

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

API 47-051-02332 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-13HU  
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 4,401,141.83 Easting 518,196.90  
Landing Point of Curve Northing 4,401,328.12 Easting 518,239.99  
Bottom Hole Northing 4,404,157.34 Easting 516,617.69

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 9/25/2020 Date drilling commenced spud:8/3/2021 b/g dg: 7/22/2021 Date drilling ceased 3/13/2022  
Date completion activities began 8/1/2022 Date completion activities ceased 8/19/2022  
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) N

**APPROVED**  
Reviewed by:  
Sh 10-13-2022  
**STRADER COWER**  
**10/21/2022**

API 47-051 - 02332

Farm name Robert L. Shields, et al

Well number McMasters N-13HU

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	36"	30"	120'	NEW	94.5#	N/A	Y
Surface	26"	20"	901'	NEW	106.5#	N/A	Y
Coal							
Intermediate 1	17 1/2"	13 3/8"	2,654'	NEW	54.5#	N/A	Y
Intermediate 2	12 1/4"	9 5/8"	10,086'	NEW	47#	N/A	Y
Intermediate 3							
Production	8 1/2"	5 1/2"	22,415'	NEW	23#	N/A	Y
Tubing		2 7/8"	11,207'	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 <sup>3</sup> /sks)	Volume (ft <sup>3</sup> )	Cement Top (MD)	WOC (hrs)
Conductor	A	452	15.6	1.18	533.36	0	8
Surface	A	1600	15.6	1.19	1915.9	0	8
Coal							
Intermediate 1	A	2115	15.6	1.18	2495.7	0	8
Intermediate 2	A	3930	14.5	1.28	5156.16	0	8
Intermediate 3							
Production	A	5430	16.5	1.03	5598.33	0	8
Tubing							

Drillers TD (ft) 22,443'

Loggers TD (ft) n/a

Deepest formation penetrated Tranton

Plug back to (ft) n/a

Plug back procedure n/a

Kick off depth (ft) 10,227'

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 \_\_\_\_\_





RECEIVED  
 Office of Natural Gas  
 OCT 11 2022  
 West Virginia Department of Environmental Protection

**McMasters N-13HU  
 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	78.00	11371	12683	7084	254160	6,795	0
2	87.00	11859	12543	8985	489660	9,960	0
3	88.00	11846	12208	7725	503000	8,088	0
4	89.00	11850	12129	7634	508780	8,140	0
5	89.00	11499	11757	9207	505240	8,093	0
6	88.00	11471	11869	8111	510680	8,112	0
7	89.00	11422	11830	8495	497160	7,960	0
8	88.00	11334	11605	8729	511240	9,282	0
9	88.00	11355	11768	8037	500240	7,967	0
10	90.00	11290	11493	10268	513660	8,218	0
11	87.00	11121	12064	8128	507960	8,041	0
12	88.00	11068	11674	9127	501560	8,048	0
13	88.00	11191	11489	7968	480700	7,694	0
14	90.00	11240	11515	9225	502920	7,961	0
15	87.00	10917	11149	8718	498580	7,870	0
16	90.00	11218	11451	8483	497640	7,931	0
17	90.00	11323	12005	8809	504550	8,011	0
18	89.00	11261	11508	8855	503160	7,963	0
19	87.00	11028	11244	8776	513850	8,179	0
20	88.00	11210	11424	9638	507900	7,885	0
21	87.00	11353	11720	9050	495820	7,810	0
22	87.00	11236	11665	8222	499320	7,898	0
23	88.00	11109	11348	8708	497460	7,823	0
24	88.00	11360	11976	8471	501160	7,895	0
25	88.00	11163	11771	8384	500040	7,826	0
26	88.00	11110	11337	9271	506660	8,918	0
27	87.00	10984	11635	8824	503480	7,801	0
28	87.00	10981	12184	8274	488600	7,633	0
29	87.00	10708	11006	8221	498600	7,752	0
30	90.00	11034	11604	8647	499880	7,749	0
31	89.00	10936	11569	8965	501500	7,814	0
32	88.00	10936	11798	8623	505580	7,818	0



