

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

RECEIVED
Office of Oil and Gas

OCT 03 2022

API 47 - 051 - 02293 County Marshall District Meade
Quad Glen Easton 7.5' Pad Name Hudson Field/Pool Name Hudson S-13HU
Farm name CNX Land, LLC Well Number Hudson S-13HU
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 4,408,792.45 Easting 528,006.42
Landing Point of Curve Northing 4,408,806.0 Easting 528,116.1
Bottom Hole Northing 4,405,848.8 Easting 529,832.7

Elevation (ft) 1334.81' 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 3/11/2020 Date drilling commenced spud: 3/17/2021 big rig: 6/5/2021 Date drilling ceased 11/22/2021
Date completion activities began 4/8/2022 Date completion activities ceased 7/2/2022
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 1013' Open mine(s) (Y/N) depths N
Salt water depth(s) ft 1477' Void(s) encountered (Y/N) depths N
Coal depth(s) ft 921-927', 1007-1013' Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

APPROVED
Reviewed by:
SG - 10-11-22
10/14/2022

API 47- 051 - 02293 Farm name CNX Land, LLC Well number Hudson S-13HU

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	26"	20"	1,113'	NEW	106.5#	N/A	Y
Coal							
Intermediate 1	17 1/2"	13 3/8"	2,865'	NEW	54.5#	N/A	Y
Intermediate 2	12 1/4"	9 5/8"	10,650'	NEW	47#	N/A	Y
Intermediate 3							
Production	8 1/2"	5 1/2"	23,576'	NEW	23#	N/A	Y
Tubing		2 7/8"	11,788'	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	1170	15.6	1.18	1380	0	8
Surface	A	1903	15.6	1.18	2245.54	0	8
Coal							
Intermediate 1	A	2250	15.6	1.18	2655	0	8
Intermediate 2	A	3948	14.5	1.4	5527.2	0	8
Intermediate 3							
Production	A	5720	16.5	1.03	5891.6	0	8
Tubing							

Drillers TD (ft) 23,630' Loggers TD (ft) n/a
 Deepest formation penetrated Trenton Plug back to (ft) n/a
 Plug back procedure n/a

Kick off depth (ft) 10,713'

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 _____

HUDSON S-13HU

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 (bbbls)	Amount of Nitrogen/other (units)
1	83.51	12422	11685	7193	254400	6,488	0
2	88.65	12228	9343	7696	502320	8,119	0
3	86.97	12069	9439	7881	500680	8,121	0
4	88.44	11608	9281	7942	501320	8,121	0
5	88.23	12208	8706	7874	497500	8,080	0
6	87.93	11861	9118	8147	499960	8,066	0
7	90.05	11852	9208	8671	501700	8,110	0
8	87.58	11820	9045	8500	505340	8,069	0
9	87.71	12042	8983	7941	496400	8,098	0
10	87.73	12009	9046	8137	509280	8,229	0
11	88.03	11672	9493	8258	509480	8,108	0
12	87.46	11994	9859	8081	509120	8,142	0
13	88.80	11880	10486	8421	370140	6,839	0
14	87.87	12048	9365	8064	508080	8,035	0
15	87.46	12122	9588	7966	506560	8,107	0
16	82.68	11639	9382	8391	509780	8,153	0
17	87.11	11915	9522	8834	500860	8,029	0
18	84.97	11724	9176	8860	509540	8,091	0
19	84.16	11652	9914	8226	505780	8,024	0
20	86.92	11734	10315	8622	503140	8,058	0
21	88.50	11686	8897	8346	495220	8,026	0
22	87.59	11597	10727	8671	503820	7,773	0
23	84.51	11355	9322	8454	499120	7,931	0
24	85.90	11345	10598	8468	501880	7,933	0
25	86.17	11736	9081	7636	507280	7,947	0
26	86.56	11577	9134	8155	508260	8,026	0
27	88.04	11503	8867	8227	509440	8,016	0
28	87.09	11562	9298	8627	510660	8,130	0
29	86.39	11483	8896	8109	501220	7,946	0
30	86.66	11533	9464	8586	500810	7,917	0
31	89.90	11577	9238	8537	507680	7,986	0
32	85.23	11256	9031	8208	507300	8,016	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	83.80	11379	9178	8046	502600	7,890	0
34	87.51	11307	9988	8362	506220	7,860	0
35	87.17	11500	9565	8386	500300	9,040	0
36	86.53	11508	9418	7902	501460	7,842	0
37	87.97	11410	9653	8273	499460	7,822	0
38	87.91	11382	9209	8624	506580	7,946	0
39	88.31	11725	10185	9054	503360	7,854	0
40	90.33	11446	9640	8511	509920	7,919	0
41	88.34	11230	8775	8404	497760	7,690	0
42	83.51	10996	9081	8729	502480	7,833	0
43	87.33	11213	8909	9379	491740	7,601	0
44	88.12	11378	11045	8264	509200	7,884	0
45	87.75	11348	10511	8195	490480	7,632	0
46	87.01	11379	9880	7828	509860	7,961	0
47	87.63	11470	10964	7877	509380	7,878	0
48	88.09	11136	0	8544	509580	7,818	0
49	87.84	11100	10020	8380	491240	7,624	0
50	87.83	10920	9215	8427	502200	7,743	0
51	87.65	10693	9234	8646	497740	7,709	0
52	88.11	10607	8920	8523	509140	7,762	0
53	87.70	10723	9258	8146	509850	7,800	0
54	88.96	10611	9250	8611	495520	7,650	0
55	86.19	10572	9266	8547	499040	7,585	0
56	89.99	10399	8843	8575	497280	7,726	0

