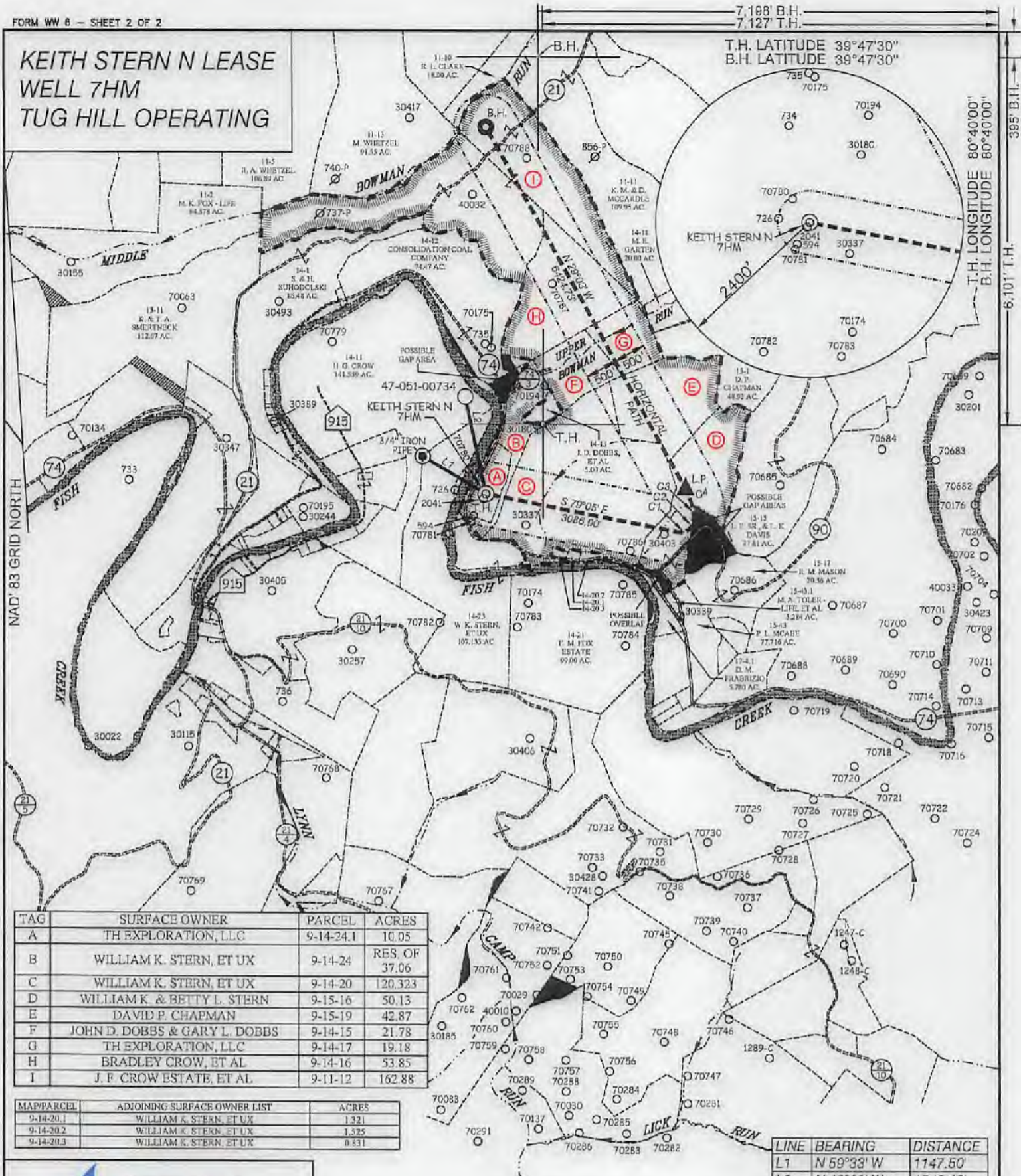


**KEITH STERN N LEASE
WELL 7HM
TUG HILL OPERATING**



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

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

NAD 83 GRID NORTH

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	DAVID P. CHAPMAN	9-15-19	42.87
F	JOHN D. DOBBS & GARY L. DOBBS	9-14-15	21.78
G	TH EXPLORATION, LLC	9-14-17	19.18
H	BRADLEY CROW, ET AL	9-14-16	53.85
I	J. F. CROW ESTATE, ET AL	9-11-12	162.88

