

Well Operator's Report of Well Work



Where energy meets innovation.

Well Number: 512916

API: 47 - 103 - 03058

Submission:  Initial  Amended

Notes: Initial report w/ Flowback

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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 47-103-03058 County Wetzel District Grant  
Quad Big Run 7.5 Pad Name BIG177 Field/Pool Name \_\_\_\_\_  
Farm name Coastal Forest Resources DBA Coastal Timberlands Co Well Number 512916  
Operator (as registered with the OOG) EQT Production Company  
Address 625 Liberty Ave. EQT Plaza, Suite 1700 City Pittsburgh State PA Zip 15222

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey  
Top hole Northing 4,381,520.422 Easting 535,727.679  
Landing Point of Curve Northing 4,381,680.87 Easting 535,391.50  
Bottom Hole Northing 4,383,915.60 Easting 534,305.98

Elevation (ft) 811' 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 13.7 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 5/3/2016 Date drilling commenced 4/30/2017 Date drilling ceased 9/3/2017  
Date completion activities began 9/29/2017 Date completion activities ceased 10/27/2017  
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 173', 283', 483', 633' Open mine(s) (Y/N) depths N  
Salt water depth(s) ft 1,138', 1,453' Void(s) encountered (Y/N) depths N  
Coal depth(s) ft 103', 156', 434', 544' Cavern(s) encountered (Y/N) depths N  
Is coal being mined in area (Y/N) N

Reviewed

Reviewed by: DMU  
02/16/2018

API 47- 103 - 03058

Farm name Coastal Forest Resources DBA Coastal Timberlands Co

Well number 512916

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"	80'	NEW	A-500	N/A	Y
Fresh Water	24"	18 5/8"	325'	NEW	J-55	160'	Y
Surface	17 1/2"	13 3/8"	768'	NEW	J-55	341'	Y
Intermediate 1	12 3/8"	9 5/8"	2731'	NEW	A-500	1128'	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4" & 8-1/2"	5-1/2"	15667'	NEW	P-110	N/A	N
Tubing							
Packer type and depth set							

Comment Details \_\_\_\_\_

CEMENT DATA	Class/Type of Cement	Number of Sacks	Slurry wt (ppg)	Yield (ft <sup>3</sup> /sks)	Volume (ft <sup>3</sup> )	Cement Top (MD)	WOC (hrs)
Conductor	Class A	200	15.6	1.18	236	0	8
Fresh Water	Class A	718	15.6	1.20	862	0	8
Surface	Class A	668	15.6	1.20	802	0	8
Intermediate 1	Class A / Class A	238 / 905	15.6 / 16.2	1.18 / 1.10	1276	0	8
Intermediate 2							
Intermediate 3							
Production	Class H / Class H	208 / 1039	15.2 / 15.6	1.25 / 2.06	260 / 2140 / 2400	6200	72+
Tubing							

Drillers TD (ft) 15667      Loggers TD (ft) N/A  
 Deepest formation penetrated Marcellus      Plug back to (ft) N/A  
 Plug back procedure N/A

Kick off depth (ft) 5525

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  
 FRESH WATER: 2 CENTRALIZERS AT 323' & 77'  
 SURFACE: 3 CENTRALIZERS AT 768', 378', 112'  
 INTERMEDIATE: 6 CENTRALIZERS AT EVERY 500' from 2729' to 244'  
 PRODUCTION: Composite body spiral centralizers run every joint from 15565' to 5488'

WAS WELL COMPLETED AS SHOT HOLE     Yes     No    DETAILS \_\_\_\_\_

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WAS WELL COMPLETED OPEN HOLE?     Yes     No    DETAILS \_\_\_\_\_

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WERE TRACERS USED     Yes     No    TYPE OF TRACER(S) USED \_\_\_\_\_





API 47- 103 - 03058 Farm name Coastal Forest Resources DBA Coastal Timberlands Co Well number 512916

Drilling Contractor Savanna Drilling Rig 803  
Address 125 Industry Road City Rices Landing State PA Zip 15357

Logging Company Gyro Data Inc.  
Address 601 Maver St. City Bridgeville State PA Zip 15017

Logging Company Phoenix Technology Services  
Address 1805 Brittmooore Road City Houston State TX Zip 77043

Cementing Company BJ Services  
Address 2228 Philippi Pike City Clarksburg State WV Zip 26301

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# Final Formations Well #512916 API # 47-103-03058

