

**KEITH STERN S LEASE  
UTICA UNIT - 278.07 AC±  
WELL 17HU  
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. 466,534.10	E. 1,633,446.38
NAD'83 GEO.	LAT-(N) 39.774477	LONG-(W) 80.692118
NAD'83 UTM (M)	N. 4,402,804.81	E. 526,366.85
LANDING POINT		
NAD'83 S.P.C.(FT)	N. 464,678.2	E. 1,633,067.9
NAD'83 GEO.	LAT-(N) 39.769663	LONG-(W) 80.693377
NAD'83 UTM (M)	N. 4,402,237.5	E. 526,261.0
BOTTOM HOLE		
NAD'83 S.P.C.(FT)	N. 458,315.4	E. 1,636,490.3
NAD'83 GEO.	LAT-(N) 39.752320	LONG-(W) 80.680905
NAD'83 UTM (M)	N. 4,400,316.4	E. 527,336.0

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

MAP/PARCEL	ADJOINING SURFACE OWNER LIST	ACRES
9-14-20.1	WILLIAM K. STERN, ET UX	1.321
9-14-20.2	WILLIAM K. STERN, ET UX	1.525
9-14-20.3	WILLIAM K. STERN, ET UX	0.831



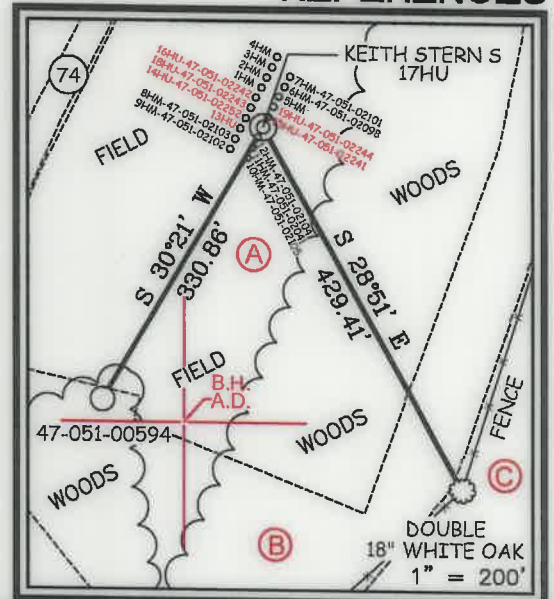
**NOTES ON SURVEY**

- NO WATER WELLS WERE FOUND WITHIN 250' OF PROPOSED GAS WELL. NO AGRICULTURAL BUILDINGS > 2500 SQ. FT. OR DWELLINGS WERE FOUND WITHIN 625' OF THE CENTER OF PROPOSED WELL PAD.
- WELL SPOT CIRCLE & TOPO MARK SCALE ARE 1"=200'
- PROPOSED LATERAL OR TOP HOLE OF KEITH STERN S-17HU IS WITHIN 3000' OF THE TOP HOLES OR LATERALS OF PROPOSED KEITH STERN N-13HU, 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), PROPOSED KNOB CREEK N-13HU, PROPOSED KNOB CREEK S-15HU, PROPOSED KNOB CREEK S-16HU.
- AS-DRILLED DATA PROVIDED BY TUG HILL OPERATING, LLC.
- PLAT UPDATED TO SHOW AS-DRILLED PATH.

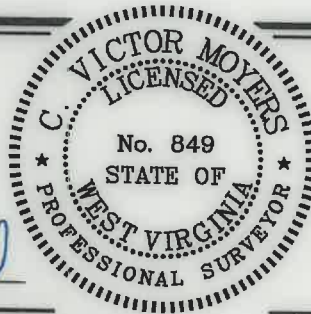
**AS DRILLED COORDINATES FOR WELL NO. 17HU**

(S.P.C. NORTH ZONE) (UTM(M) ZONE 17 NORTH)		
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NAD'83 UTM (M)	N. 4,402,804.81	E. 526,366.85
LANDING POINT		
NAD'83 S.P.C.(FT)	N. 464,457.5	E. 1,633,183.8
NAD'83 GEO.	LAT-(N) 39.769061	LONG-(W) 80.692955
NAD'83 UTM (M)	N. 4,402,170.8	E. 526,297.4
BOTTOM HOLE		
NAD'83 S.P.C.(FT)	N. 458,315.0	E. 1,636,505.7
NAD'83 GEO.	LAT-(N) 39.752320	LONG-(W) 80.680850
NAD'83 UTM (M)	N. 4,400,316.4	E. 527,340.7

**REFERENCES**



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 | 304.258.5295  
sllsv.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. *C. Victor Moyers*  
849

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.  
DATE MARCH 18, 20 21  
REVISED \_\_\_\_\_  
OPERATORS WELL NO. KEITH STERN S-17HU  
API WELL NO. 47 - 051 - 02266  
STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 2500 FILE NO. 8811P17HUAD.dwg  
KEITH STERN S-17HU-REV1  
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

