

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

API 47 - 051 - 02103 County Marshall District Mead
Quad Glen Easton 7.5' Pad Name Keith Stern Field/Pool Name _____
Farm name TH Exploration, LLC Well Number Keith Stern S-8HM
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 4,402,801.06 Easting 526,357.89
Landing Point of Curve Northing 4,402,166.9 Easting 526,174.1
Bottom Hole Northing 4,400,143.5 Easting 527,334.9

Elevation (ft) 737.70' 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 10/22/2018 Date drilling commenced spud:9/30/2020 big rig: 3/30/2022 Date drilling ceased 4/12/2022
Date completion activities began 12/2/2022 Date completion activities ceased 12/28/2022
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 440' Open mine(s) (Y/N) depths _____
Salt water depth(s) ft 933' Void(s) encountered (Y/N) depths _____
Coal depth(s) ft 341-347', 434-440' Cavern(s) encountered (Y/N) depths _____
Is coal being mined in area (Y/N) N

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APPROVED

Reviewed by: [Signature]
12/08/2023

API 47- 051 - 02103 Farm name TH Exploration, LLC Well number Keith Stern S-8HM

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"	552'	NEW	54.5#	N/A	Y
Coal	17 1/2"	13 3/8"	552'	NEW	54.5#	N/A	Y
Intermediate 1	12 1/4"	9 5/8"	2,248'	NEW	36#	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8 3/4"	5 1/2"	14,763'	NEW	20#	N/A	Y
Tubing		2 7/8"	7,382'	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	65	15.6	1.21	78	0	8
Surface	A	680	15.6	1.2	816	0	8
Coal	A	680	15.6	1.2	816	0	8
Intermediate 1	A	665	15.0	1.38	917.7	0	8
Intermediate 2							
Intermediate 3							
Production	A	3550	14.5	1.156	4103.8	0	8
Tubing							

Drillers TD (ft) 14,794' Loggers TD (ft) n/a
 Deepest formation penetrated Marcellus Plug back to (ft) n/a
 Plug back procedure n/a

Kick off depth (ft) 6,287'

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 _____

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WAS WELL COMPLETED OPEN HOLE? Yes No DETAILS _____

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WERE TRACERS USED Yes No TYPE OF TRACER(S) USED _____

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**KEITH STERN S-8HM
PEFORATION RECORD**

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD. Ft.	Number of Perforations	Formation(s)
1	12/2/2022	14,583	14,629	36	MARCELLUS
2	12/3/2022	14,378	14,532	44	MARCELLUS
3	12/4/2022	14,203	14,357	44	MARCELLUS
4	12/5/2022	14,026	14,180	44	MARCELLUS
5	12/6/2022	13,849	14,003	44	MARCELLUS
6	12/6/2022	13,672	13,826	44	MARCELLUS
7	12/7/2022	13,495	13,649	44	MARCELLUS
8	12/7/2022	13,318	13,472	44	MARCELLUS
9	12/8/2022	13,141	13,295	44	MARCELLUS
10	12/9/2022	12,964	13,118	44	MARCELLUS
11	12/9/2022	12,787	12,941	44	MARCELLUS
12	12/10/2022	12,610	12,764	44	MARCELLUS
13	12/10/2022	12,433	12,587	44	MARCELLUS
14	12/11/2022	12,256	12,410	44	MARCELLUS
15	12/11/2022	12,079	12,233	44	MARCELLUS
16	12/11/2022	11,902	12,056	44	MARCELLUS
17	12/12/2022	11,725	11,879	44	MARCELLUS
18	12/13/2022	11,548	11,702	44	MARCELLUS
19	12/14/2022	11,371	11,525	44	MARCELLUS
20	12/14/2022	11,194	11,348	44	MARCELLUS
21	12/15/2022	11,017	11,171	44	MARCELLUS
22	12/15/2022	10,840	10,994	44	MARCELLUS
23	12/16/2022	10,663	10,817	44	MARCELLUS
24	12/16/2022	10,486	10,640	44	MARCELLUS
25	12/17/2022	10,309	10,463	44	MARCELLUS
26	12/17/2022	10,132	10,286	44	MARCELLUS
27	12/18/2022	9,955	10,109	44	MARCELLUS
28	12/18/2022	9,778	9,932	44	MARCELLUS
29	12/19/2022	9,601	9,755	44	MARCELLUS
30	12/20/2022	9,424	9,578	44	MARCELLUS
31	12/20/2022	9,247	9,401	44	MARCELLUS
32	12/21/2022	9,070	9,224	44	MARCELLUS
33	12/21/2022	8,893	9,047	44	MARCELLUS
34	12/22/2022	8,716	8,870	44	MARCELLUS
35	12/22/2022	8,539	8,693	44	MARCELLUS
36	12/23/2022	8,362	8,516	44	MARCELLUS
37	12/23/2022	8,185	8,339	44	MARCELLUS
38	12/25/2022	8,008	8,162	44	MARCELLUS
39	12/26/2022	7,831	7,985	44	MARCELLUS
40	12/27/2022	7,654	7,808	44	MARCELLUS
41	12/27/2022	7,477	7,631	44	MARCELLUS

