

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

API 47 - 051 - 02036 County Marshall District Franklin
Quad New Martinsville 7.5' Pad Name Lily Field/Pool Name _____
Farm name Ula F. Nelson Well Number Weller 3HM
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 4,398,620.10 Easting 516,599.79
Landing Point of Curve Northing 4,398,841.64 Easting 517,477.72
Bottom Hole Northing 4,396,752.19 Easting 518,682.84

Elevation (ft) 1272.6' 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 6/12/2018 Date drilling commenced 4/16/2019 Date drilling ceased 4/29/2019
Date completion activities began 4/28/2019 Date completion activities ceased 9/10/2019
Verbal plugging (Y/N) N Date permission granted N/A Granted by N/A

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Please note: Operator is required to submit a plugging application within 5 days of verbal permission to plug

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Freshwater depth(s) ft 70' Open mine(s) (Y/N) depths N WV Department of Environmental Protection
Salt water depth(s) ft 1595' Void(s) encountered (Y/N) depths N
Coal depth(s) ft N Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

Reviewed by:
Jim Nichols
6/22/2020

API 47-051 - 02036 Farm name Ula F. Nelson Well number Weller 3HM

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"	1,004'	NEW	54.5#	N/A	Y
Coal	17 1/2"	13 3/8"	1,004'	NEW	54.5#	N/A	Y
Intermediate 1	12 1/4"	9 5/8"	2,728'	NEW	36#	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8 3/4"	5 1/2"	15,562'	NEW	20#	N/A	Y
Tubing		2 3/8"	7,781'	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	1051	15.6	1.19	1270	0	8
Coal	A	1051	15.6	1.19	1270	0	8
Intermediate 1	A	789	15.6	1.19	1087	0	8
Intermediate 2							
Intermediate 3							
Production	A	3712	14.5	1.17	4324	0	8
Tubing							

Drillers TD (ft) 15,594' Loggers TD (ft) n/a
 Deepest formation penetrated Marcellus Plug back to (ft) n/a
 Plug back procedure n/a

Kick off depth (ft) 6,678'

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 _____
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WAS WELL COMPLETED OPEN HOLE? Yes No DETAILS _____

