

Well Operator's Report of Well Work



Well Number: BIG245 104H (L002965)

API: 47 - 103 - 03441

Submission: Initial Amended

Notes: Amendment for Flowback/Production Data

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

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API 47 - 103 - 03441 County Wetzel District Grant
Quad Big Run Pad Name BIG245 Field/Pool Name N/A
Farm name ET Blue Grass LLC Well Number BIG245 104H (L002965)
Operator (as registered with the OOG) EQT Production Company
Address 2400 Ansys Drive, 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 4,382,934.52 Easting 537,028.76
Landing Point of Curve Northing 4,382,528.76 Easting 536,514.25
Bottom Hole Northing 4,380,720.75 Easting 537,630.01

Elevation (ft) 1430' 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)

Synthetic Oil Based Mud 13.9 ppg barium sulfate, sodium chloride, xanthan gum, polyanionic cellulose, modified starch, sodium hydroxide, phosphonates and alkyl phosphates, glutaraldehyde solution, calcium hydroxide, partially hydrolyzed polyacrylamide/polyacrylate, potassium chloride, sodium carbonate, ground walnut shells, alcohol and modified fatty acid, ferrochrome lignosulfonate, calcium carbonate, fibrous cellulose

Date permit issued 02/28/2022 Date drilling commenced 11/15/2021 Date drilling ceased 06/18/2022
Date completion activities began 07/14/2023 Date completion activities ceased 10/21/2023
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 230,508,663,753,1012 Open mine(s) (Y/N) depths N
Salt water depth(s) ft N/A Void(s) encountered (Y/N) depths N
Coal depth(s) ft 929,1015,1116 Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

APPROVED
Reviewed by: [Signature]
02/16/2024 1/3/24

API 47- 103 - 03441 Farm name ET Blue Grass LLC Well number BIG245 104H (L002965)

CASING STRINGS	Hole Size	Casing Size	Depth (GL)	New or Used	Grade wt/ft	Basket Depth(s) (GL)	Did cement circulate (Y/N) * Provide details below*
Conductor	30"	26"	40'	NEW	A-500 85.6#	N/A	Y
Surface	17-1/2"	13-3/8"	1192'	NEW	J-55 54.5#	1063'	Y
Coal							
Intermediate 1	12-3/8"	9-5/8"	2663'	NEW	J-55 36#	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-1/2"	6"	15,340'	NEW	P-110 24#	N/A	N
Tubing							
Packer type and depth set							

Comment Details Production Cement job has a calculated TOC of 1366' GL, which is greater than 500' TVD above the producing formation. No issues during cement job.

CEMENT DATA	Class/Type of Cement	Number of Sacks	Slurry wt (ppg)	Yield (ft ³ /sks)	Volume (ft ³)	Cement Top (GL)	WOC (hrs)
Conductor	CLASS A	83	15.6	1.18	98	0	8+
Surface	CLASS A	1012	16.0	1.13	1143	0	8
Coal							
Intermediate 1	CLASS A	1013	16.5	1.07	1084	0	8
Intermediate 2							
Intermediate 3							
Production	CLASS A	2665	15.2	1.09	2904	1366'	8+
Tubing							

Drillers TD (ft) 15,341' Loggers TD (ft) N/A RECEIVED _____
 Deepest formation penetrated MARCELLUS Plug back to (ft) N/A Office of Oil and Gas
 Plug back procedure N/A

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Kick off depth (ft) 1,291'

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 _____
 CONDUCTOR- NONE _____
 SURFACE- ON SHOE TRACK AND EVERY 500' TO SURFACE _____
 INTERMEDIATE: ON SHOE TRACK AND EVERY 500' FEET TO SURFACE _____
 PRODUCTION: ON SHOE TRACK AND EVERY JOINT TO 2030' _____

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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API 47- 103 - 03441 Farm name ET Blue Grass LLC Well number BIG245 104H (L002965)

Drilling Contractor Falcon (Rig 25)
Address 1120 US-119 City Indiana State PA Zip 15701

Logging Company Scientific Drilling International
Address 124 Vista Drive City Charleroi State PA Zip 15022

Logging Company GyroData
Address 73 Noblestown Road City Carnegie State PA Zip 15106

Stimulation Contractor Evolution Well Services Operating
Address 1780 Hughes Landing Blvd Ste 125 City The Woodlands State TX Zip 77380

