JK

WR-35
Rev. 8/23/13

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

API 47 - 170 - 6250 County Doddridge District Grant
Quad Center Point 7.5 Pad Name CPT 11 Field/Pool Name
Farm name Jordan Family Partnership Well Number 514318
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 4359473	Easting 523815
Landing Point of Curve	Northing 4359350.3	Easting 523506.4
Bottom Hole	Northing 4357321.9	Easting 524052.3

Elevation (ft) 1111 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 See Attachment
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 12.4 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 7/8/2013 Date drilling commenced 10/8/2013 Date drilling ceased 1/11/2014
Date completion activities began 3/5/2014 Date completion activities ceased 4/25/2014
Verbal plugging (Y/N) N Date permission granted N/A Granted by N/A

RECEIVED
Office of Oil and Gas
JUL 22 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 79', 717' Open mine(s) (Y/N) depths N
Salt water depth(s) ft 1674', 1402' Void(s) encountered (Y/N) depths N
Coal depth(s) ft 865' - 868', 1277' - 1279' Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

Reviewed by:

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API 47- 170 - 6250 Farm name Jordan Family Partnership Well number 514318

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	A500 94#		Y
Surface	17-1/2"	13-3/8"	1037'	New	J55 54.5#	102', 957'	Y
Coal							
Intermediate 1	12-3/8"	9-5/8"	5242'	New	A500 40#	275', 3315', 5151'	Y
Intermediate 2							
Intermediate 3							
Production	8-1/2"	5-1/2"	14569'	New	P110 20#		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	15.8	1.18	44.84	0	8
Surface	Class A	810	15.6	1.18	955.8	0	8
Coal							
Intermediate 1	Class A	355/1420	14.2/15.6	1.28/1.18	2130	0	8
Intermediate 2							
Intermediate 3							
Production	Class A/Class H	450/940	14.2/15.2	1.31/1.94	2413	5255	8
Tubing							

Drillers TD (ft) 14569' Loggers TD (ft) N/A
Deepest formation penetrated Marcellus Plug back to (ft) N/A
Plug back procedure N/A

Kick off depth (ft) 5296

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
Surface-bow spring centralizer at 40', 623', 973'
Intermediate-bow spring centralizers ran at the shoe and every 500' to TD.
Production- plastic centralizer on every joint from the shoe up to intermediate casing point at 5242'

WAS WELL COMPLETED AS SHOT HOLE ☐ Yes ■ No DETAILS

WAS WELL COMPLETED OPEN HOLE? ☐ Yes ■ No DETAILS

WERE TRACERS USED ☐ Yes ■ No TYPE OF TRACER(S) USED

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API 47- 170 - 6250 Farm name Jordan Family Partnership Well number 514318

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.

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API 47- 170 - 6250 Farm name Jordan Family Partnership Well number _____

PRODUCING FORMATION(S)	DEPTHS			
Marcellus	6,970	TVD	7,507	MD

Please insert additional pages as applicable.

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

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

OPEN FLOW Gas NA mcfpd Oil NA bpd NGL NA bpd Water NA bpd GAS MEASURED BY □ 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 Patterson UTI
Address 207 Carlton Drive City Eighty Four State PA Zip 15330

Logging Company GyroData
Address 601 Mayer St City Bridgeville State PA Zip 13146

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

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

Please insert additional pages as applicable.

Completed by James E. Helmick Jr. Telephone 412-395-5518
Signature _____ Title Vice President - Completions Operations Date 7/21/2014

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	717	717
SAND / SHALE	1	1	865	865
COAL	865	865	867	867
SAND / SHALE	867	867	1,277.00	1,277.00
COAL	1,277.00	1,277.00	1,280.00	1,280.00
SAND / SHALE	1,280.00	1,280.00	1,868.00	1,868.00
MAXTON	1,868.00	1,868.00	2,110.00	2,110.00
BIG LIME	2,110.00	2,110.00	2,514.00	2,514.00
WEIR	2,514.00	2,514.00	2,691.00	2,691.00
BEREA	2,691.00	2,691.00	2,708.00	2,708.00
GANTZ	2,708.00	2,708.00	2,767.00	2,767.00
50F	2,767.00	2,767.00	2,896.00	2,896.00
30F	2,896.00	2,896.00	2,921.00	2,921.00
GORDON	2,921.00	2,921.00	3,060.00	3,060.00
4TH	3,060.00	3,060.00	3,219.00	3,219.00
5TH	3,219.00	3,219.00	3,585.00	3,585.00
WARREN	3,585.00	3,585.00	3,806.00	3,806.00
SPEECHLEY	3,806.00	3,806.00	4,168.00	4,168.00
BALLTOWN A	4,168.00	4,168.00	4,547.00	4,547.00
BRADFORD	4,547.00	4,547.00	5,175.00	5,175.00
BENSON	5,175.00	5,175.00	5,568.00	5,563.20
ALEXANDER	5,568.00	5,563.20	6,348.00	6,197.70
ELK	6,348.00	6,197.70	6,880.00	6,611.40
SONYEA	6,880.00	6,611.40	7,048.00	6,741.20
MIDDLESEX	7,048.00	6,741.20	7,093.00	6,774.70
GENESEE	7,093.00	6,774.70	7,259.00	6,880.20
GENESEO	7,259.00	6,880.20	7,320.00	6,909.80
TULLY	7,320.00	6,909.80	7,375.00	6,932.30
HAMILTON	7,375.00	6,932.30	7,507.00	6,970.80
MARCELLUS	7,507.00	6,970.80	14,569.00	6,988.00

PHOENIX
TECHNOLOGY SERVICES

EQT Production - Marcellus

Doddridge County, WV Grid
Doddridge County 514318
Well #514318

Main Wellbore

Design: 514318 As Drilled Surveys

Standard Survey Report

08 January, 2014

EQT
Where energy meets innovation.

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Site Doddridge County 514318
Company:	EQT Production - Marcellus	**TVD Reference:**	KB @ 1134.0usft
Project:	Doddridge County, WV Grid	**MD Reference:**	KB @ 1134.0usft
Site:	Doddridge County 514318	**North Reference:**	Grid
Well:	Well #514318	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	514318 As Drilled Surveys		

Project — Doddridge County, WV Grid

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 — Doddridge County 514318

Site Position:		**Northing:**	324,444.00 usft	**Latitude:**	39.38
From:	Map	**Easting:**	1,654,140.60 usft	**Longitude:**	-80.72
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	-0.78 °

Well — Well #514318

Well Position	**+N/-S**	0.0 usft	**Northing:**	324,444.00 usft	**Latitude:**	39° 23' 3.565 N
	+E/-W	0.0 usft	**Easting:**	1,654,140.60 usft	**Longitude:**	80° 43' 25.116 W
Position Uncertainty		0.0 usft	**Wellhead Elevation:**	usft	**Ground Level:**	1,111.0 usft

Wellbore — Main Wellbore

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010_14	12/25/2013	-8.52	66.92	52,394

Design — 514318 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	174.57

Survey Program — **Date** 1/8/2014

From ()	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	5,200.0	514318 Gyrodata Gyros (Main Wellbore)	GYD_DP_MS	Gyrodata gyro-compassing and drop
0.00	14,569.0	514318 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	-1,134.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.05	198.00	100.0	-1,034.0	0.0	0.0	0.0	0.05	0.05	0.00
200.0	0.28	208.46	200.0	-934.0	-0.3	-0.1	0.3	0.23	0.23	10.46
300.0	0.31	185.65	300.0	-834.0	-0.8	-0.3	0.8	0.12	0.03	-22.81
400.0	0.35	193.68	400.0	-734.0	-1.3	-0.4	1.3	0.06	0.04	8.03
500.0	0.03	300.39	500.0	-634.0	-1.6	-0.5	1.6	0.36	-0.32	106.71
600.0	0.08	330.65	600.0	-534.0	-1.6	-0.5	1.5	0.06	0.05	30.26
700.0	0.18	251.43	700.0	-434.0	-1.5	-0.7	1.5	0.18	0.10	-79.22

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Site Doddridge County 514318
Company:	EQT Production - Marcellus	**TVD Reference:**	KB @ 1134.0usft
Project:	Doddridge County, WV Grid	**MD Reference:**	KB @ 1134.0usft
Site:	Doddridge County 514318	**North Reference:**	Grid
Well:	Well #514318	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	514318 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)
800.0	0.12	223.18	800.0	-334.0	-1.7	-0.9	1.6	0.09	-0.06	-28.25
900.0	0.04	78.66	900.0	-234.0	-1.7	-1.0	1.6	0.15	-0.08	-144.52
1,000.0	0.14	266.88	1,000.0	-134.0	-1.7	-1.1	1.6	0.18	0.10	-171.78
1,100.0	0.41	283.21	1,100.0	-34.0	-1.7	-1.5	1.5	0.28	0.27	16.33
1,200.0	0.36	262.95	1,200.0	66.0	-1.6	-2.2	1.4	0.14	-0.05	-20.26
1,300.0	0.50	299.80	1,300.0	166.0	-1.4	-2.9	1.2	0.30	0.14	36.85
1,400.0	0.77	318.74	1,400.0	266.0	-0.7	-3.7	0.4	0.34	0.27	18.94
1,500.0	0.89	314.31	1,500.0	366.0	0.3	-4.7	-0.8	0.14	0.12	-4.43
1,600.0	0.89	308.95	1,600.0	466.0	1.4	-5.9	-1.9	0.08	0.00	-5.36
1,700.0	0.96	301.92	1,699.9	565.9	2.3	-7.2	-3.0	0.13	0.07	-7.03
1,800.0	0.83	305.41	1,799.9	665.9	3.1	-8.5	-3.9	0.14	-0.13	3.49
1,900.0	1.02	285.51	1,899.9	765.9	3.8	-9.9	-4.7	0.37	0.19	-19.90
2,000.0	1.07	280.83	1,999.9	865.9	4.2	-11.7	-5.3	0.10	0.05	-4.68
2,100.0	1.12	284.81	2,099.9	965.9	4.6	-13.6	-5.9	0.09	0.05	3.98
2,200.0	1.10	284.92	2,199.9	1,065.9	5.1	-15.4	-6.6	0.02	-0.02	0.11
2,300.0	1.10	294.91	2,299.9	1,165.9	5.8	-17.2	-7.4	0.19	0.00	9.99
2,400.0	1.14	295.69	2,399.8	1,265.8	6.6	-19.0	-8.4	0.04	0.04	0.78
2,500.0	1.32	290.24	2,499.8	1,365.8	7.5	-21.0	-9.4	0.21	0.18	-5.45
2,600.0	1.39	292.53	2,599.8	1,465.8	8.3	-23.2	-10.5	0.09	0.07	2.29
2,700.0	1.41	293.79	2,699.8	1,565.8	9.3	-25.4	-11.6	0.04	0.02	1.26
2,800.0	1.25	284.42	2,799.7	1,665.7	10.1	-27.6	-12.6	0.27	-0.16	-9.37
2,900.0	1.18	295.14	2,899.7	1,765.7	10.8	-29.6	-13.5	0.24	-0.07	10.72
3,000.0	1.28	281.37	2,999.7	1,865.7	11.4	-31.6	-14.4	0.31	0.10	-13.77
3,100.0	1.70	285.84	3,099.6	1,965.6	12.0	-34.1	-15.2	0.44	0.42	4.47
3,200.0	1.84	281.14	3,199.6	2,065.6	12.8	-37.2	-16.2	0.20	0.14	-4.70
3,300.0	2.25	282.87	3,299.5	2,165.5	13.5	-40.6	-17.3	0.41	0.41	1.73
3,400.0	2.52	283.21	3,399.4	2,265.4	14.4	-44.7	-18.6	0.27	0.27	0.34
3,500.0	2.42	281.58	3,499.4	2,365.4	15.4	-48.9	-19.9	0.12	-0.10	-1.63
3,600.0	2.95	281.29	3,599.2	2,465.2	16.3	-53.5	-21.3	0.53	0.53	-0.29
3,700.0	3.29	281.41	3,699.1	2,565.1	17.4	-58.8	-22.9	0.34	0.34	0.12
3,800.0	3.77	283.23	3,798.9	2,664.9	18.7	-64.8	-24.7	0.49	0.48	1.82
3,900.0	4.15	280.30	3,898.7	2,764.7	20.1	-71.6	-26.8	0.43	0.38	-2.93
4,000.0	4.18	282.14	3,998.4	2,864.4	21.5	-78.7	-28.9	0.14	0.03	1.84
4,100.0	4.15	286.90	4,098.1	2,964.1	23.3	-85.8	-31.3	0.35	-0.03	4.76
4,200.0	4.23	282.59	4,197.9	3,063.9	25.2	-92.8	-33.8	0.32	0.08	-4.31
4,300.0	3.61	283.40	4,297.6	3,163.6	26.7	-99.5	-36.0	0.62	-0.62	0.81
4,400.0	3.50	281.48	4,397.4	3,263.4	28.0	-105.5	-37.9	0.16	-0.11	-1.92
4,500.0	3.38	276.69	4,497.3	3,363.3	29.0	-111.4	-39.4	0.31	-0.12	-4.79
4,600.0	2.71	275.71	4,597.1	3,463.1	29.6	-116.7	-40.5	0.67	-0.67	-0.98
4,700.0	2.51	268.49	4,697.0	3,563.0	29.8	-121.3	-41.1	0.38	-0.20	-7.22
4,800.0	2.58	265.22	4,796.9	3,662.9	29.5	-125.7	-41.3	0.16	0.07	-3.27
4,900.0	2.62	262.03	4,896.8	3,762.8	29.0	-130.2	-41.2	0.15	0.04	-3.19

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Site Doddridge County 514318
Company:	EQT Production - Marcellus	**TVD Reference:**	KB @ 1134.0usft
Project:	Doddridge County, WV Grid	**MD Reference:**	KB @ 1134.0usft
Site:	Doddridge County 514318	**North Reference:**	Grid
Well:	Well #514318	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	514318 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)
5,000.0	2.69	258.85	4,996.7	3,862.7	28.2	-134.8	-40.9	0.16	0.07	-3.18
5,100.0	2.65	255.56	5,096.6	3,962.6	27.2	-139.3	-40.3	0.16	-0.04	-3.29
Gyro Tie In MD=5200'										
5,200.0	2.59	253.83	5,196.5	4,062.5	26.0	-143.7	-39.5	0.10	-0.06	-1.73
5,265.0	3.00	251.70	5,261.4	4,127.4	25.1	-146.7	-38.8	0.65	0.63	-3.28
5,359.0	2.90	246.80	5,355.3	4,221.3	23.3	-151.3	-37.5	0.29	-0.11	-5.21
5,422.0	2.30	240.70	5,418.2	4,284.2	22.1	-153.8	-36.5	1.05	-0.95	-9.68
5,453.0	2.10	233.80	5,449.2	4,315.2	21.5	-154.8	-36.0	1.07	-0.65	-22.26
5,485.0	3.00	263.00	5,481.2	4,347.2	21.0	-156.1	-35.7	4.85	2.81	91.25
5,516.0	6.90	284.60	5,512.1	4,378.1	21.4	-158.8	-36.3	13.73	12.58	69.68
5,548.0	10.80	288.20	5,543.7	4,409.7	22.8	-163.5	-38.2	12.30	12.19	11.25
5,579.0	14.20	286.60	5,573.9	4,439.9	24.8	-169.9	-40.7	11.02	10.97	-5.16
5,610.0	16.30	286.10	5,603.8	4,469.8	27.1	-177.7	-43.8	6.79	6.77	-1.61
5,642.0	19.00	286.70	5,634.3	4,500.3	29.8	-187.0	-47.4	8.46	8.44	1.88
5,673.0	22.20	283.70	5,663.3	4,529.3	32.7	-197.5	-51.2	10.87	10.32	-9.68
5,705.0	25.70	285.50	5,692.6	4,558.6	36.0	-210.1	-55.7	11.17	10.94	5.63
5,736.0	28.20	288.50	5,720.2	4,586.2	40.1	-223.5	-61.0	9.18	8.06	9.68
5,767.0	30.30	289.60	5,747.3	4,613.3	45.0	-237.8	-67.3	6.99	6.77	3.55
5,830.0	35.60	292.90	5,800.1	4,666.1	57.5	-269.7	-82.7	8.88	8.41	5.24
5,861.0	39.70	296.60	5,824.7	4,690.7	65.5	-286.9	-92.3	15.10	13.23	11.94
5,924.0	40.10	296.80	5,873.0	4,739.0	83.6	-323.0	-113.8	0.67	0.63	0.32
6,019.0	39.00	290.10	5,946.3	4,812.3	107.7	-378.4	-143.0	4.64	-1.16	-7.05
6,113.0	40.10	289.50	6,018.8	4,884.8	128.0	-434.7	-168.5	1.24	1.17	-0.64
6,207.0	40.80	291.90	6,090.3	4,956.3	149.5	-491.8	-195.4	1.82	0.74	2.55
6,301.0	40.20	291.40	6,161.8	5,027.8	172.0	-548.5	-223.1	0.73	-0.64	-0.53
6,395.0	40.00	290.00	6,233.7	5,099.7	193.4	-605.1	-249.8	0.98	-0.21	-1.49
6,489.0	41.20	293.60	6,305.0	5,171.0	216.2	-661.9	-277.8	2.80	1.28	3.83
6,521.0	41.10	293.20	6,329.1	5,195.1	224.5	-681.2	-288.0	0.88	-0.31	-1.25
6,552.0	41.10	294.10	6,352.5	5,218.5	232.7	-699.9	-297.9	1.91	0.00	2.90
6,584.0	39.40	292.60	6,376.9	5,242.9	240.9	-718.9	-307.8	6.11	-5.31	-4.69
6,615.0	37.40	285.70	6,401.2	5,267.2	247.2	-737.0	-315.8	15.25	-6.45	-22.26
6,646.0	37.10	282.00	6,425.9	5,291.9	251.7	-755.2	-322.0	7.29	-0.97	-11.94
6,678.0	36.40	276.00	6,451.6	5,317.6	254.7	-774.1	-326.8	11.43	-2.19	-18.75
6,709.0	36.40	270.00	6,476.5	5,342.5	255.7	-792.5	-329.5	11.48	0.00	-19.35
6,740.0	36.90	262.50	6,501.4	5,367.4	254.5	-810.9	-330.0	14.52	1.61	-24.19
6,772.0	37.20	256.50	6,527.0	5,393.0	251.0	-829.8	-328.3	11.33	0.94	-18.75
6,803.0	37.90	251.90	6,551.5	5,417.5	245.8	-848.0	-324.9	9.32	2.26	-14.84
6,835.0	38.80	246.80	6,576.6	5,442.6	238.8	-866.6	-319.7	10.28	2.81	-15.94
6,866.0	39.70	241.60	6,600.6	5,466.6	230.3	-884.2	-312.9	11.00	2.90	-16.77
6,897.0	40.10	235.60	6,624.4	5,490.4	219.9	-901.2	-304.2	12.48	1.29	-19.35
6,929.0	40.30	230.20	6,648.9	5,514.9	207.5	-917.6	-293.3	10.91	0.63	-16.88
6,960.0	39.00	225.60	6,672.8	5,538.8	194.2	-932.3	-281.5	10.35	-4.19	-14.84
6,991.0	38.10	220.60	6,697.0	5,563.0	180.1	-945.5	-268.7	10.46	-2.90	-16.13

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Site Doddridge County 514318
Company:	EQT Production - Marcellus	**TVD Reference:**	KB @ 1134.0usft
Project:	Doddridge County, WV Grid	**MD Reference:**	KB @ 1134.0usft
Site:	Doddridge County 514318	**North Reference:**	Grid
Well:	Well #514318	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	514318 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)
7,023.0	39.20	214.70	6,722.0	5,588.0	164.3	-957.7	-254.1	12.01	3.44	-18.44
7,054.0	40.90	211.60	6,745.7	5,611.7	147.6	-968.6	-238.6	8.45	5.48	-10.00
7,086.0	42.80	207.20	6,769.6	5,635.6	129.0	-979.0	-221.0	10.92	5.94	-13.75
7,117.0	44.70	203.90	6,792.0	5,658.0	109.7	-988.3	-202.6	9.58	6.13	-10.65
7,149.0	47.20	201.50	6,814.2	5,680.2	88.5	-997.1	-182.4	9.49	7.81	-7.50
7,180.0	50.60	197.50	6,834.6	5,700.6	66.5	-1,004.9	-161.2	14.65	10.97	-12.90
7,211.0	53.70	195.70	6,853.6	5,719.6	43.0	-1,011.9	-138.5	11.00	10.00	-5.81
7,243.0	57.40	193.20	6,871.7	5,737.7	17.5	-1,018.5	-113.7	13.23	11.56	-7.81
7,274.0	60.00	191.00	6,887.8	5,753.8	-8.4	-1,024.0	-88.4	10.35	8.39	-7.10
7,305.0	61.90	188.70	6,902.9	5,768.9	-35.1	-1,028.6	-62.3	8.92	6.13	-7.42
7,336.0	65.00	186.70	6,916.7	5,782.7	-62.6	-1,032.4	-35.3	11.55	10.00	-6.45
7,368.0	67.40	184.60	6,929.7	5,795.7	-91.7	-1,035.2	-6.5	9.61	7.50	-6.56
7,399.0	69.60	182.80	6,941.0	5,807.0	-120.5	-1,037.1	21.9	8.92	7.10	-5.81
7,430.0	72.10	181.80	6,951.2	5,817.2	-149.8	-1,038.3	50.9	8.62	8.06	-3.23
7,462.0	74.70	180.40	6,960.3	5,826.3	-180.4	-1,038.9	81.4	9.14	8.13	-4.38
7,493.0	77.40	178.80	6,967.8	5,833.8	-210.5	-1,038.6	111.4	10.05	8.71	-5.16
7,525.0	78.90	177.40	6,974.4	5,840.4	-241.8	-1,037.6	142.6	6.35	4.69	-4.38
7,556.0	80.70	174.70	6,979.9	5,845.9	-272.3	-1,035.5	173.1	10.35	5.81	-8.71
7,587.0	83.60	173.30	6,984.1	5,850.1	-302.8	-1,032.3	203.8	10.37	9.35	-4.52
7,619.0	87.00	172.10	6,986.7	5,852.7	-334.4	-1,028.2	235.7	11.26	10.63	-3.75
7,714.0	91.20	168.40	6,988.2	5,854.2	-428.0	-1,012.1	330.4	5.89	4.42	-3.89
7,808.0	90.80	167.20	6,986.6	5,852.6	-519.9	-992.3	423.7	1.35	-0.43	-1.28
7,902.0	89.10	165.80	6,986.7	5,852.7	-611.3	-970.3	516.8	2.34	-1.81	-1.49
7,996.0	89.00	166.60	6,988.2	5,854.2	-702.5	-947.9	609.8	0.86	-0.11	0.85
8,090.0	88.80	167.30	6,990.0	5,856.0	-794.1	-926.7	702.9	0.77	-0.21	0.74
8,185.0	88.20	164.50	6,992.5	5,858.5	-886.2	-903.6	796.8	3.01	-0.63	-2.95
8,279.0	89.20	165.40	6,994.6	5,860.6	-976.9	-879.2	889.4	1.43	1.06	0.96
8,373.0	89.60	164.40	6,995.6	5,861.6	-1,067.7	-854.7	982.1	1.15	0.43	-1.06
8,467.0	87.70	163.00	6,997.8	5,863.8	-1,157.9	-828.3	1,074.4	2.51	-2.02	-1.49
8,561.0	88.80	164.70	7,000.7	5,866.7	-1,248.1	-802.2	1,166.7	2.15	1.17	1.81
8,654.0	89.80	165.00	7,001.8	5,867.8	-1,337.9	-777.9	1,258.3	1.12	1.08	0.32
8,748.0	89.70	163.60	7,002.3	5,868.3	-1,428.4	-752.4	1,350.8	1.49	-0.11	-1.49
8,844.0	89.60	164.80	7,002.8	5,868.8	-1,520.7	-726.3	1,445.2	1.25	-0.10	1.25
8,938.0	89.30	166.40	7,003.7	5,869.7	-1,611.8	-702.9	1,538.1	1.73	-0.32	1.70
9,032.0	90.60	167.10	7,003.8	5,869.8	-1,703.3	-681.4	1,631.2	1.57	1.38	0.74
9,127.0	90.40	167.30	7,003.0	5,869.0	-1,795.9	-660.3	1,725.4	0.30	-0.21	0.21
9,221.0	88.30	162.90	7,004.1	5,870.1	-1,886.7	-636.2	1,818.1	5.19	-2.23	-4.68
9,316.0	88.70	164.70	7,006.5	5,872.5	-1,977.9	-609.7	1,911.4	1.94	0.42	1.89
9,410.0	89.20	164.40	7,008.3	5,874.3	-2,068.5	-584.6	2,003.9	0.62	0.53	-0.32
9,504.0	89.80	164.40	7,009.1	5,875.1	-2,159.0	-559.4	2,096.5	0.64	0.64	0.00
9,598.0	90.30	162.40	7,009.0	5,875.0	-2,249.1	-532.5	2,188.7	2.19	0.53	-2.13
9,692.0	89.80	163.60	7,008.9	5,874.9	-2,339.0	-505.0	2,280.8	1.38	-0.53	1.28
9,786.0	88.80	164.70	7,010.1	5,876.1	-2,429.4	-479.4	2,373.2	1.58	-1.06	1.17

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Site Doddridge County 514318
Company:	EQT Production - Marcellus	TVD Reference:	KB @ 1134.0usft
Project:	Doddridge County, WV Grid	MD Reference:	KB @ 1134.0usft
Site:	Doddridge County 514318	North Reference:	Grid
Well:	Well #514318	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	514318 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)
9,880.0	89.30	164.30	7,011.6	5,877.6	-2,520.0	-454.2	2,465.7	0.68	0.53	-0.43
9,974.0	90.10	167.10	7,012.1	5,878.1	-2,611.1	-431.0	2,558.6	3.10	0.85	2.98
10,068.0	90.60	166.60	7,011.6	5,877.6	-2,702.6	-409.6	2,651.7	0.75	0.53	-0.53
10,162.0	90.10	167.70	7,011.0	5,877.0	-2,794.2	-388.7	2,745.0	1.29	-0.53	1.17
10,256.0	90.70	168.90	7,010.3	5,876.3	-2,886.3	-369.7	2,838.4	1.43	0.64	1.28
10,350.0	89.10	168.20	7,010.5	5,876.5	-2,978.4	-351.0	2,931.9	1.86	-1.70	-0.74
10,444.0	89.10	167.60	7,012.0	5,878.0	-3,070.3	-331.3	3,025.2	0.64	0.00	-0.64
10,538.0	89.40	167.20	7,013.2	5,879.2	-3,162.0	-310.8	3,118.5	0.53	0.32	-0.43
10,633.0	89.90	167.00	7,013.8	5,879.8	-3,254.6	-289.6	3,212.7	0.57	0.53	-0.21
10,727.0	90.10	166.00	7,013.8	5,879.8	-3,346.0	-267.7	3,305.7	1.08	0.21	-1.06
10,821.0	90.20	165.60	7,013.5	5,879.5	-3,437.2	-244.6	3,398.6	0.44	0.11	-0.43
10,915.0	90.10	164.90	7,013.3	5,879.3	-3,528.1	-220.7	3,491.4	0.75	-0.11	-0.74
11,009.0	89.90	163.60	7,013.3	5,879.3	-3,618.5	-195.2	3,583.9	1.40	-0.21	-1.38
11,103.0	89.80	164.00	7,013.5	5,879.5	-3,708.8	-168.9	3,676.2	0.44	-0.11	0.43
11,198.0	89.80	165.10	7,013.9	5,879.9	-3,800.4	-143.6	3,769.8	1.16	0.00	1.16
11,292.0	90.60	164.80	7,013.5	5,879.5	-3,891.1	-119.2	3,862.4	0.91	0.85	-0.32
11,385.0	91.00	166.60	7,012.2	5,878.2	-3,981.2	-96.3	3,954.3	1.98	0.43	1.94
11,480.0	89.60	161.70	7,011.7	5,877.7	-4,072.6	-70.3	4,047.7	5.36	-1.47	-5.16
11,574.0	89.30	163.30	7,012.6	5,878.6	-4,162.2	-42.0	4,139.6	1.73	-0.32	1.70
11,669.0	89.50	164.80	7,013.6	5,879.6	-4,253.6	-15.9	4,233.0	1.59	0.21	1.58
11,763.0	88.90	166.00	7,014.9	5,880.9	-4,344.5	7.7	4,325.8	1.43	-0.64	1.28
11,857.0	89.10	167.10	7,016.6	5,882.6	-4,435.9	29.6	4,418.9	1.19	0.21	1.17
11,951.0	89.50	170.10	7,017.7	5,883.7	-4,528.1	48.2	4,512.3	3.22	0.43	3.19
12,045.0	88.90	169.40	7,019.0	5,885.0	-4,620.6	64.9	4,606.0	0.98	-0.64	-0.74
12,140.0	90.40	169.30	7,019.6	5,885.6	-4,713.9	82.5	4,700.6	1.58	1.58	-0.11
12,234.0	90.60	169.00	7,018.8	5,884.8	-4,806.2	100.2	4,794.2	0.38	0.21	-0.32
12,328.0	91.10	169.40	7,017.4	5,883.4	-4,898.6	117.8	4,887.7	0.68	0.53	0.43
12,423.0	90.90	168.40	7,015.8	5,881.8	-4,991.8	136.1	4,982.3	1.07	-0.21	-1.05
12,517.0	89.80	167.10	7,015.2	5,881.2	-5,083.6	156.0	5,075.6	1.81	-1.17	-1.38
12,611.0	90.50	168.40	7,014.9	5,880.9	-5,175.5	175.9	5,168.9	1.57	0.74	1.38
12,705.0	90.00	167.70	7,014.5	5,880.5	-5,267.4	195.4	5,262.3	0.92	-0.53	-0.74
12,799.0	89.10	165.80	7,015.3	5,881.3	-5,358.9	216.9	5,355.4	2.24	-0.96	-2.02
12,894.0	90.50	167.70	7,015.6	5,881.6	-5,451.4	238.7	5,449.5	2.48	1.47	2.00
12,988.0	90.10	165.80	7,015.1	5,881.1	-5,542.9	260.3	5,542.7	2.07	-0.43	-2.02
13,082.0	89.40	163.90	7,015.5	5,881.5	-5,633.6	284.8	5,635.3	2.15	-0.74	-2.02
13,176.0	90.20	165.60	7,015.8	5,881.8	-5,724.3	309.6	5,727.9	2.00	0.85	1.81
13,270.0	90.50	166.20	7,015.3	5,881.3	-5,815.5	332.5	5,820.8	0.71	0.32	0.64
13,364.0	91.50	165.90	7,013.6	5,879.6	-5,906.7	355.1	5,913.8	1.11	1.06	-0.32
13,458.0	90.90	163.40	7,011.7	5,877.7	-5,997.3	380.0	6,006.3	2.73	-0.64	-2.66
13,552.0	90.50	161.50	7,010.5	5,876.5	-6,086.9	408.3	6,098.2	2.07	-0.43	-2.02
13,646.0	90.20	159.70	7,009.9	5,875.9	-6,175.6	439.5	6,189.5	1.94	-0.32	-1.91
13,740.0	90.20	161.70	7,009.6	5,875.6	-6,264.3	470.6	6,280.7	2.13	0.00	2.13

