

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

API 47 - 051 - 02187 County Marshall District Franklin
Quad Powhatan Point 7.5' Pad Name Old Crow Field/Pool Name _____
Farm name Donna Vivian Yoho (TOD) Gary Lance Yoho Well Number Old Crow S-16HM
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 4,403,182.94 Easting 520,310.51
Landing Point of Curve Northing 4,404,096.4 Easting 521,567.7
Bottom Hole Northing 4,401,595.5 Easting 522,998.0

Elevation (ft) 1,265' 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 4/12/2019 Date drilling commenced 4/17/2019 Date drilling ceased 5/16/2019
Date completion activities began 10/6/2020 Date completion activities ceased 3/7/2021
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 912' Open mine(s) (Y/N) depths N
Salt water depth(s) ft 1346' Void(s) encountered (Y/N) depths N
Coal depth(s) ft 814-820', 906-912' Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

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API 47-051 - 02187 Farm name Donna Vivian Yoho (TOD) Gary Lance Yoho Well number Old Crow S-16HM

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"	100'	NEW	94.5#	N/A	Y
Surface	17 1/2"	13 3/8"	1,007'	NEW	54.5#	N/A	Y
Coal	17 1/2"	13 3/8"	1,007'	NEW	54.5#	N/A	Y
Intermediate 1	12 1/4"	9 5/8"	3,330'	NEW	36#	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8 3/4"	5 1/2"	18,437'	NEW	20#	N/A	Y
Tubing		2 3/8"	9,218'	NEW	4.7#	N/A	
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	1,051	15.6	1.19	1,270	0	8
Coal	A	1,051	15.6	1.19	1,270	0	8
Intermediate 1	A	958	15.6	1.19	1,320	0	8
Intermediate 2							
Intermediate 3							
Production	A	3,708	14.5	1.17	4,319	0	8
Tubing							

Drillers TD (ft) 18,465' Loggers TD (ft) n/a
 Deepest formation penetrated Marcellus Plug back to (ft) n/a
 Plug back procedure n/a

Kick off depth (ft) 7,956'

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 _____

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**OLD CROW S-16HM
PEFORATION RECORD**

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD. Ft.	Number of Perforations	Formation(s)
1	10/6/2020	18,055	18,200	48	Marcellus
2	10/6/2020	17,882	18,026	48	Marcellus
3	10/6/2020	17,708	17,853	48	Marcellus
4	10/7/2020	17,535	17,679	48	Marcellus
5	10/7/2020	17,361	17,506	48	Marcellus
6	10/7/2020	17,188	17,332	48	Marcellus
7	10/8/2020	17,014	17,159	48	Marcellus
8	10/8/2020	16,841	16,985	48	Marcellus
9	2/21/2021	16,667	16,812	48	Marcellus
10	2/21/2021	16,494	16,638	48	Marcellus
11	2/22/2021	16,320	16,465	48	Marcellus
12	2/22/2021	16,147	16,291	48	Marcellus
13	2/23/2021	15,973	16,118	48	Marcellus
14	2/23/2021	15,800	15,944	48	Marcellus
15	2/23/2021	15,626	15,771	48	Marcellus
16	2/24/2021	15,453	15,597	48	Marcellus
17	2/24/2021	15,279	15,424	48	Marcellus
18	2/24/2021	15,106	15,250	48	Marcellus
19	2/25/2021	14,932	15,077	48	Marcellus
20	2/25/2021	14,759	14,903	48	Marcellus
21	2/25/2021	14,585	14,730	48	Marcellus
22	2/26/2021	14,412	14,556	48	Marcellus
23	2/26/2021	14,238	14,383	48	Marcellus
24	2/26/2021	14,065	14,209	48	Marcellus
25	2/26/2021	13,891	14,036	48	Marcellus
26	2/27/2021	13,718	13,862	48	Marcellus
27	2/27/2021	13,544	13,689	48	Marcellus
28	2/27/2021	13,371	13,515	48	Marcellus
29	2/27/2021	13,197	13,342	48	Marcellus
30	2/28/2021	13,024	13,168	48	Marcellus
31	2/28/2021	12,850	12,995	48	Marcellus
32	2/28/2021	12,677	12,821	48	Marcellus
33	3/1/2021	12,503	12,648	48	Marcellus
34	3/1/2021	12,330	12,474	48	Marcellus
35	3/1/2021	12,156	12,301	48	Marcellus
36	3/2/2021	11,983	12,127	48	Marcellus
37	3/2/2021	11,809	11,954	48	Marcellus
38	3/2/2021	11,636	11,780	48	Marcellus
39	3/2/2021	11,462	11,607	48	Marcellus
40	3/3/2021	11,289	11,433	48	Marcellus
41	3/3/2021	11,115	11,260	48	Marcellus

