

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

API 47 - 051 - 02055 County Marshall District Franklin
Quad New Martinsville 7.5' Pad Name Simms Field/Pool Name _____
Farm name Terry E. & Deborah Simms Well Number Hillrock 4HM
Operator (as registered with the OOG) Tug Hill Operating, LLC
Address 380 Southpointe Boulevard, Plaza II, Suite 200 City Canonsburg State PA Zip 15317

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey
Top hole Northing 4,399,577.09 Easting 519,882.66
Landing Point of Curve Northing 4,399,966.85 Easting 518,661.10
Bottom Hole Northing 4,397,382.10 Easting 520,174.17

Elevation (ft) 1,219.4' 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 8/9/2018 Date drilling commenced Conduc. 8/27/2019; Top Hole 9/26/2019 Date drilling ceased 10/17/2019
Date completion activities began 6/30/2021 Date completion activities ceased 7/11/2021
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 830' Open mine(s) (Y/N) depths N
Salt water depth(s) ft 1,365' Void(s) encountered (Y/N) depths N
Coal depth(s) ft 724-730', 824-830' Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

Reviewed by:

10/01/2021

API 47-051 - 02055 Farm name Terry E. & Deborah Simms Well number Hillrock 4HM

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	17 1/2"	13 3/8"	958'	NEW	54.5#	N/A	Y
Coal	17 1/2"	13 3/8"	958'	NEW	54.5#	N/A	Y
Intermediate 1	12 1/4"	9 5/8"	2,738'	NEW	36#	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8 3/4"	5 1/2"	18,495'	NEW	20#	N/A	Y
Tubing		2 3/8"	9,248'	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	547	15.6	1.18	646	0	8
Surface	A	1025	15.6	1.18	1210	0	8
Coal	A	1025	15.6	1.18	1210	0	8
Intermediate 1	A	958	15.6	1.18	1131	0	8
Intermediate 2							
Intermediate 3							
Production	A	4345	14.5	1.16	5157	0	8
Tubing							

Drillers TD (ft) 18,526' Loggers TD (ft) n/a
 Deepest formation penetrated Marcellus Plug back to (ft) n/a
 Plug back procedure n/a

Kick off depth (ft) 7,081'

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 - 02055 Farm name Terry E. & Deborah Simms Well number Hillrock 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/other (units)
			*see attached					

Please insert additional pages as applicable.

10/01/2021

API 47- 051 - 02055 Farm name Terry E. & Deborah Simms Well number Hillrock 4HM

PRODUCING FORMATION(S)	DEPTHS	
MARCELLUS	6,749'-6637' TVD	7,620'-17,378' MD

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump

SHUT-IN PRESSURE Surface 1300 psi Bottom Hole _____ psi DURATION OF TEST 24 hrs

OPEN FLOW Gas 0 mcfpd Oil 0 bpd NGL 0 bpd Water 600 bpd GAS MEASURED BY Estimated Orifice Pilot

LITHOLOGY/ FORMATION	TOP		BOTTOM		DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H ₂ S, ETC)
	DEPTH IN FT NAME TVD	DEPTH IN FT TVD	DEPTH IN FT MD	DEPTH IN FT MD	
*attached	0		0		

Please insert additional pages as applicable.

Drilling Contractor Precision
Address 10350 Richmond Avenue, Suite 700 City Houston State TX Zip 77042

Logging Company n/a
Address _____ City _____ State _____ Zip _____

Cementing Company BJ Cementing Services
Address 4000 Town Center Boulevard City Canonsburg State PA Zip 15317

Stimulating Company PRO-FRAC
Address 333 Shops Boulevard City Willow Park State TX Zip 76087

Please insert additional pages as applicable.

