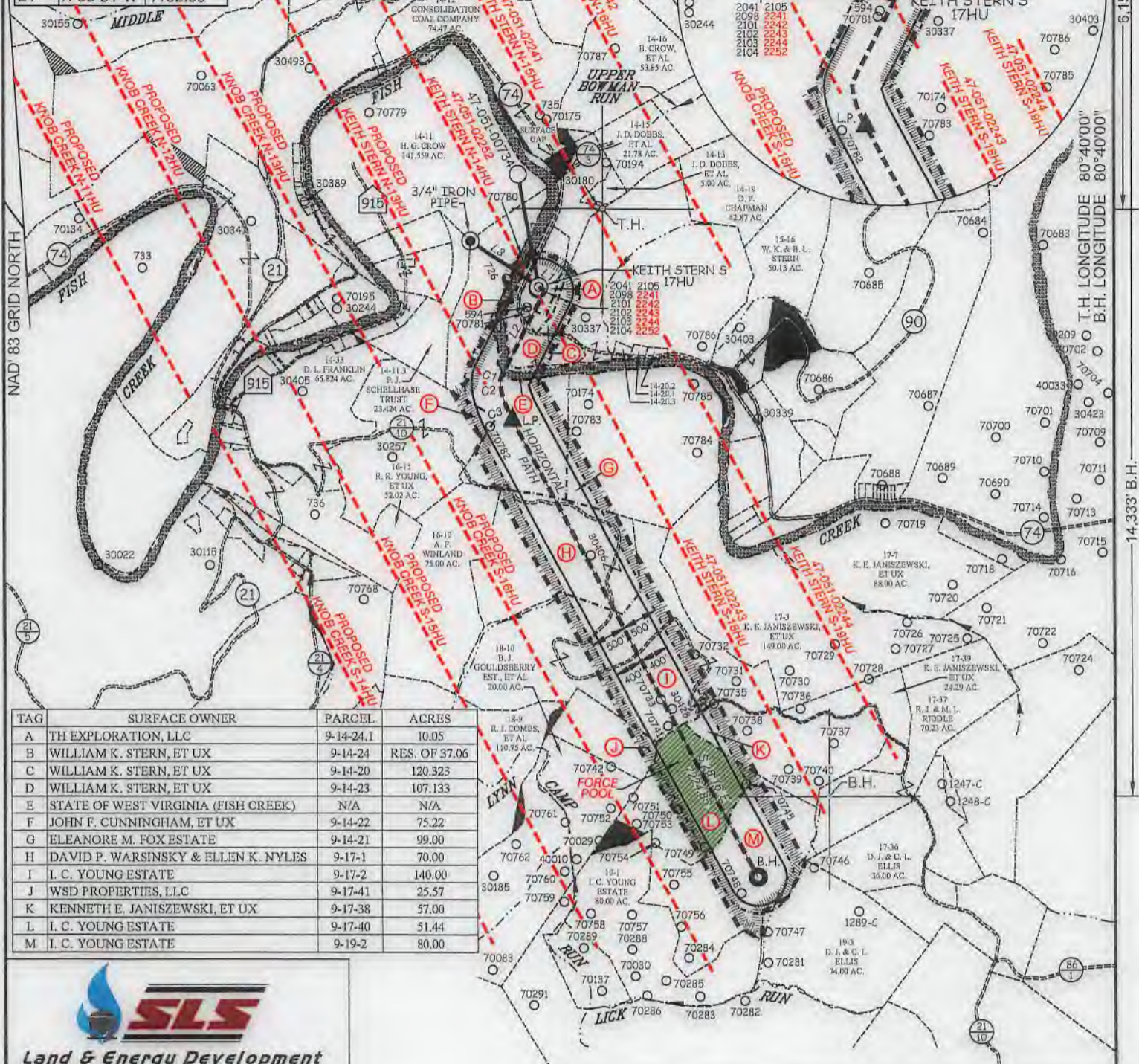


**KEITH STERN S LEASE
UTICA UNIT - 278.07 AC±
WELL 17HU
TUG HILL OPERATING**

LINE	BEARING	DISTANCE
L1	S 59°02' E	95.92'
L2	S 26°58' W	1357.28'
L3	N 10°40' W	1593.18'
L4	N 56°34' W	1152.58'



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. STERN, ET UX	9-14-23	107.133
E	STATE OF WEST VIRGINIA (FISH CREEK)	N/A	N/A
F	JOHN F. CUNNINGHAM, ET UX	9-14-22	75.22
G	ELEANORE M. FOX ESTATE	9-14-21	99.00
H	DAVID P. WARSINSKY & ELLEN K. NYLES	9-17-1	70.00
I	L. C. YOUNG ESTATE	9-17-2	140.00
J	WSD PROPERTIES, LLC	9-17-41	25.57
K	KENNETH E. JANISZEWSKI, ET UX	9-17-38	57.00
L	L. C. YOUNG ESTATE	9-17-40	51.44
M	L. C. YOUNG ESTATE	9-19-2	80.00