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)
33	89.00	11176	11646	8525	501320	7,795	0
34	89.00	11107	11766	8445	507000	7,810	0
35	90.00	10908	11197	8564	496780	7,662	0
36	89.00	10807	11268	8364	501200	8,146	0
37	88.00	10714	11225	8532	504720	7,786	0
38	89.00	10738	11772	8777	499680	7,674	0
39	89.00	10878	11478	8611	505140	7,767	0
40	89.00	10906	11142	8067	505580	7,749	0
41	88.00	10780	11364	8064	508920	7,765	0
42	89.00	10825	11157	7925	509370	8,597	0
43	90.00	10732	11530	8206	508320	7,719	0
44	90.00	10479	10786	8056	504588	7,665	0
45	88.00	10204	10590	8689	503460	7,704	0
46	89.00	10185	10510	8598	497240	7,615	0
47	90.00	10395	10646	7859	498140	7,600	0
48	89.00	10247	10448	8718	502760	7,637	0
49	90.00	10291	10601	8143	499340	7,630	0
50	90.00	10182	10590	7832	494320	7,767	0
51	89.00	10055	10291	7686	497200	7,559	0
52	89.00	10009	10325	8237	496860	7,564	0
53	90.00	9932	10316	8390	498920	7,649	0
54	89.00	10059	10541	7971	495380	7,566	0

**MCMASTERS N-13HU  
PEFORATION RECORD**

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD. Ft.	Number of Perforations	Formation(s)
1	8/1/2022	22,221	22,270	12	Utica
2	8/2/2022	21,994	22,170	48	Utica
3	8/2/2022	21,795	21,971	48	Utica
4	8/3/2022	21,596	21,772	48	Utica
5	8/3/2022	21,397	21,573	48	Utica
6	8/3/2022	21,198	21,374	48	Utica
7	8/4/2022	20,999	21,175	48	Utica
8	8/4/2022	20,800	20,976	48	Utica
9	8/5/2022	20,601	20,777	48	Utica
10	8/5/2022	20,402	20,578	48	Utica
11	8/5/2022	20,203	20,379	48	Utica
12	8/6/2022	20,004	20,180	48	Utica
13	8/6/2022	19,805	19,981	48	Utica
14	8/7/2022	19,606	19,782	48	Utica
15	8/7/2022	19,407	19,583	48	Utica
16	8/8/2022	19,208	19,384	48	Utica
17	8/8/2022	19,009	19,185	48	Utica
18	8/9/2022	18,810	18,986	48	Utica
19	8/9/2022	18,611	18,787	48	Utica
20	8/10/2022	18,412	18,588	48	Utica
21	8/10/2022	18,213	18,389	48	Utica
22	8/11/2022	18,014	18,190	48	Utica
23	8/11/2022	17,815	17,991	48	Utica
24	8/11/2022	17,616	17,792	48	Utica
25	8/12/2022	17,417	17,593	48	Utica
26	8/12/2022	17,218	17,394	48	Utica
27	8/12/2022	17,019	17,195	48	Utica
28	8/12/2022	16,820	16,996	48	Utica
29	8/13/2022	16,621	16,797	48	Utica
30	8/13/2022	16,422	16,598	48	Utica
31	8/13/2022	16,223	16,399	48	Utica
32	8/14/2022	16,024	16,200	48	Utica
33	8/14/2022	15,825	16,001	48	Utica
34	8/14/2022	15,626	15,802	48	Utica
35	8/14/2022	15,427	15,603	48	Utica
36	8/14/2022	15,228	15,404	48	Utica
37	8/15/2022	15,029	15,205	48	Utica
38	8/15/2022	14,830	15,006	48	Utica
39	8/15/2022	14,631	14,807	48	Utica
40	8/15/2022	14,432	14,608	48	Utica
41	8/16/2022	14,233	14,409	48	Utica