Formation Name	Drill Top MD (ftKB)	Drill Top (TVD) (ftKB)	Drill Btm MD (ftKB)	Drill Btm (TVD) (ftKB)
SAND/SHALE	1	1	113	113
COAL	113	113	116	116
SAND/SHALE	116	116	166	166
WAYNESBURG	166	166	170	170
SAND/SHALE	170	170	444	444
MAPLETOWN	444	444	448	448
SAND/SHALE	448	448	554	554
PITTSBURGH	554	554	561	561
SAND/SHALE	561	561	1705	1703
MAXTON	1705	1703	1749	1747
SAND/SHALE	1749	1747	1821	1819
BIG LIME	1821	1819	1874	1872
SAND/SHALE	1874	1872	2203	2201
WEIR	2203	2201	2231	2229
SAND/SHALE	2231	2229	2377	2375
GANTZ	2377	2375	2415	2413
SAND/SHALE	2415	2413	2528	2526
50F	2528	2526	2573	2571
SAND/SHALE	2573	2571	2599	2597
30F	2599	2597	2633	2631
SAND/SHALE	2633	2631	2646	2644
GORDON	2646	2644	2691	2689
SAND/SHALE	2691	2689	2733	2731
4TH SAND	2733	2731	2744	2742
SAND/SHALE	2744	2742	2785	2783
BAYARD	2785	2783	2858	2856
SAND/SHALE	2858	2856	3242	3240
WARREN	3242	3240	3288	3286
SAND/SHALE	3288	3286	3392	3390
SPEECHLEY	3392	3390	3406	3404
SAND/SHALE	3406	3404	3781	3779
BALLTOWN A	3781	3779	3798	3796
SAND/SHALE	3798	3796	4241	4239
RILEY	4241	4239	4254	4252
SAND/SHALE	4254	4252	4893	4891
BENSON	4893	4891	4932	4930
ALEXANDER	5241	5239	6581	6419
SONYEA	6581	6419	6761	6548
MIDDLESEX	6761	6548	6852	6612
GENESEE	6852	6612	6970	6688
GENESEO	6970	6688	7032	6723
TULLY	7032	6723	7065	6740
HAMILTON	7065	6740	7343	6838
MARCELLUS	7343	6838	15667	6894

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**512916 47-103-03058-0000 - Perforations**

<b>Stage Number</b>	<b>Perforation Date</b>	<b>Top Perf Depth (ftKB)</b>	<b>Bottom Perf Depth (ftKB)</b>	<b>Number of Shots</b>	<b>Formation</b>
<b>Initiation Sleeve</b>	9/21/2017	15,640	15,642	10	MARCELLUS
<b>1</b>	9/30/2017	15,479	15,601	32	MARCELLUS
<b>2</b>	10/1/2017	15,279	15,441	40	MARCELLUS
<b>3</b>	10/1/2017	15,079	15,241	40	MARCELLUS
<b>4</b>	10/2/2017	14,879	15,041	40	MARCELLUS
<b>5</b>	10/3/2017	14,679	14,841	40	MARCELLUS
<b>6</b>	10/3/2017	14,479	14,641	40	MARCELLUS
<b>7</b>	10/4/2017	14,279	14,441	40	MARCELLUS
<b>8</b>	10/5/2017	14,079	14,241	40	MARCELLUS
<b>9</b>	10/6/2017	13,879	14,041	40	MARCELLUS
<b>10</b>	10/7/2017	13,679	13,841	40	MARCELLUS
<b>11</b>	10/8/2017	13,479	13,641	40	MARCELLUS
<b>12</b>	10/9/2017	13,279	13,441	40	MARCELLUS
<b>13</b>	10/9/2017	13,079	13,241	40	MARCELLUS
<b>14</b>	10/10/2017	12,879	13,041	40	MARCELLUS
<b>15</b>	10/12/2017	12,679	12,841	40	MARCELLUS
<b>16</b>	10/12/2017	12,479	12,641	40	MARCELLUS
<b>17</b>	10/13/2017	12,279	12,441	40	MARCELLUS
<b>18</b>	10/13/2017	12,079	12,241	40	MARCELLUS
<b>19</b>	10/14/2017	11,879	12,041	40	MARCELLUS
<b>20</b>	10/14/2017	11,679	11,841	40	MARCELLUS
<b>21</b>	10/15/2017	11,479	11,641	40	MARCELLUS
<b>22</b>	10/16/2017	11,279	11,441	40	MARCELLUS
<b>23</b>	10/17/2017	11,079	11,241	40	MARCELLUS
<b>24</b>	10/17/2017	10,879	11,041	40	MARCELLUS
<b>25</b>	10/17/2017	10,679	10,841	40	MARCELLUS
<b>26</b>	10/18/2017	10,479	10,641	40	MARCELLUS
<b>27</b>	10/19/2017	10,199	10,241	16	MARCELLUS
<b>27</b>	10/19/2017	10,279	10,441	40	MARCELLUS
<b>28</b>	10/20/2017	9,999	10,161	40	MARCELLUS
<b>29</b>	10/20/2017	9,799	9,961	40	MARCELLUS
<b>30</b>	10/21/2017	9,599	9,761	40	MARCELLUS
<b>31</b>	10/21/2017	9,399	9,561	40	MARCELLUS
<b>32</b>	10/22/2017	9,199	9,361	40	MARCELLUS
<b>33</b>	10/22/2017	8,999	9,161	40	MARCELLUS
<b>34</b>	10/23/2017	8,799	8,961	40	MARCELLUS
<b>35</b>	10/23/2017	8,599	8,761	40	MARCELLUS
<b>36</b>	10/24/2017	8,399	8,561	40	MARCELLUS
<b>37</b>	10/24/2017	8,199	8,361	40	MARCELLUS
<b>38</b>	10/25/2017	7,999	8,161	40	MARCELLUS
<b>39</b>	10/26/2017	7,799	7,961	40	MARCELLUS
<b>40</b>	10/26/2017	7,599	7,761	40	MARCELLUS
<b>41</b>	10/27/2017	7,399	7,561	40	MARCELLUS



