

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

API 47 - 051 - 02288 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 S-14HU
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 4,402,279.50 Easting 525,231.80
Landing Point of Curve Northing 4,402,127.0 Easting 525,019.7
Bottom Hole Northing 4,400,027.1 Easting 526,207.7

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 3/5/2020 Date drilling commenced spud: 4/4/2020 big rig: 11/17/2020 Date drilling ceased 12/16/2020
Date completion activities began 12/30/2021 Date completion activities ceased 1/19/2022
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 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:
STRADGER GOWER
10-12-2022
10/21/2022

API 47-051-02288

Farm name David Lee Franklin

Well number Knob Creek S-14HU

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"	516'	NEW	106.5#	N/A	Y
Coal							
Intermediate 1	17 1/2"	13 3/8"	2,238'	NEW	54.5#	N/A	Y
Intermediate 2	12 1/4"	9 5/8"	10,103'	NEW	47#	N/A	Y
Intermediate 3							
Production	8 1/2"	5 1/2"	19,805'	NEW	23#	N/A	Y
Tubing		2 7/8"	9,902'	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	547	15.6	1.18	646	0	8
Surface	A	950	15.6	1.208	1147.6	0	8
Coal							
Intermediate 1	A	1760	15.6	1.18	2076.8	0	8
Intermediate 2	A	3895	14.5	1.35	5258.25	0	8
Intermediate 3							
Production	A	4805	16.5	1.03	4949.15	0	8
Tubing							

Drillers TD (ft) 19,838'

Loggers TD (ft) n/a

Deepest formation penetrated Trenton

Plug back to (ft) n/a

Plug back procedure n/a

Kick off depth (ft) 10,153'

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 S-14HU
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	85.50	12395	12944	7450	251040	6,870	0
2	87.61	11795	5000	7625	502480	7,749	0
3	88.23	11707	10735	8160	503560	7,968	0
4	88.74	11471	9897	8138	500620	7,903	0
5	88.84	11578	9818	7783	510060	8,024	0
6	88.89	11527	9389	7891	498280	8,296	0
7	89.16	11454	9535	7931	497880	7,900	0
8	89.22	11374	10484	8283	364440	6,668	0
9	89.17	11420	10313	8261	502340	7,996	0
10	87.79	11255	9815	8426	501980	7,968	0
11	86.58	11153	9876	8267	496020	7,867	0
12	89.96	11502	9503	7834	498100	7,850	0
13	89.71	11455	9275	8158	496580	7,811	0
14	89.57	11414	9516	8079	500160	7,852	0
15	90.23	11264	9266	8276	503780	7,839	0
16	89.06	11042	9253	8219	504960	7,917	0
17	90.31	11156	9397	8829	503020	7,912	0
18	89.41	11014	9852	8810	499780	7,844	0
19	90.01	11057	9375	8738	500760	7,836	0
20	89.02	11270	9527	7996	499540	7,787	0
21	89.84	11403	9810	8483	508080	7,873	0
22	89.83	11271	9747	8187	504140	7,765	0
23	89.81	11195	9235	9156	498900	7,735	0
24	88.15	11206	10094	8059	500440	7,799	0
25	88.10	11409	9731	7950	501060	7,881	0
26	86.53	11486	10105	8371	498180	7,698	0
27	87.66	11272	10045	8201	499500	7,844	0
28	89.22	11319	10186	8186	498740	7,734	0
29	85.49	11121	10333	7641	501540	7,744	0
30	89.60	11116	9046	8390	505860	7,731	0
31	88.40	11334	9580	8544	499020	7,641	0
32	87.43	11121	10096	8046	493969	7,958	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	84.26	10826	9121	8189	504200	7,784	0
34	87.93	10833	9623	8108	502420	7,757	0
35	86.56	10757	9669	7953	497620	7,699	0
36	87.76	10640	9514	7865	502060	8,770	0
37	90.49	10355	9236	8179	500840	7,722	0
38	88.26	10216	9244	8209	501460	7,613	0
39	90.10	10155	8397	7934	501500	7,614	0
40	87.69	10209	8757	8227	495860	7,611	0

