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WR-35
Rev. 8/23/13

Page ___ of ___

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

API 47 - 085 - 10052 County Ritchie District Clay
Quad Pennsboro Pad Name PEN16 Field/Pool Name
Farm name Heartwood Forestland FU Well Number 513043
Operator (as registered with the OOG) EQT Production Company
Address EQT Plaza, Suite 1700 625 Liberty Ave 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 4,344,707.2	Easting 505,242.4
Landing Point of Curve	Northing 4,344,915.9	Easting 505,489.0
Bottom Hole	Northing 4,345,722.6	Easting 505,208.1

Elevation (ft) 795' 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 12.4ppg) barium sulfate, sodium chloride, xanthan gum, polyanionic cellulose, modified starch, sodium hydroxide, phosphonates and alkyl phophates, glutaraldehyde solution, calcium hydroxide, partially hydrolyzed polyacrylamide/polyacrylate, potassium chloride, sodium carbonate, ground walnut shells, alcohol and modified fatty acid, ferrochrome lignosulfonate, calcium carbonate, fibrous cellulose

Date permit issued 08/07/2013 Date drilling commenced 08/09/2013 Date drilling ceased 08/28/2013
Date completion activities began ____ Date completion activities ceased 10/10/2013
Verbal plugging (Y/N) N Date permission granted N/A Granted by N/A

RECEIVED
Office of Oil and Gas
JUL 10 2014
WV Department of
Environmental Protection

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

Freshwater depth(s) ft 34,107,157,380 Open mine(s) (Y/N) depths N
Salt water depth(s) ft N/A Void(s) encountered (Y/N) depths N
Coal depth(s) ft 829' Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

Reviewed by:

WR-35
Rev. 8/23/13

Page ___ of ___

API 47- 085 - 10052 Farm name Heartwood Forestland FU Well number 513043

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"	94'	New	82.6#		Y
Surface	24"	20"	468'	New	94#		Y
Coal							
Intermediate 1	17-1/2"	13-3/8"	992.5'	New	54.5#	168	Y
Intermediate 2	12-1/4"	9-5/8"	5,243'	New	40#	4298 / 3090 / 1130	Y
Intermediate 3							
Production	8-1/2"	5-1/2"	9,935'	New	20#		Y
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	87	15.60	1.18	102.7	0	8
Surface	Class A	873	15.60	1.19	1038.9	0	8
Coal							
Intermediate 1	Class A	840	15.60	1.19	999.6	0	8
Intermediate 2	Class A	332/1412	14.20/15.60	1.28/1.18	2091.1	0	8
Intermediate 3							
Production	Class A	250/450	14.20/15.20	1.32/1.94	1203	5,250	8
Tubing							

Drillers TD (ft) 9,944' Loggers TD (ft) N/A

Deepest formation penetrated Marcellus Plug back to (ft) N/A

Plug back procedure N/A

Kick off depth (ft) 3,688'

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 - N/A

Surface - -Bow spring centralizers to be placed at casing shoe and deepest fresh water.

Intermediate - -Bow spring centralizers to be placed at shoe, 600 and 300'.

Intermediate 2- Bow spring centralizers placed at the shoe and every 500'

Production - Run centralizers every other joint from 5,250' to 5,700'.

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

WR-35
Rev. 8/23/13

Page ___ of ___

API 47- 085 - 10052 Farm name Heartwood Forestland FU Well number 513043

PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
TOE	10/5/2013	9908	9908	1	MARCELLUS
1	10/5/2013	9787	9879	32	MARCELLUS
2	10/6/2013	9637	9759	40	MARCELLUS
3	10/6/2013	9487	9604	40	MARCELLUS
4	10/6/2013	9337	9459	40	MARCELLUS
5	10/6/2013	9187	9309	40	MARCELLUS
6	10/6/2013	9037	9159	40	MARCELLUS
7	10/6/2013	8887	9009	40	MARCELLUS
8	10/7/2013	8737	8859	40	MARCELLUS
9	10/7/2013	8587	8709	40	MARCELLUS
10	10/7/2013	8437	8559	40	MARCELLUS
11	10/7/2013	8287	8409	40	MARCELLUS
12	10/7/2013	8137	8259	40	MARCELLUS
13	10/7/2013	7987	8109	40	MARCELLUS
13.1	10/8/2013	7891	7983	40	MARCELLUS
14	10/8/2013	7741	7863	40	MARCELLUS

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)
TOE	10/5	24.5	8561	NA	NA	0	607	NA
1	10/5	87.9	8049	5207	3095	197437	5699	NA
2	10/6	85	7651	5867	1981	197225	5255	NA
3	10/6	97.55	7534	5673	2038	197867	5270	NA
4	10/6	98.5	7326	6446	3245	197564	5225	NA
5	10/6	98.54	7669	5865	2262	197686	5095	NA
6	10/6	97.8	8099	5860	1992	197080	5355	NA
7	10/6	97.7	7941	5732	2124	130768	4506	NA
8	10/7	94.6	7960	5568	2354	196483	5526	NA
9	10/7	96.7	7307	6100	2037	197040	5229	NA
10	10/7	98.4	7380	5730	2150	197654	5211	NA
11	10/7	97.1	7494	5800	2182	197348	5270	NA
12	10/7	99.3	7905	6230	2219	197641	5325	NA
13	10/8	39.8	8440	5876	2115	4301	2151	NA
13.1	10/8	82.8	7701	5876	2357	160322	4120	NA
INJ	10/8	5	4784	NA	1096	NA	1821	NA

Please insert additional pages as applicable.

WR-35
Rev. 8/23/13

API 47- 085 - 10052 Farm name Heartwood Forestland FU Well number 513043

PRODUCING FORMATION(S)	DEPTHS			
MARCELLUS	6,035	TVD	6,550	MD

Please insert additional pages as applicable.

GAS TEST ☐ Build up ☐ Drawdown ■ Open Flow OIL TEST ■ Flow ☐ Pump

SHUT-IN PRESSURE Surface 1,200 psi Bottom Hole NA psi DURATION OF TEST 68.75 hrs

OPEN FLOW	Gas		Oil		NGL		Water		GAS MEASURED BY
	9,312	mcfpd	0	bpd	0	bpd	480	bpd	☐ Estimated ■ Orifice ☐ Pilot

LITHOLOGY/ FORMATION NAME	TOP DEPTH IN FT TVD	BOTTOM DEPTH IN FT TVD	TOP DEPTH IN FT MD	BOTTOM DEPTH IN FT MD	DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H_2S, ETC)
	0		0		
See Attached	Detailed	Final	Formations		

Please insert additional pages as applicable.

Drilling Contractor Pioneer Drilling Services
Address 1083 North 88 Road City Rices Landing State PA Zip 15357

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

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

Stimulating Company Halliburton
Address 121 Champion Way City Cecil State PA Zip 15321

Please insert additional pages as applicable.

Completed by _____ Telephone _____
Signature _____ Title _____ Date _____

Submittal of Hydraulic Fracturing Chemical Disclosure Information Attach copy of FRACFOCUS Registry

WR-35
Rev. 8/23/13

Page ___ of ___

API 47- 085 - 10052 Farm name Heartwood Forestland FU Well number 513043

Logging Company Hoss Co. Services LLC
Address 614 Trotters Lane City Charleston State WV Zip 25312

Cementing Company Halliburton Energy Services
Address 121 Champion Way City Canonsburg State PA Zip 15317

85-10052

Formation Name	Final Top TVD (ft)	Final Btm TVD (ft)	Final Top MD (ftGL) (ft)	Final Btm MD (ftGL) (ft)	Notes
SAND/SHALE	0	829	0	829	FW @ 107 & 380'
PITTSBURGH COAL	829	834	829	834	
SAND/SHALE	834	1,781.00	834	1,781.00	
MAXTON	1,781.00	1,814.00	1,781.00	1,814.00	
SAND / SHALE	1,814.00	2,000.00	1,814.00	2,000.00	
BIG LIME	2,000.00	2,069.00	2,000.00	2,069.00	
SAND / SHALE	2,069.00	2,112.00	2,069.00	2,112.00	
BIG INJUN	2,112.00	2,179.00	2,112.00	2,179.00	
SAND / SHALE	2,179.00	2,407.00	2,179.00	2,407.00	
WEIR	2,407.00	2,464.00	2,407.00	2,464.00	
SAND / SHALE	2,464.00	2,612.00	2,464.00	2,612.00	
GANTZ	2,612.00	2,635.00	2,612.00	2,635.00	
SAND / SHALE	2,635.00	2,752.00	2,635.00	2,752.00	
FIFTY FOOT	2,752.00	2,775.00	2,752.00	2,775.00	
SAND / SHALE	2,775.00	2,833.00	2,775.00	2,833.00	
THIRTY FOOT	2,833.00	2,877.00	2,833.00	2,877.00	
GORDON	2,877.00	2,950.00	2,877.00	2,950.00	
SAND / SHALE	2,950.00	2,958.00	2,950.00	2,958.00	
FOURTH SAND	2,958.00	2,970.00	2,958.00	2,970.00	
SAND / SHALE	2,970.00	3,147.00	2,970.00	3,147.00	
BAYARD	3,147.00	3,175.00	3,147.00	3,175.00	
SAND / SHALE	3,175.00	3,493.00	3,175.00	3,493.00	
WARREN	3,493.00	3,539.00	3,493.00	3,539.00	
SAND / SHALE	3,539.00	3,577.00	3,539.00	3,577.00	
SPEECHLEY	3,577.00	3,611.00	3,577.00	3,611.00	
SAND / SHALE	3,611.00	3,958.40	3,611.00	3,962.00	
BALLTOWN A	3,958.40	3,978.00	3,962.00	3,982.00	
SAND / SHALE	3,978.00	4,214.80	3,982.00	4,225.00	
RILEY	4,214.80	4,532.70	4,225.00	4,562.00	
BENSON	4,532.70	4,785.00	4,562.00	4,847.00	
ALEXANDER	4,785.00	5,401.80	4,847.00	5,643.00	
RHINESTREET UPPER	5,401.80	5,500.00	5,643.00	5,755.00	
RHINESTREET	5,500.00	5,758.70	5,755.00	6,055.00	
SONYEA	5,758.70	5,873.20	6,055.00	6,210.00	
Middlesex	5,873.20	5,934.10	6,210.00	6,310.00	
Genesee	5,934.10	5,987.50	6,310.00	6,412.00	
Geneseo	5,987.50	6,015.00	6,412.00	6,483.00	
Tully	6,015.00	6,028.00	6,483.00	6,526.00	
Hamilton	6,028.00	6,035.00	6,526.00	6,550.00	
MRC 3	6,035.00		6,550.00		

85-10052

PHOENIX
TECHNOLOGY SERVICES

EQT Production - Marcellus

Ritchie County, WV
Ritchie County 513043
Well #513043

Main Wellbore

Survey: 513043 MWD

Standard Survey Report

27 August, 2013

EQT
Where energy meets innovation.

Database:	EQT DB	Local Co-ordinate Reference:	Site Ritchie County 513043
Company:	EQT Production - Marcellus	TVD Reference:	KB @ 819.0usft
Project:	Ritchie County, WV	MD Reference:	KB @ 819.0usft
Site:	Ritchie County 513043	North Reference:	Grid
Well:	Well #513043	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	As Drilled Surveys		

Project: Ritchie 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: Ritchie County 513043

Site Position:		Northing:	277,010.20 usft	Latitude:	39.25
From:	Map	Easting:	1,592,384.60 usft	Longitude:	-80.94
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	-0.92 °

Well: Well #513043

Well Position	+N/-S	0.0 usft	Northing:	277,010.20 usft	Latitude:	39° 15' 5.727 N
	+E/-W	0.0 usft	Easting:	1,592,384.60 usft	Longitude:	80° 56' 21.882 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	795.0 usft

Wellbore: Main Wellbore

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010_14	8/8/2013	-8.32	66.88	52,400

Design: As Drilled Surveys

Audit Notes:

Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	359.23

Survey Program Date 8/27/2013

From ()	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	3,608.0	513043 Gyros (Main Wellbore)	GYD_DP_MS	Gyrodata gyro-compassing and drop
0.00	9,944.0	513043 MWD (Main Wellbore)	MWD	MWD - Standard

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)
Gyro Tie In MD=3608'										
3,608.0	0.20	186.69	3,608.0	2,790.0	-12.7	5.2	-12.8	0.00	0.00	0.00
3,684.0	2.90	85.10	3,683.9	2,865.9	-12.7	7.1	-12.8	3.88	3.55	-133.67
3,715.0	4.30	85.20	3,714.9	2,896.9	-12.5	9.0	-12.6	4.52	4.52	0.32
3,778.0	7.70	83.70	3,777.5	2,959.5	-11.9	15.6	-12.1	5.40	5.40	-2.38
3,841.0	10.40	84.90	3,839.7	3,021.7	-10.9	25.4	-11.2	4.30	4.29	1.90
3,873.0	11.30	92.40	3,871.2	3,053.2	-10.8	31.4	-11.2	5.23	2.81	23.44
3,936.0	11.70	103.70	3,932.9	3,114.9	-12.5	43.8	-13.1	3.63	0.63	17.94

Database:	EQT DB	Local Co-ordinate Reference:	Site Ritchie County 513043
Company:	EQT Production - Marcellus	TVD Reference:	KB @ 618.0usft
Project:	Ritchie County, WV	MD Reference:	KB @ 618.0usft
Site:	Ritchie County 513043	North Reference:	Grid
Well:	Well #513043	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	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)
4,031.0	11.50	107.00	4,026.0	3,208.0	-17.6	62.2	-18.4	0.73	-0.21	3.47
4,125.0	13.10	106.00	4,117.8	3,299.8	-23.3	81.4	-24.4	1.72	1.70	-1.06
4,220.0	14.90	106.90	4,210.0	3,392.0	-29.8	103.5	-31.2	1.91	1.89	0.95
4,314.0	17.10	110.90	4,300.3	3,482.3	-38.2	127.9	-39.9	2.62	2.34	4.26
4,409.0	19.60	109.80	4,390.5	3,572.5	-48.6	156.0	-50.7	2.66	2.63	-1.16
4,504.0	22.10	111.60	4,479.3	3,661.3	-60.6	187.6	-63.1	2.72	2.63	1.89
4,598.0	24.70	120.40	4,565.5	3,747.5	-77.0	221.0	-80.0	4.63	2.77	9.36
4,693.0	28.40	128.00	4,650.5	3,832.5	-101.0	255.9	-104.4	5.28	3.89	8.00
4,788.0	29.20	123.70	4,733.8	3,915.8	-127.8	293.0	-131.7	2.34	0.84	-4.53
4,882.0	31.60	117.80	4,814.9	3,996.9	-152.0	333.9	-156.5	4.07	2.55	-6.28
4,977.0	37.20	114.90	4,893.2	4,075.2	-175.7	382.0	-180.8	6.14	5.89	-3.05
5,072.0	41.60	116.60	4,966.6	4,148.6	-202.0	436.3	-207.8	4.77	4.63	1.79
5,165.0	40.80	121.40	5,036.6	4,218.6	-231.6	489.8	-238.1	3.51	-0.86	5.16
5,217.0	40.60	123.10	5,076.1	4,258.1	-249.7	518.5	-256.6	2.17	-0.38	3.27
5,280.0	41.60	124.90	5,123.5	4,305.5	-272.9	552.8	-280.2	2.46	1.59	2.86
5,375.0	42.00	119.70	5,194.4	4,376.4	-306.7	606.3	-314.8	3.67	0.42	-5.47
5,469.0	42.70	119.10	5,263.8	4,445.8	-337.8	661.5	-346.6	0.86	0.74	-0.64
5,532.0	40.80	114.20	5,310.9	4,492.9	-356.6	699.0	-365.9	5.99	-3.02	-7.78
5,564.0	37.50	107.70	5,335.7	4,517.7	-363.8	717.8	-373.4	16.45	-10.31	-20.31
5,595.0	33.20	98.90	5,361.0	4,543.0	-368.0	735.2	-377.8	21.47	-13.87	-28.39
5,627.0	31.10	93.60	5,388.1	4,570.1	-369.9	752.1	-379.9	10.98	-6.56	-16.56
5,658.0	30.30	92.80	5,414.7	4,596.7	-370.8	767.9	-381.0	2.90	-2.58	-2.58
5,690.0	29.40	91.70	5,442.5	4,624.5	-371.4	783.8	-381.9	3.29	-2.81	-3.44
5,721.0	27.90	88.80	5,469.7	4,651.7	-371.5	798.7	-382.1	6.60	-4.84	-9.35
5,753.0	26.70	80.90	5,498.1	4,680.1	-370.2	813.3	-381.0	11.92	-3.75	-24.69
5,785.0	26.60	71.80	5,526.7	4,708.7	-366.8	827.2	-377.8	12.75	-0.31	-28.44
5,816.0	27.50	64.80	5,554.4	4,736.4	-361.6	840.2	-372.8	10.67	2.90	-22.58
5,848.0	28.70	62.50	5,582.6	4,764.6	-354.9	853.7	-366.3	5.05	3.75	-7.19
5,879.0	30.60	58.00	5,609.5	4,791.5	-347.3	867.0	-358.8	9.44	6.13	-14.52
5,911.0	31.20	52.50	5,637.0	4,819.0	-337.9	880.5	-349.7	9.02	1.88	-17.19
5,942.0	31.50	48.40	5,663.5	4,845.5	-327.7	892.9	-339.6	6.95	0.97	-13.23
5,974.0	31.50	43.40	5,690.8	4,872.8	-316.0	904.9	-328.1	8.16	0.00	-15.63
6,005.0	32.40	38.30	5,717.1	4,899.1	-303.6	915.7	-315.8	9.17	2.90	-16.45
6,037.0	33.90	33.90	5,743.9	4,925.9	-289.5	926.0	-301.8	8.86	4.69	-13.75
6,069.0	36.30	27.90	5,770.1	4,952.1	-273.7	935.4	-286.2	13.13	7.50	-18.75
6,100.0	38.60	23.50	5,794.7	4,976.7	-256.7	943.5	-269.3	11.38	7.42	-14.19
6,132.0	42.20	19.30	5,819.0	5,001.0	-237.4	951.1	-250.1	14.10	11.25	-13.13
6,163.0	45.40	16.40	5,841.4	5,023.4	-217.0	957.6	-229.8	12.18	10.32	-9.35
6,195.0	48.30	14.00	5,863.3	5,045.3	-194.5	963.7	-207.3	10.59	9.06	-7.50
6,226.0	50.80	11.10	5,883.4	5,065.4	-171.4	968.8	-184.4	10.76	8.06	-9.35
6,258.0	52.40	9.40	5,903.3	5,085.3	-146.8	973.3	-159.8	6.51	5.00	-5.31
6,289.0	54.00	7.70	5,921.9	5,103.9	-122.2	977.0	-135.3	6.78	5.16	-5.48
6,321.0	55.60	6.40	5,940.3	5,122.3	-96.3	980.2	-109.4	6.00	5.00	-4.06

Database:	EQT Db	Local Co-ordinate Reference:	Site Ritchie County 513043
Company:	EQT Production - Marcellus	TVD Reference:	KB @ 618.0usft
Project:	Ritchie County, WV	MD Reference:	KB @ 618.0usft
Site:	Ritchie County 513043	North Reference:	Grid
Well:	Well #513043	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	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)
6,352.0	57.80	5.10	5,957.3	5,139.3	-70.5	982.8	-83.6	7.91	7.10	-4.19
6,384.0	59.40	3.10	5,974.0	5,156.0	-43.2	984.7	-56.4	7.31	5.00	-6.25
6,415.0	63.30	2.50	5,988.9	5,170.9	-16.1	986.1	-29.3	12.69	12.58	-1.94
6,447.0	67.40	359.10	6,002.2	5,184.2	13.0	986.4	-0.2	16.04	12.81	-10.63
6,478.0	70.70	356.20	6,013.3	5,195.3	41.9	985.3	28.7	13.77	10.65	-9.35
6,510.0	72.80	355.90	6,023.3	5,205.3	72.2	983.2	59.1	6.62	6.56	-0.94
6,541.0	73.20	355.90	6,032.4	5,214.4	101.8	981.0	88.7	1.29	1.29	0.00
6,573.0	75.60	354.40	6,041.0	5,223.0	132.5	978.4	119.4	8.75	7.50	-4.69
6,604.0	77.20	352.70	6,048.3	5,230.3	162.4	975.0	149.4	7.42	5.16	-5.48
6,636.0	78.60	352.00	6,055.0	5,237.0	193.4	970.9	180.4	4.87	4.38	-2.19
513043 LP 211' VS										
6,666.6	82.55	350.71	6,060.0	5,242.0	223.3	966.3	210.4	13.55	12.90	-4.19
6,667.0	82.60	350.70	6,060.0	5,242.0	223.7	966.3	210.7	13.55	12.91	-4.15
6,699.0	87.50	349.40	6,062.8	5,244.8	255.1	960.8	242.2	15.84	15.31	-4.06
6,793.0	90.90	343.60	6,064.1	5,246.1	346.4	938.8	333.8	7.15	3.62	-6.17
6,887.0	90.60	343.00	6,062.9	5,244.9	436.4	911.8	424.2	0.71	-0.32	-0.64
6,981.0	88.50	338.10	6,063.6	5,245.6	525.0	880.5	513.2	5.67	-2.23	-5.21
7,076.0	89.30	341.40	6,065.4	5,247.4	614.1	847.7	602.7	3.57	0.84	3.47
513043 Plat LP										
7,138.6	89.83	341.67	6,065.9	5,247.9	673.5	827.9	662.3	0.95	0.85	0.43
7,170.0	90.10	341.80	6,065.9	5,247.9	703.3	818.0	692.3	0.95	0.85	0.43
7,265.0	90.50	341.10	6,065.4	5,247.4	793.4	787.8	782.8	0.85	0.42	-0.74
7,360.0	90.50	341.20	6,064.6	5,246.6	883.3	757.1	873.1	0.11	0.00	0.11
7,453.0	90.70	339.90	6,063.6	5,245.6	971.0	726.1	961.2	1.41	0.22	-1.40
7,547.0	89.90	339.90	6,063.1	5,245.1	1,059.2	693.8	1,049.9	0.85	-0.85	0.00
7,642.0	88.30	343.30	6,064.6	5,246.6	1,149.4	663.8	1,140.4	3.95	-1.68	3.58
7,737.0	88.70	343.00	6,067.1	5,249.1	1,240.3	636.3	1,231.6	0.53	0.42	-0.32
7,831.0	88.70	342.30	6,069.2	5,251.2	1,330.0	608.3	1,321.7	0.74	0.00	-0.74
7,926.0	90.30	345.70	6,070.1	5,252.1	1,421.3	582.1	1,413.3	3.96	1.68	3.58
8,020.0	90.60	344.00	6,069.3	5,251.3	1,512.0	557.5	1,504.4	1.84	0.32	-1.81
8,115.0	91.10	343.30	6,067.9	5,249.9	1,603.1	530.8	1,595.9	0.91	0.53	-0.74
8,209.0	90.30	342.00	6,066.8	5,248.8	1,692.8	502.8	1,686.0	1.62	-0.85	-1.38
8,304.0	90.90	341.60	6,065.8	5,247.8	1,783.1	473.1	1,776.6	0.76	0.63	-0.42
8,399.0	89.60	339.40	6,065.4	5,247.4	1,872.6	441.4	1,866.6	2.69	-1.37	-2.32
8,493.0	88.80	339.90	6,066.7	5,248.7	1,960.8	408.7	1,955.1	1.00	-0.85	0.53
8,588.0	89.30	339.40	6,068.3	5,250.3	2,049.8	375.7	2,044.6	0.74	0.53	-0.53
8,682.0	88.50	340.30	6,070.1	5,252.1	2,138.0	343.3	2,133.3	1.28	-0.85	0.96
8,777.0	89.60	342.10	6,071.6	5,253.6	2,228.0	312.7	2,223.6	2.22	1.16	1.89
8,872.0	90.00	344.10	6,072.0	5,254.0	2,318.8	285.1	2,314.8	2.15	0.42	2.11
8,966.0	90.80	342.80	6,071.3	5,253.3	2,408.9	258.3	2,405.3	1.62	0.85	-1.38
9,061.0	89.90	343.50	6,070.7	5,252.7	2,499.9	230.8	2,496.6	1.20	-0.95	0.74
9,155.0	90.70	343.10	6,070.2	5,252.2	2,589.9	203.8	2,586.9	0.95	0.85	-0.43

Database:	EQT DB	**Local Co-ordinate Reference:**	Site Ritchie County 513043
Company:	EQT Production - Marcellus	**TVD Reference:**	KB @ 616.0usft
Project:	Ritchie County, WV	**MD Reference:**	KB @ 616.0usft
Site:	Ritchie County 513043	**North Reference:**	Grid
Well:	Well #513043	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	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)
9,250.0	90.00	342.00	6,069.7	5,251.7	2,680.5	175.3	2,677.9	1.37	-0.74	-1.16
9,343.0	90.20	340.60	6,069.5	5,251.5	2,768.6	145.5	2,766.4	1.52	0.22	-1.51
9,438.0	87.30	337.00	6,071.6	5,253.6	2,857.1	111.1	2,855.4	4.87	-3.05	-3.79
9,532.0	88.60	339.40	6,074.9	5,256.9	2,944.3	76.2	2,943.1	2.90	1.38	2.55
9,627.0	89.00	341.40	6,076.9	5,258.9	3,033.8	44.4	3,033.0	2.15	0.42	2.11
9,722.0	89.90	342.10	6,077.8	5,259.8	3,124.0	14.6	3,123.6	1.20	0.95	0.74
9,816.0	90.60	341.10	6,077.4	5,259.4	3,213.2	-15.0	3,213.1	1.30	0.74	-1.06
Last Survey MD=9890'										
9,890.0	91.30	340.70	6,076.2	5,258.2	3,283.1	-39.2	3,283.4	1.09	0.95	-0.54
513043 Plat TD										
9,940.5	91.30	340.70	6,075.1	5,257.1	3,330.7	-55.9	3,331.2	0.00	0.00	0.00
Projection to TD MD=9944'										
9,944.0	91.30	340.70	6,075.0	5,257.0	3,334.1	-57.1	3,334.6	0.00	0.00	0.00

Survey Annotations

Measured Depth ()	Vertical Depth ()	Local Coordinates +N/-S ()	Local Coordinates +E/-W ()	Comment
3,608.0	3,608.0	-12.7	5.2	Gyro Tie In MD=3608'
9,890.0	6,076.2	3,283.1	-39.2	Last Survey MD=9890'
9,944.0	6,075.0	3,334.1	-57.1	Projection to TD MD=9944'

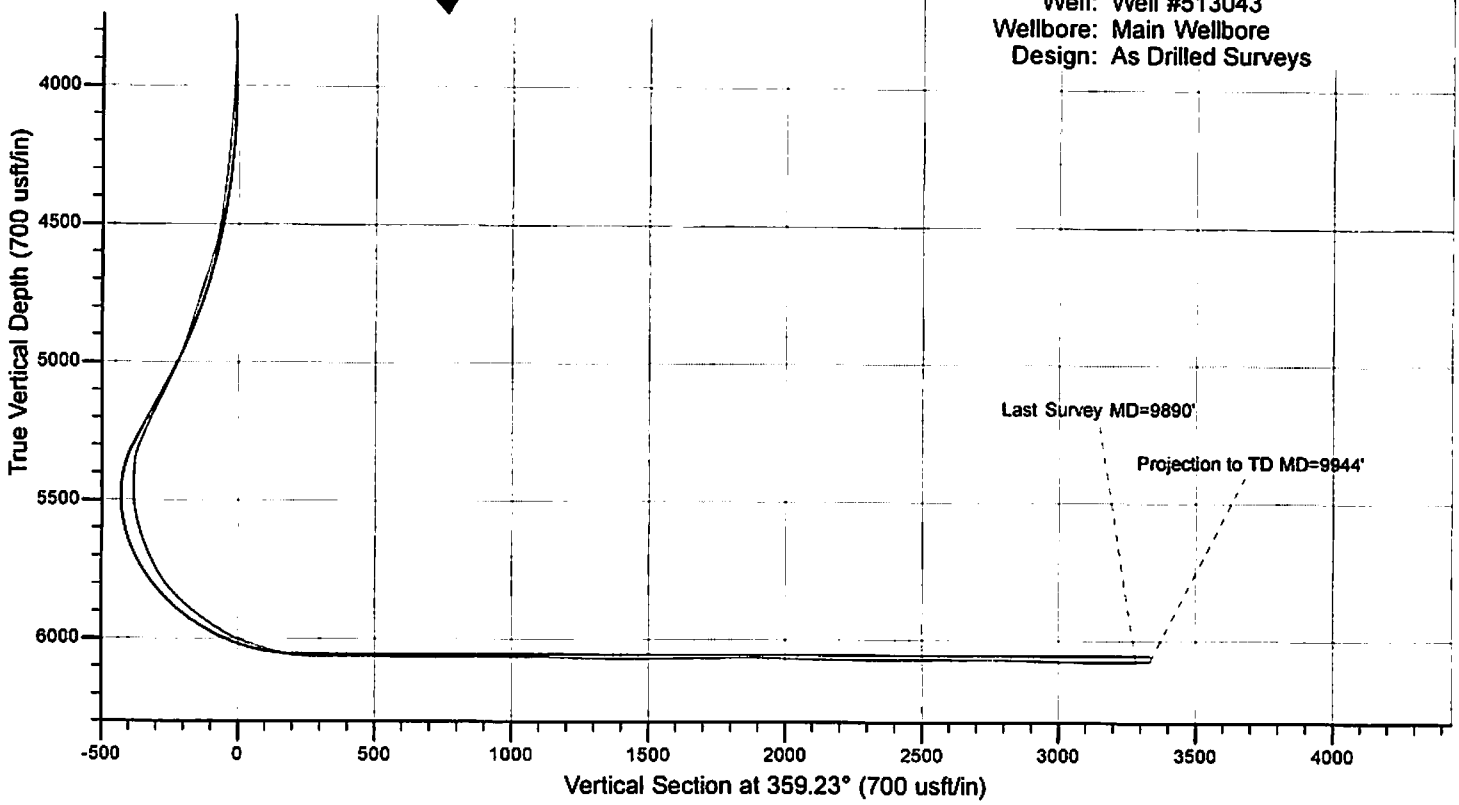
Checked By: _____ Approved By: _____ Date: _____

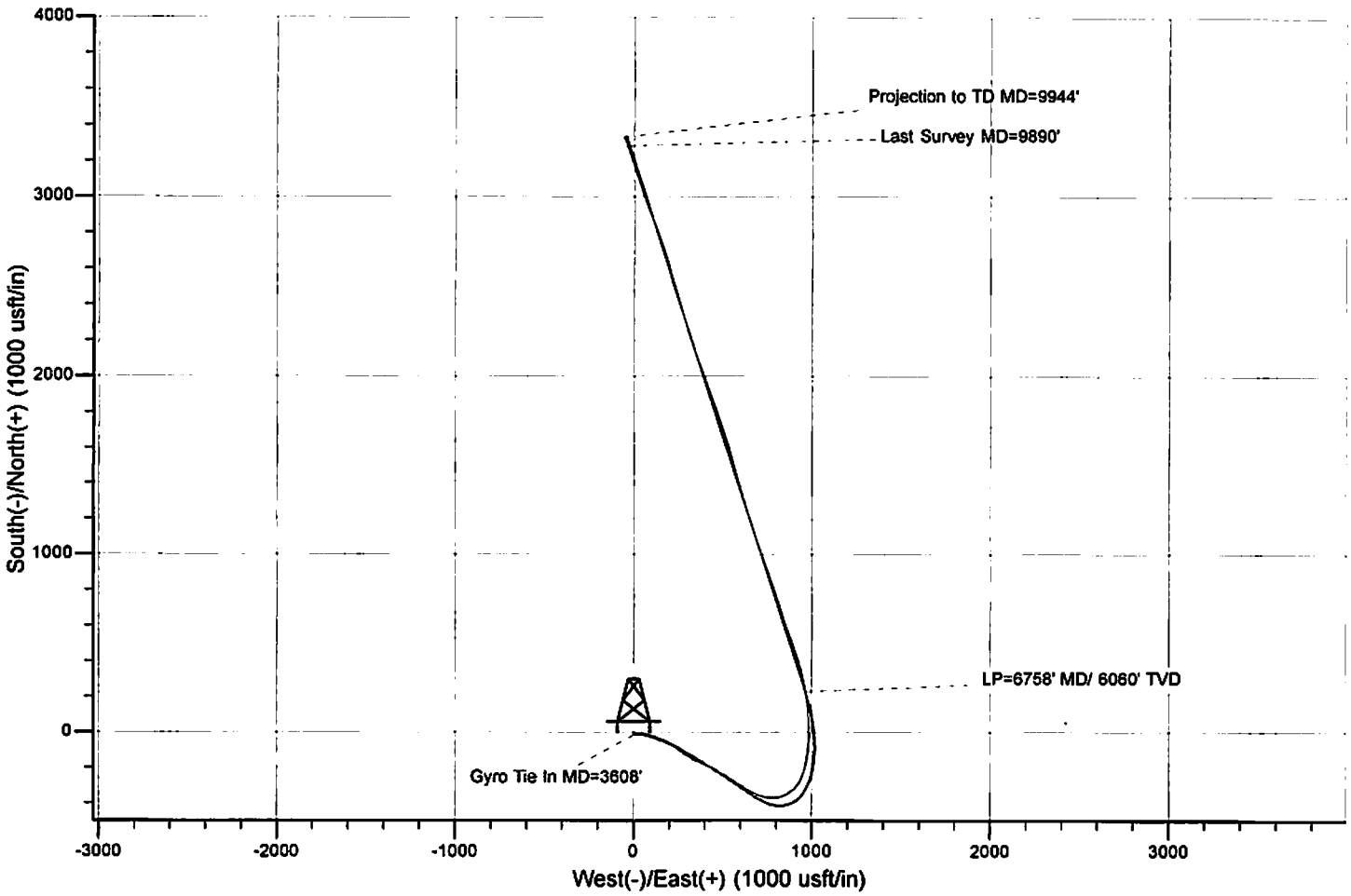
8S-10052

PHOENIX
TECHNOLOGY SERVICES

EQT Production - Marcellus

Project: Ritchie County, WV
Site: Ritchie County 513043
Well: Well #513043
Wellbore: Main Wellbore
Design: As Drilled Surveys





Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	10/5/2013
Job End Date:	10/10/2013
State:	West Virginia
County:	Ritchie
API Number:	47-085-10052-00-00
Operator Name:	EQT Production
Well Name and Number:	513043
Longitude:	-80.93953000
Latitude:	39.25166000
Datum:	NAD83
Federal/Tribal Well:	NO
True Vertical Depth:	6,080
Total Base Water Volume (gal):	4,824,511
Total Base Non Water Volume:	213,803

FracFocus Chemical Disclosure Registry

GROUNDWATER PROTECTION COUNCIL

Oil & Gas

85-10052

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	Halliburton	Carrier					
			Water	7732-18-5	100.00000	90.29811	
Sand	Halliburton	Proppant					
			Crystalline Silica	14808-60-7	100.00000	9.10931	
MX-5	Halliburton	Biocide					
			Sodium Nitrate	7631-99-4	60.00000	0.05781	
15% HCl	Halliburton	Dissolves cement & minerals in perforations					
			Hydrochloric Acid	7647-01-0	15.00000	0.05453	
FR-66	Halliburton	Friction Reducer					
			Hydrotreated light petroleum distillate	64742-47-8	30.00000	0.02448	
MX-8	Halliburton	Biocide					
			Bacteria culture	N/A	100.00000	0.00980	
WG-36	Halliburton	Gelling Agent					
			Guar Gum	9000-30-0	100.00000	0.00791	
BA-40L	Halliburton	Buffer					
			Potassium carbonate	584-08-7	60.00000	0.00444	
LP-65	Halliburton	Scale Inhibitor					
			Ammonium Chloride	12125-02-9	10.00000	0.00251	

SP Breaker	Halliburton	Oxidizing Breaker					
			Sodium Persulfate	7775-27-1	100.00000	0.00021	
Methanol	Halliburton	Corrosion Inhibitor					
			Methanol	67-56-1	60.00000	0.00018	
Propargyl Alcohol	Halliburton	Corrosion Inhibitor					
			Propargyl Alcohol	107-19-7	10.00000	0.00003	
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.							

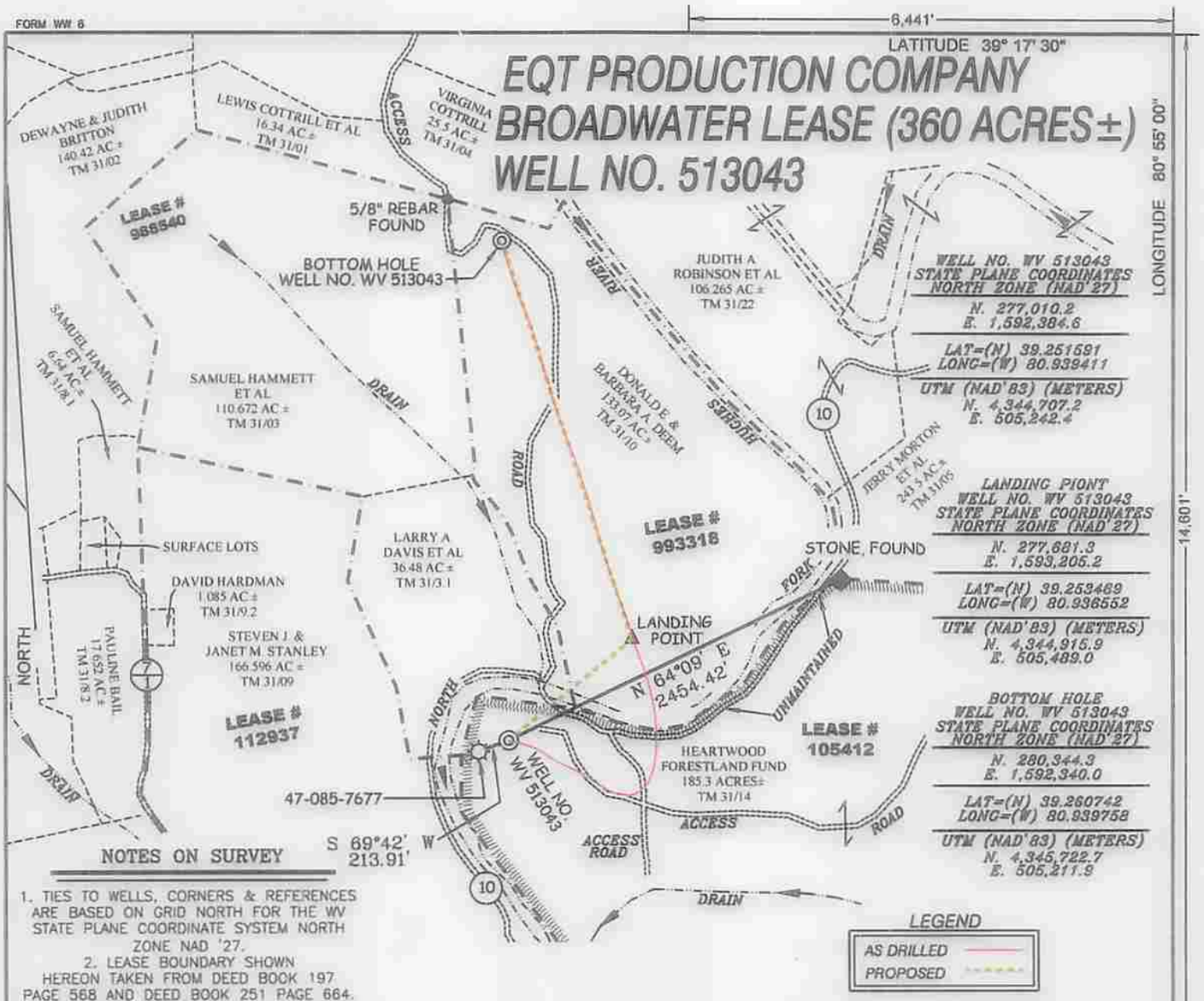
* Total Water Volume sources may include fresh water, produced water, and/or recycled water
** Information is based on the maximum potential for concentration and thus the total may be over 100%

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)

85-10052

FORM WW 6

EQT PRODUCTION COMPANY
BROADWATER LEASE (360 ACRES±)
WELL NO. 513043



WELL NO. WV 513043
STATE PLANE COORDINATES
NORTH ZONE (NAD'27)
N. 277,010.2
E. 1,592,384.6
LAT=(N) 39.251591
LONG=(W) 80.939411
UTM (NAD'83) (METERS)
N. 4,344,707.2
E. 505,242.4

LANDING PIONT
WELL NO. WV 513043
STATE PLANE COORDINATES
NORTH ZONE (NAD'27)
N. 277,681.3
E. 1,593,205.2
LAT=(N) 39.253489
LONG=(W) 80.936552
UTM (NAD'83) (METERS)
N. 4,344,915.9
E. 505,489.0

BOTTOM HOLE
WELL NO. WV 513043
STATE PLANE COORDINATES
NORTH ZONE (NAD'27)
N. 280,344.3
E. 1,592,340.0
LAT=(N) 39.260742
LONG=(W) 80.939758
UTM (NAD'83) (METERS)
N. 4,345,722.7
E. 505,211.9

NOTES ON SURVEY

1. TIES TO WELLS, CORNERS & REFERENCES ARE BASED ON GRID NORTH FOR THE WV STATE PLANE COORDINATE SYSTEM NORTH ZONE NAD '27.
2. LEASE BOUNDARY SHOWN HEREON TAKEN FROM DEED BOOK 197 PAGE 568 AND DEED BOOK 251 PAGE 664.
3. SURFACE OWNER AND ADJOINER INFORMATION TAKEN FROM THE ASSESSOR AND COUNTY CLERK RECORDS OF RITCHIE COUNTY IN JULY, 2012.
4. WELL LAT./LONG. (NAD'27) ESTABLISHED BY DGPS (SURVEY GRADE TIE TO CORS NETWORK).
5. PLAT UPDATED 06/27/14 TO SHOW THE AS-DRILLED COORDINATES FROM INFORMATION PROVIDED BY EQT IN 2013.

