

Well Operator's Report of Well Work



Well Number: Van Winkle S-22HU

API: 47 - 051 - 02355

Submission: Initial Amended

Notes:

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JAN 22 2024
WV Department of
Environmental Protection

02/23/2024

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

API 47-051-02355 County Marshall District Meade
Quad Glen Easton 7.5' Pad Name Hunter Pethel Field/Pool Name _____
Farm name XcL Midstream Operating, LLC Well Number Van Winkle S-22HU
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 4,403,548.05 Easting 523,382.90
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 07/01/2023 spud: 11/11/2021 big rig: 1/12/2023 Date drilling ceased 3/12/2023
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

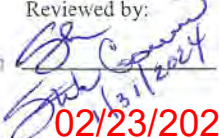
Freshwater depth(s) ft 440' Open mine(s) (Y/N) depths N
Salt water depth(s) ft 895' Void(s) encountered (Y/N) depths N
Coal depth(s) ft 339' & 434' Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

APPROVED

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JAN 23 2024

WV Department of Environmental Protection

Reviewed by: 
02/23/2024

API 47-051 - 02355 Farm name XcL Midstream Operating, LLC Well number Van Winkle S-22HU

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"	514'	NEW	106.5#	N/A	Y
Coal	26"	20"	514'	NEW	106.5#	N/A	Y
Intermediate 1	17 1/2"	13 3/8"	2,217'	NEW	54.5#	N/A	Y
Intermediate 2	12 3/8"	9 5/8"	9,915'	NEW	47#	N/A	Y
Intermediate 3							
Production	8 1/2"	5 1/2"	26,208'	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	952	15.6	1.18	1123	0	8
Coal	A	952	15.6	1.18	1123	0	8
Intermediate 1	A	1728	15.6	1.18	2039	0	8
Intermediate 2	A	3955	14.5	1.31	5181	0	8
Intermediate 3							
Production	A	6185	17.0	1.06	6556	0	8
Tubing							

Drillers TD (ft) 26,222' Loggers TD (ft) N/A
 Deepest formation penetrated Utica Plug back to (ft) N/A
 Plug back procedure N/A

Kick off depth (ft) 9,983'

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 _____

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Well # VAN WINKLE S-22HU (L027206) Final Formations API# 47-051-02355				
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	1,655
Big Lime	1,656	1,655	1,705	1,704
Big Injun	1,705	1,704	1,949	1,948
Weir	1,949	1,948	2,148	2,147
Berea	2,148	2,147	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	4,562
Benson	4,565	4,562	4,933	4,930
Alexander	4,933	4,930	5,580	5,577
Rhinestreet	5,580	5,577	6,019	6,016
Middlesex	6,019	6,016	6,095	6,092
Geneseo	6,095	6,092	6,122	6,119
Tully	6,122	6,119	6,158	6,155
Hamilton	6,158	6,155	6,227	6,224
Marcellus	6,227	6,224	6,277	6,274
Onondaga	6,277	6,274	6,514	6,511
Oriskany	6,514	6,511	6,636	6,633
Helderberg	6,636	6,633	7,011	7,008
Salina	7,011	7,008	8,182	8,178
Lockport	8,182	8,178	8,604	8,595
Rose Hill	8,604	8,595	8,921	8,903
Packer Shell	8,921	8,903	9,166	9,139
Clinton/Tuscarora	9,166	9,139	9,278	9,246
Juniata/Queenston	9,278	9,246	10,158	10,090
Reedsville	10,158	10,090	11,319	10,983
Utica	11,319	10,983	26,222	11,303