Completed by Amy L. Morris Telephone 304-376-01111
Signature Amy L. Morris Title Permitting Specialist - Appalachia Region Date 8-20-21

**HILLROCK 4HM
PEFORATION RECORD**

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD. Ft.	Number of Perforations	Formation(s)
1	6/30/2021	18,316	18,363	48	Marcellus
2	6/30/2021	18,113	18,265	48	Marcellus
3	6/30/2021	17,939	18,091	48	Marcellus
4	6/30/2021	17,765	17,917	48	Marcellus
5	7/1/2021	17,591	17,743	48	Marcellus
6	7/1/2021	17,417	17,569	48	Marcellus
7	7/1/2021	17,243	17,395	48	Marcellus
8	7/1/2021	17,069	17,221	48	Marcellus
9	7/1/2021	16,895	17,047	48	Marcellus
10	7/1/2021	16,721	16,873	48	Marcellus
11	7/2/2021	16,547	16,699	48	Marcellus
12	7/2/2021	16,373	16,525	48	Marcellus
13	7/2/2021	16,199	16,351	48	Marcellus
14	7/2/2021	16,025	16,177	48	Marcellus
15	7/2/2021	15,851	16,003	48	Marcellus
16	7/3/2021	15,677	15,829	48	Marcellus
17	7/3/2021	15,503	15,655	48	Marcellus
18	7/3/2021	15,329	15,481	48	Marcellus
19	7/3/2021	15,155	15,307	48	Marcellus
20	7/3/2021	14,981	15,133	48	Marcellus
21	7/3/2021	14,807	14,959	48	Marcellus
22	7/4/2021	14,633	14,785	48	Marcellus
23	7/4/2021	14,459	14,611	48	Marcellus
24	7/4/2021	14,285	14,437	48	Marcellus
25	7/4/2021	14,111	14,263	48	Marcellus
26	7/4/2021	13,937	14,089	48	Marcellus
27	7/4/2021	13,763	13,915	48	Marcellus
28	7/5/2021	13,589	13,741	48	Marcellus
29	7/5/2021	13,415	13,567	48	Marcellus
30	7/5/2021	13,241	13,393	48	Marcellus
31	7/5/2021	13,067	13,219	48	Marcellus
32	7/5/2021	12,893	13,045	48	Marcellus
33	7/5/2021	12,719	12,871	48	Marcellus
34	7/6/2021	12,545	12,697	48	Marcellus
35	7/6/2021	12,371	12,523	48	Marcellus
36	7/6/2021	12,197	12,349	48	Marcellus
37	7/6/2021	12,023	12,175	48	Marcellus
38	7/6/2021	11,849	12,001	48	Marcellus
39	7/7/2021	11,675	11,827	48	Marcellus
40	7/7/2021	11,501	11,653	48	Marcellus
41	7/7/2021	11,327	11,479	48	Marcellus

10/01/2021

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD. Ft.	Number of Perforations	Formation(s)
42	7/7/2021	11,153	11,305	48	Marcellus
43	7/8/2021	10,979	11,131	48	Marcellus
44	7/8/2021	10,805	10,957	48	Marcellus
45	7/8/2021	10,631	10,783	48	Marcellus
46	7/8/2021	10,457	10,609	48	Marcellus
47	7/9/2021	10,283	10,435	48	Marcellus
48	7/9/2021	10,109	10,261	48	Marcellus
49	7/9/2021	9,935	10,087	48	Marcellus
50	7/9/2021	9,761	9,917	48	Marcellus
51	7/10/2021	9,587	9,739	48	Marcellus
52	7/10/2021	9,413	9,565	48	Marcellus
53	7/10/2021	9,239	9,391	48	Marcellus
54	7/10/2021	9,065	9,217	48	Marcellus
55	7/11/2021	8,891	9,043	48	Marcellus
56	7/11/2021	8,717	8,869	48	Marcellus
57	7/11/2021	8,543	8,695	48	Marcellus