AS DRILLED INFORMATION

BOTTOM HOLE	WELL NO. WV 513043
WELL NO. WV 513043 STATE PLANE COORDINATES NORTH ZONE (NAD'27)	WELL NO. WV 513043 STATE PLANE COORDINATES NORTH ZONE (NAD'27)
N. 280,344.2 E. 1,592,327.5	N. 277,010.2 E. 1,592,384.6
LAT=(N) 39.260741 LONG=(W) 80.939802	LAT=(N) 39.251591 LONG=(W) 80.939411
UTM (NAD'83)(METERS) N. 4,345,722.6 E. 505,208.1	UTM (NAD'83)(METERS) N. 4,344,707.2 E. 505,242.4

SLS

I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE REGULATIONS ISSUED AND PRESCRIBED BY THE DIVISION OF ENVIRONMENTAL PROTECTION.

P.S. 677 Gregory A. Smith

GREGORY A. SMITH LICENSED No. 677 STATE OF WEST VIRGINIA PROFESSIONAL SURVEYOR

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

DATE JUNE 03 , 20 13

REVISED DATE JUNE 27 , 20 14

OPERATORS WELL NO. WV 513043

API WELL NO. 47 — 085 — 10052
STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 200 FILE NO. 7566ASDRILLED513043

SCALE 1" = 1000'

PROVEN SOURCE OF ELEVATION DGPS (SURVEY GRADE TIE TO CORS NETWORK)

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

WELL TYPE: OIL ___ GAS X LIQUID INJECTION ___ WASTE DISPOSAL ___ IF "GAS" PRODUCTION X STORAGE ___ DEEP ___ SHALLOW X

LOCATION:
ELEVATION 793' (PAD ELEVATION) WATERSHED NORTH FORK HUGHES RIVER
DISTRICT CLAY COUNTY RITCHIE QUADRANGLE PENNSBORO 7.5'
SURFACE OWNER HEARTWOOD FORESTLAND FUND ACREAGE 353.50±
ROYALTY OWNER JEFFERSON BROADWATER HEIRS ET AL (360 AC.±), MIKE ROSS ET AL (133.07AC.±), JOELYNN FAMILY PRESERVATION TRUST (140.48 AC. ±)
PROPOSED WORK: LEASE NO. 105412 / 993318 / 988540
DRILL X CONVERT ___ DRILL DEEPER ___ REDRILL ___ FRACTURE OR STIMULATE X PLUG OFF OLD FORMATION ___ PERFORATE NEW FORMATION ___ PLUG AND ABANDON ___ CLEAN OUT AND REPLUG ___ OTHER ___
PHYSICAL CHANGE IN WELL (SPECIFY) ___ TARGET FORMATION MARCELLUS
ESTIMATED DEPTH ___

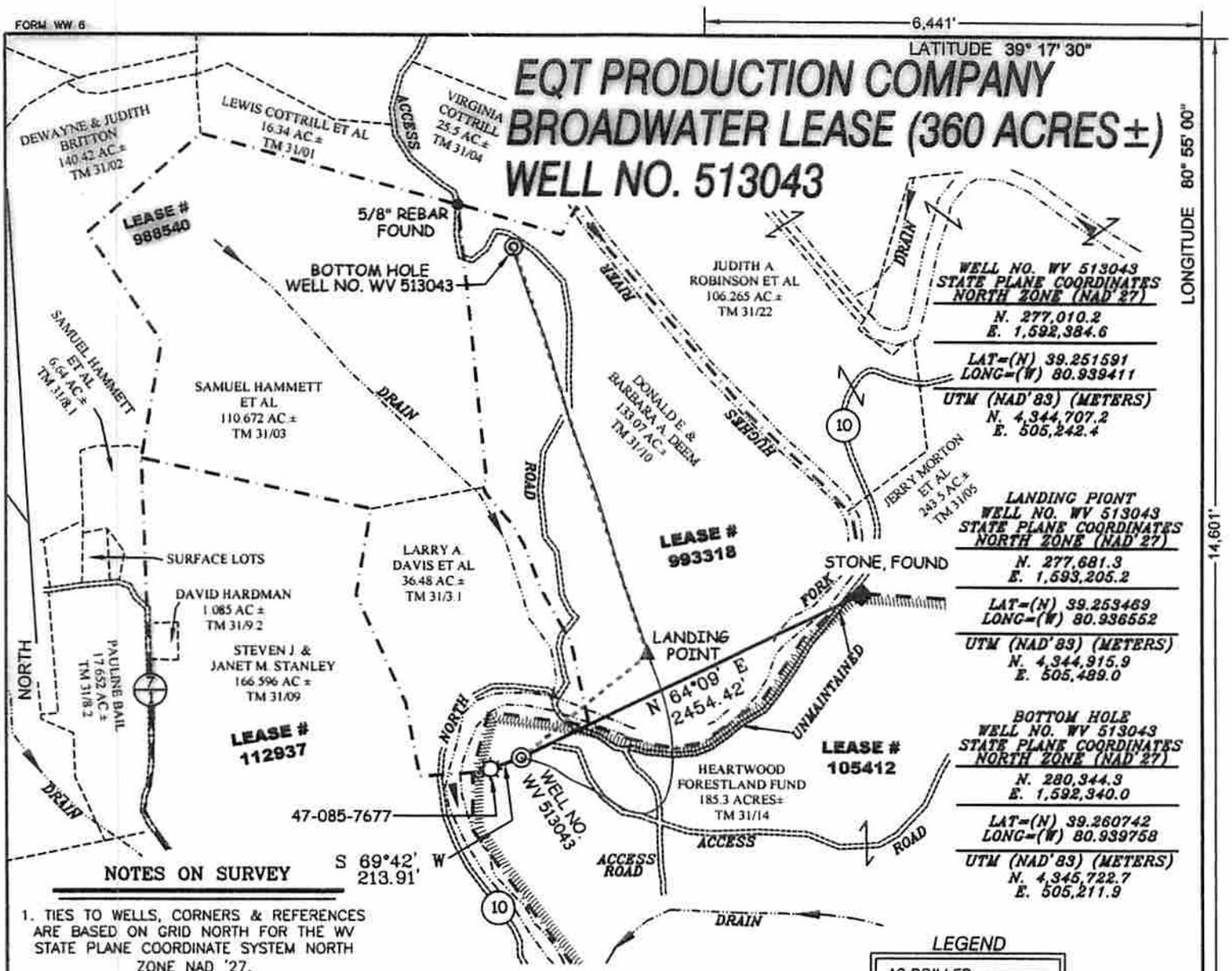
COUNTY NAME

PERMIT

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

FORM WW 6

EQT PRODUCTION COMPANY
BROADWATER LEASE (360 ACRES±)
WELL NO. 513043



NOTES ON SURVEY

1. TIES TO WELLS, CORNERS & REFERENCES ARE BASED ON GRID NORTH FOR THE WV STATE PLANE COORDINATE SYSTEM NORTH ZONE NAD '27.
2. LEASE BOUNDARY SHOWN HEREON TAKEN FROM DEED BOOK 197 PAGE 568 AND DEED BOOK 251 PAGE 664.
3. SURFACE OWNER AND ADJOINER INFORMATION TAKEN FROM THE ASSESSOR AND COUNTY CLERK RECORDS OF RITCHIE COUNTY IN JULY, 2012.
4. WELL LAT./LONG. (NAD'27) ESTABLISHED BY DGPS (SURVEY GRADE TIE TO CORS NETWORK).
5. PLAT UPDATED 06/27/14 TO SHOW THE AS-DRILLED COORDINATES FROM INFORMATION PROVIDED BY EQT IN 2013.

AS DRILLED INFORMATION

BOTTOM HOLE WELL NO. WV 513043 STATE PLANE COORDINATES NORTH ZONE (NAD'27)	WELL NO. WV 513043 STATE PLANE COORDINATES NORTH ZONE (NAD'27)
N. 280,344.2 E. 1,592,327.5	N. 277,010.2 E. 1,592,384.6
LAT=(N) 39.260741 LONG=(W) 80.939802	LAT=(N) 39.251591 LONG=(W) 80.939411
UTM (NAD'83)(METERS) N. 4,345,722.6 E. 505,208.1	UTM (NAD'83)(METERS) N. 4,344,707.2 E. 505,242.4

SLS

I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE REGULATIONS ISSUED AND PRESCRIBED BY THE DIVISION OF ENVIRONMENTAL PROTECTION.

P.S. 677 Gregory A. Smith

GREGORY A. SMITH LICENSED No. 677 STATE OF WEST VIRGINIA PROFESSIONAL SURVEYOR

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

DATE JUNE 03 , 20 13

REVISED DATE JUNE 27 , 20 14

OPERATORS WELL NO. WV 513043

API WELL NO. 47 — 085 — 10052
STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 200 FILE NO. 7566ASDRILLED513043

SCALE 1" = 1000'

PROVEN SOURCE OF ELEVATION DGPS (SURVEY GRADE TIE TO CORS NETWORK)

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

WELL TYPE: OIL ____ GAS X LIQUID INJECTION ____ WASTE DISPOSAL ____ IF "GAS" PRODUCTION X STORAGE ____ DEEP ____ SHALLOW X

LOCATION:

ELEVATION 793' (PAD ELEVATION) WATERSHED NORTH FORK HUGHES RIVER

DISTRICT CLAY COUNTY RITCHIE QUADRANGLE PENNSBORO 7.5'

SURFACE OWNER HEARTWOOD FORESTLAND FUND ACREAGE 353.50±

ROYALTY OWNER JEFFERSON BROADWATER HEIRS ET AL (360 AC.±), MIKE ROSS ET AL (133.07AC.±), JOELYNN FAMILY PRESERVATION TRUST (140.48 AC. ±)

PROPOSED WORK: LEASE NO. 105412 / 993318 / 988540

DRILL X CONVERT ____ DRILL DEEPER ____ REDRILL ____ FRACTURE OR STIMULATE X PLUG OFF OLD FORMATION ____ PERFORATE NEW FORMATION ____ PLUG AND ABANDON ____ CLEAN OUT AND REPLUG ____ OTHER ____

PHYSICAL CHANGE IN WELL (SPECIFY) ____ TARGET FORMATION MARCELLUS

ESTIMATED DEPTH ____

COUNTY NAME

PERMIT

WELL OPERATOR EQT PRODUCTION COMPANY DESIGNATED AGENT REX C. RAY

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

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

WR-35
Rev. 8/23/13

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

API 47 - 085 - 10101 County Ritchie District Murphy
Quad Smithville 7.5' Pad Name none Field/Pool Name Eva Field
Farm name Savinkoff, Karl et al Well Number Gill Heirs #3
Operator (as registered with the OOG) Murvin & Meier Oil Co.
Address P. O. Box 396 City Olney State IL Zip 62450

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey
Top hole Northing 4,319,815 Easting 498,072
Landing Point of Curve Northing n/a Easting n/a
Bottom Hole Northing 4,319,815 Easting 498,072

Elevation (ft) 1161 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)
none

Date permit issued May 15, 2014 Date drilling commenced July 21, 2014 Date drilling ceased July 29, 2014
Date completion activities began August 13, 2014 Date completion activities ceased August 15, 2014
Verbal plugging (Y/N) _____ Date permission granted _____ Granted by _____

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

Freshwater depth(s) ft 50' (damp) 100' (1/4" stream) Open mine(s) (Y/N) depths N
Salt water depth(s) ft None Void(s) encountered (Y/N) depths N
Coal depth(s) ft None Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

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WR-35
Rev. 8/23/13

API 47- 085 - 10101 Farm name Savinkoff, Karl et al Well number Gill Heirs #3

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		16"	20'	new			
Surface	15"	11 3/4"	337'	new	A500 32#	42'	Y
Coal							
Intermediate 1	11"	8 5/8"	1392'	new	A500 20#	42	Y
Intermediate 2							
Intermediate 3							
Production	7 7/8"	4 1/2"	2636'	new	WT65 10.5#	1652'	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							
Surface	A	200	15.6	1.18	236	CTS	
Coal							
Intermediate 1	A	333	14.8	1.40	466	CTS	
Intermediate 2							
Intermediate 3							
Production	CBL Poz	200	13.5	1.54	308	1250'	
Tubing							

Drillers TD (ft) 2,673' Loggers TD (ft) 2,666'
Deepest formation penetrated Berea Plug back to (ft) n/a
Plug back procedure n/a

Kick off depth (ft) n/a

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 4 1/2" x 7 7/8": 2584' 2499' 2414' 2330' 1906' 1821' 1737'

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

WR-35
Rev. 8/23/13

API 47- 085 - 10101 Farm name Savinkoff, Karl et al Well number Gill Heirs #3

PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
1	8-7-2014	2526	2532	18	Berea
	8-7-2014	2176	2178	4	Big Injun

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)
1	8/13/14	31	1600	1895	740	30,000	627	73,000 scf

Please insert additional pages as applicable.

WR-35
Rev. 8/23/13

API 47- 085 - 10101 Farm name Savinkoff, Karl et al Well number Gill Heirs #3

PRODUCING FORMATION(S)	DEPTHS	
same as perforation record	TVD	MD

Please insert additional pages as applicable.

GAS TEST ☐ Build up ☐ Drawdown ■ Open Flow OIL TEST ■ Flow ☐ Pump

SHUT-IN PRESSURE Surface 500 psi Bottom Hole _____ psi DURATION OF TEST 24 hrs

OPEN FLOW	Gas	Oil	NGL	Water	GAS MEASURED BY
	30 mcfpd	show bpd	- bpd	- bpd	■ Estimated ☐ Orifice ☐ Pilot

LITHOLOGY/ FORMATION NAME	TOP DEPTH IN FT TVD	BOTTOM DEPTH IN FT TVD	TOP DEPTH IN FT MD	BOTTOM DEPTH IN FT MD	DESCRIBE ROCK TYPE AND RECORD QUANTITYAND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H_2S, ETC)
	0	8	0	8	
Fill	8	10	8	10	
Sd, Sh, RR	10	1305	10	1305	
Salt Sand	1305	1590	1305	1590	
Shale	1590	1736	1590	1736	
3rd Salt Sand	1736	1820	1736	1820	
Sh, Sd	1820	1940	1820	1940	
Maxon	1940	1955	1940	1955	
Shale	1955	2002	1955	2002	
L. Lime	2002	2018	2002	2018	
Sd, Sh	2018	2039	2018	2039	
Big Lime	2039	2101	2039	2101	
Keener	2101	2113	2101	2113	
Big Injun	2113	2138	2113	2138	

Please insert additional pages as applicable.

Drilling Contractor Nexus Drilling Corporation
Address P. O. Box 903 City Jane Lew State WV Zip 26378

Logging Company Precision Energy Services
Address 777 N River Avenue City Weston State WV Zip 26452

Cementing Company Universal Well Services, Inc.
Address P. O. Box 200969 City Dallas State TX Zip 75320

Stimulating Company Universal Well Services, Inc.
Address P. O. Box 200969 City Dallas State TX Zip 75320

Please insert additional pages as applicable.

Completed by Kate M. Blackford Telephone 618-395-4405
Signature Kate M Blackford Title Executive Vice-President Date 9/10/2014

Submittal of Hydraulic Fracturing Chemical Disclosure Information Attach copy of FRACFOCUS Registry

Lithology / Formation	Top Depth in FT Name TVD	Bottom Depth in FT TVD	Top Depth in FT MD	Bottom Depth in FT MD	Described Rock Type and Record Quantity and Type of Fluid (Freshwater, Brine, Oil, Gas, H2S, etc.)
Sd, Sh	2138	2231	2138	2231	
Weir	2231	2280	2231	2280	
Sd, Sh	2280	2510	2280	2510	
Berea	2510	2545	2510	2545	
Shale	2545	2673	2545	2673	
Total Depth	2673		2673		

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WR-35
Rev. 8/23/13

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

API 47 - 085 - 10124 County Ritchie District Murphy
Quad Smithville 7.5' Pad Name none Field/Pool Name Eva Field
Farm name Yoder, Noah L. & Emma Well Number J. E. Gum #4
Operator (as registered with the OOG) Murvin & Meier Oil Co.
Address P. O. Box 396 City Olney State IL Zip 62450

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey
Top hole Northing 4,318,792.6 Easting 498,537.4
Landing Point of Curve Northing n/a Easting n/a
Bottom Hole Northing 4,318,792.6 Easting 498,537.4

Elevation (ft) 1108 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)
none

Date permit issued June 17, 2014 Date drilling commenced July 11, 2014 Date drilling ceased July 18, 2014
Date completion activities began July 24, 2014 Date completion activities ceased July 26, 2014
Verbal plugging (Y/N) _____ Date permission granted _____ Granted by _____

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

Freshwater depth(s) ft 65, 105 Open mine(s) (Y/N) depths N
Salt water depth(s) ft None Void(s) encountered (Y/N) depths N
Coal depth(s) ft None Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

Reviewed by:

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Environmental Protection

WR-35
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API 47- 085 - 10124 Farm name Yoder, Noah L. & Emma Well number J. E. Gum #4

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		16"	20'	new			
Surface	15"	11 3/4"	337'	new	A500 32#	42'	Y
Coal							
Intermediate 1	11"	8 5/8"	1311'	new	A500 20#	42	Y
Intermediate 2							
Intermediate 3							
Production	7 7/8"	4 1/2"	2519'	new	WT65 10.5#	1743'	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							
Surface	A	200	15.6	1.18	236	CTS	8
Coal							
Intermediate 1	A	300	14.8	1.40	420	CTS	8
Intermediate 2							
Intermediate 3							
Production	CBL Poz	170	13.5	1.54	262	1370'	
Tubing							

Drillers TD (ft) 2,578' Loggers TD (ft) 2,567'
Deepest formation penetrated Berea Plug back to (ft) n/a
Plug back procedure n/a

Kick off depth (ft) n/a

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 4 1/2" x 7 7/8": 2476' 2390' 2303' 2217' 2045' 1959' 1873'

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

WR-35
Rev. 8/23/13

API 47- 085 - 10124 Farm name Yoder, Noah L. & Emma Well number J. E. Gum #4

PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
1	7-25-2014	2421	2431	30	Berea
2	7-25-2014	2062	2070	12	Big Injun
	7-25-2014	2074	2082	24	Big Injun

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)
1	7/25/14	34	1460	1834	820	25,000	580	88,000 scf
2	7/25/14	37	1390	850	1130	30,000	650	93,000 scf

Please insert additional pages as applicable.

WR-35
Rev. 8/23/13

API 47- 085 - 10124 Farm name Yoder, Noah L. & Emma Well number J. E. Gum #4

PRODUCING FORMATION(S)	DEPTHS	
same as perforation record	TVD	MD

Please insert additional pages as applicable.

GAS TEST ☐ Build up ☐ Drawdown ■ Open Flow OIL TEST ■ Flow ☐ Pump

SHUT-IN PRESSURE Surface 50 psi Bottom Hole psi DURATION OF TEST 24 hrs

OPEN FLOW	Gas	Oil	NGL	Water	GAS MEASURED BY
	20 mcfpd	show bpd	- bpd	- bpd	■ Estimated ☐ Orifice ☐ Pilot

LITHOLOGY/ FORMATION NAME	TOP DEPTH IN FT TVD	BOTTOM DEPTH IN FT TVD	TOP DEPTH IN FT MD	BOTTOM DEPTH IN FT MD	DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H_2S, ETC)
	0	8	0	8	
Fill	8	10	8	10	
Sd, Sh, RR	10	1222	10	1222	damp - 48', 1/4" H20 65', 3/4" H20 105'
Salt Sand	1222	1252	1222	1252	
Sd, Sh, RR	1252	1490	1252	1490	
Sand	1490	1667	1490	1667	oil odor at 1660'
3rd Salt Sand	1667	1724	1667	1724	
Sd, Sh	1724	1800	1724	1800	gas - 1800'
Maxon	1800	1838	1800	1838	
Sd, Sh	1838	1910	1838	1910	
L. Lime	1910	1937	1910	1937	
Sand	1937	1948	1937	1948	
Big Lime	1948	1988	1948	1988	
Keener	1988	2020	1988	2020	

Please insert additional pages as applicable.

Drilling Contractor Nexus Drilling Corporation
Address P. O. Box 903 City Jane Lew State WV Zip 26378

Logging Company Nabors Completion & Production Services Co.
Address P. O. Box 975682 City Dallas State TX Zip 75397-5682

Cementing Company Universal Well Services, Inc.
Address P. O. Box 200969 City Dallas State TX Zip 75320

Stimulating Company Universal Well Services, Inc.
Address P. O. Box 200969 City Dallas State TX Zip 75320

Please insert additional pages as applicable.

Completed by Kate M. Blackford Telephone 618-395-4405
Signature Kate M. Blackford Title Executive Vice-President Date 9/11/2014

Submittal of Hydraulic Fracturing Chemical Disclosure Information Attach copy of FRACFOCUS Registry

Lithology / Formation	Top Depth in FT Name TVD	Bottom Depth in FT TVD	Top Depth in FT MD	Bottom Depth in FT MD	Described Rock Type and Record Quantity and Type of Fluid (Freshwater, Brine, Oil, Gas, H2S, etc.)
Big Injun	2020	2146	2020	2146	
Sd, Sh	2146	2428	2146	2428	
Berea	2428	2438	2428	2438	
Shale	2438	2578	2438	2578	
Total Depth	2578		2578		

PM JK

WR-35
Rev. 8/23/13

Page ___ of ___

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

47-091-01247

API 47 091 01247 County TAYLOR District BOOTHS CREEK
Quad ROSEMONT 7.5' Pad Name RSM112 Field/Pool Name
Farm name WOODELL, SPENCER C. & TINA Well Number 514214
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 4351954.5 Easting 571444.7
Landing Point of Curve Northing 4351822.3 Easting 571488.6
Bottom Hole Northing 4348606.4 Easting 572510.3

Elevation (ft) 1590 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 11.5 ppg – powdered hydrocarbon resin, calcium carbonate, ground almond hulls, barium sulfate, calcium chloride, lecithin liquid, organophilic clay, polyaminated fatty acid, calcium hydroxide, polyimide surfactant, modified fatty acid, dimer.trimer fatty acid, ground walnut hulls, refined base oil.

Date permit issued 4/5/2012 Date drilling commenced 10/28/2013 Date drilling ceased 3/16/2014
Date completion activities began 4/7/2014 Date completion activities ceased 5/19/2014
Verbal plugging (Y/N) N Date permission granted N/A Granted by N/A

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Environmental Protection

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

Freshwater depth(s) ft 1022' Open mine(s) (Y/N) depths N
Salt water depth(s) ft 1950' Void(s) encountered (Y/N) depths N
Coal depth(s) ft 706', 781', 942', 998', 1032' Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

Reviewed by:

WR-35
Rev. 8/23/13

API 47- 910 - 1247 Farm name WOODELL, SPENCER C. & TINA Well number 514214

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"	70'	New	94lb/ft	N/A	Y
Surface	17-1/2"	13-3/8"	1,102'	New	54.5lb/ft	310', 625'	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	2,333'	New	40lb/ft	1,631', 1,715'	Y
Intermediate 2							
Intermediate 3							
Production	8-1/2"	5-1/2"	19,085'	New	20lb/ft	N/A	N
Tubing							
Packer type and depth set							

Comment Details

CEMENT DATA	Class/Type of Cement	Number of Sacks	Slurry wt (ppg)	Yield (ft^3/sks)	Volume (ft^3)	Cement Top (MD)	WOC (hrs)
Conductor	Class A	32	15.6	1.18	37.76	0	8
Surface	Class A	950	15.6	1.19	1,130.5	0	8
Coal							
Intermediate 1	Class A/Class A	515/350	15.6	1.19/1.20	1033	0	8
Intermediate 2							
Intermediate 3							
Production	Class A/Class H	650/1460	14.2/15.2	1.26/1.97	3,696	4,895'	72
Tubing							

Drillers TD (ft) 19,091' Loggers TD (ft) 7,721'

Deepest formation penetrated Marcellus Plug back to (ft) 6,585'

Plug back procedure Air drop plug set f/ pilot hole TD 7,721'. Kicked off curve from TOC at 6,585'.

Kick off depth (ft) 6,585'

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- N/A
Surface-Bowspring centralizer on shoe track and every 500' to surface
Intermediate-Bowspring centralizer on shoe track and every 500' to surface
Production- Composite bodied centralizers on every joint from TD up to 4,778'

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

WR-35
Rev. 8/23/13

API 47- 910 - 1247 Farm name WOODELL, SPENCER C. & TINA Well number 514214

PERFORATION RECORD

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

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)
								See Attachment

Please insert additional pages as applicable.

WR-35
Rev. 8/23/13

API 47- 910 - 1247 Farm name WOODELL, SPENCER C. & TINA Well number

PRODUCING FORMATION(S)	DEPTHS			
Marcellus	7,582	TVD	7,617	MD

Please insert additional pages as applicable.

GAS TEST □ Build up □ Drawdown ■ Open Flow OIL TEST ■ Flow □ Pump

SHUT-IN PRESSURE Surface 2,068 psi Bottom Hole NA psi DURATION OF TEST 93 hrs

OPEN FLOW	Gas	Oil	NGL	Water	GAS MEASURED BY
	11,232 mcfpd	0 bpd	0 bpd	1,176 bpd	□ Estimated ■ Orifice □ Pilot

LITHOLOGY/ FORMATION NAME	TOP DEPTH IN FT TVD	BOTTOM DEPTH IN FT TVD	TOP DEPTH IN FT MD	BOTTOM DEPTH IN FT MD	DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H_2S, ETC)
	0		0		

Please insert additional pages as applicable.

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

Logging Company Hoss Co. Services LLC
Address 614 Trotters Lane City Charleston State WV Zip 25312

Cementing Company Nabors Completion & Production Services Co.
Address PO BOX 975682 City Dallas State TX Zip 75397-5682

Stimulating Company US Well Services
Address 533 Industrial Park Drive City Jane Lew State WV Zip 26378

Please insert additional pages as applicable.

Completed by James E. Helmick Jr Telephone 412-395-5518
Signature Title Vice President - Completions Operations Date 9/2/2014

Submittal of Hydraulic Fracturing Chemical Disclosure Information Attach copy of FRACFOCUS Registry

Formation Name	Final Top MD (ftGL) (ft)	Final Top TVD (ft)	Final Btm MD (ftGL) (ft)	Final Btm TVD (ft)
FRESH WATER ZONE	1	1	1,022.00	1,022.00
SAND / SHALE	1	1	706	706
COAL	706	706	712	712
SAND / SHALE	712	712	781	781
COAL	781	781	786	786
SAND / SHALE	786	786	942	942
COAL	942	942	947	947
SAND / SHALE	947	947	998	998
COAL	998	998	1,001.00	1,001.00
SAND / SHALE	1,001.00	1,001.00	1,032.00	1,032.00
COAL	1,032.00	1,032.00	1,038.00	1,038.00
SAND / SHALE	1,038.00	1,038.00	1,154.00	1,154.00
MAXTON	1,154.00	1,154.00	1,554.00	1,553.90
BIG LIME	1,554.00	1,553.90	1,838.00	1,837.90
WEIR	1,838.00	1,837.90	2,065.00	2,064.90
GANTZ	2,065.00	2,064.90	2,139.00	2,138.90
50F	2,139.00	2,138.90	2,246.00	2,245.80
30F	2,246.00	2,245.80	2,324.00	2,323.80
GORDON	2,324.00	2,323.80	2,470.00	2,469.80
4TH	2,470.00	2,469.80	2,613.00	2,612.70
BAYARD	2,613.00	2,612.70	3,037.00	3,036.60
B-5	3,037.00	3,036.60	3,255.00	3,254.60
SPEECHLEY	3,255.00	3,254.60	3,631.00	3,630.60
BRADFORD	3,631.00	3,630.60	3,775.00	3,774.60
BALLTOWN B	3,775.00	3,774.60	3,986.00	3,985.60
RILEY	3,986.00	3,985.60	4,610.00	4,609.50
BENSON	4,610.00	4,609.50	4,964.00	4,963.50
ELK	4,964.00	4,963.50	6,823.00	6,822.30
SONYEA	6,823.00	6,822.30	7,135.00	7,134.20
MIDDLESEX	7,135.00	7,134.20	7,236.00	7,234.40
GENESSEE	7,236.00	7,234.40	7,358.00	7,352.70
GENESEO	7,358.00	7,352.70	7,400.00	7,392.20
TULLY	7,400.00	7,392.20	7,456.00	7,444.20
HAMILTON	7,456.00	7,444.20	7,617.00	7,582.60
MRC3	7,617.00	7,582.60	19,091.00	8,013.10

PHOENIX
TECHNOLOGY SERVICES

EQT Production - Marcellus

Taylor County, WV
Taylor County 514214
Well #514214

Main Wellbore

Design: 514214 As Drilled Surveys

Standard Survey Report

17 March, 2014

EQT
Where energy meets innovation.

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Site Taylor County 514214
Company:	EQT Production - Marcellus	**TVD Reference:**	KB @ 1606.0usft
Project:	Taylor County, WV	**MD Reference:**	KB @ 1606.0usft
Site:	Taylor County 514214	**North Reference:**	Grid
Well:	Well #514214	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	514214 As Drilled Surveys		

Project — Taylor 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 — Taylor County 514214

Site Position:		**Northing:**	297,167.70 usft	**Latitude:**	39.31
From:	Map	**Easting:**	1,810,021.30 usft	**Longitude:**	-80.17
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	-0.43 °

Well — Well #514214

Well Position	**+N/-S**	0.0 usft	**Northing:**	297,167.70 usft	**Latitude:**	39° 18' 50.227 N
	+E/-W	0.0 usft	**Easting:**	1,810,021.30 usft	**Longitude:**	80° 10' 17.214 W
Position Uncertainty		0.0 usft	**Wellhead Elevation:**	usft	**Ground Level:**	1,590.0 usft

Wellbore — Main Wellbore

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010_14	2/5/2014	-8.89	66.78	52,275

Design — 514214 As Drilled Surveys

Audit Notes:

Version:	1.0	**Phase:**	ACTUAL	**Tie On Depth:**	0.0

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	163.33

Survey Program Date 3/17/2014

From ()	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	6,703.0	514214 Gyrodata Gyros (Main Wellbore)	GYD_DP_MS	Gyrodata gyro-compassing and drop
0.00	19,091.0	514214 PHX MWD (Main Wellbore)	MWD	MWD - Standard

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	-1,606.0	0.0	0.0	0.0	0.00	0.00	0.00
103.0	0.10	234.82	103.0	-1,503.0	-0.1	-0.1	0.0	0.10	0.10	0.00
203.0	0.20	311.66	203.0	-1,403.0	0.0	-0.3	-0.1	0.20	0.10	76.84
303.0	0.21	326.67	303.0	-1,303.0	0.3	-0.5	-0.4	0.05	0.01	15.01
403.0	0.20	336.36	403.0	-1,203.0	0.6	-0.7	-0.8	0.04	-0.01	9.69
503.0	0.17	7.20	503.0	-1,103.0	0.9	-0.7	-1.1	0.10	-0.03	30.84
603.0	0.12	16.41	603.0	-1,003.0	1.2	-0.7	-1.3	0.06	-0.05	9.21
703.0	0.06	245.37	703.0	-903.0	1.2	-0.7	-1.4	0.17	-0.06	-131.04

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Site Taylor County 514214
Company:	EQT Production - Marcellus	**TVD Reference:**	KB @ 1606.0usft
Project:	Taylor County, WV	**MD Reference:**	KB @ 1606.0usft
Site:	Taylor County 514214	**North Reference:**	Grid
Well:	Well #514214	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	514214 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)
803.0	0.10	259.08	803.0	-803.0	1.2	-0.8	-1.4	0.04	0.04	13.71
903.0	0.10	330.45	903.0	-703.0	1.3	-1.0	-1.5	0.12	0.00	71.37
1,003.0	0.23	45.61	1,003.0	-603.0	1.5	-0.9	-1.7	0.23	0.13	75.16
1,103.0	0.38	54.85	1,103.0	-503.0	1.8	-0.4	-1.9	0.16	0.15	9.24
1,203.0	0.83	14.45	1,203.0	-403.0	2.7	0.0	-2.6	0.59	0.45	-40.40
1,303.0	0.94	14.81	1,303.0	-303.0	4.2	0.4	-3.9	0.11	0.11	0.36
1,403.0	1.03	21.57	1,403.0	-203.0	5.8	0.9	-5.3	0.15	0.09	6.76
1,503.0	1.02	21.74	1,502.9	-103.1	7.5	1.6	-6.7	0.01	-0.01	0.17
1,603.0	0.93	27.56	1,602.9	-3.1	9.0	2.3	-8.0	0.13	-0.09	5.82
1,703.0	0.88	28.95	1,702.9	96.9	10.4	3.0	-9.1	0.05	-0.05	1.39
1,803.0	0.82	28.15	1,802.9	196.9	11.7	3.8	-10.1	0.06	-0.06	-0.80
1,903.0	0.86	21.09	1,902.9	296.9	13.0	4.4	-11.2	0.11	0.04	-7.06
2,003.0	0.89	20.78	2,002.9	396.9	14.5	4.9	-12.5	0.03	0.03	-0.31
2,103.0	1.05	13.42	2,102.9	496.9	16.1	5.4	-13.9	0.20	0.16	-7.36
2,203.0	1.26	9.79	2,202.9	596.9	18.1	5.8	-15.6	0.22	0.21	-3.63
2,303.0	1.45	1.78	2,302.8	696.8	20.4	6.0	-17.8	0.27	0.19	-8.01
2,403.0	1.62	357.10	2,402.8	796.8	23.1	6.0	-20.4	0.21	0.17	-4.68
2,503.0	1.44	352.97	2,502.8	896.8	25.7	5.8	-23.0	0.21	-0.18	-4.13
2,603.0	1.37	349.95	2,602.7	996.7	28.2	5.4	-25.4	0.10	-0.07	-3.02
2,703.0	1.25	345.71	2,702.7	1,096.7	30.4	4.9	-27.7	0.15	-0.12	-4.24
2,803.0	1.03	343.24	2,802.7	1,196.7	32.3	4.4	-29.7	0.23	-0.22	-2.47
2,903.0	0.95	338.02	2,902.7	1,296.7	34.0	3.8	-31.4	0.12	-0.08	-5.22
3,003.0	0.87	331.35	3,002.6	1,396.6	35.4	3.2	-33.0	0.13	-0.08	-6.67
3,103.0	0.81	328.92	3,102.6	1,496.6	36.7	2.4	-34.4	0.07	-0.06	-2.43
3,203.0	0.75	323.46	3,202.6	1,596.6	37.8	1.7	-35.7	0.10	-0.06	-5.46
3,303.0	0.76	325.10	3,302.6	1,696.6	38.9	0.9	-37.0	0.02	0.01	1.64
3,403.0	0.80	324.18	3,402.6	1,796.6	40.0	0.1	-38.3	0.04	0.04	-0.92
3,503.0	0.79	322.28	3,502.6	1,896.6	41.1	-0.7	-39.6	0.03	-0.01	-1.90
3,603.0	0.71	325.03	3,602.6	1,996.6	42.1	-1.5	-40.8	0.09	-0.08	2.75
3,703.0	0.69	320.53	3,702.6	2,096.6	43.1	-2.2	-41.9	0.06	-0.02	-4.50
3,803.0	0.65	318.59	3,802.6	2,196.6	44.0	-3.0	-43.0	0.05	-0.04	-1.94
3,903.0	0.62	313.45	3,902.6	2,296.6	44.8	-3.8	-44.0	0.06	-0.03	-5.14
4,003.0	0.66	313.65	4,002.6	2,396.6	45.6	-4.6	-45.0	0.04	0.04	0.20
4,103.0	0.67	316.87	4,102.6	2,496.6	46.4	-5.4	-46.0	0.04	0.01	3.22
4,203.0	0.65	314.88	4,202.6	2,596.6	47.2	-6.2	-47.0	0.03	-0.02	-1.99
4,303.0	0.66	315.27	4,302.5	2,696.5	48.0	-7.0	-48.0	0.01	0.01	0.39
4,403.0	0.60	315.88	4,402.5	2,796.5	48.8	-7.8	-49.0	0.06	-0.06	0.61
4,503.0	0.47	316.21	4,502.5	2,896.5	49.5	-8.4	-49.8	0.13	-0.13	0.33
4,603.0	0.38	316.12	4,602.5	2,996.5	50.0	-8.9	-50.5	0.09	-0.09	-0.09
4,703.0	0.33	318.61	4,702.5	3,096.5	50.5	-9.3	-51.0	0.05	-0.05	2.49
4,803.0	0.33	318.70	4,802.5	3,196.5	50.9	-9.7	-51.6	0.00	0.00	0.09
4,903.0	0.33	322.14	4,902.5	3,296.5	51.4	-10.1	-52.1	0.02	0.00	3.44

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Site Taylor County 514214
Company:	EQT Production - Marcellus	**TVD Reference:**	KB @ 1606.0usft
Project:	Taylor County, WV	**MD Reference:**	KB @ 1606.0usft
Site:	Taylor County 514214	**North Reference:**	Grid
Well:	Well #514214	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	514214 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	0.32	327.30	5,002.5	3,396.5	51.8	-10.4	-52.6	0.03	-0.01	5.16
5,103.0	0.31	325.78	5,102.5	3,496.5	52.3	-10.7	-53.1	0.01	-0.01	-1.52
5,203.0	0.15	333.78	5,202.5	3,596.5	52.6	-10.9	-53.5	0.16	-0.16	8.00
5,303.0	0.16	117.74	5,302.5	3,696.5	52.7	-10.9	-53.6	0.29	0.01	143.96
5,403.0	0.27	130.91	5,402.5	3,796.5	52.4	-10.6	-53.3	0.12	0.11	13.17
5,503.0	0.28	135.68	5,502.5	3,896.5	52.1	-10.2	-52.9	0.02	0.01	4.77
5,603.0	0.34	136.11	5,602.5	3,996.5	51.7	-9.8	-52.4	0.06	0.06	0.43
5,703.0	0.29	113.06	5,702.5	4,096.5	51.4	-9.4	-52.0	0.14	-0.05	-23.05
5,803.0	0.35	106.53	5,802.5	4,196.5	51.2	-8.9	-51.6	0.07	0.06	-6.53
5,903.0	0.35	118.55	5,902.5	4,296.5	51.0	-8.3	-51.2	0.07	0.00	12.02
6,003.0	0.26	124.04	6,002.5	4,396.5	50.7	-7.9	-50.8	0.09	-0.09	5.49
6,103.0	0.25	147.77	6,102.5	4,496.5	50.4	-7.6	-50.5	0.11	-0.01	23.73
6,203.0	0.21	203.02	6,202.5	4,596.5	50.1	-7.5	-50.1	0.22	-0.04	55.25
6,303.0	0.27	230.82	6,302.5	4,696.5	49.7	-7.8	-49.9	0.13	0.06	27.80
6,403.0	0.24	248.02	6,402.5	4,796.5	49.5	-8.1	-49.8	0.08	-0.03	17.20
6,503.0	0.26	256.78	6,502.5	4,896.5	49.4	-8.6	-49.8	0.04	0.02	8.76
6,603.0	0.21	262.64	6,602.5	4,996.5	49.3	-9.0	-49.8	0.06	-0.05	5.86
Gyro Tie In MD=6703'										
6,703.0	0.21	270.49	6,702.5	5,096.5	49.3	-9.3	-49.9	0.03	0.00	7.85
6,738.0	1.10	24.90	6,737.5	5,131.5	49.6	-9.2	-50.2	3.43	2.54	326.89
6,769.0	3.60	78.30	6,768.5	5,162.5	50.1	-8.2	-50.3	9.91	8.06	172.26
6,801.0	5.40	88.40	6,800.4	5,194.4	50.3	-5.7	-49.8	6.12	5.63	31.56
6,832.0	3.50	87.90	6,831.3	5,225.3	50.4	-3.3	-49.2	6.13	-6.13	-1.61
6,864.0	0.50	323.60	6,863.3	5,257.3	50.5	-2.4	-49.1	11.89	-9.38	-388.44
6,895.0	1.30	299.80	6,894.3	5,288.3	50.8	-2.8	-49.5	2.79	2.58	-76.77
6,926.0	1.60	302.20	6,925.3	5,319.3	51.2	-3.4	-50.0	0.99	0.97	7.74
6,958.0	1.50	300.40	6,957.2	5,351.2	51.7	-4.2	-50.7	0.35	-0.31	-5.63
6,990.0	0.40	179.40	6,989.2	5,383.2	51.8	-4.5	-50.9	5.44	-3.44	-378.13
7,021.0	1.00	145.40	7,020.2	5,414.2	51.4	-4.4	-50.5	2.27	1.94	-109.68
7,053.0	1.00	143.90	7,052.2	5,446.2	51.0	-4.1	-50.0	0.08	0.00	-4.69
7,085.0	0.80	142.40	7,084.2	5,478.2	50.6	-3.8	-49.5	0.63	-0.63	-4.69
7,116.0	1.10	140.70	7,115.2	5,509.2	50.2	-3.4	-49.1	0.97	0.97	-5.48
7,148.0	3.90	156.30	7,147.2	5,541.2	48.9	-2.8	-47.7	8.92	8.75	48.75
7,179.0	7.50	161.20	7,178.0	5,572.0	46.1	-1.7	-44.6	11.71	11.61	15.81
7,211.0	8.70	161.30	7,209.7	5,603.7	41.8	-0.3	-40.1	3.75	3.75	0.31
7,243.0	9.60	165.40	7,241.3	5,635.3	36.9	1.2	-35.0	3.47	2.81	12.81
7,274.0	12.80	168.50	7,271.7	5,665.7	31.0	2.5	-29.0	10.50	10.32	10.00
7,305.0	14.20	169.80	7,301.9	5,695.9	23.9	3.9	-21.8	4.62	4.52	4.19
7,337.0	16.70	167.90	7,332.7	5,726.7	15.6	5.5	-13.3	7.97	7.81	-5.94
7,369.0	19.30	163.40	7,363.1	5,757.1	6.0	8.0	-3.5	9.21	8.13	-14.06
7,400.0	21.30	164.00	7,392.2	5,786.2	-4.3	11.0	7.3	6.49	6.45	1.94
7,431.0	21.40	165.60	7,421.1	5,815.1	-15.2	14.0	18.6	1.91	0.32	5.16
7,463.0	24.10	167.80	7,450.6	5,844.6	-27.2	16.8	30.9	8.85	8.44	6.88