10/21/2022

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD. Ft.	Number of Perforations	Formation(s)
42	8/16/2022	14,034	14,210	48	Utica
43	8/16/2022	13,835	14,011	48	Utica
44	8/16/2022	13,636	13,812	48	Utica
45	8/16/2022	13,437	13,613	48	Utica
46	8/17/2022	13,238	13,414	48	Utica
47	8/17/2022	13,039	13,215	48	Utica
48	8/17/2022	12,840	13,016	48	Utica
49	8/17/2022	12,641	12,817	48	Utica
50	8/18/2022	12,442	12,618	48	Utica
51	8/18/2022	12,243	12,419	48	Utica
52	8/18/2022	12,044	12,220	48	Utica
53	8/19/2022	11,845	12,021	48	Utica
54	8/19/2022	11,646	11,822	48	Utica



### McMasters N-13HU

#### 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	1918		2011		1919		2013		Sandstone
Big Lime	2011		2066		2013		2068		Limestone
Big Injun	2066		2362		2068		2366		Sandstone
Weir	2362		2549		2366		2554		Sandstone
Berea	2549		2851		2554		2858		Sandstone
Gordon	2851		2913		2858		2920		Sandstone
Fifty Foot	2913		3487		2920		3496		Sandstone
Speechley	3487		4886		3496		4896		Sandstone
Benson	4886		5267		4896		5277		Sandstone
Alexander	5267		5856		5277		5866		Siltstone
Rhinestreet	5856		6284		5866		6294		Black Shale
Middlesex	6284		6360		6294		6370		Black Shale
Geneseo/Burkett	6360		6386		6370		6396		Black Shale
Tully	6386		6418		6396		6428		Limestone
Hamilton	6418		6468		6428		6478		Gray Shale
Marcellus	6468		6518		6478		6528		Black Shale
Onondaga	6518		6737		6528		6747		Limestone
Oriskany	6737		6834		6747		6844		Sandstone
Helderberg	6834		7206		6844		7216		Limestone
Salina	7206		8220		7216		8231		Salt/Anhydrite/LS
Lockport	8220		8585		8231		8600		Dolomite
Rose Hill	8585		8862		8600		8883		Shale
Packer Shell	8862		9071		8883		9098		Limestone
Clinton/Tuscarora	9071		9161		9098		9190		Sandstone
Juniata/Queenston	9161		9922		9190		9968		Red Shale
Reedsville	9922		10892		9968		11002		Gray Shale
Utica	10892		11159		11002		11475		Black Shale
Point Pleasant	11159		-		11475		-		Shale/Limestone

# Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date	8/1/2022
Job End Date	8/19/2022
State	West Virginia
County	Marshall
API Number	47-051-02332-00-00
Operator Name	Tug Hill Operating, LLC
Well Name and Number	McMasters N 13HU
Latitude	39.76000800
Longitude	-80.78756500
Datum	NAD27
Federal Well	NO
Indian Well	NO
True Vertical Depth	11,104
Total Base Water Volume (gal)	17,949,162
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	84.45650	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	11.90400	None
Hydrochloric Acid (7.5%)	CNR	Acidizing	Silica Substrate	14808-60-7	100.00000	3.23363	None
			Water	7732-18-5	85.00000	0.23705	None
			Hydrochloric Acid (Hydrogen Chloride)	7647-01-0	37.00000	0.10319	None
StimStream FR 9800	Chemstream	Friction Reducer	Alkanes, C16-20-iso-	90622-59-6	25.00000	0.02042	None
			Butene, homopolymer	9003-29-6	25.00000	0.02042	None
			Ethoxylated alcohols (C12-18)	68213-23-0	3.00000	0.00245	None
MC MX 9-4743	Multi-Chem	Biocide					
			Sodium Nitrate	7631-99-4	60.00000	0.02119	None
LD-7750W	Multi-Chem	Scale Inhibitor					