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42	3/3/2021	10,942	11,086	48	Marcellus
43	3/4/2021	10,768	10,913	48	Marcellus
44	3/4/2021	10,595	10,739	48	Marcellus
45	3/4/2021	10,421	10,566	48	Marcellus
46	3/4/2021	10,248	10,392	48	Marcellus
47	3/5/2021	10,074	10,219	48	Marcellus
48	3/5/2021	9,901	10,045	48	Marcellus
49	3/5/2021	9,727	9,872	48	Marcellus
50	3/6/2021	9,554	9,698	48	Marcellus
51	3/6/2021	9,380	9,525	48	Marcellus
52	3/7/2021	9,207	9,351	48	Marcellus
53	3/7/2021	9,033	9,178	48	Marcellus
54	3/7/2021	8,860	9,004	48	Marcellus

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**OLD CROW S-16HM
STIMULATION INFORMATION PER STAGE**

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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/other (units)
1	85	7951	6585	4,449	445740	8640	0
2	88	7832	5028	5,073	445400	8644	0
3	89	7968	7435	4,659	445140	8600	0
4	89	7936	5514	4,757	443600	8693	0
5	89	7752	5282	4,676	445680	9574	0
6	90	7758	5638	4,609	448520	8492	0
7	89	7769	5764	4,798	440020	8623	0
8	89	7859	5479	4,691	444140	8560	0
9	86	7643	5337	4,784	438760	11540	0
10	90	7735	5170	5,126	438600	8404	0
11	90	7591	5076	4,604	445040	8542	0
12	89	7299	5975	5,203	449300	9451	0
13	90	7177	5026	4,710	436620	8268	0
14	91	7124	5257	5,089	447100	8552	0
15	90	7178	5215	4,939	449660	8492	0
16	90	7168	5293	5,054	440660	8396	0
17	90	7225	5200	4,855	442920	8530	0
18	91	7378	5488	4,950	440000	8302	0
19	90	7197	5406	4,663	445040	8609	0
20	90	7109	5328	5,337	447440	8457	0
21	89	6994	5284	4,656	447180	8470	0
22	90	7144	5283	5,426	436660	8323	0
23	90	7196	5358	4,715	449520	8462	0
24	90	7331	5478	4,967	440960	8339	0
25	90	7248	5611	5,327	445460	8351	0
26	88	6957	5257	5,077	439340	8264	0
27	90	6876	5006	5,141	447700	8366	0
28	85	6851	5030	4,683	437280	8227	0
29	90	7149	5352	5,337	442420	8331	0
30	90	6939	5190	5,024	449240	8293	0
31	90	7058	5357	4,783	442320	8331	0
32	91	6982	5213	4,626	440700	8238	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	91	7013	5646	4,942	448240	8449	0
34	91	7023	5355	4,928	450920	8258	0
35	90	6981	5422	5,021	443640	8370	0
36	90	6931	5169	4,955	438260	8194	0
37	90	6805	5335	4,772	439540	8133	0
38	90	6987	5507	5,165	434240	8186	0
39	89	6885	5065	4,440	439620	8314	0
40	90	6870	5513	4,854	435800	8081	0
41	90	6804	5348	5,453	442500	9282	0
42	90	6705	5128	4,621	447440	8250	0
43	90	6834	5638	5,050	441620	8395	0
44	90	6826	5388	4,908	439380	8123	0
45	90	6796	5363	4,766	439580	8273	0
46	90	6873	5495	4,658	441580	8191	0
47	89	6939	5120	4,637	433060	8060	0
48	90	6939	5234	5,561	440340	8156	0
49	90	6851	5208	4,592	443200	8250	0
50	90	6908	5431	4,898	436720	8130	0
51	90	6900	5287	4,169	426180	8588	0
52	89	6616	5122	4,892	444180	8205	0
53	91	6690	5538	4,693	441320	8181	0
54	91	6937	5647	5,510	440260	8065	0

