

Well Operator's Report of Well Work



Where energy meets innovation.

Well Number: 513920

API: 47 - 103 - 03043

Submission: Initial Amended

Notes: Correction to Production Cement Top
(MD)

RECEIVED
Office of Oil and Gas

DEC 21 2015

WV Department of
Environmental Protection

AX WS 03/22/16

03/25/2016

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

API 47-103-03043 County WETZEL District GRANT
Quad BIG RUN 7.5' Pad Name BIG192 Field/Pool Name _____
Farm name RICHARD DALLISON ET AL Well Number 513920
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 4,375,409 Easting 535,935
Landing Point of Curve Northing 4,375,580 Easting 535,837
Bottom Hole Northing 4,377,627 Easting 535,173

Elevation (ft) 1452 GL Type of Well New Existing Type of Report Interim Final
Permit Type Deviated Horizontal Horizontal 6A Vertical Depth Type Deep Shallow
Type of Operation Convert Deepen Drill Plug Back Redrilling Rework Stimulate
Well Type Brine Disposal CBM Gas Oil Secondary Recovery Solution Mining Storage Other _____
Type of Completion Single Multiple Fluids Produced Brine Gas NGL Oil Other _____
Drilled with Cable Rotary

Drilling Media Surface hole Air Mud Fresh Water Intermediate hole Air Mud Fresh Water Brine
Production hole Air Mud Fresh Water Brine

Mud Type(s) and Additive(s)
Water base Mud 13.5 ppg barium sulfate, sodium chloride, xanthan gum, polyanionic cellulose, modified starch, sodium hydroxide, phosphonates and alkyl phosphates, glutaraldehyde solution, calcium hydroxide, partially hydrolyzed polyacrylamide/polyacrylate, potassium chloride, sodium carbonate, ground walnut shells, alcohol and modified fatty acid, ferrochrome lignosulfonate, calcium carbonate, fibrous cellulose

Date permit issued 12/08/2014 Date drilling commenced 02/05/2015 Date drilling ceased 05/13/2015
Date completion activities began 6/5/2015 Date completion activities ceased 6/17/2015
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 549',581',780' Open mine(s) (Y/N) depths N
Salt water depth(s) ft 2257',2370' Void(s) encountered (Y/N) depths N
Coal depth(s) ft 743',804',919',1009',1240' Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

Reviewed by:
DWH

03/25/2016

API 47-103 - 03043 Farm name RICHARD DALLISON ET AL Well number 513920

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	28"	26"	50'	NEW	A-500 40LB/FT	NONE	Y
Surface	17.5"	13.375"	1004'	NEW	J-55 54.5LB/FT	668'	Y
Coal							
Intermediate 1	12.375" & 12.25"	9.625"	2749'	NEW	A-500 40LB/FT	2112'	Y
Intermediate 2							
Intermediate 3							
Production	8.5"	5.5"	15,630'	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	61	15.6	1.18	71.98	0	8
Surface	CLASS A	955	15.6	1.20	972	0	8
Coal							
Intermediate 1	CLASS A / CLASS A	1065	15.6	1.18	1256.7	0	8
Intermediate 2							
Intermediate 3							
Production	CLASS H / CLASS H	720/949	15.2/15.6	1.25/2.06	2855	3,241' MD	72
Tubing							

Drillers TD (ft) 15,630 Loggers TD (ft) N/A
 Deepest formation penetrated Marcellus Plug back to (ft) N/A
 Plug back procedure N/A

Kick off depth (ft) 6,046

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: 1,11,20
 INTERMEDIATE- RAN AT LEAST EVERY 500' FEET
 PRODUCTION- 267 Composite Centralizers. One on every joint from TD to 4,550' MD

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- 103 - 03043 Farm name RICHARD DALLISON ET AL Well number 513920

Drilling Contractor Savanna Drilling
Address 2204 Timberloch Place Suite 230 City Woodlands State TX Zip 77380

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

Logging Company _____
Address _____ City _____ State _____ Zip _____

Cementing Company Baker Hughes
Address 837 Philippi Pike City Clarksburgh State WV Zip 26301

API 47 - 103 - 03043

Formation Name	Final Top MD (ftGL) (ft)	Final Top TVD (ft)	Final Btm MD (ftGL) (ft)	Final Btm TVD (ft)
FRESH WATER ZONE	0	0	783	783
SAND/SHALE	0	0	746	746
WASHINGTON COAL	746	746	748	748
SAND/SHALE	748	748	807	807
COAL	807	807	817	817
SAND/SHALE	817	817	922	922
COAL	922	922	927	927
SAND/SHALE	927	927	1,012	1,012
COAL	1,012	1,012	1,022	1,022
SAND/SHALE	1,022	1,022	1,243	1,243
PITTSBURGH COAL	1,243	1,243	1,248	1,248
SAND/SHALE	1,248	1,248	2,444	2,444
MAXTON	2,444	2,444	2,484	2,484
BIG LIME	2,484	2,484	2,623	2,623
BIG INJUN	2,623	2,623	2,874	2,874
WEIR	2,874	2,874	3,082	3,082
GANTZ	3,082	3,082	3,108	3,108
50F	3,108	3,108	3,193	3,193
30F	3,193	3,193	3,310	3,310
GORDON	3,310	3,310	3,390	3,390
4TH	3,390	3,390	3,539	3,539
BAYARD	3,539	3,539	3,965	3,965
WARREN	3,965	3,965	4,117	4,117
SPEECHLEY	4,117	4,117	5,006	5,005
RILEY	5,006	5,005	5,641	5,640
BENSON	5,641	5,640	5,967	5,966
ALEXANDER	5,967	5,966	6,546	6,494
RHINESTREET	6,546	6,494	7,334	7,198
SONYEA	7,334	7,198	7,511	7,359
MIDDLESEX	7,511	7,359	7,577	7,414
GENESSEE	7,577	7,414	7,692	7,501
GENESE0	7,692	7,501	7,731	7,527
TULLY	7,731	7,527	7,766	7,548
HAMILTON	7,766	7,548	7,973	7,633
MARCELLUS	7,973	7,633	15,630	7,654

PHOENIX
TECHNOLOGY SERVICES



EQT Production - Marcellus

Wetzel County, WV
Wetzel County 513920
Well 513920

Main Wellbore

Design: 513920 As Drilled Surveys

Standard Survey Report

11 May, 2015

EQT

Where energy meets innovation.

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Site Wetzel County 513920
Company:	EQT Production - Marcellus	TVD Reference:	KB@16 @ 1488.0usft
Project:	Wetzel County, WV	MD Reference:	KB@16 @ 1468.0usft
Site:	Wetzel County 513920	North Reference:	Gnd
Well:	Well 513920	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	513920 As Drilled Surveys		

Project Wetzel County, WV

Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	West Virginia North 4701		Using geodetic scale factor

Site Wetzel County 513920

Site Position:		Northing:	376,073.40 usft	Latitude:	39.53
From:	Map	Easting:	1 694 783.40 usft	Longitude:	-80.58
Position Uncertainty:	0 0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	-0.69 °

Well Well 513920

Well Position	+N/-S	0 0 usft	Northing:	376,073.40 usft	Latitude:	39 31' 38.983 N
	+E/-W	0 0 usft	Easting:	1 694 783.40 usft	Longitude:	80 34' 55.433 W
Position Uncertainty		0 0 usft	Wellhead Elevation:	usft	Ground Level:	1 452.0 usft

Wellbore Main Wellbore

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	4/13/2015	-8.32	67.07	52 545

Design 513920 As Drilled Surveys

Audit Notes:

Version:	1 0	Phase:	ACTUAL	Tie On Depth:	0 0
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Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0 0	0 0	0 0	342.00

Survey Program Date 5/11/2015

From (')	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	5,995.0	513920 Gyrodata Gyros (Main Wellbore)	GYD_DP_MS	Gyrodata gyro-compassing and drop
0.00	15,630.0	513920 PHX MWD (Main Wellbore)	PHX+MWD+HDGM	PHX+OWSG MWD + HDGM

