

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

API 47-051-01947 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 3-4HM
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 4,406,556.46 Easting 526,262.12
Landing Point of Curve Northing 4,405,981.3 Easting 526,575.1
Bottom Hole Northing 4,403,271.6 Easting 528,127.3

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 9/13/2017 Date drilling commenced 3/15/2018 Date drilling ceased 9/19/2018
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 1091-1097', 1176-1182' Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

Reviewed by:
Jessie Spivey
7/28/2020

API 47-051 - 01947 Farm name Ricky L. Whitlatch Well number Heaven Hill 3-4HM

CASING STRINGS	Hole Size	Casing Size	New or Used	Grade wt/ft	Basket Depth(s)	Did cement circulate (Y/N) * Provide details below*
Conductor	36"	30"	NEW	94.5#	N/A	Y
Surface	17 1/2"	13 3/8"	NEW	54.5#	N/A	Y
Coal	17 1/2"	13 3/8"	NEW	54.5#	N/A	Y
Intermediate 1	12 1/4"	9 5/8"	NEW	36#	N/A	Y
Intermediate 2						
Intermediate 3						
Production	8 3/4"	5 1/2"	NEW	20#	N/A	Y
Tubing		2 3/6"	NEW	4.7#	N/A	Y
Packer type and depth set						

Comment Details _____

CEMENT DATA	Class/Type of Cement	Number of Sacks	Slurry wt (ppg)	Yield (ft ³ /sks)	Volume (ft ³)	Cement Top (MD)	WOC (hrs)
Conductor	A		15.6	1.19		0	8
Surface	A	1188	15.6	1.19	1426	0	8
Coal	A	983	15.6	1.19	1170	0	8
Intermediate 1	A	983	15.6	1.19	1170	0	8
Intermediate 2							
Intermediate 3							
Production	A	4387	14.5	1.17	4935'	0	8
Tubing							

Drillers TD (ft) 17,867' Loggers TD (ft) n/a

Deepest formation penetrated Marcellus

Plug back to (ft) n/a

Plug back procedure n/a **RECEIVED** Office of Oil and Gas

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Kick off depth (ft) 6634'

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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 - 01947 Farm name Ricky L. Whitlatch Well number Heaven Hill 3-4HM

PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
	see 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 (bbls)	Amount of Nitrogen <small>Office of Oil and Gas</small>
	attached							JUL 10 2020 WVD Department of Environmental Protection

Please insert additional pages as applicable.

API 47- 051 - 01947 Farm name Ricky L. Whittlatch Well number Heaven Hill 3-4HIM

PRODUCING FORMATION(S)

DEPTHS

Marcellus 6899' - 6911' TVD 7469' - 17877' MD

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow Flow Pump
 SHUT-IN PRESSURE Surface 1132 psi Bottom Hole _____ psi DURATION OF TEST 24 hrs

OPEN FLOW Gas _____ mcfpd Oil _____ bpd NGL _____ bpd Water _____ bpd GAS MEASURED BY
 Estimated Orifice Pilot

LITHOLOGY/ FORMATION	TOP		BOTTOM		DEPTH IN FT	DEPTH IN FT	DEPTH IN FT	MD	MD	NGL	Water	psi	DURATION OF TEST	hrs
	DEPTH IN FT	DEPTH IN FT	DEPTH IN FT	DEPTH IN FT										
	NAME	TVD	MD	MD	MD	MD	MD	MD						
attached		0			0									

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Please insert additional pages as applicable.
 Drilling Contractor Nabors Drilling USA
 Address 505 West Greens Road, Suite 1000 City Houston State TX Zip 77067

Logging Company n/a City _____ State _____ Zip _____
 Cementing Company C&J Well Services City _____ State _____ Zip _____
 Address 380 Southpointe Boulevard, Suite 210 City Canonsburg State PA Zip 15317

Stimulating Company Halliburton Energy Services, Inc. City _____ State _____ Zip _____
 Address 121 Champion Way, Suite 200 City Canonsburg State PA Zip 15317
 Please insert additional pages as applicable.