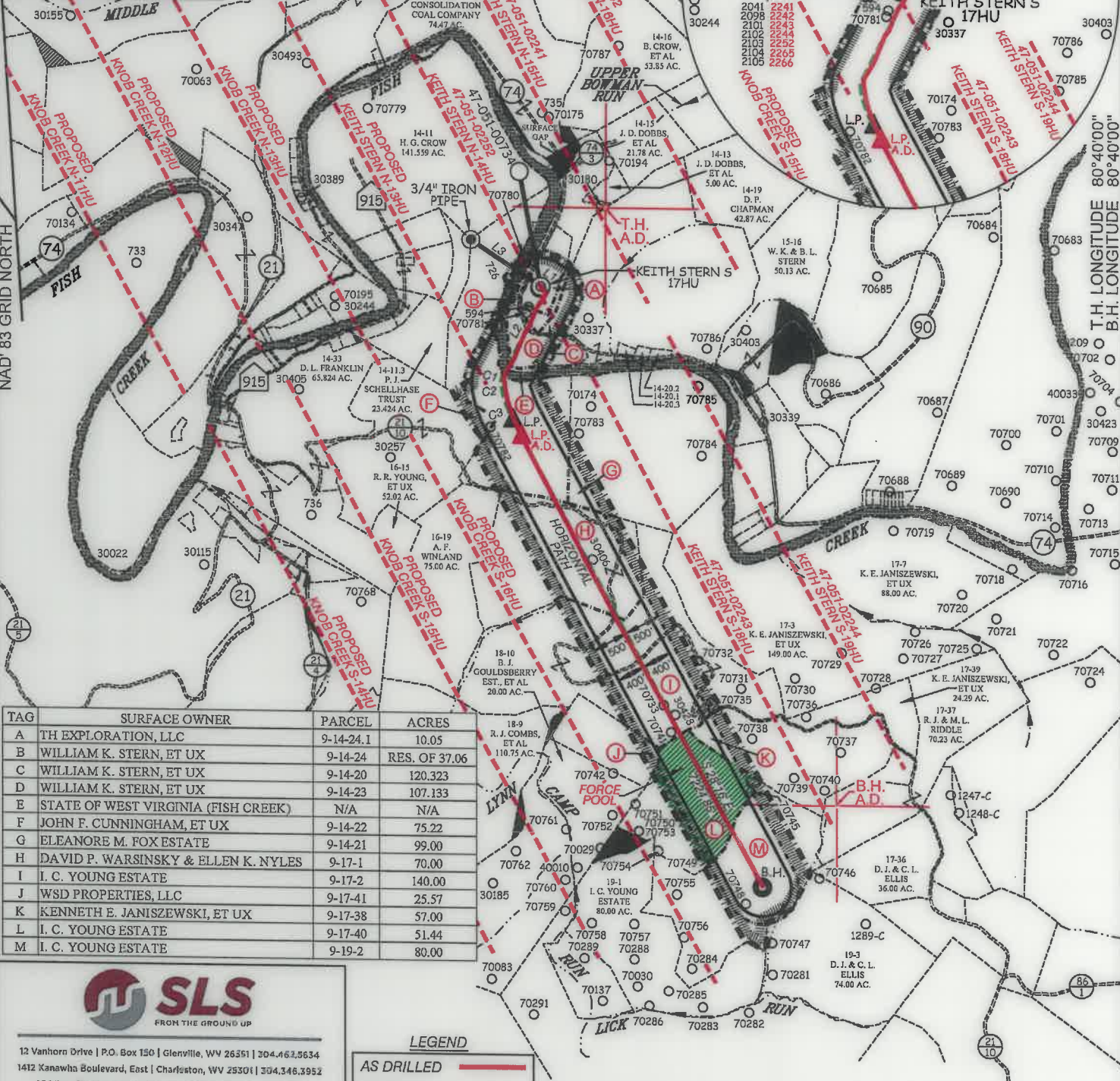
WELL TYPE: OIL \_\_\_\_\_ GAS X INJECTION \_\_\_\_\_ WASTE DISPOSAL \_\_\_\_\_ IF "GAS" PRODUCTION X STORAGE \_\_\_\_\_ DEEP X SHALLOW \_\_\_\_\_  
LOCATION: GROUND = 1,342.20' ELEVATION PROPOSED = 1,326.35' WATERSHED FISH CREEK (HUC 10)  
DISTRICT MEADE COUNTY MARSHALL QUADRANGLE GLEN EASTON 7.5'  
SURFACE OWNER TH EXPLORATION, LLC ACREAGE 10.05±  
ROYALTY OWNER ISAAC CROW, ET AL - SEE WW-6A1 ACREAGE 10.05±  
PROPOSED WORK: 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: 11,376' / TMD: 18,954'

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

6.155' T.H. A.D.  
14,333' B.H. A.D.

