

7,188' T.H.

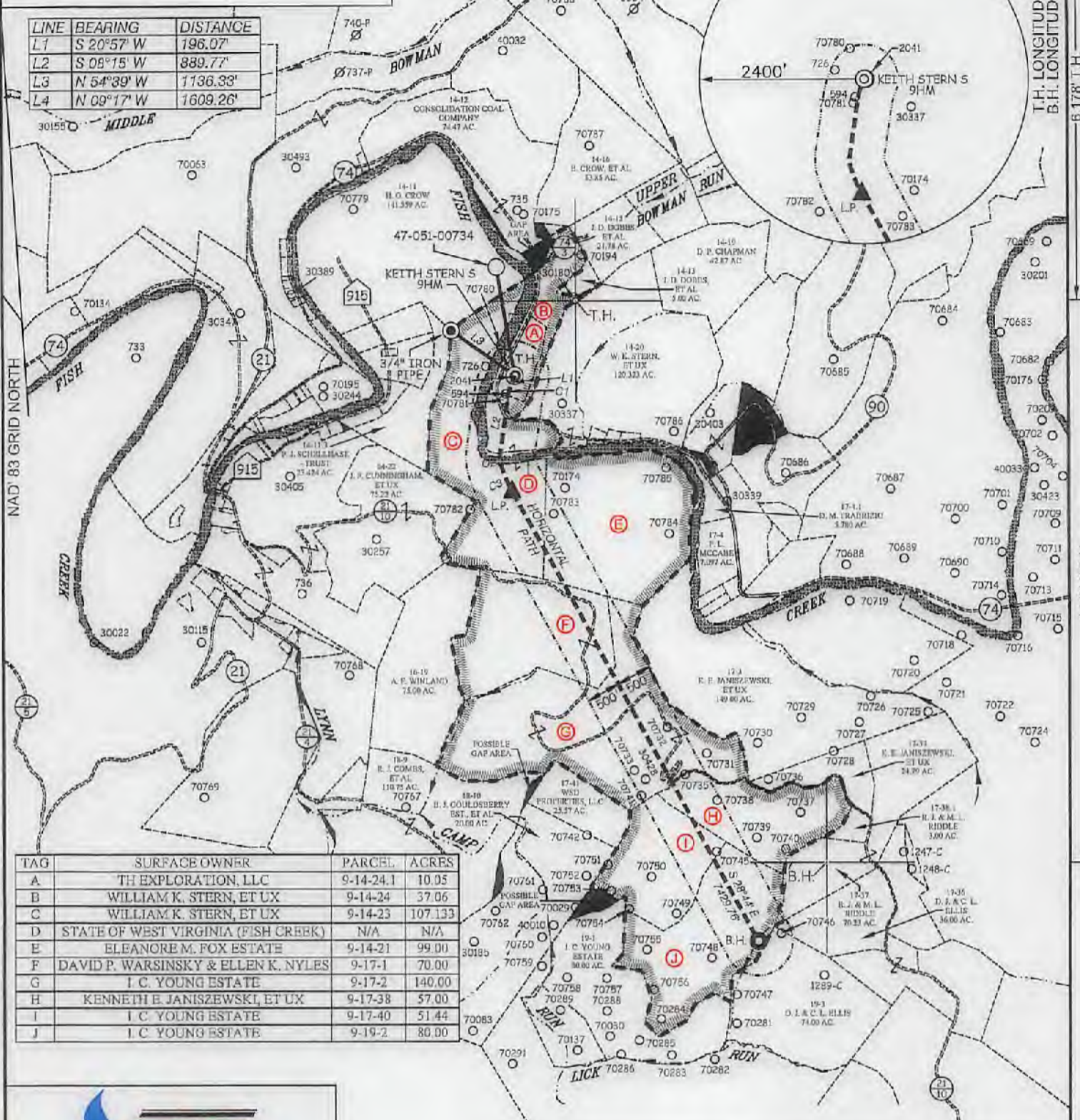
3,552' B.H.