**Knob Creek S-14HU
PERFORATION RECORD**

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD. Ft.	Number of Perforations	Formation(s)
1	12/30/2021	19,618	19,667	48	Utica
2	12/30/2021	19,391	19,567	48	Utica
3	12/31/2021	19,192	19,367	48	Utica
4	12/31/2021	18,993	19,168	48	Utica
5	1/1/2022	18,794	18,969	48	Utica
6	1/1/2022	18,594	18,770	48	Utica
7	1/2/2022	18,395	18,571	48	Utica
8	1/2/2022	18,196	18,371	48	Utica
9	1/3/2022	17,997	18,172	48	Utica
10	1/3/2022	17,798	17,973	48	Utica
11	1/5/2022	17,598	17,774	48	Utica
12	1/5/2022	17,399	17,575	48	Utica
13	1/5/2022	17,200	17,375	48	Utica
14	1/6/2022	17,001	17,176	48	Utica
15	1/6/2022	16,802	16,977	48	Utica
16	1/7/2022	16,602	16,778	48	Utica
17	1/7/2022	16,403	16,579	48	Utica
18	1/8/2022	16,204	16,379	48	Utica
19	1/8/2022	16,005	16,180	48	Utica
20	1/9/2022	15,806	15,981	48	Utica
21	1/9/2022	15,606	15,782	48	Utica
22	1/10/2022	15,407	15,583	48	Utica
23	1/10/2022	15,208	15,383	48	Utica
24	1/11/2022	15,009	15,184	48	Utica
25	1/11/2022	14,810	14,985	48	Utica
26	1/12/2022	14,610	14,786	48	Utica
27	1/12/2022	14,411	14,587	48	Utica
28	1/13/2022	14,212	14,387	48	Utica
29	1/13/2022	14,013	14,188	48	Utica
30	1/14/2022	13,814	13,989	48	Utica
31	1/14/2022	13,614	13,790	48	Utica
32	1/15/2022	13,415	13,591	48	Utica
33	1/15/2022	13,216	13,391	48	Utica
34	1/16/2022	13,017	13,192	48	Utica
35	1/16/2022	12,818	12,993	48	Utica
36	1/17/2022	12,618	12,794	48	Utica
37	1/17/2022	12,419	12,595	48	Utica
38	1/18/2022	12,220	12,395	48	Utica
39	1/19/2022	12,021	12,196	48	Utica
40	1/19/2022	11,822	11,997	48	Utica

Knob Creek S-14HU

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	4505	Sandstone
Benson	4500	4917	4505	4924	Sandstone
Alexander	4917	5546	4924	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	6209	6164	6222	Gray Shale
Marcellus	6209	6262	6222	6275	Black Shale
Onondaga	6262	6496	6275	6512	Limestone
Oriskany	6496	6620	6512	6637	Sandstone
Helderberg	6620	6976	6637	6999	Limestone
Salina	6976	8099	6999	8146	Salt/Anhydrite/LS
Lockport	8099	8475	8146	8527	Dolomite
Rose Hill	8475	8750	8527	8811	Shale
Packer Shell	8750	8963	8811	9034	Limestone
Clinton/Tuscarora	8963	9068	9034	9144	Sandstone
Juniata/Queenston	9068	9835	9144	9932	Red Shale
Reedsville	9835	10863	9932	11042	Gray Shale
Utica	10863	11123	11042	11590	Black Shale
Point Pleasant	11123	-	11590	-	Shale/Limestone

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	12/30/2021
Job End Date:	1/19/2022
State:	West Virginia
County:	Marshall
API Number:	47-051-02288-00-00
Operator Name:	Tug Hill Operating, LLC
Well Name and Number:	Knob Creek 14HU
Latitude:	39.77007229
Longitude:	-80.70539221
Datum:	NAD27
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	11,263
Total Base Water Volume (gal):	13,096,860
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	84.41534	None
			Silica Substrate	14808-60-7	100.00000	11.93302	None
Sand (40/70 White Proppant)	Tug Hill Operating	Proppant	Silica Substrate	14808-60-7	100.00000	3.24473	None
			Silica Substrate	14808-60-7	100.00000	0.24518	None
Sand (100 Mesh Proppant)	Tug Hill Operating	Proppant	Silica Substrate	14808-60-7	100.00000	0.10672	None
			Silica Substrate	14808-60-7	100.00000	0.02181	None
Hydrochloric Acid (7.5%)	CNR	Acidizing	Water	7732-18-5	85.00000	0.02140	None
			Hydrochloric Acid (Hydrogen Chloride)	7647-01-0	37.00000	0.02140	None
StimStream FR 9800	Chemstream	Friction Reducer	Alkanes, C16-20-iso-	90622-59-6	25.00000	0.01814	None
			Butene, homopolymer	9003-29-6	25.00000	0.01814	None
			Ethoxylated alcohols (C12-18)	68213-23-0	3.00000	0.00218	None
MC MX 9-4743	Multi-Chem	Biocide	Sodium Nitrate	7631-99-4	60.00000	0.02140	None
			Sodium Nitrate	7631-99-4	60.00000	0.02140	None
LD-7750W	Multi-Chem	Scale Inhibitor					