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

**Weller 3HM
PEFORATION RECORD**

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD. Ft.	Number of Perforations	Formation(s)
1	7/24/2019	15177	15323	48	Marcellus
2	7/24/2019	15002	15148	48	Marcellus
3	7/24/2019	14826	14973	48	Marcellus
4	7/24/2019	14650	14798	48	Marcellus
5	7/25/2019	14475	14623	48	Marcellus
6	7/25/2019	14299	14448	48	Marcellus
7	7/25/2019	14124	14273	48	Marcellus
8	7/26/2019	13948	14098	48	Marcellus
9	7/27/2019	13773	13923	48	Marcellus
10	7/27/2019	13597	13748	48	Marcellus
11	7/27/2019	13422	13573	48	Marcellus
12	7/27/2019	13246	13398	48	Marcellus
13	7/28/2019	13071	13223	48	Marcellus
14	7/28/2019	12895	13048	48	Marcellus
15	7/28/2019	12720	12873	48	Marcellus
16	7/29/2019	12544	12698	48	Marcellus
17	7/29/2019	12369	12523	48	Marcellus
18	7/29/2019	12193	12348	48	Marcellus
19	7/29/2019	12018	12173	48	Marcellus
20	7/30/2019	11842	11998	48	Marcellus
21	7/30/2019	11667	11823	48	Marcellus
22	7/30/2019	11491	11648	48	Marcellus
23	7/31/2019	11316	11473	48	Marcellus
24	7/31/2019	11140	11298	48	Marcellus
25	7/31/2019	10965	11123	48	Marcellus
26	7/31/2019	10789	10948	48	Marcellus
27	8/1/2019	10614	10773	48	Marcellus
28	8/1/2019	10438	10598	48	Marcellus
29	8/1/2019	10263	10423	48	Marcellus
30	8/2/2019	10087	10248	48	Marcellus
31	8/2/2019	9912	10073	48	Marcellus
32	8/2/2019	9736	9898	48	Marcellus
33	8/3/2019	9561	9723	48	Marcellus
34	8/3/2019	9385	9548	48	Marcellus
35	8/4/2019	9210	9373	48	Marcellus
36	8/4/2019	9034	9198	48	Marcellus
37	8/4/2019	8859	9023	48	Marcellus
38	8/5/2019	8683	8848	48	Marcellus
39	8/5/2019	8508	8673	48	Marcellus
40	8/5/2019	8332	8498	48	Marcellus
41	8/5/2019	8157	8323	48	Marcellus
42	8/5/2019	7981	8148	48	Marcellus
43	8/6/2019	7806	7973	48	Marcellus
44	8/6/2019	7630	7798	48	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	86.3	7643	5720	4144	437430	9507	0
2	88	7708	5713	4313	439580	9013	0
3	88.9	7801	5579	4607	438170	8821	0
4	84	7542	5604	4214	439660	10021	0
5	86.9	7511	5512	4417	438380	8809	0
6	87.7	7480	5716	4650	438580	8748	0
7	88.4	7441	5703	5034	438690	9032	0
8	83.6	7534	5739	4855	439730	9409	0
9	88.3	7287	5557	4975	438810	8915	0
10	88.4	7295	5451	4916	444630	8800	0
11	87.7	7361	5968	4691	422760	8556	0
12	86.3	7009	5405	4800	448090	8893	0
13	86.2	7077	5360	4727	439430	8774	0
14	88.1	7328	5702	4688	441550	8648	0
15	86.9	7396	5407	5209	440220	8594	0
16	86.6	7425	5695	4600	445220	9379	0
17	87.3	7275	5652	4375	441420	8896	0
18	85.4	7213	5579	4065	446220	8821	0
19	86.9	7062	5607	5036	438920	8789	0
20	87.3	7325	5865	3849	437270	8686	0
21	89.3	7155	5894	4405	448155	8778	0
22	89.2	7367	5425	4805	443370	10306	0
23	88.4	7176	5239	4652	448250	9065	0
24	89.4	7243	5416	4238	452190	8654	0
25	85.5	7181	5890	4078	434820	9319	0
26	87.3	7075	5526	4905	440890	8351	0
27	87.9	6830	5668	3985	446490	8361	0
28	87.9	6896	5391	4408	444350	8532	0
29	87	6716	5224	4063	440700	8642	0
30	86	6798	5542	4570	440380	8974	0
31	89	6935	5566	4264	445450	8465	0
32	87.6	6893	5655	3735	443170	9256	0
33	86.4	6845	5616	4762	403610	8087	0

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34	86.6	6607	5844	4805	438770	8643	0
35	86.8	6641	5604	4265	427620	8834	0
36	88.6	6667	5831	3875	447380	8950	0
37	87.6	6854	5950	3373	445430	8829	0
38	86.8	6875	5989	3846	445900	8690	0
39	88.6	6817	5629	4531	440280	8983	0
40	88.6	6861	5618	3809	442830	9163	0
41	86.4	6615	5665	4518	444710	9474	0
42	86.5	6346	5399	4466	439370	8552	0
43	86.8	6379	5674	5044	444730	9247	0
44	89.3	6469	5464	4456	440900	8655	0

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WELLER 3HM

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	1958	2053	1964	2062	Sandstone
Big Lime	2053	2108	2062	2119	Limestone
Big Injun	2108	2410	2119	2436	Sandstone
Weir	2410	2593	2436	2632	Sandstone
Berea	2593	2903	2632	2977	Sandstone
Gordon	2903	2963	2977	3047	Sandstone
Fifty Foot	2963	3541	3047	3750	Sandstone
Speechley	3541	4932	3750	5430	Sandstone
Benson	4932	5308	5430	5878	Sandstone
Alexander	5308	5898	5878	6578	Siltstone
Rhinestreet	5898	6315	6578	7110	Black shale
Middlesex	6315	6401	7110	7249	Black shale
Geneseo/Burkett	6401	6427	7249	7297	Black shale
Tully	6427	6458	7297	7361	Limestone
Hamilton	6458	6499	7361	7461	Grey shale
Marcellus	6499	-	7461	-	Black shale