Completed by Amy L. Miller Telephone 304-376-0111
 Signature Amy Miller Title Permitting Specialist Date 4-15-2020

**Heaven Hill 3-4HM
PERFORATION RECORD**

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD. Ft.	Number of Perforations	Formation(s)
1	6/12/2019	17484	17630	48	Marcellus
2	6/12/2019	17309	17455	48	Marcellus
2 Reperf	6/13/2019	17309	17455	48	Marcellus
3	6/13/2019	17133	17279	48	Marcellus
4	6/13/2019	16958	17104	48	Marcellus
5	6/14/2019	16783	16929	48	Marcellus
6	6/14/2019	16608	16754	48	Marcellus
7	6/14/2019	16433	16579	48	Marcellus
8	6/15/2019	16257	16403	48	Marcellus
9	6/15/2019	16082	16228	48	Marcellus
10	6/16/2019	15907	16053	48	Marcellus
11	6/16/2019	15732	15878	48	Marcellus
12	6/16/2019	15557	15703	48	Marcellus
13	6/17/2019	15381	15527	48	Marcellus
14	6/17/2019	15206	15352	48	Marcellus
15	6/18/2019	15031	15177	48	Marcellus
16	6/18/2019	14856	15002	48	Marcellus
17	6/18/2019	14681	14827	48	Marcellus
18	6/18/2019	14505	14651	48	Marcellus
19	6/19/2019	14330	14476	48	Marcellus
20	6/19/2019	14155	14301	48	Marcellus
21	6/19/2019	13980	14126	48	Marcellus
22	6/20/2019	13805	13951	48	Marcellus
23	6/20/2019	13629	13775	48	Marcellus
24	6/20/2019	13454	13600	48	Marcellus
25	6/21/2019	13279	13425	48	Marcellus
26	6/21/2019	13104	13250	48	Marcellus
27	6/21/2019	12929	13075	48	Marcellus
28	6/22/2019	12753	12899	48	Marcellus
29	6/22/2019	12578	12724	48	Marcellus
30	6/22/2019	12403	12549	48	Marcellus
31	6/22/2019	12228	12374	48	Marcellus
32	6/23/2019	12053	12199	48	Marcellus
33	6/23/2019	11877	12023	48	Marcellus
34	6/23/2019	11702	11848	48	Marcellus
35	6/24/2019	11527	11673	48	Marcellus
36	6/24/2019	11352	11498	48	Marcellus
37	6/25/2019	11177	11323	48	Marcellus
38	6/25/2019	11001	11147	48	Marcellus
39	6/25/2019	10826	10972	48	Marcellus
40	6/25/2019	10651	10797	48	Marcellus
41	6/26/2019	10476	10622	48	Marcellus
42	6/26/2019	10301	10447	48	Marcellus
43	6/26/2019	10125	10271	48	Marcellus
44	6/27/2019	9950	10096	48	Marcellus
45	6/27/2019	9775	9921	48	Marcellus

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46	6/27/2019	9600	9746	48	Marcellus
47	6/27/2019	9425	9571	48	Marcellus
48	6/28/2019	9249	9395	48	Marcellus
49	6/28/2019	9074	9220	48	Marcellus
50	6/28/2019	8899	9045	48	Marcellus
51	6/29/2019	8724	8870	48	Marcellus
52	6/29/2019	8549	8695	48	Marcellus
53	6/29/2019	8373	8519	48	Marcellus
54	6/30/2019	8198	8344	48	Marcellus
55	6/30/2019	8023	8169	48	Marcellus
56	7/1/2019	7848	7994	48	Marcellus
57	7/1/2019	7673	7819	48	Marcellus
58	7/1/2019	7497	7643	48	Marcellus

