

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

API 47-049-02346 County MARION District MANNINGTON  
Quad GLOVER GAP Pad Name GLO76 Field/Pool Name \_\_\_\_\_  
Farm name ROBERT E. TONKERY Well Number 514744  
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 4,379,498.9 Easting 543,861.4  
Landing Point of Curve Northing 4,379,155.1 Easting 543,277.8  
Bottom Hole Northing 4,377,875.5 Easting 543,946.4

Elevation (ft) 1424' 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 13.5 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, ferrocchrome lignosulfonate, calcium carbonate, fibrous cellulose

Date permit issued 10/15/2014 Date drilling commenced 7/16/2015 Date drilling ceased 11/20/2015  
Date completion activities began 3/6/2016 Date completion activities ceased 3/12/2016  
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  
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Freshwater depth(s) ft 263 Open mine(s) (Y/N) depths JUN 08 2016  
Salt water depth(s) ft 1883,2123,2438 Void(s) encountered (Y/N) depths N  
Coal depth(s) ft 662, 818,1077,1176 Cavern(s) encountered (Y/N) depths WV Department of  
Is coal being mined in area (Y/N) N **Environmental Protection**

**APPROVED**  
NAME: Sam Ward  
DATE: 8/23/17

Reviewed by: \_\_\_\_\_  
09/15/2017

API 47-049 - 02346

Farm name **ROBERT E. TONKERY**

Well number **514744**

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	24"	20"	40'	NEW	A-500	N/A	Y
Surface	17 1/2"	13 3/8"	959'	NEW	J-55	121'	Y
Coal							
Intermediate 1	12 3/8"	9 5/8"	3055'	NEW	A-500	1956'	Y
Intermediate 2							
Intermediate 3							
Production	8 1/2"	5 1/2"	13605	NEW	P-110	N/A	N
Tubing							
Packer type and depth set							

Comment Details Cement placed greater than 1000' above KOP

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	38	15.6	1.18	44.84	0	8
Surface	CLASS A	752	15.6	1.20	902.4	0	8
Coal							
Intermediate 1	CLASS A / CLASS A	875 / 194	15.6 / 15.6	1.18 / 1.20	1265.3	0	8
Intermediate 2							
Intermediate 3							
Production	Class A / Class A	1070 / 700	15.6 / 15.6	1.22 / 1.84	2593.4	2732'	8+
Tubing							

Drillers TD (ft) 13610' 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) 4760'

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: 3 CENTRALIZERS EVERY 500'  
 INTERMEDIATE: 7 CENTRALIZERS EVERY 500'  
 PRODUCTION: 106 Centralizers every other joint from 13603' to 4639' then 1 centralizer placed at 3710' and 3008'

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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Farm name ROBERT E. TONKERY

Well number 514744

**PERFORATION RECORD**

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

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)
						<b>Please</b>	<b>See</b>	<b>Attached</b>

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Please insert additional pages as applicable.

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Farm name ROBERT E. TONKERY

Well number 514744

<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>		
		TVD	MD
MARCELLUS	7,672.50	8,667.00	

Please insert additional pages as applicable.

GAS TEST  Build up  Drawdown  Open Flow OIL TEST  Flow  Pump

SHUT-IN PRESSURE Surface 2,270 psi Bottom Hole N/A psi DURATION OF TEST 106.50 hrs

OPEN FLOW Gas 12,799 mcfpd Oil N/A bpd NGL 0.0 bpd Water 964 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 <sub>2</sub> 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 ALPHA HUNTER DRILLING (RIG 6)  
Address P.O. BOX 430 City RENO State OH Zip 45773

Logging Company GYRODATA  
Address 601 MAYER ST City BRIDGEVILLE State PA Zip 15017

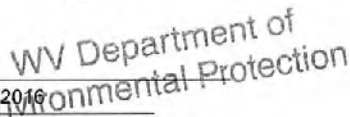
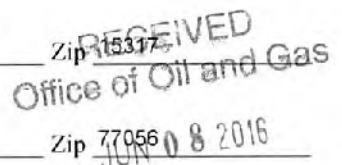
Cementing Company ALLIED OIL & GAS SERVICES  
Address 333 Technology Drive, Suite 290 City Canonsburg State PA Zip 15317

Stimulating Company Keane  
Address 2121 Sage Road City Houston State TX Zip 77056

Please insert additional pages as applicable.