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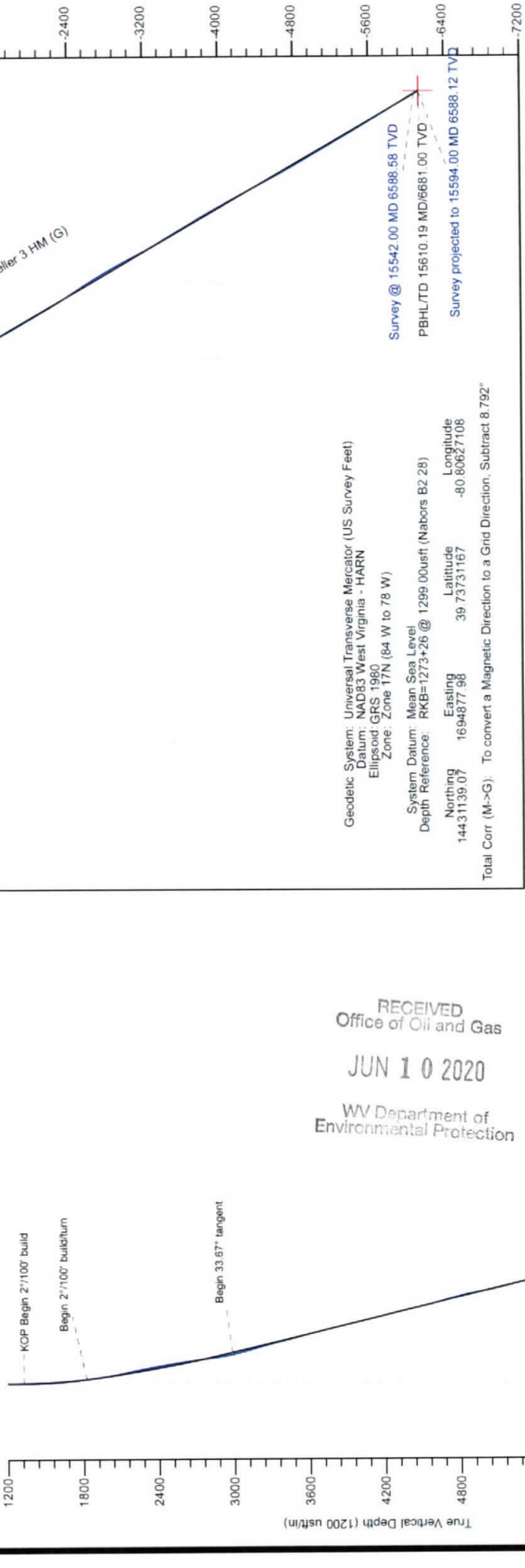
Well: **Weller 3 HM (G)**
 Site: **Lily/Weller**
 Project: **Marshall County, West Virg**
 Design: **rev1**
 Rig: **Nabors B2 28**

SECTION DETAILS

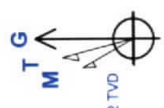
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dieg	TFace	VSect	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1326.00	0.00	0.00	1326.00	0.00	0.00	0.00	0.00	0.00	KOP Begin 2'/100' build
1826.00	10.00	90.00	1823.47	0.00	0.00	0.00	32.39	32.39	Begin 2'/100' build/turn
3083.25	33.69	63.05	2984.25	160.67	470.41	2.00	-38.288	242.72	Begin 8'/100' build/turn
6713.33	33.69	63.05	6004.50	1073.51	2265.48	0.00	0.000	968.67	Begin 10'/100' build/turn
7189.27	50.00	116.61	6368.97	1050.86	2556.95	8.00	87.961	1200.69	Begin 89.00° lateral
7683.38	89.00	150.01	6543.00	732.14	2869.23	10.00	46.450	1645.98	PBHL/TD
15610.20	89.00	150.01	6681.00	-6132.33	6830.85	0.00	0.000	9179.65	PBHL/TD

ANNOTATIONS SURVEYS

MD	Inc	Azi	TVD	+N/-S	+E/-W	VSect	Annotation
185.00	0.15	22.32	185.00	0.22	0.09	-0.06	NWD surveys
15542.00	90.51	148.89	6588.58	-6083.79	6807.27	9129.67	Survey @ 15542.00 MD 6588.58 TVD
15594.00	90.51	148.89	6588.12	-6128.31	6834.13	9179.41	Survey projected to 15594.00 MD 6588.12 TVD



