

Well Operator's Report of Well Work



Where energy meets innovation.

Well Number: 516231

API: 47 - 017 - 06743

Submission: Initial Amended

Notes: Following is a WR-35 for OXF43 Pad, Well # 516231, as amended to include Flowback data.
In addition to this amended version of the Report, included is a copy of each of the following: The executed initial WR-35, the "Stimulated Stages" & "Perforations" attachments, a list of Formations and Depths, the Wellpath and Survey Reports, the FracFocus Disclosure and the "As-Drilled" Plat submitted by EQT Corporation on April 20, 2018.

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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 47-017-06743 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 516231
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 4,334,233.0 Easting 517,912.4
Landing Point of Curve Northing 4,334,227.6 Easting 517,885.6
Bottom Hole Northing 4,335,326.9 Easting 517,436.7

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 _____
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 12.3 ppg, aliphatic based non-aqueous drilling fluid, barium 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 09/04/2017
Date completion activities began 12/20/2017 Date completion activities ceased 1/24/2018
Verbal plugging (Y/N) N Date permission granted N/A Granted by N/A

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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 WV Department of
Salt water depth(s) ft No shallow SW Void(s) encountered (Y/N) depths N Environmental Protection
Coal depth(s) ft 324 Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

Reviewed by:

API 47-017 - 06743 Farm name FRANKLIN MAXWELL HEIRS L.P. Well number 516231

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"	556'	NEW	J-55 54.5#	90'	Y
Coal							
Intermediate 1	12-3/8"	9-5/8"	5356'	NEW	A-500 40# & P-110 40#	4986'	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4" & 8-1/2"	5 1/2"	10880'	NEW	P-110 20#	N/A	N
Tubing							
Packer type and depth set							

Comment Details Production Cement job has calculated TOC of 5660' 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	57.82	0	8
Surface	CLASS A	544	15.6	1.20	653	0	8
Coal							
Intermediate 1	Class A / CLASS A	810 / 1095	15.6 / 15.6	1.18 / 1.18	2248	0	8
Intermediate 2							
Intermediate 3							
Production	Class H / Class H	141 / 498	15.2 / 15.6	1.25 / 2.06	1202	5660'	8
Tubing							

Drillers TD (ft) 10896' Loggers TD (ft) N/A
 Deepest formation penetrated MARCELLUS Plug back to (ft) 2667'
 Plug back procedure Pump 4 bbl fresh water ahead, 42 bbl (200 sks) 15.6 ppg Class A neat cement isolation plug, 2 bbl behind.
Pump 91 bbl (520 sks) 17.5 ppg Class H 0.95 ft³/sk Kick off plug, drop wiper ball and pump 37 bbl water to clean pipe.

Kick off depth (ft) 4883' 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 1 : ON SHOE TRACK AND EVERY 500' FEET TO SURFACE

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PRODUCTION: ON SHOE TRACK AND EVERY JOINT TO 5014' WV Department of Environmental Protection

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 - 06743 Farm name FRANKLIN MAXWELL HEIRS L.P. Well number 516231

<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>	
<u>Marcellus</u>	<u>6,633'</u> TVD	<u>6,848'</u> MD
_____	_____	_____
_____	_____	_____
_____	_____	_____

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump

SHUT-IN PRESSURE Surface 1,132 psi Bottom Hole N/A psi DURATION OF TEST 133.5 hrs

OPEN FLOW Gas 9569 mcfpd Oil N/A bpd NGL 29 bpd Water 569 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	
	<u>0</u>		<u>0</u>		

Please insert additional pages as applicable.

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

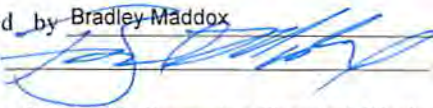
Logging Company Gyrodatta Inc.
Address 601 Mayer St. City Bridgeville State PA Zip 15017

Cementing Company _____
Address _____ City _____ State _____ Zip _____

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

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Please insert additional pages as applicable.

Completed by Bradley Maddox Telephone (412) 395-7053
Signature  Title Director - Completions Date 11/01/2018

WV Department of
Environmental Protection

API 47- 017 - 06743 Farm name FRANKLIN MAXWELL HEIRS L.P. Well number 516231

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

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Well Operator's Report of Well Work



Well Number: 516231

API: 47 - 017 - 06743

Submission: Initial Amended

Notes: Waiting on Flowback

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Reviewed by: _____

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Surface	17-1/2"	13-3/8"	558'	NEW	J-55 54.5#	90'	Y
Coal							
Intermediate 1	12-3/8"	9-5/8"	5356'	NEW	A 500 45# & P-110 10#	4986'	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4" & 8-1/2"	5 1/2"	10880'	NEW	P-110 20#	N/A	N
Tubing							
Packer type and depth set							

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Tubing							

Drillers TD (ft) 10695'

Loggers TD (ft) N/A

Deepest formation penetrated MARCELLUS

Plug back to (ft) 2587'

Plug back procedure Pump 4 bbl fresh water ahead, 42 bbl (200 sks) 15.6 ppg Class A neat cement isolation plug, 2 bbl behind.

Pump 91 bbl (520 sks) 17.5 ppg Class H @ 95 ft/sk Kick off plug drop wiper ball and pump 37 bbl water to clean pipe

Kick off depth (ft) 4883 MD

Check all wireline logs run
 calliper 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 100 FEET TO SURFACE

INTERMEDIATE 1 ON SHOE TRACK AND EVERY 500 FEET TO SURFACE

PRODUCTION ON SHOE TRACK AND EVERY JOINT TO 5014'

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- 017 . 06743 Form name FRANKLIN MAXWELL HEIRS L.P. Well number 516231

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

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Address 4000 Town Center Blvd, Suite 210 City Cannonsburg State PA Zip 15317

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516231-47-017-06743-0000 - Perforations

Stage Number	Perforation Date	Top Perf Depth (ftKB)	Bottom Perf Depth (ftKB)	Number of Shots	Formation
Initiation Sleeve	12/15/2017	10,853	10,880	10	Marcellus
1	12/21/2017	10,693	10,815	32	Marcellus
2	12/21/2017	10,493	10,655	40	Marcellus
3	12/21/2017	10,293	10,455	40	Marcellus
4	12/21/2017	10,093	10,255	40	Marcellus
5	12/21/2017	9,893	10,055	40	Marcellus
6	12/22/2017	9,693	9,855	40	Marcellus
7	12/22/2017	9,493	9,655	40	Marcellus
8	12/22/2017	9,293	9,455	40	Marcellus
9	12/23/2017	9,093	9,255	40	Marcellus
10	12/23/2017	8,893	9,055	40	Marcellus
11	12/24/2017	8,693	8,855	40	Marcellus
12	12/24/2017	8,533	8,655	40	Marcellus
13	12/25/2017	8,293	8,455	40	Marcellus
14	1/22/2018	8,093	8,255	40	Marcellus
15	1/23/2018	7,893	8,055	40	Marcellus
16	1/23/2018	7,693	7,855	40	Marcellus
17	1/23/2018	7,493	7,655	40	Marcellus
18	1/24/2018	7,293	7,455	40	Marcellus
19	1/24/2018	7,093	7,255	40	Marcellus
20	1/24/2018	6,893	7,055	40	Marcellus

