

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

API 47-103-03190 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 BIG177H6
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 4,381,509.943 Easting 535,733.866
Landing Point of Curve Northing 4,381,095.869 Easting 535,472.722
Bottom Hole Northing 4,383,813.868 Easting 533,968.888

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)
Synthetic Oil Based Mud 13.2 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 08/29/2017 Date drilling commenced 12/16/2017 Date drilling ceased 1/21/2018
Date completion activities began 02/26/2018 Date completion activities ceased 03/27/2018
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 183', 293', 493', 643' Open mine(s) (Y/N) depths N
Salt water depth(s) ft 1,148', 1,463' Void(s) encountered (Y/N) depths N
Coal depth(s) ft 113', 166', 444', 554' Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

Reviewed
[Signature]

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API 47- 103 - 03190

Farm name Coastal Forest Resources DBA Coastal Timberlands Co

Well number BIG177H6

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"	361	NEW	J-55	155	Y
Surface	17 1/2"	13 3/8"	770'	NEW	J-55	492	Y
Intermediate 1	12 3/8"	9 5/8"	2738'	NEW	A-500	858	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4" & 8-1/2"	5-1/2"	17,197'	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 ³ /sks)	Volume (ft ³)	Cement Top (MD)	WOC (hrs)
Conductor	Class A	200	15.6	1.18	236	0	8
Fresh Water	Class A	657	15.6	1.20	788	0	8
Surface	Class A	782	15.6	1.2	939	0	8
Intermediate 1	Class A / Class A	391 / 626	15.6 / 16.4	1.18 / 1.08	1137	0	8
Intermediate 2							
Intermediate 3							
Production	Class H / Class H	513 / 1268	15.2 / 15.6	1.25 / 2.06	3396	4813	72+
Tubing							

Drillers TD (ft) 17,931'

Loggers TD (ft) N/A

Deepest formation penetrated Marcellus

Plug back to (ft) N/A

Plug back procedure N/A

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Kick off depth (ft) 3214'

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 Every 500' and on shoe track

Surface: 4 centralizers every 500' and on shoe track

INTERMEDIATE: 8 CENTRALIZERS AT EVERY 500'

PRODUCTION: Composite body spiral centralizers run every joint from 16,906' to 2828'

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 Coastal Forest Resources DBA Coastal Timberlands Co

Well number BIG177H6

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)	Nitrogen/other (units)	Formation(s)
									Please See Attached

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Air and Radiation Section

Please insert additional pages as applicable.

API 47- 103 - 03190 Farm name Coastal Forest Resources DBA Coastal Timberlands Co Well number 512916

<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>			
<u>Marcellus</u>	<u>6,828</u>	<u>TVD</u>	<u>7,588</u>	<u>MD</u>
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump
 SHUT-IN PRESSURE Surface 3,041 psi Bottom Hole N/A psi DURATION OF TEST 74 hrs
 OPEN FLOW Gas 15,732 mcfpd Oil N/A bpd NGL 0 bpd Water 1,792 bpd GAS MEASURED BY Estimated Orifice Pilot

<u>LITHOLOGY/ FORMATION</u>	<u>TOP DEPTH IN FT NAME TVD</u>	<u>BOTTOM DEPTH IN FT TVD</u>	<u>TOP DEPTH IN FT MD</u>	<u>BOTTOM DEPTH IN FT MD</u>	<u>DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H₂S, ETC)</u>
	<u>0</u>		<u>0</u>		

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Please insert additional pages as applicable.

Drilling Contractor _____
Address _____ City _____ State _____ Zip _____

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

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

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 06/20/2018

API 47- 103 - 03190 Farm name Coastal Forest Resources DBA Coastal Timberlands Co Well number BIG177H6

Drilling Contractor Pioneer Drilling Rig 72
Address 1083 N Eighty Eight Rd City Rices Landing State PA Zip 15357

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

Logging Company Baker Hughes
Address 400 Technology Drive City Canonsburg State PA Zip 15317

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

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BIG177 H6 512918 Final Formations API: 47-103-03190

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	1705
MAXTON	1705	1705	1749	1749
SAND/SHALE	1749	1749	1821	1821
BIG LIME	1821	1821	1874	1874
SAND/SHALE	1874	1874	2203	2203
WEIR	2203	2203	2231	2231
SAND/SHALE	2231	2231	2377	2377
GANTZ	2377	2377	2415	2415
SAND/SHALE	2415	2415	2528	2528
50F	2528	2528	2573	2573
SAND/SHALE	2573	2573	2599	2599
30F	2599	2599	2633	2633
SAND/SHALE	2633	2633	2646	2646
GORDON	2646	2646	2691	2691
SAND/SHALE	2691	2691	2733	2733
4TH SAND	2733	2733	2744	2744
SAND/SHALE	2744	2744	2785	2785
BAYARD	2785	2785	2858	2858
SAND/SHALE	2858	2858	3242	3242
WARREN	3242	3242	3288	3288
SAND/SHALE	3288	3288	3392	3391
SPEECHLEY	3392	3391	3406	3405
SAND/SHALE	3406	3405	3781	3750
BALLTOWN A	3781	3750	3798	3764
SAND/SHALE	3798	3764	4241	4135
RILEY	4241	4135	4254	4146
SAND/SHALE	4254	4146	4893	4687
BENSON	4893	4687	4932	4720
ALEXANDER	5241	4978	6905	6397
SONYEA	6905	6397	7078	6549
MIDDLESEX	7078	6549	7142	6600
GENESEE	7142	6600	7264	6686
GENESEO	7264	6686	7298	6707
TULLY	7298	6707	7335	
HAMILTON	7335	6728	7588	
MARCELLUS	7588	6828	17931	

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512918 47-103-03190-0000 - Perforations