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Site Doddridge County 514318
Company:	EQT Production - Marcellus	**TVD Reference:**	KB @ 1134.0usft
Project:	Doddridge County, WV Grid	**MD Reference:**	KB @ 1134.0usft
Site:	Doddridge County 514318	**North Reference:**	Grid
Well:	Well #514318	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	514318 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)
13,834.0	90.30	164.70	7,009.2	5,875.2	-6,354.2	497.8	6,372.8	3.19	0.11	3.19
13,929.0	90.30	165.80	7,008.7	5,874.7	-6,446.1	522.0	6,466.6	1.16	0.00	1.16
14,023.0	91.30	169.20	7,007.4	5,873.4	-6,537.9	542.3	6,559.8	3.77	1.06	3.62
14,117.0	92.10	169.40	7,004.6	5,870.6	-6,630.2	559.8	6,653.4	0.86	0.85	0.21
14,211.0	91.90	167.10	7,001.3	5,867.3	-6,722.2	578.9	6,746.8	2.45	-0.21	-2.45
14,306.0	92.00	167.00	6,998.1	5,864.1	-6,814.7	600.2	6,840.9	0.15	0.11	-0.11
14,400.0	92.50	167.10	6,994.4	5,860.4	-6,906.2	621.2	6,934.0	0.54	0.53	0.11
14,494.0	92.10	166.50	6,990.6	5,856.6	-6,997.7	642.7	7,027.1	0.77	-0.43	-0.64
Last Survey MD=14513'										
14,513.0	92.30	166.60	6,989.9	5,855.9	-7,016.1	647.1	7,045.9	1.18	1.05	0.53
Projection to TD MD=14569'										
14,569.0	92.30	166.60	6,987.6	5,853.6	-7,070.6	660.0	7,101.3	0.00	0.00	0.00

Design Annotations

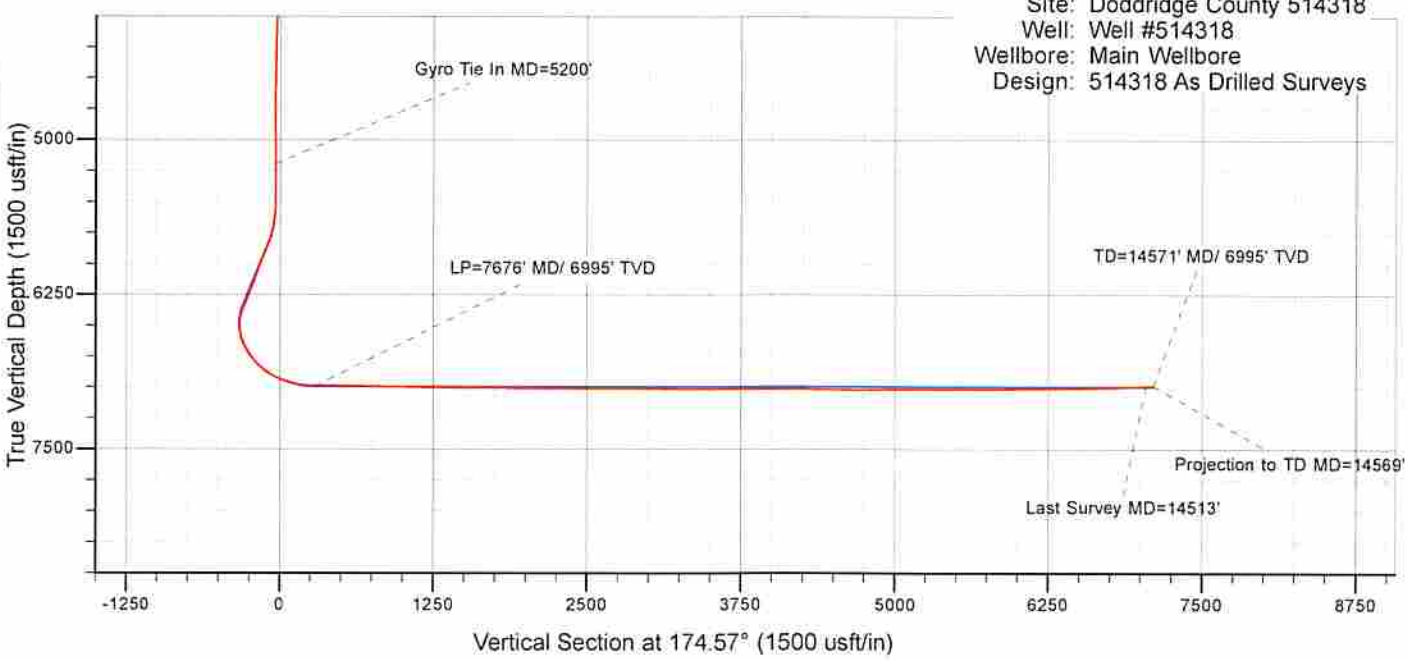
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
5,200.0	5,196.5	26.0	-143.7	Gyro Tie In MD=5200'
14,513.0	6,989.9	-7,016.1	647.1	Last Survey MD=14513'
14,569.0	6,987.6	-7,070.6	660.0	Projection to TD MD=14569'

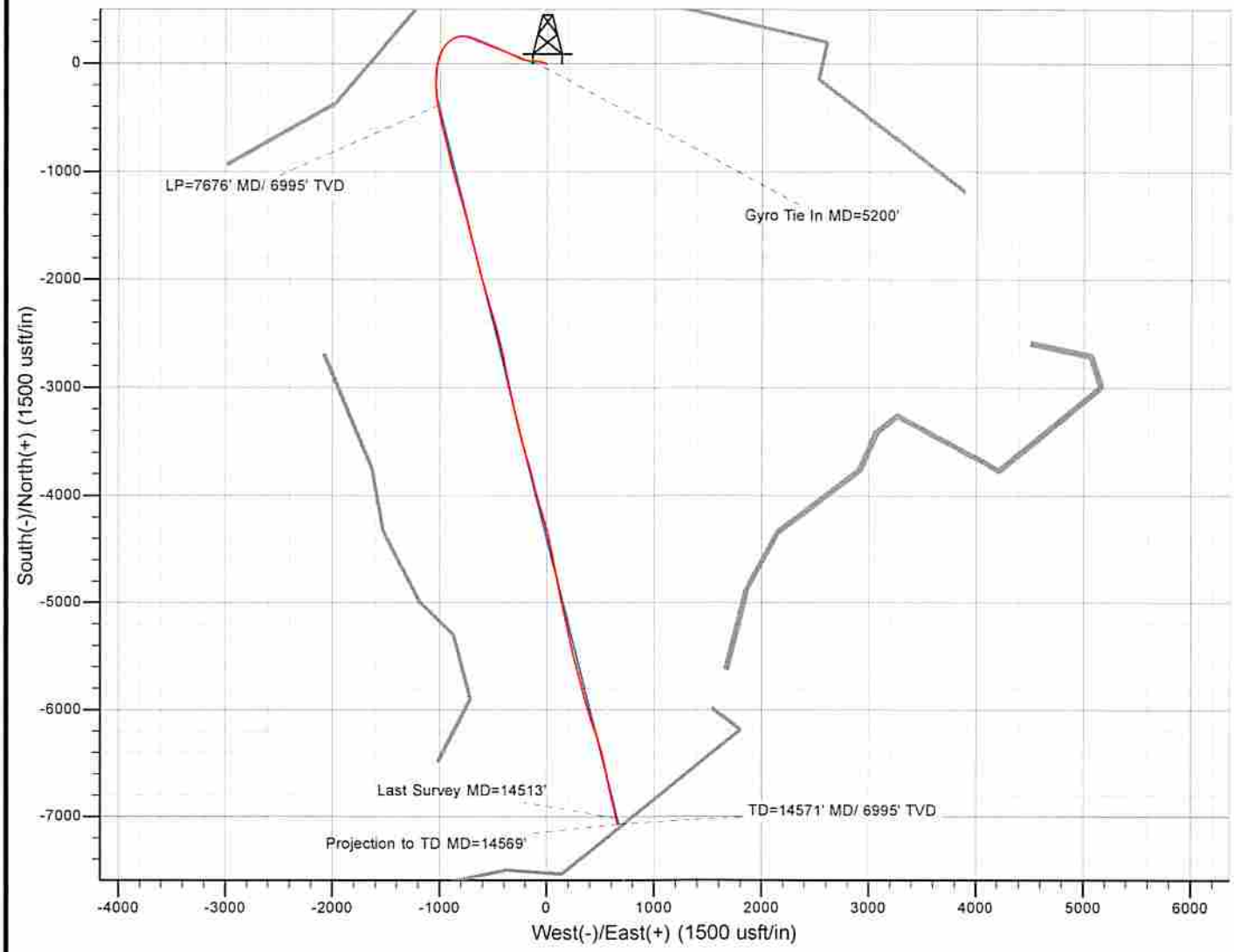
Checked By: _____ Approved By: _____ Date: _____

PHOENIX
TECHNOLOGY SERVICES

EQT Production - Marcellus

Project: Doddridge County, WV Grid
Site: Doddridge County 514318
Well: Well #514318
Wellbore: Main Wellbore
Design: 514318 As Drilled Surveys





Well has not been flowed back or tested - Will send amended report when testing has been completed

Stimulation Notes:
Re-perforated stage 26 (26.1)
Performed additional injection tests on stage 3 and 31

514318 - Perforations					
Stage Number	Perforation Date	Top Perf Depth (ftKB)	Bottom Perf Depth (ftKB)	Number of Shots	Formation
Initiation Sleeve	3/5/2014	14,539.00	14,541.00	10	MARCELLUS
1	3/6/2014	14,418.00	14,510.00	32	MARCELLUS
2	3/6/2014	14,268.00	14,390.00	40	MARCELLUS
3	3/6/2014	14,118.00	14,240.00	40	MARCELLUS
4	4/11/2014	13,968.00	14,088.00	40	MARCELLUS
5	4/11/2014	13,818.00	13,940.00	40	MARCELLUS
6	4/12/2014	13,668.00	13,790.00	40	MARCELLUS
7	4/12/2014	13,516.00	13,636.00	40	MARCELLUS
8	4/12/2014	13,368.00	13,490.00	40	MARCELLUS
9	4/12/2014	13,218.00	13,340.00	40	MARCELLUS
10	4/13/2014	13,068.00	13,190.00	40	MARCELLUS
11	4/13/2014	12,918.00	13,036.00	40	MARCELLUS
12	4/13/2014	12,768.00	12,890.00	40	MARCELLUS
13	4/13/2014	12,618.00	12,740.00	40	MARCELLUS
14	4/14/2014	12,468.00	12,590.00	40	MARCELLUS
15	4/14/2014	12,318.00	12,440.00	40	MARCELLUS
16	4/14/2014	12,168.00	12,290.00	40	MARCELLUS
17	4/15/2014	12,018.00	12,140.00	40	MARCELLUS
18	4/15/2014	11,868.00	11,990.00	40	MARCELLUS
19	4/15/2014	11,717.00	11,836.00	40	MARCELLUS
20	4/16/2014	11,568.00	11,690.00	40	MARCELLUS
21	4/16/2014	11,418.00	11,540.00	40	MARCELLUS
22	4/16/2014	11,268.00	11,390.00	40	MARCELLUS
23	4/16/2014	11,118.00	11,234.00	40	MARCELLUS
24	4/17/2014	10,968.00	11,086.00	40	MARCELLUS
25	4/17/2014	10,818.00	10,940.00	40	MARCELLUS
26	4/17/2014	10,670.00	10,790.00	40	MARCELLUS
26.1 (Re-Perf)	4/19/2014	10,624.00	10,715.00	32	MARCELLUS
27	4/19/2014	10,474.00	10,596.00	40	MARCELLUS
28	4/19/2014	10,324.00	10,444.00	40	MARCELLUS
29	4/19/2014	10,174.00	10,296.00	40	MARCELLUS
30	4/19/2014	10,024.00	10,146.00	40	MARCELLUS
31	4/20/2014	9,879.00	9,996.00	40	MARCELLUS
32	4/20/2014	9,724.00	9,846.00	40	MARCELLUS
33	4/20/2014	9,574.00	9,696.00	40	MARCELLUS
34	4/21/2014	9,424.00	9,546.00	40	MARCELLUS
35	4/21/2014	9,274.00	9,390.00	40	MARCELLUS
36	4/21/2014	9,124.00	9,244.00	40	MARCELLUS
37	4/22/2014	8,974.00	9,096.00	40	MARCELLUS
38	4/22/2014	8,826.00	8,946.00	40	MARCELLUS
39	4/23/2014	8,674.00	8,796.00	40	MARCELLUS
40	4/23/2014	8,524.00	8,646.00	40	MARCELLUS
41	4/23/2014	8,374.00	8,496.00	40	MARCELLUS
42	4/23/2014	8,224.00	8,346.00	40	MARCELLUS
43	4/24/2014	8,074.00	8,196.00	40	MARCELLUS
44	4/24/2014	7,924.00	8,046.00	40	MARCELLUS
45	4/24/2014	7,774.00	7,896.00	40	MARCELLUS
46	4/24/2014	7,624.00	7,746.00	40	MARCELLUS
47	4/25/2014	7,474.00	7,597.00	40	MARCELLUS
48	4/25/2014	7,324.00	7,440.00	40	MARCELLUS

514318 - 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	3/6/2014	15.30	7,647.00	NA	5,848	NA	1,017	0
1	3/6/2014	80.40	8,566.00	5,897.00	3,619	199,400	5,317	0
2	3/6/2014	82.60	8,203.00	6,374.00	4,430	202,200	5,375	0
Inj Test	3/7/2014	33.30	6,349.00	6,403.00	5,025	NA	1,770	0
3	4/11/2014	81.80	8,648.00	6,205.00	4,858	201,300	5,182	0
4	4/11/2014	98.80	8,106.00	5,872.00	4,784	205,400	4,886	0
5	4/11/2014	98.50	8,153.00	6,178.00	5,054	205,100	4,863	0
6	4/12/2014	99.10	8,080.00	6,389.00	4,966	153,300	5,181	0
7	4/12/2014	100.40	7,931.00	5,945.00	4,784	201,300	5,086	0
8	4/12/2014	99.90	8,104.00	6,331.00	4,977	202,900	4,950	0
9	4/13/2014	90.70	8,466.00	6,293.00	5,299	194,700	5,847	0
10	4/13/2014	96.20	8,488.00	6,106.00	5,245	202,100	5,001	0
11	4/13/2014	96.80	8,686.00	6,412.00	5,360	201,800	5,032	0
12	4/13/2014	97.90	8,294.00	6,262.00	4,562	201,100	4,875	0
13	4/14/2014	98.90	8,136.00	6,905.00	3,881	201,600	5,077	0
14	4/14/2014	100.30	8,257.00	6,335.00	4,557	201,100	5,004	0
15	4/14/2014	100.00	8,413.00	7,042.00	4,039	200,800	5,168	0
16	4/15/2014	98.10	8,220.00	6,195.00	5,539	200,700	4,932	0
17	4/15/2014	100.30	8,187.00	6,097.00	5,438	200,100	4,912	0
18	4/15/2014	90.30	8,637.00	6,426.00	4,787	201,700	5,109	0
19	4/15/2014	99.10	8,250.00	6,471.00	5,209	202,300	5,077	0
20	4/16/2014	99.40	8,295.00	6,190.00	4,612	201,600	5,206	0
21	4/16/2014	97.30	7,785.00	6,773.00	5,541	201,300	5,695	0
22	4/16/2014	100.40	7,921.00	5,916.00	4,997	200,200	5,014	0
23	4/17/2014	100.20	7,941.00	6,391.00	5,168	201,400	5,059	0
24	4/17/2014	97.53	7,781.00	6,377.00	5,293	201,100	5,005	0
25	4/17/2014	100.20	7,966.00	6,338.00	5,371	200,600	5,250	0
26	4/18/2014	70.77	8,632.00	6,782.00	4,923	15,300	2,327	0
26.1 (Re-Perf)	4/19/2014	92.50	8,148.00	6,610.00	5,165	184,600	5,614	0
27	4/19/2014	100.20	7,786.00	6,168.00	5,346	201,700	5,096	0
28	4/19/2014	101.10	7,257.00	5,746.00	5,477	201,000	5,020	0
29	4/19/2014	99.80	7,730.00	6,254.00	4,561	196,500	4,949	0
30	4/19/2014	100.70	7,695.00	6,516.00	5,525	201,900	5,074	0
31	4/20/2014	97.90	7,896.00	6,616.00	NA	189,500	4,662	0
Inj Test	4/20/2014	7.60	4,792.00	NA	NA	NA	2,564	0
32	4/20/2014	98.50	7,747.00	6,592.00	5,568	203,600	4,945	0
33	4/21/2014	100.00	7,742.00	6,521.00	4,664	202,400	4,940	0
34	4/21/2014	96.19	7,594.00	6,275.00	4,197	204,000	5,079	0
35	4/21/2014	97.00	8,156.00	7,185.00	5,274	203,200	4,908	0
36	4/21/2014	99.60	7,903.00	6,516.00	4,657	199,300	4,986	0
37	4/22/2014	93.70	8,191.00	6,667.00	5,638	189,100	4,836	0
38	4/22/2014	99.23	8,063.00	6,203.00	4,723	201,400	4,952	0
39	4/23/2014	99.50	7,926.00	5,856.00	4,153	200,900	5,013	0
40	4/23/2014	98.60	8,255.00	6,705.00	5,446	198,900	5,009	0
41	4/23/2014	100.60	7,505.00	6,037.00	5,297	201,700	5,052	0
42	4/24/2014	100.60	7,594.00	5,431.00	4,516	199,900	4,862	0
43	4/24/2014	100.20	7,544.00	5,747.00	5,147	200,400	4,889	0
44	4/24/2014	98.40	7,599.00	5,701.00	5,464	201,800	4,853	0
45	4/24/2014	100.80	7,312.00	5,641.00	4,574	200,800	4,902	0
46	4/24/2014	100.80	7,371.00	5,954.00	5,365	200,500	5,019	0
47	4/25/2014	100.80	7,363.00	6,383.00	3,631	200,800	5,032	0
48	4/25/2014	100.60	7,356.00	6,636.00	3,548	186,700	4,866	0

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	3/5/2014
Job End Date:	4/25/2014
State:	West Virginia
County:	Doddridge
API Number:	47-017-06250-00-00
Operator Name:	EQT Production
Well Name and Number:	CPT11 - 514318
Longitude:	-80.72364300
Latitude:	39.38432400
Datum:	NAD83
Federal/Tribal Well:	NO
True Vertical Depth:	7,020
Total Base Water Volume (gal):	11,028,902
Total Base Non Water Volume:	483,981

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	90.12524	
Sand	Halliburton	Proppant					
			Crystalline Silica	14808-60-7	100.00000	9.38925	
MX-5	Halliburton	Biocide					
			Sodium Nitrate	7631-99-4	60.00000	0.05664	
Hydrochloric Acid 15%	Halliburton	Acidizing					
			Hydrochloric Acid	7647-01-0	15.00000	0.03945	
FR-66	Halliburton	Friction Reducer					
			Hydrotreated light petroleum distillate	64742-47-8	30.00000	0.02071	
LGC-36	Halliburton	Adds viscosity to fluid					
			Naptha, hydrotreated heavy	67742-48-9	50.00000	0.00565	
			Guar Gum	9000-30-0	50.00000	0.00565	
MX-8	Halliburton	Biocide					
			Bacteria Culture	000-00-0	100.00000	0.00962	
BA-40L	Halliburton	Buffer					
			Potassium carbonate	584-08-7	60.00000	0.00739	
LP-65	Halliburton	Scale Inhibitor					
			Ammonium Chloride	12125-02-9	10.00000	0.00255	

Methanol	Halliburton	Corrosion inhibitor					
			Methanol	67-56-1	60.00000	0.00024	
SP Breaker	Halliburton	Oxidizing Breaker					
			Sodium Persulfate	7775-27-1	100.00000	0.00015	
Propargyl Alcohol	Halliburton	Corrosion inhibitor					
			Propargyl Alcohol	107-19-7	10.00000	0.00004	

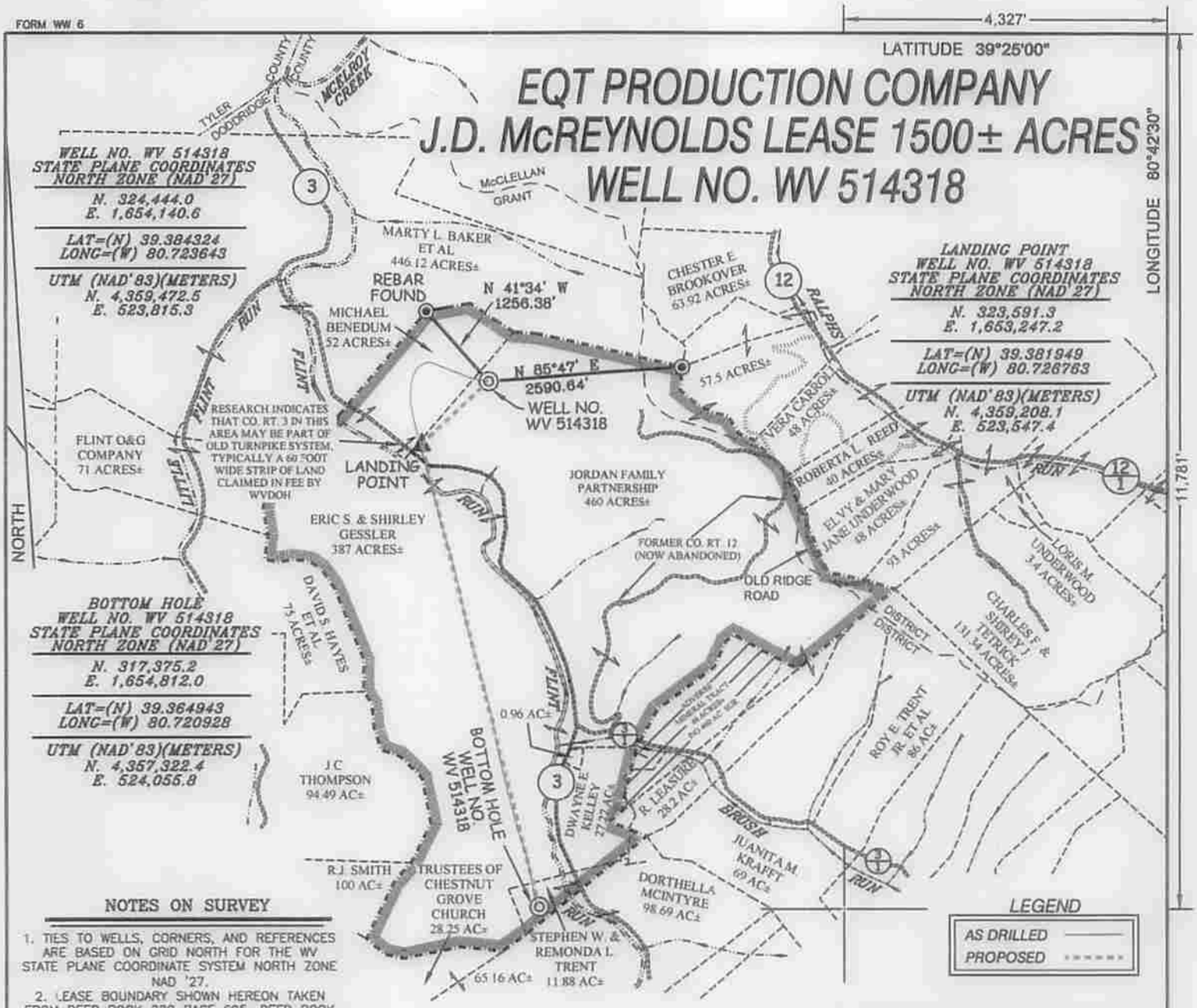
Ingredients shown above are subject to 29 CFR 1910.1200(i) and appear on Material Safety Data Sheets (MSDS). Ingredients shown below are Non-MSDS.

* 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 COMPANY
J.D. McREYNOLDS LEASE 1500± ACRES
WELL NO. WV 514318



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 280 PAGE 695, DEED BOOK 223 PAGE 430, DEED BOOK 282 PAGE 406 & DEED BOOK 175 PAGE 633.
3. SURFACE OWNER AND ADJOINER INFORMATION TAKEN FROM THE ASSESSOR AND COUNTY CLERK RECORDS OF DODDRIDGE COUNTY IN JULY, 2012.
4. WELL LAT./LONG. (NAD'27) ESTABLISHED BY DGPS (SURVEY GRADE TIE TO CORS NETWORK).
5. PLAT UPDATED ON 07/08/14 TO SHOW THE AS DRILLED PATH COORDINATES FROM INFORMATION PROVIDED BY EQT ON 02/10/14.

