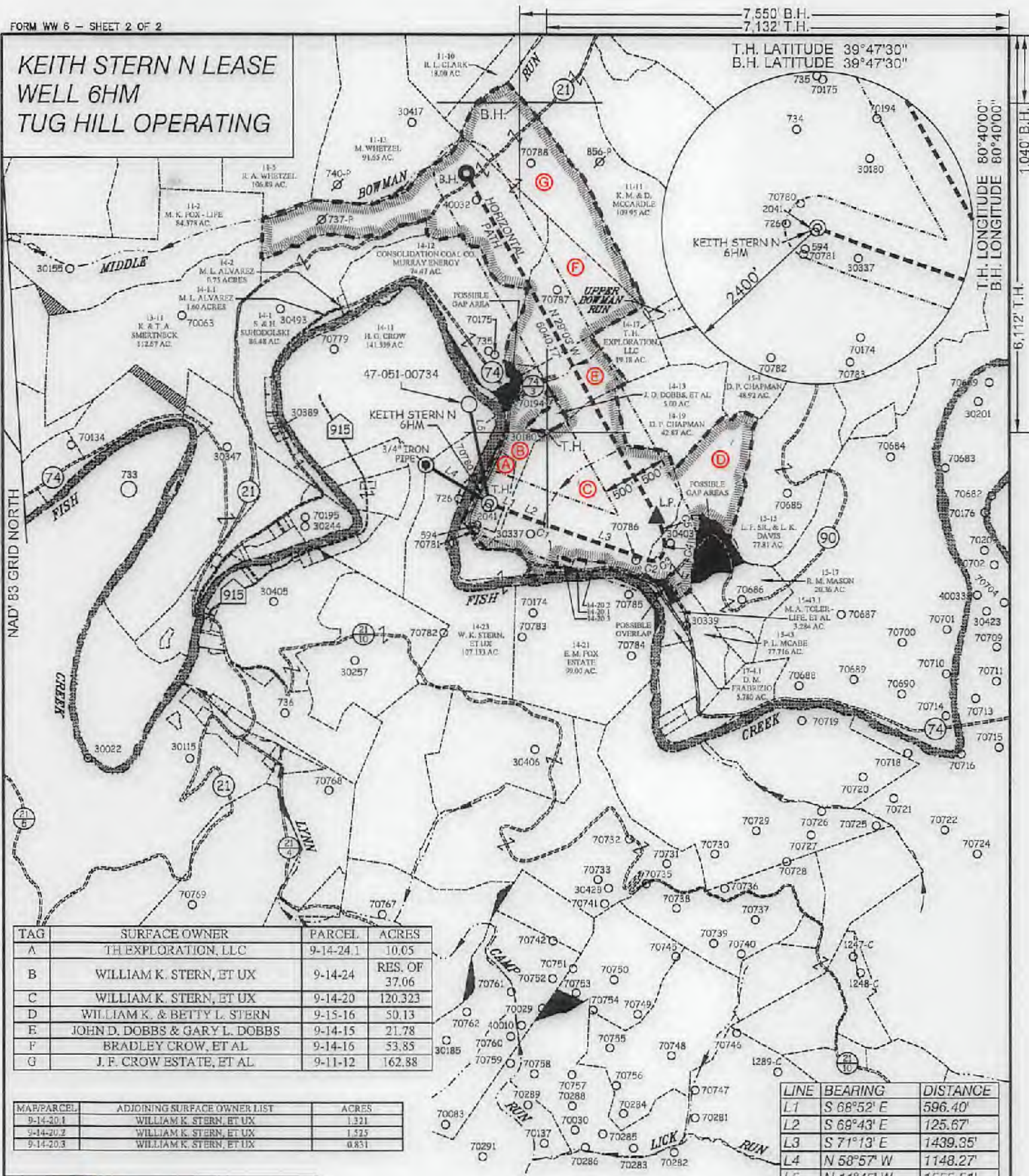


**KEITH STERN N LEASE
WELL 6HM
TUG HILL OPERATING**



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

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

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. & BETTY L. STERN	9-15-16	50.13
E	JOHN D. DOBBS & GARY L. DOBBS	9-14-15	21.78
F	BRADLEY CROW, ET AL	9-14-16	53.85
G	J. F. CROW ESTATE, ET AL	9-11-12	162.88

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	1.323
9-14-20.3	WILLIAM K. STERN, ET UX	0.831