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OLD CROW S-16HM

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	2013	2103	2189	2321	Sandstone
Big Lime	2103	2173	2321	2427	Limestone
Big Injun	2173	2457	2427	2835	Sandstone
Weir	2457	2652	2835	3084	Sandstone
Berea	2652	2997	3084	3584	Sandstone
Gordon	2997	3051	3584	3662	Sandstone
Fifty Foot	3051	3599	3662	4446	Sandstone
Speechley	3599	5021	4446	6434	Sandstone
Benson	5021	5376	6434	6910	Sandstone
Alexander	5376	5970	6910	7739	Siltstone
Rhinestreet	5970	6395	7739	8374	Black shale
Middlesex	6395	6469	8374	8500	Black shale
Geneseo/Burkett	6469	6493	8500	8546	Black shale
Tully	6493	6533	8546	8625	Limestone
Hamilton	6533	6593	8625	8768	Grey shale
Marcellus	6593	-	8768	-	Black shale

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Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	10/6/2020
Job End Date:	3/7/2021
State:	West Virginia
County:	Marshall
API Number:	47-051-02187-00-00
Operator Name:	Tug Hill Operating, LLC
Well Name and Number:	Old Crow S 16HM
Latitude:	39.77834399
Longitude:	-80.76282491
Datum:	NAD27
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,644
Total Base Water Volume (gal):	19,214,916
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	86.63546	None
Sand (40/70 White Proppant)	ProFrac	Proppant	Silica Substrate	14808-60-7	100.00000	8.70216	None
Sand (100 Mesh Proppant)	ProFrac	Proppant	Silica Substrate	14808-60-7	100.00000	3.00884	None
Sand (30/50 White Proppant)	ProFrac	Proppant	Silica Substrate	14808-60-7	100.00000	1.19437	None
Hydrochloric Acid (7.5%)	PVS	Acidizing	Water	7732-18-5	85.00000	0.28220	None
			Hydrochloric Acid (Hydrogen Chloride)	7647-01-0	37.00000	0.12284	None
SimStream FR 9800	Chemstream	Friction Reducer	Alkanes, C16-20-iso-	90622-59-6	25.00000	0.01981	None
			Butene, homopolymer	9003-29-6	25.00000	0.01981	None
			Ethoxylated alcohols (C12-18)	68213-23-0	3.00000	0.00238	None

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MC MX 9-4743	Multi-Chem	Biocide					
			Sodium Nitrate	7631-99-4	60.00000	0.02228	None
LD-7750W	Multi-Chem	Scale Inhibitor					
			Methanol	67-56-1	60.00000	0.00511	None
			Phosphonic Acid Salt	Proprietary	5.00000	0.00043	None
ProFE 105	ProFrac	Iron Control					
			Citric Acid	77-92-9	100.00000	0.00124	None
ProHib 100	ProFrac	Acid Inhibitor					
			2-Propyn-1-ol compound w/ methyloxirane	38172-91-7	15.00000	0.00015	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	0.28220	
			Butene, homopolymer	9003-29-6	25.00000	0.01981	
			Ethoxylated alcohols (C12-18)	68213-23-0	3.00000	0.00238	
			Phosphonic Acid Salt	Proprietary	5.00000	0.00043	