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**Heaven Hill 3-4HM
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	86.3	7697	5489	4755	447560	9122	0
2	65.8	5583	5583	4961	0	3263	0
2 Reperf	88.4	7582	7944	4792	447940	9223	0
3	89.5	7193	5266	5304	443720	9306	0
4	88.7	7427	5260	4900	456645	9508	0
5	88.8	7432	5288	4916	444720	9113	0
6	89.5	7429	5229	4990	449320	9763	0
7	87.7	7752	5227	4716	443770	8864	0
8	88.5	7977	5450	4986	447090	9086	0
9	89.6	7838	5486	4981	446590	9152	0
10	86.7	7734	5382	5180	448920	9156	0
11	82.2	7374	5315	4662	445580	9144	0
12	88.8	7594	5281	4973	455905	9370	0
13	89	7364	5161	4961	436255	8915	0
14	89.2	7215	5209	4978	446070	9066	0
15	88.8	7251	5382	5071	447590	9009	0
16	88.9	7263	5337	5119	446590	8802	0
17	86.9	7223	5578	5014	446930	10626	0
18	88.9	7441	8458	4922	446810	9132	0
19	88.9	7667	8554	4686	447110	8804	0
20	89	7380	5928	5075	446920	9048	0
21	88.8	7417	8479	4686	446210	8737	0
22	88.5	7236	8519	4854	444930	8743	0
23	88	7169	5876	4604	446180	8975	0
24	88.8	7307	6100	4712	447250	8770	0
25	88.7	7020	8201	4749	442990	9005	0
26	87.9	7047	5668	4798	446580	8925	0
27	88.7	7104	6050	4649	444520	8868	0
28	88.8	7357	6090	4756	445520	8687	0
29	89	7192	6067	5086	447310	8974	0
30	88.7	7181	871	5110	450650	9123	0
31	84.4	7225	5505	4870	451820	9216	0
32	88.8	6934	57	4926	451660	8824	0

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33	88.4	6926	5691	4849	447220	8960	0
34	88.5	7037	5703	4525	444020	8613	0
35	89.1	7033	5791	4953	442730	8694	0
36	89.1	6900	5789	4945	444650	10836	0
37	89.1	6909	5959	5006	444850	8512	0
38	89.4	7064	6148	4940	447870	8756	0
39	89.4	6945	6097	4939	447030	8727	0
40	89.4	7059	6460	5055	446730	8793	0
41	89.3	7070	5641	5009	447470	9310	0
42	88.8	7214	6456	4842	447660	8812	0
43	88.8	6832	5905	5073	447300	8591	0
44	89.5	6978	5961	4937	447520	8559	0
45	89.1	7076	6090	4789	447940	8503	0
46	89	6889	6194	4928	409390	8683	0
47	88.9	6881	6323	4931	446040	8812	0
48	89.3	6504	6032	4961	447210	8559	0
49	88.6	6472	6097	5003	446970	8712	0
50	89.4	6612	6428	4914	443580	8509	0
51	88.4	6498	5888	5148	448980	8860	0
52	88.8	6609	6608	4762	450910	9534	0
53	89.2	6770	6624	5157	449617	8770	0
54	89.2	6523	6465	5158	450540	9311	0
55	89.3	6515	6011	5094	442303	8457	0
56	89.7	6388	5994	4927	445710	8823	0
57	88.5	6571	5860	4785	444100	9380	0
58	88.6	6589	5925	4672	445880	8907	0

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HEAVEN HILL 3-4HM

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	2033	2205	2034	2207	Sandstone
Big Lime	2205	2336	2207	2338	Limestone
Big Injun	2336	2631	2338	2633	Sandstone
Weir	2631	2829	2633	2831	Sandstone
Berea	2829	3091	2831	3094	Sandstone
Gordon	3091	3176	3094	3180	Sandstone
Fifty Foot	3176	3758	3180	3774	Sandstone
Speechley	3758	5219	3774	5384	Sandstone
Benson	5219	5591	5384	5795	Sandstone
Alexander	5591	6213	5795	6482	Siltstone
Rhinestreet	6213	6657	6482	6979	Black shale
Middlesex	6657	6731	6979	7075	Black shale
Geneseo/Burkett	6731	6758	7075	7113	Black shale
Tully	6758	6785	7113	7155	Limestone
Hamilton	6785	6868	7155	7328	Grey shale
Marcellus	6868	-	7328	-	Black shale

