

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

API 47-051-02029 County Marshall District Franklin
Quad Powhatan Point 7.5' Pad Name Bryan Field/Pool Name _____
Farm name CNX Land Resources, Inc. Well Number Bryan N-12HU
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 4,402,873.53 Easting 519,139.71
Landing Point of Curve Northing 4,403,241.37 Easting 519,063.62
Bottom Hole Northing 4,405,823.29 Easting 517,577.95

Elevation (ft) 1191.7' 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

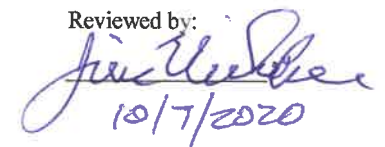
Drilling Media Surface hole Air Mud Fresh Water Intermediate hole Air Mud Fresh Water Brine
Production hole Air Mud Fresh Water Brine

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 9/11/2018 Date drilling commenced 9/18/2018 Date drilling ceased 9/11/2019
Date completion activities began 2/14/2020 Date completion activities ceased 2/29/2020
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 844' Open mine(s) (Y/N) depths N
Salt water depth(s) ft 1595' Void(s) encountered (Y/N) depths N
Coal depth(s) ft 742-748', 837-843' Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

Reviewed by:

10/7/2020

API 47-051 - 02029 Farm name CNX Land Resources, Inc. Well number Bryan N-12HU

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	26"	20"	934'	NEW	106.5#	N/A	Y
Coal							
Intermediate 1	17 1/2"	13 3/8"	2,698'	NEW	54.5#	N/A	Y
Intermediate 2	12 1/4"	9 5/8"	10,108'	NEW	47#	N/A	Y
Intermediate 3							
Production	8 3/4"	5 1/2"	21,511'	NEW	20#	N/A	Y
Tubing		2 7/8"	10,756'	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	1660	15.6	1.19	1983	0	8
Coal							
Intermediate 1	A	1957	15.6	1.19	2577	0	8
Intermediate 2	A	4803	14.5	1.19	5595	0	8
Intermediate 3							
Production	A	5147	14.5	1.17	5762	0	
Tubing							

Drillers TD (ft) 21,550' Loggers TD (ft) n/a
 Deepest formation penetrated Trenton Plug back to (ft) n/a
 Plug back procedure n/a

Kick off depth (ft) 10,346' RECEIVED
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Check all wireline logs run caliper density deviated/directional induction
 neutron resistivity gamma ray temperature sonic AUG 14 2020
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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 _____

Bryan N-12HU
PEFORATION RECORD

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD. Ft.	Number of Perforations	Formation(s)
1	2/14/2020	21324	21372	2	Utica
2	2/14/2020	21108	21259	48	Utica
3	2/15/2020	20907	21058	48	Utica
4	2/15/2020	20706	20857	48	Utica
5	2/15/2020	20505	20656	48	Utica
6	2/16/2020	20304	20455	48	Utica
7	2/16/2020	20103	20254	48	Utica
8	2/16/2020	19902	20053	48	Utica
9	2/17/2020	19701	19852	48	Utica
10	2/17/2020	19500	19651	48	Utica
11	2/17/2020	19299	19450	48	Utica
12	2/17/2020	19098	19249	48	Utica
13	2/18/2020	18897	19048	48	Utica
14	2/18/2020	18696	18847	48	Utica
15	2/18/2020	18495	18646	48	Utica
16	2/19/2020	18294	18445	48	Utica
17	2/19/2020	18093	18244	48	Utica
18	2/19/2020	17892	18043	48	Utica
19	2/19/2020	17691	17842	48	Utica
20	2/20/2020	17490	17641	48	Utica
21	2/20/2020	17289	17440	48	Utica
22	2/20/2020	17088	17239	48	Utica
23	2/20/2020	16887	17038	48	Utica
24	2/21/2020	16686	16837	48	Utica
25	2/21/2020	16485	16636	48	Utica
26	2/21/2020	16284	16435	48	Utica
27	2/21/2020	16083	16234	48	Utica
28	2/22/2020	15882	16033	48	Utica
29	2/22/2020	15681	15832	48	Utica
30	2/22/2020	15480	15631	48	Utica
31	2/22/2020	15279	15430	48	Utica
32	2/22/2020	15078	15229	48	Utica
33	2/23/2020	14877	15028	48	Utica
34	2/23/2020	14676	14827	48	Utica
35	2/23/2020	14475	14626	48	Utica
36	2/23/2020	14274	14425	48	Utica
37	2/24/2020	14073	14224	48	Utica
38	2/24/2020	13872	14023	48	Utica
39	2/24/2020	13671	13822	48	Utica
40	2/24/2020	13470	13621	48	Utica
41	2/25/2020	13269	13420	48	Utica

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42	2/25/2020	13068	13219	48	Utica
43	2/26/2020	12867	13018	48	Utica
44	2/26/2020	12666	12817	48	Utica
45	2/28/2020	12465	12616	48	Utica
46	2/28/2020	12264	12415	48	Utica
47	2/29/2020	12063	12214	48	Utica
48	2/29/2020	11862	12013	48	Utica
49	2/29/2020	11661	11812	48	Utica