LEGEND

AS DRILLED ———
PROPOSED - - - - -

AS DRILLED INFORMATION

BOTTOM HOLE	WELL NO. WV 514318
STATE PLANE COORDINATES NORTH ZONE (NAD'27)	STATE PLANE COORDINATES NORTH ZONE (NAD'27)
N. 317,373.8 E. 1,654,800.6	N. 324,444.0 E. 1,654,140.6
LAT=(N) 39.364938 LONG=(W) 80.720969	LAT=(N) 39.384324 LONG=(W) 80.723643
UTM (NAD'83)(METERS) N. 4,357,321.8 E. 524,052.3	UTM (NAD'83)(METERS) N. 4,359,472.5 E. 523,815.3

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 MARCH 15 , 20 13
REVISED DATE JULY 08 , 20 14
OPERATORS WELL NO. WV 514318
API WELL NO. 47 — 017 — 06250
STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 200 FILE NO. 7749ASDRILLED514318
SCALE 1" = 2000'
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 1,130' (GROUND) 1,111 (PROPOSED) WATERSHED FLINT RUN OF McELROY CREEK
DISTRICT GRANT COUNTY DODDRIDGE QUADRANGLE CENTER POINT 7.5'
SURFACE OWNER JORDAN FAMILY PARTNERSHIP ACREAGE 460±
ROYALTY OWNER J.D. McREYNOLDS HEIRS/ASSIGNS ACREAGE 1500±
PROPOSED WORK: LEASE NO. 090500
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

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

API 47 - 170 - 6251 County Doddridge District Grant
Quad Center Point 7.5 Pad Name CPT 11 Field/Pool Name
Farm name Jordan Family Partnership Well Number 514319
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 4359476.9 Easting 523814.1
Landing Point of Curve Northing 4359560.5 Easting 523891.4
Bottom Hole Northing 4358248.6 Easting 524581.3

Elevation (ft) 1111 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 See Attachment
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 12.4 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 7/8/2013 Date drilling commenced 10/8/2013 Date drilling ceased 1/19/2014
Date completion activities began 4/26/2014 Date completion activities ceased 5/4/2014
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 79', 717' Open mine(s) (Y/N) depths N
Salt water depth(s) ft 1674', 1402' Void(s) encountered (Y/N) depths N
Coal depth(s) ft 865' - 868', 1277' - 1279' Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

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API 47- 170 - 6251 Farm name Jordan Family Partnership Well number 514319

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	A500 94#		Y
Surface	17-1/2"	13-3/8"	1036'	New	J55 54.5#	155', 955'	Y
Coal							
Intermediate 1	12-3/8"	9-5/8"	5256'	New	A500 40#	1111', 3343', 4523'	Y
Intermediate 2							
Intermediate 3							
Production	8-1/2"	5-1/2"	12256'	New	P110 20#		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	15.8	1.18	44.8	0	8
Surface	Class A	810	15.6	1.18	955.8	0	8
Coal							
Intermediate 1	Class A	325/1455	14.2/15.6	1.28/1.18	2133	0	8
Intermediate 2							
Intermediate 3							
Production	Class A/Class H	400/645	14.2/15.2	1.31/1.94	1775	5269	8
Tubing							

Drillers TD (ft) 12269' Loggers TD (ft) N/A

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

Plug back procedure N/A

Kick off depth (ft) 5413

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

Surface-bow spring centralizer at 118', 555', 881'
Intermediate-bow spring centralizers ran at the shoe and every 500' to TD.
Production- plastic centralizer on every joint from the shoe up to intermediate casing point at 5269

WAS WELL COMPLETED AS SHOT HOLE ☐ Yes ■ No DETAILS

WAS WELL COMPLETED OPEN HOLE? ☐ Yes ■ No DETAILS

WERE TRACERS USED ☐ Yes ■ No TYPE OF TRACER(S) USED

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API 47- 170 - 6251 Farm name Jordan Family Partnership Well number 514319

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.

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API 47- 170 - 6251 Farm name Jordan Family Partnership Well number _____

PRODUCING FORMATION(S)	DEPTHS	
Marcellus	7,215 TVD	6,986 MD

Please insert additional pages as applicable.

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

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

OPEN FLOW	Gas	Oil	NGL	Water	GAS MEASURED BY
	NA mcfpd	NA bpd	NA bpd	NA 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 Patterson UTI
Address 207 Carlton Drive City Eighty Four State PA Zip 15330

Logging Company GyroData
Address 601 Mayer St City Bridgeville State PA Zip 13146

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

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

Please insert additional pages as applicable.

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Completed by James E. Helmick Jr. Telephone 412-395-5518
Signature _____ Title Vice President - Completions Operations Date 7/28/2014

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

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API 47- 170 - 6251 Farm name Jordan Family Partnership Well number

PRODUCING FORMATION(S)	DEPTHS			
Marcellus	7,215	TVD	6,986	MD

Ammended page to include test data

Please insert additional pages as applicable.

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

SHUT-IN PRESSURE Surface 2,884 psi Bottom Hole NA psi DURATION OF TEST 55 hrs

OPEN FLOW	Gas	Oil	NGL	Water	GAS MEASURED BY
	6,825 mcfpd	0 bpd	57.6 bpd	216 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 Patterson UTI
Address 207 Carlton Drive City Eighty Four State PA Zip 15330

Logging Company GyroData
Address 601 Mayer St City Bridgeville State PA Zip 13146

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

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

Please insert additional pages as applicable.

Completed by James Abbott Telephone 412-553-5996
Signature Title Director - Completions Operations Date 8/26/2014

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	717	717
Sand / Shale	1	1	865	865
Coal	865	865	867	867
Sand / Shale	867	867	1,277.00	1,277.00
Coal	1,277.00	1,277.00	1,280.00	1,280.00
Sand / Shale	1,280.00	1,280.00	1,868.00	1,868.00
Maxton	1,868.00	1,868.00	2,110.00	2,109.90
Big Lime	2,110.00	2,109.90	2,514.00	2,513.90
Berea	2,691.00	2,690.90	2,708.00	2,707.90
Gantz	2,708.00	2,707.90	2,767.00	2,766.90
Fifty foot	2,767.00	2,766.90	2,896.00	2,895.90
Weir	2,514.00	2,513.90	2,691.00	2,690.90
Thirty foot	2,896.00	2,895.90	2,921.00	2,920.90
Gordon	2,921.00	2,920.90	3,060.00	3,059.90
Forth Sand	3,060.00	3,059.90	3,219.00	3,218.80
Fifth Sand	3,219.00	3,218.80	3,585.00	3,584.80
Warren	3,585.00	3,584.80	3,806.00	3,805.80
Speechley	3,806.00	3,805.80	4,168.00	4,167.80
Balltown A	4,168.00	4,167.80	4,547.00	4,546.80
Bradford	4,547.00	4,546.80	5,175.00	5,174.70
Benson	5,175.00	5,174.70	5,491.00	5,489.80
Alexander	5,491.00	5,489.80	6,349.00	6,202.90
Elk	6,349.00	6,202.90	6,780.00	6,619.70
Sonyea	6,780.00	6,619.70	6,918.00	6,754.70
Middlesex	6,918.00	6,754.70	6,951.00	6,785.60
Genesee	6,951.00	6,785.60	7,074.00	6,893.00
Geneseo	7,074.00	6,893.00	7,116.00	6,924.90
Tully	7,116.00	6,924.90	7,148.00	6,947.20
Hamilton	7,148.00	6,947.20	7,215.00	6,986.50
Marcellus	7,215.00	6,986.50	12,269.00	7,031.50

PHOENIX
TECHNOLOGY SERVICES

EQT Production - Marcellus

Doddridge County, WV Grid
Doddridge County 514319
Well #514319

Main Wellbore

Design: 514319 As Drilled

Standard Survey Report

17 January, 2014

EQT
Where energy meets innovation.

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Site Doddridge County 514319
Company:	EQT Production - Marcellus	**TVD Reference:**	KB @ 1134.0usft
Project:	Doddridge County, WV Grid	**MD Reference:**	KB @ 1134.0usft
Site:	Doddridge County 514319	**North Reference:**	Grid
Well:	Well #514319	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	514319 As Drilled		

Project: Doddridge County, WV Grid

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: Doddridge County 514319

Site Position:		**Northing:**	324,458.60 usft	**Latitude:**	39.38
From:	Map	**Easting:**	1,654,137.10 usft	**Longitude:**	-80.72
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	-0.78 °

Well: Well #514319

Well Position	**+N/-S**	0.0 usft	**Northing:**	324,458.60 usft	**Latitude:**	39° 23' 3.709 N
	+E/-W	0.0 usft	**Easting:**	1,654,137.10 usft	**Longitude:**	80° 43' 25.163 W
Position Uncertainty		0.0 usft	**Wellhead Elevation:**	usft	**Ground Level:**	1,111.0 usft

Wellbore: Main Wellbore

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010_14	12/26/2013	-8.52	66.92	52,394

Design: 514319 As Drilled

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	148.91

Survey Program Date 1/17/2014

From ()	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	5,200.0	Gyro (Main Wellbore)	GYD_DP_MS	Gyrodata gyro-compassing and drop
0.00	12,269.0	514319 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	-1,134.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.22	172.97	100.0	-1,034.0	-0.2	0.0	0.2	0.22	0.22	0.00
200.0	0.23	164.72	200.0	-934.0	-0.6	0.1	0.5	0.03	0.01	-8.25
300.0	0.36	167.37	300.0	-834.0	-1.1	0.2	1.0	0.13	0.13	2.65
400.0	0.35	172.46	400.0	-734.0	-1.7	0.3	1.6	0.03	-0.01	5.09
500.0	0.31	176.83	500.0	-634.0	-2.3	0.4	2.1	0.05	-0.04	4.37
600.0	0.34	179.06	600.0	-534.0	-2.8	0.4	2.6	0.03	0.03	2.23
700.0	0.15	190.12	700.0	-434.0	-3.2	0.4	3.0	0.19	-0.19	11.06

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Site Doddridge County 514319
Company:	EQT Production - Marcellus	**TVD Reference:**	KB @ 1134.0usft
Project:	Doddridge County, WV Grid	**MD Reference:**	KB @ 1134.0usft
Site:	Doddridge County 514319	**North Reference:**	Grid
Well:	Well #514319	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	514319 As Drilled		

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)
800.0	0.13	179.25	800.0	-334.0	-3.5	0.4	3.2	0.03	-0.02	-10.87
900.0	0.14	172.99	900.0	-234.0	-3.7	0.4	3.4	0.02	0.01	-6.26
1,000.0	0.20	178.33	1,000.0	-134.0	-4.0	0.4	3.7	0.06	0.06	5.34
1,100.0	0.25	178.91	1,100.0	-34.0	-4.4	0.4	4.0	0.05	0.05	0.58
1,200.0	0.24	176.57	1,200.0	66.0	-4.8	0.4	4.4	0.01	-0.01	-2.34
1,300.0	0.24	175.52	1,300.0	166.0	-5.3	0.5	4.7	0.00	0.00	-1.05
1,400.0	0.31	207.88	1,400.0	266.0	-5.7	0.3	5.1	0.17	0.07	32.36
1,500.0	0.37	213.77	1,500.0	366.0	-6.2	0.0	5.3	0.07	0.06	5.89
1,600.0	0.46	246.38	1,600.0	466.0	-6.6	-0.5	5.4	0.25	0.09	32.61
1,700.0	0.48	250.54	1,700.0	566.0	-6.9	-1.3	5.3	0.04	0.02	4.16
1,800.0	0.54	250.21	1,800.0	666.0	-7.2	-2.1	5.1	0.06	0.06	-0.33
1,900.0	0.85	245.97	1,900.0	766.0	-7.7	-3.2	4.9	0.31	0.31	-4.24
2,000.0	0.94	255.36	2,000.0	866.0	-8.2	-4.7	4.6	0.17	0.09	9.39
2,100.0	0.99	261.05	2,099.9	965.9	-8.6	-6.3	4.1	0.11	0.05	5.69
2,200.0	0.96	268.33	2,199.9	1,065.9	-8.7	-8.0	3.3	0.13	-0.03	7.28
2,300.0	0.90	268.83	2,299.9	1,165.9	-8.8	-9.7	2.5	0.06	-0.06	0.50
2,400.0	0.81	280.37	2,399.9	1,265.9	-8.6	-11.1	1.7	0.19	-0.09	11.54
2,500.0	0.75	284.66	2,499.9	1,365.9	-8.4	-12.5	0.7	0.08	-0.06	4.29
2,600.0	0.75	287.01	2,599.9	1,465.9	-8.0	-13.7	-0.2	0.03	0.00	2.35
2,700.0	0.65	293.02	2,699.9	1,565.9	-7.6	-14.9	-1.2	0.12	-0.10	6.01
2,800.0	0.67	297.71	2,799.9	1,665.9	-7.1	-15.9	-2.1	0.06	0.02	4.69
2,900.0	0.63	302.53	2,899.9	1,765.9	-6.5	-16.9	-3.1	0.07	-0.04	4.82
3,000.0	0.60	308.05	2,999.9	1,865.9	-5.9	-17.8	-4.1	0.07	-0.03	5.52
3,100.0	0.61	305.13	3,099.9	1,965.9	-5.3	-18.6	-5.1	0.03	0.01	-2.92
3,200.0	0.56	303.33	3,199.8	2,065.8	-4.7	-19.5	-6.0	0.05	-0.05	-1.80
3,300.0	0.61	309.89	3,299.8	2,165.8	-4.1	-20.3	-7.0	0.08	0.05	6.56
3,400.0	0.48	314.77	3,399.8	2,265.8	-3.5	-21.0	-7.9	0.14	-0.13	4.88
3,500.0	0.51	314.08	3,499.8	2,365.8	-2.8	-21.6	-8.7	0.03	0.03	-0.69
3,600.0	0.48	317.44	3,599.8	2,465.8	-2.2	-22.2	-9.6	0.04	-0.03	3.36
3,700.0	0.47	307.26	3,699.8	2,565.8	-1.7	-22.8	-10.3	0.08	-0.01	-10.18
3,800.0	0.46	313.18	3,799.8	2,665.8	-1.1	-23.4	-11.1	0.05	-0.01	5.92
3,900.0	0.44	317.74	3,899.8	2,765.8	-0.6	-24.0	-11.9	0.04	-0.02	4.56
4,000.0	0.43	326.76	3,999.8	2,865.8	0.0	-24.5	-12.6	0.07	-0.01	9.02
4,100.0	0.33	317.29	4,099.8	2,965.8	0.5	-24.9	-13.3	0.12	-0.10	-9.47
4,200.0	0.19	316.06	4,199.8	3,065.8	0.9	-25.2	-13.7	0.14	-0.14	-1.23
4,300.0	0.09	211.23	4,299.8	3,165.8	0.9	-25.3	-13.9	0.23	-0.10	-104.83
4,400.0	0.24	170.04	4,399.8	3,265.8	0.6	-25.3	-13.6	0.18	0.15	-41.19
4,500.0	0.46	160.22	4,499.8	3,365.8	0.1	-25.1	-13.0	0.23	0.22	-9.82
4,600.0	0.63	161.44	4,599.8	3,465.8	-0.8	-24.8	-12.1	0.17	0.17	1.22
4,700.0	0.81	162.69	4,699.8	3,565.8	-2.0	-24.5	-10.9	0.18	0.18	1.25
4,800.0	0.85	162.04	4,799.8	3,665.8	-3.4	-24.0	-9.5	0.04	0.04	-0.65
4,900.0	0.92	171.95	4,899.8	3,765.8	-4.9	-23.7	-8.0	0.17	0.07	9.91

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Site Doddridge County 514319
Company:	EQT Production - Marcellus	**TVD Reference:**	KB @ 1134.0usft
Project:	Doddridge County, WV Grid	**MD Reference:**	KB @ 1134.0usft
Site:	Doddridge County 514319	**North Reference:**	Grid
Well:	Well #514319	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	514319 As Drilled		

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)
5,000.0	1.07	170.83	4,999.8	3,865.8	-6.6	-23.4	-6.4	0.15	0.15	-1.12
5,100.0	1.29	173.36	5,099.7	3,965.7	-8.7	-23.1	-4.5	0.23	0.22	2.53
Gyro Tie In=5200' MD										
5,200.0	1.26	169.14	5,199.7	4,065.7	-10.9	-22.8	-2.5	0.10	-0.03	-4.22
5,329.0	1.40	174.00	5,328.7	4,194.7	-13.8	-22.4	0.3	0.14	0.11	3.77
5,360.0	1.40	171.40	5,359.7	4,225.7	-14.6	-22.3	1.0	0.20	0.00	-8.39
5,392.0	0.30	9.50	5,391.7	4,257.7	-14.9	-22.2	1.3	5.27	-3.44	-505.94
5,423.0	5.00	351.60	5,422.6	4,288.6	-13.5	-22.4	0.0	15.21	15.16	-57.74
5,454.0	8.80	350.70	5,453.4	4,319.4	-9.8	-23.0	-3.5	12.26	12.26	-2.90
5,486.0	11.30	353.00	5,484.9	4,350.9	-4.3	-23.7	-8.6	7.91	7.81	7.19
5,517.0	13.00	353.60	5,515.2	4,381.2	2.2	-24.5	-14.5	5.50	5.48	1.94
5,548.0	15.60	356.80	5,545.2	4,411.2	9.8	-25.1	-21.4	8.76	8.39	10.32
5,580.0	17.70	358.10	5,575.9	4,441.9	19.0	-25.5	-29.5	6.66	6.56	4.06
5,611.0	18.90	355.90	5,605.3	4,471.3	28.7	-26.0	-38.0	4.47	3.87	-7.10
5,643.0	19.80	353.80	5,635.5	4,501.5	39.3	-27.0	-47.6	3.55	2.81	-6.56
5,674.0	21.30	351.50	5,664.6	4,530.6	50.1	-28.4	-57.5	5.49	4.84	-7.42
5,706.0	21.70	350.00	5,694.3	4,560.3	61.6	-30.3	-68.4	2.12	1.25	-4.69
5,737.0	22.20	350.20	5,723.1	4,589.1	73.1	-32.3	-79.2	1.63	1.61	0.65
5,768.0	23.80	351.40	5,751.6	4,617.6	85.0	-34.2	-90.5	5.38	5.16	3.87
5,800.0	26.70	353.40	5,780.6	4,646.6	98.5	-36.0	-103.0	9.45	9.06	6.25
5,831.0	29.40	355.20	5,807.9	4,673.9	113.0	-37.4	-116.1	9.13	8.71	5.81
5,863.0	32.50	355.80	5,835.4	4,701.4	129.5	-38.7	-130.9	9.74	9.69	1.88
5,894.0	35.70	355.70	5,861.0	4,727.0	146.8	-40.0	-146.4	10.32	10.32	-0.32
5,925.0	39.00	355.50	5,885.7	4,751.7	165.5	-41.5	-163.2	10.65	10.65	-0.65
5,957.0	42.90	355.40	5,909.8	4,775.8	186.4	-43.1	-181.9	12.19	12.19	-0.31
6,020.0	44.40	355.00	5,955.4	4,821.4	229.8	-46.8	-220.9	2.42	2.38	-0.63
6,051.0	43.90	354.40	5,977.7	4,843.7	251.3	-48.7	-240.4	2.10	-1.61	-1.94
6,082.0	44.90	354.10	5,999.8	4,865.8	272.8	-50.9	-260.0	3.30	3.23	-0.97
6,114.0	45.60	354.10	6,022.3	4,888.3	295.5	-53.3	-280.5	2.19	2.19	0.00
6,145.0	45.10	353.80	6,044.1	4,910.1	317.4	-55.6	-300.5	1.75	-1.61	-0.97
6,176.0	44.40	353.50	6,066.1	4,932.1	339.1	-58.0	-320.3	2.36	-2.26	-0.97
6,208.0	42.70	353.90	6,089.3	4,955.3	361.0	-60.4	-340.3	5.38	-5.31	1.25
6,239.0	39.90	355.10	6,112.6	4,978.6	381.3	-62.4	-358.8	9.39	-9.03	3.87
6,270.0	36.70	355.80	6,136.9	5,002.9	400.5	-63.9	-376.0	10.42	-10.32	2.26
6,302.0	34.00	355.90	6,163.0	5,029.0	419.0	-65.3	-392.5	8.44	-8.44	0.31
6,333.0	31.30	357.40	6,189.1	5,055.1	435.7	-66.2	-407.3	9.09	-8.71	4.84
6,364.0	28.10	358.50	6,216.1	5,082.1	451.0	-66.8	-420.7	10.47	-10.32	3.55
6,396.0	24.70	0.30	6,244.7	5,110.7	465.2	-67.0	-433.0	10.91	-10.63	5.63
6,427.0	20.70	3.60	6,273.3	5,139.3	477.2	-66.6	-443.0	13.54	-12.90	10.65
6,458.0	16.90	6.10	6,302.6	5,168.6	487.1	-65.8	-451.1	12.53	-12.26	8.06
6,490.0	13.70	11.80	6,333.5	5,199.5	495.5	-64.5	-457.6	11.04	-10.00	17.81
6,521.0	11.60	22.10	6,363.8	5,229.8	501.9	-62.6	-462.2	9.92	-6.77	33.23
6,552.0	10.30	33.00	6,394.2	5,260.2	507.2	-59.9	-465.2	7.87	-4.19	35.16

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Site Doddridge County 514319
Company:	EQT Production - Marcellus	**TVD Reference:**	KB @ 1134.0usft
Project:	Doddridge County, WV Grid	**MD Reference:**	KB @ 1134.0usft
Site:	Doddridge County 514319	**North Reference:**	Grid
Well:	Well #514319	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	514319 As Drilled		

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)
6,584.0	9.40	43.60	6,425.7	5,291.7	511.5	-56.5	-467.2	6.31	-2.81	33.13
6,615.0	8.50	56.90	6,456.4	5,322.4	514.5	-52.9	-467.9	7.26	-2.90	42.90
6,646.0	8.10	69.70	6,487.0	5,353.0	516.5	-48.9	-467.6	6.09	-1.29	41.29
6,678.0	8.00	80.60	6,518.7	5,384.7	517.7	-44.6	-466.4	4.77	-0.31	34.06
6,709.0	7.60	94.30	6,549.4	5,415.4	517.9	-40.4	-464.4	6.12	-1.29	44.19
6,741.0	7.80	105.60	6,581.1	5,447.1	517.1	-36.2	-461.6	4.76	0.63	35.31
6,772.0	8.60	113.60	6,611.8	5,477.8	515.7	-32.0	-458.1	4.49	2.58	25.81
6,803.0	9.60	121.70	6,642.4	5,508.4	513.4	-27.7	-454.0	5.23	3.23	26.13
6,867.0	11.50	130.50	6,705.4	5,571.4	506.4	-18.3	-443.2	3.88	2.97	13.75
6,898.0	15.40	127.80	6,735.5	5,601.5	501.9	-12.7	-436.4	12.74	12.58	-8.71
6,929.0	19.70	126.40	6,765.1	5,631.1	496.3	-5.3	-427.7	13.94	13.87	-4.52
6,961.0	22.80	127.00	6,794.9	5,660.9	489.3	4.0	-417.0	9.71	9.69	1.88
6,992.0	26.30	126.90	6,823.1	5,689.1	481.6	14.3	-405.0	11.29	11.29	-0.32
7,024.0	30.00	125.20	6,851.3	5,717.3	472.7	26.5	-391.1	11.83	11.56	-5.31
7,055.0	34.20	124.80	6,877.5	5,743.5	463.3	40.0	-376.1	13.57	13.55	-1.29
7,087.0	39.30	125.30	6,903.2	5,769.2	452.3	55.7	-358.6	15.96	15.94	1.56
7,118.0	43.60	125.20	6,926.4	5,792.4	440.4	72.4	-339.8	13.87	13.87	-0.32
7,149.0	48.70	125.80	6,947.9	5,813.9	427.5	90.6	-319.3	16.51	16.45	1.94
7,181.0	53.70	127.70	6,967.9	5,833.9	412.5	110.6	-296.2	16.29	15.63	5.94
7,212.0	59.30	129.50	6,985.0	5,851.0	396.4	130.8	-271.9	18.70	18.06	5.81
7,243.0	64.80	130.30	6,999.5	5,865.5	378.8	151.8	-246.1	17.89	17.74	2.58
7,275.0	70.40	133.10	7,011.7	5,877.7	359.2	173.9	-217.8	19.28	17.50	8.75
7,306.0	75.70	133.50	7,020.8	5,886.8	338.8	195.4	-189.3	17.14	17.10	1.29
7,338.0	79.80	136.50	7,027.6	5,893.6	316.7	217.5	-158.9	15.75	12.81	9.38
7,369.0	85.50	138.60	7,031.5	5,897.5	294.0	238.3	-128.8	19.58	18.39	6.77
7,400.0	90.10	141.90	7,032.7	5,898.7	270.2	258.1	-98.2	18.26	14.84	10.65
7,432.0	91.50	147.40	7,032.3	5,898.3	244.1	276.6	-66.3	17.73	4.38	17.19
7,526.0	93.10	152.90	7,028.5	5,894.5	162.7	323.3	27.6	6.09	1.70	5.85
7,620.0	93.90	153.10	7,022.8	5,888.8	79.1	365.9	121.2	0.88	0.85	0.21
7,715.0	93.50	152.80	7,016.6	5,882.6	-5.3	409.0	215.7	0.53	-0.42	-0.32
7,809.0	91.70	153.40	7,012.4	5,878.4	-89.1	451.5	309.4	2.02	-1.91	0.64
7,903.0	90.00	153.80	7,011.0	5,877.0	-173.2	493.3	403.1	1.86	-1.81	0.43
7,997.0	90.30	154.10	7,010.7	5,876.7	-257.7	534.6	496.7	0.45	0.32	0.32
8,091.0	88.80	154.30	7,011.5	5,877.5	-342.3	575.5	590.3	1.61	-1.60	0.21
8,186.0	88.80	155.50	7,013.4	5,879.4	-428.3	615.8	684.8	1.26	0.00	1.26
8,280.0	89.30	156.60	7,015.0	5,881.0	-514.2	653.9	778.0	1.29	0.53	1.17
8,374.0	89.50	157.50	7,016.0	5,882.0	-600.8	690.6	871.1	0.98	0.21	0.96
8,468.0	89.40	153.60	7,016.9	5,882.9	-686.3	729.5	964.4	4.15	-0.11	-4.15
8,563.0	89.90	155.10	7,017.5	5,883.5	-772.0	770.6	1,059.0	1.66	0.53	1.58
8,657.0	91.40	154.20	7,016.4	5,882.4	-856.9	810.8	1,152.5	1.86	1.60	-0.96
8,751.0	90.00	151.30	7,015.3	5,881.3	-940.4	853.9	1,246.3	3.43	-1.49	-3.09
8,846.0	88.50	150.70	7,016.5	5,882.5	-1,023.5	899.9	1,341.2	1.70	-1.58	-0.63
8,940.0	89.10	151.30	7,018.5	5,884.5	-1,105.7	945.5	1,435.1	0.90	0.64	0.64

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Site Doddridge County 514319
Company:	EQT Production - Marcellus	**TVD Reference:**	KB @ 1134.0usft
Project:	Doddridge County, WV Grid	**MD Reference:**	KB @ 1134.0usft
Site:	Doddridge County 514319	**North Reference:**	Grid
Well:	Well #514319	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	514319 As Drilled		

