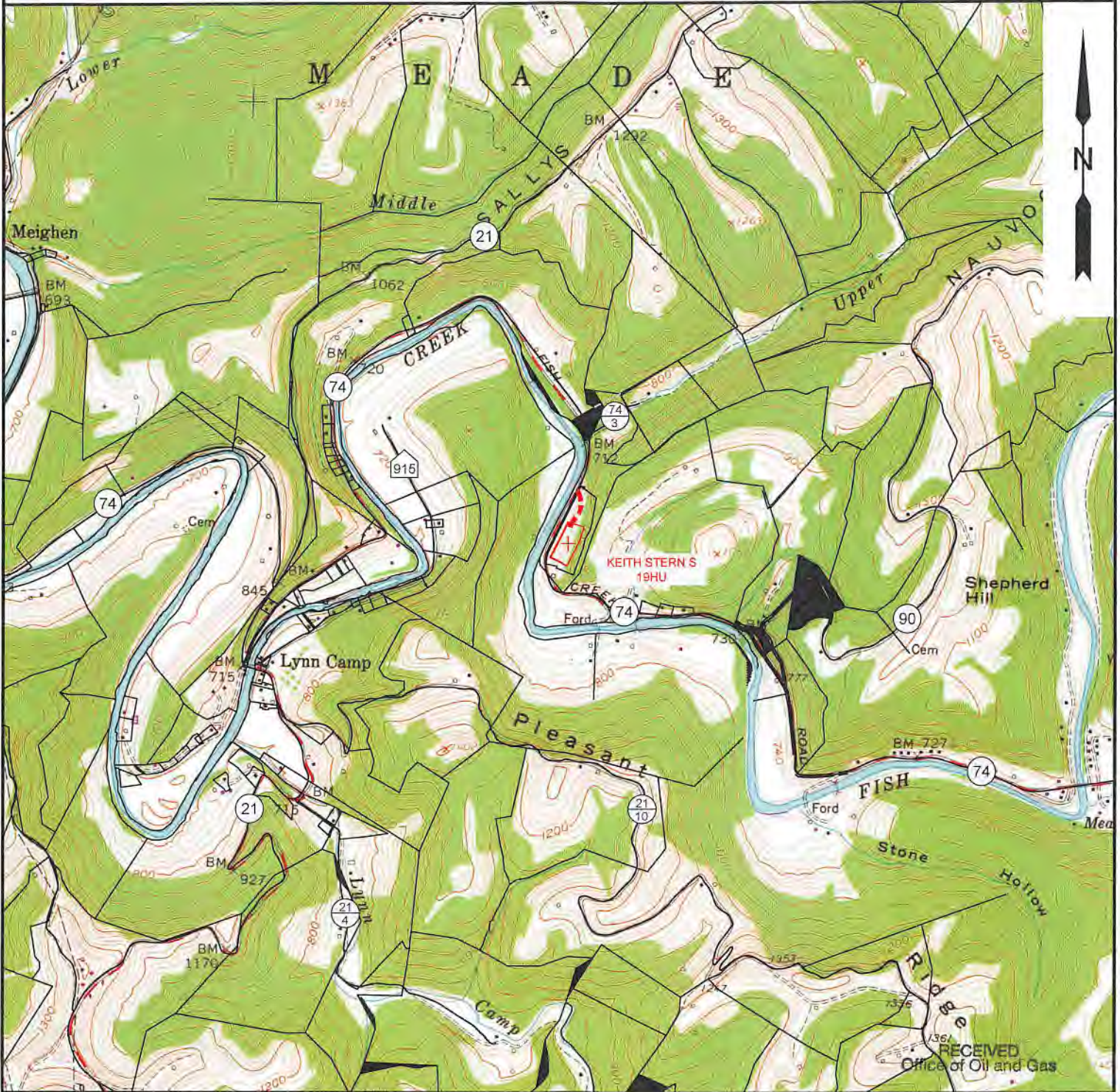


PROPOSED KEITH STERN S - 19HU



NOTE: CLOSEST WATER PURVEYOR
GRANDVIEW - DOOLIN PUBLIC SERVICE DISTRICT
PROCTOR, WV

LAT: 39.7137712
LON: -80.8258327
LOCATED: S 60°11'49" W AT 43,719.31' FROM THE CENTER OF KEITH STERN S WELL PAD LOCATION.