Stage Number	Perforation Date	Top Perf Depth (ftKB)	Bottom Perf Depth (ftKB)	Number of Shots	Formation
Initiation Sleeve	2/19/2018	17,805	17,917	10	MARCELLUS
2	2/26/2018	17,642	17,764	32	MARCELLUS
3	2/26/2018	17,482	17,604	32	MARCELLUS
4	2/27/2018	17,282	17,444	40	MARCELLUS
5	2/27/2018	17,082	17,244	40	MARCELLUS
6	2/27/2018	16,882	17,044	40	MARCELLUS
7	2/28/2018	16,682	16,844	40	MARCELLUS
8	2/28/2018	16,482	16,644	40	MARCELLUS
9	2/28/2018	16,282	16,444	40	MARCELLUS
10	2/28/2018	16,082	16,244	40	MARCELLUS
11	3/1/2018	15,882	16,044	40	MARCELLUS
12	3/1/2018	15,682	15,844	40	MARCELLUS
13	3/3/2018	15,482	15,644	40	MARCELLUS
14	3/4/2018	15,282	15,444	40	MARCELLUS
15	3/4/2018	15,082	15,244	40	MARCELLUS
16	3/5/2018	14,882	15,044	40	MARCELLUS
17	3/5/2018	14,682	14,844	40	MARCELLUS
18	3/6/2018	14,482	14,644	40	MARCELLUS
19	3/6/2018	14,282	14,444	40	MARCELLUS
20	3/7/2018	14,082	14,244	40	MARCELLUS
21	3/8/2018	13,882	14,044	40	MARCELLUS
22	3/9/2018	13,682	13,844	40	MARCELLUS
23	3/10/2018	13,482	13,644	40	MARCELLUS
24	3/10/2018	13,282	13,444	40	MARCELLUS
25	3/10/2018	13,082	13,244	40	MARCELLUS
26	3/11/2018	12,882	13,044	40	MARCELLUS
27	3/12/2018	12,682	12,844	40	MARCELLUS
28	3/12/2018	12,482	12,644	40	MARCELLUS
29	3/13/2018	12,241	12,291	24	MARCELLUS
29	3/13/2018	12,282	12,444	40	MARCELLUS
30	3/13/2018	12,040	12,202	40	MARCELLUS
31	3/14/2018	11,840	12,002	40	MARCELLUS
32	3/15/2018	11,640	11,802	40	MARCELLUS
33	3/15/2018	11,440	11,602	40	MARCELLUS
34	3/16/2018	11,240	11,402	40	MARCELLUS
35	3/16/2018	11,040	11,202	40	MARCELLUS
36	3/17/2018	10,840	11,002	40	MARCELLUS
37	3/18/2018	10,640	10,802	40	MARCELLUS
38	3/18/2018	10,440	10,602	40	MARCELLUS
39	3/18/2018	10,240	10,402	40	MARCELLUS
40	3/20/2018	10,040	10,202	40	MARCELLUS
41	3/20/2018	9,840	10,002	40	MARCELLUS
42	3/20/2018	9,640	9,802	40	MARCELLUS
43	3/21/2018	9,440	9,602	40	MARCELLUS
44	3/21/2018	9,240	9,402	40	MARCELLUS
45	3/22/2018	8,960	9,202	40	MARCELLUS
46	3/23/2018	8,760	8,922	40	MARCELLUS
47	3/23/2018	8,560	8,722	40	MARCELLUS
48	3/24/2018	8,360	8,522	40	MARCELLUS
49	3/25/2018	8,160	8,322	40	MARCELLUS
50	3/25/2018	7,960	8,122	40	MARCELLUS
51	3/27/2018	7,760	7,922	40	MARCELLUS

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512918 47-103-03190-0000 - 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	2/26/2018	85	9,070	9,375	4,535	270,008	5,182	0
2	2/26/2018	70	8,725	9,598	4,391	360,760	7,589	0
3	2/27/2018	80	8,471	8,745	4,478	358,628	6,598	0
4	2/27/2018	95	9,290	9,416	5,383	453,814	7,831	0
5	2/27/2018	92	9,207	9,449	4,723	448,025	7,940	0
6	2/27/2018	100	9,183	9,295	4,596	449,390	7,825	0
7	2/28/2018	91	9,180	9,481	4,516	451,323	8,174	0
8	2/28/2018	95	9,263	9,388	4,866	448,545	7,816	0
9	2/28/2018	98	9,277	9,373	4,868	448,939	8,072	0
10	3/1/2018	99	9,239	9,338	4,748	448,193	8,129	0
11	3/1/2018	94	9,211	9,419	4,656	450,850	8,031	0
12	3/3/2018	90	9,136	9,389	5,001	450,042	9,126	0
13	3/3/2018	79	9,163	9,782	5,328	453,171	9,616	0
14	3/4/2018	96	9,153	9,380	4,782	448,294	7,809	0
15	3/5/2018	92	9,139	9,475	5,800	450,232	7,882	0
16	3/5/2018	98	9,180	9,361	5,144	448,822	7,809	0
17	3/6/2018	94	9,027	9,401	5,743	450,083	8,019	0
18	3/6/2018	95	9,105	9,461	5,537	450,032	7,895	0
19	3/7/2018	90	9,229	9,402	5,267	450,891	7,990	0
20	3/8/2018	98	8,949	9,401	5,154	449,631	7,877	0
21	3/9/2018	98	8,878	9,230	4,802	451,092	8,325	0
22	3/9/2018	89	9,122	9,453	5,748	448,372	7,842	0
23	3/10/2018	98	9,022	9,323	5,940	442,114	8,626	0
24	3/11/2018	97	9,097	9,362	5,061	450,420	7,594	0
25	3/11/2018	100	8,659	8,958	5,765	450,713	7,730	0
26	3/12/2018	100	8,759	9,023	4,964	449,240	7,638	0
27	3/12/2018	101	8,614	9,086	5,423	451,099	7,688	0
28	3/13/2018	100	8,633	9,227	5,862	450,031	7,660	0
29	3/13/2018	90	8,923	9,676	5,456	232,240	6,690	0
29	3/13/2018	95	8,881	9,103	5,870	221,372	4,879	0
30	3/14/2018	87	8,669	9,354	5,482	450,084	9,145	0
31	3/15/2018	95	9,111	9,510	5,333	450,556	8,553	0
32	3/15/2018	99	8,875	9,141	5,053	449,193	7,876	0
33	3/15/2018	101	8,537	8,823	4,857	449,569	7,447	0
34	3/16/2018	101	8,509	8,922	5,229	450,923	7,576	0
35	3/17/2018	101	8,574	9,190	4,886	450,829	7,501	0
36	3/17/2018	100	8,483	8,632	4,319	104,559	3,412	0
36	3/18/2018	100	8,368	8,514	5,280	345,177	6,625	0
37	3/18/2018	100	8,541	8,914	5,256	449,414	7,250	0
38	3/18/2018	100	8,232	8,372	5,166	449,568	7,510	0
39	3/20/2018	101	8,296	8,768	5,104	449,643	7,330	0
40	3/20/2018	100	8,356	8,820	5,320	450,020	7,524	0
41	3/20/2018	101	8,433	9,079	5,310	450,073	7,381	0
42	3/21/2018	93	8,376	9,312	4,932	450,872	8,226	0
43	3/21/2018	94	8,857	9,044	4,950	450,146	7,364	0
44	3/22/2018	100	8,503	9,068	5,283	450,041	7,383	0
45	3/22/2018	101	8,354	8,900	5,937	449,842	7,355	0
46	3/23/2018	101	8,272	9,255	5,472	450,261	7,181	0
47	3/24/2018	99	8,172	9,169	5,385	453,308	8,034	0
48	3/25/2018	100	7,900	8,525	4,577	450,912	7,160	0
49	3/25/2018	100	8,054	8,940	5,987	450,640	7,157	0
50	3/27/2018	99	8,237	9,259	4,916	450,557	7,788	0
51	3/27/2018	94	8,504	9,545	5,455	412,485	8,672	0

