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WV Department of
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Well Operator's Report of Well Work



Where energy meets innovation.

Well Number: 515967

API: 47 - 085 - 10321

Submission: Initial Amended

Notes: Initial Report w/ Flowback

Reviewed

02/16/2018

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

API 47-085-10321 County RITCHIE District UNION
Quad PULLMAN Pad Name PUL96 Field/Pool Name N/A
Farm name JAMES H. & WILMA J. WILSON Well Number 515967
Operator (as registered with the OOG) EQT Production Company
Address 625 Liberty Ave. EQT Plaza, Suite 1700 City Pittsburgh State PA Zip 15222

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As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey
Top hole Northing N. 4,340,225.95 Easting 501,225.56
Landing Point of Curve Northing N. 4,340,375.85 Easting 501,246.47
Bottom Hole Northing N. 4,342,030.51 Easting 500,833.84

Elevation (ft) 1183' 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 11.5 ppg, Synthetic Base Mud 11.5 ppg, barium sulfate, sodium chloride, xanthan gum, polyanionic octalose, 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 04/18/2017 Date drilling commenced 04/24/2017 Date drilling ceased 8/4/2017
Date completion activities began 8/15/2017 Date completion activities ceased 9/23/2017
Verbal plugging (Y/N) N Date permission granted N/A Granted by N/A

Please note: Operator is required to submit a plugging application within 5 days of verbal permission to plug

Freshwater depth(s) ft 345,371,402,559 Open mine(s) (Y/N) depths N
Salt water depth(s) ft No salt water shows Void(s) encountered (Y/N) depths N
Coal depth(s) ft No coal seams Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

Reviewed by:
02/16/2018

API 47-085 - 10321 Farm name JAMES H. & WILMA J. WILSON Well number 515967

CASING STRINGS	Hole Size	Casing Size	Depth	New or Used	Grade w/fl	Basket Depth(s)	Did cement circulate (Y/N) * Provide details below*
Conductor	30"	26"	50'	NEW	A-500	N/A	Y
Surface	17 1/2"	13 3/8"	655'	NEW	J-55	115'	Y
Coal							
Intermediate 1	12 3/8"	9 5/8"	2566'	NEW	A-500	712'	Y
Intermediate 2							
Intermediate 3							
Production	8 1/2"	5 1/2"	12,335'	NEW	P-110	N/A	N
Tubing							
Packer type and depth set							

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Comment Details N/A

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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	55	15.6	1.18	64.9	0	8
Surface	CLASS A	673	15.6	1.20	807.6	0	8
Coal							
Intermediate 1	CLASS A / CLASS A	201 / 778	15.6 / 15.6	1.18 / 1.2	1170.78	0	8
Intermediate 2							
Intermediate 3							
Production	CLASS H / CLASS H	314 / 686	15.2 / 15.6	1.25 / 2.06	1805.66	5,100	72
Tubing							

Drillers TD (ft) 12348 Loggers TD (ft) N/A
 Deepest formation penetrated Marcellus Plug back to (ft) N/A
 Plug back procedure N/A

Kick off depth (ft) 5250

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: 2 CENTRALIZERS AT JOINTS 1 AND 11

INTERMEDIATE: 6 CENTRALIZERS PLACED EVERY 500'

PRODUCTION: 200 Spiral body composite centralizers placed every joint from bottom to 5,200 RMD.

WAS WELL COMPLETED AS SHOT HOLE Yes No DETAILS _____

WAS WELL COMPLETED OPEN HOLE? Yes No DETAILS _____

WERE TRACERS USED Yes No TYPE OF TRACER(S) USED _____

API 47- 085 - 10321 Farm name JAMES H. & WILMA J. WILSON Well number 515967

PERFORATION RECORD

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

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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)
						Please	See	Attached

Please insert additional pages as applicable.