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Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	7/23/2019
Job End Date:	8/6/2019
State:	West Virginia
County:	Marshall
API Number:	47-051-02036-00-00
Operator Name:	Tug Hill Operating, LLC
Well Name and Number:	Weller 3HM
Latitude:	39.73731170
Longitude:	-80.80627110
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	5,686
Total Base Water Volume (gal):	16,504,336
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
Fresh Water	Halliburton	Base Fluid	Water	7732-18-5	100.00000	87.05211	Density = 8.34
Ingredients	Listed Above	Listed Above	Water	7732-18-5	100.00000	0.65625	

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Sand-Premium White-30/50	Halliburton	Proppant		Listed Below				
FDP-S1296-17	Halliburton	Acid Corrosion Inhibitor		Listed Below				
Sand-Common White-100 Mesh, SSA-2	Halliburton	Proppant		Listed Below				
Sand-Premium White-40/70	Halliburton	Proppant		Listed Below				
LEGEND(TM) LD-7750W	Multichem	Scale Control		Listed Below				
OilPerm A	Halliburton	Non-ionic Surfactant		Listed Below				
HYDROCHLORI C ACID, 22 BAUME	Halliburton	Solvent		Listed Below				
LD-2950	Multichem	Friction Reducer		Listed Below				
MC MX 8-4743	Multichem	Additive		Listed Below				

Items above are Trade Names with the exception of Base Water . Items below are the Individual ingredients.		14808-60-7	100.00000	12.25942	
		14808-60-7	100.00000	12.25942	
	Crystalline silica, quartz	14808-60-7	100.00000	12.25942	
	Hydrochloric acid	7647-01-0	30.00000	0.16849	
	Complex Amine Compound	Proprietary	60.00000	0.04707	
	Sodium nitrate	7631-99-4	60.00000	0.02388	
	Hydrotreated light petroleum distillate	64742-47-8	30.00000	0.02354	
	Methanol	67-56-1	100.00000	0.00601	
	Ethoxylated alcohols	Proprietary	5.00000	0.00392	
	Sodium molybdate	10102-40-6	5.00000	0.00199	
	Adipic acid	124-04-9	1.00000	0.00078	
	Poly(oxy-1,2-ethanediyl), alpha-tridecyl-omega-hydroxy-, branched	69011-36-5	1.00000	0.00078	
	Sodium chloride	7647-14-5	5.00000	0.00050	
	Phosphoric Acid Salt	Proprietary	5.00000	0.00046	
	Ethanol	64-17-5	60.00000	0.00026	
	Heavy aromatic petroleum naphtha	64742-94-5	30.00000	0.00013	
	Oxyalkylated nonyl phenolic resin	Proprietary	30.00000	0.00013	
	Modified thiourea polymer	Proprietary	30.00000	0.00012	
	Mixture of dimer and trimer fatty acids of indefinite composition derived from tall oil	61790-12-3	30.00000	0.00012	
	Oxyalkylated phenolic resin	Proprietary	10.00000	0.00004	
	Sodium lactate	72-17-3	0.10000	0.00004	
	Sodium acetate	127-09-3	0.10000	0.00004	
	Yeast extract	8013-01-2	0.10000	0.00004	
	Monopotassium phosphate	7778-77-0	0.10000	0.00004	

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			Poly(oxy-1,2-ethanediyl), alpha-(4-nonylphenyl)- omega-hydroxy-, branched	127087-87-0	5.00000	0.00002	
			Naphthalene	91-20-3	5.00000	0.00002	
			Ethoxylated alcohols	Proprietary	5.00000	0.00002	
			Hexadecene	629-73-2	5.00000	0.00002	
			Propargyl alcohol	107-19-7	5.00000	0.00002	
			Formaldehyde	50-00-0	0.10000	0.00001	
			1,2,4 Trimethylbenzene	95-63-6	1.00000	0.00000	

* Total Water Volume sources may include various types of water including fresh water, produced water, and recycled water

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

*** If you are calculating a percentage of total ingredients do not add the water volume below the green line to the water volume above the green line

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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**WELLER LEASE
WELL 3HM
670.27± ACRES**

