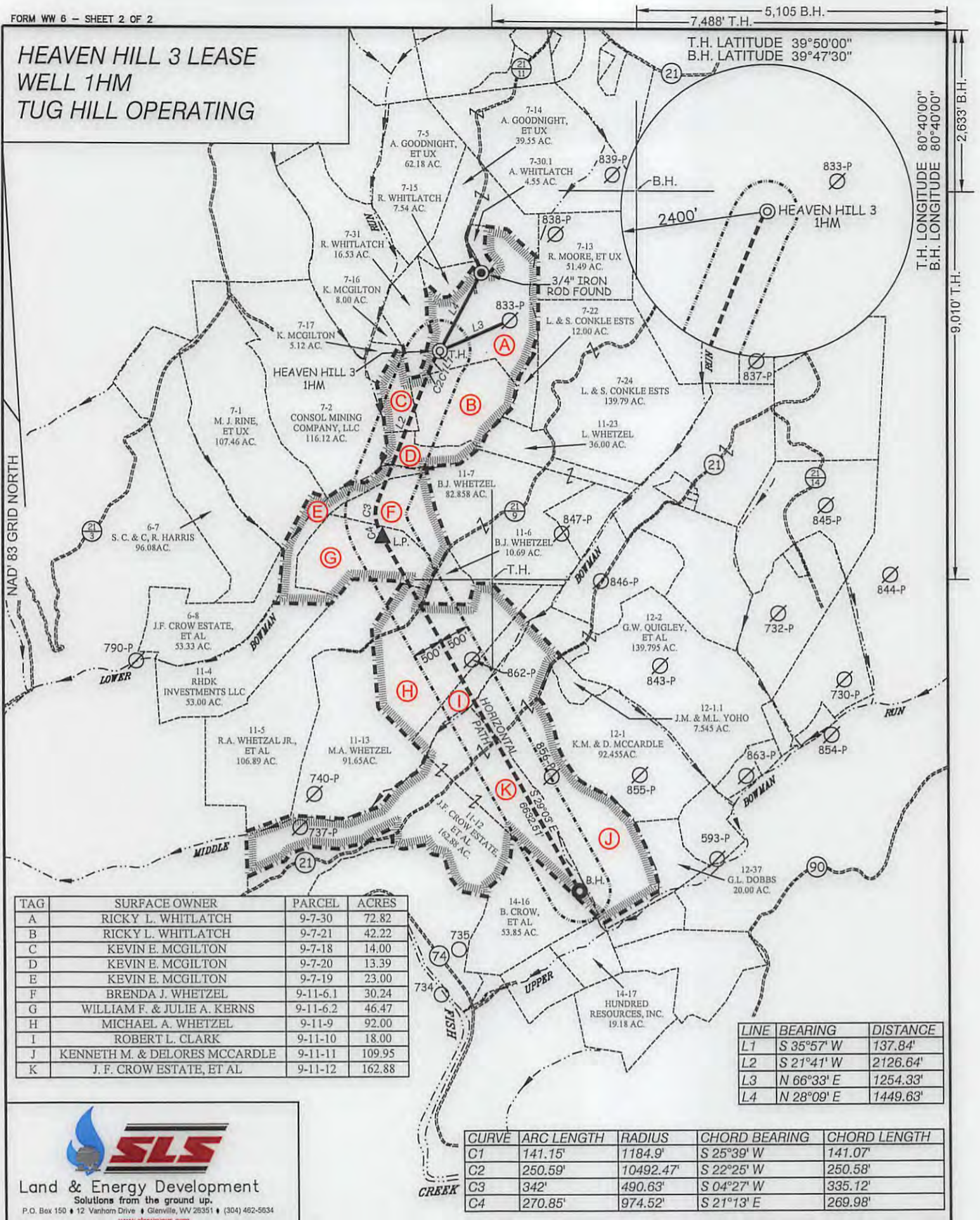


**HEAVEN HILL 3 LEASE
WELL 1HM
TUG HILL OPERATING**



TAG	SURFACE OWNER	PARCEL	ACRES
A	RICKY L. WHITLATCH	9-7-30	72.82
B	RICKY L. WHITLATCH	9-7-21	42.22
C	KEVIN E. MCGILTON	9-7-18	14.00
D	KEVIN E. MCGILTON	9-7-20	13.39
E	KEVIN E. MCGILTON	9-7-19	23.00
F	BRENDA J. WHETZEL	9-11-6.1	30.24
G	WILLIAM F. & JULIE A. KERNS	9-11-6.2	46.47
H	MICHAEL A. WHETZEL	9-11-9	92.00
I	ROBERT L. CLARK	9-11-10	18.00
J	KENNETH M. & DELORES MCCARDLE	9-11-11	109.95
K	J. F. CROW ESTATE, ET AL	9-11-12	162.88

LINE	BEARING	DISTANCE
L1	S 35°57' W	137.84'
L2	S 21°41' W	2126.64'
L3	N 66°33' E	1254.33'
L4	N 28°09' E	1449.63'