API 47- 085 - 10321 Farm name JAMES H. & WILMA J. WILSON Well number 515967

<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>	
<u>Marcellus</u>	<u>6,353.40'</u> TVD	<u>6,553'</u> MD
_____	_____	_____
_____	_____	_____
_____	_____	_____

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump

SHUT-IN PRESSURE Surface 1,920 psi Bottom Hole N/A psi DURATION OF TEST 133 hrs

OPEN FLOW Gas 8,324 mcfpd Oil N/A bpd NGL 739 bpd Water 870.7 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 Decker Drilling Rig 11
Address 11565 State Route 676 City Vincent State OH Zip 45784

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

Cementing Company BJ Cementing Services
Address 837 Philippi 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 Michael Fehl Telephone (412) 553-5815
Signature  Title Dir Completions Date 12/18/2017

API 47- 085 - 10321 Farm name JAMES H. & WILMA J. WILSON Well number 515967

Drilling Contractor Savanna Drilling (Rig 655)
Address 125 Industry Road City Waynesburg State PA Zip 15370

Logging Company Baker Hughes
Address 4000 Town Center Blvd City Canonsburg State PA Zip 15317

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Well # 515967 Final Formations API # 47-085-10321

Formation Name	Drilling Top MD	Drilling Top (TVD)	Drilling Bottom MD	Drilling Btm (TVD)
FRESH WATER ZONE	1	1	559	559
SAND/SHALE	1	1	1,833.00	1,832.90
MAXTON	1,833.00	1,832.90	1,873.00	1,872.90
SAND/SHALE	1,873.00	1,872.90	2,053.00	2,052.90
BIG LIME	2,053.00	2,052.90	2,142.00	2,141.90
BIG INJUN	2,142.00	2,141.90	2,207.00	2,206.90
SAND/SHALE	2,207.00	2,206.90	2,450.00	2,449.90
WEIR	2,450.00	2,449.90	2,495.00	2,494.90
SAND/SHALE	2,495.00	2,494.90	2,665.00	2,664.90
GANTZ	2,665.00	2,664.90	2,668.00	2,667.90
SAND/SHALE	2,668.00	2,667.90	2,747.00	2,746.90
50F	2,747.00	2,746.90	2,781.00	2,780.90
SAND/SHALE	2,781.00	2,780.90	2,796.00	2,795.90
THIRTY FOOT	2,796.00	2,795.90	2,817.00	2,816.90
SAND/SHALE	2,817.00	2,816.90	2,834.00	2,833.90
GORDON	2,834.00	2,833.90	2,894.00	2,893.90
SAND/SHALE	2,894.00	2,893.90	2,954.00	2,953.90
FOURTH SAND	2,954.00	2,953.90	2,962.00	2,961.90
SAND/SHALE	2,962.00	2,961.90	3,047.00	3,046.90
5TH	3,047.00	3,046.90	3,067.00	3,066.90
SAND/SHALE	3,067.00	3,066.90	3,105.00	3,104.90
BAYARD	3,105.00	3,104.90	3,136.00	3,135.90
SAND/SHALE	3,136.00	3,135.90	3,506.00	3,505.90
WARREN	3,506.00	3,505.90	3,552.00	3,551.90
SAND/SHALE	3,552.00	3,551.90	3,616.00	3,615.80
SPEECHLEY	3,616.00	3,615.80	3,743.00	3,742.80
SAND/SHALE	3,743.00	3,742.80	3,954.00	3,953.80
BALLTOWN A	3,954.00	3,953.80	4,005.00	4,004.80
SAND/SHALE	4,005.00	4,004.80	4,601.00	4,600.80
RILEY	4,601.00	4,600.80	4,622.00	4,621.80
SAND/SHALE	4,622.00	4,621.80	4,942.00	4,941.80
BENSON	4,942.00	4,941.80	4,982.00	4,981.80
SAND/SHALE	4,982.00	4,981.80	5,221.00	5,220.80
ALEXANDER	5,221.00	5,220.80	5,246.00	5,245.80
ELKS	5,246.00	5,245.80	6,155.00	6,123.70
SONYEA	6,155.00	6,123.70	6,268.00	6,213.50
MIDDLESEX	6,268.00	6,213.50	6,350.00	6,266.50
GENESSEE	6,350.00	6,266.50	6,443.00	6,313.30
GENESEO	6,443.00	6,313.30	6,517.00	6,342.20
TULLY	6,517.00	6,342.20	6,541.00	6,349.90
HAMILTON	6,541.00	6,349.90	6,553.00	6,353.40
MARCELLUS	6,553.00	6,353.40	12,348.00	6,213.40