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Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	2/26/2018
Job End Date:	3/27/2018
State:	West Virginia
County:	Wetzel
API Number:	47-103-03190-00-00
Operator Name:	EQT Production
Well Name and Number:	512918
Latitude:	39.58247900
Longitude:	-80.58408400
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,866
Total Base Water Volume (gal):	16,949,772
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	86.00959	None
CS-1000	FTS International	Scale Inhibitor					
				Listed Below			

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FRW-600	FTS International	Friction Reducer					
				Listed Below			
ABP-1	FTS International	Breaker					
				Listed Below			
BIOC11139A	Nalco Champion	Biocide					
				Listed Below			
Hydrochloric Acid (15%)	FTS International	Acidizing					
				Listed Below			
FRW-1450	FTS International	Friction Reducer					
				Listed Below			
Sand (Proppant)	FTS International	Proppant					
				Listed Below			
Other Chemical (s)	Listed Above	See Trade Name (s) List					
				Listed Below			
HVG-14.0	FTS International	Gelling Agent					
				Listed Below			
CI-150	FTS International	Acid Corrosion Inhibitor					

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				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	13.71514	None
			Distillates (petroleum), hydrotreated light	64742-47-8	30.00000	0.02452	None
			Distillates (petroleum), hydrotreated light	64742-47-8	30.00000	0.02452	
			Hydrochloric Acid	7647-01-0	15.00000	0.02199	None
			Phosphonic Acid (Nitrilotris (methylene) Tris	6419-19-8	35.00000	0.00832	None
			Phosphonic Acid (Nitrilotris (methylene) Tris	6419-19-8	35.00000	0.00832	
			Benzyl-(C12-C16 Alkyl)-Ammonium Chloride	68424-85-1	30.00000	0.00634	None
			Benzyl-(C12-C16 Alkyl)-Ammonium Chloride	68424-85-1	30.00000	0.00634	
			Alcohols, C11-14-iso, C-13 rich, ethoxylated	78330-21-9	5.00000	0.00409	
			Alcohols, C11-14-iso, C-13 rich, ethoxylated	78330-21-9	5.00000	0.00409	None
			Glutaraldehyde	111-30-8	10.00000	0.00211	None
			Glutaraldehyde	111-30-8	10.00000	0.00211	
			Phosphonic Acid (Dimethylamino) Methylene) Bis	29712-30-9	5.00000	0.00119	
			Phosphonic Acid (Dimethylamino) Methylene) Bis	29712-30-9	5.00000	0.00119	None
			Ethanol	64-17-5	5.00000	0.00106	None
			Ethanol	64-17-5	5.00000	0.00106	
			Phosphorous Acid	10294-56-1	2.00000	0.00048	None
			Phosphorous Acid	10294-56-1	2.00000	0.00048	
			Hydrotreated Light Distillate	64742-47-8	30.00000	0.00043	

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			Hydrotreated Light Distillate	64742-47-8	30.00000	0.00043	None
			Raffinates, Sorption Process	64741-85-1	55.00000	0.00015	None
			Raffinates, Sorption Process	64741-85-1	55.00000	0.00015	
			Alkyl Alcohol	Proprietary	10.00000	0.00014	
			Alkyl Alcohol	Proprietary	10.00000	0.00014	None
			Guar Gum	9000-30-0	50.00000	0.00013	
			Guar Gum	9000-30-0	50.00000	0.00013	None
			Isopropanol	67-63-0	30.00000	0.00008	None
			Organic Amine Resin Salt	Proprietary	30.00000	0.00008	None
			Ethylene Glycol	107-21-1	30.00000	0.00008	None
			Oxyalkylated alcohol A	Proprietary	5.00000	0.00007	None
			Oxyalkylated alcohol A	Proprietary	5.00000	0.00007	
			Ammonium Persulfate	7727-54-0	95.00000	0.00007	None
			Quaternary Ammonium Compound	Proprietary	10.00000	0.00003	None
			Aromatic Aldehyde	Proprietary	10.00000	0.00003	None
			Dimethylformamide	68-12-2	10.00000	0.00003	None
			Quartz	14808-60-7	4.00000	0.00001	None
			Quartz	14808-60-7	4.00000	0.00001	
			Isotridecanol, ethoxylated	9043-30-5	2.00000	0.00001	None
			Isotridecanol, ethoxylated	9043-30-5	2.00000	0.00001	

* 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
 JUN 22 2018
 WV Department of
 Environmental Protection

Well Operator's Report of Well Work



Where energy meets innovation.

Well Number: 512918

API: 47 - 103 - 03190

Submission: Initial Amended

Notes:

RECEIVED
Office of Oil and Gas
JUN 22 2018
WV Department of
Environmental Protection

**BIG177
BIG177H6
EQT PRODUCTION COMPANY**

BOTTOM HOLE LATITUDE

39°37'30"

5,969'

5,971'

TH

TOP HOLE LONGITUDE 80°35'00"

BOTTOM HOLE LONGITUDE 80°35'00"

NAD'27 GRID NORTH

**AS DRILLED COORDINATES
(BIG177H6)**
(S.P.C. NORTH ZONE) (UTM(M) ZONE 17 NORTH)
NAD'27 S.P.C.(FT) N. 396,105.38 E. 1,694,455.66
NAD'27 GEO. LAT-(N) 39.582479 LONG-(W) 80.584084
NAD'83 UTM (M) N. 4,381,509.943 E. 535,733.866