* 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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**OLD CROW S LEASE
WELL 16HM
TUG HILL OPERATING**

MAP/PARCEL	ADJOINING SURFACE OWNER LIST	ACRES
5-10-5	WILLIAM F. RULONG, ET AL	27.50
5-10-6	WILLIAM F. RULONG, ET AL	P/O ACRE
5-10-7	WILLIAM F. RULONG, ET AL	22.872
5-10-8	WILLIAM F. RULONG, ET AL	70.6672
5-10-12.1	JOHN PAUL SMITH, JR., ET AL	8.86
5-10-13.1	DAVID LEE QUIGLEY, JR.	2.88
5-10-19	BRADLEY L. & CONNIE L. HUBBARD	3.209
5-10-20	LOUIS AULENBACHER	3.554
5-10-21	LOUIS AULENBACHER	3.677
5-10-22	LOUIS AULENBACHER	6.461
5-16-10	FRANK P. LAUTAR EST.	5.00

6,512' B.H. A.D. 3,604' 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 NORTH)

NAD'83 S.P.C.(FT)	N. 468,106.97	E. 1,613,593.34
NAD'83 GEO.	LAT-(N) 39.778344	LONG-(W) 80.762825
NAD'83 UTM (M)	N. 4,403,182.94	E. 520,310.51

LANDING POINT

NAD'83 S.P.C.(FT)	N. 471,051.3	E. 1,617,759.4
NAD'83 GEO.	LAT-(N) 39.786586	LONG-(W) 80.748149
NAD'83 UTM (M)	N. 4,404,101.1	E. 521,564.7

BOTTOM HOLE

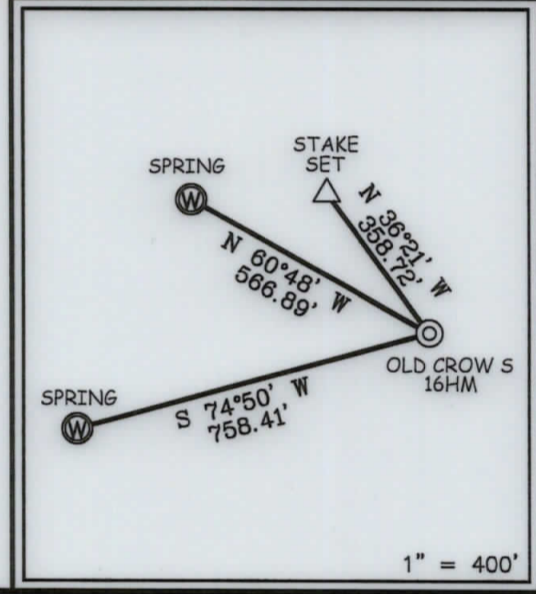
NAD'83 S.P.C.(FT)	N. 462,747.4	E. 1,622,344.8
NAD'83 GEO.	LAT-(N) 39.763965	LONG-(W) 80.731428
NAD'83 UTM (M)	N. 4,401,594.7	E. 523,004.0

T.H. LONGITUDE 80°45'00"
B.H. LONGITUDE 80°42'30"
4,853' T.H. A.D.
10,088' B.H. A.D.

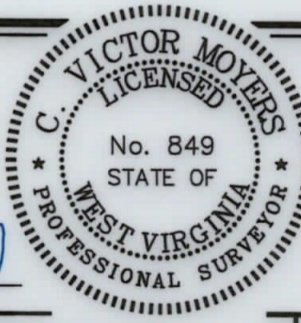
NOTES ON SURVEY

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.