**HUDSON S-13HU
PEFORATION RECORD**

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD. Ft.	Number of Perforations	Formation(s)
1	4/8/2022	23,405	23,449	12	Utica
2	4/9/2022	23,176	23,353	48	Utica
3	4/9/2022	22,975	23,152	48	Utica
4	4/9/2022	22,774	22,951	48	Utica
5	6/5/2022	22,573	22,750	48	Utica
6	6/5/2022	22,372	22,549	48	Utica
7	6/6/2022	22,171	22,348	48	Utica
8	6/6/2022	21,970	22,147	48	Utica
9	6/7/2022	21,769	21,946	48	Utica
10	6/7/2022	21,568	21,745	48	Utica
11	6/8/2022	21,367	21,544	48	Utica
12	6/8/2022	21,165	21,342	48	Utica
13	6/9/2022	20,964	21,141	48	Utica
14	6/10/2022	20,763	20,940	48	Utica
15	6/10/2022	20,562	20,739	48	Utica
16	6/11/2022	20,361	20,538	48	Utica
17	6/11/2022	20,160	20,337	48	Utica
18	6/12/2022	19,959	20,136	48	Utica
19	6/12/2022	19,758	19,935	48	Utica
20	6/12/2022	19,557	19,734	48	Utica
21	6/13/2022	19,356	19,533	48	Utica
22	6/13/2022	19,154	19,331	48	Utica
23	6/15/2022	18,953	19,130	48	Utica
24	6/15/2022	18,752	18,929	48	Utica
25	6/16/2022	18,551	18,728	48	Utica
26	6/16/2022	18,350	18,527	48	Utica
27	6/17/2022	18,149	18,326	48	Utica
28	6/17/2022	17,948	18,125	48	Utica
29	6/18/2022	17,747	17,924	48	Utica
30	6/18/2022	17,546	17,723	48	Utica
31	6/18/2022	17,345	17,522	48	Utica
32	6/19/2022	17,143	17,320	48	Utica
33	6/19/2022	16,942	17,119	48	Utica
34	6/20/2022	16,741	16,918	48	Utica
35	6/20/2022	16,540	16,717	48	Utica
36	6/21/2022	16,339	16,516	48	Utica
37	6/21/2022	16,138	16,315	48	Utica
38	6/21/2022	15,937	16,114	48	Utica
39	6/22/2022	15,736	15,913	48	Utica
40	6/22/2022	15,535	15,712	48	Utica
41	6/23/2022	15,334	15,511	48	Utica