10/01/2021

**HILLROCK 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	83.00	8080	0	3754	251580	6,696	0
2	89.00	8088	6016	4048	436200	8,390	0
3	88.00	8106	5937	4475	436040	8,515	0
4	89.00	7929	5747	4501	436560	8,602	0
5	88.00	7864	5844	4454	447800	8,554	0
6	89.00	7763	5639	4480	419620	8,184	0
7	89.00	7814	5466	4738	447080	8559	0
8	88.00	7655	5855	5017	444980	8524	0
9	89.00	7693	5654	5051	447640	8504	0
10	88.00	7718	6023	5113	438480	8419	0
11	89.00	7508	5812	5120	441180	8390	0
12	89.00	7736	6320	5240	442380	8374	0
13	89.00	7806	5694	5346	436360	9489	0
14	88.00	7678	5671	5083	448360	8486	0
15	89.00	7574	5675	5334	446560	8494	0
16	89.00	7594	5781	5285	447180	8,563	0
17	88.00	7760	6001	5080	439120	8,384	0
18	89.00	7598	7509	5078	437940	8,420	0
19	88.00	7530	5822	5200	441160	8,413	0
20	89.00	7580	5663	5347	439300	8,429	0
21	89.00	7439	5508	5441	440700	8,395	0
22	89.00	7453	5706	5021	442440	8,381	0
23	90.00	7582	6080	4718	436180	8,259	0
24	89.00	7418	5599	5017	439000	8,297	0
25	89.00	7429	5586	5115	437880	8,537	0
26	89.00	7507	6117	4979	438760	8,326	0
27	89.00	7380	5131	5350	437640	8,369	0
28	89.00	7284	5559	5258	444040	8,340	0
29	89.00	7303	5702	5150	438260	8,304	0
30	90.00	7164	5777	5070	439220	8,315	0
31	90.00	7197	6149	4847	444540	8,345	0
32	89.00	7126	6275	5219	444800	8,322	0

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)
33	90.00	7152	6014	4900	443150	8,311	0
34	89.00	7202	5884	5041	435080	8,294	0
35	89.00	7187	5971	5271	437300	8,227	0
36	90.00	7498	6066	5316	440700	8,309	0
37	90.00	7544	5713	5155	443260	8,314	0
38	89.00	7380	5368	5613	447100	8,315	0
39	89.00	7253	5803	5308	433480	8,248	0
40	90.00	7210	5446	5324	442700	8,204	0
41	90.00	7312	5520	5418	435860	8,162	0
42	89.00	7117	5610	5816	437280	8,172	0
43	89.00	7,096	5391	5590	437900	8,108	0
44	89.00	7,059	5352	5488	447220	8,249	0
45	90.00	7,158	5461	4514	442820	8,279	0
46	89.00	7,229	5103	4981	370680	7,323	0
47	89.00	7,057	5174	4655	441000	8,330	0
48	89.00	6,968	5499	5053	434320	8,092	0
49	90.00	7,011	5475	4836	433300	8,267	0
50	89.00	6,818	5283	5218	443960	8,193	0
51	89.00	6,976	5521	5011	438520	8,248	0
52	89.00	7,026	5762	5401	440240	8,084	0
53	90.00	6,973	5699	3987	382820	7,462	0
54	88.00	6,698	5707	4442	437960	8,114	0
55	88.00	6,699	5580	5723	439320	8,107	0
56	90.00	6,555	4915	5641	437160	8,235	0
57	90.00	6,657	5339	4501	445980	8,878	0

HILLROCK 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	1884	1978	1889	1986	Sandstone
Big Lime	1978	2020	1986	2030	Limestone
Big Injun	2020	2337	2030	2370	Sandstone
Weir	2337	2552	2370	2605	Sandstone
Berea	2552	2794	2605	2889	Sandstone
Gordon	2794	2860	2889	2974	Sandstone
Fifty Foot	2860	3460	2974	3898	Sandstone
Speechley	3460	4874	3898	6153	Sandstone
Benson	4874	5250	6153	6748	Sandstone
Alexander	5250	5852	6748	7570	Siltstone
Rhinestreet	5852	6290	7570	8088	Black Shale
Middlesex	6290	6365	8088	8197	Black Shale
Geneseo/Burkett	6365	6394	8197	8245	Black Shale
Tully	6394	6428	8245	8308	Limestone
Hamilton	6428	6473	8308	8420	Gray Shale
Marcellus	6473	-	8420	-	Black Shale

