

Reviewed

12/21/2018

Delia
12/19/18

Well Operator's Report of Well Work



Where energy meets innovation.

Well Number: 516234

API: 47 - 017 - 06745

Submission: Initial Amended

Notes: Following is a WR-3 for OXF43 Pad, Well # 516234, as amended to include Flowback data.

RECEIVED
Office of Oil and Gas

NOV 7 2018

WV Department of
Environmental Protection

In addition to this amended version of the Report, included is a copy of each of the following items that were attached to the WR-35 submitted by EQT Corp. on 7/24/2018: The executed version of the initial post-stimulation WR-35, the "Stimulated Stages" & "Perforations" sheets, a list of Formations & Depths, the Wellpath & Survey Reports, the FracFocus Registry & the "As-Drilled" Plat.

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

API 47-017-06745 County DODDRIDGE District SOUTH WEST / COVE
Quad OXFORD Pad Name OXF43 Field/Pool Name N/A
Farm name FRANKLIN MAXWELL HEIRS L.P. Well Number 516234
Operator (as registered with the OOG) EQT Production Company
Address 115 Professional Place, PO Box 280 City Bridgeport State WV Zip 26330

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey
Top hole Northing 4,334,242.0 Easting 517,902.0
Landing Point of Curve Northing 4,333,851.8 Easting 517,548.2
Bottom Hole Northing 4,335,546.4 Easting 516,794.3

Elevation (ft) 1229 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 Other
Type of Completion Single Multiple Fluids Produced Brine Gas NGL Oil Other NOV 7 2018
Drilled with Cable Rotary

RECEIVED
Office of Oil and Gas
WV Department of
Environmental Protection

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) Water Base Mud 12.2 ppg, aliphatic based non-aqueous drilling fluid, banum sulfate, calcium chloride, organophytic clay, quaternary ammonium clay, gilsonite, blended emulsifier, wetting agent, blended graphite, hydrated lime, calcium carbonate, ground walnut shells, fibrous cellulose.

Date permit issued 08/30/2016 Date drilling commenced 06/25/2017 Date drilling ceased 10/03/2017
Date completion activities began 1/25/2018 Date completion activities ceased 4/25/2018
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 73,224,310,385 Open mine(s) (Y/N) depths N
Salt water depth(s) ft No shallow SW Void(s) encountered (Y/N) depths N
Coal depth(s) ft 324 Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

Reviewed by: _____

WR-35
Rev. 8/23/13

API 47-017 - 06745 Farm name FRANKLIN MAXWELL HEIRS L.P. Well number 516234

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	30"	26"	40'	NEW	A-500 85.6#	N/A	Y
Surface	17-1/2"	13-3/8"	552'	NEW	J-55 54.5#	200'	Y
Coal							
Intermediate 1	12-3/8"	9-5/8"	5616'	NEW	A-500 40# & P-110 40#	3060'	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4" & 8-1/2"	5 1/2"	13710'	NEW	P-110 20#	N/A	N
Tubing							
Packer type and depth set							

Comment Details Production Cement job has calculated TOC of 5866' MD, 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 (MD)	WOC (hrs)
Conductor	CLASS A	49	15.6	1.18	58	0	8
Surface	CLASS A	520	15.6	1.20	624	0	8
Coal							
Intermediate 1	CLASS A	912 / 1093	15.6 / 15.6	1.18 / 1.18	2366	0	8
Intermediate 2							
Intermediate 3							
Production	Class H / Class H	162 / 774	15.2 / 15.6	1.25 / 2.06	1797	5866'	8
Tubing							

Drillers TD (ft) 13720' MD Loggers TD (ft) N/A
 Deepest formation penetrated MARCELLUS Plug back to (ft) N/A
 Plug back procedure N/A

RECEIVED
Office of Oil and Gas

NOV 7 2018

Kick off depth (ft) 3459' MD

Check all wireline logs run caliper density deviated/directional induction sonic
 neutron resistivity gamma ray temperature

WV Department of
Environmental Protection

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' FEET TO SURFACE

INTERMEDIATE: ON SHOE TRACK AND EVERY 500' FEET TO SURFACE

PRODUCTION: ON SHOE TRACK AND EVERY JOINT TO 3363'

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 _____

API 47- 017 - 06745

Farm name FRANKLIN MAXWELL HEIRS L.P.