10/14/2022

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD. Ft.	Number of Perforations	Formation(s)
42	6/23/2022	15,132	15,309	48	Utica
43	6/24/2022	14,931	15,108	48	Utica
44	6/25/2022	14,730	14,907	48	Utica
45	6/25/2022	14,529	14,706	48	Utica
46	6/26/2022	14,328	14,505	48	Utica
47	6/26/2022	14,127	14,304	48	Utica
48	6/27/2022	13,926	14,103	48	Utica
49	6/27/2022	13,725	13,902	48	Utica
50	6/28/2022	13,524	13,701	48	Utica
51	6/28/2022	13,323	13,500	48	Utica
52	6/29/2022	13,121	13,298	48	Utica
53	6/29/2022	12,920	13,097	48	Utica
54	6/30/2022	12,719	12,896	48	Utica
55	7/1/2022	12,518	12,695	48	Utica
56	7/2/2022	12,317	12,494	48	Utica

Hudson S-13HU

Lithology Information

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	1918	2117	1918	2117	Sandstone
Big Lime	2117	2239	2117	2239	Limestone
Big Injun	2239	2538	2239	2538	Sandstone
Weir	2538	2735	2538	2735	Sandstone
Berea	2735	2987	2735	2987	Sandstone
Gordon	2987	3088	2987	3088	Sandstone
Fifty Foot	3088	3661	3088	3663	Sandstone
Speechley	3661	5124	3663	5132	Sandstone
Benson	5124	5505	5132	5515	Sandstone
Alexander	5505	6115	5515	6127	Siltstone
Rhinestreet	6115	6583	6127	6597	Black Shale
Middlesex	6583	6648	6597	6662	Black Shale
Geneseo/Burkett	6648	6681	6662	6695	Black Shale
Tully	6681	6712	6695	6726	Limestone
Hamilton	6712	6794	6726	6809	Gray Shale
Marcellus	6794	6844	6809	6859	Black Shale
Onondaga	6844	7067	6859	7082	Limestone
Oriskany	7067	7194	7082	7210	Sandstone
Helderberg	7194	7540	7210	7559	Limestone
Salina	7540	8658	7559	8690	Salt/Anhydrite/LS
Lockport	8658	9031	8690	9068	Dolomite
Rose Hill	9031	9314	9068	9354	Shale
Packer Shell	9314	9520	9354	9563	Limestone
Clinton/Tuscarora	9520	9629	9563	9673	Sandstone
Juniata/Queenston	9629	10479	9673	10534	Red Shale
Reedsville	10479	11466	10534	11586	Gray Shale
Utica	11466	11711	11586	12082	Black Shale
Point Pleasant	11711	-	12082	-	Shale/Limestone

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	4/8/2022
Job End Date:	7/2/2022
State:	West Virginia
County:	Marshall
API Number:	47-051-02293-00-00
Operator Name:	Tug Hill Operating, LLC
Well Name and Number:	Hudson S 13HU
Latitude:	39.82866700
Longitude:	-80.67271800
Datum:	NAD27
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	11,847
Total Base Water Volume (gal):	18,597,726
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	84.45870	None
Sand (40/70 White Proppant)	Tug Hill Operating	Proppant	Silica Substrate	14808-60-7	100.00000	11.86450	None
Sand (100 Mesh Proppant)	Tug Hill Operating	Proppant	Silica Substrate	14808-60-7	100.00000	3.26776	None
Hydrochloric Acid (7.5%)	CNR	Acidizing	Water	7732-18-5	85.00000	0.23680	None
			Hydrochloric Acid (Hydrogen Chloride)	7647-01-0	37.00000	0.10308	None
StimStream FR 9800	Chemstream	Friction Reducer	Alkanes, C16-20-iso-	90622-59-6	25.00000	0.02111	None
			Butene, homopolymer	9003-29-6	25.00000	0.02111	None
			Ethoxylated alcohols (C12-18)	68213-23-0	3.00000	0.00253	None
MC MX 9-4743	Multi-Chem	Biocide	Sodium Nitrate	7631-99-4	60.00000	0.02144	None
LD-7750W	Multi-Chem	Scale Inhibitor					