Completed by Jim Helmick Telephone (412) 395-5518  
Signature  Title VP Completions Date 6/7/2016

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



API 47- 049 - 02346 Farm name ROBERT E. TONKERY Well number 514744

Drilling Contractor Pioneer Drilling Services Rig 72  
Address 1083 North 88 Road City Rices Landing State PA Zip 15357

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

Logging Company Pro Directional  
Address 750 Conroe Park North Dr. City Conroe State TX Zip 77303

Cementing Company Nabors aka C&J Services  
Address 2504 Smith Creek Road City Waynesburg State PA Zip 15370

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Final Formations Well # 514744				
Formation Name	Final Top MD (ftGL) (ft)	Final Top TVD (ft)	Final Btm MD (ftGL) (ft)	Final Btm TVD (ft)
SAND/SHALE	1	1	662	662
WASHINGTON COAL	662	662	664	664
SAND/SHALE	664	664	818	818
WAYNESBURG COAL	818	818	820	820
SAND/SHALE	820	820	1,077.00	1,077.00
SEWICKLEY COAL	1,077.00	1,077.00	1,080.00	1,080.00
SAND/SHALE	1,080.00	1,080.00	1,176.00	1,176.00
PITTSBURGH COAL	1,176.00	1,176.00	1,183.00	1,183.00
SAND/SHALE	1,183.00	1,183.00	2,146.00	2,145.80
MAXTON	2,146.00	2,145.80	2,183.00	2,182.70
SAND/SHALE	2,183.00	2,182.70	2,293.00	2,292.70
BIG LIME	2,293.00	2,292.70	2,362.00	2,361.70
SAND/SHALE	2,362.00	2,361.70	2,457.00	2,456.70
BIG INJUN	2,457.00	2,456.70	2,612.00	2,611.60
SAND/SHALE	2,612.00	2,611.60	2,730.00	2,729.60
WEIR	2,730.00	2,729.60	2,750.00	2,749.60
SAND/SHALE	2,750.00	2,749.60	2,938.00	2,937.60
GANTZ	2,938.00	2,937.60	3,097.00	3,096.50
50F	3,097.00	3,096.50	3,253.00	3,252.50
GORDON	3,253.00	3,252.50	3,381.00	3,380.50
BAYARD	3,381.00	3,380.50	3,863.00	3,862.50
WARREN	3,863.00	3,862.50	4,084.00	4,083.40
SPEECHLEY	4,084.00	4,083.40	4,446.00	4,445.40
BALLTOWN A	4,446.00	4,445.40	4,969.00	4,964.50
RILEY	4,969.00	4,964.50	5,528.00	5,464.10
BENSON	5,528.00	5,464.10	5,914.00	5,746.10
ALEXANDER	5,914.00	5,746.10	7,156.00	6,680.50
RHINESTREET	7,156.00	6,680.50	7,218.00	6,726.80
SONYEA	7,218.00	6,726.80	7,380.00	6,847.30
MIDDLESEX	7,380.00	6,847.30	7,433.00	6,886.60
GENESSEE	7,433.00	6,886.60	8,353.00	7,528.90
GENESE0	8,353.00	7,528.90	8,413.00	7,561.20
TULLY	8,413.00	7,561.20	8,459.00	7,584.20
HAMILTON	8,459.00	7,584.20	8,667.00	7,672.50
MARCELLUS	8,667.00	7,672.50		