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)
9,034.0	89.80	151.70	7,019.4	5,885.4	-1,188.3	990.3	1,529.0	0.86	0.74	0.43
9,128.0	87.70	149.40	7,021.4	5,887.4	-1,270.1	1,036.5	1,622.9	3.31	-2.23	-2.45
9,222.0	88.40	149.40	7,024.6	5,890.6	-1,351.0	1,084.3	1,716.9	0.74	0.74	0.00
9,316.0	88.50	149.70	7,027.2	5,893.2	-1,432.0	1,132.0	1,810.8	0.34	0.11	0.32
9,410.0	89.90	149.50	7,028.5	5,894.5	-1,513.1	1,179.5	1,904.8	1.50	1.49	-0.21
9,505.0	89.20	150.60	7,029.2	5,895.2	-1,595.4	1,226.9	1,999.8	1.37	-0.74	1.16
9,599.0	90.30	153.30	7,029.6	5,895.6	-1,678.3	1,271.1	2,093.6	3.10	1.17	2.87
9,693.0	89.50	152.80	7,029.8	5,895.8	-1,762.1	1,313.7	2,187.4	1.00	-0.85	-0.53
9,787.0	89.90	155.00	7,030.3	5,896.3	-1,846.5	1,355.1	2,281.0	2.38	0.43	2.34
9,882.0	88.80	154.90	7,031.4	5,897.4	-1,932.6	1,395.3	2,375.5	1.16	-1.16	-0.11
9,976.0	89.30	155.20	7,032.9	5,898.9	-2,017.8	1,435.0	2,469.0	0.62	0.53	0.32
10,070.0	90.20	155.20	7,033.3	5,899.3	-2,103.1	1,474.4	2,562.4	0.96	0.96	0.00
10,164.0	89.50	154.90	7,033.6	5,899.6	-2,188.4	1,514.0	2,655.8	0.81	-0.74	-0.32
10,258.0	89.80	155.00	7,034.2	5,900.2	-2,273.5	1,553.8	2,749.3	0.34	0.32	0.11
10,352.0	88.70	154.40	7,035.4	5,901.4	-2,358.5	1,594.0	2,842.8	1.33	-1.17	-0.64
10,447.0	90.10	155.00	7,036.4	5,902.4	-2,444.4	1,634.6	2,937.3	1.60	1.47	0.63
10,541.0	89.80	151.60	7,036.5	5,902.5	-2,528.3	1,676.8	3,031.1	3.63	-0.32	-3.62
10,635.0	89.80	152.90	7,036.8	5,902.8	-2,611.5	1,720.6	3,124.9	1.38	0.00	1.38
10,729.0	88.10	153.40	7,038.5	5,904.5	-2,695.4	1,763.0	3,218.6	1.89	-1.81	0.53
10,823.0	87.70	152.00	7,042.0	5,908.0	-2,778.9	1,806.1	3,312.3	1.55	-0.43	-1.49
10,917.0	88.10	151.60	7,045.4	5,911.4	-2,861.6	1,850.5	3,406.2	0.60	0.43	-0.43
11,012.0	89.20	154.00	7,047.6	5,913.6	-2,946.1	1,893.9	3,500.9	2.78	1.16	2.53
11,106.0	89.10	152.40	7,049.0	5,915.0	-3,030.0	1,936.3	3,594.6	1.71	-0.11	-1.70
11,200.0	90.40	153.80	7,049.4	5,915.4	-3,113.8	1,978.8	3,688.4	2.03	1.38	1.49
11,294.0	91.30	153.40	7,048.0	5,914.0	-3,198.0	2,020.6	3,782.0	1.05	0.96	-0.43
11,389.0	92.60	153.10	7,044.8	5,910.8	-3,282.8	2,063.4	3,876.7	1.40	1.37	-0.32
11,483.0	91.70	153.30	7,041.3	5,907.3	-3,366.6	2,105.7	3,970.4	0.98	-0.96	0.21
11,577.0	89.80	152.10	7,040.1	5,906.1	-3,450.1	2,148.8	4,064.2	2.39	-2.02	-1.28
11,672.0	90.60	152.00	7,039.7	5,905.7	-3,534.1	2,193.3	4,159.0	0.85	0.84	-0.11
11,766.0	89.90	152.30	7,039.3	5,905.3	-3,617.2	2,237.3	4,252.9	0.81	-0.74	0.32
11,860.0	90.10	155.70	7,039.3	5,905.3	-3,701.6	2,278.5	4,346.5	3.62	0.21	3.62
11,954.0	90.60	155.20	7,038.7	5,904.7	-3,787.1	2,317.5	4,439.9	0.75	0.53	-0.53
12,048.0	90.30	155.30	7,038.0	5,904.0	-3,872.5	2,356.9	4,533.3	0.34	-0.32	0.11
12,142.0	91.80	155.10	7,036.3	5,902.3	-3,957.8	2,396.3	4,626.7	1.61	1.60	-0.21
Last Survey MD=12212'										
12,212.0	92.30	154.80	7,033.8	5,899.8	-4,021.2	2,425.9	4,696.3	0.83	0.71	-0.43
Projection to TD MD=12269'										
12,269.0	92.30	154.80	7,031.5	5,897.5	-4,072.7	2,450.1	4,752.9	0.00	0.00	0.00

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Site Doddridge County 514319
Company:	EQT Production - Marcellus	**TVD Reference:**	KB @ 1134.0usft
Project:	Doddridge County, WV Grid	**MD Reference:**	KB @ 1134.0usft
Site:	Doddridge County 514319	**North Reference:**	Grid
Well:	Well #514319	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	514319 As Drilled		

Design Annotations

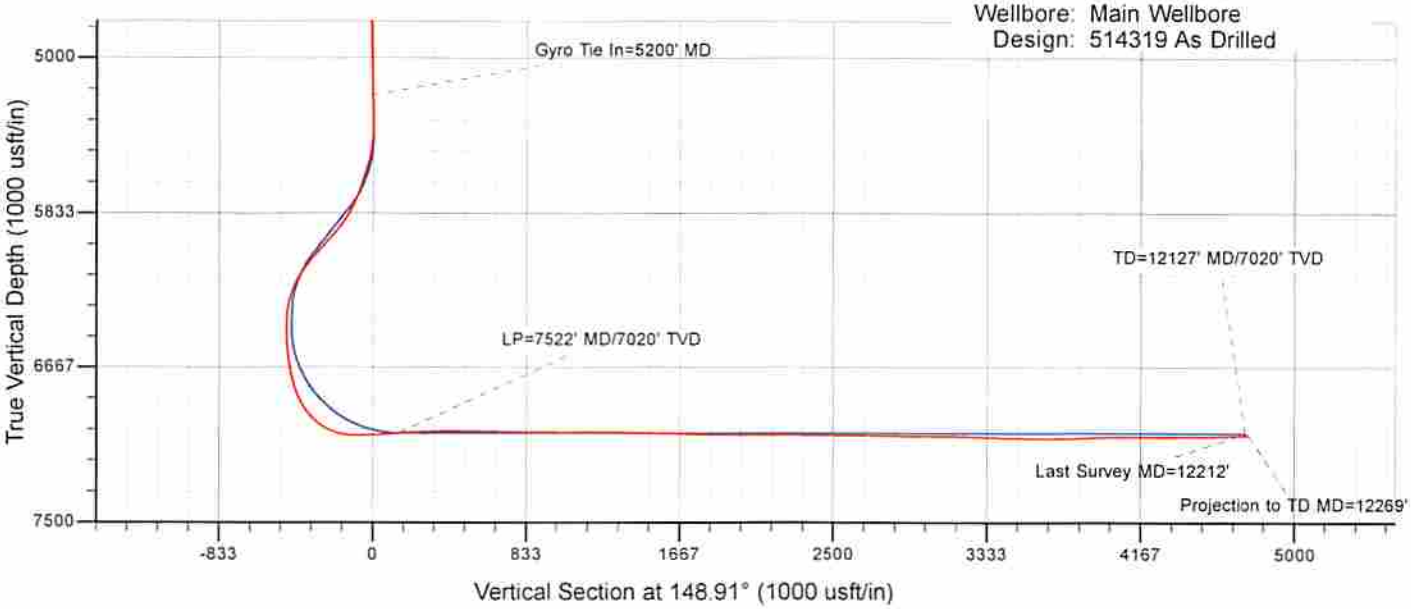
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
5,200.0	5,199.7	-10.9	-22.8	Gyro Tie In=5200' MD
12,212.0	7,033.8	-4,021.2	2,425.9	Last Survey MD=12212'
12,269.0	7,031.5	-4,072.7	2,450.1	Projection to TD MD=12269'

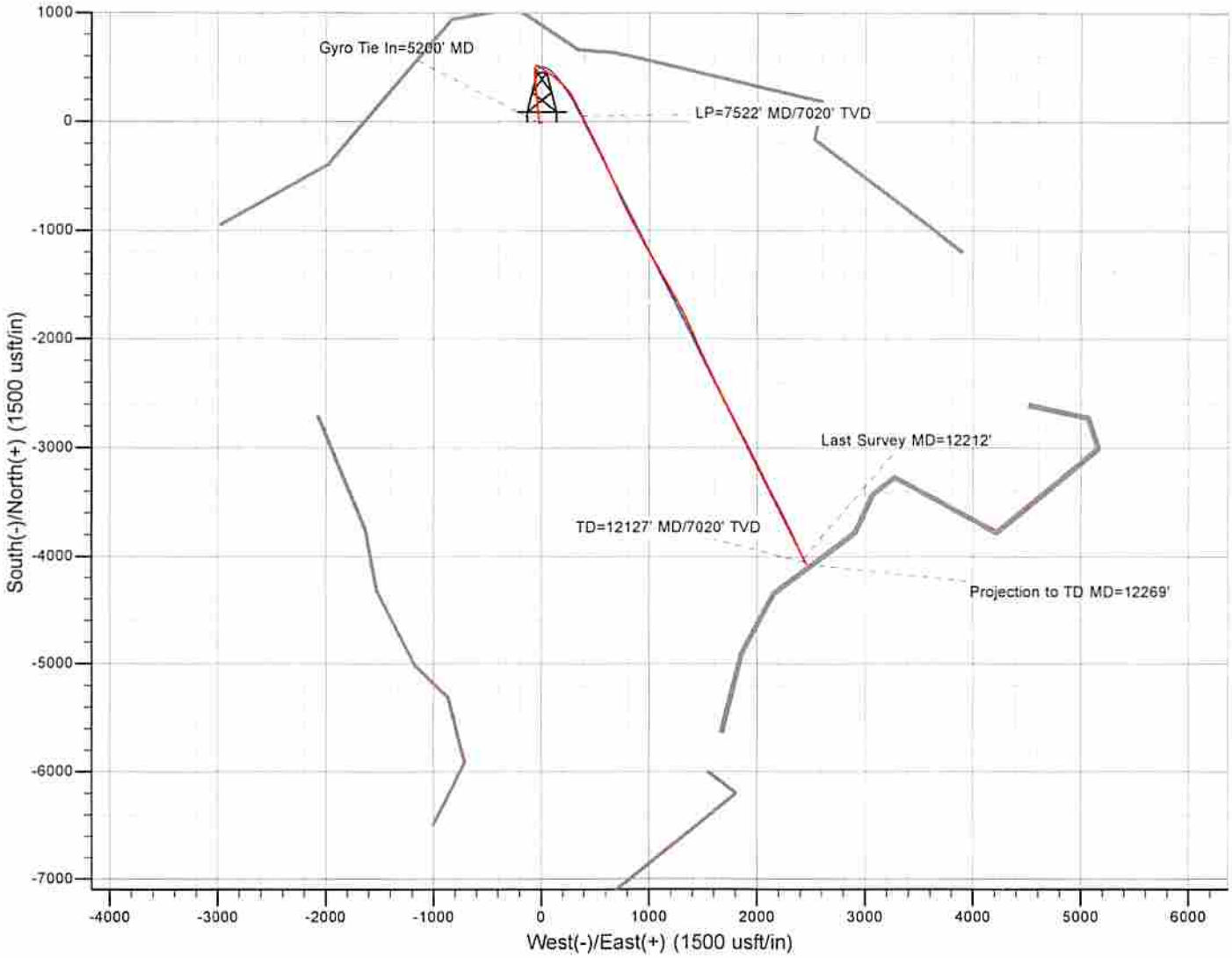
Checked By: _____ Approved By: _____ Date: _____

PHOENIX
TECHNOLOGY SERVICES

EQT Production - Marcellus

Project: Doddridge County, WV Grid
Site: Doddridge County 514319
Well: Well #514319
Wellbore: Main Wellbore
Design: 514319 As Drilled





Well has not been flowed back or tested - Will send amended report when testing has been completed

Stimulation Notes:
Re-perforated stage 15 (15.1)

514319 - Perforations					
Stage Number	Perforation Date	Top Perf Depth (ftKB)	Bottom Perf Depth (ftKB)	Number of Shots	Formation
Initiation Sleeve	4/26/2014	12,229.00	12,231.00	10	MARCELLUS
1	4/26/2014	12,108.00	12,177.00	32	MARCELLUS
2	4/26/2014	11,958.00	12,080.00	40	MARCELLUS
3	4/26/2014	11,812.00	11,930.00	40	MARCELLUS
4	4/27/2014	11,658.00	11,780.00	40	MARCELLUS
5	4/27/2014	11,508.00	11,630.00	40	MARCELLUS
6	4/27/2014	11,358.00	11,480.00	40	MARCELLUS
7	4/28/2014	11,208.00	11,330.00	40	MARCELLUS
8	4/28/2014	11,058.00	11,174.00	40	MARCELLUS
9	4/29/2014	10,908.00	11,028.00	40	MARCELLUS
10	4/29/2014	10,758.00	10,880.00	40	MARCELLUS
11	4/29/2014	10,608.00	10,730.00	40	MARCELLUS
12	4/29/2014	10,458.00	10,577.00	40	MARCELLUS
13	4/30/2014	10,308.00	10,430.00	40	MARCELLUS
14	4/30/2014	10,158.00	10,280.00	40	MARCELLUS
15	4/30/2014	10,014.00	10,130.00	40	MARCELLUS
15.1 (Re-Perf)	4/30/2014	9,964.00	10,060.00	32	MARCELLUS
16	5/1/2014	9,814.00	9,936.00	40	MARCELLUS
17	5/1/2014	9,664.00	9,786.00	40	MARCELLUS
18	5/1/2014	9,514.00	9,636.00	40	MARCELLUS
19	5/1/2014	9,364.00	9,482.00	40	MARCELLUS
20	5/2/2014	9,214.00	9,336.00	40	MARCELLUS
21	5/2/2014	9,064.00	9,186.00	40	MARCELLUS
22	5/2/2014	8,918.00	9,036.00	40	MARCELLUS
23	5/3/2014	8,764.00	8,886.00	40	MARCELLUS
24	5/3/2014	8,614.00	8,736.00	40	MARCELLUS
25	5/3/2014	8,464.00	8,586.00	40	MARCELLUS
26	5/3/2014	8,314.00	8,428.00	40	MARCELLUS
27	5/4/2014	8,164.00	8,282.00	40	MARCELLUS
28	5/4/2014	8,014.00	8,136.00	40	MARCELLUS
29	5/4/2014	7,864.00	7,986.00	40	MARCELLUS
30	5/4/2014	7,714.00	7,836.00	40	MARCELLUS
31	5/4/2014	7,564.00	7,686.00	40	MARCELLUS
32	5/4/2014	7,414.00	7,536.00	40	MARCELLUS
33	5/4/2014	7,264.00	7,386.00	40	MARCELLUS

514319 - 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	4/26/2014	18.90	9,584.00	NA	8,800	NA	137,872	0
1	4/26/2014	98.00	7,627.00	NA	3,371	280,200	296,449	0
2	4/26/2014	96.80	8,217.00	7,500.00	3,864	281,400	308,521	0
3	4/26/2014	97.90	7,985.00	6,064.00	3,865	280,900	307,821	0
4	4/27/2014	96.60	8,158.00	6,094.00	3,813	279,600	298,812	0
5	4/27/2014	99.90	8,038.00	6,154.00	3,409	280,500	288,126	0
6	4/28/2014	99.50	8,254.00	6,629.00	4,663	280,000	305,380	0
7	4/28/2014	98.70	8,196.00	6,317.00	3,929	280,400	298,768	0
8	4/29/2014	95.30	8,176.00	6,373.00	3,764	281,400	306,796	0
9	4/29/2014	99.40	8,120.00	6,950.00	4,874	283,400	301,915	0
10	4/29/2014	97.10	8,104.00	6,890.00	3,979	280,000	302,762	0
11	4/29/2014	99.30	8,260.00	6,302.00	5,688	279,200	295,661	0
12	4/30/2014	96.60	8,103.00	6,637.00	5,685	187,400	213,483	0
13	4/30/2014	96.30	8,033.00	6,791.00	4,253	196,800	233,745	0
14	4/30/2014	99.40	8,042.00	6,998.00	4,993	200,400	217,087	0
15	4/30/2014	61.60	8,172.00	7,825.00	5,544	1,100	68,135	0
15.1 (Re-Perf)	5/1/2014	100.30	7,756.00	NA	5,477	200,600	227,223	0
16	5/1/2014	97.60	8,174.00	6,013.00	4,515	202,700	219,268	0
17	5/1/2014	97.00	8,244.00	5,961.00	4,043	201,600	228,643	0
18	5/1/2014	97.57	8,329.00	7,043.00	5,559	199,700	223,036	0
19	5/1/2014	89.70	7,885.00	5,865.00	5,491	195,300	239,113	0
20	5/2/2014	99.60	7,409.00	6,057.00	5,828	199,800	226,060	0
21	5/2/2014	98.73	7,297.00	5,622.00	5,556	199,300	267,773	0
22	5/2/2014	94.26	7,986.00	5,875.00	5,490	198,300	292,664	0
23	5/3/2014	99.69	7,233.00	5,637.00	5,218	117,500	137,616	0
24	5/3/2014	99.28	7,580.00	6,282.00	5,496	121,300	139,808	0
25	5/3/2014	97.80	7,750.00	5,939.00	5,406	118,100	137,555	0
26	5/3/2014	99.80	7,249.00	6,394.00	5,599	120,700	135,495	0
27	5/4/2014	99.70	7,099.00	6,149.00	5,420	119,900	134,999	0
28	5/4/2014	99.10	7,481.00	6,007.00	5,172	120,100	132,006	0
29	5/4/2014	98.39	7,756.00	7,207.00	5,406	120,000	131,192	0
30	5/4/2014	100.60	7,456.00	7,100.00	5,036	122,200	162,324	0
31	5/4/2014	100.30	6,914.00	6,958.00	5,241	122,200	129,692	0
32	5/4/2014	100.50	7,282.00	5,638.00	4,962	122,400	134,588	0
33	5/4/2014	98.90	7,611.00	5,530.00	4,853	114,200	136,670	0

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	4/26/2014
Job End Date:	5/4/2014
State:	West Virginia
County:	Doddridge
API Number:	47-017-06251-00-00
Operator Name:	EQT Production
Well Name and Number:	CPT11 - 514319
Longitude:	-80.72365600
Latitude:	39.38436400
Datum:	NAD27
Federal/Tribal Well:	NO
True Vertical Depth:	7,049
Total Base Water Volume (gal):	7,854,744
Total Base Non Water Volume:	338,158

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	90.36324	
Sand	Halliburton	Proppant					
			Crystalline Silica	14808-60-7	100.00000	9.10040	
MX-5	Halliburton	Biocide					
			Sodium Nitrate	7631-99-4	60.00000	0.05746	
Hydrochloric Acid 15%	Halliburton	Acidizing					
			Hydrochloric Acid	7647-01-0	15.00000	0.04353	
FR-66	Halliburton	Friction Reducer					
			Hydrotreated light petroleum distillate	64742-47-8	30.00000	0.02595	
LGC-36	Halliburton	Adds viscosity to fluid					
			Guar Gum	9000-30-0	50.00000	0.00558	
			Naptha, hydrotreated heavy	64742-48-9	50.00000	0.00558	
BA-40L	Halliburton	Buffer					
			Potassium carbonate	584-08-7	60.00000	0.01027	
MX-8	Halliburton	Biocide					
			Bacteria Culture	000-00-0	100.00000	0.00972	
LP-65	Halliburton	Scale Inhibitor					
			Ammonium Chloride	12125-02-9	10.00000	0.00255	

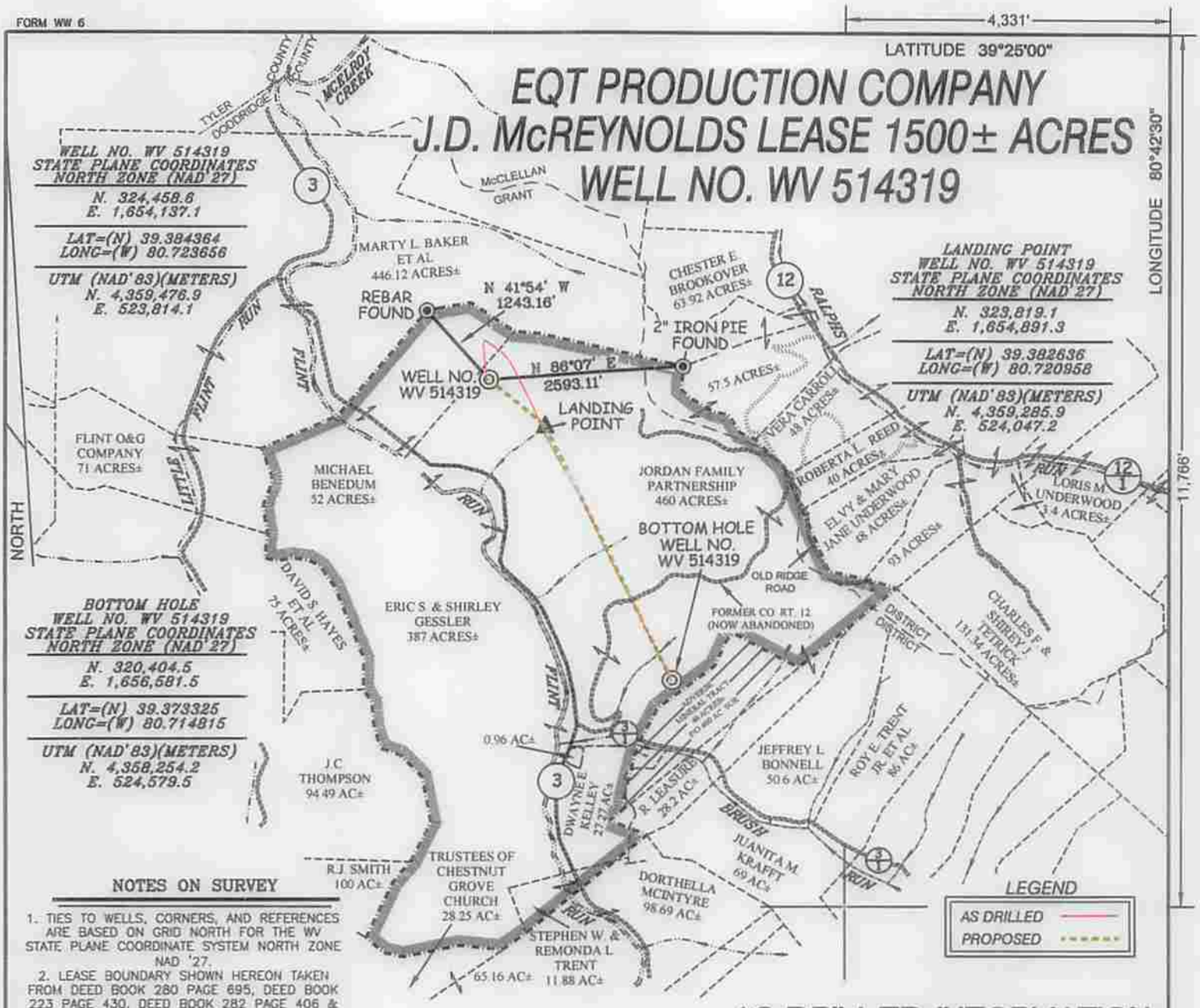
Methanol	Halliburton	Corrosion inhibitor					
			Methanol	67-56-1	60.00000	0.00027	
SP Breaker	Halliburton	Oxidizing Breaker					
			Sodium Persulfate	7775-27-1	100.00000	0.00014	
Propargyl Alcohol	Halliburton	Corrosion inhibitor					
			Propargyl Alcohol	107-19-7	10.00000	0.00005	
Ingredients shown 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 COMPANY
J.D. McREYNOLDS LEASE 1500± ACRES
WELL NO. WV 514319



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 280 PAGE 695, DEED BOOK 223 PAGE 430, DEED BOOK 282 PAGE 406 & DEED BOOK 175 PAGE 633.
3. SURFACE OWNER AND ADJOINER INFORMATION TAKEN FROM THE ASSESSOR AND COUNTY CLERK RECORDS OF DODDRIDGE COUNTY IN JULY, 2012.
4. WELL LAT./LONG. (NAD'27) ESTABLISHED BY DGPS (SURVEY GRADE TIE TO CORS NETWORK).
5. PLAT UPDATED ON 07/08/14 TO SHOW THE AS DRILLED PATH COORDINATES FROM INFORMATION PROVIDED BY EQT ON 01/27/14.

AS DRILLED INFORMATION

BOTTOM HOLE	WELL NO. WV 514319
STATE PLANE COORDINATES NORTH ZONE (NAD 27)	STATE PLANE COORDINATES NORTH ZONE (NAD 27)
N. 320,386.1	N. 324,458.6
E. 1,656,587.1	E. 1,654,137.1
LAT=(N) 39.373274	LAT=(N) 39.384364
LONG=(W) 80.714794	LONG=(W) 80.723656
UTM (NAD'83)(METERS)	UTM (NAD'83)(METERS)
N. 4,358,248.6	N. 4,359,476.9
E. 524,581.3	E. 523,814.1

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 MARCH 15, 20 13
REVISED DATE JULY 08, 20 14
OPERATORS WELL NO. WV 514319
API WELL NO. 47 — 017 — 06251
STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 200 FILE NO. 7749ASDRILLED514319
SCALE 1" = 2000'
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 1,130' (GROUND) 1,111 (PROPOSED) WATERSHED FLINT RUN OF McELROY CREEK
DISTRICT GRANT COUNTY DODDRIDGE QUADRANGLE CENTER POINT 7.5'
SURFACE OWNER JORDAN FAMILY PARTNERSHIP ACREAGE 460±
ROYALTY OWNER J.D. McREYNOLDS HEIRS/ASSIGNS ACREAGE 1500±
PROPOSED WORK: LEASE NO. 090500
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

WR-35
Rev. 8/23/13

API 47- 085 - 10014 Farm name Heartwood Forestland FU Well number 514387

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"	71'	New	82.6#	N/A	Yes
Surface	24"	20"	433'	New	94#	81', 342'	Yes
Coal							
Intermediate 1	17-1/2	13-3/8"	996'	New	54#	514'	Yes
Intermediate 2	12-5/8"	9-5/8"	5,172'	New	40#	1,170', 3,041' 4,625'	Yes
Intermediate 3							
Production	8-1/2	5-1/2	10,949'	New	20#	N/A	Yes
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	15.6	1.18		0'	8
Surface	Class A	825	15.6	1.19	175	0'	8
Coal							
Intermediate 1	Class A	896	15.6	1.19	190	0'	8
Intermediate 2	Class A / Class A	350 / 309	14.2 / 15.6	1.28 / 1.18	80 / 65	0'	8
Intermediate 3							
Production	Class A / Class H	250 / 590	14.2 / 15.2	1.32 / 1.94	59 / 204	4,503'	8
Tubing							

Drillers TD (ft) 10,948' Loggers TD (ft) N/A
Deepest formation penetrated Marcellus Plug back to (ft) N/A
Plug back procedure N/A

Kick off depth (ft) 6,291'

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 350' or 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 20°s to 1,000' above KOP.

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

pm

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 - 10014 County Ritchie District Clay
Quad Pennsboro Pad Name PEN16 Field/Pool Name
Farm name Heartwood Forestland FU Well Number 514387
Operator (as registered with the OOG) EQT Production
Address 625 Liberty Avenue 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 4,344,711.8	Easting 505,242.9
Landing Point of Curve	Northing 4,344,689.7	Easting 504,922.4
Bottom Hole	Northing 4,345,839.6	Easting 504,522.7

Elevation (ft) 784' 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 5/31/13 Date drilling commenced 7/5/13 Date drilling ceased 8/6/13
Date completion activities began 9/7/2013 Date completion activities ceased 10/31/2013
Verbal plugging (Y/N) 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 127', 395' Open mine(s) (Y/N) depths N
Salt water depth(s) ft 1,470' Void(s) encountered (Y/N) depths N
Coal depth(s) ft 820' Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

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

Reviewed by: _____

WR-35
Rev. 8/23/13

API 47- 085 - 10014 Farm name Heartwood Forestland FU Well number 514387

PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
1	9/25/13	10,801	10,893	32	Marcellus
2	9/25/13	10,651	10,773	40	Marcellus
3	9/25/13	10,501	10,623	40	Marcellus
4	9/25/13	10,351	10,473	40	Marcellus
5	9/25/13	10,201	10,323	40	Marcellus
6	9/26/13	10,051	10,173	40	Marcellus
7	9/26/13	9,901	10,023	40	Marcellus
8	9/26/13	9,751	9,873	40	Marcellus
9	9/26/13	9,601	9,723	40	Marcellus
10	9/26/13	9,451	9,573	40	Marcellus
11	9/26/13	9,301	9,423	40	Marcellus
12	9/27/13	9,151	9,273	40	Marcellus
13	9/27/13	9,001	9,123	40	Marcellus
14	9/27/13	8,851	8,973	40	Marcellus
15	9/27/13	8,701	8,823	40	Marcellus
16	9/27/13	8,551	8,673	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	9/24/13	5	6,316	NA	NA	0	869	0
1	9/25/13	98	7,747	5,564	4,637	194,300	4,909	0
2	9/25/13	99.4	7,393	5,716	4,299	202,000	5,070	0
3	9/25/13	99.26	7,609	5,785	4,645	202,100	4,997	0
4	9/25/13	100.7	7,640	5,366	4,142	202,700	5,097	0
5	9/25/13	94.7	8,123	5,527	4,222	201,900	5,025	0
6	9/26/13	99.7	7,529	5,879	4,566	201,900	5,040	0
7	9/26/13	98	7,731	6,750	4,127	201,800	5,064	0
8	9/26/13	100.3	7,474	5,715	4,170	199,800	5,025	0
9	9/26/13	97.8	7,528	5,987	3,911	201,200	5,011	0
10	9/26/13	99.5	7,559	6,315	3,574	201,900	5,019	0
11	9/27/13	98.7	7,952	6,370	3,740	201,900	4,994	0
12	9/27/13	99.4	7,804	6,594	4,044	201,700	5,048	0
13	9/27/13	98.1	7,307	5,646	3,447	202,200	5,073	0
14	9/27/13	99.8	7,455	6,144	3,494	192,500	5,001	0
15	9/27/13	98.8	7,464	6,657	3,523	201,600	5,002	0

Please insert additional pages as applicable.