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0 0	0 00	0 00	0 0	-1,468.0	0 0	0 0	0 0	0 00	0 00	0 00
103 0	0 04	81 78	103 0	-1,365.0	0 0	0 0	0 0	0 04	0 04	0 00
203 0	0 05	313 60	203 0	-1,265.0	0 0	0 0	0 0	0 08	0 01	-128.18
303 0	0 18	255 10	303 0	-1,165.0	0 0	-0.1	0 1	0 16	0 13	-58.50
403 0	0 22	223 00	403 0	-1 065.0	-0.2	-0.4	0 0	0 12	0 04	-32.10
503 0	0 07	224 33	503 0	-965.0	-0.3	-0.6	-0.1	0 15	-0.15	1.33
603 0	0 10	164 75	603 0	-865.0	-0.5	-0.6	-0.2	0.09	0.03	-59.58
703 0	0 08	137 86	703 0	-765.0	-0.6	-0.6	-0.4	0.05	-0.02	-26.89

Database:		Local Co-ordinate Reference:	
Company:		TVD Reference:	
Project:		MD Reference:	
Site:		North Reference:	
Well:		Survey Calculation Method:	
Wellbore:			
Design:			

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
803.0	0.09	151.79	803.0	-665.0	-0.7	-0.5	-0.5	0.02	0.01	13.93
903.0	0.08	332.70	903.0	-565.0	-0.7	-0.5	-0.5	0.17	-0.01	-179.09
1,003.0	0.22	335.68	1,003.0	-465.0	-0.5	-0.6	-0.3	0.14	0.14	2.98
1,103.0	0.51	346.09	1,103.0	-365.0	0.1	-0.8	0.3	0.30	0.29	10.41
1,203.0	0.59	351.03	1,203.0	-265.0	1.1	-0.9	1.3	0.09	0.08	4.94
1,303.0	0.65	351.05	1,303.0	-165.0	2.1	-1.1	2.4	0.06	0.06	0.02
1,403.0	0.53	350.81	1,403.0	-65.0	3.1	-1.3	3.4	0.12	-0.12	-0.24
1,503.0	0.57	3.15	1,503.0	35.0	4.1	-1.3	4.3	0.12	0.04	12.34
1,603.0	0.59	358.32	1,603.0	135.0	5.1	-1.3	5.3	0.05	0.02	-4.83
1,703.0	0.56	358.30	1,703.0	235.0	6.1	-1.3	6.2	0.03	-0.03	-0.02
1,803.0	0.60	9.14	1,803.0	335.0	7.1	-1.3	7.2	0.12	0.04	10.84
1,903.0	0.69	2.68	1,903.0	435.0	8.2	-1.2	8.2	0.12	0.09	-6.46
2,003.0	0.53	2.75	2,002.9	534.9	9.3	-1.1	9.2	0.16	-0.16	0.07
2,103.0	0.52	5.78	2,102.9	634.9	10.2	-1.0	10.0	0.03	-0.01	3.03
2,203.0	0.61	5.76	2,202.9	734.9	11.2	-0.9	10.9	0.09	0.09	-0.02
2,303.0	0.81	348.58	2,302.9	834.9	12.4	-1.0	12.1	0.29	0.20	-17.18
2,403.0	1.24	334.48	2,402.9	934.9	14.1	-1.6	13.9	0.50	0.43	-14.10
2,503.0	1.81	330.55	2,502.9	1,034.9	16.4	-2.9	16.5	0.58	0.57	-3.93
2,603.0	2.16	333.58	2,602.8	1,134.8	19.5	-4.5	19.9	0.37	0.35	3.03
2,703.0	2.35	336.18	2,702.7	1,234.7	23.1	-6.2	23.8	0.22	0.19	2.60
2,803.0	2.39	335.42	2,802.7	1,334.7	26.8	-7.9	27.9	0.05	0.04	-0.76
2,903.0	1.90	333.42	2,902.6	1,434.6	30.2	-9.5	31.7	0.50	-0.49	-2.00
3,003.0	1.42	327.70	3,002.5	1,534.5	32.7	-10.9	34.5	0.51	-0.48	-5.72
3,103.0	0.94	325.05	3,102.5	1,634.5	34.5	-12.0	36.5	0.48	-0.48	-2.65
3,203.0	0.80	318.54	3,202.5	1,734.5	35.7	-12.9	37.9	0.17	-0.14	-6.51
3,303.0	0.49	323.72	3,302.5	1,834.5	36.5	-13.6	39.0	0.32	-0.31	5.18
3,403.0	0.46	317.44	3,402.5	1,934.5	37.2	-14.2	39.7	0.06	-0.03	-6.28
3,503.0	0.43	319.58	3,502.5	2,034.5	37.7	-14.7	40.4	0.03	-0.03	2.14
3,603.0	0.43	325.62	3,602.5	2,134.5	38.3	-15.1	41.1	0.05	0.00	6.04
3,703.0	0.48	326.95	3,702.5	2,234.5	39.0	-15.6	41.9	0.05	0.05	1.33
3,803.0	0.47	325.04	3,802.5	2,334.5	39.7	-16.0	42.7	0.02	-0.01	-1.91
3,903.0	0.49	326.59	3,902.5	2,434.5	40.4	-16.5	43.5	0.02	0.02	1.55
4,003.0	0.44	319.06	4,002.5	2,534.5	41.0	-17.0	44.3	0.08	-0.05	-7.53
4,103.0	0.43	320.65	4,102.5	2,634.5	41.6	-17.5	45.0	0.02	-0.01	1.59
4,203.0	0.31	294.14	4,202.5	2,734.5	42.0	-18.0	45.5	0.21	-0.12	-26.51
4,303.0	0.32	296.16	4,302.5	2,834.5	42.2	-18.5	45.9	0.01	0.01	2.02
4,403.0	0.34	294.57	4,402.5	2,934.5	42.5	-19.0	46.3	0.02	0.02	-1.59
4,503.0	0.44	292.24	4,502.5	3,034.5	42.8	-19.6	46.7	0.10	0.10	-2.33
4,603.0	0.56	288.73	4,602.5	3,134.5	43.1	-20.4	47.3	0.12	0.12	-3.51
4,703.0	0.59	288.51	4,702.5	3,234.5	43.4	-21.4	47.9	0.03	0.03	-0.22
4,803.0	0.65	287.00	4,802.5	3,334.5	43.7	-22.4	48.5	0.06	0.06	-1.51
4,903.0	0.61	290.81	4,902.5	3,434.5	44.1	-23.5	49.2	0.06	-0.04	3.81

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Project:	Wetzel County, WV	MD Reference:	KB@18 @ 1468.0usft
Site:	Wetzel County 513920	North Reference:	Grid
Well:	Well 513920	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	513920 As Drilled Surveys		