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515967 47-085-10321-0000 - Stimulated Stages

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 My Department of
 Geology Permit #

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)
1.01	8/15/2017	18	6,164	8,353	4,205		1,064	
1	8/18/2017	88	8,037	10,522	4,740	245,607	12,507	0
2	8/18/2017	89	7,591	8,582	2,249	447,601	9,424	0
3	8/19/2017	98	7,791	8,461	2,481	453,122	7,650	0
4	8/22/2017	80	8,078	8,986	3,236	447,017	8,837	0
5	8/22/2017	98	7,751	8,704	3,079	449,486	7,724	0
6	8/23/2017	82	7,908	9,060	3,020	450,452	8,007	0
7	8/23/2017	99	7,587	8,852	3,157	449,526	7,792	0
8	8/24/2017	98	7,380	9,062	3,261	447,715	7,482	0
9	8/25/2017	84	7,367	8,738	2,722	449,485	7,367	0
10	8/25/2017	94	7,424	8,273	2,930	450,083	7,634	0
11	8/26/2017	100	7,615	8,897	2,932	449,348	7,434	0
12	8/27/2017	98	7,567	8,126	2,732	449,936	7,272	0
13	8/27/2017	99	7,217	9,118	2,900	451,139	7,434	0
14	8/29/2017	95	7,238	7,692	2,874	446,933	7,182	0
15	8/29/2017	99	7,420	8,548	2,846	451,449	7,223	0
16	8/30/2017	91	7,027	8,135	2,982	450,596	7,097	0
17	8/30/2017	98	7,139	8,510	3,084	452,076	6,966	0
18	9/1/2017	93	6,990	8,367	2,812	450,316	7,103	0
19	9/1/2017	98	7,209	8,114	3,262	452,664	7,080	0
20	9/2/2017	94	6,798	7,758	3,336	449,233	6,866	0
21	9/3/2017	97	6,979	7,742	3,100	450,243	7,913	0
22	9/6/2017	95	6,890	7,436	2,858	452,971	7,042	0
23	9/8/2017	100	7,110	8,492	2,982	453,616	7,015	0
24	9/9/2017	100	7,174	7,646	3,049	452,382	7,065	0
25	9/11/2017	40	9,070	9,767	4,051	8,043	2,186	0
25	9/12/2017	67	8,899	9,513	2,343	442,014	8,266	0
26	9/19/2017	11	4,569	5,426	2,968	427,792	2,200	0
27	9/21/2017	100	6,919	7,170	2,837	450,861	7,369	0
28	9/22/2017	99	7,101	7,674	2,941	449,547	7,672	0
29	9/23/2017	100	6,904	8,130	2,941	450,482	7,168	0

515967 47-085-10321-0000 - Perforations

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 Environmental Permit of

Stage Number	Perforation Date	Top Perf Depth (ftKB)	Bottom Perf Depth (ftKB)	Number of Shots	Formation
Initiation Sleeve	8/9/2017	12,309	12,335	10	MARCELLUS
1	8/15/2017	12,149	12,291	32	MARCELLUS
2	8/15/2017	11,949	12,111	40	MARCELLUS
3	8/19/2017	11,749	11,911	40	MARCELLUS
4	8/19/2017	11,549	11,711	40	MARCELLUS
5	8/22/2017	11,349	11,511	40	MARCELLUS
6	8/22/2017	11,149	11,311	40	MARCELLUS
7	8/23/2017	10,949	11,111	40	MARCELLUS
8	8/23/2017	10,749	10,911	40	MARCELLUS
9	8/24/2017	10,549	10,711	40	MARCELLUS
10	8/25/2017	10,349	10,511	40	MARCELLUS
11	8/25/2017	10,149	10,311	40	MARCELLUS
12	8/26/2017	9,949	10,111	40	MARCELLUS
13	8/27/2017	9,749	9,911	40	MARCELLUS
14	8/27/2017	9,549	9,711	40	MARCELLUS
15	8/29/2017	9,349	9,511	40	MARCELLUS
16	8/29/2017	9,149	9,311	40	MARCELLUS
17	8/30/2017	8,949	9,111	40	MARCELLUS
18	8/31/2017	8,749	8,911	40	MARCELLUS
19	9/1/2017	8,549	8,711	40	MARCELLUS
20	9/2/2017	8,349	8,511	40	MARCELLUS
21	9/2/2017	8,149	8,311	40	MARCELLUS
22	9/3/2017	7,949	8,111	40	MARCELLUS
23	9/6/2017	7,749	7,911	40	MARCELLUS
24	9/8/2017	7,549	7,711	40	MARCELLUS
25	9/9/2017	7,349	7,511	40	MARCELLUS
25	9/11/2017	7,359	7,395	16	MARCELLUS
26	9/12/2017	7,149	7,311	40	MARCELLUS
27	9/19/2017	6,949	7,111	40	MARCELLUS
28	9/21/2017	6,749	6,911	40	MARCELLUS
29	9/22/2017	6,549	6,711	40	MARCELLUS

