

~~SECRET~~

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 - 02327 County Marshall District Meade
Quad Glen Easton 7.5' Pad Name Hudson Field/Pool Name _____
Farm name CNX Land, LLC Well Number Hudson S-14HU
Operator (as registered with the OOG) Tug Hill Operating, LLC
Address 380 Southpointe Boulevard, Plaza II, Suite 200 City Canonsburg State PA Zip 15317

WV Department of Environmental Protection

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey
Top hole Northing 4,408,799.24 Easting 528,013.32
Landing Point of Curve Northing 4,408,896.9 Easting 528,502.6
Bottom Hole Northing 4,404,333.1 Easting 4,404,333.1

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 2/2/2021 Date drilling commenced spud:3/21/2021 big rig: 6/22/2021 Date drilling ceased 12/24/2021
Date completion activities began 4/10/2022 Date completion activities ceased 6/3/2022
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
10/21/2022

API 47- 051 - 02327

Farm name CNX Land, LLC

Well number Hudson S-14HU

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"	1,110'	NEW	106.5#	N/A	Y
Coal							
Intermediate 1	17 1/2"	13 3/8"	2,871'	NEW	54.5#	N/A	Y
Intermediate 2	12 1/4"	9 5/8"	10,743'	NEW	47#	N/A	Y
Intermediate 3							
Production	8 1/2"	5 1/2"	29,616'	NEW	23#	N/A	Y
Tubing		2 7/8"	14,808'	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	1922	15.6	1.18	2267.96	0	8
Coal							
Intermediate 1	A	2241	15.6	1.18	2644.38	0	8
Intermediate 2	A	3948	14.5	1.4	5527.2	0	8
Intermediate 3							
Production	A	5527.2	16.5	1.03	5891.6	0	8
Tubing							

Drillers TD (ft) 29,677'

Loggers TD (ft) n/a

Deepest formation penetrated Trenton

Plug back to (ft) n/a

Plug back procedure n/a

Kick off depth (ft) 10,974'

