

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

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API 47-051 - 01969 County Marshall District Meade  
Quad Glen Easton 7.5' Pad Name Heaven Hill 3 Field/Pool Name \_\_\_\_\_  
Farm name Ricky L. Whitlatch Well Number Heaven Hill 3-7HU  
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 4,406,564.39 Easting 526,256.11  
Landing Point of Curve Northing 4,405,875.0 Easting 526,361.1  
Bottom Hole Northing 4,403,167.7 Easting 527,904.9

Elevation (ft) 1326' GL 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 2/28/2018 Date drilling commenced 4/27/2018 Date drilling ceased 11/16/2018  
Date completion activities began 4/12/2019 Date completion activities ceased 10/28/2019  
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 1064' Open mine(s) (Y/N) depths N  
Salt water depth(s) ft 1595' Void(s) encountered (Y/N) depths N  
Coal depth(s) ft 972-978', 1057-1063' Cavern(s) encountered (Y/N) depths N  
Is coal being mined in area (Y/N) N

Reviewed by:  
*Jessie M. ...*  
7/27/2020

API 47-051 - 01969

Farm name Ricky L. Whitlatch

Well number Heaven Hill 3-7HU

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"	1,130'	NEW	106.5#	N/A	Y
Coal							
Intermediate 1	17 1/2"	13 3/8"	2,916'	NEW	54.5#	N/A	Y
Intermediate 2	12 1/4"	9 5/8"	10,919'	NEW	47#	N/A	Y
Intermediate 3							
Production	8 1/2"	5 1/2"	22,702'	NEW	23#	N/A	Y
Tubing		2 7/8#	11,351'	NEW	4.7#	N/A	
Packer type and depth set							

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

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	1.2		0	8
Surface	A	2080	15.6	1.2	2496	0	8
Coal							
Intermediate 1	A	2400	15.6	1.19	2856	0	8
Intermediate 2	A	3859	14.5	1.19	4592	0	8
Intermediate 3							
Production	A	5103	16.5	16.5	5614	0	8
Tubing							

Drillers TD (ft) 22,736'

Deepest formation penetrated Trenton

Plug back procedure n/a

Loggers TD (ft) n/a

Plug back to (ft) n/a

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Kick off depth (ft) 11,677

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 \_\_\_\_\_

API 47- 051 - 01969 Farm name Ricky L. Whitlatch Well number Heaven Hill 3-7HU

**PERFORATION RECORD**

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
	attached				

Please insert additional pages as applicable.

**STIMULATION INFORMATION PER STAGE**

Complete a separate record for each stimulation stage.

Stage No.	Stimulations Date	Ave Pump Rate (BPM)	Ave Treatment Pressure (PSI)	Max Breakdown Pressure (PSI)	ISIP (PSI)	Amount of Proppant (lbs)	Amount of Water (bbbls)	Nitrogen/other (units)
	attached							

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Please insert additional pages as applicable.



**Heaven Hill 3-7HU  
PEFORATION RECORD**

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD. Ft.	Number of Perforations	Formation(s)
1	7/23/2019	22283	22458	48	Utica
2	7/24/2019	22082	22258	48	Utica
3	7/24/2019	21882	22057	48	Utica
4	7/25/2019	21681	21857	48	Utica
5	7/26/2019	21480	21656	48	Utica
6	7/26/2019	21280	21455	48	Utica
7	7/27/2019	21079	21255	48	Utica
8	7/28/2019	20879	21054	48	Utica
9	7/28/2019	20678	20854	48	Utica
10	7/29/2019	20478	20653	48	Utica
11	7/30/2019	20277	20453	48	Utica
12	7/31/2019	20077	20252	48	Utica
13	8/1/2019	19876	20052	48	Utica
14	8/2/2019	19676	19851	48	Utica
15	8/2/2019	19475	19651	48	Utica
16	8/3/2019	19275	19450	48	Utica
17	8/3/2019	19074	19250	48	Utica
18	8/4/2019	18874	19049	48	Utica
19	8/4/2019	18673	18849	48	Utica
20	8/5/2019	18473	18648	48	Utica
21	8/5/2019	18272	18448	48	Utica
22	8/5/2019	18072	18247	48	Utica
23	8/7/2019	17871	18047	48	Utica
24	8/7/2019	17671	17846	48	Utica
25	8/7/2019	17470	17646	48	Utica
26	8/8/2019	17270	17445	48	Utica
27	8/8/2019	17069	17245	48	Utica
28	8/8/2019	16869	17044	48	Utica
29	8/9/2019	16668	16844	48	Utica
30	8/9/2019	16468	16643	48	Utica
31	8/10/2019	16267	16443	48	Utica
32	8/10/2019	16067	16242	48	Utica
33	8/10/2019	15866	16042	48	Utica
34	8/11/2019	15666	15841	48	Utica
35	8/11/2019	15465	15641	48	Utica
36	8/11/2019	15265	15440	48	Utica
37	8/12/2019	15064	15240	48	Utica
38	8/12/2019	14864	15039	48	Utica
39	8/12/2019	14663	14839	48	Utica
40	8/12/2019	14463	14638	48	Utica
41	8/13/2019	14262	14438	48	Utica
42	8/13/2019	14062	14237	48	Utica
43	8/13/2019	13861	14037	48	Utica
44	8/14/2019	13661	13836	48	Utica
45	8/14/2019	13460	13636	48	Utica
46	8/14/2019	13260	13435	48	Utica