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,003.0	0.68	290.96	5,002.4	3,534.4	44.5	-24.5	49.9	0.07	0.07	0.15
5,103.0	0.67	287.12	5,102.4	3,634.4	44.9	-25.6	50.6	0.05	-0.01	-3.84
5,203.0	0.66	286.41	5,202.4	3,734.4	45.2	-26.7	51.2	0.01	-0.01	-0.71
5,303.0	0.70	287.64	5,302.4	3,834.4	45.5	-27.9	51.9	0.04	0.04	1.23
5,403.0	0.74	286.48	5,402.4	3,934.4	45.9	-29.1	52.6	0.04	0.04	-1.16
5,503.0	0.60	299.66	5,502.4	4,034.4	46.3	-30.1	53.4	0.21	-0.14	13.18
5,603.0	0.60	306.86	5,602.4	4,134.4	46.9	-31.0	54.2	0.08	0.00	7.20
5,703.0	0.66	300.07	5,702.4	4,234.4	47.5	-31.9	55.1	0.10	0.06	-6.79
5,803.0	0.76	294.92	5,802.4	4,334.4	48.1	-33.0	55.9	0.12	0.10	-5.15
5,903.0	0.77	296.94	5,902.4	4,434.4	48.7	-34.2	56.9	0.03	0.01	2.02
Gyro Tie In=5995' MD										
5,995.0	0.94	290.82	5,994.4	4,526.4	49.2	-35.5	57.8	0.21	0.18	-6.65
6,014.0	1.10	298.30	6,013.4	4,545.4	49.4	-35.8	58.0	1.09	0.84	39.37
KOP=5046' MD										
6,046.0	1.90	184.90	6,045.4	4,577.4	49.0	-36.1	57.7	7.95	2.50	-354.38
6,078.0	6.40	168.00	6,077.3	4,609.3	46.7	-35.8	55.5	14.42	14.06	-52.81
6,109.0	9.50	163.80	6,108.0	4,640.0	42.6	-34.7	51.2	10.17	10.00	-13.55
6,141.0	11.60	162.40	6,139.4	4,671.4	37.0	-33.0	45.3	6.61	6.56	-4.38
6,172.0	13.80	163.80	6,169.7	4,701.7	30.4	-31.0	38.5	7.17	7.10	4.52
6,204.0	16.70	165.40	6,200.5	4,732.5	22.3	-28.8	30.1	9.16	9.06	5.00
6,235.0	19.40	166.40	6,230.0	4,762.0	13.0	-26.5	20.5	8.77	8.71	3.23
6,267.0	21.60	166.10	6,260.0	4,792.0	2.1	-23.8	9.4	6.88	6.88	-0.94
6,298.0	24.20	166.20	6,288.5	4,820.5	-9.6	-20.9	-2.7	8.39	8.39	0.32
6,330.0	26.90	166.00	6,317.4	4,849.4	-23.0	-17.6	-16.4	8.44	8.44	-0.63
6,361.0	29.90	166.00	6,344.7	4,876.7	-37.3	-14.0	-31.1	9.68	9.68	0.00
6,393.0	32.30	166.00	6,372.1	4,904.1	-53.3	-10.0	-47.6	7.50	7.50	0.00
6,425.0	35.10	166.70	6,398.7	4,930.7	-70.6	-5.9	-65.3	8.83	8.75	2.19
6,456.0	38.20	168.00	6,423.6	4,955.6	-88.6	-1.8	-83.7	10.31	10.00	4.19
6,488.0	39.00	168.80	6,448.6	4,980.6	-108.2	2.2	-103.6	2.95	2.50	2.50
6,519.0	38.80	168.10	6,472.7	5,004.7	-127.3	6.1	-122.9	1.56	-0.65	-2.26
6,551.0	40.00	165.40	6,497.4	5,029.4	-147.0	10.8	-143.2	6.54	3.75	-8.44
6,583.0	42.00	163.80	6,521.6	5,053.6	-167.3	16.3	-164.1	7.06	6.25	-5.00
6,614.0	42.10	163.10	6,544.6	5,076.6	-187.2	22.3	-184.9	1.55	0.32	-2.26
6,645.0	41.20	163.70	6,567.8	5,099.8	-206.9	28.1	-205.5	3.18	-2.90	1.94
6,677.0	40.80	166.60	6,591.9	5,123.9	-227.2	33.5	-226.4	6.08	-1.25	9.06
6,709.0	40.50	169.70	6,616.2	5,148.2	-247.6	37.8	-247.2	6.38	-0.94	9.69
6,740.0	38.90	170.30	6,640.0	5,172.0	-267.1	41.2	-266.8	5.31	-5.16	1.94
6,772.0	36.00	168.90	6,665.4	5,197.4	-286.2	44.7	-286.0	9.44	-9.06	-4.38
6,803.0	32.40	169.00	6,691.1	5,223.1	-303.3	48.1	-303.3	11.61	-11.61	0.32
6,835.0	29.20	169.40	6,718.6	5,250.6	-319.4	51.2	-319.6	10.02	-10.00	1.25
6,866.0	27.00	169.30	6,745.9	5,277.9	-333.8	53.9	-334.1	7.10	-7.10	-0.32
6,898.0	23.80	169.70	6,774.8	5,306.8	-347.3	56.4	-347.7	10.01	-10.00	1.25
6,930.0	20.70	171.90	6,804.4	5,336.4	-359.2	58.3	-359.7	10.03	-9.69	6.88

Database:	EDM 5000 1 S (U r Db	Local Co-ordinate Reference:	
Company:		TVD Reference:	
Project:		MD Reference:	
Site:		North Reference:	
Well:		Survey Calculation Method:	
Wellbore:	We		
Design:			

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
6,961.0	18.20	171.80	6,833.6	5,365.6	-369.4	59.8	-369.8	8.07	-8.06	-0.32
6,993.0	15.90	173.90	6,864.2	5,396.2	-378.7	61.0	-379.0	7.44	-7.19	6.56
7,024.0	13.70	179.30	6,894.2	5,426.2	-386.6	61.4	-386.7	8.37	-7.10	17.42
7,056.0	11.40	187.50	6,925.4	5,457.4	-393.6	61.1	-393.2	9.08	-7.19	25.63
7,087.0	9.70	198.40	6,955.9	5,487.9	-399.1	59.9	-398.0	8.43	-5.48	35.16
7,119.0	8.40	213.90	6,987.5	5,519.5	-403.6	57.7	-401.7	8.60	-4.06	48.44
7,151.0	8.20	236.80	7,019.2	5,551.2	-406.8	54.5	-403.7	10.28	-0.63	71.56
7,182.0	9.10	259.80	7,049.9	5,581.9	-408.4	50.2	-403.9	11.44	2.90	74.19
7,214.0	11.70	275.60	7,081.3	5,613.3	-408.5	44.5	-402.3	11.99	8.13	49.38
7,245.0	12.50	293.10	7,111.7	5,643.7	-406.9	38.3	-398.8	12.06	2.58	56.45
7,277.0	12.60	310.60	7,142.9	5,674.9	-403.3	32.4	-393.6	11.84	0.31	54.69
7,308.0	15.30	315.10	7,173.0	5,705.0	-398.2	27.0	-387.0	9.38	8.71	14.52
7,340.0	19.00	316.70	7,203.6	5,735.6	-391.4	20.4	-378.6	11.66	11.56	5.00
7,372.0	20.80	325.00	7,233.7	5,765.7	-383.0	13.6	-368.4	10.46	5.63	25.94
7,403.0	22.10	327.80	7,262.5	5,794.5	-373.5	7.3	-357.5	5.34	4.19	9.03
7,435.0	24.60	328.70	7,291.9	5,823.9	-362.7	0.7	-345.2	7.89	7.81	2.81
7,466.0	27.60	328.50	7,319.7	5,851.7	-351.1	-6.4	-331.9	9.68	9.68	-0.65
7,498.0	30.20	329.70	7,347.7	5,879.7	-337.8	-14.4	-316.8	8.32	8.13	3.75
7,530.0	31.70	331.90	7,375.2	5,907.2	-323.5	-22.4	-300.7	5.87	4.69	6.88
7,561.0	34.00	334.40	7,401.2	5,933.2	-308.5	-30.0	-284.1	8.61	7.42	8.06
7,593.0	36.50	335.50	7,427.3	5,959.3	-291.7	-37.8	-265.8	8.06	7.81	3.44
7,624.0	40.30	336.40	7,451.6	5,983.6	-274.1	-45.6	-246.6	12.39	12.26	2.90
7,656.0	43.20	336.70	7,475.5	6,007.5	-254.6	-54.1	-225.4	9.08	9.06	0.94
7,687.0	46.70	337.30	7,497.4	6,029.4	-234.4	-62.7	-203.6	11.37	11.29	1.94
7,719.0	49.60	338.70	7,518.8	6,050.8	-212.3	-71.6	-179.8	9.63	9.06	4.38
7,750.0	53.20	339.40	7,538.1	6,070.1	-189.7	-80.2	-155.6	11.75	11.61	2.26
7,782.0	56.60	340.00	7,556.5	6,088.5	-165.2	-89.3	-129.5	10.74	10.63	1.88
7,814.0	60.30	341.20	7,573.3	6,105.3	-139.4	-98.4	-102.2	12.00	11.56	3.75
7,845.0	63.20	342.90	7,587.9	6,119.9	-113.5	-106.8	-74.9	10.53	9.35	5.48
7,877.0	66.00	344.30	7,601.7	6,133.7	-85.7	-114.9	-46.0	9.60	8.75	4.38
7,908.0	68.90	344.70	7,613.6	6,145.6	-58.1	-122.6	-17.4	9.43	9.35	1.29
7,939.0	72.30	344.60	7,623.9	6,155.9	-30.0	-130.3	11.8	10.97	10.97	-0.32
7,971.0	75.30	344.30	7,632.8	6,164.8	-0.4	-138.6	42.5	9.42	9.38	-0.94
8,003.0	77.50	343.60	7,640.3	6,172.3	29.5	-147.2	73.6	7.20	6.88	-2.19
8,034.0	80.40	342.70	7,646.2	6,178.2	58.6	-156.0	104.0	9.78	9.35	-2.90
8,066.0	85.20	342.70	7,650.3	6,182.3	89.0	-165.4	135.7	15.00	15.00	0.00
LP=8097' MD/7652' TVD										
8,097.0	89.00	343.00	7,651.8	6,183.8	118.5	-174.5	166.7	12.30	12.26	0.97
8,150.0	89.60	342.40	7,652.5	6,184.5	169.1	-190.3	219.7	1.60	1.13	-1.13
8,214.0	89.30	341.00	7,653.1	6,185.1	229.9	-210.4	283.7	2.24	-0.47	-2.19
8,276.0	89.40	341.70	7,653.8	6,185.8	288.6	-230.2	345.7	1.14	0.16	1.13
Deepest Point of Well=8340' MD/7654' TVD										
8,340.0	90.40	342.30	7,653.9	6,185.9	349.5	-250.0	409.6	1.82	1.56	0.94



