

Well Operator's Report of Well Work



Well Number: BIG464H28 (519448)

API: 47 - 103 - 03215

Submission: Initial Amended

Notes: Please note that Injection Tests were performed at Stimulation Stages 24, 35, 36 (2 Tests) & 43. Wireline stages 24, 26 & 36 were re-perforated. Screenouts or other issues resulting in multiple stage records occurred at Stimulation Stages 24, 26, 35, 36 and Stage 43.

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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 - 103 - 03215 County WETZEL District GRANT
Quad BIG RUN Pad Name BIG464 Field/Pool Name N/A
Farm name COASTAL FOREST RESOURCES COMPANY D/B/A COSTAL TIMBERLANDS COMPANY Well Number BIG464H28 (519448)
Operator (as registered with the OOG) EQT Production Company
Address 625 LIBERTY AVENUE, 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 4,379,866.08 Easting 541,532.28
Landing Point of Curve Northing 4,379,807.25 Easting 541,907.30
Bottom Hole Northing 4,377,356.62 Easting 542,997.67

Elevation (ft) 1247' 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 Based Mud 13.4 ppg, aliphatic based non-aqueous drilling fluid, barium sulfate, calcium chloride, organophilic clay, quaternary ammonium clay, gilsonite, blended emulsifier, wetting agent, blended graphite, hydrated lime, calcium carbonate, ground walnut shells, fibrous cellulose.

Date permit issued 12/12/2017 Date drilling commenced 12/16/2017 Date drilling ceased 06/25/2018
Date completion activities began 8/31/2018 Date completion activities ceased 10/5/2018
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 115, 190, 438 Open mine(s) (Y/N) depths N
Salt water depth(s) ft 1730, 1854 Void(s) encountered (Y/N) depths N
Coal depth(s) ft 562, 801, 903, 918 Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

Reviewed

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Reviewed by:
DH
2-21-18

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API 47-103 - 03215

Farm name COASTAL FOREST RESOURCES COMPANY DBA COASTAL TIMBERLANDS CO

Well number **BIG464H28 (519448)**

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"	1017'	NEW	J-55 54.5#	231'	Y
Coal							
Intermediate 1	12-3/8"	9-5/8"	2852'	NEW	A-500 40#	1754'	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4" & 8-1/2"	5 1/2"	16948'	NEW	P-110 20#	N/A	N
Tubing							
Packer type and depth set							

Comment Details Production Cement job has calculated TOC of 3565' 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	100	15.6	1.18	118	0	8+
Surface	CLASS A	986	15.6	1.19	1173	0	8
Coal							
Intermediate 1	CLASS A	1087	15.6	1.19	1294	0	8
Intermediate 2							
Intermediate 3							
Production	Class A	2651	15.6	1.19	3155	3565'	8+
Tubing							

Drillers TD (ft) 16963' 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) 5850' MD

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

Well cored Yes No Conventional Sidewall Were cuttings collected Yes No

DESCRIBE THE CENTRALIZER PLACEMENT USED FOR EACH CASING STRING CONDUCTOR: NONE
SURFACE: ON SHOE TRACK AND EVERY 500' FEET TO SURFACE
INTERMEDIATE: ON SHOE TRACK AND EVERY 500' FEET TO SURFACE
PRODUCTION: ON SHOE TRACK AND EVERY JOINT TO 7331'

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- 103 - 03215 Farm name COASTAL FOREST RESOURCES COMPANY D/B/A COASTAL TIMBERLANDS Well number BIG464H28 (519448)

Drilling Contractor Fountain Quail
Address P.O. Box 430 City Reno State OH Zip 45773

Logging Company Gyrodata Inc.
Address 73 Noblestown Road City Carnegie State PA Zip 15106

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

Cementing Company Universal
Address 13549 S. Mosiertown Rd City Meadville State PA Zip 16335

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519448 47-103-03215-00-00 Perforations

Stage Number	Perforation Date	Top Perf Depth (ftKB)	Bottom Perf Depth (ftKB)	Number of Shots	Formation
1	8/6/2018	16,923	16,925	0	MARCELLUS
2	9/1/2018	16,628	16,790	40	MARCELLUS
3	9/1/2018	16,428	16,590	40	MARCELLUS
4	9/2/2018	16,228	16,390	40	MARCELLUS
5	9/2/2018	16,028	16,190	40	MARCELLUS
6	9/3/2018	15,828	15,990	40	MARCELLUS
7	9/3/2018	15,628	15,790	40	MARCELLUS
8	9/4/2018	15,428	15,590	40	MARCELLUS
9	9/4/2018	15,228	15,390	40	MARCELLUS
10	9/5/2018	15,028	15,190	40	MARCELLUS
11	9/6/2018	14,828	14,990	40	MARCELLUS
12	9/6/2018	14,628	14,790	40	MARCELLUS
13	9/7/2018	14,428	14,590	40	MARCELLUS
14	9/7/2018	14,228	14,390	40	MARCELLUS
15	9/8/2018	14,028	14,190	40	MARCELLUS
16	9/9/2018	13,828	13,990	40	MARCELLUS
17	9/9/2018	13,628	13,790	40	MARCELLUS
18	9/10/2018	13,428	13,590	40	MARCELLUS
19	9/11/2018	13,228	13,390	40	MARCELLUS
20	9/12/2018	13,028	13,190	40	MARCELLUS
21	9/12/2018	12,828	12,990	40	MARCELLUS
22	9/13/2018	12,628	12,790	40	MARCELLUS
23	9/13/2018	12,428	12,590	40	MARCELLUS
24	9/16/2018	12,204	12,390	56	MARCELLUS
25	9/17/2018	12,009	12,171	40	MARCELLUS
26	9/18/2018	11,749	11,971	72	MARCELLUS
27	9/19/2018	11,549	11,711	40	MARCELLUS
28	9/19/2018	11,349	11,511	40	MARCELLUS
29	9/20/2018	11,149	11,311	40	MARCELLUS
30	9/20/2018	10,949	11,111	40	MARCELLUS
31	9/21/2018	10,749	10,911	40	MARCELLUS
32	9/22/2018	10,549	10,711	40	MARCELLUS
33	9/23/2018	10,349	10,511	40	MARCELLUS
34	9/24/2018	10,149	10,311	40	MARCELLUS
35	9/25/2018	9,949	10,111	40	MARCELLUS
36	9/28/2018	9,749	9,851	64	MARCELLUS
37	9/28/2018	9,549	9,711	40	MARCELLUS
38	9/28/2018	9,349	9,511	40	MARCELLUS
39	9/29/2018	9,149	9,311	40	MARCELLUS
40	9/29/2018	8,949	9,111	40	MARCELLUS
41	9/30/2018	8,749	8,911	40	MARCELLUS
42	10/1/2018	8,549	8,711	40	MARCELLUS
43	10/1/2018	8,349	8,511	40	MARCELLUS
44	10/3/2018	8,149	8,311	40	MARCELLUS
45	10/3/2018	7,949	8,111	40	MARCELLUS