**KEITH STERN S LEASE  
UTICA UNIT - 278.07 AC ±  
WELL 17HU  
TUG HILL OPERATING**

LINE	BEARING	DISTANCE
L1	S 59°02' E	95.92'
L2	S 26°58' W	1357.28'
L3	N 10°40' W	1593.18'
L4	N 56°34' W	1152.58'



TAG	SURFACE OWNER	PARCEL	ACRES
A	TH EXPLORATION, LLC	9-14-24.1	10.05
B	WILLIAM K. STERN, ET UX	9-14-24	RES. OF 37.06
C	WILLIAM K. STERN, ET UX	9-14-20	120.323
D	WILLIAM K. STERN, ET UX	9-14-23	107.133
E	STATE OF WEST VIRGINIA (FISH CREEK)	N/A	N/A
F	JOHN F. CUNNINGHAM, ET UX	9-14-22	75.22
G	ELEANORE M. FOX ESTATE	9-14-21	99.00
H	DAVID P. WARSINSKY & ELLEN K. NYLES	9-17-1	70.00
I	I. C. YOUNG ESTATE	9-17-2	140.00
J	WSD PROPERTIES, LLC	9-17-41	25.57
K	KENNETH E. JANISZEWSKI, ET UX	9-17-38	57.00
L	I. C. YOUNG ESTATE	9-17-40	51.44
M	I. C. YOUNG ESTATE	9-19-2	80.00

**SLS**  
FROM THE GROUND UP

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  
slsvv.com

**LEGEND**

AS DRILLED ————

PROPOSED ————

CURVE	ARC LENGTH	RADIUS	CHORD BEARING	CHORD LENGTH
C1	80.68'	192.66'	S 10°40' W	80.09'
C2	157.53'	688.95'	S 08°12' E	157.18'
C3	392.10'	1662.50'	S 22°05' E	391.19'

P.S. 849 *C. Victor Moyers*

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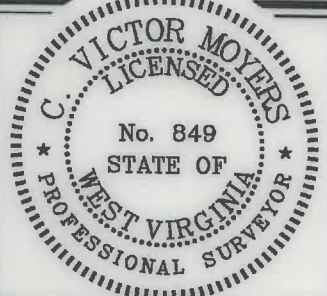
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**BOTTOM HOLE**

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(+) 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. 8811P17HUAD.dwg  
KEITH STERN S-17HU-REV1

DATE MARCH 18, 20 21

REVISED

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API WELL NO. 47 — 051 — 02266

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

6,155' T.H.A.D. 14,333' B.H.A.D.

COUNTY NAME PERMIT

10/21/2022

**KEITH STERN S LEASE  
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WELL 17HU  
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slswv.com

NO.	Lease ID	Tag	Parcel	Grantor, Lessor, Etc.	Deed Book/Page	
1	10*15605	A	9-14-24.1	ISAAC CROW ET UX	74	394
2	10*15605	B	9-14-24	ISAAC CROW ET UX	74	394
3	10*15509	C	9-14-20	WILLIAM K STERN AND BETTY L STERN	718	320
4	10*15812	D	9-14-23	WILLIAM K STERN AND BETTY L STERN, ET AL	687	220
5	10*23458	E	WV - FISH CREEK	WEST VIRGINIA DIVISION OF NATURAL RESOURCES	1019	373
6	10*16479	F	9-14-22	JOHN F CUNNINGHAM AND BERNEICE K CUNNINGHAM	826	88
7	10*47051.243.1	G	9-14-21	MARY A FOX, ET AL	879	332
8	10*17135	H	9-17-1	ELLEN K NYLES, ET AL	919	625
9	10*15910	I	9-17-2	SHIRLEY KOONTZ, ET AL	701	303
10	TH #27877	J	9-17-41	JOHN T. GALLAHER AND EMILY J. GALLAHER	1065	480
11	10*47051.185.1	K	9-17-38	HOMER L SIMMONS AND GLADYS R SIMMONS, ET AL	885	68
12	10*23194	L	9-17-40	*FORCE POOL* ALBERT AND CHRISTOPHER HARTLEY	60	160
13	10*18610	M	9-19-2	NEIL ROBERT YOUNG, ET AL	934	636

RECEIVED  
Office of Oil and Gas  
SEP 30 2022  
WV Department of  
Environmental Protection

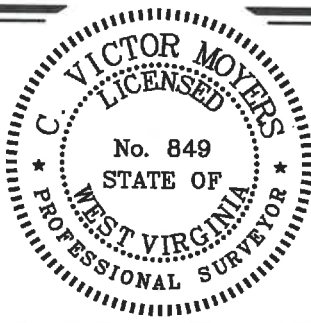
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