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516231 47-017-06743-0000 - 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 (bbbls)	Amount of Nitrogen/other (units)
1.01	12/20/2017	5	5,208	6,306	3,660	0	1,009	0
1	12/21/2017	97	8,875	9,260	4,304	450,043	7,908	0
2	12/21/2017	100	8,656	9,178	4,734	450,897	7,643	0
3	12/21/2017	100	8,704	9,095	4,786	450,513	7,635	0
4	12/21/2017	100	8,445	8,868	4,831	450,210	7,719	0
5	12/22/2017	101	8,562	8,981	4,991	450,797	7,726	0
6	12/22/2017	100	8,558	9,182	4,987	450,062	7,584	0
7	12/22/2017	99	8,652	9,170	4,873	450,430	7,606	0
8	12/22/2017	100	8,274	8,675	5,149	451,039	7,417	0
9	12/23/2017	101	8,272	8,690	5,104	451,606	8,335	0
10	12/24/2017	100	8,043	8,336	5,147	449,264	7,227	0
11	12/24/2017	100	8,315	8,757	4,136	451,049	7,604	0
12	12/24/2017	101	8,314	8,976	4,935	451,259	7,425	0
13	1/22/2018	100	8,150	8,526	5,087	449,569	7,295	0
14	1/23/2018	100	8,289	9,260	5,072	449,747	7,376	0
15	1/23/2018	100	8,416	9,025	5,075	450,692	7,627	0
16	1/23/2018	100	8,032	8,457	4,804	450,807	7,160	0
17	1/24/2018	100	7,780	8,008	4,466	450,776	7,251	0
18	1/24/2018	100	7,851	8,323	5,093	450,367	7,234	0
19	1/24/2018	101	7,705	8,292	4,763	449,989	7,233	0
20	1/24/2018	100	7,464	7,779	4,900	450,341	7,164	0

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Well # 516231 Final Formations API# 47-017-06743-00-00				
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	1088	1088
MAXTON	1088	1088	1128	1128
SAND / SHALE	1128	1128	1964	1964
BIG LIME	1964	1964	2032	2032
SAND / SHALE	2032	2032	2076	2076
BIG INJUN	2076	2076	2108	2108
SAND / SHALE	2108	2108	2250	2250
WEIR	2250	2250	2376	2376
SAND / SHALE	2376	2376	2450	2450
GANTZ	2450	2450	2532	2532
FIFTY FOOT	2532	2532	2589	2589
SAND / SHALE	2589	2589	2630	2630
THIRTY FOOT	2630	2630	2666	2666
SAND / SHALE	2666	2666	2672	2672
GORDON	2672	2672	2721	2721
SAND / SHALE	2721	2721	2772	2772
FORTH SAND	2772	2772	2839	2839
SAND / SHALE	2839	2839	2953	2952
BAYARD	2952	2951	3023	3022
SAND / SHALE	3023	3022	3286	3284
WARREN	3286	3284	3352	3350
SPEECHLEY	3352	3350	3857	3855
BALLTOWN A	3857	3855	4215	4213
SAND / SHALE	4215	4213	4455	4453
RILEY	4455	4453	4831	4829
BENSON	4831	4829	4925	4923
ALEXANDER	5133	5130	5226	5221
ELKS	5226	5221	6373	6282
SONYEA	6373	6282	6530	6427
MIDDLESEX	6530	6427	6605	6489
GENESEE	6605	6489	6693	6553
GENESEO	6693	6553	6772	6600
TULLY	6772	6600	6810	6618
HAMILTON	6810	6618	6848	6633
MARCELLUS	6848	6633	10896	6705

