria T. Flores	25.0	S97	05-25-20.2	James M. Zambotti	1.347
S38 S	05-12-21	Edward L. Gibson-Life	73.436	S98	05-25-20.3	James A. & Jo C. Ester	4.49
S39 T	05-12-14	Linda Hamilton Et Al	117.495	S99	05-23-11.5	Roy F. Yoho	2.25
S40	05-12-12.1	Linda L. Persinger Et Ux	148.09	S100	05-23-11.3	Colin R. Yoho	11.29
S41	05-12-11	Wesley R. Bryan & Wesley R. Bryan II	52.478	S101	05-23-13.1	James R. & Pamela J. Ferrell	0.75
S42	05-11-15	Lionel L. Persinger Ex Ux	93.0	S102	05-23-12	Mark A. Yoho	3.05
S43	05-15-01	Marcus Sharp & Angela R. Schlabach	121.0	S103	05-26-11	Mark A. Yoho	89.25
S44	05-15-15	Robert L. Shields Et Al	49.02	S104	05-23-9.4	Jackson R. Davis Sr. & Deanna L. Davis	2.087
S45	05-15-12	John David Petrock & Thomas Andrew Petrock	150.23	S105	05-23-9.1	John W. Van Orden Et Ux	23.376
S46	05-15-11	Diana Henry Haynes & Carol Henry	65.59	S106	05-26-7	Dominion Transmission, Inc.	71.0
S47	05-18-1.1	Charles F. & Diana L. Haynes	0.392	S107	05-26-5	Michael J. Wiley Et Al	65.0
S48	05-15-10	Mark Stanley Ruckman	153.75	S108	05-23-26	Michael J. Wiley Et Al	101.57
S49	05-18-04	Olan & Patricia Rutan	65.89	S109	05-23-27	Michael J. Wiley Et Al	33.14
S50	05-18-03	Olan V. & Patricia E. Rutan	43.677	S110	05-23-15	Henry Virginia Ethel Estate	15.5
S51	05-18-05	Terry Melott	8.14	S111	05-23-16.1	Donald B. Henry	1.97
S52	05-18-15.3	Charles Yeater	26.44	S112	05-23-16	Roy Friend Yoho Gr.	18.03
S53	05-18-15.4	Edward Lee Burge, Jr.	22.34	S113	05-23-17.3	William & Katherine Flewelling	5.018
S54	05-18-06	Charles Yeater	26.0	S114	05-23-17	Tammy & Thomas E. Brown	4.62
S55	05-18-07	Charles Yeater	24.22	S115	05-23-17.4	Tammy D. Meadows	2.605
S56	05-18-16	Charles Yeater	17.768	S116	05-23-17.2	Dick Rowan Jr. & Carol J. Rowan	14.920
S57	05-18-13	Southern Country Farms Inc.	11.054	S117	05-23-18	Abe J. Hochstetler	35.38
S58	05-18-59	Southern Country Farms Inc.	15.79	S118	05-23-4.1	XCL Midstream Operating LLC	2.16
S59	05-18-30	Jon Schmidt Et Al	5.46	S119	05-23-4.2	XCL Midstream Operating LLC	1.17
S60	05-18-13.10	Carl Berg	10.88	S120	05-23-18.1	Mark A. Yoho	7.8
				S121	05-23-19	Doty Cemetery	1.0

Lease No.	Tags	Parcel	Lessor	Book	Page
10*14116	A	5-18-2	DONALD SHIELDS	669	367
10*14295	B	5-18-24	MARK E. YOHO AND MARY YOHO, HUSBAND AND WIFE	655	546
10*14295	C	5-19-17	MARK E. YOHO AND MARY YOHO, HUSBAND AND WIFE	655	546
10*14116	D	5-19-16	DONALD SHIELDS	669	367
10*14127	E	5-19-14	JAMES & SHERRY BEEGLE ET AL	699	218
10*14142	F	5-18-1	BENIAMIN FRANKLIN HENRY	718	498
10*14579	G	5-19-30	ERNIE LANDERSON & TAMMEY LANDERSON	681	507
10*14110	H	5-19-13	RONA LEE MCCARDLE	670	472
10*14112	I	5-19-13.1	DONALD SHIELDS	669	374
10*14571	J	5-19-8	MATTHEW S & BRENDA S ANDERSON	840	165
10*14116	K	5-14-15	DONALD SHIELDS	669	367
10*14116	L	5-14-14	DONALD SHIELDS	669	367
10*14423	M	5-19-7	OLAN V & PATRICIA E RUTAN	727	1
10*14928	N	5-14-12	JOSEPH D. PARRIOTT & NELLIE B. PARRIOTT, HUSBAND AND WIFE	660	517
10*14522	O	5-14-12.1	HENRY WILSON PLUNKERT JR	749	532
10*14420	P	5-14-10	ELLIS V & WANDA P RINE	725	141
10*14067	Q	5-14-13	REVA FRANZE	666	51
10*14619	R	5-14-9.2	SHIRLEY R MILLER	715	414
10*24492	S	5-12-21	EDWARD L GIBSON AND VIOLET L GIBSON ETAL	920	112
10*21769	T	5-12-14	BETTY HAMILTON	837	419