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Site Taylor County 514214
Company:	EQT Production - Marcellus	**TVD Reference:**	KB @ 1606.0usft
Project:	Taylor County, WV	**MD Reference:**	KB @ 1606.0usft
Site:	Taylor County 514214	**North Reference:**	Grid
Well:	Well #514214	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	514214 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)
7,495.0	24.40	167.90	7,479.8	5,873.8	-40.1	19.6	44.0	0.95	0.94	0.31
7,525.0	27.50	165.00	7,506.7	5,900.7	-52.8	22.7	57.1	11.16	10.33	-9.67
7,557.0	32.00	164.60	7,534.5	5,928.5	-68.2	26.8	73.0	14.08	14.06	-1.25
7,589.0	36.80	161.50	7,560.9	5,954.9	-85.4	32.1	91.1	15.96	15.00	-9.69
7,620.0	42.00	160.20	7,584.9	5,978.9	-104.0	38.6	110.7	16.98	16.77	-4.19
7,652.0	46.90	159.00	7,607.7	6,001.7	-125.0	46.4	133.1	15.54	15.31	-3.75
7,684.0	52.90	160.60	7,628.3	6,022.3	-148.0	54.8	157.5	19.13	18.75	5.00
7,715.0	57.00	160.30	7,646.1	6,040.1	-171.9	63.3	182.8	13.25	13.23	-0.97
7,747.0	62.30	160.00	7,662.3	6,056.3	-197.8	72.7	210.4	16.58	16.56	-0.94
7,778.0	66.20	161.30	7,675.7	6,069.7	-224.2	82.0	238.3	13.14	12.58	4.19
7,810.0	71.30	163.50	7,687.3	6,081.3	-252.6	91.0	268.1	17.18	15.94	6.88
7,842.0	75.70	165.60	7,696.4	6,090.4	-282.2	99.1	298.7	15.12	13.75	6.56
7,873.0	78.20	167.80	7,703.4	6,097.4	-311.6	106.1	328.9	10.62	8.06	7.10
7,905.0	81.80	167.20	7,709.0	6,103.0	-342.3	112.9	360.3	11.40	11.25	-1.88
514214 LP Plan 9										
7,908.0	82.25	167.08	7,709.4	6,103.4	-345.2	113.6	363.3	15.33	14.83	-3.90
7,936.0	86.40	166.00	7,712.1	6,106.1	-372.3	120.0	391.1	15.33	14.84	-3.87
8,002.0	92.10	164.70	7,713.0	6,107.0	-436.1	136.7	457.0	8.86	8.64	-1.97
8,065.0	92.40	164.90	7,710.5	6,104.5	-496.9	153.2	519.9	0.57	0.48	0.32
8,127.0	91.10	164.20	7,708.6	6,102.6	-556.6	169.7	581.9	2.38	-2.10	-1.13
8,191.0	91.70	164.60	7,707.1	6,101.1	-618.2	186.9	645.9	1.13	0.94	0.63
514214 LP										
8,197.6	91.62	164.64	7,706.9	6,100.9	-624.6	188.7	652.5	1.42	-1.27	0.64
8,254.0	90.90	165.00	7,705.6	6,099.6	-679.0	203.5	708.8	1.42	-1.27	0.63
8,317.0	89.50	163.30	7,705.4	6,099.4	-739.6	220.7	771.8	3.50	-2.22	-2.70
8,380.0	88.80	160.60	7,706.4	6,100.4	-799.5	240.2	834.8	4.43	-1.11	-4.29
8,443.0	89.50	161.10	7,707.3	6,101.3	-859.0	260.8	897.7	1.37	1.11	0.79
8,506.0	90.10	162.20	7,707.5	6,101.5	-918.8	280.7	960.7	1.99	0.95	1.75
8,569.0	89.10	161.80	7,708.0	6,102.0	-978.7	300.1	1,023.7	1.71	-1.59	-0.63
8,633.0	88.90	162.00	7,709.1	6,103.1	-1,039.5	320.0	1,087.6	0.44	-0.31	0.31
8,696.0	88.90	161.30	7,710.3	6,104.3	-1,099.3	339.8	1,150.6	1.11	0.00	-1.11
8,759.0	89.70	162.60	7,711.1	6,105.1	-1,159.2	359.4	1,213.6	2.42	1.27	2.06
8,822.0	90.60	163.40	7,710.9	6,104.9	-1,219.5	377.8	1,276.6	1.91	1.43	1.27
8,885.0	90.50	162.80	7,710.3	6,104.3	-1,279.7	396.1	1,339.6	0.97	-0.16	-0.95
8,948.0	89.40	162.90	7,710.3	6,104.3	-1,339.9	414.7	1,402.6	1.75	-1.75	0.16
9,011.0	88.60	162.80	7,711.4	6,105.4	-1,400.1	433.2	1,465.6	1.28	-1.27	-0.16
9,074.0	88.40	161.60	7,713.1	6,107.1	-1,460.1	452.5	1,528.5	1.93	-0.32	-1.90
9,137.0	88.90	162.40	7,714.6	6,108.6	-1,520.0	472.0	1,591.5	1.50	0.79	1.27
9,200.0	89.50	163.10	7,715.5	6,109.5	-1,580.1	490.6	1,654.5	1.46	0.95	1.11
9,263.0	89.00	162.50	7,716.3	6,110.3	-1,640.3	509.3	1,717.5	1.24	-0.79	-0.95
9,327.0	88.80	163.40	7,717.5	6,111.5	-1,701.5	528.0	1,781.5	1.44	-0.31	1.41
9,390.0	89.00	162.80	7,718.7	6,112.7	-1,761.8	546.3	1,844.4	1.00	0.32	-0.95
9,453.0	89.10	163.30	7,719.8	6,113.8	-1,822.0	564.7	1,907.4	0.81	0.16	0.79

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Site Taylor County 514214
Company:	EQT Production - Marcellus	**TVD Reference:**	KB @ 1606.0usft
Project:	Taylor County, WV	**MD Reference:**	KB @ 1606.0usft
Site:	Taylor County 514214	**North Reference:**	Grid
Well:	Well #514214	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	514214 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)
9,516.0	88.80	162.10	7,720.9	6,114.9	-1,882.2	583.4	1,970.4	1.96	-0.48	-1.90
9,579.0	88.80	161.50	7,722.2	6,116.2	-1,942.0	603.1	2,033.4	0.95	0.00	-0.95
9,643.0	89.10	162.70	7,723.4	6,117.4	-2,002.9	622.8	2,097.4	1.93	0.47	1.86
9,706.0	89.20	166.60	7,724.3	6,118.3	-2,063.6	639.5	2,160.3	6.19	0.16	6.19
9,769.0	90.20	167.40	7,724.7	6,118.7	-2,125.0	653.6	2,223.2	2.03	1.59	1.27
9,832.0	88.80	167.20	7,725.2	6,119.2	-2,186.5	667.5	2,286.0	2.24	-2.22	-0.32
9,895.0	89.20	168.40	7,726.3	6,120.3	-2,248.0	680.8	2,348.8	2.01	0.63	1.90
9,959.0	87.40	166.50	7,728.2	6,122.2	-2,310.5	694.7	2,412.6	4.09	-2.81	-2.97
10,022.0	88.00	167.10	7,730.7	6,124.7	-2,371.7	709.1	2,475.5	1.35	0.95	0.95
10,085.0	88.40	167.60	7,732.7	6,126.7	-2,433.2	722.8	2,538.3	1.02	0.63	0.79
10,148.0	89.50	165.90	7,733.9	6,127.9	-2,494.5	737.3	2,601.2	3.21	1.75	-2.70
10,211.0	88.30	165.50	7,735.1	6,129.1	-2,555.5	752.8	2,664.1	2.01	-1.90	-0.63
10,273.0	88.90	166.00	7,736.6	6,130.6	-2,615.6	768.1	2,726.0	1.26	0.97	0.81
10,336.0	88.60	165.00	7,738.0	6,132.0	-2,676.6	783.9	2,789.0	1.66	-0.48	-1.59
10,399.0	88.60	161.50	7,739.5	6,133.5	-2,736.9	802.0	2,851.9	5.55	0.00	-5.56
10,462.0	89.00	161.60	7,740.8	6,134.8	-2,796.6	821.9	2,914.9	0.65	0.63	0.16
10,525.0	89.20	161.20	7,741.8	6,135.8	-2,856.3	842.0	2,977.8	0.71	0.32	-0.63
10,588.0	89.40	161.30	7,742.6	6,136.6	-2,916.0	862.3	3,040.8	0.35	0.32	0.16
10,651.0	89.90	161.90	7,743.0	6,137.0	-2,975.8	882.2	3,103.8	1.24	0.79	0.95
10,714.0	88.70	160.00	7,743.8	6,137.8	-3,035.3	902.7	3,166.7	3.57	-1.90	-3.02
10,777.0	87.90	159.60	7,745.6	6,139.6	-3,094.4	924.5	3,229.5	1.42	-1.27	-0.63
10,839.0	87.30	160.60	7,748.2	6,142.2	-3,152.6	945.6	3,291.4	1.88	-0.97	1.61
10,902.0	87.10	160.10	7,751.3	6,145.3	-3,211.9	966.7	3,354.2	0.85	-0.32	-0.79
10,965.0	89.20	162.90	7,753.3	6,147.3	-3,271.6	986.7	3,417.2	5.55	3.33	4.44
11,029.0	89.20	162.40	7,754.2	6,148.2	-3,332.7	1,005.8	3,481.1	0.78	0.00	-0.78
11,092.0	90.00	162.80	7,754.7	6,148.7	-3,392.8	1,024.6	3,544.1	1.42	1.27	0.63
11,155.0	90.10	164.00	7,754.6	6,148.6	-3,453.2	1,042.6	3,607.1	1.91	0.16	1.90
11,218.0	89.80	163.10	7,754.7	6,148.7	-3,513.6	1,060.5	3,670.1	1.51	-0.48	-1.43
11,281.0	90.00	162.50	7,754.8	6,148.8	-3,573.8	1,079.1	3,733.1	1.00	0.32	-0.95
11,345.0	90.00	162.60	7,754.8	6,148.8	-3,634.8	1,098.3	3,797.1	0.16	0.00	0.16
11,408.0	90.00	162.10	7,754.8	6,148.8	-3,694.9	1,117.4	3,860.1	0.79	0.00	-0.79
11,471.0	89.30	164.70	7,755.2	6,149.2	-3,755.2	1,135.4	3,923.1	4.27	-1.11	4.13
11,534.0	89.30	164.40	7,755.9	6,149.9	-3,816.0	1,152.2	3,986.1	0.48	0.00	-0.48
11,597.0	87.00	165.80	7,758.0	6,152.0	-3,876.8	1,168.4	4,049.0	4.27	-3.65	2.22
11,661.0	87.90	166.40	7,760.8	6,154.8	-3,938.9	1,183.7	4,112.9	1.69	1.41	0.94
11,724.0	88.50	167.20	7,762.8	6,156.8	-4,000.2	1,198.1	4,175.7	1.59	0.95	1.27
11,787.0	88.40	166.50	7,764.5	6,158.5	-4,061.5	1,212.4	4,238.6	1.12	-0.16	-1.11
11,850.0	87.30	165.60	7,766.9	6,160.9	-4,122.6	1,227.6	4,301.5	2.26	-1.75	-1.43
11,913.0	86.30	165.60	7,770.4	6,164.4	-4,183.5	1,243.2	4,364.3	1.59	-1.59	0.00
11,976.0	86.10	165.20	7,774.5	6,168.5	-4,244.3	1,259.1	4,427.2	0.71	-0.32	-0.63
12,039.0	86.20	165.60	7,778.8	6,172.8	-4,305.2	1,274.9	4,490.0	0.65	0.16	0.63
12,102.0	86.20	165.60	7,783.0	6,177.0	-4,366.1	1,290.6	4,552.8	0.00	0.00	0.00

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Site Taylor County 514214
Company:	EQT Production - Marcellus	**TVD Reference:**	KB @ 1606.0usft
Project:	Taylor County, WV	**MD Reference:**	KB @ 1606.0usft
Site:	Taylor County 514214	**North Reference:**	Grid
Well:	Well #514214	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	514214 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)
12,166.0	86.60	165.90	7,787.0	6,181.0	-4,428.0	1,306.3	4,616.6	0.78	0.63	0.47
12,229.0	86.70	165.70	7,790.7	6,184.7	-4,488.9	1,321.7	4,679.4	0.35	0.16	-0.32
12,292.0	88.00	166.00	7,793.6	6,187.6	-4,550.0	1,337.1	4,742.3	2.12	2.06	0.48
12,355.0	89.20	164.90	7,795.1	6,189.1	-4,610.9	1,352.9	4,805.2	2.58	1.90	-1.75
12,418.0	89.30	164.70	7,795.9	6,189.9	-4,671.7	1,369.4	4,868.2	0.35	0.16	-0.32
12,481.0	89.20	164.40	7,796.8	6,190.8	-4,732.4	1,386.2	4,931.2	0.50	-0.16	-0.48
12,545.0	89.00	163.40	7,797.8	6,191.8	-4,793.9	1,404.0	4,995.2	1.59	-0.31	-1.56
12,608.0	87.80	161.30	7,799.5	6,193.5	-4,853.9	1,423.1	5,058.1	3.84	-1.90	-3.33
12,670.0	88.70	162.20	7,801.4	6,195.4	-4,912.8	1,442.5	5,120.1	2.05	1.45	1.45
12,734.0	89.00	162.20	7,802.7	6,196.7	-4,973.7	1,462.0	5,184.1	0.47	0.47	0.00
12,796.0	88.50	161.30	7,804.0	6,198.0	-5,032.6	1,481.4	5,246.0	1.66	-0.81	-1.45
12,859.0	88.00	159.90	7,806.0	6,200.0	-5,092.0	1,502.3	5,308.9	2.36	-0.79	-2.22
12,923.0	86.60	159.90	7,809.0	6,203.0	-5,152.0	1,524.3	5,372.7	2.19	-2.19	0.00
12,985.0	87.50	160.60	7,812.2	6,206.2	-5,210.3	1,545.2	5,434.6	1.84	1.45	1.13
13,049.0	87.00	159.00	7,815.2	6,209.2	-5,270.3	1,567.3	5,498.4	2.62	-0.78	-2.50
13,112.0	86.60	158.20	7,818.8	6,212.8	-5,328.8	1,590.3	5,561.0	1.42	-0.63	-1.27
13,175.0	86.60	157.70	7,822.5	6,216.5	-5,387.1	1,613.9	5,623.7	0.79	0.00	-0.79
13,238.0	87.30	161.10	7,825.9	6,219.9	-5,446.0	1,636.0	5,686.4	5.50	1.11	5.40
13,301.0	87.60	160.70	7,828.7	6,222.7	-5,505.5	1,656.6	5,749.3	0.79	0.48	-0.63
13,364.0	87.80	160.60	7,831.2	6,225.2	-5,564.9	1,677.5	5,812.2	0.35	0.32	-0.16
13,427.0	88.10	162.90	7,833.4	6,227.4	-5,624.6	1,697.2	5,875.1	3.68	0.48	3.65
13,490.0	88.00	162.10	7,835.6	6,229.6	-5,684.7	1,716.1	5,938.1	1.28	-0.16	-1.27
13,553.0	88.00	161.80	7,837.8	6,231.8	-5,744.6	1,735.6	6,001.0	0.48	0.00	-0.48
13,616.0	86.80	164.90	7,840.6	6,234.6	-5,804.8	1,753.6	6,063.9	5.27	-1.90	4.92
13,679.0	86.70	163.50	7,844.2	6,238.2	-5,865.4	1,770.8	6,126.8	2.22	-0.16	-2.22
13,742.0	87.30	163.90	7,847.5	6,241.5	-5,925.8	1,788.4	6,189.7	1.14	0.95	0.63
13,805.0	88.20	165.50	7,850.0	6,244.0	-5,986.5	1,805.0	6,252.7	2.91	1.43	2.54
13,868.0	87.90	167.10	7,852.1	6,246.1	-6,047.6	1,819.9	6,315.5	2.58	-0.48	2.54
13,932.0	88.40	167.00	7,854.2	6,248.2	-6,110.0	1,834.3	6,379.4	0.80	0.78	-0.16
13,995.0	87.00	165.00	7,856.7	6,250.7	-6,171.1	1,849.5	6,442.2	3.87	-2.22	-3.17
14,058.0	87.60	165.70	7,859.7	6,253.7	-6,231.9	1,865.4	6,505.1	1.46	0.95	1.11
14,121.0	87.20	165.40	7,862.5	6,256.5	-6,292.9	1,881.1	6,568.0	0.79	-0.63	-0.48
14,184.0	88.50	167.00	7,864.9	6,258.9	-6,354.0	1,896.1	6,630.9	3.27	2.06	2.54
14,247.0	89.60	167.90	7,866.0	6,260.0	-6,415.5	1,909.8	6,693.7	2.26	1.75	1.43
14,310.0	88.40	166.70	7,867.1	6,261.1	-6,476.9	1,923.7	6,756.6	2.69	-1.90	-1.90
14,373.0	87.80	164.10	7,869.1	6,263.1	-6,537.9	1,939.5	6,819.5	4.23	-0.95	-4.13
14,436.0	87.80	164.50	7,871.6	6,265.6	-6,598.5	1,956.6	6,882.4	0.63	0.00	0.63
14,499.0	88.30	163.60	7,873.7	6,267.7	-6,659.0	1,973.9	6,945.4	1.63	0.79	-1.43
14,562.0	88.70	163.70	7,875.4	6,269.4	-6,719.4	1,991.6	7,008.4	0.65	0.63	0.16
14,625.0	88.00	161.90	7,877.2	6,271.2	-6,779.6	2,010.2	7,071.3	3.06	-1.11	-2.86
14,688.0	87.50	161.30	7,879.6	6,273.6	-6,839.3	2,030.1	7,134.3	1.24	-0.79	-0.95
14,751.0	87.20	160.00	7,882.6	6,276.6	-6,898.7	2,051.0	7,197.1	2.12	-0.48	-2.06
14,814.0	87.30	160.10	7,885.6	6,279.6	-6,957.9	2,072.4	7,259.9	0.22	0.16	0.16

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Site Taylor County 514214
Company:	EQT Production - Marcellus	**TVD Reference:**	KB @ 1606.0usft
Project:	Taylor County, WV	**MD Reference:**	KB @ 1606.0usft
Site:	Taylor County 514214	**North Reference:**	Grid
Well:	Well #514214	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	514214 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)
14,877.0	88.00	160.00	7,888.2	6,282.2	-7,017.0	2,093.9	7,322.8	1.12	1.11	-0.16
14,941.0	88.40	159.80	7,890.2	6,284.2	-7,077.1	2,115.9	7,386.6	0.70	0.63	-0.31
15,004.0	88.50	159.60	7,891.9	6,285.9	-7,136.2	2,137.7	7,449.5	0.35	0.16	-0.32
15,067.0	88.50	159.80	7,893.5	6,287.5	-7,195.2	2,159.6	7,512.3	0.32	0.00	0.32
15,130.0	88.40	159.10	7,895.2	6,289.2	-7,254.2	2,181.7	7,575.2	1.12	-0.16	-1.11
15,193.0	88.40	162.80	7,897.0	6,291.0	-7,313.7	2,202.2	7,638.1	5.87	0.00	5.87
15,256.0	88.40	162.60	7,898.7	6,292.7	-7,373.8	2,221.0	7,701.1	0.32	0.00	-0.32
15,320.0	88.30	161.30	7,900.6	6,294.6	-7,434.7	2,240.8	7,765.0	2.04	-0.16	-2.03
15,383.0	87.80	164.50	7,902.7	6,296.7	-7,494.8	2,259.3	7,828.0	5.14	-0.79	5.08
15,446.0	87.20	162.90	7,905.5	6,299.5	-7,555.3	2,277.0	7,890.9	2.71	-0.95	-2.54
15,509.0	87.50	163.30	7,908.4	6,302.4	-7,615.5	2,295.3	7,953.8	0.79	0.48	0.63
15,572.0	88.40	164.00	7,910.6	6,304.6	-7,675.9	2,313.0	8,016.8	1.81	1.43	1.11
15,635.0	88.70	163.80	7,912.2	6,306.2	-7,736.4	2,330.5	8,079.8	0.57	0.48	-0.32
15,698.0	87.90	162.60	7,914.1	6,308.1	-7,796.7	2,348.7	8,142.7	2.29	-1.27	-1.90
15,761.0	87.90	161.20	7,916.4	6,310.4	-7,856.5	2,368.2	8,205.7	2.22	0.00	-2.22
15,824.0	87.80	163.00	7,918.8	6,312.8	-7,916.4	2,387.6	8,268.6	2.86	-0.16	2.86
15,886.0	88.10	163.50	7,921.0	6,315.0	-7,975.8	2,405.4	8,330.6	0.94	0.48	0.81
15,949.0	88.00	163.60	7,923.1	6,317.1	-8,036.1	2,423.2	8,393.5	0.22	-0.16	0.16
16,012.0	87.10	162.50	7,925.8	6,319.8	-8,096.3	2,441.6	8,456.5	2.25	-1.43	-1.75
16,075.0	86.90	163.10	7,929.1	6,323.1	-8,156.4	2,460.2	8,519.4	1.00	-0.32	0.95
16,138.0	88.60	163.50	7,931.6	6,325.6	-8,216.7	2,478.3	8,582.3	2.77	2.70	0.63
16,201.0	88.00	164.20	7,933.5	6,327.5	-8,277.2	2,495.8	8,645.3	1.46	-0.95	1.11
16,264.0	88.20	163.50	7,935.6	6,329.6	-8,337.7	2,513.3	8,708.3	1.15	0.32	-1.11
16,327.0	88.00	164.20	7,937.7	6,331.7	-8,398.2	2,530.8	8,771.2	1.15	-0.32	1.11
16,390.0	87.90	164.90	7,939.9	6,333.9	-8,458.9	2,547.6	8,834.2	1.12	-0.16	1.11
16,453.0	89.80	167.80	7,941.2	6,335.2	-8,520.1	2,562.5	8,897.1	5.50	3.02	4.60
16,516.0	90.20	168.40	7,941.2	6,335.2	-8,581.7	2,575.5	8,959.8	1.14	0.63	0.95
16,580.0	89.50	167.70	7,941.3	6,335.3	-8,644.3	2,588.7	9,023.6	1.55	-1.09	-1.09
16,643.0	89.00	165.50	7,942.2	6,336.2	-8,705.6	2,603.3	9,086.5	3.58	-0.79	-3.49
16,706.0	88.40	164.70	7,943.6	6,337.6	-8,766.5	2,619.5	9,149.5	1.59	-0.95	-1.27
16,769.0	88.30	164.20	7,945.4	6,339.4	-8,827.1	2,636.4	9,212.4	0.81	-0.16	-0.79
16,832.0	88.00	160.60	7,947.4	6,341.4	-8,887.1	2,655.4	9,275.4	5.73	-0.48	-5.71
16,895.0	87.30	162.10	7,950.0	6,344.0	-8,946.8	2,675.5	9,338.3	2.63	-1.11	2.38
16,958.0	88.00	163.40	7,952.6	6,346.6	-9,006.9	2,694.2	9,401.2	2.34	1.11	2.06
17,022.0	88.00	163.20	7,954.8	6,348.8	-9,068.2	2,712.6	9,465.2	0.31	0.00	-0.31
17,085.0	88.10	164.00	7,957.0	6,351.0	-9,128.6	2,730.4	9,528.1	1.28	0.16	1.27
17,148.0	88.00	164.00	7,959.1	6,353.1	-9,189.1	2,747.7	9,591.1	0.16	-0.16	0.00
17,211.0	88.00	164.40	7,961.3	6,355.3	-9,249.7	2,764.9	9,654.1	0.63	0.00	0.63
17,274.0	87.60	163.90	7,963.7	6,357.7	-9,310.2	2,782.1	9,717.0	1.02	-0.63	-0.79
17,337.0	88.60	164.50	7,965.8	6,359.8	-9,370.8	2,799.2	9,780.0	1.85	1.59	0.95
17,400.0	88.50	162.50	7,967.4	6,361.4	-9,431.2	2,817.1	9,842.9	3.18	-0.16	-3.17
17,463.0	88.50	161.30	7,969.1	6,363.1	-9,491.1	2,836.7	9,905.9	1.90	0.00	-1.90

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Site Taylor County 514214
Company:	EQT Production - Marcellus	**TVD Reference:**	KB @ 1606.0usft
Project:	Taylor County, WV	**MD Reference:**	KB @ 1606.0usft
Site:	Taylor County 514214	**North Reference:**	Grid
Well:	Well #514214	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	514214 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)
17,526.0	88.50	160.40	7,970.7	6,364.7	-9,550.6	2,857.3	9,968.8	1.43	0.00	-1.43
17,589.0	88.70	161.50	7,972.3	6,366.3	-9,610.1	2,877.9	10,031.7	1.77	0.32	1.75
17,652.0	88.60	162.00	7,973.8	6,367.8	-9,669.9	2,897.6	10,094.7	0.81	-0.16	0.79
17,715.0	88.30	162.00	7,975.5	6,369.5	-9,729.8	2,917.1	10,157.7	0.48	-0.48	0.00
17,778.0	88.10	161.20	7,977.4	6,371.4	-9,789.5	2,936.9	10,220.6	1.31	-0.32	-1.27
17,842.0	87.60	159.20	7,979.8	6,373.8	-9,849.7	2,958.6	10,284.5	3.22	-0.78	-3.13
17,905.0	87.30	158.30	7,982.6	6,376.6	-9,908.4	2,981.4	10,347.2	1.50	-0.48	-1.43
17,968.0	88.50	159.70	7,985.0	6,379.0	-9,967.1	3,004.0	10,410.0	2.93	1.90	2.22
18,031.0	89.10	162.00	7,986.3	6,380.3	-10,026.6	3,024.6	10,472.9	3.77	0.95	3.65
18,094.0	89.20	162.00	7,987.2	6,381.2	-10,086.5	3,044.1	10,535.9	0.16	0.16	0.00
18,157.0	89.30	162.80	7,988.0	6,382.0	-10,146.6	3,063.1	10,598.9	1.28	0.16	1.27
18,220.0	87.10	165.60	7,990.0	6,384.0	-10,207.2	3,080.3	10,661.8	5.65	-3.49	4.44
18,284.0	87.70	166.20	7,992.9	6,386.9	-10,269.2	3,095.9	10,725.7	1.33	0.94	0.94
18,347.0	87.80	166.20	7,995.4	6,389.4	-10,330.3	3,110.9	10,788.5	0.16	0.16	0.00
18,410.0	87.60	165.10	7,997.9	6,391.9	-10,391.3	3,126.5	10,851.4	1.77	-0.32	-1.75
18,473.0	88.20	166.40	8,000.2	6,394.2	-10,452.3	3,142.0	10,914.3	2.27	0.95	2.06
18,536.0	87.50	164.80	8,002.6	6,396.6	-10,513.3	3,157.6	10,977.2	2.77	-1.11	-2.54
18,599.0	88.10	165.60	8,005.0	6,399.0	-10,574.2	3,173.7	11,040.2	1.59	0.95	1.27
18,662.0	89.70	166.90	8,006.2	6,400.2	-10,635.3	3,188.7	11,103.1	3.27	2.54	2.06
18,726.0	89.80	166.70	8,006.5	6,400.5	-10,697.6	3,203.3	11,167.0	0.35	0.16	-0.31
18,789.0	89.30	165.50	8,007.0	6,401.0	-10,758.8	3,218.4	11,229.9	2.06	-0.79	-1.90
18,851.0	88.80	163.20	8,008.0	6,402.0	-10,818.5	3,235.2	11,291.9	3.80	-0.81	-3.71
18,914.0	88.60	161.10	8,009.4	6,403.4	-10,878.4	3,254.5	11,354.8	3.35	-0.32	-3.33
18,977.0	88.50	159.70	8,011.0	6,405.0	-10,937.8	3,275.6	11,417.7	2.23	-0.16	-2.22
Last Survey MD=19034'										
19,034.0	89.10	160.60	8,012.2	6,406.2	-10,991.4	3,294.9	11,474.6	1.90	1.05	1.58
Projection to TD MD=19091' - 514214 TD										
19,091.0	89.10	160.60	8,013.1	6,407.1	-11,045.1	3,313.9	11,531.5	0.00	0.00	0.00

Design Annotations

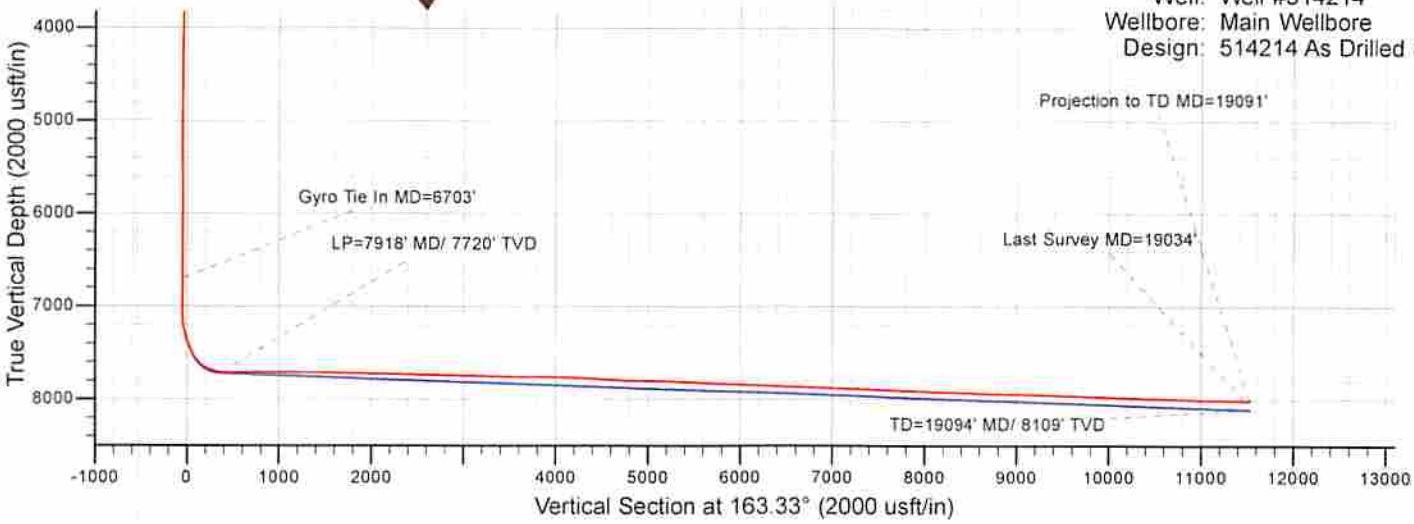
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
6,703.0	6,702.5	49.3	-9.3	Gyro Tie In MD=6703'
19,034.0	8,012.2	-10,991.4	3,294.9	Last Survey MD=19034'
19,091.0	8,013.1	-11,045.1	3,313.9	Projection to TD MD=19091'

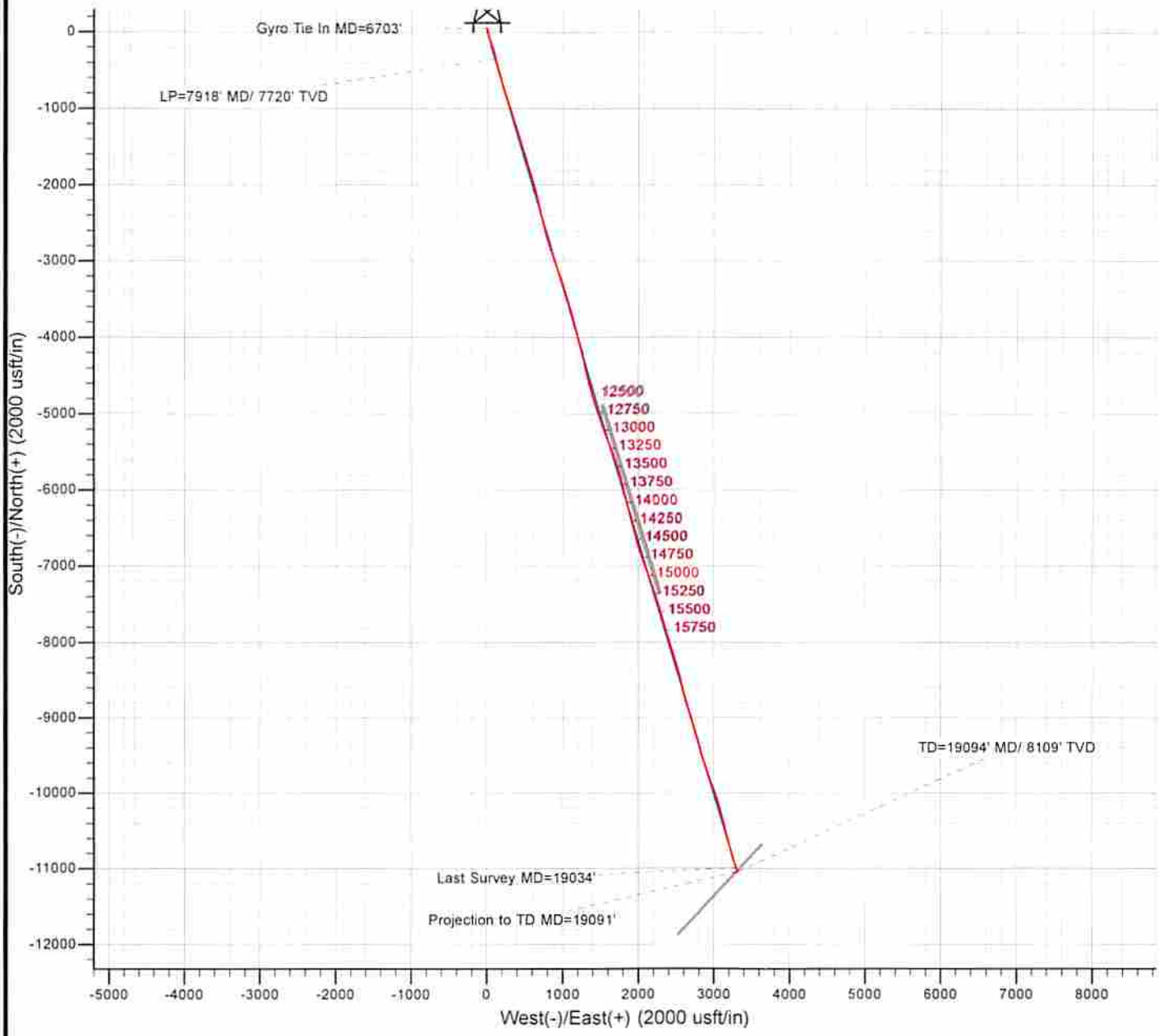
Checked By: _____ Approved By: _____ Date: _____

PHOENIX
TECHNOLOGY SERVICES

EQT Production - Marcellus

Project: Taylor County, WV
Site: Taylor County 514214
Well: Well #514214
Wellbore: Main Wellbore
Design: 514214 As Drilled Surveys





514214 - Perforations

Stage Number	Perforation Date	Top Perf Depth (ftKB)	Bottom Perf Depth (ftKB)	Number of Shots	Formation
1	4/7/2014	18,801.00	19,043.00	40	MARCELLUS
2	5/5/2014	18,501.00	18,743.00	40	MARCELLUS
3	5/5/2014	18,201.00	18,443.00	40	MARCELLUS
4	5/5/2014	17,901.00	18,143.00	40	MARCELLUS
5	5/6/2014	17,601.00	17,843.00	40	MARCELLUS
6	5/6/2014	17,301.00	17,543.00	40	MARCELLUS
7	5/7/2014	17,001.00	17,243.00	40	MARCELLUS
8	5/7/2014	16,701.00	16,943.00	40	MARCELLUS
9	5/7/2014	16,401.00	16,643.00	40	MARCELLUS
10	5/8/2014	16,101.00	16,343.00	40	MARCELLUS
11	5/8/2014	15,801.00	16,043.00	40	MARCELLUS
12	5/8/2014	15,498.00	15,743.00	40	MARCELLUS
13	5/9/2014	15,201.00	15,443.00	40	MARCELLUS
14	5/9/2014	14,901.00	14,143.00	40	MARCELLUS
15	5/10/2014	14,816.00	14,601.00	40	MARCELLUS
16	5/10/2014	14,301.00	14,543.00	40	MARCELLUS
17	5/10/2014	14,010.00	14,243.00	40	MARCELLUS
18	5/11/2014	13,943.00	13,701.00	40	MARCELLUS
19	5/11/2014	13,401.00	13,643.00	40	MARCELLUS
20	5/11/2014	13,343.00	13,101.00	40	MARCELLUS
21	5/12/2014	13,043.00	12,801.00	40	MARCELLUS
22	5/12/2014	12,501.00	12,743.00	40	MARCELLUS
23	5/14/2014	12,201.00	12,443.00	40	MARCELLUS
24	5/14/2014	11,901.00	12,143.00	40	MARCELLUS
25	5/14/2014	11,601.00	11,843.00	40	MARCELLUS
26	5/15/2014	11,301.00	11,566.00	40	MARCELLUS
27	5/15/2014	11,243.00	11,006.00	40	MARCELLUS
28	5/15/2014	10,701.00	10,943.00	40	MARCELLUS
29	5/16/2014	10,401.00	10,643.00	40	MARCELLUS
30	5/16/2014	10,101.00	10,343.00	40	MARCELLUS
31	5/17/2014	9,801.00	10,043.00	40	MARCELLUS
32	5/17/2014	9,505.00	9,743.00	40	MARCELLUS
33	5/17/2014	9,201.00	9,443.00	40	MARCELLUS
34	5/17/2014	8,901.00	9,139.00	40	MARCELLUS
35	5/18/2014	8,601.00	8,843.00	40	MARCELLUS
36	5/19/2014	8,297.00	8,543.00	40	MARCELLUS
37	5/19/2014	8,001.00	8,243.00	40	MARCELLUS

514214 - 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	5/5/2014	87.40	8,685.00	0.00	4,081	501,140	12,445	0
2	5/5/2014	91.00	8,723.00	5,586.00	4,320	494,788	12,410	0
3	5/5/2014	89.80	8,801.00	5,879.00	5,107	501,080	12,267	0
4	5/6/2014	87.30	8,808.00	6,348.00	5,136	501,140	12,320	0
5	5/6/2014	89.00	8,787.00	5,937.00	4,306	498,160	12,419	0
6	5/6/2014	88.90	8,668.00	6,230.00	4,832	501,610	12,303	0
7	5/7/2014	89.00	8,699.00	6,169.00	4,710	498,040	12,180	0
8	5/7/2014	83.20	8,830.00	6,237.00	5,869	500,770	12,205	0
9	5/7/2014	88.40	8,773.00	6,058.00	5,053	501,050	12,398	0
10	5/8/2014	89.00	8,700.00	6,162.00	5,600	499,970	12,487	0
11	5/8/2014	88.10	8,820.00	6,670.00	4,581	501,920	11,998	0
12	5/8/2014	86.00	8,605.00	6,040.00	5,457	500,340	12,459	0
Injection Test	5/9/2014	8.00	7,037.00	NA	NA	NA	1,500	0
13	5/9/2014	91.00	8,698.00	6,033.00	5,375	496,840	14,291	0
14	5/10/2014	94.50	8,845.00	6,148.00	5,740	501,400	12,206	0
15	5/10/2014	89.60	8,809.00	6,434.00	4,950	498,630	13,542	0
16	5/10/2014	94.00	8,791.00	6,623.00	6,284	501,970	13,104	0
17	5/11/2014	95.90	8,848.00	6,373.00	5,847	502,350	12,202	0
18	5/11/2014	94.00	8,823.00	7,013.00	5,046	498,080	12,439	0
19	5/11/2014	96.00	8,862.00	6,816.00	5,715	502,740	12,050	0
20	5/11/2014	93.50	8,765.00	7,871.00	5,815	504,820	12,586	0
21	5/12/2014	93.00	8,845.00	6,745.00	4,978	464,000	10,324	0
22	5/14/2014	93.00	8,824.00	7,192.00	4,721	498,800	12,221	0
23	5/14/2014	88.00	8,704.00	7,299.00	4,710	501,620	13,002	0
24	5/14/2014	92.00	8,819.00	7,099.00	5,879	500,420	12,103	0
25	5/15/2014	92.00	8,772.00	6,827.00	5,969	500,340	12,086	0
26	5/15/2014	93.00	8,690.00	7,267.00	5,640	502,540	12,070	0
27	5/15/2014	90.00	8,722.00	7,074.00	5,726	501,830	12,204	0
28	5/16/2014	91.00	8,345.00	7,399.00	6,040	497,000	14,461	0
29	5/16/2014	98.00	8,734.00	6,784.00	5,933	500,230	11,874	0
30	5/16/2014	95.00	8,672.00	7,253.00	6,173	500,500	12,006	0
31	5/17/2014	100.00	8,413.00	6,773.00	5,937	503,741	12,026	0
32	5/17/2014	100.00	8,160.00	7,299.00	5,808	500,890	12,016	0
33	5/17/2014	101.00	8,079.00	7,789.00	6,015	499,580	12,464	0
34	5/18/2014	101.00	7,980.00	7,199.00	6,316	500,140	11,983	0
35	5/18/2014	100.00	7,793.00	6,799.00	5,440	501,500	11,993	0
36	5/19/2014	101.00	7,500.00	6,927.00	5,679	500,439	12,138	0
37	5/19/2014	97.00	8,669.00	6,741.00	5,536	504,650	12,016	0

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	4/7/2014
Job End Date:	5/19/2014
State:	West Virginia
County:	Taylor
API Number:	47-091-01247-00-00
Operator Name:	EQT Production
Well Name and Number:	RSM112 - 514214
Longitude:	-80.17144800
Latitude:	39.31395200
Datum:	NAD27
Federal/Tribal Well:	NO
True Vertical Depth:	8,013
Total Base Water Volume (gal):	19,833,038
Total Base Non Water Volume:	910,376