			Methanol	67-56-1	60.00000	0.00487	None
			Phosphonic Acid Salt	Proprietary	5.00000	0.00041	None
ProHib 100	CNR	Acid Inhibitor					
			2-Butoxyethanol	111-76-2	60.00000	0.00058	None
			Proprietary material	Proprietary	30.00000	0.00029	None
			Proprietary non-ionic surfactant	Proprietary	20.00000	0.00019	None
			Proprietary corrosion inhibitor	Proprietary	10.00000	0.00010	None
			Proprietary ethoxylated alcohol	Proprietary	10.00000	0.00010	None
ProFE 105	CNR	Iron Control					
			Citric Acid	77-92-9	20.00000	0.00023	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	0.24518	
			Butene, homopolymer	9003-29-6	25.00000	0.01814	
			Ethoxylated alcohols (C12-18)	68213-23-0	3.00000	0.00218	
			Phosphonic Acid Salt	Proprietary	5.00000	0.00041	
			Proprietary material	Proprietary	30.00000	0.00029	
			Proprietary non-ionic surfactant	Proprietary	20.00000	0.00019	
			Proprietary ethoxylated alcohol	Proprietary	10.00000	0.00010	
			Proprietary corrosion inhibitor	Proprietary	10.00000	0.00010	
			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 S LEASE
UTICA UNIT - 310.73 AC±
WELL 14HU
TUG HILL OPERATING**

T.H. LATITUDE 39°47'30"
B.H. LATITUDE 39°45'00"

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

**AS DRILLED COORDINATES
FOR WELL NO. 14HU**

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

NAD'83 S.P.C.(FT)	N. 464,872.53	E. 1,629,692.92
NAD'83 GEO.	LAT-(N) 39.770072	LONG-(W) 80.705392
NAD'83 UTM (M)	N. 4,402,279.50	E. 525,231.80

LANDING POINT

NAD'83 S.P.C.(FT)	N. 464,553.4	E. 1,628,885.3
NAD'83 GEO.	LAT-(N) 39.769167	LONG-(W) 80.708250
NAD'83 UTM (M)	N. 4,402,178.2	E. 524,987.4

BOTTOM HOLE

NAD'83 S.P.C.(FT)	N. 457,411.7	E. 1,632,763.0
NAD'83 GEO.	LAT-(N) 39.749704	LONG-(W) 80.694118
NAD'83 UTM (M)	N. 4,400,022.1	E. 526,205.1