Hydraulic Fracturing Fluid Product Component Information Disclosure

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Job Start Date:	8/15/2017
Job End Date:	9/23/2017
State:	West Virginia
County:	Ritchie
API Number:	47-085-10321-00-00
Operator Name:	EQT Production
Well Name and Number:	515967
Latitude:	39.21125000
Longitude:	-80.98597300
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,353
Total Base Water Volume (gal):	9,631,440
Total Base Non Water Volume:	0



Hydraulic Fracturing Fluid Composition:

Trade Name	Supplier	Purpose	Ingredients	Chemical Abstract Service Number (CAS #)	Maximum Ingredient Concentration in Additive (% by mass)**	Maximum Ingredient Concentration in HF Fluid (% by mass)**	Comments
Water	FTS International	Carrier/Base Fluid					
			Water	7732-18-5	100.00000	85.89321	None
Other Chemical (s)	Listed Above	See Trade Name (s) List					
				Listed Below			

CI-150	FTS International	Acid Corrosion Inhibitor					
				Listed Below			
MX-8-2544	Multi-Chem	Bacteria Treatment					
				Listed Below			
MX-5-3886	Multi-Chem	Bacteria Treatment					
				Listed Below			
HVG-1	FTS International	Gelling Agent					
				Listed Below			
Hydrochloric Acid (15%)	FTS International	Acidizing					
				Listed Below			
CS-500-SI	FTS International	Scale Inhibitor					
				Listed Below			
FRW-1450	FTS International	Friction Reducer					
				Listed Below			
ABP-1	FTS International	Breaker					
				Listed Below			
Sand (Proppant)	FTS International	Proppant					

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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	13.71282	None
			Calcium Nitrate.4H2O	13477-34-4	100.00000	0.10592	
			Calcium Nitrate.4H2O	13477-34-4	100.00000	0.10592	None
			Hydrochloric Acid	7647-01-0	15.00000	0.02791	None
			Distillates (Petroleum), Hydrotreated Light	64742-47-8	30.00000	0.02010	None
			Distillates (Petroleum), Hydrotreated Light	64742-47-8	30.00000	0.02010	
			Sodium Chloride	7647-14-5	100.00000	0.00944	
			Sodium Chloride	7647-14-5	100.00000	0.00944	None
			Alcohols, C11-14- iso-,C13-rich, ethoxylated	78330-21-9	5.00000	0.00335	
			Alcohols, C11-14- iso-,C13-rich, ethoxylated	78330-21-9	5.00000	0.00335	None
			Ethylene Glycol	107-21-1	10.00000	0.00241	None
			Ethylene Glycol	107-21-1	10.00000	0.00241	
			Sodium Nitrate	7631-99-4	5.00000	0.00047	None
			Sodium Nitrate	7631-99-4	5.00000	0.00047	
			Petroleum Distillate	64742-47-8	55.00000	0.00046	
			Petroleum Distillate	64742-47-8	55.00000	0.00046	None
			Guar Gum	9000-30-0	50.00000	0.00042	
			Guar Gum	9000-30-0	50.00000	0.00042	None
			Ammonium Persulfate	7727-54-0	95.00000	0.00022	None
			Organic Amine Resin Salt	Proprietary	30.00000	0.00010	None
			Ethylene Glycol	107-21-1	30.00000	0.00010	None
			Isopropanol	67-63-0	30.00000	0.00010	None
			Dimethylformamide	68-12-2	10.00000	0.00003	None
			Quaternary Ammonium Compound	Proprietary	10.00000	0.00003	None