PHX
Survey Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Site Wetzel County 513920
Company:	EQT Production - Marcellus	TVD Reference:	KB@16 @ 1488.0usft
Project:	Wetzel County, WV	MD Reference:	KB@16 @ 1488.0usft
Site:	Wetzel County 513920	North Reference:	Grid
Well:	Well 513920	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	513920 As Drilled Surveys		

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,403.0	91.30	341.70	7,653.0	6,185.0	409.4	-269.5	472.6	1.72	1.43	-0.95
8,466.0	91.70	341.20	7,651.3	6,183.3	469.1	-289.5	535.6	1.02	0.63	-0.79
8,529.0	91.80	341.70	7,649.4	6,181.4	528.8	-309.5	598.6	0.81	0.16	0.79
8,592.0	91.50	343.70	7,647.6	6,179.6	588.9	-328.3	661.6	3.21	-0.48	3.17
8,655.0	91.40	343.60	7,646.0	6,178.0	649.4	-346.0	724.5	0.22	-0.16	-0.16
8,719.0	90.60	344.20	7,644.9	6,176.9	710.8	-363.7	788.5	1.56	-1.25	0.94
8,782.0	90.20	345.00	7,644.4	6,176.4	771.6	-380.5	851.4	1.42	-0.63	1.27
8,845.0	90.10	343.80	7,644.3	6,176.3	832.3	-397.4	914.3	1.91	-0.16	-1.90
8,908.0	90.10	343.50	7,644.1	6,176.1	892.7	-415.1	977.3	0.48	0.00	-0.48
8,971.0	90.00	343.00	7,644.1	6,176.1	953.0	-433.3	1,040.3	0.81	-0.16	-0.79
9,034.0	89.90	342.10	7,644.1	6,176.1	1,013.1	-452.2	1,103.3	1.44	-0.16	-1.43
9,097.0	90.80	343.60	7,643.8	6,175.8	1,073.3	-470.8	1,166.3	2.78	1.43	2.38
9,160.0	91.20	344.00	7,642.7	6,174.7	1,133.8	-488.3	1,229.2	0.90	0.63	0.63
9,223.0	91.00	342.40	7,641.5	6,173.5	1,194.1	-506.5	1,292.2	2.56	-0.32	-2.54
9,287.0	90.40	342.80	7,640.7	6,172.7	1,255.2	-525.7	1,356.2	1.13	-0.94	0.63
9,349.0	90.30	343.20	7,640.3	6,172.3	1,314.5	-543.8	1,418.2	0.67	-0.16	0.65
9,413.0	90.10	342.30	7,640.1	6,172.1	1,375.6	-562.8	1,482.2	1.44	-0.31	-1.41
9,476.0	89.80	342.60	7,640.1	6,172.1	1,435.7	-581.8	1,545.2	0.67	-0.48	0.48
9,539.0	89.50	341.70	7,640.5	6,172.5	1,495.6	-601.1	1,608.2	1.51	-0.48	-1.43
9,602.0	90.50	342.80	7,640.5	6,172.5	1,555.6	-620.3	1,671.2	2.36	1.59	1.75
9,665.0	90.90	343.80	7,639.7	6,171.7	1,616.0	-638.4	1,734.2	1.71	0.63	1.59
9,728.0	91.00	343.80	7,638.7	6,170.7	1,676.5	-656.0	1,797.1	0.16	0.16	0.00
9,791.0	90.60	343.40	7,637.8	6,169.8	1,736.9	-673.8	1,860.1	0.90	-0.63	-0.63
9,854.0	90.40	343.30	7,637.3	6,169.3	1,797.2	-691.8	1,923.1	0.35	-0.32	-0.16
9,917.0	90.30	343.10	7,636.9	6,168.9	1,857.5	-710.0	1,986.0	0.35	-0.16	-0.32
9,980.0	89.90	342.30	7,636.8	6,168.8	1,917.7	-728.8	2,049.0	1.42	-0.63	-1.27
10,043.0	89.50	341.40	7,637.1	6,169.1	1,977.6	-748.4	2,112.0	1.56	-0.63	-1.43
10,106.0	89.60	341.50	7,637.6	6,169.6	2,037.3	-768.4	2,175.0	0.22	0.16	0.16
10,169.0	90.10	341.00	7,637.8	6,169.8	2,096.9	-788.7	2,238.0	1.12	0.79	-0.79
10,232.0	91.20	342.90	7,637.0	6,169.0	2,156.8	-808.2	2,301.0	3.48	1.75	3.02
10,296.0	91.70	343.60	7,635.4	6,167.4	2,218.1	-826.6	2,365.0	1.34	0.78	1.09
10,358.0	91.80	344.80	7,633.5	6,165.5	2,277.7	-843.5	2,426.9	1.94	0.16	1.94
10,421.0	90.50	344.90	7,632.3	6,164.3	2,338.5	-860.0	2,489.8	2.07	-2.06	0.16
10,484.0	90.10	344.20	7,631.9	6,163.9	2,399.2	-876.7	2,552.8	1.28	-0.63	-1.11
10,548.0	89.90	344.00	7,631.9	6,163.9	2,460.8	-894.3	2,616.7	0.44	-0.31	-0.31
10,611.0	89.70	343.70	7,632.2	6,164.2	2,521.3	-911.8	2,679.7	0.57	-0.32	-0.48
10,674.0	89.30	343.80	7,632.7	6,164.7	2,581.8	-929.4	2,742.6	0.65	-0.63	0.16
10,737.0	88.90	343.30	7,633.7	6,165.7	2,642.2	-947.3	2,805.6	1.02	-0.63	-0.79
10,800.0	89.50	344.20	7,634.6	6,166.6	2,702.7	-964.9	2,868.6	1.72	0.95	1.43
10,863.0	90.00	344.60	7,634.9	6,166.9	2,763.4	-981.8	2,931.5	1.02	0.79	0.63
10,926.0	89.90	343.00	7,634.9	6,166.9	2,823.9	-999.4	2,994.5	2.54	-0.16	-2.54
10,990.0	89.80	342.10	7,635.1	6,167.1	2,884.9	-1,018.6	3,058.5	1.41	-0.16	-1.41
11,053.0	90.60	342.10	7,634.9	6,166.9	2,944.9	-1,038.0	3,121.5	1.27	1.27	0.00



PHX
Survey Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Site Wetzel County 513920
Company:	EQT Production - Marcellus	TVD Reference:	KB@16 @ 1468.0usft
Project:	Wetzel County, WV	MD Reference:	KB@16 @ 1468.0usft
Site:	Wetzel County 513920	North Reference:	Grid
Well:	Well 513920	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	513920 As Drilled Surveys		