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47	8/15/2019	13059	13235	48	Utica
48	8/15/2019	12859	13034	48	Utica
49	8/16/2019	12658	12834	48	Utica
50	8/16/2019	12458	12633	48	Utica

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**Heaven Hill 3-7HU  
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	83.8	11809	0	7207	498560	14645	0
2	81.4	12073	11506	7615	502260	11213	0
3	80.4	12114	11136	7690	500050	10500	0
4	82.6	12072	11236	8070	502910	10344	0
5	82.4	12033	9361	7577	314920	8138	0
6	83	11975	10471	8068	501160	10313	0
7	82.1	11817	9731	8109	282660	7537	0
8	79.2	11515	10041	7711	511010	10714	0
9	83	11347	8300	7681	509550	10740	0
10	80.9	11457	8725	8077	504580	10504	0
11	86.9	11925	9542	7977	507860	10521	0
12	87.6	12114	9941	7452	515500	10237	0
13	86.2	11811	9846	7964	504280	10441	0
14	88	11370	8200	7621	505950	11936	0
15	87.6	11588	8633	8081	507440	10669	0
16	88.3	11593	9189	7850	506760	10433	0
17	89.6	11509	8611	8024	500340	10411	0
18	88.9	11340	8219	7563	500510	10338	0
19	87.3	11119	8283	7579	500410	10299	0
20	88.4	11043	8081	7804	502600	10208	0
21	89.2	10924	10121	7633	502240	10235	0
22	87.8	10887	9626	8111	502070	11453	0
23	89.2	10876	9452	7670	500490	10066	0
24	89.5	10732	9154	7884	503440	10593	0
25	89.3	10734	9434	8114	504160	10147	0
26	89.1	10723	8939	7350	503090	10695	0
27	89.1	10681	9346	7684	502220	10320	0
28	88.4	10998	9057	7457	495965	10124	0
29	89.1	11088	8844	7605	501980	10910	0
30	88.5	11191	9028	7061	501380	11871	0
31	89.2	10999	9071	7505	499600	10091	0
32	89.4	10910	7984	7146	504390	10302	0
33	89.6	10910	8603	7362	504170	10054	0

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34	89.6	10529	7954	7236	501470	10135	0
35	89.4	10846	9288	7672	502160	10247	0
36	89.5	10832	10288	7665	508220	10206	0
37	89.7	10824	9444	7671	500760	10070	0
38	89.4	10656	9058	7505	501330	10194	0
39	89.5	10506	7790	7489	503730	10220	0
40	89.8	10664	9092	7554	496680	9892	0
41	89.5	10635	8353	7399	507540	9923	0
42	88.6	10348	8978	7573	507020	10316	0
43	89.4	10486	8825	7442	465830	9952	0
44	89.6	10382	9014	7420	506240	9946	0
45	89.3	10610	8756	7506	506260	10095	0
46	88.7	10423	8618	7613	505780	10068	0
47	89.6	10314	9247	7647	506100	10087	0
48	89.6	10167	9145	7613	504350	10066	0
49	89.7	10036	8687	7881	502550	9871	0
50	89.6	10226	9299	7672	502370	10080	0