**512916 47-103-03058-0000 - Stimulated Stages**

<b>Stage Number</b>	<b>Stimulation Date</b>	<b>Ave Pump Rate (BPM)</b>	<b>Ave Treatment Pressure (PSI)</b>	<b>Max Breakdown Pressure (PSI)</b>	<b>ISIP (PSI)</b>	<b>Amount of Proppant (lbs)</b>	<b>Amount of Water (bbls)</b>	<b>Amount of Nitrogen/other (units)</b>
<b>Initiation Sleeve</b>								
<b>1.01</b>	9/30/2017	13	7,217	6,712	5,633	0	1,099	0
<b>1</b>	9/30/2017	93	9,059	6,629	4,226	452,721	10,414	0
<b>2</b>	10/1/2017	91	8,926	6,152	4,059	450,745	8,004	0
<b>3</b>	10/2/2017	89	9,218	6,884	4,819	448,277	9,481	0
<b>4</b>	10/2/2017	90	9,085	6,945	4,233	448,844	8,609	0
<b>5</b>	10/3/2017	85	8,707	6,147	4,238	452,771	8,339	0
<b>6</b>	10/4/2017	93	9,071	6,521	4,397	451,144	8,580	0
<b>7</b>	10/5/2017	86	8,975	6,855	4,362	451,900	11,242	0
<b>8</b>	10/6/2017	92	8,751	7,073	4,753	450,524	8,071	0
<b>9</b>	10/7/2017	73	8,791	6,722	4,485	448,656	11,141	0
<b>10</b>	10/8/2017	75	8,896	6,262	4,615	450,965	10,236	0
<b>11</b>	10/9/2017	84	8,814	6,629	4,536	451,953	9,117	0
<b>12</b>	10/9/2017	90	8,736	6,281	4,543	450,902	7,863	0
<b>13</b>	10/10/2017	80	8,877	6,469	4,828	450,431	8,386	0
<b>14</b>	10/11/2017	80	7,985	6,677	5,312	85,996	3,613	0
<b>14</b>	10/11/2017	8	5,166	4,504	5,426	362,366	3,648	0
<b>15</b>	10/12/2017	93	8,701	6,447	4,577	450,525	7,820	0
<b>16</b>	10/12/2017	94	8,475	5,931	4,649	452,939	7,525	0
<b>17</b>	10/13/2017	93	8,532	6,724	4,607	449,716	8,050	0
<b>18</b>	10/13/2017	94	8,508	5,880	4,942	453,957	7,513	0
<b>19</b>	10/14/2017	92	8,647	6,648	4,703	450,640	8,038	0
<b>20</b>	10/15/2017	92	8,548	6,526	4,670	451,774	7,487	0
<b>21</b>	10/16/2017	94	8,881	6,165	4,801	450,116	8,010	0
<b>22</b>	10/17/2017	86	8,535	6,453	4,426	452,562	8,550	0
<b>23</b>	10/17/2017	98	8,807	8,198	4,597	449,600	7,896	0
<b>24</b>	10/17/2017	93	8,350	7,000	4,832	450,944	7,262	0
<b>25</b>	10/18/2017	94	8,786	7,136	4,647	449,402	8,928	0
<b>26</b>	10/19/2017	91	8,553	6,590	4,792	450,734	7,425	0
<b>27</b>	10/19/2017	86	8,553	6,147	5,065	287,627	7,110	0
<b>27</b>	10/20/2017	80	8,199	6,826	5,638	161,226	4,628	0
<b>28</b>	10/20/2017	98	8,796	6,432	4,701	448,487	7,689	0
<b>29</b>	10/21/2017	91	8,601	6,635	4,636	449,842	7,370	0
<b>30</b>	10/21/2017	97	8,771	6,793	4,722	450,734	7,394	0

# Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	9/29/2017
Job End Date:	10/27/2017
State:	West Virginia
County:	Wetzel
API Number:	47-103-03058-00-00
Operator Name:	EQT Production
Well Name and Number:	512916
Latitude:	39.58257300
Longitude:	-80.58415500
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,838
Total Base Water Volume (gal):	14,537,964
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	86.45428	None
CS-500-SI	FTS International	Scale Inhibitor					
				Listed Below			

Sand (Proppant)	FTS International	Proppant					
				Listed Below			
MX-8-2544	Multi-Chem	Bacteria Treatment					
				Listed Below			
Hydrochloric Acid (15%)	FTS International	Acidizing					
				Listed Below			
FRW-1450	FTS International	Friction Reducer					
				Listed Below			
ABP-1	FTS International	Breaker					
				Listed Below			
Other Chemical (s)	Listed Above	See Trade Name (s) List					
				Listed Below			
HVG-1	FTS International	Gelling Agent					
				Listed Below			
MX-5-3886	Multi-Chem	Bacteria Treatment					
				Listed Below			
FRW-950	FTS International	Friction Reducer					

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				Listed Below			
CI-150	FTS International	Acid Corrosion 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	13.16443	None
			Calcium Nitrate.4H2O	13477-34-4	100.00000	0.10616	None
			Calcium Nitrate.4H2O	13477-34-4	100.00000	0.10616	
			Hydrochloric Acid	7647-01-0	15.00000	0.02338	None
			Hydrotreated Light Distillate	64742-47-8	30.00000	0.02037	None
			Hydrotreated Light Distillate	64742-47-8	30.00000	0.02037	
			Sodium Chloride	7647-14-5	100.00000	0.00937	None
			Sodium Chloride	7647-14-5	100.00000	0.00937	
			Distillates (Petroleum), Hydrotreated Light	64742-47-8	30.00000	0.00437	
			Distillates (Petroleum), Hydrotreated Light	64742-47-8	30.00000	0.00437	None
			Sodium Chloride	7647-14-5	5.00000	0.00340	None
			Oxyalkylated alcohol	Proprietary	5.00000	0.00340	None
			Sodium Chloride	7647-14-5	5.00000	0.00340	
			Oxyalkylated alcohol	Proprietary	5.00000	0.00340	
			Ethylene Glycol	107-21-1	10.00000	0.00246	None
			Petroleum Distillate	64742-47-8	55.00000	0.00109	
			Petroleum Distillate	64742-47-8	55.00000	0.00109	None
			Guar Gum	9000-30-0	50.00000	0.00099	
			Guar Gum	9000-30-0	50.00000	0.00099	None
			Alcohols, C11-14-iso-,C13-rich, ethoxylated	78330-21-9	5.00000	0.00073	None

			Alcohols, C11-14-iso-, C13-rich, ethoxylated	78330-21-9	5.00000	0.00073	
			Ammonium Persulfate	7727-54-0	95.00000	0.00049	None
			Sodium Nitrate	7631-99-4	5.00000	0.00047	
			Sodium Nitrate	7631-99-4	5.00000	0.00047	None
			Organic Amine Resin Salt	Proprietary	30.00000	0.00009	None
			Isopropanol	67-63-0	30.00000	0.00009	None
			Ethylene Glycol	107-21-1	30.00000	0.00009	None
			Clay	14808-60-7	2.00000	0.00004	
			Surfactant	68439-51-0	2.00000	0.00004	None
			Clay	14808-60-7	2.00000	0.00004	None
			Surfactant	68439-51-0	2.00000	0.00004	
			Aromatic Aldehyde	Proprietary	10.00000	0.00003	None
			Dimethylformamide	68-12-2	10.00000	0.00003	None
			Quaternary Ammonium Compound	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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**BIG177**  
**WV 512916**  
**EQT PRODUCTION COMPANY**

BOTTOM HOLE LATITUDE 39°37'30"

(S.P.C. NORTH ZONE) (UTM(M) ZONE 17 NORTH)  
 NAD'27 S.P.C.(FT) N. 396,140.10 E. 1,694,435.93  
 NAD'27 GEO. LAT-(N) 39.582573 LONG-(W) 80.584155  
 NAD'83 UTM (M) N. 4,381,520.422 E. 535,727.679  
**LANDING POINT**  
 NAD'27 S.P.C.(FT) N. 396,618.92 E. 1,693,381.03  
 NAD'27 GEO. LAT-(N) 39.583853 LONG-(W) 80.587918  
 NAD'83 UTM (M) N. 4,381,660.93 E. 535,403.86  
**BOTTOM HOLE**  
 NAD'27 S.P.C.(FT) N. 405,497.34 E. 1,689,453.20  
 NAD'27 GEO. LAT-(N) 39.608095 LONG-(W) 80.602240  
 NAD'83 UTM (M) N. 4,384,345.83 E. 534,162.14