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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	49.29	12013	10129	7193	7404	1948	0
2	89.2	12089	9328	6966	509136	10563	0
3	87.79	12082	10203	6656	503820	10359	0
4	88.29	12201	8829	7274	500600	10128	0
5	88.1	12175	9815	7434	499040	10209	0
6	88.21	12088	9078	7307	504780	10765	0
7	89.45	11919	9611	7463	499360	10165	0
8	89.5	12391	9403	7650	502800	10197	0
9	87.4	11882	9540	7641	506520	10245	0
10	87.8	12199	9621	7501	506930	10467	0
11	88.8	12078	8423	7808	509290	10427	0
12	89.2	11843	8581	7967	496740	10060	0
13	88.7	11656	9371	7941	502970	10145	0
14	89.4	11130	9179	8063	504130	10112	0
15	89.47	12079	9533	7721	504310	10087	0
16	89.48	11956	8622	7391	507130	10143	0
17	88.78	11847	9979	7796	507370	10133	0
18	89.31	11545	8448	7602	503980	10962	0
19	89.6	11897	9316	7375	503480	10075	0
20	89.2	12208	9573	7614	505770	10049	0
21	89.32	11832	9078	6928	510550	10023	0
22	89.19	11515	9331	7436	500680	9980	0
23	89.4	12043	9795	6968	506020	10075	0
24	89.2	12126	9425	7209	507470	10406	0
25	89.22	11526	9078	7477	507230	10187	0
26	89.12	10937	8597	7304	506200	10135	0
27	89.2	11856	8562	7252	506960	10098	0
28	89.3	11792	8319	7412	502520	11629	0
29	88.26	11452	8257	7525	503340	10669	0
30	89.11	10797	9192	7359	510940	10143	0
31	89.13	10712	9081	8040	498880	10126	0
32	88.97	10729	8981	7655	503410	9991	0

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 End Gas

Stage No.	Ave. Pump Rate (BPM)	Ave Treatment Pressure (PSI)	Max Breakdown Pressure (PSI)	ISIP (PSI)	Amount of Proppant (lbs)	Amount of Water (bbbls)	Amount of Nitrogen/other (units)
33	89	10798	8605	7419	502530	9908	0
34	88.84	10817	8549	7858	510660	9866	0
35	89.42	10753	8508	7649	496580	9885	0
36	89.2	10714	8733	7792	500520	10160	0
37	88.5	10747	8486	7575	502360	9742	0
38	89.2	10576	9179	7762	501720	9864	0
39	89.7	10220	8797	7767	501920	9833	0
40	89.4	10161	8615	7650	503930	9917	0
41	89.6	10529	9063	7480	499530	9962	0
42	89.3	10433	9299	7057	502910	9952	0
43	89.8	10618	7951	7355	500930	10008	0
44	89.7	10674	8447	7236	502480	9852	0
45	89.7	10631	9091	7071	503720	9903	0
46	89.6	10442	8871	7222	502600	9804	0
47	89.2	10337	9183	7108	506080	10830	0
48	89.7	10024	8849	7209	506070	9836	0
49	89.8	9881	8685	7034	505770	9681	0

BRYAN N-12HU

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	1921	2011	1922	2012	Sandstone
Big Lime	2011	2081	2012	2082	Limestone
Big Injun	2081	2365	2082	2367	Sandstone
Weir	2365	2560	2367	2562	Sandstone
Berea	2560	2905	2562	2908	Sandstone
Gordon	2905	2959	2908	2962	Sandstone
Fifty Foot	2959	3507	2962	3511	Sandstone
Speechley	3507	4929	3511	4956	Sandstone
Benson	4929	5284	4956	5318	Sandstone
Alexander	5284	5878	5318	5922	Siltstone
Rhinestreet	5878	6302	5922	6352	Black shale
Middlesex	6302	6368	6352	6419	Black shale
Geneseo/Burkett	6368	6403	6419	6455	Black shale
Tully	6403	6438	6455	6491	Limestone
Hamilton	6438	6484	6491	6537	Grey shale
Marcellus	6484	6537	6537	6591	Black shale
Onondaga	6537	6764	6591	6820	Limestone
Oriskany	6764	6865	6820	6921	Sandstone
Helderberg	6865	7227	6921	7283	Limestone
Salina	7227	8252	7283	8309	Salt/Anhydrite/LS
Lockport	8252	8619	8309	8676	Dolomite
Rose Hill	8619	8885	8676	8942	Shale
Packer Shell	8885	9086	8942	9143	Limestone
Clinton/Tuscarora	9086	9190	9143	9247	Sandstone
Juniata/Queenston	9190	9962	9247	10019	Red Shale
Reedsville	9962	10911	10019	11013	Grey Shale
Utica	10911	11180	11013	11500	Black Shale
Point Pleasant	11180	-	11500	-	Shale/Limestone

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Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	2/14/2020
Job End Date:	2/29/2020
State:	West Virginia
County:	Marshall
API Number:	47-051-02029-00-00
Operator Name:	Tug Hill Operating, LLC
Well Name and Number:	Bryan N 12 HU
Latitude:	39.77550000
Longitude:	-80.77650000
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	11,226
Total Base Water Volume (gal):	21,205,771
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
Produced Mixture	Halliburton	Base Fluid					
			Water	7732-18-5	100.00000	87.97786	Density = 8.50
Ingredients	Listed Above	Listed Above	Water	7732-18-5	100.00000	0.18110	

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LD-2950	MultiChem	Friction Reducer							
FDP-S1296-17	Halliburton	Acid Corrosion Inhibitor			Listed Below				
OilPerm A	Halliburton	Non-ionic Surfactant			Listed Below				
Sand-Premium White-40/70	Halliburton	Proppant			Listed Below				
HYDROCHLORIC ACID, 22 BAUME	Halliburton	Solvent			Listed Below				
LEGEND(TM) LD-7750W	MultiChem	Scale Control			Listed Below				
MC MX 8-4743	MultiChem	Additive			Listed Below				
Sand-Common White-100 Mesh, SSA-2	Halliburton	Proppant			Listed Below				
Items above are Trade Names with the exception of Base Water . Items below are the individual ingredients.									
			Crystalline silica, quartz	14808-60-7	100.00000	11.81183			

