

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

API 47-051-02098 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 N-6HM
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 4,402,817.94 Easting 526,373.29
Landing Point of Curve Northing 4,402,808.8 Easting 527,089.0
Bottom Hole Northing 4,404,475.6 Easting 526,131.7

Elevation (ft) 741.50' 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 7/5/2022 spud: 9/28/2020 big rig: 6/23/2022
Date completion activities began 2/14/2023 Date completion activities ceased 3/27/2023
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



Reviewed by: [Signature]
09/22/2023

API 47- 051 - 02098 Farm name TH Exploration, LLC Well number Keith Stern N-6HM

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"	573'	NEW	54.5#	N/A	Y
Coal	17 1/2"	13 3/8"	573'	NEW	54.5#	N/A	Y
Intermediate 1	12 1/4"	9 5/8"	2,269'	NEW	36#	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8 3/4"	5 1/2"	14,076'	NEW	20#	N/A	Y
Tubing		2 7/8"	7,038'	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	785	15.6	1.2	942	0	8
Coal	A	785	15.6	1.2	942	0	8
Intermediate 1	A	753	15	1.38	1039.14	0	8
Intermediate 2							
Intermediate 3							
Production	A	3185	14.5	1.23	3917.55	0	8
Tubing							

Drillers TD (ft) 14,106' Loggers TD (ft) n/a
 Deepest formation penetrated Marcellus Plug back to (ft) n/a
 Plug back procedure n/a

Kick off depth (ft) 6,142'

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.

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WAS WELL COMPLETED AS SHOT HOLE Yes No DETAILS MAY 03 2023

WAS WELL COMPLETED OPEN HOLE? Yes No DETAILS WV Department of Environmental Protection

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

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API 47- 051 - 02098 Farm name TH Exploration, LLC Well number Keith Stern N-6HM

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)
	attached							

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Please insert additional pages as applicable.

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API 47- 051 - 02098 Farm name TH Exploration, LLC Well number Keith Stern N-6HM

PRODUCING FORMATION(S)	DEPTHS	
	TVD	MD
MARCELLUS	6,314'-6,261'	7,591'-14,106'

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump

SHUT-IN PRESSURE Surface 3497 psi Bottom Hole _____ psi DURATION OF TEST 4 hrs

OPEN FLOW Gas 1193.84 mcfpd Oil 48 bpd NGL 0 bpd Water 600 bpd GAS MEASURED BY Estimated Orifice Pilot

LITHOLOGY/ FORMATION	TOP	BOTTOM	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	
	0		0		
*see attached					

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
Address _____ City _____ State _____ Zip _____

Cementing Company Halliburton Energy Services, Inc.
Address 121 Champion Way, Suite 200 City Canonsburg State PA Zip 15317

Stimulating Company Producers Service Corp.
Address 109 S. Graham St. City Zanesville State OH Zip 43701

Please insert additional pages as applicable.

Completed by Amy L. Morris Telephone 304-376-0111
Signature Amy L. Morris Title Permitting Specialist - Appalachia Region Date 5-1-2023

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**KEITH STERN N-6HM
PEFORATION RECORD**

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD. Ft.	Number of Perforations	Formation(s)
1	2/14/2023	13,893	13,940	36	MARCELLUS
2	2/15/2023	13,694	13,839	48	MARCELLUS
3	2/15/2023	13,520	13,665	48	MARCELLUS
4	2/16/2023	13,346	13,491	48	MARCELLUS
5	2/17/2023	13,171	13,316	48	MARCELLUS
6	2/18/2023	12,996	13,141	48	MARCELLUS
7	2/19/2023	12,821	12,966	48	MARCELLUS
8	2/20/2023	12,646	12,791	48	MARCELLUS
9	2/21/2023	12,471	12,616	48	MARCELLUS
10	2/23/2023	12,296	12,441	48	MARCELLUS
11	2/24/2023	12,121	12,266	48	MARCELLUS
12	2/26/2023	11,946	12,091	48	MARCELLUS
13	2/27/2023	11,771	11,916	48	MARCELLUS
14	2/28/2023	11,596	11,741	48	MARCELLUS
15	3/3/2023	11,433	11,579	48	MARCELLUS
16	3/4/2023	11,259	11,405	48	MARCELLUS
17	3/6/2023	11,085	11,231	48	MARCELLUS
18	3/7/2023	10,911	11,057	48	MARCELLUS
19	3/9/2023	10,737	10,883	48	MARCELLUS
20	3/10/2023	10,563	10,709	48	MARCELLUS
21	3/12/2023	10,389	10,535	48	MARCELLUS
22	3/13/2023	10,216	10,362	48	MARCELLUS
23	3/15/2023	10,042	10,188	48	MARCELLUS
24	3/16/2023	9,868	10,014	48	MARCELLUS
25	3/18/2023	9,694	9,840	48	MARCELLUS
26	3/19/2023	9,520	9,666	48	MARCELLUS
27	3/21/2023	9,346	9,492	48	MARCELLUS
28	3/22/2023	9,172	9,318	48	MARCELLUS
29	3/24/2023	8,998	9,144	48	MARCELLUS
30	3/25/2023	8,824	8,970	48	MARCELLUS
31	3/26/2023	8,650	8,796	48	MARCELLUS
32	3/26/2023	8,477	8,623	48	MARCELLUS
33	3/26/2023	8,303	8,449	48	MARCELLUS
34	3/27/2023	8,129	8,275	48	MARCELLUS
35	3/27/2023	7,955	8,101	48	MARCELLUS
36	3/27/2023	7,781	7,927	48	MARCELLUS
37	3/27/2023	7,607	7,753	48	MARCELLUS