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HEAVEN HILL 3-7HU

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	1936	2108	1937	2109	Sandstone
Big Lime	2108	2239	2109	2240	Limestone
Big Injun	2239	2534	2240	2536	Sandstone
Weir	2534	2732	2536	2735	Sandstone
Berea	2732	2994	2735	2997	Sandstone
Gordon	2994	3079	2997	3082	Sandstone
Fifty Foot	3079	3661	3082	3664	Sandstone
Speechley	3661	5122	3664	5126	Sandstone
Benson	5122	5494	5126	5499	Sandstone
Alexander	5494	6116	5499	6121	Siltstone
Rhinestreet	6116	6566	6121	6571	Black shale
Middlesex	6566	6634	6571	6639	Black shale
Geneseo/Burkett	6634	6665	6639	6670	Black shale
Tully	6665	6698	6670	6703	Limestone
Hamilton	6698	6772	6703	6777	Grey shale
Marcellus	6772	6824	6777	6829	Black shale
Onondaga	6824	7060	6829	7067	Limestone
Oriskany	7060	7168	7067	7178	Sandstone
Helderberg	7168	7541	7178	7565	Limestone
Salina	7541	8601	7565	8699	Salt/Anhydrite/LS
Lockport	8601	8972	8699	9095	Dolomite
Rose Hill	8972	9248	9095	9391	Shale
Packer Shell	9248	9459	9391	9624	Limestone
Clinton/Tuscarora	9459	9568	9624	9744	Sandstone
Juniata/Queenston	9568	10433	9744	10676	Red Shale
Reedsville	10433	11437	10676	11664	Grey Shale
Utica	11437	11691	11664	12107	Black Shale
Point Pleasant	11691	-	12107	-	Shale/Limestone

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**Well:** Heaven Hill 3-7 HU (F)  
**Site:** Heaven Hill 3  
**Project:** Marshall County, West Virginia.  
**Design:** rev10

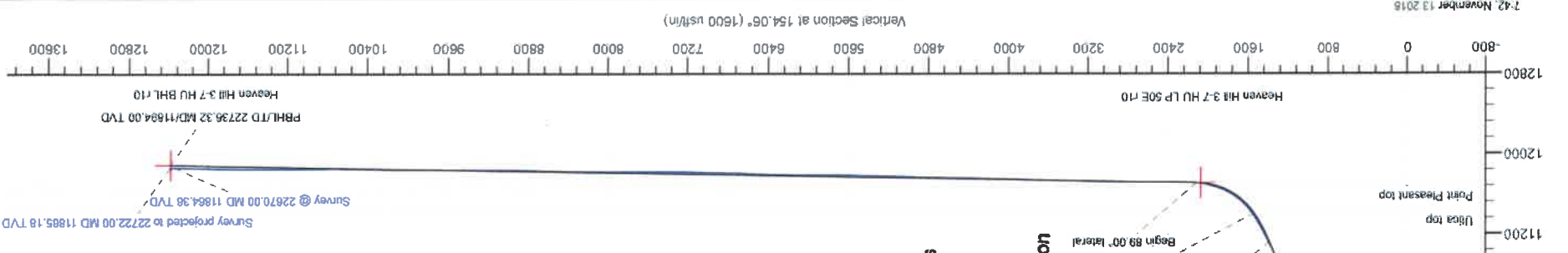
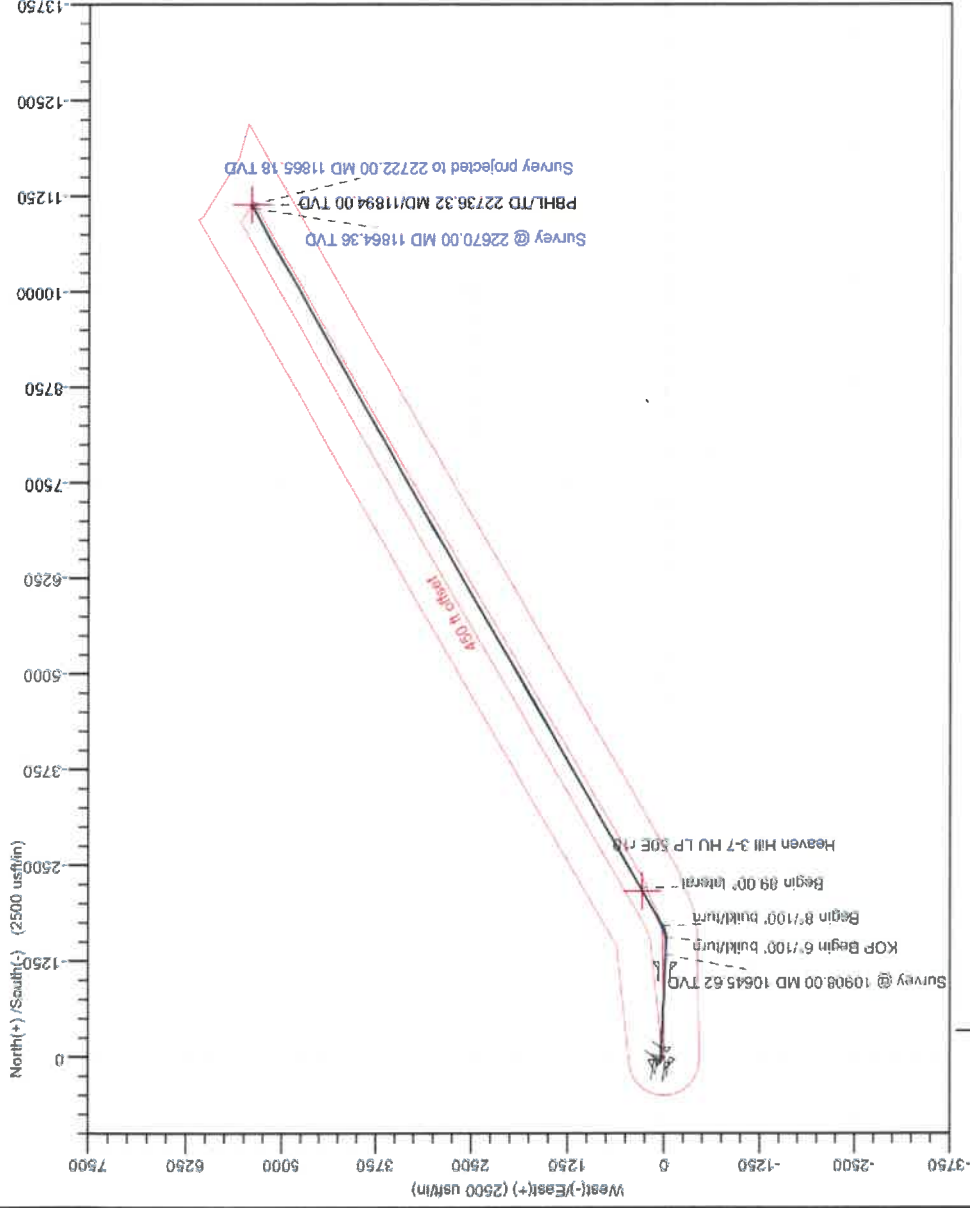
**SECTION DETAILS**

