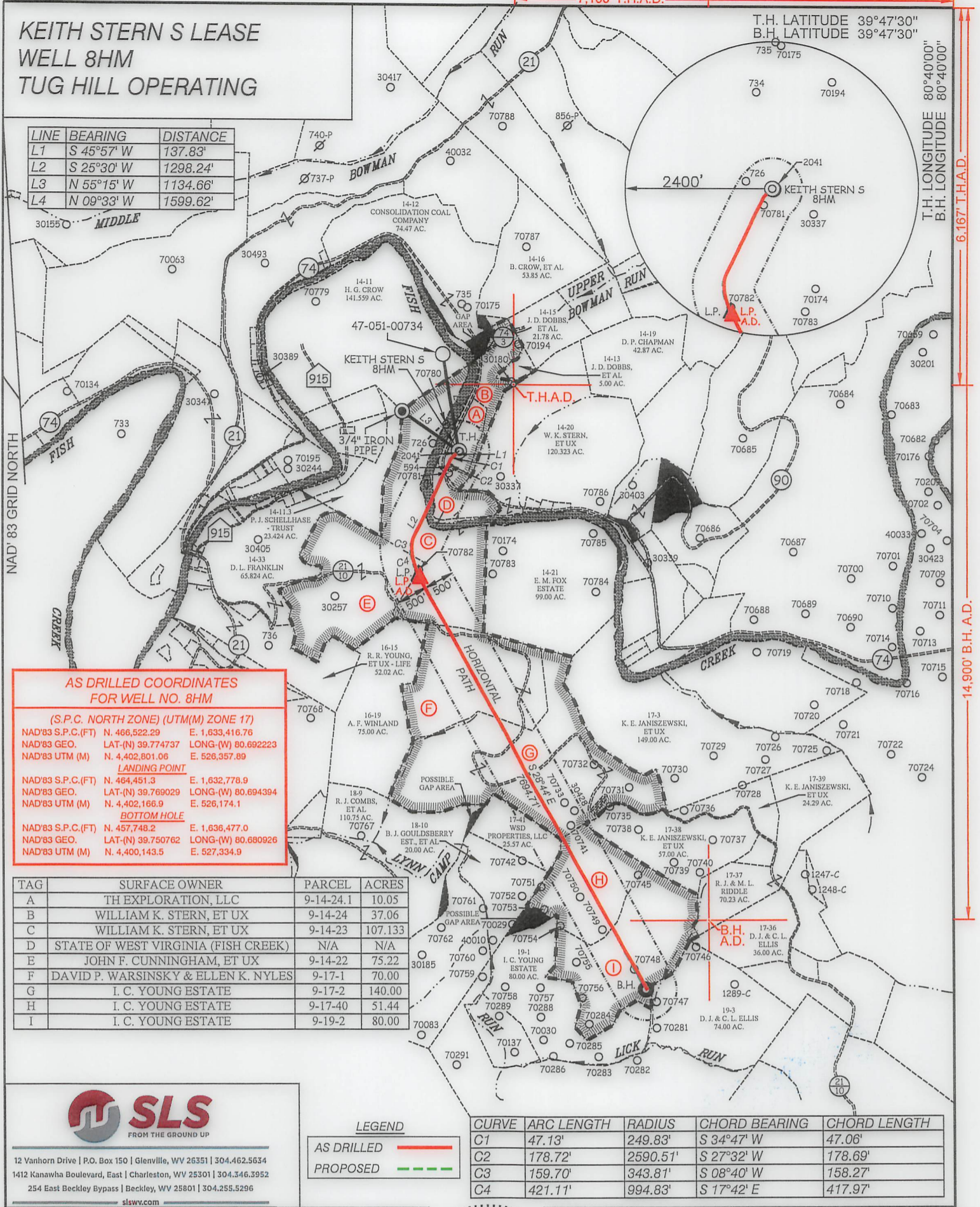


KEITH STERN S LEASE WELL 8HM TUG HILL OPERATING

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'

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

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



AS DRILLED COORDINATES FOR WELL NO. 8HM

(S.P.C. NORTH ZONE) (UTM(M) ZONE 17)		
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. 464,451.3	E. 1,632,778.9
NAD'83 GEO.	LAT-(N) 39.769029	LONG-(W) 80.694394
NAD'83 UTM (M)	N. 4,402,166.9	E. 526,174.1
BOTTOM HOLE		
NAD'83 S.P.C.(FT)	N. 457,748.2	E. 1,636,477.0
NAD'83 GEO.	LAT-(N) 39.750762	LONG-(W) 80.680926
NAD'83 UTM (M)	N. 4,400,143.5	E. 527,334.9