					Methanol	67-56-1	60.00000	0.00483	None
					Phosphonic Acid Salt	Proprietary	5.00000	0.00040	None
ProHib 100	CNR	Acid Inhibitor							
					2-Butoxyethanol	111-76-2	60.00000	0.00053	None
					Proprietary material	Proprietary	30.00000	0.00026	None
					Proprietary non-ionic surfactant	Proprietary	20.00000	0.00018	None
					Proprietary ethoxylated alcohol	Proprietary	10.00000	0.00009	None
					Proprietary corrosion inhibitor	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	0.23705	
					Butene, homopolymer	9003-29-6	25.00000	0.02042	
					Ethoxylated alcohols (C12-18)	68213-23-0	3.00000	0.00245	
					Phosphonic Acid Salt	Proprietary	5.00000	0.00040	
					Proprietary material	Proprietary	30.00000	0.00026	
					Proprietary non-ionic surfactant	Proprietary	20.00000	0.00018	
					Proprietary ethoxylated alcohol	Proprietary	10.00000	0.00009	
					Proprietary corrosion inhibitor	Proprietary	10.00000	0.00009	
					Acetic Acid	64-19-7	5.00000	0.00005	

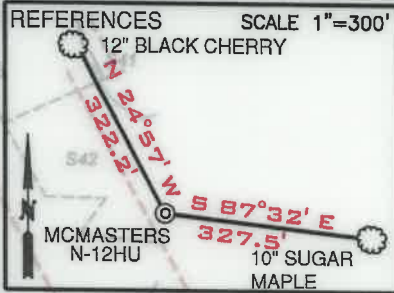
\* Total Water Volume sources may include fresh water, produced water, and/or recycled water

\*\* 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)



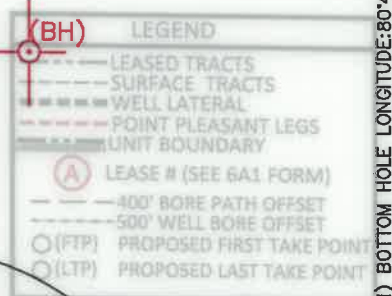
**MCMASTERS LEASE  
WELL N-13HU  
543.5974± ACRES**



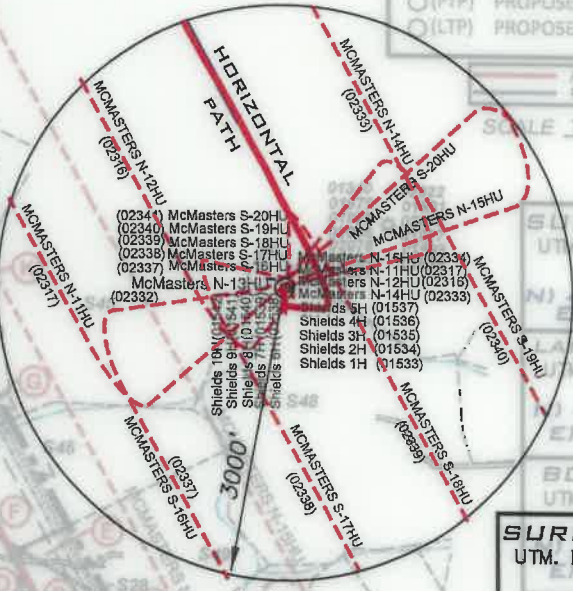
TOP HOLE LATITUDE: 39°47'30"  
BOTTOM HOLE LATITUDE: 39°47'30"

543.5974± ACRES

LINE	BEARING	DISTANCE
L1	N 69°39' W	1,436.03'
L2	S 42°03' W	1,257.70'
L3	S 12°03' E	107.24'
L4	S 07°48' W	72.72'
L5	S 87°05' E	291.40'
L6	N 24°07' W	388.98'