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	6/30/2021
Job End Date:	7/11/2021
State:	West Virginia
County:	Marshall
API Number:	47-051-02055-00-00
Operator Name:	Tug Hill Operating, LLC
Well Name and Number:	Hillrock S 4HM
Latitude:	39.74587001
Longitude:	-80.77026312
Datum:	NAD27
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,520
Total Base Water Volume (gal):	19,870,368
Total Base Non Water Volume:	0



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
Water	Tug Hill Operating	Carrier/Base Fluid	Water	7732-18-5	100.00000	86.65751	None
Sand (40/70 White Proppant)	ProFrac	Proppant	Silica Substrate	14808-60-7	100.00000	8.62962	None
Sand (100 Mesh Proppant)	ProFrac	Proppant	Silica Substrate	14808-60-7	100.00000	3.13409	None
Sand (30/50 White Proppant)	ProFrac	Proppant	Silica Substrate	14808-60-7	100.00000	1.18546	None
Hydrochloric Acid (7.5%)	PVS	Acidizing	Water	7732-18-5	85.00000	0.23125	None
			Hydrochloric Acid (Hydrogen Chloride)	7647-01-0	37.00000	0.10066	None
StimStream FR 9800	Chemstream	Friction Reducer	Butene, homopolymer	9003-29-6	25.00000	0.01859	None
			Alkanes, C16-20-iso-	90622-59-6	25.00000	0.01859	None
			Ethoxylated alcohols (C12-18)	68213-23-0	3.00000	0.00223	None

MC MX 9-4743	Multi-Chem	Biocide					
			Sodium Nitrate	7631-99-4	60.00000	0.02200	None
LD-7750W	Multi-Chem	Scale Inhibitor					
			Methanol	67-56-1	60.00000	0.00504	None
			Phosphonic Acid Salt	Proprietary	5.00000	0.00042	None
ProFE 105	ProFrac	Iron Control					
			Citric Acid	77-92-9	100.00000	0.00101	None
ProHib 100	ProFrac	Acid Inhibitor					
			2-Propyn-1-ol compound w/ methyloxirane	38172-91-7	15.00000	0.00013	None
Ingredients shown above are subject to 29 CFR 1910.1200(i) and appear on Material Safety Data Sheets (MSDS). Ingredients shown below are Non-MSDS.							
Other Chemical(s)	Listed Above	See Trade Name(s) List					
			Water	7732-18-5	85.00000	0.23125	
			Butene, homopolymer	9003-29-6	25.00000	0.01859	
			Ethoxylated alcohols (C12-18)	68213-23-0	3.00000	0.00223	
			Phosphonic Acid Salt	Proprietary	5.00000	0.00042	

* Total Water Volume sources may include fresh water, produced water, and/or recycled water

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

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)