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Well # BIG245 104H (L002965) Final Formations API# 47-103-03441				
Formation Name	Drill Top MD (ftGRD)	Drill Top (TVD) (ftGRD)	Drill Btm MD (ftGRD)	Drill Btm (TVD) (ftGRD)
Sand/Shale	1	1	929	929
Waynesburg Coal	929	929	935	935
Sand/Shale	935	935	1,015	1,015
Mapletown Coal	1,015	1,015	1,018	1,018
Sand/Shale	1,018	1,018	1,116	1,116
Pittsburgh Coal	1,116	1,116	1,124	1,124
Sand/Shale	1,124	1,124	2,257	2,253
Maxton	2,257	2,253	2,298	2,294
Sand/Shale	2,298	2,294	2,311	2,307
Big Lime	2,311	2,307	2,381	2,376
Big Injun	2,381	2,376	2,548	2,541
Sand/Shale	2,548	2,541	2,717	2,709
Weir	2,717	2,709	2,757	2,749
Sand/Shale	2,757	2,749	3,115	3,099
Gordon	3,115	3,099	3,154	3,137
Sand/Shale	3,154	3,137	3,173	3,155
Forth Sand	3,173	3,155	3,217	3,197
Sand/Shale	3,217	3,197	3,221	3,201
Bayard	3,221	3,201	3,451	3,416
Sand/Shale	3,451	3,416	3,843	3,771
Speechley	3,843	3,771	4,065	3,969
Sand/Shale	4,065	3,969	4,636	4,483
Riley	4,636	4,483	4,868	4,699
Sand/Shale	4,868	4,699	5,332	5,128
Benson	5,332	5,128	5,480	5,261
Sand/Shale	5,480	5,261	5,794	5,543
Alexander	5,794	5,543	6,110	5,827
Elks	6,110	5,827	7,440	7,033
Sonyea	7,440	7,033	7,621	7,187
Middlesex	7,621	7,187	7,686	7,236
Genesee	7,686	7,236	7,816	7,322
Geneseo	7,816	7,322	7,856	7,346
Tully	7,856	7,346	7,896	7,369
Hamilton	7,896	7,369	8,163	7,470
Marcellus	8,163	7,470	15,341	7,562

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Perforation Data

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Stage No.	Perforation Date	Stage Perforated From TMD Ft.	Stage Perforated To TMD Ft.	# of Perforations/Stage	Formation(s)
3	07/20/2023	15053	14871	40	Marcellus
4	07/20/2023	14851	14669	40	Marcellus
5	07/21/2023	14649	14467	40	Marcellus
6	07/24/2023	14447	14265	40	Marcellus
7	07/25/2023	14245	14063	40	Marcellus
8	07/25/2023	14043	13861	40	Marcellus
9	07/25/2023	13841	13659	40	Marcellus
10	07/26/2023	13639	13457	40	Marcellus
11	07/26/2023	13437	13255	40	Marcellus
12	07/26/2023	13235	13053	40	Marcellus
13	07/27/2023	13033	12851	40	Marcellus
14	07/27/2023	12831	12649	40	Marcellus
15	07/29/2023	12629	12447	40	Marcellus
16	07/29/2023	12427	12245	40	Marcellus
17	07/30/2023	12225	12043	40	Marcellus
18	07/30/2023	12023	11841	40	Marcellus
19	07/30/2023	11821	11639	40	Marcellus
20	07/30/2023	11619	11437	40	Marcellus
21	07/30/2023	11417	11235	40	Marcellus
22	07/31/2023	11215	11033	40	Marcellus
23	07/31/2023	11013	10831	40	Marcellus
24	07/31/2023	10811	10629	40	Marcellus
25	07/31/2023	10609	10427	40	Marcellus
26	07/31/2023	10407	10225	40	Marcellus
27	08/01/2023	10205	10023	40	Marcellus
28	08/01/2023	10003	9821	40	Marcellus
29	08/01/2023	9801	9619	40	Marcellus
30	08/01/2023	9599	9417	40	Marcellus
31	08/02/2023	9397	9215	40	Marcellus
32	08/02/2023	9195	9013	40	Marcellus
33	08/02/2023	8993	8811	40	Marcellus
34	08/02/2023	8791	8609	40	Marcellus
35	08/03/2023	8589	8407	40	Marcellus
36	08/03/2023	8387	8205	40	Marcellus