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519448 47-103-03215-00-00 - 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	9/1/2018	59	8,970.00	9,318.00	4,258.00	271,140.00	6,568.70	0
2	9/1/2018	80	9,985.00	9,328.00	4,708.00	453,500.00	7,976.70	0
3	9/1/2018	85	9,036.00	9,308.00	5,251.00	452,470.00	8,342.20	0
4	9/2/2018	82	8,876.00	9,344.00	5,405.00	450,140.00	7,823.70	0
5	9/3/2018	80	8,948.00	9,227.00	5,975.00	451,100.00	8,188.00	0
6	9/3/2018	80	9,137.00	9,378.00	5,879.00	451,200.00	7,966.00	0
7	9/4/2018	76	8,956.00	9,175.00	6,058.00	450,540.00	8,106.50	0
8	9/4/2018	81	9,174.00	9,422.00	6,263.00	450,460.00	8,156.40	0
9	9/5/2018	79	9,091.00	9,464.00	6,403.00	450,120.00	7,362.00	0
10	9/5/2018	80	9,005.00	9,559.00	5,985.00	450,100.00	7,998.50	0
11	9/6/2018	85	9,017.00	9,317.00	5,894.00	450,860.00	7,798.20	0
12	9/6/2018	88	9,176.00	9,432.00	5,495.00	450,900.00	8,033.50	0
13	9/7/2018	94	9,093.00	9,338.00	5,582.00	450,140.00	8,297.70	0
14	9/8/2018	92	9,025.00	9,398.00	5,508.00	450,160.00	7,709.00	0
15	9/8/2018	89	8,963.00	9,494.00	5,514.00	450,380.00	7,449.50	0
16	9/9/2018	91	9,035.00	9,440.00	5,398.00	450,780.00	8,561.60	0
17	9/10/2018	85	9,034.00	9,420.00	5,442.00	450,040.00	9,399.00	0
18	9/11/2018	91	8,999.00	9,323.00	5,714.00	451,600.00	9,630.30	0
19	9/12/2018	77	8,908.00	9,226.00	5,896.00	450,100.00	14,483.70	0
20	9/12/2018	82	9,091.00	9,434.00	5,305.00	450,480.00	7,841.00	0
21	9/12/2018	88	8,945.00	9,305.00	5,662.00	450,460.00	11,573.80	0
22	9/13/2018	72	8,891.00	9,550.00	5,715.00	450,880.00	12,894.80	0
23	9/14/2018	86	9,046.00	9,446.00	5,836.00	455,120.00	7,911.90	0
24	9/15/2018	66	8,676.00	9,285.00	5,724.00	111,000.00	4,389.70	0
24	9/15/2018	47	9,116.00	9,601.00	5,926.00	12,000.00	2,054.00	0
24	9/16/2018	17	6,256.00	9,284.00	5,938.00	0.00	10,850.20	0
24	9/16/2018	64	9,202.00	9,387.00	6,742.00	10,000.00	2,365.90	0
24	9/16/2018	55	9,117.00	9,344.00	6,091.00	95,314.00	9,339.00	0
25	9/18/2018	82	8,988.00	9,295.00	5,774.00	675,730.00	11,552.00	0
26	9/18/2018	25	8,816.00	9,477.00	7,500.00	10,000.00	5,311.00	0
26	9/18/2018	66	8,973.00	9,301.00	6,063.00	450,500.00	18,907.00	0
27	9/19/2018	90	8,731.00	9,358.00	5,732.00	450,440.00	8,075.50	0
28	9/20/2018	92	8,922.00	9,419.00	6,042.00	450,320.00	10,046.00	0
29	9/20/2018	91	8,863.00	9,399.00	6,007.00	450,900.00	9,458.00	0
30	9/21/2018	86	8,810.00	9,235.00	6,038.00	450,320.00	10,857.00	0
31	9/22/2018	85	8,754.00	9,468.00	6,098.00	450,540.00	7,811.00	0
32	9/23/2018	92	8,619.00	9,323.00	6,214.00	450,652.00	7,798.50	0
33	9/24/2018	92	9,031.00	9,203.00	6,193.00	453,220.00	7,447.00	0
34	9/25/2018	85	9,004.00	9,551.00	6,241.00	339,780.00	8,234.00	0
35	9/25/2018	55	9,051.00	9,463.00	7,114.00	9,352.00	2,010.00	0
35	9/26/2018	13	4,906.00	6,659.00	0.00	0.00	2,747.00	0
36	9/27/2018	67	8,665.00	10,286.00	6,065.00	67,004.00	2,868.00	0
36	9/27/2018	43	8,290.00	9,422.00	6,944.00	13,674.00	3,068.00	0
36	9/27/2018	10	5,355.00	6,907.00	0.00	0.00	2,881.50	0
36	9/28/2018	77	8,338.00	8,673.00	6,545.00	370,142.00	10,361.00	0
37	9/28/2018	91	8,619.00	9,193.00	5,800.00	450,440.00	7,755.00	0
36	9/28/2018	9	5,675.00	7,493.00	6,262.00	0.00	2,373.00	0
38	9/29/2018	99	8,838.00	9,282.00	6,106.00	451,940.00	7,534.00	0
39	9/29/2018	97	8,466.00	8,881.00	5,812.00	450,860.00	7,700.00	0
40	9/30/2018	97	8,524.00	9,191.00	5,862.00	450,840.00	7,386.00	0
41	10/1/2018	99	8,731.00	9,044.00	5,941.00	450,960.00	7,102.00	0
42	10/1/2018	98	8,832.00	9,337.00	5,961.00	450,180.00	7,206.00	0
43	10/2/2018	88	8,765.00	9,663.00	5,743.00	129,471.00	3,808.00	0
43	10/2/2018	84	7,625.00	8,795.00	6,624.00	323,029.00	13,084.00	0
44	10/3/2018	97	8,666.00	9,112.00	6,017.00	450,360.00	8,257.00	0
45	10/4/2018	99	8,116.00	8,457.00	5,362.00	433,680.00	8,266.00	0