WELLER 3HM



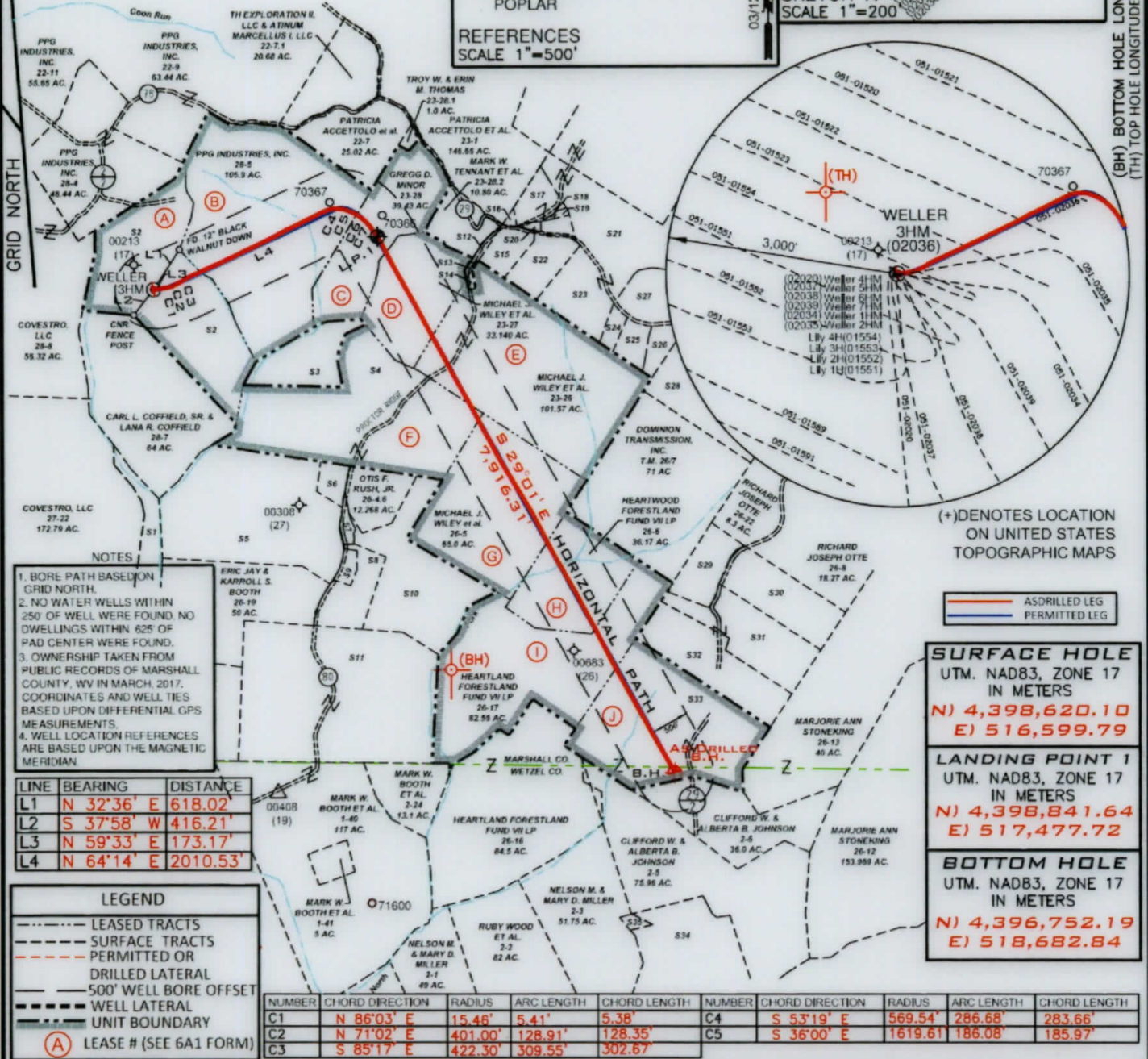
15" YELLOW POPLAR

REFERENCES
SCALE 1"=500'

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

DETAIL SKETCH "A"
SCALE 1"=200'

Lily 4H(01554)
Lily 3H(01553)
Lily 2H(01552)
Lily 1H(01551)



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

LINE	BEARING	DISTANCE
L1	N 32°36' E	618.02'
L2	S 37°58' W	416.21'
L3	N 59°33' E	173.17'
L4	N 64°14' E	2010.53'