			Complex Amine Compound	Proprietary	60.00000	0.04276	
			Hydrochloric acid	7647-01-0	30.00000	0.02901	
			Hydrotreated light petroleum distillate	64742-47-8	30.00000	0.02138	
			Sodium nitrate	7631-99-4	60.00000	0.02092	
			Methanol	67-56-1	100.00000	0.00525	
			Ethoxylated alcohols	Proprietary	5.00000	0.00356	
			Sodium molybdate	10102-40-6	5.00000	0.00174	
			Adipic acid	124-04-9	1.00000	0.00071	
			Poly(oxy-1,2-ethanediyl), alpha-tridecyl-omega-hydroxy-, branched	69011-36-5	1.00000	0.00071	
			Sodium chloride	7647-14-5	5.00000	0.00044	
			Phosphoric Acid Salt	Proprietary	5.00000	0.00041	
			Ethanol	64-17-5	60.00000	0.00022	
			Heavy aromatic petroleum naphtha	64742-94-5	30.00000	0.00011	
			Oxyalkylated nonyl phenolic resin	Proprietary	30.00000	0.00011	
			Modified thiourea polymer	Proprietary	30.00000	0.00010	
			Mixture of dimer and trimer fatty acids of indefinite composition derived from tall oil	61790-12-3	30.00000	0.00010	
			Oxyalkylated phenolic resin	Proprietary	10.00000	0.00004	
			Sodium lactate	72-17-3	0.10000	0.00003	
			Yeast extract	8013-01-2	0.10000	0.00003	
			Sodium acetate	127-09-3	0.10000	0.00003	
			Monopotassium phosphate	7778-77-0	0.10000	0.00003	
			Naphthalene	91-20-3	5.00000	0.00002	
			Poly(oxy-1,2-ethanediyl), alpha-(4-nonylphenyl)-omega-hydroxy-, branched	127087-87-0	5.00000	0.00002	

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			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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Well: Bryan N-12HU (slot F)
Site: Bryan Pad
Project: Marshall County, West Virginia.
Design: rev8
Rig: H&P 611

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Annotation
1	13612.00	90.59	328.74	11193.23	2800.35	-1172.11	0.00	0.000	3023.28	Tie in survey @ 13612 MD
2	13678.00	91.09	330.34	11192.27	2857.24	-1205.56	2.54	72.534	3089.21	S/T Begin 3°/100' drop/turn (180L)
3	13708.00	90.24	330.03	11191.92	2883.26	-1220.47	3.00	-160.000	3119.19	Begin 3°/100' turn (90L)
4	13738.00	90.24	329.13	11191.79	2909.14	-1235.66	3.00	-90.000	3149.16	Begin 3°/100' build/turn (45L)
5	13768.00	90.68	328.50	11191.50	2934.80	-1251.20	3.00	-45.000	3179.11	Begin 3°/100' build/turn (30L)
6	13828.00	92.44	327.60	11189.76	2985.68	-1282.94	3.00	-30.000	3238.93	Begin 92.44° lateral
7	14168.00	92.44	327.60	11175.29	3272.48	-1464.98	0.00	0.000	3577.58	Begin 2°/100' turn
8	14268.00	92.44	329.60	11171.03	3357.75	-1517.04	2.00	90.000	3677.30	Begin 2°/100' drop/turn
9	14342.76	91.00	330.00	11168.79	3422.32	-1554.62	2.00	164.285	3751.96	Begin 91.00° lateral
10	19542.76	91.00	330.00	11078.03	7924.97	-4154.23	0.00	0.000	8947.70	Begin 91.00° lateral
11	19593.38	91.00	331.01	11077.15	7959.03	-4179.15	2.00	89.895	8996.30	Begin 91.00° lateral
12	21546.83	91.00	331.01	11043.00	9677.50	-5125.68	0.00	0.000	0951.10	PBHL/JTD 21546.83 MD/11043.00 TVD

ANNOTATIONS SURVEYS ORIGINAL HOLE

MD	Inc	Azi	+N/-S	+E/-W	Vsect	Annotation
234.00	0.48	15.23	234.00	0.95	0.72	MWD surveys
19564.00	89.23	330.32	11054.71	7953.78	-4144.15	Survey @ 19564.00 MD 11054.71 TVD
19617.00	89.23	330.32	11055.43	7999.62	-4170.39	Survey projected to 19617.00 MD 11055.43 TVD

ANNOTATIONS SURVEYS SIDETRACK 01

MD	Inc	Azi	+N/-S	+E/-W	Vsect	Annotation
13612.00	90.59	328.74	11193.23	2800.35	-1172.11	3023.27
21488.00	91.30	329.70	11093.93	8524.15	-5092.60	10888.47
21550.00	91.30	328.70	11002.52	8677.66	-5123.68	10950.40