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True Vertical Depth (1500 usft/in)

22.48, September 17 2018

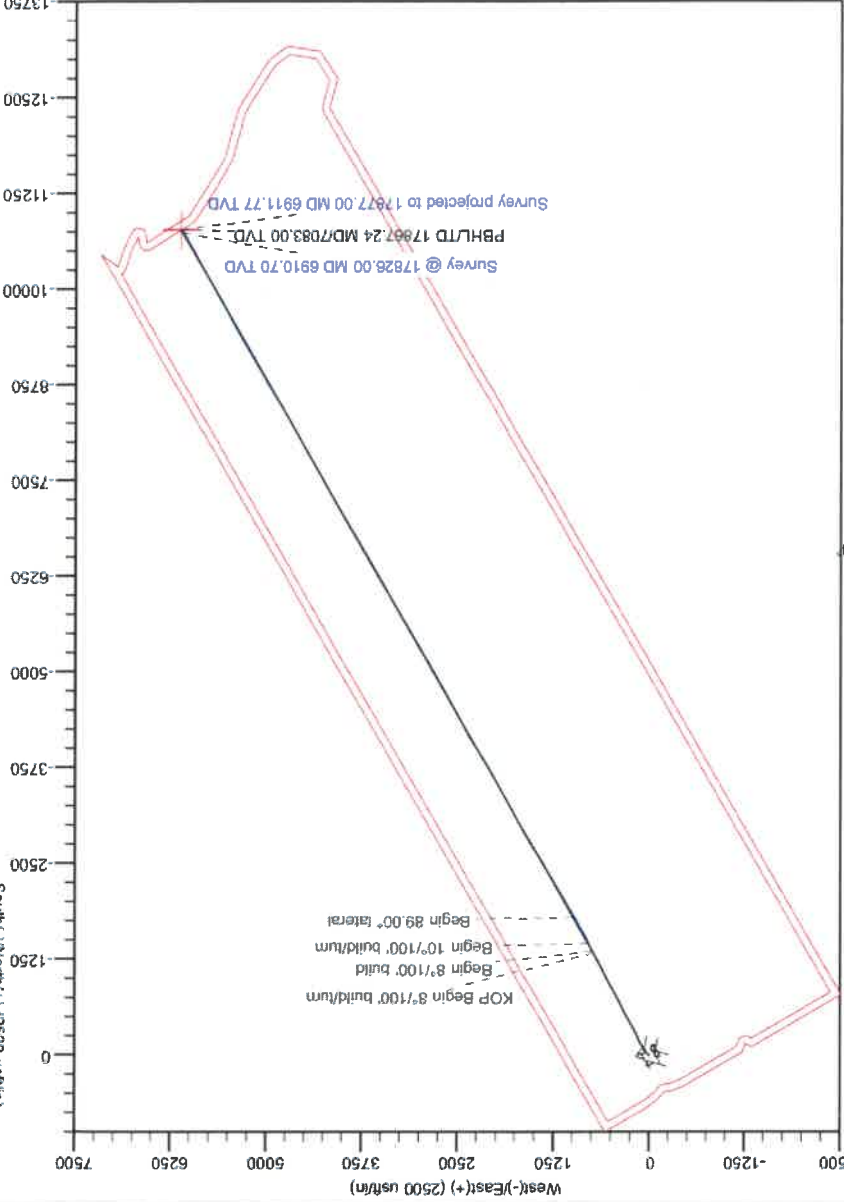
Vertical Section at 150.37' (1500 usft/in)