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KEITH STERN N-6HM
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	60.00	8184	6442	4180	254530	7,554	0
2	90.00	7077	5082	4891	448320	8,396	0
3	90.00	7003	5185	4883	442560	8,391	0
4	90.00	7219	5343	4824	442900	8,491	0
5	91.00	7181	5415	5035	443554	8,258	0
6	90.00	7038	5936	5030	448580	8,111	0
7	90.00	6820	5097	5089	448980	8,175	0
8	90.00	6993	5040	4935	446960	8,345	0
9	90.00	7003	4995	4963	448880	8,444	0
10	90.00	6999	4981	5049	444480	8,477	0
11	90.00	6822	4867	4960	442840	8,435	0
12	90.00	7002	5236	5100	447140	8,417	0
13	89.00	6760	5065	4978	440620	8,266	0
14	90.00	6984	4969	5013	447580	8,373	0
15	87.00	6957	5289	4584	440440	9,673	0
16	89.00	7127	4974	4952	446960	8,524	0
17	90.00	7316	5049	5017	443020	8,409	0
18	89.00	7193	5073	4995	448680	8,611	0
19	89.00	7127	4789	4735	447650	8,543	0
20	90.00	7010	4759	5164	449900	8,191	0
21	90.00	7095	4801	5142	448480	8,182	0
22	90.00	7094	5086	4682	442250	8,345	0
23	90.00	6949	5064	5202	446620	8,307	0
24	90.00	6968	5032	4828	440640	8,136	0
25	89.00	7186	5224	5062	443400	8,134	0
26	89.00	7053	4913	5043	439400	8,346	0
27	90.00	7064	5143	5158	440280	8,242	0
28	89.00	7779	4897	4907	443660	8,097	0
29	89.00	7808	4911	5048	440580	8,239	0
30	89.00	7790	4800	4806	419560	8,217	0
31	90.00	6681	4956	5090	441600	8,308	0
32	90.00	6916	5297	5027	437700	7,971	0

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REG-ENG

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	6662	5104	5037	439320	8,196	0
34	89.00	6619	4866	5364	359260	7,174	0
35	90.00	6359	5008	4945	437540	8,239	0
36	90.00	6548	4908	5103	440980	8,176	0
37	90.00	6269	4985	5026	438760	8,021	0

KEITH STERN N-6HM

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	1537	1711	1539	1715	Sandstone
Big Lime	1711	1777	1715	1782	Limestone
Big Injun	1777	1995	1782	2006	Sandstone
Weir	1995	2198	2006	2217	Sandstone
Berea	2198	2461	2217	2496	Sandstone
Gordon	2461	2541	2496	2585	Sandstone
Fifty Foot	2541	3123	2585	3298	Sandstone
Speechley	3123	4604	3298	5178	Sandstone
Benson	4604	4979	5178	5658	Sandstone
Alexander	4979	5607	5658	6436	Siltstone
Rhinestreet	5607	6081	6436	6985	Black Shale
Middlesex	6081	6157	6985	7095	Black Shale
Geneseo/Burkett	6157	6182	7095	7135	Black Shale
Tully	6182	6208	7135	7184	Limestone
Hamilton	6208	6291	7184	7419	Gray Shale
Marcellus	6291	-	7419	-	Black Shale