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Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	8/31/2018
Job End Date:	10/5/2018
State:	West Virginia
County:	Wetzel
API Number:	47-103-03215-00-00
Operator Name:	EQT Production
Well Name and Number:	519448
Latitude:	39.56740400
Longitude:	-80.51667100
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	7,399
Total Base Water Volume (gal):	18,436,950
Total Base Non Water Volume:	0

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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	ProFrac	Carrier/Base Fluid					
			Water	7732-18-5	100.00000	88.43615	None
Other Chemical (s)	Listed Above	See Trade Name (s) List					
			Water	7732-18-5	45.00000		

ProBreak 100	ProFrac	Gelling Agent		Listed Below				
Bio Matar 123	Silverback Chemical, LLC	Biocide		Listed Below				
Glut-Quat 268	ProFrac	Biocide		Listed Below				
Sand (Proppant)	ProFrac	Proppant		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	11.24034	None		
		Petroleum Distillates, Hydrotreated Light Naphthenic	64742-53-6	60.00000	0.03321	None		
		Petroleum Distillates, Hydrotreated Light Naphthenic	64742-53-6	60.00000	0.03321	None		
		Proprietary Polymers	Proprietary	60.00000	0.03321	None		
		Proprietary Polymers	Proprietary	60.00000	0.03321	None		
		Hydrochloric Acid	7647-01-0	15.00000	0.03267	None		
		Non-Hazardous Substances	Proprietary	90.00000	0.01737	None		
		Non-Hazardous Substances	Proprietary	90.00000	0.01737	None		
		Polycarboxylic Acid Salt Mixture	Proprietary	40.00000	0.00605	None		
		Glutaraldehyde	111-30-8	20.00000	0.00386	None		

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Glutaraldehyde	111-30-8	20.00000	0.00386	None
Proprietary Mixture	Proprietary	100.00000	0.00351	None
Proprietary Mixture	Proprietary	100.00000	0.00351	
Other Components Below Reportable Levels	Proprietary	60.00000	0.00270	None
Other Components Below Reportable Levels	Proprietary	60.00000	0.00270	
Distillates (Petroleum), Hydrotreated Light	64742-47-8	30.00000	0.00162	
Distillates (Petroleum), Hydrotreated Light	64742-47-8	30.00000	0.00162	None
Glutaraldehyde	111-30-8	30.00000	0.00135	None
Glutaraldehyde	111-30-8	30.00000	0.00135	
Hydrotreated Light Distillate(Petroleum)	64742-47-8	65.00000	0.00132	None
Gum Guar	9000-30-0	50.00000	0.00101	None
Alkyl Dimethyl Benzyl Ammonium Chloride	68391-01-5	3.00000	0.00058	None
Didecyl Dimethyl Ammonium Chloride	7173-51-5	3.00000	0.00058	None
Didecyl Dimethyl Ammonium Chloride	7173-51-5	3.00000	0.00058	
Alkyl Dimethyl Benzyl Ammonium Chloride	68391-01-5	3.00000	0.00058	
Quaternary Ammonium Compounds, Benzyl-C12 -C16-Alkyldimethyl, Chlorides	68424-85-1	10.00000	0.00045	
Didecyl dimethylammonium Chloride	7173-51-5	10.00000	0.00045	None
Didecyl dimethylammonium Chloride	7173-51-5	10.00000	0.00045	
Quaternary Ammonium Compounds, Benzyl-C12 -C16-Alkyldimethyl, Chlorides	68424-85-1	10.00000	0.00045	None
Methanol	67-56-1	90.00000	0.00038	None
Alcohols, C11-14-iso-, C13-Rich, Ethoxylated	78330-21-9	5.00000	0.00027	None

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				Alcohols, C11-14-iso-, C13-Rich, Ethoxylated	78330-21-9	5.00000	0.00027	
				Ethanol	64-17-5	5.00000	0.00023	
				Ethanol	64-17-5	5.00000	0.00023	None
				Citric Acid	77-92-9	100.00000	0.00006	
				Citric Acid	77-92-9	100.00000	0.00006	None
				Ammonium Persulfate	7727-54-0	100.00000	0.00004	None
				Alcohols, C7-9-ISO, C8 Rich	68526-83-0	5.00000	0.00002	None
				Imidazoline	61790-69-0	5.00000	0.00002	None
				Isopropanol	67-63-0	5.00000	0.00002	None
				Propargyl Alcohol	107-19-7	5.00000	0.00002	None
				Xylene	1330-20-7	5.00000	0.00002	None
				Ethylbenzene	100-41-4	1.00000	0.00000	None
				Ammonium Chloride ((NH4)Cl)	12125-02-9	1.00000		
				Copolymer Of 2-Propenamide	Proprietary	30.00000		
				Alcohols, C12-16, Ethoxylated	68551-12-2	2.00000		
				Petroleum Distillate	64742-47-8	20.00000		
				Oleic Acid Diethanolamide	93-83-4	2.00000		

