

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

API 47-051-02240 County Marshall District Franklin
Quad Powhatan Point 7.5' Pad Name Old Crow Field/Pool Name Old Crow
Farm name Donna Yoho Well Number 02240
Operator (as registered with the OOG) Tug Hill Operating, LLC
Address 380 Southpointe Boulevard, Plaza II, Suite 200 City Canonsburg State PA Zip 15317

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As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey
Top hole Northing 4,403,197.27 Easting 520,293.90
Landing Point of Curve Northing 4,404,279.4 Easting 521,493.7
Bottom Hole Northing 4,406,621.6 Easting 520,125.5

Elevation (ft) 1,264.99' 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

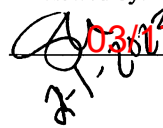
Drilling Media Surface hole Air Mud Fresh Water Intermediate hole Air Mud Fresh Water Brine
Production hole Air Mud Fresh Water Brine

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 7/26/2019 Date drilling commenced 8/23/2022 spud: 1/25/21 big rig: 10/22/2021 Date drilling ceased 3/17/2022
Date completion activities began 8/23/2022 Date completion activities ceased 9/11/2022
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 919' Open mine(s) (Y/N) depths N
Salt water depth(s) ft 1,353' Void(s) encountered (Y/N) depths N
Coal depth(s) ft 821-827', 913-919' Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

Reviewed by:
 03/17/2023

API 47- 051 - 02240 Farm name Donna Yoho Well number Old Crow N-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"	1,014'	NEW	54.5#	N/A	Y
Coal	17 1/2"	13 3/8"	1,014'	NEW	54.5#	N/A	Y
Intermediate 1	12 1/4"	9 5/8"	3,076'	NEW	36#	N/A	Y
Intermediate 2							Y
Intermediate 3							
Production	8 1/2"	5 1/2"	18,207'	NEW	20#	N/A	Y
Tubing		2 7/8"	9,104'	NEW	4.7#	N/A	Y
Packer type and depth set							

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Comment Details _____

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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	1,110	15.6	1.2	925	0	8
Coal	A	1,110	15.6	1.2	925	0	8
Intermediate 1	A	900	15	1.38	652	0	8
Intermediate 2							
Intermediate 3							
Production	A	4,265	15.5	1.06		0	8
Tubing							

Drillers TD (ft) 18,261' Loggers TD (ft) n/a
 Deepest formation penetrated Marcellus Plug back to (ft) n/a
 Plug back procedure n/a

Kick off depth (ft) 8,225'

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 _____

**OLD CROW N-8HM
PERFORATION RECORD**

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Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD. Ft.	Number of Perforations	Formation(s)
1	8/23/2022	18,021	18,069	12	Marcellus
2	8/24/2022	17,819	17,967	36	Marcellus
3	8/25/2022	17,643	17,791	36	Marcellus
4	8/25/2022	17,467	17,615	36	Marcellus
5	8/26/2022	17,290	17,438	36	Marcellus
6	8/26/2022	17,114	17,262	36	Marcellus
7	8/26/2022	16,937	17,085	36	Marcellus
8	8/27/2022	16,761	16,909	36	Marcellus
9	8/27/2022	16,584	16,732	36	Marcellus
10	8/27/2022	16,408	16,556	36	Marcellus
11	8/28/2022	16,232	16,380	36	Marcellus
12	8/28/2022	16,055	16,203	36	Marcellus
13	8/28/2022	15,879	16,027	36	Marcellus
14	8/29/2022	15,702	15,850	36	Marcellus
15	8/29/2022	15,526	15,674	36	Marcellus
16	8/29/2022	15,350	15,498	36	Marcellus
17	8/30/2022	15,173	15,321	36	Marcellus
18	8/30/2022	14,997	15,145	36	Marcellus
19	8/30/2022	14,820	14,968	36	Marcellus
20	8/31/2022	14,644	14,792	36	Marcellus
21	8/31/2022	14,468	14,616	36	Marcellus
22	8/31/2022	14,291	14,439	36	Marcellus
23	9/1/2022	14,115	14,263	36	Marcellus
24	9/1/2022	13,938	14,086	36	Marcellus
25	9/1/2022	13,762	13,910	36	Marcellus
26	9/2/2022	13,586	13,734	36	Marcellus
27	9/2/2022	13,409	13,557	36	Marcellus
28	9/3/2022	13,233	13,381	36	Marcellus
29	9/3/2022	13,056	13,204	36	Marcellus
30	9/3/2022	12,880	13,028	36	Marcellus
31	9/4/2022	12,704	12,852	36	Marcellus
32	9/4/2022	12,527	12,675	36	Marcellus
33	9/4/2022	12,351	12,499	36	Marcellus
34	9/5/2022	12,174	12,322	36	Marcellus
35	9/5/2022	11,998	12,146	36	Marcellus
36	9/5/2022	11,822	11,970	36	Marcellus
37	9/6/2022	11,645	11,793	36	Marcellus
38	9/6/2022	11,469	11,617	36	Marcellus
39	9/7/2022	11,292	11,440	36	Marcellus
40	9/7/2022	11,116	11,264	36	Marcellus
41	9/8/2022	10,940	11,088	36	Marcellus