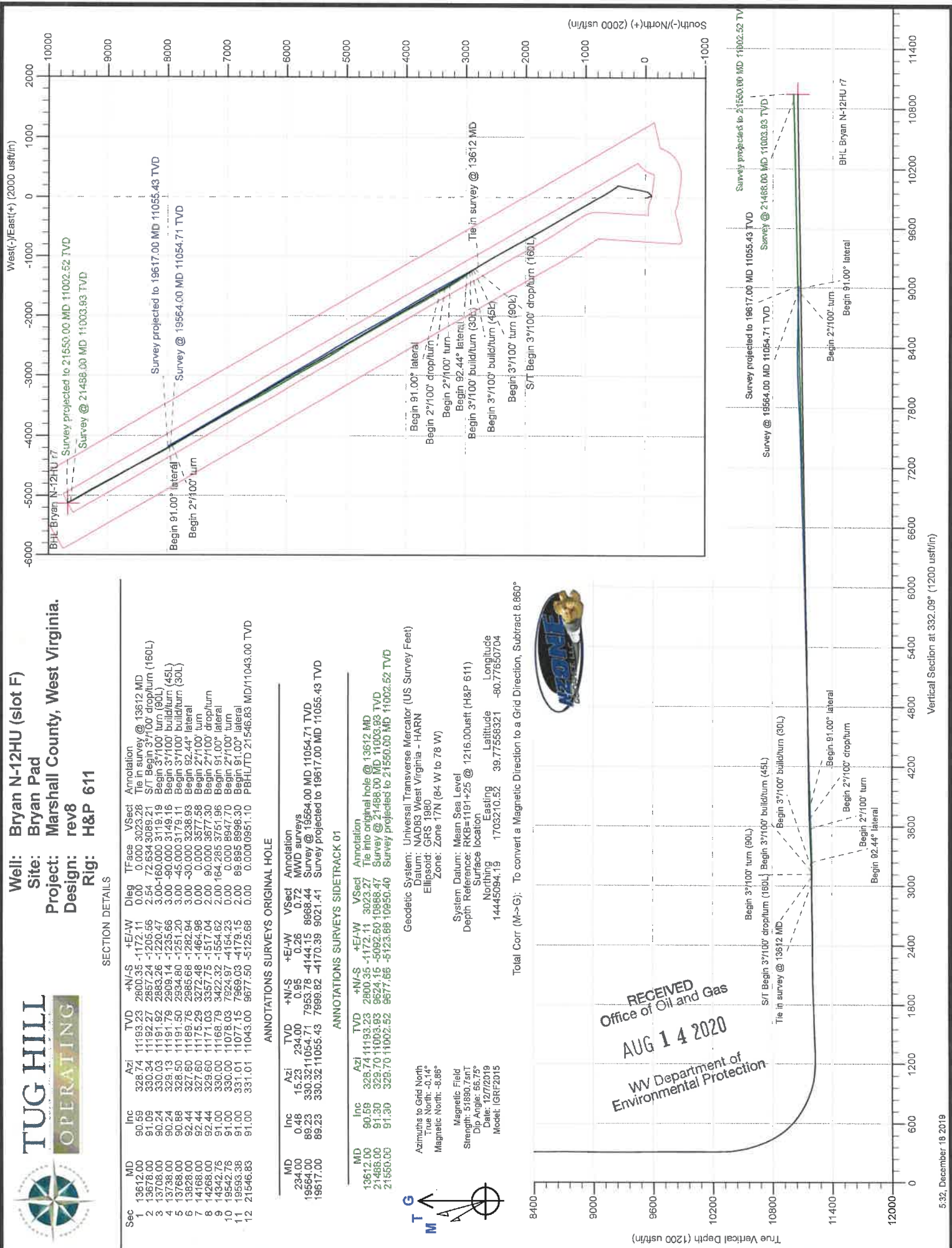
Geocentric System: Universal Transverse Mercator (US Survey Feet)
 Datum: NAD83 West Virginia - HARN
 Ellipsoid: GRS 1980
 Zone: Zone 17N (84 W to 78 W)

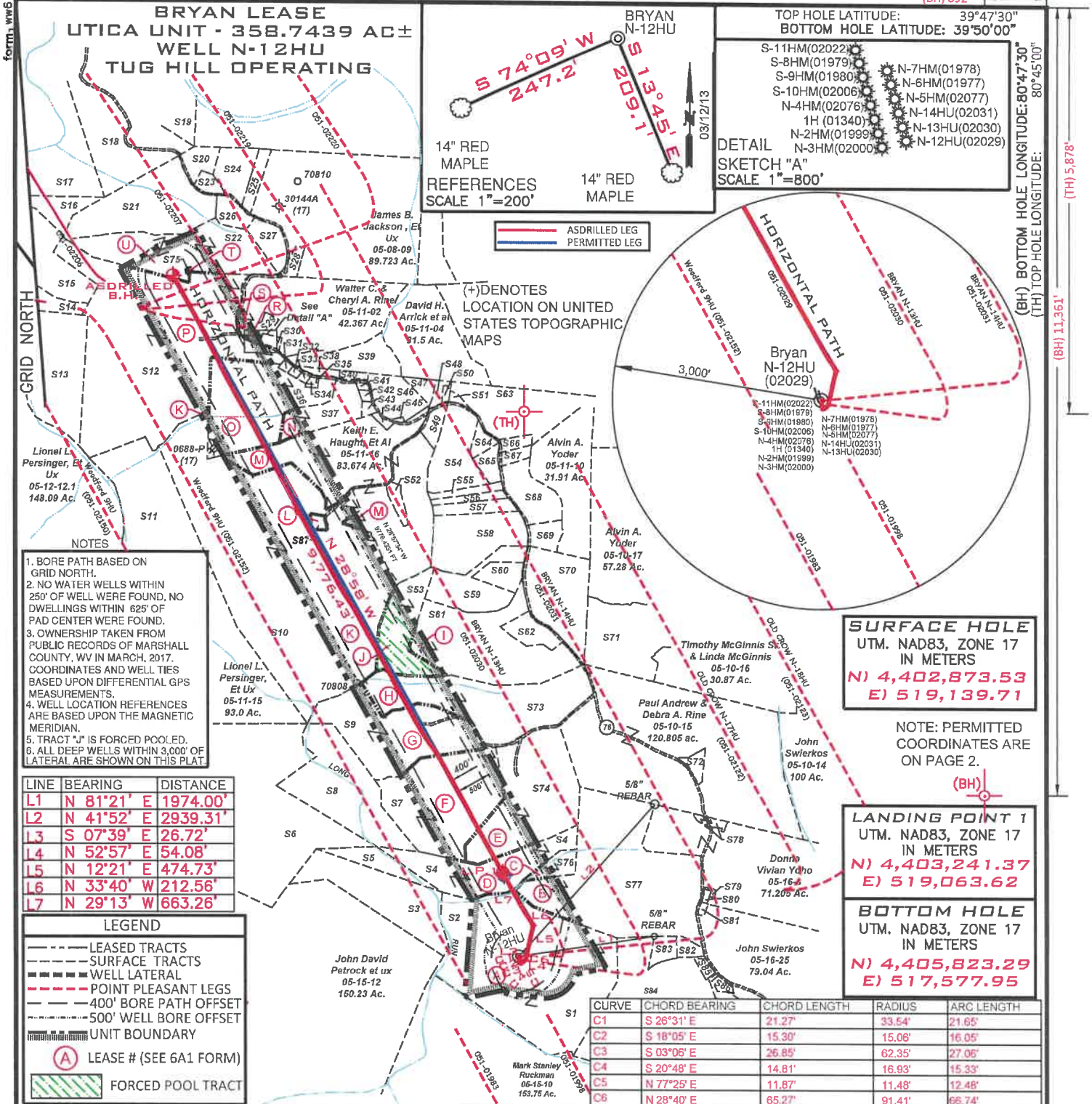
System Datum: Mean Sea Level
 Depth Reference: RKB=1191+25 @ 1216.00usft (H&P 611)
 Surface location: Northing 14445094.19 Easting 1703210.52
 Longitude -80.77650704