Well number 516234

PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
Please See Attached					

Please insert additional pages as applicable.

STIMULATION INFORMATION PER STAGE

Complete a separate record for each stimulation stage.

Stage No.	Stimulations 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)
Please See Attached								

RECEIVED
Office of Oil and Gas
NOV 7 2018
WV Department of
Environmental Protection

Please insert additional pages as applicable.

WR-35
Rev. 8/23/13

API 47- 017 - 06745 Farm name FRANKLIN MAXWELL HEIRS L.P. Well number 516234

PRODUCING FORMATION(S)	DEPTHS		
MARCELLUS	6,628'	TVD	7,396' MD

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump

SHUT-IN PRESSURE Surface 2,170 psi Bottom Hole N/A psi DURATION OF TEST 131.5 hrs

OPEN FLOW Gas 9,692 mcfpd Oil N/A bpd NGL 75 bpd Water 640 bpd GAS MEASURED BY Estimated Orifice Pilot

LITHOLOGY/ FORMATION	TOP	BOTTOM	TOP	BOTTOM	DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H ₂ S, ETC)
	DEPTH IN FT NAME TVD	DEPTH IN FT TVD	DEPTH IN FT MD	DEPTH IN FT MD	
	0		0		

Please insert additional pages as applicable.

Drilling Contractor Savanna Drilling
Address 125 Industry Road City Waynesburg State PA Zip 15370

Logging Company Gyrodata Inc.
Address 601 Mayer St. City Bridgeville State PA Zip 15017

Cementing Company _____
Address _____ City _____ State _____ Zip _____

Stimulating Company FTS International
Address 1432 Route 519 City Eighty Four State PA Zip 15330

RECEIVED
Office of Oil and Gas
NOV 7 2018
PA Department of
Environmental Protection

Please insert additional pages as applicable.

Completed by Bradley Maddox Telephone (412) 395-7053
Signature [Signature] Title Director - Completions Date 11/05/2018

WR-35
Rev. 8/23/13

Page ___ of ___

API 47- 017 - 06745 Farm name FRANKLIN MAXWELL HEIRS L.P. Well number 516234

Drilling Contractor Decker Drilling
Address 11565 State Route 676 City Vincent State OH Zip 45784

Logging Company _____
Address _____ City _____ State _____ Zip _____

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

Cementing Company BJ Services, LLC
Address 4000 Town Center Blvd, Suite 210 City Cannonsburg State PA Zip 15317

RECEIVED
Office of Oil and Gas
NOV 17 2018
WV Department of
Environmental Protection

Well Operator's Report of Well Work



Where energy meets innovation.

Well Number: 516234

API: 47 - 017 - 06745

Submission: Initial Amended

Notes: w/o FB

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

API 47-017-06745 County DODDRIDGE District SOUTH WEST / COVE
Quad OXFORD Pad Name OXF43 Field/Pool Name N/A
Farm name FRANKLIN MAXWELL HEIRS L.P. Well Number 516234
Operator (as registered with the OOG) EQT Production Company
Address 115 Professional Place, PO Box 280 City Bridgeport State WV Zip 26330

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey
Top hole Northing 4,334,242.0 Easting 517,902.0
Landing Point of Curve Northing 4,333,851.8 Easting 517,548.2
Bottom Hole Northing 4,335,546.4 Easting 516,794.3

Elevation (ft) 1229 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 w/o FB
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) Water Base Mud 12.2 ppg, aliphatic based non-aqueous drilling fluid, barium sulfate, calcium chloride, organophilic clay, quaternary ammonium clay, gilsonite, blended emulsifier, wetting agent, blended graphite, hydrated lime, calcium carbonate, ground walnut shells, fibrous cellulose.