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**514744 47-049-02346-0000 - 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>	12/18/2015	13,604	13,605	10	MARCELLUS
<b>1</b>	3/6/2016	13,457	13,549	32	MARCELLUS
<b>2</b>	3/6/2016	13,307	13,429	40	MARCELLUS
<b>3</b>	3/7/2016	13,159	13,279	40	MARCELLUS
<b>4</b>	3/7/2016	13,007	13,129	40	MARCELLUS
<b>5</b>	3/7/2016	12,857	12,979	40	MARCELLUS
<b>6</b>	3/7/2016	12,707	12,829	40	MARCELLUS
<b>7</b>	3/7/2016	12,557	12,679	40	MARCELLUS
<b>8</b>	3/7/2016	12,407	12,529	40	MARCELLUS
<b>9</b>	3/8/2016	12,257	12,379	40	MARCELLUS
<b>10</b>	3/8/2016	12,107	12,229	40	MARCELLUS
<b>11</b>	3/8/2016	11,957	12,079	40	MARCELLUS
<b>12</b>	3/8/2016	11,807	11,926	40	MARCELLUS
<b>13</b>	3/8/2016	11,657	11,779	40	MARCELLUS
<b>14</b>	3/8/2016	11,507	11,629	40	MARCELLUS
<b>15</b>	3/8/2016	11,357	11,479	40	MARCELLUS
<b>16</b>	3/9/2016	11,207	11,329	40	MARCELLUS
<b>17</b>	3/9/2016	11,057	11,179	40	MARCELLUS
<b>18</b>	3/9/2016	10,907.00	11,029.00	40	MARCELLUS
<b>19</b>	3/9/2016	10,757.00	10,879.00	40	MARCELLUS
<b>20</b>	3/10/2016	10,607.00	10,729.00	40	MARCELLUS
<b>21</b>	3/10/2016	10,457.00	10,579.00	40	MARCELLUS
<b>22</b>	3/10/2016	10,307.00	10,429.00	40	MARCELLUS
<b>23</b>	3/10/2016	10,157.00	10,279.00	40	MARCELLUS
<b>24</b>	3/10/2016	10,007.00	10,129.00	40	MARCELLUS
<b>25</b>	3/10/2016	9,857.00	9,979.00	40	MARCELLUS
<b>26</b>	3/11/2016	9,707.00	9,829.00	40	MARCELLUS
	3/11/2016	9,557.00	9,679.00	40	MARCELLUS
	3/11/2016	9,407.00	9,529.00	40	MARCELLUS
	3/11/2016	9,257.00	9,379.00	40	MARCELLUS
	3/11/2016	9,107.00	9,227.00	40	MARCELLUS
	3/11/2016	8,957.00	9,077.00	40	MARCELLUS
	3/12/2016	8,810.00	8,927.00	40	MARCELLUS
	3/12/2016	8,657.00	8,777.00	40	MARCELLUS