REFERENCES



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. 849 *C. Victor Moyers*

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.
DATE JUNE 10, 2020
REVISED _____, 20____
OPERATORS WELL NO. OLD CROW S-16HM
API WELL NO. 47 - 051 - 2187
STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 2500 FILE NO. 8796P16HMAD.dwg
OLD CROW NORTH 16HM REV1
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 1,265' 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 _____

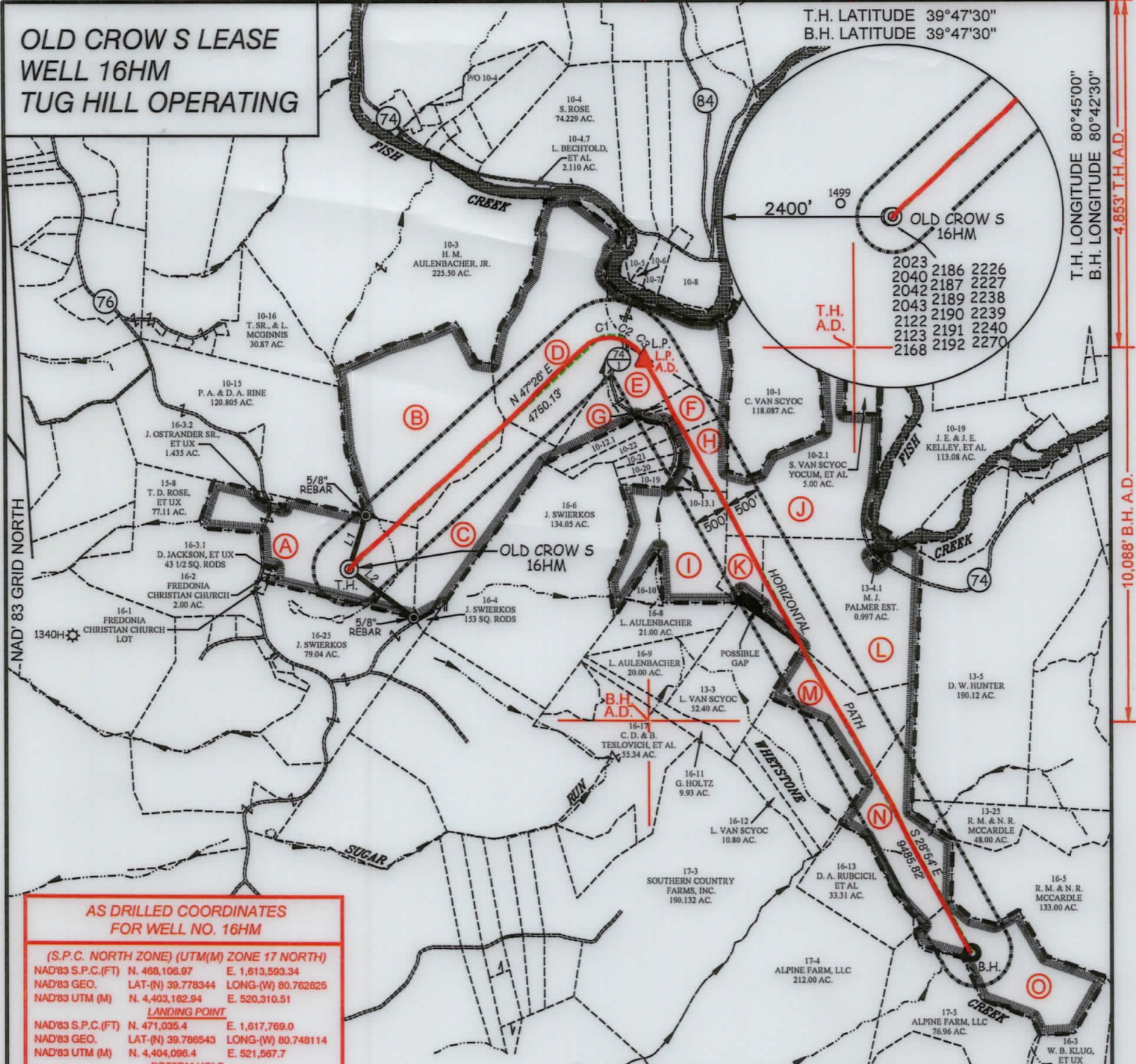
PHYSICAL CHANGE IN WELL (SPECIFY) _____ TARGET FORMATION MARCELLUS
ESTIMATED DEPTH TVD: 6,784' / TMD: 18,460.34'