Date permit issued 08/30/2016 Date drilling commenced 06/25/2017 Date drilling ceased 10/03/2017
Date completion activities began 1/25/2018 Date completion activities ceased 4/25/2018
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 73,224,310,385 Open mine(s) (Y/N) depths N
Salt water depth(s) ft No shallow SW Void(s) encountered (Y/N) depths N
Coal depth(s) ft 324 Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

Reviewed by: _____

RECEIVED
Office of Oil and Gas

NOV 7 2018

WV Department of
Environmental Protection

API 47-017 - 06745 Farm name FRANKLIN MAXWELL HEIRS L.P. Well number 516234

CASING STRINGS	Hole Size	Casing Size	Depth	New or Used	Grade w/ll	Basket Depth(s)	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"	552'	NEW	J-55 54.5#	200'	Y
Coal							
Intermediate 1	12-3/8"	9-5/8"	5616'	NEW	A-500 40# & P-110 10#	3060'	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4" & 8-1/2"	5 1/2"	13710'	NEW	P-110 20#	N/A	N
Tubing							
Packer type and depth set							

Comment Details Production Cement job has calculated TOC of 5866' MD, 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 (MD)	WOC (hrs)
Conductor	CLASS A	49	15.6	1.18	58	0	8
Surface	CLASS A	520	15.6	1.20	624	0	8
Coal							
Intermediate 1	CLASS A	912 / 1093	15.6 / 15.6	1.18 / 1.18	2366	0	8
Intermediate 2							
Intermediate 3							
Production	Class H / Class H	162 / 774	15.2 / 15.6	1.25 / 2.06	1797	5866'	8
Tubing							

Drillers TD (ft) 13720' MD Loggers TD (ft) N/A
 Deepest formation penetrated MARCELLUS Plug back to (ft) N/A
 Plug back procedure N/A

Kick off depth (ft) 3459' MD

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 FEET TO SURFACE

INTERMEDIATE: ON SHOE TRACK AND EVERY 500 FEET TO SURFACE

PRODUCTION: ON SHOE TRACK AND EVERY JOINT TO 3303

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 _____

API 47- 017 - 06745 Form name FRANKLIN MAXWELL HEIRS L.P. Well number 516234

PERFORATION RECORD

Stage No	Perforation date	Perforated from MD ft	Perforated to MD ft	Number of Perforations	Formation(s)
					Please See Attached

Please insert additional pages as applicable.

STIMULATION INFORMATION PER STAGE

Complete a separate record for each stimulation stage.

Stage No	Stimulations 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)
								Please See Attached

Please insert additional pages as applicable.

RECEIVED
Office of Oil and Gas
NOV - 7 2018
WV Department of
Environmental Protection

API 47- 017 - 06745 Farm name FRANKLIN MAXWELL HEIRS L.P. Well number 516234

PRODUCING FORMATION(S) DEPTHS
Marcellus 6,628' TVD 7,396' MD

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump

SHUT-IN PRESSURE Surface _____ psi Bottom Hole _____ psi DURATION OF TEST _____ hrs

OPEN FLOW Gas _____ mcfpd Oil _____ bpd NGL _____ bpd Water _____ bpd GAS MEASURED BY
 Estimated Orifice Pilot

LITHOLOGY/ FORMATION	TOP	BOTTOM	TOP	BOTTOM	DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H ₂ S, ETC)
	DEPTH IN FT NAME TVD	DEPTH IN FT TVD	DEPTH IN FT MD	DEPTH IN FT MD	
	0		0		

Please insert additional pages as applicable.

Drilling Contractor Savanna Drilling
Address 125 Industry Road City Waynesburg State PA Zip 15370

Logging Company Gyrodata Inc.
Address 601 Mayer St. City Bridgeville State PA Zip 15017

Cementing Company
Address _____ City _____ State _____ Zip _____

Stimulating Company FTS International
Address 1432 Route 519 City Eighty Four State PA Zip 15330

Please insert additional pages as applicable.