**KEITH STERN S LEASE
WELL 9HM
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 20°57' W	196.07'
L2	S 08°15' W	889.77'
L3	N 54°39' W	1136.33'
L4	N 09°17' W	1609.26'



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	ELEANORE M. FOX ESTATE	9-14-21	99.00
F	DAVID P. WARSINSKY & ELLEN K. NYLES	9-17-1	70.00
G	I. C. YOUNG ESTATE	9-17-2	140.00
H	KENNETH E. JANISZEWSKI, ET UX	9-17-38	57.00
I	I. C. YOUNG ESTATE	9-17-40	51.44
J	I. C. YOUNG ESTATE	9-19-2	80.00

CURVE	ARC LENGTH	RADIUS	CHORD BEARING	CHORD LENGTH
C1	87.98'	471.17'	S 13°16' W	87.86'
C2	137.58'	398.93'	S 06°49' E	136.90'
C3	413.67'	1838.31'	S 22°58' E	412.80'

SLS
Land & Energy Development
Solutions from the ground up.
P.O. Box 150 • 12 Vanhorn Drive • Glenville, WV 26031 • (304) 452-5534
www.sls-aveys.com

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

NAD'83 S.P.C.(FT)	N. 486,511.61	E. 1,633,411.29
NAD'83 GEO.	LAT-(N) 39.774708	LONG-(W) 80.692242
NAD'83 UTM (M)	N. 4,402,797.78	E. 526,856.26

LANDING POINT

NAD'83 S.P.C.(FT)	N. 484,846.4	E. 1,633,370.7
NAD'83 GEO.	LAT-(N) 39.770135	LONG-(W) 80.692308
NAD'83 UTM (M)	N. 4,402,290.3	E. 526,352.4

BOTTOM HOLE

NAD'83 S.P.C.(FT)	N. 458,331.3	E. 1,636,942.1
NAD'83 GEO.	LAT-(N) 39.752930	LONG-(W) 80.679299
NAD'83 UTM (M)	N. 4,400,323.6	E. 527,473.6



(+) 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. 8811P9HMv2.dwg

DATE JULY 31, 20 18

REVISED _____, 20 _____

OPERATORS WELL NO. KEITH STERN S-9HM

API WELL NO. 47 - 051 - 02102

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 CT CORPORATION SYSTEM
FORT WORTH, TX 76107	5400 D BIG TYLER ROAD
	CHARLESTON, WV 25313

COUNTY NAME
PERMIT

7,188' T.H.

3,552' B.H.

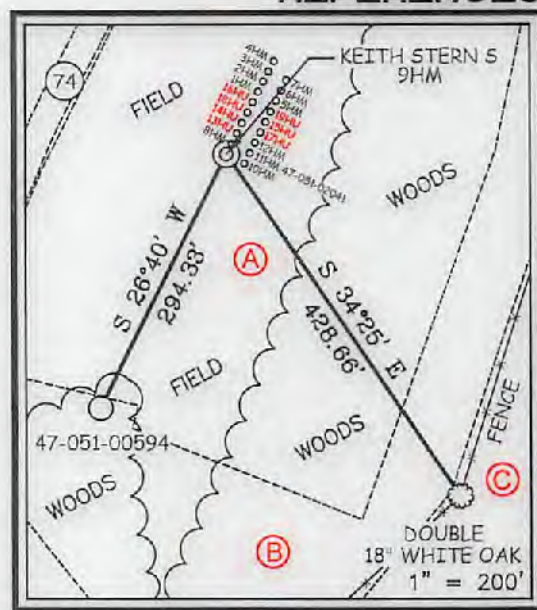
**KEITH STERN S LEASE
WELL 9HM
TUG HILL OPERATING**

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. 466,611.61	E. 1,633,411.29
NAD'83 GEO.	LAT-(N) 39.774708	LONG-(W) 80.692242
NAD'83 UTM (M)	N. 4,402,797.78	E. 526,356.28
LANDING POINT		
NAD'83 S.P.C.(FT)	N. 464,846.4	E. 1,633,370.7
NAD'83 GEO.	LAT-(N) 39.770135	LONG-(W) 80.692308
NAD'83 UTM (M)	N. 4,402,290.3	E. 526,352.4
BOTTOM HOLE		
NAD'83 S.P.C.(FT)	N. 458,331.3	E. 1,636,942.1
NAD'83 GEO.	LAT-(N) 39.752380	LONG-(W) 80.679299
NAD'83 UTM (M)	N. 4,400,323.6	E. 527,473.6

T.H. LONGITUDE 80°40'00"
B.H. LONGITUDE 80°40'00"
6,178' T.H.
14,311' 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'

Handwritten signature and date: 8/1/18



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

Handwritten signature: 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-9HM
API WELL NO. 47 - 51 - 0202
STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1/2500 FILE NO. 8811P9Hmv2.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: GROUND = 737.7' 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: 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: 6,402' / TMD: 14,241'

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