JUN 13 2019

WV Department of
Environmental Protection

SLS
Land & Energy Development
Solutions from the ground up.
P.O. Box 150 • 12 Vanhorn Drive • Glenville, WV 26351 • (304) 482-5634
www.slsurveys.com

TOPO SECTION:		OPERATOR:	
GLEN EASTON 7.5'		PREPARED FOR:	
COUNTY	DISTRICT	TUG HILL OPERATING, LLC	
MARSHALL	MEADE	380 SOUTHPOINTE BLVD	
		SUITE 200	
		CANONSBURG, PA 15317	
DRAWN BY	JOB NO.	DATE	SCALE
K.G.M.	8811	05/01/2019	1" = 2000'

TUG HILL
OPERATING

**KEITH STERN S LEASE
UTICA UNIT - 631.99 AC±
WELL 19HU
TUG HILL OPERATING**

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

MAP/PARCEL	ADJOINING SURFACE OWNER LIST	ACRES
9-13-11.1	SAMUEL & HEATHER SUHDDOLSKI	0.49
9-13-14	MARGARET K. FOX - LIFE	3.90
9-14-1.1	MICHAEL L. ALVAREZ	1.6
9-14-1.2	KENNETH N. & TERESA A. SMERTNECK	1.02
9-14-2	MICHAEL L. ALVAREZ	0.75
9-14-3	MICHAEL L. ALVAREZ	NORTH P/O 3 PCLS
9-14-4	MICHAEL L. ALVAREZ	3 PCLS & 1/8 AC.
9-14-5	MICHAEL L. ALVAREZ	200 X 60 PCL.
9-14-6	MICHAEL L. ALVAREZ	120 X 200 PCL.
9-14-7	JOHN T. ERAZMUS, III	0.25
9-14-8	JOHNNY C. HOLCOMB & JOHNNY C. HOLCOMB, II	2/5 AC.
9-14-9	JOHN E. DUFFY, ET UX	2/5 AC.
9-14-10	ROBERT I. DUFFY - LIFE	25/100 AC.
9-14-11.1	PATRICK J. SCHELLHASE EST - TRUST	7.617
9-14-11.2	LOYE A. BLAKE	4.00
9-14-26	PATRICK J. SCHELLHASE EST - TRUST	12.588
9-14-27	PATRICK J. SCHELLHASE EST - TRUST	3.004
9-14-28	CHARLES R. SCHELLHASE, ET UX	3.029
9-14-45	GEORGE R. TAYLOR, ET UX	10.98
9-14-46.1	MARHA JANE FAZZARO	1.512
9-15-40	ROBERT WILLIAM BERISFORD	13.50
9-15-41	CHARLES RICHARD MCCOY, ET UX	4.50
9-15-42	ROBERT MATHEW MASON	2.63

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

NAD'83 S.P.C.(FT)	N. 466,555.46	E. 1,633,457.30
NAD'83 GEO.	LAT-(N) 39.774830	LONG-(W) 80.692080
NAD'83 UTM (M)	N. 4,402,811.38	E. 526,370.07

LANDING POINT

NAD'83 S.P.C.(FT)	N. 466,865.3	E. 1,635,205.1
NAD'83 GEO.	LAT-(N) 39.772999	LONG-(W) 80.685830
NAD'83 UTM (M)	N. 4,402,610.0	E. 526,906.1

BOTTOM HOLE

NAD'83 S.P.C.(FT)	N. 459,969.6	E. 1,636,437.2
NAD'83 GEO.	LAT-(N) 39.756931	LONG-(W) 80.674058
NAD'83 UTM (M)	N. 4,400,830.3	E. 527,920.7

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

6.133' T.H.

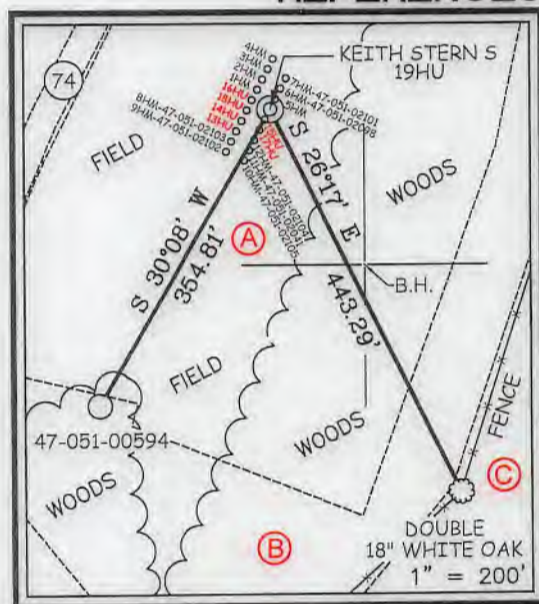
12.653' B.H.