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EQT PRODUCTION

Doddridge County, WV

OXF43

#516231 -MRC - Slot 516231

ST01

Design: 516231 ST01 AS Drilled

Standard Survey Report

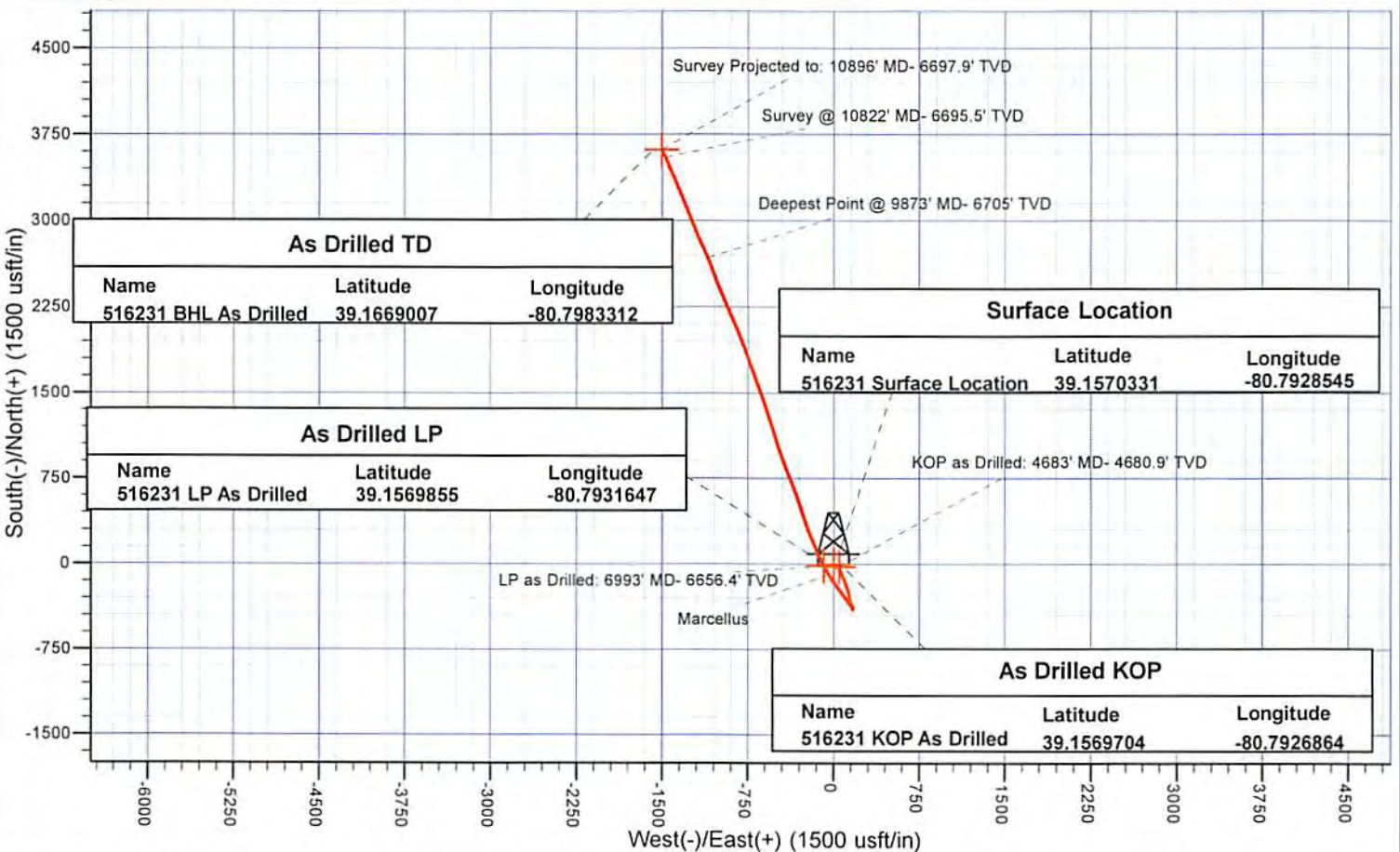
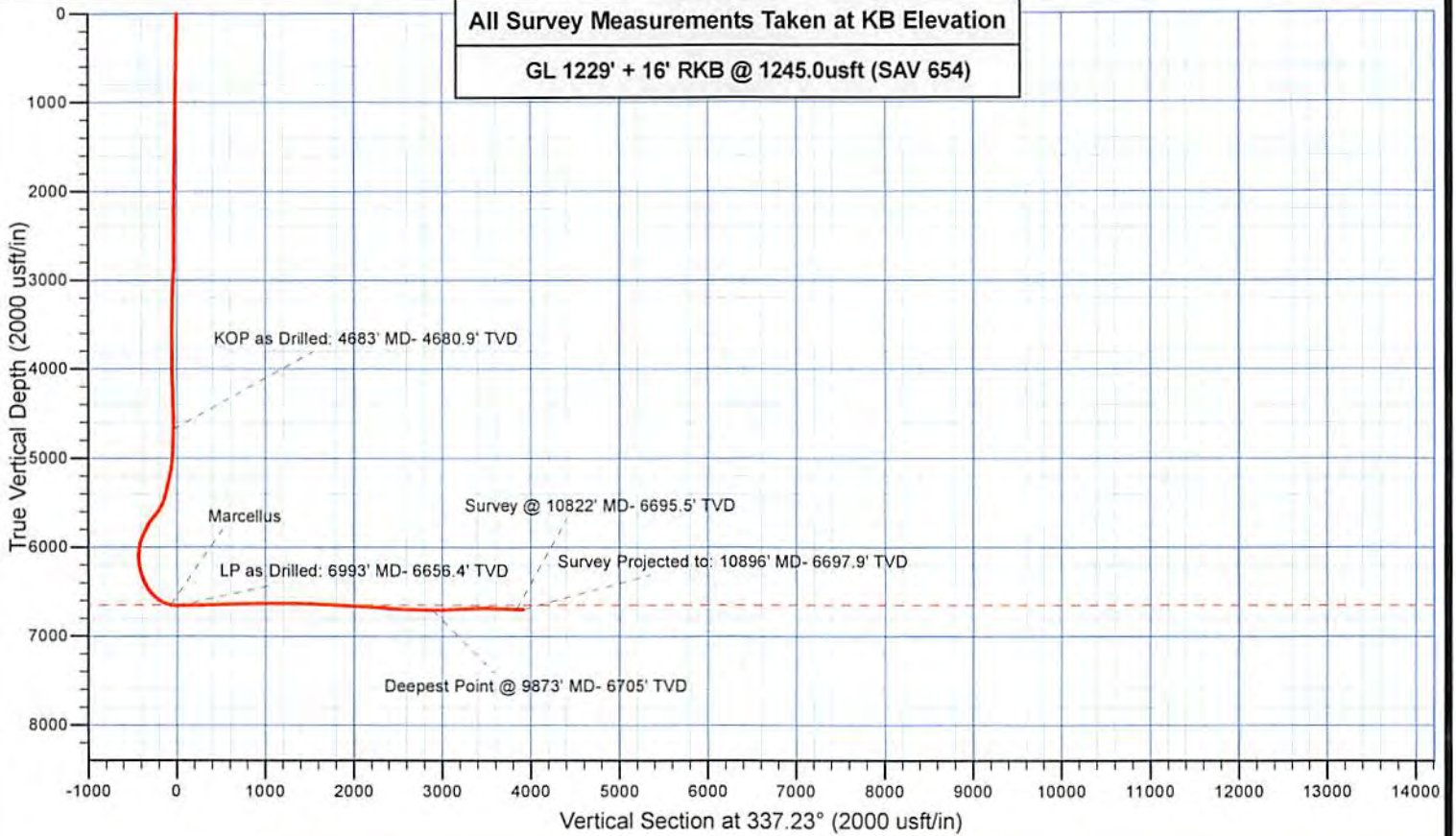
05 September, 2017



www.scientificdrilling.com



All Survey Measurements Taken at KB Elevation
 GL 1229' + 16' RKB @ 1245.0usft (SAV 654)





SDI
Survey Report



Company:	EQT PRODUCTION	Local Co-ordinate Reference:	Well #516231 -MRC - Slot 516231
Project:	Doddridge County, WV	TVD Reference:	GL 1229' & 16' KB @ 1245.0usft (SAV 654)
Site:	OXF43	MD Reference:	GL 1229' & 16' KB @ 1245.0usft (SAV 654)
Well:	#516231 -MRC	North Reference:	Grid
Wellbore:	ST01	Survey Calculation Method:	Minimum Curvature
Design:	516231 ST01 AS Drilled	Database:	Northeast District

Project	Doddridge County, WV		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	West Virginia North 4701		

Site	OXF43				
Site Position:		Northing:	241,913.00 usft	Latitude:	39.1569519
From:	Map	Easting:	1,633,421.76 usft	Longitude:	-80.7927349
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	-0.82 "

Well	#516231 -MRC - Slot 516231					
Well Position	+N/-S	0.0 usft	Northing:	241,943.07 usft	Latitude:	39.1570332
	+E/-W	0.0 usft	Easting:	1,633,388.28 usft	Longitude:	-80.7928545
Position Uncertainty		0.0 usft	Wellhead Elevation:	0.0 usft	Ground Level:	1,229.0 usft

Wellbore	ST01				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	8/14/2017	-7.77	66.43	51,942

Design	516231 ST01 AS Drilled				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	2,603.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.0	0.0	0.0	337.23	

Survey Program	Date	9/5/2017			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
103.0	2,603.0	Gyrodata Gyro (Main)	GYD_DP_MS	Gyrodata gyro-compassing and drop	
2,633.0	10,896.0	516231 ST01 SDI (ST01)	SDI MWD	SDI MWD - Standard ver 1.0.1	

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00		
103.0	0.28	138.17	103.0	-0.2	0.2	-0.2	0.27	0.27		0.00
203.0	0.59	152.79	203.0	-0.8	0.6	-1.0	0.33	0.31		14.62
303.0	0.94	158.11	303.0	-2.0	1.1	-2.3	0.36	0.35		5.32
403.0	1.12	161.96	403.0	-3.7	1.7	-4.1	0.19	0.18		3.85
503.0	1.14	166.42	503.0	-5.6	2.3	-6.1	0.09	0.02		4.46
603.0	1.16	166.71	602.9	-7.6	2.7	-8.0	0.02	0.02		0.29
703.0	1.26	166.73	702.9	-9.6	3.2	-10.1	0.10	0.10		0.02
803.0	1.35	167.37	802.9	-11.9	3.7	-12.4	0.09	0.09		0.64
903.0	1.27	168.54	902.9	-14.1	4.2	-14.6	0.08	-0.08		1.17