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Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD. Ft.	Number of Perforations	Formation(s)
42	12/28/2022	7,300	7,454	44	MARCELLUS
43	12/28/2022	7,123	7,277	44	MARCELLUS
44	12/28/2022	6,946	7,100	44	MARCELLUS

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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	68.00	8487	6320	3537	249180	11,290	0
2	79.00	8065	5226	4924	449960	8,355	0
3	88.00	7805	5399	4763	448580	9,030	0
4	89.00	7567	5508	5306	446280	8,414	0
5	89.00	7511	5356	5306	448280	8,222	0
6	90.00	7250	5356	5097	449130	8,249	0
7	87.00	7672	5401	5850	446500	8,213	0
8	87.00	7195	5249	5118	448800	8,585	0
9	88.00	7271	5282	5033	443400	8,136	0
10	86.00	7077	5306	5286	442820	8,558	0
11	86.00	7119	5954	5146	443160	7,983	0
12	90.00	7107	5535	4896	442460	8,483	0
13	90.00	7072	257	5086	446000	7,948	0
14	86.00	6872	5285	4973	444820	8,204	0
15	89.00	7032	5738	5389	445700	7,828	0
16	90.00	7183	5572	5002	447340	8,298	0
17	87.00	6908	5481	5292	445760	7,969	0
18	88.00	6871	5496	5324	447100	7,573	0
19	85.00	6880	5398	5052	446540	8,316	0
20	88.00	7091	5194	5341	448500	8,420	0
21	90.00	6952	5501	5423	446300	7,838	0
22	88.00	7045	5097	5148	440720	8,144	0
23	86.00	6844	5207	4975	445100	7,699	0
24	89.00	7118	5231	4669	440120	8,149	0
25	89.00	6927	5361	5292	440000	7,768	0
26	89.00	6850	5245	5181	442940	8,176	0
27	89.00	6772	5628	5305	447300	7,732	0
28	89.00	6923	5716	5255	436320	7,788	0
29	89.00	6877	5611	5071	445386	8,063	0
30	87.00	6734	5227	4852	442550	7,992	0
31	88.00	6734	5406	5136	446400	7,596	0
32	89.00	6601	5526	5279	442960	8,030	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/Oil and Gas (US Gals)
33	91.00	6724	5078	4680	445960	8,096	0
34	89.00	6678	5441	5065	447880	8,109	0
35	90.00	6576	5017	5068	446340	8,138	0
36	90.00	6658	5229	5161	447300	8,211	0
37	89.00	6612	5092	4872	447460	8,147	0
38	88.00	6570	5041	5378	437300	8,080	0
39	86.00	6364	5238	5154	443160	8,177	0
40	90.00	6602	5428	5145	443980	8,174	0
41	91.00	6680	5115	4916	441640	8,461	0
42	87.00	6508	5093	5232	436860	8,744	0
43	89.00	6411	5059	5072	439840	7,988	0
44	89.00	6557	5144	5093	440260	7,704	0