LEGEND

- LEASED TRACTS
- - - SURFACE TRACTS
- - - PERMITTED OR DRILLED LATERAL
- - - 500' WELL BORE OFFSET
- - - WELL LATERAL
- - - UNIT BOUNDARY
- (A) LEASE # (SEE 6A1 FORM)

NUMBER	CHORD DIRECTION	RADIUS	ARC LENGTH	CHORD LENGTH	NUMBER	CHORD DIRECTION	RADIUS	ARC LENGTH	CHORD LENGTH
C1	N 86°03' E	15.46'	5.41'	5.38'	C4	S 53°19' E	569.54'	286.68'	283.66'
C2	N 71°02' E	401.00'	128.91'	128.35'	C5	S 36°00' E	1619.61'	186.08'	185.97'
C3	S 85°17' E	422.30'	309.55'	302.67'					

SURFACE HOLE
UTM. NAD83, ZONE 17
IN METERS
N) 4,398,620.10
E) 516,599.79

LANDING POINT 1
UTM. NAD83, ZONE 17
IN METERS
N) 4,398,841.64
E) 517,477.72

BOTTOM HOLE
UTM. NAD83, ZONE 17
IN METERS
N) 4,396,752.19
E) 518,682.84

FILE NUMBER _____

DRAWING NUMBER WELLER_WP_3HM

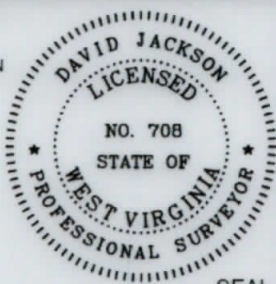
SCALE 1" = 2000'

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

DATE: April 10, 2020

OPERATORS WELL NO. WELLER 3HM

API WELL NO. 47-051-02036

STATE WV COUNTY Marshall PERMIT _____

LOCATION ELEVATION 1272.5' WATERSHED (HUC 10) French Creek - Ohio River

DISTRICT Franklin COUNTY Marshall

QUADRANGLE New Martinsville 7 1/2' LEASE NUMBER SEE WW-6A1 Royalty Owners

SURFACE OWNER Ula F. Nelson ACREAGE 70.0

OIL & GAS ROYALTY OWNER Ula F. Nelson - See WW-6A1 Royalty Owners LEASE ACREAGE 70.0

