

State of West Virginia  
Department of Environmental Protection - Office of Oil and Gas  
Well Operator's Report of Well Work

API 47-051-01957 County Marshall District Meade  
Quad Glen Easton 7.5' Pad Name Heaven Hill 2 Field/Pool Name \_\_\_\_\_  
Farm name Charles R. Hagedorn, Jr., Et Ux Well Number Heaven Hill 2W-13HU  
Operator (as registered with the OOG) Tug Hill Operating, LLC  
Address 1320 S. University Drive, Suite 215 City Ft. Worth State TX Zip 76107

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey  
Top hole Northing 4,406,717.10 Easting 524,567.60  
Landing Point of Curve Northing 4,405,457.50 Easting 523,948.00  
Bottom Hole Northing 4,403,960.60 Easting 524,809.30

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Elevation (ft) 1331' GI. Type of Well  New  Existing Type of Report  Interim  Final  
Permit Type  Deviated  Horizontal  Horizontal 6A  Vertical Depth Type  Deep  Shallow  
Type of Operation  Convert  Deepen  Drill  Plug Back  Redrilling  Rework  Stimulate  
Well Type  Brine Disposal  CBM  Gas  Oil  Secondary Recovery  Solution Mining  Storage  Other \_\_\_\_\_  
Type of Completion  Single  Multiple Fluids Produced  Brine  Gas  NGL  Oil  Other \_\_\_\_\_  
Drilled with  Cable  Rotary

Drilling Media Surface hole  Air  Mud  Fresh Water Intermediate hole  Air  Mud  Fresh Water  Brine  
Production hole  Air  Mud  Fresh Water  Brine

Mud Type(s) and Additive(s)  
SOBM; Base oil, osmotic inhibitor, weighting agent, viscosifier, emulsifier, hardness buffer, fluid loss additive, LCM, Shale inhibitor, de-foamer, soaping agent, coagulant, flocculant; specific additives per WSSP and Permit.

Date permit issued 10/27/2017 Date drilling commenced 12/20/2017 Date drilling ceased 6/3/2018  
Date completion activities began 9/24/2018 Date completion activities ceased 2/9/2019  
Verbal plugging (Y/N) N Date permission granted N/A Granted by N/A

Please note: Operator is required to submit a plugging application within 5 days of verbal permission to plug

Freshwater depth(s) ft 1073' Open mine(s) (Y/N) depths N  
Salt water depth(s) ft 1595' Void(s) encountered (Y/N) depths N  
Coal depth(s) ft 947' - 980', 1064' - 1072' Cavern(s) encountered (Y/N) depths N  
Is coal being mined in area (Y/N) N

Reviewed by:  
*Jim Theobald*  
7/28/2020

API 47-051 - 01957 Farm name Charles R. Hagedorn, Jr., Et Ux Well number Heaven Hill 2W-13HU

CASING STRINGS	Hole Size	Casing Size	Depth	New or Used	Grade wt/ft	Basket Depth(s)	Did cement circulate (Y/N) * Provide details below*
Conductor	36"	30"	120'	NEW	94.5#	N/A	Y
Surface	26"	20"	1,163'	NEW	106.5#	N/A	Y
Coal							
Intermediate 1	17 1/2"	13 3/8"	2,892'	NEW	54.5#	N/A	Y
Intermediate 2	12 1/4"	5 1/2"	11,187'	NEW	23#	N/A	Y
Intermediate 3							
Production	8 1/2"	5 1/2"	19,143'	NEW	23#	N/A	Y
Tubing		2 7/8"	9,572'	NEW	4.7#	N/A	Y
Packer type and depth set							

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Comment Details \_\_\_\_\_

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CEMENT DATA	Class/Type of Cement	Number of Sacks	Slurry wt (ppg)	Yield (ft <sup>3</sup> /sks)	Volume (ft <sup>3</sup> )	Cement Top (MD)	WOC (hrs)
Conductor	A		15.6	1.12		0	8
Surface	A	2033	15.6	1.2	2440	0	8
Coal							
Intermediate 1	A	2436	15.6	1.19	2899	0	8
Intermediate 2	A	3958	14.5	1.19	4710	0	8
Intermediate 3							
Production	A	4276	16.5	1.17	4717	0	8
Tubing							

Drillers TD (ft) 19,218' Loggers TD (ft) N/A  
 Deepest formation penetrated TRENTON Plug back to (ft) N/A  
 Plug back procedure N/A

Kick off depth (ft) \_\_\_\_\_

Check all wireline logs run  caliper  density  deviated/directional  induction  
 neutron  resistivity  gamma ray  temperature  sonic

Well cored  Yes  No Conventional Sidewall Were cuttings collected  Yes  No

DESCRIBE THE CENTRALIZER PLACEMENT USED FOR EACH CASING STRING 3 centralizers on surface casing at equal distance.

Intermediate - 1 centralizer every other joint.

Production - one centralizer every other joint in lateral, one centralizer every joint through curve, one centralizer every other joint to surface.

WAS WELL COMPLETED AS SHOT HOLE  Yes  No DETAILS \_\_\_\_\_

WAS WELL COMPLETED OPEN HOLE?  Yes  No DETAILS \_\_\_\_\_

WERE TRACERS USED  Yes  No TYPE OF TRACER(S) USED \_\_\_\_\_





**Heaven Hill 2W-13HU  
PEFORATION RECORD**

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD. Ft.	Number of Perforations	Formation(s)
1	12/4/2018	18869	18977	48	Utica
2	12/5/2018	18670	18819	48	Utica
3	12/5/2018	18471	18620	48	Utica
4	12/6/2018	18272	18421	48	Utica
5	12/6/2018	18073	18222	48	Utica
6	12/7/2018	17874	18023	48	Utica
7	12/7/2018	17675	17824	48	Utica
8	12/8/2018	17476	17625	48	Utica
9	12/8/2018	17277	17426	48	Utica
10	12/9/2018	17078	17227	48	Utica
11	12/9/2018	16879	17028	48	Utica
12	12/10/2018	16680	16829	48	Utica
13	12/11/2018	16481	16630	48	Utica
14	12/12/2018	16282	16431	48	Utica
15	12/12/2018	16083	16232	48	Utica
16	12/13/2018	15884	16033	48	Utica
17	12/13/2018	15685	15834	48	Utica
18	12/13/2018	15486	15635	48	Utica
19	12/14/2018	15287	15436	48	Utica
20	12/14/2018	15088	15237	48	Utica
21	12/15/2018	14889	15038	48	Utica
22	12/15/2018	14690	14839	48	Utica
23	12/16/2018	14491	14640	48	Utica
24	12/16/2018	14292	14441	48	Utica
25	12/16/2018	14093	14242	48	Utica
26	12/17/2018	13894	14043	48	Utica
27	12/17/2018	13695	13844	48	Utica
28	12/18/2018	13496	13645	48	Utica
29	12/18/2018	13297	13446	48	Utica
30	12/18/2018	13098	13247	48	Utica
31	12/19/2018	12899	13048	48	Utica

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**Heaven Hill 2W-13HU**  
**STIMULATION INFORMATION PER STAGE**

Stage No.	Ave. Pump Rate (BPM)	Ave Treatment Pressure (PSI)	Max Breakdown Pressure (PSI)	ISIP (PSI)	Amount of Proppant (lbs)	Amount of Water (bbls)	Amount of Nitrogen/other (units)
1	77.4	11173	9569	7413	399240	9443	0
2	80.3	10976	8859	8173	505965	12411	0
3	80.3	11167	8974	7900	490135	12846	0
4	79.1	10975	9061	7893	509580	11605	0
5	78.1	11091	8788	7798	487640	11277	0
6	79.9	10946	9100	7711	504835	11528	0
7	75.5	11114	9175	7725	491865	11618	0
8	74.9	11277	8417	7680	501275	10886	0
9	79	11240	8862	7593	508365	11372	0
10	77.4	11126	8565	7832	489775	10573	0
11	72.1	10692	8893	8686	488525	12510	0
12	76.3	10665	8807	7490	483080	10680	0
13	78.4	11162	8455	7630	508340	10637	0
14	71.7	11547	8566	7674	511340	12810	0
15	72.8	11399	9646	7525	492540	10639	0
16	79.8	10797	8716	7805	484460	10648	0
17	78.4	10599	8413	7922	501350	11369	0
18	83.8	10989	8516	7547	491495	10839	0
19	84.8	11026	8673	7433	476112	10589	0
20	81.4	10446	8382	7689	491064	10613	0
21	82.9	10583	8550	7490	511760	10965	0
22	82.4	10449	8133	7322	490650	10599	0
23	85.8	10558	8741	7401	488110	10440	0
24	84.1	10115	7950	7622	486760	10523	0
25	84.5	10289	8429	7482	489700	11792	0
26	84.6	10149	8264	7302	488320	10532	0
27	84.3	10066	8230	7454	488730	10663	0
28	84.7	10141	9050	7434	491680	10653	0
29	84.3	10408	8335	7425	470605	447255	0