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**514744 47-049-02346-0000 - 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)
Initiation Sleeve	3/6/2016	17.21	7,082	8,573	5,116	0	459	0
1	3/6/2016	101.7	8,806	9,150	4,410	250,380.00	6,235	0
2	3/6/2016	100.5	8,763	9,306	5,086	250,420.00	6,238	0
3	3/7/2016	98.6	8,731	9,271	5,096	250,260.00	6,166	0
4	3/7/2016	100.77	8,693	8,957	5,220	250,380.00	6,562	0
5	3/7/2016	100.2	8,677	8,920	4,659	253,320.00	6,290	0
6	3/7/2016	100.28	8,739	8,926	5,228	249,980.00	6,197	0
7	3/7/2016	100.1	8,855	9,102	5,287	250,780.00	6,273	0
8	3/7/2016	97.7	9,083	9,279	5,093	249,840.00	6,258	0
9	3/8/2016	97.8	9,020	9,274	5,538	250,020.00	6,200	0
10	3/8/2016	101.29	8,677	8,824	5,661	250,600.00	6,119	0
11	3/8/2016	101.2	8,530	8,780	4,921	249,600.00	5,977	0
12	3/8/2016	100.55	8,351	8,606	5,109	253,500.00	6,066	0
13	3/8/2016	100.7	8,471	8,591	5,415	251,180.00	6,146	0
14	3/8/2016	101.1	8,756	9,050	5,633	253,160.00	6,259	0
15	3/9/2016	100.8	8,658	9,017	5,345	250,400.00	6,072	0
16	3/9/2016	100.9	8,669	9,073	5,665	250,680.00	6,126	0
17	3/9/2016	100.8	8,746	9,349	5,160	252,860.00	6,059	0
18	3/9/2016	99.1	8,350	8,864	5,006	253,840.00	6,305	0
19	3/9/2016	99.9	9,011	9,315	5,235	250,060.00	6,151	0
20	3/10/2016	99.6	8,816	9,122	5,526	249,860.00	6,077	0
21	3/10/2016	100	8,796	9,140	5,290	250,100.00	5,790	0
22	3/10/2016	100.3	9,032	9,307	5,866	251,140.00	5,933	0
23	3/10/2016	100.4	8,858	9,102	5,813	251,020.00	5,970	0
24	3/10/2016	100.5	8,913	9,026	6,184	250,160.00	5,947	0
25	3/11/2016	98.8	9,081	9,217	6,329	249,660.00	5,845	0
26	3/11/2016	99	8,794	8,971	6,257	250,940.00	6,613	0
27	3/11/2016	100.2	8,877	8,996	6,143	250,380.00	5,734	0
28	3/11/2016	100.6	8,733	8,863	6,157	250,340.00	5,723	0
29	3/11/2016	94.6	8,795	9,051	6,027	249,820.00	5,737	0
30	3/11/2016	101	8,853	9,074	6,464	250,580.00	5,820	0
31	3/11/2016	100.7	8,565	9,270	6,092	249,640.00	5,829	0
32	3/12/2016	95.8	8,971	9,241	6,180	250,660.00	5,698	0
33	3/12/2016	91.1	8,915	9,378	5,149	249,200.00	6,058	0

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# Hydraulic Fracturing Fluid Product Component Information Disclosure



Job Start Date:	3/6/2016
Job End Date:	3/12/2016
State:	West Virginia
County:	Marion
API Number:	47-049-02346-00-00
Operator Name:	EQT Production
Well Name and Number:	514744
Longitude:	-80.48958100
Latitude:	39.56398100
Datum:	NAD83
Federal/Tribal Well:	NO
True Vertical Depth:	7,673
Total Base Water Volume (gal):	8,439,144
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	Keane Group	Carrier/Base Fluid					
			Water	7732-18-5	100.00000	89.23504	None
Sand (Proppant)	Keane Group	Proppant					
			Silica Substrate	14808-60-7	100.00000	10.48494	None
KFR-20	Keane Frac	Friction Reducer					
			Water	7732-18-5	45.00000	0.01841	None
			Copolymer of 2-propenamide	69418-26-4	30.00000	0.01227	None
			Petroleum distillate	64742-47-8	20.00000	0.00818	None
			Oleic acid diethanolamide	93-83-4	2.00000	0.00082	None
			Alcohols, C12-16, ethoxylated	68551-12-2	2.00000	0.00082	None
			Ammonium chloride	12125-02-9	1.00000	0.00041	None
Hydrochloric Acid (15%)	Keane Group	Acidizing					
			Hydrochloric Acid	7647-01-0	15.00000	0.03170	None
LD-2250	Multi-Chem Group LLC	Friction Reducer					
			Polyacrylate	Proprietary	30.00000	0.00671	None
			Hydrotreated light petroleum distillate	64742-47-8	30.00000	0.00671	None
			Ethoxylated alcohol	Proprietary	5.00000	0.00112	None
			Fatty nitrogen derived amides	Proprietary	5.00000	0.00112	None