			Methanol	67-56-1	60.00000	0.00490	None
			Phosphonic Acid Salt	Proprietary	5.00000	0.00041	None
ProHib 100	CNR	Acid Inhibitor					
			2-Butoxyethanol	111-76-2	60.00000	0.00057	None
			Proprietary material	Proprietary	30.00000	0.00029	None
			Proprietary non-ionic surfactant	Proprietary	20.00000	0.00019	None
			Proprietary corrosion inhibitor	Proprietary	10.00000	0.00010	None
			Proprietary ethoxylated alcohol	Proprietary	10.00000	0.00010	None
ProFE 105	CNR	Iron Control					
			Citric Acid	77-92-9	20.00000	0.00023	None
			Acetic Acid	64-19-7	5.00000	0.00006	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	0.23680	
			Butene, homopolymer	9003-29-6	25.00000	0.02111	
			Ethoxylated alcohols (C12-18)	68213-23-0	3.00000	0.00253	
			Phosphonic Acid Salt	Proprietary	5.00000	0.00041	
			Proprietary material	Proprietary	30.00000	0.00029	
			Proprietary non-ionic surfactant	Proprietary	20.00000	0.00019	
			Proprietary ethoxylated alcohol	Proprietary	10.00000	0.00010	
			Proprietary corrosion inhibitor	Proprietary	10.00000	0.00010	
			Acetic Acid	64-19-7	5.00000	0.00006	

* 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)

**HUDSON S LEASE
UTICA UNIT - 366.42 AC±
WELL 13HU
TUG HILL OPERATING**

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

T.H. LONGITUDE 80°40'00"
B.H. LONGITUDE 80°37'30"

1,700' T.H. A.D.

11,384' B.H. A.D.

MAP/PARCEL	ADJOINING SURFACE OWNER LIST	ACRES
9-2-9.1	CONSOLIDATION COAL CO.	1.00
9-2-9.2	CONSOLIDATION COAL CO.	1.00
9-3-1.2	CONSOLIDATION COAL CO.	1.00
9-3-19	CNX LAND CO. LLC	45 SQ. RODS & 3280 SQ. FT
9-5-13	SHELLY ANN JORDAN	5.51
9-7-9	CNX LAND CO. LLC	2.00
9-7-10	DONALD M. & THERESA L. HARRIS	3.00
9-8-1	CNX LAND CO. LLC	PT. OF 1 AC.
9-8-2	CNX LAND CO. LLC	6000 SQ. FT.
9-8-4.1	CNX LAND RESOURCES, INC.	0.333
9-8-5.1	CNX LAND LLC	1.040

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

NAD'83 S.P.C.(FT)	N. 486,092.49	E. 1,639,154.94
NAD'83 GEO.	LAT-(N) 39.828667	LONG-(W) 80.672718
NAD'83 UTM (M)	N. 4,408,792.45	E. 528,006.42
LANDING POINT		
NAD'83 S.P.C.(FT)	N. 486,294.8	E. 1,639,434.0
NAD'83 GEO.	LAT-(N) 39.829232	LONG-(W) 80.671734
NAD'83 UTM (M)	N. 4,408,855.5	E. 528,090.4
BOTTOM HOLE		
NAD'83 S.P.C.(FT)	N. 476,330.2	E. 1,644,964.9
NAD'83 GEO.	LAT-(N) 39.802075	LONG-(W) 80.651587
NAD'83 UTM (M)	N. 4,405,847.9	E. 529,826.2

