

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 03 2022  
WV Department of  
Environmental Protection

API 47 - 051 - 02269 County Marshall District Mead  
Quad Glen Easton 7.5' Pad Name Knob Creek Field/Pool Name \_\_\_\_\_  
Farm name David Lee Franklin Well Number Knob Creek 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 4,402,273.78 Easting 525,227.23  
Landing Point of Curve Northing 4,402,409.9 Easting 525,737.2  
Bottom Hole Northing 4,403,955.3 Easting 524,812.4

Elevation (ft) 734.67' 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 1/9/2020 Date drilling commenced spud:3/28/2020 blg rig: 1/29/2021 Date drilling ceased 2/26/2020  
Date completion activities began 12/16/2021 Date completion activities ceased 12/28/2021  
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 413' Open mine(s) (Y/N) depths N  
Salt water depth(s) ft 920' Void(s) encountered (Y/N) depths N  
Coal depth(s) ft 325-331', 407-413' Cavern(s) encountered (Y/N) depths N  
Is coal being mined in area (Y/N) N

APPROVED  
Reviewed by:  
SR 10-11-23  
10/21/2022  
STRADER GOWEN

API 47- 051 - 02269 Farm name David Lee Franklin Well number Knob Creek N-13HU

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"	519'	NEW	106.5#	N/A	Y
Coal							
Intermediate 1	17 1/2"	13 3/8"	2,277'	NEW	54.5#	N/A	Y
Intermediate 2	12 1/4"	9 5/8"	10,237'	NEW	47#	N/A	Y
Intermediate 3							
Production	8 1/2"	5 1/2"	17,968'	NEW	23#	N/A	Y
Tubing		2 7/8"	8,984'	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	547	15.6	1.18	646	0	8
Surface	A	1085	15.6	1.19	1291.15	0	8
Coal							
Intermediate 1	A	1816	15.6	1.19	2161.04	0	8
Intermediate 2	A	3950	14.5	1.35	5332.5	0	8
Intermediate 3							
Production	A	4360	16.5	1.03	4490.8	0	8
Tubing							

Drillers TD (ft) 18,017' Loggers TD (ft) n/a  
 Deepest formation penetrated Trenton Plug back to (ft) n/a  
 Plug back procedure n/a

Kick off depth (ft) 10,285'

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 \_\_\_\_\_





**KNOB CREEK 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	79.00	11562	5000	7320	256440	8,951	0
2	87.00	11359	9076	7861	508040	8,072	0
3	90.00	11382	9174	7852	507620	7,966	0
4	89.00	10904	8955	8183	501020	7,883	0
5	88.00	10935	8780	8179	507180	7,826	0
6	89.00	11149	9373	8097	504520	7,798	0
7	90.00	10616	8613	8389	507160	7,974	0
8	87.00	10349	8768	8343	509320	7,853	0
9	90.00	10659	9222	8338	493860	7,629	0
10	90.00	10692	8881	8521	509040	7,855	0
11	90.00	10544	9138	8237	506220	7,960	0
12	90.00	10565	9085	8496	511680	7,994	0
13	90.00	10579	9279	8475	507680	7,842	0
14	89.00	10535	8435	8742	486820	7,884	0
15	88.00	10367	8486	8272	480820	7,612	0
16	88.00	10412	8434	8183	488920	7,612	0
17	90.00	10586	8709	8571	502720	7,813	0
18	90.00	10575	9143	8742	500500	7,711	0
19	89.00	10517	9118	8590	505940	7,773	0
20	86.00	10410	8584	8548	506420	8,789	0
21	90.00	10483	9051	8253	498180	9,038	0
22	89.00	10368	8678	8439	503220	7,611	0
23	90.00	10483	8890	8011	501480	7,644	0
24	90.00	10578	9463	8293	507460	7,714	0
25	90.00	10622	9180	8092	502640	7,652	0
26	90.00	10470	9503	7934	500980	7,673	0
27	89.00	10455	8503	7790	506740	7,599	0
28	89.00	10601	9065	8036	505620	7,645	0
29	89.00	10603	8922	8206	502900	7,651	0
30	88.00	10794	9401	8666	499540	7,618	0