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TAG	SURFACE OWNER	PARCEL	ACRES
A	DAVID LEE FRANKLIN	9-14-33	65.824
B	DAVID LEE FRANKLIN	9-14-44	2.913
C	STATE OF WEST VIRGINIA (FISH CREEK)	N/A	N/A
D	JOHN C. LAGOS, ET UX	9-14-42	1.87
E	JAMES G. FOX	9-14-43	0.66
F	NILA JEAN FROHNAPFEL	9-13-12	91.1007
G	MARGARET FOX - LIFE	9-13-13	15.513
H	THOMAS JOHN FOX	9-13-13.1	0.827
I	MARGARET FOX - LIFE	9-14-41	9,165 SQ. FT
J	MARGARET FOX - LIFE	9-14-39	8,675 SQ. FT
K	MARGARET FOX - LIFE	9-14-40	19,560 SQ. FT
L	MARGARET FOX - LIFE	9-14-36	1,600 SQ. FT
M	MARGARET FOX - LIFE	9-14-37	LOT
N	MARGARET FOX - LIFE	9-14-38	0.631
O	PAUL G. FOX	9-14-35	0.338
P	JAMES RICHMOND	9-16-12	28.638
Q	LYNN CAMP METHODIST CHURCH	9-16-14	0.762
R	JAMES G. RICHMOND, ET UX	9-16-12.1	0.691
S	RONALD R. YOUNG, ET UX - LIFE	9-16-15	52.02
T	PAUL R. BLAKE	9-16-13	97.9962
U	ERIC I. YOUNG	9-16-15.1	1.98
V	WESLEY D. YEATER, ET UX	9-16-13.6	2.144
W	CLINTON B. WHITELATCH, SR.	9-16-16	1 AC. & 5 6/10 P.
X	PAUL W. BLAKE - LIFE	9-16-13.1	0.91
Y	PAUL R. BLAKE & PAUL R. BLAKE, II	9-16-13.5	2.291
Z	ELEANOR M. FOX ESTATE	9-16-13.2	1.570
AA	ELEANOR M. FOX ESTATE	9-16-17	0.741
BB	JOHN FOX	9-16-13.4	0.533
CC	ROBIN D. & DAVID G. STEWART	9-16-18.1	3.333
DD	LOUIS T. FOX	9-16-20	86.174
EE	ALICE FAYE WINLAND	9-16-18	48.667
FF	ALICE FAYE WINLAND	9-16-19	75.00
GG	LOUIS T. FOX	9-18-7	27.864
HH	ROBERT J. COMBS, ET AL	9-18-9	110.75
II	DOUGLAS J. WAYMAN	9-18-8	92.72
JJ	BETTY J. GOULDSBERRY ESTATE, ET AL	9-18-11	60.00

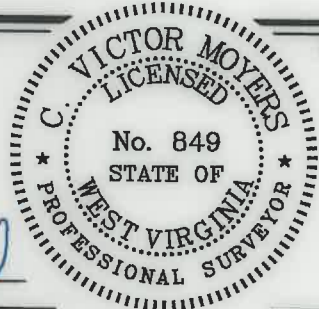
A.D.
T.H.

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 S-14HU (47-051-02288) 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 N-13HU (47-051-02289),
KNOB CREEK S-15HU (47-051-02289),
KNOB CREEK S-16HU (47-051-02290),
KEITH STERN N-13HU (47-051-02265).
- AS-DRILLED DATA PROVIDED BY TUG HILL OPERATING, LLC.
- PLAT UPDATED TO SHOW AS-DRILLED PATH.



12 Vanhorn 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



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 _____, 20 _____
 OPERATORS WELL NO. KNOB CREEK S-14HU
 API WELL NO. 47 - 051 - 02288
 STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 2500 FILE NO. 8789P14HUAD.dwg
 HORIZONTAL & VERTICAL CONTROL DETERMINED BY DGPS (SURVEY GRADE TIE TO CORS NETWORK) SCALE 1" = 2000'
 KNOB CREEK S-14HU REV3

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

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL IF "GAS" PRODUCTION STORAGE DEEP SHALLOW

LOCATION: ELEVATION GROUND = 730.90' 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 ADDITIONAL SHEETS ACREAGE 65.824±

