

Well Operator's Report of Well Work



Well Number: Van Winkle N-18HU

API: 47 - 051 - 02351

Submission:  Initial  Amended

Notes:

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

API 47-051-02351 County Marshall District Meade  
Quad Glen Easton 7.5' Pad Name Hunter Pethtel Field/Pool Name \_\_\_\_\_  
Farm name XcL Midstream Operating, LLC Well Number Van Winkle N-18HU  
Operator (as registered with the OOG) EQT Production Company  
Address 400 Woodcliff Drive City Canonsburg State PA Zip 15317

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey  
Top hole Northing 4,403,542.98 Easting 523,386.80  
Landing Point of Curve Northing \_\_\_\_\_ Easting \_\_\_\_\_  
Bottom Hole Northing \_\_\_\_\_ Easting \_\_\_\_\_

Elevation (ft) 753' 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 5/3/2021 Date drilling commenced spud: 12/16/2021 big rig: 6/10/2022 Date drilling ceased 7/7/2022  
Date completion activities began 07/01/2023 Date completion activities ceased 10/24/2023  
Verbal plugging (Y/N) N Date permission granted NA Granted by NA

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

Freshwater depth(s) ft 440' Open mine(s) (Y/N) depths \_\_\_\_\_  
Salt water depth(s) ft 895' Void(s) encountered (Y/N) depths N  
Coal depth(s) ft 339' & 434' Cavern(s) encountered (Y/N) depths N  
Is coal being mined in area (Y/N) N

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8/8/2024

Reviewed by:  
*[Signature]*  
**02/23/2024**

API 47-051 - 02351 Farm name XcL Midstream Operating, LLC Well number Van Winkle N-18HU

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	38"	30"	112'	NEW	118.65#	N/A	Y
Surface	26"	20"	512'	NEW	106.5#	N/A	Y
Coal	26"	20"	512'	NEW	106.5#	N/A	Y
Intermediate 1	17 1/2"	13 3/8"	2,218'	NEW	54.5#	N/A	Y
Intermediate 2	12 3/8"	9 5/8"	9,962'	NEW	47#	N/A	Y
Intermediate 3							
Production	8 1/2"	5 1/2"	22,687'	NEW	23#	N/A	Y
Tubing							
Packer type and depth set							

Comment Details \_\_\_\_\_

CEMENT DATA	Class/Type of Cement	Number of Sacks	Slurry wt (ppg)	Yield (ft <sup>3</sup> /sks)	Volume (ft <sup>3</sup> )	Cement Top (MD)	WOC (hrs)
Conductor	A	380	15.6	1.21	459	0	8
Surface	A	956	15.6	1.18	1128	0	8
Coal	A	956	15.6	1.18	1128	0	8
Intermediate 1	A	1784	15.6	1.18	2105	0	8
Intermediate 2	A	3940	14.5	1.31	5161	0	8
Intermediate 3							
Production	A	5495	16.5	1.03	5659	0	8
Tubing							

Drillers TD (ft) 22,735' Loggers TD (ft) N/A  
 Deepest formation penetrated Utica Plug back to (ft) N/A  
 Plug back procedure N/A

Kick off depth (ft) 10,035'

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 \_\_\_\_\_





Well # VAN WINKLE N-18HU (L027355) Final Formations API# 47-051-02351				
Formation Name	Drill Top MD (ftKB)	Drill Top (TVD) (ftKB)	Drill Btm MD (ftKB)	Drill Btm (TVD) (ftKB)
Sand/Shale	1	1	339	339
Sewickley Coal	339	339	434	434
Pittsburgh Coal	434	434	440	440
Sand/Shale	440	440	1,477	1,477
Maxton	1,477	1,477	1,656	1,656
Big Lime	1,656	1,656	1,705	1,705
Big Injun	1,705	1,705	1,949	1,949
Weir	1,949	1,949	2,148	2,148
Berea	2,148	2,148	2,419	2,418
Gordon	2,419	2,418	2,491	2,490
Fifty Foot	2,491	2,490	3,083	3,082
Speechley	3,083	3,082	4,565	4,564
Benson	4,565	4,564	4,933	4,932
Alexander	4,933	4,932	5,580	5,579
Rhinestreet	5,580	5,579	6,019	6,018
Middlesex	6,019	6,018	6,095	6,094
Geneseo	6,095	6,094	6,122	6,121
Tully	6,122	6,121	6,158	6,157
Hamilton	6,158	6,157	6,227	6,226
Marcellus	6,227	6,226	6,277	6,276
Onondaga	6,277	6,276	6,514	6,513
Oriskany	6,514	6,513	6,636	6,635
Helderberg	6,636	6,635	7,011	7,010
Salina	7,011	7,010	8,182	8,180
Lockport	8,182	8,180	8,604	8,595
Rose Hill	8,604	8,595	8,921	8,891
Packer Shell	8,921	8,891	9,166	9,117
Clinton/Tuscarora	9,166	9,117	9,278	9,224
Juniata/Queenston	9,278	9,224	10,158	10,071
Reedsville	10,158	10,071	11,319	10,966
Utica	11,319	10,966	22,735	11,014