Frac Focus
Chemical Disclosure Registry

GROUNDWATER PROTECTION COUNCIL

Interstate Oil & Gas Compact Commission

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	USWS	Carrier					
			Water	7732-18-5	100.00000	89.58971	
Sand	USWS	Proppant					
			Crystalline Silica	14808-60-7	100.00000	10.02408	
MX-5	Halliburton	Biocide					
			Sodium Nitrate	7631-99-4	60.00000	0.05821	
WFRA-405E	USWS	Friction Reducer					
			Distillates, Petroleum, Hydrotreated Light	64742-47-8	20.00000	0.02055	
			Sodium Chloride	7647-14-5	20.00000	0.02055	
15% Hydrochloric Acid	USWS	Acidizing					
			Hydrochloric Acid	7647-01-0	15.00000	0.02004	
SI-110	USWS	Scale Inhibitor					
			Ethylene Glycol	107-21-1	40.00000	0.01106	
MX-8	Halliburton	Biocide					
			Bacteria Culture	000-00-0	100.00000	0.00978	
LGC-15	USWS	Increases Viscosity					
			Petroleum Distillates	64742-47-8	60.00000	0.00893	
AP-One	USWS	Gel Breaker					
			Ammonium Persulfate	7727-54-0	100.00000	0.00027	

AI-301	USWS	Corrosion Inhibitor					
			DIETHYLENE GLYCOL	111-46-6	30.00000	0.00008	
			METHENAMINE	100-97-0	20.00000	0.00006	
			HYDROGEN CHLORIDE	7647-01-0	10.00000	0.00003	
			POLYETHLENEPOLYAMINE	68603-67-8	10.00000	0.00003	
			COCO AMINE	61791-14-8	5.00000	0.00001	

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)

FORM WW 6

EQT PRODUCTION CO.
WELL NO. WV 514214
CORDER LEASE

LATITUDE 39°20'00"

LONGITUDE 80°10'00"

1,354'

7,059'

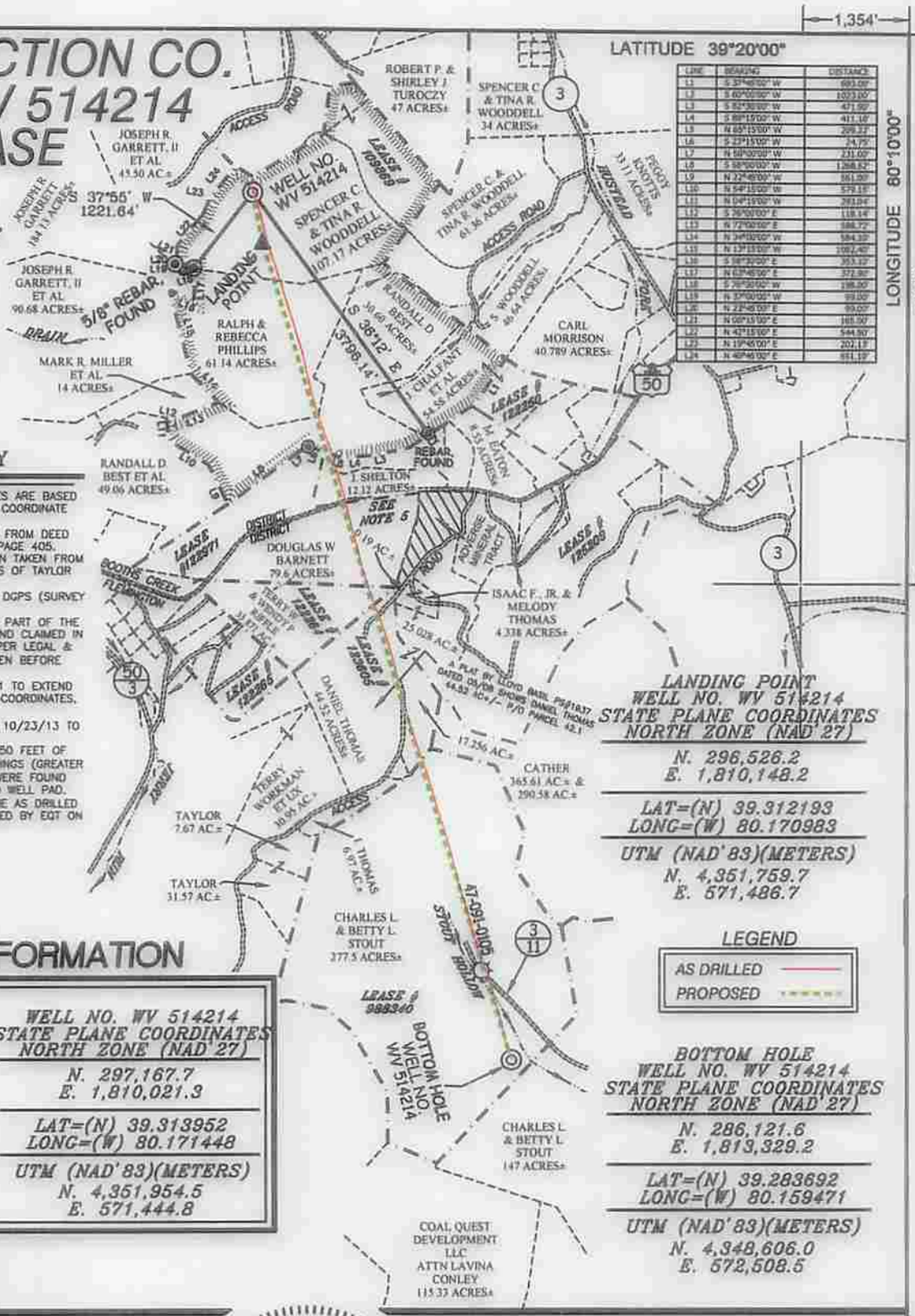
NORTH

WELL NO. WV 514214
STATE PLANE COORDINATES
NORTH ZONE (NAD'27)

N. 297,167.7
E. 1,810,021.3

LAT=(N) 39.313952
LONG=(W) 80.171448

UTM (NAD'83)(METERS)
N. 4,351,954.5
E. 571,444.8



LINE	BEARING	DISTANCE
L1	S 37°46'00" W	693.00'
L2	S 60°00'00" W	1023.00'
L3	S 82°30'00" W	471.90'
L4	S 88°15'00" W	411.10'
L5	N 65°15'00" W	209.22'
L6	S 23°15'00" W	24.75'
L7	N 58°00'00" W	231.00'
L8	S 58°00'00" W	1,288.62'
L9	N 22°45'00" W	161.00'
L10	N 64°15'00" W	579.18'
L11	N 04°15'00" W	283.04'
L12	S 26°00'00" E	118.14'
L13	N 72°00'00" E	584.72'
L14	N 34°00'00" W	184.32'
L15	N 13°15'00" W	1081.40'
L16	S 56°30'00" E	353.12'
L17	N 63°45'00" W	372.90'
L18	S 36°30'00" W	198.00'
L19	N 37°00'00" W	99.00'
L20	N 22°45'00" E	99.00'
L21	N 06°15'00" E	168.00'
L22	N 42°15'00" E	544.50'
L23	N 19°45'00" E	202.13'
L24	N 40°45'00" E	651.19'

NOTES ON SURVEY

1. TIES TO WELLS, CORNERS, AND REFERENCES ARE BASED ON GRID NORTH FOR THE WV STATE PLANE COORDINATE SYSTEM NORTH ZONE NAD'27.
2. LEASE BOUNDARY SHOWN HEREON TAKEN FROM DEED BOOK 59 PAGE 101 & DEED BOOK 224 PAGE 405.
3. SURFACE OWNER AND ADJOINER INFORMATION TAKEN FROM THE ASSESSOR AND COUNTY CLERK RECORDS OF TAYLOR COUNTY IN JULY, 2013.
4. WELL LAT./LONG. (NAD'27) ESTABLISHED BY DGPS (SURVEY GRADE).
5. U.S. RT. 50 IN THIS AREA APPEARS TO BE PART OF THE OLD NORTHWESTERN TURNPIKE, A STRIP OF LAND CLAIMED IN FEE BY THE WVDOH. SLS RECOMMENDS PROPER LEGAL & LEASING (IF NEEDED) PROCEDURES BE TAKEN BEFORE DRILLING COMMENCES.
6. PLAT DATED 04/19/10 REVISED 07/18/11 TO EXTEND HORIZONTAL LEG AND CHANGE BOTTOM HOLE COORDINATES. REVISED AGAIN 07/25/11 TO CHANGE SIX DIGIT WELL NUMBERS & REVISED 10/23/13 TO EXTEND LATERAL, ETC.
7. NO WATER WELLS WERE FOUND WITHIN 250 FEET OF PROPOSED GAS WELL. NO AGRICULTURAL BUILDINGS (GREATER THAN 2500 SQUARE FEET) OR DWELLINGS WERE FOUND WITHIN 625 FEET OF CENTER OF PROPOSED WELL PAD.
8. PLAT UPDATED ON 08/26/14 TO SHOW THE AS DRILLED PATH COORDINATES FROM INFORMATION PROVIDED BY EQT ON 03/27/14.

LANDING POINT
WELL NO. WV 514214
STATE PLANE COORDINATES
NORTH ZONE (NAD'27)

N. 296,526.2
E. 1,810,148.2

LAT=(N) 39.312193
LONG=(W) 80.170983

UTM (NAD'83)(METERS)
N. 4,351,759.7
E. 571,486.7

LEGEND

AS DRILLED
PROPOSED

AS DRILLED INFORMATION

BOTTOM HOLE	WELL NO. WV 514214
WELL NO. WV 514214 STATE PLANE COORDINATES NORTH ZONE (NAD'27)	WELL NO. WV 514214 STATE PLANE COORDINATES NORTH ZONE (NAD'27)
N. 286,123.1 E. 1,813,335.0	N. 297,167.7 E. 1,810,021.3
LAT=(N) 39.283696 LONG=(W) 80.159696	LAT=(N) 39.313952 LONG=(W) 80.171448
UTM (NAD'83)(METERS) N. 4,348,606.4 E. 572,510.3	UTM (NAD'83)(METERS) N. 4,351,954.5 E. 571,444.8

BOTTOM HOLE
WELL NO. WV 514214
STATE PLANE COORDINATES
NORTH ZONE (NAD'27)

N. 286,121.6
E. 1,813,329.2

LAT=(N) 39.283692
LONG=(W) 80.159471

UTM (NAD'83)(METERS)
N. 4,348,606.0
E. 572,508.5

SLS

I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE REGULATIONS ISSUED AND PRESCRIBED BY THE DIVISION OF ENVIRONMENTAL PROTECTION.

P.S. 677 Gregory A. Smith

GREGORY A. SMITH LICENSED No. 677 STATE OF WEST VIRGINIA PROFESSIONAL SURVEYOR

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

DATE OCTOBER 23 , 20 13
REVISED DATE AUGUST 26 , 20 14
OPERATORS WELL NO. WV 514214
API WELL NO. 47 — 091 — 01247
STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 200 FILE NO. 7249ASDRILLED514214
SCALE 1" = 2,000'
PROVEN SOURCE OF ELEVATION DGPS (SURVEY GRADE TIE TO CORS NETWORK)

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

WELL TYPE: OIL ___ GAS X LIQUID INJECTION ___ WASTE DISPOSAL ___ IF "GAS" PRODUCTION X STORAGE ___ DEEP ___ SHALLOW X

LOCATION:
ELEVATION 1,587.5' (GROUND) / 1,590' (PROPOSED) WATERSHED CORBIN BRANCH & HUSTEAD FORK
DISTRICT BOOTHS CREEK COUNTY TAYLOR QUADRANGLE ROSEMONT 7.5'
SURFACE OWNER SPENCER C. & TINA R. WOODDELL ACREAGE 107.17±
ROYALTY OWNER PEGGY KNOTTS ET AL (310 AC.±) / O.E., EVA L. CORDER ET AL (240 AC.±) / W. DOUGLAS BARNETT ET AL (81 AC.±)
PROPOSED WORK: RICHARD D. KNOTTS ET AL (40 AC±) / PEGGY KNOTTS ET AL (756 AC±) / JOHN C. STOUT ET AL (277.5 AC.±) LEASE NO. 109869 / 125209 / 122971 / 122264 / 123605 / 988340
DRILL X CONVERT ___ DRILL DEEPER ___ REDRILL ___ FRACTURE OR STIMULATE X PLUG OFF OLD FORMATION ___ PERFORATE NEW FORMATION ___ PLUG AND ABANDON ___ CLEAN OUT AND REPLUG ___ OTHER ___
PHYSICAL CHANGE IN WELL (SPECIFY) ___ TARGET FORMATION MARCELLUS
ESTIMATED DEPTH ___

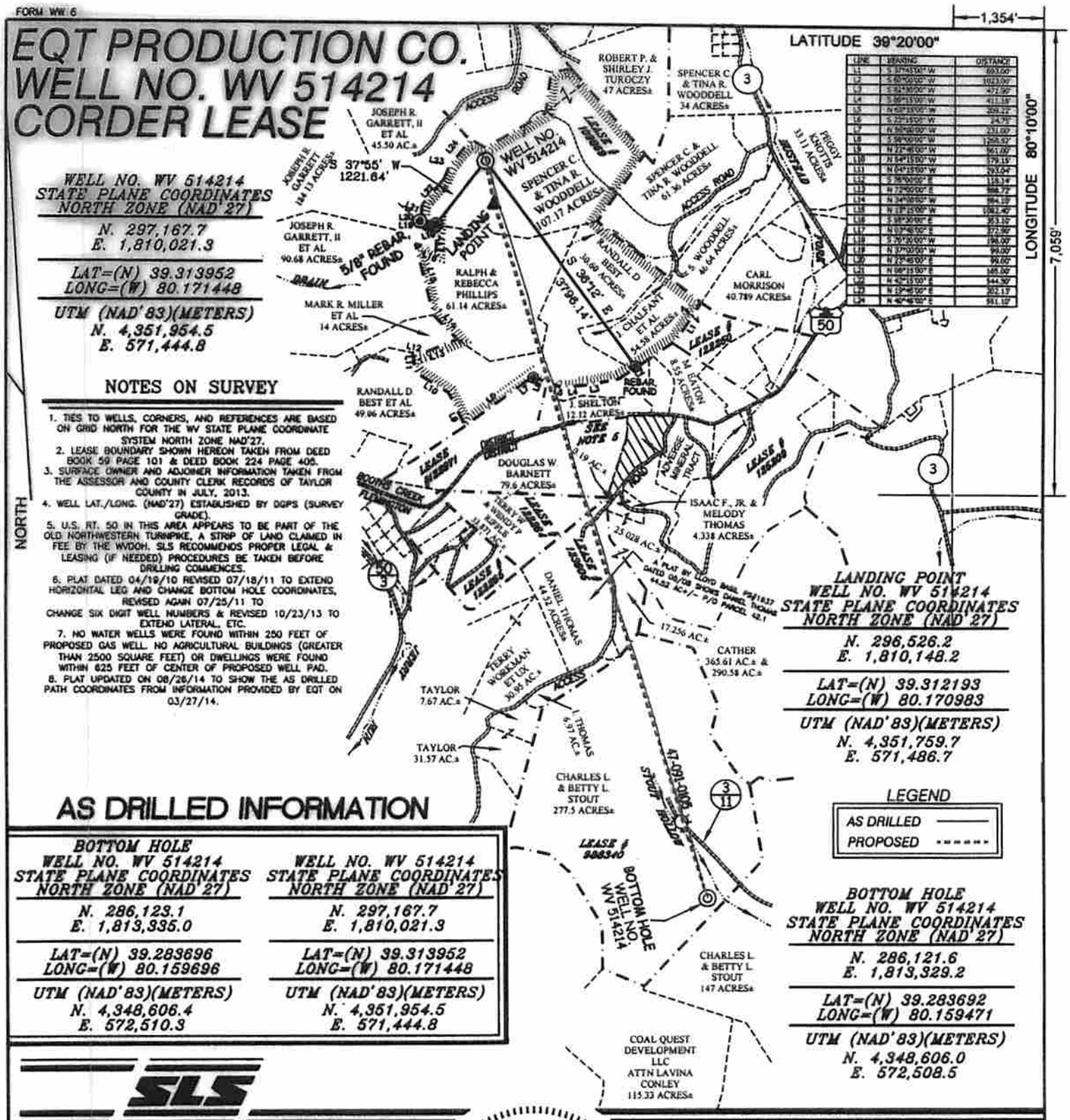
COUNTY NAME

PERMIT

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

FORM WW-6

EQT PRODUCTION CO.
WELL NO. WV 514214
CORDER LEASE



LINE	BEARING	DISTANCE
L1	S 37°45'00" W	693.00'
L2	S 60°00'00" W	1023.00'
L3	S 82°30'00" W	472.90'
L4	S 88°15'00" W	411.18'
L5	N 68°15'00" W	309.22'
L6	S 72°15'00" W	24.75'
L7	N 56°00'00" W	231.00'
L8	S 58°00'00" W	1268.92'
L9	N 72°45'00" W	561.00'
L10	N 84°15'00" W	379.15'
L11	N 04°15'00" W	293.04'
L12	S 76°00'00" E	118.14'
L13	N 72°00'00" E	888.72'
L14	N 34°00'00" W	994.18'
L15	N 12°15'00" W	1082.42'
L16	S 38°30'00" E	353.10'
L17	N 03°45'00" E	372.90'
L18	S 70°30'00" W	198.00'
L19	N 37°00'00" W	99.00'
L20	N 72°45'00" E	99.00'
L21	N 06°15'00" E	165.00'
L22	N 42°15'00" E	544.50'
L23	N 19°45'00" E	302.13'
L24	N 40°45'00" E	941.10'

NOTES ON SURVEY

1. TIES TO WELLS, CORNERS, AND REFERENCES ARE BASED ON GRID NORTH FOR THE WV STATE PLANE COORDINATE SYSTEM NORTH ZONE NAD'27.
2. LEASE BOUNDARY SHOWN HEREON TAKEN FROM DEED BOOK 59 PAGE 101 & DEED BOOK 224 PAGE 405.
3. SURFACE OWNER AND ADJOINER INFORMATION TAKEN FROM THE ASSESSOR AND COUNTY CLERK RECORDS OF TAYLOR COUNTY IN JULY, 2013.
4. WELL LAT./LONG. (NAD'27) ESTABLISHED BY DGPS (SURVEY GRADE).
5. U.S. RT. 50 IN THIS AREA APPEARS TO BE PART OF THE OLD NORTHWESTERN TURNPIKE, A STRIP OF LAND CLAIMED IN FEE BY THE WVDOH. SLS RECOMMENDS PROPER LEGAL & LEASING (IF NEEDED) PROCEDURES BE TAKEN BEFORE DRILLING COMMENCES.
6. PLAT DATED 04/19/10 REVISED 07/18/11 TO EXTEND HORIZONTAL LEG AND CHANGE BOTTOM HOLE COORDINATES, REVISED AGAIN 07/25/11 TO CHANGE SIX DIGIT WELL NUMBERS & REVISED 10/23/13 TO EXTEND LATERAL, ETC.
7. NO WATER WELLS WERE FOUND WITHIN 250 FEET OF PROPOSED GAS WELL. NO AGRICULTURAL BUILDINGS (GREATER THAN 2500 SQUARE FEET) OR DWELLINGS WERE FOUND WITHIN 625 FEET OF CENTER OF PROPOSED WELL PAD.
8. PLAT UPDATED ON 08/26/14 TO SHOW THE AS DRILLED PATH COORDINATES FROM INFORMATION PROVIDED BY EQT ON 03/27/14.

AS DRILLED INFORMATION

BOTTOM HOLE	WELL NO. WV 514214
STATE PLANE COORDINATES NORTH ZONE (NAD'27)	STATE PLANE COORDINATES NORTH ZONE (NAD'27)
N. 286,123.1 E. 1,813,335.0	N. 297,167.7 E. 1,810,021.3
LAT=(N) 39.283696 LONG=(W) 80.159696	LAT=(N) 39.313952 LONG=(W) 80.171448
UTM (NAD'83)(METERS) N. 4,348,606.4 E. 572,510.3	UTM (NAD'83)(METERS) N. 4,351,954.5 E. 571,444.8

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P.S. 677 Gregory A. Smith

GREGORY A. SMITH LICENSED No. 677 STATE OF WEST VIRGINIA PROFESSIONAL SURVEYOR

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

DATE OCTOBER 23, 20 13

REVISED DATE AUGUST 26, 20 14

OPERATORS WELL NO. WV 514214

API WELL NO. 47 — 091 — 01247
STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 200 FILE NO. 7249ASDRILLED514214

SCALE 1" = 2,000'

PROVEN SOURCE OF ELEVATION DGPS (SURVEY GRADE TIE TO CORS NETWORK)

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

WELL TYPE: OIL ___ GAS X LIQUID INJECTION ___ WASTE DISPOSAL ___ IF "GAS" PRODUCTION X STORAGE ___ DEEP ___ SHALLOW X

LOCATION:
ELEVATION 1,587.5' (GROUND) / 1,590' (PROPOSED) WATERSHED CORBIN BRANCH & HUSTEAD FORK
DISTRICT BOOTHS CREEK COUNTY TAYLOR QUADRANGLE ROSEMONT 7.5'
SURFACE OWNER SPENCER C. & TINA R. WOODDELL ACREAGE 107.17±
ROYALTY OWNER PEGGY KNOTTS ET AL (310 AC.±) / O.E., EVA L. CORDER ET AL (240 AC.±) / W. DOUGLAS BARNETT ET AL (81 AC.±)
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DRILL X CONVERT ___ DRILL DEEPER ___ REDRILL ___ FRACTURE OR STIMULATE X PLUG OFF OLD FORMATION ___ PERFORATE NEW FORMATION ___ PLUG AND ABANDON ___ CLEAN OUT AND REPLUG ___ OTHER ___
PHYSICAL CHANGE IN WELL (SPECIFY) ___ TARGET FORMATION MARCELLUS
ESTIMATED DEPTH ___

COUNTY NAME

PERMIT

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

JK

WR-35
Rev. 8/23/13

Page ___ of ___

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

PM

API 47 - 091Ø Ø1250 County TAYLOR District BOOTHS CREEK
Quad ROSEMONT 7.5' Pad Name RSM112 Field/Pool Name
Farm name WOODELL, SPENCER C. & TINA Well Number 514301
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	4351956.9	Easting	571462.8
Landing Point of Curve	Northing	4351967.0	Easting	571455.7
Bottom Hole	Northing	4348386.3	Easting	572302.8

Elevation (ft) 1590 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 11.5 ppg – powdered hydrocarbon resin, calcium carbonate, ground almond hulls, barium sulfate, calcium chloride, lecithin liquid, organophilic clay, polyaminated fatty acid, calcium hydroxide, polyimide surfactant, modified fatty acid, dimer.trimer fatty acid, ground walnut hulls, refined base oil.

Date permit issued 04/05/2012 Date drilling commenced 09/30/2013 Date drilling ceased 03/06/2014
Date completion activities began 5/19/2014 Date completion activities ceased 6/6/2014
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 430', 1022' Open mine(s) (Y/N) depths N
Salt water depth(s) ft 1950' Void(s) encountered (Y/N) depths N
Coal depth(s) ft 706', 781', 942', 998', 1032' Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

RECEIVED
Office of Oil and Gas
SEP 03 2014
WV Department of
Environmental Protection

Reviewed by: _____

WR-35
Rev. 8/23/13

API 47- 0910 - 1250 Farm name WOODELL, SPENCER C. & TINA Well number 514301

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"	70'	New	94lb/ft	N/A	Y
Surface	17-1/2"	13-3/8"	1,125'	New	54.5lb/ft	231', 430'	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	2,690'	New	40lb/ft	1422', 789'	Y
Intermediate 2							
Intermediate 3							
Production	8-1/2"	5-1/2"	19,660'	New	20lb/ft	N/A	N
Tubing							
Packer type and depth set							

Comment Details

CEMENT DATA	Class/Type of Cement	Number of Sacks	Slurry wt (ppg)	Yield (ft^3/sks)	Volume (ft^3)	Cement Top (MD)	WOC (hrs)
Conductor	Class A	191	15.6	1.18	225	0	8
Surface	Class A	890	15.6	1.19	1059	0	8
Coal							
Intermediate 1	Class A	495/420	15.6	1.19/1.20	1093	0	8
Intermediate 2							
Intermediate 3							
Production	Class A/Class H	645/1505	14.2/15.2	1.26/1.97	3779	4830	72
Tubing							

Drillers TD (ft) 19660' Loggers TD (ft) N/A
Deepest formation penetrated Marcellus Plug back to (ft) N/A
Plug back procedure N/A

Kick off depth (ft) 6299'

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- N/A
Surface-Bowspring centralizer on shoe track and every 500' to surface
Intermediate-Bowspring centralizer on shoe track and every 500' to surface
Production- Composite bodied centralizers on every joint from TD up to 4,830'

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

WR-35
Rev. 8/23/13

API 47- 0910 - 1250 Farm name WOODELL, SPENCER C. & TINA Well number 514301

PERFORATION RECORD

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

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)
								See Attachment

Please insert additional pages as applicable.

WR-35
Rev. 8/23/13

API 47- 0910 - 1250 Farm name WOODELL, SPENCER C. & TINA Well number _____

PRODUCING FORMATION(S)	DEPTHS			
Marcellus	7,586.30	TVD	7,996	MD

Please insert additional pages as applicable.

GAS TEST □ Build up □ Drawdown ■ Open Flow OIL TEST ■ Flow □ Pump

SHUT-IN PRESSURE Surface 1,769 psi Bottom Hole NA psi DURATION OF TEST 206 hrs

OPEN FLOW	Gas	Oil	NGL	Water	GAS MEASURED BY
	10,080 mcfpd	0 bpd	0 bpd	1,248 bpd	□ Estimated ■ Orifice □ Pilot

LITHOLOGY/ FORMATION NAME	TOP DEPTH IN FT TVD	BOTTOM DEPTH IN FT TVD	TOP DEPTH IN FT MD	BOTTOM DEPTH IN FT MD	DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H_2S, ETC)
	0		0		

Please insert additional pages as applicable.

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

Logging Company Hoss Co. Services LLC
Address 614 Trotters Lane City Charleston State WV Zip 25312

Cementing Company Nabors Completion & Production Services Co.
Address PO BOX 975682 City Dallas State TX Zip 75397-5682

Stimulating Company US Well Services
Address 533 Industrial Park Drive City Jane Lew State WV Zip 26378

Please insert additional pages as applicable.

Completed by James E. Helmick Jr. Telephone 412-395-5518
Signature _____ Title Vice President - Completions Operations Date 9/2/2014

Submittal of Hydraulic Fracturing Chemical Disclosure Information Attach copy of FRACFOCUS Registry

91-01250

Formation Name	Final Top MD (ftGL) (ft)	Final Top TVD (ft)	Final Btm MD (ftGL) (ft)	Final Btm TVD (ft)
SAND / SHALE	0	0	706	706
FRESH WATER ZONE	1	1	1,022.00	1,022.00
COAL	706	706	712	712
SAND / SHALE	712	712	781	781
COAL	781	781	786	786
SAND / SHALE	786	786	942	942
COAL	942	942	947	947
SAND / SHALE	947	947	998	998
COAL	998	998	1,001.00	1,001.00
SAND / SHALE	1,001.00	1,001.00	1,032.00	1,032.00
COAL	1,032.00	1,032.00	1,038.00	1,038.00
SAND / SHALE	1,038.00	1,038.00	1,154.00	1,154.00
MAXTON	1,154.00	1,154.00	1,554.00	1,554.00
BIG LIME	1,554.00	1,554.00	1,838.00	1,837.90
WEIR	1,838.00	1,837.90	2,065.00	2,064.90
GANTZ	2,065.00	2,064.90	2,139.00	2,138.90
50F	2,139.00	2,138.90	2,246.00	2,245.90
30F	2,246.00	2,245.90	2,324.00	2,323.90
GORDON	2,324.00	2,323.90	2,470.00	2,469.90
4TH	2,470.00	2,469.90	2,613.00	2,612.90
BAYARD	2,613.00	2,612.90	3,037.00	3,036.90
B-5	3,037.00	3,036.90	3,255.00	3,254.80
SPEECHLEY	3,255.00	3,254.80	3,631.00	3,630.80
BRADFORD	3,631.00	3,630.80	3,775.00	3,774.70
BALLTOWN B	3,775.00	3,774.70	3,986.00	3,985.70
RILEY	3,986.00	3,985.70	4,610.00	4,609.60
BENSON	4,610.00	4,609.60	4,964.00	4,963.60
ELK	4,964.00	4,963.60	6,896.00	6,826.40
SONYEA	6,896.00	6,826.40	7,324.00	7,137.70
MIDDLESEX	7,324.00	7,137.70	7,465.00	7,241.60
GENESSEE	7,465.00	7,241.60	7,623.00	7,362.00
GENESEO	7,623.00	7,362.00	7,677.00	7,399.80
TULLY	7,677.00	7,399.80	7,752.00	7,448.90
HAMILTON	7,752.00	7,448.90	7,996.00	7,586.30
MARCELLUS	7,996.00	7,586.30	16,660.00	8,013.35

91-01250

PHOENIX
TECHNOLOGY SERVICES

EQT Production - Marcellus

Taylor County, WV
Taylor County 514301
Well 514301

Main Wellbore

Design: As Drilled Surveys

Standard Survey Report

05 March, 2014

EQT
Where energy meets innovation.

PHOENIX TECHNOLOGY SERVICES

91-01250

Phoenix Technology Services

Survey Report

EQT Where energy meets innovation.

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Site Taylor County 514301
Company:	EQT Production - Marcellus	**TVD Reference:**	KB @ 1606.0usft
Project:	Taylor County, WV	**MD Reference:**	KB @ 1606.0usft
Site:	Taylor County 514301	**North Reference:**	Grid
Well:	Well 514301	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	As Drilled Surveys		

Project: Taylor 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: Taylor County 514301

Site Position:		**Northing:**	297,174.40 usft	**Latitude:**	39.31
From:	Map	**Easting:**	1,810,080.80 usft	**Longitude:**	-80.17
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	-0.43 °

Well: Well 514301

Well Position	**+N/-S**	0.0 usft	**Northing:**	297,174.40 usft	**Latitude:**	39° 18' 50.298 N
	+E/-W	0.0 usft	**Easting:**	1,810,080.80 usft	**Longitude:**	80° 10' 16.458 W
Position Uncertainty		0.0 usft	**Wellhead Elevation:**	usft	**Ground Level:**	1,590.0 usft

Wellbore: Main Wellbore

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010_14	1/2/2014	-8.89	66.79	52,286

Design: As Drilled Surveys

Audit Notes:

Version:	1.0	**Phase:**	ACTUAL	**Tie On Depth:**	0.0

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	167.57

Survey Program Date 3/5/2014

From ()	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	6,220.0	514301 Gyrodata Gyro (Main Wellbore)	GYD_DP_MS	Gyrodata gyro-compassing and drop
0.00	19,660.0	514301 PHX MWD (Main Wellbore)	MWD	MWD - Standard

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	-1,606.0	0.0	0.0	0.0	0.00	0.00	0.00
103.0	0.64	310.24	103.0	-1,503.0	0.4	-0.4	-0.5	0.62	0.62	0.00
203.0	0.61	309.81	203.0	-1,403.0	1.1	-1.3	-1.3	0.03	-0.03	-0.43
303.0	0.53	318.59	303.0	-1,303.0	1.8	-2.0	-2.1	0.12	-0.08	8.78
403.0	0.50	317.14	403.0	-1,203.0	2.4	-2.6	-2.9	0.03	-0.03	-1.45
503.0	0.46	314.12	503.0	-1,103.0	3.0	-3.2	-3.6	0.05	-0.04	-3.02
603.0	0.40	310.30	603.0	-1,003.0	3.5	-3.7	-4.3	0.07	-0.06	-3.82
703.0	0.33	288.86	703.0	-903.0	3.9	-4.3	-4.7	0.15	-0.07	-21.44

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Site Taylor County 514301
Company:	EQT Production - Marcellus	**TVD Reference:**	KB @ 1606.0usft
Project:	Taylor County, WV	**MD Reference:**	KB @ 1606.0usft
Site:	Taylor County 514301	**North Reference:**	Grid
Well:	Well 514301	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	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)
803.0	0.35	295.98	803.0	-803.0	4.1	-4.8	-5.0	0.05	0.02	7.12
903.0	0.31	302.07	903.0	-703.0	4.4	-5.3	-5.4	0.05	-0.04	6.09
1,003.0	0.23	353.36	1,003.0	-603.0	4.7	-5.6	-5.8	0.24	-0.08	51.29
1,103.0	0.24	11.92	1,103.0	-503.0	5.1	-5.6	-6.2	0.08	0.01	18.56
1,203.0	0.42	24.98	1,203.0	-403.0	5.6	-5.4	-6.7	0.19	0.18	13.06
1,303.0	0.44	25.61	1,303.0	-303.0	6.3	-5.0	-7.3	0.02	0.02	0.63
1,403.0	0.46	19.26	1,403.0	-203.0	7.0	-4.7	-7.9	0.05	0.02	-6.35
1,503.0	0.50	14.55	1,503.0	-103.0	7.8	-4.5	-8.6	0.06	0.04	-4.71
1,603.0	0.51	12.28	1,603.0	-3.0	8.7	-4.3	-9.4	0.02	0.01	-2.27
1,703.0	0.52	10.54	1,703.0	97.0	9.6	-4.1	-10.2	0.02	0.01	-1.74
1,803.0	0.54	6.37	1,802.9	196.9	10.5	-4.0	-11.1	0.04	0.02	-4.17
1,903.0	0.62	352.67	1,902.9	296.9	11.5	-4.0	-12.1	0.16	0.08	-13.70
2,003.0	0.79	334.52	2,002.9	396.9	12.7	-4.4	-13.3	0.28	0.17	-18.15
2,103.0	0.94	320.73	2,102.9	496.9	13.9	-5.2	-14.7	0.26	0.15	-13.79
2,203.0	0.87	317.90	2,202.9	596.9	15.1	-6.2	-16.1	0.08	-0.07	-2.83
2,303.0	0.64	322.84	2,302.9	696.9	16.1	-7.0	-17.3	0.24	-0.23	4.94
2,403.0	0.49	330.36	2,402.9	796.9	16.9	-7.6	-18.2	0.17	-0.15	7.52
2,503.0	0.18	331.92	2,502.9	896.9	17.5	-7.9	-18.7	0.31	-0.31	1.56
2,603.0	0.08	298.53	2,602.9	996.9	17.6	-8.0	-18.9	0.12	-0.10	-33.39
2,703.0	0.34	320.34	2,702.9	1,096.9	17.9	-8.3	-19.2	0.27	0.26	21.81
2,803.0	0.50	317.30	2,802.9	1,196.9	18.4	-8.8	-19.9	0.16	0.16	-3.04
2,903.0	0.56	316.59	2,902.9	1,296.9	19.1	-9.4	-20.7	0.06	0.06	-0.71
3,003.0	0.69	315.97	3,002.9	1,396.9	19.9	-10.1	-21.6	0.13	0.13	-0.62
3,103.0	0.86	310.98	3,102.9	1,496.9	20.8	-11.1	-22.7	0.18	0.17	-4.99
3,203.0	1.06	312.48	3,202.9	1,596.9	21.9	-12.4	-24.1	0.20	0.20	1.50
3,303.0	1.11	312.76	3,302.8	1,696.8	23.2	-13.8	-25.6	0.05	0.05	0.28
3,403.0	1.14	310.24	3,402.8	1,796.8	24.5	-15.2	-27.2	0.06	0.03	-2.52
3,503.0	1.14	312.53	3,502.8	1,896.8	25.8	-16.7	-28.8	0.05	0.00	2.29
3,603.0	1.18	313.17	3,602.8	1,996.8	27.2	-18.2	-30.5	0.04	0.04	0.64
3,703.0	1.11	312.69	3,702.8	2,096.8	28.6	-19.7	-32.1	0.07	-0.07	-0.48
3,803.0	1.02	309.90	3,802.7	2,196.7	29.8	-21.1	-33.6	0.10	-0.09	-2.79
3,903.0	1.01	307.05	3,902.7	2,296.7	30.9	-22.5	-35.0	0.05	-0.01	-2.85
4,003.0	1.03	309.34	4,002.7	2,396.7	32.0	-23.9	-36.4	0.05	0.02	2.29
4,103.0	1.06	308.33	4,102.7	2,496.7	33.2	-25.3	-37.8	0.04	0.03	-1.01
4,203.0	0.99	307.51	4,202.7	2,596.7	34.2	-26.7	-39.2	0.07	-0.07	-0.82
4,303.0	0.90	309.25	4,302.7	2,696.7	35.3	-28.0	-40.5	0.09	-0.09	1.74
4,403.0	0.84	312.81	4,402.7	2,796.7	36.3	-29.1	-41.7	0.08	-0.06	3.56
4,503.0	0.69	317.92	4,502.6	2,896.6	37.2	-30.1	-42.8	0.16	-0.15	5.11
4,603.0	0.52	326.26	4,602.6	2,996.6	38.0	-30.7	-43.8	0.19	-0.17	8.34
4,703.0	0.58	329.57	4,702.6	3,096.6	38.9	-31.2	-44.7	0.07	0.06	3.31
4,803.0	0.46	335.64	4,802.6	3,196.6	39.7	-31.7	-45.5	0.13	-0.12	6.07
4,903.0	0.43	337.02	4,902.6	3,296.6	40.4	-32.0	-46.3	0.03	-0.03	1.38

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Site Taylor County 514301
Company:	EQT Production - Marcellus	**TVD Reference:**	KB @ 1606.0usft
Project:	Taylor County, WV	**MD Reference:**	KB @ 1606.0usft
Site:	Taylor County 514301	**North Reference:**	Grid
Well:	Well 514301	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	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	0.35	339.95	5,002.6	3,396.6	41.0	-32.2	-47.0	0.08	-0.08	2.93
5,103.0	0.38	348.16	5,102.6	3,496.6	41.6	-32.4	-47.6	0.06	0.03	8.21
5,203.0	0.15	61.54	5,202.6	3,596.6	42.0	-32.3	-48.0	0.37	-0.23	73.38
5,303.0	0.35	121.40	5,302.6	3,696.6	41.9	-32.0	-47.8	0.30	0.20	59.86
5,403.0	0.58	129.85	5,402.6	3,796.6	41.4	-31.3	-47.2	0.24	0.23	8.45
5,503.0	0.79	134.70	5,502.6	3,896.6	40.6	-30.4	-46.2	0.22	0.21	4.85
5,603.0	0.87	127.98	5,602.6	3,996.6	39.7	-29.4	-45.0	0.13	0.08	-6.72
5,703.0	0.95	127.08	5,702.6	4,096.6	38.7	-28.1	-43.8	0.08	0.08	-0.90
5,803.0	0.94	127.76	5,802.6	4,196.6	37.7	-26.8	-42.6	0.02	-0.01	0.68
5,903.0	0.89	129.69	5,902.6	4,296.6	36.7	-25.5	-41.3	0.06	-0.05	1.93
6,003.0	0.71	140.14	6,002.6	4,396.6	35.7	-24.5	-40.2	0.23	-0.18	10.45
6,103.0	0.65	138.75	6,102.5	4,496.5	34.8	-23.8	-39.1	0.06	-0.06	-1.39
6,203.0	0.41	152.08	6,202.5	4,596.5	34.1	-23.2	-38.3	0.27	-0.24	13.33
Gyro Tie In MD=6220'										
6,220.0	0.30	140.35	6,219.5	4,613.5	34.0	-23.2	-38.2	0.77	-0.65	-69.00
6,268.0	0.50	137.40	6,267.5	4,661.5	33.7	-23.0	-37.9	0.42	0.42	-6.15
6,299.0	0.10	190.10	6,298.5	4,692.5	33.6	-22.9	-37.7	1.44	-1.29	170.00
6,331.0	3.40	322.60	6,330.5	4,724.5	34.3	-23.4	-38.6	10.84	10.31	414.06
6,362.0	5.10	311.80	6,361.4	4,755.4	36.0	-25.0	-40.5	6.04	5.48	-34.84
6,394.0	5.80	276.00	6,393.3	4,787.3	37.1	-27.7	-42.2	10.66	2.19	-111.88
6,424.0	8.20	267.70	6,423.1	4,817.1	37.2	-31.3	-43.0	8.66	8.00	-27.67
6,456.0	10.90	264.20	6,454.6	4,848.6	36.8	-36.6	-43.8	8.63	8.44	-10.94
6,487.0	13.80	260.20	6,484.9	4,878.9	35.8	-43.2	-44.3	9.75	9.35	-12.90
6,519.0	17.10	256.00	6,515.7	4,909.7	34.1	-51.5	-44.4	10.88	10.31	-13.13
6,550.0	20.20	251.60	6,545.1	4,939.1	31.3	-61.0	-43.7	10.98	10.00	-14.19
6,582.0	23.60	248.10	6,574.8	4,968.8	27.1	-72.2	-42.0	11.38	10.63	-10.94
6,645.0	28.80	242.30	6,631.3	5,025.3	15.4	-97.4	-36.0	9.19	8.25	-9.21
6,677.0	31.60	240.30	6,659.0	5,053.0	7.6	-111.5	-31.4	9.30	8.75	-6.25
6,708.0	34.60	239.00	6,684.9	5,078.9	-0.9	-126.1	-26.2	9.94	9.68	-4.19
6,740.0	37.10	237.30	6,710.9	5,104.9	-10.8	-142.0	-20.0	8.41	7.81	-5.31
6,772.0	40.00	234.80	6,735.9	5,129.9	-22.0	-158.5	-12.7	10.29	9.06	-7.81
6,802.0	43.00	232.50	6,758.4	5,152.4	-33.8	-174.5	-4.6	11.22	10.00	-7.67
6,834.0	44.10	231.90	6,781.6	5,175.6	-47.3	-192.0	4.8	3.67	3.44	-1.88
6,897.0	43.30	231.00	6,827.1	5,221.1	-74.4	-226.0	24.0	1.61	-1.27	-1.43
6,929.0	43.00	231.00	6,850.5	5,244.5	-88.2	-243.0	33.8	0.94	-0.94	0.00
6,960.0	42.80	230.20	6,873.2	5,267.2	-101.6	-259.3	43.4	1.87	-0.65	-2.58
7,023.0	43.00	230.30	6,919.3	5,313.3	-129.0	-292.3	63.0	0.34	0.32	0.16
7,086.0	42.90	230.80	6,965.4	5,359.4	-156.3	-325.4	82.5	0.56	-0.16	0.79
7,149.0	44.10	231.30	7,011.1	5,405.1	-183.5	-359.2	101.9	1.98	1.90	0.79
7,212.0	44.00	229.90	7,056.4	5,450.4	-211.3	-393.0	121.8	1.55	-0.16	-2.22
7,275.0	43.10	228.40	7,102.1	5,496.1	-239.7	-425.8	142.4	2.18	-1.43	-2.38
7,338.0	43.60	229.40	7,147.9	5,541.9	-268.1	-458.4	163.2	1.35	0.79	1.59
7,401.0	42.80	231.70	7,193.8	5,587.8	-295.5	-491.7	182.8	2.80	-1.27	3.65