CURVE	ARC LENGTH	RADIUS	CHORD BEARING	CHORD LENGTH
C1	80.68'	192.66'	S 10°40' W	80.09'
C2	157.53'	688.95'	S 08°12' E	157.18'
C3	392.10'	1662.50'	S 22°05' E	391.19'

SLS
Land & Energy Development
Solutions from the ground up.
P.O. Box 150 • 12 Vanhorn Drive • Glenview, WV 26351 • (304) 462-5834
www.slevv.com

P.S. 849 *C. Victor Moyers*

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

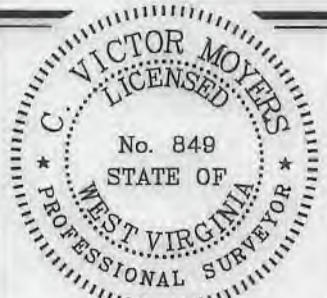
NAD'83 S.P.C.(FT)	N. 466,534.10	E. 1,633,446.38
NAD'83 GEO.	LAT-(N) 39.774477	LONG-(W) 80.692118
NAD'83 UTM (M)	N. 4,402,804.81	E. 526,366.85

LANDING POINT

NAD'83 S.P.C.(FT)	N. 464,678.2	E. 1,633,067.9
NAD'83 GEO.	LAT-(N) 39.769663	LONG-(W) 80.693377
NAD'83 UTM (M)	N. 4,402,237.5	E. 526,261.0

BOTTOM HOLE

NAD'83 S.P.C.(FT)	N. 458,315.4	E. 1,636,490.3
NAD'83 GEO.	LAT-(N) 39.752320	LONG-(W) 80.680905
NAD'83 UTM (M)	N. 4,400,316.4	E. 527,336.0



(+) 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. 8811P17HUR3.dwg
KEITH STERN S-17HU-REV1
DATE MAY 1, 2019
REVISED 08/21/2019, 09/24/2019, 11/14/2019
OPERATORS WELL NO. KEITH STERN S-17HU
API WELL 47 - D51 - 02266 H6A
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 FORT WORTH, TX 76107	ADDRESS	5400 D BIG TYLER ROAD CHARLESTON, WV 25313

COUNTY NAME
PERMIT

7,154' T.H.

4,003' B.H.

**KEITH STERN S LEASE
UTICA UNIT - 278.07 AC±
WELL 17HU
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. 466,534.10	E. 1,633,446.38
NAD'83 GEO.	LAT-(N) 39.774477	LONG-(W) 80.692118
NAD'83 UTM (M)	N. 4,402,804.81	E. 526,366.85
LANDING POINT		
NAD'83 S.P.C.(FT)	N. 464,678.2	E. 1,633,067.9
NAD'83 GEO.	LAT-(N) 39.769663	LONG-(W) 80.693377
NAD'83 UTM (M)	N. 4,402,237.5	E. 526,261.0
BOTTOM HOLE		
NAD'83 S.P.C.(FT)	N. 458,315.4	E. 1,636,490.3
NAD'83 GEO.	LAT-(N) 39.752320	LONG-(W) 80.680905
NAD'83 UTM (M)	N. 4,400,316.4	E. 527,336.0

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

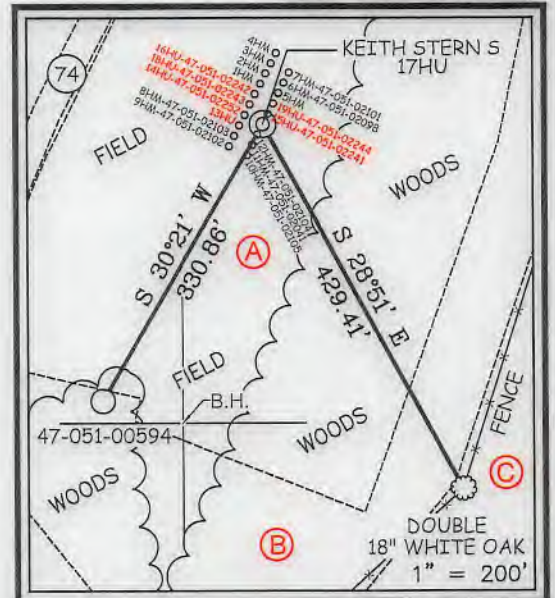
MAP/PARCEL	ADJOINING SURFACE OWNER LIST	ACRES
9-14-20.1	WILLIAM K. STERN, ET UX	1.321
9-14-20.2	WILLIAM K. STERN, ET UX	1.525
9-14-20.3	WILLIAM K. STERN, ET UX	0.831