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# Perforation Data

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Van Winkle N-18HU Perf Table

Data Source: EQT Corporation

Stage_Number	Perf_Date	Depth_Bottom	Depth_Top	Shot_Count	Formation
1	08/21/2023	22448	22274	48	Utica
2	08/21/2023	22250	22080	48	Utica
3	08/22/2023	22052	21878	48	Utica
4	08/22/2023	21855	21681	48	Utica
5	08/22/2023	21657	21483	48	Utica
6	08/23/2023	21459	21285	48	Utica
7	08/23/2023	21261	21087	48	Utica
8	08/23/2023	21063	20889	48	Utica
9	08/24/2023	20866	20692	48	Utica
10	08/24/2023	20668	20497	48	Utica
11	08/24/2023	20470	20296	48	Utica
12	08/24/2023	20272	20098	48	Utica
13	08/25/2023	20074	19900	48	Utica
14	08/25/2023	19877	19703	48	Utica
15	08/25/2023	19679	19505	48	Utica
16	08/26/2023	19481	19307	48	Utica
17	08/26/2023	19283	19112	48	Utica
18	08/26/2023	19085	18911	48	Utica
19	08/27/2023	18888	18714	48	Utica
20	08/27/2023	18690	18516	48	Utica
21	08/27/2023	18492	18318	48	Utica
22	08/28/2023	18291	18120	48	Utica
23	08/28/2023	18096	17922	48	Utica
24	08/28/2023	17899	17725	48	Utica
25	08/28/2023	17701	17527	48	Utica
26	08/29/2023	17503	17329	48	Utica
27	08/29/2023	17305	17131	48	Utica
28	08/29/2023	17105	16933	48	Utica
29	08/29/2023	16910	16736	48	Utica
30	08/29/2023	16712	16538	48	Utica
31	08/30/2023	16514	16340	48	Utica
32	08/30/2023	16316	16142	48	Utica
33	08/30/2023	16118	15944	48	Utica
34	08/30/2023	15921	15747	48	Utica
35	08/31/2023	15723	15549	48	Utica
36	08/31/2023	15525	15351	48	Utica
37	08/31/2023	15327	15153	48	Utica
38	08/31/2023	15129	14955	48	Utica
39	08/31/2023	14932	14758	48	Utica
40	09/01/2023	14734	14560	48	Utica
41	09/01/2023	14536	14362	48	Utica
42	09/01/2023	14338	14164	48	Utica
43	09/01/2023	14140	13966	48	Utica
44	09/01/2023	13943	13769	48	Utica

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45 09/02/2023	13745	13571	48 Utica
46 09/02/2023	13547	13373	48 Utica
47 09/02/2023	13349	13175	48 Utica
48 09/02/2023	13151	12977	48 Utica
49 09/03/2023	12954	12780	48 Utica
50 09/03/2023	12756	12582	48 Utica
51 09/03/2023	12558	12384	48 Utica
52 09/03/2023	12360	12186	48 Utica
53 09/03/2023	12162	11988	48 Utica
54 09/04/2023	11965	11791	48 Utica
55 09/04/2023	11767	11593	48 Utica