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Stimulation Data

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Stage #	Stimulation Date	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	07/15/2023	83	8435	7488	3843	176156	4252	
2	07/20/2023	99	8145	5794	4419	440213	10118	
3	07/20/2023	99	8522	6332	5301	440132	9900	
4	07/21/2023	100	8425	6495	5196	440081	9908	
5	07/24/2023	100	7891	6547	5046	440126	9955	
6	07/25/2023	99	8171	5723	5013	440155	9873	
7	07/25/2023	100	8618	5250	4853	440136	9910	
8	07/25/2023	99	8461	5657	4116	440166	9871	
9	07/26/2023	68	9018	5536	4091	440310	10018	
10	07/26/2023	99	9004	5451	4667	440147	9855	
11	07/27/2023	88	8845	5473	4750	440195	9846	
12	07/27/2023	99	8487	5508	4803	440067	9833	
13	07/27/2023	99	8547	5542	4594	440089	9813	
14	07/29/2023	60	8976	5397	4028	440757	15754	
15	07/29/2023	98	8842	5439	5028	440221	9929	
16	07/30/2023	97	8529	5452	5178	440151	9819	
17	07/30/2023	85	8748	5334	4671	440130	9701	
18	07/30/2023	100	8156	5476	5251	440162	9782	
19	07/30/2023	100	8349	5551	5049	440085	9770	
20	07/31/2023	94	8121	9640	4748	440196	9975	
21	07/31/2023	99	8507	5541	4739	440079	9763	
22	07/31/2023	98	8624	5701	4703	440132	9749	
23	07/31/2023	87	8880	5660	4295	440077	9743	
24	07/31/2023	99	7872	5719	4458	440198	9736	
25	08/01/2023	100	7540	5593	4653	440135	9726	
26	08/01/2023	99	7919	4763	4579	440112	9719	
27	08/01/2023	99	7916	5701	4836	440116	9705	
28	08/02/2023	98	7951	6313	5100	440221	9722	
29	08/02/2023	99	7785	6044	4353	440067	9704	
30	08/02/2023	99	7261	6851	4752	440450	9692	
31	08/02/2023	98	8249	5698	4454	440130	9671	
32	08/02/2023	99	7917	5947	4349	440174	9674	
33	08/03/2023	98	7809	5746	4633	440166	9673	
34	08/03/2023	99	7441	5670	4419	440105	9658	
35	08/03/2023	98	7768	5649	4750	440479	9673	
36	08/03/2023	99	8075	5585	4428	440403	9699	

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Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	7/14/2023
Job End Date:	9/8/2023
State:	West Virginia
County:	Wetzel
API Number:	47-103-03441-00-00
Operator Name:	EQT Production
Well Name and Number:	BIG245 104H
Latitude:	39.59534190
Longitude:	-80.56873900
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	7,591
Total Base Water Volume (gal):	14,833,938
Total Base Non Water Volume:	0



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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	88.67170	None
Sand (Proppant)	EQT	Proppant	Silica Substrate	14808-60-7	100.00000	11.16209	None
Clearal 268	ChemStream	Biocide	Non-hazardous substances	Proprietary	80.00000	0.00888	None
StimSTREAM FR 9800	ChemStream	Friction Reducer	Copolymer of 2-propenamide	Proprietary	30.00000	0.00823	None
StimSTREAM SC-398	ChemStream	Scale Inhibitor	Non-hazardous substances	Proprietary	90.00000	0.00764	None
StimSTREAM FR 9800	ChemStream	Friction Reducer	Petroleum Distillate	64742-47-8	20.00000	0.00366	None
Enviro-Syn HCR-7000-WL	Evolution Well Services	Acid	Proprietary	Proprietary	20.00000	0.00206	None
Clearal 268	ChemStream	Biocide	Glutaraldehyde	111-30-8	20.00000	0.00056	None
Enviro-Syn HCR-7000-WL	Evolution Well Services	Acid					

			Proprietary	Proprietary	10.00000	0.00052	None
StimSTREAM SC-398	ChemStream	Scale Inhibitor					
			Bis(HexaMethylene Triamine Penta(Methylene Phosphonic Acid)(BHMT)	34690-00-1	10.00000	0.00009	None
StimSTREAM FR 9800	ChemStream	Friction Reducer					
			Oleic Acid Diethanolamide	93-83-4	2.00000	0.00004	None
StimSTREAM FR 9800	ChemStream	Friction Reducer					
			Alcohols, C12-16, ethoxylated	68551-12-2	2.00000	0.00004	None
Clearal 268	ChemStream	Biocide					
			Quaternary Ammonium Compounds	68424-85-1	3.00000	0.00001	None
Clearal 268	ChemStream	Biocide					
			Didecyl dimethyl ammonium chloride	7173-51-5	3.00000	0.00001	None
StimSTREAM FR 9800	ChemStream	Friction Reducer					
			Ammonium chloride ((NH4)Cl)	12125-02-9	1.00000	0.00001	None
Clearal 268	ChemStream	Biocide					
			Ethanol	64-17-5	1.50000	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 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)

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