7500 7500 0 750 1500 2250 3000 3750 4500 5250 6000 6750 7500 8250 9000 9750 10500 11250 12000 12750 13500

Survey @ 17826.00 MD 6910.70 TVD
 Survey projected to 17877.00 MD 6911.77 TVD
 PBHL/TD 17867.24 MD/7083.00 TVD Heaven Hill 3-4 HM BHL #8

KOP Begin 8'100" buildum
 Begin 8'100" build
 Begin 10'100" buildum
 Begin 89.00" lateral

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Azimuths to Grid North
 True North -0.20°
 Magnetic North -8.94°
 Magnetic Field
 Strength: 52040.5ant
 Dip Angle: 66.87°
 Date: 8/9/2018
 Model: IGRF2015



Total Corr (M->G): To convert a Magnetic Direction to a Grid Direction, Subtract 8.94

Geodetic System: 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 1726578.31
 Latitude -80.69319108

Sec	MD	Inc	Azi	TVD	+N-S	+E-W	Vsect	Annotation
1	6561.00	26.12	152.62	6283.88	-1222.91	671.62	0.00	Survey @ 6561.00 MD 6283.88 TVD
2	6847.42	26.12	152.62	6541.05	-1334.88	729.61	0.00	KOP Begin 8'100" buildum
3	6898.30	30.00	150.00	6585.94	-1355.85	741.12	8.00	Begin 8'100" build
4	7085.80	45.00	150.00	6734.27	-1454.41	798.03	8.00	Begin 10'100" buildum
5	7525.77	89.00	150.24	6902.00	-1797.08	994.75	10.00	Begin 89.00" lateral
6	17867.24	89.00	150.24	7083.00	-10773.22	6127.20	0.00	PBHL/TD 17867.24 MD/7083.00 TVD

ANNOTATIONS SURVEYS

SECTION DETAILS

Well: Heaven Hill 3-4 HM (I)
 Site: Heaven Hill 3
 Project: Marshall County, West Virginia
 Design: rev7

TUG HILL
 OPERATING



			Listed Below					
					Propant	Halliburton White-100 Mesh, SSA-2		
			Listed Below					
			Items above are Trade Names with the exception of Base Water . Items below are the individual ingredients.					
		100.00000	14808-60-7	Crystalline silica, quartz				
		100.00000	Proprietary	Inorganic particulate				
		0.15890	7647-01-0	Hydrochloric acid				
		0.07792	64742-47-8	Hydrotreated light petroleum distillate				
		0.02239	7631-99-4	Sodium nitrate				
		0.01118	67-56-1	Methanol				
		0.00095	69011-36-5	Poly(oxy-1,2-ethanediyl), alpha-tridecyl-omega-hydroxy-, branched				
		1.00000	Proprietary	Ethoxylated alcohols				
		60.00000	64-17-5	Ethanol				
		5.00000	Proprietary	Phosphoric Acid Salt				
		5.00000	7647-14-5	Sodium chloride				
		0.00043	Proprietary	Oxyalkylated nonyl phenolic resin				
		0.00025	64742-94-5	Heavy aromatic petroleum naphtha				
		30.00000	61790-12-3	Mixture of dimer and trimer fatty acids of indefinite composition derived from tall oil				
		0.00024	Proprietary	Modified thiourea polymer				
		10.00000	Proprietary	Oxyalkylated phenolic resin				
		5.00000	127087-87-0	Poly(oxy-1,2-ethanediyl), alpha-(4-nonylphenyl)-omega-hydroxy-, branched				

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			91-20-3	5.00000	0.00004
			Hexadecene	5.00000	0.00004
			Ethoxylated alcohols	5.00000	0.00004
			Propargyl alcohol	5.00000	0.00004
			Formaldehyde	0.10000	0.00001
			1,2,4 Trimethylbenzene	1.00000	0.00001

* 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)

**HEAVEN HILL 3 LEASE
WELL 4HM
TUG HILL OPERATING**

7,461' T.H. A.D.

1,370' B.H. A.D.

