

**HEAVEN HILL 2W LEASE
WELL 10HM
TUG HILL OPERATING**

T.H. LATITUDE 39°50'00"
B.H. LATITUDE 39°47'30"

B.H.

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

NAD'83 S.P.C. (FT) N. 479,480.49 E. 1,627,771.95
NAD'83 GEO. LAT-(N) 39.810129 LONG-(W) 80.712928
NAD'83 UTM (M) N. 4,406,283.1 E. 524,572.15

LANDING POINT

NAD'83 S.P.C. (FT) N. 478,091.3 E. 1,625,055.8
NAD'83 GEO. LAT-(N) 39.806187 LONG-(W) 80.722528
NAD'83 UTM (M) N. 4,403,751.8 E. 523,751.8

BOTTOM HOLE

NAD'83 S.P.C. (FT) N. 470,508.7 E. 1,629,273.2
NAD'83 GEO. LAT-(N) 39.785529 LONG-(W) 80.707155
NAD'83 UTM (M) N. 4,403,994.4 E. 525,075.2

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 525' OF THE CENTER OF PROPOSED WELL PAD.
2. WELL SPOT CIRCLE & TOPO MARK SCALE IS 1"=2000'

REFERENCES



No.	Lease Name or No.	Tag	Parcel	Grantor, Lessor, etc.	Acres/Book/Page
1	10*15531	A	6-7-3	VENANGO 21ST CENTURY ENERGY INC	722 281
2	10*15568	A	6-7-3	CHARLES R HAGEDORN JR	816 475
3	10*47051.023.1	A	6-7-3	VENANGO 21ST CENTURY ENERGY INC	808 638
4	10*47051.023.2	A	6-7-3	PATRIOT RESTORATIONS LLC	836 541
5	10*47051.023.3	A	6-7-3	TRIENERGY HOLDINGS, LLC	878 330
6	10*15526	B	6-7-30	STEPHEN MENENDEZ	918 86
7	10*15661	C	6-6-5	CHESTNUT HOLDINGS LLC	899 170
8	10*15507	D	6-6-13	RAY C. HARTZEL AND CAROL J. HARTZEL, HUSBAND AND WIFE	889 152
9	10*15535	E	6-6-12	RONALD KEITH MARSON ETUX	722 445
10	10*15541	E	6-6-12	MARY ALTHI FROD WAPTEL	781 332
11	10*15542	E	6-6-12	KENNETH D SIBURT	783 228
12	10*15543	E	6-6-12	SANDRA FRODVEN	781 327
13	10*15544	E	6-6-12	WICKY CHERRY A/JOA VICKIE L CHERRY	798 338
14	10*15545	E	6-6-12	JAMES B SIBURT ET UX	794 397
15	10*15546	E	6-6-12	ALAN K SIBURT ET UX	793 325
16	10*15547	E	6-6-12	RODNEY L SIBURT	793 346
17	10*15530	F	6-6-30	BLAINE PHELPS ET VIR	718 326
18	10*15511	F	6-6-30	DAVID E CROW	718 326
19	10*15512	F	6-6-30	FRANCES COFFEY	718 328
20	10*15513	F	6-6-30	KAY KEYS	718 330
21	10*15514	F	6-6-30	PAUL CROW	718 336
22	10*15515	F	6-6-30	ROBERT L CROW	718 334
23	10*15516	F	6-6-30	ROSE MARIE WELCZEWSKI	718 354
24	10*15517	F	6-6-30	DIANNE GELLNER & GARY GELLNER	718 345
25	10*15518	F	6-6-30	JAMES P HOLLIDAY AND JACQUELINE HOLLIDAY	718 347
26	10*15519	F	6-6-30	JOHN CROW	726 580
27	10*15520	F	6-6-30	TIMOTHY CROW	726 582
28	10*47051.123.1	F	6-6-30	LLOYD SBAKER	865 389
29	10*47051.123.2	F	6-6-30	JAMES P HOLLIDAY AND JACQUELINE HOLLIDAY	873 343
30	10*15520	G	6-6-30	BLAINE PHELPS ET VIR	718 326
31	10*15511	G	6-6-30	DAVID E CROW	718 326
32	10*15512	G	6-6-30	FRANCES COFFEY	718 328
33	10*15513	G	6-6-30	KAY KEYS	718 330
34	10*15514	G	6-6-30	PAUL CROW	718 336
35	10*15515	G	6-6-30	ROBERT L CROW	718 334
36	10*15516	G	6-6-30	ROSE MARIE WELCZEWSKI	718 354
37	10*15517	G	6-6-30	DIANNE GELLNER & GARY GELLNER	718 345
38	10*15518	G	6-6-30	JAMES P HOLLIDAY AND JACQUELINE HOLLIDAY	718 347
39	10*15519	G	6-6-30	JOHN CROW	726 580