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-14HU
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	78.37	12641	12722	7900	247620	7,244	0
2	85.44	12505	9746	7524	500500	8,672	0
3	77.82	12160	10393	7785	499320	8,520	0
4	81.09	12279	8848	7973	509700	10,200	0
5	83.85	12221	8893	8123	506460	8,364	0
6	86.51	12445	11250	8433	507790	8,586	0
7	85.83	12669	10154	8269	503980	8,322	0
8	84.05	12392	9831	7949	504400	8,628	0
9	83.36	12122	9226	8309	506700	8,345	0
10	83.33	12091	10349	8676	181340	4,667	0
11	81.33	12272	9130	7756	490420	8,205	0
12	82.70	12485	9376	7876	510040	8,366	0
13	82.70	12621	9584	8144	502000	8,373	0
14	83.43	12303	9912	8397	503720	8,399	0
15	85.53	12430	10490	8468	501280	9,619	0
16	84.80	12556	9764	7974	508100	10,525	0
17	88.57	12631	9983	8168	509410	8,251	0
18	86.27	12400	10133	8053	506720	8,212	0
19	86.65	12376	9439	8228	504140	8,217	0
20	85.77	12476	9653	8428	508360	8,264	0
21	86.58	12049	9575	8065	499290	8,152	0
22	88.06	12025	9203	7987	503220	8,065	0
23	85.60	11785	9072	8465	497640	8,096	0
24	88.01	11795	9531	8639	497880	8,145	0
25	88.05	12236	9322	8023	501680	8,419	0
26	88.73	12067	8421	8035	502460	8,151	0
27	87.92	11706	8507	8068	498820	8,146	0
28	88.35	11590	8837	8733	503560	8,087	0
29	89.95	11907	8967	8207	504060	8,157	0
30	89.15	11533	8780	8039	507700	8,128	0
31	88.15	11614	9357	8388	506960	8,166	0
32	88.92	11363	8733	8578	492480	8,095	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	88.42	11606	8436	7785	509860	8,157	0
34	87.10	11565	8456	8703	493465	8,129	0
35	88.29	11862	8362	8320	507220	9,440	0
36	88.80	11809	8350	7513	508660	8,174	0
37	88.59	11451	8262	7949	504560	8,086	0
38	88.72	11440	9093	8236	509960	8,026	0
39	87.60	11332	9278	8109	502260	8,086	0
40	88.56	11510	9156	8089	509400	8,017	0
41	89.62	11419	8831	8065	500650	8,219	0
42	87.74	11409	9135	8116	507260	10,118	0
43	87.16	11489	8458	7658	495020	7,942	0
44	89.38	11577	8785	7263	507850	8,202	0
45	90.43	11926	8540	7458	507580	8,440	0
46	87.42	11624	8802	7773	504300	9,419	0
47	89.04	11770	9055	7959	327340	6,749	0
48	87.93	11692	11107	7928	509680	8,021	0
49	88.13	11803	9821	7566	500120	7,830	0
50	88.38	11668	9306	8124	467440	7,638	0
51	88.16	11485	9331	8201	501320	8,075	0
52	88.45	11320	9536	8395	502380	8,007	0
53	89.51	11363	9444	8749	508980	8,100	0
54	89.64	11340	9041	8266	496320	7,826	0
55	89.43	11769	9302	7917	501820	7,944	0
56	87.51	11901	8767	8178	502480	7,903	0
57	87.89	11484	10220	8085	505580	7,982	0
58	88.65	11906	10904	7979	506200	7,867	0
59	87.58	11887	0	7999	500300	7,889	0
60	87.44	11693	9625	7948	501860	7,933	0
61	88.35	11624	10387	7975	502440	7,983	0
62	89.07	11593	9157	8329	506320	7,884	0
63	88.52	11842	9981	8113	499900	7,843	0
64	87.60	11456	9628	8061	507240	7,821	0
65	88.47	11481	9619	7955	506580	7,860	0
66	87.73	11372	9649	8232	507660	7,891	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)
67	89.22	11717	9430	7972	509460	7,972	0
68	87.43	11462	8864	8119	504860	7,790	0
69	88.98	11430	10148	8154	510220	7,840	0
70	87.66	11350	8817	8417	502120	7,790	0
71	89.61	11373	9613	8278	505080	8,946	0
72	87.66	10804	9226	7331	508300	8,434	0
73	90.12	11010	9997	8168	504499	7,750	0
74	89.85	11059	8846	7734	509640	7,813	0
75	87.84	10872	9175	7949	491590	7,646	0
76	86.86	11232	10746	7036	504050	7,750	0
77	89.17	11219	9735	7406	509440	7,822	0
78	88.23	10895	9299	7555	504560	7,678	0
79	88.24	11097	10420	7882	494400	7,606	0
80	87.13	10872	9772	7428	507660	7,745	0
81	88.00	10776	9960	7506	494960	7,555	0
82	87.41	10789	8951	7458	495940	7,688	0
83	87.67	10841	10001	7501	499620	7,689	0
84	90.36	10959	10008	7451	505060	7,994	0
85	89.47	10885	9566	7219	503080	7,600	0
86	88.59	10757	8619	7552	509200	7,668	0
87	88.18	10928	9303	8005	478080	7,151	0

HUDSON S-14HU
PEFORATION RECORD

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD. Ft.	Number of Perforations	Formation(s)
1	4/10/2022	29,435	29,481	12	Utica
2	4/11/2022	29,208	29,384	48	Utica
3	4/11/2022	29,008	29,184	48	Utica
4	4/11/2022	28,809	28,985	48	Utica
5	4/12/2022	28,609	28,785	48	Utica
6	4/12/2022	28,410	28,586	48	Utica
7	4/12/2022	28,210	28,386	48	Utica
8	4/13/2022	28,011	28,187	48	Utica
9	4/13/2022	27,811	27,987	48	Utica
10	4/13/2022	27,612	27,788	48	Utica
11	4/15/2022	27,412	27,588	48	Utica
12	4/15/2022	27,213	27,389	48	Utica
13	4/15/2022	27,013	27,189	48	Utica
14	4/16/2022	26,814	26,990	48	Utica
15	4/16/2022	26,614	26,790	48	Utica
16	4/18/2022	26,415	26,591	48	Utica
17	4/19/2022	26,215	26,391	48	Utica
18	4/19/2022	26,016	26,192	48	Utica
19	4/19/2022	25,816	25,992	48	Utica
20	4/20/2022	25,617	25,793	48	Utica
21	4/20/2022	25,417	25,593	48	Utica
22	4/20/2022	25,218	25,394	48	Utica
23	4/20/2022	25,018	25,194	48	Utica
24	4/21/2022	24,819	24,995	48	Utica
25	4/21/2022	24,619	24,795	48	Utica
26	4/22/2022	24,420	24,596	48	Utica
27	4/22/2022	24,220	24,396	48	Utica
28	4/22/2022	24,021	24,197	48	Utica
29	4/22/2022	23,821	23,997	48	Utica
30	4/23/2022	23,622	23,798	48	Utica
31	4/23/2022	23,422	23,598	48	Utica
32	4/23/2022	23,223	23,399	48	Utica
33	4/24/2022	23,023	23,199	48	Utica
34	4/25/2022	22,824	23,000	48	Utica
35	4/25/2022	22,624	22,800	48	Utica
36	4/26/2022	22,425	22,601	48	Utica
37	4/26/2022	22,225	22,401	48	Utica
38	4/26/2022	22,026	22,202	48	Utica
39	4/27/2022	21,826	22,002	48	Utica
40	4/28/2022	21,627	21,803	48	Utica
41	5/1/2022	21,427	21,603	48	Utica