Sec	MD	Inc	Azi	TVD	+N/S	+E/W	Vsect	Annotation
1	10908.00	24.66	182.68	10645.58	-1334.01	-21.54	0.00	Survey @ 10908.00 MD 10645.62 TVD
2	11435.00	24.66	182.68	11124.52	-1563.66	-31.82	0.00	KOP Begin 6'100" buildum
3	11760.62	35.00	148.50	11408.61	-1702.58	14.24	6.00	Begin 8'100" buildum
4	12435.84	89.00	150.23	11714.02	-2197.96	304.85	8.00	Begin 89.00" lateral
5	22736.32	89.00	150.23	11884.00	-1138.10	5417.72	0.00	PBHL/TD 22736.32 MD/11884.00 TVD
								Annotation
	MD	Inc	Azi	TVD	+N/S	+E/W	Vsect	Annotation
	157.00	0.30	305.10	157.00	0.24	-0.36	0.00	
	22670.00	89.10	152.90	11864.36	-1097.69	5385.66	12335.48	Survey @ 22670.00 MD 11864.36 TVD
	22722.00	89.10	152.90	11865.18	-11143.97	5409.37	12387.46	Survey projected to 22722.00 MD 11865.18 TVD

Geodetic Datum: Universal Transverse Mercator (US Survey Feet)  
 Datum: NAD83 West Virginia - HARN  
 Ellipsoid: GRS 1980  
 Zone: Zone 17N (84 W to 78 W)  
 System Datum: Mean Sea Level  
 Depth Reference: RKB=1326+26 @ 1352.00usft  
 Easting 1726558.60  
 Northing 14457203.32  
 Longitude -80.69328096  
 Latitude 39.80864817  
 Total Corr (M->G): To convert a Magnetic Direction to a Grid Direction, Subtract 8.94°



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### Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	7/23/2019
Job End Date:	8/16/2019
State:	West Virginia
County:	Marshall
API Number:	47-051-01969-00-00
Operator Name:	Tug Hill Operating, LLC
Well Name and Number:	Heaven Hill 3 ZHU
Latitude:	39.81320000
Longitude:	-80.69160000
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	11,859
Total Base Water Volume (gal):	22,210,459
Total Base Non Water Volume:	0

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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	87.65665	Density = 8.34
			Water	7732-18-5	100.00000	0.50235	