BH (PROPOSED)  
 BH (AS DRILLED)

SURFACE OWNERS		
G-TM-2-04	JOHN C. COMER ET UX	104.00 ACRES±
G-TM-2-05	EDWIN L. DULANEY ET UX	104.00 ACRES±
G-TM-2-12	COASTAL FOREST RESOURCES COMPANY d/b/a COASTAL TIMBERLANDS COMPANY	3.63 ACRES±
G-TM-2-12.2	TEORA & SANDRA DULANEY	66.64 ACRES±
G-TM-3-05	COASTAL FOREST RESOURCES COMPANY d/b/a COASTAL TIMBERLANDS COMPANY	179.00 ACRES±
G-TM-3-13	EDWARD L. DULANEY II	164.75 ACRES±
G-TM-3-23	COASTAL FOREST RESOURCES COMPANY d/b/a COASTAL TIMBERLANDS COMPANY	167.75 ACRES±
G-TM-7-03	COASTAL FOREST RESOURCES COMPANY d/b/a COASTAL TIMBERLANDS COMPANY	178 ACRES±
G-TM-7-3.2	COASTAL FOREST RESOURCES COMPANY d/b/a COASTAL TIMBERLANDS COMPANY	156.98 ACRES±
G-TM-7-10	COASTAL FOREST RESOURCES COMPANY d/b/a COASTAL TIMBERLANDS COMPANY	120 ACRES±
G-TM-8-01	DANNY STOCKSLAGER ET AL	170 ACRES±
G-TM-8-10	GARLAND MINOR ET AL	48.1 ACRES±
G-TM-8-17	KENNETH & LORRAINE WILDMAN	67 ACRES±
G-TM-8-18	COASTAL FOREST RESOURCES COMPANY d/b/a COASTAL TIMBERLANDS COMPANY	337 ACRES±
G-TM-8-19	PHILLIP & KIMBERLY SHREVE	46.45 ACRES±
G-TM-8-23	DALE DULANEY ET AL	70.81 ACRES±
G-TM-8-34	HALLIE HARDBARGER	54.01 ACRES±
G-TM-8-35	DEBORAH FRONCZEK ET AL	15.5 ACRES±
G-TM-8-58	HIGGINS CHAPEL CHURCH OF CHRIST	0.99 ACRES±
G-TM-8-64	MARY EASTHAM ET AL	1.45 ACRES±
G-TM-8-65	IKEY & TINA WILLEY	2.15 ACRES±
G-TM-8-66	EQM GATHERING OPOC LLC	.42 ACRES±
G-TM-13-06	COASTAL FOREST RESOURCES COMPANY d/b/a COASTAL TIMBERLANDS COMPANY	217.19 ACRES±

ROYALTY OWNERS		
COASTAL FOREST RESOURCES CO. d/b/a COASTAL TIMBERLANDS CO. ET AL	57.5 AC±	LEASE NO. 993308
KEVIN GOFF	48.25 AC±	LEASE NO. 1009272
EQT PRODUCTION COMPANY	300 AC±	LEASE NO. 102894
JOSEPH SHIBEN & MINNIE SHIBEN ESTATE	1030 AC±	LEASE NO. 102814
JAMES E. NEWMAN ET AL	P/O 332 AC±	LEASE NO. 300653

**AS DRILLED COORDINATES**  
 (BIG177H4 512916)  
 (S.P.C. NORTH ZONE) (UTM(M) ZONE 17 NORTH)  
 NAD'27 S.P.C.(FT) N. 396140.10 E. 1694,435.93  
 NAD'27 GEO. LAT-(N) 39.582573 LONG-(W) 80.584155  
 NAD'83 UTM (M) N. 4,381,520.422 E. 535,727.679  
**LANDING POINT**  
 NAD'27 S.P.C.(FT) N. 396,685.04 E. 1,693,341.59  
 NAD'27 GEO. LAT-(N) 39.584033 LONG-(W) 80.588061  
 NAD'83 UTM (M) N. 4,381,680.87 E. 535,391.50  
**BOTTOM HOLE**  
 NAD'27 S.P.C.(FT) N. 404,077.87 E. 1,689,901.70  
 NAD'27 GEO. LAT-(N) 39.604213 LONG-(W) 80.600586  
 NAD'83 UTM (M) N. 4,383,915.60 E. 534,305.98

SURFACE OWNERS - CONTINUED		
G-TM-13-6.1	COASTAL FOREST RESOURCES COMPANY d/b/a COASTAL TIMBERLANDS COMPANY	55.06 ACRES±
G-TM-13-07	MANSEL McDIFFITT ET AL	51.8 ACRES±

**NOTES ON SURVEY**

- NO WATER WELLS WERE FOUND WITHIN 250' OF PROPOSED GAS WELL. NO AGRICULTURAL BUILDINGS > 2500 SQ. FT. WERE FOUND WITHIN 625' OF THE CENTER OF PROPOSED WELL PAD. SEE REFERENCE BOX FOR DWELLING WITHIN 625' OF THE CENTER OF PROPOSED WELL PAD.
- WELL SPOT CIRCLE & TOPO MARK SCALE IS 1"=2000'.
- AS DRILLED INFORMATION PROVIDED BY EQT.
- AS-DRILLED PATH DOES NOT PENETRATE LEASE NO. 300653.