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Stage No.	Ave. Pump Rate (BPM)	Ave Treatment Pressure (PSI)	Max Breakdown Pressure (PSI)	ISIP (PSI)	Amount of Proppant (lbs)	Amount of Water (bbls)	Amount of Nitrogen/other (units)
30	84.6	10187	9525	7531	489410	10655	0
31	84.5	10189	8556	7919	489290	10541	0

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## Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	12/4/2018
Job End Date:	12/19/2018
State:	West Virginia
County:	Marshall
API Number:	47-051-01957-00-00
Operator Name:	Tug Hill Operating, LLC
Well Name and Number:	Heaven Hill 2W 13HU
Latitude:	39.81007000
Longitude:	-80.71298000
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	11,724
Total Base Water Volume (gal):	14,748,633
Total Base Non Water Volume:	0

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### Hydraulic Fracturing Fluid Composition:

Trade Name	Supplier	Purpose	Ingredients	Chemical Abstract Service Number (CAS #)	Maximum Ingredient Concentration in Additive (% by mass)**	Maximum Ingredient Concentration in HF Fluid (% by mass)**	Comments
Fresh Water	Halliburton	Base Fluid					
			Water	7732-18-5	100.00000	80.39100	Density = 8.34
Produced Water	Halliburton	Base Fluid					
			Water	7732-18-5	100.00000	8.44762	Density = 8.50



Ingredients	Listed Above	Listed Above					
			Water	7732-18-5	100.00000	0.10805	
HAI-OS ACID INHIBITOR	Halliburton	Corrosion Inhibitor					
				Listed Below			
Sand-Premium White-40/70	Halliburton	Proppant					
				Listed Below			
HYDROCHLORIC ACID, 22 BAUME	Halliburton	Solvent					
				Listed Below			
MC MX 2-2822	MultiChem	Scale Inhibitor					
				Listed Below			
MC LD-2850	MultiChem	Friction Reducer					
				Listed Below			
WG-36 GELLING AGENT	Halliburton	Gelling Agent					
				Listed Below			
CALCIUM CHLORIDE - FLAKE	Halliburton	Additive					
				Listed Below			

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Sand-Common White-100 Mesh, SSA-2	Halliburton	Proppant					
				Listed Below			
Sand-CRC-40/70	Halliburton	Proppant					
				Listed Below			
FR-A12	Halliburton	Additive					
				Listed Below			
FDP-S1296-17	Halliburton	Acid Corrosion Inhibitor					
				Listed Below			
SP BREAKER	Halliburton	Breaker					
				Listed Below			

Items above are Trade Names with the exception of Base Water . Items below are the individual ingredients.

			Crystalline silica, quartz	14808-60-7	100.00000	10.95990	
			Phenol / formaldehyde resin	9003-35-4	5.00000	0.05492	
			Hydrochloric acid	7647-01-0	30.00000	0.02553	
			Guar gum	9000-30-0	100.00000	0.02457	
			Hexamethylenetetramine	100-97-0	2.00000	0.02197	
			Ethanaminium, N,N,N-trimethyl-2-[(1-oxo-2-propen-1-yl)oxy]-, chloride (1:1), polymer with 2-propenamide	69418-26-4	30.00000	0.01936	
			Hydrotreated light petroleum distillate	64742-47-8	30.00000	0.01936	
			Sodium chloride	7647-14-5	10.00000	0.00795	

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			Methanol	67-56-1	100.00000	0.00767
			Amines, polyethylenepoly-, ethoxylated, phosphonomethylated, sodium salts	70900-16-2	30.00000	0.00709
			Castor oil, ethoxylated	61791-12-6	10.00000	0.00645
			Ammonium chloride	12125-02-9	10.00000	0.00645
			Sorbitan monooleate polyoxyethylene derivative	9005-65-6	5.00000	0.00323
			Alcohols, C12-16, ethoxylated	68551-12-2	5.00000	0.00323
			9-Octadecenamide, n,n-bis-2(hydroxy-ethyl)-,(Z)	93-83-4	5.00000	0.00323
			Proprietary Compound	Proprietary	60.00000	0.00185
			Sodium persulfate	7775-27-1	100.00000	0.00062
			Modified thiourea polymer	Proprietary	30.00000	0.00020
			Glycerine	56-81-5	5.00000	0.00015
			Ethoxylated alcohols	Proprietary	30.00000	0.00010
			Fatty acids, tall oil	Proprietary	30.00000	0.00010
			Mixture of dimer and trimer fatty acids of indefinite composition derived from tall oil	61790-12-3	30.00000	0.00010
			Formaldehyde	50-00-0	0.10000	0.00009
			Calcium chloride	10043-52-4	100.00000	0.00007
			Diethanolamine	111-42-2	0.10000	0.00006
			Hydroquinone monomethyl ether	150-76-5	0.10000	0.00006
			1,4-Dioxane	123-91-1	0.10000	0.00006
			Sodium glycollate	2836-32-0	0.10000	0.00006
			Nitrotriacetic acid, trisodium salt monohydrate	5064-31-3	0.10000	0.00006
			Ethylenediaminetetraacetic acid, tetrasodium salt	64-02-8	0.10000	0.00006

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			Propargyl alcohol	107-19-7	10.00000	0.00005	
			Ethoxylated alcohols	Proprietary	5.00000	0.00002	
			Hexadecene	629-73-2	5.00000	0.00002	
			Strontium chloride	10476-85-4	5.00000	0.00000	
			Potassium chloride	7447-40-7	5.00000	0.00000	
			Olefins	Proprietary	1.00000	0.00000	
			Sodium sulfate	7757-82-6	0.10000	0.00000	

\* Total Water Volume sources may include various types of water including fresh water, produced water, and recycled water

\*\* Information is based on the maximum potential for concentration and thus the total may be over 100%

\*\*\* If you are calculating a percentage of total ingredients do not add the water volume below the green line to the water volume above the green line

Note: For Field Development Products (products that begin with FDP), MSDS level only information has been provided.

Ingredient information for chemicals subject to 29 CFR 1910.1200(i) and Appendix D are obtained from suppliers Material Safety Data Sheets (MSDS)

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HEAVEN HILL 2W-13HU

LITHOLOGY/FORMATION	TOP DEPTH IN FT/ Name TVD	BOTTOM DEPTH IN FT TVD	TOP DEPTH IN FT MD	BOTTOM DEPTH IN FT MD	DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID
Maxton	1896	2068	1900	2072	Sandstone
Big Lime	2068	2200	2072	2205	Limestone
Big Injun	2200	2494	2205	2500	Sandstone
Weir	2494	2692	2500	2699	Sandstone
Berea	2692	2954	2699	2962	Sandstone
Gordon	2954	3039	2962	3047	Sandstone
Fifty Foot	3039	3621	3047	3644	Sandstone
Speechley	3621	5131	3644	5300	Sandstone
Benson	5131	5454	5300	5662	Sandstone
Alexander	5454	6076	5662	6351	Siltstone
Rhinestreet	6076	6591	6351	6928	Black shale
Middlesex	6591	6677	6928	7023	Black shale
Geneseo/Burkett	6677	6693	7023	7040	Black shale
Tully	6693	6724	7040	7075	Limestone
Hamilton	6724	6799	7075	7159	Grey shale
Marcellus	6799	6848	7159	7215	Black shale
Onondaga	6848	7062	7215	7461	Limestone
Oriskany	7062	7166	7461	7579	Sandstone
Helderberg	7166	7536	7579	7984	Limestone
Salina	7536	8530	7984	9090	Salt/Anhydrite/LS
Lockport	8530	8904	9090	9497	Dolomite
Rose Hill	8904	9164	9497	9794	Shale
Packer Shell	9164	9371	9794	10033	Limestone
Clinton/Tuscarora	9371	9483	10033	10161	Sandstone
Juniata/Queenston	9483	10337	10161	11068	Red Shale
Reedsville	10337	11275	11068	12143	Grey Shale
Utica	11275	11562	12143	12815	Black Shale
Point Pleasant	11562	-	12815	-	Shale/Limestone