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Wellbore:	ST01	Survey Calculation Method:	Minimum Curvature
Design:	516231 ST01 AS Drilled	Database:	Northeast District

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Survey

NOV 2 2018

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
1,003.0	1.13	168.63	1,002.8	-16.1	4.6	-16.7	0.14	-0.14	0.09
1,103.0	1.01	169.25	1,102.8	-18.0	5.0	-18.5	0.12	-0.12	0.62
1,203.0	0.83	168.89	1,202.8	-19.6	5.3	-20.1	0.18	-0.18	-0.36
1,303.0	0.71	165.45	1,302.8	-20.9	5.6	-21.4	0.13	-0.12	-3.44
1,403.0	0.86	155.26	1,402.8	-22.1	6.0	-22.8	0.20	0.15	-10.19
1,503.0	0.87	130.89	1,502.8	-23.3	6.9	-24.2	0.37	0.01	-24.37
1,603.0	0.79	113.04	1,602.8	-24.1	8.1	-25.4	0.27	-0.08	-17.85
1,703.0	0.86	113.89	1,702.8	-24.7	9.5	-26.4	0.07	0.07	0.85
1,803.0	0.87	118.14	1,802.7	-25.3	10.8	-27.5	0.06	0.01	4.25
1,903.0	0.83	121.89	1,902.7	-26.1	12.1	-28.7	0.07	-0.04	3.75
2,003.0	0.81	123.79	2,002.7	-26.8	13.3	-29.9	0.03	-0.02	1.90
2,103.0	0.67	124.33	2,102.7	-27.6	14.4	-31.0	0.14	-0.14	0.54
2,203.0	0.47	110.32	2,202.7	-28.0	15.2	-31.8	0.24	-0.20	-14.01
2,303.0	0.49	104.36	2,302.7	-28.3	16.0	-32.3	0.05	0.02	-5.96
2,403.0	0.39	84.81	2,402.7	-28.4	16.8	-32.7	0.18	-0.10	-19.55
2,503.0	0.43	59.16	2,502.7	-28.1	17.4	-32.7	0.19	0.04	-25.65
2,603.0	0.42	43.13	2,602.7	-27.7	18.0	-32.5	0.12	-0.01	-16.03
2,633.0	0.47	40.51	2,632.7	-27.5	18.2	-32.4	0.18	0.17	-8.73
2,709.0	0.92	86.27	2,708.7	-27.2	19.0	-32.5	0.90	0.59	60.21
2,723.0	1.04	81.15	2,722.7	-27.2	19.2	-32.5	1.06	0.86	-36.57
2,766.0	1.80	94.07	2,765.7	-27.2	20.3	-32.9	1.91	1.77	30.05
2,810.0	3.04	92.05	2,809.6	-27.3	22.1	-33.7	2.82	2.82	-4.59
2,854.0	4.48	92.31	2,853.5	-27.4	25.0	-34.9	3.27	3.27	0.59
2,898.0	5.91	92.12	2,897.3	-27.5	29.0	-36.6	3.25	3.25	-0.43
2,941.0	6.50	93.16	2,940.1	-27.8	33.6	-38.6	1.40	1.37	2.42
2,985.0	6.19	97.80	2,983.8	-28.2	38.5	-40.9	1.36	-0.70	10.55
3,029.0	5.07	102.47	3,027.6	-29.0	42.7	-43.2	2.75	-2.55	10.61
3,072.0	4.01	107.67	3,070.5	-29.8	46.0	-45.3	2.64	-2.47	12.09
3,116.0	3.06	115.64	3,114.4	-30.8	48.5	-47.2	2.43	-2.16	18.11
3,160.0	2.79	129.37	3,158.3	-32.0	50.4	-49.0	1.70	-0.61	31.20
3,203.0	2.54	137.98	3,201.3	-33.4	51.9	-50.8	1.10	-0.58	20.02
3,247.0	1.88	151.14	3,245.3	-34.7	52.9	-52.5	1.88	-1.50	29.91
3,291.0	0.84	165.38	3,289.2	-35.7	53.3	-53.5	2.47	-2.36	32.36
3,334.0	0.58	207.96	3,332.2	-36.2	53.3	-54.0	1.32	-0.60	99.02
3,378.0	0.44	197.80	3,376.2	-36.5	53.1	-54.2	0.38	-0.32	-23.09
3,421.0	0.39	232.96	3,419.2	-36.8	53.0	-54.4	0.59	-0.12	81.77
3,464.0	0.43	241.36	3,462.2	-36.9	52.7	-54.5	0.17	0.09	19.53
3,507.0	0.47	208.52	3,505.2	-37.2	52.5	-54.6	0.60	0.09	-76.37
3,551.0	0.23	256.12	3,549.2	-37.3	52.3	-54.7	0.81	-0.55	108.18
3,595.0	0.31	121.34	3,593.2	-37.4	52.3	-54.8	1.14	0.18	-306.32
3,637.0	0.32	105.01	3,635.2	-37.5	52.5	-54.9	0.21	0.02	-38.88
3,681.0	0.29	102.96	3,679.2	-37.6	52.8	-55.1	0.07	-0.07	-4.66
3,724.0	0.37	113.19	3,722.2	-37.7	53.0	-55.2	0.23	0.19	23.79

WV Department of Environmental Protection

Company:	EQT PRODUCTION	Local Co-ordinate Reference:	Well #516231 -MRC - Slot 516231
Project:	Doddridge County, WV	TVD Reference:	GL 1229' & 16' KB @ 1245.0usft (SAV 654)
Site:	OXF43	MD Reference:	GL 1229' & 16' KB @ 1245.0usft (SAV 654)
Well:	#516231 -MRC	North Reference:	Grid
Wellbore:	ST01	Survey Calculation Method:	Minimum Curvature
Design:	516231 ST01 AS Drilled	Database:	Northeast District