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

(S.P.C. NORTH ZONE) (UTM(M) ZONE 17 NORTH)
 NAD83 S.P.C.(FT) N. 478,850.78 E. 1,633,308.44
 NAD83 GEO. LAT.-(N) 39.808577 LONG.-(W) 80.693191
 NAD83 UTM (M) N. 4,406,556.46 E. 526,262.12
LANDING POINT
 NAD83 S.P.C.(FT) N. 477,097.1 E. 1,634,240.0
 NAD83 GEO. LAT.-(N) 39.803797 LONG.-(W) 80.689793
 NAD83 UTM (M) N. 4,406,026.9 E. 526,554.8
BOTTOM HOLE
 NAD83 S.P.C.(FT) N. 467,973.0 E. 1,639,256.8
 NAD83 GEO. LAT.-(N) 39.778981 LONG.-(W) 80.67 514
 NAD83 UTM (M) N. 4,403,272.8 E. 528,129.7

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

B.H. A.D.

9,018' T.H.

4,643' B.H. A.D.

T.H. A.D.

NOTES ON SURVEY

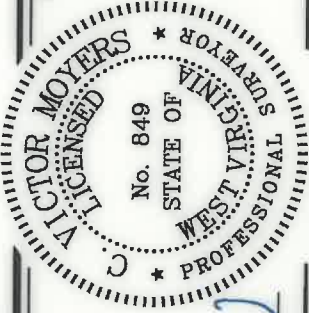
1. NO WATER WELLS WERE FOUND WITHIN 250' OF PROPOSED GAS WELL. NO AGRICULTURAL BUILDINGS > 2500 SQ. FT. OR DWELLINGS WERE FOUND WITHIN 625' OF THE CENTER OF PROPOSED WELL PAD.
2. WELL SPOT CIRCLE & TOPO MARK SCALE IS 1"=2000'
3. AS-DRILLED DATA PROVIDED BY TUG HILL OPERATING, LLC
4. PLAT UPDATED TO SHOW AS-DRILLED PATH.



12 Vanhorn Drive | P.O. Box 150 | Glenville, WV 26351 | 304.462.5634
 1412 Kanawha Boulevard, East | Charleston, WV 25301 | 304.346.3952
 254 East Beckley Bypass | Beckley, WV 25801 | 304.255.6296
www.sls.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. 849



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

DATE JANUARY 17, 20 19
 REVISED JUNE 12, 20 20
 OPERATORS WELL NO. HEAVEN HILL 3-4HM

API WELL NO. 47 - 051 - 01947
 STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 2500 FILE NO. 8654P4HMADR.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 INJECTION ___ WASTE LIQUID ___ INJECTION ___ DISPOSAL ___ "GAS" PRODUCTION STORAGE ___ DEEP ___ SHALLOW
 LOCATION: GROUND = 1,344.50'
 ELEVATION PROPOSED = 1,326.35'