WR-35
Rev. 8/23/13

API 47- 085 - 10014 Farm name Heartwood Forestland FU Well number 514387

PRODUCING FORMATION(S)	DEPTHS	
Marcellus	6,028 TVD	6,478 MD

Please insert additional pages as applicable.

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

SHUT-IN PRESSURE Surface 2,325 psi Bottom Hole NA psi DURATION OF TEST 70 hrs

OPEN FLOW	Gas	Oil	NGL	Water	GAS MEASURED BY
	12,156 mcfpd	0 bpd	144 bpd	552 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	Formation	Descriptions			Fresh at 127' and 395'
					Brine at 1,470'

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

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.

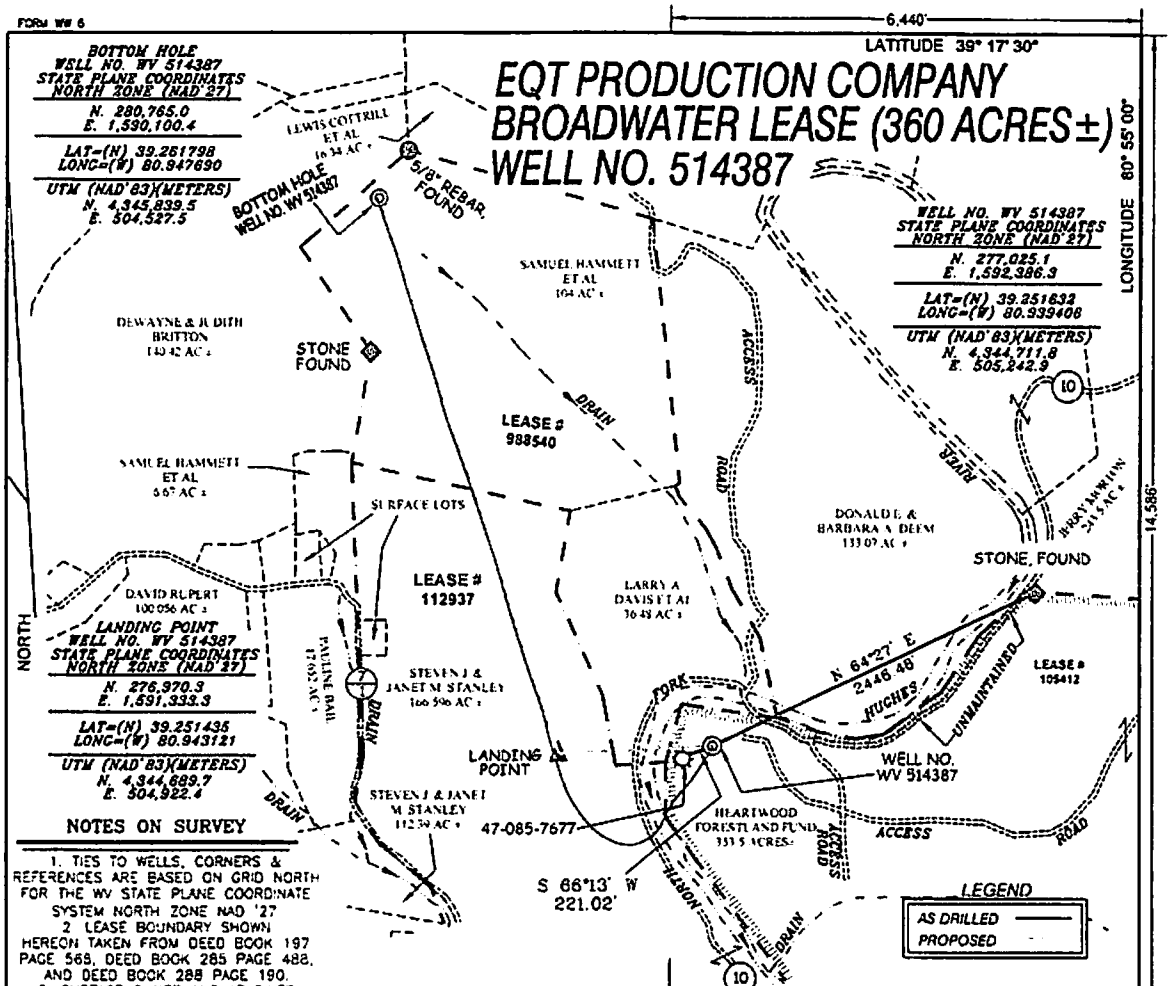
Completed by [signature] Telephone 412-553-7053
Signature [signature] Title Drilling Manager Date 12/18/13

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

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 @ 127' and 395'
PITTSBURGH COAL	829	834	829	834	SW @ 1,470'
SAND / SHALE	834	1,780.90	834	1,781.00	
MAXTON	1,780.90	1,813.90	1,781.00	1,814.00	
SAND / SHALE	1,813.90	1,999.90	1,814.00	2,000.00	
BIG LIME	1,999.90	2,068.90	2,000.00	2,069.00	
SAND / SHALE	2,068.90	2,111.90	2,069.00	2,112.00	
BIG INJUN	2,111.90	2,178.90	2,112.00	2,179.00	
SAND / SHALE	2,178.90	2,406.80	2,179.00	2,407.00	
WEIR	2,406.80	2,463.80	2,407.00	2,464.00	
SAND / SHALE	2,463.80	2,611.80	2,464.00	2,612.00	
GANTZ	2,611.80	2,634.80	2,612.00	2,635.00	
SAND / SHALE	2,634.80	2,751.80	2,635.00	2,752.00	
FIFTY FOOT	2,751.80	2,774.80	2,752.00	2,775.00	
SAND / SHALE	2,774.80	2,832.80	2,775.00	2,833.00	
THIRTY FOOT	2,832.80	2,876.80	2,833.00	2,877.00	
GORDON	2,876.80	2,949.80	2,877.00	2,950.00	
SAND / SHALE	2,949.80	2,957.80	2,950.00	2,958.00	
FORTH SAND	2,957.80	2,969.80	2,958.00	2,970.00	
SAND / SHALE	2,969.80	3,146.80	2,970.00	3,147.00	
BAYARD	3,146.80	3,174.80	3,147.00	3,175.00	
SAND / SHALE	3,174.80	3,492.80	3,175.00	3,493.00	
WARREN	3,492.80	3,538.80	3,493.00	3,539.00	
SAND / SHALE	3,538.80	3,576.80	3,539.00	3,577.00	
SPEECHLEY	3,576.80	3,610.80	3,577.00	3,611.00	
SAND / SHALE	3,610.80	3,961.50	3,611.00	3,962.00	
BALLTOWN A	3,961.50	3,981.40	3,962.00	3,982.00	
SAND / SHALE	3,981.40	4,219.00	3,982.00	4,225.00	
RILEY	4,219.00	4,547.00	4,225.00	4,572.00	
BENSON	4,547.00	4,805.30	4,572.00	4,847.00	
ALEXANDER	4,805.30	5,535.90	4,847.00	5,755.00	
RHINESTREET	5,535.90	5,753.70	5,755.00	6,026.00	
SONYEA	5,753.70	5,869.20	6,026.00	6,180.00	
Middlesex	5,869.20	5,924.40	6,180.00	6,270.00	
Genesee	5,924.40	5,978.30	6,270.00	6,365.00	
Geneseo	5,978.30	6,008.20	6,365.00	6,428.00	
Tully	6,008.20	6,021.30	6,428.00	6,460.00	
Hamilton	6,021.30	6,028.00	6,460.00	6,478.00	
Marcellus	6,028.00		6,478.00		

FORM WW 6

EQT PRODUCTION COMPANY
BROADWATER LEASE (360 ACRES±)
WELL NO. 514387



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, DEED BOOK 285 PAGE 488, AND DEED BOOK 288 PAGE 190.
3. SURFACE OWNER AND ADJOINER INFORMATION TAKEN FROM THE ASSESSOR AND COUNTY CLERK RECORDS OF RITCHIE COUNTY IN JULY, 2013.
4. WELL LAT./LONG. (NAD'27) ESTABLISHED BY DGPS (SURVEY GRADE TIE TO CORS NETWORK).
5. PLAT UPDATED 08/14/13 TO SHOW THE AS-DRILLED COORDINATES FROM INFORMATION PROVIDED BY EQT ON 08/08/13.

SLS

AS DRILLED INFORMATION

BOTTOM HOLE	WELL NO. WV 514387
WELL NO. WV 514387 STATE PLANE COORDINATES NORTH ZONE (NAD'27)	WELL NO. WV 514387 STATE PLANE COORDINATES NORTH ZONE (NAD'27)
N. 280,765.6 E. 1,590,084.8	N. 277,025.1 E. 1,592,386.3
LAT=(N) 39.261799 LONG=(W) 80.947745	LAT=(N) 39.251632 LONG=(W) 80.939406
UTM (NAD'83)(METERS) N. 4,345,839.6 E. 504,522.7	UTM (NAD'83)(METERS) N. 4,344,711.8 E. 505,242.9

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
LICENSED
No. 677
STATE OF WEST VIRGINIA
PROFESSIONAL SURVEYOR

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

DATE SEPTEMBER 20, 20 12

REVISED DATE AUGUST 14, 2013 & APRIL 1, 2014

OPERATORS WELL NO. WV 514387

API WELL NO 47 — —
STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1/200 FILE NO. 7566ASDRILLED514387

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 787.5' (GROUND) 795' (PROPOSED) 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.±), JOELYNN FAMILY PRESERVATION TRUST (140.48 AC. ±), & RAYMOND HARDMAN (178 AC.±)
PROPOSED WORK: LEASE NO. 105412 / 988540 / 112937
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

Where energy meets innovation.

EQT Production - Marcellus

Ritchie County, WV
Ritchie County 514387
Well #514387

Main Wellbore

Survey: 514387 MWD

Standard Survey Report

07 August, 2013

Where energy meets innovation.

Phoenix Technologies, Inc.

Survey Report

EQT
Where energy meets innovation.

Database:	EQT DB	**Local Co-ordinate Reference:**	Site Ritchie County 514387
Company:	EQT Production - Marcellus	**TVD Reference:**	KB @ 818.0usft
Project:	Ritchie County, WV	**MD Reference:**	KB @ 818.0usft
Site:	Ritchie County 514387	**North Reference:**	Grid
Well:	Well #514387	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	As Drilled		

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 514387

Site Position:		**Northing:**	277,025.10 usft	**Latitude:**	39.25
From:	Map	**Easting:**	1,592,386.30 usft	**Longitude:**	-80.94
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	-0.92 °

Well: Well #514387

Well Position	**+N/-S**	0.0 usft	**Northing:**	277,025.10 usft	**Latitude:**	39° 15' 5.875 N
	+E/-W	0.0 usft	**Easting:**	1,592,386.30 usft	**Longitude:**	80° 56' 21.863 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	7/23/2013	-8.32	66.89	52,405

Design: As Drilled

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	328.57

Survey Program Date 8/7/2013

From ()	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	3,770.0	514387 Gyros (Main Wellbore)	GYD_DP_MS	Gyrodata gyro-compassing and drop
0.00	10,948.0	514387 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=3770'										
3,770.0	1.75	27.29	3,769.8	2,951.8	-16.3	6.2	-17.1	0.00	0.00	0.00
3,781.0	1.60	15.10	3,780.8	2,962.8	-16.0	6.4	-16.9	3.51	-1.36	-110.82
3,813.0	0.90	357.90	3,812.8	2,994.8	-15.3	6.5	-16.4	2.46	-2.19	-53.75
3,844.0	0.90	251.00	3,843.8	3,025.8	-15.1	6.2	-16.2	4.66	0.00	-344.84
3,876.0	2.30	226.40	3,875.8	3,057.8	-15.6	5.5	-16.2	4.78	4.38	-76.88
3,907.0	3.50	223.60	3,906.7	3,088.7	-16.8	4.4	-16.6	3.90	3.87	-9.03
3,939.0	4.80	223.20	3,938.6	3,120.6	-18.4	2.8	-17.2	4.06	4.06	-1.25

Database:	EQT DB	**Local Co-ordinate Reference:**	Site Ritchie County 514387
Company:	EQT Production - Marcellus	**TVD Reference:**	KB @ 518.0usft
Project:	Ritchie County, WV	**MD Reference:**	KB @ 518.0usft
Site:	Ritchie County 514387	**North Reference:**	Grid
Well:	Well #514387	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	As Drilled		

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)
3,970.0	6.20	222.20	3,969.5	3,151.5	-20.6	0.8	-18.0	4.53	4.52	-3.23
4,002.0	7.20	220.40	4,001.3	3,183.3	-23.4	-1.6	-19.1	3.19	3.13	-5.63
4,033.0	8.60	217.20	4,032.0	3,214.0	-26.8	-4.3	-20.6	4.73	4.52	-10.32
4,065.0	10.20	216.20	4,063.6	3,245.6	-31.0	-7.4	-22.5	5.03	5.00	-3.13
4,096.0	11.60	214.40	4,094.0	3,276.0	-35.7	-10.8	-24.9	4.65	4.52	-5.81
4,128.0	13.00	211.30	4,125.3	3,307.3	-41.5	-14.5	-27.8	4.84	4.38	-9.69
4,159.0	14.60	211.30	4,155.4	3,337.4	-47.8	-18.3	-31.2	5.16	5.16	0.00
4,191.0	15.50	212.00	4,186.3	3,368.3	-54.9	-22.7	-35.0	2.87	2.81	2.19
4,223.0	16.00	212.30	4,217.1	3,399.1	-62.2	-27.3	-38.8	1.58	1.56	0.94
4,254.0	17.10	211.60	4,246.8	3,428.8	-69.7	-32.0	-42.8	3.61	3.55	-2.26
4,286.0	18.10	212.30	4,277.3	3,459.3	-77.9	-37.1	-47.1	3.19	3.13	2.19
4,317.0	19.00	213.00	4,306.7	3,488.7	-86.2	-42.4	-51.4	2.99	2.90	2.26
4,349.0	19.50	213.70	4,336.9	3,518.9	-95.0	-48.2	-55.9	1.72	1.56	2.19
4,380.0	19.70	213.40	4,366.1	3,548.1	-103.7	-54.0	-60.3	0.72	0.65	-0.97
4,412.0	19.50	212.70	4,396.2	3,578.2	-112.7	-59.8	-65.0	0.96	-0.63	-2.19
4,443.0	19.70	212.30	4,425.4	3,607.4	-121.5	-65.4	-69.5	0.78	0.65	-1.29
4,475.0	19.50	210.90	4,455.6	3,637.6	-130.6	-71.0	-74.4	1.60	-0.63	-4.38
4,506.0	19.40	209.90	4,484.8	3,666.8	-139.5	-76.3	-79.3	1.12	-0.32	-3.23
4,538.0	19.70	210.20	4,515.0	3,697.0	-148.8	-81.6	-84.4	0.99	0.94	0.94
4,570.0	19.50	211.30	4,545.1	3,727.1	-158.0	-87.1	-89.4	1.31	-0.63	3.44
4,601.0	19.20	212.00	4,574.4	3,756.4	-166.8	-92.5	-94.0	1.22	-0.97	2.26
4,633.0	19.50	213.40	4,604.6	3,786.6	-175.7	-98.2	-98.7	1.73	0.94	4.38
4,664.0	19.50	214.10	4,633.8	3,815.8	-184.3	-104.0	-103.0	0.75	0.00	2.26
4,696.0	19.50	214.80	4,663.9	3,845.9	-193.1	-110.0	-107.4	0.73	0.00	2.19
4,727.0	19.20	213.40	4,693.2	3,875.2	-201.6	-115.8	-111.6	1.78	-0.97	-4.52
4,759.0	20.20	213.00	4,723.3	3,905.3	-210.6	-121.7	-116.2	3.15	3.13	-1.25
4,790.0	21.60	214.10	4,752.3	3,934.3	-219.8	-127.8	-120.9	4.69	4.52	3.55
4,822.0	21.30	215.80	4,782.1	3,964.1	-229.4	-134.5	-125.6	2.16	-0.94	5.31
4,853.0	21.50	217.60	4,810.9	3,992.9	-238.5	-141.3	-129.8	2.21	0.65	5.81
4,885.0	22.30	218.30	4,840.6	4,022.6	-247.9	-148.6	-134.0	2.63	2.50	2.19
4,917.0	23.20	219.00	4,870.1	4,052.1	-257.6	-156.3	-138.2	2.94	2.81	2.19
4,948.0	23.40	221.50	4,898.6	4,080.6	-266.9	-164.3	-142.1	3.25	0.65	8.06
4,980.0	23.80	223.60	4,927.9	4,109.9	-276.4	-172.9	-145.6	2.91	1.25	6.56
5,011.0	24.60	223.60	4,956.2	4,138.2	-285.6	-181.7	-148.9	2.58	2.58	0.00
5,042.0	26.00	222.20	4,984.2	4,166.2	-295.3	-190.7	-152.5	4.91	4.52	-4.52
5,073.0	28.00	221.50	5,011.8	4,193.8	-305.7	-200.1	-156.5	6.53	6.45	-2.26
5,105.0	30.10	220.10	5,039.8	4,221.8	-317.5	-210.2	-161.3	6.90	6.56	-4.38
5,136.0	32.00	219.40	5,066.4	4,248.4	-329.8	-220.5	-166.4	6.24	6.13	-2.26
5,203.0	36.20	216.90	5,121.8	4,303.8	-359.4	-243.6	-179.6	6.61	6.27	-3.73
5,234.0	38.40	218.00	5,146.5	4,328.5	-374.3	-255.0	-186.3	7.42	7.10	3.55
5,266.0	39.90	214.40	5,171.3	4,353.3	-390.6	-267.0	-194.0	8.51	4.69	-11.25
5,297.0	40.80	211.60	5,194.9	4,376.9	-407.4	-277.9	-202.7	6.53	2.90	-9.03
5,329.0	42.60	208.10	5,218.8	4,400.8	-425.9	-288.5	-212.9	9.20	5.63	-10.94

Database:	EQT DB	**Local Co-ordinate Reference:**	Site Ritchie County 514387
Company:	EQT Production - Marcellus	**TVD Reference:**	KB @ 616.0usft
Project:	Ritchie County, WV	**MD Reference:**	KB @ 616.0usft
Site:	Ritchie County 514387	**North Reference:**	Grid
Well:	Well #514387	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	As Drilled		

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)
5,361.0	44.90	205.90	5,242.0	4,424.0	-445.6	-298.5	-224.5	8.62	7.19	-6.88
5,392.0	47.50	204.60	5,263.4	4,445.4	-465.8	-308.0	-236.8	8.92	8.39	-4.19
5,424.0	47.30	204.90	5,285.1	4,467.1	-487.2	-317.9	-249.9	0.93	-0.63	0.94
5,455.0	46.80	204.90	5,306.2	4,488.2	-507.8	-327.5	-262.5	1.61	-1.61	0.00
5,487.0	46.60	203.50	5,328.1	4,510.1	-529.0	-337.0	-275.6	3.24	-0.63	-4.38
5,518.0	45.40	207.40	5,349.7	4,531.7	-549.2	-346.6	-287.8	9.84	-3.87	12.58
5,550.0	42.10	212.70	5,372.8	4,554.8	-568.3	-357.6	-298.4	15.41	-10.31	16.56
5,581.0	40.10	219.70	5,396.2	4,578.2	-584.8	-369.6	-306.2	16.18	-6.45	22.58
5,613.0	38.00	225.70	5,421.0	4,603.0	-599.6	-383.3	-311.7	13.51	-6.56	18.75
5,644.0	36.40	229.20	5,445.7	4,627.7	-612.2	-397.1	-315.3	8.56	-5.16	11.29
5,676.0	36.20	233.40	5,471.5	4,653.5	-624.1	-411.8	-317.7	7.79	-0.63	13.13
5,707.0	35.40	237.30	5,496.7	4,678.7	-634.4	-426.7	-318.7	7.80	-2.58	12.58
5,739.0	35.00	240.50	5,522.8	4,704.8	-643.9	-442.5	-318.6	5.90	-1.25	10.00
5,771.0	34.70	244.70	5,549.1	4,731.1	-652.3	-458.7	-317.4	7.56	-0.94	13.13
5,802.0	34.70	247.10	5,574.6	4,756.6	-659.5	-474.9	-315.1	4.41	0.00	7.74
5,834.0	35.50	247.80	5,600.7	4,782.7	-666.6	-491.8	-312.3	2.80	2.50	2.19
5,865.0	36.60	251.00	5,625.8	4,807.8	-673.0	-508.9	-308.8	7.03	3.55	10.32
5,897.0	37.70	256.30	5,651.3	4,833.3	-678.4	-527.5	-303.8	10.57	3.44	16.56
5,928.0	38.00	262.50	5,675.8	4,857.8	-681.9	-546.1	-297.0	12.31	0.97	20.00
5,960.0	37.80	268.90	5,701.1	4,883.1	-683.4	-565.7	-288.1	12.30	-0.63	20.00
5,991.0	36.80	274.90	5,725.7	4,907.7	-682.8	-584.5	-277.8	12.16	-3.23	19.35
6,023.0	37.10	280.90	5,751.3	4,933.3	-680.1	-603.5	-265.6	11.31	0.94	18.75
6,054.0	37.50	284.40	5,776.0	4,958.0	-676.0	-621.8	-252.5	6.96	1.29	11.29
6,086.0	38.90	286.90	5,801.1	4,983.1	-670.7	-640.9	-238.0	6.52	4.38	7.81
6,117.0	41.50	289.70	5,824.8	5,006.8	-664.4	-659.9	-222.8	10.21	8.39	9.03
6,149.0	45.20	291.80	5,848.1	5,030.1	-656.6	-680.4	-205.4	12.41	11.56	6.56
6,180.0	49.10	294.20	5,869.2	5,051.2	-647.7	-701.3	-186.9	13.80	12.58	7.74
6,212.0	52.10	296.70	5,889.5	5,071.5	-637.1	-723.6	-166.2	11.15	9.38	7.81
6,244.0	53.30	302.30	5,908.9	5,090.9	-624.5	-745.7	-144.0	14.41	3.75	17.50
6,275.0	53.10	305.80	5,927.4	5,109.4	-610.6	-766.3	-121.4	9.06	-0.65	11.29
6,307.0	54.20	307.60	5,946.4	5,128.4	-595.2	-787.0	-97.5	5.69	3.44	5.63
6,338.0	56.80	311.50	5,964.0	5,146.0	-579.0	-806.7	-73.3	13.33	8.39	12.58
6,370.0	59.30	315.30	5,980.9	5,162.9	-560.3	-826.4	-47.1	12.75	7.81	11.88
6,401.0	62.10	318.10	5,996.1	5,178.1	-540.6	-844.9	-20.7	11.98	9.03	9.03
6,433.0	64.90	321.30	6,010.4	5,192.4	-518.8	-863.4	7.6	12.51	8.75	10.00
6,464.0	67.60	322.00	6,022.8	5,204.8	-496.5	-881.0	35.8	8.95	8.71	2.26
6,496.0	70.70	323.10	6,034.2	5,216.2	-472.8	-899.2	65.5	10.21	9.69	3.44
6,527.0	74.60	324.50	6,043.5	5,225.5	-448.9	-916.7	95.0	13.30	12.58	4.52
6,559.0	78.70	326.20	6,050.9	5,232.9	-423.3	-934.4	126.1	13.82	12.81	5.31
6,590.0	82.90	326.90	6,055.8	5,237.8	-397.8	-951.2	156.7	13.73	13.55	2.26
6,622.0	87.40	328.70	6,058.5	5,240.5	-370.8	-968.2	188.5	15.14	14.06	5.63
6,653.0	90.40	332.20	6,059.1	5,241.1	-343.9	-983.5	219.5	14.87	9.68	11.29

Database:	EQT DB	**Local Co-ordinate Reference:**	Site Ritchie County 514367
Company:	EQT Production - Marcellus	**TVD Reference:**	KB @ 818.0usft
Project:	Ritchie County, WV	**MD Reference:**	KB @ 818.0usft
Site:	Ritchie County 514367	**North Reference:**	Grid
Well:	Well #514367	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	As Drilled		

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)
6,685.0	90.80	336.40	6,058.8	5,240.8	-315.0	-997.4	251.3	13.18	1.25	13.13
6,708.0	90.10	339.90	6,058.6	5,240.6	-293.7	-1,005.9	274.0	15.52	-3.04	15.22
514367 LP 300' VS										
6,741.2	89.79	340.67	6,058.6	5,240.6	-262.5	-1,017.1	306.5	2.50	-0.95	2.32
6,803.0	89.20	342.10	6,059.2	5,241.2	-203.9	-1,036.8	366.8	2.50	-0.95	2.32
6,897.0	90.10	339.60	6,059.8	5,241.8	-115.1	-1,067.7	458.6	2.83	0.96	-2.66
514367 Plat EP2										
6,949.9	89.31	342.36	6,060.0	5,242.0	-65.1	-1,084.9	510.2	5.42	-1.49	5.21
6,991.0	88.70	344.50	6,060.7	5,242.7	-25.7	-1,096.6	550.0	5.42	-1.49	5.21
7,086.0	87.60	346.30	6,063.8	5,245.8	66.2	-1,120.6	640.9	2.22	-1.16	1.89
7,181.0	87.60	347.00	6,067.8	5,249.8	158.5	-1,142.5	731.1	0.74	0.00	0.74
7,275.0	88.50	343.10	6,071.0	5,253.0	249.3	-1,166.7	821.2	4.26	0.96	-4.15
7,370.0	91.00	339.20	6,071.4	5,253.4	339.2	-1,197.4	913.8	4.88	2.63	-4.11
7,463.0	91.80	340.60	6,069.1	5,251.1	426.5	-1,229.3	1,005.0	1.73	0.86	1.51
7,558.0	91.50	341.00	6,066.4	5,248.4	516.1	-1,260.6	1,097.8	0.53	-0.32	0.42
7,652.0	90.30	342.40	6,064.9	5,246.9	605.4	-1,290.1	1,189.3	1.96	-1.28	1.49
7,747.0	90.10	342.80	6,064.6	5,246.6	696.0	-1,318.5	1,281.5	0.47	-0.21	0.42
7,841.0	89.70	342.10	6,064.7	5,246.7	785.6	-1,346.8	1,372.7	0.86	-0.43	-0.74
7,936.0	89.20	342.80	6,065.7	5,247.7	876.2	-1,375.5	1,465.0	0.91	-0.53	0.74
8,030.0	88.70	343.50	6,067.4	5,249.4	966.2	-1,402.7	1,555.9	0.92	-0.53	0.74
8,125.0	91.50	344.50	6,067.2	5,249.2	1,057.5	-1,428.9	1,647.5	3.13	2.95	1.05
8,220.0	90.80	343.10	6,065.3	5,247.3	1,148.7	-1,455.4	1,739.1	1.65	-0.74	-1.47
8,314.0	89.70	342.40	6,064.9	5,246.9	1,238.5	-1,483.3	1,830.3	1.39	-1.17	-0.74
8,409.0	89.60	342.80	6,065.5	5,247.5	1,329.1	-1,511.7	1,922.4	0.43	-0.11	0.42
8,503.0	88.70	341.70	6,066.9	5,248.9	1,418.6	-1,540.3	2,013.7	1.51	-0.96	-1.17
8,598.0	87.80	341.00	6,069.8	5,251.8	1,508.6	-1,570.7	2,106.3	1.20	-0.95	-0.74
8,692.0	90.30	342.80	6,071.3	5,253.3	1,597.9	-1,599.9	2,197.8	3.28	2.66	1.91
8,787.0	89.90	342.10	6,071.2	5,253.2	1,688.5	-1,628.5	2,290.0	0.85	-0.42	-0.74
8,882.0	91.10	341.00	6,070.3	5,252.3	1,778.6	-1,658.6	2,382.6	1.71	1.26	-1.16
8,976.0	90.40	339.60	6,069.1	5,251.1	1,867.1	-1,690.3	2,474.6	1.67	-0.74	-1.49
9,071.0	89.00	340.60	6,069.6	5,251.6	1,956.4	-1,722.6	2,567.7	1.81	-1.47	1.05
9,165.0	88.50	340.60	6,071.7	5,253.7	2,045.1	-1,753.8	2,659.6	0.53	-0.53	0.00
9,259.0	87.30	339.20	6,075.1	5,257.1	2,133.3	-1,786.1	2,751.7	1.96	-1.28	-1.49
9,353.0	89.20	341.00	6,078.0	5,260.0	2,221.6	-1,818.1	2,843.7	2.78	2.02	1.91
9,448.0	90.10	344.20	6,078.6	5,260.6	2,312.2	-1,846.5	2,935.9	3.50	0.95	3.37
9,543.0	90.10	344.50	6,078.4	5,260.4	2,403.7	-1,872.1	3,027.3	0.32	0.00	0.32
9,637.0	89.90	343.50	6,078.4	5,260.4	2,494.1	-1,898.0	3,117.9	1.08	-0.21	-1.06
9,732.0	89.60	342.10	6,078.8	5,260.8	2,584.8	-1,926.1	3,210.0	1.51	-0.32	-1.47
9,826.0	89.70	341.40	6,079.4	5,261.4	2,674.1	-1,955.6	3,301.5	0.75	0.11	-0.74
9,921.0	89.90	342.40	6,079.7	5,261.7	2,764.4	-1,985.1	3,393.9	1.07	0.21	1.05
10,015.0	89.40	342.80	6,080.3	5,262.3	2,854.1	-2,013.2	3,485.1	0.68	-0.53	0.43
10,110.0	89.00	342.80	6,081.6	5,263.6	2,944.8	-2,041.3	3,577.2	0.42	-0.42	0.00
10,204.0	88.30	342.10	6,083.8	5,265.8	3,034.4	-2,069.6	3,668.4	1.05	-0.74	-0.74