* 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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API# 47-103-03215 Final Formations Well # BIG464H28 (519448)				
Formation Name	Drill Top MD (ftKB)	Drill Top (TVD) (ftKB)	Drill Btm MD (ftKB)	Drill Btm (TVD) (ftKB)
SAND/SHALE	1	1	562	562
WAYNESBURG COAL	562	562	565	565
SAND/SHALE	565	565	801	801
COAL	801	801	803	803
SAND/SHALE	803	803	903	903
SEWICKLEY COAL	903	903	905	905
SAND/SHALE	905	905	918	918
PITTSBURGH COAL	918	918	925	925
SAND/SHALE	925	925	1818	1818
MAXTON	1818	1818	1997	1997
SAND/SHALE	1997	1997	2260	2260
BIG LIME	2260	2260	2336	2336
SAND/SHALE	2336	2336	2348	2348
BIG INJUN	2348	2348	2417	2417
SAND/SHALE	2417	2417	2546	2546
WEIR	2546	2546	2696	2696
SAND/SHALE	2696	2696	2761	2761
GANTZ	2761	2761	2797	2797
SAND/SHALE	2797	2797	2902	2902
FIFTY FOOT	2902	2902	2958	2958
SAND/SHALE	2958	2958	2997	2997
THIRTY FOOT	2997	2997	3024	3024
SAND/SHALE	3024	3024	3053	3053
GORDON	3053	3053	3098	3098
SAND/SHALE	3098	3098	3123	3123
FORTH SAND	3123	3123	3136	3136
SAND/SHALE	3136	3136	3195	3195
FIFTH SAND	3195	3195	3214	3214
SAND/SHALE	3214	3214	3248	3248
BAYARD	3248	3248	3266	3266
SAND/SHALE	3266	3266	3671	3671
WARREN	3671	3671	3695	3695
SAND/SHALE	3695	3695	3791	3791
SPEECHLEY	3791	3791	3839	3839
SAND/SHALE	3839	3839	4149	4149
BALLTOWN A	4149	4149	4164	4164
SAND/SHALE	4164	4164	4634	4634
RILEY	4634	4634	4676	4676
SAND/SHALE	4676	4676	5263	5263
BENSON	5263	5263	5312	5312
SAND/SHALE	5312	5312	5677	5677
ALEXANDER	5677	5677	5744	5744
ELKS	5744	5744	7141	6934
SONYEA	7141	6934	7345	7092
MIDDLESEX	7345	7092	7416	7148
GENESEE	7416	7148	7541	7241
GENESE0	7541	7241	7585	7269
TULLY	7585	7269	7628	7294
HAMILTON	7628	7294	7891	7399
MARCELLUS	7891	7399	16963	7648

RECEIVED
Office of Oil and Gas

JAN 2 2018

WV Department of
Environmental Protection

WELL OPERATOR: EQT Production Company
 ADDRESS: 115 Professional Place PO Box 280
 Bridgeport, WV 26330

DESIGNATED AGENT: Jason Ranson
 ADDRESS: 115 Professional Place PO Box 280
 Bridgeport, WV 26330

ROYALTY OWNER: RidgeTop Royalties LLC, et al
 LEASE NO: 707114
 ACREAGE: 78

SURFACE OWNER: Coastal Forest Resources Company d/b/a Coastal Timberlands Company
 ACREAGE: 542.5

DISTRICT: Grant
 COUNTY: Wetzel

LOCATION: ELEVATION: As built 1246.8 WATERSHED Willey Fork
 QUADRANGLE: Big Run

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

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: 7,419'

FILE NO: 125-16
 DRAWING NO: 125-16 BIG464H28
 SCALE: 1" = 2000'
 MINIMUM DEGREE OF ACCURACY: 1:2500
 PROVEN SOURCE OF ELEVATION: NGS CORS Station

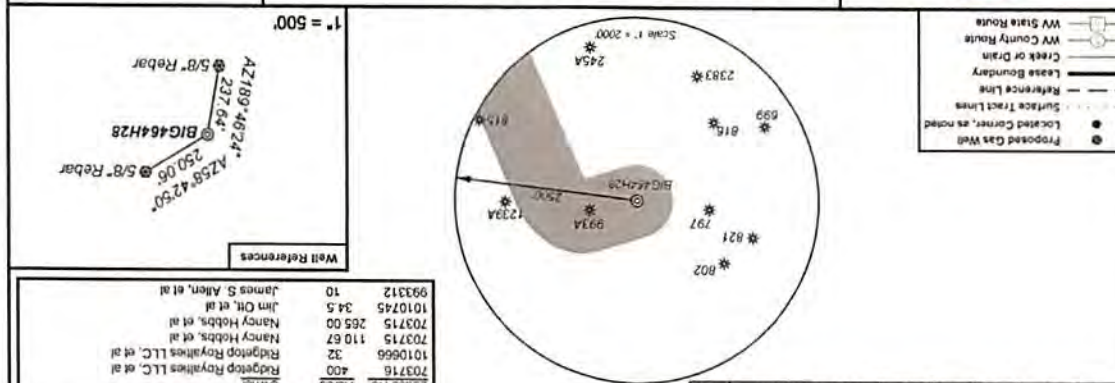
STATE OF WEST VIRGINIA
 DEPARTMENT OF ENVIRONMENTAL PROTECTION
 OIL AND GAS DIVISION

DATE: July 18 20 18
 OPERATOR'S WELL NO: BIG464H28
 API WELL NO: 103
 STATE: 47
 COUNTY: 03215
 PERMIT

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 Department of Environmental Protection.

P.S. 2092

Ben R. Stangleton
 Licensed Professional Surveyor
 State of West Virginia
 No. 2092