10/21/2022

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD. Ft.	Number of Perforations	Formation(s)
42	5/1/2022	21,228	21,404	48	Utica
43	5/2/2022	21,028	21,204	48	Utica
44	5/2/2022	20,829	21,005	48	Utica
45	5/2/2022	20,629	20,805	48	Utica
46	5/3/2022	20,430	20,606	48	Utica
47	5/3/2022	20,230	20,406	48	Utica
48	5/11/2022	20,031	20,207	48	Utica
49	5/11/2022	19,831	20,007	48	Utica
50	5/12/2022	19,632	19,808	48	Utica
51	5/12/2022	19,432	19,608	48	Utica
52	5/13/2022	19,233	19,409	48	Utica
53	5/13/2022	19,033	19,209	48	Utica
54	5/14/2022	18,834	19,010	48	Utica
55	5/15/2022	18,634	18,810	48	Utica
56	5/15/2022	18,435	18,611	48	Utica
57	5/15/2022	18,235	18,411	48	Utica
58	5/16/2022	18,036	18,212	48	Utica
59	5/17/2022	17,836	18,012	48	Utica
60	5/18/2022	17,637	17,813	48	Utica
61	5/18/2022	17,437	17,613	48	Utica
62	5/19/2022	17,238	17,414	48	Utica
63	5/19/2022	17,038	17,214	48	Utica
64	5/20/2022	16,839	17,015	48	Utica
65	5/20/2022	16,639	16,815	48	Utica
66	5/21/2022	16,440	16,616	48	Utica
67	5/22/2022	16,240	16,416	48	Utica
68	5/22/2022	16,041	16,217	48	Utica
69	5/23/2022	15,841	16,017	48	Utica
70	5/23/2022	15,642	15,818	48	Utica
71	5/23/2022	15,442	15,618	48	Utica
72	5/24/2022	15,243	15,419	48	Utica
73	5/24/2022	15,043	15,219	48	Utica
74	5/25/2022	14,844	15,020	48	Utica
75	5/25/2022	14,644	14,820	48	Utica
76	5/26/2022	14,445	14,621	48	Utica
77	5/27/2022	14,245	14,421	48	Utica
78	5/27/2022	14,046	14,222	48	Utica
79	5/28/2022	13,846	14,022	48	Utica
80	5/28/2022	13,647	13,823	48	Utica
81	5/28/2022	13,447	13,623	48	Utica
82	5/29/2022	13,248	13,424	48	Utica
83	6/2/2022	13,048	13,224	48	Utica
84	6/2/2022	12,849	13,025	48	Utica
85	6/2/2022	12,649	12,825	48	Utica

10/21/2022

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD. Ft.	Number of Perforations	Formation(s)
86	6/2/2022	12,450	12,626	48	Utica
87	6/3/2022	12,250	12,426	48	Utica