03/17/2023

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD. Ft.	Number of Perforations	Formation(s)
42	9/8/2022	10,763	10,911	36	Marcellus
43	9/8/2022	10,587	10,735	36	Marcellus
44	9/9/2022	10,410	10,558	36	Marcellus
45	9/9/2022	10,234	10,382	36	Marcellus
46	9/10/2022	10,058	10,206	36	Marcellus
47	9/11/2022	9,881	10,029	36	Marcellus
48	9/11/2022	9,705	9,853	36	Marcellus
49	9/11/2022	9,528	9,676	36	Marcellus

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Old Crow N-8HM
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	84.51	7860	0	3957	252460	6,582	0
2	84.81	7304	5616	4483	446580	8,618	0
3	84.14	7479	5226	3710	447880	8,637	0
4	84.49	7429	5202	4577	445040	8,476	0
5	84.12	7401	5051	4938	446920	8,602	0
6	84.44	7196	5129	4385	450280	8,540	0
7	83.89	7246	5239	5212	443100	8,541	0
8	84.38	7302	5008	4732	438480	8,314	0
9	84.72	7353	4942	4715	446140	8,482	0
10	84.22	7260	4859	4692	446700	8,505	0
11	83.90	7022	4938	4368	448940	8,523	0
12	84.60	7007	5196	4537	445740	8,459	0
13	84.25	7124	5236	4752	449680	8,579	0
14	84.33	7199	4828	4796	442300	8,457	0
15	84.56	7157	4662	5058	441380	8,496	0
16	84.82	7060	4816	4911	440460	8,417	0
17	85.53	7147	4931	4529	442340	8,414	0
18	84.26	6695	4768	4776	446060	8,484	0
19	84.36	6985	4834	5176	441750	8,412	0
20	84.23	7017	4929	4950	448940	8,423	0
21	84.74	6936	4624	5453	447000	8,349	0
22	84.35	6876	4748	5148	445070	8,514	0
23	83.93	6844	5023	5060	442480	8,481	0
24	84.22	6669	4976	5025	448940	8,508	0
25	84.29	7001	5046	5113	446680	8,436	0
26	84.54	6920	4881	4565	440940	8,252	0
27	84.08	6772	4661	5028	437280	8,375	0
28	84.06	6749	4760	4854	442180	8,418	0
29	84.52	6535	4947	5170	435000	8,305	0
30	84.46	6717	5045	4792	439980	8,297	0
31	84.03	6983	4582	4662	438390	8,257	0
32	84.37	6934	4707	4725	445540	8,122	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	85.29	6832	5027	5090	447860	8,308	0
34	84.66	7013	5065	4621	447180	8,326	0
35	84.57	6631	4828	5014	435260	8,175	0
36	84.21	6698	4880	4546	436220	8,159	0
37	84.81	6752	5056	4712	445940	8,317	0
38	84.41	6660	4838	4618	444620	8,252	0
39	84.49	6723	4907	4452	448080	8,356	0
40	84.69	6773	5202	4552	447560	8,340	0
41	84.41	6734	4694	4452	447520	8,270	0
42	84.37	6729	4828	4618	439940	8,246	0
43	84.35	6633	4881	4133	437940	8,054	0
44	84.22	6480	5316	4430	438720	8,110	0
45	84.22	6502	4755	4635	437160	8,184	0
46	84.01	6362	5159	4924	435020	8,110	0
47	84.26	6462	5079	5150	440060	8,217	0
48	84.27	6259	4892	4794	434040	8,125	0
49	83.73	6395	5275	5322	445180	8,116	0

