

Well Operator's Report of Well Work



Well Number: Van Winkle S-21HU

API: 47 - 051 - 02354

Submission: Initial Amended

Notes:

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02/23/2024

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

API 47 - 051 - 02354 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 S-21HU
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 4,403,545.82 Easting 523,380.01
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 7/13/2021 Date drilling commenced 10/31/2021 big rig: 10/20/2022 Date drilling ceased 1/9/2023
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 N
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

APPROVED

JAN 28 2024
WV Department of
Environmental Protection

Reviewed by:
[Signature]
02/23/2024

API 47- 051 - 02354 Farm name XcL Midstream Operating, LLC Well number Van Winkle S-21HU

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"	110'	NEW	118.65#	N/A	Y
Surface	26"	20"	516'	NEW	106.5#	N/A	Y
Coal	26"	20"	516'	NEW	106.5#	N/A	Y
Intermediate 1	17 1/2"	13 3/8"	2,216'	NEW	54.5#	N/A	Y
Intermediate 2	12 3/8"	9 5/8"	10,036'	NEW	47#	N/A	Y
Intermediate 3							
Production	8 1/2"	5 1/2"	26,119'	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 ³ /sks)	Volume (ft ³)	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	1726	15.6	1.18	2036	0	8
Intermediate 2	A	3885	14.5	1.34	5205	0	8
Intermediate 3							
Production	A	6040	16.5	1.08	6523	0	8
Tubing							

Drillers TD (ft) 26,173' Loggers TD (ft) N/A

Deepest formation penetrated Utica Plug back to (ft) N/A

Plug back procedure N/A

Kick off depth (ft) 10,150'

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 _____

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WAS WELL COMPLETED OPEN HOLE? Yes No DETAILS _____

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

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Well # VAN WINKLE S-21HU (L027205) Final Formations API# 47-051-02354			
Formation Name	Drill Top MD (ftKB)	Drill Top (TVD) (ftKB)	Drill Btm MD (ftKB)
Sand/Shale	1	1	339
Sewickley Coal	339	339	434
Pittsburgh Coal	434	434	440
Sand/Shale	440	440	1,477
Maxton	1,477	1,477	1,656
Big Lime	1,656	1,655	1,705
Big Injun	1,705	1,704	1,949
Weir	1,949	1,948	2,148
Berea	2,148	2,146	2,419
Gordon	2,419	2,417	2,491
Fifty Foot	2,491	2,489	3,083
Speechley	3,083	3,080	4,565
Benson	4,565	4,540	4,933
Alexander	4,933	4,900	5,580
Rhinestreet	5,580	5,534	6,019
Middlesex	6,019	5,964	6,095
Geneseo	6,095	6,038	6,122
Tully	6,122	6,065	6,158
Hamilton	6,158	6,100	6,227
Marcellus	6,227	6,167	6,277
Onondaga	6,277	6,216	6,514
Oriskany	6,514	6,446	6,636
Helderberg	6,636	6,565	7,011
Salina	7,011	6,932	8,182
Lockport	8,182	8,084	8,604
Rose Hill	8,604	8,498	8,921
Packer Shell	8,921	8,810	9,166
Clinton/Tuscarora	9,166	9,050	9,278
Juniata/Queenston	9,278	9,160	10,158
Reedsville	10,158	10,024	11,319
Utica	11,319	10,988	26,173

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Drill Btm (TVD) (ftKB)
339
434
440
1,477
1,655
1,704
1,948
2,146
2,417
2,489
3,080
4,540
4,900
5,534
5,964
6,038
6,065
6,100
6,167
6,216
6,446
6,565
6,932
8,084
8,498
8,810
9,050
9,160
10,024
10,988
11,317