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



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
slsww.com

LEGEND

AS DRILLED ———
PROPOSED - - - - -

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'

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

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. 457,756.0	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



(+) 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	00-00
LEASE # (SEE WW-6A1)	
SURFACE OWNER (SEE TABLE)	

SCALE 1" = 2000' FILE NO. 8811P8HMv2-AD.dwg

DATE FEBRUARY 15, 2023

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
ADDRESS 1320 SOUTH UNIVERSITY DRIVE, SUITE 500
FORT WORTH, TX 76107

DESIGNATED AGENT DARREN BROWN - CT CORPORATION
ADDRESS 5098 WASHINGTON ST. W, STE 407
CHARLESTON, WV 25313-1561

COUNTY NAME PERMIT

12/08/2023

7,183' T.H.A.D.

4,009' B.H.A.D.

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

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

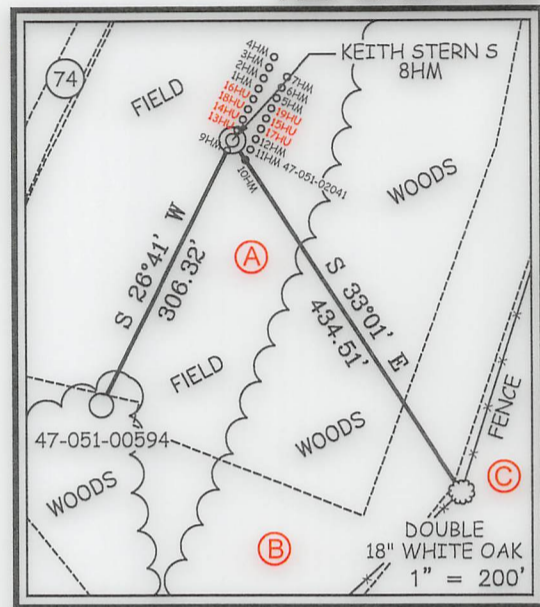
(S.P.C. NORTH ZONE) (UTM(M) ZONE 17)			
NAD'83 S.P.C.(FT)	N. 466,522.29	E. 1,633,416.76	
NAD'83 GEO.	LAT-(N) 39.774737	LONG-(W) 80.694223	
NAD'83 UTM (M)	N. 4,402,801.06	E. 526,357.89	
<u>LANDING POINT</u>			
NAD'83 S.P.C.(FT)	N. 464,503.0	E. 1,632,752.4	
NAD'83 GEO.	LAT-(N) 39.769170	LONG-(W) 80.694491	
NAD'83 UTM (M)	N. 4,402,182.5	E. 526,165.8	
<u>BOTTOM HOLE</u>			
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.A.D.

14,900' B.H. A.D.

REFERENCES



T.H.A.D.

B.H. A.D.

NOTES ON SURVEY

1. NO WATER WELLS WERE FOUND WITHIN 250' OF PROPOSED GAS WELL. NO AGRICULTURAL BUILDINGS OR DWELLINGS > 2500 SQ. FT. WERE FOUND WITHIN 625' OF THE CENTER OF PROPOSED WELL PAD.
2. WELL SPOT CIRCLE & TOPO MARK SCALE IS 1"=2000'.0
3. PLAT UPDATED TO SHOW AS-DRILLED PATH.
4. AS DRILLED DATA PROVIDED BY 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
slsw.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. 677 Gregory A. Smith



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.
DATE FEBRUARY 15, 2023
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-AD.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 LIQUID INJECTION WASTE DISPOSAL IF "GAS" PRODUCTION STORAGE DEEP SHALLOW

LOCATION: GROUND = 737.70' ELEVATION 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: 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 MARCELLUS
ESTIMATED DEPTH TVD: 6,399' / TMD: 14,754'

COUNTY NAME

PERMIT

WELL OPERATOR TUG HILL OPERATING, LLC DESIGNATED AGENT DARREN BROWN - CT CORPORATION
ADDRESS 1320 SOUTH UNIVERSITY DRIVE, SUITE 500 ADDRESS 5098 WASHINGTON ST. W, STE 407
FORT WORTH, TX 76107 CHARLESTON, WV 25313-1561