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
11,116.0	91.40	341.80	7,633.8	6,165.8	3,004.8	-1,057.5	3,184.5	1.36	1.27	-0.48
11,179.0	91.20	342.00	7,632.3	6,164.3	3,064.6	-1,077.1	3,247.5	0.45	-0.32	0.32
11,243.0	90.70	341.60	7,631.3	6,163.3	3,125.4	-1,097.0	3,311.4	1.00	-0.78	-0.63
11,306.0	90.40	341.50	7,630.7	6,162.7	3,185.2	-1,117.0	3,374.4	0.50	-0.48	-0.16
11,369.0	90.00	342.00	7,630.4	6,162.4	3,245.0	-1,136.7	3,437.4	1.02	-0.63	0.79
11,432.0	89.70	341.20	7,630.6	6,162.6	3,304.8	-1,156.6	3,500.4	1.36	-0.48	-1.27
11,495.0	90.90	342.30	7,630.3	6,162.3	3,364.6	-1,176.3	3,563.4	2.58	1.90	1.75
11,558.0	91.20	343.00	7,629.1	6,161.1	3,424.7	-1,195.1	3,626.4	1.21	0.48	1.11
11,621.0	91.00	343.10	7,627.9	6,159.9	3,485.0	-1,213.5	3,689.4	0.35	-0.32	0.16
11,684.0	90.60	342.90	7,627.0	6,159.0	3,545.2	-1,231.9	3,752.4	0.71	-0.63	-0.32
11,747.0	90.30	342.30	7,626.5	6,158.5	3,605.3	-1,250.7	3,815.4	1.06	-0.48	-0.95
11,810.0	90.10	342.10	7,626.3	6,158.3	3,665.3	-1,270.0	3,878.4	0.45	-0.32	-0.32
11,873.0	89.40	343.10	7,626.6	6,158.6	3,725.4	-1,288.8	3,941.4	1.94	-1.11	1.59
11,936.0	89.70	343.30	7,627.1	6,159.1	3,785.7	-1,307.0	4,004.4	0.57	0.48	0.32
12,000.0	89.20	342.70	7,627.7	6,159.7	3,846.9	-1,325.7	4,068.3	1.22	-0.78	-0.94
12,063.0	90.40	344.10	7,627.9	6,159.9	3,907.3	-1,343.7	4,131.3	2.93	1.90	2.22
12,125.0	91.10	344.30	7,627.1	6,159.1	3,967.0	-1,360.6	4,193.3	1.17	1.13	0.32
12,188.0	91.00	343.60	7,626.0	6,158.0	4,027.5	-1,378.0	4,256.2	1.12	-0.16	-1.11
12,251.0	91.40	342.60	7,624.6	6,156.6	4,087.8	-1,396.3	4,319.2	1.71	0.63	-1.59
12,315.0	91.60	341.20	7,623.0	6,155.0	4,148.6	-1,416.2	4,383.2	2.21	0.31	-2.19
12,378.0	91.80	342.50	7,621.1	6,153.1	4,208.4	-1,435.8	4,446.1	2.09	0.32	2.06
12,441.0	91.60	342.40	7,619.2	6,151.2	4,268.5	-1,454.8	4,509.1	0.35	-0.32	-0.16
12,504.0	90.20	343.60	7,618.2	6,150.2	4,328.7	-1,473.2	4,572.1	2.93	-2.22	1.90
12,567.0	90.20	343.60	7,618.0	6,150.0	4,389.1	-1,491.0	4,635.1	0.00	0.00	0.00
12,630.0	90.30	342.60	7,617.7	6,149.7	4,449.4	-1,509.3	4,698.1	1.60	0.16	-1.59
12,693.0	90.60	343.20	7,617.2	6,149.2	4,509.6	-1,527.9	4,761.0	1.06	0.48	0.95
12,756.0	90.40	344.00	7,616.7	6,148.7	4,570.1	-1,545.6	4,824.0	1.31	-0.32	1.27
12,819.0	90.40	344.20	7,616.3	6,148.3	4,630.6	-1,562.9	4,887.0	0.32	0.00	0.32
12,883.0	90.20	342.90	7,615.9	6,147.9	4,692.0	-1,581.0	4,950.9	2.06	-0.31	-2.03
12,946.0	90.20	343.50	7,615.7	6,147.7	4,752.3	-1,599.2	5,013.9	0.95	0.00	0.95
13,009.0	89.90	342.40	7,615.6	6,147.6	4,812.6	-1,617.7	5,076.9	1.81	-0.48	-1.75
13,073.0	90.20	343.30	7,615.6	6,147.6	4,873.7	-1,636.6	5,140.9	1.48	0.47	1.41
13,137.0	90.20	343.10	7,615.4	6,147.4	4,935.0	-1,655.1	5,204.9	0.31	0.00	-0.31
13,200.0	89.90	341.80	7,615.3	6,147.3	4,995.0	-1,674.1	5,267.9	2.12	-0.48	-2.06
13,264.0	89.90	341.60	7,615.4	6,147.4	5,055.8	-1,694.2	5,331.9	0.31	0.00	-0.31
13,327.0	90.00	342.60	7,615.5	6,147.5	5,115.8	-1,713.5	5,394.9	1.60	0.16	1.59
13,391.0	90.10	343.40	7,615.4	6,147.4	5,177.0	-1,732.2	5,458.9	1.26	0.16	1.25
13,454.0	90.10	342.60	7,615.3	6,147.3	5,237.2	-1,750.7	5,521.9	1.27	0.00	-1.27
13,518.0	91.20	344.20	7,614.6	6,146.6	5,298.5	-1,768.9	5,585.8	3.03	1.72	2.50
13,581.0	91.80	343.90	7,612.9	6,144.9	5,359.1	-1,786.3	5,648.8	1.06	0.95	-0.48
13,645.0	92.10	344.00	7,610.8	6,142.8	5,420.6	-1,803.9	5,712.7	0.49	0.47	0.16
13,708.0	90.90	343.20	7,609.1	6,141.1	5,481.0	-1,821.7	5,775.7	2.29	-1.90	-1.27



PHX
Survey Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Site Wetzel County 513920
Company:	EQT Production - Marcellus	TVD Reference:	KB@15 @ 1488.0usft
Project:	Wetzel County, WV	MD Reference:	KB@15 @ 1466.0usft
Site:	Wetzel County 513920	North Reference:	Grid
Well:	Well 513920	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	513920 Aa Drilled Surveys		

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
13,772.0	89.90	341.30	7,608.7	6,140.7	5,541.9	-1,841.2	5,839.7	3.35	-1.56	-2.97
13,835.0	90.10	341.70	7,608.7	6,140.7	5,601.7	-1,861.2	5,902.7	0.71	0.32	0.63
13,899.0	90.80	343.10	7,608.2	6,140.2	5,662.7	-1,880.6	5,966.6	2.45	1.09	2.19
13,962.0	91.20	343.20	7,607.1	6,139.1	5,723.0	-1,898.8	6,029.6	0.65	0.63	0.16
14,026.0	91.00	343.10	7,605.8	6,137.8	5,784.2	-1,917.4	6,093.6	0.35	-0.31	-0.16
14,089.0	91.30	344.30	7,604.6	6,136.6	5,844.6	-1,935.1	6,156.6	1.96	0.48	1.90
14,152.0	91.50	345.60	7,603.0	6,135.0	5,905.5	-1,951.4	6,219.5	2.09	0.32	2.06
14,216.0	90.40	344.70	7,602.0	6,134.0	5,967.3	-1,967.8	6,283.3	2.22	-1.72	-1.41
14,279.0	89.90	344.30	7,601.8	6,133.8	6,028.0	-1,984.6	6,346.3	1.02	-0.79	-0.63
14,343.0	89.20	344.60	7,602.3	6,134.3	6,089.7	-2,001.8	6,410.2	1.19	-1.09	0.47
14,406.0	89.10	344.50	7,603.2	6,135.2	6,150.4	-2,018.6	6,473.2	0.22	-0.16	-0.16
14,470.0	90.30	344.60	7,603.6	6,135.6	6,212.1	-2,035.6	6,537.1	1.88	1.88	0.16
14,533.0	91.30	344.50	7,602.7	6,134.7	6,272.8	-2,052.4	6,600.0	1.60	1.59	-0.16
14,596.0	90.60	344.10	7,601.7	6,133.7	6,333.4	-2,069.5	6,663.0	1.28	-1.11	-0.63
14,660.0	90.80	343.00	7,600.9	6,132.9	6,394.8	-2,087.6	6,726.9	1.75	0.31	-1.72
14,723.0	90.60	341.60	7,600.1	6,132.1	6,454.8	-2,106.7	6,789.9	2.24	-0.32	-2.22
14,786.0	90.40	340.40	7,599.5	6,131.5	6,514.4	-2,127.2	6,852.9	1.93	-0.32	-1.90
14,849.0	90.30	340.60	7,599.2	6,131.2	6,573.8	-2,148.3	6,915.9	0.35	-0.16	0.32
14,912.0	90.60	342.10	7,598.7	6,130.7	6,633.5	-2,168.4	6,978.9	2.43	0.48	2.38
14,975.0	90.60	341.70	7,598.0	6,130.0	6,693.3	-2,188.0	7,041.9	0.63	0.00	-0.63
15,038.0	91.00	341.90	7,597.1	6,129.1	6,753.2	-2,207.7	7,104.9	0.71	0.63	0.32
15,101.0	91.40	342.00	7,595.8	6,127.8	6,813.1	-2,227.2	7,167.9	0.65	0.63	0.16
15,165.0	90.10	341.40	7,595.0	6,127.0	6,873.8	-2,247.3	7,231.8	2.24	-2.03	-0.94
15,228.0	89.70	342.20	7,595.1	6,127.1	6,933.7	-2,266.9	7,294.8	1.42	-0.63	1.27
15,291.0	89.90	341.60	7,595.3	6,127.3	6,993.6	-2,286.5	7,357.8	1.00	0.32	-0.95
15,354.0	90.20	342.10	7,595.2	6,127.2	7,053.4	-2,306.1	7,420.8	0.93	0.48	0.79
15,417.0	90.50	343.10	7,594.9	6,126.9	7,113.5	-2,325.0	7,483.8	1.66	0.48	1.59
15,480.0	90.60	343.60	7,594.3	6,126.3	7,173.9	-2,343.0	7,546.8	0.81	0.16	0.79
15,543.0	91.30	343.70	7,593.2	6,125.2	7,234.3	-2,360.8	7,609.8	1.12	1.11	0.16
Final Survey=15572' MD/7593' TVD										
15,572.0	91.60	343.60	7,592.5	6,124.5	7,262.2	-2,368.9	7,638.8	1.09	1.03	-0.34
Projection to TD=16630' MD/7591' TVD										
16,630.0	91.60	343.60	7,590.9	6,122.9	7,317.8	-2,385.3	7,696.7	0.00	0.00	0.00