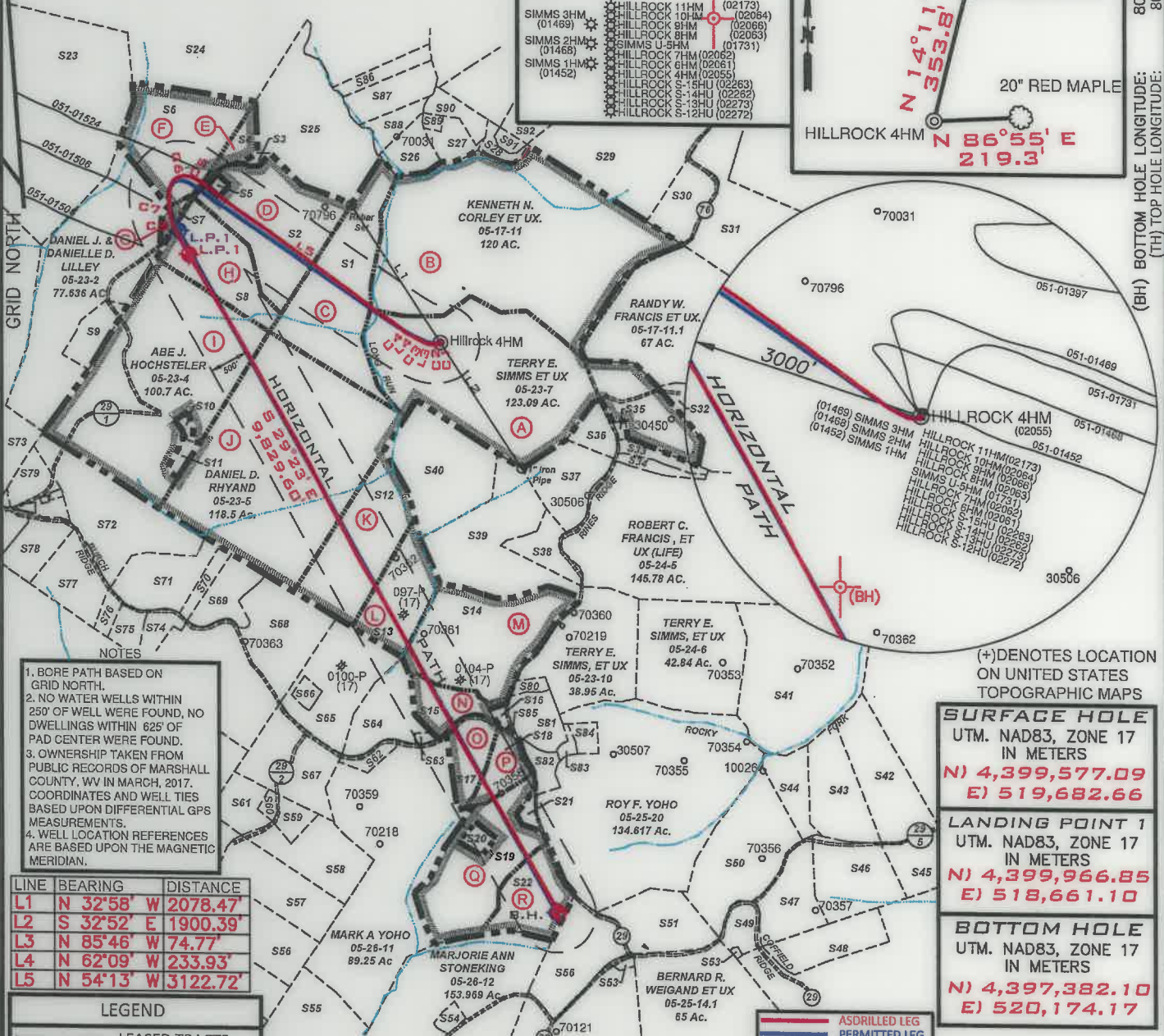
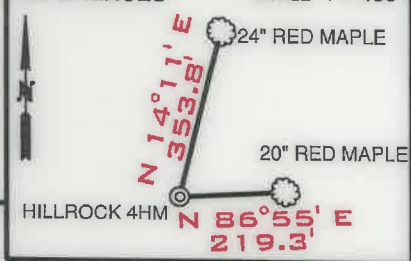
HILLROCK LEASE WELL 4HM 827.025± ACRES

DETAIL
SKETCH "A"
SCALE 1"=100'

REFERENCES
SCALE 1"=400'

TOP HOLE LATITUDE: 39°45'00"
BOTTOM HOLE LATITUDE: 39°45'00"

- HILLROCK 11HM (02173)
- HILLROCK 10HM (02064)
- HILLROCK 9HM (02068)
- HILLROCK 8HM (02063)
- HILLROCK 7HM (02062)
- HILLROCK 6HM (02061)
- HILLROCK 4HM (02055)
- HILLROCK S-18HU (02263)
- HILLROCK S-14HU (02262)
- HILLROCK S-13HU (02273)
- HILLROCK S-12HU (02272)
- SIMMS 3HM (01469)
- SIMMS 2HM (01468)
- SIMMS 1HM (01452)
- SIMMS U-5HM (01731)



- NOTES
- BORE PATH BASED ON GRID NORTH.
 - NO WATER WELLS WITHIN 250' OF WELL WERE FOUND, NO DWELLINGS WITHIN 625' OF PAD CENTER WERE FOUND.
 - OWNERSHIP TAKEN FROM PUBLIC RECORDS OF MARSHALL COUNTY, WV IN MARCH, 2017. COORDINATES AND WELL TIES BASED UPON DIFFERENTIAL GPS MEASUREMENTS.
 - WELL LOCATION REFERENCES ARE BASED UPON THE MAGNETIC MERIDIAN.