Completed by Bradley Maddox Telephone (412) 395-7053
Signature _____ Title Dir Completions Date 07/18/2018

Submittal of Hydraulic Fracturing Chemical Disclosure Information Attach copy of FRACFOCUS Registry

RECEIVED
Office of Oil and Gas
NOV 7 2018
WV Department of
Environmental Protection

API 47- 017 - 06745 Form name FRANKLIN MAXWELL HEIRS L.P. Well number 516234

Drilling Contractor Decker Drilling
Address 11565 State Route 676 City Vincent State OH Zip 45784

Logging Company _____
Address _____ City _____ State _____ Zip _____

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

Cementing Company BJ Services, LLC
Address 4000 Town Center Blvd, Suite 210 City Cannonsburg State PA Zip 15317

RECEIVED
Office of Oil and Gas

NOV 7 2018

WV Department of
Environmental Protection

12/21/2018

Well # 516234 Final Formations API # 47-017-06745-00-00				
Formation Name	Drill Top MD (ftKB)	Drill Top (TVD) (ftKB)	Drill Btm MD (ftKB)	Drill Btm (TVD) (ftKB)
SAND / SHALE	1	1	321	321
WAYNESBURG A	321	321	322	322
SAND / SHALE	322	322	1103	1103
MAXTON	1103	1103	1143	1143
SAND / SHALE	1143	1143	1979	1973
BIG LIME	1979	1973	2047	2041
SAND / SHALE	2047	2041	2091	2085
BIG INJUN	2091	2085	2123	2117
SAND / SHALE	2123	2117	2265	2259
WEIR	2265	2259	2391	2385
SAND / SHALE	2391	2385	2465	2459
GANTZ	2465	2459	2547	2541
FIFTY FOOT	2547	2541	2604	2598
SAND / SHALE	2604	2598	2645	2639
THIRTY FOOT	2645	2639	2681	2675
SAND / SHALE	2681	2675	2687	2681
GORDON	2687	2681	2736	2730
SAND / SHALE	2736	2730	2787	2781
FORTH SAND	2787	2781	2854	2848
SAND / SHALE	2854	2848	2967	2961
BAYARD	2967	2961	3038	3032
SAND / SHALE	3038	3032	3301	3295
WARREN	3301	3295	3367	3361
SPEECHLEY	3367	3361	3872	3862
BALLTOWN A	3872	3862	4230	4203
SAND / SHALE	4230	4203	4470	4418
RILEY	4470	4418	4846	4714
BENSON	4846	4714	4940	4784
ALEXANDER	5148	4941	5241	5014
ELKS	5241	5014	6869	6288
SONYEA	6869	6288	7043	6426
MIDDLESEX	7043	6426	7130	6482
GENESEE	7130	6482	7240	6550
GENESEO	7240	6550	7323	6596
TULLY	7323	6596	7364	6615
HAMILTON	7364	6615	7396	6628
MARCELLUS	7396	6628	13720	6725

RECEIVED
Office of Oil and Gas
NOV 7 2018
NY Department of
Environmental Protection

516234 47-017-06745-0000 - Perforations

Stage Number	Perforation Date	Top Perf Depth (ftKB)	Bottom Perf Depth (ftKB)	Number of Shots	Formation
Initiation Sleeve	12/15/2017	13,684	13,713	10	Marcellus
1	1/25/2018	13,523	13,645	32	Marcellus
2	1/25/2018	13,323	13,485	40	Marcellus
3	1/26/2018	13,123	13,285	40	Marcellus
4	1/26/2018	12,923	13,085	40	Marcellus
5	1/26/2018	12,723	12,885	40	Marcellus
6	1/27/2018	12,523	12,685	40	Marcellus
7	1/27/2018	12,323	12,485	40	Marcellus
8	1/27/2018	12,123	12,285	40	Marcellus
9	1/28/2018	11,923	12,085	40	Marcellus
10	1/28/2018	11,723	11,885	40	Marcellus
11	1/29/2018	11,523	11,685	40	Marcellus
12	1/29/2018	11,323	11,485	40	Marcellus
13	4/4/2018	11,123	11,285	40	Marcellus
14	4/7/2018	10,923	10,885	24	Marcellus
14	4/5/2018	10,803	11,085	40	Marcellus
15	4/8/2018	10,603	10,765	40	Marcellus
16	4/8/2018	10,403	10,565	40	Marcellus
17	4/9/2018	10,203	10,365	40	Marcellus
18	4/10/2018	10,003	10,165	40	Marcellus
19	4/13/2018	9,803	9,965	40	Marcellus
20	4/13/2018	9,603	9,765	40	Marcellus
21	4/16/2018	9,403	9,565	40	Marcellus
22	4/19/2018	9,203	9,365	40	Marcellus
23	4/21/2018	9,003	9,165	40	Marcellus
24	4/21/2018	8,803	8,965	40	Marcellus
25	4/21/2018	8,603	8,765	40	Marcellus
26	4/22/2018	8,403	8,565	40	Marcellus
27	4/22/2018	8,203	8,365	40	Marcellus
28	4/22/2018	8,003	8,165	40	Marcellus
29	4/23/2018	7,803	7,965	40	Marcellus
30	4/23/2018	7,603	7,765	40	Marcellus
31	4/24/2018	7,403	7,565	40	Marcellus