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Site Taylor County 514301
Company:	EQT Production - Marcellus	**TVD Reference:**	KB @ 1606.0usft
Project:	Taylor County, WV	**MD Reference:**	KB @ 1606.0usft
Site:	Taylor County 514301	**North Reference:**	Grid
Well:	Well 514301	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	As Drilled Surveys		

Survey

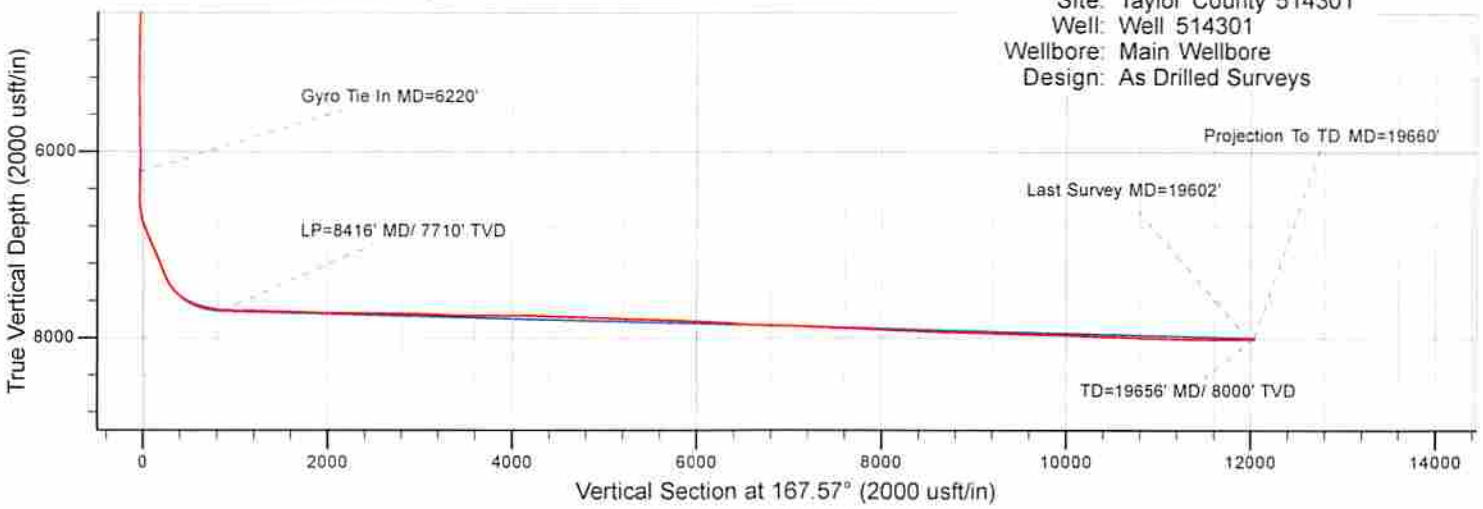
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
7,464.0	40.70	230.90	7,240.8	5,634.8	-321.8	-524.5	201.3	3.44	-3.33	-1.27
7,495.0	39.50	229.70	7,264.5	5,658.5	-334.5	-539.8	210.5	4.60	-3.87	-3.87
7,527.0	38.80	229.20	7,289.3	5,683.3	-347.7	-555.2	220.0	2.40	-2.19	-1.56
7,558.0	40.00	230.30	7,313.3	5,707.3	-360.4	-570.2	229.2	4.48	3.87	3.55
7,590.0	40.90	229.90	7,337.6	5,731.6	-373.7	-586.1	238.7	2.93	2.81	-1.25
7,621.0	44.00	229.50	7,360.5	5,754.5	-387.2	-602.1	248.5	10.04	10.00	-1.29
7,653.0	45.70	227.50	7,383.2	5,777.2	-402.2	-619.0	259.5	6.90	5.31	-6.25
7,684.0	47.30	223.50	7,404.5	5,798.5	-417.9	-635.0	271.4	10.69	5.16	-12.90
7,716.0	49.70	220.30	7,425.7	5,819.7	-435.8	-651.0	285.4	10.60	7.50	-10.00
7,747.0	50.30	219.60	7,445.7	5,839.7	-454.0	-666.2	299.9	2.60	1.94	-2.26
7,779.0	51.30	216.60	7,465.9	5,859.9	-473.5	-681.5	315.7	7.91	3.13	-9.38
7,810.0	51.10	215.20	7,485.3	5,879.3	-493.1	-695.7	331.7	3.58	-0.65	-4.52
7,842.0	52.70	211.60	7,505.1	5,899.1	-514.1	-709.5	349.3	10.17	5.00	-11.25
7,873.0	55.00	208.70	7,523.4	5,917.4	-535.7	-722.1	367.7	10.59	7.42	-9.35
7,905.0	57.20	205.40	7,541.2	5,935.2	-559.4	-734.2	388.2	10.98	6.88	-10.31
7,936.0	59.60	201.70	7,557.5	5,951.5	-583.6	-744.7	409.6	12.78	7.74	-11.94
7,968.0	61.70	198.40	7,573.1	5,967.1	-609.8	-754.3	433.1	11.13	6.56	-10.31
7,999.0	62.10	196.10	7,587.8	5,981.8	-635.9	-762.4	456.8	6.67	1.29	-7.42
8,031.0	64.00	193.10	7,602.3	5,996.3	-663.5	-769.5	482.3	10.25	5.94	-9.38
8,063.0	66.60	190.30	7,615.6	6,009.6	-692.0	-775.4	508.8	11.37	8.13	-8.75
8,094.0	69.30	187.20	7,627.3	6,021.3	-720.3	-779.8	535.6	12.72	8.71	-10.00
8,125.0	71.90	184.50	7,637.6	6,031.6	-749.4	-782.8	563.3	11.74	8.39	-8.71
8,157.0	73.30	180.20	7,647.1	6,041.1	-779.9	-784.0	592.8	13.55	4.38	-13.44
8,188.0	74.90	176.80	7,655.6	6,049.6	-809.7	-783.2	622.1	11.74	5.16	-10.97
8,220.0	75.90	173.90	7,663.7	6,057.7	-840.6	-780.7	652.8	9.31	3.13	-9.06
8,251.0	75.60	170.90	7,671.3	6,065.3	-870.4	-776.7	682.7	9.43	-0.97	-9.68
8,282.0	76.50	168.20	7,678.8	6,072.8	-899.9	-771.3	712.8	8.94	2.90	-8.71
8,314.0	79.00	166.60	7,685.6	6,079.6	-930.5	-764.5	744.1	9.21	7.81	-5.00
8,345.0	80.70	166.40	7,691.1	6,085.1	-960.1	-757.3	774.6	5.52	5.48	-0.65
8,377.0	81.70	165.70	7,696.0	6,090.0	-990.8	-749.7	806.2	3.80	3.13	-2.19
8,408.0	84.40	164.60	7,699.7	6,093.7	-1,020.6	-741.8	836.9	9.39	8.71	-3.55
8,440.0	87.60	164.30	7,701.9	6,095.9	-1,051.3	-733.3	868.8	10.04	10.00	-0.94
8,471.0	88.70	163.80	7,702.9	6,096.9	-1,081.1	-724.8	899.7	3.90	3.55	-1.61
8,480.0	89.00	163.80	7,703.1	6,097.1	-1,089.7	-722.3	908.7	3.33	3.33	0.00
8,544.0	89.20	164.00	7,704.1	6,098.1	-1,151.2	-704.5	972.6	0.44	0.31	0.31
8,606.0	89.20	163.30	7,705.0	6,099.0	-1,210.7	-687.1	1,034.4	1.13	0.00	-1.13
8,669.0	88.40	162.30	7,706.3	6,100.3	-1,270.9	-668.4	1,097.2	2.03	-1.27	-1.59
8,732.0	88.70	162.20	7,707.9	6,101.9	-1,330.9	-649.2	1,159.9	0.50	0.48	-0.16
8,796.0	89.10	162.70	7,709.1	6,103.1	-1,391.9	-629.9	1,223.6	1.00	0.63	0.78
8,859.0	88.70	161.90	7,710.3	6,104.3	-1,451.9	-610.8	1,286.3	1.42	-0.63	-1.27
8,922.0	87.80	161.90	7,712.3	6,106.3	-1,511.7	-591.2	1,349.0	1.43	-1.43	0.00
8,985.0	87.90	161.50	7,714.6	6,108.6	-1,571.5	-571.5	1,411.6	0.65	0.16	-0.63
9,048.0	88.70	162.70	7,716.5	6,110.5	-1,631.4	-552.1	1,474.3	2.29	1.27	1.90

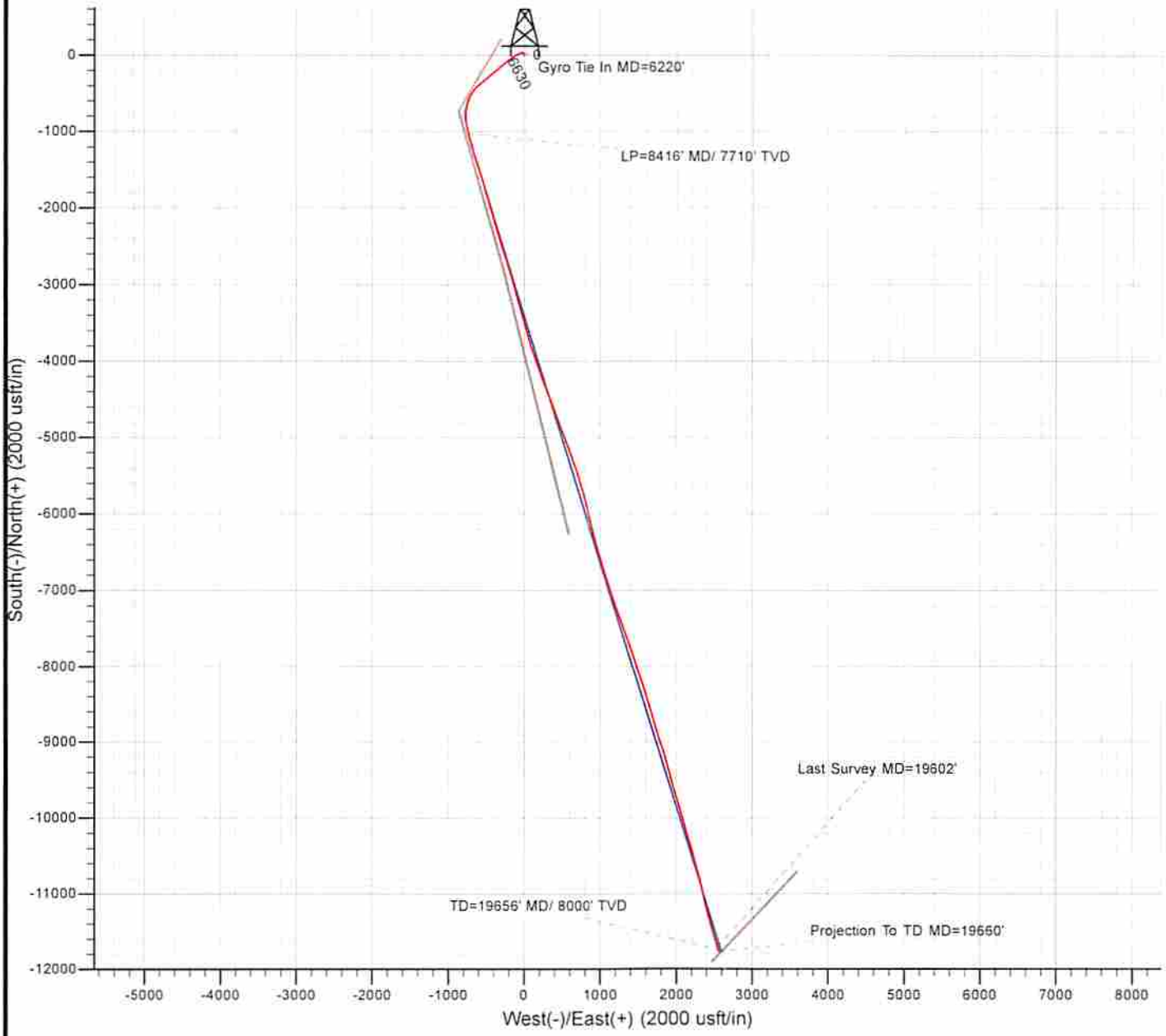
PHOENIX
TECHNOLOGY SERVICES

91-01250

EQT Production - Marcellus

Project: Taylor County, WV
Site: Taylor County 514301
Well: Well 514301
Wellbore: Main Wellbore
Design: As Drilled Surveys





Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Site Taylor County 514301
Company:	EQT Production - Marcellus	**TVD Reference:**	KB @ 1606.0usft
Project:	Taylor County, WV	**MD Reference:**	KB @ 1606.0usft
Site:	Taylor County 514301	**North Reference:**	Grid
Well:	Well 514301	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	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)
9,111.0	89.70	164.10	7,717.4	6,111.4	-1,691.8	-534.1	1,537.1	2.73	1.59	2.22
9,174.0	89.50	163.90	7,717.8	6,111.8	-1,752.4	-516.7	1,600.0	0.45	-0.32	-0.32
9,237.0	89.40	163.90	7,718.4	6,112.4	-1,812.9	-499.3	1,662.9	0.16	-0.16	0.00
9,300.0	87.60	164.20	7,720.1	6,114.1	-1,873.4	-482.0	1,725.7	2.90	-2.86	0.48
9,364.0	87.90	163.90	7,722.6	6,116.6	-1,934.9	-464.4	1,789.6	0.66	0.47	-0.47
9,427.0	87.20	162.70	7,725.3	6,119.3	-1,995.2	-446.3	1,852.3	2.20	-1.11	-1.90
9,490.0	87.50	162.50	7,728.2	6,122.2	-2,055.3	-427.5	1,915.0	0.57	0.48	-0.32
9,553.0	88.40	163.70	7,730.4	6,124.4	-2,115.5	-409.2	1,977.8	2.38	1.43	1.90
9,616.0	89.20	164.10	7,731.8	6,125.8	-2,176.0	-391.7	2,040.7	1.42	1.27	0.63
9,679.0	89.80	163.80	7,732.3	6,126.3	-2,236.6	-374.3	2,103.5	1.06	0.95	-0.48
9,742.0	89.80	163.70	7,732.5	6,126.5	-2,297.0	-356.7	2,166.4	0.16	0.00	-0.16
9,804.0	89.90	163.00	7,732.7	6,126.7	-2,356.4	-338.9	2,228.2	1.14	0.16	-1.13
9,868.0	90.80	164.40	7,732.3	6,126.3	-2,417.9	-320.9	2,292.1	2.60	1.41	2.19
9,931.0	90.90	162.90	7,731.4	6,125.4	-2,478.3	-303.2	2,354.9	2.39	0.16	-2.38
9,994.0	90.50	161.00	7,730.6	6,124.6	-2,538.2	-283.7	2,417.6	3.08	-0.63	-3.02
10,057.0	89.60	161.40	7,730.5	6,124.5	-2,597.8	-263.4	2,480.2	1.56	-1.43	0.63
10,120.0	88.70	161.90	7,731.5	6,125.5	-2,657.6	-243.6	2,542.9	1.63	-1.43	0.79
10,183.0	89.10	162.50	7,732.7	6,126.7	-2,717.6	-224.3	2,605.6	1.14	0.63	0.95
10,246.0	88.90	162.20	7,733.8	6,127.8	-2,777.6	-205.2	2,668.3	0.57	-0.32	-0.48
10,309.0	89.00	162.50	7,734.9	6,128.9	-2,837.6	-186.1	2,731.0	0.50	0.16	0.48
10,372.0	89.10	162.80	7,736.0	6,130.0	-2,897.8	-167.3	2,793.8	0.50	0.16	0.48
10,435.0	89.20	163.70	7,736.9	6,130.9	-2,958.1	-149.2	2,856.6	1.44	0.16	1.43
10,498.0	89.10	164.00	7,737.9	6,131.9	-3,018.6	-131.6	2,919.5	0.50	-0.16	0.48
10,561.0	88.00	164.60	7,739.5	6,133.5	-3,079.2	-114.6	2,982.3	1.99	-1.75	0.95
10,625.0	88.80	165.40	7,741.2	6,135.2	-3,141.0	-98.0	3,046.3	1.77	1.25	1.25
10,688.0	88.60	165.50	7,742.7	6,136.7	-3,202.0	-82.2	3,109.2	0.35	-0.32	0.16
10,751.0	87.40	164.00	7,744.9	6,138.9	-3,262.7	-65.7	3,172.1	3.05	-1.90	-2.38
10,814.0	86.20	164.40	7,748.4	6,142.4	-3,323.2	-48.5	3,234.9	2.01	-1.90	0.63
10,877.0	86.90	164.60	7,752.2	6,146.2	-3,383.8	-31.7	3,297.7	1.16	1.11	0.32
10,939.0	88.60	164.70	7,754.6	6,148.6	-3,443.6	-15.3	3,359.5	2.75	2.74	0.16
11,002.0	88.80	163.50	7,756.0	6,150.0	-3,504.2	1.9	3,422.4	1.93	0.32	-1.90
11,065.0	88.90	163.70	7,757.3	6,151.3	-3,564.6	19.7	3,485.2	0.35	0.16	0.32
11,127.0	90.40	165.00	7,757.7	6,151.7	-3,624.3	36.4	3,547.1	3.20	2.42	2.10
11,190.0	90.40	163.40	7,757.2	6,151.2	-3,684.9	53.6	3,610.0	2.54	0.00	-2.54
11,253.0	90.50	163.60	7,756.7	6,150.7	-3,745.3	71.5	3,672.9	0.35	0.16	0.32
11,317.0	89.70	161.10	7,756.6	6,150.6	-3,806.3	90.9	3,736.6	4.10	-1.25	-3.91
11,380.0	89.60	160.60	7,757.0	6,151.0	-3,865.8	111.5	3,799.2	0.81	-0.16	-0.79
11,443.0	89.80	159.90	7,757.4	6,151.4	-3,925.1	132.8	3,861.6	1.16	0.32	-1.11
11,506.0	90.60	161.00	7,757.1	6,151.1	-3,984.5	153.9	3,924.2	2.16	1.27	1.75
11,569.0	90.50	160.50	7,756.5	6,150.5	-4,043.9	174.7	3,986.7	0.81	-0.16	-0.79
11,631.0	89.70	160.90	7,756.4	6,150.4	-4,102.4	195.2	4,048.3	1.44	-1.29	0.65
11,694.0	90.50	161.50	7,756.3	6,150.3	-4,162.1	215.5	4,110.9	1.59	1.27	0.95

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Site Taylor County 514301
Company:	EQT Production - Marcellus	**TVD Reference:**	KB @ 1606.0usft
Project:	Taylor County, WV	**MD Reference:**	KB @ 1606.0usft
Site:	Taylor County 514301	**North Reference:**	Grid
Well:	Well 514301	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	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)
11,757.0	88.90	160.40	7,756.6	6,150.6	-4,221.6	236.0	4,173.4	3.08	-2.54	-1.75
11,820.0	87.00	158.20	7,758.9	6,152.9	-4,280.5	258.3	4,235.7	4.61	-3.02	-3.49
11,884.0	87.10	157.70	7,762.2	6,156.2	-4,339.8	282.3	4,298.8	0.80	0.16	-0.78
11,947.0	87.20	158.30	7,765.3	6,159.3	-4,398.1	305.9	4,360.8	0.96	0.16	0.95
12,009.0	88.70	159.40	7,767.5	6,161.5	-4,455.9	328.2	4,422.1	3.00	2.42	1.77
12,072.0	89.50	160.60	7,768.5	6,162.5	-4,515.1	349.8	4,484.5	2.29	1.27	1.90
12,135.0	89.70	160.50	7,769.0	6,163.0	-4,574.5	370.7	4,547.0	0.35	0.32	-0.16
12,198.0	88.00	158.80	7,770.2	6,164.2	-4,633.5	392.6	4,609.4	3.82	-2.70	-2.70
12,261.0	88.10	160.10	7,772.4	6,166.4	-4,692.5	414.7	4,671.7	2.07	0.16	2.06
12,324.0	88.30	159.90	7,774.4	6,168.4	-4,751.7	436.3	4,734.2	0.45	0.32	-0.32
12,387.0	88.00	158.90	7,776.4	6,170.4	-4,810.6	458.4	4,796.5	1.66	-0.48	-1.59
12,450.0	88.10	158.40	7,778.5	6,172.5	-4,869.2	481.3	4,858.7	0.81	0.16	-0.79
12,513.0	88.50	159.60	7,780.4	6,174.4	-4,928.0	503.9	4,921.0	2.01	0.63	1.90
12,576.0	88.40	159.50	7,782.1	6,176.1	-4,987.0	525.9	4,983.3	0.22	-0.16	-0.16
12,640.0	87.10	160.20	7,784.6	6,178.6	-5,047.1	547.9	5,046.7	2.31	-2.03	1.09
12,702.0	87.00	159.60	7,787.8	6,181.8	-5,105.2	569.2	5,108.0	0.98	-0.16	-0.97
12,766.0	87.80	160.10	7,790.7	6,184.7	-5,165.2	591.2	5,171.4	1.47	1.25	0.78
12,828.0	88.40	161.50	7,792.8	6,186.8	-5,223.8	611.6	5,232.9	2.46	0.97	2.26
12,891.0	88.20	160.00	7,794.6	6,188.6	-5,283.2	632.4	5,295.5	2.40	-0.32	-2.38
12,954.0	88.00	158.90	7,796.7	6,190.7	-5,342.2	654.5	5,357.8	1.77	-0.32	-1.75
13,017.0	88.80	161.30	7,798.5	6,192.5	-5,401.4	675.9	5,420.2	4.01	1.27	3.81
13,080.0	88.70	161.60	7,799.9	6,193.9	-5,461.1	696.0	5,482.9	0.50	-0.16	0.48
13,143.0	88.40	163.60	7,801.5	6,195.5	-5,521.2	714.8	5,545.6	3.21	-0.48	3.17
13,206.0	89.10	163.50	7,802.8	6,196.8	-5,581.6	732.6	5,608.4	1.12	1.11	-0.16
13,269.0	87.20	163.40	7,804.9	6,198.9	-5,641.9	750.6	5,671.2	3.02	-3.02	-0.16
13,332.0	88.30	164.20	7,807.3	6,201.3	-5,702.4	768.1	5,734.0	2.16	1.75	1.27
13,396.0	88.30	164.40	7,809.2	6,203.2	-5,764.0	785.4	5,797.9	0.31	0.00	0.31
13,459.0	87.40	164.80	7,811.6	6,205.6	-5,824.7	802.2	5,860.8	1.56	-1.43	0.63
13,522.0	87.00	164.50	7,814.7	6,208.7	-5,885.4	818.8	5,923.6	0.79	-0.63	-0.48
13,585.0	86.20	165.40	7,818.4	6,212.4	-5,946.1	835.1	5,986.4	1.91	-1.27	1.43
13,648.0	86.90	165.20	7,822.2	6,216.2	-6,006.9	851.1	6,049.3	1.16	1.11	-0.32
13,711.0	87.80	166.60	7,825.1	6,219.1	-6,067.9	866.4	6,112.2	2.64	1.43	2.22
13,775.0	87.10	167.10	7,828.0	6,222.0	-6,130.2	881.0	6,176.1	1.34	-1.09	0.78
13,838.0	86.70	166.90	7,831.4	6,225.4	-6,191.5	895.1	6,239.0	0.71	-0.63	-0.32
13,901.0	87.10	166.10	7,834.8	6,228.8	-6,252.7	909.8	6,301.9	1.42	0.63	-1.27
13,964.0	84.80	164.50	7,839.2	6,233.2	-6,313.4	925.8	6,364.7	4.44	-3.65	-2.54
14,027.0	84.40	164.10	7,845.2	6,239.2	-6,373.8	942.7	6,427.3	0.90	-0.63	-0.63
14,090.0	84.50	163.90	7,851.2	6,245.2	-6,434.1	960.0	6,489.9	0.35	0.16	-0.32
14,153.0	84.30	164.20	7,857.4	6,251.4	-6,494.4	977.2	6,552.5	0.57	-0.32	0.48
14,216.0	88.80	163.60	7,861.2	6,255.2	-6,554.8	994.7	6,615.2	7.21	7.14	-0.95
14,279.0	89.90	163.30	7,861.9	6,255.9	-6,615.2	1,012.6	6,678.1	1.81	1.75	-0.48
14,342.0	89.50	163.40	7,862.2	6,256.2	-6,675.5	1,030.7	6,740.9	0.65	-0.63	0.16
14,405.0	88.00	162.60	7,863.6	6,257.6	-6,735.8	1,049.1	6,803.7	2.70	-2.38	-1.27

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Site Taylor County 514301
Company:	EQT Production - Marcellus	**TVD Reference:**	KB @ 1606.0usft
Project:	Taylor County, WV	**MD Reference:**	KB @ 1606.0usft
Site:	Taylor County 514301	**North Reference:**	Grid
Well:	Well 514301	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	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)
14,468.0	87.40	161.80	7,866.1	6,260.1	-6,795.7	1,068.3	6,866.3	1.59	-0.95	-1.27
14,530.0	88.30	163.50	7,868.5	6,262.5	-6,854.8	1,086.8	6,928.1	3.10	1.45	2.74
14,593.0	89.30	163.90	7,869.8	6,263.8	-6,915.3	1,104.5	6,990.9	1.71	1.59	0.63
14,657.0	88.40	161.70	7,871.1	6,265.1	-6,976.4	1,123.4	7,054.7	3.71	-1.41	-3.44
14,720.0	87.10	160.10	7,873.5	6,267.5	-7,035.9	1,144.0	7,117.2	3.27	-2.06	-2.54
14,783.0	86.80	160.20	7,876.9	6,270.9	-7,095.1	1,165.4	7,179.6	0.50	-0.48	0.16
14,846.0	89.00	162.50	7,879.2	6,273.2	-7,154.7	1,185.5	7,242.2	5.05	3.49	3.65
14,909.0	88.10	161.50	7,880.8	6,274.8	-7,214.6	1,205.0	7,304.8	2.14	-1.43	-1.59
14,972.0	87.50	159.50	7,883.2	6,277.2	-7,273.9	1,226.0	7,367.3	3.31	-0.95	-3.17
15,035.0	87.00	158.00	7,886.2	6,280.2	-7,332.6	1,248.8	7,429.5	2.51	-0.79	-2.38
15,098.0	86.50	159.00	7,889.8	6,283.8	-7,391.1	1,271.8	7,491.6	1.77	-0.79	1.59
15,161.0	88.10	161.30	7,892.8	6,286.8	-7,450.3	1,293.2	7,554.0	4.44	2.54	3.65
15,224.0	89.10	162.60	7,894.3	6,288.3	-7,510.2	1,312.7	7,616.7	2.60	1.59	2.06
15,287.0	87.90	161.30	7,896.0	6,290.0	-7,570.1	1,332.2	7,679.4	2.81	-1.90	-2.06
15,350.0	87.20	159.80	7,898.7	6,292.7	-7,629.4	1,353.2	7,741.8	2.63	-1.11	-2.38
15,413.0	87.60	160.40	7,901.5	6,295.5	-7,688.6	1,374.6	7,804.2	1.14	0.63	0.95
15,476.0	88.10	161.30	7,903.9	6,297.9	-7,748.1	1,395.2	7,866.7	1.63	0.79	1.43
15,539.0	87.60	161.60	7,906.2	6,300.2	-7,807.7	1,415.3	7,929.3	0.93	-0.79	0.48
15,602.0	87.50	161.90	7,908.9	6,302.9	-7,867.5	1,435.0	7,992.0	0.50	-0.16	0.48
15,665.0	88.20	162.50	7,911.3	6,305.3	-7,927.5	1,454.2	8,054.6	1.46	1.11	0.95
15,728.0	88.00	163.10	7,913.4	6,307.4	-7,987.6	1,472.9	8,117.4	1.00	-0.32	0.95
15,792.0	88.00	162.70	7,915.6	6,309.6	-8,048.7	1,491.7	8,181.1	0.62	0.00	-0.63
15,855.0	87.60	160.50	7,918.0	6,312.0	-8,108.5	1,511.5	8,243.7	3.55	-0.63	-3.49
15,918.0	87.00	160.10	7,921.0	6,315.0	-8,167.7	1,532.7	8,306.2	1.14	-0.95	-0.63
15,981.0	87.80	161.30	7,923.9	6,317.9	-8,227.1	1,553.5	8,368.6	2.29	1.27	1.90
16,043.0	88.60	163.40	7,925.8	6,319.8	-8,286.2	1,572.3	8,430.4	3.62	1.29	3.39
16,106.0	88.50	162.80	7,927.4	6,321.4	-8,346.4	1,590.6	8,493.1	0.97	-0.16	-0.95
16,170.0	88.00	163.00	7,929.4	6,323.4	-8,407.6	1,609.4	8,556.9	0.84	-0.78	0.31
16,233.0	87.00	162.80	7,932.1	6,326.1	-8,467.7	1,628.0	8,619.6	1.62	-1.59	-0.32
16,320.0	87.60	163.50	7,936.2	6,330.2	-8,550.9	1,653.1	8,706.3	1.06	0.69	0.80
16,383.0	88.70	163.80	7,938.2	6,332.2	-8,611.3	1,670.9	8,769.1	1.81	1.75	0.48
16,446.0	88.90	164.20	7,939.6	6,333.6	-8,671.9	1,688.2	8,832.0	0.71	0.32	0.63
16,509.0	88.70	164.20	7,940.9	6,334.9	-8,732.5	1,705.4	8,894.8	0.32	-0.32	0.00
16,572.0	88.90	164.10	7,942.2	6,336.2	-8,793.1	1,722.6	8,957.7	0.35	0.32	-0.16
16,635.0	88.80	163.40	7,943.5	6,337.5	-8,853.5	1,740.2	9,020.6	1.12	-0.16	-1.11
16,698.0	89.10	163.40	7,944.6	6,338.6	-8,913.9	1,758.2	9,083.4	0.48	0.48	0.00
16,761.0	89.30	162.10	7,945.5	6,339.5	-8,974.0	1,776.9	9,146.2	2.09	0.32	-2.06
16,824.0	87.70	161.30	7,947.1	6,341.1	-9,033.8	1,796.7	9,208.8	2.84	-2.54	-1.27
16,887.0	87.50	160.60	7,949.8	6,343.8	-9,093.3	1,817.2	9,271.3	1.15	-0.32	-1.11
16,950.0	87.10	164.10	7,952.7	6,346.7	-9,153.3	1,836.3	9,334.0	5.59	-0.63	5.56
17,013.0	87.00	163.20	7,956.0	6,350.0	-9,213.7	1,854.0	9,396.8	1.44	-0.16	-1.43
17,075.0	89.50	163.90	7,957.9	6,351.9	-9,273.1	1,871.5	9,458.6	4.19	4.03	1.13

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Site Taylor County 514301
Company:	EQT Production - Marcellus	**TVD Reference:**	KB @ 1606.0usft
Project:	Taylor County, WV	**MD Reference:**	KB @ 1606.0usft
Site:	Taylor County 514301	**North Reference:**	Grid
Well:	Well 514301	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	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)
17,138.0	89.10	166.20	7,958.7	6,352.7	-9,334.0	1,887.8	9,521.5	3.71	-0.63	3.65
17,201.0	88.90	165.10	7,959.8	6,353.8	-9,395.0	1,903.4	9,584.4	1.77	-0.32	-1.75
17,264.0	88.90	164.60	7,961.0	6,355.0	-9,455.8	1,919.9	9,647.4	0.79	0.00	-0.79
17,328.0	89.30	164.90	7,962.0	6,356.0	-9,517.5	1,936.7	9,711.3	0.78	0.63	0.47
17,391.0	89.50	164.60	7,962.6	6,356.6	-9,578.3	1,953.3	9,774.2	0.57	0.32	-0.48
17,454.0	87.90	163.30	7,964.1	6,358.1	-9,638.8	1,970.7	9,837.1	3.27	-2.54	-2.06
17,517.0	86.70	162.80	7,967.0	6,361.0	-9,699.0	1,989.0	9,899.8	2.06	-1.90	-0.79
17,580.0	87.10	162.50	7,970.4	6,364.4	-9,759.1	2,007.8	9,962.5	0.79	0.63	-0.48
17,643.0	88.20	164.20	7,973.0	6,367.0	-9,819.4	2,025.8	10,025.2	3.21	1.75	2.70
17,707.0	88.80	164.70	7,974.7	6,368.7	-9,881.0	2,043.0	10,089.1	1.22	0.94	0.78
17,770.0	88.70	163.80	7,976.1	6,370.1	-9,941.6	2,060.1	10,152.0	1.44	-0.16	-1.43
17,832.0	88.50	163.60	7,977.6	6,371.6	-10,001.1	2,077.5	10,213.8	0.46	-0.32	-0.32
17,895.0	88.30	163.00	7,979.3	6,373.3	-10,061.4	2,095.6	10,276.6	1.00	-0.32	-0.95
17,958.0	88.60	163.50	7,981.0	6,375.0	-10,121.7	2,113.7	10,339.4	0.93	0.48	0.79
18,021.0	88.10	164.60	7,982.9	6,376.9	-10,182.3	2,131.0	10,402.3	1.92	-0.79	1.75
18,084.0	88.10	165.00	7,984.9	6,378.9	-10,243.0	2,147.5	10,465.2	0.63	0.00	0.63
18,147.0	87.50	163.30	7,987.4	6,381.4	-10,303.6	2,164.7	10,528.0	2.86	-0.95	-2.70
18,209.0	87.10	162.20	7,990.3	6,384.3	-10,362.7	2,183.1	10,589.7	1.89	-0.65	-1.77
18,272.0	87.80	163.10	7,993.1	6,387.1	-10,422.8	2,201.8	10,652.4	1.81	1.11	1.43
18,336.0	88.00	165.10	7,995.4	6,389.4	-10,484.3	2,219.4	10,716.3	3.14	0.31	3.13
18,399.0	88.40	164.80	7,997.4	6,391.4	-10,545.1	2,235.7	10,779.2	0.79	0.63	-0.48
18,462.0	88.00	165.30	7,999.4	6,393.4	-10,606.0	2,252.0	10,842.1	1.02	-0.63	0.79
18,524.0	87.60	166.20	8,001.8	6,395.8	-10,666.0	2,267.2	10,904.0	1.59	-0.65	1.45
18,588.0	88.10	166.00	8,004.2	6,398.2	-10,728.1	2,282.6	10,967.9	0.84	0.78	-0.31
18,651.0	89.00	166.20	8,005.8	6,399.8	-10,789.2	2,297.7	11,030.9	1.46	1.43	0.32
18,714.0	88.70	165.40	8,007.0	6,401.0	-10,850.3	2,313.2	11,093.9	1.36	-0.48	-1.27
18,777.0	88.70	165.40	8,008.5	6,402.5	-10,911.2	2,329.0	11,156.8	0.00	0.00	0.00
18,841.0	90.00	166.50	8,009.2	6,403.2	-10,973.3	2,344.6	11,220.8	2.66	2.03	1.72
18,904.0	88.70	166.80	8,009.9	6,403.9	-11,034.6	2,359.1	11,283.8	2.12	-2.06	0.48
18,967.0	88.50	166.50	8,011.4	6,405.4	-11,095.9	2,373.7	11,346.7	0.57	-0.32	-0.48
19,030.0	89.10	166.00	8,012.8	6,406.8	-11,157.1	2,388.6	11,409.7	1.24	0.95	-0.79
19,093.0	89.50	165.80	8,013.5	6,407.5	-11,218.2	2,404.0	11,472.7	0.71	0.63	-0.32
19,155.0	89.50	165.10	8,014.1	6,408.1	-11,278.2	2,419.5	11,534.6	1.13	0.00	-1.13
19,219.0	89.60	164.50	8,014.6	6,408.6	-11,339.9	2,436.3	11,598.5	0.95	0.16	-0.94
19,281.0	90.30	164.80	8,014.6	6,408.6	-11,399.7	2,452.7	11,660.5	1.23	1.13	0.48
19,345.0	90.30	164.50	8,014.3	6,408.3	-11,461.4	2,469.7	11,724.4	0.47	0.00	-0.47
19,407.0	90.10	163.90	8,014.1	6,408.1	-11,521.1	2,486.6	11,786.3	1.02	-0.32	-0.97
19,470.0	90.00	163.50	8,014.0	6,408.0	-11,581.6	2,504.2	11,849.1	0.65	-0.16	-0.63
19,533.0	90.20	162.90	8,013.9	6,407.9	-11,641.9	2,522.5	11,911.9	1.00	0.32	-0.95
19,596.0	90.40	162.00	8,013.6	6,407.6	-11,701.9	2,541.4	11,974.7	1.46	0.32	-1.43
Last Survey MD=19602'										
19,602.0	90.20	161.80	8,013.5	6,407.5	-11,707.7	2,543.3	11,980.7	4.71	-3.33	-3.33
Projection To TD MD=19560'										

PHOENIX TECHNOLOGY SERVICES

91-01250

Phoenix Technology Services

Survey Report

EQT Where energy meets innovation.