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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	1489	1657	1489	1658	Sandstone
Big Lime	1657	1724	1658	1725	Limestone
Big Injun	1724	1935	1725	1936	Sandstone
Weir	1935	2143	1936	2145	Sandstone
Berea	2143	2405	2145	2409	Sandstone
Gordon	2405	2489	2409	2493	Sandstone
Fifty Foot	2489	3071	2493	3077	Sandstone
Speechley	3071	4540	3077	4654	Sandstone
Benson	4540	4922	4654	5121	Sandstone
Alexander	4922	5584	5121	5930	Siltstone
Rhinestreet	5584	6042	5930	6501	Black Shale
Middlesex	6042	6117	6501	6609	Black Shale
Geneseo/Burkett	6117	6145	6609	6653	Black Shale
Tully	6145	6173	6653	6700	Limestone
Hamilton	6173	6259	6700	6893	Gray Shale
Marcellus	6259	-	6893	-	Black Shale

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Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	12/2/2022
Job End Date:	12/28/2022
State:	West Virginia
County:	Marshall
API Number:	47-051-02103-00-00
Operator Name:	Tug Hill Operating, LLC
Well Name and Number:	Keith Stern S-8HM
Latitude:	39.77474500
Longitude:	-80.69222700
Datum:	NAD27
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,471
Total Base Water Volume (gal):	16,005,234
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	88.07094	None
Sand (Proppant)	Tug Hill Operating	Proppant	Silica Substrate	14808-60-7	100.00000	11.56911	None
Hydrochloric Acid (7.5%)	Producers Service Corp.	Acidizing	Water	7732-18-5	85.00000	0.22807	None
			Hydrochloric Acid (Hydrogen Chloride)	7647-01-0	37.00000	0.09928	None
StimStream FR 9800	Chemstream	Friction Reducer	Butene, homopolymer	9003-29-6	25.00000	0.02061	None
			Alkanes, C16-20-iso-	90622-59-6	25.00000	0.02061	None
			Ethoxylated alcohols (C12-18)	68213-23-0	3.00000	0.00247	None
LD-7750W	Multi-Chem	Scale Inhibitor	Methanol	67-56-1	60.00000	0.00520	None
			Phosphonic Acid Salt	Proprietary	5.00000	0.00043	None
4-N-1	Producers Service Corp.	Corrosion Inhibitor	Acetic acid	64-19-7	90.00000	0.00047	None

			2-Ethylhexanol	104-76-7	10.00000	0.00005	None
			Methanol	67-56-1	10.00000	0.00005	None
			Cocamide Diethanolamine	68603-42-9	5.00000	0.00003	None
			Diethanolamine	111-42-2	1.00000	0.00001	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					
			Hydrochloric Acid (Hydrogen Chloride)	7647-01-0	37.00000	0.09928	
			Alkanes, C16-20-iso-	90622-59-6	25.00000	0.02061	
			Ethoxylated alcohols (C12-18)	68213-23-0	3.00000	0.00247	
			Phosphonic Acid Salt	Proprietary	5.00000	0.00043	
			Methanol	67-56-1	10.00000	0.00005	
			2-Ethylhexanol	104-76-7	10.00000	0.00005	
			Cocamide Diethanolamine	68603-42-9	5.00000	0.00003	
			Diethanolamine	111-42-2	1.00000	0.00001	

* 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)