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Survey

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Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	WV Department of Environmental Protection
3,768.0	0.46	152.03	3,766.2	-37.9	53.2	-55.5	0.66	0.20	88.27	
3,812.0	0.07	217.62	3,810.2	-38.0	53.3	-55.7	0.99	-0.89	149.07	
3,855.0	0.37	194.83	3,853.2	-38.2	53.2	-55.8	0.71	0.70	-53.00	
3,899.0	0.40	244.66	3,897.2	-38.4	53.0	-55.9	0.74	0.07	113.25	
3,942.0	0.45	312.79	3,940.2	-38.3	52.8	-55.8	1.11	0.12	158.44	
3,986.0	0.71	287.60	3,984.2	-38.1	52.4	-55.5	0.81	0.59	-57.25	
4,030.0	0.96	309.02	4,028.2	-37.8	51.8	-55.0	0.90	0.57	48.68	
4,073.0	1.78	316.93	4,071.2	-37.1	51.1	-54.0	1.95	1.91	18.40	
4,117.0	1.86	324.96	4,115.2	-36.0	50.2	-52.7	0.61	0.18	18.25	
4,161.0	2.25	346.51	4,159.2	-34.6	49.6	-51.1	1.95	0.89	48.98	
4,204.0	2.99	349.72	4,202.1	-32.7	49.2	-49.2	1.75	1.72	7.47	
4,247.0	2.73	351.34	4,245.1	-30.6	48.9	-47.1	0.63	-0.60	3.77	
4,290.0	2.30	351.96	4,288.0	-28.7	48.6	-45.3	1.00	-1.00	1.44	
4,334.0	2.00	345.15	4,332.0	-27.1	48.3	-43.7	0.89	-0.68	-15.48	
4,377.0	1.53	340.70	4,375.0	-25.8	47.9	-42.3	1.14	-1.09	-10.35	
4,421.0	0.84	347.54	4,419.0	-25.0	47.6	-41.4	1.60	-1.57	15.55	
4,467.0	0.87	337.46	4,465.0	-24.3	47.4	-40.8	0.33	0.07	-21.91	
4,508.0	0.74	0.63	4,506.0	-23.7	47.3	-40.2	0.85	-0.32	56.51	
4,552.0	0.74	47.77	4,549.9	-23.3	47.5	-39.9	1.34	0.00	107.14	
4,596.0	0.55	39.86	4,593.9	-22.9	47.9	-39.7	0.48	-0.43	-17.98	
4,639.0	0.59	205.32	4,636.9	-23.0	47.9	-39.7	2.63	0.09	384.79	
4,683.0	1.54	230.33	4,680.9	-23.5	47.4	-40.0	2.35	2.16	56.83	
KOP as Drilled: 4683' MD- 4680.9' TVD										
4,727.0	2.17	236.77	4,724.9	-24.4	46.2	-40.4	1.51	1.43	14.64	
4,770.0	2.52	231.67	4,767.9	-25.4	44.8	-40.8	0.95	0.81	-11.86	
4,814.0	2.94	217.45	4,811.8	-26.9	43.3	-41.6	1.80	0.95	-32.32	
4,858.0	3.12	201.28	4,855.8	-28.9	42.2	-43.0	1.98	0.41	-36.75	
4,901.0	3.12	182.38	4,898.7	-31.2	41.7	-44.9	2.38	0.00	-43.95	
4,945.0	3.55	158.86	4,942.6	-33.6	42.2	-47.3	3.23	0.98	-53.45	
4,989.0	4.37	146.71	4,986.5	-36.3	43.6	-50.4	2.66	1.86	-27.61	
5,032.0	5.56	141.77	5,029.4	-39.3	45.8	-54.0	2.94	2.77	-11.49	
5,076.0	7.14	141.50	5,073.1	-43.1	48.8	-58.7	3.59	3.59	-0.61	
5,120.0	8.76	144.75	5,116.7	-48.0	52.4	-64.6	3.82	3.68	7.39	
5,194.0	12.15	152.85	5,189.4	-59.6	59.3	-77.8	4.98	4.58	10.94	
5,257.0	13.12	157.83	5,250.9	-72.1	65.0	-91.6	2.31	1.54	7.90	
5,320.0	13.26	161.34	5,312.3	-85.5	70.0	-106.0	1.29	0.22	5.57	
5,381.0	13.45	163.10	5,371.6	-99.0	74.3	-120.0	0.74	0.31	2.89	
5,413.0	13.35	164.19	5,402.7	-106.1	76.4	-127.4	0.85	-0.31	3.41	
5,444.0	14.64	160.71	5,432.8	-113.2	78.6	-134.8	4.97	4.16	-11.23	
5,476.0	18.60	155.97	5,463.5	-121.7	82.1	-144.0	13.07	12.38	-14.81	
5,507.0	22.39	155.29	5,492.5	-131.6	86.5	-154.8	12.25	12.23	-2.19	
5,539.0	25.74	156.94	5,521.7	-143.5	91.8	-167.9	10.68	10.47	5.16	
5,571.0	28.35	157.08	5,550.2	-156.9	97.5	-182.4	8.16	8.16	0.44	



SDI
Survey Report



Company:	EQT PRODUCTION	Local Co-ordinate Reference:	Well #516231 -MRC - Slot 516231
Project:	Doddridge County, WV	TVD Reference:	GL 1229' & 16' KB @ 1245.0usft (SAV 654)
Site:	OXF43	MD Reference:	GL 1229' & 16' KB @ 1245.0usft (SAV 654)
Well:	#516231 -MRC	North Reference:	Grid
Wellbore:	ST01	Survey Calculation Method:	Minimum Curvature
Design:	516231 ST01 AS Drilled	Database:	Northeast District

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Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,602.0	31.52	157.11	5,577.1	-171.1	103.5	-197.9	10.23	10.23	0.10
5,634.0	34.92	159.83	5,603.8	-187.5	109.9	-215.4	11.60	10.63	8.50
5,665.0	38.23	162.63	5,628.7	-204.9	115.9	-233.8	11.95	10.68	9.03
5,697.0	41.51	164.27	5,653.3	-224.6	121.7	-254.2	10.76	10.25	5.13
5,729.0	41.26	166.32	5,677.3	-245.1	127.1	-275.1	4.31	-0.78	6.41
5,760.0	36.84	166.89	5,701.4	-264.1	131.6	-294.4	14.30	-14.26	1.84
5,792.0	31.90	168.79	5,727.8	-281.7	135.4	-312.2	15.80	-15.44	5.94
5,823.0	27.51	169.40	5,754.7	-296.8	138.3	-327.2	14.19	-14.16	1.97
5,855.0	25.46	168.17	5,783.3	-310.8	141.1	-341.2	6.63	-6.41	-3.84
5,886.0	25.53	165.61	5,811.3	-323.8	144.1	-354.3	3.56	0.23	-8.26
5,918.0	25.81	159.89	5,840.2	-337.0	148.2	-368.1	7.79	0.88	-17.88
5,950.0	24.86	156.91	5,869.1	-349.7	153.3	-381.8	4.97	-2.97	-9.31
5,981.0	22.11	157.20	5,897.5	-361.1	158.1	-394.1	8.88	-8.87	0.94
6,013.0	18.85	159.32	5,927.5	-371.5	162.2	-405.3	10.45	-10.19	6.63
6,044.0	14.81	166.55	5,957.2	-380.0	164.9	-414.3	14.65	-13.03	23.32
6,076.0	11.17	177.88	5,988.3	-387.1	166.0	-421.2	13.83	-11.38	35.41
6,107.0	7.92	191.69	6,018.9	-392.2	165.7	-425.8	12.75	-10.48	44.55
6,139.0	5.29	203.29	6,050.7	-395.7	164.6	-428.6	9.18	-8.22	36.25
6,171.0	2.33	194.90	6,082.6	-397.7	163.9	-430.1	9.39	-9.25	-26.22
6,202.0	2.69	72.65	6,113.6	-398.1	164.4	-430.7	14.19	1.16	-394.36
6,234.0	5.78	38.15	6,145.5	-396.6	166.1	-430.0	12.11	9.66	-107.81
6,266.0	7.13	2.06	6,177.3	-393.4	167.2	-427.4	13.10	4.22	-112.78
6,297.0	9.31	338.51	6,208.0	-389.1	166.3	-423.2	12.80	7.03	-75.97
6,328.0	11.82	328.85	6,238.5	-384.1	163.8	-417.5	9.88	8.10	-31.16
6,360.0	15.03	327.95	6,269.6	-377.7	159.9	-410.2	10.05	10.03	-2.81
6,392.0	17.34	323.82	6,300.3	-370.4	154.9	-401.4	8.06	7.22	-12.91
6,424.0	19.61	323.08	6,330.7	-362.2	148.8	-391.6	7.13	7.09	-2.31
6,455.0	22.61	322.82	6,359.6	-353.3	142.1	-380.8	9.68	9.68	-0.84
6,487.0	25.71	322.75	6,388.8	-342.9	134.2	-368.1	9.69	9.69	-0.22
6,518.0	28.73	323.57	6,416.4	-331.5	125.7	-354.3	9.82	9.74	2.65
6,550.0	31.79	323.56	6,444.0	-318.6	116.1	-338.7	9.56	9.56	-0.03
6,582.0	35.29	323.72	6,470.7	-304.3	105.6	-321.5	10.94	10.94	0.50
6,613.0	38.80	324.44	6,495.4	-289.2	94.7	-303.3	11.41	11.32	2.32
6,645.0	42.56	324.01	6,519.7	-272.3	82.5	-283.0	11.78	11.75	-1.34
6,677.0	46.32	323.05	6,542.5	-254.3	69.2	-261.2	11.94	11.75	-3.00
6,708.0	50.32	323.31	6,563.1	-235.7	55.3	-238.8	12.92	12.90	0.84
6,740.0	54.77	323.19	6,582.6	-215.4	40.1	-214.1	13.91	13.91	-0.38
6,772.0	58.93	323.62	6,600.1	-193.9	24.1	-188.1	13.05	13.00	1.34
6,803.0	62.92	325.60	6,615.1	-171.8	8.5	-161.7	14.03	12.87	6.39
6,835.0	67.31	327.30	6,628.6	-147.6	-7.6	-133.2	14.54	13.72	5.31
6,866.0	72.51	327.01	6,639.2	-123.2	-23.4	-104.5	16.80	16.77	-0.94
6,898.0	77.31	326.97	6,647.6	-97.3	-40.2	-74.1	15.00	15.00	-0.13
6,930.0	82.48	327.97	6,653.2	-70.7	-57.1	-43.1	16.45	16.16	3.13
6,961.0	87.22	330.09	6,656.0	-44.2	-73.0	-12.5	16.74	15.29	6.84