PHX
Survey Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Site Wetzel County 513920
Company:	EQT Production - Marcellus	TVD Reference:	KB@16 @ 1468.0usft
Project:	Wetzel County, WV	MD Reference:	KB@16 @ 1468.0usft
Site:	Wetzel County 513920	North Reference:	Grid
Well:	Well 513920	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	513920 As Drilled Surveys		

Design Annotations

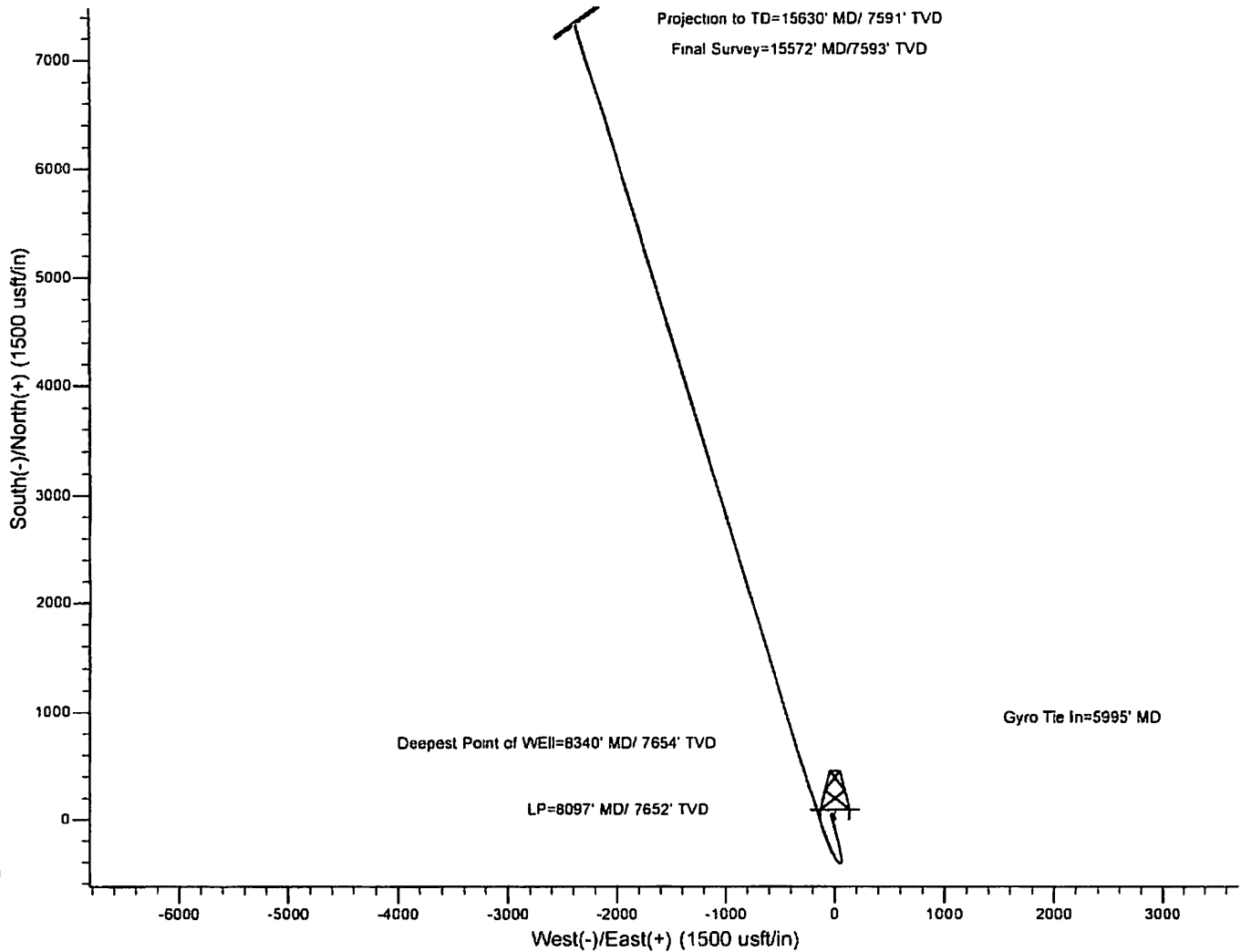
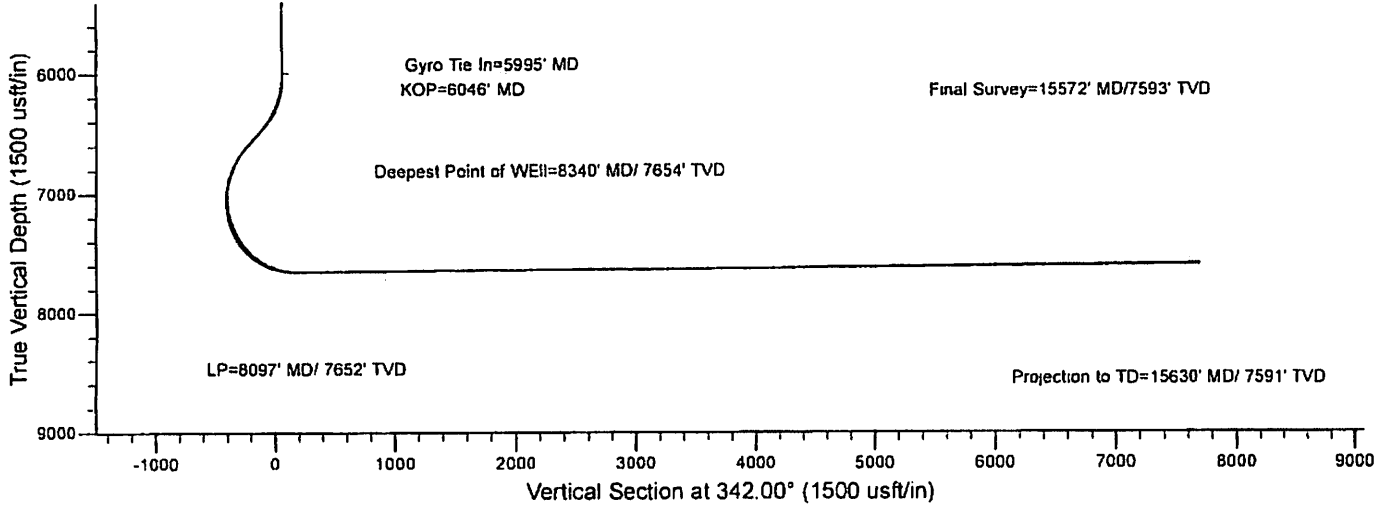
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
5,995.0	5,994.4	49.2	-35.5	Gyro Tie In=5995' MD
6,046.0	6,045.4	49.0	-36.1	KOP=6046' MD
8,097.0	7,651.8	118.5	-174.5	LP=8097' MD/ 7652' TVD
8,340.0	7,653.9	349.5	-250.0	Deepest Point of WELL=8340' MD/ 7654' TVD
15,572.0	7,592.5	7,262.2	-2,368.9	Final Survey=15572' MD/7593' TVD
15,630.0	7,590.9	7,317.8	-2,385.3	Projection to TD=15630' MD/ 7591' TVD