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			Aromatic Aldehyde	Proprietary	10.00000	0.00003	None
			Surfactant	68439-51-0	2.00000	0.00002	
			Surfactant	68439-51-0	2.00000	0.00002	None
			Clay	14808-60-7	2.00000	0.00002	
			Clay	14808-60-7	2.00000	0.00002	None

* Total Water Volume sources may include various types of water including fresh water, produced water, and recycled water

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

*** If you are calculating a percentage of total ingredients do not add the water volume below the green line to the water volume above the green line

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

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

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MW Department
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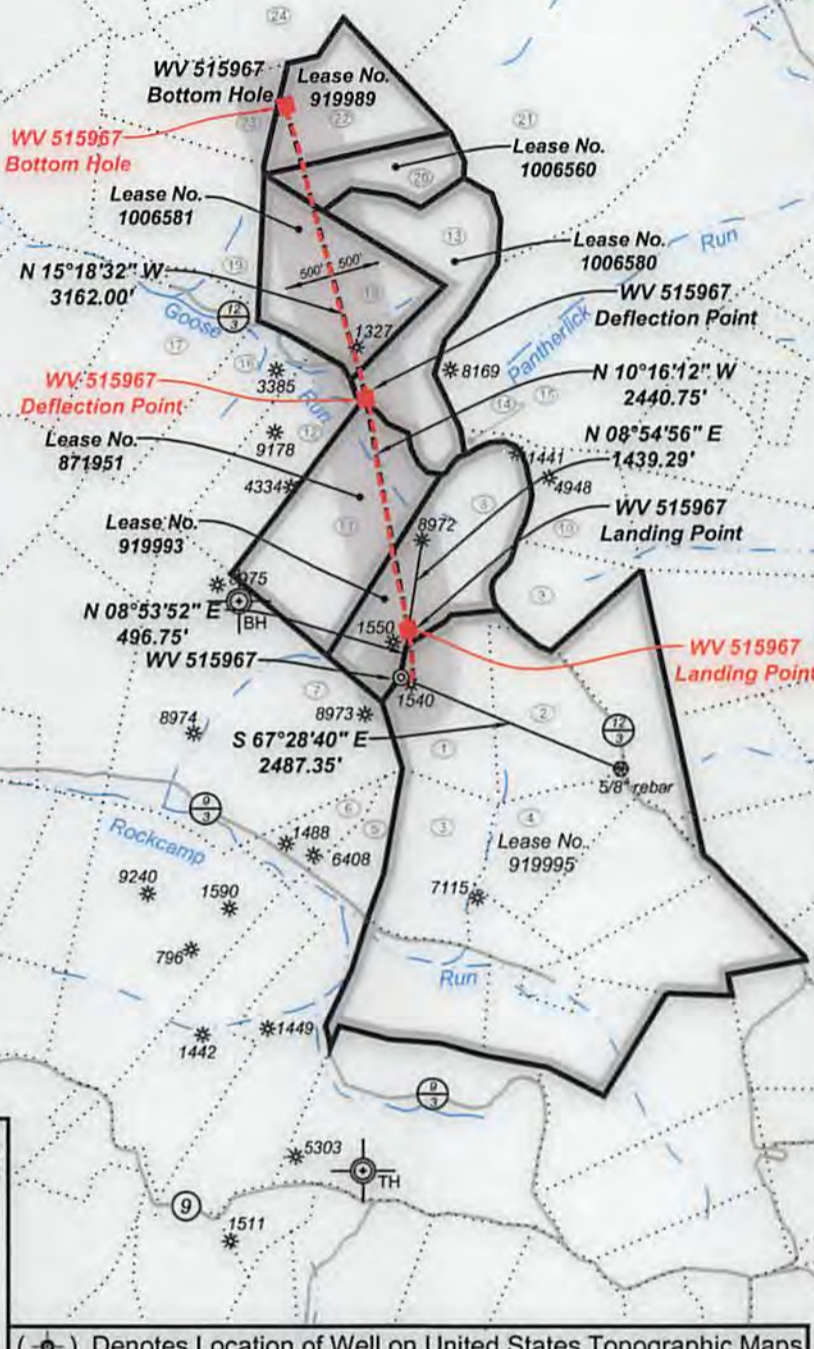
WV 515967
EQT Production Company
Pullman 96