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Site Taylor County 514301
Company:	EQT Production - Marcellus	TVD Reference:	KB @ 1606.0usft
Project:	Taylor County, WV	MD Reference:	KB @ 1606.0usft
Site:	Taylor County 514301	North Reference:	Grid
Well:	Well 514301	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	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)
19,660.0	90.20	161.80	8,013.3	6,407.3	-11,762.8	2,561.4	12,038.4	0.00	0.00	0.00

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
6,220.0	6,219.5	34.0	-23.2	Gyro Tie In MD=6220'
19,602.0	8,013.5	-11,707.7	2,543.3	Last Survey MD=19602'
19,660.0	8,013.3	-11,762.8	2,561.4	Projection To TD MD=19660'

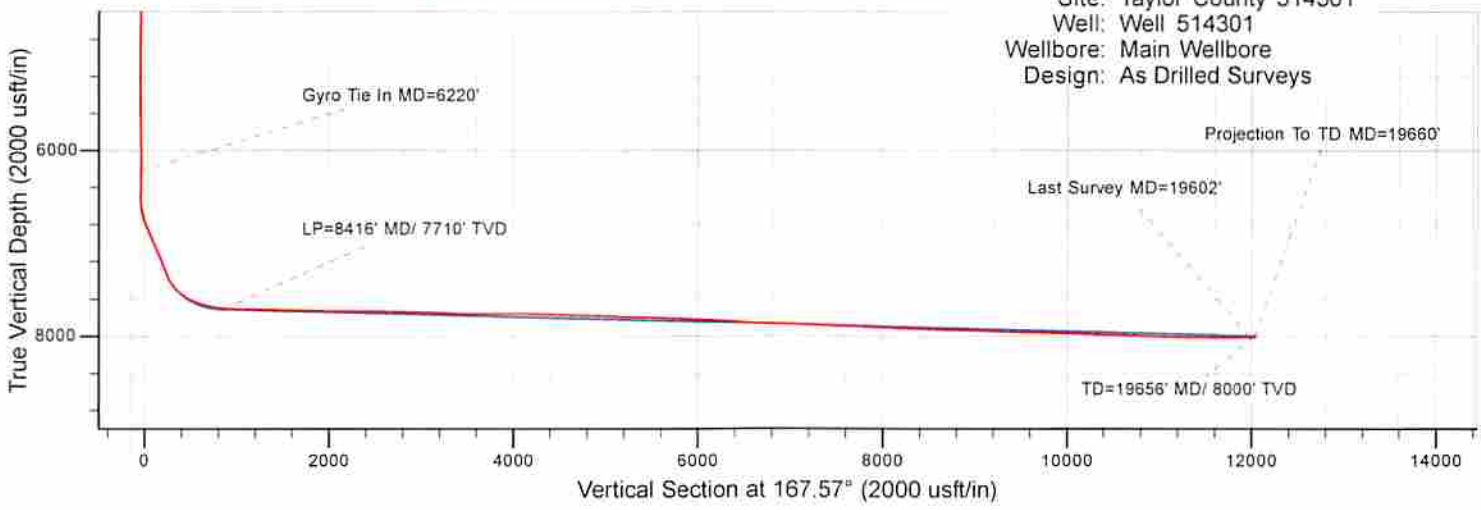
Checked By: _____ Approved By: _____ Date: _____

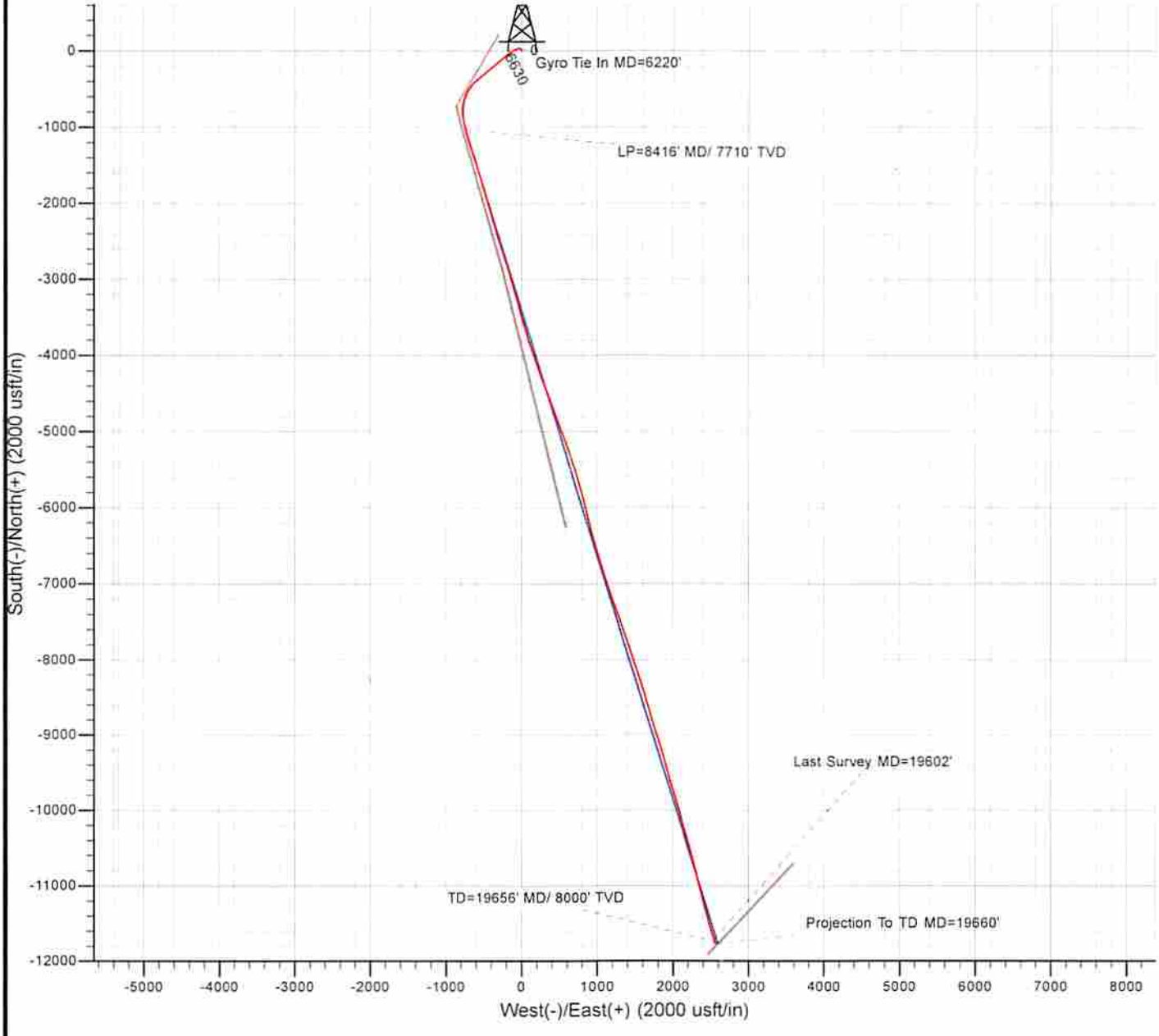
PHOENIX
TECHNOLOGY SERVICES

91-01250

EQT Production - Marcellus

Project: Taylor County, WV
Site: Taylor County 514301
Well: Well 514301
Wellbore: Main Wellbore
Design: As Drilled Surveys





514301 - Perforations

Stage Number	Perforation Date	Top Perf Depth (ftKB)	Bottom Perf Depth (ftKB)	Number of Shots	Formation
Initiation Sleeve	5/19/2014	19,633.00	19,636.00	10	MARCELLUS
1	5/20/2014	19,392.00	19,574.00	32	MARCELLUS
2	5/20/2014	19,092.00	19,334.00	40	MARCELLUS
3	5/20/2014	18,792.00	19,034.00	40	MARCELLUS
4	5/21/2014	18,492.00	18,732.00	40	MARCELLUS
5	5/21/2014	18,192.00	18,438.00	40	MARCELLUS
6	5/22/2014	17,892.00	18,134.00	40	MARCELLUS
7	5/22/2014	17,592.00	17,834.00	40	MARCELLUS
8	5/22/2014	17,296.00	17,534.00	40	MARCELLUS
9	5/23/2014	16,992.00	17,234.00	40	MARCELLUS
10	5/23/2014	16,692.00	16,934.00	40	MARCELLUS
11	5/23/2014	16,392.00	16,630.00	40	MARCELLUS
12	5/24/2014	16,092.00	16,334.00	40	MARCELLUS
13	5/24/2014	15,792.00	16,034.00	40	MARCELLUS
14	5/24/2014	15,450.00	15,734.00	40	MARCELLUS
15	5/24/2014	15,192.00	15,434.00	40	MARCELLUS
16	5/25/2014	14,892.00	15,134.00	40	MARCELLUS
17	5/26/2014	14,592.00	14,838.00	40	MARCELLUS
18	5/26/2014	14,592.00	14,834.00	40	MARCELLUS
19	5/27/2014	13,992.00	14,234.00	40	MARCELLUS
20	5/29/2014	13,692.00	13,934.00	40	MARCELLUS
21	5/29/2014	13,392.00	13,634.00	40	MARCELLUS
22	5/29/2014	13,092.00	13,334.00	40	MARCELLUS
23	5/30/2014	12,792.00	13,034.00	40	MARCELLUS
24	5/31/2014	12,492.00	12,734.00	40	MARCELLUS
25	5/31/2014	12,192.00	12,434.00	40	MARCELLUS
26	6/1/2014	11,892.00	12,134.00	40	MARCELLUS
27	6/1/2014	11,593.00	11,834.00	40	MARCELLUS
28	6/2/2014	11,292.00	11,534.00	40	MARCELLUS
29	6/2/2014	10,992.00	11,234.00	40	MARCELLUS
30	6/2/2014	10,692.00	10,934.00	40	MARCELLUS
31	6/3/2014	10,392.00	10,634.00	40	MARCELLUS
32	6/3/2014	10,092.00	10,332.00	40	MARCELLUS
33	6/4/2014	9,792.00	10,032.00	40	MARCELLUS
34	6/4/2014	9,492.00	9,732.00	40	MARCELLUS
35	6/4/2014	9,192.00	9,432.00	40	MARCELLUS
36	6/5/2014	8,892.00	9,132.00	40	MARCELLUS
37	6/5/2014	8,592.00	8,832.00	40	MARCELLUS
38	6/5/2014	8,288.00	8,532.00	40	MARCELLUS

91-0163D

514301 - 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	5/19/2014	16.00	8,301.00	NA	5,003	0	864	0
1	5/20/2014	86.00	8,808.00	9,016.00	4,342	503,440	11,800	0
2	5/20/2014	78.00	8,526.00	9,098.00	5,404	501,720	12,992	0
3	5/20/2014	94.00	8,550.00	8,934.00	4,832	501,100	12,265	0
4	5/21/2014	95.00	8,298.00	8,748.00	5,236	499,500	12,182	0
5	5/21/2014	79.00	8,657.00	9,198.00	5,186	500,720	12,919	0
6	5/22/2014	86.20	8,708.00	8,909.00	7,717	502,410	12,228	0
7	5/22/2014	84.00	8,715.00	9,008.00	5,636	503,800	12,177	0
8	5/22/2014	77.00	8,613.00	9,109.00	5,904	503,800	12,778	0
9	5/23/2014	84.40	8,594.00	9,077.00	5,289	502,550	12,204	0
10	5/23/2014	80.00	8,589.00	8,984.00	5,511	496,730	12,138	0
11	5/24/2014	82.00	8,683.00	9,037.00	5,389	502,200	12,051	0
12	5/24/2014	94.00	8,459.00	8,744.00	5,579	501,400	14,150	0
13	5/24/2014	88.00	8,689.00	8,994.00	5,693	500,860	12,133	0
14	5/25/2014	81.60	8,661.00	9,041.00	5,068	501,090	12,141	0
15	5/25/2014	84.00	8,568.00	9,134.00	5,940	501,760	12,097	0
16	5/26/2014	81.70	8,581.00	9,212.00	5,665	500,560	13,057	0
17	5/26/2014	99.00	8,520.00	9,137.00	5,693	500,680	12,128	0
18	5/27/2014	84.00	8,571.00	9,134.00	5,668	501,350	12,299	0
19	5/28/2014	91.00	8,426.00	9,112.00	6,065	500,150	12,622	0
20	5/29/2014	93.80	8,781.00	9,155.00	5,686	501,260	12,109	0
21	5/29/2014	92.00	8,811.00	9,173.00	5,922	501,540	12,175	0
22	5/30/2014	92.00	8,642.00	9,001.00	6,026	500,030	12,157	0
23	5/30/2014	86.00	8,456.00	8,741.00	6,198	500,180	17,324	0
24	5/31/2014	90.50	8,817.00	9,120.00	6,019	502,250	14,536	0
25	5/31/2014	95.00	8,629.00	8,869.00	5,744	501,990	12,536	0
26	6/1/2014	97.40	8,708.00	8,959.00	5,901	500,710	12,104	0
27	6/1/2014	94.00	8,621.00	9,148.00	5,862	501,800	12,171	0
28	6/2/2014	94.00	8,606.00	9,230.00	5,869	500,570	13,250	0
29	6/2/2014	95.00	8,611.00	8,987.00	6,087	500,220	12,083	0
30	6/2/2014	92.00	8,633.00	9,066.00	5,629	500,800	12,046	0
31	6/3/2014	92.80	8,622.00	9,012.00	6,166	501,010	12,066	0
32	6/3/2014	98.00	8,490.00	8,880.00	5,797	501,730	12,451	0
33	6/4/2014	98.20	8,598.00	8,955.00	5,647	502,120	12,182	0
34	6/4/2014	101.00	8,286.00	9,005.00	5,822	500,860	12,140	0
35	6/5/2014	101.00	8,499.00	9,155.00	5,994	492,100	12,059	0
36	6/5/2014	99.40	8,269.00	9,012.00	6,258	497,200	12,126	0
37	6/5/2014	98.00	7,982.00	7,532.00	6,230	501,680	12,083	0
38	6/6/2014	100.00	7,694.00	8,419.00	5,704	514,620	11,991	0

91-01850

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	5/19/2014
Job End Date:	6/6/2014
State:	West Virginia
County:	Taylor
API Number:	47-091-01250-00-00
Operator Name:	EQT Production
Well Name and Number:	RSM112 - 514301
Longitude:	-80.17123800
Latitude:	39.31397200
Datum:	NAD27
Federal/Tribal Well:	NO
True Vertical Depth:	8,015
Total Base Water Volume (gal):	53,505,900
Total Base Non Water Volume:	941,424

FracFocus Chemical Disclosure Registry

GROUNDWATER PROTECTION COUNCIL

Interstate Oil & Gas Compact Commission

91-0180

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	USWS	Carrier					
			Water	7732-18-5	100.00000	89.73510	
Sand	USWS	Proppant					
			Crystalline Silica	14808-60-7	100.00000	9.87114	
MX-5	Halliburton	Biocide					
			Sodium Nitrate	7631-99-4	60.00000	0.05823	
WFRA-405e	USWS	Friction Reducer					
			Distillates, Petroleum, Hydrotreated Light	64742-47-8	20.00000	0.02251	
			Sodium Chloride	7647-14-5	20.00000	0.02251	
LGC-15	USWS	Gel					
			Petroleum Distillates	64742-47-8	60.00000	0.02505	
Hydrochloric Acid 15%	USWS	Acidizing					
			Hydrochloric Acid	7647-01-0	15.00000	0.01577	
SI-110	USWS	Scale Inhibitor					
			Ethylene Glycol	107-21-1	40.00000	0.01049	
MX-8	Halliburton	Biocide					
			Bacteria Culture	N/A	100.00000	0.00996	
AP-One	USWS	Gel Breaker					
			Ammonium Persulfate	7727-54-0	100.00000	0.00094	

AI-301	USWS	Corrosion Inhibitor					
			DIETHYLENE GLYCOL	111-46-6	30.00000	0.00006	
			METHENAMINE	100-97-0	20.00000	0.00004	
			HYDROGEN CHLORIDE	7647-01-0	10.00000	0.00002	
			POLYETHLENEPOLYAMINE	68603-67-8	10.00000	0.00002	
			COCO AMINE	61791-14-8	5.00000	0.00001	

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)

FORM WW-6

EQT PRODUCTION CO.
WELL NO. WV 514301
CORDER LEASE

LINE	BEARING	DISTANCE
L1	S 37°44'00" W	601.00'
L2	S 40°00'00" W	1023.00'
L3	S 42°30'00" W	471.00'
L4	S 89°15'00" W	411.18'
L5	N 65°15'00" W	209.22'
L6	S 23°15'00" W	24.75'
L7	N 50°00'00" W	271.00'
L8	S 50°00'00" W	1268.52'
L9	N 22°45'00" W	981.00'
L10	N 54°15'00" W	579.15'
L11	N 64°15'00" W	281.64'
L12	S 36°00'00" E	118.14'
L13	N 72°00'00" E	588.72'
L14	N 34°00'00" W	184.18'
L15	N 17°15'00" W	1062.45'
L16	S 56°30'00" E	353.10'
L17	N 63°45'00" E	372.80'
L18	S 76°30'00" W	198.00'
L19	N 37°00'00" W	99.00'
L20	N 23°45'00" E	99.00'
L21	N 06°15'00" E	165.00'
L22	N 42°15'00" E	544.50'
L23	N 19°45'00" E	202.13'
L24	N 40°45'00" E	551.10'

WELL NO. WV 514301 STATE PLANE COORDINATES NORTH ZONE (NAD'27)

N. 297,174.4
E. 1,810,080.8

LAT=(N) 39.313972
LONG=(W) 80.171238

UTM (NAD'83)(METERS)
N. 4,351,956.9
E. 571,462.8

NOTES ON SURVEY

1. TIES TO WELLS, CORNERS, AND REFERENCES ARE BASED ON GRID NORTH FOR THE WV STATE PLANE COORDINATE SYSTEM NORTH ZONE NAD'27.
2. LEASE BOUNDARY SHOWN HEREON TAKEN FROM DEED BOOK 59 PAGE 101 & DEED BOOK 224 PAGE 405.
3. SURFACE OWNER AND ADJOINER INFORMATION TAKEN FROM THE ASSESSOR AND COUNTY CLERK RECORDS OF TAYLOR COUNTY IN JULY, 2013.
4. WELL LAT./LONG. (NAD'27) ESTABLISHED BY DGPS (SURVEY GRADE).
5. U.S. RT. 50 IN THIS AREA APPEARS TO BE PART OF THE OLD NORTHWESTERN TURNPIKE, A STRIP OF LAND CLAIMED IN FEE BY THE WVDOH. SLS RECOMMENDS PROPER LEGAL & LEASING (IF NEEDED) PROCEDURES BE TAKEN BEFORE DRILLING COMMENCES.
6. PLAT DATED 04/19/10 REVISED 07/18/11 TO EXTEND HORIZONTAL LEG AND CHANGE BOTTOM HOLE COORDINATES, REVISED AGAIN 07/25/11 TO CHANGE SIX DIGIT WELL NUMBERS, REVISED 10/23/13 TO EXTEND LATERAL & REVISED 11/07/13 TO CONFORM WITH CURRENT DEP REGULATIONS, ETC.
7. NO WATER WELLS WERE FOUND WITHIN 250 FEET OF PROPOSED GAS WELL. NO AGRICULTURAL BUILDINGS (GREATER THAN 2500 SQUARE FEET) OR DWELLINGS WERE FOUND WITHIN 625 FEET OF CENTER OF PROPOSED WELL PAD.
8. PLAT UPDATED ON 07/16/14 TO SHOW THE AS DRILLED PATH COORDINATES FROM INFORMATION PROVIDED BY EQT ON 03/20/14.

LANDING POINT WELL NO. WV 514301 STATE PLANE COORDINATES NORTH ZONE (NAD'27)

N. 296,282.5
E. 1,809,351.1

LAT=(N) 39.311508
LONG=(W) 80.173794

UTM (NAD'83)(METERS)
N. 4,351,681.4
E. 571,245

AS DRILLED INFORMATION

BOTTOM HOLE WELL NO. WV 514301 STATE PLANE COORDINATES NORTH ZONE (NAD'27)	WELL NO. WV 514301 STATE PLANE COORDINATES NORTH ZONE (NAD'27)
N. 285,412.2 E. 1,812,642.1	N. 297,174.4 E. 1,810,080.8
LAT=(N) 39.281730 LONG=(W) 80.161880	LAT=(N) 39.313972 LONG=(W) 80.171238
UTM (NAD'83)(METERS) N. 4,348,386.3 E. 572,302.8	UTM (NAD'83)(METERS) N. 4,351,956.9 E. 571,462.8

LEGEND
AS DRILLED
PROPOSED

BOTTOM HOLE WELL NO. WV 514301 STATE PLANE COORDINATES NORTH ZONE (NAD'27)

N. 285,418.9
E. 1,812,672.4

LAT=(N) 39.281749
LONG=(W) 80.161773

UTM (NAD'83)(METERS)
N. 4,348,388.5
E. 572,311.9

SLS

I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE REGULATIONS ISSUED AND PRESCRIBED BY THE DIVISION OF ENVIRONMENTAL PROTECTION.

P.S. 677 Gregory A. Smith

GREGORY A. SMITH LICENSED No. 677 STATE OF WEST VIRGINIA PROFESSIONAL SURVEYOR

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

DATE NOVEMBER 11 , 20 13
REVISED DATE JULY 16 , 20 14
OPERATORS WELL NO. WV 514301
API WELL NO. 47 — 091 — 01250
STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 200 FILE NO. 7249PASDRILLED514301
SCALE 1" = 2,000'
PROVEN SOURCE OF ELEVATION DGPS (SURVEY GRADE TIE TO CORS NETWORK)

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

WELL TYPE: OIL ____ GAS X LIQUID INJECTION ____ WASTE DISPOSAL ____ IF "GAS" PRODUCTION X STORAGE ____ DEEP ____ SHALLOW X

LOCATION:
ELEVATION 1,586' (GROUND) / 1,590' (PROPOSED) WATERSHED CORBIN BRANCH & HUSTEAD FORK
DISTRICT BOOTHS CREEK COUNTY TAYLOR QUADRANGLE ROSEMONT 7.5'
SURFACE OWNER SPENCER C. & TINA R. WOODDELL ACREAGE 107.17±
ROYALTY OWNER PEGGY KNOTTS ET AL (310 AC.±) / O.E., EVA L. CORDER ET AL (240 AC.±) & W. DOUGLAS BARNETT ET AL (81 AC.±)
PROPOSED WORK: RICHARD D. KNOTTS ET AL (40 AC±) / PEGGY KNOTTS ET AL (756 AC±) / JOHN C. STOUT ET AL (277.5 AC.±) LEASE NO. 109869 / 122971 / 122264 / 123605 / 988340
DRILL X CONVERT ____ DRILL DEEPER ____ REDRILL ____ FRACTURE OR STIMULATE X PLUG OFF OLD FORMATION ____ PERFORATE NEW FORMATION ____ PLUG AND ABANDON ____ CLEAN OUT AND REPLUG ____ OTHER ____
PHYSICAL CHANGE IN WELL (SPECIFY) ____ TARGET FORMATION MARCELLUS
ESTIMATED DEPTH ____

COUNTY NAME
PERMIT

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

FORM WW-6

EQT PRODUCTION CO.
WELL NO. WV 514301
CORDER LEASE

LATITUDE 39°20'00"

LONGITUDE 80°10'00"

1,295'

7,054'

NORTH

WELL NO. WV 514301
STATE PLANE COORDINATES
NORTH ZONE (NAD'27)

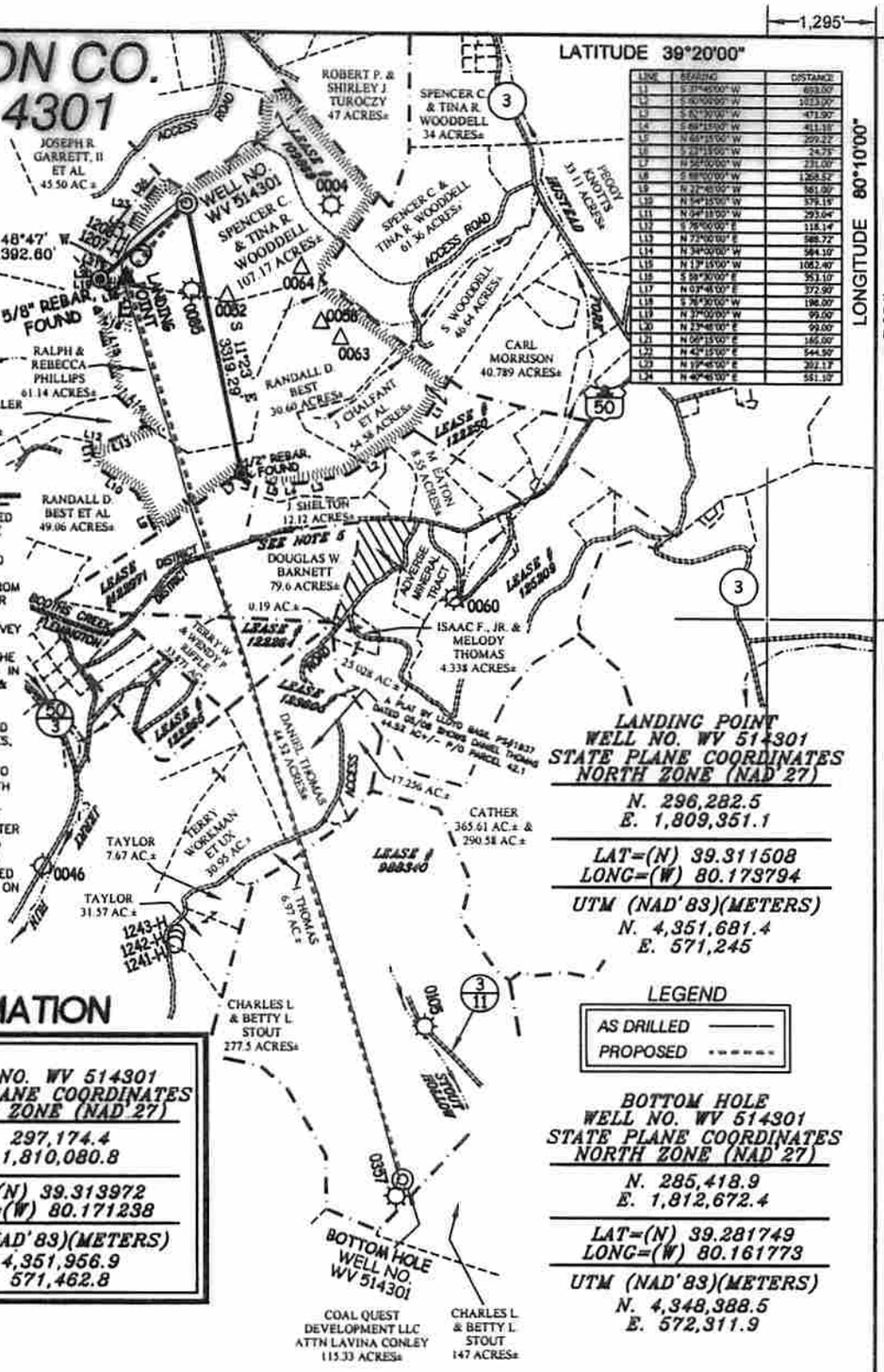
N. 297,174.4
E. 1,810,080.8

LAT=(N) 39.313972
LONG=(W) 80.171238

UTM (NAD'83)(METERS)
N. 4,351,956.9
E. 571,462.8

NOTES ON SURVEY

1. TIES TO WELLS, CORNERS, AND REFERENCES ARE BASED ON GRID NORTH FOR THE WV STATE PLANE COORDINATE SYSTEM NORTH ZONE NAD'27.
2. LEASE BOUNDARY SHOWN HEREON TAKEN FROM DEED BOOK 59 PAGE 101 & DEED BOOK 224 PAGE 405.
3. SURFACE OWNER AND ADJOINER INFORMATION TAKEN FROM THE ASSESSOR AND COUNTY CLERK RECORDS OF TAYLOR COUNTY IN JULY, 2013.
4. WELL LAT./LONG. (NAD'27) ESTABLISHED BY DGPS (SURVEY GRADE).
5. U.S. RT. 50 IN THIS AREA APPEARS TO BE PART OF THE OLD NORTHWESTERN TURNPIKE. A STRIP OF LAND CLAIMED IN FEE BY THE WVDOH. SLS RECOMMENDS PROPER LEGAL & LEASING (IF NEEDED) PROCEDURES BE TAKEN BEFORE DRILLING COMMENCES.
6. PLAT DATED 04/19/10 REVISED 07/18/11 TO EXTEND HORIZONTAL LEG AND CHANGE BOTTOM HOLE COORDINATES, REVISED AGAIN 07/25/11 TO CHANGE SIX DIGIT WELL NUMBERS, REVISED 10/23/13 TO EXTEND LATERAL & REVISED 11/07/13 TO CONFORM WITH CURRENT DEP REGULATIONS, ETC.
7. NO WATER WELLS WERE FOUND WITHIN 250 FEET OF PROPOSED GAS WELL. NO AGRICULTURAL BUILDINGS (GREATER THAN 2500 SQUARE FEET) OR DWELLINGS WERE FOUND WITHIN 625 FEET OF CENTER OF PROPOSED WELL PAD.
8. PLAT UPDATED ON 07/16/14 TO SHOW THE AS DRILLED PATH COORDINATES FROM INFORMATION PROVIDED BY EQT ON 03/20/14.



LINE	BEARING	DISTANCE
L1	S 37°45'00" W	653.00'
L2	S 60°00'00" W	1023.00'
L3	S 82°30'00" W	471.90'
L4	S 69°15'00" W	411.10'
L5	N 69°15'00" W	299.27'
L6	S 23°15'00" W	24.75'
L7	N 56°00'00" W	231.00'
L8	S 88°00'00" W	1268.52'
L9	N 27°45'00" W	561.00'
L10	N 54°15'00" W	379.15'
L11	N 64°15'00" W	293.04'
L12	S 75°00'00" E	118.14'
L13	N 73°00'00" E	588.72'
L14	N 34°30'00" W	584.10'
L15	N 17°15'00" W	1082.40'
L16	S 88°30'00" E	353.10'
L17	N 03°45'00" E	372.90'
L18	S 76°30'00" W	198.00'
L19	N 37°00'00" W	99.00'
L20	N 23°45'00" E	99.00'
L21	N 06°15'00" E	165.00'
L22	N 42°15'00" E	544.50'
L23	N 19°45'00" E	392.13'
L24	N 40°45'00" E	551.10'

LANDING POINT
WELL NO. WV 514301
STATE PLANE COORDINATES
NORTH ZONE (NAD'27)

N. 296,282.5
E. 1,809,351.1

LAT=(N) 39.311508
LONG=(W) 80.173794

UTM (NAD'83)(METERS)
N. 4,351,681.4
E. 571,245

LEGEND

AS DRILLED ———
PROPOSED - - - - -

AS DRILLED INFORMATION

BOTTOM HOLE	WELL NO. WV 514301
STATE PLANE COORDINATES NORTH ZONE (NAD'27)	STATE PLANE COORDINATES NORTH ZONE (NAD'27)
N. 285,412.2 E. 1,812,642.1	N. 297,174.4 E. 1,810,080.8
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(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.

DATE NOVEMBER 11 , 20 13

REVISED DATE JULY 16 , 20 14

OPERATORS WELL NO. WV 514301

API WELL NO. 47 — 091 — 01250
STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 200 FILE NO. 7249PASDRILLED514301

SCALE 1" = 2,000'

PROVEN SOURCE OF ELEVATION DGPS (SURVEY GRADE TIE TO CORS NETWORK)

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

WELL TYPE: OIL ____ GAS X LIQUID INJECTION ____ WASTE DISPOSAL ____ IF "GAS" PRODUCTION X STORAGE ____ DEEP ____ SHALLOW X

LOCATION:

ELEVATION 1,586' (GROUND) / 1,590' (PROPOSED) WATERSHED CORBIN BRANCH & HUSTEAD FORK

DISTRICT BOOTHS CREEK COUNTY TAYLOR QUADRANGLE ROSEMONT 7.5'

SURFACE OWNER SPENCER C. & TINA R. WOODDELL ACREAGE 107.17±

ROYALTY OWNER PEGGY KNOTTS ET AL (310 AC.±) / O.E., EVA L. CORDER ET AL (240 AC.±) & W. DOUGLAS BARNETT ET AL (81 AC.±)

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DRILL X CONVERT ____ DRILL DEEPER ____ REDRILL ____ FRACTURE OR STIMULATE X PLUG OFF OLD FORMATION ____ PERFORATE NEW FORMATION ____ PLUG AND ABANDON ____ CLEAN OUT AND REPLUG ____ OTHER ____

PHYSICAL CHANGE IN WELL (SPECIFY) ____ TARGET FORMATION MARCELLUS

ESTIMATED DEPTH ____

COUNTY NAME

PERMIT

WELL OPERATOR EQT PRODUCTION COMPANY DESIGNATED AGENT REX C. RAY

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

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

JR

WR-35
Rev. 8/23/13

Page ___ of ___

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

API 47 - 970 - 3813 County UPSHUR District BUCKHANNON
Quad ADRIAN 7.5' Pad Name ADR125 Field/Pool Name
Farm name BELL, CHARLES R. SR. Well Number 511416
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 4315772.4 Easting 560935.2
Landing Point of Curve Northing 4315929.7 Easting 560926.5
Bottom Hole Northing 4318016.5 Easting 560106.9

Elevation (ft) 1572 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 12.5 ppg barium sulfate, sodium chloride, xanthan gum, polyanionic cellulose, modified starch, sodium hydroxide, phosphonates and alkyl phophates, 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 2/16/2012 Date drilling commenced 12/26/2013 Date drilling ceased 4/11/2014
Date completion activities began 5/17/2014 Date completion activities ceased 5/27/2014
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 105', 822', 858' Open mine(s) (Y/N) depths N
Salt water depth(s) ft NONE FOUND Void(s) encountered (Y/N) depths N
Coal depth(s) ft 109', 524', 721', 838', 969' Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

Received
Office of Oil & Gas
AUG 26 2014

Reviewed by: ____

WR-35
Rev. 8/23/13

API 47- 970 - 3813 Farm name BELL, CHARLES R. SR. Well number 511416

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	94lb/ft	N/A	Y
Surface	17-1/2"	13-3/8"	958'	New	54.5lb/ft	N/A	Y
Coal							
Intermediate 1	12-3/8"	9-5/8"	2,935'	New	40lb/ft	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-1/2"	5-1/2"	15,327'	New	20lb/ft	N/A	N
Tubing							
Packer type and depth set							

Comment Details

CEMENT DATA	Class/Type of Cement	Number of Sacks	Slurry wt (ppg)	Yield (ft^3/sks)	Volume (ft^3)	Cement Top (MD)	WOC (hrs)
Conductor	Class A	38	15.6	1.18	44.84	0	8
Surface	Class A	760	15.6	1.19	904.4	0	8
Coal							
Intermediate 1	Class A	1010	15.6	1.19	1,201.9	0	8
Intermediate 2							
Intermediate 3							
Production	Class A/Class H	460/970	14.2/15.2	1.26/1.97	2,490.5		72
Tubing							

Drillers TD (ft) 15,327' Loggers TD (ft) 7,740'

Deepest formation penetrated Onondaga Plug back to (ft) 6,940'

Plug back procedure Balance plug set f/7,740' back to 6,940'. Kicked off curve from TOC at 6,967'

Kick off depth (ft) 6,967'

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- N/A
Surface Bowspring centralizer on shoe track and every 300' to surface
Intermediate-Bowspring centralizer on shoe track and every 500' to surface
Production- Composite bodied steel ring centralizers on every joint from TD up to 5,467'

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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WR-35
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API 47- 970 - 3813 Farm name BELL, CHARLES R. SR. Well number 511416

PERFORATION RECORD

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

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)
								See Attachment

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Please insert additional pages as applicable.

WR-35
Rev. 8/23/13

API 47- 970 - 3813 Farm name BELL, CHARLES R. SR. Well number _____

PRODUCING FORMATION(S)	DEPTHS			
Marcellus	7,534	TVD	7,642	MD

Please insert additional pages as applicable.

GAS TEST □ Build up □ Drawdown ■ Open Flow OIL TEST ■ Flow □ Pump

SHUT-IN PRESSURE Surface 1,881 psi Bottom Hole NA psi DURATION OF TEST 102.3 hrs

OPEN FLOW	Gas	Oil	NGL	Water	GAS MEASURED BY
	1,104 mcfpd	0 bpd	0 bpd	648 bpd	□ Estimated ■ Orifice □ Pilot

LITHOLOGY/ FORMATION NAME	TOP DEPTH IN FT TVD	BOTTOM DEPTH IN FT TVD	TOP DEPTH IN FT MD	BOTTOM DEPTH IN FT MD	DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H_2S, ETC)
	0		0		

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AUG 26 2014

Please insert additional pages as applicable.

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

Logging Company Baker Hughes
Address 4998B Elk River Road City South Elkview State WV Zip 25071

Cementing Company Nabors Completion & Production Services Co.
Address PO BOX 975682 City Dallas State TX Zip 75397-5682

Stimulating Company Nabors Completion & Production Services Co.
Address PO BOX 975682 City Dallas State TX Zip 75397-5682

Please insert additional pages as applicable.

Completed by James Abbott Telephone 412-553-5996
Signature _____ Title Director - Completions Operations Date 8/21/2014

Submittal of Hydraulic Fracturing Chemical Disclosure Information Attach copy of FRACFOCUS Registry

97-03813

Formation Name	Final Top MD (ftGL) (ft)	Final Top TVD (ft)	Final Btm MD (ftGL) (ft)	Final Btm TVD (ft)
Fresh Water Zone	1	1	858	858
Sand / Shale	1	1	109	109
Coal	109	109	110	110
Sand / Shale	110	110	524	524
Coal	524	524	526	526
Sand / Shale	526	526	721	721
Coal	721	721	724	724
Sand / Shale	724	724	838	838
Coal	838	838	843	843
Sand / Shale	843	843	969	969
Coal	969	969	972	972
Sand / Shale	972	972	1,688.00	1,688.00
Maxton	1,688.00	1,688.00	1,720.00	1,720.00
Sand / Shale	1,720.00	1,720.00	1,791.00	1,791.00
Big Lime	1,791.00	1,791.00	1,808.00	1,808.00
Sand / Shale	1,808.00	1,808.00	2,041.00	2,041.00
Weir	2,041.00	2,041.00	2,047.00	2,047.00
Sand / Shale	2,047.00	2,047.00	2,069.00	2,069.00
Gantz	2,069.00	2,069.00	2,128.00	2,128.00
Sand / Shale	2,128.00	2,128.00	2,227.00	2,227.00
Thirty foot	2,227.00	2,227.00	2,250.00	2,250.00
Sand / Shale	2,250.00	2,250.00	2,262.00	2,262.00
Gordon	2,262.00	2,262.00	2,268.00	2,268.00
Sand / Shale	2,268.00	2,268.00	2,318.00	2,318.00
Forth Sand	2,318.00	2,318.00	2,333.00	2,333.00
Sand / Shale	2,333.00	2,333.00	2,800.00	2,800.00
Bayard	2,800.00	2,800.00	2,829.00	2,829.00
Sand / Shale	2,829.00	2,829.00	2,928.00	2,928.00
Warren	2,928.00	2,928.00	2,978.00	2,978.00
Sand / Shale	2,978.00	2,978.00	3,010.00	3,010.00
Speechley	3,010.00	3,010.00	3,072.00	3,072.00
Sand / Shale	3,072.00	3,072.00	3,397.00	3,397.00
Balltown A	3,397.00	3,397.00	3,406.00	3,406.00
Sand / Shale	3,406.00	3,406.00	4,065.00	4,064.80
Riley	4,065.00	4,064.80	4,126.00	4,125.80
Sand / Shale	4,126.00	4,125.80	4,551.00	4,550.50
Benson	4,551.00	4,550.50	6,753.00	6,750.50
Sonyea	6,753.00	6,750.50	7,084.00	7,076.80
Middlesex	7,084.00	7,076.80	7,200.00	7,186.50
Genesee	7,200.00	7,186.50	7,380.00	7,352.00
Geneseo	7,380.00	7,352.00	7,443.00	7,404.40
Tully	7,443.00	7,404.40	7,480.00	7,433.10
Hamilton	7,480.00	7,433.10	7,642.00	7,534.00
Marcellus	7,642.00	7,534.00	15,327.00	7,693.60

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Office of Oil & Gas
AUG 26 2014

97-03813

PHOENIX
TECHNOLOGY SERVICES

EQT Production - Marcellus

Upshur County, WV
Upshur County 511416
Well #511416

Main Wellbore

Design: As Drilled Surveys

Standard Survey Report

10 April, 2014

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EQT
Where energy meets innovation.

97-03813

PHOENIX TECHNOLOGY SERVICES

Phoenix Technology Services

Survey Report

EQT Where energy meets innovation.

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Site Upshur County 511416
Company:	EQT Production - Marcellus	**TVD Reference:**	KB @ 1588.0usft
Project:	Upshur County, WV	**MD Reference:**	KB @ 1588.0usft
Site:	Upshur County 511416	**North Reference:**	Grid
Well:	Well #511416	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	As Drilled Surveys		

Project: Upshur 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 South 4702		Using geodetic scale factor

Site: Upshur County 511416

Site Position:		**Northing:**	724,947.31 usft	**Latitude:**	38.99
From:	Map	**Easting:**	2,199,950.60 usft	**Longitude:**	-80.30
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.43 °

Well: Well #511416

Well Position	**+N/-S**	0.0 usft	**Northing:**	724,947.31 usft	**Latitude:**	38° 59' 19.434 N
	+E/-W	0.0 usft	**Easting:**	2,199,950.60 usft	**Longitude:**	80° 17' 47.762 W
Position Uncertainty		0.0 usft	**Wellhead Elevation:**	usft	**Ground Level:**	1,572.0 usft

Wellbore: Main Wellbore

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010_14	3/14/2014	-8.73	66.54	52,110

Design: As Drilled Surveys

Audit Notes:

Version:	1.0	**Phase:**	ACTUAL	**Tie On Depth:**	0.0

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	340.00

Survey Program Date 4/10/2014

From ()	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	6,900.0	511416 VES Gyro (Main Wellbore)	GyroFlex	
0.00	15,327.0	511416 MWD (Main Wellbore)	MWD	MWD - Standard

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	-1,588.0	0.0	0.0	0.0	0.00	0.00	0.00
25.0	0.37	225.89	25.0	-1,563.0	-0.1	-0.1	0.0	1.48	1.48	0.00
50.0	0.12	219.47	50.0	-1,538.0	-0.1	-0.1	-0.1	1.00	-1.00	-25.68
75.0	0.11	222.89	75.0	-1,513.0	-0.2	-0.2	-0.1	0.05	-0.04	13.68
100.0	0.14	164.16	100.0	-1,488.0	-0.2	-0.2	-0.1	0.50	0.12	-234.92
125.0	0.13	168.05	125.0	-1,463.0	-0.3	-0.2	-0.2	0.05	-0.04	15.56
150.0	0.12	172.14	150.0	-1,438.0	-0.3	-0.1	-0.3	0.05	-0.04	16.36
175.0	0.08	180.56	175.0	-1,413.0	-0.4	-0.1	-0.3	0.17	-0.16	33.68

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Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Site Upshur County 511416
Company:	EQT Production - Marcellus	TVD Reference:	KB @ 1588.0usft
Project:	Upshur County, WV	MD Reference:	KB @ 1588.0usft
Site:	Upshur County 511416	North Reference:	Grid
Well:	Well #511416	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	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)
200.0	0.15	190.72	200.0	-1,388.0	-0.4	-0.2	-0.3	0.29	0.28	40.64
225.0	0.26	178.70	225.0	-1,363.0	-0.5	-0.2	-0.4	0.47	0.44	-48.08
250.0	0.24	175.83	250.0	-1,338.0	-0.6	-0.2	-0.5	0.09	-0.08	-11.48
275.0	0.15	171.18	275.0	-1,313.0	-0.7	-0.1	-0.6	0.37	-0.36	-18.60
300.0	0.15	173.65	300.0	-1,288.0	-0.8	-0.1	-0.7	0.03	0.00	9.88
325.0	0.13	175.08	325.0	-1,263.0	-0.8	-0.1	-0.7	0.08	-0.08	5.72
350.0	0.25	177.35	350.0	-1,238.0	-0.9	-0.1	-0.8	0.48	0.48	9.08
375.0	0.23	178.98	375.0	-1,213.0	-1.0	-0.1	-0.9	0.08	-0.08	6.52
400.0	0.22	178.22	400.0	-1,188.0	-1.1	-0.1	-1.0	0.04	-0.04	-3.04
425.0	0.35	180.79	425.0	-1,163.0	-1.2	-0.1	-1.1	0.52	0.52	10.28
450.0	0.29	182.88	450.0	-1,138.0	-1.4	-0.1	-1.3	0.24	-0.24	8.36
475.0	0.28	183.56	475.0	-1,113.0	-1.5	-0.1	-1.4	0.04	-0.04	2.72
500.0	0.17	185.05	500.0	-1,088.0	-1.6	-0.1	-1.5	0.44	-0.44	5.96
525.0	0.19	187.41	525.0	-1,063.0	-1.7	-0.1	-1.5	0.09	0.08	9.44
550.0	0.11	193.74	550.0	-1,038.0	-1.7	-0.2	-1.6	0.33	-0.32	25.32
575.0	0.07	195.43	575.0	-1,013.0	-1.8	-0.2	-1.6	0.16	-0.16	6.76
600.0	0.06	197.43	600.0	-988.0	-1.8	-0.2	-1.6	0.04	-0.04	8.00
625.0	0.08	188.22	625.0	-963.0	-1.8	-0.2	-1.7	0.09	0.08	-36.84
650.0	0.09	183.81	650.0	-938.0	-1.9	-0.2	-1.7	0.05	0.04	-17.64
675.0	0.11	180.64	675.0	-913.0	-1.9	-0.2	-1.7	0.08	0.08	-12.68
700.0	0.14	185.07	700.0	-888.0	-2.0	-0.2	-1.8	0.13	0.12	17.72
725.0	0.23	180.32	725.0	-863.0	-2.1	-0.2	-1.9	0.36	0.36	-19.00
750.0	0.29	177.77	750.0	-838.0	-2.2	-0.2	-2.0	0.24	0.24	-10.20
775.0	0.29	175.52	775.0	-813.0	-2.3	-0.2	-2.1	0.05	0.00	-9.00
800.0	0.43	176.85	800.0	-788.0	-2.4	-0.2	-2.2	0.56	0.56	5.32
825.0	0.47	176.76	825.0	-763.0	-2.6	-0.2	-2.4	0.16	0.16	-0.36
850.0	0.44	173.35	850.0	-738.0	-2.8	-0.1	-2.6	0.16	-0.12	-13.64
875.0	0.30	169.30	875.0	-713.0	-3.0	-0.1	-2.8	0.57	-0.56	-16.20
900.0	0.28	170.57	900.0	-688.0	-3.1	-0.1	-2.9	0.08	-0.08	5.08
925.0	0.39	167.29	925.0	-663.0	-3.3	-0.1	-3.1	0.45	0.44	-13.12
950.0	0.43	162.65	950.0	-638.0	-3.4	0.0	-3.2	0.21	0.16	-18.56
975.0	0.20	152.12	975.0	-613.0	-3.6	0.0	-3.4	0.94	-0.92	-42.12
1,000.0	0.27	156.60	1,000.0	-588.0	-3.7	0.1	-3.5	0.29	0.28	17.92
1,025.0	0.21	144.83	1,025.0	-563.0	-3.8	0.1	-3.6	0.31	-0.24	-47.08
1,050.0	0.21	143.95	1,050.0	-538.0	-3.8	0.2	-3.7	0.01	0.00	-3.52
1,075.0	0.31	144.62	1,075.0	-513.0	-3.9	0.2	-3.8	0.40	0.40	2.68
1,100.0	0.20	146.36	1,100.0	-488.0	-4.0	0.3	-3.9	0.44	-0.44	6.96
1,125.0	0.32	126.09	1,125.0	-463.0	-4.1	0.4	-4.0	0.60	0.48	-81.08
1,150.0	0.24	129.94	1,150.0	-438.0	-4.2	0.5	-4.1	0.33	-0.32	15.40
1,175.0	0.29	135.85	1,175.0	-413.0	-4.2	0.6	-4.2	0.23	0.20	23.64
1,200.0	0.29	123.45	1,200.0	-388.0	-4.3	0.7	-4.3	0.25	0.00	-49.60
1,225.0	0.35	176.30	1,225.0	-363.0	-4.4	0.7	-4.4	1.16	0.24	211.40

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PHOENIX TECHNOLOGY SERVICES 97-03813

Phoenix Technology Services

Survey Report

EQT Where energy meets innovation.