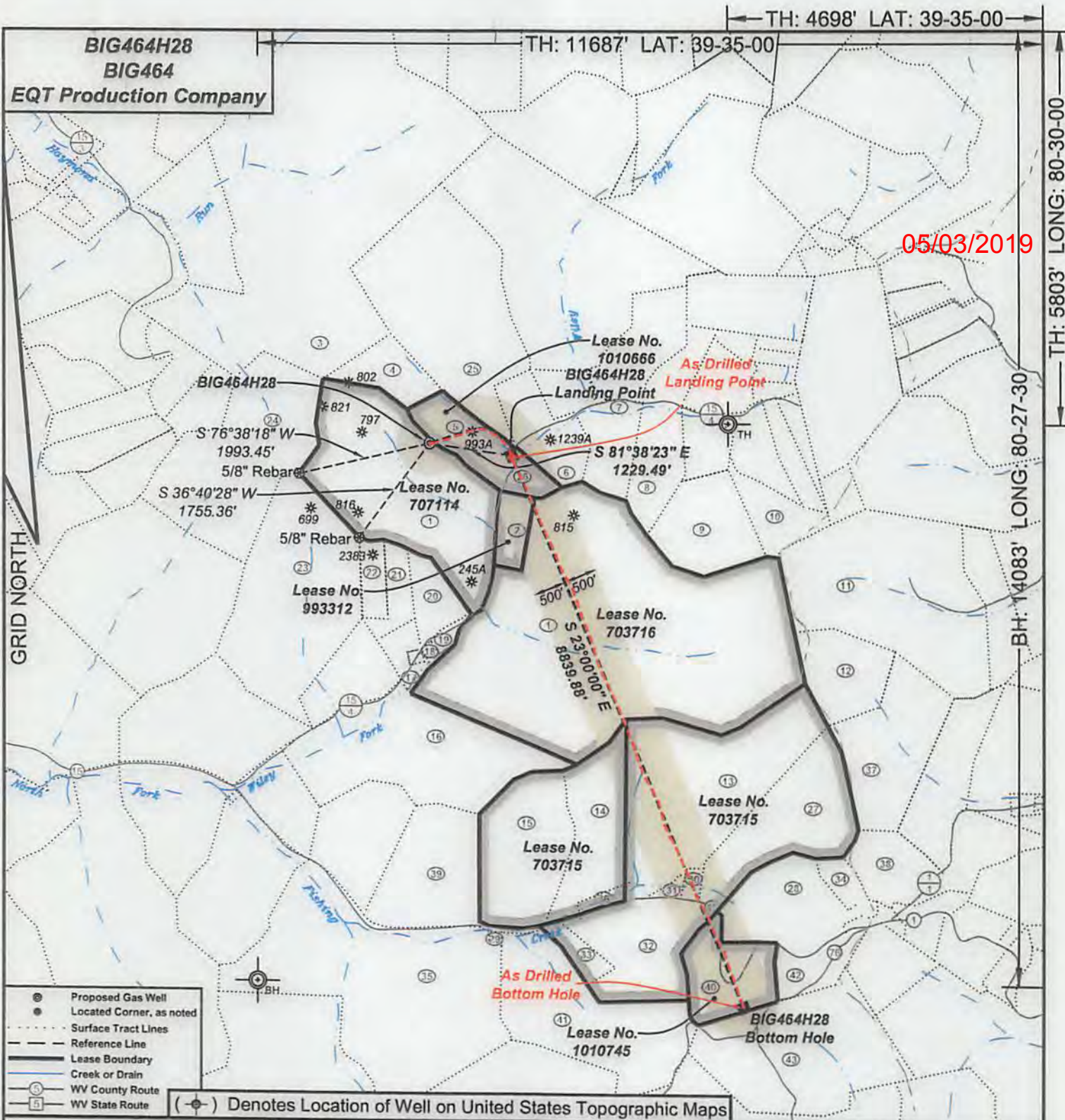


Tract ID	Tract No	Acres	Owner
1	20	1.00	Surfaco Trust Company
2	17	1.00	William F. Bair
3	20	1.00	Charles David Resources Co.
4	18	1.00	Charles David Resources Co.
5	18	1.00	Charles David Resources Co.
6	16	1.00	Charles F. O'Leary
7	13	1.00	Charles F. O'Leary
8	15	1.00	Charles F. O'Leary
9	15	1.00	Charles F. O'Leary
10	13	1.00	Charles F. O'Leary
11	11	1.00	Robert & Marjorie Thayer
12	11	1.00	Robert & Marjorie Thayer
13	11	1.00	Robert & Marjorie Thayer
14	20	1.00	Martha L. Blair, et al
15	20	1.00	Martha L. Blair, et al
16	19	1.00	Martha L. Blair, et al
17	19	1.00	Martha L. Blair, et al
18	19	1.00	Martha L. Blair, et al
19	19	1.00	Martha L. Blair, et al
20	19	1.00	Martha L. Blair, et al
21	19	1.00	Martha L. Blair, et al
22	19	1.00	Martha L. Blair, et al
23	19	1.00	Martha L. Blair, et al
24	19	1.00	Martha L. Blair, et al
25	19	1.00	Martha L. Blair, et al
26	19	1.00	Martha L. Blair, et al
27	19	1.00	Martha L. Blair, et al
28	19	1.00	Martha L. Blair, et al
29	19	1.00	Martha L. Blair, et al
30	19	1.00	Martha L. Blair, et al
31	19	1.00	Martha L. Blair, et al
32	19	1.00	Martha L. Blair, et al
33	19	1.00	Martha L. Blair, et al
34	19	1.00	Martha L. Blair, et al
35	19	1.00	Martha L. Blair, et al
36	19	1.00	Martha L. Blair, et al
37	19	1.00	Martha L. Blair, et al
38	19	1.00	Martha L. Blair, et al
39	19	1.00	Martha L. Blair, et al
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45	19	1.00	Martha L. Blair, et al
46	19	1.00	Martha L. Blair, et al
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48	19	1.00	Martha L. Blair, et al
49	19	1.00	Martha L. Blair, et al
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55	19	1.00	Martha L. Blair, et al
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57	19	1.00	Martha L. Blair, et al
58	19	1.00	Martha L. Blair, et al
59	19	1.00	Martha L. Blair, et al
60	19	1.00	Martha L. Blair, et al
61	19	1.00	Martha L. Blair, et al
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63	19	1.00	Martha L. Blair, et al
64	19	1.00	Martha L. Blair, et al
65	19	1.00	Martha L. Blair, et al
66	19	1.00	Martha L. Blair, et al
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91	19	1.00	Martha L. Blair, et al
92	19	1.00	Martha L. Blair, et al
93	19	1.00	Martha L. Blair, et al
94	19	1.00	Martha L. Blair, et al
95	19	1.00	Martha L. Blair, et al
96	19	1.00	Martha L. Blair, et al
97	19	1.00	Martha L. Blair, et al
98	19	1.00	Martha L. Blair, et al
99	19	1.00	Martha L. Blair, et al
100	19	1.00	Martha L. Blair, et al

RECEIVED
 Office of Oil and Gas
 JAN 2 2018
 WV Department of
 Environmental Protection

As Drilled Well Information:
 BIG464H28 Coordinates are:
 NAD 83 UTM N. 390,383.08 E. 1,713,392.56
 BIG464H28 Coordinates are:
 NAD 83 UTM N. 390,383.08 E. 1,713,392.56
 BIG464H28 Bottom Hole Coordinates are:
 NAD 83 UTM N. 390,179.49 E. 1,714,619.92
 NAD 83 UTM N. 379,807.25 E. 541,507.30
 BIG464H28 Bottom Hole Coordinates are:
 NAD 83 UTM N. 382,078.18 E. 1,718,063.95
 NAD 83 UTM N. 477,356.62 E. 542,997.67

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.