RECEIVED
Office of Oil and Gas
NOV 7 2018
West Virginia Department of
Environmental Protection

516234 A7-017-06745-0000 - Stimulated Stages

Stage Number	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)
1.01	1/25/2018	20	7,337	9,026	5,102	0	1,400	0
1	1/25/2018	99	8,887	9,158	3,093	600,506	10,550	0
2	1/26/2018	100	8,776	9,204	3,134	600,307	10,157	0
3	1/26/2018	100	8,852	9,209	3,409	600,002	9,835	0
4	1/26/2018	100	8,828	9,251	3,577	600,120	9,927	0
5	1/26/2018	100	8,692	9,076	3,719	601,021	10,448	0
6	1/27/2018	99	8,737	9,266	3,835	600,338	10,029	0
7	1/27/2018	100	8,767	9,371	3,906	601,535	9,950	0
8	1/28/2018	100	8,420	8,733	4,005	600,527	10,030	0
9	1/28/2018	100	8,618	9,282	3,991	600,968	10,221	0
10	1/29/2018	100	8,449	9,029	4,839	600,527	9,963	0
11	1/29/2018	100	8,706	9,236	4,102	600,023	9,725	0
12	1/30/2018	94	8,765	9,006	4,126	554,627	9,748	0
13	4/5/2018	99	8,154	8,723	4,142	600,076	11,837	0
13	4/6/2018	59	9,071	9,730	5,083	6,710	3,044	0
14	4/7/2018	91	8,821	9,654	5,089	445,171	9,294	0
15	4/8/2018	97	8,258	9,672	5,695	489,500	9,689	0
16	4/9/2018	98	8,103	10,249	8,254	580,466	9,346	0
16	4/9/2018	10	4,827	5,881	4,873	0	2,982	0
17	4/10/2018	99	7,897	8,533	5,069	599,760	9,804	0
18	4/12/2018	100	7,605	10,534	6,590	574,000	9,201	0
18	4/13/2018	8	4,313	5,688	4,732	0	2,202	0
19	4/13/2018	96	7,630	8,431	4,475	598,091	11,375	0
20	4/15/2018	88	8,197	9,383	5,241	542,084	13,821	0
21	4/18/2018	86	7,215	10,122	8,295	391,273	7,219	0
21	4/18/2018	9	4,329	5,729	4,570	207,631	1,800	0
21	4/19/2018	95	8,446	8,573	4,676	0	5,993	0
22	4/21/2018	100	7,289	7,797	5,869	600,052	11,072	0
23	4/21/2018	100	7,291	7,577	4,650	600,649	10,382	0
24	4/21/2018	100	7,231	7,464	4,959	600,048	10,166	0
25	4/22/2018	100	7,546	9,058	5,159	600,050	10,297	0
26	4/22/2018	97	7,585	8,315	5,387	600,203	10,385	0
27	4/22/2018	100	8,060	8,498	5,190	600,094	10,795	0
28	4/23/2018	91	7,441	7,777	5,293	601,733	10,340	0
29	4/23/2018	100	7,630	7,903	5,285	600,030	9,972	0
30	4/24/2018	98	7,246	7,397	5,482	600,037	10,257	0
31	4/25/2018	94	7,230	7,639	4,348	608,723	10,964	0

RECEIVED
 Office of Oil and Gas
 NOV 7 2018
 WV Department of
 Environmental Protection