### Hydraulic Fracturing Fluid Composition:

OilPerm A	Halliburton	Non-ionic Surfactant	Listed Below				
LEGEND(TM) LD-7750W	MultiChem	Scale Control	Listed Below				
FDP-S1296-17	Halliburton	Acid Corrosion Inhibitor	Listed Below				
MC MX 8-4743	MultiChem	Additive	Listed Below				
HYDROCHLORI C ACID, 22 BAUME	Halliburton	Solvent	Listed Below				
Sand-Premium White-40/70	Halliburton	Proppant	Listed Below				
LD-2950	MultiChem	Friction Reducer	Listed Below				
Sand-Common White-100 Mesh, SSA-2	Halliburton	Proppant	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	11.70405		

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	0.03707	7.50000	7647-01-0	Hydrochloric acid			
	0.02971	30.00000	64742-47-8	Hydrotreated light petroleum distillate			
	0.02251	60.00000	7631-99-4	Sodium nitrate			
	0.00546	100.00000	67-56-1	Methanol			
	0.00099	1.00000	Proprietary	Ethoxylated alcohols			
	0.00099	1.00000	69011-36-5	Poly(oxy-1,2-ethanediyl), alpha-tridecyl-omega-hydroxy-, branched			
	0.00044	5.00000	Proprietary	Phosphoric Acid Salt			
	0.00044	5.00000	7647-14-5	Sodium chloride			
	0.00012	60.00000	64-17-5	Ethanol			
	0.00006	30.00000	Proprietary	Oxalkylated nonyl phenolic resin			
	0.00006	30.00000	64742-94-5	Heavy aromatic petroleum naphtha			
	0.00006	30.00000	Proprietary	Modified thiourea polymer			
	0.00006	30.00000	61790-12-3	Mixture of dimer and trimer fatty acids of indefinite composition derived from tall oil resin			
	0.00002	10.00000	Proprietary	Oxalkylated phenolic resin			
	0.00001	5.00000	127087-87-0	Poly(oxy-1,2-ethanediyl), alpha-(4-nonylphenyl)-omega-hydroxy-, branched			
	0.00001	5.00000	91-20-3	Naphthalene			
	0.00001	5.00000	Proprietary	Ethoxylated alcohols			
	0.00001	5.00000	107-19-7	Propargyl alcohol			
	0.00001	5.00000	629-73-2	Hexadecene			
	0.00001	0.10000	50-00-0	Formaldehyde			
	0.00000	1.00000	95-63-6	1,2,4 Trimethylbenzene			

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\* 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 3 LEASE  
UTICA UNIT - 354.73 AC±  
WELL 7HU  
TUG HILL OPERATING

7.471' T.H.A.D.

2,101' B.H.A.D.

(S.P.C. NORTH ZONE) (UTM(M) ZONE 17 NORTH)  
NAD'83 S.P.C.(FT) N. 478,877.13 E. 1,639,289.15  
NAD'83 GEO. LAT-(N) 39.802648 LONG-(W) 80.692261  
NAD'83 UTM (M) N. 4,406,964.39 E. 526,256.11  
LANDING POINT  
NAD'83 S.P.C.(FT) N. 476,708.3 E. 1,633,539.6  
NAD'83 GEO. LAT-(N) 39.802704 LONG-(W) 80.692267  
NAD'83 UTM (M) N. 4,405,904.9 E. 526,343.5  
BOTTOM HOLE  
NAD'83 S.P.C.(FT) N. 467,646.3 E. 1,638,521.8  
NAD'83 GEO. LAT-(N) 39.778008 LONG-(W) 80.674114  
NAD'83 UTM (M) N. 4,403,169.5 E. 527,907.4

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

B.H.A.D.

8,992' T.H.A.D.

T.H.A.D.

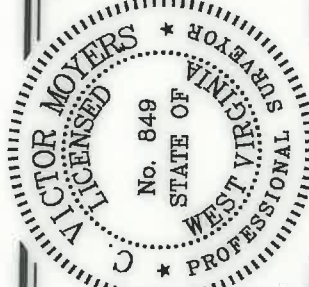
Table with columns: NO., Issues Name (pt No.), Title, Permit No., Oil and Gas Results Owner, Date Rec'd, Pages. Lists various well permits and owners such as RICKY L. WHITLATCH, BRENDA HINEMAN, etc.