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Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	2/14/2023
Job End Date:	3/27/2023
State:	West Virginia
County:	Marshall
API Number:	47-051-02098-00-00
Operator Name:	Tug Hill Operating, LLC
Well Name and Number:	Keith Stern N 6HM
Latitude:	39.77488910
Longitude:	-80.69204262
Datum:	NAD27
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,275
Total Base Water Volume (gal):	12,869,388
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	86.59446	None
Sand (40/70 White Proppant)	Tug Hill Operating	Proppant	Silica Substrate	14808-60-7	100.00000	8.57456	None
Sand (100 Mesh Proppant)	Tug Hill Operating	Proppant	Silica Substrate	14808-60-7	100.00000	3.22843	None
Sand (30/50 White Proppant)	Tug Hill Operating	Proppant	Silica Substrate	14808-60-7	100.00000	1.19855	None
Hydrochloric Acid (7.5%)	CNR	Acidizing	Water	7732-18-5	85.00000	0.23724	None
			Hydrochloric Acid (Hydrogen Chloride)	7647-01-0	37.00000	0.10327	None
StimStream FR 9800	Chemstream	Friction Reducer	Alkanes, C16-20-iso-	90622-59-6	25.00000	0.01869	None
			Butene, homopolymer	9003-29-6	25.00000	0.01869	None
			Ethoxylated alcohols (C12-18)	68213-23-0	3.00000	0.00224	None

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MC MX 5-3886	Multi-Chem	Biocide					
			Calcium nitrate	13477-34-4	60.00000	0.02362	None
LD-7750W	Multi-Chem	Scale Inhibitor					
			Methanol	67-56-1	60.00000	0.00534	None
			Phosphonic Acid Salt	Proprietary	5.00000	0.00044	None
ProHib 100	CNR	Acid Inhibitor					
			2-Butoxyethanol	111-76-2	60.00000	0.00051	None
			Proprietary material	Proprietary	30.00000	0.00025	None
			Proprietary non-ionic surfactant	Proprietary	20.00000	0.00017	None
			Proprietary corrosion inhibitor	Proprietary	10.00000	0.00008	None
			Proprietary ethoxylated alcohol	Proprietary	10.00000	0.00008	None
ProFE 105	CNR	Iron Control					
			Citric Acid	77-92-9	20.00000	0.00020	None
			Acetic Acid	64-19-7	5.00000	0.00005	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	0.23724	
			Butene, homopolymer	9003-29-6	25.00000	0.01869	
			Ethoxylated alcohols (C12-18)	68213-23-0	3.00000	0.00224	
			Phosphonic Acid Salt	Proprietary	5.00000	0.00044	
			Proprietary material	Proprietary	30.00000	0.00025	
			Proprietary non-ionic surfactant	Proprietary	20.00000	0.00017	
			Proprietary ethoxylated alcohol	Proprietary	10.00000	0.00008	
			Proprietary corrosion inhibitor	Proprietary	10.00000	0.00008	
			Acetic Acid	64-19-7	5.00000	0.00005	