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**Tug Hill Operating LLC**  
**Well: Heaven Hill 2W-13 HU (slot M)**  
**Site: Heaven Hill 2**  
**Project: Marshall County, West Virginia**  
**Design: plan11**

**SECTION DETAILS**

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Annotation
1	11172.00	12.66	233.46	10438.30	-2598.44	-2198.86	0.00	0.00	2393.07	
2	11230.00	11.90	234.45	10494.97	-2605.70	-2208.84	1.36	165.00	2399.41	Survey @ 11230.00 MD 10494.97 TVD
3	11330.00	11.90	234.45	10592.82	-2617.69	-2225.61	0.00	0.00	2409.87	KOP Begin 3'/100' build
4	11388.90	13.67	234.45	10650.26	-2625.27	-2236.22	3.00	0.00	2416.47	Begin 6'/100' build
5	11665.28	30.25	234.45	10905.70	-2685.14	-2320.01	6.00	0.00	2468.68	Begin 6'/100' build/turn
6	12321.07	53.50	184.30	11403.71	-3058.82	-2480.53	6.00	-76.75	2826.64	Begin 8'/100' build/turn
7	12915.78	89.00	150.03	11597.01	-3585.35	-2341.88	8.00	-49.70	3363.39	Begin 89.00' lateral
8	19217.65	89.00	150.03	11707.00	-9043.89	805.49	0.00	0.00	9079.68	PBHLTD 19217.65 MD/11707.00 TVD

**ANNOTATIONS**

MD	Inc	Azi	TVD	+N/-S	+E/-W	Vsect	Annotation
30.00	0.46	35.74	30.00	0.10	0.07	-0.09	Gyro
1450.00	2.21	264.41	1449.21	-17.60	4.15	17.90	MWD surveys
19125.00	88.57	149.74	11728.12	-9000.42	768.07	9033.07	Survey @ 19125.00 MD 11728.12 TVD
19175.00	88.57	149.74	11729.37	-9043.59	793.26	9078.30	Survey Projected to 19175.00 MD 11729.37 TVD

Surface Location: RKB=1331+33 @ 1364.00usft (Nabors X08)  
 Universal Transverse Mercator (US Survey Feet)  
 Zone 17N (84 W to 78 W)

Northing	Easting	Latitude	Longitude
14457704.27	1721018.75	39.81007436	-80.71298161

Total Correction (M => G) To convert a Magnetic Direction to a Grid Direction, Subtract 8.90°

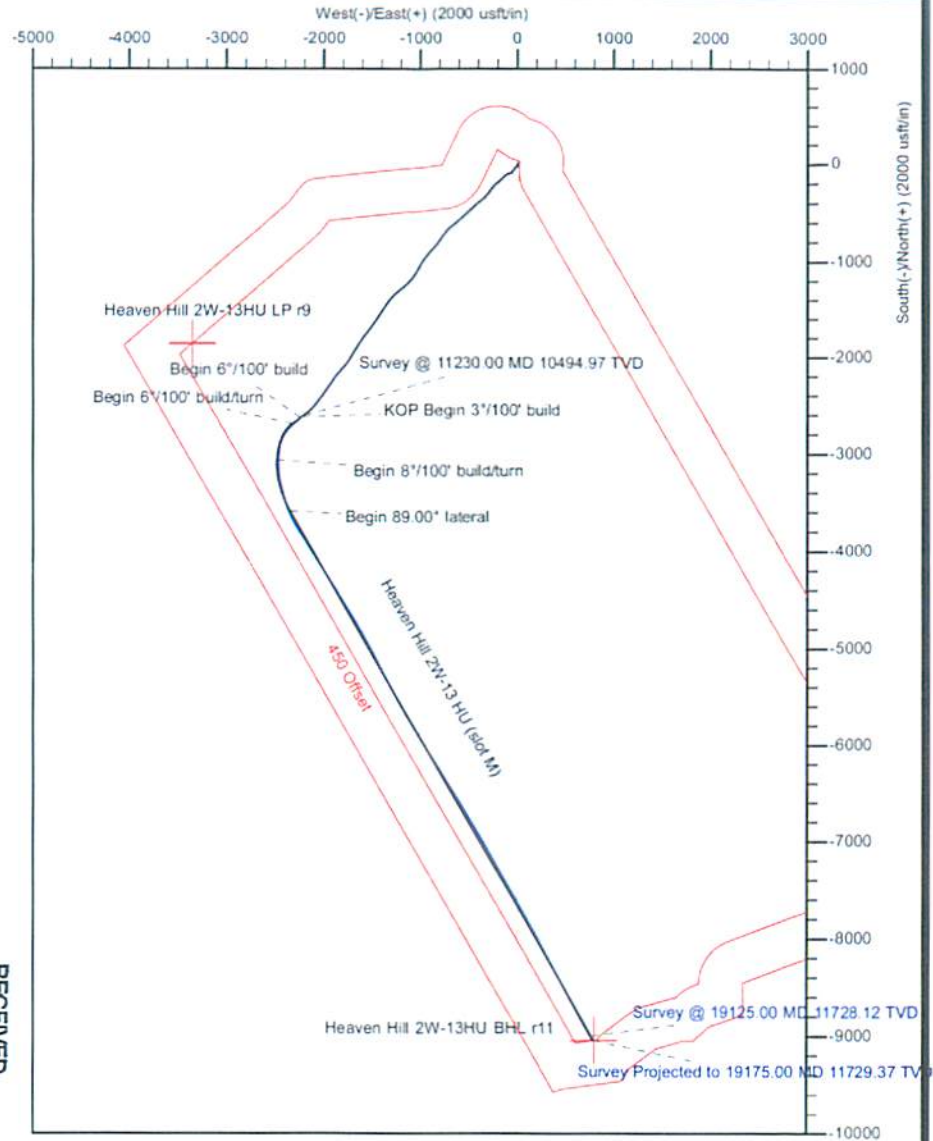
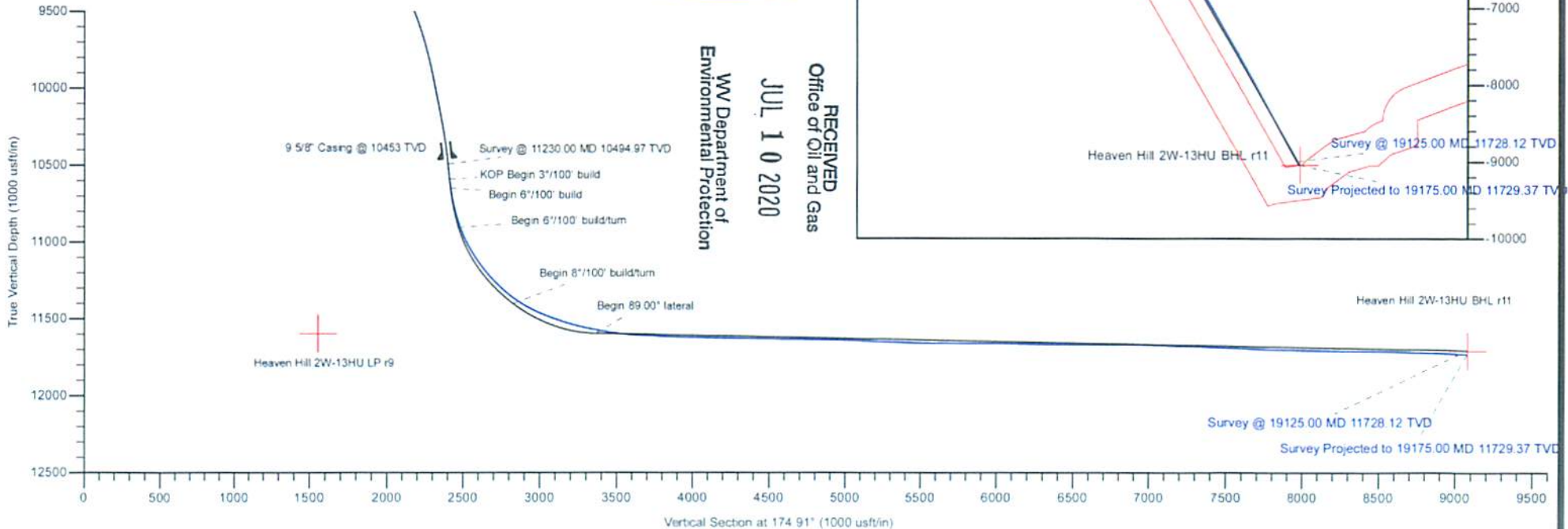


Azimuths to Grid North  
 True North -0.18°  
 Magnetic North -8.90°

Magnetic Field  
 Strength: 52080.3nT  
 Dip Angle: 66.90°  
 Date: 5/15/2018  
 Model: IGRF2015