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			Sodium chloride	7647-14-5	5.00000	0.00112	None
LD-2550	Multi-Chem Group LLC	Additive					
			Inner salt of alkyl amines	Proprietary	60.00000	0.00295	None
			Sodium chloride	7647-14-5	10.00000	0.00049	None
AI 600	Keane Group	Corrosion Inhibitor					
			Ethylene Glycol	107-21-1	40.00000	0.00021	None
			Dimethylformamide	68-12-2	20.00000	0.00010	None
			Pyridine, alkyl derives, quaternized with benzyl chloride	68909-18-2	15.00000	0.00008	None
			Cinnamialdehyde	104-55-2	15.00000	0.00008	None
			Nonyl Phenol Ethoxylate, Branched	127087-87-0	15.00000	0.00008	None
			1-Decanol	112-30-1	5.00000	0.00003	None
			2-Butoxyethanol	111-76-2	5.00000	0.00003	None
			1-Octanol	111-87-5	5.00000	0.00003	None
			Methanol	67-56-1	2.50000	0.00001	None
			Triethyl Phosphate	78-40-0	2.50000	0.00001	None
			Alkyl Pyridine	68391-11-7	1.00000	0.00001	None

**Ingredients shown above are subject to 29 CFR 1910.1200(i) and appear on Material Safety Data Sheets (MSDS). Ingredients shown below are Non-MSDS.**

\* Total Water Volume sources may include fresh water, produced water, and/or recycled water

\*\* Information is based on the maximum potential for concentration and thus the total may be over 100%

Note: For Field Development Products (products that begin with FDP), MSDS level only information has been provided.

Ingredient information for chemicals subject to 29 CFR 1910.1200(i) and Appendix D are obtained from suppliers Material Safety Data Sheets (MSDS)

8,830'

Latitude: 39° 35' 00"

**WV 514744**  
**EQT Production Company**  
**Bower et al LEASE**  
**111.0 Acres ±**

Lease No.	Acres	Owner
991926	30	Kennis S. Ketterer et. al.
49-12-234	80.2	Trans Energy
49-12-233	40.8	Trans Energy
991927	27	Delilah Harris et. al.

**WV 514744 Well Point Coordinates**

Top Hole Coordinates		
NAD 27 S.P.C. (FL)	N: 389,060.60	E: 1,721,015.30
NAD 27 GEO	LAT: 39.563980	LONG: 80.489581
NAD 83 UTM 17N (M)	N 4,379,498.9	E: 543,861.4
NAD 83 S.P.C. (FL)	N 389,098.3	E: 1,689,576.6
Landing Point Coordinates		
NAD 27 S.P.C. (FL)	N: 387,964.43	E: 1,719,081.35
NAD 27 GEO	LAT: 39.560912	LONG: 80.496398
NAD 83 UTM 17N (M)	N 4,379,155.1	E: 543,277.8
NAD 83 S.P.C. (FL)	N 389,002.1	E: 1,687,642.6
Bottom Hole Coordinates		
NAD 27 S.P.C. (FL)	N: 383,728.99	E: 1,721,205.41
NAD 27 GEO	LAT: 39.549349	LONG: 80.488699
NAD 83 UTM 17N (M)	N 4,377,875.5	E: 543,946.4
NAD 83 S.P.C. (FL)	N 383,766.6	E: 1,689,766.5