LANDING POINT
NAD'27 S.P.C.(FT) N. 394,774.60 E. 1,693,566.63
NAD'27 GEO. LAT-(N) 39.578796 LONG-(W) 80.587180
NAD'83 UTM (M) N. 4,381,099.98 E. 535,469.76

BOTTOM HOLE
NAD'27 S.P.C.(FT) N. 403,760.28 E. 1,68,8787.67
NAD'27 GEO. LAT-(N) 39.603304 LONG-(W) 80.604526
NAD'83 UTM (M) N. 4,383,813.22 E. 533,968.19

WELL TIES		
ID	BEARING	DISTANCE
L1	N 44°17' W	2481.65'
L2	N 58°48' E	646.68'

BUILD OUT DATA		
ID	BEARING	DISTANCE
L3	S 10°14' W	1610.44'

CURVE	ARC LENGTH	RADIUS	CHORD BEARING	CHORD LENGTH
C1	138.96'	210.13'	S 28°43'37" W	136.44'
C2	123.81'	144.15'	S 75°28'28" W	120.04'
C3	165.20'	358.06'	N 65°43'51" W	163.74'
C4	423.95'	969.65'	N 39°22'32" W	420.59'

LATERAL DATA		
ID	BEARING	DISTANCE
L4	N 28°30' W	10194.71'

AS-DRILLED TOTAL LATERAL LENGTH = 10,185.65'

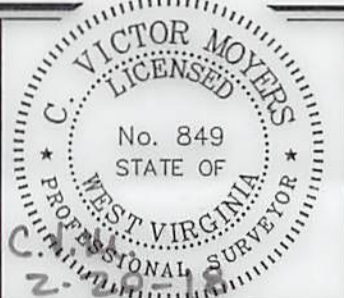


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www.slsurveys.com

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LANDING POINT
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NAD'27 GEO. LAT-(N) 39.578759 LONG-(W) 80.587146
NAD'83 UTM (M) N. 4,381,095.869 E. 535,472.722

BOTTOM HOLE
NAD'27 S.P.C.(FT) N. 403,762.36 E. 1,688,790.01
NAD'27 GEO. LAT-(N) 39.603310 LONG-(W) 80.604518
NAD'83 UTM (M) N. 4,383,813.866 E. 533,968.888




(+) 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 G-TM-00-00
- CENTER DISTRICT TAX MAP-PARCEL C-TM-00-00

SCALE 1" = 2000' FILE NO. 6806PBIG177H6AD.dwg
DATE MAY 4, 20 17
REVISED 12/05/17 & 02/20/18
OPERATORS WELL NO. BIG177H6
API WELL 47 - 103 - 03190
NO. STATE COUNTY PERMIT

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



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

COUNTY NAME
PERMIT

BIG177
BIG177H6
EQT PRODUCTION COMPANY

BOTTOM HOLE LATITUDE

39°37'30"

5,969'
5,971'

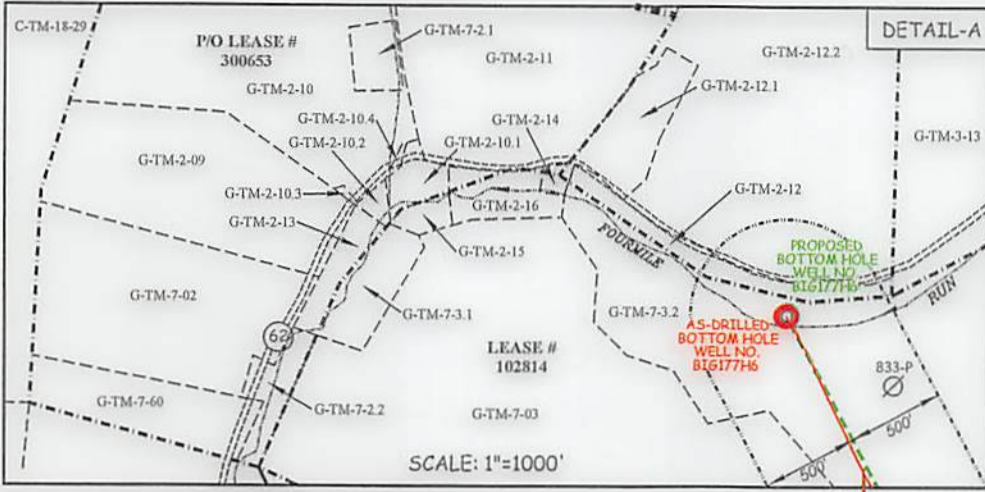
TH

TOP HOLE LONGITUDE 80°35'00"

7,903'

7,901'

BOTTOM HOLE LONGITUDE 80°35'00"



WELL TIES		
ID	BEARING	DISTANCE
L1	N 44°17' W	2481.65'
L2	N 58°48' E	646.68'

BUILD OUT DATA		
ID	BEARING	DISTANCE
L3	S 10°14' W	1610.44'

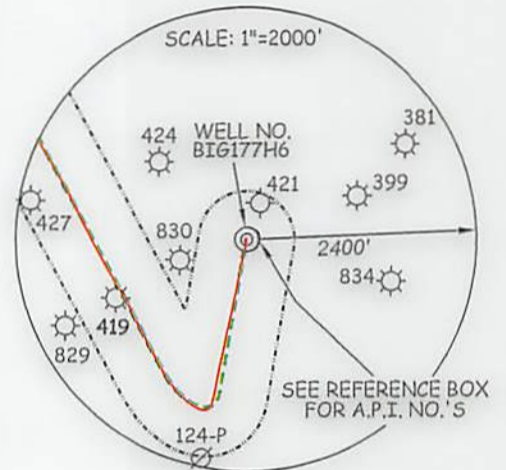
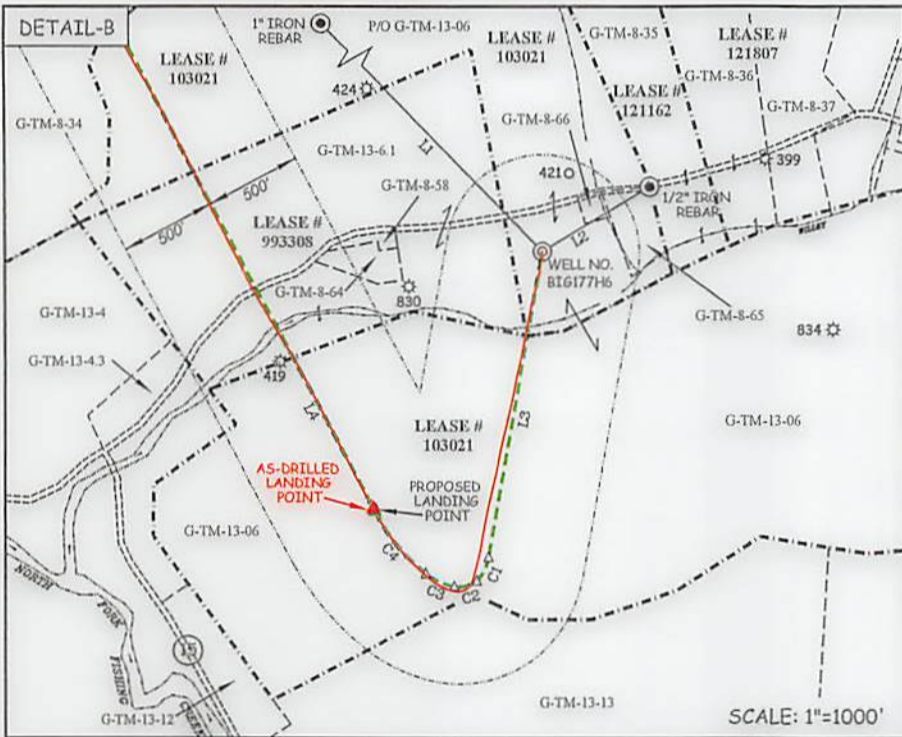
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C4	423.95'	969.65'	N 39°22'32" W	420.59'