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**HEAVEN HILL 2W LEASE  
UTICA UNIT - 572.54 AC. ±  
WELL 13HU  
TUG HILL OPERATING**

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

(S.P.C. NORTH ZONE) (UTM(M) ZONE 17 NORTH)  
NAD'83 S.P.C.(FT) N. 479,470.78 E. 1,627,756.58  
NAD'83 GEO. LAT-(N) 39.810074 LONG-(W) 80.712982  
NAD'83 UTM (M) N. 4,406,717.08 E. 524,567.56

**LANDING POINT**  
NAD'83 S.P.C.(FT) N. 475,955.7 E. 1,625,337.6  
NAD'83 GEO. LAT-(N) 39.800335 LONG-(W) 80.721422  
NAD'83 UTM (M) N. 4,405,633.9 E. 523,848.5

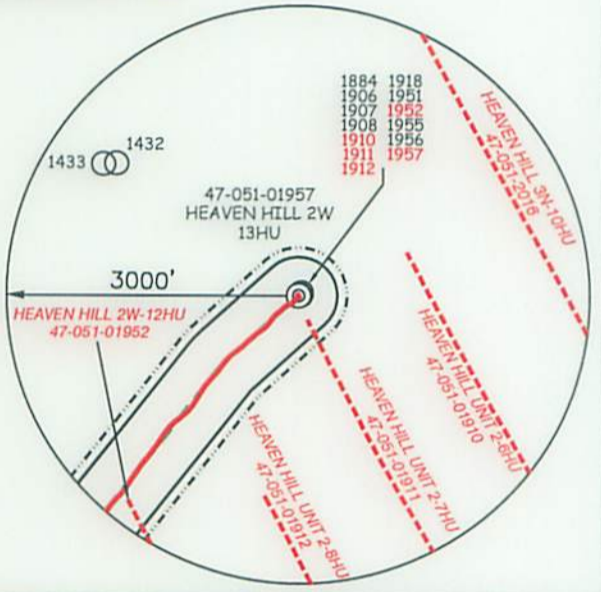
**BOTTOM HOLE**  
NAD'83 S.P.C.(FT) N. 470,411.6 E. 1,628,411.1  
NAD'83 GEO. LAT-(N) 39.785230 LONG-(W) 80.710218  
NAD'83 UTM (M) N. 4,403,960.5 E. 524,813.1

AS-DRILLED B.H. 2,345' B.H.  
T.H. LONGITUDE 80°42'30"  
B.H. LONGITUDE 80°42'30"  
2,344' AS-DRILLED B.H.  
8,472' T.H.

No.	Lease Name or No.	Tag	Parent	Grantor, Lessor, etc.	Deed Book/Page
1	10*15521	A	9-7-3	VENANGO 21ST CENTURY ENERGY INC	722 281
2	10*15608	A	9-7-3	CHARLES R HAGEDORN JR	826 423
3	10*42051.073.1	A	9-7-3	VENANGO 21ST CENTURY ENERGY INC	868 618
4	10*42051.073.2	A	9-7-3	PATRIOT RESTORATIONS LLC	908 541
5	10*42051.073.3	A	9-7-3	TRIENERGY HOLDINGS, LLC	878 330
6	10*17229	B	9-4-9	STEPHEN MENENDEZ	513 66
7	10*15661	C	9-4-5	CHESTNUT HOLDINGS LLC	839 170
8	10*15510	D	9-4-4	ROBERT LEE CARNEY AND BONNIE ANNE CARNEY	682 205
9	10*15530	E	9-4-9	ELAINE PHELPS ET VIR	718 326
10	10*15511	E	9-4-9	DAVID E CROW	718 376
11	10*15512	E	9-4-9	FRANCES COFFEY	718 378
12	10*15513	E	9-4-9	KAY KEYS	718 330
13	10*15514	E	9-4-9	L PAUL CROW	718 336
14	10*15515	E	9-4-9	DESIRE L CROW	718 334
15	10*15516	E	9-4-9	ROSE MARIE KIELGCZEWSKI	718 354
16	10*15517	E	9-4-9	DIANNE GELLNER & GARY GELLNER	718 345
17	10*15518	E	9-4-9	JAMES P HOLLIDAY AND JACQUELINE HOLLIDAY	718 347
18	10*15519	E	9-4-9	JOHN CROW	726 580
19	10*15520	E	9-4-9	TIMOTHY CROW	726 582
20	10*42051.123.1	E	9-4-9	LLOYD G BAKER	865 389
21	10*42051.123.2	E	9-4-9	JAMES P HOLLIDAY AND JACQUELINE HOLLIDAY	873 143
22	10*15525	F	9-6-12	RONALD KEITH MASON ET UX	722 445
23	10*15541	F	9-6-12	MARY RUTH FROHNAPFEL	785 312
24	10*15542	F	9-6-12	KENNETH D SIBURT	785 218
25	10*15543	F	9-6-12	SANDRA FROWEN	785 307
26	10*15544	F	9-6-12	VICKI J CHERRY A/K/A VICKIE L CHERRY	793 318
27	10*15545	F	9-6-12	JAMES B SIBURT ET UX	793 312
28	10*15546	F	9-6-12	ALAN K SIBURT ET UX	793 325
29	10*15547	F	9-6-12	RODNEY L SIBURT	793 346
30	10*15507	G	9-6-15	RAY C HARTZELL AND CAROL J HARTZELL, HUSBAND AND WIFE	689 162
31	10*15504	H	9-6-14	JAMES MASON ET AL	692 461
32	10*15510	I	9-6-15	ELAINE PHELPS ET VIR	718 326
33	10*15511	I	9-6-15	DAVID E CROW	718 376
34	10*15512	I	9-6-15	FRANCES COFFEY	718 378
35	10*15513	I	9-6-15	KAY KEYS	718 330
36	10*15514	I	9-6-15	L PAUL CROW	718 336
37	10*15515	I	9-6-15	DESIRE L CROW	718 334
38	10*15516	I	9-6-15	ROSE MARIE KIELGCZEWSKI	718 354
39	10*15517	I	9-6-15	DIANNE GELLNER & GARY GELLNER	718 345
40	10*15518	I	9-6-15	JAMES P HOLLIDAY AND JACQUELINE HOLLIDAY	718 347
41	10*15519	I	9-6-15	JOHN CROW	726 580
42	10*15520	I	9-6-15	TIMOTHY CROW	726 582
43	10*42051.123.1	I	9-6-15	LLOYD G BAKER	865 389
44	10*42051.123.2	I	9-6-15	JAMES P HOLLIDAY AND JACQUELINE HOLLIDAY	873 143
45	10*15510	J	9-6-11	ELAINE PHELPS ET VIR	718 326
46	10*15511	J	9-6-11	DAVID E CROW	718 376
47	10*15512	J	9-6-11	FRANCES COFFEY	718 378
48	10*15513	J	9-6-11	KAY KEYS	718 330
49	10*15514	J	9-6-11	L PAUL CROW	718 336
50	10*15515	J	9-6-11	DESIRE L CROW	718 334
51	10*15516	J	9-6-11	ROSE MARIE KIELGCZEWSKI	718 354
52	10*15517	J	9-6-11	DIANNE GELLNER & GARY GELLNER	718 345
53	10*15518	J	9-6-11	JAMES P HOLLIDAY AND JACQUELINE HOLLIDAY	718 347
54	10*15519	J	9-6-11	JOHN CROW	726 580
55	10*15520	J	9-6-11	TIMOTHY CROW	726 582
56	10*42051.123.1	J	9-6-11	LLOYD G BAKER	865 389
57	10*42051.123.2	J	9-6-11	JAMES P HOLLIDAY AND JACQUELINE HOLLIDAY	873 143
58	10*15510	K	9-6-10	ELAINE PHELPS ET VIR	718 326
59	10*15511	K	9-6-10	DAVID E CROW	718 376
60	10*15512	K	9-6-10	FRANCES COFFEY	718 378
61	10*15513	K	9-6-10	KAY KEYS	718 330
62	10*15514	K	9-6-10	L PAUL CROW	718 336
63	10*15515	K	9-6-10	DESIRE L CROW	718 334
64	10*15516	K	9-6-10	ROSE MARIE KIELGCZEWSKI	718 354
65	10*15517	K	9-6-10	DIANNE GELLNER & GARY GELLNER	718 345
66	10*15518	K	9-6-10	JAMES P HOLLIDAY AND JACQUELINE HOLLIDAY	718 347
67	10*15519	K	9-6-10	JOHN CROW	726 580
68	10*15520	K	9-6-10	TIMOTHY CROW	726 582
69	10*42051.123.1	K	9-6-10	LLOYD G BAKER	865 389
70	10*42051.123.2	K	9-6-10	JAMES P HOLLIDAY AND JACQUELINE HOLLIDAY	873 143
71	10*42051.365.0	L	9-10-10	RALPH MARTIN TAYLOR	865 386
72	10*15510	M	9-10-9	ELAINE PHELPS ET VIR	718 326
73	10*15511	M	9-10-9	DAVID E CROW	718 376
74	10*15512	M	9-10-9	FRANCES COFFEY	718 378
75	10*15513	M	9-10-9	KAY KEYS	718 330