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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 THE REGULATIONS ISSUED AND PRESCRIBED BY THE DIVISION OF ENVIRONMENTAL PROTECTION.

P.S. 849 *C. Victor Moyers*



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.  
 DATE OCTOBER 02, 20 13  
 REVISED 03/26/14, 09/09/14, 08/25/15, 09/14/15, 10/06/16  
03/31/17, 04/21/17, 09/13/17 & 09/20/17  
 OPERATORS WELL NO. WV 512916  
 API WELL NO. 47 - 103 - 03058  
 STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 2500 FILE NO. 6806P512916R14AD.dwg  
 HORIZONTAL & VERTICAL CONTROL DETERMINED BY DGPS (SURVEY GRADE TIE TO CORS NETWORK) SCALE SEE NOTE 2

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



WELL TYPE: OIL  GAS  LIQUID INJECTION  WASTE DISPOSAL  IF "GAS" PRODUCTION  STORAGE  DEEP  SHALLOW   
 LOCATION:  
 PAD ELEVATION 811' WATERSHED WILLEY FORK OF NORTH FISHING CREEK  
 DISTRICT GRANT COUNTY WETZEL QUADRANGLE BIG RUN 7.5'  
 SURFACE OWNER COASTAL FOREST RESOURCES CO. d/b/a COASTAL TIMBERLANDS CO. ACREAGE 27± OF 217±  
 ROYALTY OWNER HIGGINS FAMILY TRUST ACREAGE 242.5  
 PROPOSED WORK:  
 DRILL  CONVERT  DRILL DEEPER  REDRILL  FRACTURE OR STIMULATE  PLUG OFF OLD FORMATION   
 PERFORATE NEW FORMATION  PLUG AND ABANDON  CLEAN OUT AND REPLUG  OTHER   
 PHYSICAL CHANGE IN WELL (SPECIFY) \_\_\_\_\_ TARGET FORMATION MARCELLUS  
 ESTIMATED DEPTH 6,881'

WELL OPERATOR EQT PRODUCTION COMPANY DESIGNATED AGENT REX C. RAY  
 ADDRESS 115 PROFESSIONAL PLACE P.O. BOX 280 BRIDGEPORT, WV 26330 ADDRESS 115 PROFESSIONAL PLACE P.O. BOX 280 BRIDGEPORT, WV 26330

COUNTY NAME PERMIT

02/16/2018

**BIG177**  
**WV 512916**  
**EQT PRODUCTION COMPANY**

BOTTOM HOLE LATITUDE 39°37'30"

5,327'

4,861'