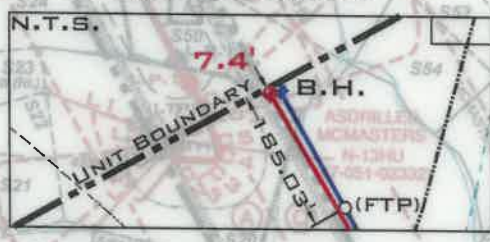
(+) DENOTES LOCATION ON UNITED STATES TOPOGRAPHIC MAPS



**SURFACE HOLE**  
UTM. NAD83, ZONE 17  
IN METERS  
N) 4,401,141.72  
E) 518,197.00

**LANDING POINT 1**  
UTM. NAD83, ZONE 17  
IN METERS  
N) 4,401,397.94  
E) 518,199.55

**BOTTOM HOLE**  
UTM. NAD83, ZONE 17  
IN METERS  
N) 4,404,157.34  
E) 516,617.69



CURVE	CHORD BEARING	CHORD LENGTH	RADIUS	ARC LENGTH
C1	S 36°43' W	20.10'	12.15'	23.68'
C2	N 89°49' E	118.08'	222.12'	119.51'
C3	N 58°03' E	47.03'	37.26'	50.90'
C4	N 06°57' E	54.25'	104.28'	54.89'
C5	N 13°07' W	180.43'	467.36'	181.57'
C6	N 26°49' W	231.89'	2,333.73'	231.98'

- 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 0059304.0401147

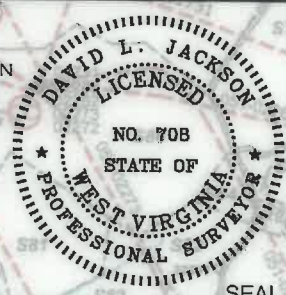
FILE NUMBER \_\_\_\_\_  
DRAWING NUMBER: MCMASTERS N-13HU\_REV2  
SCALE: 1" = 2000'  
MINIMUM DEGREE OF ACCURACY: 1/200  
PROVEN SOURCE OF ELEVATION: SUBMETER MAPPING  
GRADE GPS

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 1480  
Clarksburg, WV 26302  
304-623-5851



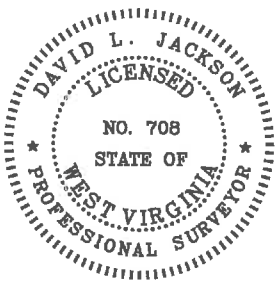
DATE: OCTOBER 5, 2022  
OPERATORS WELL NO. MCMASTERS N-13HU  
API WELL NO. 47-051-02332  
STATE COUNTY PERMIT  
LOCATION ELEVATION 1207.75' WATERSHED (HUC 10) FISH CREEK (HUC-10)  
DISTRICT FRANKLIN COUNTY MARSHALL  
QUADRANGLE POWHATAN POINT 7.5' LEASE NUMBER SEE WW-6A1 FORM  
SURFACE OWNER ROBERT L. SHIELDS, ET AL ACREAGE 104.11  
OIL & GAS ROYALTY OWNER ROBERT L. SHIELDS, ET AL LEASE ACREAGE 104.11  
PROPOSED WORK: DRILL ASDRILLED CONVERT ASDRILLED DRILL DEEPER ASDRILLED REDRILL ASDRILLED FRACTURE OR STIMULATE ASDRILLED PLUG OFF OLD FORMATION ASDRILLED PERFORATE NEW FORMATION ASDRILLED OTHER PHYSICAL CHANGE (SPECIFY) ASDRILLED  
TARGET FORMATION POINT PLEASANT ESTIMATED DEPTH TVD: 11,000' TMD: 22,443'  
WELL OPERATOR TUG HILL OPERATING, LLC DESIGNATED AGENT DARREN BROWN, CT CORP  
ADDRESS 1320 SOUTH UNIVERSITY DRIVE, SUITE 500 FORT WORTH, TX 76107 ADDRESS 5098 WASHINGTON STREET WEST, SUITE 407 CHARLESTON, WV 25313-1561