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Perforation Data

Van Winkle S-22HU Perf Table

Data Source: EQT Corporation

Stage_Number	Perf_Date	Depth_Bottom	Depth_Top	Shot_Count	Formation
2	08/21/2023	25978	25803	48	Utica
3	08/22/2023	25779	25607	48	Utica
4	08/22/2023	25581	25406	48	Utica
5	08/22/2023	25382	25207	48	Utica
6	08/22/2023	25184	25009	48	Utica
7	08/23/2023	24985	24810	48	Utica
8	08/23/2023	24787	24612	48	Utica
9	08/23/2023	24588	24413	48	Utica
10	08/24/2023	24390	24215	48	Utica
11	08/24/2023	24191	24016	48	Utica
12	08/24/2023	23993	23818	48	Utica
13	08/25/2023	23794	23619	48	Utica
14	08/25/2023	23596	23421	48	Utica
15	08/25/2023	23397	23222	48	Utica
16	08/26/2023	23199	23024	48	Utica
17	08/26/2023	23000	22825	48	Utica
18	08/26/2023	22802	22627	48	Utica
19	08/26/2023	22603	22428	48	Utica
20	08/27/2023	22405	22230	48	Utica
21	08/27/2023	22206	22031	48	Utica
22	08/27/2023	22008	21833	48	Utica
23	08/28/2023	21809	21634	48	Utica
24	08/28/2023	21611	21436	48	Utica
25	08/28/2023	21412	21237	48	Utica
26	08/28/2023	21214	21039	48	Utica
27	08/29/2023	21015	20842	48	Utica
28	08/29/2023	20817	20642	48	Utica
29	08/29/2023	20616	20446	48	Utica
30	08/29/2023	20420	20245	48	Utica
31	08/30/2023	20221	20046	48	Utica
32	08/30/2023	20023	19848	48	Utica
33	08/30/2023	19824	19649	48	Utica
34	08/30/2023	19626	19451	48	Utica
35	08/30/2023	19427	19252	48	Utica
36	08/31/2023	19229	19054	48	Utica
37	08/31/2023	19030	18855	48	Utica
38	08/31/2023	18832	18657	48	Utica
39	08/31/2023	18633	18458	48	Utica
40	09/01/2023	18435	18260	48	Utica
41	09/01/2023	18236	18061	48	Utica
42	09/01/2023	18038	17863	48	Utica
43	09/01/2023	17839	17664	48	Utica
44	09/02/2023	17641	17466	48	Utica
45	09/02/2023	17442	17267	48	Utica