**AS DRILLED COORDINATES
FOR WELL NO. 13HU**

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

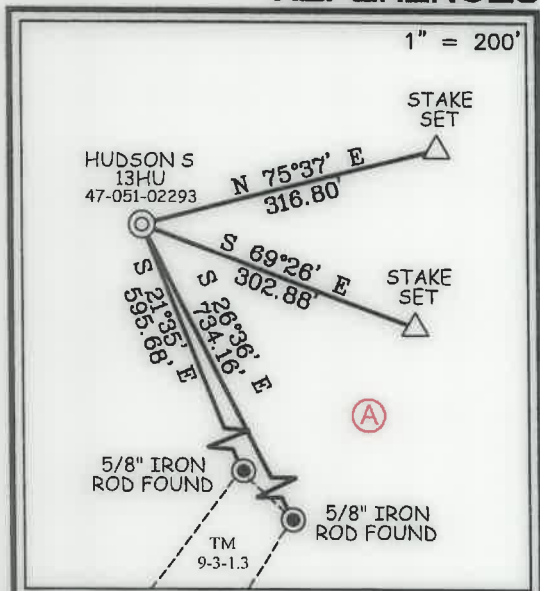
NAD'83 S.P.C.(FT)	N. 486,092.49	E. 1,639,154.94
NAD'83 GEO.	LAT-(N) 39.828667	LONG-(W) 80.672718
NAD'83 UTM (M)	N. 4,408,792.45	E. 528,006.42
LANDING POINT		
NAD'83 S.P.C.(FT)	N. 486,131.0	E. 1,639,515.6
NAD'83 GEO.	LAT-(N) 39.828786	LONG-(W) 80.671436
NAD'83 UTM (M)	N. 4,408,806.0	E. 528,116.1
BOTTOM HOLE		
NAD'83 S.P.C.(FT)	N. 476,332.7	E. 1,644,986.4
NAD'83 GEO.	LAT-(N) 39.802082	LONG-(W) 80.651511
NAD'83 UTM (M)	N. 4,405,848.8	E. 529,832.7

NOTES ON SURVEY

- 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.
- WELL SPOT CIRCLE & TOPO MARK SCALE ARE 1"=2000'
- PROPOSED LATERAL OR TOP HOLE OF HUDSON S-13HU (47-051-02293) IS WITHIN 3000' OF THE TOP HOLES OR LATERALS OF HUDSON S-11HU (47-051-02296), HUDSON S-12HU (47-051-02292), HUDSON S-14HU (47-021-02327), HUDSON S-15HU (47-051-02328), HUDSON S-16HU (47-051-02329), FITZGERALD S-17HU (47-051-02324), FITZGERALD S-18HU (47-051-02325), FITZGERALD S-19HU (47-051-02326).
- WV DOT/DOH OWNERSHIP WITHIN UNIT SET FORTH IN WW-6A1.
- PLAT UPDATED TO SHOW AS DRILLED PATH.
- AS DRILLED DATA PROVIDED BY TUG HILL OPERATING.



REFERENCES



12 Vanhorn Drive | P.O. Box 150 | Glenville, WV 26031 | 304.462.5634
1412 Kanawha Boulevard, East | Charleston, WV 25301 | 304.346.5952
254 East Beckley Bypass | Beckley, WV 26801 | 304.285.5296
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.



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.
DATE SEPTEMBER 30, 20 22
REVISED _____
OPERATORS WELL NO. HUDSON S-13HU
API WELL NO. **47 - 051 - 02293**
STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 2500 FILE NO. 8911P13HUAD.dwg
HUDSON S-13HU REV8
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 INJECTION WASTE DISPOSAL IF "GAS" PRODUCTION STORAGE DEEP SHALLOW

LOCATION: GROUND = 1,370.20' ELEVATION PROPOSED = 1,344.81' WATERSHED GRAVE CREEK (HUC 10)
DISTRICT MEADE COUNTY MARSHALL QUADRANGLE GLEN EASTON 7.5'

SURFACE OWNER CNX LAND LLC ACREAGE 106.935±
ROYALTY OWNER CHARLENE L. BAKER, ET AL ACREAGE 106.935±

PROPOSED WORK: DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD FORMATION PERFORATE NEW FORMATION PLUG AND ABANDON CLEAN OUT AND REPLUG OTHER

PHYSICAL CHANGE IN WELL (SPECIFY) _____ TARGET FORMATION POINT PLEASANT
ESTIMATED DEPTH TVD: 11,948' / TMD: 23,598'