Hudson S-14HU

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	1920	2119	1920	2119	Sandstone
Big Lime	2119	2241	2119	2242	Limestone
Big Injun	2241	2540	2242	2541	Sandstone
Weir	2540	2737	2541	2738	Sandstone
Berea	2737	2989	2738	2990	Sandstone
Gordon	2989	3090	2990	3092	Sandstone
Fifty Foot	3090	3663	3092	3666	Sandstone
Speechley	3663	5126	3666	5135	Sandstone
Benson	5126	5507	5135	5518	Sandstone
Alexander	5507	6117	5518	6130	Siltstone
Rhinestreet	6117	6585	6130	6600	Black Shale
Middlesex	6585	6650	6600	6665	Black Shale
Geneseo/Burkett	6650	6683	6665	6699	Black Shale
Tully	6683	6714	6699	6730	Limestone
Hamilton	6714	6796	6730	6812	Gray Shale
Marcellus	6796	6846	6812	6862	Black Shale
Onondaga	6846	7069	6862	7087	Limestone
Oriskany	7069	7198	7087	7218	Sandstone
Helderberg	7198	7544	7218	7571	Limestone
Salina	7544	8666	7571	8727	Salt/Anhydrite/LS
Lockport	8666	9038	8727	9114	Dolomite
Rose Hill	9038	9323	9114	9412	Shale
Packer Shell	9323	9531	9412	9624	Limestone
Clinton/Tuscarora	9531	9639	9624	9736	Sandstone
Junjata/Queenston	9639	10493	9736	10618	Red Shale
Reedsville	10493	11474	10618	11677	Gray Shale
Utica	11474	11712	11677	12106	Black Shale
Point Pleasant	11712	-	12106	-	Shale/Limestone

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	4/10/2022
Job End Date:	6/3/2022
State:	West Virginia
County:	Marshall
API Number:	47-051-02327-00-00
Operator Name:	Tug Hill Operating, LLC
Well Name and Number:	Hudson S 14HU
Latitude:	39.82872800
Longitude:	-80.67263700
Datum:	NAD27
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	11,878
Total Base Water Volume (gal):	29,618,988
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		7732-18-5	100.00000	84.83386	None
Sand (40/70 Proppant)	Tug Hill Operating	Proppant					
Sand (100 Mesh Proppant)	Tug Hill Operating	Proppant	Silica Substrate	14808-60-7	100.00000	11.60372	None
Hydrochloric Acid (7.5%)	CNR	Acidizing	Silica Substrate	14808-60-7	100.00000	3.15803	None
SlimStream FR 9800	Chemstream	Friction Reducer					
			Water	7732-18-5	85.00000	0.22761	None
			Hydrochloric Acid (Hydrogen Chloride)	7647-01-0	37.00000	0.09908	None
			Butene, homopolymer	9003-29-6	25.00000	0.02263	None
			Alkanes, C16-20-iso-	90622-59-6	25.00000	0.02263	None
			Ethoxylated alcohols (C12-18)	68213-23-0	3.00000	0.00272	None
MC MX 9-4743	Multi-Chem	Biocide					
			Sodium Nitrate	7631-99-4	60.00000	0.02161	None
D-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	0.00053	None
			Proprietary material	Proprietary	30.00000	0.00028	None
			Proprietary non-ionic surfactant	Proprietary	20.00000	0.00018	None
			Proprietary corrosion inhibitor	Proprietary	10.00000	0.00008	None
			Proprietary ethoxylated alcohol	Proprietary	10.00000	0.00008	None
ProFE 105	CNR	Iron Control					
			Citric Acid	77-92-9	20.00000	0.00021	None
			Acetic Acid	64-19-7	5.00000	0.00005	None
Ingredients shown above are subject to 29 CFR 1910.1200(l) 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	0.22761	
			Butene, homopolymer	9003-29-6	25.00000	0.02263	
			Ethoxylated alcohols (C12-18)	68213-23-0	3.00000	0.00272	
			Phosphonic Acid Salt	Proprietary	5.00000	0.00041	
			Proprietary material	Proprietary	30.00000	0.00026	
			Proprietary non-ionic surfactant	Proprietary	20.00000	0.00018	
			Proprietary corrosion inhibitor	Proprietary	10.00000	0.00009	
			Proprietary ethoxylated alcohol	Proprietary	10.00000	0.00009	
			Acetic Acid	64-19-7	5.00000	0.00005	

* Total Water Volume sources may include fresh water, produced water, and/or recycled water

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

Note: For Field Development Products (products that begin with FDP), MSDS level only information has been provided. Ingredient information for chemicals subject to 29 CFR 1910.1200(l) and Appendix D are obtained from suppliers Material Safety Data Sheets (MSDS)