LINE	BEARING	DISTANCE
L1	N 32°58' W	2078.47'
L2	S 32°52' E	1900.39'
L3	N 85°46' W	74.77'
L4	N 62°09' W	233.93'
L5	N 54°13' W	3122.72'

LEGEND

- LEASED TRACTS
- SURFACE TRACTS
- UNIT BOUNDARY
- (A) LEASE # (SEE 6A1 FORM)

CURVE	CHORD BEARING	CHORD LENGTH	RADIUS	ARC LENGTH	CURVE	CHORD BEARING	CHORD LENGTH	RADIUS	ARC LENGTH
C1	S 34°48'53" V	21.36'	15.80'	23.37'	C5	N 75°40'20" V	266.77'	326.51'	275.14'
C2	S 80°17'53" V	56.68'	113.82'	57.29'	C6	S 43°37'22" V	179.24'	177.34'	187.90'
C3	N 70°52'14" V	68.74'	173.09'	69.20'	C7	S 00°26'23" V	350.47'	796.81'	353.36'
C4	N 52°35'10" V	122.97'	669.36'	122.54'	C8	S 20°40'37" E	279.46'	972.84'	280.43'

(+) DENOTES LOCATION ON UNITED STATES TOPOGRAPHIC MAPS

SURFACE HOLE UTM, NAD83, ZONE 17 IN METERS N) 4,399,577.09 E) 519,682.66
LANDING POINT 1 UTM, NAD83, ZONE 17 IN METERS N) 4,399,966.85 E) 518,661.10
BOTTOM HOLE UTM, NAD83, ZONE 17 IN METERS N) 4,397,382.10 E) 520,174.17

FILE NUMBER _____

DRAWING NUMBER HILLROCK_4HM_REV_1

SCALE 1" = 2000'

MINIMUM DEGREE OF ACCURACY 1/200

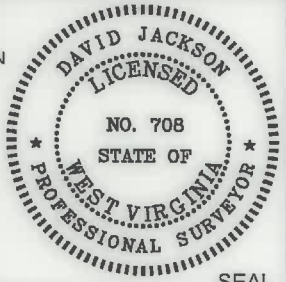
PROVEN SOURCE OF ELEVATION SUBMETER MAPPING
GRADE GPS

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 RULES ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION



David L Jackson

JACKSON SURVEYING INC.
P.O. Box 1460
Clarksburg, WV 26302
304-623-5851



WVDEP
OFFICE OF OIL & GAS
601 57TH STREET, SE
CHARLESTON, WV 25304

WELL TYPE: OIL ___ GAS X LIQUID INJECTION ___ WASTE DISPOSAL ___
(IF "GAS") PRODUCTION X STORAGE ___ DEEP ___ SHALLOW X

LOCATION ELEVATION 1219.4' WATERSHED (HUC 10) FISH CREEK

DISTRICT FRANKLIN COUNTY MARSHALL

QUADRANGLE NEW MARTINSVILLE 7.5' LEASE NUMBER SEE WW-6A1 Form

SURFACE OWNER TERRY E. & DEBORAH SIMMS ACREAGE 10701/2021

OIL & GAS ROYALTY OWNER TERRY E. & DEBORAH L. SIMMS, ET AL - SEE WW-6A1 FORM LEASE ACREAGE 319.91

PROPOSED WORK: DRILL ___ CONVERT ___ DRILL DEEPER ___ REDRILL ___ FRACTURE OR STIMULATE ___ PLUG OFF OLD FORMATION ___
PERFORATE NEW FORMATION ___ OTHER PHYSICAL CHANGE (SPECIFY) ASDRILLED

TARGET FORMATION MARCELLUS ESTIMATED DEPTH TVD: 6,528' TMD: 18,526'