# Stimulation Data

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Stimulation_Date	Stage_Number	Avg_Pump_Rate	Avg_Treatment_Pressure	Pressure_Breakdown	ISIP	Prop_Total	Volume_Total_Calc	Proppant_Type	Proppant_Mesh_Size
8/17/2023	1	77	11814		9662	7094	493500	8697 Sand	100 MESH; 40/70;
8/21/2023	2	79	11728		9456	7862	505780	8304 Sand	100 MESH; 40/70;
8/22/2023	3	80	11740		9645	8249	485900	7910 Sand	100 MESH; 40/70;
8/22/2023	4	81	11765		9000	7574	498020	7935 Sand	100 MESH; 40/70;
8/23/2023	5	81	11469		10349	7942	505780	8118 Sand	100 MESH; 40/70;
8/21/2023	6	80	11244		9751	8257	442040	7602 Sand	100 MESH; 40/70;
8/21/2023	7	82	11509		9893	8897	506700	7980 Sand	100 MESH; 40/70;
8/24/2023	8	81	11419		9795	8299	503340	8024 Sand	100 MESH; 40/70;
8/24/2023	9	80	11364		11254	7798	508540	8287 Sand	100 MESH; 40/70;
8/24/2023	10	84	11526		11254	7798	504660	8118 Sand	100 MESH; 40/70;
8/25/2023	11	83	11884		8918	7556	508020	7811 Sand	100 MESH; 40/70;
8/21/2023	12	84	11862		8923	8729	506860	9965 Sand	100 MESH; 40/70;
8/21/2023	13	85	11755		11251	8009	506240	7996 Sand	100 MESH; 40/70;
8/26/2023	14	85	11567		9199	8365	500820	8047 Sand	100 MESH; 40/70;
8/21/2023	15	84	11429		9918	8823	508500	8177 Sand	100 MESH; 40/70;
8/21/2023	16	85	11293		9571	8810	509220	8164 Sand	100 MESH; 40/70;
8/27/2023	17	85	11735		9312	7739	506320	7832 Sand	100 MESH; 40/70;
8/21/2023	18	83	11466		8397	8033	505980	7541 Sand	100 MESH; 40/70;
8/21/2023	19	85	11259		9055	8870	508000	7876 Sand	100 MESH; 40/70;
8/21/2023	20	82	11099		11230	9136	508300	7845 Sand	100 MESH; 40/70;
8/21/2023	21	88	11216		9757	8059	509060	8176 Sand	100 MESH; 40/70;
8/21/2023	22	86	11074		10867	9110	494980	8263 Sand	100 MESH; 40/70;
8/21/2023	23	86	11017		10781	8983	505880	8209 Sand	100 MESH; 40/70;
8/21/2023	24	87	11524		10694	7739	503540	8293 Sand	100 MESH; 40/70;
8/21/2023	25	79	11292		8392	7305	504420	7694 Sand	100 MESH; 40/70;
8/21/2023	26	87	11569		8658	8906	500980	7604 Sand	100 MESH; 40/70;
8/21/2023	27	88	11409		9542	9409	508220	7820 Sand	100 MESH; 40/70;
8/29/2023	28	90	11531		10707	7544	401190	8146 Sand	100 MESH; 40/70;
8/30/2023	29	78	10541		9812	7891	505720	7718 Sand	100 MESH; 40/70;
8/21/2023	30	86	11241		9105	8710	500760	7571 Sand	100 MESH; 40/70;
8/21/2023	31	89	11160		11138	8982	501480	7613 Sand	100 MESH; 40/70;
8/21/2023	32	87	11187		11099	9061	500660	7739 Sand	100 MESH; 40/70;
8/31/2023	33	88	11252		11802	8233	501340	7684 Sand	100 MESH; 40/70;
8/31/2023	34	85	11336		9662	8233	506680	7567 Sand	100 MESH; 40/70;
8/21/2023	35	89	11338		8914	8725	501680	7374 Sand	100 MESH; 40/70;
8/21/2023	36	86	11077		8861	8753	500140	7596 Sand	100 MESH; 40/70;
8/31/2023	37	90	11259		8454	8022	499040	7531 Sand	100 MESH; 40/70;
9/1/2023	38	90	11157		8262	7838	497060	7507 Sand	100 MESH; 40/70;
8/21/2023	39	90	11216		8354	8106	497280	7480 Sand	100 MESH; 40/70;
8/21/2023	40	89	11155		10105	8924	500240	7665 Sand	100 MESH; 40/70;
8/21/2023	41	90	11188		11179	8269	496660	7687 Sand	100 MESH; 40/70;
9/1/2023	42	90	10997		9155	7825	499260	7626 Sand	100 MESH; 40/70;
9/2/2023	43	89	10977		8768	7800	500260	7871 Sand	100 MESH; 40/70;
8/21/2023	44	89	10926		10301	9041	499320	8134 Sand	100 MESH; 40/70;
9/2/2023	45	90	11045		9264	9046	502120	8126 Sand	100 MESH; 40/70;
8/21/2023	46	90	10972		11203	8194	503080	9527 Sand	100 MESH; 40/70;
9/3/2023	47	91	11119		10385	8422	498780	8154 Sand	100 MESH; 40/70;
8/21/2023	48	89	10965		9638	7952	498340	8096 Sand	100 MESH; 40/70;
8/21/2023	49	89	10870		9461	9039	497000	8144 Sand	100 MESH; 40/70;
9/3/2023	50	88	10836		9754	8639	504160	8531 Sand	100 MESH; 40/70;
9/3/2023	51	89	10809		10153	8376	504840	8056 Sand	100 MESH; 40/70;