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Perforation Data

02/23/2024

Van Winkle S-21HU Perf Table

Data Source: EQT Corporation

Stage_Number	Perf_Date	Depth_Bottom	Depth_Top	Shot_Count	Formation
3	07/02/2023	25687	25511	48	Utica
4	07/02/2023	25488	25313	48	Utica
5	07/03/2023	25289	25115	48	Utica
6	07/04/2023	25091	24916	48	Utica
7	07/04/2023	24892	24717	48	Utica
8	07/04/2023	24693	24519	48	Utica
9	07/05/2023	24495	24320	48	Utica
10	07/05/2023	24296	24121	48	Utica
11	07/05/2023	24097	23922	48	Utica
12	07/06/2023	23899	23724	48	Utica
13	07/06/2023	23700	23527	48	Utica
14	07/06/2023	23501	23326	48	Utica
15	07/07/2023	23302	23128	48	Utica
16	07/07/2023	23105	22925	48	Utica
17	07/08/2023	22905	22730	48	Utica
18	07/08/2023	22706	22532	48	Utica
19	07/09/2023	22504	22335	48	Utica
20	07/09/2023	22309	22134	48	Utica
21	07/09/2023	22110	21935	48	Utica
22	07/10/2023	21912	21737	48	Utica
23	07/10/2023	21713	21538	48	Utica
24	07/10/2023	21514	21339	48	Utica
25	07/11/2023	21315	21141	48	Utica
26	07/11/2023	21119	20942	48	Utica
27	07/11/2023	20918	20743	48	Utica
28	07/11/2023	20720	20546	48	Utica
29	07/11/2023	20521	20346	48	Utica
30	07/12/2023	20322	20147	48	Utica
31	07/12/2023	20123	19948	48	Utica
32	07/12/2023	19925	19750	48	Utica
33	07/13/2023	19726	19553	48	Utica
34	07/13/2023	19527	19352	48	Utica
35	07/13/2023	19328	19154	48	Utica
36	07/14/2023	19130	18955	48	Utica
37	07/14/2023	18931	18756	48	Utica
38	07/15/2023	18732	18558	48	Utica
39	07/15/2023	18534	18359	48	Utica
40	07/15/2023	18334	18162	48	Utica
41	07/15/2023	18136	17961	48	Utica
42	07/15/2023	17936	17765	48	Utica
43	07/16/2023	17739	17564	48	Utica
44	07/16/2023	17540	17363	48	Utica
45	07/16/2023	17341	17167	48	Utica
46	07/17/2023	17143	16967	48	Utica

47 07/17/2023	16944	16769	48 Utica
48 07/17/2023	16745	16571	48 Utica
49 07/17/2023	16547	16372	48 Utica
50 07/17/2023	16348	16173	48 Utica
51 07/18/2023	16149	15974	48 Utica
52 07/18/2023	15951	15776	48 Utica
53 07/18/2023	15752	15577	48 Utica
54 07/18/2023	15553	15378	48 Utica
55 07/19/2023	15354	15180	48 Utica
56 07/19/2023	15156	14981	48 Utica
57 07/19/2023	14957	14782	48 Utica
58 07/20/2023	14758	14586	48 Utica
59 07/20/2023	14560	14385	48 Utica
60 07/20/2023	14361	14186	48 Utica
61 07/20/2023	14162	13989	48 Utica
62 07/20/2023	13964	13789	48 Utica
63 07/21/2023	13765	13590	48 Utica
64 07/21/2023	13566	13392	48 Utica
65 07/21/2023	13367	13193	48 Utica
66 07/21/2023	13169	12994	48 Utica
67 07/22/2023	12970	12792	48 Utica
68 07/22/2023	12771	12597	48 Utica
69 07/22/2023	12573	12395	48 Utica
70 07/22/2023	12374	12199	48 Utica
71 07/23/2023	12175	12000	48 Utica
72 07/23/2023	11977	11802	48 Utica
73 07/23/2023	11778	11603	48 Utica