**HUDSON S LEASE
UTICA UNIT - 544.74 AC ±
WELL 14HU
TUG HILL OPERATING**

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

TAG	SURFACE OWNER	PARCEL	ACRES
A	CNX LAND LLC	9-3-1	106.935
B	JOHN W. & RACHEL A. HOLPP	9-3-2.5	56.259
C	RAYMOND E. & CINDY L. WHITE	9-3-2.6	0.619
D	RAYMOND E. & CINDY L. WHITE	9-3-20	127.00
E	CNX LAND LLC	9-8-4.2	96.902
F	LLOYD ANDREW BEE, ET UX	9-3-18	19.921
G	RAYMOND E. & CINDY L. WHITE	9-3-18.2	2.103
H	BOARD OF EDUCATION (NOT ASSESSED)	NA	NA
I	CNX LAND LLC	9-3-19	45 SQ RODS & 3280 SQ FT
J	CNX LAND RESOURCES, INC.	9-8-4.1	0.333
K	CNX LAND RESOURCES, INC.	9-8-5.2	4.586
L	RAYMOND E. & CINDY L. WHITE	9-3-18.3	0.086
M	CNX LAND LLC	P/O 9-3-19	0.5
N	CNX LAND LLC	9-8-5.1	1.040
O	CNX LAND RESOURCES, INC.	9-8-5	110.37
P	PETER J. MYSLIWIEC, ET AL	9-8-11	73.44
Q	JUDY KAY MCKINLEY	9-8-10	34.00
R	MARY LOU RUBINI, ET AL	9-9-4	268.39
S	MARVIN D. & ADA C. DOBBS (LIFE), ET AL	9-9-5	76.25
T	TODD L. SCHERICH, ET AL	9-9-16	168.204
U	GARY W. MORRIS	9-9-12	54.74
V	DANNY R. & FRANCES V. KERNS ESTATE	9-9-14	48.308
W	AMERICAN ENERGY-MARCELLUS LLC	9-9-14.1	0.40
X	NAUVOO CEMETERY ASSOC. INC.	9-9-16.1	0.126
Y	NAUVOO CEMETERY ASSOC. INC.	9-9-14.2	0.292
Z	NAUVOO CEMETERY ASSOC. INC.	9-9-17	1.00
AA	GARY W. MORRIS	9-9-22	0.15
BB	WARREN BERYLE & ELEANOR LOU CHAMBERS - LIFE TRUSTEES OF THE REORGANIZED CHURCH OF LATTER DAY SAINTS	9-12-11	91.00
CC	WHIPKEY TRUST	9-12-12	61.00
EE	DANNY R. & FRANCES V. KERNS ESTATE	7-8-1	27.00
FF	VIRGINIA MCILVAIN ESTATE & THE WHIPKEY TRUST	9-9-18	LOT
GG	CONSOL MINING CO., LLC	9-12-14	127.61
HH	WHIPKEY TRUST	9-12-15	12.00
II	JOHN ALFRED & LEORA JEAN DOBBS - LIFE	7-8-4	65.65
JJ	JOHN ALFRED & LEORA JEAN DOBBS - LIFE	7-8-5	24.00
KK	JOHN ALFRED & LEORA JEAN DOBBS - LIFE	7-8-8	51.97

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

NAD'83 S.P.C.(FT)	N. 486,114.40	E. 1,639,177.97
NAD'83 GEO.	LAT-(N) 39.828728	LONG-(W) 80.672637
NAD'83 UTM (M)	N. 4,408,799.24	E. 528,013.32

LANDING POINT

NAD'83 S.P.C.(FT)	N. 486,450.9	E. 1,640,775.7
NAD'83 GEO.	LAT-(N) 39.829709	LONG-(W) 80.666964
NAD'83 UTM (M)	N. 4,408,909.9	E. 528,498.4

BOTTOM HOLE

NAD'83 S.P.C.(FT)	N. 471,289.7	E. 1,649,195.8
NAD'83 GEO.	LAT-(N) 39.788986	LONG-(W) 80.636302
NAD'83 UTM (M)	N. 4,404,333.8	E. 531,140.6

MAP/PARCEL	ADJOINING SURFACE OWNER LIST	ACRES
9-2-9.2	CONSOLIDATION COAL CO.	1.00
9-3-1.1	CONSOLIDATION COAL CO.	5.00
9-3-1.2	CONSOLIDATION COAL CO.	1.00
9-3-1.3	CNX LAND CO. LLC	2.245
9-3-2.2	JOHN W. & RACHEL A. HOLPP	0.483
9-3-2.3	JOHN W. & RACHEL A. HOLPP	0.591
9-3-2.4	JOHN W. & RACHEL A. HOLPP	0.618
9-3-4.2	GRANT M. & MALISSA D. CARTER	0.720
9-3-4.3	JOHN W. & RACHEL A. HOLPP	0.870
9-3-6.1	JOSEPH L. MILETO, II	1.0468
9-3-18.1	LLOYD ANDREW BEE, ET UX	1.010
9-5-10	ROBERT J. & MELINDA J. WHITE	27.957
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	P/O 1.00
9-8-2	CNX LAND CO. LLC	6000 SQ. FT.
9-8-3	CHURCH OF CHRIST	NO ASSD. AC
9-8-4	DONALD M. & THERESA L. HARRIS	3.183
9-8-6.1	MARK E. WOOD & SUNNI H. HARTLEY	1.423