9/4/2023	52	89	10764	8962	7863	500420	8022 Sand	100 MESH; 40/70;
8/21/2023	53	90	10755	9652	8808	499760	7943 Sand	100 MESH; 40/70;
8/21/2023	54	88	10595	9424	9110	497460	7992 Sand	100 MESH; 40/70;
8/21/2023	55	89	10536	9706	8428	500620	8045.702 Sand	100 MESH; 40/70;

## Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	08/22/2023
Job End Date:	09/22/2023
State:	West Virginia
County:	Marshall
API Number:	47-051-02351-00-00
Operator Name:	EQT Production
Well Name and Number:	Van Winkle N-18HU
Latitude:	39.781511
Longitude:	-80.726891
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	11015
Total Base Water Volume (gal)*:	19739819.484
Total Base Non Water Volume:	0



Water Source	Percent
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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
Water	EQT	Carrier/Base Fluid					
			Water	7732-18-5	100.00000	85.40993	None
Sand (Proppant)	EQT	Proppant					
			Silica Substrate	14808-60-7	100.00000	14.24025	None
MX-5-3886	Multi-Chem	Bacterial treatment					
			Calcium nitrate	13477-34-4	100.00000	0.03497	None
7.5 HCl	Profrac	Acid					
			7.5 HCl	7647-01-0	7.50000	0.01910	None
StimSTREAM FR 9800	ChemStream	Friction Reducer					
			Petroleum Distillate	64742-47-8	20.00000	0.00330	None
LD-7750W	Multi-Chem	Scale Inhibitor					
			Methanol	67-56-1	60.00000	0.00280	None

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MX-8-4543	Multi-Chem	Bacterial treatment					
			Contains no hazardous substances in concentrations above cut-off values according to the competent authority	Proprietary	100.00000	0.00225	None
ProFE 105	ProFrac	Iron Control					
			Citric Acid	77-92-9	100.00000	0.00136	None
ProFE 105	Profrac	Iron Control					
			Citric Acid	77-92-9	100.00000	0.00136	None
ProHib 100	ProFrac	Acid Corrosion Inhibitor					
			Methanol	67-56-1	90.00000	0.00051	None
ProFE 105	Profrac	Iron Control					
			2-hydroxypropane-1,2,3-tricarboxylic acid	77-92-9	60.00000	0.00049	None
ProFE 105	ProFrac	Iron Control					
			2-hydroxypropane-1,2,3-tricarboxylic acid	77-92-9	60.00000	0.00049	None
15 HCl	Profrac	Acid					
			15 HCl	7647-01-0	15.00000	0.00037	None
StimSTREAM FR 9800	ChemStream	Friction Reducer					
			Alcohols, C12-16, ethoxylated	68551-12-2	2.00000	0.00003	None
StimSTREAM FR 9800	ChemStream	Friction Reducer					
			Oleic Acid Diethanolamide	93-83-4	2.00000	0.00003	None
LD-7750W	Multi-Chem	Scale Inhibitor					
			Phosphonic Acid Salt	Proprietary	5.00000	0.00002	None
StimSTREAM FR 9800	ChemStream	Friction Reducer					
			Ammonium chloride ((NH4)Cl)	12125-02-9	1.00000	0.00001	None
ProHib 100	ProFrac	Acid Corrosion Inhibitor					
			Imidazoline	61790-69-0	5.00000	0.00000	None
ProHib 100	ProFrac	Acid Corrosion Inhibitor					

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			Isopropanol	67-63-0	5.00000	0.00000	None
ProHib 100	ProFrac	Acid Corrosion Inhibitor					
			Xylene	1330-20-7	5.00000	0.00000	None
ProHib 100	ProFrac	Acid Corrosion Inhibitor					
			Propagyl Alcohol	107-19-7	5.00000	0.00000	None
ProHib 100	ProFrac	Acid Corrosion Inhibitor					
			Alcohols, C7-ISO, C8-RICH	68526-83-0	5.00000	0.00000	None
StimSTREAM FR 9800	ChemStream	Friction Reducer					
			Copolymer of 2-propenamide	Proprietary	30.00000	0.00000	None
ProHib 100	ProFrac	Acid Corrosion Inhibitor					
			ethylbenzene	100-41-4	1.00000	0.00000	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

\* 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%

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)