**Knob Creek N-13HU  
PERFORATION RECORD**

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD. Ft.	Number of Perforations	Formation(s)
1	12/16/2021	17,780	17,829	48	Utica
2	12/17/2021	17,553	17,729	48	Utica
3	12/18/2021	17,354	17,530	48	Utica
4	12/19/2021	17,155	17,331	48	Utica
5	12/19/2021	16,956	17,132	48	Utica
6	12/19/2021	16,757	16,933	48	Utica
7	12/20/2021	16,558	16,734	48	Utica
8	12/20/2021	16,359	16,535	48	Utica
9	12/20/2021	16,160	16,336	48	Utica
10	12/21/2021	15,961	16,137	48	Utica
11	12/21/2021	15,762	15,938	48	Utica
12	12/22/2021	15,563	15,739	48	Utica
13	12/22/2021	15,364	15,540	48	Utica
14	12/23/2021	15,165	15,341	48	Utica
15	12/23/2021	14,966	15,142	48	Utica
16	12/23/2021	14,767	14,943	48	Utica
17	12/23/2021	14,568	14,744	48	Utica
18	12/24/2021	14,369	14,545	48	Utica
19	12/24/2021	14,170	14,346	48	Utica
20	12/24/2021	13,971	14,147	48	Utica
21	12/25/2021	13,772	13,948	48	Utica
22	12/25/2021	13,573	13,749	48	Utica
23	12/26/2021	13,374	13,550	48	Utica
24	12/26/2021	13,175	13,351	48	Utica
25	12/27/2021	12,976	13,152	48	Utica
26	12/27/2021	12,777	12,953	48	Utica
27	12/27/2021	12,578	12,754	48	Utica
28	12/28/2021	12,379	12,555	48	Utica
29	12/28/2021	12,180	12,356	48	Utica
30	12/28/2021	11,980	12,156	48	Utica

## Knob Creek 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	1458	1637	1458	1637	Sandstone
Big Lime	1637	1702	1637	1702	Limestone
Big Injun	1702	1922	1702	1922	Sandstone
Weir	1922	2124	1922	2124	Sandstone
Berea	2124	2385	2124	2385	Sandstone
Gordon	2385	2468	2385	2468	Sandstone
Fifty Foot	2468	3054	2468	3054	Sandstone
Speechley	3054	4500	3054	4503	Sandstone
Benson	4500	4917	4503	4922	Sandstone
Alexander	4917	5546	4922	5555	Siltstone
Rhinestreet	5546	6016	5555	6027	Black Shale
Middlesex	6016	6085	6027	6097	Black Shale
Geneseo/Burkett	6085	6118	6097	6130	Black Shale
Tully	6118	6151	6130	6164	Limestone
Hamilton	6151	6222	6164	6235	Gray Shale
Marcellus	6222	6272	6235	6286	Black Shale
Onondaga	6272	6504	6286	6520	Limestone
Oriskany	6504	6628	6520	6646	Sandstone
Helderberg	6628	6985	6646	7011	Limestone
Salina	6985	8117	7011	8202	Salt/Anhydrite/LS
Lockport	8117	8493	8202	8602	Dolomite
Rose Hill	8493	8774	8602	8910	Shale
Packer Shell	8774	8996	8910	9151	Limestone
Clinton/Tuscarora	8996	9105	9151	9269	Sandstone
Juniata/Queenston	9105	9899	9269	10108	Red Shale
Reedsville	9899	10903	10108	11373	Gray Shale
Utica	10903	11154	11373	11822	Black Shale
Point Pleasant	11154	-	11822	-	Shale/Limestone

# Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	12/16/2021
Job End Date:	12/28/2021
State:	West Virginia
County:	Marshall
API Number:	47-051-02269-00-00
Operator Name:	Tug Hill Operating, LLC
Well Name and Number:	Knob Creek 13HU
Latitude:	39.77000930
Longitude:	-80.70544569
Datum:	NAD27
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	11,142
Total Base Water Volume (gal):	9,938,964
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	84.47714	None
Sand (40/70 White Proppant)	Tug Hill Operating	Proppant	Silica Substrate	14808-60-7	100.00000	11.79157	None
Sand (100 Mesh Proppant)	Tug Hill Operating	Proppant	Silica Substrate	14808-60-7	100.00000	3.31385	None
Hydrochloric Acid (7.5%)	CNR	Acidizing	Water	7732-18-5	85.00000	0.24837	None
			Hydrochloric Acid (Hydrogen Chloride)	7647-01-0	37.00000	0.10811	None
StimStream FR 9800	Chemstream	Friction Reducer	Butene, homopolymer	9003-29-6	25.00000	0.01984	None
			Alkanes, C16-20-iso-	90622-59-6	25.00000	0.01984	None
			Ethoxylated alcohols (C12-18)	68213-23-0	3.00000	0.00238	None
MC MX 9-4743	Multi-Chem	Biocide	Sodium Nitrate	7631-99-4	60.00000	0.02143	None
LD-7750W	Multi-Chem	Scale Inhibitor					