**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'
- ROYALTY OWNERSHIP PROVIDED BY TUG HILL OPERATING, LLC.
- SURFACE OWNERSHIP PROVIDED WAS NOT ADDRESSED
- AS-DRILLED DATA PROVIDED BY TUG HILL OPERATING, LLC.
- PLAT UPDATED TO SHOW AS-DRILLED PATH.
- THE LATERAL OR TOP OF HEAVEN HILL 2W-13HU (47-051-01957) IS LOCATED WITHIN 3000' OF THE FOLLOWING:  
HEAVEN HILL UNIT 2-6HU (47-051-01910),  
HEAVEN HILL UNIT 2-7HU (47-051-01911),  
HEAVEN HILL UNIT 2-8HU (47-051-01912),  
HEAVEN HILL 2W-12HU (47-051-01952),  
HEAVEN HILL 3-10HU (47-051-02016),  
PROPOSED KEITH STERN N-13HU,  
KEITH STERN N-14HU (47-051-02252),  
PROPOSED KNOB CREEK N-11HU,  
PROPOSED KNOB CREEK N-12HU,  
PROPOSED KNOB CREEK N-13HU.



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Land & Energy Development  
Solutions from the ground up.  
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www.slsurveyors.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 OCTOBER 17, 20 18  
REVISED SEPTEMBER 6, 20 19  
OPERATORS WELL NO. HEAVEN HILL 2W-13HU  
API WELL NO. 47-51-01957  
STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 2500 FILE NO. 8703AD13HUR.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  LIQUID INJECTION  WASTE DISPOSAL  IF "GAS" PRODUCTION  STORAGE  DEEP  SHALLOW

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 PAGES 1 & 3  
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: 11,789' / TMD: 19,218'

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

COUNTY NAME PERMIT

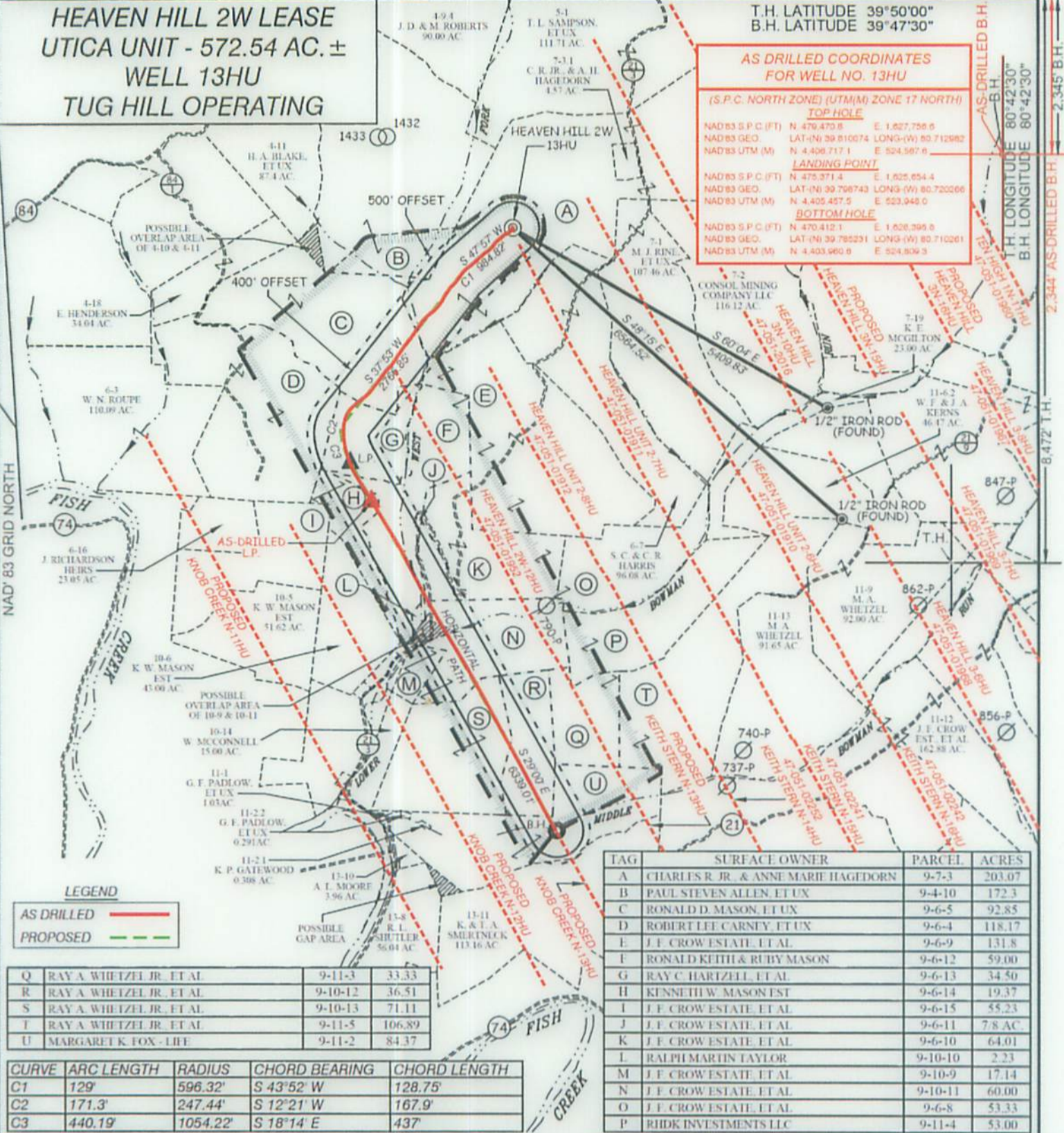






**HEAVEN HILL 2W LEASE  
UTICA UNIT - 572.54 AC. ±  
WELL 13HU  
TUG HILL OPERATING**

**AS DRILLED COORDINATES FOR WELL NO. 13HU**  
(S.P.C. NORTH ZONE) (UTM(M) ZONE 17 NORTH)  
**TOP HOLE**  
NAD'83 S.P.C. (FT) N 476,470.8 E 1,627,756.6  
NAD'83 GEO. LAT-(N) 39.810074 LONG-(W) 80.712982  
NAD'83 UTM (M) N 4,406,717.1 E 524,567.6  
**LANDING POINT**  
NAD'83 S.P.C. (FT) N 475,371.4 E 1,625,654.4  
NAD'83 GEO. LAT-(N) 39.796743 LONG-(W) 80.720266  
NAD'83 UTM (M) N 4,405,457.5 E 523,949.0  
**BOTTOM HOLE**  
NAD'83 S.P.C. (FT) N 470,412.1 E 1,626,395.0  
NAD'83 GEO. LAT-(N) 39.785231 LONG-(W) 80.710261  
NAD'83 UTM (M) N 4,403,960.5 E 524,813.3

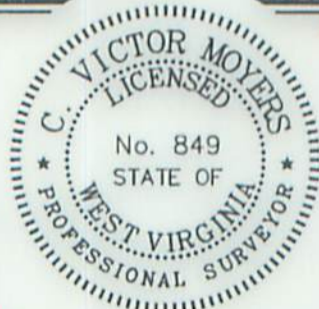


**LEGEND**  
AS DRILLED ———  
PROPOSED - - - - -

TAG	SURFACE OWNER	PARCEL	ACRES
A	CHARLES R. JR. & ANNE MARIE HAGEDORN	9-7-3	203.07
B	PAUL STEVEN ALLEN, ET UX	9-4-10	172.3
C	RONALD D. MASON, ET UX	9-6-5	92.85
D	ROBERT LEE CARNY, ET UX	9-6-4	118.17
E	J.F. CROWESTATE, ET AL.	9-6-9	131.8
F	RONALD KEITH & RUBY MASON	9-6-12	59.00
G	RAY C. HARTZELL, ET AL.	9-6-13	34.50
H	KENNETH W. MASON EST	9-6-14	19.37
I	J.F. CROWESTATE, ET AL.	9-6-15	55.23
J	J.F. CROWESTATE, ET AL.	9-6-11	7.8 AC.
K	J.F. CROWESTATE, ET AL.	9-6-10	64.01
L	RALPH MARTIN TAYLOR	9-10-10	2.23
M	J.F. CROWESTATE, ET AL.	9-10-9	17.14
N	J.F. CROWESTATE, ET AL.	9-10-11	60.00
O	J.F. CROWESTATE, ET AL.	9-6-8	53.33
P	RHDK INVESTMENTS LLC	9-11-4	53.00