TH: 7832'
 LATITUDE 39 - 15 - 00
 BH: 9121'

BH: 8201'
 LONGITUDE 80 - 57 - 30

TH: 14123'

GRID NORTH



- ⊙ 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.

Dwayne A. Hall
 P.S. 2089SU

SEAL

FILE NO: 243-14
 DRAWING NO: 243-14 Pullman 96 H8.dwg
 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

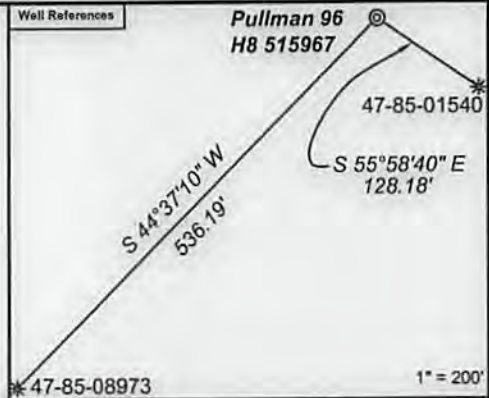
DATE: September 7 20 17
 OPERATOR'S WELL NO. 515967
 API WELL NO
 47 - 85 - 10321
 STATE COUNTY PERMIT

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
 (IF GAS) PRODUCTION: STORAGE DEEP SHALLOW
 LOCATION: ELEVATION: As-Built 1182.6' WATERSHED Goose Run of Rockcamp Run QUADRANGLE: Pullman
 DISTRICT: Union COUNTY: Ritchie
 SURFACE OWNER: James H. & Wilma J. Wilson ACREAGE: 40.089
 ROYALTY OWNER: Laurie Ann Haddox, et al LEASE NO: 919995 ACREAGE: 360
 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: 6,376

02/16/2018

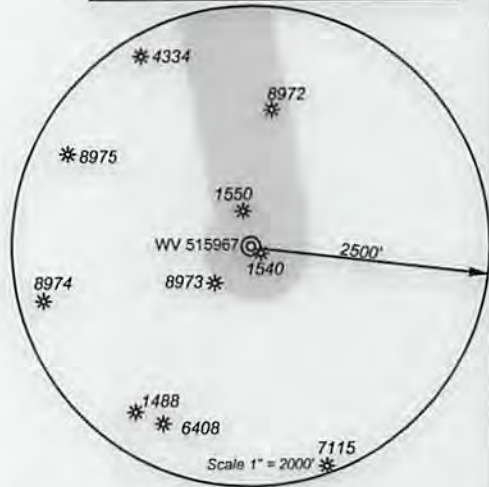
WELL OPERATOR: EQT Production Company DESIGNATED AGENT: Rex C. Ray
 ADDRESS: PO Box 280 / 115 Professional Place ADDRESS: PO Box 280 / 115 Professional Place
Bridgeport, WV 26330 Bridgeport, WV 26330