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

AS DRILLED COORDINATES FOR WELL NO. 14HU

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

NAD'83 S.P.C.(FT)	N. 485,114.40	E. 1,639,177.97
NAD'83 GEO.	LAT-(N) 39.828728	LONG-(W) 80.672637
NAD'83 UTM (M)	N. 4,408,799.24	E. 528,013.32

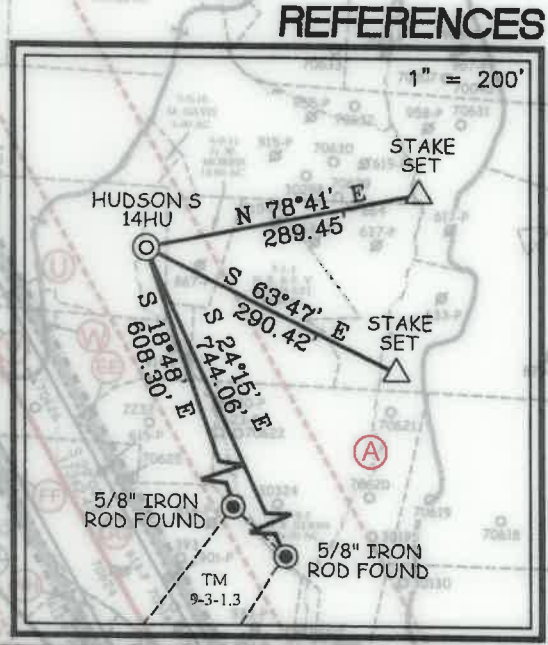
LANDING POINT

NAD'83 S.P.C.(FT)	N. 486,408.2	E. 1,640,788.9
NAD'83 GEO.	LAT-(N) 39.829592	LONG-(W) 80.666915
NAD'83 UTM (M)	N. 4,408,898.9	E. 528,502.6

BOTTOM HOLE

NAD'83 S.P.C.(FT)	N. 471,287.3	E. 1,649,187.1
NAD'83 GEO.	LAT-(N) 39.788879	LONG-(W) 80.636297
NAD'83 UTM (M)	N. 4,404,333.1	E. 531,141.2

- 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-14HU (47-051-02327) IS WITHIN 3000' OF THE TOP HOLES OR LATERALS OF HUDSON S-11HU (47-051-02296), HUDSON S-12HU (47-051-02292), HUDSON S-13HU (47-051-02293), HUDSON S-15HU (47-051-02328), HUDSON S-16HU (47-051-02329), FITZGERALD S-18HU (47-051-02325), FITZGERALD S-19HU (47-051-02328).
 - MINIMUM OFFSET SPACING REQUIREMENTS EXEMPTED BY WAIVER WITH THE WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS AND OFFSET LEASEHOLDER AGREEMENTS AS PROVIDED BY TUG HILL OPERATING.
 - WVDOT/DOH OWNERSHIP WITHIN UNIT SET FORTH IN WW-6A-1.
 - PLAT UPDATED TO SHOW AS DRILLED PATH.
 - AS DRILLED DATA PROVIDED BY TUG HILL OPERATING.



SLS
FROM THE GROUP UP

12 Venhorn Drive | P.O. Box 150 | Glenville, WV 26031 | 204.482.5634
1412 Kanawha Boulevard, East | Charleston, WV 25301 | 304.346.3959
254 East Beckley Bypass | Beckley, WV 26001 | 304.266.5296

slsvw.com

I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE REGULATIONS ISSUED AND PRESCRIBED BY THE DIVISION OF ENVIRONMENTAL PROTECTION.