40	10*15520	G	6-6-30	TIMOTHY CROW	726 582
41	10*47051.123.1	G	6-6-30	LLOYD SBAKER	865 389
42	10*47051.123.2	G	6-6-30	JAMES P HOLLIDAY AND JACQUELINE HOLLIDAY	873 343
43	10*15523	H	6-6-12	WICKIE MARSON	620 405
44	10*15524	H	6-6-12	MARY A SOUTH	681 414
45	10*15525	H	6-6-12	MARK L WHITZEL	633 73
46	10*15526	H	6-6-12	RAY A WHITZEL JR	665 62
47	10*15527	H	6-6-12	ROBERT L WHITZEL	682 526
48	10*15528	H	6-6-12	SHARON L WHITZEL	682 540
49	10*15529	H	6-6-12	JAMES BOBIN IV BRIGGS	901 535
50	10*15525	H	6-6-12	ROGER JACOB BRIGGS	901 518
51	10*15526	H	6-6-12	JOHN DEAN BRIGGS AND PATTY KAY BRIGGS	901 523
52	10*16209	H	6-6-12	LORI ASTON DIXON	904 565
53	10*16236	H	6-6-12	FRANCIS YRIGLE	907 155
54	10*16237	H	6-6-12	GREGORY J ASTON AND TAMMY E ASTON	907 149
55	10*16275	H	6-6-12	JEFFREY A ASTON	907 159
56	10*47051.108.1	H	6-6-12	MICHAEL A WHITZEL	885 51
57	10*47051.108.2	H	6-6-12	PATRICIA ANN MCCOUGAL	901 505
58	10*47051.108.3	H	6-6-12	STEVEN J ASTON	901 308
59	10*47051.108.3	H	6-6-12	FRED J BELNS	901 298
60	10*47051.108.3	H	6-6-12	WYCHINE ROBERT	901 303
61	10*47051.108.3	H	6-6-12	CARLE ASTON	901 307
62	10*47051.108.3	H	6-6-12	CAROLYN SUE WELLS	901 312
63	10*47051.108.4	H	6-6-12	ELMER ASTON	901 298
64	10*47051.108.4	H	6-6-12	WILLIAM ASTON	901 312
65	10*47051.108.5	H	6-6-12	BRENDA J WHITZEL	885 55
66	10*47051.108.5	H	6-6-12	DAVID J ASTON ESTATE BY EXECUTOR DAWN R MARKS	901 314
67	10*47051.108.5	H	6-6-12	CORRIE ASTON	901 315
68	10*47051.108.5	H	6-6-12	MARY MAE EYLL	901 339
69	10*47051.108.6	H	6-6-12	PAULA HUNDE	901 347
70	10*47051.108.6	H	6-6-12	ROBERT B KERNS	901 349
71	10*47051.108.6	H	6-6-12	RONALD W KERNS	901 341
72	10*47051.108.6	H	6-6-12	PAUL LEYSER BEENS ESTATE SALVATORE P PUBLICO, EXECUTOR	901 345
73	10*47051.108.6	H	6-6-12	TERRI MCCARDLE	895 23
74	10*47051.108.6	H	6-6-12	MARANDA SIGH	901 245
75	10*47051.108.7	H	6-6-12	GARY FRANCIS WHITZEL	895 24
76	10*47051.108.7	H	6-6-12	JOHN ASTON JR	901 351
77	10*47051.108.7	H	6-6-12	SHONCA WOOD	901 356
78	10*47051.108.7	H	6-6-12	DONNA WOODS MOODY	901 354
79	10*47051.108.7	H	6-6-12	MARK A ASTON	901 358
80	10*47051.108.8	H	6-6-12	KENNETH CHEPPS	899 20
81	10*15561	I	6-11-8	VICKIE MARSON	682 418
82	10*15562	I	6-11-8	MARY A SOUTH	682 281
83	10*15563	I	6-11-8	MARK L WHITZEL	682 544
84	10*15564	I	6-11-8	RAY A WHITZEL JR	682 548
85	10*15565	I	6-11-8	ROBERT L WHITZEL	682 522
86	10*15566	I	6-11-8	SHARON L WHITZEL	682 526
87	10*47051.108.1	I	6-11-8	MICHAEL A WHITZEL	885 51
88	10*47051.108.5	I	6-11-8	BRENDA J WHITZEL	885 55
89	10*47051.108.5	I	6-11-8	TERRI MCCARDLE	895 23
90	10*47051.108.7	I	6-11-8	GARY FRANCIS WHITZEL	895 24
91	10*47051.243.1	J	6-13-2	MARY A FOX	879 352
92	10*47051.243.2	J	6-13-2	PAUL G FOX	879 353
93	10*47051.243.3	J	6-13-2	MARK H FOX	879 358
94	10*47051.243.4	J	6-13-2	DAVID E FOX	875 55
95	10*47051.243.5	J	6-13-2	MURIS T FOX	875 58
96	10*47051.243.6	J	6-13-2	THOMAS FOX	875 63