Total Corr (M->G): To convert a Magnetic Direction to a Grid Direction, Subtract 8.860°



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FILE NUMBER _____

DRAWING NUMBER BRYAN_N-12HU

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

P.S. 708

David L Jackson



JACKSON SURVEYING INC.
P.O. Box 1460
Clarksburg, WV 26302
304-623-5851

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



DATE: AUGUST 10, 2020

OPERATORS WELL NO. BRYAN N-12HU
API WELL NO. _____

47-051-02029
STATE COUNTY PERMIT

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

LOCATION ELEVATION 1191.7' WATERSHED (HUC 10) Fish Creek
DISTRICT Franklin COUNTY Marshall
QUADRANGLE Powhatan Point 7.5' LEASE NUMBER SEE WW-6A1 ROYALTY OWNERS

SURFACE OWNER CNX LAND RESOURCES, INC. ACREAGE 81.98
OIL & GAS ROYALTY OWNER MICHAEL R. BRYAN - SEE WW-6A1 ROYALTY OWNERS LEASE ACREAGE 81.98
PROPOSED WORK: DRILL ___ CONVERT ___ DRILL DEEPER ___ REDRILL ___ FRACTURE OR STIMULATE ___ PLUG OFF OLD FORMATION ___
PERFORATE NEW FORMATION ___ OTHER PHYSICAL CHANGE (SPECIFY) ASDRILLED ___

TARGET FORMATION Point Pleasant ESTIMATED DEPTH TVD: 11,003' TMD: 21,550'
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

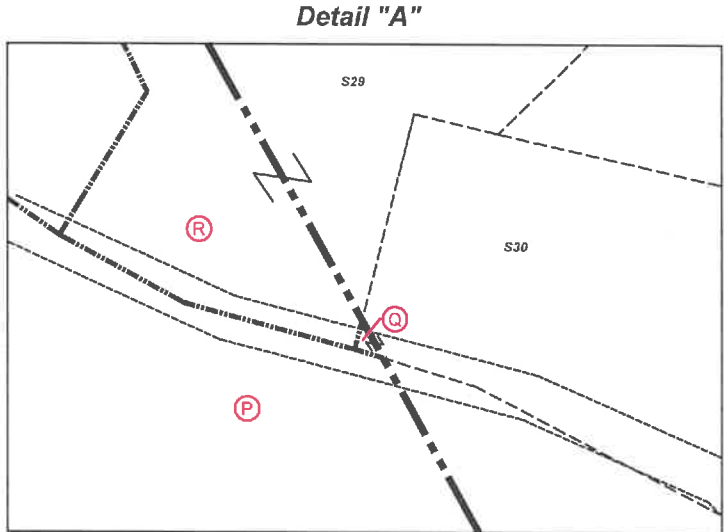
COUNTY NAME
PERMIT

PG 2 OF 3 **BRYAN LEASE**
UTICA UNIT - 358.7439 AC±
WELL N-12HU
TUG HILL OPERATING

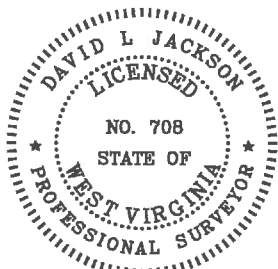
SURFACE HOLE
 UTM. NAD83, ZONE 17
 IN METERS
N) 4,402,873.52
E) 519,139.61

LANDING POINT 1
 UTM. NAD83, ZONE 17
 IN METERS
N) 4,403,229.55
E) 519,069.64

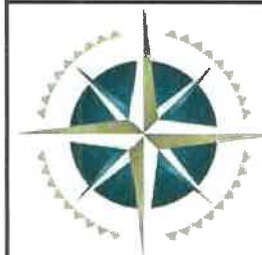
BOTTOM HOLE
 UTM. NAD83, ZONE 17
 IN METERS
N) 4,405,823.23
E) 517,577.30