CURVE	ARC LENGTH	RADIUS	CHORD BEARING	CHORD LENGTH
C1	129'	596.32'	S 43°52' W	128.75'
C2	171.3'	247.44'	S 12°21' W	167.9'
C3	440.19'	1054.22'	S 18°14' E	437'

TAG	SURFACE OWNER	PARCEL	ACRES
Q	RAY A. WHITZEL JR., ET AL.	9-11-3	33.33
R	RAY A. WHITZEL JR., ET AL.	9-10-12	36.51
S	RAY A. WHITZEL JR., ET AL.	9-10-13	71.11
T	RAY A. WHITZEL JR., ET AL.	9-11-5	106.89
U	MARGARET K. FOX - LIFE	9-11-2	84.37



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.  
FILE NO. 8703AD13HUR.dwg SCALE 1" = 2000'  
DATE OCTOBER 17, 2018  
REVISED SEPTEMBER 6, 2019  
OPERATORS WELL NO. HEAVEN HILL 2W-13HU  
API WELL NO. 47 - 51 - 01957  
STATE COUNTY PERMIT

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*

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

(S.P.C. NORTH ZONE) (UTM(M) ZONE 17 NORTH)  
NAD'83 S.P.C. (FT) N 479,470.78 E 1,627,756.58  
NAD'83 GEO. LAT-(N) 39.810074 LONG-(W) 80.712982  
NAD'83 UTM (M) N 4,406,717.08 E 524,567.56  
**LANDING POINT**  
NAD'83 S.P.C. (FT) N 475,955.7 E 1,625,337.6  
NAD'83 GEO. LAT-(N) 39.800335 LONG-(W) 80.721422  
NAD'83 UTM (M) N 4,405,633.9 E 523,848.5  
**BOTTOM HOLE**  
NAD'83 S.P.C. (FT) N 470,411.6 E 1,626,411.1  
NAD'83 GEO. LAT-(N) 39.785230 LONG-(W) 80.710218  
NAD'83 UTM (M) N 4,403,960.5 E 524,813.1

**LEGEND**

LEASE LINE	—————	COUNTY ROUTE	⊙
SURFACE LINE	—————	PROPOSED WELL	⊙
DEEP WELL LATERAL WITHIN 3,000'	—————	EXISTING WELL	⊙
WELL LATERAL	—————	PERMITTED WELL	⊙
OFFSET LINE	—————	TAX MAP-PARCEL	00-00
TIE LINE	—————	LEASE # (SEE PGS. 1 & 3)	(A)
CREEK	—————	SURFACE OWNER (SEE TABLE)	(A)
ROAD	—————		

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



FOBI NORTH TX 28103

CHARLESTON WV 25313

ADDRESS 1350 SOUTH UNIVERSITY DRIVE SUITE 200  
MEG OPERATORS THE HILL OPERATING LLC

ADDRESS 2400 D BIG LAGER ROAD  
DESIGNATED AGENT CI CORPORATION SYSTEM  
DANNA STAMBER

NAD83 UTM (N) N 470078902 E 254781374  
 NAD83 GEO GVI (N) 38188530 GONG (W) 801310518  
 NAD83 SFC (E) N 47074110 E 470524411  
 BOTTOM HOLE  
 NAD83 UTM (N) N 470078902 E 253784928  
 NAD83 GEO GVI (N) 38188530 GONG (W) 801315455  
 NAD83 SFC (E) N 47078221 E 470523370  
 LANDING POINT  
 NAD83 UTM (N) N 470078902 E 254782728  
 NAD83 GEO GVI (N) 38188530 GONG (W) 801315885  
 NAD83 SFC (E) N 470741078 E 470523288  
 (SFC NORTH ZONE) (UTM(N) ZONE 17 NORTH)

ROAD: DASHED LINE  
 CREEK: DASHED LINE WITH WIGGLY  
 DIE PINE: DASHED LINE WITH WIGGLY  
 OFFSET PINE: DASHED LINE WITH WIGGLY  
 METT GATEWAY WITHIN 2000: DASHED LINE WITH WIGGLY  
 DEEP METT GATEWAY: DASHED LINE WITH WIGGLY  
 SURFACE PINE: DASHED LINE WITH WIGGLY  
 GEYZE PINE: DASHED LINE WITH WIGGLY

SURFACE OWNERS (SEE TABLE)  
 GEYZE # (SEE PGS 1 & 2)  
 TAX MAP-BYSET  
 EXISTING METT  
 PROPOSED METT  
 COUNTY ROUTE

LEGEND

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



STATE 44 - COUNTY 21 - PERMIT NO. 01827

OPERATORS METT NO. HEAVEN HILL SW-13HU  
REVISED SEPTEMBER 8 '50 18  
DATE OCTOBER 11 '50 18  
FILE NO. 03478D3A2878 SCALE 1" = 5000'

STATES TOPOGRAPHIC MAPS (+) DENOTES LOCATION OF METT ON UNITED

848  
82'  
*G. J. ...*  
PRESCRIBED BY THE DIVISION OF ENVIRONMENTAL PROTECTION  
REQUIRING BY GVM AND THE REGULATIONS ISSUED AND  
AND BEING AND SHOWS ALL THE INFORMATION  
THAT IS CORRECT TO THE BEST OF MY KNOWLEDGE  
I THE UNDERSIGNED HEREBY CERTIFY THAT THIS

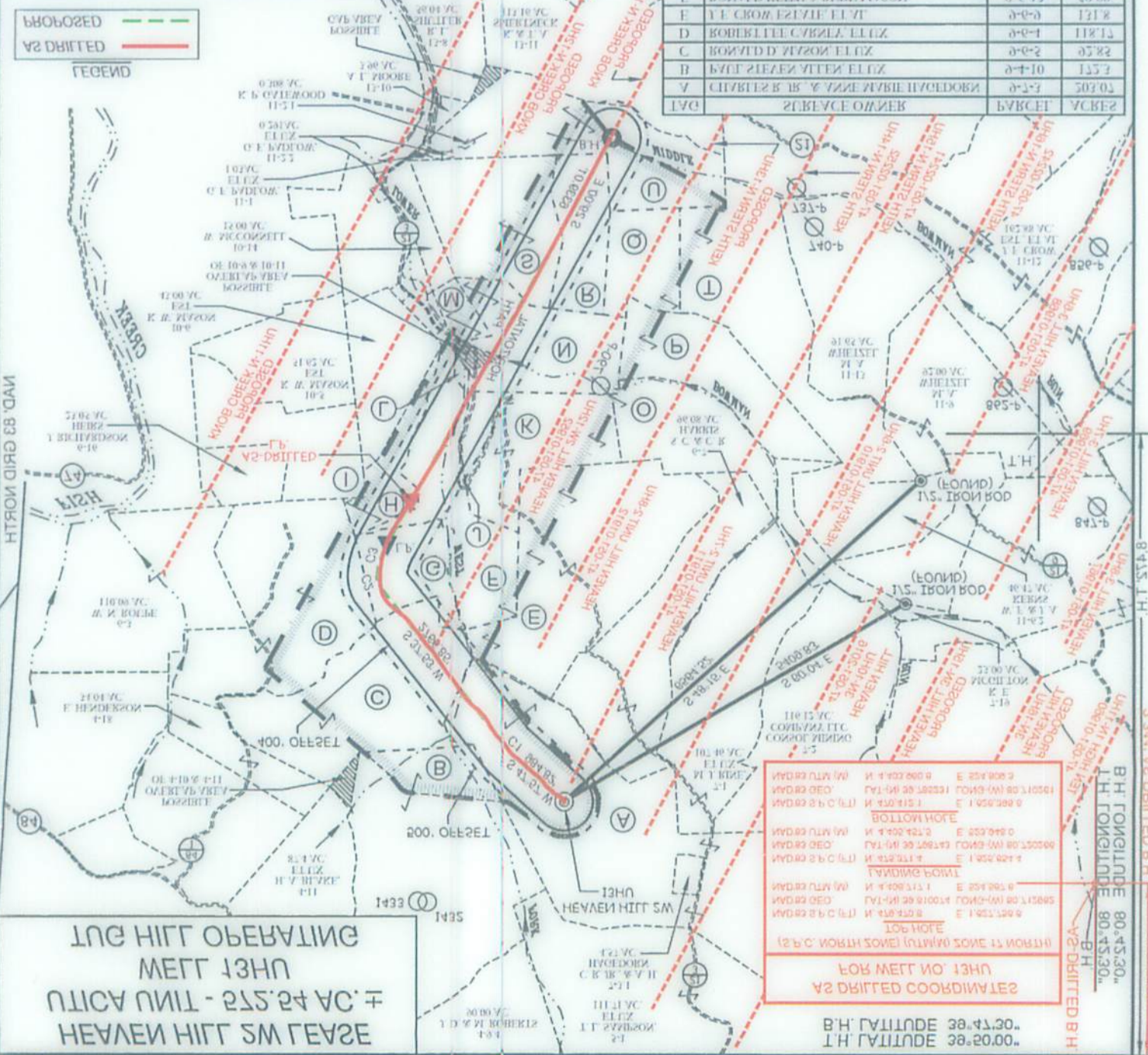
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LAND & ENERGY DEVELOPMENT