CURVE	ARC LENGTH	RADIUS	CHORD BEARING	CHORD LENGTH
C1	141.15'	1184.9'	S 25°39' W	141.07'
C2	250.59'	10492.47'	S 22°25' W	250.58'
C3	342'	490.63'	S 04°27' W	335.12'
C4	270.85'	974.52'	S 21°13' E	269.98'



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(S.P.C. NORTH ZONE) (UTM(M) ZONE 17 NORTH)
 NAD'83 S.P.C.(FT) N. 478,859.7 E. 1,633,272.0
 NAD'83 GEO. LAT-(N) 39.808600 LONG-(W) 80.693321
 NAD'83 UTM (M) N. 4,406,558.99 E. 526,250.98
LANDING POINT
 NAD'83 S.P.C.(FT) N. 475,827.3 E. 1,632,320.7
 NAD'83 GEO. LAT-(N) 39.800241 LONG-(W) 80.696564
 NAD'83 UTM (M) N. 4,405,630.3 E. 525,976.6
BOTTOM HOLE
 NAD'83 S.P.C.(FT) N. 470,028.8 E. 1,635,540.5
 NAD'83 GEO. LAT-(N) 39.784440 LONG-(W) 80.684832
 NAD'83 UTM (M) N. 4,403,880.1 E. 526,987.0



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

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 PG. 1)
- SURFACE OWNER (SEE TABLE)

SCALE 1" = 2000' FILE NO. 8654P1HMR.dwg
 DATE APRIL 20, 20 17
 REVISED _____, 20 _____
 OPERATORS WELL NO. HEAVEN HILL 3-1HM
 API WELL NO. 47-051-01935
 STATE COUNTY PERMIT

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

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

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

COUNTY NAME PERMIT

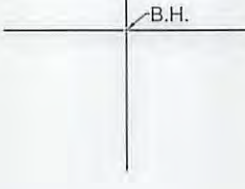
08/25/2017

**HEAVEN HILL 3 LEASE
WELL 1HM
TUG HILL OPERATING**

7,488' T.H. 5,105 B.H.
T.H. LATITUDE 39°50'00"
B.H. LATITUDE 39°47'30"

T.H. LONGITUDE 80°40'00"
B.H. LONGITUDE 80°40'00"
2,633' B.H.
9,010' T.H.