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46 09/03/2023	17244	17069	48 Utica
47 09/03/2023	17045	16870	48 Utica
48 09/03/2023	16847	16672	48 Utica
49 09/04/2023	16648	16473	48 Utica
50 09/04/2023	16450	16275	48 Utica
51 09/04/2023	16251	16076	48 Utica
52 09/05/2023	16053	15878	48 Utica
53 09/15/2023	15854	15679	48 Utica
54 09/15/2023	15656	15481	48 Utica
55 09/15/2023	15457	15282	48 Utica
56 09/15/2023	15259	15084	48 Utica
57 09/16/2023	15060	14885	48 Utica
58 09/16/2023	14862	14687	48 Utica
59 09/16/2023	14663	14488	48 Utica
60 09/16/2023	14465	14290	48 Utica
61 09/18/2023	14266	14091	48 Utica
62 09/18/2023	14068	13893	48 Utica
63 09/19/2023	13869	13694	48 Utica
64 09/19/2023	13671	13496	48 Utica
65 09/19/2023	13472	13297	48 Utica
66 09/20/2023	13274	13099	48 Utica
67 09/20/2023	13075	12900	48 Utica
68 09/20/2023	12877	12702	48 Utica
69 09/20/2023	12678	12503	48 Utica
70 09/20/2023	12480	12305	48 Utica
71 09/21/2023	12281	12106	48 Utica
72 09/21/2023	12083	11908	48 Utica
73 09/21/2023	11884	11709	48 Utica
74 09/21/2023	11686	11511	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
8/29/2023	1	69	12308	12580	7461	251880	8050	Sand	100 MESH;
8/22/2023	2	74	12051	10138	7670	505300	8756	Sand	100 MESH; 40/70;
8/22/2023	3	74	12145	10658	8786	505360	8695	Sand	100 MESH; 40/70;
8/22/2023	4	74	12186	11297	8316	506260	8503	Sand	100 MESH; 40/70;
8/23/2023	5	74	11907	10314	8797	494380	8194	Sand	100 MESH; 40/70;
8/23/2023	6	74	11828	10335	8534	505940	8401	Sand	100 MESH; 40/70;
8/23/2023	7	77	12021	11036	9405	509240	8240	Sand	100 MESH; 40/70;
8/23/2023	8	77	12067	10089	8821	492020	8284	Sand	100 MESH; 40/70;
8/24/2023	9	75	12088	11011	9616	508200	8881	Sand	100 MESH; 40/70;
8/24/2023	10	75	12363	12623	9812	509280	8625	Sand	100 MESH; 40/70;
8/24/2023	11	81	12613	10408	8594	506540	8230	Sand	100 MESH; 40/70;
8/25/2023	12	78	12670	10915	8414	507200	8362	Sand	100 MESH; 40/70;
8/25/2023	13	78	12549	10269	8858	508500	8491	Sand	100 MESH; 40/70;
8/26/2023	14	75	11918	9949	8268	500780	8145	Sand	100 MESH; 40/70;
8/26/2023	15	78	11862	9713	8472	505160	8335	Sand	100 MESH; 40/70;
8/26/2023	16	79	11687	9815	9485	503380	8307	Sand	100 MESH; 40/70;
8/26/2023	17	85	12084	10017	8619	502360	7800	Sand	100 MESH; 40/70;
8/27/2023	18	81	12128	9274	8224	506800	7879	Sand	100 MESH; 40/70;
8/27/2023	19	84	11914	9484	9339	507120	7956	Sand	100 MESH; 40/70;
8/27/2023	20	83	11614	9538	9559	499180	8193	Sand	100 MESH; 40/70;
8/27/2023	21	84	11420	9276	8898	509060	8198	Sand	100 MESH; 40/70;
8/28/2023	22	86	11428	9489	8674	508760	8078.069	Sand	100 MESH; 40/70;
8/28/2023	23	85	11075	8965	9440	500980	8257	Sand	100 MESH; 40/70;
8/28/2023	24	85	11225	8345	9076	500940	8313	Sand	100 MESH; 40/70;
8/29/2023	25	86	11562	8024	7706	509700	7830	Sand	100 MESH; 40/70;
8/29/2023	26	88	11666	8356	7851	500500	7591	Sand	100 MESH; 40/70;
8/29/2023	27	90	11843	8570	9596	504260	8046	Sand	100 MESH; 40/70;
8/29/2023	28	89	11757	9026	9204	507135	7931	Sand	100 MESH; 40/70;
8/30/2023	29	90	11498	9468	8008	503160	7866	Sand	100 MESH; 40/70;
8/30/2023	30	89	11424	9570	8191	502980	7724	Sand	100 MESH; 40/70;
8/30/2023	31	87	11352	9181	9201	500960	7807	Sand	100 MESH; 40/70;
8/30/2023	32	89	11376	9328	9515	499180	7770	Sand	100 MESH; 40/70;
8/30/2023	33	88	11385	9736	8394	500200	7806	Sand	100 MESH; 40/70;
8/31/2023	34	89	11532	8677	8505	500640	7613	Sand	100 MESH; 40/70;
8/31/2023	35	89	11592	9228	8568	501060	7548	Sand	100 MESH; 40/70;
8/31/2023	36	89	11614	9569	9754	497040	7581	Sand	100 MESH; 40/70;
8/31/2023	37	90	11836	10120	8477	499780	7792	Sand	100 MESH; 40/70;
9/1/2023	38	89	11904	9536	8249	502180	7688	Sand	100 MESH; 40/70;
9/1/2023	39	89	11761	9314	8160	499340	7665	Sand	100 MESH; 40/70;
9/1/2023	40	89	11455	9010	8855	509680	7775	Sand	100 MESH; 40/70;
9/1/2023	41	89	11241	9430	9365	500340	7698	Sand	100 MESH; 40/70;
9/1/2023	42	90	11542	9158	8285	496020	7757	Sand	100 MESH; 40/70;
9/2/2023	43	90	11635	8815	8292	505220	7683	Sand	100 MESH; 40/70;
9/2/2023	44	90	11358	9346	9669	500340	8121	Sand	100 MESH; 40/70;
9/3/2023	45	90	11923	9989	8664	502500	8296	Sand	100 MESH; 40/70;
9/3/2023	46	89	11514	9521	9200	500680	8177	Sand	100 MESH; 40/70;
9/3/2023	47	88	11456	9081	8584	501080	8304	Sand	100 MESH; 40/70;
9/4/2023	48	89	11295	8570	8573	499080	8102	Sand	100 MESH; 40/70;
9/4/2023	49	88	11310	8804	8713	500480	8274	Sand	100 MESH; 40/70;
9/4/2023	50	90	11377	8760	8533	498790	8164	Sand	100 MESH; 40/70;
9/5/2023	51	88	11123	8797	8447	498000	9312	Sand	100 MESH; 40/70;