			Methanol	67-56-1	60.00000	0.00486	None
			Phosphonic Acid Salt	Proprietary	5.00000	0.00041	None
ProHib 100	CNR	Acid Inhibitor					
			2-Butoxyethanol	111-76-2	60.00000	0.00055	None
			Proprietary material	Proprietary	30.00000	0.00026	None
			Proprietary non-ionic surfactant	Proprietary	20.00000	0.00018	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	0.00022	None
			Acetic Acid	64-19-7	5.00000	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	85.00000	0.24837	
			Butene, homopolymer	9003-29-6	25.00000	0.01984	
			Ethoxylated alcohols (C12-18)	68213-23-0	3.00000	0.00238	
			Phosphonic Acid Salt	Proprietary	5.00000	0.00041	
			Proprietary material	Proprietary	30.00000	0.00026	
			Proprietary non-ionic surfactant	Proprietary	20.00000	0.00018	
			Proprietary corrosion inhibitor	Proprietary	10.00000	0.00009	
			Proprietary ethoxylated alcohol	Proprietary	10.00000	0.00009	
			Acetic Acid	64-19-7	5.00000	0.00006	

\* 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)

**KNOB CREEK N LEASE  
UTICA UNIT - 599.24 AC±  
WELL 13HU  
TUG HILL OPERATING**

T.H. LATITUDE 39°47'30"  
B.H. LATITUDE 39°47'30"

(S.P.C. NORTH ZONE) (UTM(M) ZONE 17 NORTH)

NAD'83 S.P.C.(FT) N. 464,854.03 E. 1,629,677.64  
NAD'83 GEO. LAT-(N) 39.770021 LONG-(W) 80.705446  
NAD'83 UTM (M) N. 4,402,273.78 E. 525,227.23

LANDING POINT

NAD'83 S.P.C.(FT) N. 465,175.1 E. 1,631,361.9  
NAD'83 GEO. LAT-(N) 39.770964 LONG-(W) 80.699469  
NAD'83 UTM (M) N. 4,402,380.2 E. 525,738.7

BOTTOM HOLE

NAD'83 S.P.C.(FT) N. 470,393.3 E. 1,628,406.2  
NAD'83 GEO. LAT-(N) 39.785180 LONG-(W) 80.710234  
NAD'83 UTM (M) N. 4,403,954.9 E. 524,811.7

MAP/PARCEL	ADJOINING SURFACE OWNER LIST	ACRES
9-11-1	GERALD F. PADLOW	1.033
9-13-10	ARTHUR L. MOORE	3.96
9-13-13.1	THOMAS JOHN FOX	0.827
9-14-2	MICHAEL L. ALVAREZ	0.75
9-14-35	PAUL G. FOX	0.338
9-14-37	MARGARET FOX - LIFE	LOT
9-14-40	MARGARET FOX - LIFE	19,560 SQ. FT.
9-14-41	MARGARET FOX - LIFE	9163 SQ. FT.
9-16-14	LYNN CAMP METHODIST CHURCH	0.762
9-16-15	RONALD R. YOUNG, ET UX - LIFE	52.02
9-16-15.1	ERIC J. YOUNG	1.98

T.H. LONGITUDE 80°40'00"  
B.H. LONGITUDE 80°42'30"  
2,361' B.H. A.D.  
7,885' T.H. A.D.

**NOTES ON SURVEY**

- NO WATER WELLS WERE FOUND WITHIN 250' OF PROPOSED GAS WELL. NO AGRICULTURAL BUILDINGS ≥ 2500 SQ. FT. WERE FOUND WITHIN 625' OF THE CENTER OF PROPOSED WELL PAD.
- SEE REFERENCES FOR DWELLINGS LOCATED WITHIN 625' OF THE CENTER OF PROPOSED WELL PAD.
- WELL SPOT CIRCLE & TOPO MARK SCALE IS 1"=2000'.
- BASED ON WV DOT COUNTY ROUTE 74 IS A 40' STRIP OF LAND ACQUIRED IN NUMEROUS DEEDS.
- PROPOSED LATERAL OR TOP HOLE OF KNOB CREEK N-13HU (47-051-02269) IS WITHIN 3000' OF THE TOP HOLES OR LATERALS OF EXISTING WELLS  
 KNOB CREEK N-11HU (47-051-02287),  
 KNOB CREEK N-12HU (47-051-02288),  
 KNOB CREEK S-14HU (47-051-02288),  
 KNOB CREEK S-15HU (47-051-02289),  
 KNOB CREEK S-16HU (47-051-02290),  
 HEAVEN HILL 2W-12HU (47-051-01952),  
 HEAVEN HILL 2W-13HU (47-051-01957),  
 HEAVEN HILL 2-8HU (47-051-01912),  
 KEITH STERN N-14HU (47-051-02252),  
 KEITH STERN N-15HU (47-051-02241),  
 KEITH STERN N-16HU (47-051-02242),  
 KEITH STERN S-18HU (47-051-02243),  
 KEITH STERN S-19HU (47-051-02244),  
 KEITH STERN N-13HU (47-051-02265),  
 KEITH STERN S-17HU (47-051-02266).
- AS-DRILLED DATA PROVIDED BY TUG HILL OPERATING, LLC.
- PLAT UPDATED TO SHOW AS-DRILLED PATH.