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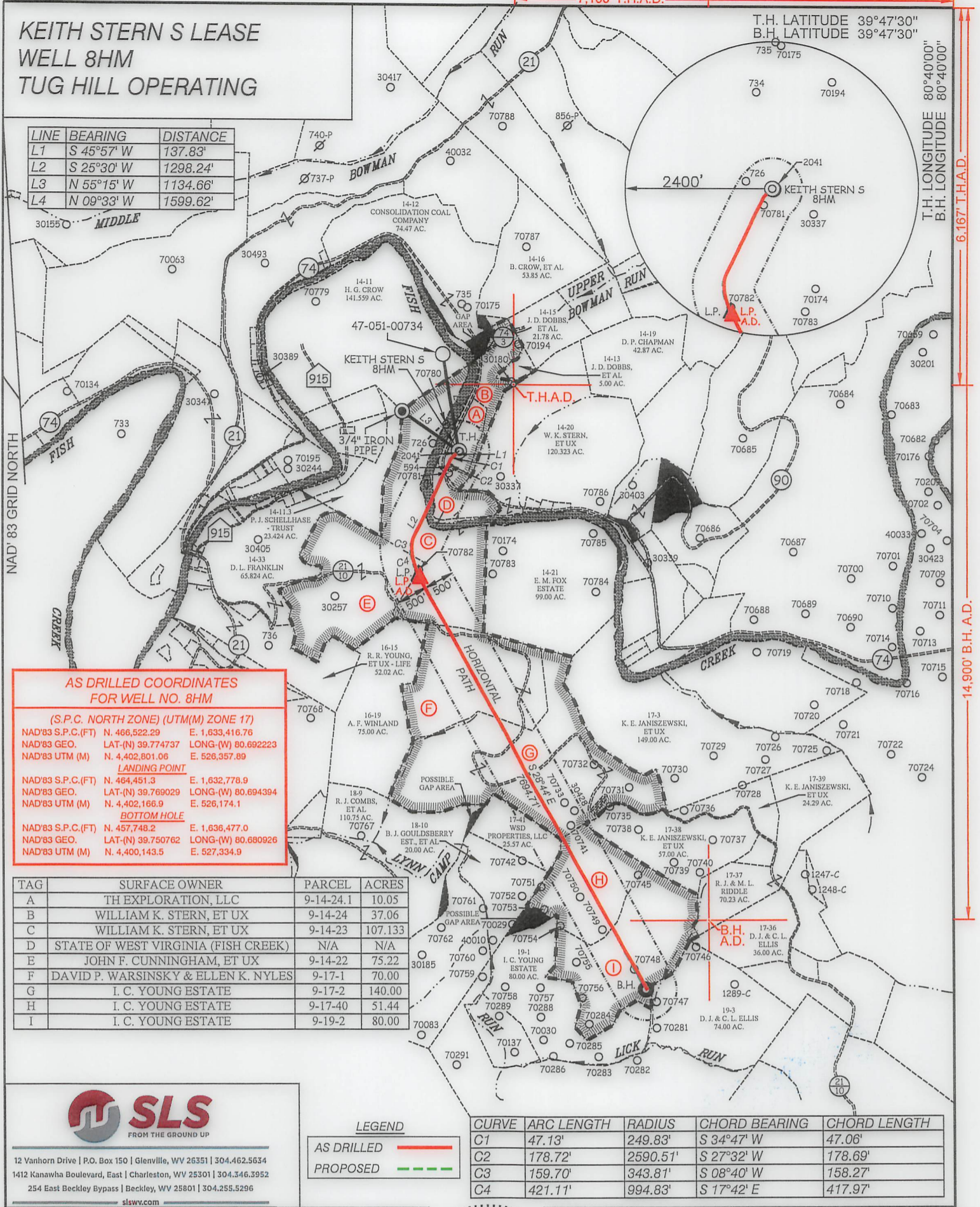
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Environmental Protection

KEITH STERN S LEASE WELL 8HM TUG HILL OPERATING

LINE	BEARING	DISTANCE
L1	S 45°57' W	137.83'
L2	S 25°30' W	1298.24'
L3	N 55°15' W	1134.66'
L4	N 09°33' W	1599.62'