Number	TAX MAP -PARCEL	SURFACE OWNER	ACRES	Number	TAX MAP -PARCEL	SURFACE OWNER	ACRES
S1 A	05-15-9	CNX Land Resources	81.98	S45	05-11-5.1	James R. Anderson et ux	0.205
S2	05-15-13	CNX Land Resources	11.0	S46	05-11-5	(Part of S30) Kevin R. Corley et ux	10.36
S3	05-15-14	John David Petrock et ux	25.0	S47	05-11-5.3	Robert Harris Arrick et ux	3.0
S4 D	05-15-6.1	Joseph J. Kramar, et ux	39.40	S48	05-11-6	Robert & Rebecca Arrick	1.29
S5	05-15-2	John David Petrock et ux	5.0	S49	05-11-16.3	Kegan Michael Haught - Life	3.265
S6	05-15-1	Marcus Sharp & David Schlabach	121.0	S50	05-11-7	Baptist Cemetery	1.0
S7 F	05-15-5	Joseph J. Kramar, et ux	35.0	S51	05-11-8	Baptist Church	0.8
S8	05-15-3	Joseph J. Kramar et ux	36.10	S52	05-11-16.2	Joseph Haught	2.181
S9 G	05-15-4	Joseph J. Kramar, et ux	41.106	S53 J	05-11-13	Joy D. Gartman & Arlin Gatts	12.29
S10 K	05-11-14	Hiram's Est. Family LTD LLP	158.054	S54	05-11-9.3	Joseph M. Haught & Steven Haught	16.3
S11	05-12-11	Wesley Bryan & Wesley Bryan II	52.478	S55	05-11-9.5	Southern Country Farms, Inc	2.559
S12 P	05-11-21	Omar Rine, Est.	112.67	S56	05-11-9.6	Southern Country Farms, Inc	2.488
S13	05-12-12	Lionel L. Persinger et ux	45.0	S57	05-11-9.9	Leonard L. Parsons, et ux	5.89
S14	05-12-10	Murray Energy	13.76	S58	05-11-9	Edwin C. & Kimberly A. Miller	41.773
S15	05-12-10.1	Murray Energy	38.48	S59	05-11-11.4	Brad M. & Amanda J. Blake	15.193
S16	05-12-9	Lionel & Mary Lee Persinger	10.15	S60	05-11-11	Brad M. & Amanda J. Blake	5.0
S17	05-7-39	Lionel L. Persinger et ux	57.0	S61 I	05-11-11.3	Herman D. Lantz & Herman J. Lantz	43.96
S18	05-7-33	William N. Roupe	24.60	S62	05-11-11.1	Nellie Marie & Robert W. Spencer	5.813
S19	05-7-31	William N. Roupe	43.147	S63	05-11-9	(Part of S49) Edwin C. & Kimberly A. Miller	41.773
S20	05-11-1	William N. & Virginia A. Roupe	4.527	S64	05-11-9.10	John A. & Janet L. Beucke	2.348
S21	05-11-1.4	Larry W. Dunlap, et al	32.498	S65	05-11-9.2	Michael R. Bryan	3.143
S22 U	05-11-1.1	Larry W. Dunlap, et al	34.405	S66	05-11-9.8	Sean F. Moore	2.070
S23	05-11-1.6	Debra Morris	2.093	S67	05-11-9.7	Sean F. Moore	2.026
S24	05-11-1.7	William S. & Mary K. Adams	8.0	S68	05-11-9.1	Jack Shephard Huggins Jr., et al	10.92
S25	05-11-1.5	Paul & Sandy Whitt	3.507	S69	05-11-9.4	Jack S. Huggins et al	4.129
S26	05-11-1.3	Jay A. Conner, et ux	4.256	S70	05-11-11.2	Wesley R. Bryan & Wesley R. Bryan II	25.031
S27	05-11-1.2	Jay A. Conner, et ux	5.824	S71	05-10-16.4	Elizabeth & Melvin E. Ferguson Jr.	30.87
S28	05-8-9.1	Scott E. Jackson, Tammy S. South & Marion Jackson	1.957	S72	05-10-15.1	Donald T. Miller	2.095
S29 R	05-11-2.1	Walter C. & Cheryl A. Rine	1.19	S73 H	05-11-12	Joseph J. Kramar, et ux	43.2188
S30 Q	05-11-2.2	Joshua A. Myers	2.193	S74 E	05-15-6	Joseph J. Kramar, et ux	42.5
S31	05-11-20	David E. Gray	0.569	S75 T	WITHIN 05-11-1.1	Cemetery	
S32	05-11-19	David E. Gray	0.532	S76 C	05-15-7	Terry D. Rose, et ux	4.5
S33	05-11-18	David E. Gray	0.569	S77 B	05-15-8	Terry D. Rose, et ux	77.11
S34	05-11-22	David E. Gray	0.353	S78	05-16-3.2	Jimmy Lee Ostrander Jr., Sheena Lynn Ostrander, & Brody Ray Ostrander	1.435
S35	05-11-17.1	David Gray	0.297	S79	05-16-3.1	Dennis E. Jackson, et ux	0.27
S36 O	05-11-17	Kevin R. Corley, et ux	36.13	S80	05-16-2	Christian Church	0.19
S37 N	05-11-17.2	Brenda & Michael Bryan	11.504	S81	05-16-1	Christian Church	0.50
S38	05-11-5	Kevin R. Corley et ux	10.36	S82	05-16-23.1	Ray E. Minor, et ux	2.0
S39	05-11-3	Kevin R. Corley et ux	13.18	S83	05-16-23.4	Michael R. & Brenda K. Bryan	3.0
S40	05-11-5.2	Ricky Lynn & Victoria Rose Cross	1.0	S84	05-16-23	CNX Land Resources, Inc.	60.138
S41	05-11-24	Charles Edward Furbee et ux	0.603	S85	05-16-23.3	Greg & Christina Riddle	1.0
S42	05-11-23	Owen Michael Barr	0.845	S86	05-16-24	Alan M. Beyser, et ux	1.083
S43	05-11-25	Owen Michael Barr	0.598	S87 L	05-11-14.1	Dennis F. Moore, et ux	1.056
S44	05-11-16.1	Susan Marie Smith - Life	0.876				



P.S. 708 *David L Jackson*



TUG HILL
OPERATING

OPERATOR'S
 WELL #: Bryan N-12HU
 API #: 47-051-02029
 DISTRICT: Franklin
 COUNTY: Marshall
 STATE: WV