WV Department of Environmental Protection

Company:	EQT PRODUCTION	Local Co-ordinate Reference:	Well #516231 -MRC - Slot 516231
Project:	Doddridge County, WV	TVD Reference:	GL 1229' & 16' KB @ 1245.0usft (SAV 654)
Site:	OXF43	MD Reference:	GL 1229' & 16' KB @ 1245.0usft (SAV 654)
Well:	#516231 -MRC	North Reference:	Grid
Wellbore:	ST01	Survey Calculation Method:	Minimum Curvature
Design:	516231 ST01 AS Drilled	Database:	Northeast District

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
6,993.0	91.14	333.27	6,656.4	-16.1	-88.2	19.3	15.77	12.24	
LP as Drilled: 6993' MD- 6656.4' TVD									
7,025.0	91.88	335.40	6,655.6	12.8	-102.0	51.2	7.05	2.31	6.66
7,088.0	92.59	335.94	6,653.1	70.1	-128.0	114.2	1.42	1.13	0.86
7,151.0	91.01	337.41	6,651.1	127.9	-152.9	177.1	3.42	-2.51	2.33
7,215.0	91.07	336.37	6,650.0	186.8	-178.0	241.1	1.63	0.09	-1.63
7,278.0	91.51	337.19	6,648.6	244.7	-202.8	304.1	1.48	0.70	1.30
7,341.0	90.91	341.19	6,647.2	303.5	-225.2	367.0	6.42	-0.95	6.35
7,404.0	91.31	341.44	6,646.0	363.2	-245.4	429.9	0.75	0.63	0.40
7,467.0	91.48	340.87	6,644.5	422.8	-265.7	492.7	0.94	0.27	-0.90
7,531.0	91.48	341.44	6,642.8	483.4	-286.4	556.5	0.89	0.00	0.89
7,595.0	91.88	341.35	6,641.0	544.0	-306.8	620.3	0.64	0.63	-0.14
7,658.0	92.35	340.84	6,638.6	603.5	-327.2	683.2	1.10	0.75	-0.81
7,721.0	92.08	339.97	6,636.2	662.9	-348.3	746.0	1.44	-0.43	-1.38
7,784.0	90.40	338.68	6,634.8	721.8	-370.6	808.9	3.36	-2.67	-2.05
7,848.0	90.71	337.80	6,634.2	781.2	-394.3	872.9	1.46	0.48	-1.38
7,911.0	91.41	338.17	6,633.0	839.6	-417.9	935.9	1.26	1.11	0.59
7,974.0	91.24	339.97	6,631.6	898.4	-440.4	998.9	2.87	-0.27	2.86
8,037.0	90.77	341.29	6,630.5	957.9	-461.3	1,061.7	2.22	-0.75	2.10
8,101.0	90.10	342.29	6,630.0	1,018.6	-481.3	1,125.5	1.88	-1.05	1.56
8,164.0	89.77	342.88	6,630.1	1,078.8	-500.1	1,188.3	1.07	-0.52	0.94
8,227.0	89.90	342.55	6,630.3	1,138.9	-518.9	1,251.0	0.56	0.21	-0.52
8,291.0	89.80	341.99	6,630.4	1,199.9	-538.4	1,314.7	0.89	-0.16	-0.88
8,354.0	88.56	342.30	6,631.3	1,259.8	-557.7	1,377.5	2.03	-1.97	0.49
8,418.0	87.92	342.42	6,633.3	1,320.8	-577.1	1,441.2	1.02	-1.00	0.19
8,481.0	88.02	342.19	6,635.5	1,380.8	-596.2	1,503.9	0.40	0.16	-0.37
8,545.0	87.65	341.00	6,637.9	1,441.5	-616.4	1,567.7	1.95	-0.58	-1.86
8,608.0	87.32	341.33	6,640.7	1,501.0	-636.7	1,630.5	0.74	-0.52	0.52
8,671.0	86.94	340.64	6,643.9	1,560.5	-657.2	1,693.3	1.25	-0.60	-1.10
8,735.0	87.07	340.03	6,647.2	1,620.7	-678.7	1,757.1	0.97	0.20	-0.95
8,799.0	86.80	339.87	6,650.6	1,680.7	-700.6	1,820.9	0.49	-0.42	-0.25
8,862.0	87.01	339.52	6,654.0	1,739.7	-722.4	1,883.8	0.65	0.33	-0.56
8,925.0	87.44	339.23	6,657.1	1,798.6	-744.6	1,946.6	0.82	0.68	-0.46
8,989.0	86.74	338.71	6,660.3	1,858.3	-767.6	2,010.5	1.36	-1.09	-0.81
9,052.0	86.65	338.56	6,664.0	1,916.9	-790.5	2,073.4	0.28	-0.14	-0.24
9,115.0	86.65	338.23	6,667.6	1,975.3	-813.6	2,136.3	0.52	0.00	-0.52
9,178.0	86.44	337.24	6,671.4	2,033.5	-837.4	2,199.2	1.60	-0.33	-1.57
9,242.0	85.93	337.15	6,675.7	2,092.4	-862.2	2,263.0	0.81	-0.80	-0.14
9,305.0	86.01	336.93	6,680.1	2,150.3	-886.7	2,325.9	0.37	0.13	-0.35
9,368.0	85.93	336.43	6,684.5	2,208.0	-911.6	2,388.7	0.80	-0.13	-0.79
9,431.0	85.47	335.90	6,689.3	2,265.4	-937.0	2,451.5	1.11	-0.73	-0.84
9,494.0	86.37	336.73	6,693.8	2,323.0	-962.2	2,514.3	1.94	1.43	1.32
9,557.0	88.29	337.88	6,696.7	2,381.0	-986.5	2,577.3	3.55	3.05	1.83