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

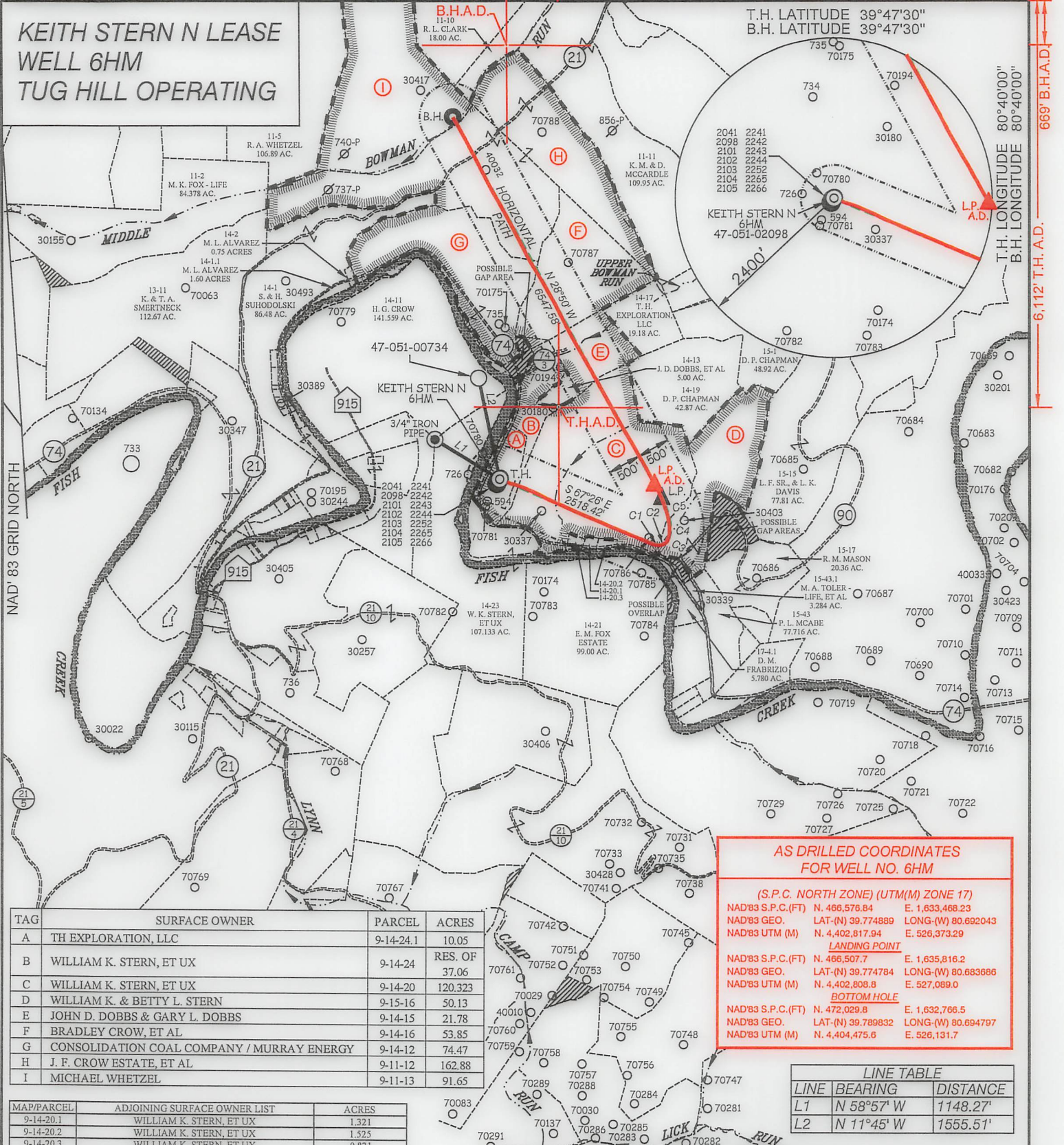
** Information is based on the maximum potential for concentration and thus the total may be over 100%

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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**KEITH STERN N LEASE
WELL 6HM
TUG HILL OPERATING**



TAG	SURFACE OWNER	PARCEL	ACRES
A	TH EXPLORATION, LLC	9-14-24.1	10.05
B	WILLIAM K. STERN, ET UX	9-14-24	RES. OF 37.06
C	WILLIAM K. STERN, ET UX	9-14-20	120.323
D	WILLIAM K. & BETTY L. STERN	9-15-16	50.13
E	JOHN D. DOBBS & GARY L. DOBBS	9-14-15	21.78
F	BRADLEY CROW, ET AL	9-14-16	53.85
G	CONSOLIDATION COAL COMPANY / MURRAY ENERGY	9-14-12	74.47
H	J. F. CROW ESTATE, ET AL	9-11-12	162.88
I	MICHAEL WHETZEL	9-11-13	91.65

MAP/PARCEL	ADJOINING SURFACE OWNER LIST	ACRES
9-14-20.1	WILLIAM K. STERN, ET UX	1.321
9-14-20.2	WILLIAM K. STERN, ET UX	1.525
9-14-20.3	WILLIAM K. STERN, ET UX	0.831

AS DRILLED COORDINATES FOR WELL NO. 6HM

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

NAD'83 S.P.C.(FT)	N. 466,576.84	E. 1,633,468.23
NAD'83 GEO.	LAT-(N) 39.774889	LONG-(W) 80.692043
NAD'83 UTM (M)	N. 4,402,817.94	E. 526,373.29

LANDING POINT

NAD'83 S.P.C.(FT)	N. 466,507.7	E. 1,635,816.2
NAD'83 GEO.	LAT-(N) 39.774784	LONG-(W) 80.683686
NAD'83 UTM (M)	N. 4,402,808.8	E. 527,089.0

BOTTOM HOLE

NAD'83 S.P.C.(FT)	N. 472,029.8	E. 1,632,766.5
NAD'83 GEO.	LAT-(N) 39.789832	LONG-(W) 80.694797
NAD'83 UTM (M)	N. 4,404,475.6	E. 526,131.7