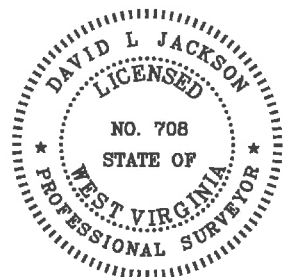
WELL PLAT
PAGE 2 OF 3
DATE: 08/10/2020

PG 3 OF 3
BRYAN LEASE
UTICA UNIT - 358.7439 AC±
WELL N-12HU
TUG HILL OPERATING

LEASE NO.	TAGS	PARCEL	OIL & GAS ROYALTY OWNER	DEED BOOK	PAGE
10*19294	A	5-15-9	BRENDA K BRYAN ET AL	666	289
10*19340	B	5-15-8	DONNA V YOHO	665	407
10*19340	C	5-15-7	DONNA VIVIAN YOHO	665	407
10*19293	D	5-15-6.1	JOSEPH I. KRAMAR, SR. JO ANN KRAMAR	655	566
10*19295	D	5-15-6.1	KEVIN J. KELLY PAMELA MARXEN-KELLY	858	381
10*19296	D	5-15-6.1	MARISSA C MARXEN	837	120
10*19297	D	5-15-6.1	PHILIP LEONARD MARXEN	839	410
10*19298	D	5-15-6.1	BETTY J MARXEN SLEZAK	822	351
10*19299	D	5-15-6.1	ANNETTE CONWAY MARXEN	817	512
10*19300	D	5-15-6.1	DEBORAH F HAGEMAN HUPPERT	815	145
10*19301	D	5-15-6.1	SANDRA HAGEMAN KANGAS	815	150
10*19302	D	5-15-6.1	JEFFREY C MARXEN SAMANTHA L MARXEN	817	506
10*19303	D	5-15-6.1	THOMAS O MARXEN	814	589
10*19304	D	5-15-6.1	DEAN L RINE, JR. PAMELA F. RINE	813	635
10*19305	D	5-15-6.1	KAREN MARXEN SONDRLO	813	605
10*19306	D	5-15-6.1	RICHARD L. TATE MARCELINE RINE TATE	814	594
10*19307	D	5-15-6.1	MARY SUE RINE-WALTER	815	155
10*19308	D	5-15-6.1	WILLIAM WEBER	817	646
10*19293	E	5-15-6	JOSEPH I. KRAMAR, SR. JO ANN KRAMAR	655	566
10*19295	E	5-15-6	KEVIN J. KELLY PAMELA MARXEN-KELLY	858	381
10*19296	E	5-15-6	MARISSA C MARXEN	837	120
10*19297	E	5-15-6	PHILIP LEONARD MARXEN	839	410
10*19298	E	5-15-6	BETTY J MARXEN SLEZAK	822	351
10*19299	E	5-15-6	ANNETTE CONWAY MARXEN	817	512
10*19300	E	5-15-6	DEBORAH F HAGEMAN HUPPERT	815	145
10*19301	E	5-15-6	SANDRA HAGEMAN KANGAS	815	150
10*19302	E	5-15-6	JEFFREY C MARXEN SAMANTHA L MARXEN	817	506
10*19303	E	5-15-6	THOMAS O MARXEN	814	589
10*19304	E	5-15-6	DEAN L RINE, JR. PAMELA F. RINE	813	635
10*19305	E	5-15-6	KAREN MARXEN SONDRLO	813	605
10*19306	E	5-15-6	RICHARD L. TATE MARCELINE RINE TATE	814	594
10*19307	E	5-15-6	MARY SUE RINE-WALTER	815	155
10*19308	E	5-15-6	WILLIAM WEBER	817	646
10*19293	F	5-15-5	JOSEPH I. KRAMAR, SR. JO ANN KRAMAR	655	566
10*19293	G	5-15-4	JOSEPH I. KRAMAR, SR. JO ANN KRAMAR	655	566
10*19293	H	5-11-12	JOSEPH I. KRAMAR, SR. JO ANN KRAMAR	655	566
10*19336	I	5-11-11.3	BONNIE JEAN DAWSON	665	397
10*19336	J	5-11-11.3	BONNIE JEAN DAWSON	665	397
10*18972	J	5-11-13	MARGARET CLUCKNER	941	281
10*19224	J	5-11-13	AMYSUE G BAHL	731	166
10*19225	J	5-11-13	LOIS BURNS	731	174
10*19226	J	5-11-13	THOMAS RAY GATTS	731	162
10*19227	J	5-11-13	CONNIE KRESS KNAPP	734	451
10*19228	J	5-11-13	CAROLE J LAMBERT	737	225
10*19229	J	5-11-13	PATRICIA A LAMBERT	731	158
10*19230	J	5-11-13	MARIANN VIRGINIA MUNN	731	160
10*19231	J	5-11-13	DALE F RADCLIFF	734	462
10*19232	J	5-11-13	SANDRA J STOWE HARMON	731	149
10*19233	J	5-11-13	SHERLEY RAY STOWE	731	170
10*19234	J	5-11-13	STANLEY EUGENE STOWE	732	631
10*19235	J	5-11-13	ROSE EDGE	731	164
10*19244	J	5-11-13	JERRY L BLOOD	736	177
10*19247	J	5-11-13	JUANITA MCVEY	745	580
10*21009	J	5-11-13	JOY DENEAN GARTMAN	951	595
10*21042	J	5-11-13	REBECCA ASPERY	952	428
10*21046	J	5-11-13	KELLY R DUNN	951	591
10*21047	J	5-11-13	RACHEL D DONAHUE	951	589
10*21048	J	5-11-13	MICHAEL P OLSON	951	593
10*21253	J	5-11-13	MARYANN STURGILL	952	430
***	J	5-11-13	WILLIAM J OLSON		
***	J	5-11-13	EVA PATTERSON		