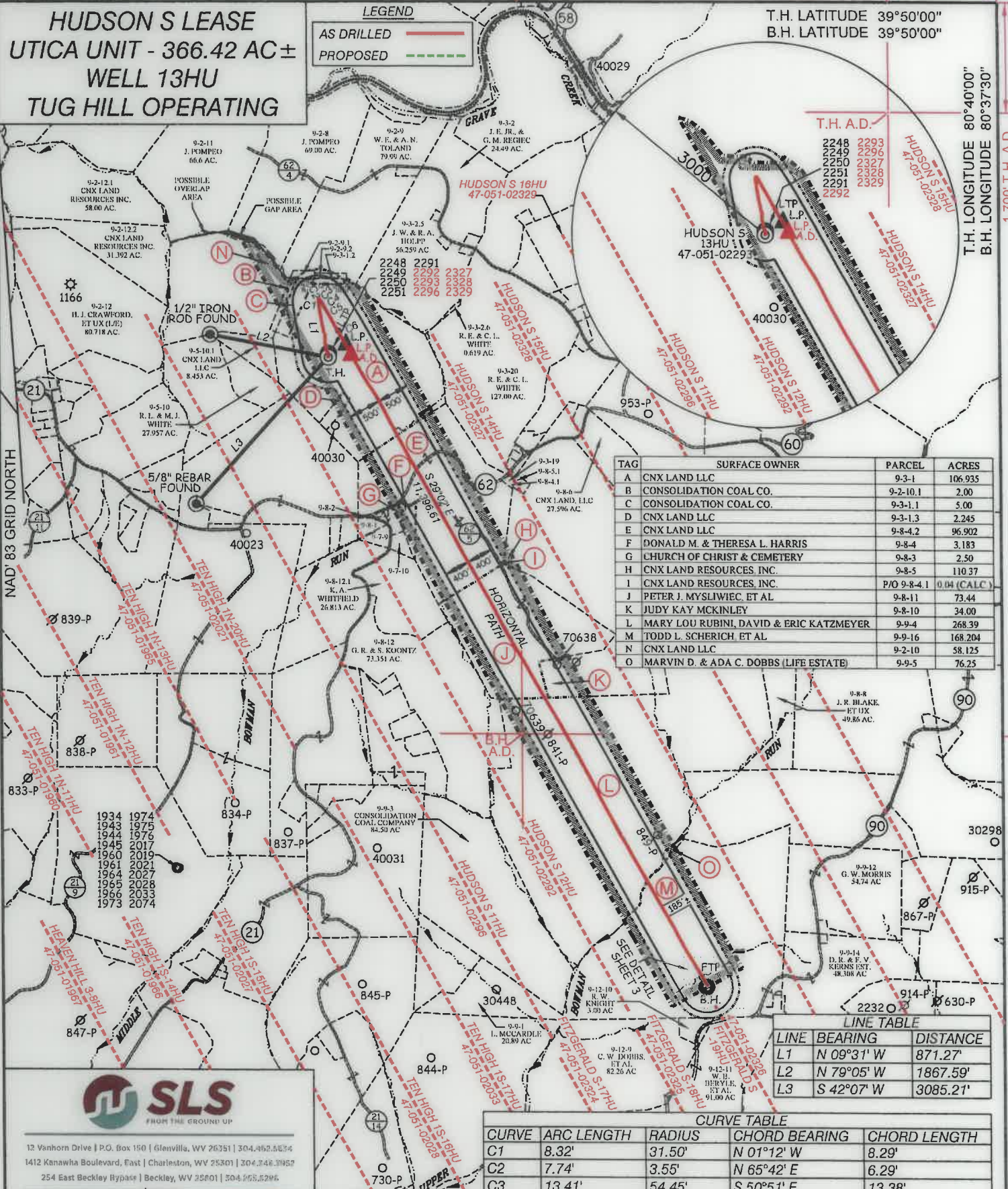
WELL OPERATOR TUG HILL OPERATING, LLC DESIGNATED AGENT DARREN BROWN - CT CORPORATION
ADDRESS 1320 SOUTH UNIVERSITY DRIVE, SUITE 500 ADDRESS 5098 WASHINGTON ST. W, STE 407
FORT WORTH, TX 76107 CHARLESTON, WV 25313-1561