P.S. 677 *Gregory A. Smith*

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

DATE SEPTEMBER 30 20 22

REVISED _____, 20 _____

OPERATORS WELL NO. HUDSON S-14HU

API WELL NO. 47-051-02327

STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 2500 FILE NO. 8911P14HUAD.dwg

HORIZONTAL & VERTICAL CONTROL DETERMINED BY DGPS (SURVEY GRADE TIE TO CORS NETWORK) SCALE 1" = 2000'

WELL TYPE: OIL GAS INJECTION WASTE DISPOSAL IF "GAS" PRODUCTION STORAGE DEEP SHALLOW

LOCATION: ELEVATION GROUND = 1,366.50' PROPOSED = 1,344.81' WATERSHED HOT HOLLOW OF 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: 11,980' / TMD: 29,676'

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

WELL OPERATOR TUG HILL OPERATING, LLC DESIGNATED AGENT DARREN BROWN - CT CORPORATION

ADDRESS 1320 SOUTH UNIVERSITY DRIVE, SUITE 500 ADDRESS 5098 WASHINGTON ST. W, STE 407

FORT WORTH, TX 76107 CHARLESTON, WV 25313-1561

LEASE NO. SEE WW-6A DATE 10/21/2022

PERMIT NO. COUNTY NAME

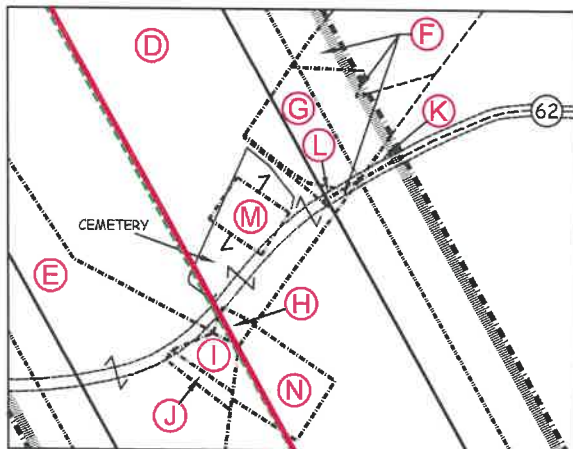
**HUDSON S LEASE
UTICA UNIT - 544.74 AC±
WELL 14HU
TUG HILL OPERATING**



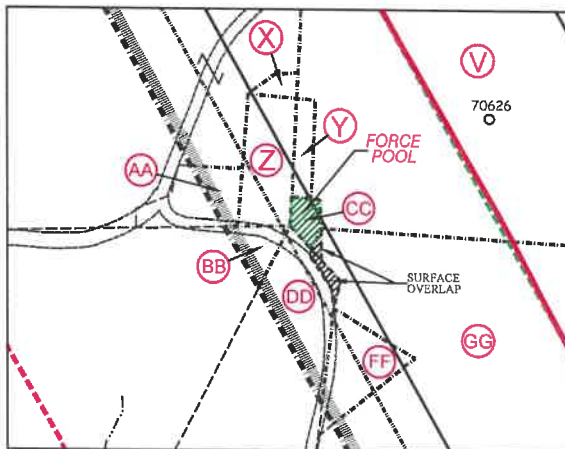
12 Vanhorn Drive | P.O. Box 150 | Glenville, WV 26351 | 304.462.5634
1412 Kanawha Boulevard, East | Charleston, WV 25301 | 304.346.3952
254 East Beckley Bypass | Beckley, WV 25801 | 304.255.5296
slswv.com