Checked By _____ Approved By _____ Date _____



EQT Production - Marcellus

Project: Wetzel County, WV
Site: Wetzel County 513920
Well: Well 513920
Wellbore: Main Wellbore
Design: 513920 As Drilled Surveys



513920 - 47-103-03043-0000 - Stimulated Stages

Stage Number	Stimulation Date	Ave Pump Rate (BPM)	Ave Treatment Pressure (PSI)	Max Breakdown Pressure (PSI)	ISIP (PSI)	Amount of Proppant (lbs)	Amount of Water (bbls)	Amount of Nitrogen/other (units)
Initiation Sleeve	6/5/2015	11.9	6,654.00	8,023.00	5,854.00	0	1379	0
1	6/5/2015	78.6	8,488.00	8,803.00	4,022.00	201,200	6096	0
2	6/5/2015	77.1	8,376.00	8,756.00	4,610.00	201,200	6454	0
3	6/6/2015	76	8,112.00	8,328.00	5,024.00	201,600	6288	0
4	6/6/2015	76.3	8,192.00	8,694.00	4,933.00	201,100	6094	0
5	6/6/2015	83.2	8,333.00	8,712.00	4,649.00	201,800	5843	0
6	6/6/2015	86.3	8,211.00	8,756.00	5,214.00	200,400	5988	0
7	6/7/2015	81.6	8,298.00	8,769.00	4,830.00	201,400	5923	0
8	6/7/2015	80.6	8,148.00	8,573.00	4,795.00	201,200	5596	0
9	6/7/2015	83.1	8,372.00	8,993.00	4,876.00	201,800	5575	0
10	6/7/2015	77.3	8,482.00	9,407.00	4,887.00	201,100	7148	0
11	6/8/2015	77.3	8,485.00	9,329.00	4,425.00	199,700	6262	0
12	6/8/2015	78.3	8,352.00	9,000.00	4,585.00	200,300	5857	0
13	6/8/2015	84.1	8,098.00	8,570.00	4,978.00	200,100	5599	0
14	6/8/2015	83.2	8,329.00	8,817.00	4,899.00	200,700	5812	0
15	6/8/2015	82.2	8,348.00	8,761.00	4,847.00	201,100	5717	0
16	6/9/2015	75.3	8,488.00	9,320.00	5,497.00	198,300	9381	0
17	6/10/2015	79.80	8,672.00	9,105.00	5,056	200,400	5,411	0
18	6/10/2015	83.10	8,633.00	9,290.00	5,574	199,600	5,394	0
19	6/10/2015	90.40	8,969.00	9,397.00	5,701	199,500	5,551	0
20	6/10/2015	90.90	9,066.00	9,446.00	5,502	200,300	5,686	0
21	6/11/2015	92.30	9,069.00	9,449.00	5,690	203,000	5,436	0
22	6/11/2015	85.50	8,851.00	9,312.00	5,930	200,700	5,083	0
23	6/11/2015	99.7	8,851.00	9,488.00	5,683.00	200,200	7221	0
24	6/11/2015	92.1	9,067.00	9,504.00	5,698.00	200,100	5419	0
25	6/12/2015	100.4	8,655.00	9,199.00	5,309.00	199,100	5287	0
26	6/12/2015	94.5	8,571.00	9,187.00	5,503.00	201,000	5639	0
27	6/12/2015	100.9	8,451.00	8,801.00	4,986.00	199,700	5605	0
28	6/13/2015	100.4	8,925.00	9,293.00	4,944.00	199,600	5387	0
29	6/13/2015	95.5	8,456.00	8,646.00	4,689.00	202,100	5416	0
30	6/13/2015	96.5	8,724.00	9,502.00	5,097.00	200,400	5213	0
31	6/13/2015	99.1	8,618.00	9,395.00	5,398.00	201,600	5461	0
32	6/13/2015	100.3	8,636.00	9,495.00	5,632.00	199,700	5221	0
33	6/14/2015	100.5	8,551.00	8,734.00	5,469.00	203,900	5106	0
34	6/14/2015	100.1	8,582.00	8,918.00	5,255.00	202,500	5008	0
35	6/14/2015	98.7	8,369.00	9,169.00	4,870.00	201,300	5327	0
36	6/14/2015	86.4	8,279.00	9,111.00	5,499.00	204,400	5194	0
37	6/14/2015	100.1	8,353.00	8,530.00	5,066.00	203,000	5279	0
38	6/14/2015	100.7	8,427.00	9,019.00	5,180.00	199,000	5012	0
39	6/15/2015	101.60	8,241.00	8,598.00	5,047	198,800	5,306	0
40	6/15/2015	100.80	8,591.00	8,956.00	4,994	199,700	5,053	0
41	6/15/2015	100.9	8,244.00	8,667.00	4,611.00	200,400	5217	0
42	6/15/2015	100.7	8,163.00	8,395.00	4,875.00	199,100	5279	0
43	6/15/2015	101.7	8,122.00	8,564.00	5,681.00	203,800	5196	0
44	6/15/2015	101.7	8,056.00	9,052.00	5,654.00	201,200	5210	0
45	6/15/2015	105.20	8,404.00	8,624.00	5,638	199,400	5,148	0
46	6/16/2015	102.20	8,438.00	8,982.00	5,482	200,500	5,084	0
47	6/16/2015	101.90	8,141.00	8,471.00	5,324	200,400	4,986	0
48	6/16/2015	101.50	8,161.00	8,778.00	5,444	199,600	4,997	0
49	6/16/2015	100.40	8,066.00	8,665.00	5,409	200,000	5,098	0
50	6/16/2015	101.90	8,103.00	9,106.00	5,439	201,600	5,094	0