COUNTY NAME PERMIT

**HUDSON S LEASE
UTICA UNIT - 366.42 AC ±
WELL 13HU
TUG HILL OPERATING**

LEGEND

AS DRILLED ———
PROPOSED - - - - -



TAG	SURFACE OWNER	PARCEL	ACRES
A	CNX LAND LLC	9-3-1	106.935
B	CONSOLIDATION COAL CO.	9-2-10.1	2.00
C	CONSOLIDATION COAL CO.	9-3-1.1	5.00
D	CNX LAND LLC	9-3-1.3	2.245
E	CNX LAND LLC	9-8-4.2	96.902
F	DONALD M. & THERESA L. HARRIS	9-8-4	3.183
G	CHURCH OF CHRIST & CEMETERY	9-8-3	2.50
H	CNX LAND RESOURCES INC.	9-8-5	110.37
I	CNX LAND RESOURCES INC.	P/O 9-8-4.1	0.04 (CALC)
J	PETER J. MYSLIWIEC, ET AL	9-8-11	73.44
K	JUDY KAY MCKINLEY	9-8-10	34.00
L	MARY LOU RUBINI, DAVID & ERIC KATZMEYER	9-9-4	268.39
M	TODD L. SCHERICH ET AL	9-9-16	168.204
N	CNX LAND LLC	9-2-10	58.125
O	MARVIN D. & ADA C. DOBBS (LIFE ESTATE)	9-9-5	76.25

LINE TABLE

LINE	BEARING	DISTANCE
L1	N 09°31' W	871.27'
L2	N 79°05' W	1867.59'
L3	S 42°07' W	3085.21'

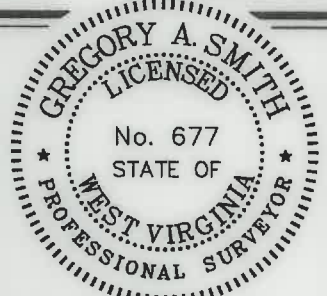
CURVE TABLE

CURVE	ARC LENGTH	RADIUS	CHORD BEARING	CHORD LENGTH
C1	8.32'	31.50'	N 01°12' W	8.29'
C2	7.74'	3.55'	N 65°42' E	6.29'
C3	13.41'	54.45'	S 50°51' E	13.38'
C4	56.36'	462.35'	S 38°50' E	56.33'
C5	299.37'	4275.49'	S 32°46' E	299.31'
C6	420.06'	11921.20'	S 29°59' E	420.03'



12 Vanhorn Drive | P.O. Box 150 | Glenville, WV 26031 | 304.452.5534
1412 Kanawha Boulevard, East | Charleston, WV 25301 | 304.248.3959
254 East Beckley Highway | Beckley, WV 25601 | 304.265.5296
slsvv.com

P.S. 677 *Gregory A. Smith*



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

LEGEND

- UNIT BOUNDARY
- LEASED TRACTS INSIDE
- UNIT BOUNDARY
- SURFACE LINE
- PROPOSED UTICA
- WELL LATERAL
- 400' OFFSET LINE
- 500' OFFSET LINE
- TIE LINE
- CREEK
- ROAD
- PROPOSED FIRST TAKE POINT
- PROPOSED LAST TAKE POINT
- COUNTY ROUTE
- PROPOSED WELL
- EXISTING WELL
- PERMITTED WELL
- SURFACE OWNER (SEE TABLE)
- LEASE # (SEE ADDITIONAL SHEETS)

SCALE 1" = 2000' FILE NO. 8911P13HUAD.dwg
HUDSON S-13HU REV8
DATE SEPTEMBER 30, 2022
REVISED _____
OPERATORS WELL NO. HUDSON S-13HU
API WELL NO. 47 — 051 — 02293
NO. STATE COUNTY PERMIT