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	1/25/2018
Job End Date:	4/25/2018
State:	West Virginia
County:	Doddridge
API Number:	47-017-06745-00-00
Operator Name:	EQT Production
Well Name and Number:	516234
Latitude:	39.15711000
Longitude:	-80.79297000
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,725
Total Base Water Volume (gal):	14,037,240
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	FTS International	Carrier/Base Fluid	Water	7732-18-5	100.00000	86.26323	None
CI-150	FTS International	Acid Corrosion Inhibitor					
				Listed Below			

RECEIVED
Office of Oil and Gas

NOV 7 2018

WV Department of
Environmental Protection

MX-8-2544	Multi-Chem	Bacteria Treatment					Listed Below		
CS-1000-SI	FTS International	Scale Inhibitor					Listed Below		
MX-5-3886	Multi-Chem	Bacteria Treatment					Listed Below		
CS-500-SI	FTS International	Scale Inhibitor					Listed Below		
Hydrochloric Acid (15%)	FTS International	Acidizing					Listed Below		
Sand (Proppant)	FTS International	Proppant					Listed Below		
ABP-1	FTS International	Breaker					Listed Below		
HVG-14.0	FTS International	Gelling Agent					Listed Below		
FRW-1450	FTS International	Mixture					Listed Below		

				Listed Below			
Other Chemical (s)	Listed Above	See Trade Name (s) List					
				Listed Below			
Items above are Trade Names with the exception of Base Water. Items below are the individual ingredients							
			Silica Substrate	14808-60-7	100.00000	13.40767	None
			Calcium Nitrate.4H2O	13477-34-4	100.00000	0.03814	
			Calcium Nitrate.4H2O	13477-34-4	100.00000	0.03814	None
			Hydrochloric Acid	7647-01-0	15.00000	0.02665	None
			Distillates (petroleum), hydrotreated light	64742-47-8	30.00000	0.02552	
			Distillates (petroleum), hydrotreated light	64742-47-8	30.00000	0.02552	None
			Phosphonic Acid, (Nitrilotris (methylene) Tris	6419-19-8	35.00000	0.00550	None
			Alcohols, C-11-14-iso, C13-rich, ethoxylated	78330-21-9	5.00000	0.00425	
			Alcohols, C-11-14-iso, C13-rich, ethoxylated	78330-21-9	5.00000	0.00425	None
			Sodium Chloride	7647-14-5	100.00000	0.00235	None
			Sodium Chloride	7647-14-5	100.00000	0.00235	
			Ethylene Glycol	107-21-1	10.00000	0.00088	
			Ethylene Glycol	107-21-1	10.00000	0.00088	None
			Phosphonic Acid, (Dimethylamino) Methylene Bis-	29712-30-9	5.00000	0.00079	None
			Phosphonic Acid, (Dimethylamino) Methylene Bis-	29712-30-9	5.00000	0.00079	
			Raffinates, Sorption Process	64741-85-1	55.00000	0.00042	
			Raffinates, Sorption Process	64741-85-1	55.00000	0.00042	None
			Guar Gum	9000-30-0	50.00000	0.00038	None

RECEIVED
Office of Oil and Gas
NOV 7 2018
WV Department of
Environmental Protection

	Guar Gum	9000-30-0	50.00000	0.00038	
	Phosphorous Acid	10294-56-1	2.00000	0.00031	
	Phosphorous Acid	10294-56-1	2.00000	0.00031	None
	Ammonium Persulfate	7727-54-0	95.00000	0.00028	None
	Sodium Nitrate	7631-99-4	5.00000	0.00012	
	Sodium Nitrate	7631-99-4	5.00000	0.00012	None
	Isopropanol	67-63-0	30.00000	0.00009	None
	Ethylene Glycol	107-21-1	30.00000	0.00009	None
	Organic Amine Resin Salt	Proprietary	30.00000	0.00009	None
	Quartz	14808-60-7	4.00000	0.00003	None
	Quartz	14808-60-7	4.00000	0.00003	
	Quaternary Ammonium Compound	Proprietary	10.00000	0.00003	None
	Dimethylformamide	68-12-2	10.00000	0.00003	None
	Aromatic Aldehyde	Proprietary	10.00000	0.00003	None
	Isotridecanol, ethoxylated	9043-30-5	2.00000	0.00002	
	Isotridecanol, ethoxylated	9043-30-5	2.00000	0.00002	None