LATERAL DATA		
ID	BEARING	DISTANCE
L4	N 28°30' W	10194.71'

AS-DRILLED TOTAL LATERAL LENGTH = 10,185.65'

PROPOSED BH AS-DRILLED BH

ROYALTY OWNERS		
COASTAL FOREST RESOURCES CO. d/b/a COASTAL TIMBERLAND 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
IRREVOCABLE INTERVIVOS TRUST OF BILLY J. HIGGINS & FRANCES J. HIGGINS, ET AL	142.5 AC.±	LEASE NO. 105228
SHIBEN ESTATES INC.	101 AC.±	LEASE NO. 103855
JOSEPH SHIBEN & MINNIE SHIBEN ESTATE, ET AL	1030 AC.±	LEASE NO. 102814



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

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- PROPOSED WELL
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- PERMITTED WELL
- GRANT DISTRICT TAX MAP-PARCEL G-TM-00-00
- CENTER DISTRICT TAX MAP-PARCEL C-TM-00-00

SCALE SEE DETAILS FILE NO. 6806PBIG177H6AD.dwg
 DATE MAY 4, 20 17
 REVISED 12/05/17 & 02/20/18
 OPERATORS WELL NO. BIG177H6
 API WELL NO. 47 - 103 - 03190
 STATE COUNTY PERMIT

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



WELL OPERATOR EQT PRODUCTION COMPANY DESIGNATED AGENT JASON RANSON
 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

BIG177
BIG177H6
EQT PRODUCTION COMPANY

BOTTOM HOLE LATITUDE

39°37'30"

5,969'

5,971'

TH

80°35'00"

80°35'00"

7,903'

7,901'

SURFACE OWNERS

G-TM-2-03	DALE K. DULANEY ET UX	5.57 ACRES±	G-TM-7-32	STELLA & LEEK POSTLETHWAIT ET AL.	44.60 ACRES±
G-TM-2-04	JOHN C. COMER ET UX	104.00 ACRES±	G-TM-7-33	JOHN R. & ROSA MARGELLEA COOK	20 ACRES±
G-TM-2-05	EDWIN L. DULANEY ET UX	104.00 ACRES±	G-TM-7-34	KENNETH & LORRAINE WILDMAN	44.60 ACRES±
G-TM-2-09	ROBERT W. DULANEY	22.87 ACRES±	G-TM-7-60	CODY N. & WALTER N., JR. NORRIS	10 ACRES±
G-TM-2-10	HARLEY R. DULANEY	38 ACRES±	G-TM-8-16	O. J. & MINNIE M. WYATT HEIRS	31.89 ACRES±
G-TM-2-10.1	TEORA L. & SANDRA J. DULANEY	1.53 ACRES±	G-TM-8-17	KENNETH & LORRAINE WILDMAN	67 ACRES±
G-TM-2-10.2	ROBERT W. DULANEY	.45 ACRES±	G-TM-8-18	COASTAL FOREST RESOURCES COMPANY d/b/a COASTAL TIMBERLANDS COMPANY	337 ACRES±
G-TM-2-10.3	ROBERT W. DULANEY	.09 ACRES±			
G-TM-2-10.4	HARLEY R. DULANEY	0.130 ACRES±	G-TM-8-19	PHILLIP & KIMBERLY SHREVE	46.45 ACRES±
G-TM-2-11	EDWIN LEO & LINDA L. DULANEY	26.4 ACRES±			
G-TM-2-12	COASTAL FOREST RESOURCES COMPANY d/b/a COASTAL TIMBERLANDS COMPANY	3.63 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-2-12.1	TEORA L. & SANDRA DULANEY	4.72 ACRES±	G-TM-8-58	HIGGINS CHAPEL CHURCH OF CHRIST	0.99 ACRES±
G-TM-2-12.2	TEORA & SANDRA DULANEY	66.64 ACRES±	G-TM-8-64	MARY EASTHAM ET AL.	1.45 ACRES±
G-TM-2-13	ROBERT W. DULANEY	2.14 ACRES±	G-TM-8-65	IKEY & TINA WILLEY	2.15 ACRES±
G-TM-2-14	TEORA L. & SANDRA J. DULANEY	498 ACRES±	G-TM-8-66	BQM GATHERING OPOC LLC	0.42 ACRES±
G-TM-2-15	TEORA L. & SANDRA J. DULANEY	1,023 ACRES±	G-TM-13-4	JEFF, VIRGIL, JR. & DONNA WILLEY	26.80 ACRES±
G-TM-2-16	TEORA L. DULANEY	3,187 ACRES±	G-TM-13-4.3	JEFFERY L. WILLEY	3.35 ACRES±
G-TM-3-05	COASTAL FOREST RESOURCES COMPANY d/b/a COASTAL TIMBERLANDS COMPANY	179.00 ACRES±	G-TM-13-06	COASTAL FOREST RESOURCES COMPANY d/b/a COASTAL TIMBERLANDS COMPANY	217.19 ACRES±
G-TM-3-13	EDWARD L. DULANEY II	164.75 ACRES±	G-TM-13-07	MANSEL McDIFFITT ET AL.	51.8 ACRES±
G-TM-3-23	COASTAL FOREST RESOURCES COMPANY d/b/a COASTAL TIMBERLANDS COMPANY	167.75 ACRES±			
G-TM-7-02	ROBERT W. DULANEY	19.43 ACRES±	G-TM-13-12	LESLIE & MIRACLE SUSAN LYDICK	15.02 ACRES±
G-TM-7-2.1	HARLEY R. DULANEY, JR.	2 ACRES±	G-TM-13-13	LEEMAN E. & LINDA L. DUNN	67.5 ACRES±
G-TM-7-2.2	CODY N. & WALTER N., JR. NORRIS	2.43 ACRES±	G-TM-13-14	LEEMAN E. & LINDA L. DUNN	12.5 ACRES±
G-TM-7-03	COASTAL FOREST RESOURCES COMPANY d/b/a COASTAL TIMBERLANDS COMPANY	178 ACRES±	G-TM-13-15	ROBERT COLE ET AL.	27.75 ACRES±
			C-TM-18-29	BERNARD LEE, JR. & EVELYN M. YOHO	372.90 ACRES±
G-TM-7-3.1	ROBERT W. DULANEY	4 ACRES±	C-TM-18-31	JAMES L. DULANEY, (L/E) DONALD & OLIVE DULANEY	130 19/32 ACRES±
G-TM-7-3.2	COASTAL FOREST RESOURCES COMPANY d/b/a COASTAL TIMBERLANDS COMPANY	156.98 ACRES±			
G-TM-7-9	COASTAL FOREST RESOURCES COMPANY d/b/a COASTAL TIMBERLANDS COMPANY	170.875 ACRES±			
G-TM-7-10	COASTAL FOREST RESOURCES COMPANY d/b/a COASTAL TIMBERLANDS COMPANY	120 ACRES±			