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Site Upshur County 511416
Company:	EQT Production - Marcellus	TVD Reference:	KB @ 1588.0usft
Project:	Upshur County, WV	MD Reference:	KB @ 1588.0usft
Site:	Upshur County 511416	North Reference:	Grid
Well:	Well #511416	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	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)
1,250.0	0.25	122.90	1,250.0	-338.0	-4.5	0.8	-4.5	1.14	-0.40	-213.60
1,275.0	0.26	123.89	1,275.0	-313.0	-4.6	0.9	-4.6	0.04	0.04	3.96
1,300.0	0.23	109.03	1,300.0	-288.0	-4.7	1.0	-4.7	0.28	-0.12	-59.44
1,325.0	0.18	98.35	1,325.0	-263.0	-4.7	1.0	-4.7	0.25	-0.20	-42.72
1,350.0	0.17	98.21	1,350.0	-238.0	-4.7	1.1	-4.8	0.04	-0.04	-0.56
1,375.0	0.18	109.06	1,375.0	-213.0	-4.7	1.2	-4.8	0.14	0.04	43.40
1,400.0	0.15	100.90	1,400.0	-188.0	-4.7	1.3	-4.9	0.15	-0.12	-32.64
1,425.0	0.18	93.60	1,425.0	-163.0	-4.7	1.3	-4.9	0.15	0.12	-29.20
1,450.0	0.13	94.05	1,450.0	-138.0	-4.7	1.4	-4.9	0.20	-0.20	1.80
1,475.0	0.05	90.61	1,475.0	-113.0	-4.7	1.4	-4.9	0.32	-0.32	-13.76
1,500.0	0.08	84.36	1,500.0	-88.0	-4.7	1.5	-5.0	0.12	0.12	-25.00
1,525.0	0.15	84.00	1,525.0	-63.0	-4.7	1.5	-5.0	0.28	0.28	-1.44
1,550.0	0.21	85.25	1,550.0	-38.0	-4.7	1.6	-5.0	0.24	0.24	5.00
1,575.0	0.12	88.40	1,575.0	-13.0	-4.7	1.7	-5.0	0.36	-0.36	12.60
1,600.0	0.23	88.66	1,600.0	12.0	-4.7	1.7	-5.0	0.44	0.44	1.04
1,625.0	0.10	82.75	1,625.0	37.0	-4.7	1.8	-5.0	0.52	-0.52	-23.64
1,650.0	0.13	86.49	1,650.0	62.0	-4.7	1.9	-5.1	0.12	0.12	14.96
1,675.0	0.10	87.96	1,675.0	87.0	-4.7	1.9	-5.1	0.12	-0.12	5.88
1,700.0	0.03	92.15	1,700.0	112.0	-4.7	1.9	-5.1	0.28	-0.28	16.76
1,725.0	0.18	111.59	1,725.0	137.0	-4.7	2.0	-5.1	0.61	0.60	77.76
1,750.0	0.21	116.84	1,750.0	162.0	-4.8	2.1	-5.2	0.14	0.12	21.00
1,775.0	0.10	115.20	1,775.0	187.0	-4.8	2.1	-5.2	0.44	-0.44	-6.56
1,800.0	0.02	119.07	1,800.0	212.0	-4.8	2.1	-5.2	0.32	-0.32	15.48
1,825.0	0.13	97.23	1,825.0	237.0	-4.8	2.2	-5.3	0.45	0.44	-87.36
1,850.0	0.11	93.20	1,850.0	262.0	-4.8	2.2	-5.3	0.09	-0.08	-16.12
1,875.0	0.05	111.15	1,875.0	287.0	-4.8	2.3	-5.3	0.26	-0.24	71.80
1,900.0	0.16	122.65	1,900.0	312.0	-4.8	2.3	-5.3	0.45	0.44	46.00
1,925.0	0.11	123.88	1,925.0	337.0	-4.9	2.4	-5.4	0.20	-0.20	4.92
1,950.0	0.11	126.44	1,950.0	362.0	-4.9	2.4	-5.4	0.02	0.00	10.24
1,975.0	0.12	128.68	1,975.0	387.0	-4.9	2.4	-5.5	0.04	0.04	8.96
2,000.0	0.16	133.02	2,000.0	412.0	-5.0	2.5	-5.5	0.17	0.16	17.36
2,025.0	0.22	135.07	2,025.0	437.0	-5.0	2.5	-5.6	0.24	0.24	8.20
2,050.0	0.20	136.20	2,050.0	462.0	-5.1	2.6	-5.7	0.08	-0.08	4.52
2,075.0	0.25	137.39	2,075.0	487.0	-5.2	2.7	-5.8	0.20	0.20	4.76
2,100.0	0.10	136.29	2,100.0	512.0	-5.2	2.7	-5.8	0.60	-0.60	-4.40
2,125.0	0.23	130.17	2,125.0	537.0	-5.3	2.8	-5.9	0.52	0.52	-24.48
2,150.0	0.34	134.21	2,150.0	562.0	-5.3	2.9	-6.0	0.45	0.44	16.16
2,175.0	0.19	132.23	2,175.0	587.0	-5.4	3.0	-6.1	0.60	-0.60	-7.92
2,200.0	0.22	136.08	2,200.0	612.0	-5.5	3.0	-6.2	0.13	0.12	15.40
2,225.0	0.22	134.08	2,225.0	637.0	-5.6	3.1	-6.3	0.03	0.00	-8.00
2,250.0	0.20	135.43	2,250.0	662.0	-5.6	3.1	-6.4	0.08	-0.08	5.40
2,275.0	0.42	134.50	2,275.0	687.0	-5.7	3.2	-6.5	0.88	0.88	-3.72
2,300.0	0.22	136.32	2,300.0	712.0	-5.8	3.3	-6.6	[illegible]	[illegible]80	7.28

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Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Site Upshur County 511416
Company:	EQT Production - Marcellus	**TVD Reference:**	KB @ 1588.0usft
Project:	Upshur County, WV	**MD Reference:**	KB @ 1588.0usft
Site:	Upshur County 511416	**North Reference:**	Grid
Well:	Well #511416	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	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)
2,325.0	0.23	131.73	2,325.0	737.0	-5.9	3.4	-6.7	0.08	0.04	-18.36
2,350.0	0.31	132.45	2,350.0	762.0	-6.0	3.5	-6.8	0.32	0.32	2.88
2,375.0	0.36	135.68	2,375.0	787.0	-6.1	3.6	-6.9	0.21	0.20	12.92
2,400.0	0.14	135.27	2,400.0	812.0	-6.1	3.7	-7.0	0.88	-0.88	-1.64
2,425.0	0.28	131.88	2,425.0	837.0	-6.2	3.7	-7.1	0.56	0.56	-13.56
2,450.0	0.14	134.17	2,450.0	862.0	-6.3	3.8	-7.2	0.56	-0.56	9.16
2,475.0	0.17	131.92	2,475.0	887.0	-6.3	3.9	-7.3	0.12	0.12	-9.00
2,500.0	0.25	134.64	2,500.0	912.0	-6.4	3.9	-7.3	0.32	0.32	10.88
2,525.0	0.25	137.52	2,525.0	937.0	-6.5	4.0	-7.4	0.05	0.00	11.52
2,550.0	0.21	134.33	2,550.0	962.0	-6.5	4.1	-7.5	0.17	-0.16	-12.76
2,575.0	0.11	136.00	2,575.0	987.0	-6.6	4.1	-7.6	0.40	-0.40	6.68
2,600.0	0.23	138.45	2,600.0	1,012.0	-6.6	4.2	-7.7	0.48	0.48	9.80
2,625.0	0.24	135.57	2,625.0	1,037.0	-6.7	4.2	-7.8	0.06	0.04	-11.52
2,650.0	0.37	142.54	2,650.0	1,062.0	-6.8	4.3	-7.9	0.54	0.52	27.88
2,675.0	0.24	139.89	2,675.0	1,087.0	-6.9	4.4	-8.0	0.52	-0.52	-10.60
2,700.0	0.20	135.22	2,700.0	1,112.0	-7.0	4.5	-8.1	0.18	-0.16	-18.68
2,725.0	0.31	133.80	2,725.0	1,137.0	-7.1	4.6	-8.2	0.44	0.44	-5.68
2,750.0	0.39	138.20	2,750.0	1,162.0	-7.2	4.7	-8.3	0.34	0.32	17.60
2,775.0	0.26	139.29	2,775.0	1,187.0	-7.3	4.8	-8.5	0.52	-0.52	4.36
2,800.0	0.14	140.20	2,800.0	1,212.0	-7.3	4.8	-8.5	0.48	-0.48	3.64
2,825.0	0.17	144.51	2,825.0	1,237.0	-7.4	4.9	-8.6	0.13	0.12	17.24
2,850.0	0.23	143.16	2,850.0	1,262.0	-7.5	4.9	-8.7	0.24	0.24	-5.40
2,875.0	0.41	156.22	2,875.0	1,287.0	-7.6	5.0	-8.8	0.77	0.72	52.24
2,900.0	0.26	154.63	2,900.0	1,312.0	-7.7	5.0	-9.0	0.60	-0.60	-6.36
2,925.0	0.14	142.35	2,925.0	1,337.0	-7.8	5.1	-9.1	0.51	-0.48	-49.12
2,950.0	0.21	141.41	2,950.0	1,362.0	-7.9	5.1	-9.1	0.28	0.28	-3.76
2,975.0	0.24	141.34	2,975.0	1,387.0	-7.9	5.2	-9.2	0.12	0.12	-0.28
3,000.0	0.34	135.06	3,000.0	1,412.0	-8.0	5.3	-9.3	0.42	0.40	-25.12
3,025.0	0.15	143.86	3,025.0	1,437.0	-8.1	5.3	-9.4	0.77	-0.76	35.20
3,050.0	0.11	144.54	3,050.0	1,462.0	-8.2	5.4	-9.5	0.16	-0.16	2.72
3,075.0	0.14	140.76	3,075.0	1,487.0	-8.2	5.4	-9.6	0.12	0.12	-15.12
3,100.0	0.25	166.00	3,100.0	1,512.0	-8.3	5.4	-9.6	0.55	0.44	100.96
3,125.0	0.28	164.04	3,125.0	1,537.0	-8.4	5.5	-9.8	0.13	0.12	-7.84
3,150.0	0.25	165.20	3,150.0	1,562.0	-8.5	5.5	-9.9	0.12	-0.12	4.64
3,175.0	0.26	167.17	3,175.0	1,587.0	-8.6	5.5	-10.0	0.05	0.04	7.88
3,200.0	0.37	168.67	3,200.0	1,612.0	-8.7	5.6	-10.1	0.44	0.44	6.00
3,225.0	0.47	162.08	3,225.0	1,637.0	-8.9	5.6	-10.3	0.44	0.40	-26.36
3,250.0	0.56	172.20	3,250.0	1,662.0	-9.1	5.7	-10.5	0.51	0.36	40.48
3,275.0	0.42	173.86	3,275.0	1,687.0	-9.3	5.7	-10.7	0.56	-0.56	6.64
3,300.0	0.39	170.80	3,300.0	1,712.0	-9.5	5.7	-10.9	0.15	-0.12	-12.24
3,325.0	0.33	185.47	3,325.0	1,737.0	-9.7	5.7	-11.0	0.44	-0.24	58.68
3,350.0	0.84	183.24	3,350.0	1,762.0	-9.9	5.7	-11.3	2.04	2.04	-8.92

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Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Site Upshur County 511416
Company:	EQT Production - Marcellus	**TVD Reference:**	KB @ 1586.0usft
Project:	Upshur County, WV	**MD Reference:**	KB @ 1586.0usft
Site:	Upshur County 511416	**North Reference:**	Grid
Well:	Well #511416	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	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)
3,375.0	0.43	192.40	3,375.0	1,787.0	-10.2	5.7	-11.5	1.68	-1.64	36.64
3,400.0	0.38	193.25	3,400.0	1,812.0	-10.4	5.6	-11.7	0.20	-0.20	3.40
3,425.0	0.36	190.06	3,425.0	1,837.0	-10.5	5.6	-11.8	0.11	-0.08	-12.76
3,450.0	0.30	189.68	3,450.0	1,862.0	-10.7	5.6	-11.9	0.24	-0.24	-1.52
3,475.0	0.31	190.70	3,475.0	1,887.0	-10.8	5.5	-12.1	0.05	0.04	4.08
3,500.0	0.23	192.82	3,500.0	1,912.0	-10.9	5.5	-12.2	0.32	-0.32	8.48
3,525.0	0.09	194.98	3,525.0	1,937.0	-11.0	5.5	-12.2	0.56	-0.56	8.64
3,550.0	0.29	189.64	3,550.0	1,962.0	-11.1	5.5	-12.3	0.80	0.80	-21.36
3,575.0	0.29	188.35	3,575.0	1,987.0	-11.2	5.5	-12.4	0.03	0.00	-5.16
3,600.0	0.62	100.09	3,600.0	2,012.0	-11.3	5.6	-12.5	2.71	1.32	-353.04
3,625.0	1.03	103.27	3,625.0	2,037.0	-11.4	5.9	-12.7	1.65	1.64	12.72
3,650.0	1.33	104.67	3,650.0	2,062.0	-11.5	6.4	-13.0	1.21	1.20	5.60
3,675.0	1.34	103.85	3,675.0	2,087.0	-11.6	7.0	-13.3	0.09	0.04	-3.28
3,700.0	1.28	113.32	3,699.9	2,111.9	-11.8	7.5	-13.7	0.90	-0.24	37.88
3,725.0	1.39	114.44	3,724.9	2,136.9	-12.0	8.1	-14.1	0.45	0.44	4.48
3,750.0	1.54	130.52	3,749.9	2,161.9	-12.4	8.6	-14.6	1.74	0.60	64.32
3,760.0	1.64	127.53	3,759.9	2,171.9	-12.6	8.8	-14.8	1.30	1.00	-29.90
3,775.0	1.41	128.32	3,774.9	2,186.9	-12.8	9.1	-15.2	1.54	-1.53	5.27
3,800.0	1.48	131.03	3,799.9	2,211.9	-13.2	9.6	-15.7	0.39	0.28	10.84
3,825.0	1.69	134.54	3,824.9	2,236.9	-13.7	10.1	-16.3	0.93	0.84	14.04
3,850.0	1.48	133.99	3,849.9	2,261.9	-14.2	10.6	-16.9	0.84	-0.84	-2.20
3,875.0	1.62	138.85	3,874.9	2,286.9	-14.7	11.1	-17.6	0.77	0.56	19.44
3,900.0	1.64	139.59	3,899.9	2,311.9	-15.2	11.6	-18.2	0.12	0.08	2.96
3,925.0	1.66	138.83	3,924.9	2,336.9	-15.7	12.0	-18.9	0.12	0.08	-3.04
3,950.0	1.77	137.13	3,949.9	2,361.9	-16.3	12.5	-19.6	0.48	0.44	-6.80
3,975.0	1.61	135.79	3,974.8	2,386.8	-16.8	13.0	-20.3	0.66	-0.64	-5.36
4,000.0	1.53	138.37	3,999.8	2,411.8	-17.3	13.5	-20.9	0.43	-0.32	10.32
4,025.0	1.62	139.68	4,024.8	2,436.8	-17.9	14.0	-21.5	0.39	0.36	5.24
4,050.0	1.74	140.12	4,049.8	2,461.8	-18.4	14.4	-22.2	0.48	0.48	1.76
4,075.0	1.64	134.87	4,074.8	2,486.8	-19.0	14.9	-22.9	0.74	-0.40	-21.00
4,100.0	1.69	136.46	4,099.8	2,511.8	-19.5	15.4	-23.6	0.27	0.20	6.36
4,125.0	1.49	136.17	4,124.8	2,536.8	-20.0	15.9	-24.2	0.80	-0.80	-1.16
4,150.0	1.71	131.83	4,149.8	2,561.8	-20.5	16.4	-24.8	1.00	0.88	-17.36
4,175.0	1.71	129.59	4,174.8	2,586.8	-20.9	17.0	-25.5	0.27	0.00	-8.96
4,200.0	1.65	130.62	4,199.7	2,611.7	-21.4	17.5	-26.1	0.27	-0.24	4.12
4,225.0	1.80	131.61	4,224.7	2,636.7	-21.9	18.1	-26.8	0.61	0.60	3.96
4,250.0	1.64	132.96	4,249.7	2,661.7	-22.4	18.7	-27.4	0.66	-0.64	5.40
4,275.0	1.90	128.89	4,274.7	2,686.7	-22.9	19.2	-28.1	1.15	1.04	-16.28
4,300.0	2.07	127.01	4,299.7	2,711.7	-23.5	19.9	-28.9	0.73	0.68	-7.52
4,325.0	2.01	117.93	4,324.7	2,736.7	-23.9	20.7	-29.6	1.31	-0.24	-36.32
4,350.0	2.20	117.18	4,349.7	2,761.7	-24.4	21.5	-30.2	0.77	0.76	-3.00
4,375.0	2.23	116.90	4,374.6	2,786.6	-24.8	22.3	-30.9	0.13	0.12	-1.12
4,400.0	2.16	110.21	4,399.6	2,811.6	-25.2	23.2	-31.6	1.06	-0.28	-26.76

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Site Upshur County 511416
Company:	EQT Production - Marcellus	**TVD Reference:**	KB @ 1588.0usft
Project:	Upshur County, WV	**MD Reference:**	KB @ 1588.0usft
Site:	Upshur County 511416	**North Reference:**	Grid
Well:	Well #511416	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	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)
4,425.0	2.14	110.57	4,424.6	2,836.6	-25.5	24.1	-32.2	0.10	-0.08	1.44
4,450.0	2.11	109.59	4,449.6	2,861.6	-25.8	25.0	-32.8	0.19	-0.12	-3.92
4,475.0	2.20	113.86	4,474.6	2,886.6	-26.2	25.8	-33.4	0.74	0.36	17.08
4,500.0	2.05	118.05	4,499.6	2,911.6	-26.6	26.7	-34.1	0.86	-0.60	16.76
4,525.0	2.22	118.32	4,524.5	2,936.5	-27.0	27.5	-34.8	0.68	0.68	1.08
4,550.0	2.28	115.58	4,549.5	2,961.5	-27.5	28.4	-35.5	0.49	0.24	-10.96
4,575.0	1.73	120.38	4,574.5	2,986.5	-27.9	29.2	-36.2	2.30	-2.20	19.20
4,600.0	1.93	124.13	4,599.5	3,011.5	-28.3	29.8	-36.8	0.93	0.80	15.00
4,625.0	2.19	119.68	4,624.5	3,036.5	-28.8	30.6	-37.5	1.22	1.04	-17.80
4,650.0	1.84	122.11	4,649.5	3,061.5	-29.2	31.3	-38.2	1.44	-1.40	9.72
4,675.0	2.30	111.00	4,674.4	3,086.4	-29.6	32.2	-38.8	2.43	1.84	-44.44
4,700.0	2.48	114.30	4,699.4	3,111.4	-30.0	33.1	-39.5	0.91	0.72	13.20
4,725.0	2.00	121.35	4,724.4	3,136.4	-30.5	34.0	-40.2	2.21	-1.92	28.20
4,750.0	2.09	121.31	4,749.4	3,161.4	-30.9	34.7	-40.9	0.36	0.36	-0.16
4,775.0	2.65	117.63	4,774.4	3,186.4	-31.4	35.6	-41.7	2.32	2.24	-14.72
4,800.0	2.12	120.34	4,799.3	3,211.3	-31.9	36.6	-42.5	2.17	-2.12	10.84
4,825.0	2.48	115.84	4,824.3	3,236.3	-32.4	37.4	-43.2	1.61	1.44	-18.00
4,850.0	2.10	118.79	4,849.3	3,261.3	-32.9	38.3	-44.0	1.59	-1.52	11.80
4,875.0	1.91	112.63	4,874.3	3,286.3	-33.2	39.1	-44.6	1.15	-0.76	-24.64
4,900.0	1.81	117.46	4,899.3	3,311.3	-33.6	39.8	-45.2	0.74	-0.40	19.32
4,925.0	2.13	109.84	4,924.3	3,336.3	-33.9	40.6	-45.8	1.65	1.28	-30.48
4,950.0	1.96	110.73	4,949.2	3,361.2	-34.2	41.5	-46.3	0.69	-0.68	3.56
4,975.0	1.77	110.02	4,974.2	3,386.2	-34.5	42.2	-46.9	0.77	-0.76	-2.84
5,000.0	2.01	106.62	4,999.2	3,411.2	-34.8	43.0	-47.4	1.06	0.96	-13.60
5,025.0	1.67	109.30	5,024.2	3,436.2	-35.0	43.8	-47.9	1.40	-1.36	10.72
5,050.0	1.96	114.02	5,049.2	3,461.2	-35.3	44.5	-48.4	1.30	1.16	18.88
5,075.0	2.20	118.69	5,074.2	3,486.2	-35.7	45.3	-49.1	1.17	0.96	18.68
5,100.0	1.91	119.53	5,099.2	3,511.2	-36.1	46.1	-49.7	1.17	-1.16	3.36
5,125.0	2.42	105.10	5,124.1	3,536.1	-36.5	47.0	-50.4	2.97	2.04	-57.72
5,150.0	2.29	108.55	5,149.1	3,561.1	-36.8	48.0	-51.0	0.77	-0.52	13.80
5,175.0	2.16	111.11	5,174.1	3,586.1	-37.1	48.9	-51.6	0.65	-0.52	10.24
5,200.0	1.81	105.43	5,199.1	3,611.1	-37.4	49.7	-52.1	1.60	-1.40	-22.72
5,225.0	1.40	96.90	5,224.1	3,636.1	-37.5	50.4	-52.5	1.89	-1.64	-34.12
5,250.0	1.59	97.20	5,249.1	3,661.1	-37.6	51.0	-52.8	0.76	0.76	1.20
5,275.0	0.92	108.54	5,274.1	3,686.1	-37.7	51.6	-53.1	2.85	-2.68	45.36
5,300.0	0.82	105.22	5,299.1	3,711.1	-37.8	51.9	-53.3	0.45	-0.40	-13.28
5,325.0	1.44	96.82	5,324.1	3,736.1	-37.9	52.4	-53.6	2.56	2.48	-33.60
5,350.0	1.25	90.84	5,349.1	3,761.1	-38.0	53.0	-53.8	0.94	-0.76	-23.92
5,375.0	1.64	93.42	5,374.0	3,786.0	-38.0	53.6	-54.0	1.58	1.56	10.32
5,400.0	1.80	105.53	5,399.0	3,811.0	-38.1	54.4	-54.4	1.58	0.64	48.44
5,425.0	2.20	99.83	5,424.0	3,836.0	-38.3	55.2	-54.9	1.79	1.60	-22.80
5,450.0	2.11	86.37	5,449.0	3,861.0	-38.3	56.1	-55.2	2.05	-0.36	-53.84

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Site Upshur County 511416
Company:	EQT Production - Marcellus	**TVD Reference:**	KB @ 1588.0usft
Project:	Upshur County, WV	**MD Reference:**	KB @ 1588.0usft
Site:	Upshur County 511416	**North Reference:**	Grid
Well:	Well #511416	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	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)
5,475.0	2.30	90.12	5,474.0	3,886.0	-38.3	57.1	-55.5	0.95	0.76	15.00
5,500.0	2.57	95.63	5,499.0	3,911.0	-38.4	58.2	-56.0	1.43	1.08	22.04
5,525.0	2.96	81.09	5,523.9	3,935.9	-38.3	59.4	-56.3	3.20	1.56	-58.16
5,600.0	3.27	90.61	5,598.8	4,010.8	-38.1	63.4	-57.4	0.80	0.41	12.69
5,700.0	2.92	103.45	5,698.7	4,110.7	-38.7	68.7	-59.9	0.77	-0.35	12.84
5,800.0	2.83	109.84	5,798.5	4,210.5	-40.1	73.5	-62.8	0.33	-0.09	6.39
5,900.0	2.43	111.75	5,898.4	4,310.4	-41.7	77.8	-65.8	0.41	-0.40	1.91
6,000.0	2.51	119.28	5,998.3	4,410.3	-43.6	81.7	-68.9	0.33	0.08	7.53
6,100.0	2.66	127.00	6,098.2	4,510.2	-46.1	85.5	-72.5	0.38	0.15	7.72
6,200.0	2.27	133.29	6,198.2	4,610.2	-48.8	88.8	-76.2	0.47	-0.39	6.29
6,300.0	2.19	130.20	6,298.1	4,710.1	-51.4	91.7	-79.7	0.14	-0.08	-3.09
6,400.0	2.10	126.15	6,398.0	4,810.0	-53.7	94.6	-82.8	0.18	-0.09	-4.05
6,500.0	2.38	111.17	6,497.9	4,909.9	-55.5	98.0	-85.7	0.65	0.28	-14.98
6,600.0	2.79	104.98	6,597.8	5,009.8	-56.9	102.3	-88.5	0.50	0.41	-6.19
6,700.0	4.18	92.18	6,697.6	5,109.6	-57.7	108.3	-91.3	1.58	1.39	-12.80
6,800.0	5.53	93.50	6,797.3	5,209.3	-58.1	116.8	-94.5	1.35	1.35	1.32
Gyro Tie In=6900' MD										
6,900.0	6.11	95.23	6,896.8	5,308.8	-58.9	126.9	-98.7	0.61	0.58	1.73
KOP=6915' MD										
6,915.0	5.80	75.30	6,911.7	5,323.7	-58.8	128.4	-99.1	13.87	-2.07	-132.87
6,941.0	7.30	53.10	6,937.5	5,349.5	-57.5	131.0	-98.8	11.21	5.77	-85.38
6,946.0	7.90	49.00	6,942.5	5,354.5	-57.0	131.5	-98.6	16.17	12.00	-82.00
6,977.0	9.20	59.80	6,973.1	5,385.1	-54.4	135.2	-97.4	6.65	4.19	34.84
7,009.0	13.50	71.40	7,004.5	5,416.5	-51.9	141.0	-97.0	15.15	13.44	36.25
7,040.0	15.70	61.40	7,034.5	5,446.5	-48.8	148.1	-96.5	10.77	7.10	-32.26
7,072.0	16.30	44.00	7,065.3	5,477.3	-43.5	155.0	-93.9	15.05	1.88	-54.38
7,103.0	18.40	31.10	7,094.9	5,506.9	-36.1	160.6	-88.9	14.10	6.77	-41.61
7,135.0	19.60	21.60	7,125.2	5,537.2	-26.8	165.2	-81.7	10.35	3.75	-29.69
7,166.0	19.20	12.70	7,154.4	5,566.4	-17.0	168.2	-73.5	9.61	-1.29	-28.71
7,198.0	19.50	1.90	7,184.6	5,596.6	-6.5	169.6	-64.1	11.21	0.94	-33.75
7,230.0	19.60	352.20	7,214.8	5,626.8	4.1	169.0	-53.9	10.14	0.31	-30.31
7,261.0	20.00	343.80	7,243.9	5,655.9	14.4	166.8	-43.5	9.26	1.29	-27.10
7,292.0	21.60	341.30	7,272.9	5,684.9	24.9	163.5	-32.5	5.90	5.16	-8.06
7,324.0	24.60	339.10	7,302.3	5,714.3	36.7	159.2	-20.0	9.75	9.38	-6.88
7,355.0	27.60	337.70	7,330.2	5,742.2	49.4	154.2	-6.4	9.88	9.68	-4.52
7,387.0	31.20	335.80	7,358.1	5,770.1	63.8	148.0	9.3	11.62	11.25	-5.94
7,418.0	34.50	335.40	7,384.1	5,796.1	79.1	141.1	26.1	10.67	10.65	-1.29
7,450.0	38.00	337.20	7,409.9	5,821.9	96.4	133.5	45.0	11.43	10.94	5.63
7,481.0	41.00	339.10	7,433.8	5,845.8	114.7	126.1	64.7	10.43	9.68	6.13
7,513.0	45.40	340.60	7,457.1	5,869.1	135.3	118.6	86.6	14.12	13.75	4.69
7,544.0	49.20	339.20	7,478.2	5,890.2	156.7	110.8	109.3	12.70	12.26	-4.52
7,575.0	53.10	338.70	7,497.6	5,909.6	179.2	102.1	133.5	12.64	12.58	-1.61
7,607.0	56.70	338.90	7,516.0	5,928.0	203.6	92.6	159.6	11.26	11.25	0.63

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Site Upshur County 511416
Company:	EQT Production - Marcellus	**TVD Reference:**	KB @ 1588.0usft
Project:	Upshur County, WV	**MD Reference:**	KB @ 1588.0usft
Site:	Upshur County 511416	**North Reference:**	Grid
Well:	Well #511416	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	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)
7,638.0	61.00	339.20	7,532.0	5,944.0	228.4	83.1	186.2	13.90	13.87	0.97
7,670.0	64.40	340.60	7,546.7	5,958.7	255.1	73.4	214.6	11.31	10.63	4.38
7,701.0	67.50	340.60	7,559.3	5,971.3	281.8	64.0	242.9	10.00	10.00	0.00
7,733.0	70.30	340.20	7,570.9	5,982.9	309.9	54.0	272.7	8.83	8.75	-1.25
7,764.0	73.50	339.90	7,580.5	5,992.5	337.6	43.9	302.2	10.36	10.32	-0.97
7,796.0	75.90	338.90	7,588.9	6,000.9	366.5	33.0	333.1	8.08	7.50	-3.13
7,827.0	78.20	337.00	7,595.9	6,007.9	394.5	21.7	363.3	9.52	7.42	-6.13
7,859.0	80.80	337.60	7,601.7	6,013.7	423.5	9.6	394.7	8.33	8.13	1.88
7,890.0	83.00	338.00	7,606.1	6,018.1	451.9	-2.0	425.4	7.21	7.10	1.29
7,922.0	85.50	337.90	7,609.3	6,021.3	481.4	-14.0	457.2	7.82	7.81	-0.31
LP=7953' MD/ 7611' TVD										
7,953.0	87.90	337.20	7,611.1	6,023.1	510.0	-25.8	488.1	8.06	7.74	-2.26
8,016.0	88.40	337.30	7,613.1	6,025.1	568.1	-50.2	551.0	0.81	0.79	0.16
8,079.0	87.40	337.10	7,615.4	6,027.4	626.1	-74.5	613.9	1.62	-1.59	-0.32
8,142.0	86.50	336.30	7,618.8	6,030.8	683.9	-99.4	676.7	1.91	-1.43	-1.27
8,206.0	86.90	336.30	7,622.4	6,034.4	742.4	-125.1	740.4	0.63	0.63	0.00
8,269.0	87.10	336.70	7,625.7	6,037.7	800.1	-150.2	803.2	0.71	0.32	0.63
8,332.0	86.80	337.30	7,629.1	6,041.1	858.0	-174.8	866.0	1.06	-0.48	0.95
8,395.0	86.60	337.80	7,632.7	6,044.7	916.1	-198.8	928.9	0.85	-0.32	0.79
8,458.0	87.20	337.60	7,636.1	6,048.1	974.3	-222.7	991.7	1.00	0.95	-0.32
8,521.0	87.70	337.10	7,638.9	6,050.9	1,032.4	-246.9	1,054.6	1.12	0.79	-0.79
8,584.0	89.10	337.20	7,640.7	6,052.7	1,090.5	-271.4	1,117.5	2.23	2.22	0.16
8,647.0	89.50	337.00	7,641.5	6,053.5	1,148.5	-295.9	1,180.4	0.71	0.63	-0.32
8,710.0	89.60	336.90	7,642.0	6,054.0	1,206.5	-320.5	1,243.3	0.22	0.16	-0.16
8,773.0	90.70	337.60	7,641.8	6,053.8	1,264.6	-344.9	1,306.3	2.07	1.75	1.11
8,836.0	90.70	337.00	7,641.0	6,053.0	1,322.7	-369.2	1,369.2	0.95	0.00	-0.95
8,899.0	90.90	336.50	7,640.1	6,052.1	1,380.5	-394.1	1,432.1	0.85	0.32	-0.79
8,962.0	91.80	336.90	7,638.7	6,050.7	1,438.4	-419.0	1,495.0	1.56	1.43	0.63
9,025.0	91.50	337.00	7,636.8	6,048.8	1,496.3	-443.6	1,557.8	0.50	-0.48	0.16
9,088.0	91.80	338.40	7,635.0	6,047.0	1,554.6	-467.5	1,620.8	2.27	0.48	2.22
9,151.0	91.20	339.90	7,633.4	6,045.4	1,613.5	-490.0	1,683.7	2.56	-0.95	2.38
9,214.0	89.70	339.80	7,632.9	6,044.9	1,672.6	-511.7	1,746.7	2.39	-2.38	-0.16
9,277.0	88.70	340.10	7,633.8	6,045.8	1,731.8	-533.3	1,809.7	1.66	-1.59	0.48
9,340.0	88.30	339.40	7,635.4	6,047.4	1,790.9	-555.1	1,872.7	1.28	-0.63	-1.11
9,403.0	87.80	339.20	7,637.6	6,049.6	1,849.8	-577.3	1,935.7	0.85	-0.79	-0.32
9,466.0	87.30	338.50	7,640.2	6,052.2	1,908.5	-600.0	1,998.6	1.36	-0.79	-1.11
9,530.0	87.50	339.10	7,643.2	6,055.2	1,968.1	-623.1	2,062.5	0.99	0.31	0.94
9,592.0	87.70	338.10	7,645.7	6,057.7	2,025.7	-645.7	2,124.4	1.64	0.32	-1.61
9,655.0	87.20	337.50	7,648.6	6,060.6	2,084.0	-669.5	2,187.3	1.24	-0.79	-0.95
9,718.0	87.40	337.50	7,651.5	6,063.5	2,142.1	-693.6	2,250.2	0.32	0.32	0.00
9,781.0	89.40	338.40	7,653.3	6,065.3	2,200.5	-717.2	2,313.1	3.48	3.17	1.43
9,844.0	89.30	338.10	7,654.0	6,066.0	2,259.0	-740.6	2,376.1	0.50	-0.16	-0.48
9,907.0	89.40	338.10	7,654.7	6,066.7	2,317.5	-764.1	2,439.0	0.16	0.16	0.00

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Site Upshur County 511416
Company:	EQT Production - Marcellus	**TVD Reference:**	KB @ 1588.0usft
Project:	Upshur County, WV	**MD Reference:**	KB @ 1588.0usft
Site:	Upshur County 511416	**North Reference:**	Grid
Well:	Well #511416	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	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)
9,970.0	91.10	339.90	7,654.4	6,066.4	2,376.3	-786.7	2,502.0	3.93	2.70	2.86
10,033.0	90.70	339.60	7,653.4	6,065.4	2,435.4	-808.5	2,565.0	0.79	-0.63	-0.48
10,096.0	91.40	340.30	7,652.3	6,064.3	2,494.6	-830.1	2,628.0	1.57	1.11	1.11
10,159.0	92.50	343.00	7,650.1	6,062.1	2,554.3	-849.9	2,690.9	4.63	1.75	4.29
10,222.0	91.10	342.40	7,648.2	6,060.2	2,614.4	-868.6	2,753.8	2.42	-2.22	-0.95
10,285.0	90.10	342.10	7,647.5	6,059.5	2,674.4	-887.8	2,816.8	1.66	-1.59	-0.48
10,348.0	89.90	341.50	7,647.5	6,059.5	2,734.3	-907.5	2,879.8	1.00	-0.32	-0.95
10,410.0	89.50	341.30	7,647.8	6,059.8	2,793.0	-927.3	2,941.7	0.72	-0.65	-0.32
10,473.0	89.10	340.20	7,648.6	6,060.6	2,852.5	-948.0	3,004.7	1.86	-0.63	-1.75
10,536.0	89.20	340.80	7,649.5	6,061.5	2,911.9	-969.1	3,067.7	0.97	0.16	0.95
10,599.0	88.50	340.60	7,650.8	6,062.8	2,971.3	-989.9	3,130.7	1.16	-1.11	-0.32
10,662.0	89.50	342.90	7,651.9	6,063.9	3,031.1	-1,009.6	3,193.7	3.98	1.59	3.65
10,725.0	89.80	344.30	7,652.3	6,064.3	3,091.6	-1,027.4	3,256.5	2.27	0.48	2.22
10,788.0	90.20	346.30	7,652.3	6,064.3	3,152.5	-1,043.4	3,319.3	3.24	0.63	3.17
10,851.0	89.80	346.70	7,652.3	6,064.3	3,213.8	-1,058.1	3,381.8	0.90	-0.63	0.63
10,914.0	88.70	342.80	7,653.1	6,065.1	3,274.5	-1,074.6	3,444.6	6.43	-1.75	-6.19
10,977.0	89.20	344.10	7,654.3	6,066.3	3,334.9	-1,092.6	3,507.5	2.21	0.79	2.06
11,040.0	89.70	344.30	7,654.9	6,066.9	3,395.5	-1,109.7	3,570.3	0.85	0.79	0.32
11,103.0	90.20	342.00	7,654.9	6,066.9	3,455.8	-1,128.0	3,633.2	3.74	0.79	-3.65
11,166.0	89.60	340.60	7,655.0	6,067.0	3,515.5	-1,148.2	3,696.2	2.42	-0.95	-2.22
11,229.0	88.00	336.80	7,656.4	6,068.4	3,574.2	-1,171.1	3,759.2	6.54	-2.54	-6.03
11,291.0	89.20	337.60	7,657.9	6,069.9	3,631.3	-1,195.1	3,821.1	2.33	1.94	1.29
11,354.0	89.10	337.70	7,658.8	6,070.8	3,689.6	-1,219.0	3,884.0	0.22	-0.16	0.16
11,418.0	89.40	338.10	7,659.6	6,071.6	3,748.9	-1,243.1	3,948.0	0.78	0.47	0.63
11,480.0	89.10	337.70	7,660.5	6,072.5	3,806.3	-1,266.4	4,009.9	0.81	-0.48	-0.65
11,543.0	88.40	337.30	7,661.8	6,073.8	3,864.5	-1,290.5	4,072.8	1.28	-1.11	-0.63
11,606.0	88.50	338.10	7,663.5	6,075.5	3,922.8	-1,314.4	4,135.8	1.28	0.16	1.27
11,669.0	88.00	337.30	7,665.5	6,077.5	3,981.0	-1,338.3	4,198.7	1.50	-0.79	-1.27
11,732.0	89.40	336.20	7,666.9	6,078.9	4,038.9	-1,363.2	4,261.6	2.83	2.22	-1.75
11,795.0	90.40	335.80	7,667.0	6,079.0	4,096.4	-1,388.8	4,324.4	1.71	1.59	-0.63
11,858.0	89.50	335.00	7,667.0	6,079.0	4,153.7	-1,415.0	4,387.2	1.91	-1.43	-1.27
11,921.0	88.50	334.50	7,668.1	6,080.1	4,210.7	-1,441.9	4,449.9	1.77	-1.59	-0.79
11,984.0	90.30	334.00	7,668.8	6,080.8	4,267.4	-1,469.3	4,512.6	2.97	2.86	-0.79
12,047.0	91.20	334.40	7,668.0	6,080.0	4,324.1	-1,496.7	4,575.3	1.56	1.43	0.63
12,110.0	90.60	333.70	7,667.0	6,079.0	4,380.8	-1,524.3	4,637.9	1.46	-0.95	-1.11
12,173.0	91.00	334.30	7,666.1	6,078.1	4,437.4	-1,551.9	4,700.6	1.14	0.63	0.95
12,236.0	90.70	336.00	7,665.2	6,077.2	4,494.6	-1,578.4	4,763.3	2.74	-0.48	2.70
12,299.0	90.60	336.60	7,664.5	6,076.5	4,552.2	-1,603.7	4,826.2	0.97	-0.16	0.95
12,362.0	89.50	336.30	7,664.4	6,076.4	4,610.0	-1,628.8	4,889.1	1.81	-1.75	-0.48
12,425.0	87.40	337.20	7,666.1	6,078.1	4,667.8	-1,653.7	4,951.9	3.63	-3.33	1.43
12,488.0	87.60	338.30	7,668.9	6,080.9	4,726.1	-1,677.5	5,014.8	1.77	0.32	1.75
12,551.0	87.40	338.00	7,671.6	6,083.6	4,784.5	-1,701.0	5,077.7	0.57	-0.32	-0.48