- ⊙ Proposed Gas Well
 - Located Corner, as noted
 - Surface Tract Lines
 - Reference Line
 - Lease Boundary
 - Creek or Drain
 - ⊙ WV County Route
 - ⊙ WV State Route
- (⊙) 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 the regulations issued and prescribed by the Department of Environmental Protection.

Ben R. Singleton
P.S. 2092



FILE NO: 125-16
DRAWING NO: 125-16 BIG464H28
SCALE: 1" = 2000'
MINIMUM DEGREE OF ACCURACY: 1:2500
PROVEN SOURCE OF ELEVATION: NGS CORS Station



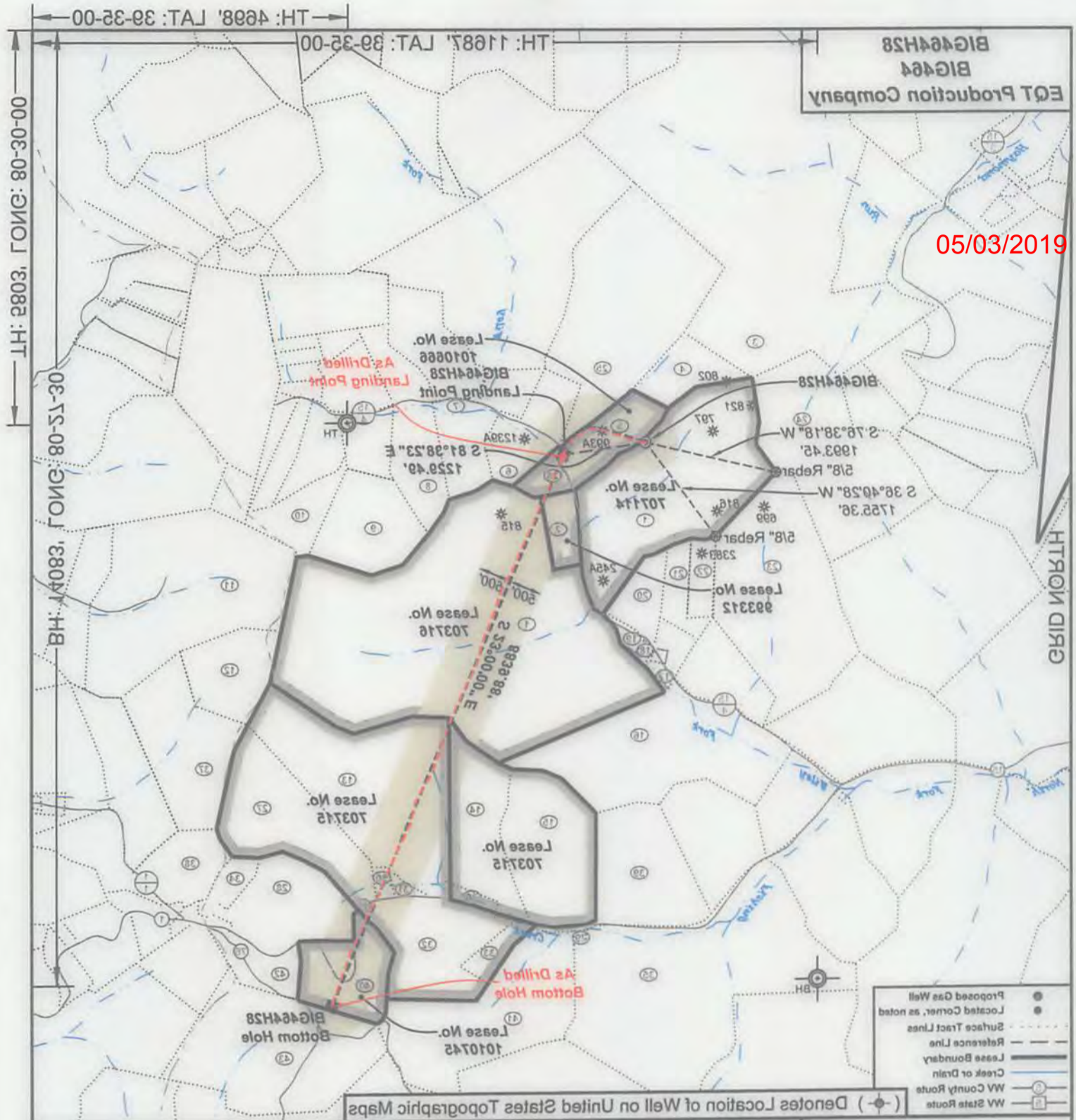
DATE: July 18 20 18
OPERATOR'S WELL NO.: BIG464H28
API WELL NO
47 - 103 - 03215
STATE COUNTY PERMIT

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
(IF GAS) PRODUCTION: STORAGE DEEP SHALLOW
LOCATION: ELEVATION: As built: 1246.8 WATERSHED: Wiley Fork QUADRANGLE: Big Run
DISTRICT: Grant COUNTY: Wetzel
SURFACE OWNER: Coastal Forest Resources Company d/b/a Coastal Timberlands Company ACREAGE: 542.5
ROYALTY OWNER: Ridgetop Royalties LLC, et al LEASE NO: 707114 ACREAGE: 78
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: 7,419'

WELL OPERATOR: EQT Production Company DESIGNATED AGENT: Jason Ranson
ADDRESS: 115 Professional Place PO Box 280 ADDRESS: 115 Professional Place PO Box 280
Bridgeport, WV 26330 Bridgeport, WV 26330

BIG464H28
BIG464
EQT Production Company

05/03/2019



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 Department of Environmental Protection.