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 ARE 1"=2000'
- PROPOSED LATERAL OR TOP HOLE OF KEITH STERN S-19HU IS WITHIN 3000' OF THE TOP HOLES OR LATERALS OF THE FOLLOWING:
PROPOSED KEITH STERN N-13HU,14HU,15HU & 16HU,
PROPOSED KEITH STERN S-17HU & 18HU,
PROPOSED KNOB CREEK N-13HU,
PROPOSED KNOB CREEK S-16HU
& PROPOSED HEAVEN HILL 3-6HU,

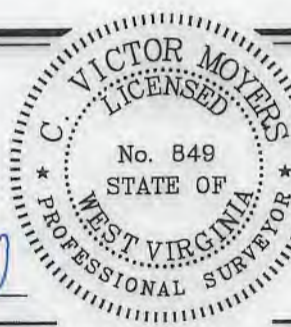


REFERENCES



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. 849 *C. Victor Moyers*



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

DATE MAY 1, 20 19

REVISED JUNE 11, 20 19

OPERATORS WELL NO. KEITH STERN S-19HU

API WELL NO. 47 - 051 - 02244

STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 2500

FILE NO. 8811P19HUR.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 INJECTION WASTE DISPOSAL IF "GAS" PRODUCTION STORAGE DEEP SHALLOW

LOCATION: GROUND = 745.00' 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 POINT PLEASANT ESTIMATED DEPTH TVD: 11,404' / TMD: 18,538'