Database:	EQT DB	Local Co-ordinate Reference:	Site Ritchie County 514387
Company:	EQT Production - Marcellus	TVD Reference:	KB @ 816.0usft
Project:	Ritchie County, WV	MD Reference:	KB @ 816.0usft
Site:	Ritchie County 514387	North Reference:	Grid
Well:	Well #514387	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	As Drilled		

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)
10,299.0	94.10	344.20	6,081.8	5,263.8	3,125.3	-2,097.1	3,760.3	6.49	6.11	2.21
10,394.0	92.00	342.80	6,076.8	5,258.8	3,216.2	-2,124.1	3,852.0	2.66	-2.21	-1.47
10,488.0	89.60	343.80	6,075.5	5,257.5	3,306.3	-2,151.1	3,942.9	2.77	-2.55	1.06
10,583.0	89.40	341.70	6,076.3	5,258.3	3,397.0	-2,179.3	4,035.0	2.22	-0.21	-2.21
10,677.0	88.20	338.20	6,078.3	5,260.3	3,485.2	-2,211.5	4,127.1	3.94	-1.28	-3.72
10,772.0	88.90	339.90	6,080.7	5,262.7	3,573.9	-2,245.4	4,220.5	1.93	0.74	1.79
10,867.0	87.80	341.70	6,083.4	5,265.4	3,663.6	-2,276.7	4,313.3	2.22	-1.16	1.89
Last Survey MD=10887'										
10,887.0	87.80	342.10	6,084.2	5,266.2	3,682.6	-2,282.9	4,332.7	2.00	0.00	2.00
514387 Plat TD2										
10,941.7	87.80	342.10	6,086.3	5,268.3	3,734.6	-2,299.6	4,385.8	0.00	0.00	0.00
Projection to TD MD=10948'										
10,948.0	87.80	342.10	6,086.5	5,268.5	3,740.6	-2,301.6	4,392.0	0.00	0.00	0.00

Survey Annotations

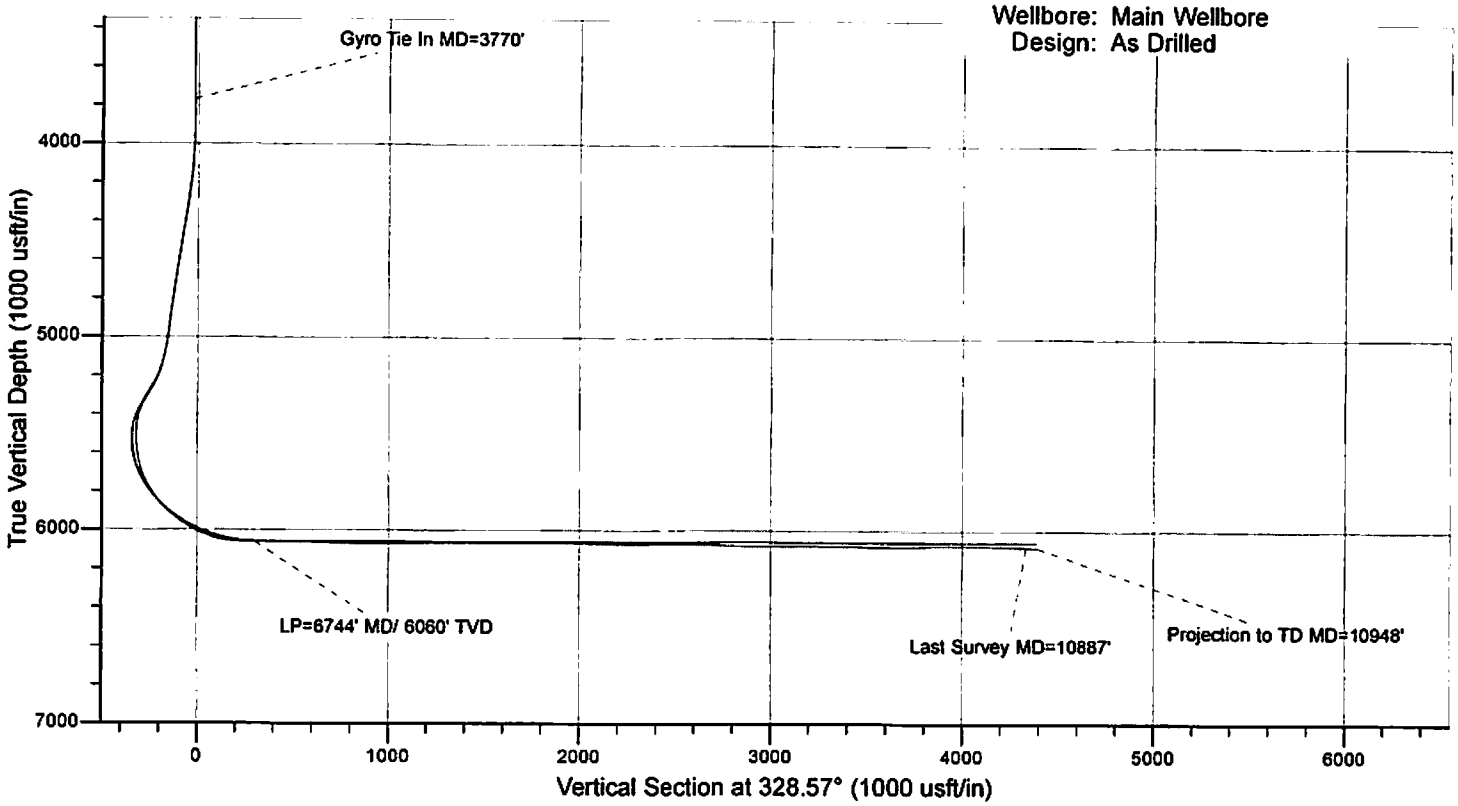
Measured Depth ()	Vertical Depth ()	Local Coordinates +N/-S ()	Local Coordinates +E/-W ()	Comment
3,770.0	3,769.8	-16.3	6.2	Gyro Tie In MD=3770'
10,887.0	6,084.2	3,682.6	-2,282.9	Last Survey MD=10887'
10,948.0	6,086.5	3,740.6	-2,301.6	Projection to TD MD=10948'

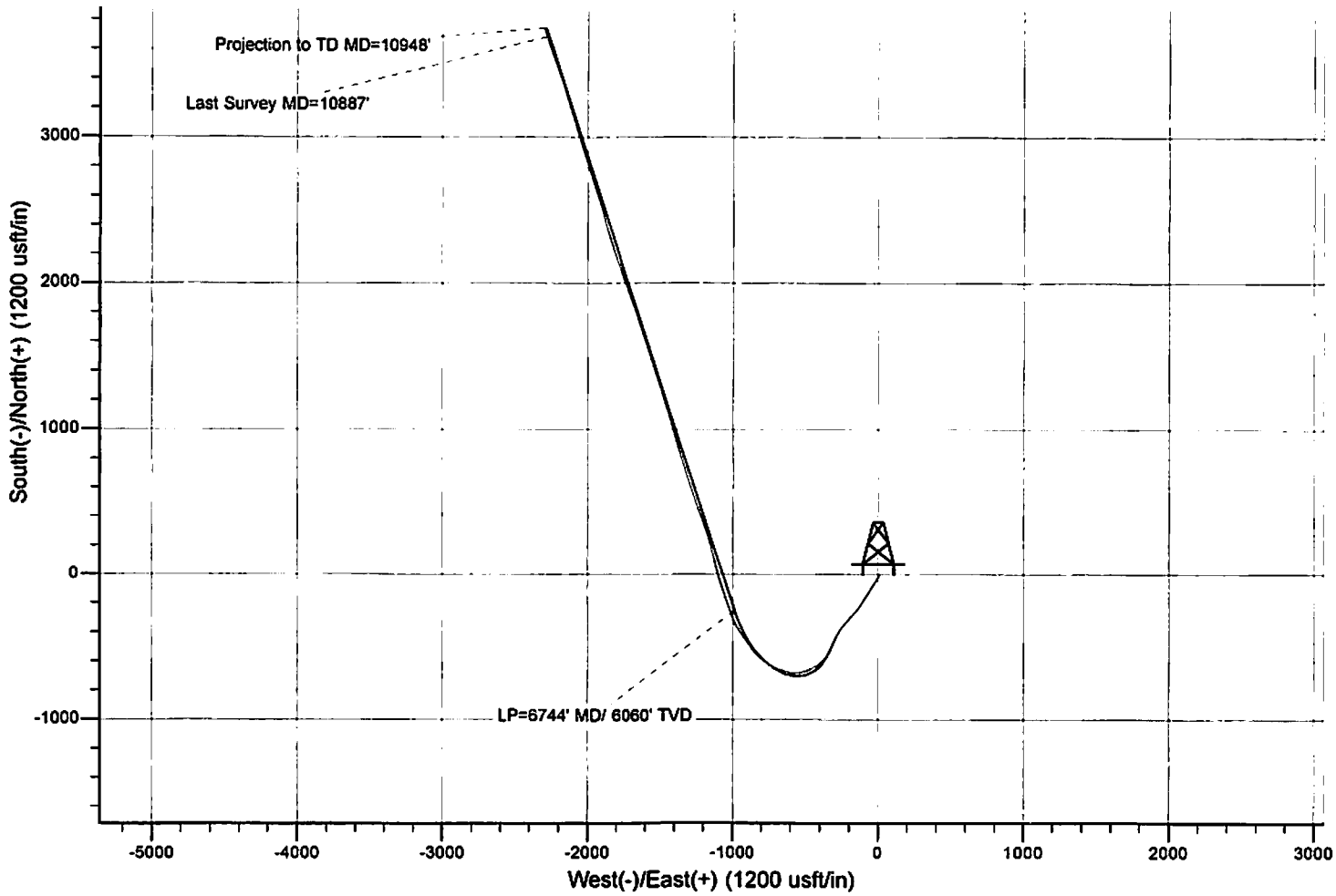
Checked By: _____ Approved By: _____ Date: _____

PHOENIX
TECHNOLOGY SERVICES

EQT Production - Marcellus

Project: Ritchie County, WV
Site: Ritchie County 514387
Well: Well #514387
Wellbore: Main Wellbore
Design: As Drilled





Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	9/24/2013
Job End Date:	9/29/2013
State:	West Virginia
County:	Ritchie
API Number:	47-085-10014-00-00
Operator Name:	EQT Production
Well Name and Number:	514387
Longitude:	-80.93940000
Latitude:	39.25163000
Datum:	NAD83
Federal/Tribal Well:	NO
True Vertical Depth:	6,087
Total Base Water Volume (gal):	5,899,340
Total Base Non Water Volume:	268,131

FracFocus Chemical Disclosure Registry

GROUNDWATER PROTECTION COUNCIL

Oil & Gas

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	89.51796	
Sand	Halliburton	Proppant					
			Crystalline Silica	14808-60-7	100.00000	10.21521	
MC MX 5	Halliburton	Nitrate Reducing Bacteria					
			Sodium Nitrate	7631-99-4	60.00000	0.06178	
28% HCl	Halliburton	Dissolves cement & minerals in perforations					
			Hydrochloric Acid	7647-01-0	28.00000	0.04975	
FR-66	Halliburton	Friction Reducer					
			Hydrotreated light petroleum distillate	64742-47-8	30.00000	0.02307	
WG-36	Halliburton	Gelling Agent					
			Guar Gum	9000-30-0	100.00000	0.00647	
LP-65	Halliburton	Scale Inhibitor					
			Ammonium Chloride	12125-02-9	10.00000	0.00267	
BA-40L	Halliburton	Buffer					
			Potassium carbonate	584-08-7	60.00000	0.00177	
HAI-OS	Halliburton	Protects casing					

			Methanol	67-56-1	60.00000	0.00037	
			Propargyl Alcohol	107-19-7	10.00000	0.00006	
SP Breaker	Halliburton	Oxidizing Breaker					
			Sodium Persulfate	7775-27-1	100.00000	0.00015	
BE-9	Halliburton	Biocide					
			Tributyl tetradecyl phosphonium chloride	81741-28-8	10.00000	0.00004	

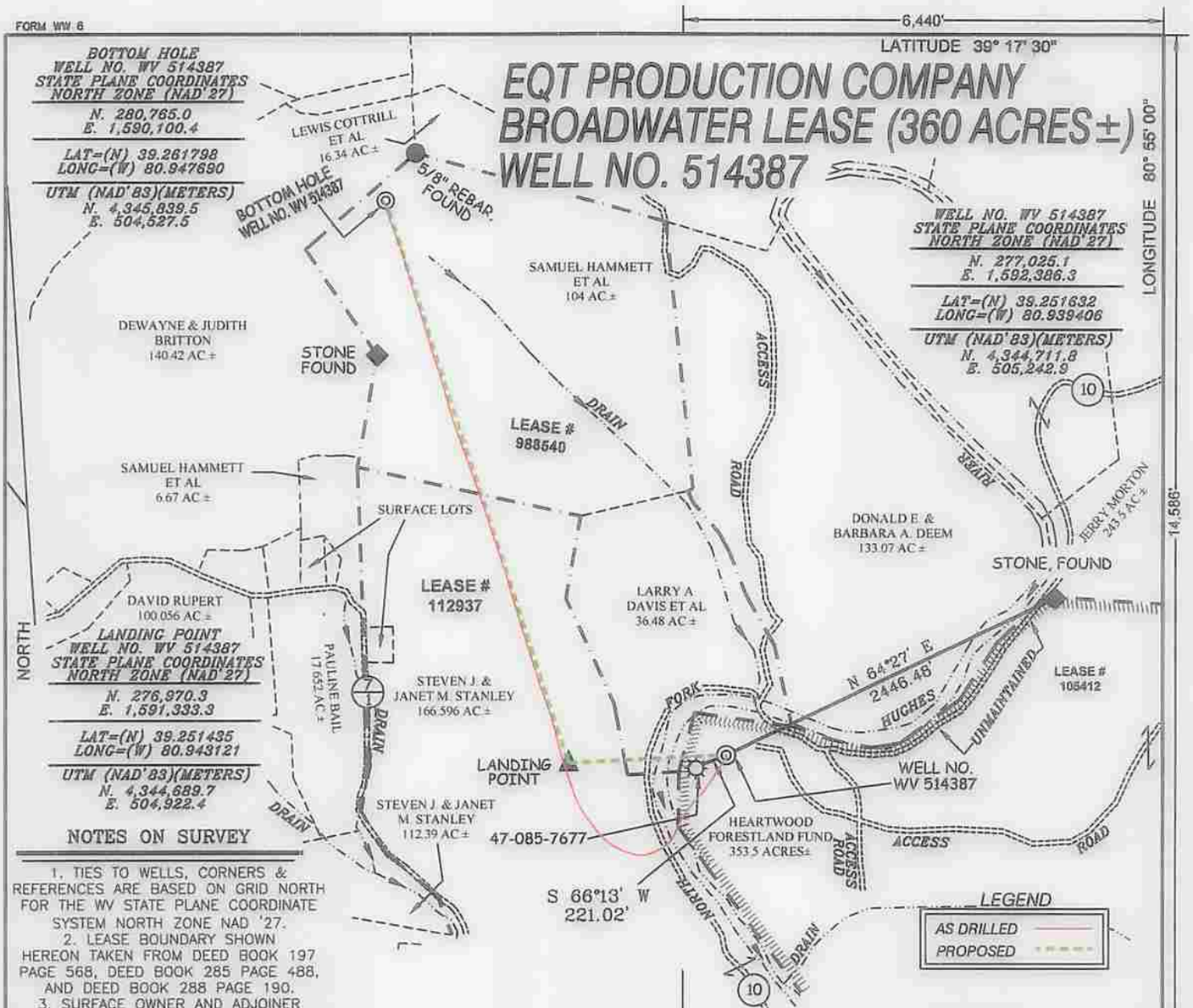
Ingredients shown above are subject to 29 CFR 1910.1200(i) and appear on Material Safety Data Sheets (MSDS). Ingredients shown below are Non-MSDS.

* 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 COMPANY
BROADWATER LEASE (360 ACRES±)
WELL NO. 514387



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, DEED BOOK 285 PAGE 488, AND DEED BOOK 288 PAGE 190.
3. SURFACE OWNER AND ADJOINER INFORMATION TAKEN FROM THE ASSESSOR AND COUNTY CLERK RECORDS OF RITCHIE COUNTY IN JULY, 2013.
4. WELL LAT./LONG. (NAD'27) ESTABLISHED BY DGPS (SURVEY GRADE TIE TO CORS NETWORK).
5. PLAT UPDATED 08/14/13 TO SHOW THE AS-DRILLED COORDINATES FROM INFORMATION PROVIDED BY EQT ON 08/08/13.

SLS

AS DRILLED INFORMATION

BOTTOM HOLE	WELL NO. WV 514387
STATE PLANE COORDINATES NORTH ZONE (NAD'27)	STATE PLANE COORDINATES NORTH ZONE (NAD'27)
N. 280,765.6	N. 277,025.1
E. 1,590,084.8	E. 1,592,386.3
LAT=(N) 39.261799	LAT=(N) 39.251632
LONG=(W) 80.947746	LONG=(W) 80.939406
UTM (NAD'83)(METERS)	UTM (NAD'83)(METERS)
N. 4,345,839.6	N. 4,344,711.8
E. 504,522.7	E. 505,242.9

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 SEPTEMBER 20, 20 12

REVISED DATE AUGUST 14, 2013 & JUNE 27, 2014

OPERATORS WELL NO. WV 514387

API WELL NO. 47 — 085 — 10014
STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 200 FILE NO. 7566ASDRILLED514387R

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 787.5' (GROUND) 795' (PROPOSED) 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.±), JOELYNN FAMILY PRESERVATION TRUST (140.48 AC. ±), & RAYMOND HARDMAN (178 AC.±)
PROPOSED WORK: LEASE NO. 105412 / 988540 / 112937
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

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 - 910 - 01249 County Taylor District BOOTHS CREEK
Quad ROSEMONT 7.5' Pad Name RSM112 Field/Pool Name
Farm name WOODELL, SPENCER C. & TINA Well Number 514300
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 4351956.3 Easting 571458.4
Landing Point of Curve Northing 4351904.3 Easting 571704.6
Bottom Hole Northing 4350782.3 Easting 572093.2

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)
Water base Mud 12.3 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 4/5/2012 Date drilling commenced 10/28/2013 Date drilling ceased 2/17/2014
Date completion activities began 4/29/2014 Date completion activities ceased 5/4/2014
Verbal plugging (Y/N) NA Date permission granted NA Granted by NA

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
JUL 29 2014
WV Department of
Environmental Protection

Reviewed by:

WR-35
Rev. 8/23/13

API 47- 910 - 1249 Farm name WOODELL, SPENCER C. & TINA Well number 514300

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	232', 394'	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	2,685'	New	40lb/ft	1,264', 1940'	Y
Intermediate 2							
Intermediate 3							
Production	8-1/2"	5-1/2"	12,628'	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	67	15.6	1.18	79	0	8
Surface	Class A	950	15.6	1.19	1131	0	8
Coal							
Intermediate 1	Class A	495/435	15.6	1.19/1.20	1111	0	8
Intermediate 2							
Intermediate 3							
Production	Class A/Class H	700/610	14.2/15.2	1.26/1.97	2084	4550	72
Tubing							

Drillers TD (ft) 12,628' Loggers TD (ft) N/A
Deepest formation penetrated Marcellus Plug back to (ft) N/A
Plug back procedure N/A

Kick off depth (ft) 6050

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 at 1121, 918, 596, 313'
Intermediate-Bowspring centralizer at 2643,2096,1589, 1040, (702-Basket), 238
Production- Composit 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

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API 47- 910 - 1249 Farm name WOODELL, SPENCER C. & TINA Well number 514300

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.

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Rev. 8/23/13

API 47- 910 - 1249 Farm name WOODELL, SPENCER C. & TINA Well number _____

PRODUCING FORMATION(S)	DEPTHS			
Marcellus	7,579	TVD	7,907	MD

Please insert additional pages as applicable.

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

SHUT-IN PRESSURE Surface 490 psi Bottom Hole NA psi DURATION OF TEST 116.5 hrs

OPEN FLOW	Gas	Oil	NGL	Water	GAS MEASURED BY
	2,400 mcfpd	0 bpd	0 bpd	384 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 7/28/2014

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	0	0	1,022.00	1,022.00
Sand / Shale	0	0	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	1,143.00	1,143.00
Maxton	1,143.00	1,143.00	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	2,064.80
Gantz	2,065.00	2,064.80	2,139.00	2,138.80
Fifty foot	2,139.00	2,138.80	2,246.00	2,245.70
Thirty foot	2,246.00	2,245.70	2,324.00	2,323.70
Gordon	2,324.00	2,323.70	2,470.00	2,469.70
Forth Sand	2,470.00	2,469.70	2,613.00	2,612.60
Bayard	2,613.00	2,612.60	3,037.00	3,036.50
B-5	3,037.00	3,036.50	3,255.00	3,254.40
Speechley	3,255.00	3,254.40	3,631.00	3,630.40
Bradford	3,631.00	3,630.40	3,775.00	3,774.30
Balltown B	3,775.00	3,774.30	3,986.00	3,985.30
Riley	3,986.00	3,985.30	4,610.00	4,609.10
Benson	4,610.00	4,609.10	4,964.00	4,963.10
Elk	4,964.00	4,963.10	6,992.00	6,830.10
Sonyea	6,992.00	6,830.10	7,350.00	7,129.20
Middlesex	7,350.00	7,129.20	7,468.00	7,233.60
Genesee	7,468.00	7,233.60	7,606.00	7,353.30
Geneseo	7,606.00	7,353.30	7,651.00	7,391.40
Tully	7,651.00	7,391.40	7,715.00	7,443.50
Hamilton	7,715.00	7,443.50	7,907.00	7,579.30
Marcellus	7,907.00	7,579.30	12,628.00	7,819.30

Where energy meets innovation.

EQT Production - Marcellus

Taylor County, WV
Taylor County 514300
Well 514300

Main Wellbore

Design: 514300 As Drilled Surveys

Standard Survey Report

17 February, 2014

Where energy meets innovation.

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Site Taylor County 514300
Company:	EQT Production - Marcellus	**TVD Reference:**	KB @ 1606.0usft
Project:	Taylor County, WV	**MD Reference:**	KB @ 1606.0usft
Site:	Taylor County 514300	**North Reference:**	Grid
Well:	Well 514300	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	514300 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 514300

Site Position:		**Northing:**	297,172.80 usft	**Latitude:**	39.31
From:	Map	**Easting:**	1,810,066.10 usft	**Longitude:**	-80.17
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	-0.43 °

Well — Well 514300

Well Position	**+N/-S**	0.0 usft	**Northing:**	297,172.80 usft	**Latitude:**	39° 18' 50.281 N
	+E/-W	0.0 usft	**Easting:**	1,810,066.10 usft	**Longitude:**	80° 10' 16.645 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	1/15/2014	-8.89	66.79	52,282

Design — 514300 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	153.52

Survey Program — **Date** 2/17/2014

From ()	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	5,828.0	514300 Gyrodata Gyro (Main Wellbore)	GYD_DP_MS	Gyrodata gyro-compassing and drop
0.00	12,628.0	514300 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	0.56	254.73	103.0	-1,503.0	-0.1	-0.5	-0.1	0.54	0.54	0.00
203.0	0.14	306.03	203.0	-1,403.0	-0.2	-1.1	-0.3	0.48	-0.42	51.30
303.0	0.16	303.07	303.0	-1,303.0	0.0	-1.3	-0.5	0.02	0.02	-2.96
403.0	0.16	329.98	403.0	-1,203.0	0.2	-1.5	-0.8	0.07	0.00	26.91
503.0	0.15	339.63	503.0	-1,103.0	0.4	-1.6	-1.1	0.03	-0.01	9.65
603.0	0.04	303.12	603.0	-1,003.0	0.5	-1.6	-1.2	0.12	-0.11	-36.51
703.0	0.12	248.78	703.0	-903.0	0.5	-1.8	-1.3	0.10	0.08	-54.34

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Site Taylor County 514300
Company:	EQT Production - Marcellus	**TVD Reference:**	KB @ 1606.0usft
Project:	Taylor County, WV	**MD Reference:**	KB @ 1606.0usft
Site:	Taylor County 514300	**North Reference:**	Grid
Well:	Well 514300	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	514300 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	0.15	243.55	803.0	-803.0	0.4	-2.0	-1.3	0.03	0.03	-5.23
903.0	0.14	270.40	903.0	-703.0	0.4	-2.2	-1.3	0.07	-0.01	26.85
1,003.0	0.10	344.51	1,003.0	-603.0	0.5	-2.4	-1.5	0.15	-0.04	74.11
1,103.0	0.12	341.77	1,103.0	-503.0	0.6	-2.4	-1.7	0.02	0.02	-2.74
1,203.0	0.64	345.00	1,203.0	-403.0	1.3	-2.6	-2.3	0.52	0.52	3.23
1,303.0	0.90	349.11	1,303.0	-303.0	2.6	-2.9	-3.6	0.27	0.26	4.11
1,403.0	1.05	349.65	1,403.0	-203.0	4.3	-3.2	-5.2	0.15	0.15	0.54
1,503.0	1.17	353.38	1,502.9	-103.1	6.2	-3.5	-7.1	0.14	0.12	3.73
1,603.0	1.18	351.21	1,602.9	-3.1	8.2	-3.8	-9.0	0.05	0.01	-2.17
1,703.0	1.22	352.09	1,702.9	96.9	10.3	-4.1	-11.0	0.04	0.04	0.88
1,803.0	1.31	352.42	1,802.9	196.9	12.5	-4.4	-13.1	0.09	0.09	0.33
1,903.0	1.36	348.27	1,902.9	296.9	14.8	-4.8	-15.3	0.11	0.05	-4.15
2,003.0	1.63	340.89	2,002.8	396.8	17.3	-5.5	-17.9	0.33	0.27	-7.38
2,103.0	1.68	339.26	2,102.8	496.8	20.0	-6.5	-20.8	0.07	0.05	-1.63
2,203.0	1.70	338.99	2,202.7	596.7	22.7	-7.5	-23.7	0.02	0.02	-0.27
2,303.0	1.38	336.55	2,302.7	696.7	25.2	-8.5	-26.4	0.33	-0.32	-2.44
2,403.0	1.29	336.47	2,402.7	796.7	27.4	-9.4	-28.7	0.09	-0.09	-0.08
2,503.0	1.48	336.53	2,502.6	896.6	29.6	-10.4	-31.1	0.19	0.19	0.06
2,603.0	1.53	337.62	2,602.6	996.6	32.0	-11.4	-33.7	0.06	0.05	1.09
2,703.0	1.53	332.07	2,702.6	1,096.6	34.4	-12.6	-36.4	0.15	0.00	-5.55
2,803.0	1.36	329.85	2,802.5	1,196.5	36.6	-13.8	-38.9	0.18	-0.17	-2.22
2,903.0	1.22	329.10	2,902.5	1,296.5	38.6	-14.9	-41.2	0.14	-0.14	-0.75
3,003.0	1.10	329.98	3,002.5	1,396.5	40.3	-16.0	-43.2	0.12	-0.12	0.88
3,103.0	1.14	326.98	3,102.5	1,496.5	42.0	-17.0	-45.1	0.07	0.04	-3.00
3,203.0	1.20	325.65	3,202.5	1,596.5	43.7	-18.1	-47.2	0.07	0.06	-1.33
3,303.0	1.23	327.16	3,302.4	1,696.4	45.4	-19.3	-49.3	0.04	0.03	1.51
3,403.0	1.24	321.59	3,402.4	1,796.4	47.2	-20.5	-51.4	0.12	0.01	-5.57
3,503.0	1.30	316.83	3,502.4	1,896.4	48.9	-22.0	-53.5	0.12	0.06	-4.76
3,603.0	1.26	316.52	3,602.4	1,996.4	50.5	-23.5	-55.7	0.04	-0.04	-0.31
3,703.0	1.26	315.11	3,702.3	2,096.3	52.1	-25.1	-57.8	0.03	0.00	-1.41
3,803.0	1.27	310.95	3,802.3	2,196.3	53.6	-26.7	-59.8	0.09	0.01	-4.16
3,903.0	1.30	308.90	3,902.3	2,296.3	55.0	-28.4	-61.9	0.05	0.03	-2.05
4,003.0	1.29	306.08	4,002.3	2,396.3	56.4	-30.2	-63.9	0.06	-0.01	-2.82
4,103.0	1.21	305.88	4,102.2	2,496.2	57.7	-31.9	-65.9	0.08	-0.08	-0.20
4,203.0	1.19	304.80	4,202.2	2,596.2	58.9	-33.7	-67.7	0.03	-0.02	-1.08
4,303.0	1.12	308.16	4,302.2	2,696.2	60.1	-35.3	-69.5	0.10	-0.07	3.36
4,403.0	1.12	307.95	4,402.2	2,796.2	61.3	-36.8	-71.3	0.00	0.00	-0.21
4,503.0	1.13	312.44	4,502.2	2,896.2	62.5	-38.3	-73.1	0.09	0.01	4.49
4,603.0	1.14	316.02	4,602.1	2,996.1	63.9	-39.7	-74.9	0.07	0.01	3.58
4,703.0	1.19	316.93	4,702.1	3,096.1	65.4	-41.1	-76.9	0.05	0.05	0.91
4,803.0	1.13	318.47	4,802.1	3,196.1	66.9	-42.5	-78.8	0.07	-0.06	1.54
4,903.0	1.07	313.19	4,902.1	3,296.1	68.3	-43.8	-80.6	0.12	-0.06	-5.28