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

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



AS DRILLED COORDINATES FOR WELL NO. 8HM

(S.P.C. NORTH ZONE) (UTM(M) ZONE 17)		
NAD'83 S.P.C.(FT)	N. 466,522.29	E. 1,633,416.76
NAD'83 GEO.	LAT-(N) 39.774737	LONG-(W) 80.692223
NAD'83 UTM (M)	N. 4,402,801.06	E. 526,357.89
LANDING POINT		
NAD'83 S.P.C.(FT)	N. 464,451.3	E. 1,632,778.9
NAD'83 GEO.	LAT-(N) 39.769029	LONG-(W) 80.694394
NAD'83 UTM (M)	N. 4,402,166.9	E. 526,174.1
BOTTOM HOLE		
NAD'83 S.P.C.(FT)	N. 457,748.2	E. 1,636,477.0
NAD'83 GEO.	LAT-(N) 39.750762	LONG-(W) 80.680926
NAD'83 UTM (M)	N. 4,400,143.5	E. 527,334.9

TAG	SURFACE OWNER	PARCEL	ACRES
A	TH EXPLORATION, LLC	9-14-24.1	10.05
B	WILLIAM K. STERN, ET UX	9-14-24	37.06
C	WILLIAM K. STERN, ET UX	9-14-23	107.133
D	STATE OF WEST VIRGINIA (FISH CREEK)	N/A	N/A
E	JOHN F. CUNNINGHAM, ET UX	9-14-22	75.22
F	DAVID P. WARSINSKY & ELLEN K. NYLES	9-17-1	70.00
G	I. C. YOUNG ESTATE	9-17-2	140.00
H	I. C. YOUNG ESTATE	9-17-40	51.44
I	I. C. YOUNG ESTATE	9-19-2	80.00



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 | 304.255.5296
slswv.com

LEGEND

AS DRILLED	
PROPOSED	

CURVE	ARC LENGTH	RADIUS	CHORD BEARING	CHORD LENGTH
C1	47.13'	249.83'	S 34°47' W	47.06'
C2	178.72'	2590.51'	S 27°32' W	178.69'
C3	159.70'	343.81'	S 08°40' W	158.27'
C4	421.11'	994.83'	S 17°42' E	417.97'

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

NAD'83 S.P.C.(FT)	N. 466,522.29	E. 1,633,416.76
NAD'83 GEO.	LAT-(N) 39.774737	LONG-(W) 80.692223
NAD'83 UTM (M)	N. 4,402,801.06	E. 526,357.89
LANDING POINT		
NAD'83 S.P.C.(FT)	N. 464,503.0	E. 1,632,752.4
NAD'83 GEO.	LAT-(N) 39.769170	LONG-(W) 80.694491
NAD'83 UTM (M)	N. 4,402,182.5	E. 526,165.8
BOTTOM HOLE		
NAD'83 S.P.C.(FT)	N. 457,756.0	E. 1,636,452.0
NAD'83 GEO.	LAT-(N) 39.750783	LONG-(W) 80.681015
NAD'83 UTM (M)	N. 4,400,145.8	E. 527,327.2



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

P.S. 677

Gregory A. Smith
LEGEND

LEASE LINE	
SURFACE LINE	
WELL LATERAL	
OFFSET LINE	
TIE LINE	
CREEK	
ROAD	
COUNTY ROUTE	
PROPOSED WELL	
EXISTING WELL	
PERMITTED WELL	
TAX MAP-PARCEL	00-00
LEASE # (SEE WW-6A1)	
SURFACE OWNER (SEE TABLE)	(A)

SCALE 1" = 2000' FILE NO. 8811P8HMv2-AD.dwg

DATE FEBRUARY 15, 20 23

REVISED _____, 20 _____

OPERATORS WELL NO. KEITH STERN S-8HM

API WELL NO. 47 — 051 — 02103

NO. STATE COUNTY PERMIT

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



DESIGNATED AGENT DARREN BROWN - CT CORPORATION
ADDRESS 5098 WASHINGTON ST. W, STE 407
CHARLESTON, WV 25313-1561

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

COUNTY NAME
PERMIT

7,183' T.H.A.D.

4,009' B.H.A.D.