WELL OPERATOR TUG HILL OPERATING, LLC DESIGNATED AGENT DIANNA STAMPER

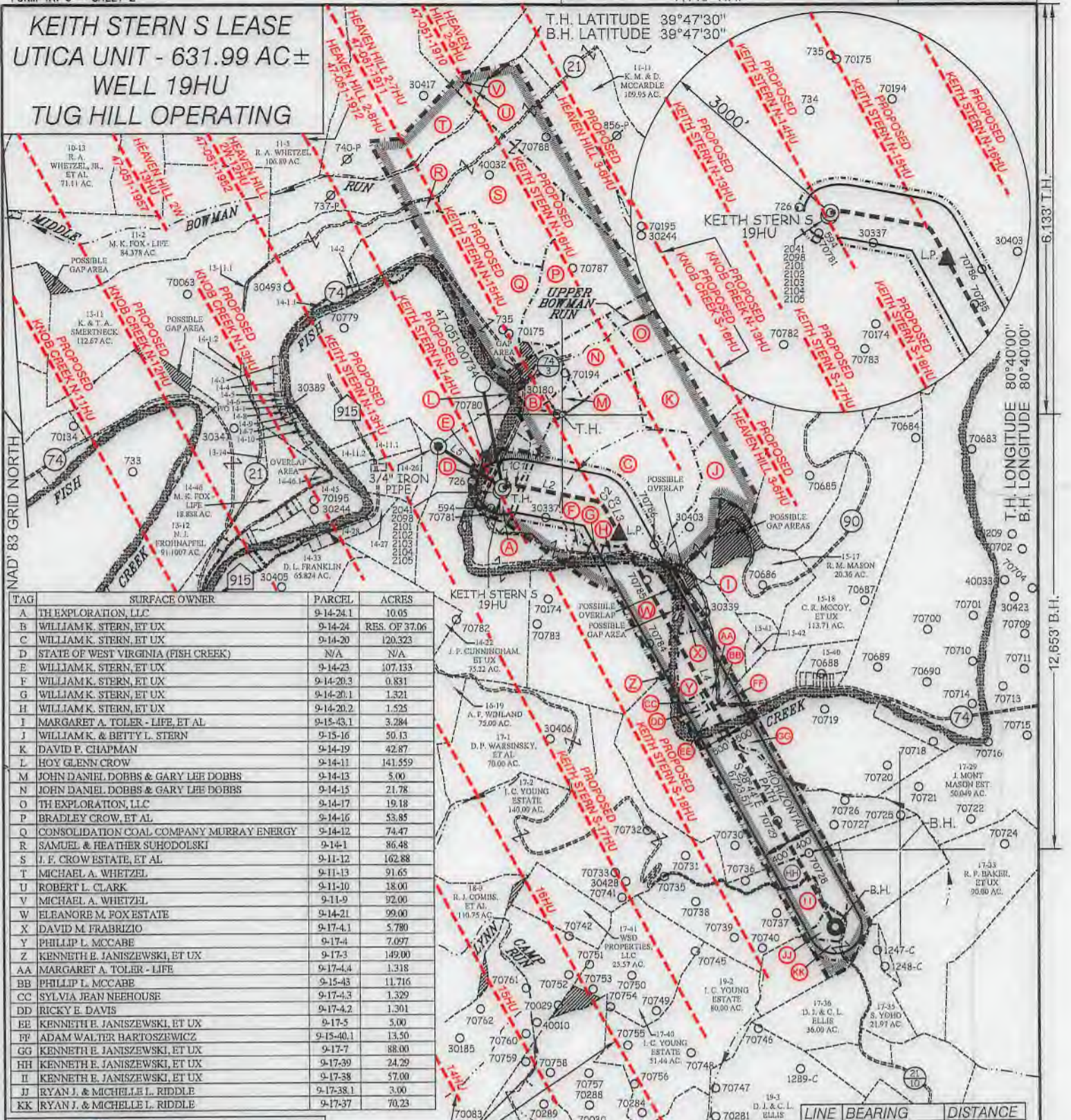
ADDRESS 1320 SOUTH UNIVERSITY DRIVE, SUITE 500 ADDRESS 5400 D BIG TYLER ROAD

FORT WORTH, TX 76107 CHARLESTON, WV 25313

COUNTY NAME

PERMIT

**KEITH STERN S LEASE
UTICA UNIT - 631.99 AC±
WELL 19HU
TUG HILL OPERATING**



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	STATE OF WEST VIRGINIA (FISH CREEK)	N/A	N/A
E	WILLIAM K. STERN, ET UX	9-14-23	107.133
F	WILLIAM K. STERN, ET UX	9-14-20.3	0.831
G	WILLIAM K. STERN, ET UX	9-14-20.1	1.321
H	WILLIAM K. STERN, ET UX	9-14-20.2	1.525
I	MARGARET A. TOLER - LIFE, ET AL.	9-15-43.1	3.284
J	WILLIAM K. & BETTY L. STERN	9-15-16	50.13
K	DAVID P. CHAPMAN	9-14-19	42.87
L	HOY GLENN CROW	9-14-11	141.559
M	JOHN DANIEL DOBBS & GARY LEE DOBBS	9-14-13	5.00
N	JOHN DANIEL DOBBS & GARY LEE DOBBS	9-14-15	21.78
O	TH EXPLORATION, LLC	9-14-17	19.18
P	BRADLEY CROW, ET AL.	9-14-16	53.85
Q	CONSOLIDATION COAL COMPANY MURRAY ENERGY	9-14-12	74.47
R	SAMUEL & HEATHER SUHODOLSKI	9-14-1	86.48
S	J. F. CROW ESTATE, ET AL.	9-11-12	162.88
T	MICHAEL A. WHETZEL	9-11-13	91.65
U	ROBERT L. CLARK	9-11-10	18.00
V	MICHAEL A. WHETZEL	9-11-9	92.00
W	ELEANORE M. FOX ESTATE	9-14-21	99.00
X	DAVID M. FRABRIZIO	9-17-4.1	5.780
Y	PHILLIP L. MCCABE	9-17-4	7.097
Z	KENNETH E. JANISZEWSKI, ET UX	9-17-3	149.00
AA	MARGARET A. TOLER - LIFE	9-17-4.4	1.318
BB	PHILLIP L. MCCABE	9-15-43	11.716
CC	SYLVIA JEAN NEHOUSE	9-17-4.3	1.329
DD	RICKY E. DAVIS	9-17-4.2	1.301
EE	KENNETH E. JANISZEWSKI, ET UX	9-17-5	5.00
FF	ADAM WALTER BARTOSZEWICZ	9-15-40.1	13.50
GG	KENNETH E. JANISZEWSKI, ET UX	9-17-7	88.00
HH	KENNETH E. JANISZEWSKI, ET UX	9-17-39	24.29
II	KENNETH E. JANISZEWSKI, ET UX	9-17-38	57.00
JJ	RYAN J. & MICHELLE L. RIDDLE	9-17-38.1	3.00
KK	RYAN J. & MICHELLE L. RIDDLE	9-17-37	70.23

LINE	BEARING	DISTANCE
L1	N 75°57' E	113.35'
L2	S 79°40' E	1147.59'
L3	S 28°44' E	429.07'
L5	N 57°46' W	1150.18'
L6	N 11°12' W	1574.29'

CURVE	ARC LENGTH	RADIUS	CHORD BEARING	CHORD LENGTH
C1	162.20'	852.74'	S 85°40' E	161.96'
C2	118.77'	182.69'	S 58°04' E	116.69'
C3	74.62'	404.04'	S 34°26' E	74.52'

P.O. Box 150 • 12 Vanhorn Drive • Glenville, WV 26351 • (304) 482-5634
www.slsww.com

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

LEGEND

- UNIT BOUNDARY
- LEASED TRACTS INSIDE
- UNIT BOUNDARY
- SURFACE LINE
- PROPOSED UTICA
- WELL LATERAL
- 400' OFFSET LINE
- 500' OFFSET LINE
- TIE LINE
- CREEK
- ROAD
- COUNTY ROUTE
- PROPOSED WELL
- EXISTING WELL
- PERMITTED WELL
- SURFACE OWNER (SEE TABLE)
- LEASE # (SEE ADDITIONAL SHEETS)

SCALE 1" = 2000' FILE NO. 8811P19HUR.dwg
KEITH STERN S-19HU-REV1

DATE MAY 1, 20 19
REVISED JUNE 11, 20 19

OPERATORS WELL NO. KEITH STERN S-19HU

API WELL 47 - 051 - 02244

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