LINE TABLE

LINE	BEARING	DISTANCE
L1	N 58°57' W	1148.27'
L2	N 11°45' W	1555.51'

CURVE TABLE

CURVE	ARC LENGTH	RADIUS	CHORD BEARING	CHORD LENGTH
C1	106.69'	237.27'	S 80°18' E	105.79'
C2	89.96'	146.81'	N 68°37' E	88.56'
C3	125.67'	210.61'	N 30°31' E	123.82'
C4	250.76'	569.65'	N 00°03' W	248.74'
C5	343.61'	1169.81'	N 20°44' W	342.38'



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 ——— (Red dashed line)
 PROPOSED ——— (Green dashed line)



(+) 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. 8811P6HMR2-AD.dwg
 KEITH STERN N-6HM-REV3
 DATE FEBRUARY 15, 2023
 OPERATORS WELL NO. KEITH STERN N-6HM
 API WELL NO. 47-051-02098
 STATE COUNTY PERMIT

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

COUNTY NAME PERMIT

09/22/2023

**KEITH STERN N LEASE
WELL 6HM
TUG HILL OPERATING**

B.H. A.D.

7,905' B.H. A.D.

7,132' T.H. A.D.

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

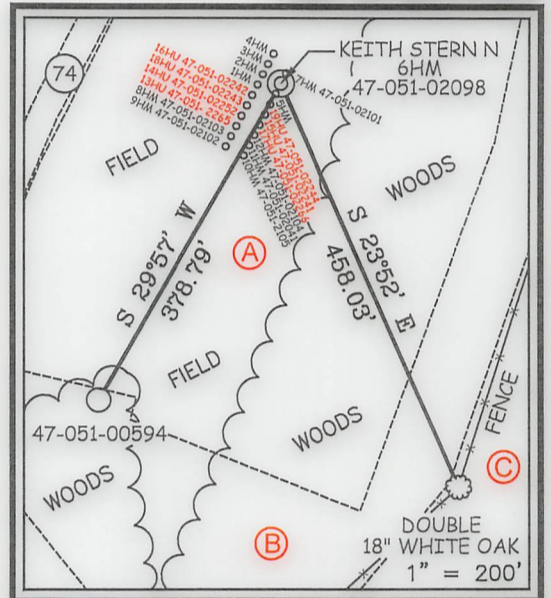
(S.P.C. NORTH ZONE) (UTM(M) ZONE 17)		
NAD'83 S.P.C.(FT)	N. 466,576.84	E. 1,633,468.23
NAD'83 GEO.	LAT-(N) 39.774889	LONG-(W) 80.692043
NAD'83 UTM (M)	N. 4,402,817.94	E. 526,373.29
<u>LANDING POINT</u>		
NAD'83 S.P.C.(FT)	N. 466,300.7	E. 1,635,922.1
NAD'83 GEO.	LAT-(N) 39.774220	LONG-(W) 80.683300
NAD'83 UTM (M)	N. 4,402,746.3	E. 527,122.3
<u>BOTTOM HOLE</u>		
NAD'83 S.P.C.(FT)	N. 472,036.2	E. 1,632,763.8
NAD'83 GEO.	LAT-(N) 39.789850	LONG-(W) 80.694807
NAD'83 UTM (M)	N. 4,404,477.6	E. 526,130.9

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

669' B.H.A.D.

T.H.A.D.

REFERENCES



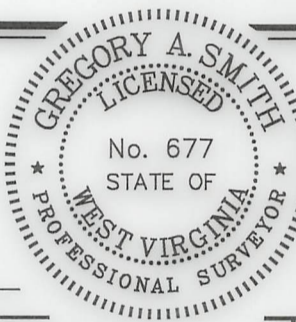
NOTES ON SURVEY

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'.
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
slsvv.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, 20 23
REVISED _____
OPERATORS WELL NO. KEITH STERN N-6HM
API WELL NO. 47 - 051 - 02098
STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 2500 FILE NO. 8811P6HMR2-AD.dwg
KEITH STERN N-6HM-REV3
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 X LIQUID INJECTION _____ WASTE DISPOSAL _____ IF "GAS" PRODUCTION X STORAGE _____ DEEP _____ SHALLOW X
LOCATION: GROUND = 741.50' 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: LEASE NO. SEE WW-6A1
DRILL X CONVERT _____ DRILL DEEPER _____ REDRILL _____ FRACTURE OR STIMULATE X 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: 6,416' / TMD: 14,107'

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

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

COUNTY NAME
PERMIT

09/22/2023