[Signature]
P.S. 2092



FILE NO: 125-18
DRAWING NO: 125-18 BIG464H28
SCALE: 1" = 2000'
MINIMUM DEGREE OF ACCURACY: 1:2500
PROVEN SOURCE OF ELEVATION: NGS CORS Station

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

DATE: July 18 2018
OPERATOR'S WELL NO.: BIG464H28
API WELL NO. 103 - 03215
STATE COUNTY PERMIT

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL

(IF GAS) PRODUCTION: STORAGE DEEP SHALLOW

LOCATION: ELEVATION: As built: 1246.8 WATERSHED: Wiley Fork QUADRANGLE: Big Run

DISTRICT: Grant COUNTY: Wetzel

SURFACE OWNER: Coastal Forest Resources Company d/b/a Coastal Timbers Company ACREAGE: 542.5

ROYALTY OWNER: Ridgtop Royalties LLC, et al LEASE NO: 70714 ACREAGE: 78

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: 749'

WELL OPERATOR: EQT Production Company
ADDRESS: 115 Professional Place PO Box 280 Bhdqepoh, WV 26330

DESIGNATED AGENT: Jason Ranson

BIG464H28
BIG464
EQT Production Company

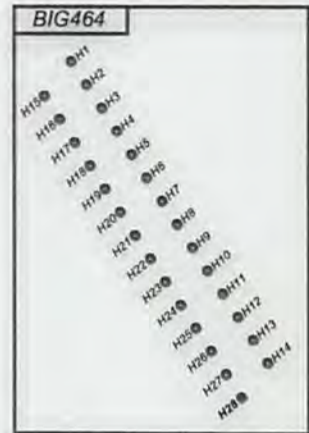
Tract I.D.	Tax Map No.	Parcel No.	County	District	Surface Tract Owner	Acres
1	20	1	Wetzel	Grant	Coastal Forest Resources Co.	542.50
2	15	27	Wetzel	Grant	William J. Barr	10.00
3	14	6	Wetzel	Grant	Coastal Lumber Co.	332.00
4	14	27	Wetzel	Grant	The E. Lorna Howard Trust, LLC, et al.	22.00
5	14	34	Wetzel	Grant	The E. Lorna Howard Trust, LLC, et al.	25.25
6	15	16	Wetzel	Grant	Donald J. D'Lusky	25.00
7	15	18	Wetzel	Grant	Donald J. D'Lusky	36.40
8	15	29	Wetzel	Grant	Terry W. & Carolyn P. Phillips	40.00
9	15	34	Wetzel	Grant	John C. & Donald J. D'Lusky	42.00
10	15	35	Wetzel	Grant	John C. & Donald J. D'Lusky	17.83
11	43	11	Marion	Mannington	Robert & Maxine Tonkeny	65.00
12	43	11.1	Marion	Mannington	David A. & Diane E. Floyd	30.00
13	20	3	Wetzel	Grant	Chester R. & Audra I. Powell	69.82
14	20	2	Wetzel	Grant	Marsha L. Barr, et al.	41.40
15	20	2.1	Wetzel	Grant	Larry & Marry Shimp	63.00
16	19	19.3	Wetzel	Grant	Richard M. & Mary G. Underwood	99.82
17	19	14	Wetzel	Grant	William D. & Mabel F. Barr	1.60
18	19	12	Wetzel	Grant	William D. & Mabel F. Barr	1.10
19	19	13	Wetzel	Grant	William D. & Mabel F. Barr	2.00
20	14	45	Wetzel	Grant	Coastal Forest Resources Co.	11.00
21	14	44	Wetzel	Grant	Mabel F. Barr	11.00
22	14	43	Wetzel	Grant	Mabel F. Barr	11.01
23	14	42	Wetzel	Grant	Donald J. D'Lusky	111.00
24	14	33	Wetzel	Grant	Alice & Hilda Conaway	108.00
25	14	20	Wetzel	Grant	Ellie L. Hill Trust	126.50
26	none	none	Wetzel	Grant	Unknown	unknown
27	20	4	Wetzel	Grant	Jennifer L. Archer, et al.	70.00
28	20	10	Wetzel	Grant	Chester R. & Sandra L. Craver	46.78
29	20	5	Wetzel	Grant	Mary G. & Richard M. Underwood	1.00
30	20	3.1	Wetzel	Grant	Gary F. Fisher	2.25
31	20	3.2	Wetzel	Grant	Linda Corwin, et al.	1.18
32	20	8	Wetzel	Grant	Stephen J. & Richard M. Underwood	64.00
33	20	7	Wetzel	Grant	Bernard D. Holbert, et al.	8.00
34	20	12	Wetzel	Grant	Beverly Powell, et al.	6.74
35	19	29	Wetzel	Grant	Michael J. & Doris L. Cegelski	36.70
36	20	7.1	Wetzel	Grant	John H. Frye, Jr. & Denise Frye	3.91
37	45	29	Marion	Mannington	Raymond C. Teagarden	81.017
38	45	30	Marion	Mannington	Keith A. & Rita G. Powell	21.80
39	19	20	Wetzel	Grant	First Exchange Bank	49.00
40	20	9	Wetzel	Grant	Roger B. & Marry A. Powell	34.50
41	20	8	Wetzel	Grant	Bernard D. Holbert, et al.	102.80
42	20	11	Wetzel	Grant	Nancy Wyckoff, et al.	16.41
43	20	18	Wetzel	Grant	EQT Production Company	107.93

As Drilled Well Information:
BIG464H28 coordinates are
NAD 27 N: 390,393.08 E: 1,713,392.56
NAD 83 UTM N: 4,379,866.08 E: 541,532.28

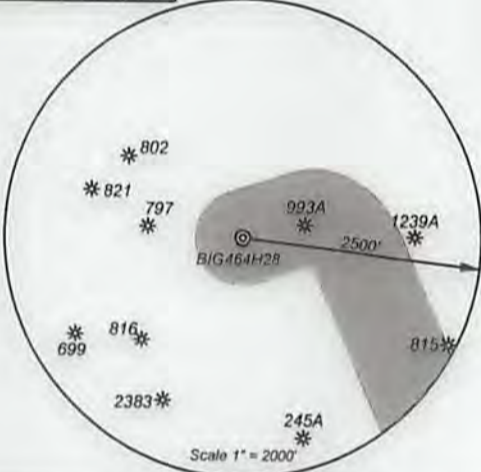
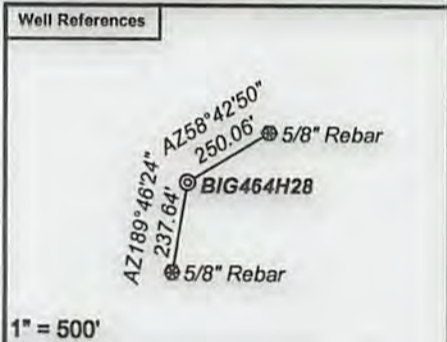
BIG464H28 Landing Point coordinates are
NAD 27 N: 390,179.49 E: 1,714,619.92
NAD 83 UTM N: 4,379,807.25 E: 541,907.30

BIG464H28 Bottom Hole coordinates are
NAD 27 N: 382,078.18 E: 1,715,813.33
NAD 83 UTM N: 4,377,356.62 E: 542,997.67

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



Lease No.	Acres	Owner
703716	400	Ridgetop Royalties LLC, et al
1010666	32	Ridgetop Royalties LLC, et al
703715	110.67	Nancy Hobbs, et al
703715	265.00	Nancy Hobbs, et al
1010745	34.5	Jim Ott, et al
993312	10	James S. Allen, et al



- ⊙ Proposed Gas Well
- Located Corner, as noted
- Surface Tract Lines
- - - Reference Line
- Lease Boundary
- Creek or Drain
- ⊙ WV County Route
- ⊙ WV State Route



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 Department of Environmental Protection.