AS-DRILLED BH

BH

NOTES ON SURVEY

1. NO WATER WELLS WERE FOUND WITHIN 250' OF PROPOSED GAS WELL. NO AGRICULTURAL BUILDINGS 2500 SQ. FT. OR GREATER 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.
2. WELL SPOT CIRCLE (SHEET 3) AND TOPO MARK SCALE IS 1" = 2000'.
3. AS DRILLED INFORMATION PROVIDED BY EQT.

(S.P.C. NORTH ZONE) (UTM(M) ZONE 17 NORTH)

NAD'27 S.P.C.(FT) N. 396,105.38 E. 1,694,455.66
 NAD'27 GEO. LAT-(N) 39.582479 LONG-(W) 80.584084
 NAD'83 UTM (M) N. 4,381,509.943 E. 535,733.866

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AS DRILLED COORDINATES (BIG177H6)

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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 MAY 4, 20 17

REVISED 12/05/17 & 02/20/18

OPERATORS WELL NO. BIG177H6

API WELL NO. 47 - 103 - 03190
 STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 2500 FILE NO. 6806PBIG177H6AD.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 FORK 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 ET AL. ACREAGE 242.5

PROPOSED WORK: LEASE NO. 103021

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'

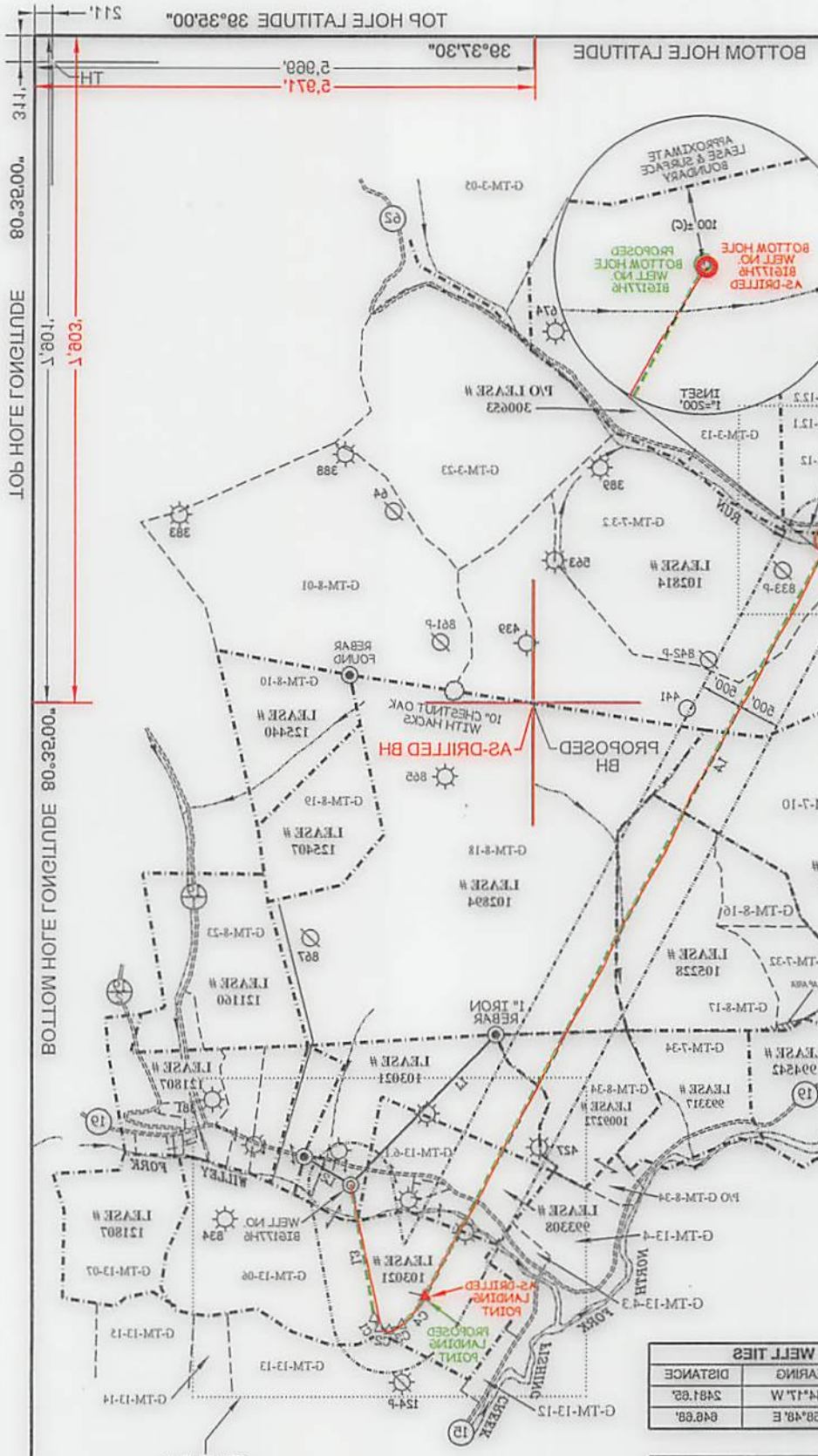
WELL OPERATOR EQT PRODUCTION COMPANY DESIGNATED AGENT JASON RANSON

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

BIG177
BIG177H6
EQT PRODUCTION COMPANY



TOP HOLE LATITUDE 30°37.30"
BOTTOM HOLE LATITUDE 30°37.30"
2,971'
2,969'

80°32.00"
80°32.00"
1,801'
1,803'

NAD 83 GRID NORTH

AS DRILLED COORDINATES (BIG177H6)

(S.P.C. NORTH ZONE) (UTM) ZONE 17 NORTH

NAD83 S.P.C. (FT)	N. 394,102.38	E. 1,694,452.68
NAD83 GEO.	LAT (N) 39.582479	LONG (W) 80.584084
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WELL TIES

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F1	N 44°17' W	2481.62

BUILD OUT DATA

ID	BEARING	DISTANCE
T3	S 10°14' W	1610.44

CURVE	ARC LENGTH	RADIUS	CHORD BEARING	CHORD LENGTH
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LATERAL DATA

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L4	N 28°30' W	10194.71'

AS-DRILLED TOTAL LATERAL LENGTH = 10,182.62

SLZ Land & Energy Development
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P.O. Box 100 • 12 Veterans Drive • Charleston, WV 25321 • (304) 463-5834
www.slzenergy.com

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SCALE 1" = 2000'
DATE MAY 4, 2017
REVISED 120517 & 021018
OPERATORS WELL NO. BIG177H6
WELL NO. 47-103-03190
STATE COUNTY PERMIT

