

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

API 47 - 017 - 6444 County DODDRIDGE District WEST UNION
Quad WEST UNION 7.5' Pad Name WEU49 Field/Pool Name _____
Farm name MARY FARR SECRIST Well Number 514391
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 4,343,080 Easting 518,426
Landing Point of Curve Northing 4,345,114 Easting 518,758
Bottom Hole Northing 4,343,945 Easting 519,328

Elevation (ft) 1130 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)
SBM 13.1 ppg - powdered hydrocarbon resin, calcium carbonate, ground almond hulls, barium sulfate, calcium chloride, lecithin liquid, organophilic clay,
partially hydrolyzed polyacrylamide/polyacrylate, potassium chloride, sodium carbonate, ground walnut shells, alcohol and modified fatty acid, ferrocchrome tignosulfonate, calcium carbonate, fibrous cellulose

Date permit issued 03/13/2014 Date drilling commenced 06/24/2014 Date drilling ceased 2/17/2015
Date completion activities began 6/24/2015 Date completion activities ceased 6/29/2015
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 487 Open mine(s) (Y/N) depths _____
Salt water depth(s) ft 1542 Void(s) encountered (Y/N) depths N
Coal depth(s) ft 340, 483 Cavern(s) encountered (Y/N) depths _____
Is coal being mined in area (Y/N) N

RECEIVED
N and Gas
SEP 8 2015
Reviewed by: [Signature]
10/16/2015

API 47-017 - 6444 Farm name MARY FARR SECRIST Well number 514391

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 40LB/FT	NONE	Y
Surface	17.5"	13.375"	1050'	NEW	J-55 54.5LB/FT	292'	Y
Coal							
Intermediate 1	12.375"	9.625"	5251'	NEW	P-110 40LB/FT	1438', 2313', 2979', 4208'	Y
Intermediate 2							
Intermediate 3							
Production	8.5"	5.5"	11691'	NEW	P-110 20LB/FT	None	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	38	15.6	1.18	44.84	0	8
Surface	CLASS A	1013	15.6	1.19	1205.47	0	8
Coal							
Intermediate 1	CLASS A / CLASS A	385 / 340	14.2 / 15.6	1.28 / 1.18	894	0	8
Intermediate 2							
Intermediate 3							
Production	Class A/Class H	295/605	14.2/15.2	1.26/1.97	1564	5400	8
Tubing							

Drillers TD (ft) 11691' Loggers TD (ft) N/A
 Deepest formation penetrated Marcellus Plug back to (ft) N/A
 Plug back procedure _____

Kick off depth (ft) 5334'

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- JOINTS: 1,13,25
 INTERMEDIATE- JOINTS 1,15,28,40,52,59,64,76,88,100,112,124
 PRODUCTION- Joints 1-148 (5407-11679')

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 _____

RECEIVED
 Office of Oil and Gas
 SEP 18 2015
 WV Department of
 Environmental Protection
 10/16/2015

API 47- 017 - 6444 Farm name MARY FARR SECRIST Well number 514391

Drilling Contractor Orion 17
Address 674 Flato Road City Corpus Christi State TX Zip 78405

Logging Company ProDirectional
Address 103 Suds Run Rado City Mount Clare State WV Zip 26408

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

Cementing Company Nabors Cementing Services
Address 2504 Smith Creek Road City Waynesburg State PA Zip 15370

RECEIVED
Office of Oil and Gas
SEP 18 2015
West Virginia Department of
Environmental Protection