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Company:	EQT PRODUCTION	Local Co-ordinate Reference:	Well #516231 -MRC - Slot 516231
Project:	Doddridge County, WV	TVD Reference:	GL 1229' & 16' KB @ 1245.0usft (SAV 654)
Site:	OXF43	MD Reference:	GL 1229' & 16' KB @ 1245.0usft (SAV 654)
Well:	#516231 -MRC	North Reference:	Grid
Wellbore:	ST01	Survey Calculation Method:	Minimum Curvature
Design:	516231 ST01 AS Drilled	Database:	Northeast District

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Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
9,620.0	88.29	337.80	6,698.6	2,439.4	-1,010.3	2,640.2	0.13	0.00	-0.13	
9,683.0	88.46	339.31	6,700.4	2,498.0	-1,033.3	2,703.2	2.41	0.27	2.40	
9,747.0	88.86	340.37	6,701.8	2,558.0	-1,055.3	2,767.1	1.77	0.63	1.66	
9,810.0	88.25	339.30	6,703.4	2,617.1	-1,077.0	2,830.0	1.95	-0.97	-1.70	
9,873.0	88.99	338.24	6,705.0	2,675.9	-1,099.8	2,893.0	2.05	1.17	-1.68	
Deepest Point @ 9873' MD- 6705' TVD										
9,936.0	92.15	335.90	6,704.3	2,733.9	-1,124.4	2,956.0	6.24	5.02	-3.72	
9,999.0	90.77	333.56	6,702.7	2,790.8	-1,151.3	3,018.9	4.31	-2.19	-3.71	
10,063.0	91.75	335.45	6,701.3	2,848.6	-1,178.8	3,082.8	3.33	1.53	2.95	
10,126.0	94.17	339.05	6,698.1	2,906.6	-1,203.1	3,145.7	6.88	3.84	5.71	
10,189.0	94.37	338.65	6,693.4	2,965.2	-1,225.8	3,208.5	0.71	0.32	-0.63	
10,253.0	92.79	338.00	6,689.4	3,024.5	-1,249.4	3,272.4	2.67	-2.47	-1.02	
10,316.0	90.37	338.08	6,687.6	3,082.9	-1,272.9	3,335.3	3.84	-3.84	0.13	
10,379.0	90.91	337.47	6,686.9	3,141.2	-1,296.8	3,398.3	1.29	0.86	-0.97	
10,442.0	91.14	337.03	6,685.8	3,199.3	-1,321.1	3,461.3	0.79	0.37	-0.70	
10,505.0	89.50	336.59	6,685.5	3,257.2	-1,345.9	3,524.3	2.70	-2.60	-0.70	
10,569.0	87.68	337.18	6,687.0	3,316.1	-1,371.1	3,588.3	2.99	-2.84	0.92	
10,632.0	87.99	337.61	6,689.4	3,374.2	-1,395.3	3,651.2	0.84	0.49	0.68	
10,695.0	88.16	336.96	6,691.5	3,432.3	-1,419.6	3,714.2	1.07	0.27	-1.03	
10,758.0	88.22	336.48	6,693.5	3,490.1	-1,444.5	3,777.2	0.77	0.10	-0.76	
10,822.0	88.16	335.61	6,695.5	3,548.6	-1,470.4	3,841.1	1.36	-0.09	-1.36	
Survey @ 10822' MD- 6695.5' TVD										
10,896.0	88.16	335.61	6,697.9	3,615.9	-1,501.0	3,915.1	0.00	0.00	0.00	
Survey Projected to: 10896' MD- 6697.9' TVD										

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
516231 Surface Location - hit/miss target - Shape - Point	0.00	360.00	0.0	0.0	0.0	241,943.07	1,633,388.28	39.1570332	-80.7928545	
516231 KOP As Drilled - actual wellpath hits target center - Point	0.00	360.00	4,680.9	-23.5	47.4	241,919.52	1,633,435.63	39.1569704	-80.7926863	
516231 LP As Drilled - actual wellpath hits target center - Point	0.00	0.00	6,656.4	-16.1	-88.2	241,927.00	1,633,300.09	39.1569856	-80.7931646	
516231 BHL As Drilled - actual wellpath hits target center - Point	0.00	0.00	6,697.9	3,615.9	-1,501.0	245,559.01	1,631,887.31	39.1669007	-80.7983312	

Company:	EQT PRODUCTION	Local Co-ordinate Reference:	Well #516231 -MRC - Slot 516231
Project:	Doddridge County, WV	TVD Reference:	GL 1229' & 16' KB @ 1245.0usft (SAV 654)
Site:	OXF43	MD Reference:	GL 1229' & 16' KB @ 1245.0usft (SAV 654)
Well:	#516231 -MRC	North Reference:	Grid
Wellbore:	ST01	Survey Calculation Method:	Minimum Curvature
Design:	516231 ST01 AS Drilled	Database:	Northeast District

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
4,683.0	4,680.9	-23.5	47.4	KOP as Drilled: 4683' MD- 4680.9' TVD
6,993.0	6,656.4	-16.1	-88.2	LP as Drilled: 6993' MD- 6656.4' TVD
9,873.0	6,705.0	2,675.9	-1,099.8	Deepest Point @ 9873' MD- 6705' TVD
10,822.0	6,695.5	3,548.6	-1,470.4	Survey @ 10822' MD- 6695.5' TVD
10,896.0	6,697.9	3,615.9	-1,501.0	Survey Projected to: 10896' MD- 6697.9' TVD

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Checked By: _____ Approved By: _____ Date: _____

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	12/20/2017
Job End Date:	1/24/2018
State:	West Virginia
County:	Doddridge
API Number:	47-017-06743-00-00
Operator Name:	EQT Production
Well Name and Number:	516231
Latitude:	39.15703000
Longitude:	-80.79286000
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,633
Total Base Water Volume (gal):	6,349,476
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	85.19974	None
MX-8-2544	Multi-Chem	Bacteria Treatment					
				Listed Below			

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Other Chemical (s)	Listed Above	See Trade Name (s) List					
				Listed Below			
FRW-1450	FTS International	Mixture					
				Listed Below			
CI-150	FTS International	Acid Corrosion Inhibitor					
				Listed Below			
Hydrochloric Acid (15%)	FTS International	Acidizing					
				Listed Below			
Sand (Proppant)	FTS International	Proppant					
				Listed Below			
MX-5-3886	Multi-Chem	Bacteria Treatment					
				Listed Below			
CS-500-SI	FTS International	Scale Inhibitor					
				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	14.48681	None
			Calcium Nitrate.4H2O	13477-34-4	100.00000	0.03764	
			Calcium Nitrate.4H2O	13477-34-4	100.00000	0.03764	None
			Hydrochloric Acid	7647-01-0	15.00000	0.02731	None
			Distillates (petroleum), hydrotreated light	64742-47-8	30.00000	0.02013	