LEASE NAME OR NO.	TAG	PARCEL	OIL & GAS ROYALTY OWNERS	DEED BOOK/PG
10*15557	A	9-7-30	RICKY L WHITLATCH ET AL	780 226
10*15557	B	9-7-21	RICKY L WHITLATCH ET AL	780 226
10*15667	C	9-7-18	KEVIN E MCGILTON ET UX	850 351
10*15698	C	9-7-18	ROBERT A EDGE AND SHERRIE N EDGE	900 363
10*15720	C	9-7-18	KAREN L GREATHOUSE AND FLOYD GREATHOUSE	905 458
10*15721	C	9-7-18	TINA L EDGE MONTI AND THOMAS MONTI	905 456
10*16020	C	9-7-18	SHARON HINERMAN MAY & DANIEL G MAY	905 464
10*16028	C	9-7-18	ROSEMARY PARKINS AND STEPHEN PARKINS	905 460
10*16051	C	9-7-18	DONNA JEAN SNIDER AND DAVID SNIDER	905 462
10*16053	C	9-7-18	GARY D HINERMAN AND JUDY ANN HINERMAN	905 466
10*16289	C	9-7-18	BRENDA HINERMAN WILLIAMSON AND BRIAN K WILLIAMSON	905 468
10*16412	C	9-7-18	ELIZABETH ANN BLAZER AND PAUL R BLAZER	905 452
10*16413	C	9-7-18	RONALD H EDGE JR	905 454
10*15667	D	9-7-20	KEVIN E MCGILTON ET UX	850 351
10*15698	D	9-7-20	ROBERT A EDGE AND SHERRIE N EDGE	900 363
10*15720	D	9-7-20	KAREN L GREATHOUSE AND FLOYD GREATHOUSE	905 458
10*15721	D	9-7-20	TINA L EDGE MONTI AND THOMAS MONTI	905 456
10*16020	D	9-7-20	SHARON HINERMAN MAY & DANIEL G MAY	905 464
10*16028	D	9-7-20	ROSEMARY PARKINS AND STEPHEN PARKINS	905 460
10*16051	D	9-7-20	DONNA JEAN SNIDER AND DAVID SNIDER	905 462
10*16053	D	9-7-20	GARY D HINERMAN AND JUDY ANN HINERMAN	905 466
10*16289	D	9-7-20	BRENDA HINERMAN WILLIAMSON AND BRIAN K WILLIAMSON	905 468
10*16412	D	9-7-20	ELIZABETH ANN BLAZER AND PAUL R BLAZER	905 452
10*16413	D	9-7-20	RONALD H EDGE JR	905 454
10*15667	E	9-7-19	KEVIN E MCGILTON ET UX	850 351
10*15669	F	9-11-6.1	EMMA ANDERSON	861 586
10*15670	F	9-11-6.1	GARY M BONAR	861 577
10*15671	F	9-11-6.1	JUDALENE K COLLUMS	861 571
10*15672	F	9-11-6.1	NAOMI HUPP	861 604
10*47051.256.1	F	9-11-6.1	BRENDA J WHETZEL	881 145
10*47051.256.2	F	9-11-6.1	CAROL JEAN ANDERSON	879 299
10*47051.256.3	F	9-11-6.1	BRENDA S DYKHOUSE	881 148
10*47051.256.4	F	9-11-6.1	GLEN A BONAR	881 151
10*47051.256.5	F	9-11-6.1	JERRY W ZIEN AND KATHLEEN E ZIEN	882 530
10*15669	G	9-11-6.2	EMMA ANDERSON	861 586
10*15670	G	9-11-6.2	GARY M BONAR	861 577
10*15671	G	9-11-6.2	JUDALENE K COLLUMS	861 571
10*15672	G	9-11-6.2	NAOMI HUPP	861 604
10*47051.256.2	G	9-11-6.2	CAROL JEAN ANDERSON	879 299
10*47051.256.3	G	9-11-6.2	BRENDA S DYKHOUSE	881 148
10*47051.256.4	G	9-11-6.2	GLEN A BONAR	881 151
10*47051.256.5	G	9-11-6.2	JERRY W ZIEN AND KATHLEEN E ZIEN	882 530
10*15560	G	9-11-6.2	WILLIAM F KERNS ET UX	677 561
10*47051.108.1	H	9-11-9	MICHAEL A WHETZEL	885 51
10*15582	I	9-11-10	ROBERT L CLARK	685 239
10*15559	J	9-11-11	KENNETH M MCCARDIE ET UX REV LT	816 499
10*15511	K	9-11-12	DAVID E CROW	718 376
10*15510	K	9-11-12	ELAINE PHELPS ET VIR	718 326
10*15512	K	9-11-12	FRANCES COFFEY	718 378
10*15513	K	9-11-12	KAY KEYES	718 330
10*15514	K	9-11-12	L PAUL CROW	718 336
10*15515	K	9-11-12	DESIRE L CROW	718 334
10*15516	K	9-11-12	ROSE MARIE KIELGCZEWSKI	718 354
10*15517	K	9-11-12	DIANNE GELLNER & GARY GELLNER	718 345
10*15519	K	9-11-12	JOHN CROW	726 580
10*15520	K	9-11-12	TIMOTHY CROW	726 582
10*47051.123.1	K	9-11-12	LLOYD G BAKER	865 389
10*47051.123.2	K	9-11-12	JAMES P HOLLIDAY AND JACQUELINE HOLLIDAY	873 143

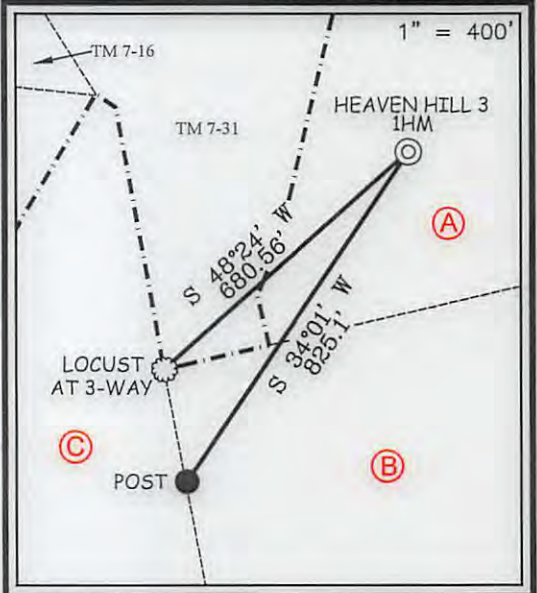


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NAD'83 UTM (M)	N. 4,403,880.1	E. 526,987.0

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'



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I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAN 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 APRIL 20, 20 17
REVISED _____, 20 ____
OPERATORS WELL NO. HEAVEN HILL 3-1HM
API WELL NO. 47-051-01935
STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 2500 FILE NO. 8654P1HMR.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 = 1,339.40' ELEVATION PROPOSED = 1,326.35' WATERSHED LOWER BOWMAN RUN OF FISH CREEK (HUC 10)
DISTRICT MEADE COUNTY MARSHALL QUADRANGLE GLEN EASTON 7.5'

SURFACE OWNER RICKY L. WHITLATCH ACREAGE 72.82±
ROYALTY OWNER RICKY L. WHITLATCH, ET AL - SEE TABLE ABOVE ACREAGE 72.82±

PROPOSED WORK: 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: 6,876' / TMD: 14,662'

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

08/25/2017