LINE	BEARING	DISTANCE
L1	S 68°52' E	596.40'
L2	S 68°43' E	125.67'
L3	S 71°13' E	1439.35'
L4	N 58°57' W	1148.27'
L5	N 11°45' W	1555.51'

CURVE	ARC LENGTH	RADIUS	CHORD BEARING	CHORD LENGTH
C1	428.83'	29395.35'	S 71°00' E	428.62'
C2	127.33'	228.66'	S 86°02' E	125.69'
C3	161.80'	172.61'	N 46°19' E	155.94'
C4	178.81'	388.93'	N 07°17' E	177.24'
C5	405.88'	963.31'	N 17°38' W	402.68'

SLS
Land & Energy Development
Solutions from the ground up.
P.O. Box 150 • 12 Vanhorn Drive • Glenville, WV 26031 • (304) 462-5634
www.slsurveys.com



(+) 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)	

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

NAD'83 S.P.C.(FT)	N. 486,576.84	E. 1,633,468.23
NAD'83 GEO.	LAT-(N) 39.774889	LONG-(W) 80.692043
NAD'83 UTM (M)	N. 4,402,817.94	E. 526,373.29

LANDING POINT

NAD'83 S.P.C.(FT)	N. 486,373.6	E. 1,636,048.9
NAD'83 GEO.	LAT-(N) 39.774425	LONG-(W) 80.692852
NAD'83 UTM (M)	N. 4,402,769.2	E. 527,160.5

BOTTOM HOLE

NAD'83 S.P.C.(FT)	N. 471,854.2	E. 1,633,118.6
NAD'83 GEO.	LAT-(N) 39.798814	LONG-(W) 80.693534
NAD'83 UTM (M)	N. 4,404,363.0	E. 526,240.3

SCALE 1" = 2000' FILE NO. 8811P6HMv2.dwg

DATE JULY 31, 2018

REVISED _____, 20____

OPERATORS WELL NO. KEITH STERN N-6HM

API WELL NO. 47 - 051 - 02098

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 _____

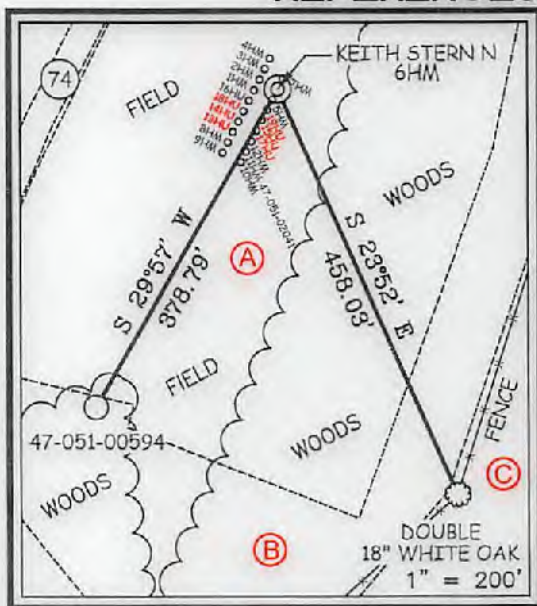
**KEITH STERN N LEASE
WELL 6HM
TUG HILL OPERATING**

7,550' B.H.
7,132' T.H.
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. 466,576.84	E. 1,633,468.23
NAD'83 GEO.	LAT-(N) 39.774809	LONG-(W) 80.692043
NAD'83 UTM (M)	N. 4,402,817.94	E. 526,373.29
LANDING POINT		
NAD'83 S.P.C.(FT)	N. 466,373.6	E. 1,636,048.9
NAD'83 GEO.	LAT-(N) 39.774425	LONG-(W) 80.682852
NAD'83 UTM (M)	N. 4,402,769.2	E. 527,160.5
BOTTOM HOLE		
NAD'83 S.P.C.(FT)	N. 471,654.2	E. 1,633,116.6
NAD'83 GEO.	LAT-(N) 39.786814	LONG-(W) 80.693564
NAD'83 UTM (M)	N. 4,404,963.0	E. 526,240.3

T.H. LONGITUDE 80°40'00"
B.H. LONGITUDE 80°40'00"
1,040' B.H.
6,112' T.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 *Gregory A. Smith*



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.
DATE JULY 31, 20 18
REVISED _____, 20 ____
OPERATORS WELL NO. KEITH STERN N-6HM
API WELL NO. 47 - 051 - 02098
STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 2500 FILE NO. 8811P6HMv2.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 = 741.50' PROPOSED = 744.85' 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: 6,413' / TMD: 13,621'

COUNTY NAME
PERMIT

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