* 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%

*** If you are calculating a percentage of total ingredients do not add the water volume below the green line to the water volume above the green line

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)

RECEIVED
Office of Oil and Gas

NOV 7 2018

WV Department of
Environmental Protection

WV 516234
EQT Production Company
Franklin Maxwell Hairs L. P.
255 Acres ±

LEGEND

- EXISTING OIL/GAS WELL
- WATER FEATURE
- WELL HEAD TOP HOLE
- WELL LANDING POINT
- WELL BOTTOM HOLE
- REBAR FOUND
- DRILLED LATERAL LINE
- PERMITTED LATERAL LINE
- LEASE BOUNDARY
- PROPERTY LINE
- STREAM
- 500' LATERAL COLLECTION BUFFER

Lease No. Acres Owner

115829	60	Carlton Mothey, et al
121005	36.5	Marion G. Zorn
122692	200	Jonathan D. Casto, et al
109481	2000	Adelle McDougol, et al

NO.	ADJACENT OWNER	NO.	SURFACE OWNER
4	MORRIS I L WEE	1	CHARLES R & EVELYN GREATHOUSE GAPY
7	HUFF WILLIAM LEE	2	JAMES P GREATHOUSE
31	MICHAEL D & SUSAN H ZORN	3	CATHY JEAN WETZEL ETAL
32	MICHAEL D & SUSAN H ZORN	5	HUFF RANDY E DECEDENTS
33	MATHENY M & PATRICIA M CARLTON	14	BETTY M RYAN
36	CHARLES WALTER MUNCHMORE	17	EDWARD DALE PHOENIX
		18	EDNA LOUISE GRIMM
		19	RANDALL L GRIMM
		26	UNITED STATES OF AMERICA
		27	EDWARD & GINA BASSETTI
		28	EDWARD & GINA BASSETTI
		29	CARLTON W & PATRICIA MATHENY
		30	MARIAN G ZORN

WV 516234 Well Point Coordinates

Top Hole Coordinates

NAD 27 S.P.C. (PL)	N 242,973.540	E 1,631,354.810
NAD 27 GEO	N 23,157.134	LONG. 83,790.294
NAD 83 UTM 17N (M)	N 4,334,242.0	E 517,548.2
NAD 83 S.P.C. (PL)	N 242,003.5	E 1,604,814.0

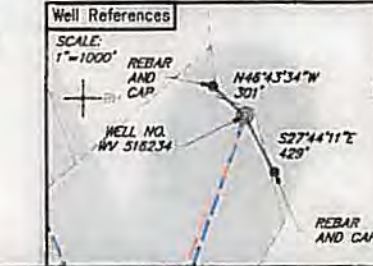
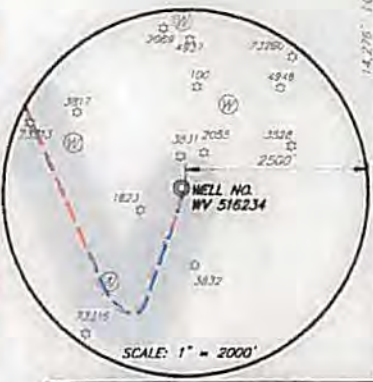
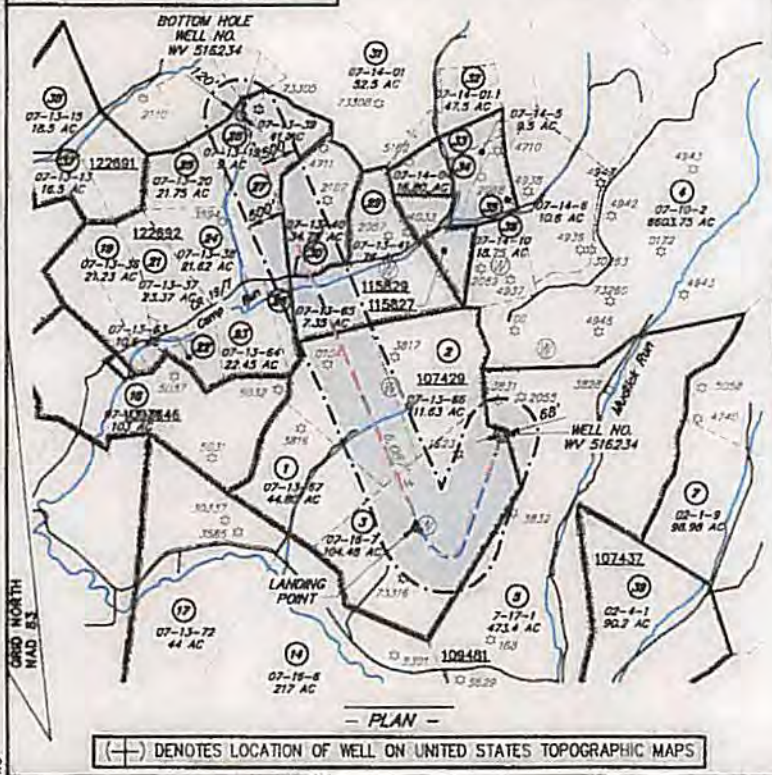
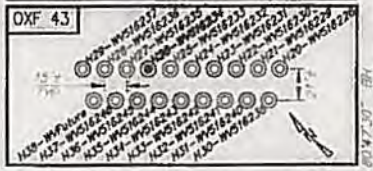
Landing Point Coordinates