9/5/2023	52	86	11181	9033	8551	500480	8035 Sand	100 MESH; 40/70;
9/15/2023	53	88	10970	10189	8532	500460	7986 Sand	100 MESH; 40/70;
9/15/2023	54	89	10950	10069	9430	499820	7960 Sand	100 MESH; 40/70;
9/16/2023	55	90	11008	10279	9467	502720	7873 Sand	100 MESH; 40/70;
9/16/2023	56	90	11148	10111	8784	502950	7907 Sand	100 MESH; 40/70;
9/16/2023	57	89	10902	9883	8930	500240	7911 Sand	100 MESH; 40/70;
9/16/2023	58	90	10985	9495	8236	500000	7898 Sand	100 MESH; 40/70;
9/17/2023	59	90	10850	9637	9611	500200	8353 Sand	100 MESH; 40/70;
9/18/2023	60	89	10852	10514	9034	485940	7674 Sand	100 MESH; 40/70;
9/19/2023	61	90	10485	9190	9499	501860	8043 Sand	100 MESH; 40/70;
9/19/2023	62	90	10521	8992	7984	502280	8034 Sand	100 MESH; 40/70;
9/19/2023	63	90	10582	9336	9199	501540	7827 Sand	100 MESH; 40/70;
9/20/2023	64	89	10379	8967	9440	501660	8040 Sand	100 MESH; 40/70;
9/20/2023	65	90	10393	8812	8218	500340	7958 Sand	100 MESH; 40/70;
9/20/2023	66	89	10386	9642	8172	500380	7870 Sand	100 MESH; 40/70;
9/20/2023	67	90	10483	9591	8244	500180	7858 Sand	100 MESH; 40/70;
9/20/2023	68	88	10396	9887	8352	468440	7520 Sand	100 MESH; 40/70;
9/21/2023	69	89	10409	9188	8609	500380	8083 Sand	100 MESH; 40/70;
9/21/2023	70	89	10511	9552	8463	500260	8034 Sand	100 MESH; 40/70;
9/21/2023	71	89	10600	8831	8364	500440	7720 Sand	100 MESH; 40/70;
9/21/2023	72	90	10268	8808	8123	498480	7788 Sand	100 MESH; 40/70;
9/21/2023	73	88	10322	9237	9312	500220	7688 Sand	100 MESH; 40/70;
9/22/2023	74	90	10371	9362	9299	498700	7899 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:	47-051-02355-00-00
Operator Name:	EQT Production
Well Name and Number:	Van Winkle S-22HU
Latitude:	39.781557
Longitude:	-80.726937
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	11303
Total Base Water Volume (gal)*:	27028304.898
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	85.65207	None
Sand (Proppant)	EQT	Proppant					
			Silica Substrate	14808-60-7	100.00000	13.99853	None
MX-5-3886	Multi-Chem	Bacterial treatment					
			Calcium nitrate	13477-34-4	100.00000	0.03108	None
7.5 HCl	Profrac	Acid					
			7.5 HCl	7647-01-0	7.50000	0.01882	None
StimSTREAM FR 9800	ChemStream	Friction Reducer					
			Copolymer of 2-propenamamide	Proprietary	30.00000	0.00786	None
StimSTREAM FR 9800	ChemStream	Friction Reducer					

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			Petroleum Distillate	64742-47-8	20.00000	0.00349	None
LD-7750W	Multi-Chem	Scale Inhibitor					
			Methanol	67-56-1	60.00000	0.00249	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	0.00200	None
ProFE 105	ProFrac	Iron Control					
			Citric Acid	77-92-9	100.00000	0.00137	None
ProFE 105	ProFrac	Iron Control					
			Citric Acid	77-92-9	100.00000	0.00137	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	0.00051	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
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					

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			Alcohols, C7-ISO, C8-RICH	68526-83-0	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					
			Xylene	1330-20-7	5.00000	0.00000	None
ProHib 100	ProFrac	Acid Corrosion Inhibitor					
			Propargyl Alcohol	107-19-7	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					
			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)