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Stimulation Data

Stimulation_Date	Stage_Number	Avg_Pump_Rate	Avg_Treatment_Pressure	Pressure_Breakdown	ISIP	Prop_Total	Volume_Total_Calc	Proppant_Type	Proppant_Mesh_Size
7/3/2023	1	75	12487	12633	7866	251600	7407	Sand	100 MESH;
6/30/2023	2	80	12379	9352	7482	491820	8165.411	Sand	100 MESH; 40/70;
7/3/2023	3	70	11772	9312	7716	492400	8567	Sand	100 MESH; 40/70;
7/3/2023	4	70	12020	10051	7891	488540	8878	Sand	100 MESH; 40/70;
7/4/2023	5	75	12155	10831	8090	490440	8351	Sand	100 MESH; 40/70;
7/4/2023	6	77	11961	10742	8404	490220	8064	Sand	100 MESH; 40/70;
7/4/2023	7	79	11989	9950	8549	491320	8057	Sand	100 MESH; 40/70;
7/5/2023	8	82	12115	10393	8443	491640	8066	Sand	100 MESH; 40/70;
7/5/2023	9	72	11620	9134	8588	487220	10321	Sand	100 MESH; 40/70;
7/6/2023	10	72	11793	9495	8253	488120	8905	Sand	100 MESH; 40/70;
7/6/2023	11	78	12261	10339	8427	490780	7574	Sand	100 MESH; 40/70;
7/6/2023	12	80	12001	10367	7888	492420	8010	Sand	100 MESH; 40/70;
7/6/2023	13	75	11737	8868	7823	490000	7769	Sand	100 MESH; 40/70;
7/7/2023	14	79	11692	9358	7967	493340	8046	Sand	100 MESH; 40/70;
7/7/2023	15	80	11962	10088	7738	491720	8217	Sand	100 MESH; 40/70;
7/8/2023	16	78	11318	9893	8254	490440	7929	Sand	100 MESH; 40/70;
7/8/2023	17	82	11513	9581	8386	490450	8237	Sand	100 MESH; 40/70;
7/9/2023	18	85	11951	9139	8161	490490	8220	Sand	100 MESH; 40/70;
7/9/2023	19	86	11911	9470	8238	489960	7823	Sand	100 MESH; 40/70;
7/10/2023	20	84	11967	9490	8055	493860	8079	Sand	100 MESH; 40/70;
7/10/2023	21	84	11714	8268	7853	490560	8061	Sand	100 MESH; 40/70;
7/10/2023	22	85	11489	8574	8392	486020	8094.6	Sand	100 MESH; 40/70;
7/10/2023	23	85	11415	8698	8591	489200	7838	Sand	100 MESH; 40/70;
7/11/2023	24	89	11588	8625	8411	491420	7986	Sand	100 MESH; 40/70;
7/11/2023	25	88	11522	9061	8141	491000	8013	Sand	100 MESH; 40/70;
7/11/2023	26	85	11493	8904	8262	490730	8014	Sand	100 MESH; 40/70;
7/11/2023	27	85	11731	8274	8143	494500	8026	Sand	100 MESH; 40/70;
7/12/2023	28	87	11806	8963	7991	493480	7970	Sand	100 MESH; 40/70;
7/12/2023	29	86	11425	8735	8433	498160	7960	Sand	100 MESH; 40/70;
7/12/2023	30	85	11128	8667	8703	490320	7899	Sand	100 MESH; 40/70;
7/12/2023	31	87	11167	8430	8562	494720	7402	Sand	100 MESH; 40/70;
7/13/2023	32	88	11194	8689	8407	495640	7951	Sand	100 MESH; 40/70;
7/13/2023	33	85	11241	8973	8555	493740	7931	Sand	100 MESH; 40/70;
7/14/2023	34	88	11604	9085	8768	490840	8268	Sand	100 MESH; 40/70;
7/14/2023	35	85	11352	8850	8376	490520	7653	Sand	100 MESH; 40/70;
7/14/2023	36	87	11394	9094	8686	492700	7830	Sand	100 MESH; 40/70;
7/15/2023	37	86	11189	8723	8724	490160	7836	Sand	100 MESH; 40/70;
7/15/2023	38	88	11922	8551	7642	489140	7861	Sand	100 MESH; 40/70;
7/15/2023	39	88	11387	8616	8232	490920	7743	Sand	100 MESH; 40/70;
7/15/2023	40	87	11623	8963	8159	484430	7645	Sand	100 MESH; 40/70;
7/16/2023	41	89	11712	8937	8293	490420	7668	Sand	100 MESH; 40/70;
7/16/2023	42	88	11521	8961	8313	492040	7653	Sand	100 MESH; 40/70;
7/16/2023	43	85	11083	9580	8485	485180	7756	Sand	100 MESH; 40/70;
7/16/2023	44	88	11715	9202	8599	486880	7802	Sand	100 MESH; 40/70;
7/17/2023	45	87	11303	9441	8683	489580	8558	Sand	100 MESH; 40/70;
7/17/2023	46	88	11181	9121	8578	489900	7861	Sand	100 MESH; 40/70;
7/17/2023	47	88	11215	9009	8476	487180	7732	Sand	100 MESH; 40/70;
7/17/2023	48	88	11605	9512	8239	491100	7693	Sand	100 MESH; 40/70;
7/18/2023	49	88	11659	8960	8395	489800	7661	Sand	100 MESH; 40/70;
7/18/2023	50	87	11172	9606	8796	491560	7630	Sand	100 MESH; 40/70;
7/18/2023	51	87	10924	8799	8428	493640	7655	Sand	100 MESH; 40/70;