A.D.  
T.H.

**AS DRILLED COORDINATES  
FOR WELL NO. 13HU**

(S.P.C. NORTH ZONE) (UTM(M) ZONE 17 NORTH)

NAD'83 S.P.C.(FT) N. 464,854.03 E. 1,629,677.64  
NAD'83 GEO. LAT-(N) 39.770021 LONG-(W) 80.705446  
NAD'83 UTM (M) N. 4,402,273.78 E. 525,227.23

LANDING POINT

NAD'83 S.P.C.(FT) N. 465,175.1 E. 1,631,361.9  
NAD'83 GEO. LAT-(N) 39.771232 LONG-(W) 80.699469  
NAD'83 UTM (M) N. 4,402,409.9 E. 525,737.2

BOTTOM HOLE

NAD'83 S.P.C.(FT) N. 470,394.7 E. 1,628,406.5  
NAD'83 GEO. LAT-(N) 39.785184 LONG-(W) 80.710226  
NAD'83 UTM (M) N. 4,403,955.3 E. 524,812.4

TAG	SURFACE OWNER	PARCEL	ACRES
A	DAVID LEE FRANKLIN	9-14-33	65.824
B	JOHN F. CUNNINGHAM, ET UX	9-14-22	75.22
C	WILLIAM C. GROFT, ET UX	9-14-30	0.35
D	MARGARET K. FOX (LIFE)	9-14-38	0.631
E	MARGARET K. FOX (LIFE)	9-14-36	1600 SQ. FT.
F	MARGARET K. FOX (LIFE)	9-14-39	8675 SQ. FT.
G	DAVID LEE FRANKLIN	9-14-44	2.913
H	STATE OF WEST VIRGINIA (FISH CREEK)	N/A	N/A
I	JOHN C. LADD, ET UX	9-14-42	1.87
J	PATRICK J. SCHELLHASE TRUST	9-14-11.3	23.424
K	CHARLES R. SHELLHASE, ET UX	9-14-28	3.029
L	ANDREW FASOULETOS, ET UX	9-14-29	0.209
M	PATRICK J. SCHELLHASE	9-14-27	3.004
N	ANDREW FASOULETOS, ET UX	9-14-29.1	1.171
O	TWILA C. COFFIELD	9-14-32	0.583
P	JAMES G. FOX	9-14-43	0.66
Q	TWILA C. COFFIELD	9-14-32.1	0.184
R	MARGARET K. FOX (LIFE)	9-13-13	15.513
S	JAMES E. PEELMAN	9-14-53	0.555
T	JAMES E. PEELMAN	9-14-52	0.439
U	RICHARD L. HARVETH, ET UX	9-14-54	1.649
V	GEORGE R. TAYLOR, ET UX	9-14-44.1	4.423
W	WILFORD F. NELSON, JR., ET UX	9-14-31	0.954
X	MARGARET K. FOX (LIFE)	9-14-46	18.888
Y	RONALD MARSH	9-14-50	0.707
Z	MICHAEL L. & CHERYL J. ACREE	9-14-47	0.355
AA	GEORGE R. TAYLOR, ET UX	9-14-45	10.98
BB	MARTHA JANE FAZZARO	9-14-46.1	1.512
CC	GEORGE R. TAYLOR, ET UX	9-14-51	1.621
DD	NILA JEAN FROHNAPFEL	9-13-12	91.1007
EE	MARGARET K. FOX (LIFE)	9-13-14	3.00
FF	DANIEL JAY FITZWATER	9-13-20	105.5
GG	ROBERT L. DUFFEY - LIFE	9-14-10	25/100 AC.
HH	MICHAEL L. & CHERYL J. ACREE	9-14-48	0.473
II	LOYE A. BLAKE, JR.	9-14-11.2	4.00
JJ	MICHAEL L. & CHERYL J. ACREE	9-14-49	0.118
KK	JOHN T. ERAZMUS, III	9-14-7	0.25
LL	JOHN E. DUFFEY, ET UX	9-14-9	2/5 AC.
MM	JOHNNY C. HOLCOMB & JOHNNY C. HOLCOMB, II	9-14-8	2/5 AC.
NN	HOY GLENN CROW	9-14-11	141.559
OO	MICHAEL L. ALVAREZ	9-14-6	120 X 200
PP	MICHAEL L. ALVAREZ	9-14-5	200 X 60
QQ	MICHAEL L. ALVAREZ	9-14-4	3 PCLS & 1/8 AC.
RR	SAMUEL & HEATHER SUHODOLKI	9-14-1	86.48
SS	ROBERT T. & BARBARA A. ANKROM	9-13-12.1	2.632
TT	ELEANOR M. FOX EST.	9-13-18	30.00
UU	KENNETH N. & TERESA A. SMERTNECK	9-13-11	112.67
VV	MICHAEL L. ALVAREZ	9-14-1.1	1.6
WW	MICHAEL L. ALVAREZ	9-14-3	N PT PCLS 3-4-5
XX	KENNETH N. & TERESA A. SMERTNECK	9-14-1.2	1.02
YY	SAMUEL & HEATHER SUHODOLKI	9-13-11.1	0.49
ZZ	MARGARET K. FOX (LIFE)	9-11-2	84.378
A0	KENNETH P. GATEWOOD, ET UX	9-11-2.1	0.308
A1	GERALD PADLOW, ET UX	9-11-2.2	0.291
A2	RAY A. WHETZAL, JR., ET AL	9-10-15	71.119
A3	WILLIAM MCCONNELL	9-10-14	15.00
A4	J. F. CROW ESTATE, ET AL	9-10-9	17 AC. 14 P.
A5	J. F. CROW ESTATE, ET AL	9-10-11	60.00
A6	JOSEPH MICHAEL BONENE	9-10-15	44.00
A7	DAVID & PAMELA SCHIMMEL	9-10-7	1.00
A8	BRENT ALLEN CONNER	9-10-8	2.00
A9	KENNETH W. MASON EST.	9-10-6	43.00
B0	RONALD KEITH & RUBY MASON	9-6-12	59.00
B1	KENNETH W. MASON EST.	9-10-5	51.62
B2	KENNETH W. MASON EST.	9-6-14	19.37
B3	J. F. CROW ESTATE, ET AL	9-6-15	55.21
B4	JANE RICHARDSON HERS, ET AL	9-6-16	23.03
B5	ROBERT LEE CARNEY, ET UX	9-6-4	118.17