**KEITH STERN S LEASE
WELL 8HM
TUG HILL OPERATING**

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

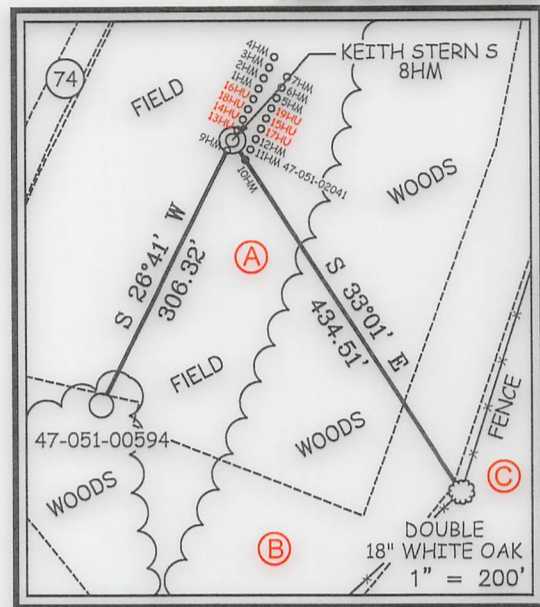
(S.P.C. NORTH ZONE) (UTM(M) ZONE 17)			
NAD'83 S.P.C.(FT)	N. 466,522.29	E. 1,633,416.76	
NAD'83 GEO.	LAT-(N) 39.774737	LONG-(W) 80.694223	
NAD'83 UTM (M)	N. 4,402,801.06	E. 526,357.89	
<u>LANDING POINT</u>			
NAD'83 S.P.C.(FT)	N. 464,503.0	E. 1,632,752.4	
NAD'83 GEO.	LAT-(N) 39.769170	LONG-(W) 80.694491	
NAD'83 UTM (M)	N. 4,402,182.5	E. 526,165.8	
<u>BOTTOM HOLE</u>			
NAD'83 S.P.C.(FT)	N. 457,756.0	E. 1,636,452.0	
NAD'83 GEO.	LAT-(N) 39.750783	LONG-(W) 80.681015	
NAD'83 UTM (M)	N. 4,400,145.8	E. 527,327.2	

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

6,167' T.H.A.D.

14,900' B.H. A.D.

REFERENCES



T.H.A.D.

B.H. A.D.

NOTES ON SURVEY

1. NO WATER WELLS WERE FOUND WITHIN 250' OF PROPOSED GAS WELL. NO AGRICULTURAL BUILDINGS OR DWELLINGS > 2500 SQ. FT. WERE FOUND WITHIN 625' OF THE CENTER OF PROPOSED WELL PAD.
2. WELL SPOT CIRCLE & TOPO MARK SCALE IS 1"=2000'.0
3. PLAT UPDATED TO SHOW AS-DRILLED PATH.
4. AS DRILLED DATA PROVIDED BY TUG HILL OPERATING.



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 | 304.255.5296
slsw.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. 677 *Gregory A. Smith*



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.
DATE FEBRUARY 15, 2023
REVISED _____, 20____
OPERATORS WELL NO. KEITH STERN S-8HM
API WELL NO. 47 - 051 - 02103
STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 2500 FILE NO. 8811P8HMV2-AD.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 = 737.70' ELEVATION PROPOSED = 744.65' WATERSHED FISH CREEK (HUC 10)
DISTRICT MEADE COUNTY MARSHALL QUADRANGLE GLEN EASTON 7.5'

SURFACE OWNER TH EXPLORATION, LLC ACREAGE 10.05±
ROYALTY OWNER ISAAC CROW, ET AL - SEE WW-6A1 ACREAGE 10.05±

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: 6,399' / TMD: 14,754'

COUNTY NAME PERMIT

12/08/2023

WELL OPERATOR TUG HILL OPERATING, LLC DESIGNATED AGENT DARREN BROWN - CT CORPORATION
ADDRESS 1320 SOUTH UNIVERSITY DRIVE, SUITE 500 ADDRESS 5098 WASHINGTON ST. W, STE 407
FORT WORTH, TX 76107 CHARLESTON, WV 25313-1561