TH

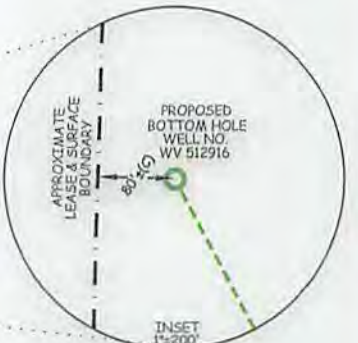
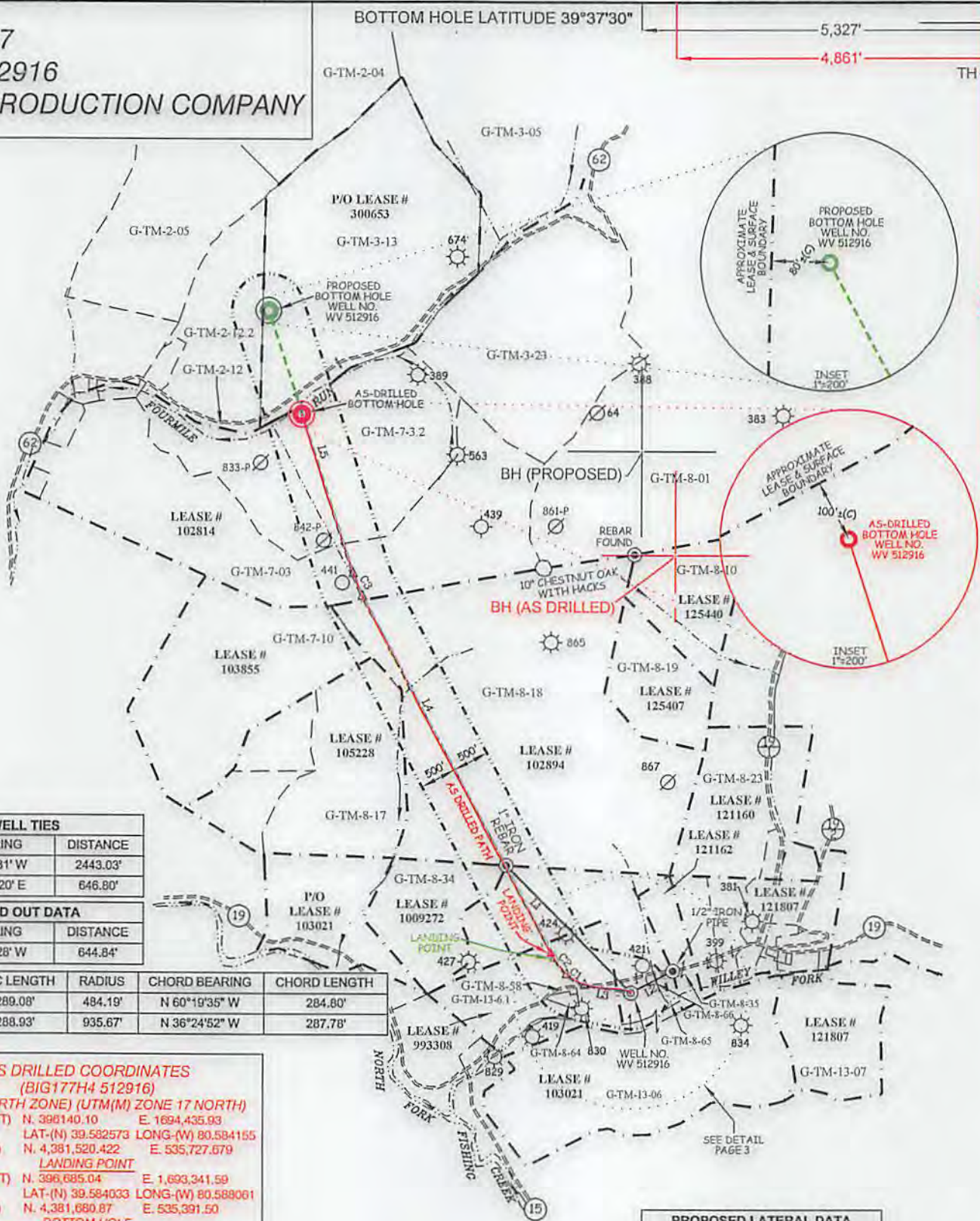
TOP HOLE LONGITUDE 80°35'00"

BOTTOM HOLE LONGITUDE 80°35'00"

7,572'

6,156'

NAD'27 GRID NORTH



WELL TIES		
ID	BEARING	DISTANCE
L1	N 44°31' W	2443.03'
L2	N 62°20' E	646.80'

BUILD OUT DATA		
ID	BEARING	DISTANCE
L3	N 80°28' W	644.84'

CURVE	ARC LENGTH	RADIUS	CHORD BEARING	CHORD LENGTH
C1	289.08'	484.19'	N 60°19'35" W	284.80'
C2	288.93'	935.67'	N 36°24'52" W	287.78'

**AS DRILLED COORDINATES**  
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PROPOSED LATERAL DATA		
ID	BEARING	DISTANCE
L4	N 28°00' W	5610.22'

CURVE	ARC LENGTH	RADIUS	CHORD BEARING	CHORD LENGTH
C3	338.90'	1910.04'	N 22°54'59" W	338.45'

ID	BEARING	DISTANCE
L5	N 17°50' W	3795.46'

TOTAL LATERAL LENGTH = 9744.58'

**AS-DRILLED TOTAL LATERAL LENGTH = 8179.79'**



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**LANDING POINT**  
 NAD'27 S.P.C.(FT) N. 396,618.92 E. 1,693,381.03  
 NAD'27 GEO. LAT-(N) 39.583853 LONG-(W) 80.587918  
 NAD'83 UTM (M) N. 4,381,660.93 E. 535,403.86

**BOTTOM HOLE**  
 NAD'27 S.P.C.(FT) N. 405,497.34 E. 1,689,453.20  
 NAD'27 GEO. LAT-(N) 39.608095 LONG-(W) 80.602240  
 NAD'83 UTM (M) N. 4,384,345.83 E. 534,162.14



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.