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8/4/17

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 JULY 27, 20 17
REVISED _____, 20 _____
OPERATORS WELL NO. HEAVEN HILL 2W-10HM
API WELL NO. 47-051-01955
STATE WV COUNTY MARSHALL PERMIT HGA 01955

MINIMUM DEGREE OF ACCURACY 1/2500 FILE NO. 8703P10HM.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: GROUND = 1,350.0' ELEVATION PROPOSED = 1,331.26' WATERSHED WEST FORK OF LOWER BOWMAN RUN OF FISH CREEK (HUC 10)
DISTRICT MEADE COUNTY MARSHALL QUADRANGLE GLEN EASTON 7.5'
SURFACE OWNER C.R. JR. & A.H. HAGEDORN ACREAGE 203.07±
ROYALTY OWNER C.R. JR. & A.H. HAGEDORN ET AL (SEE ABOVE) ACREAGE 203.07±
PROPOSED WORK: LEASE NO. SEE ABOVE **09/22/2017**
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: 6,879' / TMD: 16,799'

WELL OPERATOR TUG HILL OPERATING, LLC ADDRESS 1320 SOUTH UNIVERSITY DRIVE, SUITE 500 FORT WORTH, TX 76107
DESIGNATED AGENT DIANNA STAMPER CT CORPORATION SYSTEM ADDRESS 5400 D BIG TYLER ROAD CHARLESTON, WV 25313

T.H. LONGITUDE 80°42'30"
B.H. LONGITUDE 80°40'00"
2,286' B.H.