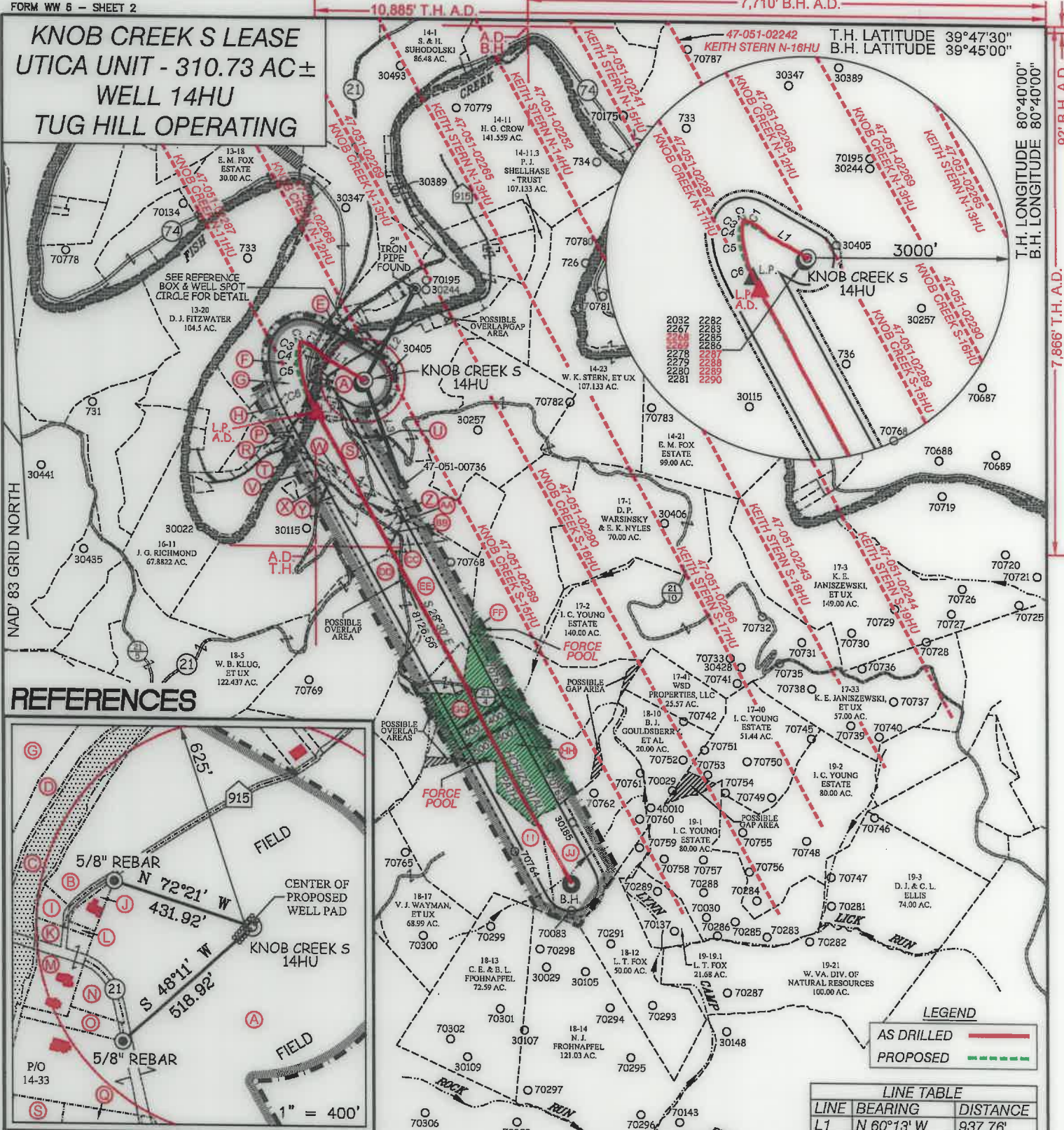
PROPOSED WORK: DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD FORMATION PERFORATE NEW FORMATION PLUG AND ABANDON CLEAN OUT AND REPLUG OTHER

PHYSICAL CHANGE IN WELL (SPECIFY) _____ TARGET FORMATION POINT PLEASANT ESTIMATED DEPTH TVD: 11,295'/ TMD: 19,886'

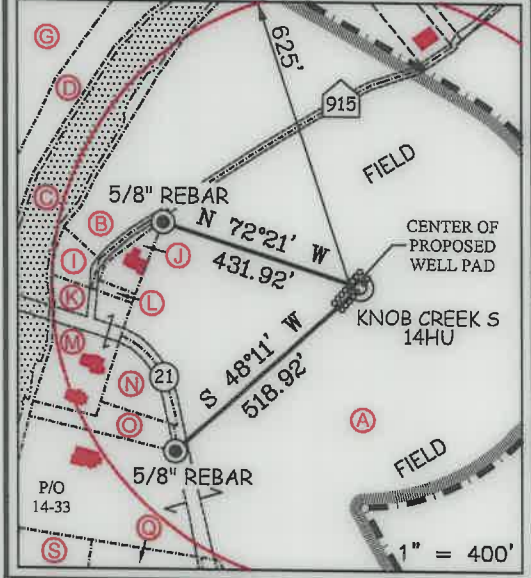
WELL OPERATOR TUG HILL OPERATING, LLC DESIGNATED AGENT DIANNA STAMPER
 ADDRESS 1320 SOUTH UNIVERSITY DRIVE, SUITE 500 ADDRESS 5400 D BIG TYLER ROAD
FORT WORTH, TX 76107 CHARLESTON, WV 25313