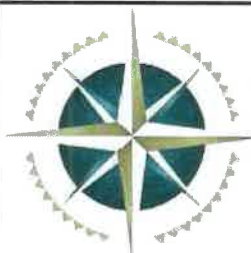
LEASE NO.	TAGS	PARCEL	OIL & GAS ROYALTY OWNER	DEED BOOK	PAGE
10*19139	K	5-11-14	HIRAM V MOORE	699	53
10*19243	L	5-11-14.1	DENNIS F AND JOLENE A MOORE	736	1
10*19139	M	5-11-16	HIRAM V MOORE	699	53
10*19178	M	5-11-16	JOSEPH HAUGHT	710	69
10*19179	M	5-11-16	KEITH HAUGHT BEVERLY HAUGHT	710	587
10*19180	M	5-11-16	STEVEN HAUGHT	710	67
10*19176	N	5-11-17.2	MAUNA MAXINE BEYSER	710	602
10*19177	N	5-11-17.2	NINA L KOVACS	710	594
10*19185	N	5-11-17.2	HARRIETT LODUTH FOLEY	710	598
10*19186	N	5-11-17.2	JOEL GLOVER	710	600
10*19189	N	5-11-17.2	SHELLY ANN MCPHERON	710	606
10*19190	N	5-11-17.2	SALLY LEE RIVERA	710	590
10*19191	N	5-11-17.2	SHARLA BETH WEAVER	710	608
10*19192	N	5-11-17.2	JAMES E YOHO	714	129
10*19201	N	5-11-17.2	DANIEL K YOHO	714	125
10*19202	N	5-11-17.2	DEBORAH L WOOLEY	714	131
10*19203	N	5-11-17.2	CAROL M YOHO	713	205
10*19204	N	5-11-17.2	DAYNA MARLENE YOHO	714	127
10*19205	N	5-11-17.2	JEFFREY C YOHO	713	203
10*19251	N	5-11-17.2	RAE SUZETTE BAKER	748	315
10*19252	N	5-11-17.2	JOHN WILSON	749	522
10*19502	N	5-11-17.2	SUSAN BLANCHE BEYSER	942	623
10*19893	N	5-11-17.2	WINIFRED G AND EDDIE G TURNER	948	277
10*21041	N	5-11-17.2	SHERY AND RANDEN RITCHEA	949	365
10*19126	O	5-11-17	KEVIN R. CORLEY AND ANITA L. CORLEY	859	47
10*19176	O	5-11-17	MAUNA MAXINE BEYSER	710	602
10*19177	O	5-11-17	NINA L KOVACS	710	594
10*19185	O	5-11-17	HARRIETT LODUTH FOLEY	710	598
10*19186	O	5-11-17	JOEL GLOVER	710	600
10*19189	O	5-11-17	SHELLY ANN MCPHERON	710	606
10*19190	O	5-11-17	SALLY LEE RIVERA	710	590
10*19191	O	5-11-17	SHARLA BETH WEAVER	710	608
10*19192	O	5-11-17	JAMES E YOHO	714	129
10*19201	O	5-11-17	DANIEL K YOHO	714	125
10*19202	O	5-11-17	DEBORAH L WOOLEY	714	131
10*19203	O	5-11-17	CAROL M YOHO	713	205
10*19204	O	5-11-17	DAYNA MARLENE YOHO	714	127
10*19205	O	5-11-17	JEFFREY C YOHO	713	203
10*19251	O	5-11-17	RAE SUZETTE BAKER	748	315
10*19252	O	5-11-17	JOHN WILSON	749	522
10*19502	O	5-11-17	SUSAN BLANCHE BEYSER	942	623
10*19893	O	5-11-17	WINIFRED G AND EDDIE G TURNER	948	277
10*21041	O	5-11-17	SHERY AND RANDEN RITCHEA	949	365
Q088586011	P	5-11-21	KAREN SUE CLYDE REED	864	190
Q088586003	P	5-11-21	GENIE SUE THOMAS AND JOHN L HOLMES	848	204
Q088586010	P	5-11-21	BRENDA FAYE AMD THOMAS PETRACK	850	161
Q088586002	P	5-11-21	GAIL ANN YATES AND WESLEY J WOOD	848	208
Q088586005	P	5-11-21	SHIRLEY YATES AND FREDDIE LEE HARTSELL	848	212
Q088586004	P	5-11-21	BOYD DAIL JR AND MARLA YATES	848	210
Q088586001	P	5-11-21	GUY YATES	848	206
Q088586007	P	5-11-21	REBEKAH DRAYER AND CHRISTOPHER ELDRIDGE	850	157
Q088586008	P	5-11-21	BOYD BUESKING	850	159
Q088586009	P	5-11-21	CHRISTA DRAYER AND JOSHUA STALEY	851	3
10*19127	Q	5-11-2.2	WALTER C. RINE AND CHERYL ANN RINE	859	49
10*19127	R	5-11-2.1	WALTER C. RINE AND CHERYL ANN RINE	859	49
10*19164	R	5-11-2.1	KATHERINE A STALNAKER	839	486
10*19169	R	5-11-2.1	DANIEL RINE	839	260
10*19127	S	5-11-2	WALTER C. RINE AND CHERYL ANN RINE	859	49
10*47051.089.0	T	CEMETERY IN 5-11-1.1	LARRY W DUNLAP AND BARBARA E DUNLAP	864	148
10*47051.089.0	U	5-11-1.1	LARRY W DUNLAP AND BARBARA E DUNLAP	864	148

*** Force pool Interest



P.S. 708

David L Jackson



TUG HILL
OPERATING

OPERATOR'S
 WELL #: Bryan N-12HU
 API #: 47-051-02029
 DISTRICT: Franklin
 COUNTY: Marshall
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WELL PLAT
PAGE 3 OF 3
DATE: 08/10/2020