COUNTY NAME PERMIT



**MCMASTERS LEASE  
WELL N-13HU  
543.5974± ACRES**

Number	TAX MAP -PARCEL	ADJOINER OWNER	ACRES
S1	05-23-11.1	John H. & Sonya D. Holliday	46.482
S2	05-23-11.4	Kenneth L. Lemons, Trustee for Jeffrey G. Hudson	10.879
S3	05-23-13	Linda D. Greathouse	14.24
S4	05-23-9.2	Linda D. Greathouse	25.58
S5	05-23-14	Dominion Transmission Inc.	59.5
S6	05-23-9.3	Linda D. Greathouse	17.5
S7	05-23-06	Carl David & Suzanne L. Guseman	29.5
S8 Z	05-23-05	Daniel D. Rhyand	118.5
S9	05-23-04	Abe J. Hochstetler	100.7
S10 AA	05-23-06	James A. Channing Et Al	48.0
S11 Y	05-23-03	Abe J. Hochstetler	50.0
S12	05-23-2.1	William L. & Janice M. Wayne	2,364
S13 W	05-18-21	Curtis E. & Michelle J. Hall	43.119
S14 T	05-18-21.1	Rodney & Rhonda Jackson	5.47
S15	05-23-02	Danielle D. Lilley	77.636
S16 S	05-18-22	Rodney & Rhonda Jackson	30.345
S17 R	05-18-24	Duane Brunn	102.0
S18 Q	05-18-23	XCL Midstream Operating LLC	110.0
S19	05-19-18	Mark E. Yoho Et Ux	55.948
S20 A	05-18-02	Robert L. Shields Et Al	104.11
S21	05-19-17	Mark A. Yoho	15.263
S22	05-19-16	Robert L. Shields & Donald Shields	11.612
S23	05-19-14	James & Sherry Beegle	18.356
S24 D	05-18-1	Diana Henry Haynes & Carol C. Henry	62.908
S25	05-19-30	Ernie & Tammy Anderson	19.037
S26 H	05-19-13	Rona Lee Rice & Charles Franklin McCardle	94.925
S27	05-19-13.1	Donald Shields	0.800
S28 C	05-18-3.1	Nikki L. & Jonathan Stevens	2.223
S29 I	05-19-8	CNX Gas Company LLC	40.0
S30	05-19-7	Olan V. Rutan Et Ux	32.4801
S31 J	05-14-15	Robert L. Shields Et Al	53.0
S32 L	05-14-14	Robert L. Shields Et Al	29.05
S33 M	05-14-12	Dale R. Galleher Et Al	135.100
S34	05-14-12.1	Henry Wilson Plunkert Jr.	5.0
S35 O	05-14-10	Wanda P. Rine, Life	126.03
S36 N	05-14-13	Ralph D. & Sally Jane Hoyt	222.18
S37	05-14-9.2	Maria T. Flores	25.0
S38	05-12-21	Edward L. Gibson-Life	73.436
S39 P	05-12-14	Linda Hamilton Et Al	117.495
S40	05-12-12.1	Linda L. Persinger Et Ux	148.09
S41	05-12-11	Wesley R. Bryan & Wesley R. Bryan II	52.478
S42	05-11-15	Lionel L. Persinger Ex Ux	93.0
S43	05-15-01	Marcus Sharp & Angela R. Schlabach	121.0