PROPOSED WORK: DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD FORMATION

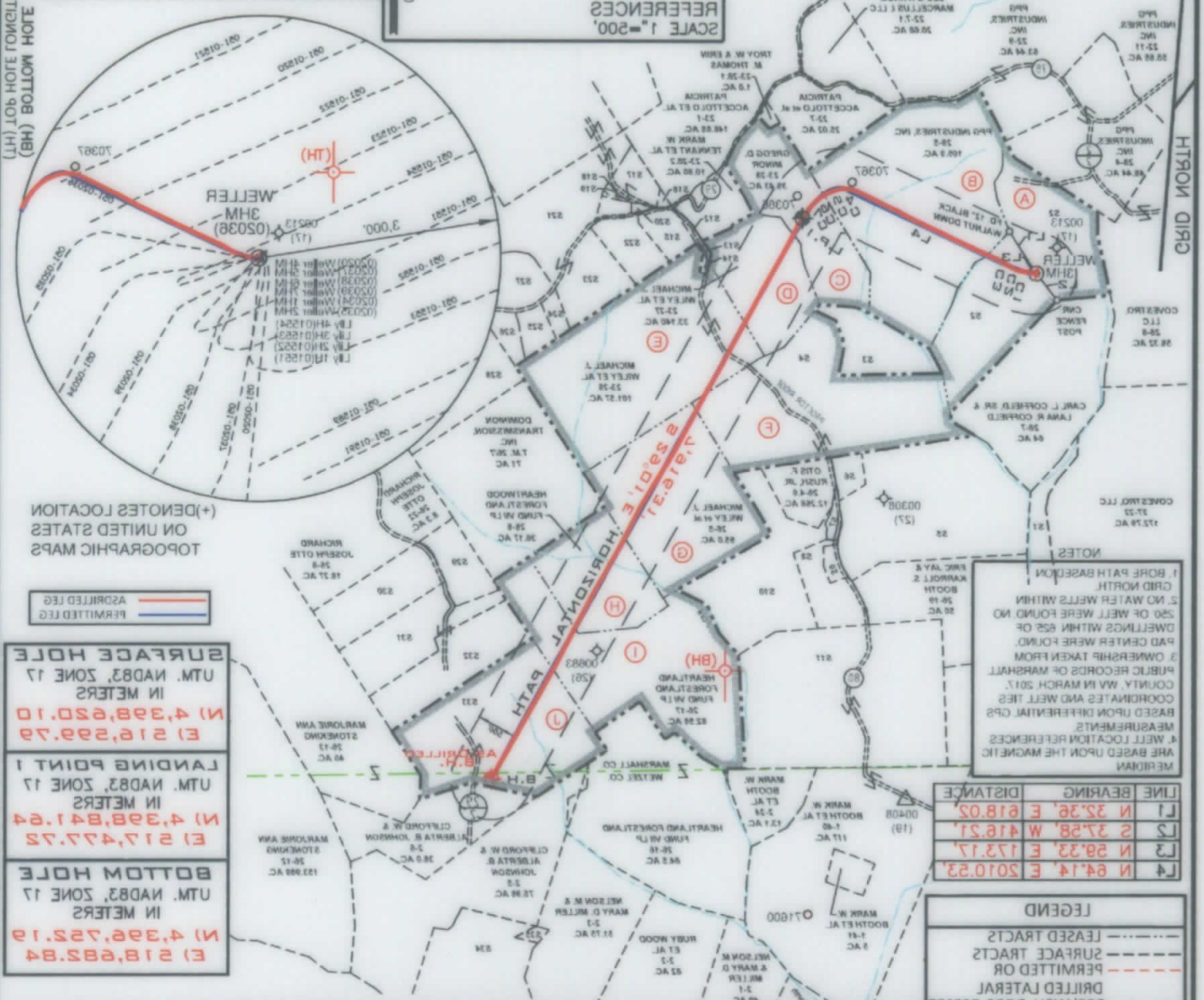
PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE (SPECIFY) AS-DRILLED

TARGET FORMATION MARCELLUS ESTIMATED DEPTH TVD: 6,588.12' TMD: 15,594'

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

**WELLER LEASE
WELL 3HM
670.27± ACRES**



LEGEND

- LEASED TRACTS
- - - SURFACE TRACTS
- - - PERMITTED OR DRILLED LATERAL
- - - 500' WELL BORE OFFSET
- - - WELL LATERAL
- - - UNIT BOUNDARY
- (A) LEASE # (SEE 6A1 FORM)

PROVEN SOURCE OF ELEVATION

SUBMETER MAPPING

GRADE GPS

FILE NUMBER _____

DRAWING NUMBER WELER_WP_3HM

SCALE 1" = 2000'

MINIMUM DEGREE OF ACCURACY 1/200

NUMBER	CHORD DIRECTION	RADIUS	ARC LENGTH	CHORD LENGTH
C1	N 80.03° E	12.48'	2.41'	2.38'
C2	N 71.02° E	401.00'	128.91'	128.25'
C3	S 89.17° E	432.20'	208.22'	202.87'

I, THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAN 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 Jackson

DAVID JACKSON
LICENSED
NO. 708
STATE OF WEST VIRGINIA
PROFESSIONAL SURVEYOR

JACKSON SURVEYING INC.
P.O. Box 1460
Clarksburg, WV 26305
304-823-8881

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

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

LOCATION ELEVATION 1272.5' WATERSHED (HUC to) French Creek - Ohio River

DISTRICT Franklin COUNTY Marshall

QUADRANGLE New Martinsville 7 1/2' LEASE NUMBER SEE WW-6A1 Royalty Owners

SURFACE OWNER Ula F. Nelson ACREAGE 70.0

OIL & GAS ROYALTY OWNER See WW-6A1 Royalty Owners LEASE ACREAGE 70.0

PROPOSED WORK: DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD FORMATION

PERFORMATE NEW FORMATION OTHER PHYSICAL CHANGE (SPECIFY) A2-DRILLED

TARGET FORMATION MARCELLUS

ESTIMATED DEPTH TVD: 6,588.15', TMD: 12,294.4'