COUNTY NAME PERMIT

**KNOB CREEK S LEASE
UTICA UNIT - 310.73 AC±
WELL 14HU
TUG HILL OPERATING**



REFERENCES



LEGEND

- AS DRILLED (Red solid line)
- PROPOSED (Green dashed line)

LINE TABLE

LINE	BEARING	DISTANCE
L1	N 60°13' W	937.76'
L2	N 29°08' E	1560.90'
L3	S 19°57' E	1661.04'

CHORD BEARING

CURVE	ARC LENGTH	RADIUS	CHORD BEARING	CHORD LENGTH
C1	93.12'	262.75'	N 69°18' W	92.64'
C2	91.01'	89.43'	S 71°30' W	87.13'
C3	70.37'	149.45'	S 24°37' W	69.72'
C4	96.82'	391.36'	S 03°55' W	96.57'
C5	280.49'	1131.40'	S 11°23' E	279.77'
C6	389.12'	2199.17'	S 23°40' E	388.61'



12 Vanhorn 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 | 304.255.5295
 siswv.com

P.S. 849 *C. Victor Moyers*

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

NAD'83 S.P.C.(FT)	N. 464,872.53	E. 1,629,692.92
NAD'83 GEO.	LAT.(-N) 39.770072	LONG.(-W) 80.705392
NAD'83 UTM (M)	N. 4,402,279.50	E. 525,231.80
LANDING POINT		
NAD'83 S.P.C.(FT)	N. 464,553.4	E. 1,628,885.3
NAD'83 GEO.	LAT.(-N) 39.769167	LONG.(-W) 80.708250
NAD'83 UTM (M)	N. 4,402,178.2	E. 524,987.4
BOTTOM HOLE		
NAD'83 S.P.C.(FT)	N. 457,411.7	E. 1,632,763.0
NAD'83 GEO.	LAT.(-N) 39.749704	LONG.(-W) 80.694118
NAD'83 UTM (M)	N. 4,400,022.1	E. 526,205.1

SCALE 1" = 2000' FILE NO. 8789P14HUAD.dwg
 KNOB CREEK S-14HU REV3
 DATE MAY 21, 20 21
 REVISED _____, 20 _____
 OPERATORS WELL NO. KNOB CREEK S-14HU
 API WELL NO. 47 — 051 — 02288
 NO. STATE COUNTY PERMIT



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

(+) 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
- FORCE POOL TRACT
- COUNTY ROUTE
- PROPOSED WELL
- EXISTING WELL
- PERMITTED WELL
- SURFACE OWNER (SEE TABLE)
- LEASE # (SEE ADDITIONAL SHEETS)

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

T.H. LATITUDE 39°47'30" B.H. LATITUDE 39°45'00"
 T.H. LONGITUDE 80°40'00" B.H. LONGITUDE 80°40'00"
 10.885' T.H. A.D. 7,710' B.H. A.D.
 92' B.H. A.D.
 7,866' T.H. A.D.
 COUNTY NAME PERMIT