12 Vanhorn Drive | P.O. Box 150 | Glenville, WV 26031 | 304.462.5634  
1412 Kanawha Boulevard, East | Charleston, WV 25301 | 304.346.3952  
254 East Buckley Bypass | Beckley, WV 25801 | 304.255.5296  
sllw.com



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 DIVISION OF ENVIRONMENTAL PROTECTION.

P.S. 849 *C. Victor Moyers*

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.  
DATE MAY 21, 20 21  
REVISED \_\_\_\_\_  
OPERATORS WELL NO. KNOB CREEK N-13HU  
API WELL NO. 47 - 051 - 02269  
STATE \_\_\_\_\_ COUNTY \_\_\_\_\_ PERMIT \_\_\_\_\_

MINIMUM DEGREE OF ACCURACY 1 / 2500 FILE NO. 8789P13HUAD.dwg  
KNOB CREEK N-13HU REV6  
HORIZONTAL & VERTICAL CONTROL DETERMINED BY DGPS (SURVEY GRADE TIE TO CORS NETWORK) SCALE 1" = 2000'

STATE OF WEST VIRGINIA  
DIVISION OF ENVIRONMENTAL PROTECTION  
OFFICE OF OIL AND GAS

WELL TYPE: OIL \_\_\_\_\_ GAS X INJECTION \_\_\_\_\_ LIQUID WASTE DISPOSAL \_\_\_\_\_ IF "GAS" PRODUCTION X STORAGE \_\_\_\_\_ DEEP X SHALLOW \_\_\_\_\_  
LOCATION: GROUND = 733.40' ELEVATION PROPOSED = 734.67' WATERSHED FISH CREEK (HUC 10)  
DISTRICT MEADE COUNTY MARSHALL QUADRANGLE GLEN EASTON 7.5'  
SURFACE OWNER DAVID LEE FRANKLIN ACREAGE 65.824±  
ROYALTY OWNER DAVID LEE FRANKLIN, ET AL - SEE WW-6A1 ACREAGE 65.824±  
PROPOSED WORK: LEASE NO. SEE WW-16A1  
DRILL X CONVERT \_\_\_\_\_ DRILL DEEPER \_\_\_\_\_ REDRILL \_\_\_\_\_ FRACTURE OR STIMULATE X PLUG OFF OLD FORMATION \_\_\_\_\_ PERFORATE NEW FORMATION \_\_\_\_\_ PLUG AND ABANDON \_\_\_\_\_ CLEAN OUT AND REPLUG \_\_\_\_\_ OTHER \_\_\_\_\_  
PHYSICAL CHANGE IN WELL (SPECIFY) \_\_\_\_\_ TARGET FORMATION \_\_\_\_\_ POINT PLEASANT \_\_\_\_\_ ESTIMATED DEPTH TVD: 11,332' TMD: 18,012'