**LEGEND**

- LEASE LINE
- SURFACE LINE
- PROPOSED WELL LATERAL
- AS-DRILLED WELL LATERAL
- OFFSET LINE
- TIE LINE
- CREEK
- ROAD
- COUNTY ROUTE
- PROPOSED WELL
- EXISTING WELL
- PERMITTED WELL
- GRANT DISTRICT TAX MAP-PARCEL

SCALE 1" = 2000' FILE NO. 6806P512916R14AD.dwg  
 DATE OCTOBER 02, 20 13  
 03/26/14, 09/09/14, 08/25/15, 09/14/15, 10/06/16  
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OPERATORS WELL NO. WV 512916

API WELL NO. 47 — 103 — 03058

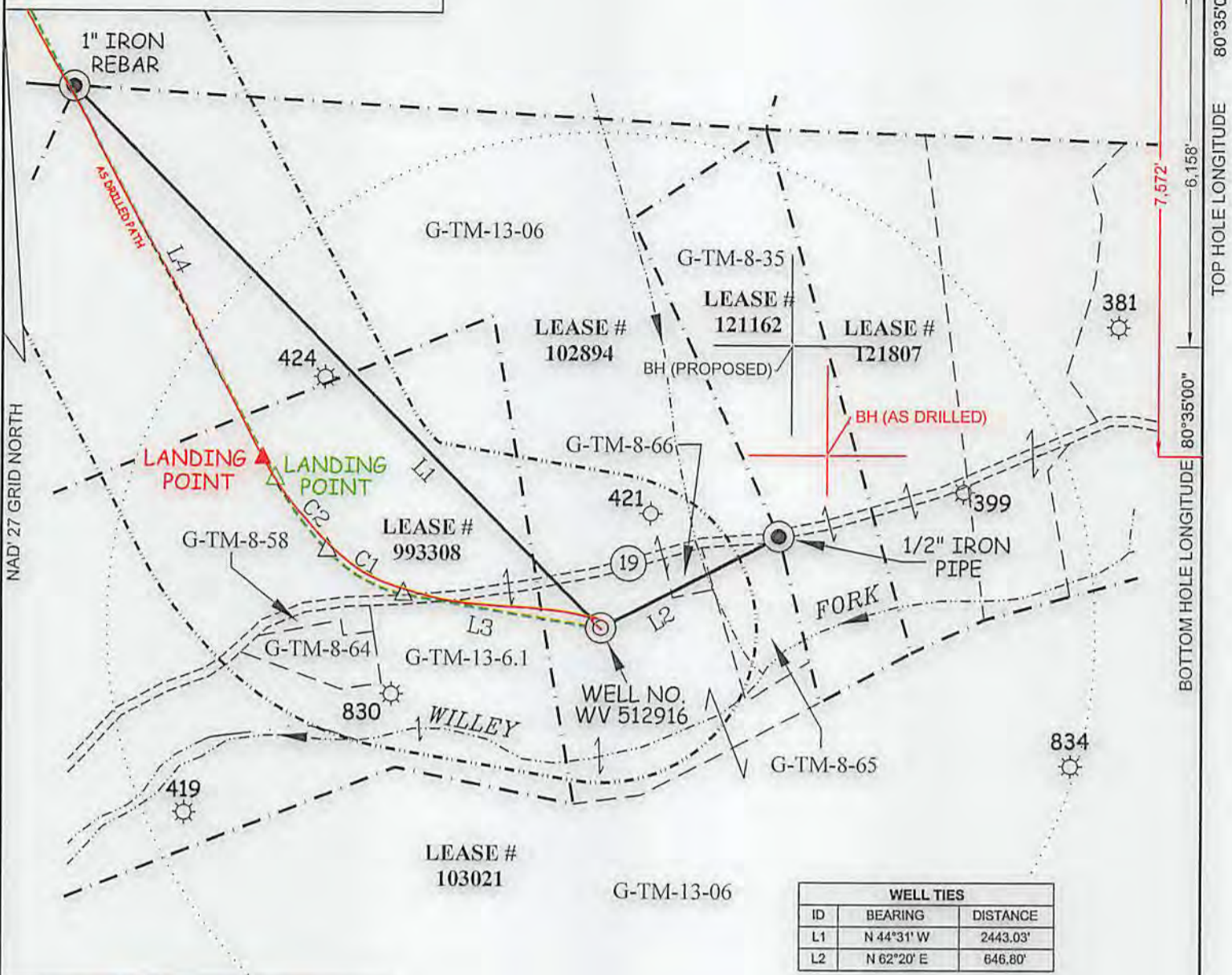
NO. STATE COUNTY PERMIT

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

02/16/2018

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DETAIL  
 1"=500'

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LEGEND	
LEASE LINE	---
SURFACE LINE	----
PROPOSED WELL LATERAL	---
AS-DRILLED WELL LATERAL	---
OFFSET LINE	----
TIE LINE	----
CREEK	~~~~~
ROAD	----
COUNTY ROUTE	⊙
PROPOSED WELL	⊙
EXISTING WELL	⊙
PERMITTED WELL	⊙
GRANT DISTRICT TAX MAP-PARCEL	G-TM-00-00

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