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Site Taylor County 514300
Company:	EQT Production - Marcellus	**TVD Reference:**	KB @ 1606.0usft
Project:	Taylor County, WV	**MD Reference:**	KB @ 1606.0usft
Site:	Taylor County 514300	**North Reference:**	Grid
Well:	Well 514300	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	514300 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	0.93	310.37	5,002.1	3,396.1	69.4	-45.1	-82.3	0.15	-0.14	-2.82
5,103.0	1.04	310.73	5,102.0	3,496.0	70.6	-46.4	-83.9	0.11	0.11	0.36
5,203.0	1.01	309.63	5,202.0	3,596.0	71.7	-47.8	-85.5	0.04	-0.03	-1.10
5,303.0	0.67	308.74	5,302.0	3,696.0	72.6	-48.9	-86.8	0.34	-0.34	-0.89
5,403.0	0.38	306.42	5,402.0	3,796.0	73.2	-49.7	-87.7	0.29	-0.29	-2.32
5,503.0	0.10	197.74	5,502.0	3,896.0	73.3	-49.9	-87.9	0.42	-0.28	-108.68
5,603.0	0.69	168.53	5,602.0	3,996.0	72.6	-49.9	-87.2	0.60	0.59	-29.21
5,703.0	1.14	169.57	5,702.0	4,096.0	71.1	-49.6	-85.7	0.45	0.45	1.04
5,803.0	1.20	163.06	5,802.0	4,196.0	69.1	-49.1	-83.7	0.15	0.06	-6.51
Gyro Tie In MD=5828'										
5,828.0	1.27	162.64	5,827.0	4,221.0	68.6	-48.9	-83.2	0.28	0.28	-1.68
5,838.0	1.10	164.20	5,837.0	4,231.0	68.4	-48.9	-83.0	1.73	-1.70	15.60
5,901.0	1.20	167.10	5,900.0	4,294.0	67.2	-48.5	-81.7	0.18	0.16	4.60
5,964.0	0.80	160.90	5,962.9	4,356.9	66.1	-48.3	-80.7	0.66	-0.63	-9.84
6,027.0	0.70	134.30	6,025.9	4,419.9	65.4	-47.8	-79.9	0.57	-0.16	-42.22
6,059.0	3.10	21.70	6,057.9	4,451.9	66.1	-47.4	-80.3	10.72	7.50	-351.88
6,091.0	7.50	21.40	6,089.8	4,483.8	68.8	-46.3	-82.2	13.75	13.75	-0.94
6,122.0	10.40	21.90	6,120.4	4,514.4	73.3	-44.5	-85.5	9.36	9.35	1.61
6,154.0	12.10	22.90	6,151.8	4,545.8	79.1	-42.1	-89.6	5.35	5.31	3.13
6,185.0	13.60	22.20	6,182.0	4,576.0	85.4	-39.5	-94.1	4.86	4.84	-2.26
6,216.0	16.20	21.10	6,212.0	4,606.0	92.9	-36.5	-99.4	8.44	8.39	-3.55
6,248.0	17.60	21.20	6,242.6	4,636.6	101.5	-33.2	-105.7	4.38	4.38	0.31
6,279.0	20.00	19.00	6,271.9	4,665.9	110.9	-29.8	-112.6	8.07	7.74	-7.10
6,310.0	22.80	15.40	6,300.8	4,694.8	121.7	-26.4	-120.7	9.97	9.03	-11.61
6,342.0	25.20	13.40	6,330.0	4,724.0	134.3	-23.2	-130.6	7.92	7.50	-6.25
6,373.0	27.60	14.40	6,357.8	4,751.8	147.7	-19.9	-141.1	7.87	7.74	3.23
6,405.0	30.90	15.90	6,385.7	4,779.7	162.8	-15.8	-152.8	10.56	10.31	4.69
6,437.0	32.00	19.10	6,413.0	4,807.0	178.7	-10.8	-164.8	6.25	3.44	10.00
6,468.0	35.40	17.90	6,438.8	4,832.8	195.0	-5.3	-176.9	11.18	10.97	-3.87
6,499.0	37.10	18.70	6,463.8	4,857.8	212.4	0.4	-190.0	5.69	5.48	2.58
6,530.0	40.00	17.20	6,488.0	4,882.0	230.8	6.4	-203.8	9.83	9.35	-4.84
6,562.0	44.50	16.20	6,511.7	4,905.7	251.4	12.5	-219.4	14.22	14.06	-3.13
6,593.0	46.20	16.20	6,533.5	4,927.5	272.6	18.7	-235.7	5.48	5.48	0.00
6,656.0	43.80	14.50	6,578.0	4,972.0	315.5	30.5	-268.8	4.26	-3.81	-2.70
6,719.0	42.80	15.90	6,623.9	5,017.9	357.2	41.8	-301.1	2.20	-1.59	2.22
6,782.0	41.80	18.40	6,670.5	5,064.5	397.7	54.3	-331.8	3.11	-1.59	3.97
6,845.0	41.50	19.00	6,717.6	5,111.6	437.4	67.7	-361.3	0.79	-0.48	0.95
6,908.0	40.50	17.60	6,765.1	5,159.1	476.6	80.7	-390.7	2.16	-1.59	-2.22
6,940.0	39.00	15.30	6,789.7	5,183.7	496.2	86.5	-405.6	6.56	-4.69	-7.19
6,971.0	39.00	15.80	6,813.8	5,207.8	515.0	91.7	-420.1	1.02	0.00	1.61
7,003.0	39.30	21.70	6,838.6	5,232.6	534.2	98.2	-434.3	11.68	0.94	18.44
7,035.0	39.70	27.00	6,863.3	5,257.3	552.7	106.6	-447.2	10.61	1.25	16.56
7,065.0	38.70	35.10	6,886.6	5,280.6	568.9	116.4	-457.4	17.38	-3.33	27.00

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Site Taylor County 514300
Company:	EQT Production - Marcellus	**TVD Reference:**	KB @ 1606.0usft
Project:	Taylor County, WV	**MD Reference:**	KB @ 1606.0usft
Site:	Taylor County 514300	**North Reference:**	Grid
Well:	Well 514300	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	514300 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)
7,097.0	35.30	42.30	6,912.2	5,306.2	583.9	128.4	-465.5	17.20	-10.63	22.50
7,129.0	32.30	47.50	6,938.8	5,332.8	596.6	140.9	-471.2	13.02	-9.38	16.25
7,160.0	31.70	46.90	6,965.0	5,359.0	607.7	152.9	-475.8	2.19	-1.94	-1.94
7,192.0	31.20	50.40	6,992.3	5,386.3	618.7	165.5	-480.1	5.92	-1.56	10.94
7,223.0	30.40	54.70	7,019.0	5,413.0	628.4	178.1	-483.1	7.56	-2.58	13.87
7,255.0	29.20	61.50	7,046.8	5,440.8	636.8	191.5	-484.6	11.20	-3.75	21.25
7,286.0	29.60	67.20	7,073.8	5,467.8	643.4	205.2	-484.4	9.12	1.29	18.39
7,318.0	30.50	69.40	7,101.5	5,495.5	649.3	220.1	-483.1	4.45	2.81	6.88
7,349.0	29.70	68.00	7,128.3	5,522.3	654.9	234.6	-481.7	3.43	-2.58	-4.52
7,381.0	28.30	72.20	7,156.3	5,550.3	660.2	249.2	-479.9	7.72	-4.38	13.13
7,412.0	27.10	74.20	7,183.7	5,577.7	664.4	263.0	-477.5	4.90	-3.87	6.45
7,444.0	26.80	78.80	7,212.2	5,606.2	667.8	277.1	-474.2	6.58	-0.94	14.38
7,475.0	28.40	84.60	7,239.7	5,633.7	669.8	291.3	-469.7	10.08	5.16	18.71
7,507.0	30.20	89.70	7,267.6	5,661.6	670.6	306.9	-463.5	9.61	5.63	15.94
7,539.0	29.70	96.60	7,295.4	5,689.4	669.7	322.8	-455.6	10.87	-1.56	21.56
7,570.0	30.20	103.30	7,322.2	5,716.2	667.1	338.0	-446.4	10.91	1.61	21.61
7,602.0	30.40	108.70	7,349.9	5,743.9	662.6	353.5	-435.5	8.53	0.63	16.88
7,633.0	32.40	113.00	7,376.3	5,770.3	656.8	368.6	-423.6	9.68	6.45	13.87
7,665.0	34.30	115.30	7,403.1	5,797.1	649.6	384.7	-410.0	7.13	5.94	7.19
7,696.0	36.50	119.20	7,428.3	5,822.3	641.4	400.6	-395.5	10.17	7.10	12.58
7,728.0	38.00	120.90	7,453.8	5,847.8	631.7	417.4	-379.4	5.68	4.69	5.31
7,760.0	39.50	126.00	7,478.8	5,872.8	620.7	434.1	-362.1	11.02	4.69	15.94
7,791.0	42.50	129.20	7,502.2	5,896.2	608.2	450.2	-343.8	11.81	9.68	10.32
7,823.0	46.10	132.20	7,525.1	5,919.1	593.7	467.1	-323.2	13.01	11.25	9.38
7,854.0	48.70	133.80	7,546.0	5,940.0	578.1	483.8	-301.8	9.21	8.39	5.16
7,886.0	51.60	136.30	7,566.6	5,960.6	560.7	501.1	-278.5	10.87	9.06	7.81
7,917.0	54.50	138.80	7,585.2	5,979.2	542.4	517.8	-254.7	11.36	9.35	8.06
7,949.0	59.30	142.00	7,602.7	5,996.7	521.8	534.9	-228.6	17.18	15.00	10.00
7,980.0	63.80	145.30	7,617.4	6,011.4	499.8	551.0	-201.7	17.27	14.52	10.65
8,012.0	66.90	147.80	7,630.8	6,024.8	475.5	567.1	-172.9	12.01	9.69	7.81
8,044.0	69.50	149.30	7,642.7	6,036.7	450.2	582.5	-143.3	9.22	8.13	4.69
8,075.0	71.50	150.60	7,653.0	6,047.0	424.9	597.2	-114.1	7.57	6.45	4.19
8,107.0	72.00	152.00	7,663.0	6,057.0	398.3	611.8	-83.7	4.44	1.56	4.38
8,138.0	74.20	153.40	7,672.0	6,066.0	371.9	625.4	-54.1	8.31	7.10	4.52
8,170.0	76.10	155.30	7,680.2	6,074.2	344.0	638.8	-23.2	8.26	5.94	5.94
8,201.0	78.60	158.20	7,687.0	6,081.0	316.2	650.7	7.0	12.18	8.06	9.35
8,233.0	81.20	160.70	7,692.6	6,086.6	286.7	661.7	38.4	11.19	8.13	7.81
8,264.0	83.80	162.60	7,696.7	6,090.7	257.6	671.4	68.8	10.36	8.39	6.13
8,296.0	85.70	162.90	7,699.6	6,093.6	227.1	680.9	100.2	6.01	5.94	0.94
8,328.0	87.30	163.80	7,701.6	6,095.6	196.5	690.0	131.7	5.73	5.00	2.81
8,359.0	89.50	164.00	7,702.4	6,096.4	166.8	698.6	162.2	7.13	7.10	0.65
8,411.0	90.60	163.60	7,702.4	6,096.4	116.8	713.1	213.3	2.25	2.12	-0.77
8,474.0	88.20	163.10	7,703.1	6,097.1	56.5	731.2	275.4	3.89	-3.81	-0.79

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Site Taylor County 514300
Company:	EQT Production - Marcellus	**TVD Reference:**	KB @ 1606.0usft
Project:	Taylor County, WV	**MD Reference:**	KB @ 1606.0usft
Site:	Taylor County 514300	**North Reference:**	Grid
Well:	Well 514300	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	514300 As Drilled Surveys		

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,537.0	87.30	163.20	7,705.5	6,099.5	-3.8	749.4	337.5	1.44	-1.43	0.16
8,600.0	86.40	162.40	7,709.0	6,103.0	-63.9	768.0	399.6	1.91	-1.43	-1.27
8,663.0	87.50	162.70	7,712.3	6,106.3	-123.9	786.9	461.7	1.81	1.75	0.48
8,726.0	90.50	163.40	7,713.4	6,107.4	-184.1	805.2	523.8	4.89	4.76	1.11
8,790.0	91.00	163.50	7,712.6	6,106.6	-245.5	823.5	586.8	0.80	0.78	0.16
8,853.0	90.40	163.60	7,711.8	6,105.8	-305.9	841.3	648.9	0.97	-0.95	0.16
8,916.0	90.10	163.40	7,711.6	6,105.6	-366.3	859.2	710.9	0.57	-0.48	-0.32
8,979.0	89.70	163.40	7,711.7	6,105.7	-426.7	877.2	773.0	0.63	-0.63	0.00
9,042.0	88.60	162.30	7,712.6	6,106.6	-486.9	895.8	835.1	2.47	-1.75	-1.75
9,105.0	87.60	161.40	7,714.7	6,108.7	-546.7	915.4	897.4	2.13	-1.59	-1.43
9,168.0	88.00	161.20	7,717.1	6,111.1	-606.3	935.6	959.8	0.71	0.63	-0.32
9,231.0	89.50	160.60	7,718.5	6,112.5	-665.8	956.2	1,022.3	2.56	2.38	-0.95
9,294.0	88.10	159.40	7,719.8	6,113.8	-725.0	977.7	1,084.9	2.93	-2.22	-1.90
9,357.0	87.20	158.00	7,722.4	6,116.4	-783.7	1,000.6	1,147.6	2.64	-1.43	-2.22
9,420.0	88.60	160.40	7,724.7	6,118.7	-842.5	1,022.9	1,210.2	4.41	2.22	3.81
9,483.0	88.20	160.10	7,726.5	6,120.5	-901.8	1,044.2	1,272.7	0.79	-0.63	-0.48
9,545.0	88.80	160.00	7,728.1	6,122.1	-960.0	1,065.4	1,334.3	0.98	0.97	-0.16
9,608.0	90.80	163.50	7,728.3	6,122.3	-1,019.9	1,085.1	1,396.7	6.40	3.17	5.56
9,671.0	91.60	164.00	7,727.0	6,121.0	-1,080.3	1,102.7	1,458.6	1.50	1.27	0.79
9,734.0	91.80	162.90	7,725.1	6,119.1	-1,140.7	1,120.7	1,520.7	1.77	0.32	-1.75
9,797.0	90.60	162.30	7,723.8	6,117.8	-1,200.8	1,139.5	1,582.9	2.13	-1.90	-0.95
9,860.0	90.50	165.20	7,723.2	6,117.2	-1,261.3	1,157.1	1,644.9	4.61	-0.16	4.60
9,924.0	89.70	164.90	7,723.1	6,117.1	-1,323.1	1,173.6	1,707.6	1.33	-1.25	-0.47
9,987.0	88.70	164.90	7,723.9	6,117.9	-1,383.9	1,190.0	1,769.3	1.59	-1.59	0.00
10,050.0	87.80	163.40	7,725.9	6,119.9	-1,444.5	1,207.2	1,831.2	2.78	-1.43	-2.38
10,113.0	88.40	164.30	7,728.0	6,122.0	-1,505.0	1,224.8	1,893.1	1.72	0.95	1.43
10,176.0	88.60	165.40	7,729.6	6,123.6	-1,565.8	1,241.2	1,954.9	1.77	0.32	1.75
10,239.0	88.60	164.70	7,731.2	6,125.2	-1,626.6	1,257.5	2,016.6	1.11	0.00	-1.11
10,302.0	88.50	164.40	7,732.7	6,126.7	-1,687.3	1,274.2	2,078.4	0.50	-0.16	-0.48
10,365.0	88.70	164.70	7,734.3	6,128.3	-1,748.0	1,291.0	2,140.2	0.57	0.32	0.48
10,428.0	88.70	164.60	7,735.7	6,129.7	-1,808.8	1,307.7	2,202.0	0.16	0.00	-0.16
10,491.0	88.60	164.50	7,737.2	6,131.2	-1,869.5	1,324.5	2,263.9	0.22	-0.16	-0.16
10,553.0	88.80	164.20	7,738.6	6,132.6	-1,929.1	1,341.2	2,324.7	0.58	0.32	-0.48
10,617.0	88.20	162.80	7,740.3	6,134.3	-1,990.5	1,359.4	2,387.8	2.38	-0.94	-2.19
10,680.0	88.50	162.70	7,742.1	6,136.1	-2,050.6	1,378.0	2,449.9	0.50	0.48	-0.16
10,743.0	88.40	162.40	7,743.8	6,137.8	-2,110.7	1,396.9	2,512.1	0.50	-0.16	-0.48
10,806.0	88.60	162.70	7,745.4	6,139.4	-2,170.8	1,415.8	2,574.3	0.57	0.32	0.48
10,869.0	89.50	162.70	7,746.5	6,140.5	-2,230.9	1,434.5	2,636.5	1.43	1.43	0.00
10,931.0	89.10	162.00	7,747.2	6,141.2	-2,290.0	1,453.3	2,697.8	1.30	-0.65	-1.13
10,994.0	88.70	161.20	7,748.5	6,142.5	-2,349.8	1,473.2	2,760.1	1.42	-0.63	-1.27
11,057.0	88.00	161.40	7,750.3	6,144.3	-2,409.4	1,493.4	2,822.5	1.16	-1.11	0.32
11,121.0	87.50	161.40	7,752.8	6,146.8	-2,470.0	1,513.8	2,885.9	0.78	-0.78	0.00

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Site Taylor County 514300
Company:	EQT Production - Marcellus	**TVD Reference:**	KB @ 1606.0usft
Project:	Taylor County, WV	**MD Reference:**	KB @ 1606.0usft
Site:	Taylor County 514300	**North Reference:**	Grid
Well:	Well 514300	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	514300 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)
11,183.0	87.90	162.00	7,755.3	6,149.3	-2,528.8	1,533.2	2,947.2	1.16	0.65	0.97
11,246.0	88.00	163.00	7,757.5	6,151.5	-2,588.9	1,552.2	3,009.4	1.59	0.16	1.59
11,309.0	88.70	164.00	7,759.3	6,153.3	-2,649.3	1,570.1	3,071.4	1.94	1.11	1.59
11,372.0	89.10	163.30	7,760.6	6,154.6	-2,709.7	1,587.8	3,133.4	1.28	0.63	-1.11
11,436.0	88.90	162.80	7,761.7	6,155.7	-2,770.9	1,606.5	3,196.5	0.84	-0.31	-0.78
11,499.0	88.80	162.80	7,762.9	6,156.9	-2,831.1	1,625.1	3,258.7	0.16	-0.16	0.00
11,562.0	87.60	161.00	7,764.9	6,158.9	-2,890.9	1,644.6	3,321.0	3.43	-1.90	-2.86
11,625.0	87.10	160.20	7,767.8	6,161.8	-2,950.3	1,665.5	3,383.4	1.50	-0.79	-1.27
11,688.0	86.90	159.40	7,771.1	6,165.1	-3,009.3	1,687.3	3,446.0	1.31	-0.32	-1.27
11,751.0	86.20	159.10	7,774.9	6,168.9	-3,068.2	1,709.5	3,508.5	1.21	-1.11	-0.48
11,814.0	86.30	159.20	7,779.0	6,173.0	-3,126.9	1,731.9	3,571.1	0.22	0.16	0.16
11,877.0	86.00	158.40	7,783.3	6,177.3	-3,185.5	1,754.7	3,633.7	1.35	-0.48	-1.27
11,943.0	85.60	158.90	7,788.1	6,182.1	-3,246.8	1,778.6	3,699.2	0.97	-0.61	0.76
12,006.0	85.60	158.90	7,792.9	6,186.9	-3,305.4	1,801.2	3,761.8	0.00	0.00	0.00
12,069.0	85.40	160.00	7,797.9	6,191.9	-3,364.2	1,823.3	3,824.2	1.77	-0.32	1.75
12,132.0	85.60	160.00	7,802.8	6,196.8	-3,423.2	1,844.8	3,886.6	0.32	0.32	0.00
12,195.0	86.50	160.10	7,807.2	6,201.2	-3,482.3	1,866.2	3,949.1	1.44	1.43	0.16
12,257.0	87.20	159.90	7,810.6	6,204.6	-3,540.5	1,887.4	4,010.6	1.17	1.13	-0.32
12,320.0	88.80	160.80	7,812.8	6,206.8	-3,599.8	1,908.5	4,073.1	2.91	2.54	1.43
12,384.0	88.00	159.80	7,814.5	6,208.5	-3,660.0	1,930.1	4,136.6	2.00	-1.25	-1.56
12,447.0	88.30	158.70	7,816.6	6,210.6	-3,718.9	1,952.4	4,199.3	1.81	0.48	-1.75
12,510.0	88.90	158.70	7,818.1	6,212.1	-3,777.6	1,975.3	4,262.0	0.95	0.95	0.00
Last Survey MD=12572'										
12,572.0	89.60	158.00	7,818.9	6,212.9	-3,835.2	1,998.2	4,323.8	1.60	1.13	-1.13
Projection to TD MD=12628'										
12,628.0	89.60	158.00	7,819.3	6,213.3	-3,887.1	2,019.1	4,379.6	0.00	0.00	0.00

Design Annotations

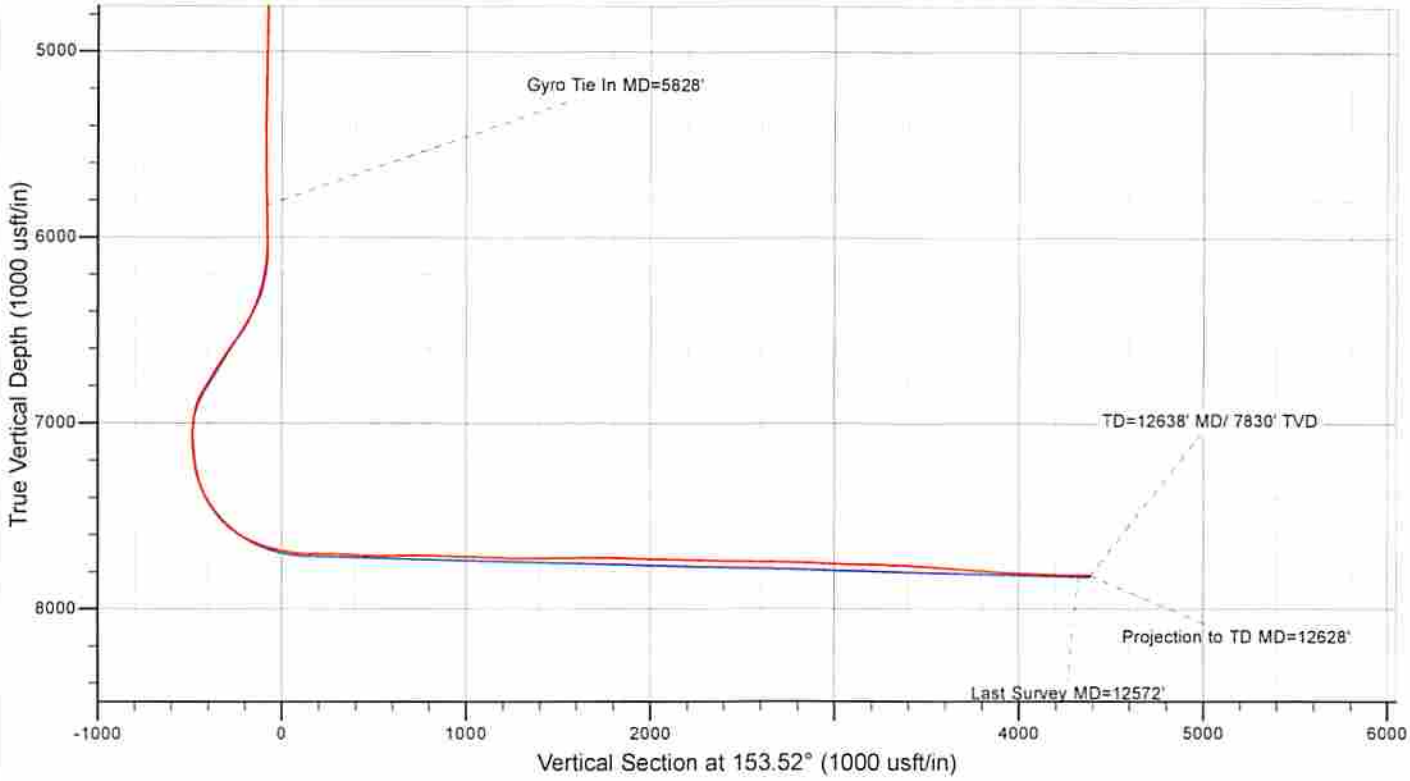
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
5,828.0	5,827.0	68.6	-48.9	Gyro Tie In MD=5828'
12,572.0	7,818.9	-3,835.2	1,998.2	Last Survey MD=12572'
12,628.0	7,819.3	-3,887.1	2,019.1	Projection to TD MD=12628'