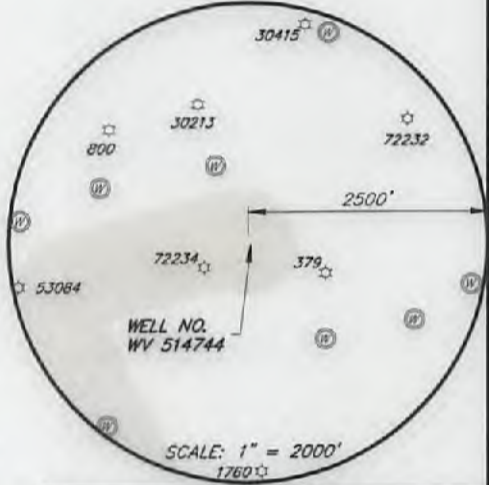
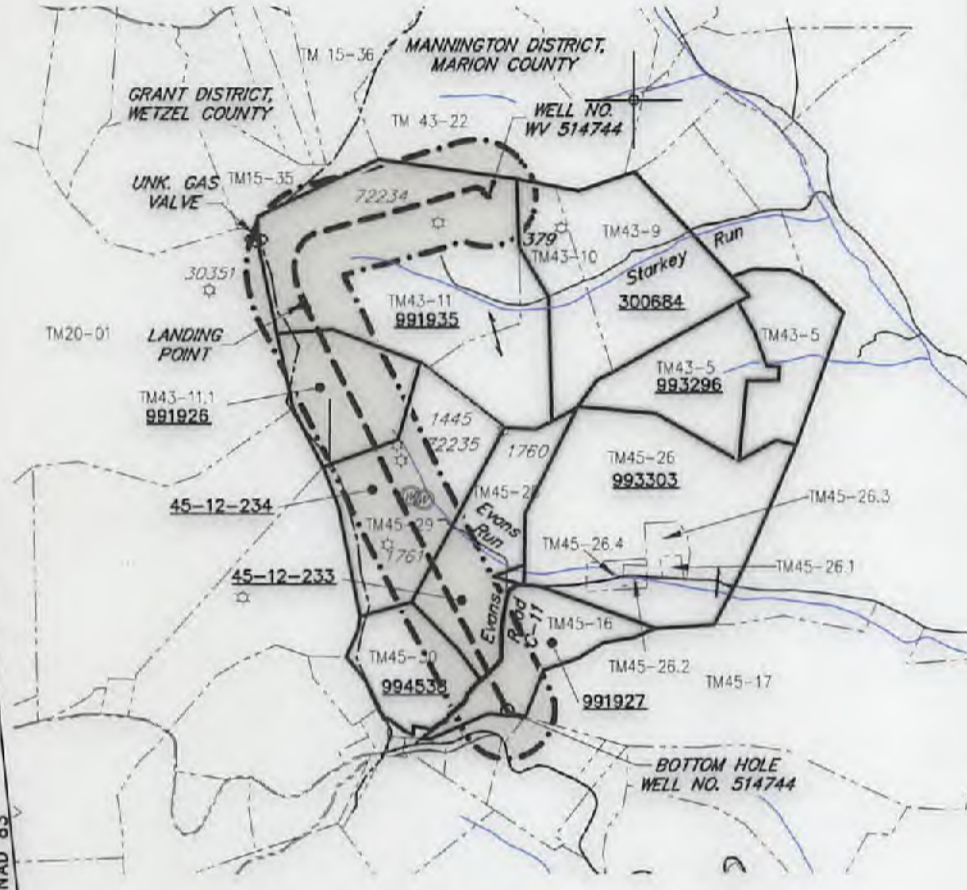
Longitude: 80° 27' 30"

**LEGEND**

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

**Coordinate Notes**  
West Virginia Coordinate System of 1927 (North Zone) Based upon Differential GPS Measurements.  
Plat 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.

GLO 76



**Well References**

SCALE: 1"=1000'

N71°11'16"W 1212'

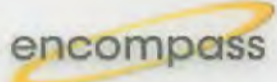
36" OAK FOUND

FENCE POST FOUND

N78°54'47"E 303'

WELL NO. WV 514744

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



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.



FILE NO.: EES-60635  
DRAWING NO.: GLO76\_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: DECEMBER 18, 2015  
OPERATORS WELL NO. WV 514744  
API WELL NO. 47 049 02346  
STATE COUNTY PERMIT

WELL TYPE:  OIL  GAS  LIQUID INJECTION  WASTE DISPOSAL  (IF GAS) PRODUCTION:  STORAGE  DEEP  SHALLOW  
LOCATION: ELEVATION: 1424' (Ground) 1455' (Prop.) WATERSHED: Starkey Run QUADRANGLE: GLOVER GAP, WV  
DISTRICT: MANNINGTON COUNTY: Marion  
SURFACE OWNER: Robert E. Tonkery ACREAGE: 111.00± AC  
ROYALTY OWNER: Lynn Ann Brower, et al LEASE NO.: 991935 ACREAGE: 111.00± 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: 7,704'

WELL OPERATOR: EQT Production Company DESIGNATED AGENT: Rex C. Ray  
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: 12/18/2015 CAD FILE: GLO76\_WELL\_PLAT\_12-01-2015.DWG

111.0 Acres ±  
Bower et al LEASE  
EQT Production Company  
WV 514744

Lease No.	Acres	Owner
991927	27	Dellish Harris et al.
49-12-232	40.8	Trans Energy
49-12-234	80.2	Trans Energy
991928	30	Kennis S Kettler et al.