C3	44018	102455	2 18.14 E	431
C5	1113	54144	2 15.51 W	1018
C1	158	28835	2 43.25 W	15812

TYPE	DESCRIPTION	ADJUST	CHORD BEARING	CHORD LENGTH
1	PROPOSED K HOZ - DIE	0-11-5	8433	
1	K 7/4 V #HEINZ BK EL VI	0-11-2	10030	
2	K 7/4 V #HEINZ BK EL VI	0-10-12	1111	
K	K 7/4 V #HEINZ BK EL VI	0-10-13	201	
O	K 7/4 V #HEINZ BK EL VI	0-11-0	334	

LINE	SURFACE OWNER	BARCEL	ACRES
1	KIND WALTERS LLC	0-11-1	2300
2	Y E SKOM ESTATE EL VI	0-0-2	2333
3	Y E SKOM ESTATE EL VI	0-10-11	9000
4	Y E SKOM ESTATE EL VI	0-10-0	1314
5	K 7/4 V #HEINZ BK EL VI	0-10-10	553
6	Y E SKOM ESTATE EL VI	0-0-10	9401
7	Y E SKOM ESTATE EL VI	0-0-11	3870
8	Y E SKOM ESTATE EL VI	0-0-12	2233
9	KELLY HILL # HEINZ BK EL VI	0-0-14	1033
10	K 7/4 V #HEINZ BK EL VI	0-0-13	2430
11	BOYD KESH & BERNARDSON	0-0-15	2600
12	Y E SKOM ESTATE EL VI	0-0-0	1318
13	ROBERT LEE CRYBA, LLC	0-0-1	11813
14	BOYD D WATSON, EL VI	0-0-2	2582
15	K 7/4 V #HEINZ BK EL VI	0-1-10	1352
16	CLAYTON B B & YANE RYAN PAPERSON	0-1-3	5030
17			
18			



THE HILL OPERATING  
METT 13HU  
UTICA UNIT - 27.24 AC ±  
HEAVEN HILL SW GEYZE

NAD83 UTM (N) N 470078902 E 254781374  
 NAD83 GEO GVI (N) 38188530 GONG (W) 801310518  
 NAD83 SFC (E) N 47074110 E 470524411  
 BOTTOM HOLE  
 NAD83 UTM (N) N 470078902 E 253784928  
 NAD83 GEO GVI (N) 38188530 GONG (W) 801315455  
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 LANDING POINT  
 NAD83 UTM (N) N 470078902 E 254782728  
 NAD83 GEO GVI (N) 38188530 GONG (W) 801315885  
 NAD83 SFC (E) N 470741078 E 470523288  
 (SFC NORTH ZONE) (UTM(N) ZONE 17 NORTH)

B.H. LONGITUDE 80.4530.  
T.H. LONGITUDE 80.4530.  
B.H. LATITUDE 38.4130.  
T.H. LATITUDE 38.2000.