10/16/2015

Farm Name: Mary Farr Secrist

API: 47-170-6444

Well Number: 514391

Formations

Formation Name	Final Top MD (ftGL) (ft)	Final Top TVD (ft)	Final Btm MD (ftGL) (ft)	Final Btm TVD (ft)
FRESH WATER ZONE	1		497	
SAND/SHALE	1	1	350	350
COAL	350	350	353	353
SAND/SHALE	353	353	493	493
PITTSBURGH COAL	493	493	495	495
SAND/SHALE	495	495	1,428.00	1,428.00
MAXTON	1,428.00	1,428.00	1,861.00	1,861.00
BIG LIME	1,861.00	1,861.00	2,156.00	2,156.00
WEIR	2,156.00	2,156.00	2,358.00	2,358.00
BEREA	2,358.00	2,358.00	2,363.00	2,363.00
GANTZ	2,363.00	2,363.00	2,484.00	2,484.00
50F	2,484.00	2,484.00	2,567.00	2,567.00
30F	2,567.00	2,567.00	2,610.00	2,610.00
GORDON	2,610.00	2,610.00	2,721.00	2,721.00
4TH	2,721.00	2,721.00	2,905.00	2,905.00
BAYARD	2,905.00	2,905.00	3,229.00	3,229.00
WARREN	3,229.00	3,229.00	3,293.00	3,293.00
SPEECHLEY	3,293.00	3,293.00	3,930.00	3,930.00
BALLTOWN A	3,930.00	3,930.00	4,227.00	4,227.00
BRADFORD	4,227.00	4,227.00	4,426.00	4,426.00
RILEY	4,426.00	4,426.00	4,867.00	4,867.00
BENSON	4,867.00	4,867.00	5,121.00	5,121.00
ALEXANDER	5,121.00	5,121.00	6,625.00	6,330.00
SONYEA	6,625.00	6,330.00	6,861.00	6,485.90
MIDDLESEX	6,861.00	6,485.90	6,945.00	6,538.20
GENESSEE	6,945.00	6,538.20	7,074.00	6,607.20
GENESEO	7,074.00	6,607.20	7,124.00	6,629.30
TULLY	7,124.00	6,629.30	7,185.00	6,651.00
HAMILTON	7,185.00	6,651.00	7,234.00	6,664.20
MARCELLUS	7,234.00	6,664.20		

FILED
Oil and Gas
SEP 18 2015
E. J. ... of
Production
10/16/2015

514391 - 47-017-6444-0000- 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 (bbbls)	Amount of Nitrogen/other (units)
Initiation Sleeve	6/24/2015	13.1	6,208.00	7,521.00	4,017.00	0	680	0
1.02	6/24/2015	38.5	8,981.00	9,293.00	5,962.00	0	948	0
1	6/24/2015	97.1	7,799.00	8,955.00	3,132.00	301,215	8,484	0
2	6/25/2015	95.8	8,274.00	8,956.00	3,891.00	299,567	9,395	0
3	6/25/2015	100.5	7,670.00	7,970.00	5,145.00	302,422	7,405	0
4	6/25/2015	97.6	7,763.00	9,345.00	5,025.00	301,571	8,084	0
5	6/25/2015	100.4	7,818.00	8,338.00	4,930.00	302,460	7,532	0
6	6/25/2015	100.6	7,646.00	8,439.00	3,778.00	300,912	7,370	0
7	6/26/2015	97.6	7,925.00	8,609.00	4,679.00	302,452	8,747	0
8	6/26/2015	100.3	7,513.00	8,283.00	7,136.00	301,740	7,371	0
9	6/26/2015	100.4	7,428.00	7,755.00	4,577.00	300,532	7,370	0
10	6/26/2015	100.3	7,432.00	7,793.00	4,822.00	300,460	7,266	0
11	6/26/2015	99.9	7,686.00	8,669.00	5,140.00	294,144	7,250	0
12	6/27/2015	101.6	7,566.00	8,259.00	4,813.00	301,568	7,336	0
13	6/27/2015	100.9	7,569.00	8,528.00	5,155.00	300,806	7,246	0
14	6/27/2015	100.5	7,375.00	7,938.00	4,770.00	298,674	7,180	0
15	6/27/2015	100.3	7,398.00	8,150.00	4,491.00	299,093	7,232	0
16	6/27/2015	100.7	7,516.00	8,558.00	4,716.00	298,927	7,140	0
17	6/27/2015	101.3	7,469.00	8,162.00	4,353.00	298,606	7,190	0
18	6/28/2015	100.60	7,440.00	8,586.00	4,820	299,158	7,216	0
19	6/28/2015	97.30	7,878.00	9,011.00	4,086	299,304	8,203	0
20	6/28/2015	100.20	7,646.00	8,366.00	4,685	301,592	7,142	0
21	6/28/2015	100.40	7,706.00	9,337.00	5,057	269,116	6,909	0
22	6/28/2015	102.70	7,571.00	7,996.00	5,355	299,191	7,082	0
23	6/29/2015	100.10	7,926.00	8,690.00	4,710	301,181	8,716	0
24	6/29/2015	102.4	7,651.00	8,134.00	5,739.00	295,792	7,054	0