MAPPARCEL	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

LINE	BEARING	DISTANCE
L1	N 59°33' W	1147.50'
L2	N 12°02' W	1546.18'

CURVE	ARC LENGTH	RADIUS	CHORD BEARING	CHORD LENGTH
C1	135.40'	177.72'	N 76°01' E	132.15'
C2	181.34'	232.06'	N 26°48' E	176.76'
C3	249.36'	622.68'	N 04°44' W	247.70'
C4	257.35'	1074.19'	N 22°08' W	256.73'

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Land & Energy Development
Solutions from the ground up.
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(+) 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. 8811P7HM.dwg
DATE JULY 31, 2018
REVISED _____, 20____
OPERATORS WELL NO. KEITH STERN N-7HM
API WELL 47 - 051 - 02101
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 DIANNA STAMPER
ADDRESS 5400 D BIG TYLER ROAD CHARLESTON, WV 25313

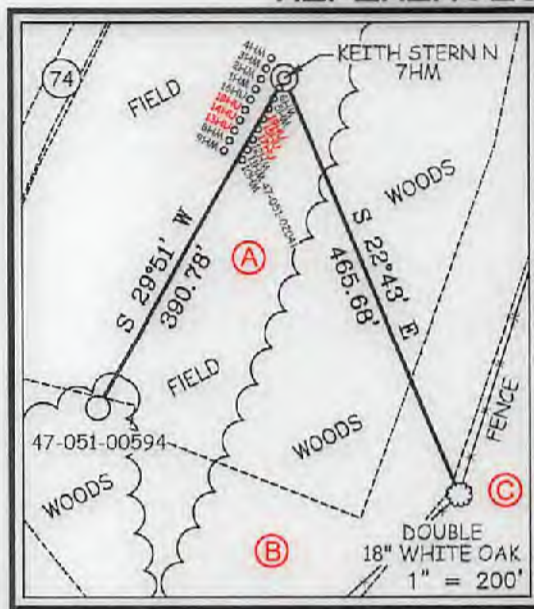
COUNTY NAME
PERMIT

**KEITH STERN N LEASE
WELL 7HM
TUG HILL OPERATING**

	7,198' B.H.	
	7,127' T.H.	
B.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. 466,587.52	E. 1,633,473.70
NAD'83 GEO.	LAT-(N) 39.774919	LONG-(W) 80.682024
NAD'83 UTM (M)	N. 4,402,821.23	E. 526,374.80
LANDING POINT		
NAD'83 S.P.C.(FT)	N. 466,577.1	E. 1,636,595.4
NAD'83 GEO.	LAT-(N) 39.775278	LONG-(W) 80.680922
NAD'83 UTM (M)	N. 4,402,864.4	E. 527,325.5
BOTTOM HOLE		
NAD'83 S.P.C.(FT)	N. 472,294.0	E. 1,633,476.5
NAD'83 GEO.	LAT-(N) 39.790584	LONG-(W) 80.692263
NAD'83 UTM (M)	N. 4,404,559.7	E. 526,346.7

T.H. LONGITUDE 80°40'00"
 B.H. LONGITUDE 80°40'00"
 395' B.H.
 8,101' T.H.

REFERENCES



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 IS 1"=2000'

Gregory A. Smith
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-7HM
 API WELL NO. 47 - 051 - 02101
 STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 2500 FILE NO. 8811P7HM.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 INJECTION _____ WASTE DISPOSAL _____ IF "GAS" PRODUCTION X STORAGE _____ DEEP _____ SHALLOW X

LOCATION: ELEVATION GROUND = 741.20' 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: 6,414' / TMD: 14,187'

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

COUNTY NAME PERMIT