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

PROFESSIONAL SURVEYOR
WEST VIRGINIA
STATE OF
No. 849
LICENSED
VICTOR MOYERS

LEGEND

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

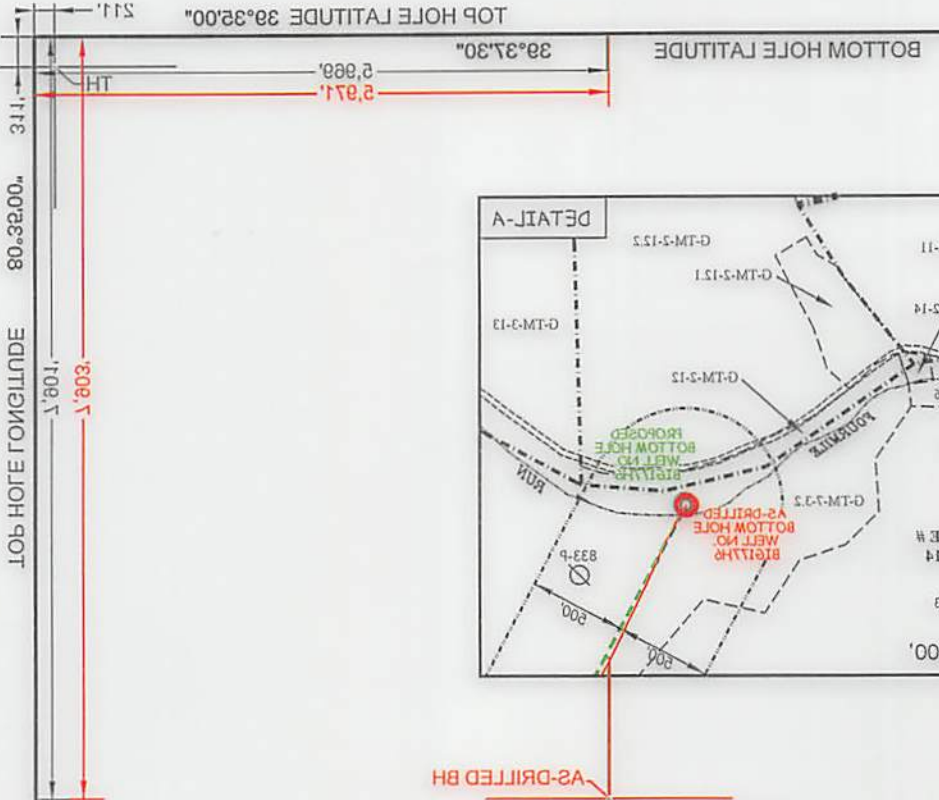
COUNTY NAME PERMIT

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

G-TM-00-00
G-TM-00-00

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

BIG177
BIG177H6
EQT PRODUCTION COMPANY

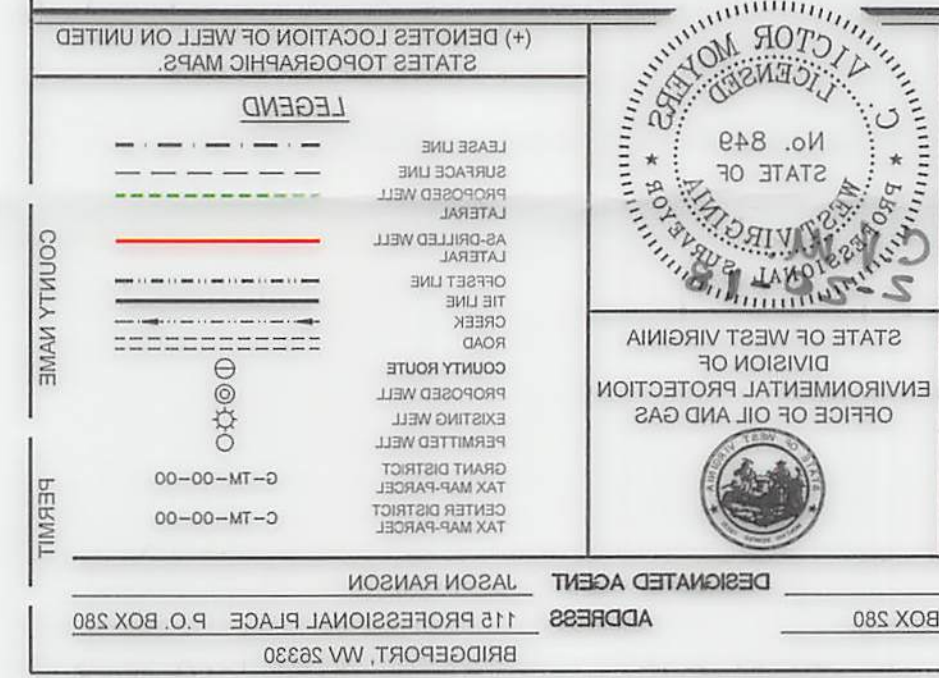
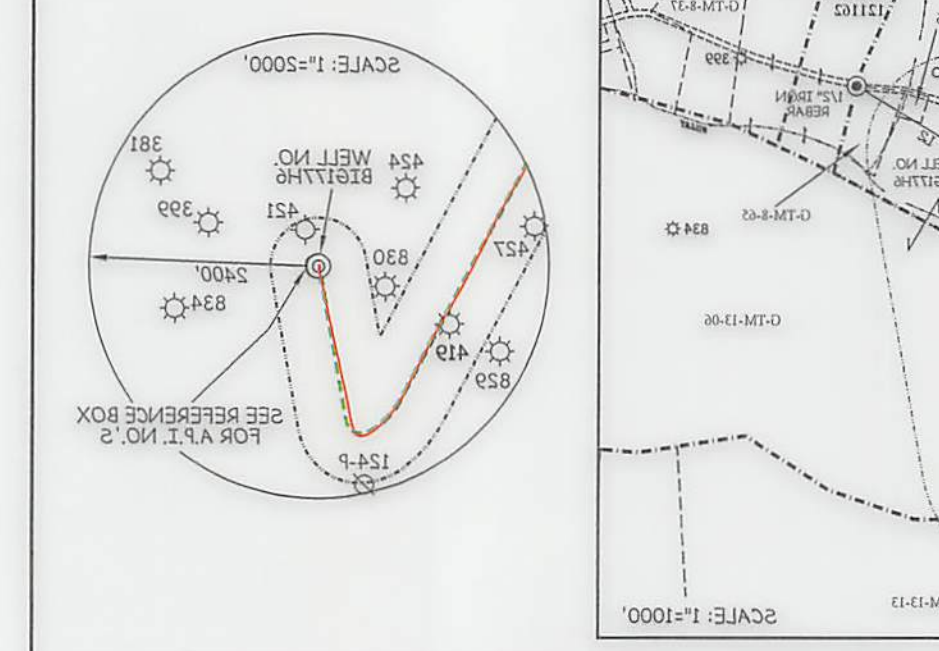


WELL TIES	
ID	BEARING DISTANCE
L1	N 44°17' W 2481.88'
L2	N 88°48' E 848.88'

BUILD OUT DATA	
ID	BEARING DISTANCE
L3	S 10°14' W 1810.44'

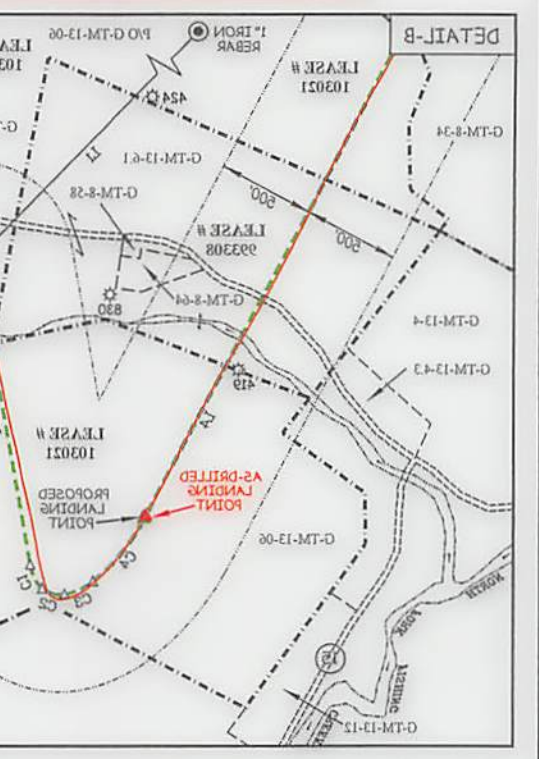
LATERAL DATA			
ID	BEARING DISTANCE	RADIUS	ARC LENGTH
L4	N 28°30' W 10184.71'	210.13'	138.98'
		S 28°43'37" W	138.44'
		S 78°28'38" W	120.04'
		N 68°43'81" W	183.74'
		N 30°53'32" W	420.88'

ROYALTY OWNERS	
MINNIE SHIBEN ESTATE ET AL	1030 AC± LEASE NO. 103814
JOSEPH SHIBEN &	101 AC± LEASE NO. 103888