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

08/27/2021

**OLD CROW S LEASE
WELL 16HM
TUG HILL OPERATING**



**AS DRILLED COORDINATES
FOR WELL NO. 16HM**

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

NAD'83 S.P.C.(FT)	N. 468,106.97	E. 1,613,593.34
NAD'83 GEO.	LAT-(N) 39.778344	LONG-(W) 80.762825
NAD'83 UTM (M)	N. 4,403,182.94	E. 520,310.51

LANDING POINT

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NAD'83 GEO.	LAT-(N) 39.786543	LONG-(W) 80.748114
NAD'83 UTM (M)	N. 4,404,096.4	E. 521,567.7

BOTTOM HOLE

NAD'83 S.P.C.(FT)	N. 462,750.6	E. 1,622,325.4
NAD'83 GEO.	LAT-(N) 39.763973	LONG-(W) 80.731497
NAD'83 UTM (M)	N. 4,401,595.5	E. 522,998.0

CURVE	ARC LENGTH	RADIUS	CHORD BEARING	CHORD LENGTH
C1	255.25'	291.86'	N 73°28' E	247.19'
C2	250.87'	494.87'	S 66°19' E	248.19'
C3	316.19'	788.90'	S 40°20' E	314.08'

LEGEND

AS DRILLED	
PROPOSED	

LINE	BEARING	DISTANCE
L1	N 17°49' E	788.08'
L2	S 53°12' E	1132.36'

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	JOSEPH LEE CROW	5-10-12	11.279
G	JOSEPH LEE CROW	5-10-11	130'x310'
H	JOSEPH LEE CROW	5-10-13	12.18
I	LOUIS AULENBACHER	5-16-7	50.00
J	CAROL VAN SCYOC	9-10-2	207.988
K	SYLVIA I. VAN SCYOC, ET AL	P/O 9-13-2	41.5
L	LOUIS AULENBACHER	9-13-4	100.191
M	SYLVIA I. VAN SCYOC, ET AL	9-13-2	41.5
N	ROBERT N. & NANCY R. MCCARDLE	9-16-1	46.80
O	ROBERT N. & NANCY R. MCCARDLE	9-16-2	53.40



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 NORTH)

NAD'83 S.P.C.(FT)	N. 468,106.97	E. 1,613,593.34
NAD'83 GEO.	LAT-(N) 39.778344	LONG-(W) 80.762825
NAD'83 UTM (M)	N. 4,403,182.94	E. 520,310.51

LANDING POINT

NAD'83 S.P.C.(FT)	N. 471,051.3	E. 1,617,759.4
NAD'83 GEO.	LAT-(N) 39.786586	LONG-(W) 80.748149
NAD'83 UTM (M)	N. 4,404,101.1	E. 521,564.7

BOTTOM HOLE

NAD'83 S.P.C.(FT)	N. 462,747.4	E. 1,622,344.8
NAD'83 GEO.	LAT-(N) 39.763965	LONG-(W) 80.731428
NAD'83 UTM (M)	N. 4,401,594.7	E. 523,004.0



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

P.S. 849 *C. Victor Moyers*

LEGEND

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

SCALE 1" = 2000' FILE NO. 8796P16HMAD.dwg
 OLD CROW NORTH 16HM REV1
 DATE JUNE 10, 20 20
 REVISED, 20
 OPERATORS WELL NO. OLD CROW S-16HM
 API WELL NO. 47 - 051 - 2187
 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 DIANNA STAMPER
 ADDRESS CT CORPORATION SYSTEM
 5400 D BIG TYLER ROAD
 CHARLESTON, WV 25313

COUNTY NAME
 PERMIT

08/27/2021