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*28190	9-3-2.5	B	J RUSSELL LOGSDON, ET AL	1068	309
3	10*28190	9-3-2.6	C	J RUSSELL LOGSDON, ET AL	1068	309
4	10*21345	9-3-20	D	AARON PARRY SR AND JANA PARRY TRUSTEES AARON PARRY SR & JANA PARRY REV LIV TRUS, ET AL	957	280
5	10*28092	9-8-4.2	E	WEST VIRGINIA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS, ET AL	1073	370
6	10*21412	9-3-18	F	GARY DOBBS AND SUSAN DOBBS, ET AL	957	270
7	10*21412	9-3-18.2	G	GARY DOBBS AND SUSAN DOBBS, ET AL	957	270
8	10*28092	9-3-19	H	WEST VIRGINIA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAY, ET AL	1073	370
9	10*28092	9-3-19	I	WEST VIRGINIA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAY, ET AL	1073	370
10	10*22760	9-8-4.1	J	DONALD M AND THERESA L HARRIS, ET AL	968	294
11	10*21602	9-8-5.2	K	CAROL STACY SAUNDERS, ET AL	959	289
12	10*21412	9-3-18.3	L	GARY DOBBS AND SUSAN DOBBS, ET AL	957	270
13	10*3100	9-3-19	M	CHARLOTTE A WHITE	738	474
14	10*31000	9-8-5.1	N	CHARLOTTE A WHITE	738	474
15	10*23739	9-8-5	O	APPALACHIAN BASIN MINERALS LP, ET AL	1011	538
16	10*22745	9-8-11	P	BONNIE J JENKINS, ET AL	968	288
17	10*21246	9-8-10	Q	THE ESTATE OF THERESA M ROGERSON CHARLES J ROGERSON EXECUTOR, ET AL	952	422
18	10*31001	9-9-4	R	ERIC KATZMEYER, ET AL	791	226
19	10*28244	9-9-5	S	MICHAEL D DOBBS AND STEPHANIE J DOBBS, ET AL	1068	569
20	10*19987	9-9-16	T	LESLEY D BALLA, ET AL	955	103
21	10*21859	9-9-12	U	GARY WAYNE MORRIS	960	192
22	10*28697	9-9-14	V	DANNY S KERNS, ET AL	1075	134
23	10*28697	9-9-14.1	W	DANNY S KERNS, ET AL	1075	134
24	10*19987	9-9-16.1	X	LESLEY D BALLA, ET AL	955	103
25	10*27299	9-9-14.2	Y	NAUVOO CEMETERY ASSOCIATION	1057	357
26	10*27299	9-9-17	Z	NAUVOO CEMETERY ASSOCIATION	1057	357
27	10*24535	9-9-22	AA	BOARD OF EDUCATION OF MARSHALL COUNTY	1026	64
28	10*15494	9-12-11	BB	CHRISTOPHER SINGER AND SHEREA SINGER, ET AL	898	433
29	NA	9-9-15	CC	TRUSTEES OF THE REORGANIZED CHURCH OF LATTER DAY SAINTS	NA	NA
30	10*19557	9-12-12	DD	TERRY L BLAKE, ET AL	944	649
31	10*25518	7-8-1	EE	DANNY S KERNS, ET AL	1010	532
32	10*27774	9-9-18	FF	RESOURCE MINERALS HEADWATER I LP	1063	258
33	10*18339	9-12-14	GG	RESOURCE MINERALS HEADWATER I LP, ET AL	940	448
34	10*21512	9-12-15	HH	THE WHIPKEY TRUST, ET AL	949	266
35	10*18988	7-8-4	II	MICHAEL R DOBBS AND LEANNE DOBBS, ET AL	957	307
36	10*21112	7-8-5	JJ	CLARENCE C STOVER JR AND LOU E STOVER, ET AL	940	238
37	10*21112	7-8-8	KK	CLARENCE C STOVER JR AND LOU E STOVER, ET AL	952	382

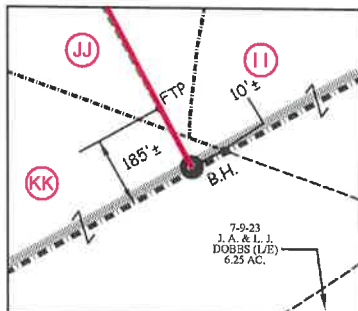
DETAIL 1
SCALE: 1" = 500'



DETAIL 2
SCALE: 1" = 500'



DETAIL 3
SCALE: 1" = 500'



FILE NO. 8911P14HUAD.dwg
HUDSON S-14HU REV6

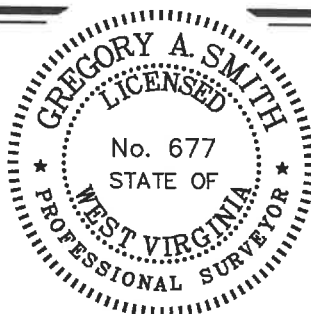
DATE SEPTEMBER 30, 20 22

REVISED _____, 20 _____

OPERATORS WELL NO. HUDSON S-14HU

API WELL NO. 47 — 051 — 02327

STATE STATE COUNTY COUNTY PERMIT PERMIT



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

10/21/2022

P.S. 677 *Gregory A. Smith*

WELL OPERATOR TUG HILL OPERATING, LLC ADDRESS 1320 SOUTH UNIVERSITY DRIVE, SUITE 500 FORT WORTH, TX 76107

DESIGNATED AGENT DARREN BROWN - CT CORPORATION ADDRESS 5098 WASHINGTON ST. W, STE 407 CHARLESTON, WV 25313-1561

COUNTY NAME _____
PERMIT _____