Ben R. Singleton

P.S. 2092



FILE NO: 125-16
DRAWING NO: 125-16 BIG464H28
SCALE: 1" = 2000'
MINIMUM DEGREE OF ACCURACY: 1:2500
PROVEN SOURCE OF ELEVATION: NGS CORS Station



DATE: July 18 20 18
OPERATOR'S WELL NO.: BIG464H28
API WELL NO
47 - 103 - 03215
STATE COUNTY PERMIT

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

LOCATION: ELEVATION: As built: 1246.8 WATERSHED: Wiley Fork QUADRANGLE: Big Run

DISTRICT: Grant COUNTY: Wetzel

SURFACE OWNER: Coastal Forest Resources Company d/b/a Coastal Timberlands Company ACREAGE: 542.5

ROYALTY OWNER: Ridgetop Royalties LLC, et al LEASE NO: 707114 ACREAGE: 78

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: 7,419'

WELL OPERATOR: EQT Production Company DESIGNATED AGENT: Jason Ranson
ADDRESS: 115 Professional Place PO Box 280 ADDRESS: 115 Professional Place PO Box 280
Bridgeport, WV 26330 Bridgeport, WV 26330

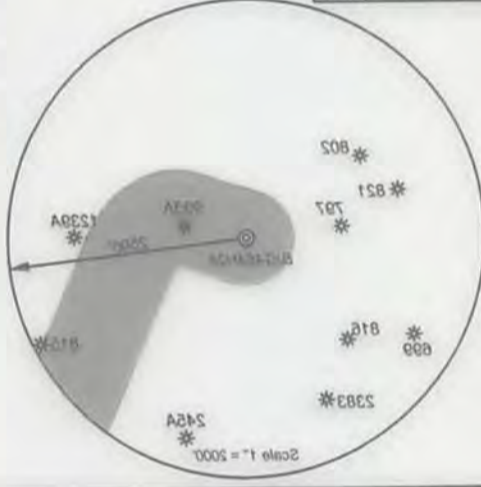
Tract ID	Acres	County	Owner
1	20	West	EQT Production Company
2	20	West	EQT Production Company
3	20	West	EQT Production Company
4	20	West	EQT Production Company
5	20	West	EQT Production Company
6	20	West	EQT Production Company
7	20	West	EQT Production Company
8	20	West	EQT Production Company
9	20	West	EQT Production Company
10	20	West	EQT Production Company
11	20	West	EQT Production Company
12	20	West	EQT Production Company
13	20	West	EQT Production Company
14	20	West	EQT Production Company
15	20	West	EQT Production Company
16	20	West	EQT Production Company
17	20	West	EQT Production Company
18	20	West	EQT Production Company
19	20	West	EQT Production Company
20	20	West	EQT Production Company
21	20	West	EQT Production Company
22	20	West	EQT Production Company
23	20	West	EQT Production Company
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28	20	West	EQT Production Company
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38	20	West	EQT Production Company
39	20	West	EQT Production Company
40	20	West	EQT Production Company
41	20	West	EQT Production Company
42	20	West	EQT Production Company
43	20	West	EQT Production Company
44	20	West	EQT Production Company
45	20	West	EQT Production Company
46	20	West	EQT Production Company
47	20	West	EQT Production Company
48	20	West	EQT Production Company
49	20	West	EQT Production Company
50	20	West	EQT Production Company

05/03/2019

Well location references are based upon the grid north meridian.
 Flat orientation, corner and well are based upon West Virginia Coordinate system of 1927 (North Zone) based upon Differential GPS Measurements.
 NAD 83 UTM N: 4370807.25 E: 2417907.30
 NAD 83 UTM N: 4370807.25 E: 2417907.30
 NAD 83 UTM N: 4370807.25 E: 2417907.30
 NAD 83 UTM N: 4370807.25 E: 2417907.30



Owner	Acres	Lease No.
James S. Allen, et al	10	983312
Jim Ott, et al	34.5	1010745
Nancy Hobbs, et al	262.00	703715
Nancy Hobbs, et al	110.87	703715
Ridgetop Royalties LLC, et al	32	1010888
Ridgetop Royalties LLC, et al	400	703716



Legend:

- Proposed Gas Well
- Located Corner, as noted
- Surface Tract Lines
- Reference Line
- Lease Boundary
- Creek or Drain
- WV County Route
- WV State Route

Well References

1" = 500'

WV State Route 58, Rebar
 WV State Route 58, Rebar
 WV State Route 58, Rebar



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 Department of Environmental Protection.

P.S. 2092



DATE: July 18 2018

OPERATOR'S WELL NO.: BIG464H28

API WELL NO

STATE COUNTY PERMIT

47 - 103 - 03215

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

FILE NO: 125-18

DRAWING NO: 125-18 BIG464H28

SCALE: 1" = 2000'

MINIMUM DEGREE OF ACCURACY: 1:2500

PROVEN SOURCE OF ELEVATION: NGS CORS Station

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL

(IF GAS) PRODUCTION: STORAGE DEEP SHALLOW

LOCATION: ELEVATION: As built: 1248.8 WATERSHED: Wiley Fork QUADRANGLE: Big Run

DISTRICT: Grant COUNTY: Wetzel

SURFACE OWNER: Coastal Forest Resources Company db/a Coastal Timblands Company ACREAGE: 542.5

ROYALTY OWNER: Ridgetop Royalties LLC, et al LEASE NO: 707114 ACREAGE: 78

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: 7419'

WELL OPERATOR: EQT Production Company
 ADDRESS: 115 Professional Place PO Box 280 Bridgeport, WV 26330

DESIGNATED AGENT: Jason Ranson