P.S. 708

David L Jackson

10/21/2022



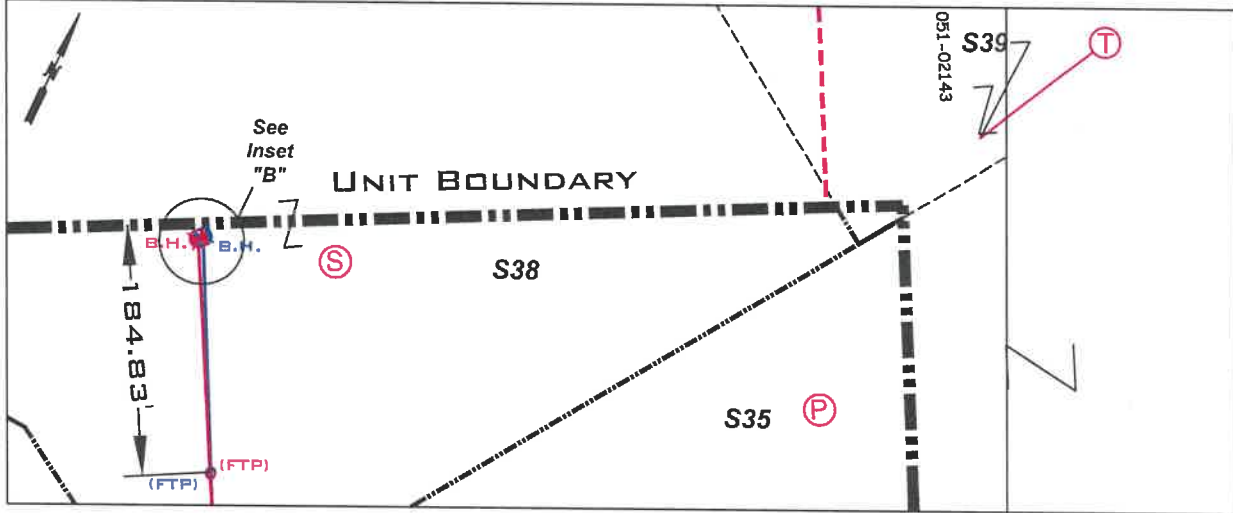
**TUG HILL
OPERATING**

OPERATOR'S
WELL #: MCMASTERS N-12HU
DISTRICT: Franklin
COUNTY: Marshall
STATE: WV
API #: 47-051-02316

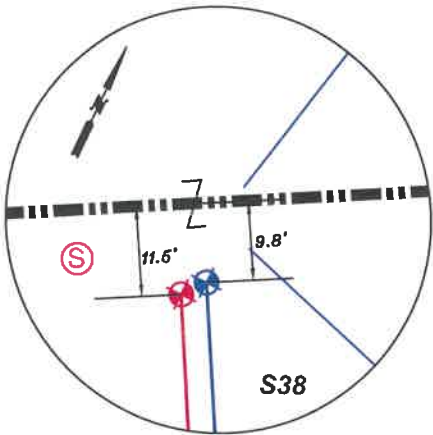
WELL PLAT
PAGE 3 OF 4
DATE: 10/05/2022

**MCMASTERS LEASE
WELL N-12HU
327.5983 ACRES**

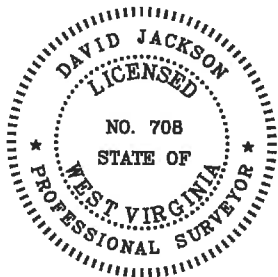
Inset "A"



Inset "B"