S44 K	05-15-15	Robert L. Shields Et Al	49.02
S45 G	05-15-12	John David Petrock & Thomas Andrew Petrock	150.23
S46 F	05-15-11	Diana Henry Haynes & Carol Henry	65.59
S47	05-18-1.1	Charles F. & Diana L. Haynes	0.392
S48	05-15-10	Mark Stanley Ruckman	153.75
S49 E	05-18-04	Olan & Patricia Rutan	65.89
S50 B	05-18-03	Olan V. & Patricia E. Rutan	43.677
S51	05-18-05	Terry Melott	8.14
S52	05-18-15.3	Charles Yeater	26.44
S53	05-18-15.4	Edward Lee Burge, Jr.	22.34
S54	05-18-06	Charles Yeater	26.0
S55	05-18-07	Charles Yeater	24.22
S56	05-18-16	Charles Yeater	17.768
S57	05-18-13	Southern Sountry Farms Inc.	11,054
S58	05-18-59	Southern Country Farms Inc.	15.79
S59	05-18-30	Mary & Daniel Robinson	5.46
S60	05-18-13.10	Carl Berg	10.88
S61	05-18-29	Carl G. Berg	5.319
S62	05-18-31	Kenneth E. Rastall	6.94
S63	05-18-32.1	Lori D. Carpenter	5.545
S64	05-18-32	Kenneth E. Rastall	5.335
S65	05-18-13.8	Lori D. Carpenter	5.545
S66	05-18-33	Sandra & Glenn Whisler	5.343
S67	05-17-12	James & Jill C. Corley	3.33
S68	05-17-12.1	Williams Ohio Valley Midstream LLC	1.67
S69	05-17-10.5	Williams Ohio Valley Midstream LLC	4.24
S70	05-17-10	James A. Corley Et Al	92.61
S71	05-17-10.1	James A. & Jill C. Corley	4.51
S72	05-17-9.1	Jeri J. White	1.0
S73	05-17-9.2	Jeri J. White	7.136
S74 BB	05-17-11	Kenneth N. Corley Et Ux	120.0
S75	05-17-9.4	Vicki L. Bowen	60.3
S76	05-17-9.3	James A. & Corley Et Ux	12.478
S77	05-17-11.1	Randy W. Francis Et Ux	67.0
S78 U	05-18-20	Wayne E. Channing Et Al	75.6
S79 X	05-18-21.2	David P. Lassen	1.0
S80 V	05-18-21.3	Stone Hills Minerals Holdings, LLC	0.811
S81	05-23-8.1	William & Virginia Roupe	34.0
S82	05-24-5.4	Thomas V. Tuttle Et Ux	38.244
S83	05-24-5.5	Sonny & Linda Lou Tagg	17.194
S84	05-23.7.2	Florella Lou Weigand	6.354
S85	05-23-7.1	Florella Lou Weigand	0.549
S86 CC	P/O 05-23-7	Terry E. Simms Et Ux	123.097
S87	05-24-5.1	James D. Watkins Et Ux	4.6
S88	05-24-5.2	James D. Watkins Et Ux	3.151
S89	05-24-5	Robert C. Francis Et Ux (Life)	145.78
S90	05-24-3.1	T.H. Exploration II LLC	5.50