**LEGEND**

- EXISTING OIL/GAS WELL
- ⊙ WATER FEATURE
- ▲ WELL HEAD TOP HOLE
- △ WELL LANDING POINT
- WELL BOTTOM HOLE
- REBAR FOUND
- STONE FOUND
- WELL LATERAL LINE
- LEASE BOUNDARY
- BUFFER
- PROPERTY LINE
- STREAM
- 300' LATERAL COLLECTION

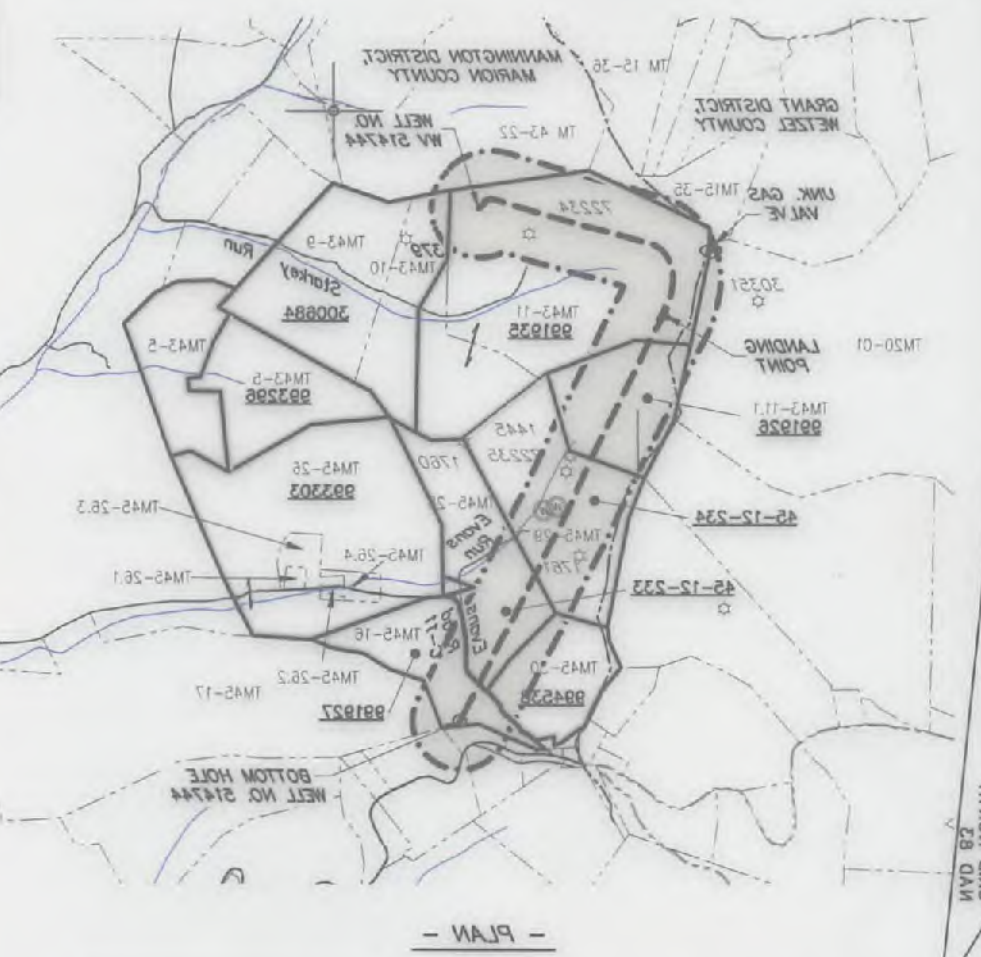
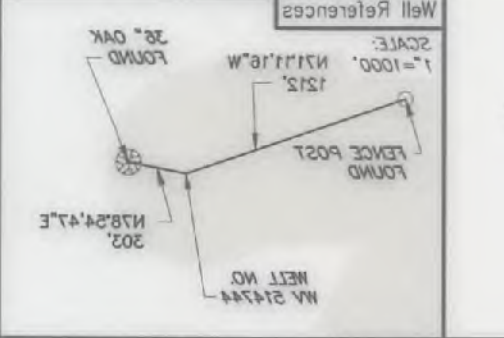
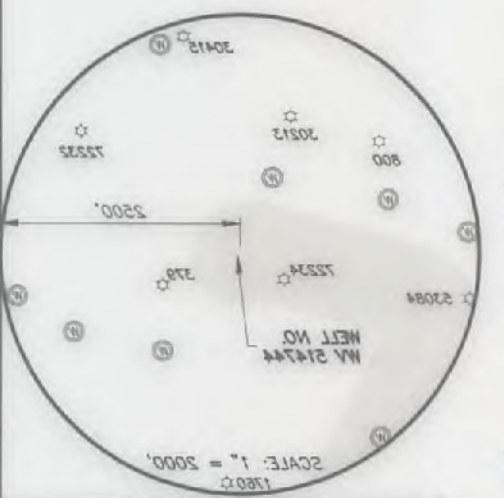
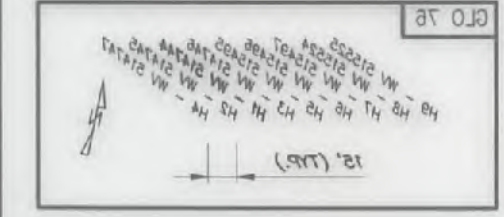
**Coordinate Notes**  
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Plot orientation, corner and well ties are based upon the grid north meridian. Well location references are based upon the grid north meridian.  
UTM Coordinates are NAD83, Zone 17, Meters.