Old Crow N-8HM

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	2032	2122	2060	2161	Sandstone
Big Lime	2122	2192	2161	2243	Limestone
Big Injun	2192	2476	2243	2597	Sandstone
Weir	2476	2671	2597	2876	Sandstone
Berea	2671	3016	2876	3384	Sandstone
Gordon	3016	3070	3384	3464	Sandstone
Fifty Foot	3070	3618	3464	4296	Sandstone
Speechley	3618	5040	4296	6462	Sandstone
Benson	5040	5395	6462	6996	Sandstone
Alexander	5395	5989	6996	7903	Siltstone
Rhinestreet	5989	6415	7903	8577	Black Shale
Middlesex	6415	6487	8577	8722	Black Shale
Geneseo/Burkett	6487	6511	8722	8776	Black Shale
Tully	6511	6551	8776	8873	Limestone
Hamilton	6551	6609	8873	9072	Gray Shale
Marcellus	6609	-	9072	-	Black Shale

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	8/23/2022
Job End Date:	9/11/2022
State:	West Virginia
County:	Marshall
API Number:	47-051-02240-00-00
Operator Name:	Tug Hill Operating, LLC
Well Name and Number:	Old Crow N 8HM
Latitude:	39.77847351
Longitude:	-80.76301843
Datum:	NAD27
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,611
Total Base Water Volume (gal):	17,133,480
Total Base Non Water Volume:	0



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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	86.57604	None
Sand (40/70 White Proppant)	Tug Hill Operating	Proppant	Silica Substrate	14808-60-7	100.00000	8.73854	None
Sand (100 Mesh Proppant)	Tug Hill Operating	Proppant	Silica Substrate	14808-60-7	100.00000	3.10910	None
Sand (30/50 White Proppant)	Tug Hill Operating	Proppant	Silica Substrate	14808-60-7	100.00000	1.18322	None
Hydrochloric Acid (7.5%)	CNR	Acidizing	Water	7732-18-5	85.00000	0.23230	None
			Hydrochloric Acid (Hydrogen Chloride)	7647-01-0	37.00000	0.10112	None
StimStream FR 9800	Chemstream	Friction Reducer	Alkanes, C16-20-iso-	90622-59-6	25.00000	0.01824	None
			Butene, homopolymer	9003-29-6	25.00000	0.01824	None
			Ethoxylated alcohols (C12-18)	68213-23-0	3.00000	0.00219	None

MC MX 9-4743	Multi-Chem	Biocide					
			Sodium Nitrate	7631-99-4	60.00000	0.02203	None
LD-7750W	Multi-Chem	Scale Inhibitor					
			Methanol	67-56-1	60.00000	0.00498	None
			Phosphonic Acid Salt	Proprietary	5.00000	0.00042	None
ProHib 100	CNR	Acid Inhibitor					
			2-Butoxyethanol	111-76-2	60.00000	0.00050	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	0.23230	
			Butene, homopolymer	9003-29-6	25.00000	0.01824	
			Ethoxylated alcohols (C12-18)	68213-23-0	3.00000	0.00219	
			Phosphonic Acid Salt	Proprietary	5.00000	0.00042	
			Proprietary material	Proprietary	30.00000	0.00025	
			Proprietary non-ionic surfactant	Proprietary	20.00000	0.00017	
			Proprietary corrosion inhibitor	Proprietary	10.00000	0.00008	
			Proprietary ethoxylated alcohol	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)

**OLD CROW N LEASE
WELL 8HM
TUG HILL OPERATING**

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

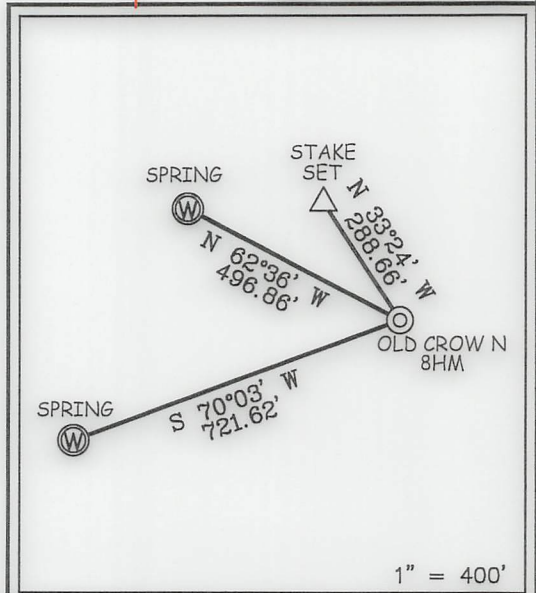
(S.P.C. NORTH ZONE) (UTM(M) ZONE 17)		
NAD'83 S.P.C.(FT)	N. 468,154.90	E. 1,613,539.62
NAD'83 GEO.	LAT-(N) 39.778474	LONG-(W) 80.763018
NAD'83 UTM (M)	N. 4,403,197.27	E. 520,293.90
LANDING POINT		
NAD'83 S.P.C.(FT)	N. 471,486.7	E. 1,617,616.9
NAD'83 GEO.	LAT-(N) 39.787776	LONG-(W) 80.748677
NAD'83 UTM (M)	N. 4,404,233.1	E. 521,519.1
BOTTOM HOLE		
NAD'83 S.P.C.(FT)	N. 479,400.7	E. 1,613,173.0
NAD'83 GEO.	LAT-(N) 39.809330	LONG-(W) 80.764886
NAD'83 UTM (M)	N. 4,406,621.5	E. 520,125.0

T.H. LONGITUDE 80°45'00"
B.H. LONGITUDE 80°45'00"

T.H. A.D.

B.H. A.D.

REFERENCES



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 ARE 1"=2000'
3. THE ASSESSMENT OF THE 1/10 ACRE LOT, OWNED BY JASON J. STEED AND DESCRIBED AS THE SECOND PARCEL IN DEED BOOK 643 PAGE 319 AND CORRECTIVE DEED 843 PAGE 300, IS NOT CURRENTLY ACCOUNTED FOR WITHIN THE 135.61 ACRE ASSESSMENT OF SURFACE TAX MAP 5-9-13.2.
4. TAX MAPS AND TAX ASSESSMENTS FOR PARCELS 5-9-4, 5-9-35 AND 5-9-41 DO NOT APPEAR TO CORRECTLY DEPICT PARCEL BOUNDARIES AND/OR ACREAGES AS DESCRIBED IN THEIR RESPECTIVE DEEDS.
5. PLAT UPDATED TO SHOW AS-DRILLED PATH.
6. 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
slswv.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 JANUARY 17, 20 23
REVISED _____, 20 _____
OPERATORS WELL NO. _____ OLD CROW N-8HM
API WELL NO. 47 - 051 - 02240
STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 2500 FILE NO. 8796P8HMAD.dwg
OLD CROW NORTH 8HM REV6
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 INJECTION _____ WASTE DISPOSAL _____ IF "GAS" PRODUCTION X STORAGE _____ DEEP _____ SHALLOW X

LOCATION: ELEVATION 1,264.99' WATERSHED TRIBUTARY OF FISH CREEK (HUC-10)
DISTRICT FRANKLIN COUNTY MARSHALL QUADRANGLE POWHATAN POINT 7.5'

SURFACE OWNER DONNA VIVIAN YOHO (TOD) GARY LANCE YOHO ACREAGE 71.205±
ROYALTY OWNER DONNA VIVIAN YOHO, ET AL ACREAGE 71.205±

PROPOSED WORK: 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: 6,755' / TMD: 18,294'

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

COUNTY NAME PERMIT

03/17/2023

**OLD CROW N LEASE
WELL 8HM
TUG HILL OPERATING**

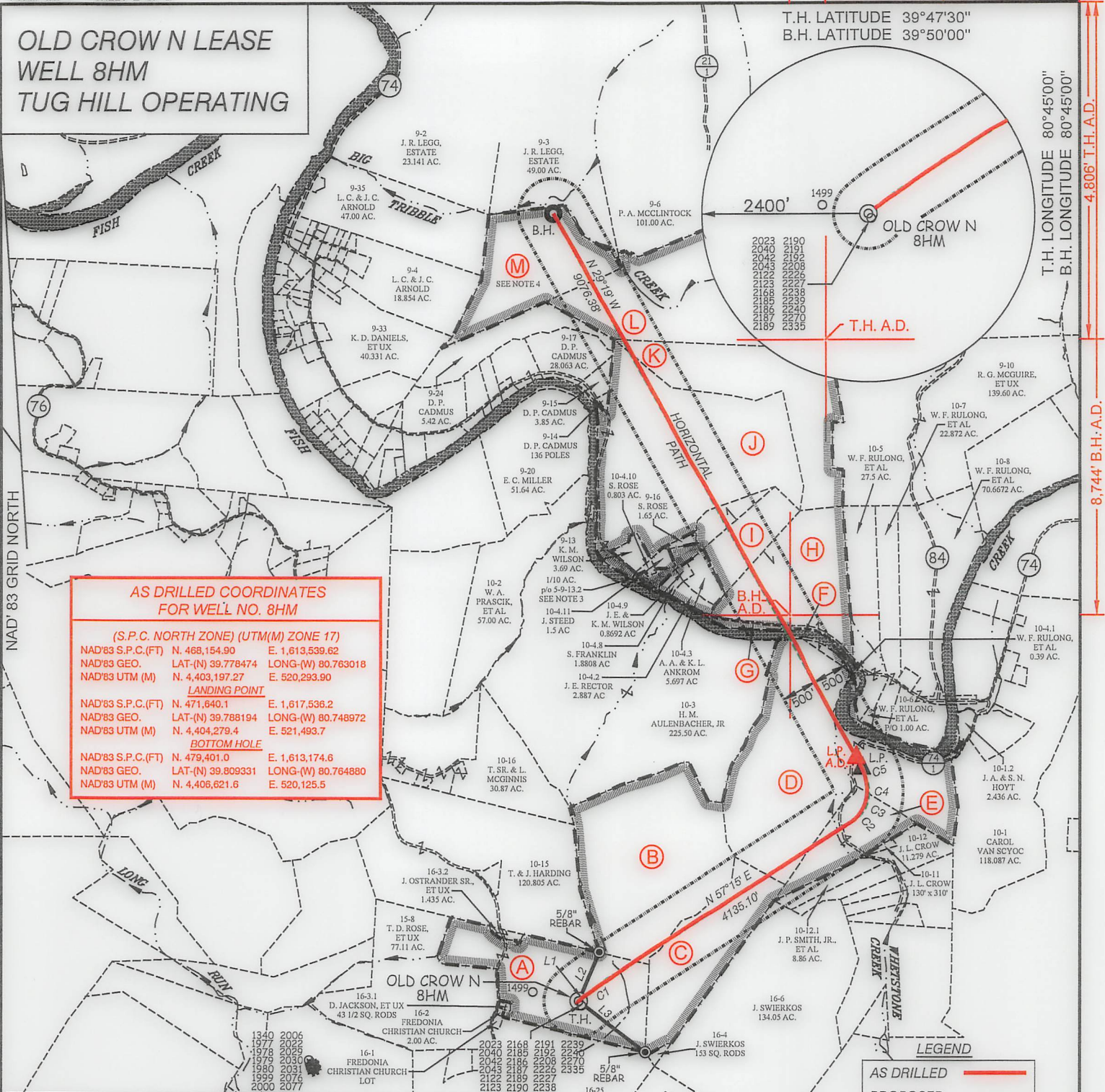
T.H. LATITUDE 39°47'30"
B.H. LATITUDE 39°50'00"

NAD'83 GRID NORTH

T.H. LONGITUDE 80°45'00"
B.H. LONGITUDE 80°45'00"

4,806' T.H.A.D.

8,744' B.H.A.D.



**AS DRILLED COORDINATES
FOR WELL NO. 8HM**

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

NAD'83 S.P.C.(FT)	N. 468,154.90	E. 1,613,539.62
NAD'83 GEO.	LAT-(N) 39.778474	LONG-(W) 80.763018
NAD'83 UTM (M)	N. 4,403,197.27	E. 520,293.90
LANDING POINT		
NAD'83 S.P.C.(FT)	N. 471,640.1	E. 1,617,536.2
NAD'83 GEO.	LAT-(N) 39.788194	LONG-(W) 80.748972
NAD'83 UTM (M)	N. 4,404,279.4	E. 521,493.7
BOTTOM HOLE		
NAD'83 S.P.C.(FT)	N. 479,401.0	E. 1,613,174.6
NAD'83 GEO.	LAT-(N) 39.809331	LONG-(W) 80.764880
NAD'83 UTM (M)	N. 4,406,621.6	E. 520,125.5

CURVE TABLE

CURVE	ARC LENGTH	RADIUS	CHORD BEARING	CHORD LENGTH
C1	502.66'	4568.87'	N 54°40' E	502.40'
C2	143.70'	415.54'	N 47°06' E	142.98'
C3	163.65'	424.49'	N 24°37' E	162.64'
C4	276.30'	607.36'	N 00°10' W	273.93'
C5	217.22'	775.94'	N 21°05' W	216.51'

TAG	SURFACE OWNER	PARCEL	ACRES
A	DONNA VIVIAN YOHO (TOD) GARY LANCE YOHO	5-16-3	71.205
B	JOHN SWIERKOS	5-10-14	100.00
C	JOHN SWIERKOS	5-16-5	52.07
D	HERBERT M. AULENBACHER, JR.	5-10-9	141.43
E	LOUIS DELBERT VAN SCYOC	5-10-10	24.50
F	STATE OF WEST VIRGINIA (FISH CREEK)	N/A	N/A
G	CARL J. & LAURA A. GILBERT	5-10-4.7	2.110
H	SHEENA ROSE	5-10-4	74.229
I	SHEENA ROSE	5-10-4.12	20.07
J	JASON J. STEED	5-9-13.2	135.61
K	ROBERT G. McGUIRE, ET UX	5-9-12	78.28
L	PATRICIA A. McCLINTOCK	5-9-7	110.02
M	LLOYD C. & JUDITH C. ARNOLD	5-9-41	93.00

LINE TABLE

LINE	BEARING	DISTANCE
L1	N 48°59' E	126.89'
L2	N 22°46' E	761.72'
L3	S 52°54' E	1204.10'

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
slsvw.com

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

NAD'83 S.P.C.(FT)	N. 468,154.90	E. 1,613,539.62
NAD'83 GEO.	LAT-(N) 39.778474	LONG-(W) 80.763018
NAD'83 UTM (M)	N. 4,403,197.27	E. 520,293.90
LANDING POINT		
NAD'83 S.P.C.(FT)	N. 471,486.7	E. 1,617,616.9
NAD'83 GEO.	LAT-(N) 39.787776	LONG-(W) 80.748677
NAD'83 UTM (M)	N. 4,404,233.1	E. 521,519.1
BOTTOM HOLE		
NAD'83 S.P.C.(FT)	N. 479,400.7	E. 1,613,173.0
NAD'83 GEO.	LAT-(N) 39.809330	LONG-(W) 80.764886
NAD'83 UTM (M)	N. 4,406,621.5	E. 520,125.0



(+) 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
SURFACE OWNER (SEE TABLE)	(A)
LEASE # (SEE WW-6A1)	

SCALE 1" = 2000' FILE NO. 8796P8HMAD.dwg
OLD CROW NORTH 8HM REV6
DATE JANUARY 17, 20 23
REVISED _____, 20 ____
OPERATORS WELL NO. OLD CROW N-8HM
API WELL NO. 47 — 051 — 02240
NO. STATE COUNTY PERMIT

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

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

03/17/2023

COUNTY TIME PERMIT