7/18/2023	52	89	10986	8878	8399	487200	7567 Sand	100 MESH; 40/70;
7/19/2023	53	88	11194	9253	8922	490840	7770 Sand	100 MESH; 40/70;
7/19/2023	54	88	11303	9251	8229	490860	7731 Sand	100 MESH; 40/70;
7/19/2023	55	88	11413	9208	8011	494900	7609 Sand	100 MESH; 40/70;
7/19/2023	56	89	11382	9443	7951	490880	7586 Sand	100 MESH; 40/70;
7/20/2023	57	88	11167	8988	8928	490260	7534 Sand	100 MESH; 40/70;
7/20/2023	58	89	11046	9282	8073	488340	7629 Sand	100 MESH; 40/70;
7/20/2023	59	88	10909	9372	8221	493100	7533 Sand	100 MESH; 40/70;
7/20/2023	60	88	10885	8830	7798	492040	7540 Sand	100 MESH; 40/70;
7/21/2023	61	88	10920	8409	7773	488000	7599 Sand	100 MESH; 40/70;
7/21/2023	62	88	10830	8275	7828	487440	7617 Sand	100 MESH; 40/70;
7/21/2023	63	88	10868	8529	8048	490360	7536 Sand	100 MESH; 40/70;
7/21/2023	64	89	10922	9343	7584	490360	7475 Sand	100 MESH; 40/70;
7/22/2023	65	89	10762	9615	8162	490640	7430 Sand	100 MESH; 40/70;
7/22/2023	66	88	10682	8765	8041	490980	7158 Sand	100 MESH; 40/70;
7/22/2023	67	89	10759	9689	8139	491320	7527 Sand	100 MESH; 40/70;
7/22/2023	68	88	10869	9480	8140	490580	7365 Sand	100 MESH; 40/70;
7/23/2023	69	88	10842	9437	7923	495240	7778 Sand	100 MESH; 40/70;
7/23/2023	70	88	10817	8692	7757	488860	7384 Sand	100 MESH; 40/70;
7/23/2023	71	84	10467	8261	8096	492300	7590 Sand	100 MESH; 40/70;
7/23/2023	72	86	10445	8769	7683	500540	7530 Sand	100 MESH; 40/70;
7/23/2023	73	86	10237	8923	8846	503680	7532 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:	47-051-02354-00-00
Operator Name:	EQT Production
Well Name and Number:	Van Winkle S-21HU
Latitude:	39.781537
Longitude:	-80.72697
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	11319
Total Base Water Volume (gal)*:	26087796.462
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	85.63676	None
Sand (Proppant)	EQT	Proppant					
			Silica Substrate	14808-60-7	100.00000	14.00814	None
MX-5-3886	Multi-Chem	Bacterial treatment					
			Calcium nitrate	13477-34-4	100.00000	0.03483	None
7.5 HCl	Profrac	Acid					
			7.5 HCl	7647-01-0	7.50000	0.01897	None
StimSTREAM FR 9800	ChemStream	Friction Reducer					
			Copolymer of 2-propenamamide	Proprietary	30.00000	0.00766	None
StimSTREAM FR 9800	ChemStream	Friction Reducer					

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			Petroleum Distillate	64742-47-8	20.00000	0.00340	None
LD-7750W	Multi-Chem	Scale Inhibitor					
			Methanol	67-56-1	60.00000	0.00279	None
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	0.00148	None
ProFE 105	Profrac	Iron Control					
			Citric Acid	77-92-9	100.00000	0.00148	None
15 HCl	Profrac	Acid					
			15 HCl	7647-01-0	15.00000	0.00116	None
ProHib 100	ProFrac	Acid Corrosion Inhibitor					
			Methanol	67-56-1	90.00000	0.00055	None
ProFE 105	ProFrac	Iron Control					
			2-hydroxypropane-1,2,3-tricarboxylic acid	77-92-9	60.00000	0.00053	None
ProFE 105	Profrac	Iron Control					
			2-hydroxypropane-1,2,3-tricarboxylic acid	77-92-9	60.00000	0.00053	None
StimSTREAM FR 9800	ChemStream	Friction Reducer					
			Oleic Acid Diethanolamide	93-83-4	2.00000	0.00003	None
StimSTREAM FR 9800	ChemStream	Friction Reducer					
			Alcohols, C12-16, ethoxylated	68551-12-2	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					

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			Propagyl Alcohol	107-19-7	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					
			Isopropanol	67-63-0	5.00000	0.00000	None
ProHib 100	ProFrac	Acid Corrosion Inhibitor					
			Imidazoline	61790-69-0	5.00000	0.00000	None
ProHib 100	ProFrac	Acid Corrosion Inhibitor					
			Alcohols, C7-ISO, C8-RICH	68526-83-0	5.00000	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)