DISTRICT MEADE COUNTY MARSHALL
 SURFACE OWNER RICKY L. WHITLATCH
 ROYALTY OWNER RICKY L. WHITLATCH, ET AL - SEE WW-6A1

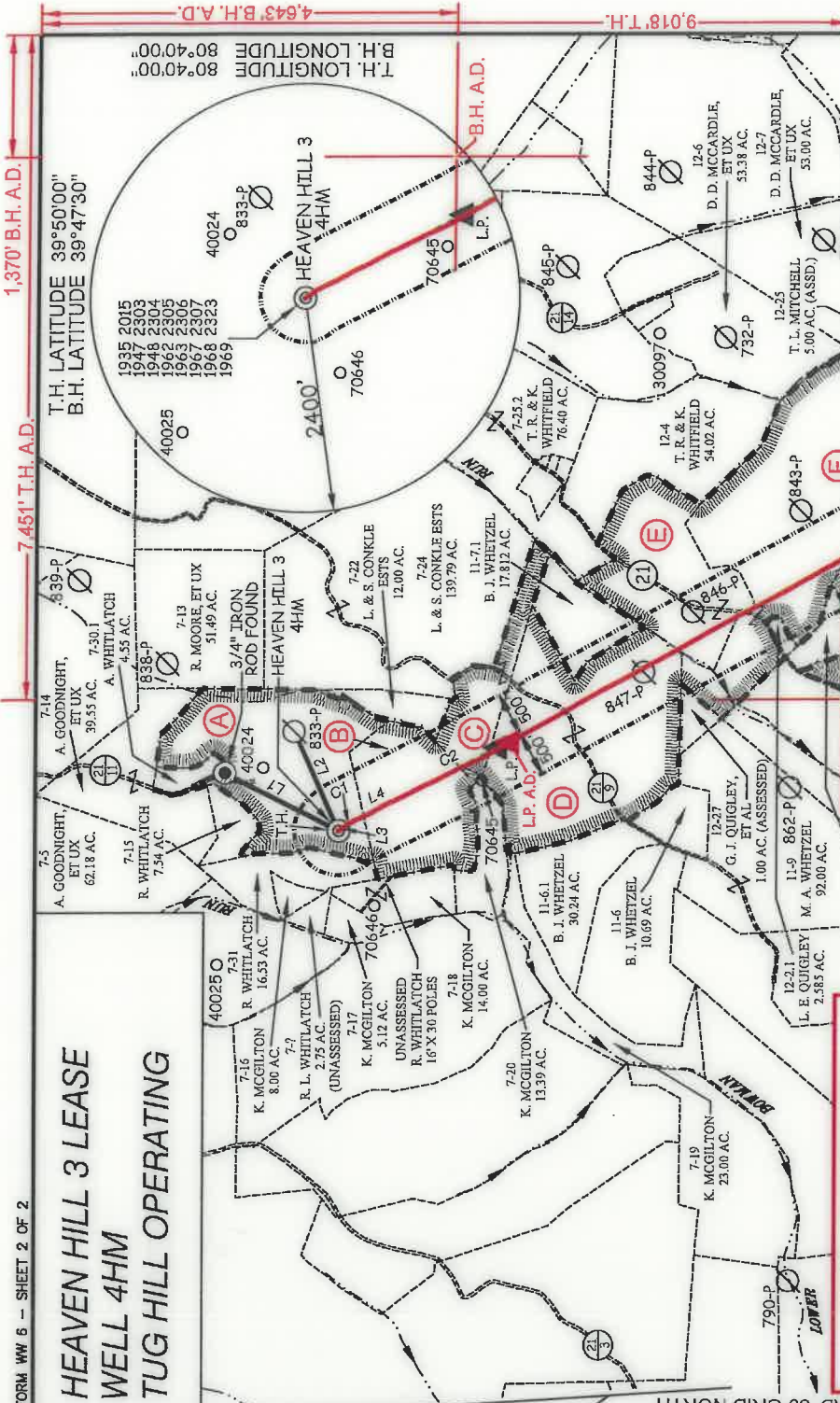
PROPOSED WORK:
 DRILL CONVERT ___ DRILL DEEPER ___ REDRILL ___ FRACTURE OR STIMULATE PLUG OFF OLD FORMATION ___ PERFORATE NEW FORMATION ___ PLUG AND ABANDON ___ CLEAN OUT AND REPLUG ___ OTHER ___
 PHYSICAL CHANGE IN WELL (SPECIFY) ___ TARGET FORMATION MARCELLUS
 ESTIMATED DEPTH TVD: 6.876' / TMD: 17.867'

COUNTY NAME

PERMIT

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

HEAVEN HILL 3 LEASE WELL 4HM TUG HILL OPERATING



**AS DRILLED COORDINATES
FOR WELL NO. 4HM**

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

NAD83 S.P.C.(FT)	N. 478,850.79	E. 1,633,308.44
NAD83 GEO.	LAT-(N) 39.808577	LONG-(W) 80.689181
NAD83 UTM (M)	N. 4,408,556.46	E. 528,262.12