17-0690-11
444

RECEIVED
 Order of Oil and Gas
 SEP 18 2015
 Energy Services, Inc.
 Houston, TX

514391 - 47-017-6444-0000- Perforations

Stage Number	Perforation Date	Top Perf Depth (ftKB)	Bottom Perf Depth (ftKB)	Number of Shots	Formation
Initiation Sleeve	4/26/2015	11,689.00	11,691.00	10	MARCELLUS
1	6/24/2015	11,545.00	11,605.00	28	MARCELLUS
2	6/24/2015	11,365.00	11,487.00	42	MARCELLUS
3	6/25/2015	11,185.00	11,307.00	42	MARCELLUS
4	6/25/2015	11,005.00	11,125.00	42	MARCELLUS
5	6/25/2015	10,825.00	10,947.00	42	MARCELLUS
6	6/25/2015	10,645.00	10,767.00	42	MARCELLUS
7	6/26/2015	10,465.00	10,587.00	42	MARCELLUS
8	6/26/2015	10,285.00	10,407.00	42	MARCELLUS
9	6/26/2015	10,105.00	10,227.00	42	MARCELLUS
10	6/26/2015	9,925.00	10,047.00	42	MARCELLUS
11	6/26/2015	9,747.00	9,867.00	42	MARCELLUS
12	6/27/2015	9,565.00	9,686.00	42	MARCELLUS
13	6/27/2015	9,385.00	9,505.00	42	MARCELLUS
14	6/27/2015	9,206.00	9,327.00	42	MARCELLUS
15	6/27/2015	9,024.00	9,147.00	42	MARCELLUS
16	6/27/2015	8,845.00	8,965.00	42	MARCELLUS
17	6/27/2015	8,665.00	8,787.00	42	MARCELLUS
18	6/28/2015	8,485.00	8,607.00	42	MARCELLUS
19	6/28/2015	8,305.00	8,427.00	42	MARCELLUS
20	6/28/2015	8,125.00	8,247.00	42	MARCELLUS
21	6/28/2015	7,945.00	8,064.00	42	MARCELLUS
22	6/28/2015	7,765.00	7,887.00	42	MARCELLUS
23	6/28/2015	7,584.00	7,705.00	42	MARCELLUS
24	6/29/2015	7,405.00	7,527.00	42	MARCELLUS

17-06444

RECEIVED
 OFFICE OF OIL AND GAS
 SEP 18 2015
 DEPARTMENT OF REVENUE
 ENERGY

			Clay	14808-60-7	2.00000	0.00004	None
FE-100L	FTS International	Iron control					
			Citric acid	77-92-9	55.00000	0.00059	None
CI-150	FTS International	Acid Corrosion Inhibitor					
			Ethylene glycol	107-21-1	30.00000	0.00009	None
			Organic amine resin salt	Proprietary	30.00000	0.00009	None
			Isopropanol	67-63-0	30.00000	0.00009	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
NE-100	FTS International	Non-emulsifier					
			2-Butoxyethanol	111-76-2	10.00000	0.00003	None
			2-Propanol	67-63-0	10.00000	0.00003	None
			Dodecylbenzenesulfonic acid	27176-87-0	5.00000	0.00001	None
APB-1	FTS International	Breaker					
			Ammonium persulfate	7727-54-0	95.00000	0.00002	None

17-06444

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)