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 625' OF THE CENTER OF PROPOSED WELL PAD.
2. WELL SPOT CIRCLE & TOPO MARK SCALE IS 1"=2000'
3. PROPOSED LATERAL OR TOP HOLE OF HEAVEN HILL 3-7HU IS WITHIN 3000' OF THE TOP HOLES OR LATERALS OF API 47-051-1910 AND PROPOSED WELLS HEAVEN HILL 3-6HU, HEAVEN HILL 3-BHU, HEAVEN HILL 3-10HU, TEN HIGH 1S-14HU, TEN HIGH 1N-11HU, AND TEN HIGH 1N-12HU.
4. AS-DRILLED DATA PROVIDED BY TUG HILL OPERATING, LLC
5. PLAT UPDATED TO SHOW AS-DRILLED PATH.



12 Vanhorn Drive | P.O. Box 150 | Glenville, WV 26351 | 304.462.5534
1412 Kanawha Boulevard, East | Charleston, WV 25301 | 304.346.3952
254 East Beckley Bypass | Beckley, WV 26601 | 304.256.5296



P.S. 849
C. Victor Moyers

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.

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.
DATE JANUARY 17, 20 19

REVISED JUNE 12, 20 20
OPERATORS WELL NO. HEAVEN HILL 3-7HU

WELL NO. 47-051-01969
STATE COUNTY PERMIT

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

MINIMUM DEGREE OF ACCURACY 1/2500
FILE NO. 8654P7HUADR.dwg
SCALE 1" = 2000'

WELL TYPE: OIL GAS X INJECTION WASTE LIQUID IF
LOCATION: ELEVATION PROPOSED = 1,340.10'
DISPOSAL "GAS" PRODUCTION X STORAGE DEEP X SHALLOW

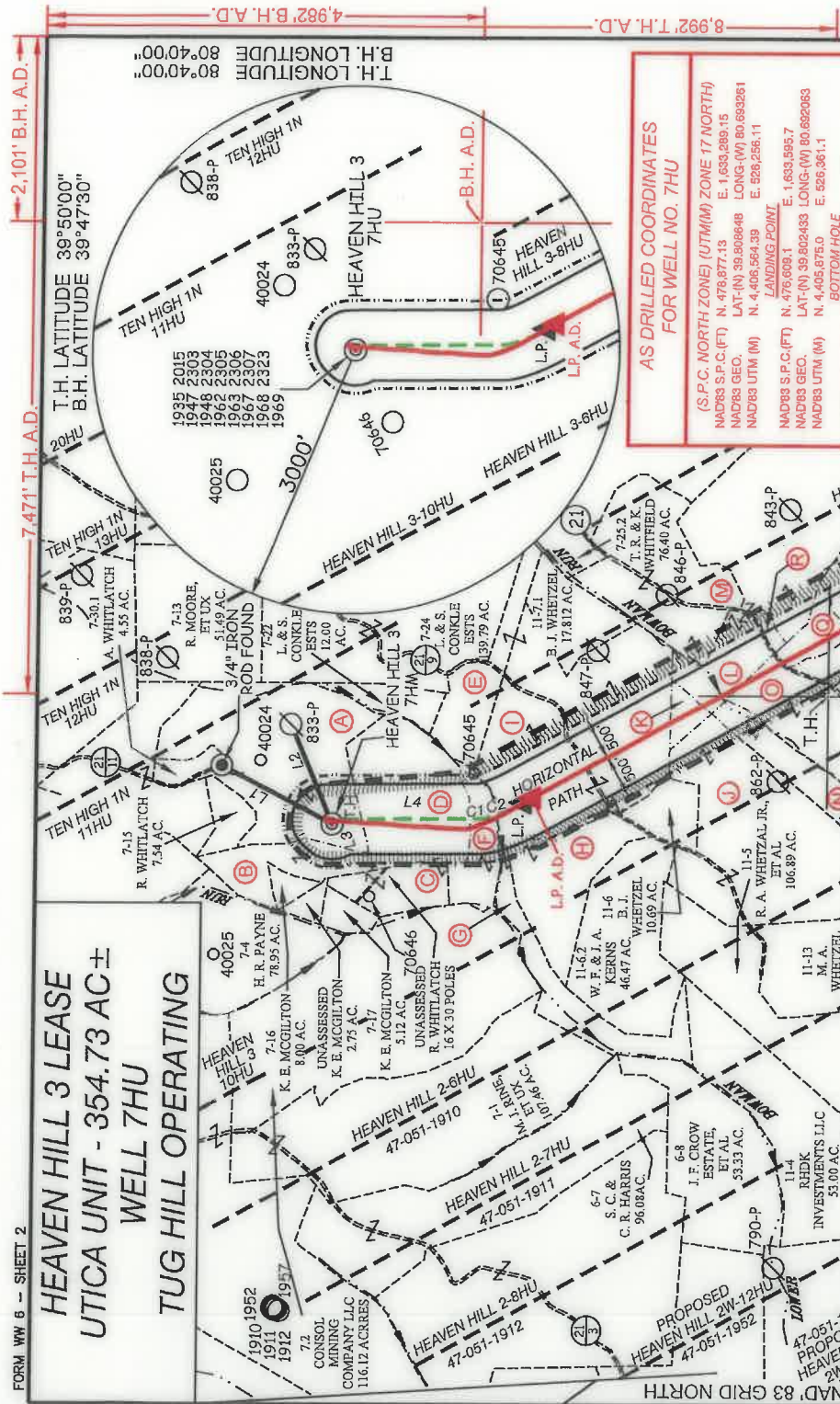
DISTRICT MEADE COUNTY MARSHALL
SURFACE OWNER RICKY L. WHITLATCH
ROYALTY OWNER RICKY L. WHITLATCH, ET AL - SEE SHEETS 1, 3, & 4