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			Distillates (petroleum), hydrotreated light	64742-47-8	30.00000	0.02013	None
			Alcohols. C-11-14-iso, C13-rich, ethoxylated	78330-21-9	5.00000	0.00335	None
			Alcohols. C-11-14-iso, C13-rich, ethoxylated	78330-21-9	5.00000	0.00335	
			Ethylene Glycol	107-21-1	10.00000	0.00240	
			Ethylene Glycol	107-21-1	10.00000	0.00240	None
			Sodium Chloride	7647-14-5	100.00000	0.00235	None
			Sodium Chloride	7647-14-5	100.00000	0.00235	
			Sodium Nitrate	7631-99-4	5.00000	0.00012	None
			Sodium Nitrate	7631-99-4	5.00000	0.00012	
			Organic Amine Resin Salt	Proprietary	30.00000	0.00009	None
			Ethylene Glycol	107-21-1	30.00000	0.00009	None
			Isopropanol	67-63-0	30.00000	0.00009	None
			Ethylene Glycol	107-21-1	30.00000	0.00009	
			Dimethylformamide	68-12-2	10.00000	0.00003	None
			Quaternary Ammonium Compound	Proprietary	10.00000	0.00003	None
			Aromatic Aldehyde	Proprietary	10.00000	0.00003	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)

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WV 516231
EQT Production Company
Franklin Maxwell Heirs 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

NO.	ADJACENT OWNER	NO.	SURFACE OWNER
4	MORRIS I L IKE	1	CHARLES R & EVELYN GREATHOUSE GARN
7	HUFF WILLIAM SEAN	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 DECEDENT'S
33	MATHENY M & PATRICIA M CARLTON	14	BETTY M RYAN
34	CHARLES WALTER MUNCHMORF	17	EDWARD DALE PRUNTY
35	UNKNOWN	29	CARLTON W & PATRICIA MATHENY
36	CHARLES WALTER MUNCHMORF	30	MARIAN G ZORN
		39	WILMA LEE LEESON

WV 516231 Well Point Coordinates

Top Hole Coordinates

NAD 27 S.P.C. (FL)	N: 241,943.070	E: 1,618,988.280
NAD 27 GEO	LAT: 39.157033	LONG: 80.792633
NAD 83 UTM 17N (M)	N: 4,334,233.0	E: 517,312.4
NAD 83 S.P.C. (FL)	N: 241,978.4	E: 1,601,947.5

Landing Point Coordinates

NAD 27 S.P.C. (FL)	N: 241,927.005	E: 1,618,100.094
NAD 27 GEO	LAT: 39.155896	LONG: 80.791165
NAD 83 UTM 17N (M)	N: 4,334,227.6	E: 517,485.6
NAD 83 S.P.C. (FL)	N: 241,962.3	E: 1,601,859.3

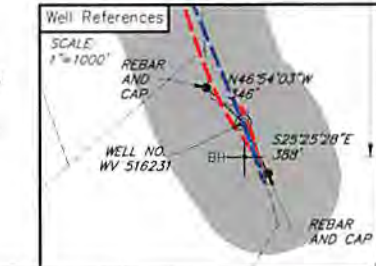
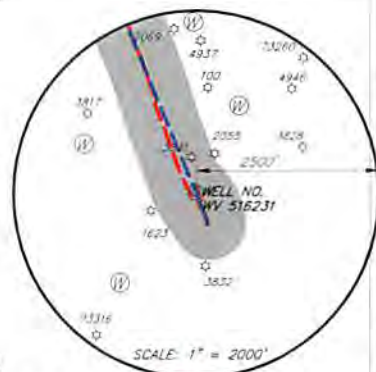
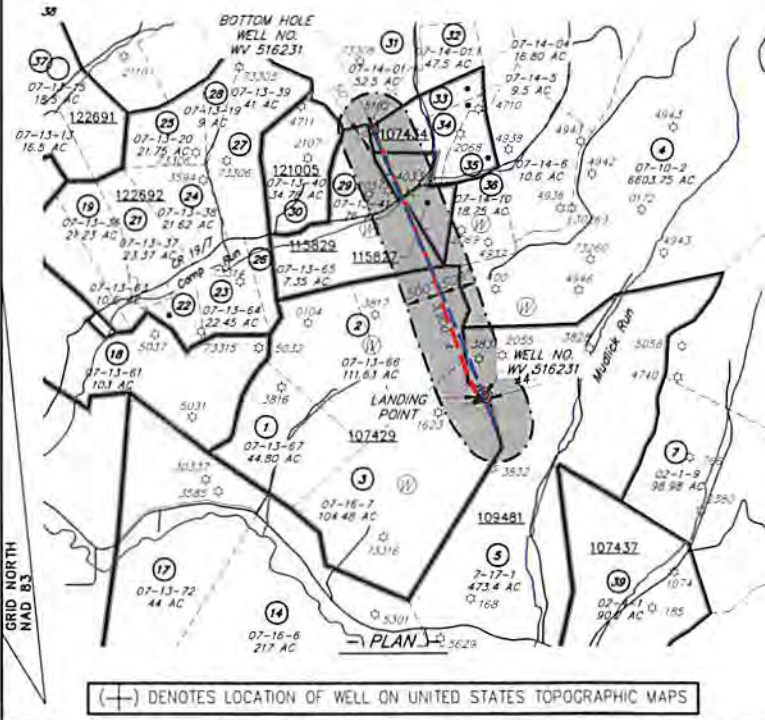
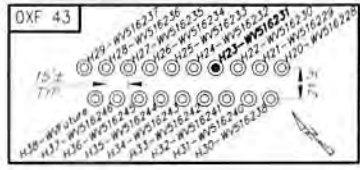
Bottom Hole Coordinates

NAD 27 S.P.C. (FL)	N: 245,559.015	E: 1,631,887.313
NAD 27 GEO	LAT: 39.166902	LONG: 80.798832
NAD 83 UTM 17N (M)	N: 4,335,326.9	E: 517,436.7
NAD 83 S.P.C. (FL)	N: 245,594.3	E: 1,600,446.4

Lease No. Acres Owner

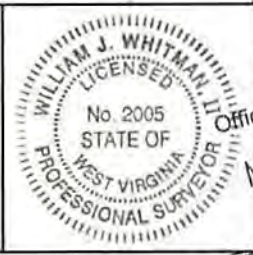
109481	2,000	Adele McDougal, et al
107429	255	Franklin Maxwell Heirs L. P.
115829	60	Carlton Matheny, et al
115827	16	Carlton Matheny, et al
107434	31	Larinda Springston, et al

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]



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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: SEPT 18, 2017
 OPERATORS WELL NO: WV 516231
 API WELL NO: 47 17 06743
 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 Heirs 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: 6631'

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

WWW.ENCOMPASSSERVICES.COM PLOT DATE: 9/18/2017 CAD FILE: OXF_43_WELL_PLAT-2017-09-15.DWG