**WV 514744 Well Point Coordinates**

Latitude: 39° 35' 00"

Top Hole Coordinates		Landing Point Coordinates		Bottom Hole Coordinates	
NAD 83 E.P.C. (F.P.)	N 389.088.3	NAD 83 UTM 17M (M)	N 4378.125.1	NAD 83 E.P.C. (F.P.)	N 389.088.1
NAD 83 UTM 17M (M)	N 4378.088.3	NAD 83 E.P.C. (F.P.)	N 389.088.3	NAD 83 UTM 17M (M)	N 4378.125.1
LAT. 39.583880	E. 1.688276	LAT. 39.583880	E. 1.688276	LAT. 39.583880	E. 1.688276
LONG. 80.489281	E. 1.721012.30	LONG. 80.489281	E. 1.721012.30	LONG. 80.489281	E. 1.721012.30

Longitude: 80. 51. 20.



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

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]*



DATE DECEMBER 18, 2015  
OPERATORS WELL NO. WV 514744  
API WELL NO. 049 02348  
STATE 47 COUNTY MAHON PERMIT 049 02348

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

FILE NO.: EES-60835  
DRAWING NO.: GLO76 Well Plat  
SCALE: 1" = 2000'  
MINIMUM DEGREE OF ACCURACY: ±3'  
PROVEN SOURCE OF ELEVATION: GPS

WELL TYPE:  OIL  GAS  LIQUID INJECTION  WASTE DISPOSAL  (IF GAS) PRODUCTION:  STORAGE  DEEP  SHALLOW

LOCATION: 1424' (Ground) 1425' (Prop.) Watershed: Stokely Run QUADRANGLE: GLOVER GAP, WV

DISTRICT: MAHON COUNTY: MAHON

SURFACE OWNER: Robert E. Tonkery  
ROYALTY OWNER: Lynn Ann Bower, et al  
LEASE NO.: 991927 ACRES: 111.00 ± AC

PROPOSED WORK:  DRILL  CONVERT  DRILL DEEPER  FRACTURE OR STIMULATE  PLUG OFF OLD FORMATION

OTHER PHYSICAL CHANGE IN WELL (SPECIFY) \_\_\_\_\_  
TARGET FORMATION: MARCELLUS ESTIMATED DEPTH: 7,704'

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

09/15/2017

WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION