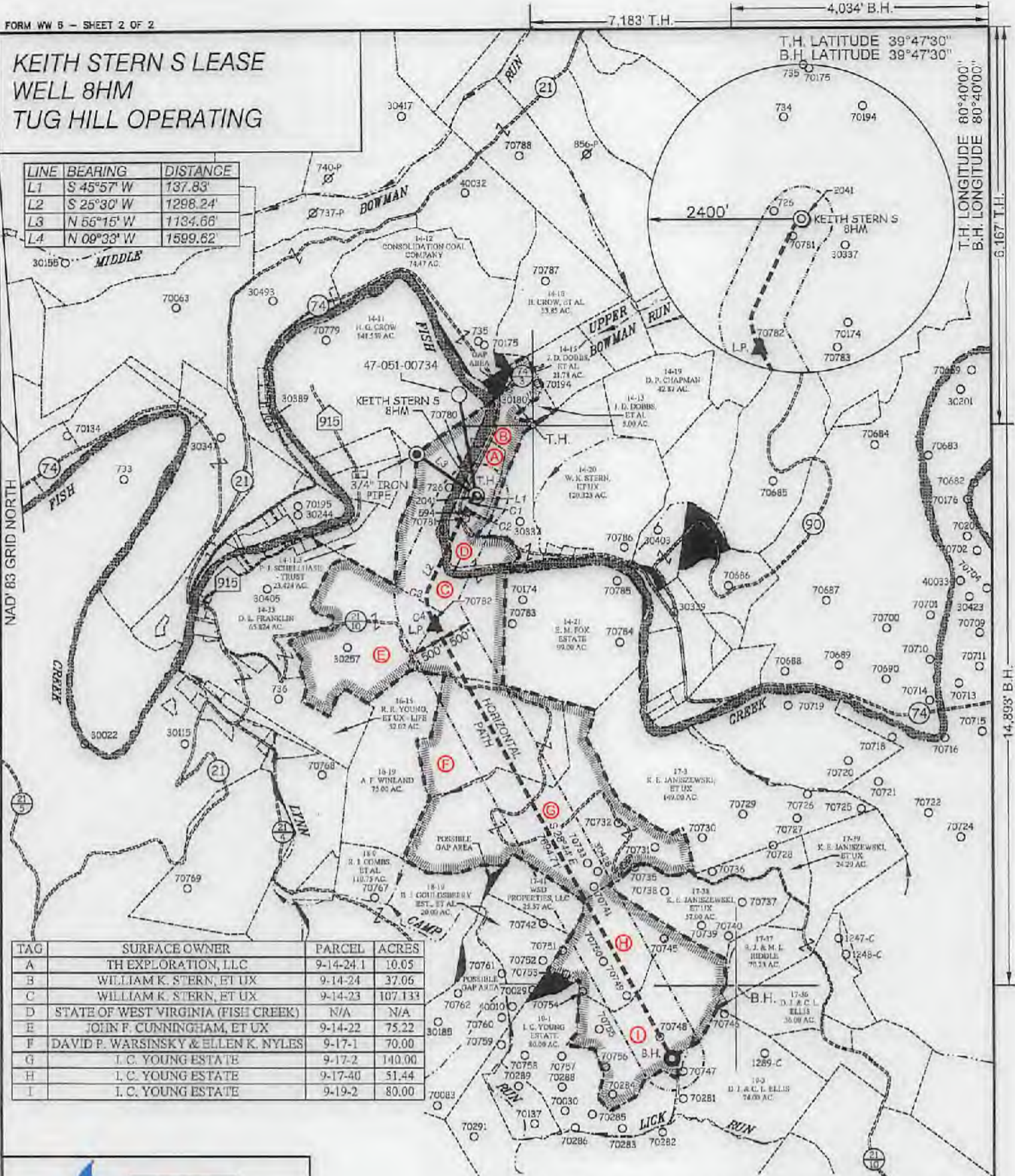


**KEITH STERN S LEASE  
WELL 8HM  
TUG HILL OPERATING**

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

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

LINE	BEARING	DISTANCE
L1	S 45°57' W	137.83'
L2	S 25°30' W	1298.24'
L3	N 55°15' W	1134.66'
L4	N 09°33' W	1599.62'



TAG	SURFACE OWNER	PARCEL	ACRES
A	TH EXPLORATION, LLC	9-14-24.1	10.05
B	WILLIAM K. STERN, ET UX	9-14-24	37.06
C	WILLIAM K. STERN, ET UX	9-14-23	107.133
D	STATE OF WEST VIRGINIA (FISH CREEK)	N/A	N/A
E	JOHN F. CUNNINGHAM, ET UX	9-14-22	75.22
F	DAVID P. WARSINSKY & ELLEN K. NYLES	9-17-1	70.00
G	I. C. YOUNG ESTATE	9-17-2	140.00
H	I. C. YOUNG ESTATE	9-17-40	51.44
I	I. C. YOUNG ESTATE	9-19-2	80.00

CURVE	ARC LENGTH	RADIUS	CHORD BEARING	CHORD LENGTH
C1	47.13'	249.83'	S 34°47' W	47.06'
C2	178.72'	2590.51'	S 27°32' W	178.69'
C3	159.70'	343.81'	S 08°40' W	158.27'
C4	421.11'	994.83'	S 17°42' E	417.97'

**SLS**  
Land & Energy Development  
Solutions from the ground up.  
P.O. Box 150 • 12 Vanhook Drive • Glenville, WV 26034 • (304) 462-5604  
www.slsurvey.com

(S.P.C. NORTH ZONE) (UTM(M) ZONE 17 NORTH)  
 NAD/83 S.P.C.(FT) N. 466,522.29 E. 1,633,416.76  
 NAD/83 GEO. LAT.(N) 39.774737 LONG.(W) 80.692223  
 NAD/83 UTM (M) N. 4,402,801.06 E. 526,357.89

LANDING POINT  
 NAD/83 S.P.C.(FT) N. 464,503.0 E. 1,632,752.4  
 NAD/83 GEO. LAT.(N) 39.769170 LONG.(W) 80.694491  
 NAD/83 UTM (M) N. 4,402,182.5 E. 526,165.8

BOTTOM HOLE  
 NAD/83 S.P.C.(FT) N. 457,766.0 E. 1,636,452.0  
 NAD/83 GEO. LAT.(N) 39.750783 LONG.(W) 80.681015  
 NAD/83 UTM (M) N. 4,400,145.8 E. 527,327.2

**GREGORY A. SMITH**  
 LICENSED  
 No. 677  
 STATE OF  
 WEST VIRGINIA  
 PROFESSIONAL SURVEYOR

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

P.S. 677  
*Gregory A. Smith*

**LEGEND**

- LEASE LINE
- SURFACE LINE
- WELL LATERAL
- OFFSET LINE
- TIE LINE
- CREEK
- ROAD
- COUNTY ROUTE
- PROPOSED WELL
- EXISTING WELL
- PERMITTED WELL
- TAX MAP-PARCEL
- LEASE # (SEE WW-6A1)
- SURFACE OWNER (SEE TABLE)

SCALE 1" = 2000' FILE NO. 8811P8HMv2.dwg  
 DATE JULY 31, 20 18  
 REVISED \_\_\_\_\_, 20 \_\_\_\_  
 OPERATORS WELL NO. KEITH STERN S-8HM  
 API WELL NO. 47-051-02103  
 NO. STATE COUNTY PERMIT

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

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

7,183' T.H.

4,034' B.H.

**KEITH STERN S LEASE  
WELL 8HM  
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. 466,522.29 E. 1,633,416.76  
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**BOTTOM HOLE**

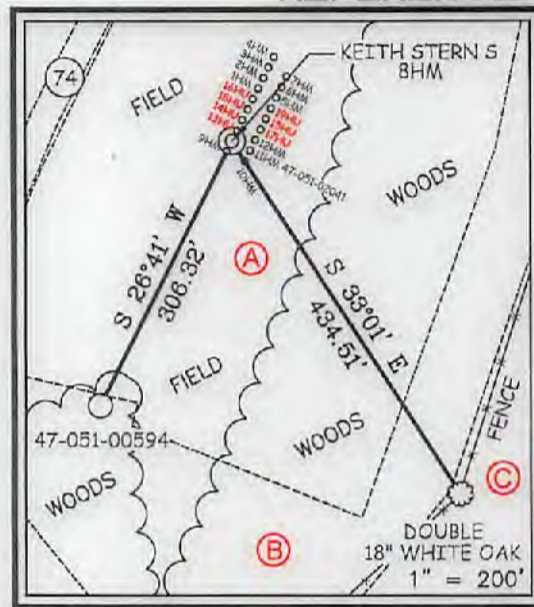
NAD'83 S.P.C.(FT) N. 457,756.0 E. 1,636,452.0  
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NAD'83 UTM (M) N. 4,400,145.8 E. 527,327.2

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

6,167' T.H.

14,893' B.H.

**REFERENCES**



**NOTES ON SURVEY**

1. 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.
2. WELL SPOT CIRCLE & TOPO MARK SCALE IS 1"=2000'



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. 677 *Gregory A. Smith*



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.  
DATE JULY 31, 20 18

REVISED \_\_\_\_\_, 20 \_\_\_\_\_

OPERATORS WELL NO. KEITH STERN S-8HM

API WELL NO. 47 - 051 - 02103  
STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 2500 FILE NO. 8811P8HMv2.dwg

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 LIQUID INJECTION \_\_\_\_\_ WASTE DISPOSAL \_\_\_\_\_ IF "GAS" PRODUCTION X STORAGE \_\_\_\_\_ DEEP \_\_\_\_\_ SHALLOW X

LOCATION: ELEVATION GROUND = 737.70' PROPOSED = 744.65' 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: LEASE NO. SEE WW-6A1

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 MARCELLUS

ESTIMATED DEPTH TVD: 6,399' / TMD: 14,754'

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