PROPOSED WORK:
DRILL X CONVERT DRILL DEEPER REDRILL
FORMATION PERFORATE NEW FORMATION PLUG AND ABANDON
PHYSICAL CHANGE IN WELL (SPECIFY) TARGET FORMATION POINT PLEASANT

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

**HEAVEN HILL 3 LEASE  
UTICA UNIT - 354.73 AC ±  
WELL 7HU  
TUG HILL OPERATING**



**AS DRILLED COORDINATES  
FOR WELL NO. 7HU**

(S.P.C. NORTH ZONE) (UTM(M) ZONE 17 NORTH)  
 NAD83 S.P.C.(FT) N. 478,877.13 E. 1,633,289.15  
 NAD83 GEO. LAT-(N) 39.808648 LONG-(W) 80.693261  
 NAD83 UTM (M) N. 4,406,564.39 E. 526,256.11

LANDING POINT  
 NAD83 S.P.C.(FT) N. 476,009.1 E. 1,633,995.7  
 NAD83 GEO. LAT-(N) 39.802433 LONG-(W) 80.692083  
 NAD83 UTM (M) N. 4,405,875.0 E. 526,361.1

BOTTOM HOLE  
 NAD83 S.P.C.(FT) N. 467,840.6 E. 1,638,513.3  
 NAD83 GEO. LAT-(N) 39.777992 LONG-(W) 80.674144  
 NAD83 UTM (M) N. 4,403,167.7 E. 527,904.9

TAG	SURFACE OWNER	ACRES
A	RICKY L. WHITLATCH	72.82
B	RICKY L. WHITLATCH	16.53
C	KEVIN E. MCGILTON	14.00
D	RICKY L. WHITLATCH	42.22
E	LARRY J. WHEITZEL, ET UX	36.00
F	KEVIN E. MCGILTON	13.39
G	KEVIN E. MCGILTON	23.00
H	BRENDA J. WHEITZEL - LIFE	30.24
I	BRENDA J. WHEITZEL - LIFE	82.838
J	MICHAEL A. WHEITZEL	92.00
K	GERALD W. QUIGLEY, ET AL.	1.00 (ASSD)
L	GERALD W. QUIGLEY, ET AL.	139.79
M	WANEK FAMILY IRREVOCABLE TRUST	50.10
N	ROBERT L. CLARK	18.00
O	KENNETH M. & DELORES MCCARDLE LIVING TRUST	109.95
P	KENNETH M. & DELORES MCCARDLE LIVING TRUST	9-12-1 92.455
Q	KENNETH M. & DELORES MCCARDLE	7.54
R	LESLIE E. QUIGLEY	9-12-2.1 2.58
S	HARMON & MARY CROW	20.00
T	MYRTLE ELIZABETH GARTEN	9-14-18 20.00
U	SUSAN VAN DYNE	9-15-3 167.00
V	DAVID P. CHAPMAN	9-15-1 48.92
W	DAVID P. CHAPMAN	9-15-2 0.75
X	LEONARD F. SR. & LINDA K. DAVIS	9-15-15 78.00

**SLS**  
FROM THE GROUND UP

12 Venhorn Drive | P.O. Box 150 | Glenville, WV 26031 | 304.462.5634  
 1412 Kanawha Boulevard, East | Charleston, WV 25301 | 304.346.9952  
 254 East Beckley Bypass | Beckley, WV 25801 | 304.255.5296  
 sls.wv.com