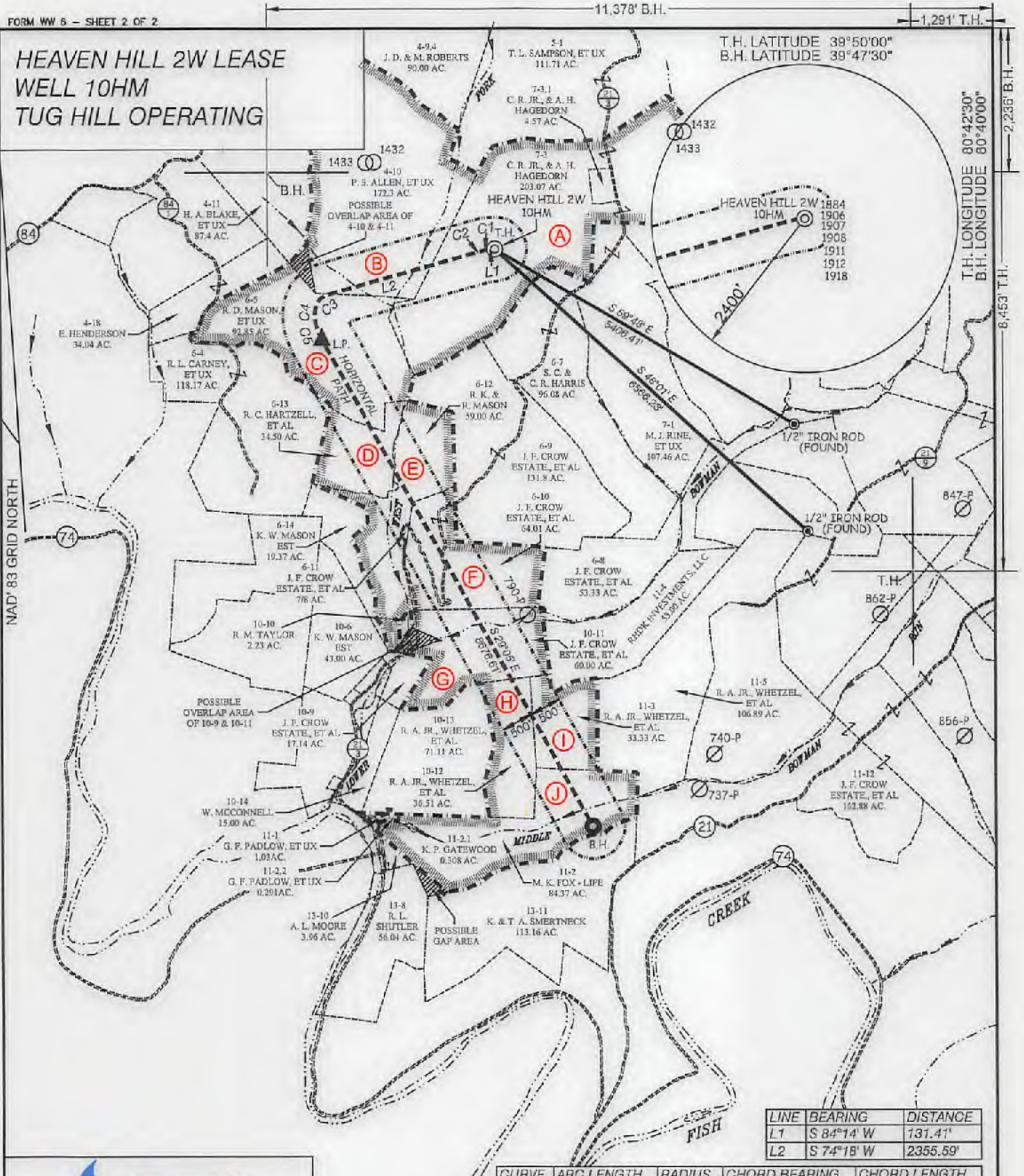
T.H.

COUNTY NAME PERMIT

**HEAVEN HILL 2W LEASE
WELL 10HM
TUG HILL OPERATING**

T.H. LATITUDE 39°50'00"
B.H. LATITUDE 39°47'30"

T.H. LONGITUDE 80°42'30"
B.H. LONGITUDE 80°40'00"
2,236' B.H.
8,453' T.H.



LINE	BEARING	DISTANCE
L1	S 84°14' W	131.41'
L2	S 74°18' W	2355.59'

CURVE	ARC LENGTH	RADIUS	CHORD BEARING	CHORD LENGTH
C1	25.51'	284.16'	S 79°28' W	25.51'
C2	209.32'	5009.3'	S 75°08' W	209.3'
C3	205.56'	245.14'	S 49°48' W	199.59'
C4	327.66'	507.28'	S 06°02' W	321.98'
C5	257.6'	872.22'	S 20°34' E	256.66'

SLS
Land & Energy Development
Solutions from the ground up.
P.O. Box 150 | 12 Vantom Drive | Glenville, WV 26031 | (304) 462-9634
www.slsurveys.com

(S.P.C. NORTH ZONE) (UTM(M) ZONE 17 NORTH)
 NAD83 S.P.C. (FT) N. 478,490.46 E. 1,627,771.85
 NAD83 GEO. LAT-(N) 39.910129 LONG-(W) 80.712923
 NAD83 UTM (M) N. 4,406,723.16 E. 524,572.15

LANDING POINT
 NAD83 S.P.C. (FT) N. 478,061.3 E. 1,625,055.8
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 NAD83 GEO. LAT-(N) 39.785529 LONG-(W) 80.707155
 NAD83 UTM (M) N. 4,403,964.4 E. 525,075.2



(+) 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 PAGE 1)

SCALE 1" = 2000' FILE NO. 3703P10HM.dwg
 DATE JULY 27, 2017
 REVISED _____, 20____
 OPERATORS WELL NO. HEAVEN HILL 2W-10HM
 API WELL NO. 47 - 051 - 01955 H6A
 NO. 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