WELL OPERATOR TUG HILL OPERATING, LLC DESIGNATED AGENT DIANNA STAMPER  
ADDRESS 1320 SOUTH UNIVERSITY DRIVE, SUITE 500 ADDRESS 5400 D BIG TYLER ROAD  
FORT WORTH, TX 76107 CHARLESTON, WV 25313

COUNTY NAME PERMIT



**KNOB CREEK N LEASE  
UTICA UNIT - 599.24 AC±  
WELL 13HU  
TUG HILL OPERATING**

T.H. LATITUDE 39°47'30"  
B.H. LATITUDE 80°42'30"

**SHEET 3 DETAIL  
SCALE - 1" = 1,000'**

T.H. LONGITUDE 80°40'00"  
B.H. LONGITUDE 80°42'30"

7,885' T.H. A.D.

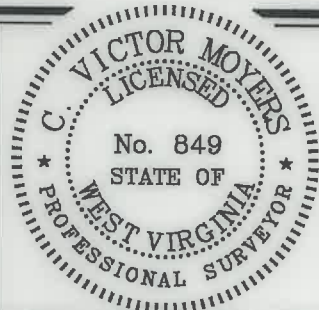
NAD'83 GRID NORTH



12 Vanhorne Drive | P.O. Box 150 | Glenville, WV 26351 | 304.462.5634  
1412 Kanawha Boulevard, East | Charleston, WV 25301 | 304.346.3952  
254 East Beckley Bypass | Beckley, WV 25801 | 304.255.5296  
slswv.com

P.S. 849 *C. Victor Moyers*

(S.P.C. NORTH ZONE) (UTM(M) ZONE 17 NORTH)		
NAD'83 S.P.C.(FT)	N. 464,854.03	E. 1,629,677.64
NAD'83 GEO.	LAT-(N) 39.770021	LONG-(W) 80.705446
NAD'83 UTM (M)	N. 4,402,273.78	E. 525,227.23
LANDING POINT		
NAD'83 S.P.C.(FT)	N. 465,175.1	E. 1,631,361.9
NAD'83 GEO.	LAT-(N) 39.770964	LONG-(W) 80.699469
NAD'83 UTM (M)	N. 4,402,380.2	E. 525,738.7
BOTTOM HOLE		
NAD'83 S.P.C.(FT)	N. 470,393.3	E. 1,628,406.2
NAD'83 GEO.	LAT-(N) 39.785180	LONG-(W) 80.710234
NAD'83 UTM (M)	N. 4,403,954.9	E. 524,811.7



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.

**LEGEND**

- UNIT BOUNDARY
- LEASED TRACTS INSIDE
- UNIT BOUNDARY
- SURFACE LINE
- PROPOSED UTICA
- WELL LATERAL
- 400' OFFSET LINE
- 500' OFFSET LINE
- TIE LINE
- CREEK
- ROAD
- COUNTY ROUTE
- PROPOSED WELL
- EXISTING WELL
- PERMITTED WELL
- SURFACE OWNER (SEE TABLE)
- LEASE # (SEE ADDITIONAL SHEETS)

SCALE 1" = 2000' FILE NO. 8789P13HUAD.dwg  
KNOB CREEK N-13HU REV6  
DATE MAY 21, 20 21  
REVISED \_\_\_\_\_  
OPERATORS WELL NO. KNOB CREEK N-13HU  
API WELL NO. 47 — 051 — 02269  
STATE COUNTY PERMIT

STATE OF WEST VIRGINIA  
DIVISION OF ENVIRONMENTAL PROTECTION  
OFFICE OF OIL AND GAS



WELL OPERATOR TUG HILL OPERATING, LLC ADDRESS 1320 SOUTH UNIVERSITY DRIVE, SUITE 500 FORT WORTH, TX 76107  
DESIGNATED AGENT DIANNA STAMPER CT CORPORATION SYSTEM ADDRESS 5400 D BIG TYLER ROAD CHARLESTON, WV 25313