**HEAVEN HILL 2W LEASE  
UTICA UNIT - 572.54 AC. ±  
WELL 13HU  
TUG HILL OPERATING**

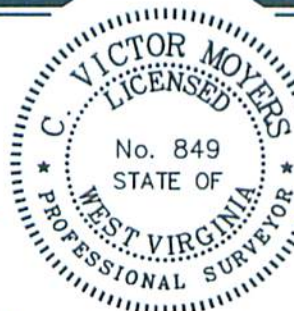
No.	Lease Name or No.	Tag	Parcel	Grantor, Lessee, etc. - Continued	Deed Book/Page
76	10*15514	M	9-10-9	PAUL CROW	718 336
77	10*15515	M	9-10-9	DESIRE L CROW	718 334
78	10*15516	M	9-10-9	ROSE MARIE KRUGOWSKI	718 334
79	10*15517	M	9-10-9	DIANNE GEINER & GARY GEINER	718 345
80	10*15518	M	9-10-9	JAMES F HOLIDAY AND JACQUELINE HOLIDAY	718 347
81	10*15519	M	9-10-9	JOHN CROW	726 580
82	10*15520	M	9-10-9	TIMOTHY CROW	726 582
83	10*47051 123.1	M	9-10-9	LOYD G BAKER	865 389
84	10*47051 123.2	M	9-10-9	JAMES F HOLIDAY AND JACQUELINE HOLIDAY	873 143
85	10*15530	N	9-10-11	FLAINE PHILIPS TVR	718 336
86	10*15531	N	9-10-11	DAVID E CROW	718 336
87	10*15532	N	9-10-11	FRANCES COFFEY	718 336
88	10*15533	N	9-10-11	KAY KEYS	718 330
89	10*15534	N	9-10-11	PAUL CROW	718 336
90	10*15535	N	9-10-11	DESIRE L CROW	718 334
91	10*15536	N	9-10-11	ROSE MARIE KRUGOWSKI	718 334
92	10*15537	N	9-10-11	DIANNE GEINER & GARY GEINER	718 345
93	10*15538	N	9-10-11	JAMES F HOLIDAY AND JACQUELINE HOLIDAY	718 347
94	10*15539	N	9-10-11	JOHN CROW	726 580
95	10*15540	N	9-10-11	TIMOTHY CROW	726 582
96	10*47051 123.1	N	9-10-11	LOYD G BAKER	865 389
97	10*47051 123.2	N	9-10-11	JAMES F HOLIDAY AND JACQUELINE HOLIDAY	873 143
98	10*15540	O	9-6-8	FLAINE PHILIPS TVR	718 336
99	10*15541	O	9-6-8	DAVID E CROW	718 336
100	10*15542	O	9-6-8	FRANCES COFFEY	718 336
101	10*15543	O	9-6-8	KAY KEYS	718 330
102	10*15544	O	9-6-8	PAUL CROW	718 336
103	10*15545	O	9-6-8	DESIRE L CROW	718 334
104	10*15546	O	9-6-8	ROSE MARIE KRUGOWSKI	718 334
105	10*15547	O	9-6-8	DIANNE GEINER & GARY GEINER	718 345
106	10*15548	O	9-6-8	JAMES F HOLIDAY AND JACQUELINE HOLIDAY	718 347
107	10*15549	O	9-6-8	JOHN CROW	726 580
108	10*15550	O	9-6-8	TIMOTHY CROW	726 582
109	10*47051 123.1	O	9-6-8	LOYD G BAKER	865 389
110	10*47051 123.2	O	9-6-8	JAMES F HOLIDAY AND JACQUELINE HOLIDAY	873 143
111	10*15557	P	9-11-4	RIDGE INVESTMENTS LLC WITH R KIMBLE	867 550
112	10*15561	Q	9-11-3	VIKIE MASON	682 413
113	10*15562	Q	9-11-3	MARY A SOUTH	682 413
114	10*15563	Q	9-11-3	MARIE L WHITZEL	682 564
115	10*15564	Q	9-11-3	RAY A WHITZEL JR	682 564
116	10*15565	Q	9-11-3	ROBERT L WHITZEL	682 552
117	10*15566	Q	9-11-3	SHARON L WHITZEL	682 556
118	10*47051 108.1	Q	9-11-3	MICHAEL A WHITZEL	885 51
119	10*47051 108.5	Q	9-11-3	BRENDA J WHITZEL	885 55
120	10*47051 108.6	Q	9-11-3	TERRI MCCARDELE	895 21
121	10*47051 108.7	Q	9-11-3	GARY FRANCIS WHITZEL	895 26
122	10*15571	R	9-10-17	VIKIE MASON	682 405
123	10*15572	R	9-10-17	MARY A SOUTH	682 414
124	10*15573	R	9-10-17	MARIE L WHITZEL	682 564
125	10*15574	R	9-10-17	RAY A WHITZEL JR	682 564
126	10*15575	R	9-10-17	ROBERT L WHITZEL	682 552
127	10*15576	R	9-10-17	SHARON L WHITZEL	682 560
128	10*15724	R	9-10-12	JAMES RODNEY BRIGGS	901 325
129	10*15725	R	9-10-12	ROGER JACOB BRIGGS	901 318
130	10*15726	R	9-10-12	JOHN DEAN BRIGGS AND PATTY KAY BRIGGS	901 321
131	10*16079	R	9-10-12	LENN ASTON DIVOR	904 565
132	10*16236	R	9-10-12	FRANCIS F RUSSELL	907 196
133	10*16237	R	9-10-12	GREGORY J ASTON AND TAMMY E ASTON	907 149
134	10*16275	R	9-10-12	JEFFREY A ASTON	907 183
135	10*47051 108.1	R	9-10-12	MICHAEL A WHITZEL	885 51
136	10*47051 108.25	R	9-10-12	PATRICIA ANN MCCOUGAL	901 306
137	10*47051 108.35	R	9-10-12	STEVEN L ASTON	901 306
138	10*47051 108.51	R	9-10-12	FRED YERNS	901 296
139	10*47051 108.56	R	9-10-12	YVONNE K BOBERT	901 300
140	10*47051 108.57	R	9-10-12	CARL E ASTON	901 304
141	10*47051 108.78	R	9-10-12	CAROLYN SUE WELLS	901 310
142	10*47051 108.41	R	9-10-12	ELMER ASTON	901 296
143	10*47051 108.48	R	9-10-12	WILLIAM ASTON	901 312
144	10*47051 108.5	R	9-10-12	BRENDA J WHITZEL	885 55
145	10*47051 108.52	R	9-10-12	DAVID U ASTON ESTATE BY EXECUTOR DAWN R MARKS	901 314
146	10*47051 108.52	R	9-10-12	CONNIE N ASTON	901 318
147	10*47051 108.53	R	9-10-12	MARY JANE KYLE	901 339
148	10*47051 108.56	R	9-10-12	PAULA HURDL	901 347
149	10*47051 108.57	R	9-10-12	ROBERT B KERNS	901 349
150	10*47051 108.58	R	9-10-12	RONALD W KERNS	901 341
151	10*47051 108.59	R	9-10-12	PAUL ULYSSES KERNS ESTATE SALVATORE P PUGUSI EXECUTOR	901 343
152	10*47051 108.6	R	9-10-12	TERRI MCCARDELE	895 21
153	10*47051 108.61	R	9-10-12	AMANDA FEIGH	895 25
154	10*47051 108.7	R	9-10-12	GARY FRANCIS WHITZEL	895 26
155	10*47051 108.73	R	9-10-12	JOHN ASTON JR	901 351
156	10*47051 108.77	R	9-10-12	SHONDA WOOD	901 356
157	10*47051 108.78	R	9-10-12	DONNA WOODS MOODY	901 354
158	10*47051 108.79	R	9-10-12	MARK A ASTON	901 358
159	10*47051 108.81	R	9-10-12	KENNETH CHEPPS	899 20
160	10*15567	S	9-10-13	VIKIE MASON	682 409
161	10*15568	S	9-10-13	MARY A SOUTH	682 410
162	10*15569	S	9-10-13	MARIE L WHITZEL	682 560
163	10*15570	S	9-10-13	RAY A WHITZEL JR	682 564
164	10*15571	S	9-10-13	SHARON L WHITZEL	682 560
165	10*15572	S	9-10-13	ROBERT L WHITZEL	682 550
166	10*15724	S	9-10-13	JAMES RODNEY BRIGGS	901 325
167	10*15725	S	9-10-13	ROGER JACOB BRIGGS	901 318
168	10*15726	S	9-10-13	JOHN DEAN BRIGGS AND PATTY KAY BRIGGS	901 321
169	10*16079	S	9-10-13	LENN ASTON DIVOR	904 565
170	10*16236	S	9-10-13	FRANCIS F RUSSELL	907 196
171	10*16237	S	9-10-13	GREGORY J ASTON AND TAMMY E ASTON	907 149
172	10*16275	S	9-10-13	JEFFREY A ASTON	907 183
173	10*47051 108.1	S	9-10-13	MICHAEL A WHITZEL	885 51
174	10*47051 108.29	S	9-10-13	PATRICIA ANN MCCOUGAL	901 306
175	10*47051 108.35	S	9-10-13	STEVEN L ASTON	901 306

No.	Lease Name or No.	Tag	Parcel	Grantor, Lessee, etc. - Continued	Deed Book/Page
176	10*47051 108.31	S	9-10-13	FRED YERNS	901 298
177	10*47051 108.36	S	9-10-13	YVONNE K BOBERT	901 300
178	10*47051 108.37	S	9-10-13	CARL E ASTON	901 304
179	10*47051 108.38	S	9-10-13	CAROLYN SUE WELLS	901 310
180	10*47051 108.41	S	9-10-13	ELMER ASTON	901 296
181	10*47051 108.48	S	9-10-13	WILLIAM ASTON	901 312
182	10*47051 108.5	S	9-10-13	BRENDA J WHITZEL	885 55
183	10*47051 108.52	S	9-10-13	DAVID U ASTON ESTATE BY EXECUTOR DAWN R MARKS	901 314
184	10*47051 108.52	S	9-10-13	CONNIE N ASTON	901 318
185	10*47051 108.53	S	9-10-13	MARY JANE KYLE	901 339
186	10*47051 108.56	S	9-10-13	PAULA HURDL	901 347
187	10*47051 108.57	S	9-10-13	ROBERT B KERNS	901 349
188	10*47051 108.58	S	9-10-13	RONALD W KERNS	901 341
189	10*47051 108.59	S	9-10-13	PAUL ULYSSES KERNS ESTATE SALVATORE P PUGUSI EXECUTOR	901 343
190	10*47051 108.6	S	9-10-13	TERRI MCCARDELE	895 21
191	10*47051 108.61	S	9-10-13	AMANDA FEIGH	895 25
192	10*47051 108.7	S	9-10-13	GARY FRANCIS WHITZEL	895 26
193	10*47051 108.73	S	9-10-13	JOHN ASTON JR	901 351
194	10*47051 108.77	S	9-10-13	SHONDA WOOD	901 356
195	10*47051 108.78	S	9-10-13	DONNA WOODS MOODY	901 354
196	10*47051 108.79	S	9-10-13	MARK A ASTON	901 358
197	10*47051 108.81	S	9-10-13	KENNETH CHEPPS	899 20
198	10*15564	T	9-11-3	VIKIE MASON	682 409
199	10*15565	T	9-11-3	MARY A SOUTH	682 410
200	10*15566	T	9-11-3	MARIE L WHITZEL	682 560
201	10*15567	T	9-11-3	RAY A WHITZEL JR	682 564
202	10*15568	T	9-11-3	SHARON L WHITZEL	682 560
203	10*15569	T	9-11-3	ROBERT L WHITZEL	682 550
204	10*47051 108.1	T	9-11-3	MICHAEL A WHITZEL	885 51
205	10*47051 108.5	T	9-11-3	BRENDA J WHITZEL	885 55
206	10*47051 108.52	U	9-11-2	MARY A FOX	870 232
207	10*47051 108.53	U	9-11-2	PAUL G FOX	870 235
208	10*47051 108.53	U	9-11-2	MARK H FOX	870 238
209	10*47051 108.54	U	9-11-2	DAVID E FOX	870 24
210	10*47051 108.55	U	9-11-2	LOUIS T FOX	870 24
211	10*47051 108.6	U	9-11-2	THOMAS J FOX	870 21

RECEIVED  
Office of Oil and Gas

JUL 10 2020

WV Department of  
Environmental Protection



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.  
FILE NO. 8703AD13HUR.dwg SCALE 1" = 200'  
DATE OCTOBER 17, 20 18  
REVISED SEPTEMBER 6, 20 19  
OPERATORS WELL NO. HEAVEN HILL 2W-13HU  
API WELL NO. 47 - 51 - 01957  
STATE COUNTY PERMIT

COUNTY NAME

PERMIT

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*

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