P.S. 708

*David L Jackson*

10/21/2022



**TUG HILL**  
OPERATING

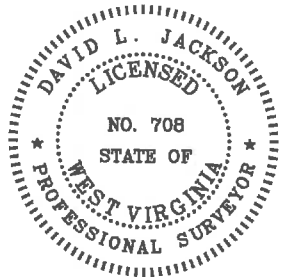
OPERATOR'S  
WELL #: MCMASTERS N-13HU  
DISTRICT: Franklin  
COUNTY: Marshall  
STATE: WV  
API #: 47-051-02332

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



**MCMASTERS LEASE  
WELL N-13HU  
543.5974± ACRES**

Lease No.	Tags	Parcel	Lessor	Book	Page
10*14116	A	5-18-2	DONALD SHIELDS, ET AL	669	367
10*14109	B	5-18-3	MARTHA M RUTAN, ET AL	668	636
10*14109	C	5-18-3.1	MARTHA M RUTAN, ET AL	668	636
10*14142	D	5-18-1	BENJAMIN FRANKLIN HENRY, ET AL	718	498
10*19032	E	5-18-4	JAN I ARNOLD AND MARSHA A ARNOLD, ET AL	813	111
10*19018	F	5-15-11	BENJAMIN FRANKLIN HENRY FREDRICK ALLEN HENRY	746	5
10*19337	G	5-15-12	JACK PETROCK AND HATTIE PETROCK	741	68
10*14110	H	5-19-13	RONA LEE MCCARDLE, ET AL	670	472
10*14571	I	5-19-8	MATTHEW S & BRENDA S ANDERSON	840	165
10*14116	J	5-14-15	DONALD SHIELDS, ET AL	669	367
10*14116	K	5-15-15	DONALD SHIELDS, ET AL	669	367
10*14116	L	5-14-14	DONALD SHIELDS, ET AL	669	367
10*14928	M	5-14-12	JOSEPH D. PARRIOTT & NELLIE B. PARRIOTT	660	517
10*14067	N	5-14-13	REVA FRANZE	666	51
10*14420	O	5-14-10	ELLIS V & WANDA P RINE	725	141
10*21769	P	5-12-14	BETTY HAMILTON, ET AL	957	419
10*14030	Q	5-18-23	LOIS V YOHO, ET AL	665	551
10*14295	R	5-18-24	MARK E. YOHO AND MARY YOHO, HUSBAND AND WIFE, ET AL	655	546
10*14022	S	5-18-22	HOWARD N WAYNE SR AND DENISE D WAYNE	665	384
10*22169	T	5-18-21.1	BARBARA KITTLE	954	641
10*21147	U	5-18-20	JAMES A CHANNING & ALICE E CHANNING, ET AL	951	634
Pending	V	5-18-21.3	STONE HILL MINERALS HOLDINGS LLC	1073	56
10*22169	W	5-18-21	BARBARA KITTLE	954	641
10*22169	X	5-18-21.2	BARBARA KITTLE	954	641
10*21415	Y	5-23-3	ABE J HOCHSTETLER AND ANNA E HOCHSTETLER	957	7
10*14847	Z	5-23-5	LETHA RUCKMAN, ET AL	806	270
10*17186	AA	5-23-6	ROBERT J HENRY	708	51
10*14126	BB	5-17-11	SHARON MIDCAP	697	152
10*14140	CC	5-23-7	TERRY E SIMMS AND DEBORAH L SIMMS	666	529



P.S. 708

*David L Jackson*

Number	TAX MAP -PARCEL	ADJOINER OWNER	ACRES
S91	05-24-6	Terry E. Simms Et Ux	42.84
S92	05-23-10	Terry E. Simms Et Ux	38.95
S93	05-23-11.7	Bryan L. Huggins	1.835
S94	05-23-11.2	Evelyn Hudson	1.154
S95	05-23-11	Roy F. Yoho	9.475
S96	05-23-11.6	T.H. Exploration II, LLC	0.094
S97	05-25-20.2	James M. Zambotti	1.347
S98	05-25-20.3	James A. & Jo C. Estep	4.49
S99	05-23-11.5	Roy F. Yoho	2.25
S100	05-23-11.3	Colin R. Yoho	11.29
S101	05-23-13.1	James R. & Pamela J. Ferrell	0.75
S102	05-23-12	Mark A. Yoho	3.05
S103	05-26-11	Mark A. Yoho	89.25
S104	05-23-9.4	Jackson R. Davis Sr. & Deanna L. Davis	2.087
S105	05-23-9.1	John W. Van Orden Et Ux	23.376
S106	05-26-7	Dominion Transmission, Inc.	71.0
S107	05-26-5	Michael J. Wiley Et Al	65.0
S108	05-23-26	Michael J. Wiley Et Al	101.57
S109	05-23-27	Michael J. Wiley Et Al	33.14
S110	05-23-15	Henry Virginia Ethel Estate	15.5
S111	05-23.16.1	Donald B. Henry	1.97
S112	05-23-16	Roy Friend Yoho Sr.	18.03
S113	05-23-17.3	William & Katherine Flewelling	5.018
S114	05-23-17	Tammy & Thomas E. Brown	4.62
S115	05-23-17.4	Tammy D. Meadows	2.605
S116	05-23-17.2	Dick Rowan Jr. & Carol J. Rowan	14.920
S117	05-23-18	Abe J. Hochstetler	35.38
S118	05-23-4.1	XCL Midstream Operating LLC	2.16
S119	05-23-4.2	XCL Midstream Operating LLC	1.17
S120	05-23-18.1	Mark A. Yoho	7.8
S121	05-23-19	Doty Cemetery	1.0
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	7.836
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 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. Whitlatch 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

10/21/2022



**TUG HILL  
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**WELL PLAT**  
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**DATE: 10/05/2022**