Number	TAX MAP -PARCEL	ADJOINER OWNER	ACRES
S122	05-23-20	Christian Church	0.19
S123	05-23-21	Mark A. & Mark E. Yoho	0.588
S124	05-23-17.1	Curtis E. Hall Et Ux	10.051
S125	05-23-29	James Wiley	0.25
S126	05-23-28.2	Mark W. & Carolyn L. Tennant	10.8
S127	05-23-22	Daniel D. Rhyand & Laurel R. Greene	6.25
S128	05-23-23	Michael J. Wiley Et Al	1.0
S129	05-23-24	Michael J. Wiley Et Al	0.25
S130	05-23-25	Arthur A. Wiley	0.43
S131	05-23-28	Gregg D. Minor	39.43
S132	05-23-2.2	Jessica N. & Andrew L. Fox	7.636
S133	05-23-28.1	Troy W. & Erin M. Thomas	1.0
S134	05-23-01	Patricia Accettolo Et Al	146.66
S135	05-22-7.1	T.H. Exploration II LLC & Atinum Marcellus I LLC	20.68
S136	05-22-08	T.H. Exploration III LLC	48.44
S137	05-22-06	CNX Gas Company LLC	64.70
S138	05-22-10	T.H. Exploration III LLC	58.40
S139	05-22-17	CNX Gas Company LLC	37.5
S140	05-22-04	CNX Gas Company LLC	159.05
S141	05-22-05	CNX Gas Company LLC	134.425
S142	05-22-5.1	Williams Ohio Valley Midstream LLC	12.875
S143	05-19-18.1	Mark E. Yoho Et Ux	2.57
S144	05-19-18.2	Paul V. & Carol Neely	32.672
S145	05-19-25	David E. Yoho & Mark E. Yoho	9.976
S146	05-19-24	Mark E. Yoho	15.436
S147	05-19-26	Roger J. & Beth E. James	9.977
S148	05-19-16.1	Robert L. & Rebecca A. Shields	2.307
S149	05-19-27	David E. Yoho & Mark E. Yoho	7.041
S150	05-19-31	Charles F. & Diana L. Haynes	8.779
S151	05-19-30.1	Eric R.W. & Ashley A. Huggins	2.911
S152	05-19-32	Jasper N. Burch Et Al-Trustees	0.397
S153	05-19-28	David E. Yoho & Mark E. Yoho	56.899
S154	05-19-19	Russell Blake Et Ux	66.4
S155	05-19-21	Sammy E. Whittatch Et Al	116.45
S156	05-19-20	Wilbert H. Bungard Et Ux	114.989
S157	05-19-15	Carly Herran	0.72
S158	05-19-29	Ernie L. & Tammy L. Anderson	10.961
S159	05-19-09	Penny Elaine Ashcraft	10.44
S160	05-19-12	Ernie L. Anderson Et Ux	5.33
S161	05-19-10	Ernie L. Anderson Et Ux	0.8125
S162	05-19-11	Ernie L. Anderson Et Ux	0.08
S163	05-19-20.3	Sidney Harmon	3.715
S164	05-19-20.1	John J. Ebert-Life	3.848
S165	05-19-7.5	Adam T. & Jesse L. Robinson	2.64
S166	05-19-7.1	Robert L. Shields Et Ux	3.399
S168	05-19-20.2	Cassandra L. Harmon	7.448
S169	05-19-05	Margirene Keefe	126.03
S170	05-19-7.2	Olan Rutan	2.783
S171	05-19-7.4	Olan V. Rutan, Et Ux	1.787
S172	05-19-7.3	Olan V. Rutan Et Ux	0.341
S173	05-19-06	Belinda Kay Meadows, Rebecca Ann Shields & Olan V. Rutan	5.1099
S174	05-14-11	Dale R. Gallaher Et Al	12.0
S175	05-14-10.4	Adam R. & Jesse L. Robinson	3.343
S176	05-14-10.2	Ida Belle Rutan-Life, Ralph R. Hoyt	0.495
S177	05-14-10.1	Ida Belle Rutan-Life, Ralph R. Hoyt	0.5
S178	05-14-9.5	Maria T. Flores	6.024
S179	05-14-9.1	Maria T. Flores	2.882
S180	05-12-17	Joni Lyn Leon	0.752



P.S. 708 *David L Jackson*

10/21/2022

	OPERATOR'S	WELL #:	MCMASTERS N-12HU	WELL PLAT
	DISTRICT:	Franklin		PAGE 4 OF 4
	COUNTY:	Marshall		DATE: 10/05/2022
	STATE:	WV		
	API #:	47-051-02316		