PLUG & ABANDON CLEAN OUT & REPLUG

PERMIT

ADDRESS 1320 SOUTH UNIVERSITY DRIVE, SUITE 200
FORT WORTH, TX 76107

WELL OPERATOR TUG HILL OPERATING, LLC

DESIGNATED AGENT DIANNA STAMPER
CT CORPORATION SYSTEM

ADDRESS 5400 D BIG TYLER ROAD
CHARLESTON, WV 25313

DATE: April 10, 2020

OPERATORS WELL NO. WELER 3HM

API WELL NO. 47-051-02036

PERMIT 02036 STATE WV COUNTY Marshall

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PERMIT 02036 STATE WV COUNTY Marshall

**WELLER LEASE
WELL N-3HM
670.27± ACRES**

Number	TAX MAP-PARCEL	SURFACE OWNERS	ACRES
S1	27-23	ROBERT F. ROTHLSBERGER	35.77
S2	28-6	ULA F. NELSON	70.00
S3	26-1	EDWIN BOOTH ANDERSON & MARK W. ANDERSON	12.94
S4	26-2	EDWIN BOOTH ANDERSON & MARK W. ANDERSON	67.50
S5	26-4.5	ERIC JAY BOOTH	74.388
S6	26-4	JAMES R. & MELODY A. ANDERSON	3.887
S7	26-4.2	OTIS S. & GLENDA RUSH	1.58
S8	26-4.1	OTIS S. RUSH ET UX.	12.188
S9	26-4.3	CRYSTAL & RANDOPH F. MATASK	2.253
S10	26-4.4	OTIS F. & GLENDA M. RUSH	39.436
S11	26-18	ERIC JAY BOOTH	94.00
S12	23-23	MICHAEL J. WILEY ET AL	1.00
S13	23-24	MICHAEL J. WILEY ET AL	0.25
S14	23-25	ARTHUR A. WILEY	0.43
S15	23-22	DANIEL D. RHYAND & LAUREL R. GREENE	6.25
S16	23-29	JAMES WILEY	0.25
S17	23-18.1	MARK A. YOHO	7.80
S18	23-20	CHRISTIAN CHURCH	0.20
S19	23-19	DOTY CEMETERY	1.00
S20	23-21	MARK A. YOHO & MARK E. YOHO	0.588
S21	23-18	ABE J. HOCHSTETLER	35.38
S22	23-17.1	CURTIS E. HALL, ET UX	10.051
S23	23-17.2	DICK JR. & CAROL J. ROWAN	14.920
S24	23-17.4	TAMMY D. MEADOWS	2.605
S25	23-17	TAMMY & THOMAS E. BROWN	4.62
S26	23-17.3	WILLIAM & KATHERINE FLEWELLING	5.018
S27	23-16	ROY FRIEND YOHO SR.	18.03
S28	23-14	DOMINION TRANSMISSION INC.	59.50
S29	26-23	RICHARD JOSEPH OTTE	11.34
S30	26-09	THERESA A. WALTON, TRUSTEE OF ROBERT D. & BONNIE L. OLIVER TRUST	21.75
S31	26-10	THERESA A. WALTON, TRUSTEE OF ROBERT D. & BONNIE L. OLIVER TRUST	24.94
S32	26-14	THERESA A. WALTON, TRUSTEE OF ROBERT D. & BONNIE L. OLIVER TRUST	27.56
S33	26-15	THERESA A. WALTON, TRUSTEE OF ROBERT D. & BONNIE L. OLIVER TRUST	69.00
S34	2-4	EDITH SALEM & LISA G. LARSON	56.25
S35	2-4.1	TYRONE SULTZBACH & RICHARD WOLF	1.00

SURFACE HOLE
UTM. NAD83, ZONE 17
IN METERS
N) 4,398,619.99
E) 516,599.84

LANDING POINT 1
UTM. NAD83, ZONE 17
IN METERS
N) 4,398,843.13
E) 517,474.31

BOTTOM HOLE
UTM. NAD83, ZONE 17
IN METERS
N) 4,396,750.85
E) 518,681.89



P.S. 708

David L Jackson



**TUG HILL
OPERATING**

OPERATOR'S
WELL #: Weller 3HM
DISTRICT: Franklin
COUNTY: Marshall
STATE: WV

WELL PLAT
PAGE 2 OF 2
DATE: 04/10/2020
API: 47-051-02036