COUNTY NAME PERMIT

10/21/2022

**KNOB CREEK N LEASE  
UTICA UNIT - 599.24 AC ±  
WELL 13HU  
TUG HILL OPERATING**



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1412 Kanawha Boulevard, East | Charleston, WV 25301 | 304.346.3952  
254 East Beckley Bypass | Beckley, WV 25801 | 304.255.5296  
slsvv.com

NO.	Lease ID	Tag	Parcel	Grantor, Lessor, Etc.	Deed Book/Page	
1	10*47051.219.1	A	9-14-33	DAVID LEE FRANKLIN	937	385
2	10*16479	B	9-14-22	JOHN F CUNNINGHAM AND BERNEICE K CUNNINGHAM	826	88
3	10*47051.219.1	C	9-14-30	DAVID LEE FRANKLIN	937	385
4	10*47051.243.1	D	9-14-38	MARY A FOX, ET AL	879	332
5	10*47051.219.1	E	9-14-36	DAVID LEE FRANKLIN	937	385
6	10*47051.219.1	F	9-14-39	DAVID LEE FRANKLIN	937	385
7	10*47051.219.1	G	9-14-44	DAVID LEE FRANKLIN	937	385
8	10*23458	H	FISH CREEK - WV	WEST VIRGINIA DIVISION OF NATURAL RESOURCES	1019	373
9	10*19538	I	9-14-42	JOHN C LAGOS AND CYNTHIA M LAGOS, ET AL	936	531
10	10*23053	J	9-14-11.3	CE YOUNG	63	146
11	10*23053	K	9-14-28	CE YOUNG	63	146
12	10*22394	L	9-14-29	THE ANDREW & KAREN FASOULETOS 2017 IRREVOCABLE TRUST DATED SEPT 14 2017	964	513
13	10*23053	M	9-14-27	CE YOUNG	63	146
14	10*22394	N	9-14-29.1	THE ANDREW & KAREN FASOULETOS 2017 IRREVOCABLE TRUST DATED SEPT 14 2017	964	513
15	10*47051.219.1	O	9-14-32	DAVID LEE FRANKLIN	937	385
16	10*18732	P	9-14-43	SHERRILL M LEAVERS AND JAMES H LEAVERS, ET AL	938	245
17	10*47051.219.1	Q	9-14-32.1	DAVID LEE FRANKLIN	937	385
18	10*18732	R	9-13-13	SHERRILL M LEAVERS AND JAMES H LEAVERS, ET AL	938	245
19	10*19565	S	9-14-53	WEST VIRGINIA DEPARTMENT OF TRANSPORTATION, DIVISION OF HIGHWAYS, ET AL	947	566
20	10*19565	T	9-14-52	WEST VIRGINIA DEPARTMENT OF TRANSPORTATION, DIVISION OF HIGHWAYS, ET AL	947	566
21	10*15523	U	9-14-54	RICHARD L HARVETH AND SANDRA J HARVETH	729	638
22	10*19565	V	9-14-44.1	WEST VIRGINIA DEPARTMENT OF TRANSPORTATION, DIVISION OF HIGHWAYS, ET AL	947	566
23	10*47051.219.1	W	9-14-31	DAVID LEE FRANKLIN	937	385
24	10*18298	X	9-14-46	MAUREEN GREGG, ET AL	929	273
25	10*19565	Y	9-14-50	WEST VIRGINIA DEPARTMENT OF TRANSPORTATION, DIVISION OF HIGHWAYS, ET AL	947	566
26	10*19565	Z	9-14-47	WEST VIRGINIA DEPARTMENT OF TRANSPORTATION, DIVISION OF HIGHWAYS, ET AL	947	566
27	10*19565	AA	9-14-45	WEST VIRGINIA DEPARTMENT OF TRANSPORTATION, DIVISION OF HIGHWAYS, ET AL	947	566
28	10*18298	BB	9-14-46.1	MAUREEN GREGG, ET AL	929	273
29	10*19565	CC	9-14-51	WEST VIRGINIA DEPARTMENT OF TRANSPORTATION, DIVISION OF HIGHWAYS, ET AL	947	566
30	10*24858	DD	9-13-12	NILA JEAN FROHNAPFEL	1028	119
31	10*47051.243.1	EE	9-13-14	MARY A FOX, ET AL	879	332
32	10*17193	FF	9-13-20	JOHN P. ICARD, ET AL	716	12
33	10*19621	GG	9-14-10	MARY RUTH FROHNAPFEL, ET AL	938	595