SHIBEN ESTATES INC.	101 AC± LEASE NO. 103888
FRANCES J HIGGINS ET AL	145.2 AC± LEASE NO. 103228
TRUST OF BILLY J HIGGINS &	300 AC± LEASE NO. 102804
IRREVOCABLE INTERVIVOS	145.2 AC± LEASE NO. 103228
EQT PRODUCTION COMPANY	300 AC± LEASE NO. 102804
KEVIN GOFF	48.28 AC± LEASE NO. 1008233
TIMBERLAND CO. ET AL	81.8 AC± LEASE NO. 809308
REGORES CO.	
COASTAL FOREST	



LATERAL DATA	
ID	BEARING DISTANCE
L4	N 28°30' W 10184.71'

AS-DRILLED TOTAL LATERAL LENGTH = 10,188.85'



WELL OPERATOR
EQT PRODUCTION COMPANY

ADDRESS
115 PROFESSIONAL PLACE P.O. BOX 280
BRIDGEPORT, WV 26330

DESIGNATED AGENT
JASON RANSON

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

PROFESSIONAL SUPERVISOR
VICTOR MOYERS
LICENSED
No. 849
STATE OF WEST VIRGINIA

WELL NO. STATE COUNTY PERMIT

47 - 103 - 03190

OPERATORS WELL NO. BIG177H6

REVISED 12/08/17 & 02/20/18

DATE MAY 4, 2017

SCALE SEE DETAILS FILE NO. 8808BIG177HEAD.dwg

LEGEND

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

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