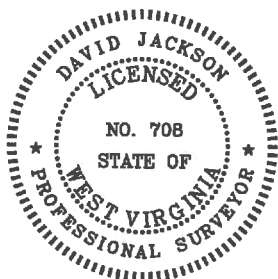
WELL OPERATOR TUG HILL OPERATING, LLC DESIGNATED AGENT DIANNA STAMPER
ADDRESS 1320 SOUTH UNIVERSITY DRIVE, SUITE 500 ADDRESS 5400 D BIG TYLER ROAD
FORT WORTH, TX 76107 CHARLESTON, WV 25313

COUNTY NAME
PERMIT

PG 2 OF 2 **HILLROCK LEASE**
WELL 4HM
827.025± ACRES

Number	TAX MAP-PARCEL	ADJOINER OWNER	ACRES
S1	05-23-06	James A. Channing, et al	48.0
S2	05-18-21	Curtis E. & Michelle J. Hall	43.119
S3	05-18-21.3	T.H. Exploration, LLC	0.811
S4	05-18-21.1	Rodney & Rhonda Jackson	5.47
S5	05-18-21.2	David P. Lassan, et ux (Life)	1.0
S6	05-18-22	Rodney & Rhonda Jackson	30.345
S7	05-23-2.1	William L. Janice M. Wayne	2.364
S8	05-23-03	Abe J. Hochstetler	50.0
S9	05-23-02	Jessica N. & Andrew L. Jones	7.636
S10	05-23-4.2	James S. & Jeanne B. Hall	1.169
S11	05-23-4.1	James S. & Jeanne B. Hall	2.1575
S12	05-23-08	Carl David & Suzanne L. Guseman	29.5
S13	05-23-9.3	Linda D. Greathouse	17.5
S14	05-23-11.1	John H. & Sonya D. Holliday	46.482
S15	05-23-11.4	Evelyn L. Hudson	10.879
S16	05-23-11.2	Evelyn Hudson	1.154
S17	05-23-11.3	Colin R. Yoho	11.29
S18	05-23-11.5	Roy F. Yoho	9.25
S19	05-25-18	Joseph Johnson, et ux (Life)	37.746
S20	05-25-18.1	Pamela Joan Ferrell, et vir	2.491
S21	05-25-19	Joseph Johnson, et ux (Life)	1.973
S22	05-25-17	Emily Jones Irrevocable Trust	22.79
S23	05-18-24	Duane Brunn	102.0
S24	05-18-23	Blaine E. Channing, et al	110.0
S25	05-18-20	Wayne E. Channing, et al	75.6
S26	05-18-31	Kenneth E. Rastall	6.94
S27	05-18-32	Kenneth E. Rastall	5.335
S28	05-17-12	James A. & Jill C. Corley	3.33
S29	05-17-10	James A. Corley, et al	92.61
S30	05-17-9.3	James A. Corley, et ux	12.478
S31	05-17-9.4	Vicki L. Bowen	60.3
S32	05-24-01	Linda L. Hendrickson	175.0
S33	05-24-5.1	James D. Watkins, et ux	4.6
S34	05-24-5.2	James D. Watkins, et ux	3.151
S35	05-23-7.1	H.J. Weigand, et ux	0.549
S36	05-23-7.2	H.J. Weigand, et ux	6.354
S37	05-24-5.5	H.J. Weigand, et ux	17.194
S38	05-24-5.3	Thomas V. Tuttle, et ux	8.543
S39	05-24-5.4	Thomas V. Tuttle, et ux	38.224
S40	05-23-8.1	William & Virginia Roupe	34.0
S41	05-23-04	Abe J. Hochstetler	100.7235
S42	05-25-1.3	Michael E. & Annie A. Chapman	26.2
S43	05-25-1.2	William Jr. & Andrea J. Dubiel	20.1
S44	05-25-1.1	Ryan A. & Jacqueline E. Layman	9.79
S45	05-25-13.3	William M. Sr. & Cynthia A. Ferda	17.21
S46	05-25-1.5	Ryan J. Bratton	21.35
S47	05-25-13	Nicholas J. & Debra L. Klug	16.014
S48	05-25-12.1	Kent & Betty Mason	15.0
S49	05-25-13.2	David A. Klug	5.89

Number	TAX MAP-PARCEL	ADJOINER OWNER	ACRES
S50	05-25-01	Michael L. Mason	35.43
S51	05-25-14	Roy F. Yoho	23.0
S52	05-25-16	Emily Jones Irrevocable Trust	23.5
S53	05-25-16.2	Rodney J. Loy	1.087
S54	05-26-12.1	Alvin F. Jr. & Kristen R. Stoneking	2.011
S55	05-26-13	Marjorie Ann Stoneking (Life)	40.0
S56	05-26-10	Robert D. & Bonnie L. Oliver Family Trust	24.94
S57	05-26-09	Robert D. & Bonnie L. Oliver Family Trust	21.75
S58	05-26-08	Richard Joseph Otte, et ux	18.27
S59	05-26-20	Donald Lee Anderson, et al	4.2
S60	05-26-21	Richard Joseph Otte, et ux	1.25
S61	05-26-22	Richard Joseph Otte, et ux	8.3
S62	05-23-12	Mark A. Yoho	3.05
S63	05-23-13.1	James R. & Pamela J. Ferrell	0.7625
S64	05-23-13	Linda D. Greathouse	14.24
S65	05-23-9.2	Linda D. Greathouse	25.58
S66	05-23-9.4	Jackson R. Sr. & Deanna L. Davis	2.087
S67	05-23-9.1	John W. Van Orden	23.376
S68	05-23-14	Dominion Transmission, Inc.	59.5
S69	05-23-15	Virginia Ethel Henry Est.	15.5
S70	05-23-16.1	Donald B. Henry	1.97
S71	05-23-16	Roy Friend Yoho Sr.	18.03
S72	05-23-18	Abe J. Hochstetler	35.382
S73	05-23-01	Patricia Accetolo, et al	146.66
S74	05-23-17.3	William & Katherine Flewelling	5.018
S75	05-23-17	Tammy & Thomas E. Brown	4.62
S76	05-23-17.4	Tammy D. Meadows	2.605
S77	05-23-17.2	Dick Jr. & Carol J. Rowan	14.92
S78	05-23-17.1	Curtis E. Hall, et ux	10.051
S79	05-23-18.1	Mark A. Yoho	7.8
S80	05-25-11.9	Bryan L. Huggins	1.835
S81	05-25-11	Roy F. Yoho	3.445
S82	05-25-20.3	James A. & Jo C. Estep	4.49
S83	05-25-20.2	James M. Zombotti	1.347
S84	05-25-20.1	James M. Zombotti	2.746
S85	05-23-11.6	T.H. Exploration II, LLC & Atinum Marcellus I, LLC	0.094
S86	05-18-30	Jan Schmidt, et al	5.46
S87	05-18-13.10	Carl Berg	10.88
S88	05-18-29	Carl B. Berg	5.319
S89	05-18-32.1	Lori D. Carpenter	1.165
S90	05-18-13.8	Lori D. Carpenter	5.545
S91	05-17-12.1	Williams Ohio Valley Midstream, LLC	1.67
S92	05-17-10.5	Williams Ohio Valley Midstream, LLC	4.24

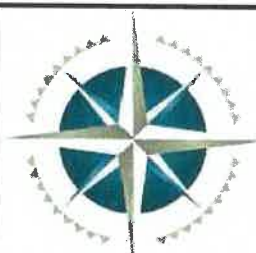


P.S. 708

David L Jackson

SURFACE HOLE UTM. NAD83, ZONE 17 IN METERS N) 4,399,577.13 E) 519,682.78
LANDING POINT 1 UTM. NAD83, ZONE 17 IN METERS N) 4,399,983.71 E) 518,663.55
BOTTOM HOLE UTM. NAD83, ZONE 17 IN METERS N) 4,397,382.13 E) 520,165.67

10/01/2021



TUG HILL
OPERATING

OPERATOR'S
 WELL #: Hillrock 4HM
 DISTRICT: Franklin
 COUNTY: Marshall
 STATE: W.V.
 API #: 47-051-02055

WELL PLAT
 PAGE 2 OF 2
 DATE: 04/07/2021