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



10/14/2022

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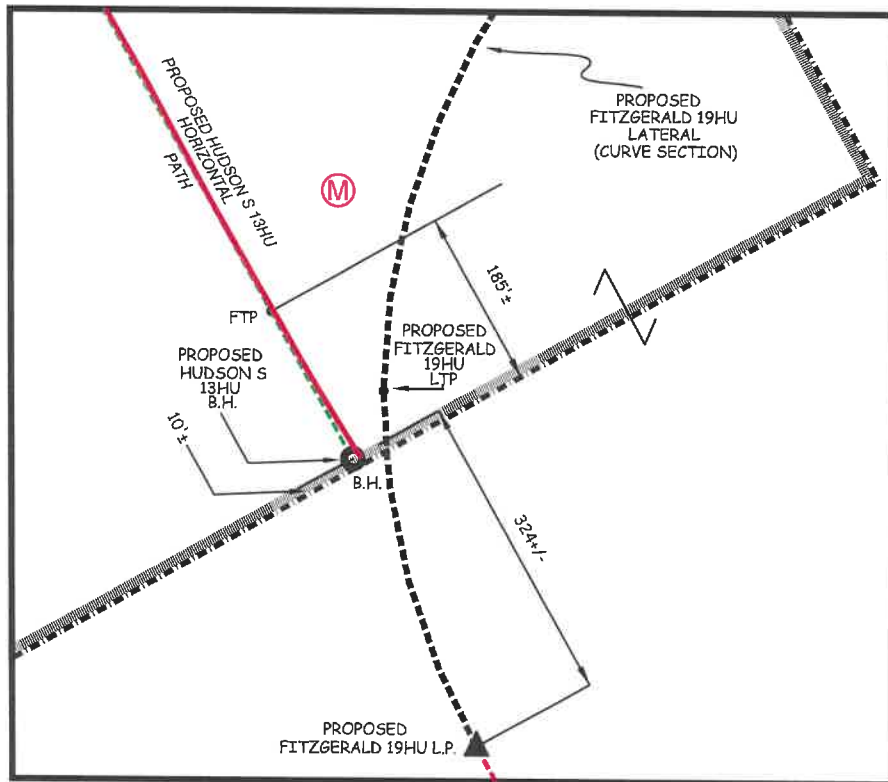
**HUDSON S LEASE
UTICA UNIT -366.42 AC±
WELL 13HU
TUG HILL OPERATING**



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

NO.	Lease ID	Parcel	Tags	Grantor, Lessor, Etc.	Deed Book/Page	
1	10*26041	9-3-1	A	FREDDIE C WHITE AND VIOLET L WHITE, ET AL	728	527
2	10*26711	9-2-10.1	B	CNX GAS COMPANY LLC	1074	593
3	10*26044	9-3-1.1	C	JOYCE A WALLACE, ET AL	863	296
4	10*26018	9-3-1.3	D	NANCY L WEST, ET AL	737	248
5	10*47051.109.0	9-8-4.2	E	DONALD M AND THERESA L HARRIS	859	440
6	10*47051.109.0	9-8-4	F	DONALD M AND THERESA L HARRIS	859	440
7	10*26113	9-8-3	G	ELDWIN OTIS RINE AND MARY L RINE, ET AL	880	434
8	10*23739	9-8-5	H	APPALACHIAN BASIN MINERALS LP, ET AL	1011	538
9	10*22760	9-8-4.1	I	DONALD M AND THERESA L HARRIS, ET AL	968	294
10	10*22745	9-8-11	J	BONNIE J JENKINS, ET AL	968	288
11	10*21246	9-8-10	K	THE ESTATE OF THERESA M ROGERSON CHARLES J ROGERSON EXECUTOR, ET AL	952	422
12	10*31001	9-9-4	L	ERIC KATZMEYER, ET AL	791	226
13	10*19987	9-9-16	M	LESLEY D BALLA, ET AL	955	103
14	10*26001	9-2-10	N	FREDDIE C WHITE AND VIOLET L WHITE	655	555
15	10*28244	9-9-5	O	MICHAEL D DOBBS AND STEPHANIE J DOBBS, ET AL	1068	569

DETAIL
SCALE: 1" = 200'



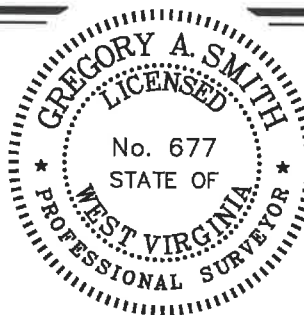
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DATE SEPTEMBER 30, 20 22

REVISED

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