34	10*19565	HH	9-14-48	WEST VIRGINIA DEPARTMENT OF TRANSPORTATION, DIVISION OF HIGHWAYS, ET AL	947	566
35	10*23053	II	9-14-11.2	CE YOUNG	63	146
36	10*19565	JJ	9-14-49	WEST VIRGINIA DEPARTMENT OF TRANSPORTATION, DIVISION OF HIGHWAYS, ET AL	947	566
37	10*19621	KK	9-14-7	MARY RUTH FROHNAPFEL, ET AL	938	595
38	10*19621	LL	9-14-9	MARY RUTH FROHNAPFEL, ET AL	938	595
39	10*19621	MM	9-14-8	MARY RUTH FROHNAPFEL, ET AL	938	595
40	10*23053	NN	9-14-11	CE YOUNG	63	146
41	10*19621	OO	9-14-6	MARY RUTH FROHNAPFEL, ET AL	938	595
42	10*19621	PP	9-14-5	MARY RUTH FROHNAPFEL, ET AL	938	595
43	10*19621	QQ	9-14-4	MARY RUTH FROHNAPFEL, ET AL	938	595
44	10*19621	RR	9-14-1	MARY RUTH FROHNAPFEL, ET AL	938	595
45	10*19942	SS	9-13-12.1	ROBERT T ANKROM & BARBARA A ANKROM	949	207
46	10*18351	TT	9-13-18	MARK ALLEN LENENBERG, ET AL	931	399
47	10*18265	UU	9-13-11	KENNETH NELSON SMERTNECK AND TERESA ANN SMERTNECK	933	103
48	10*19621	VV	9-14-1.1	MARY RUTH FROHNAPFEL, ET AL	938	595
49	10*19621	WW	9-14-3	MARY RUTH FROHNAPFEL, ET AL	938	595
50	10*19621	XX	9-14-1.2	MARY RUTH FROHNAPFEL, ET AL	938	595
51	10*18265	YY	9-13-11.1	KENNETH NELSON SMERTNECK AND TERESA ANN SMERTNECK	933	103
52	10*47051.243.1	ZZ	9-11-2	MARY A FOX, ET AL	879	332
53	10*47051.272.0	A0	9-11-2.1	KENNETH P GATEWOOD AND MARY M GATEWOOD	888	600
54	10*16526	A1	9-11-2.2	JUDITH PADLOW AKA JUDI L PADLOW	957	134
55	10*15567	A2	9-10-13	VICKIE MASON, ET AL	680	409
56	10*15600	A3	9-10-14	WILLIAM D MCCONNELL	715	447
57	10*15510	A4	9-10-9	ELAINE PHELPS ET VIR, ET AL	718	326
58	10*15510	A5	9-10-11	ELAINE PHELPS ET VIR, ET AL	718	326
59	10*47051.117.1	A6	9-10-15	JOSEPH MICHAEL BONENE	940	359
60	10*47051.117.1	A7	9-10-7	JOSEPH MICHAEL BONENE	940	359
61	10*47051.117.1	A8	9-10-8	JOSEPH MICHAEL BONENE	940	359
62	10*15504	A9	9-10-6	JAMES MASON ET AL	692	461
63	10*15525	B0	9-6-12	RONALD KEITH MASON ET UX, ET AL	772	445
64	10*15504	B1	9-10-5	JAMES MASON ET AL	692	461
65	10*15504	B2	9-6-14	JAMES MASON ET AL	692	461
66	10*15510	B3	9-6-15	ELAINE PHELPS ET VIR, ET AL	718	326
67	10*15464	B4	9-6-16	MARY ALICE THOMAS MELLOTT, ET AL	906	527
68	10*19116	B5	9-6-4	ROBERT LEE CARNEY AND BONNIE ANNE CARNEY	682	255

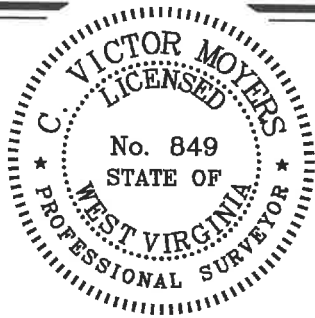
FILE NO. 8789P13HUAD.dwg  
KNOB CREEK N-13HU REV6

DATE MAY 21, 20 21

REVISED

OPERATORS WELL NO. KNOB CREEK N-13HU

API WELL NO. 47 — 051 — 02269  
STATE COUNTY PERMIT



STATE OF WEST VIRGINIA  
DIVISION OF  
ENVIRONMENTAL PROTECTION  
OFFICE OF OIL AND GAS



10/21/2021

P.S. 849

*C. Victor Moyers*

COUNTY NAME  
PERMIT

WELL OPERATOR TUG HILL OPERATING, LLC  
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FORT WORTH, TX 76107

DESIGNATED AGENT DIANNA STAMPER  
ADDRESS CT CORPORATION SYSTEM  
5400 D BIG TYLER ROAD  
CHARLESTON, WV 25313