WV 515967
EQT Production Company
Pullman 96

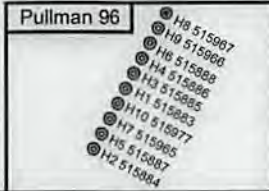


Tract I.D.	Tax Map No.	Parcel No.	County	District	Surface Tract Owner	Acres
1	7	8.4	Ritchie	Union	Wilma J. Wilson	40.09
2	7	8.3	Ritchie	Union	James D. Wilson	39.87
3	7	8.5	Ritchie	Union	Robert & Oleta Jane Wilson	37.23
4	7	8.2	Ritchie	Union	Ian David Wilson	30.10
5	7	11.0	Ritchie	Union	Arnold K. Richards (Life)	43.84
6	7	6.0	Ritchie	Union	Eva L. Riffle	14.75
7	7	5.0	Ritchie	Union	Jean W. Moore	134.70
8	7	4.0	Ritchie	Union	James D. Wilson, et al.	63.00
9	39	10.0	Ritchie	Clay	Charlie Ray & Lori Ann Amos	24.64
10	39	10.1	Ritchie	Clay	Pierce Okla & Suzanne Denise Amos	25.36
11	7	3.0	Ritchie	Union	Earl Wilson Jr., et al.	61.00
12	7	2.1	Ritchie	Union	Michael W. Elder	46.20
13	35	39.0	Ritchie	Clay	Chester D. Riddle, et al.	49.50
14	7	17.0	Ritchie	Union	Max D. & Laura B. Dodd	1.00
15	35	40.0	Ritchie	Clay	Max D. & Laura B. Dodd	211.60
16	7	2.0	Ritchie	Union	Michael W. Elder	66.00
17	7	1.0	Ritchie	Union	Randall K. Woods	55.20
18	35	39.1	Ritchie	Clay	Chester D. Riddle, et al.	47.50
19	35	38.0	Ritchie	Clay	James L. Crouse, et al.	50.00
20	35	39.2	Ritchie	Clay	Howard E. Todd	22.50
21	35	31.0	Ritchie	Clay	Max D. & Laura B. Dodd	93.33
22	35	30.0	Ritchie	Clay	Hothem Family Properties LP	38.75
23	35	29.0	Ritchie	Clay	James L. Crouse, et al.	38.50
24	35	14.0	Ritchie	Clay	Earl Wilson Jr., et al.	293.36

As-Drilled Well Information:
WV 515967 coordinates are
 NAD 27 N: 262,524.85 E: 1,578,957.28
 NAD 83 UTM N: 4,340,225.95 E: 501,225.56
WV 515967 Landing Point coordinates are
 NAD 27 N: 263,015.62 E: 1,579,034.11
 NAD 83 UTM N: 4,340,375.85 E: 501,246.47
WV 515967 Deflection Point coordinates are
 NAD 27 N: 265,417.27 E: 1,578,598.96
 NAD 83 UTM N: 4,341,105.28 E: 501,101.68
WV 515967 Bottom Hole coordinates are
 NAD 27 N: 268,468.17 E: 1,577,770.73
 NAD 83 UTM N: 4,342,030.51 E: 500,833.84
 West Virginia Coordinate system of 1927 (North Zone).
 Geographic coordinates are NAD27.
 UTM coordinates are NAD83, Zone 17, Meters.
 Plat orientation, corner and well ties are based upon the grid north meridian.
 Well location references are based upon the grid north meridian.



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



Lease No.	Name	Acres
919993	Ian David Wilson, et al.	63
1006580	Eagle Ridge L.P., et al.	49.5
1006581	Eagle Ridge L.P., et al.	47.5
1006560	E. Howard Todd	22.5
919989	Sandra Kay Reed, et al.	38
871951	Leslie Randall Elder, et al	61



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.

Blaine A. Hill
 P.S. 2089SU



FILE NO: 243-14
 DRAWING NO: 243-14 Pullman 96 H8.dwg
 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: September 7 20 17
 OPERATOR'S WELL NO. 515967
 API WELL NO
 47 - 85 - 10321
 STATE COUNTY PERMIT

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
 (IF GAS) PRODUCTION: STORAGE DEEP SHALLOW
 LOCATION: ELEVATION: As-Built 1182.6' WATERSHED Goose Run of Rockcamp Run QUADRANGLE: Pullman
 DISTRICT: Union COUNTY: Ritchie
 SURFACE OWNER: James H. & Wilma J. Wilson ACREAGE: 40.089
 ROYALTY OWNER: Laurie Ann Haddox, et al LEASE NO: 919995 ACREAGE: 360
 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: 6,376

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