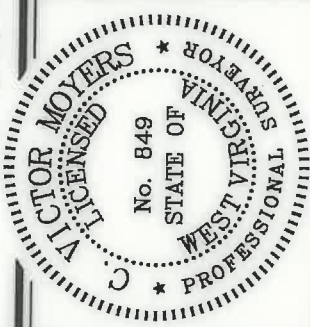
P.S. *C. Victor Moyers*  
849

**LEGEND**

AS DRILLED (Red line)  
 PROPOSED (Green line)

LINE	BEARING	DISTANCE
L1	N 27°52' E	1426.20'
L2	N 66°59' E	1231.71'
L3	N 40°57' E	83.74'
L4	S 00°26' E	1745.84'

CURVE	ARC LENGTH	RADIUS	CHORD BEARING	CHORD LENGTH
C1	174.90'	529.66'	S 10°26' E	114.68'
C2	407.69'	1930.80'	S 23°22' E	406.94'



(S.P.C. NORTH ZONE) (UTM(M) ZONE 17 NORTH)  
 NAD83 S.P.C.(FT) N. 478,877.13 E. 1,633,289.15  
 NAD83 GEO. LAT-(N) 39.808648 LONG-(W) 80.693261  
 NAD83 UTM (M) N. 4,406,564.39 E. 526,256.11

LANDING POINT  
 NAD83 S.P.C.(FT) N. 476,708.3 E. 1,633,539.6  
 NAD83 GEO. LAT-(N) 39.802704 LONG-(W) 80.692267  
 NAD83 UTM (M) N. 4,405,904.9 E. 526,343.5

BOTTOM HOLE  
 NAD83 S.P.C.(FT) N. 467,846.3 E. 1,638,521.8  
 NAD83 GEO. LAT-(N) 39.778008 LONG-(W) 80.674114  
 NAD83 UTM (M) N. 4,403,169.5 E. 527,907.4

SCALE 1" = 2000' FILE NO. 8654P7HUADR.dwg

DATE JANUARY 17, 2019  
 REVISED JUNE 12, 2020

OPERATORS WELL NO. HEAVEN HILL 3-7HU  
 API WELL NO. **47-051-01969**

NO. STATE COUNTY PERMIT

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

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

**LEGEND**

UNIT BOUNDARY (Dashed line)  
 LEASED TRACTS INSIDE (Dotted line)  
 SURFACE LINE (Solid line)  
 PROPOSED UTICA (Thick dashed line)  
 WELL LATERAL (Thin dashed line)  
 400' OFFSET LINE (Dotted line)  
 500' OFFSET LINE (Dotted line)  
 TIE LINE (Dashed line)  
 CREEK (Wavy line)  
 ROAD (Double line)  
 COUNTY ROUTE (Dashed line)  
 PROPOSED WELL (Circle with cross)  
 EXISTING WELL (Circle with dot)  
 PERMITTED WELL (Circle with star)  
 SURFACE OWNER (SEE TABLE) (Circle with letter)  
 LEASE # (SEE SHEETS 1, 3, & 4) (Circle with number)

DESIGNATED AGENT  
 DIANNA STAMPER  
 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



HEAVEN HILL 3 LEASE
UTICA UNIT - 354.73 AC ±
WELL 7HU
TUG HILL OPERATING

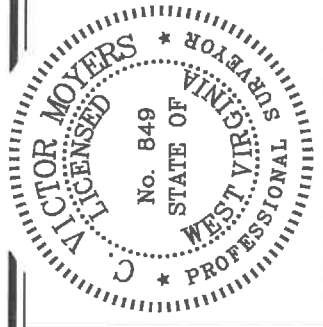
12 Vanhorn Drive | P.O. Box 150 | Glenville, WV 26151 | 304.462.3634
1412 Kanawha Boulevard, East | Charleston, WV 25301 | 304.346.3952
254 East Beckley Bypass | Beckley, WV 25801 | 304.455.5296



Table with columns: NO., Lease Name or No., Tag, Parcel, Dead Book Page. Lists lease details for various owners and parcels.

Table with columns: NO., Lease Name or No., Tag, Parcel, Dead Book Page. Continuation of lease details from the previous table.

Form fields for DATE (JANUARY 17, 20 19), OPERATORS WELL NO. (HEAVEN HILL 3-7HU), API WELL NO. (47-051-01969), COUNTY (PERMIT), ADDRESS (1320 SOUTH UNIVERSITY DRIVE, SUITE 600 FORT WORTH, TX 76107)



Form fields for COUNTY NAME, PERMIT, STATE OF WEST VIRGINIA DIVISION OF ENVIRONMENTAL PROTECTION OFFICE OF OIL AND GAS, DESIGNATED AGENT ADDRESS (5400 D BIG TYLER ROAD CHARLESTON, WV 25313)