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Site Upshur County 511416
Company:	EQT Production - Marcellus	**TVD Reference:**	KB @ 1588.0usft
Project:	Upshur County, WV	**MD Reference:**	KB @ 1588.0usft
Site:	Upshur County 511416	**North Reference:**	Grid
Well:	Well #511416	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	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)
12,614.0	87.80	338.50	7,674.2	6,086.2	4,843.0	-1,724.3	5,140.7	1.02	0.63	0.79
12,677.0	87.60	340.60	7,676.8	6,088.8	4,902.0	-1,746.3	5,203.6	3.35	-0.32	3.33
12,740.0	88.30	339.90	7,679.0	6,091.0	4,961.2	-1,767.6	5,266.6	1.57	1.11	-1.11
12,803.0	89.60	340.90	7,680.2	6,092.2	5,020.6	-1,788.7	5,329.5	2.60	2.06	1.59
12,866.0	89.90	341.30	7,680.5	6,092.5	5,080.2	-1,809.1	5,392.5	0.79	0.48	0.63
12,928.0	89.40	341.60	7,680.8	6,092.8	5,138.9	-1,828.8	5,454.5	0.94	-0.81	0.48
12,991.0	88.90	340.80	7,681.8	6,093.8	5,198.6	-1,849.1	5,517.5	1.50	-0.79	-1.27
13,054.0	89.00	341.30	7,682.9	6,094.9	5,258.1	-1,869.6	5,580.5	0.81	0.16	0.79
13,117.0	91.10	342.10	7,682.9	6,094.9	5,318.0	-1,889.3	5,643.4	3.57	3.33	1.27
13,179.0	91.20	341.40	7,681.6	6,093.6	5,376.8	-1,908.8	5,705.4	1.14	0.16	-1.13
13,241.0	90.50	340.60	7,680.7	6,092.7	5,435.4	-1,928.9	5,767.4	1.71	-1.13	-1.29
13,304.0	89.20	339.80	7,680.9	6,092.9	5,494.7	-1,950.3	5,830.4	2.42	-2.06	-1.27
13,366.0	88.70	339.90	7,682.0	6,094.0	5,552.9	-1,971.6	5,892.4	0.82	-0.81	0.16
13,429.0	89.30	339.70	7,683.1	6,095.1	5,612.0	-1,993.4	5,955.4	1.00	0.95	-0.32
13,492.0	89.20	339.20	7,683.9	6,095.9	5,671.0	-2,015.5	6,018.3	0.81	-0.16	-0.79
13,554.0	90.20	339.50	7,684.3	6,096.3	5,729.0	-2,037.4	6,080.3	1.68	1.61	0.48
13,617.0	90.60	339.00	7,683.8	6,095.8	5,787.9	-2,059.7	6,143.3	1.02	0.63	-0.79
13,679.0	90.40	338.40	7,683.3	6,095.3	5,845.7	-2,082.2	6,205.3	1.02	-0.32	-0.97
13,741.0	91.30	337.70	7,682.4	6,094.4	5,903.2	-2,105.4	6,267.3	1.84	1.45	-1.13
13,804.0	91.40	337.00	7,680.9	6,092.9	5,961.3	-2,129.6	6,330.2	1.12	0.16	-1.11
13,867.0	90.90	337.00	7,679.6	6,091.6	6,019.3	-2,154.2	6,393.1	0.79	-0.79	0.00
13,929.0	90.40	336.60	7,678.9	6,090.9	6,076.3	-2,178.7	6,455.0	1.03	-0.81	-0.65
13,992.0	90.40	336.40	7,678.5	6,090.5	6,134.1	-2,203.8	6,517.9	0.32	0.00	-0.32
14,054.0	89.90	336.10	7,678.3	6,090.3	6,190.8	-2,228.8	6,579.7	0.94	-0.81	-0.48
14,117.0	90.50	336.70	7,678.1	6,090.1	6,248.5	-2,254.0	6,642.6	1.35	0.95	0.95
14,179.0	90.50	336.40	7,677.5	6,089.5	6,305.4	-2,278.6	6,704.5	0.48	0.00	-0.48
14,241.0	91.70	337.80	7,676.4	6,088.4	6,362.5	-2,302.8	6,766.4	2.97	1.94	2.26
14,304.0	90.90	337.70	7,674.9	6,086.9	6,420.8	-2,326.6	6,829.3	1.28	-1.27	-0.16
14,366.0	89.00	337.10	7,675.0	6,087.0	6,478.0	-2,350.4	6,891.3	3.21	-3.06	-0.97
14,429.0	89.20	338.70	7,676.0	6,088.0	6,536.4	-2,374.1	6,954.2	2.56	0.32	2.54
14,491.0	89.30	338.90	7,676.8	6,088.8	6,594.2	-2,396.6	7,016.2	0.36	0.16	0.32
14,553.0	89.50	338.80	7,677.4	6,089.4	6,652.0	-2,418.9	7,078.2	0.36	0.32	-0.16
14,616.0	89.90	338.90	7,677.8	6,089.8	6,710.8	-2,441.7	7,141.2	0.65	0.63	0.16
14,678.0	89.70	339.40	7,678.0	6,090.0	6,768.7	-2,463.7	7,203.2	0.87	-0.32	0.81
14,741.0	89.30	338.40	7,678.5	6,090.5	6,827.5	-2,486.4	7,266.1	1.71	-0.63	-1.59
14,803.0	88.40	336.90	7,679.8	6,091.8	6,884.8	-2,510.0	7,328.1	2.82	-1.45	-2.42
14,866.0	88.40	337.80	7,681.5	6,093.5	6,942.9	-2,534.2	7,391.0	1.43	0.00	1.43
14,929.0	87.70	337.70	7,683.7	6,095.7	7,001.2	-2,558.1	7,453.9	1.12	-1.11	-0.16
14,991.0	87.00	337.00	7,686.5	6,098.5	7,058.4	-2,581.9	7,515.8	1.60	-1.13	-1.13
15,054.0	88.20	336.40	7,689.2	6,101.2	7,116.2	-2,606.8	7,578.6	2.13	1.90	-0.95
15,117.0	88.40	336.50	7,691.0	6,103.0	7,173.9	-2,632.0	7,641.5	0.35	0.32	0.16
15,179.0	89.10	336.20	7,692.4	6,104.4	7,230.7	-2,656.8	7,703.3	1.23	1.13	-0.48
15,242.0	89.70	335.90	7,693.1	6,105.1	7,288.3	-2,682.4	7,766.2	1.06	0.95	-0.48

97-03813

Phoenix Technology Services

Survey Report

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Site Upshur County 511416
Company:	EQT Production - Marcellus	**TVD Reference:**	KB @ 1588.0usft
Project:	Upshur County, WV	**MD Reference:**	KB @ 1588.0usft
Site:	Upshur County 511416	**North Reference:**	Grid
Well:	Well #511416	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	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)
Last Survey=15270' MD/ 7693' TVD										
15,270.0	89.60	335.80	7,693.2	6,105.2	7,313.8	-2,693.9	7,794.1	0.51	-0.36	-0.36
Projection to TD=15327' MD/ 7694' TVD										
15,327.0	89.60	335.80	7,693.6	6,105.6	7,365.8	-2,717.2	7,850.9	0.00	0.00	0.00

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
6,900.0	6,896.8	-58.9	126.9	Gyro Tie In=6900' MD
6,915.0	6,911.7	-58.8	128.4	KOP=6915' MD
7,953.0	7,611.1	510.0	-25.8	LP=7953' MD/ 7611' TVD
15,270.0	7,693.2	7,313.8	-2,693.9	Last Survey=15270' MD/ 7693' TVD
15,327.0	7,693.6	7,365.8	-2,717.2	Projection to TD=15327' MD/ 7694' TVD

Checked By: _____ Approved By: _____ Date: _____

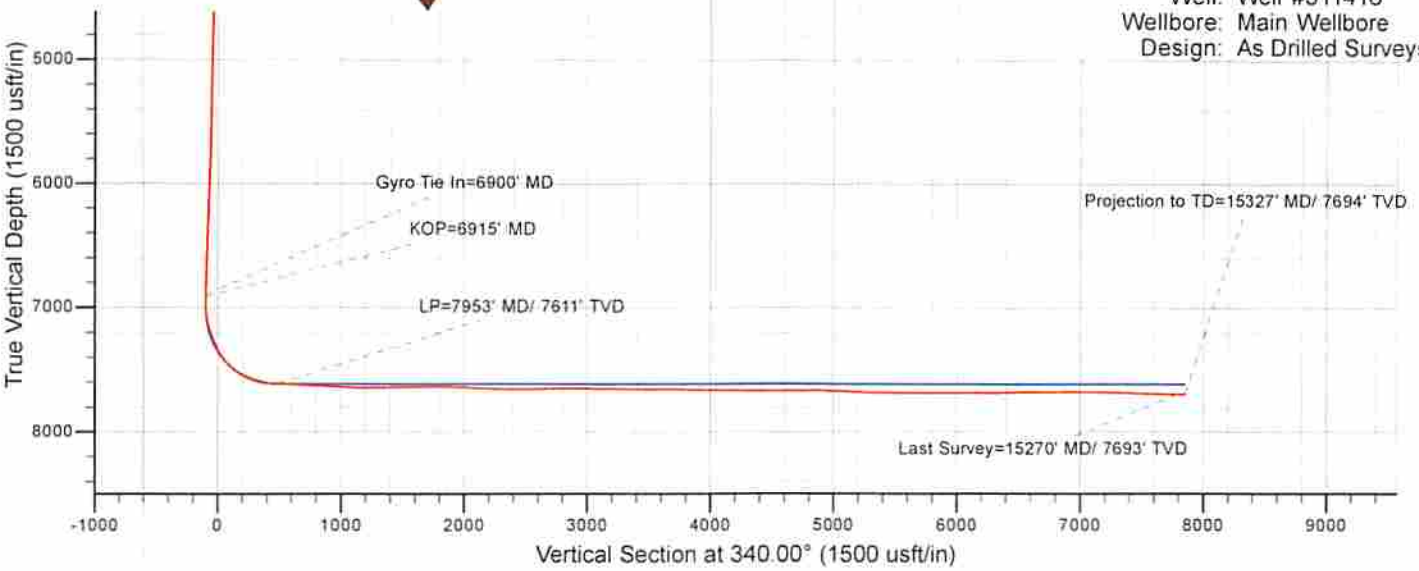
Received
Office of Oil & Gas
AUG 26 2014

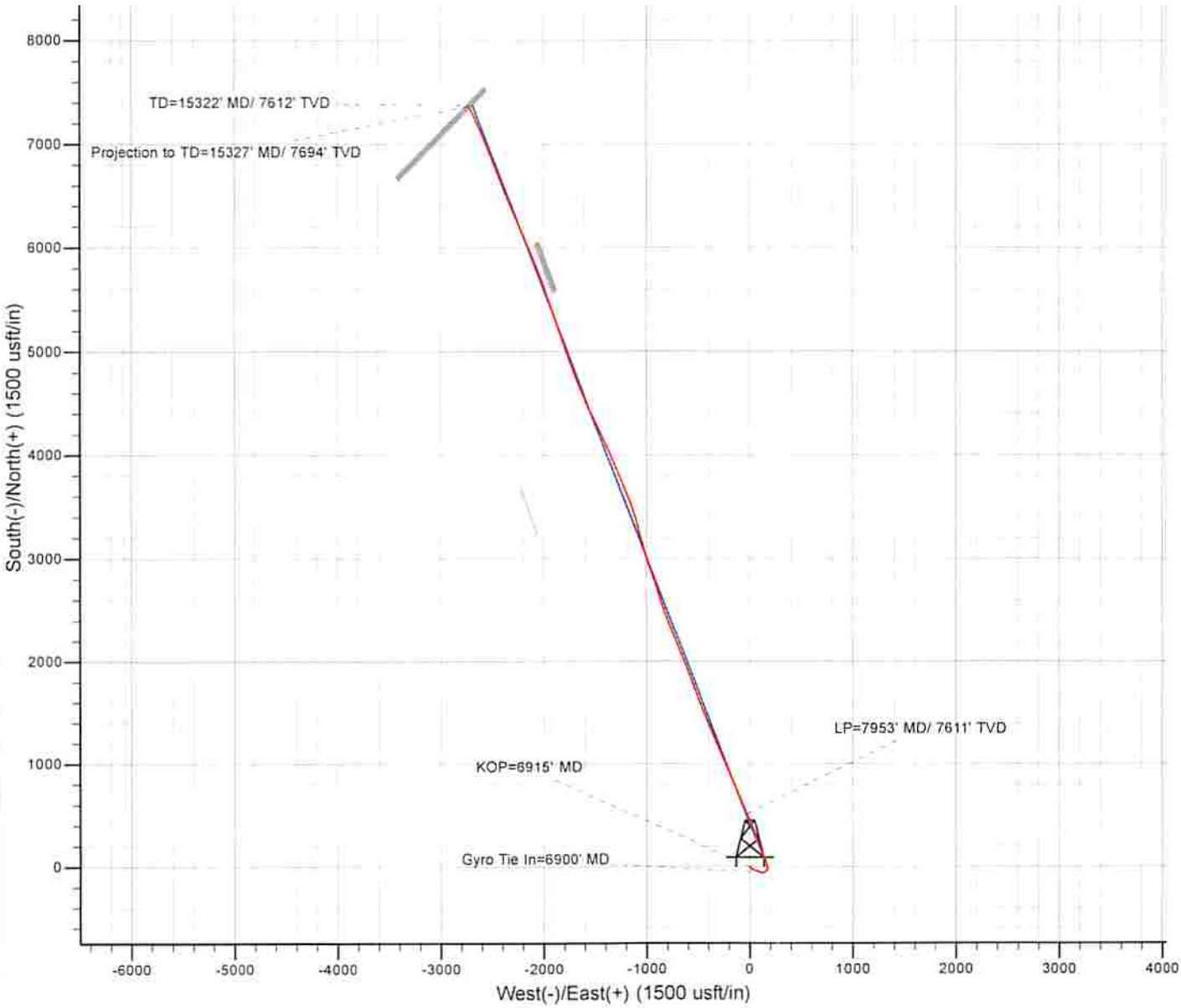
PHOENIX
TECHNOLOGY SERVICES

97-03813

EQT Production - Marcellus

Project: Upshur County, WV
Site: Upshur County 511416
Well: Well #511416
Wellbore: Main Wellbore
Design: As Drilled Surveys





97-03813

511416 - Perforations					
Stage Number	Perforation Date	Top Perf Depth (ftKB)	Bottom Perf Depth (ftKB)	Number of Shots	Formation
Initiation Sleeve	5/17/2014	15,300.00	15,302.00	10	MARCELLUS
1	5/17/2014	15,179.00	15,271.00	32	MARCELLUS
2	5/17/2014	15,029.00	15,151.00	40	MARCELLUS
3	5/18/2014	14,879.00	15,001.00	40	MARCELLUS
4	5/18/2014	14,729.00	14,851.00	40	MARCELLUS
5	5/18/2014	14,579.00	14,701.00	40	MARCELLUS
6	5/18/2014	14,429.00	14,551.00	40	MARCELLUS
7	5/19/2014	14,279.00	14,401.00	40	MARCELLUS
8	5/19/2014	14,129.00	14,251.00	40	MARCELLUS
9	5/19/2014	14,106.00	13,984.00	40	MARCELLUS
10	5/19/2014	13,949.00	13,831.00	40	MARCELLUS
11	5/20/2014	13,679.00	13,801.00	40	MARCELLUS
12	5/20/2014	13,529.00	13,651.00	40	MARCELLUS
13	5/20/2014	13,379.00	13,501.00	40	MARCELLUS
14	5/20/2014	13,229.00	13,351.00	40	MARCELLUS
15	5/20/2014	13,079.00	13,199.00	40	MARCELLUS
16	5/21/2014	12,929.00	13,049.00	40	MARCELLUS
17	5/21/2014	12,779.00	12,901.00	40	MARCELLUS
18	5/21/2014	12,629.00	12,749.00	40	MARCELLUS
19	5/21/2014	12,481.00	12,599.00	40	MARCELLUS
20	5/21/2014	12,329.00	12,449.00	40	MARCELLUS
21	5/22/2014	12,179.00	12,301.00	40	MARCELLUS
22	5/22/2014	12,029.00	12,151.00	40	MARCELLUS
23	5/22/2014	11,879.00	12,001.00	40	MARCELLUS
24	5/22/2014	11,729.00	11,849.00	40	MARCELLUS
25	5/22/2014	11,579.00	11,703.00	40	MARCELLUS
26	5/23/2014	11,429.00	11,549.00	40	MARCELLUS
27	5/23/2014	11,279.00	11,401.00	40	MARCELLUS
28	5/23/2014	11,129.00	11,249.00	40	MARCELLUS
29	5/23/2014	10,979.00	11,099.00	40	MARCELLUS
30	5/23/2014	10,829.00	10,949.00	40	MARCELLUS
31	5/24/2014	10,679.00	10,799.00	40	MARCELLUS
32	5/24/2014	10,529.00	10,651.00	40	MARCELLUS
33	5/24/2014	10,379.00	10,501.00	40	MARCELLUS
34	5/24/2014	10,231.00	10,351.00	40	MARCELLUS
35	5/24/2014	10,079.00	10,199.00	40	MARCELLUS
36	5/24/2014	9,929.00	10,049.00	40	MARCELLUS
37	5/25/2014	9,779.00	9,899.00	40	MARCELLUS
38	5/25/2014	9,629.00	9,751.00	40	MARCELLUS
39	5/25/2014	9,479.00	9,601.00	40	MARCELLUS
40	5/25/2014	9,329.00	9,451.00	40	MARCELLUS
41	5/25/2014	9,179.00	9,299.00	40	MARCELLUS
42	5/25/2014	9,029.00	9,149.00	40	MARCELLUS
43	5/26/2014	8,879.00	8,997.00	40	MARCELLUS
44	5/26/2014	8,729.00	8,851.00	40	MARCELLUS
45	5/26/2014	8,579.00	8,701.00	40	MARCELLUS
46	5/26/2014	8,431.00	8,551.00	40	MARCELLUS
47	5/26/2014	8,279.00	8,399.00	40	MARCELLUS
48	5/26/2014	8,131.00	8,249.00	40	MARCELLUS
49	5/27/2014	7,977.00	8,099.00	40	MARCELLUS

97-0381B

511416 - 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	5/17/2014	14.00	7,881.00	NA	4,547	0	3,128	0
1	5/17/2014	82.00	8,579.00	8,215.00	4,702	199,700	5,737	0
2	5/18/2014	87.70	8,635.00	7,198.00	4,531	200,600	5,753	0
3	5/18/2014	81.00	8,801.00	6,973.00	5,151	200,500	5,760	0
4	5/18/2014	81.96	8,561.00	7,528.00	4,967	200,500	5,306	0
5	5/18/2014	93.20	8,589.00	7,049.00	4,590	199,900	5,123	0
6	5/19/2014	89.80	8,650.00	6,818.00	4,780	200,400	5,285	0
7	5/19/2014	84.34	8,466.00	7,316.00	5,337	201,200	4,910	0
8	5/19/2014	90.00	8,693.00	7,322.00	5,229	200,500	4,985	0
9	5/19/2014	88.20	8,645.00	7,019.00	4,593	200,800	5,311	0
10	5/20/2014	92.00	8,663.00	7,125.00	4,517	200,900	5,229	0
11	5/20/2014	82.84	8,634.00	6,974.00	4,744	200,500	4,711	0
12	5/20/2014	87.85	8,562.00	7,715.00	5,160	202,200	4,947	0
13	5/20/2014	88.70	8,540.00	6,948.00	5,097	201,400	5,095	0
14	5/20/2014	89.40	8,712.00	6,988.00	4,666	200,900	5,085	0
15	5/21/2014	81.90	8,504.00	6,882.00	4,487	200,400	5,162	0
16	5/21/2014	92.48	8,635.00	7,549.00	5,698	202,500	5,000	0
17	5/21/2014	87.91	8,540.00	6,916.00	4,853	200,400	4,977	0
18	5/21/2014	90.70	8,463.00	6,601.00	5,446	202,100	5,150	0
19	5/21/2014	90.61	8,521.00	6,768.00	5,093	202,700	5,044	0
20	5/22/2014	88.97	8,504.00	6,540.00	5,045	201,100	5,612	0
21	5/22/2014	91.00	8,550.00	6,527.00	4,773	201,900	5,369	0
22	5/22/2014	97.50	8,540.00	6,760.00	4,625	200,600	5,295	0
23	5/22/2014	94.96	8,643.00	6,821.00	5,071	201,400	5,041	0
24	5/22/2014	94.34	8,484.00	6,666.00	4,895	201,200	4,933	0
25	5/23/2014	95.79	8,554.00	7,397.00	4,750	201,600	4,954	0
26	5/23/2014	96.60	8,476.00	6,921.00	4,918	202,800	5,311	0
27	5/23/2014	97.60	8,548.00	6,733.00	5,270	201,200	5,337	0
28	5/23/2014	99.20	8,423.00	5,349.00	5,012	201,100	5,122	0
29	5/23/2014	97.99	8,430.00	7,157.00	5,326	201,500	4,857	0
30	5/23/2014	94.50	8,417.00	7,257.00	5,266	200,400	5,130	0
31	5/24/2014	98.16	8,372.00	7,841.00	5,611	201,500	5,016	0
32	5/24/2014	98.40	8,398.00	6,923.00	5,908	200,800	4,971	0
33	5/24/2014	97.80	8,546.00	6,695.00	5,716	200,900	5,042	0
34	5/24/2014	97.12	8,467.00	6,659.00	5,750	200,500	5,107	0
35	5/24/2014	98.20	8,366.00	6,862.00	5,547	202,200	5,007	0
36	5/25/2014	99.10	8,403.00	6,749.00	5,175	199,100	5,141	0
37	5/25/2014	97.90	8,115.00	7,230.00	5,050	203,200	4,840	0
38	5/25/2014	98.90	8,250.00	7,587.00	5,047	200,800	5,024	0
39	5/25/2014	99.20	8,318.00	7,496.00	5,217	201,200	5,043	0
40	5/25/2014	97.03	8,360.00	7,124.00	5,708	204,000	5,568	0
41	5/25/2014	100.20	8,086.00	6,781.00	5,012	202,800	4,861	0
42	5/26/2014	98.50	8,296.00	7,299.00	4,880	202,100	4,732	0
43	5/26/2014	99.30	8,203.00	6,546.00	5,408	200,200	4,970	0
44	5/26/2014	99.90	8,068.00	7,153.00	5,125	200,700	4,892	0
45	5/26/2014	101.00	7,963.00	7,323.00	5,311	201,100	4,908	0
46	5/26/2014	100.50	8,081.00	7,248.00	4,763	202,800	5,012	0
47	5/26/2014	100.78	7,784.00	7,338.00	4,708	202,500	4,779	0
48	5/27/2014	101.02	7,751.00	6,489.00	4,978	210,300	5,416	0
49	5/27/2014	100.55	7,801.00	6,486.00	5,161	212,600	4,663	0

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	5/17/2014
Job End Date:	5/27/2014
State:	West Virginia
County:	Upshur
API Number:	47-097-03813-00-00
Operator Name:	EQT Production
Well Name and Number:	ADR125 - 511416
Longitude:	-80.29660000
Latitude:	38.98874000
Datum:	NAD27
Federal/Tribal Well:	NO
True Vertical Depth:	7,694
Total Base Water Volume (gal):	11,118,282
Total Base Non Water Volume:	498,807

FracFocus Chemical Disclosure Registry

GROUNDWATER PROTECTION COUNCIL

Interstate Oil & Gas Compact Commission

97-03813

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	Nabors	Carrier					
			Water	7732-18-5	100.00000	89.92275	
Sand	Nabors	Proppant					
			Crystalline Silica	14808-60-7	100.00000	9.59490	
MX-5	Halliburton	Biocide					
			Sodium Nitrate	7631-99-4	60.00000	0.05832	
Hydrochloric Acid 15%	Nabors	Acidizing					
			Hydrochloric Acid	7647-01-0	15.00000	0.04010	
WFR-3B	Nabors	Friction Reducer					
			Hydrotreated Light Distillates (Petroleum)	64742-47-8	50.00000	0.02225	
			Ethoxylated Alcohols	68551-12-2	15.00000	0.00668	
			Ethoxylated Oleylamine	26635-93-8	5.00000	0.00223	
EXP-F1111-13	Nabors	Friction Reducer					
			Anionic water-soluble polymer	NA	100.00000	0.02879	
Super TSC LT	Nabors	Scale Inhibitor					
			Non Hazardous	000-00-0	100.00000	0.02610	
MX-8	Halliburton	Biocide					
			Bacteria Culture	000-00-0	100.00000	0.01006	
LSG-100	Nabors	Adds Viscosity to Fluid					

			Solvent Naphtha, (Petroleum) Heavy Aliphatic	64742-47-8	65.00000	0.00521	
LSG-100	Nabors	Adds Viscosity to Fluid					
			Solvent Naphtha, (Petroleum) Heavy Aliphatic	64742-47-8	65.00000	0.00521	
AI-2	Nabors	Corrosion Inhibitor					
			Propargyl Alcohol	107-19-7	40.00000	0.00018	
			Isoprpyl Alcohol	67-63-0	40.00000	0.00018	
			Glycol Ethers	111-76-2	40.00000	0.00018	
			Ethoxylated Nonylphenol	68412-54-4	13.00000	0.00006	
			Tar bases, quinoline derivs, benzyl chloride-quaternized	72480-70-7	10.00000	0.00005	
OB-2	Nabors	Gel Breaker					
			Ammonium Persulfate	7727-54-0	100.00000	0.00009	
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.							

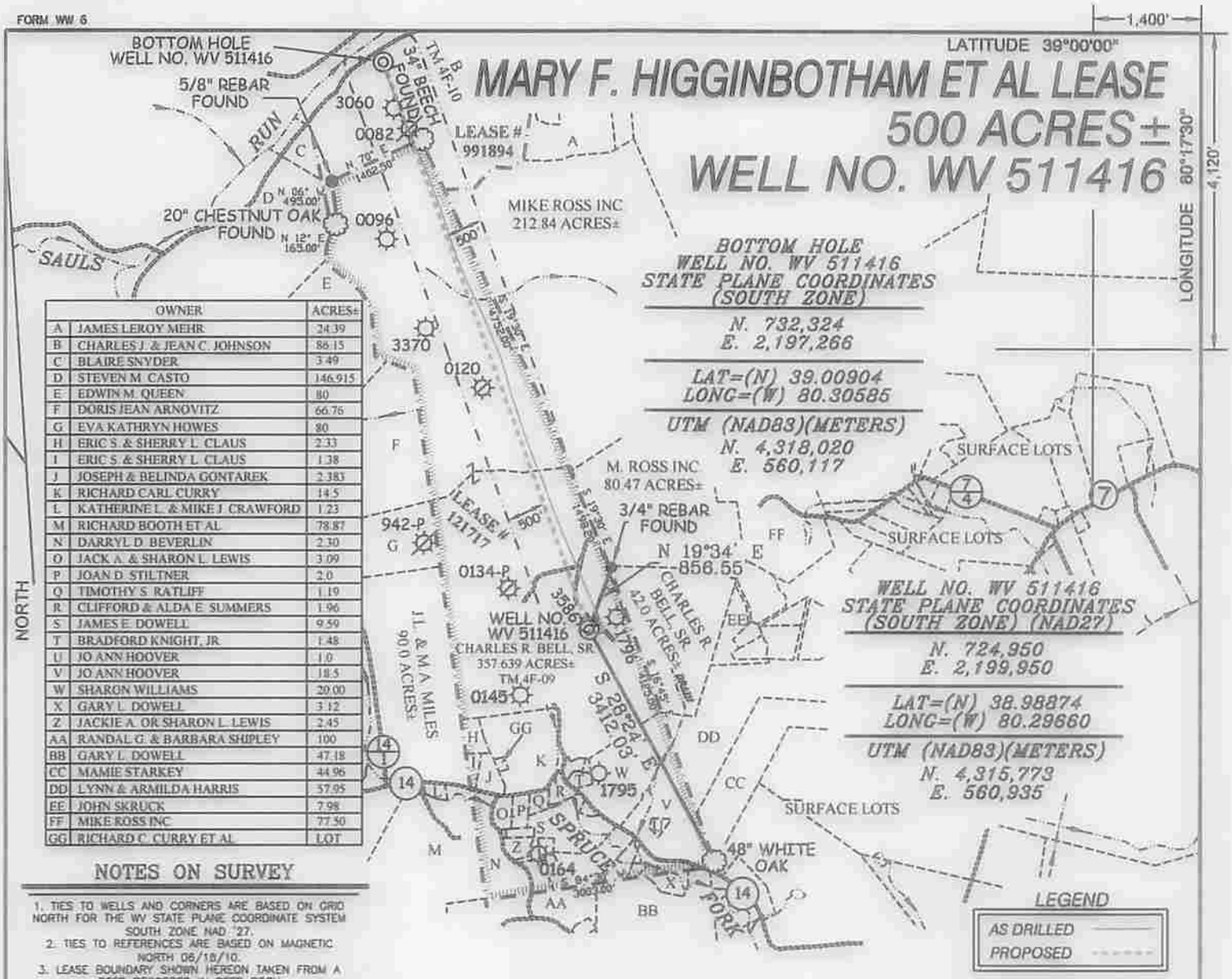
* Total Water Volume sources may include fresh water, produced water, and/or recycled water
** Information is based on the maximum potential for concentration and thus the total may be over 100%

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)

97-03813

FORM WW-6

MARY F. HIGGINBOTHAM ET AL LEASE
500 ACRES ±
WELL NO. WV 511416



	OWNER	ACRES±
A	JAMES LEROY MEHR	24.39
B	CHARLES J. & JEAN C. JOHNSON	88.15
C	BLAIRE SNYDER	3.49
D	STEVEN M. CASTO	146.915
E	EDWIN M. QUEEN	80
F	DORIS JEAN ARNOVITZ	66.76
G	EVA KATHRYN HOWES	80
H	ERIC S. & SHERRY L. CLAUS	2.33
I	ERIC S. & SHERRY L. CLAUS	1.38
J	JOSEPH & BELINDA GONTAREK	2.383
K	RICHARD CARL CURRY	14.5
L	KATHERINE L. & MIKE J. CRAWFORD	1.23
M	RICHARD BOOTH ET AL	78.87
N	DARRYL D. BEVERLIN	2.30
O	JACK A. & SHARON L. LEWIS	3.09
P	JOAN D. STILTNER	2.0
Q	TIMOTHY S. RATLIFF	1.19
R	CLIFFORD & ALDA E. SUMMERS	1.96
S	JAMES E. DOWELL	9.59
T	BRADFORD KNIGHT, JR.	1.48
U	JO ANN HOOVER	1.0
V	JO ANN HOOVER	18.5
W	SHARON WILLIAMS	20.00
X	GARY L. DOWELL	3.12
Z	JACKIE A. OR SHARON L. LEWIS	2.45
AA	RANDAL G. & BARBARA SHIPLEY	100
BB	GARY L. DOWELL	47.18
CC	MAMIE STARKEY	44.96
DD	LYNN & ARMILDA HARRIS	57.95
EE	JOHN SKRUCK	7.98
FF	MIKE ROSS INC	77.50
GG	RICHARD C. CURRY ET AL	LOT

NOTES ON SURVEY

1. TIES TO WELLS AND CORNERS ARE BASED ON GRID NORTH FOR THE WV STATE PLANE COORDINATE SYSTEM SOUTH ZONE NAD '27.
2. TIES TO REFERENCES ARE BASED ON MAGNETIC NORTH 06/18/10.
3. LEASE BOUNDARY SHOWN HEREON TAKEN FROM A DEED RECORDED IN DEED BOOK 399 AT PAGE 785.
4. SURFACE OWNER AND ADJOINER INFORMATION TAKEN FROM THE ASSESSOR AND COUNTY CLERK RECORDS OF UPSHUR COUNTY IN JULY, 2011. PARCELS AFFECTED BY CURRENT CHANGES CHECKED JULY, 2013.
5. WELL LAT./LONG. (NAD'27) ESTABLISHED BY DGPS(SUBMETER MAPPING GRADE).
6. ORIGINAL PLAT DATED 11/10/11 REVISED 07/29/11 TO UPDATE SPOT CIRCLE & ADJOINER INFORMATION & 11/13/13 TO EXTEND LEG & UPDATE, ETC.
7. NO WATER WELLS WERE FOUND WITHIN 250 FEET OF PROPOSED GAS WELL. NO AGRICULTURAL BUILDINGS (GREATER THAN 2500 SQUARE FEET) OR DWELLINGS WERE FOUND WITHIN 625 FEET OF CENTER OF PROPOSED WELL PAD.
8. PLAT UPDATED ON 08/22/14 TO SHOW THE AS DRILLED PATH COORDINATES FROM INFORMATION PROVIDED BY EQT ON 04/28/14.

SLS

AS DRILLED INFORMATION

BOTTOM HOLE WELL NO. WV 511416 STATE PLANE COORDINATES (SOUTH ZONE)	WELL NO. WV 511416 STATE PLANE COORDINATES (SOUTH ZONE) (NAD27)
N. 732,313 E. 2,197,233	N. 724,950 E. 2,199,950
LAT=(N) 39.00901 LONG=(W) 80.30596	LAT=(N) 38.98874 LONG=(W) 80.29660
UTM (NAD83)(METERS) N. 4,318,016 E. 560,107	UTM (NAD83)(METERS) N. 4,315,773 E. 560,935

I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE REGULATIONS ISSUED AND PRESCRIBED BY THE DIVISION OF ENVIRONMENTAL PROTECTION.

P.S. 849 C. Victor Moyers

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

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

DATE NOVEMBER 13, 20 13

REVISED DATE AUGUST 22, 20 14

OPERATORS WELL NO. WV 511416

API WELL NO. 47 — 097 — 03813
STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 2500 FILE NO. 6282ASDRILLED511416

SCALE 1" = 2000'

PROVEN SOURCE OF ELEVATION DGPS (SUBMETER MAPPING GRADE)

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

WELL TYPE: OIL ___ GAS X LIQUID INJECTION ___ WASTE DISPOSAL ___ IF "GAS" PRODUCTION X STORAGE ___ DEEP ___ SHALLOW X

LOCATION:

ELEVATION 1,572' (ACTUAL PAD) WATERSHED TRIBUTARY OF SPRUCE FORK

DISTRICT BUCKHANNON COUNTY UPSHUR QUADRANGLE ADRIAN 7.5'

SURFACE OWNER CHARLES R. BELL, SR. ACREAGE 357.639±

ROYALTY OWNER BISHOP OF THE PROTESTANT EPISCOPAL CHURCH OF THE DIOCESE OF W.V. (500 AC.±) / WINDAMAR, INC. ET AL (151.12 AC.±)

PROPOSED WORK: LEASE NO. 121717 / 991894

DRILL X CONVERT ___ DRILL DEEPER ___ REDRILL ___ FRACTURE OR STIMULATE X PLUG OFF OLD FORMATION ___ PERFORATE NEW FORMATION ___ PLUG AND ABANDON ___ CLEAN OUT AND REPLUG ___ OTHER ___

PHYSICAL CHANGE IN WELL (SPECIFY) ___ TARGET FORMATION MARCELLUS

ESTIMATED DEPTH ___

WELL OPERATOR EQT PRODUCTION COMPANY DESIGNATED AGENT REX C. RAY

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

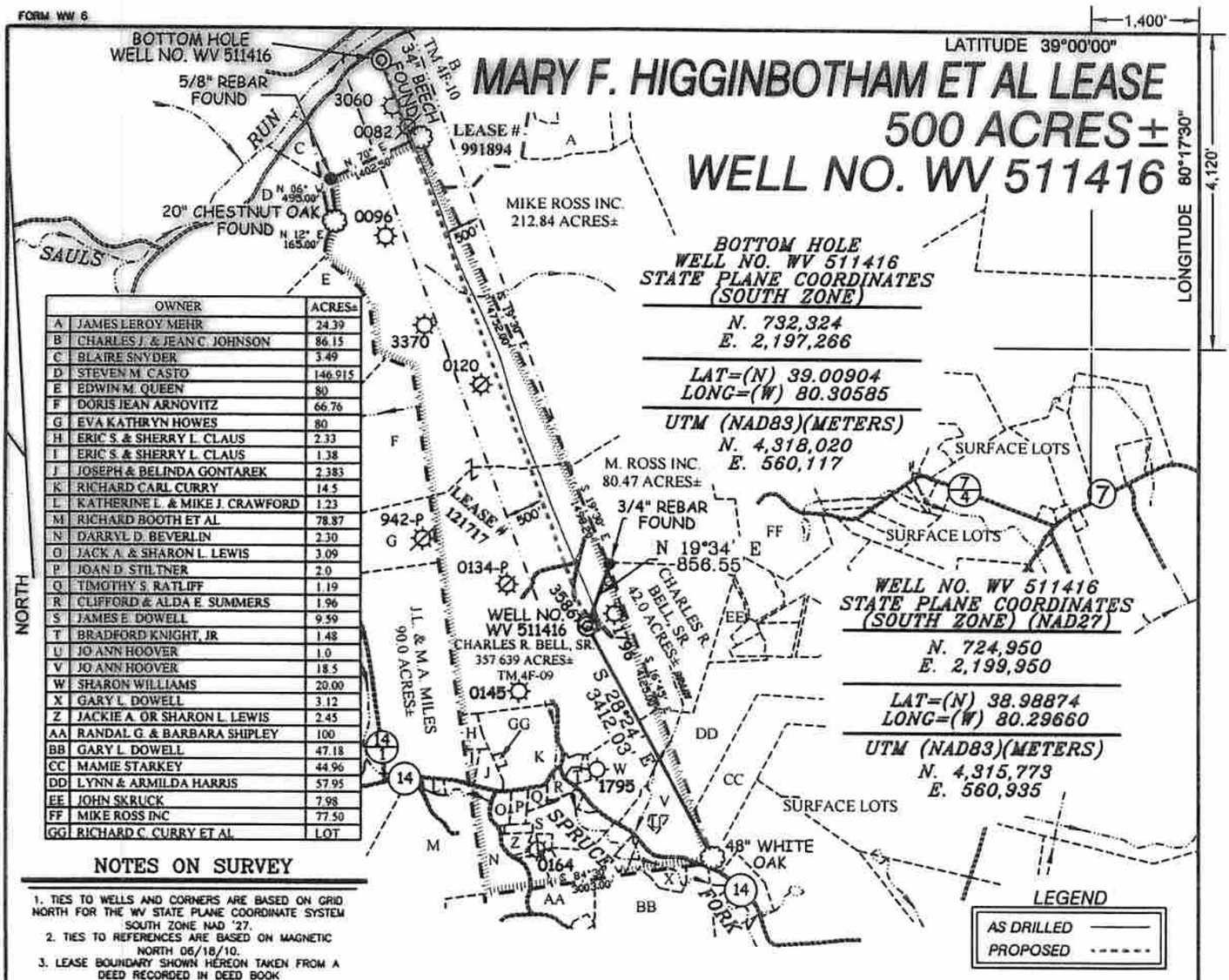
ADDRESS 115 PROFESSIONAL PLACE P.O. BOX 280 BRIDGEPORT, WV 26330

COUNTY NAME

PERMIT

FORM WW 6

MARY F. HIGGINBOTHAM ET AL LEASE
500 ACRES ±
WELL NO. WV 511416



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AS DRILLED INFORMATION

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UTM (NAD83)(METERS) N. 4,318,016 E. 560,107	UTM (NAD83)(METERS) N. 4,315,773 E. 560,935

SLS

I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE REGULATIONS ISSUED AND PRESCRIBED BY THE DIVISION OF ENVIRONMENTAL PROTECTION.

P.S. 849 C. Victor Moyers

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

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

DATE NOVEMBER 13, 20 13

REVISED DATE AUGUST 22, 20 14

OPERATORS WELL NO. WV 511416

API WELL NO. 47 — 097 — 03813
STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 2500 FILE NO. 6282ASDRILLED511416

SCALE 1" = 2000'

PROVEN SOURCE OF ELEVATION DGPS (SUBMETER MAPPING GRADE)

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

WELL TYPE: OIL ___ GAS X LIQUID INJECTION ___ WASTE DISPOSAL ___ IF "GAS" PRODUCTION X STORAGE ___ DEEP ___ SHALLOW X

LOCATION:

ELEVATION 1,572' (ACTUAL PAD) WATERSHED TRIBUTARY OF SPRUCE FORK

DISTRICT BUCKHANNON COUNTY UPSHUR QUADRANGLE ADRIAN 7.5'

SURFACE OWNER CHARLES R. BELL, SR. ACREAGE 357.639±

ROYALTY OWNER BISHOP OF THE PROTESTANT EPISCOPAL CHURCH OF THE DIOCESE OF W.V. (500 AC.±) / WINDAMAR, INC. ET AL (151.12 AC.±)

PROPOSED WORK: LEASE NO. 121717 / 991894

DRILL X CONVERT ___ DRILL DEEPER ___ REDRILL ___ FRACTURE OR STIMULATE X PLUG OFF OLD FORMATION ___ PERFORATE NEW FORMATION ___ PLUG AND ABANDON ___ CLEAN OUT AND REPLUG ___ OTHER ___

PHYSICAL CHANGE IN WELL (SPECIFY) ___ TARGET FORMATION MARCELLUS

ESTIMATED DEPTH ___

COUNTY NAME

PERMIT

WELL OPERATOR EQT PRODUCTION COMPANY DESIGNATED AGENT REX C. RAY

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

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