513920 - 47-103-03043-0000 - Perforations

Stage Number	Perforation Date	Top Perf Depth (ftKB)	Bottom Perf Depth (ftKB)	Number of Shots	Formation
Initiation Sleeve	6/2/2015	15,628.00	15,630.00	10	MARCELLUS
1	6/5/2015	15,484.00	15,576.00	32	MARCELLUS
2	6/5/2015	15,334.00	15,452.00	40	MARCELLUS
3	6/6/2015	15,184.00	15,306.00	40	MARCELLUS
4	6/6/2015	15,034.00	15,156.00	40	MARCELLUS
5	6/6/2015	14,882.00	15,006.00	40	MARCELLUS
6	6/6/2015	14,734.00	14,856.00	40	MARCELLUS
7	6/6/2015	14,584.00	14,706.00	40	MARCELLUS
8	6/7/2015	14,436.00	14,554.00	40	MARCELLUS
9	6/7/2015	14,284.00	14,406.00	40	MARCELLUS
10	6/7/2015	14,134.00	14,256.00	40	MARCELLUS
11	6/7/2015	13,984.00	14,106.00	40	MARCELLUS
12	6/8/2015	13,834.00	13,956.00	40	MARCELLUS
13	6/8/2015	13,684.00	13,806.00	40	MARCELLUS
14	6/8/2015	13,534.00	13,656.00	40	MARCELLUS
15	6/8/2015	13,384.00	13,506.00	40	MARCELLUS
16	6/9/2015	13,234.00	13,356.00	40	MARCELLUS
17	6/10/2015	13,084.00	13,206.00	40	MARCELLUS
18	6/10/2015	12,934.00	13,054.00	40	MARCELLUS
19	6/10/2015	12,784.00	12,904.00	40	MARCELLUS
20	6/10/2015	12,634.00	12,754.00	40	MARCELLUS
21	6/11/2015	12,484.00	12,606.00	40	MARCELLUS
22	6/11/2015	12,334.00	12,452.00	40	MARCELLUS
23	6/11/2015	12,184.00	12,306.00	40	MARCELLUS
24	6/11/2015	12,034.00	12,156.00	40	MARCELLUS
25	6/12/2015	11,884.00	12,004.00	40	MARCELLUS
26	6/12/2015	11,734.00	11,854.00	40	MARCELLUS
27	6/12/2015	11,584.00	11,706.00	40	MARCELLUS
28	6/12/2015	11,432.00	11,554.00	40	MARCELLUS
29	6/13/2015	11,284.00	11,406.00	40	MARCELLUS
30	6/13/2015	11,134.00	11,254.00	40	MARCELLUS
31	6/13/2015	10,984.00	11,104.00	40	MARCELLUS
32	6/13/2015	10,834.00	10,956.00	40	MARCELLUS
33	6/13/2015	10,684.00	10,806.00	40	MARCELLUS
34	6/14/2015	10,534.00	10,656.00	40	MARCELLUS
35	6/14/2015	10,386.00	10,504.00	40	MARCELLUS
36	6/14/2015	10,234.00	10,354.00	40	MARCELLUS
37	6/14/2015	10,084.00	10,204.00	40	MARCELLUS
38	6/14/2015	9,934.00	10,054.00	40	MARCELLUS
39	6/14/2015	9,784.00	9,904.00	40	MARCELLUS
40	6/15/2015	9,632.00	9,754.00	40	MARCELLUS
41	6/15/2015	9,484.00	9,604.00	40	MARCELLUS
42	6/15/2015	9,334.00	9,456.00	40	MARCELLUS
43	6/15/2015	9,184.00	9,304.00	40	MARCELLUS
44	6/15/2015	9,034.00	9,152.00	40	MARCELLUS
45	6/15/2015	8,884.00	9,006.00	40	MARCELLUS
46	6/16/2015	8,734.00	8,854.00	40	MARCELLUS
47	6/16/2015	8,587.00	8,704.00	40	MARCELLUS
48	6/16/2015	8,434.00	8,556.00	40	MARCELLUS
49	6/16/2015	8,284.00	8,406.00	40	MARCELLUS
50	6/16/2015	8,134.00	8,256.00	40	MARCELLUS

03/25/2016

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	6/5/2015
Job End Date:	6/17/2015
State:	West Virginia
County:	Wetzel
API Number:	47-103-03043-00-00
Operator Name:	EQT Production
Well Name and Number:	513920
Longitude:	-80.58206500
Latitude:	39.52749500
Datum:	NAD83
Federal/Tribal Well:	NO
True Vertical Depth:	7,633
Total Base Water Volume (gal):	11,845,512
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	C and J Energy Services	Carrier/Base Fluid					
			Water	7732-18-5	100.00000	90.39380	None
Sand (Proppant)	C and J Energy Services	Proppant					
			Silica Substrate	14808-60-7	100.00000	9.17977	None
WFR-12W	C and J Energy Services	Friction reducer					
			Anionic water-soluble polymer	Proprietary	100.00000	0.07389	None
MC MX 437-5	Multi-Chem	Calcium nitrate solution					
			Calcium nitrate	10124-37-5	60.00000	0.05677	None
Hydrochloric Acid (15%)	C and J Energy Services	Acidizing					
			Hydrochloric Acid	7647-01-0	15.00000	0.03276	None
Super TSC LT	C and J Energy Services	Scale control					
			Proprietary non-hazardous materials	Proprietary	100.00000	0.02688	None
LSG-100	C and J Energy Services	Gelling agent					
			Solvent naphtha	64742-47-8	65.00000	0.00777	None
			Proprietary non-hazardous polymers	Proprietary	60.00000	0.00717	None

AI-2	C and J Energy Services	Acid Inhibitor					
			Glycol Ethers	111-76-2	40.00000	0.00016	None
			Propargyl Alcohol	107-19-7	40.00000	0.00016	None
			Isopropyl Alcohol	67-63-0	40.00000	0.00016	None
			Ethoxylated Nonylphenol	68412-54-4	13.00000	0.00005	None
			Benzyl Chloride-Quaternized	72480-70-7	10.00000	0.00004	None
OB-2	C and J Energy Services	Gel Breaker					
			Ammonium Persulfate	7727-54-0	100.00000	0.00014	None
			Silica, crystalline quartz	7631-86-9	30.00000	0.00004	None
WFR-6W	C and J Energy Services	Friction reducer					
			Anionic water-soluble polymer	Proprietary	100.00000	0.00014	None

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

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

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

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

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

Welcome Michelle N., Operator - OpNo. E1210363 [Log Out]

Hydraulic Fracturing
DISCLOSURE



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FIND A WELL
BY STATE

ABOUT PROJECT
PARTNERS

(Note: Clicking the FracFocus, FIND A WELL links will open a new window.)

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Disclosure has been submitted.

Note: This window expires with 10 minutes of inactivity. After that you will be taken back to the dashboard.

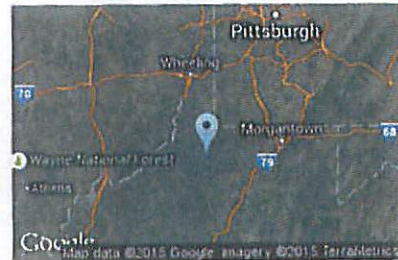
Hydraulic Fracturing Data

Job Start Date: 6/5/2015 Job End Date: 6/17/2015 API Number: 47-103-03043-00-00 State & County: West Virginia --- Wetzel

Well Name: 513920

Longitude: -80.582065 Latitude: 39.527495 Datum: NAD83 Federal/Tribal Well?:

True Vertical Depth (ft): 7633 Total Water Vol (gal): 11845512 Total Non Water Vol: 0 Total Mass (lbs): 109355729



MSDS Chemical Ingredients

	Trade Name	Supplier	Purpose	Ingredients	CAS #	% High Additive	% HF Job	Comments	Ingredient Mass
<input type="button" value="Edit"/>	Water	C and J Energy Services	Carrier/Base Fluid	Water	7732-18-5	100%	90.3937986253%	None	98850797.64
<input type="button" value="Edit"/>	Sand (Proppant)	C and J Energy Services	Proppant	Silica Substrate	14808-60-7	100%	9.1797659558%	None	10038600
<input type="button" value="Edit"/>	WFR-12W	C and J Energy Services	Friction reducer	Anionic water-soluble polymer	Proprietary	100%	.0738857977%	None	80798.353
<input type="button" value="Edit"/>	MC MX 437-5	Multi-Chem	Calcium nitrate solution	Calcium nitrate	10124-37-5	60%	.0567694271%	None	62080.621
<input type="button" value="Edit"/>	Hydrochloric Acid (15%)	C and J Energy Services	Acidizing	Hydrochloric Acid	7647-01-0	15%	.0327629971%	None	35828.214
<input type="button" value="Edit"/>	Super TSC LT	C and J Energy Services	Scale control						

<input type="button" value="Edit"/>	LSG-100	C and J Energy Services	Gelling agent	Proprietary non-hazardous materials	Proprietary	100%	.0268765891%	None	29391.09
				Solvent naphtha	64742-47-8	65%	.0077666726%	None	8493.301
				Proprietary non-hazardous polymers	Proprietary	60%	.0071692363%	None	7839.971
<input type="button" value="Edit"/>	AI-2	C and J Energy Services	Acid Inhibitor						
				Glycol Ethers	111-76-2	40%	.0001616716%	None	176.797
				Propargyl Alcohol	107-19-7	40%	.0001616716%	None	176.797
				Isopropyl Alcohol	67-63-0	40%	.0001616716%	None	176.797
				Ethoxylated Nonylphenol	68412-54-4	13%	.0000525433%	None	57.459
				Benzyl Chloride-Quaternized	72480-70-7	10%	.0000404179%	None	44.199
<input type="button" value="Edit"/>	OB-2	C and J Energy Services	Gel Breaker						
				Ammonium Persulfate	7727-54-0	100%	.0001410077%	None	154.2
				Sillica, crystalline quartz	7631-86-9	30%	.0000423023%	None	46.26
<input type="button" value="Edit"/>	WFR-6W	C and J Energy Services	Friction reducer						
				Anionic water-soluble polymer	Proprietary	100%	.0001434258%	None	156.844

Non-MSDS Chemical Ingredients

Trade Name	Supplier	Purpose	Ingredients	CAS #	% High Additive	% HF Job	Comments	Ingredient Mass
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