NAD 27 S.P.C. (PL)	N 240,732.164	E 1,632,172.256
NAD 27 GEO	N 23,153.026	LONG. 83,790.290
NAD 83 UTM 17N (M)	N 4,334,252.8	E 517,548.2
NAD 83 S.P.C. (PL)	N 240,747.5	E 1,604,731.5

Bottom Hole Coordinates

NAD 27 S.P.C. (PL)	N 246,914.647	E 1,679,790.967
NAD 27 GEO	N 23,162.891	LONG. 83,857.861
NAD 83 UTM 17N (M)	N 4,335,546.4	E 518,244.3
NAD 83 S.P.C. (PL)	N 246,919.7	E 1,638,350.1

Coordinate Notes
 West Virginia Coordinate System of 1927 (North Zone) Based upon Differential GPS Measurements. Plot orientation, Corner and well ties are based upon the grid north meridian. Well location references are based upon the grid north meridian. UTM Coordinates are NAD83, Zone 17 Meters.



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 REGULATIONS ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

[Signature]



FILE NO.: EES-60635
 DRAWING NO.: OXF43_Well Plat
 SCALE: 1" = 2000'
 MINIMUM DEGREE OF ACCURACY: ±3'
 PROVEN SOURCE OF ELEVATION: GPS

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

DATE: OCTOBER 12, 2017
 OPERATORS WELL NO.: WV 516234
 API WELL NO.: 471706745
 STATE COUNTY PERMIT

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL (IF GAS) PRODUCTION: STORAGE DEEP SHALLOW
 LOCATION, ELEVATION: 1254' (Ground) 1229' (Prop.) WATERSHED: Middle Fork Hughes River QUADRANGLE: OXFORD
 DISTRICT: SOUTH WEST / COVE COUNTY: DODDRIDGE
 SURFACE OWNER: Cathy Wetzel ACREAGE: 104.48± AC
 ROYALTY OWNER: Franklin Maxwell Hairs L. P. LEASE NO.: 107429 ACREAGE: 255± AC
 PROPOSED WORK: DRILL CONVERT DRILL DEEPER FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
 PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY)
 PLUG AND ABANDON CLEAN OUT AND REPLUG TARGET FORMATION: MARCELLUS ESTIMATED DEPTH: 6665'

WELL OPERATOR: EQT Production Company DESIGNATED AGENT: Rex, G. Roy
 ADDRESS: 115 Professional Pl., P.O. Box 280, Bridgeport, WV 26330 ADDRESS: 115 Professional Pl., P.O. Box 280, Bridgeport, WV 26330

WWW.ENCOMPASSSERVICES.COM PLOT DATE: 10/12/2017 CAD FILE: OXF-43_WELL_PLAT-2017-10-12.DWG

RECEIVED
 Office of Oil and Gas
 NOV 7 2018
 Department of Environmental Protection