**KNOB CREEK S LEASE
UTICA UNIT - 310.73 AC±
WELL 14HU
TUG HILL OPERATING**



12 Vanhorn 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
slwv.com

NO.	Lease ID	Parcel	Tags	Grantor, Lessor, Etc.	Deed Book/Page	
1	10*47051.219.1	9-14-33	A	DAVID LEE FRANKLIN	874	312
2	10*47051.219.1	9-14-44	B	DAVID LEE FRANKLIN	937	385
3	10*23458	FISH CREEK	C	WEST VIRGINIA DIVISION OF NATURAL RESOURCES	1019	373
4	10*19538	9-14-42	D	JOHN C LAGOS AND CYNTHIA M LAGOS	936	531
5	10*18732	9-14-43	E	SHERRILL M LEAVERS AND JAMES H LEAVERS, ET AL	938	245
6	10*24858	9-13-12	F	NILA JEAN FROHNAPFEL	1028	119
7	10*18732	9-13-13	G	SHERRILL M LEAVERS AND JAMES H LEAVERS, ET AL	938	245
8	10*18732	9-13-13.1	H	SHERRILL M LEAVERS AND JAMES H LEAVERS, ET AL	938	245
9	10*47051.219.1	9-14-41	I	DAVID LEE FRANKLIN	937	385
10	10*47051.219.1	9-14-39	J	DAVID LEE FRANKLIN	937	385
11	10*18298	9-14-40	K	MAUREEN GREGG, ET AL	929	273
12	10*47051.219.1	9-14-36	L	DAVID LEE FRANKLIN	937	385
13	10*18298	9-14-37	M	MAUREEN GREGG, ET AL	929	273
14	10*47051.243.1	9-14-38	N	MARY A FOX, ET AL	879	332
15	10*47051.219.1	9-14-35	O	DAVID LEE FRANKLIN	937	385
16	10*16481	9-16-12	P	JAMES G RICHMOND AND CINDY L RICHMOND	829	71
17	10*23112	9-16-14	Q	JOHN V AND RACHEL M SHEPHERD	63	219
18	10*16481	9-16-12.1	R	JAMES G RICHMOND AND CINDY L RICHMOND	829	71
19	10*23112	9-16-15	S	JOHN V AND RACHEL M SHEPHERD	63	219
20	10*47051.135.0	9-16-13	T	PAUL R BLAKE	878	280
21	10*23112	9-16-15.1	U	JOHN V AND RACHEL M SHEPHERD	63	219
22	10*47051.151.0	9-16-13.6	V	WESLEY D YEATER AND CAROL A YEATER	873	504
23	10*27100	9-16-16	W	BEVERLEY WHITELATCH, ET AL	1050	199
24	10*19615	9-16-13.1	X	WESLEY D YEATER JR AND MONICA YEATER	937	323
25	10*19616	9-16-13.1	X	WESLEY D YEATER AND CAROL A YEATER	937	315
26	10*17772	9-16-13.5	Y	KANDI MIDCAP	942	449
27	10*47051.243.1	9-16-13.2	Z	MARY A FOX, ET AL	879	332
28	10*47051.243.1	9-16-17	AA	MARY A FOX, ET AL	879	332
29	10*47051.243.6	9-16-13.4	BB	THOMAS J FOX	876	61
30	10*47051.161.0	9-16-18.1	CC	DAVID G STEWART & ROBIN D STEWART	885	65
31	10*23726	9-16-20	DD	LOUIS T FOX, ET AL	1011	520
32	10*47051.187.1	9-16-18	EE	ALICE F WINLAND	881	133
33	10*18424	9-16-19	FF	BRENDA J LOHRUM, ET AL	932	590
34	*FORCE POOL* 10*23112	9-16-19	FF	JOHN V AND RACHEL M SHEPHERD	63	219
35	10*21293	9-18-7	GG	LOUIS T FOX AND KAREN A FOX	952	364
36	"FORCE POOL"	9-18-9	HH	CATHARINE V B YOUNG AND A J YOUNG	164	534
37	10*47051.152.1	9-18-8	II	TAMMY JO LONG	860	361
38	10*47051.152.2	9-18-8	II	DOUGLAS J WAYMAN	865	350
39	10*15938	9-18-11	JJ	MARK W YOHO, ET AL	695	157

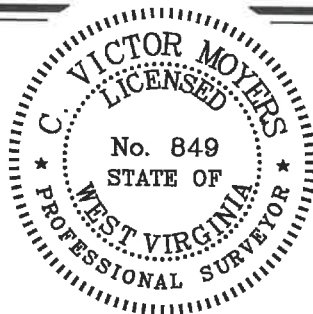
FILE NO. 8789P14HUAD.dwg
KNOB CREEK S-14HU REV3

DATE MAY 21, 20 21

REVISED _____, 20 _____

OPERATORS WELL NO. KNOB CREEK S-14HU

API WELL NO. 47 — 051 — 02288
STATE COUNTY PERMIT



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



10/21/2022

P.S. 849 *C. Victor Moyers*

COUNTY NAME PERMIT

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