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-17HU IS WITHIN 3000' OF THE TOP HOLES OR LATERALS OF PROPOSED KEITH STERN N-13HU, KEITH STERN N-14HU (47-051-02252), KEITH STERN N-15HU (47-051-02241), KEITH STERN N-16HU (47-051-02242), KEITH STERN S-18HU (47-051-02243), KEITH STERN S-19HU (47-051-02244), PROPOSED KNOB CREEK N-13HU, PROPOSED KNOB CREEK S-15HU, PROPOSED KNOB CREEK S-16HU.

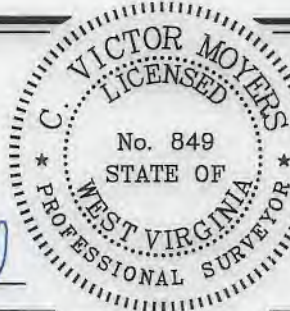
REFERENCES



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Solutions from the ground up.
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www.slsww.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. C. Victor Moyers
849



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.
DATE MAY 1, 20 19
REVISED 08/21/2019, 09/24/2019, 11/14/2019
OPERATORS WELL NO. KEITH STERN S-17HU
API WELL NO. 47-051-02266 H6A
STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 2500 FILE NO. 8811P17HUR3.dwg
KEITH STERN S-17HU-REV1
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 = 1,342.20' PROPOSED = 1,326.35' 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: 11,376' / TMD: 18,954'

WELL OPERATOR TUG HILL OPERATING, LLC
ADDRESS 1320 SOUTH UNIVERSITY DRIVE, SUITE 500
FORT WORTH, TX 76107

DESIGNATED AGENT DIANNA STAMPER
ADDRESS CT CORPORATION SYSTEM
5400 D BIG TYLER ROAD
CHARLESTON, WV 25313

COUNTY NAME PERMIT

**KEITH STERN S LEASE
UTICA UNIT - 278.07 AC±
WELL 17HU
TUG HILL OPERATING**



NO.	Lease ID	Tag	Parcel	Grantor, Lessor, Etc.	Deed Book/Page	
1	10*15605	A	9-14-24.1	ISAAC CROW ET UX	74	394
2	10*15605	B	9-14-24	ISAAC CROW ET UX	74	394
3	10*15509	C	9-14-20	WILLIAM K STERN AND BETTY L STERN	718	320
4	10*15812	D	9-14-23	WILLIAM K STERN AND BETTY L STERN, ET AL	687	220
5	10*23458	E	WV - FISH CREEK	WEST VIRGINIA DIVISION OF NATURAL RESOURCES	1019	373
6	10*16479	F	9-14-22	JOHN F CUNNINGHAM AND BERNEICE K CUNNINGHAM	826	88
7	10*47051.243.1	G	9-14-21	MARY A FOX, ET AL	879	332
8	10*17135	H	9-17-1	ELLEN K NYLES, ET AL	919	625
9	10*15910	I	9-17-2	SHIRLEY KOONTZ, ET AL	701	303
10	TH #27877	J	9-17-41	JOHN T. GALLAHER AND EMILY J. GALLAHER	1065	480
11	10*47051.185.1	K	9-17-38	HOMER L SIMMONS AND GLADYS R SIMMONS, ET AL	885	68
12	10*23194	L	9-17-40	*FORCE POOL* ALBERT AND CHRISTOPHER HARTLEY	60	160
13	10*18610	M	9-19-2	NEIL ROBERT YOUNG, ET AL	934	636

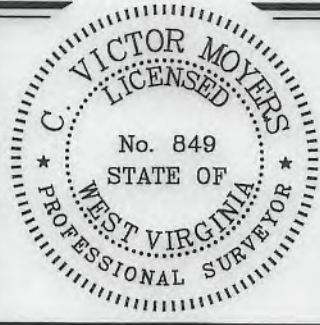
FILE NO. 8811P17HUR3.dwg
KEITH STERN S-17HU-REV1

DATE MAY 1, 20 19


REVISED 08/21/2019, 09/24/2019, 11/14/2019

OPERATORS WELL NO. KEITH STERN S-17HU

API WELL NO. 47 — — — — —
 STATE COUNTY PERMIT



STATE OF WEST VIRGINIA
 DIVISION OF ENVIRONMENTAL PROTECTION
 OFFICE OF OIL AND GAS



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DESIGNATED AGENT DIANNA STAMPER ADDRESS 5400 D BIG TYLER ROAD CHARLESTON, WV 25313

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