LANDING POINT

NAD83 S.P.C.(FT)	N. 476,946.3	E. 1,634,304.0
NAD83 GEO.	LAT-(N) 39.803385	LONG-(W) 80.689583
NAD83 UTM (M)	N. 4,405,981.3	E. 528,575.1

BOTTOM HOLE

NAD83 S.P.C.(FT)	N. 487,969.2	E. 1,639,249.0
NAD83 GEO.	LAT-(N) 39.778920	LONG-(W) 80.671542
NAD83 UTM (M)	N. 4,403,271.6	E. 529,127.3

TAG	SURFACE OWNER	PARCEL ACRES
A	RICKY L. WHITLATCH	9-7-30 72.82 735
B	RICKY L. WHITLATCH	9-7-21 42.22
C	LARRY J. WHITZEL ET UX	9-7-23 36.00
D	BRENDA J. WHITZEL	9-11-7 82.858
E	WNEK FAMILY IRREVOCABLE TR	9-11-8 50.10
F	GERALD W. QUIGLEY, ET AL	9-12-2 139.795
G	KENNETH M. & DELORES MCCARDLE	9-12-1 92.455
H	HARMON & MARY CROW	9-12-31 20.00
I	MYRTLE ELIZABETH GARTEN	9-14-18 20.00
J	SUSAN VAN DYNE	9-15-3 167.00

LEGEND

AS DRILLED — —

PROPOSED --- ---



12 Vamborn Drive | P.O. Box 150 | Glenville, WV 26751 | 204.463.6624
 1412 Kanawha Boulevard, East | Charleston, WV 25301 | 304.546.5392
 254 East Backley Bypass | Beckley, WV 25801 | 304.255.2295
 sbwv.com

P.S. *C. Victor Moyers*
 849

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

NAD83 S.P.C.(FT)	N. 478,850.79	E. 1,633,308.44
NAD83 GEO.	LAT-(N) 39.808577	LONG-(W) 80.689181
NAD83 UTM (M)	N. 4,408,556.46	E. 528,262.12

LANDING POINT

NAD83 S.P.C.(FT)	N. 477,097.1	E. 1,634,240.0
NAD83 GEO.	LAT-(N) 39.803797	LONG-(W) 80.689793
NAD83 UTM (M)	N. 4,405,026.9	E. 528,554.8

BOTTOM HOLE

NAD83 S.P.C.(FT)	N. 467,973.0	E. 1,639,256.8
NAD83 GEO.	LAT-(N) 39.778931	LONG-(W) 80.671514
NAD83 UTM (M)	N. 4,403,272.8	E. 528,128.7

SCALE 1" = 2000' FILE NO. 8654P4HMADR.dwg

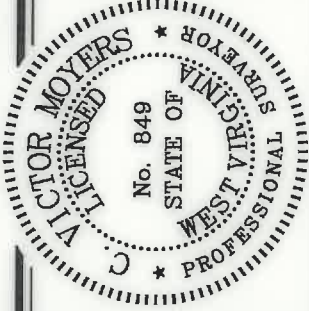
DATE JANUARY 17, 2019

REVISED JUNE 12, 2020

OPERATORS WELL NO. HEAVEN HILL 3-4HM

API WELL NO. **47-051-01947**

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

- 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 WW-6A1)
- SURFACE OWNER (SEE TABLE)

CURVE	ARC LENGTH	RADIUS	CHORD BEARING	CHORD LENGTH
C1	92.61'	960.20'	S 29°58'E	92.58'
C2	1078.78'	25348.74'	S 27°33'E	1078.70'

LINE	BEARING	DISTANCE
L1	N 26°42'E	1440.77'
L2	N 65°30'E	1224.67'
L3	S 39°02'E	85.19'
L4	S 27°04'E	730.97'

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

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

COUNTY NAME PERMIT