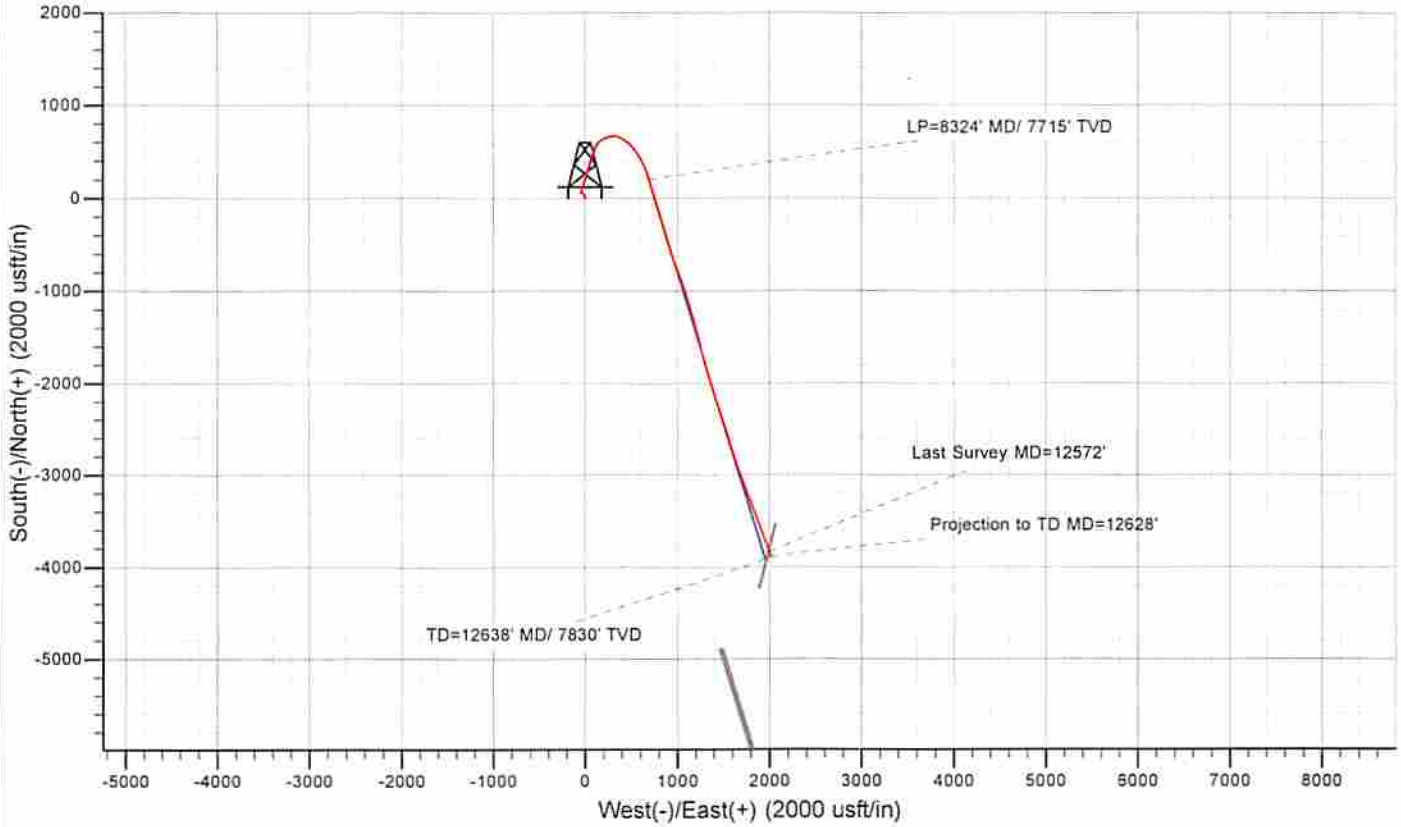
Checked By: _____ Approved By: _____ Date: _____

PHOENIX
TECHNOLOGY SERVICES

EQT Production - Marcellus

Project: Taylor County, WV
Site: Taylor County 514300
Well: Well 514300
Wellbore: Main Wellbore
Design: 514300 As Drilled Surveys





Stimulation Notes:
Re-perforated Stage 11 (11.1)

514300 - Perforations					
Stage Number	Perforation Date	Top Perf Depth (ftKB)	Bottom Perf Depth (ftKB)	Number of Shots	Formation
Initiation Sleeve	4/29/2014	12,601.00	12,604.00	10	MARCELLUS
1	4/29/2014	11,664.00	11,906.00	40	MARCELLUS
2	4/29/2014	11,364.00	11,606.00	40	MARCELLUS
3	4/30/2014	11,064.00	11,306.00	40	MARCELLUS
4	5/1/2014	10,764.00	11,006.00	40	MARCELLUS
5	5/1/2014	10,464.00	10,706.00	40	MARCELLUS
6	5/2/2014	10,164.00	10,406.00	40	MARCELLUS
7	5/2/2014	9,864.00	10,106.00	40	MARCELLUS
8	5/2/2014	9,564.00	9,806.00	40	MARCELLUS
9	5/3/2014	9,264.00	9,506.00	40	MARCELLUS
10	5/3/2014	8,964.00	9,206.00	40	MARCELLUS
11	5/4/2014	8,660.00	8,906.00	40	MARCELLUS
11.1 (Re-Perf)	5/4/2014	8,564.00	8,906.00	40	MARCELLUS
12	5/4/2014	8,364.00	8,606.00	40	MARCELLUS

514300 - 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	4/29/2014	13.00	8,390.00	NA	NA	NA	1,232	0
1	4/29/2014	88.00	8,632.00	6,885.00	4,946	501,510	11,974	0
2	4/29/2014	95.50	8,655.00	6,881.00	6,069	498,300	13,134	0
3	4/30/2014	94.90	8,566.00	6,459.00	5,985	499,660	13,985	0
4	5/1/2014	89.40	8,718.00	6,523.00	6,026	498,440	12,746	0
5	5/2/2014	99.20	8,463.00	6,391.00	6,019	498,220	12,039	0
6	5/2/2014	93.00	8,588.00	7,035.00	5,897	500,930	11,147	0
7	5/2/2014	98.80	8,693.00	7,675.00	5,994	500,810	12,113	0
8	5/3/2014	99.10	8,712.00	7,489.00	6,001	501,930	12,028	0
9	5/3/2014	96.60	8,710.00	6,623.00	5,987	501,230	12,113	0
10	5/3/2014	97.90	8,709.00	7,410.00	5,972	500,430	12,108	0
11	5/4/2014	93.00	8,573.00	7,796.00	5,647	233,100	7,994	0
11.1 (Re-Perf)	5/4/2014	99.00	7,891.00	7,796.00	5,862	262,480	5,331	0
12	5/4/2014	94.00	8,136.00	6,992.00	5,811	499,500	12,371	0

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	4/29/2014
Job End Date:	5/4/2014
State:	West Virginia
County:	Taylor
API Number:	47-091-01249-00-00
Operator Name:	EQT Production
Well Name and Number:	RSM112 - 514300
Longitude:	-80.17129000
Latitude:	39.31396700
Datum:	NAD27
Federal/Tribal Well:	NO
True Vertical Depth:	7,820
Total Base Water Volume (gal):	6,426,924
Total Base Non Water Volume:	295,672

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	89.57335	
Sand	USWS	Proppant					
			Crystalline Silica	14808-60-7	100.00000	10.03301	
MX-5	Halliburton	Biocide					
			Sodium Nitrate	7631-99-4	60.00000	0.05780	
WFRA-405e	USWS	Friction Reducer					
			Sodium Chloride	7647-14-5	20.00000	0.01793	
			Distillates, Petroleum, Hydrotreated Light	64742-47-8	20.00000	0.01793	
15% HCl	USWS	Acidizing					
			Hydrochloric Acid	7647-01-0	15.00000	0.02424	
SI-110	USWS	Scale Inhibitor					
			Ethylene Glycol	107-21-1	40.00000	0.01099	
MX-8	Halliburton	Biocide					
			Bacteria Culture	000-00-0	100.00000	0.00981	
LGC-15	USWS	Increases Viscosity					
			Petroleum Distillates	64742-47-8	60.00000	0.00498	
AI-301	USWS	Corrosion Inhibitor					
			DIETHYLENE GLYCOL	111-46-6	30.00000	0.00011	

			METHENAMINE	100-97-0	20.00000	0.00007	
			POLYETHLENEPOLYAMINE	68603-67-8	10.00000	0.00004	
			HYDROGEN CHLORIDE	7647-01-0	10.00000	0.00004	
			COCO AMINE	61791-14-8	5.00000	0.00002	
AP-One	USWS	Gel Breaker					
			Ammonium Persulfate	7727-54-0	100.00000	0.00010	

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 514300
CORDER LEASE

LATITUDE 39°20'00"

LONGITUDE 80°10'00"

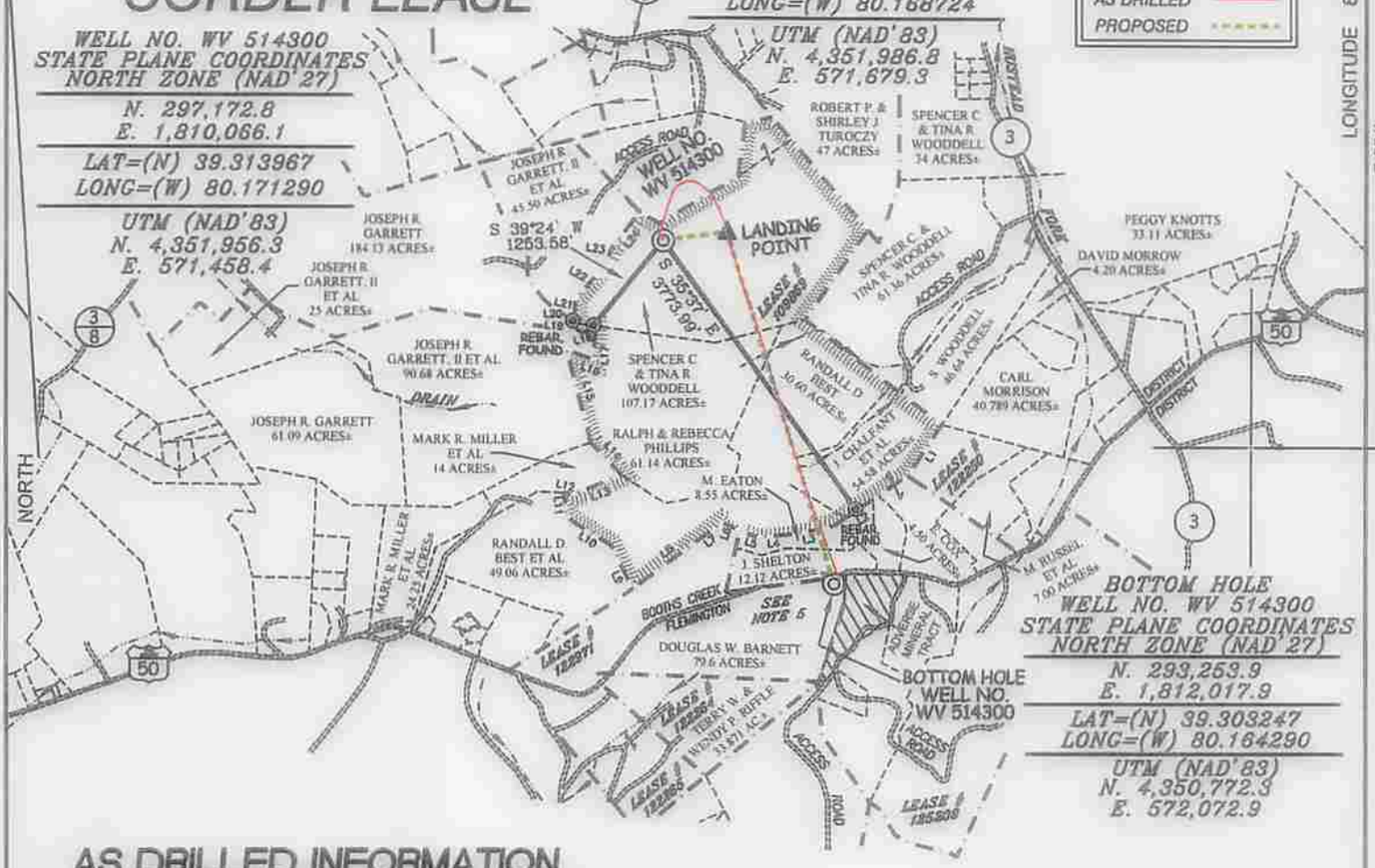
7,054'

1,310'

LANDING POINT
WELL NO. WV 514300
STATE PLANE COORDINATES
NORTH ZONE (NAD'27)
N. 297,260.8
E. 1,810,792.8
LAT=(N) 39.314223
LONG=(W) 80.168724
UTM (NAD'83)
N. 4,351,986.8
E. 571,679.3

WELL NO. WV 514300
STATE PLANE COORDINATES
NORTH ZONE (NAD'27)
N. 297,172.8
E. 1,810,066.1
LAT=(N) 39.313967
LONG=(W) 80.171290
UTM (NAD'83)
N. 4,351,956.3
E. 571,458.4

LEGEND
AS DRILLED
PROPOSED



BOTTOM HOLE
WELL NO. WV 514300
STATE PLANE COORDINATES
NORTH ZONE (NAD'27)
N. 293,253.9
E. 1,812,017.9
LAT=(N) 39.303247
LONG=(W) 80.164290
UTM (NAD'83)
N. 4,350,772.3
E. 572,072.9

AS DRILLED INFORMATION

BOTTOM HOLE	WELL NO. WV 514300
STATE PLANE COORDINATES NORTH ZONE (NAD'27)	STATE PLANE COORDINATES NORTH ZONE (NAD'27)
N. 293,285.9	N. 297,172.8
E. 1,812,085.2	E. 1,810,066.1
LAT=(N) 39.303337	LAT=(N) 39.313967
LONG=(W) 80.164053	LONG=(W) 80.171290
UTM (NAD'83)	UTM (NAD'83)
N. 4,350,782.3	N. 4,351,956.3
E. 572,093.2	E. 571,458.4

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, 2011.
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 04/21/10 REVISED 05/31/11 TO EXTEND HORIZONAL LEG & CHANGE BOTTOM HOLE COORDINATES, & REVISED AGAIN 07/25/11 TO CHANGE SIX DIGIT WELL NUMBERS.
7. PLAT UPDATED ON 07/16/14 TO SHOW THE AS DRILLED PATH COORDINATES FROM INFORMATION PROVIDED BY EQT ON 03/27/14.

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 JULY 25 , 20 11
REVISED DATE JULY 16 , 20 14
OPERATORS WELL NO. WV 514300
API WELL NO. 47 — 091 — 01249
STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 200 FILE NO. 7249ASDRILLED514300
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 1,586.5' (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.±) / D.W. BARNETT ET AL (81 AC.±)
PROPOSED WORK: LEASE NO. 109869 / 125209 / 122971
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 1710 PENNSYLVANIA AVENUE ADDRESS 1710 PENNSYLVANIA AVENUE
CHARLESTON, WV 25302 CHARLESTON, WV 25302

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

API 47 - 1030 - 2734 County Wetzel District Grant
Quad Big Run 7.5' Pad Name BIG190 Field/Pool Name
Farm name COASTAL LUMBER COMPANY Well Number 513925
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 4378134	Easting 533884
Landing Point of Curve	Northing 4378470	Easting 534188
Bottom Hole	Northing 4379883	Easting 533722

Elevation (ft) 1473 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 14.0 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 3/12/2012 Date drilling commenced 10/16/2013 Date drilling ceased 1/15/2014
Date completion activities began 4/28/2014 Date completion activities ceased 5/4/2014
Verbal plugging (Y/N) n/a 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 751' Open mine(s) (Y/N) depths N
Salt water depth(s) ft 2163' Void(s) encountered (Y/N) depths N
Coal depth(s) ft 411, 1204, 1222 Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

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WV Dept. of Environmental Protection

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API 47- 1030 - 2734 Farm name COASTAL LUMBER COMPANY Well number 513925

CASING STRINGS	Hole Size	Casing Size	Depth	New or Used	Grade wt/ft	Basket Depth(s)	Did cement circulate (Y/ N) * Provide details below*
Conductor	28"	26"	40'	New	82.6#/ft	n/a	Y
Surface	17-1/2"	13-3/8"	843'	New	54.5#/ft	96'	Y
Coal							
Intermediate 1	12-3/8"	9-5/8"	2797'	New	40#/ft	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-1/2"	5-1/2"	13241'	New	20#	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	49	15.6	1.18	57.82	0	8
Surface	Class A	775	15.6	1.19	923	0	8
Coal							
Intermediate 1	Class A	1010	15.6	1.19	1202	0	8
Intermediate 2							
Intermediate 3							
Production	Class A/Class H	830/710	15/15.6	1.21/1.83	2297	4349	8
Tubing							

Drillers TD (ft) 13,249' Loggers TD (ft) N/A

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

Plug back procedure N/A

Kick off depth (ft) 5,760'

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 set at 803', 685', 568', 448', 331', 213', basket at 96'

Intermediate-bowspring centralizers set at 2753', 2287', 1780', 1274', 726', 2683'

Production-composite centralizer ran on every joint from td up to 4,260'

WAS WELL COMPLETED AS SHOT HOLE ☐ Yes ■ No DETAILS

WAS WELL COMPLETED OPEN HOLE? ☐ Yes ■ No DETAILS

WERE TRACERS USED ☐ Yes ■ No TYPE OF TRACER(S) USED

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API 47- 1030 - 2734 Farm name COASTAL LUMBER COMPANY Well number 513925

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.

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API 47- 1030 - 2734 Farm name COASTAL LUMBER COMPANY Well number 513925

PRODUCING FORMATION(S)	DEPTHS			
Marcellus	7,548	TVD	8,179	MD

Please insert additional pages as applicable.

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

SHUT-IN PRESSURE Surface 3,000 psi Bottom Hole NA psi DURATION OF TEST 61 hrs

OPEN FLOW	Gas	Oil	NGL	Water	GAS MEASURED BY
	8,696 mcfpd	0 bpd	0 bpd	528 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 Halliburton Energy Services
Address 121 Champion Way City Canonsburg State PA Zip 15317

Stimulating Company Nabors Completion and Production Services
Address PO Box 975682 City Dallas State TX Zip 75397 - 5682

Please insert additional pages as applicable.

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Completed by James E. Helmick Jr. Telephone 412-395-5518
Signature Title Vice President - Completions Operations Date 7/30/2014

JUL 31 2014

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

Office of Oil and Gas
WV Dept. of Environmental Protection

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	751	751
Sand / Shale	1	1	411	411
Mapletown Coal	411	411	417	417
Sand / Shale	417	417	1,211.00	1,211.00
Pittsburgh Coal	1,211.00	1,211.00	1,218.00	1,218.00
Sand / Shale	1,218.00	1,218.00	1,229.00	1,229.00
Coal	1,229.00	1,229.00	1,235.00	1,235.00
Sand / Shale	1,235.00	1,235.00	2,269.00	2,269.00
Maxton	2,269.00	2,269.00	2,425.00	2,424.90
Big Lime	2,425.00	2,424.90	2,554.00	2,553.90
Big Injun	2,554.00	2,553.90	2,832.00	2,831.90
Weir	2,832.00	2,831.90	2,999.00	2,998.90
Gantz	2,999.00	2,998.90	3,034.00	3,033.90
Fifty foot	3,034.00	3,033.90	3,129.00	3,128.90
Thirty foot	3,129.00	3,128.90	3,274.00	3,273.90
Gordon	3,274.00	3,273.90	3,347.00	3,346.90
Forth Sand	3,347.00	3,346.90	3,504.00	3,503.80
Bayard	3,504.00	3,503.80	3,887.00	3,886.80
Warren	3,887.00	3,886.80	4,084.00	4,083.80
Speechley	4,084.00	4,083.80	4,455.00	4,454.80
Balltown A	4,455.00	4,454.80	4,912.00	4,911.80
Riley	4,912.00	4,911.80	5,556.00	5,555.80
Benson	5,556.00	5,555.80	5,930.00	5,928.20
Alexander	5,930.00	5,928.20	7,079.00	6,846.70
Rhinestreet	7,079.00	6,846.70	7,478.00	7,147.30
Sonyea	7,478.00	7,147.30	7,668.00	7,288.70
Middlesex	7,668.00	7,288.70	7,748.00	7,343.00
Genesee	7,748.00	7,343.00	7,872.00	7,421.60
Geneseo	7,872.00	7,421.60	7,905.00	7,440.40
Tully	7,905.00	7,440.40	7,943.00	7,461.40
Hamilton	7,943.00	7,461.40	8,179.00	7,548.60
Marcellus	8,179.00	7,548.60	13,249.00	7,524.40

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WV Dept. of Environmental Protection

PHOENIX
TECHNOLOGY SERVICES

EQT Production - Marcellus

Wetzel County, WV
Wetzel County 513925
Well #513925

Main Wellbore

Design: As Drilled Surveys

Standard Survey Report

16 January, 2014

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WV Dept. of Environmental Protection

EQT
Where energy meets innovation.

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Site Wetzel County 513925
Company:	EQT Production - Marcellus	**TVD Reference:**	KB @ 1489.0usft
Project:	Wetzel County, WV	**MD Reference:**	KB @ 1489.0usft
Site:	Wetzel County 513925	**North Reference:**	Grid
Well:	Well #513925	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	As Drilled Surveys		

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Project: Wetzel County, WV

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

Site: Wetzel County 513925

Site Position:		**Northing:**	385,128.00 usft	**Latitude:**	39.55
From:	Map	**Easting:**	1,688,202.00 usft	**Longitude:**	-80.61
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	-0.71 °

Well: Well #513925

Well Position	**+N/-S**	0.0 usft	**Northing:**	385,128.00 usft	**Latitude:**	39° 33' 7.679 N
	+E/-W	0.0 usft	**Easting:**	1,688,202.00 usft	**Longitude:**	80° 36' 20.845 W
Position Uncertainty		0.0 usft	**Wellhead Elevation:**	usft	**Ground Level:**	1,473.0 usft

Wellbore: Main Wellbore

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010_14	12/23/2013	-8.64	67.04	52,463

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	355.72

Survey Program Date 1/16/2014

From ()	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	5,730.0	513925 VES Gyros (Main Wellbore)	Gyroflex Multishot	North sensing gyrocompassing m/s
0.00	13,249.0	513925 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	-1,489.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.27	280.14	100.0	-1,389.0	0.0	-0.2	0.1	0.27	0.27	0.00
200.0	0.10	290.29	200.0	-1,289.0	0.1	-0.5	0.2	0.17	-0.17	10.15
300.0	0.27	329.27	300.0	-1,189.0	0.3	-0.7	0.4	0.20	0.17	38.98
400.0	0.33	10.78	400.0	-1,089.0	0.8	-0.8	0.9	0.22	0.06	41.51
500.0	0.16	40.13	500.0	-989.0	1.2	-0.7	1.3	0.21	-0.17	29.35
600.0	0.38	32.16	600.0	-889.0	1.6	-0.4	1.6	0.22	0.22	-7.97
700.0	0.08	39.27	700.0	-789.0	1.9	-0.2	2.0	0.30	-0.30	7.11

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Site Wetzel County 513925
Company:	EQT Production - Marcellus	**TVD Reference:**	KB @ 1489.0usft
Project:	Wetzel County, WV	**MD Reference:**	KB @ 1489.0usft
Site:	Wetzel County 513925	**North Reference:**	Grid
Well:	Well #513925	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	As Drilled Surveys		

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WV Dept. of Environmental Protection

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)
800.0	0.47	26.39	800.0	-689.0	2.4	0.0	2.4	0.39	0.39	-12.88
900.0	0.31	20.01	900.0	-589.0	3.0	0.3	3.0	0.17	-0.16	-6.38
1,000.0	0.32	22.73	1,000.0	-489.0	3.5	0.5	3.4	0.02	0.01	2.72
1,100.0	0.08	340.02	1,100.0	-389.0	3.8	0.6	3.8	0.27	-0.24	-42.71
1,200.0	0.22	336.23	1,200.0	-289.0	4.1	0.5	4.0	0.14	0.14	-3.79
1,300.0	0.27	328.19	1,300.0	-189.0	4.4	0.3	4.4	0.06	0.05	-8.04
1,400.0	0.30	326.56	1,400.0	-89.0	4.9	0.0	4.8	0.03	0.03	-1.63
1,500.0	0.42	331.61	1,500.0	11.0	5.4	-0.3	5.4	0.12	0.12	5.05
1,600.0	0.41	339.04	1,600.0	111.0	6.1	-0.6	6.1	0.05	-0.01	7.43
1,700.0	0.43	346.10	1,700.0	211.0	6.8	-0.8	6.8	0.06	0.02	7.06
1,800.0	0.41	352.65	1,800.0	311.0	7.5	-0.9	7.5	0.05	-0.02	6.55
1,900.0	0.60	343.99	1,900.0	411.0	8.3	-1.1	8.4	0.20	0.19	-8.66
2,000.0	0.51	323.34	2,000.0	511.0	9.2	-1.5	9.3	0.22	-0.09	-20.65
2,100.0	0.44	187.50	2,100.0	611.0	9.2	-1.9	9.3	0.88	-0.07	-135.84
2,200.0	0.89	132.32	2,200.0	711.0	8.3	-1.3	8.3	0.73	0.45	-55.18
2,300.0	1.08	103.29	2,299.9	810.9	7.5	0.2	7.5	0.53	0.19	-29.03
2,400.0	0.79	91.55	2,399.9	910.9	7.3	1.8	7.1	0.35	-0.29	-11.74
2,500.0	0.84	83.37	2,499.9	1,010.9	7.4	3.2	7.1	0.13	0.05	-8.18
2,600.0	0.74	86.50	2,599.9	1,110.9	7.5	4.6	7.1	0.11	-0.10	3.13
2,700.0	0.90	71.78	2,699.9	1,210.9	7.8	5.9	7.3	0.26	0.16	-14.72
2,800.0	0.80	69.91	2,799.9	1,310.9	8.2	7.3	7.7	0.10	-0.10	-1.87
2,900.0	0.73	65.68	2,899.9	1,410.9	8.8	8.6	8.1	0.09	-0.07	-4.23
3,000.0	0.53	45.57	2,999.9	1,510.9	9.3	9.5	8.6	0.30	-0.20	-20.11
3,100.0	0.52	350.80	3,099.9	1,610.9	10.1	9.7	9.4	0.48	-0.01	-54.77
3,200.0	0.59	333.28	3,199.9	1,710.9	11.0	9.4	10.3	0.18	0.07	-17.52
3,300.0	0.69	327.69	3,299.9	1,810.9	12.0	8.9	11.3	0.12	0.10	-5.59
3,400.0	0.63	327.64	3,399.9	1,910.9	13.0	8.3	12.3	0.06	-0.06	-0.05
3,500.0	0.69	322.14	3,499.8	2,010.8	13.9	7.6	13.3	0.09	0.06	-5.50
3,600.0	0.69	319.14	3,599.8	2,110.8	14.8	6.8	14.3	0.04	0.00	-3.00
3,700.0	0.33	318.75	3,699.8	2,210.8	15.5	6.3	15.0	0.36	-0.36	-0.39
3,800.0	0.67	314.16	3,799.8	2,310.8	16.1	5.7	15.7	0.34	0.34	-4.59
3,900.0	0.53	315.97	3,899.8	2,410.8	16.9	4.9	16.5	0.14	-0.14	1.81
4,000.0	0.41	302.34	3,999.8	2,510.8	17.4	4.3	17.0	0.16	-0.12	-13.63
4,100.0	0.62	301.03	4,099.8	2,610.8	17.9	3.5	17.5	0.21	0.21	-1.31
4,200.0	0.71	307.15	4,199.8	2,710.8	18.5	2.6	18.3	0.11	0.09	6.12
4,300.0	0.53	304.71	4,299.8	2,810.8	19.1	1.7	19.0	0.18	-0.18	-2.44
4,400.0	0.60	308.41	4,399.8	2,910.8	19.7	0.9	19.6	0.08	0.07	3.70
4,500.0	0.52	312.80	4,499.8	3,010.8	20.4	0.2	20.3	0.09	-0.08	4.39
4,600.0	0.43	328.29	4,599.8	3,110.8	21.0	-0.4	21.0	0.16	-0.09	15.49
4,700.0	0.35	337.04	4,699.8	3,210.8	21.6	-0.7	21.6	0.10	-0.08	8.75
4,800.0	0.48	25.16	4,799.8	3,310.8	22.3	-0.6	22.2	0.36	0.13	48.12
4,900.0	0.40	36.66	4,899.8	3,410.8	22.9	-0.2	22.9	0.12	-0.08	11.50

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Database:	EDM 5000.1 Single User Do	**Local Co-ordinate Reference:**	Site Wetzel County 513
Company:	EQT Production - Marcellus	**TVD Reference:**	KB @ 1489.0usft
Project:	Wetzel County, WV	**MD Reference:**	KB @ 1489.0usft
Site:	Wetzel County 513925	**North Reference:**	Grid
Well:	Well #513925	**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)
5,000.0	0.51	41.47	4,999.8	3,510.8	23.5	0.3	23.4	0.12	0.11	4.81
5,100.0	0.47	45.80	5,099.8	3,610.8	24.2	0.8	24.0	0.05	-0.04	4.33
5,200.0	0.76	51.54	5,199.8	3,710.8	24.9	1.7	24.7	0.30	0.29	5.74
5,300.0	0.26	43.73	5,299.8	3,810.8	25.4	2.3	25.2	0.50	-0.50	-7.81
5,400.0	0.46	20.54	5,399.8	3,910.8	26.0	2.6	25.7	0.24	0.20	-23.19
5,500.0	0.74	3.62	5,499.8	4,010.8	27.0	2.8	26.7	0.33	0.28	-16.92
5,600.0	0.82	8.10	5,599.8	4,110.8	28.3	3.0	28.0	0.10	0.08	4.48
5,700.0	0.77	14.42	5,699.7	4,210.7	29.7	3.2	29.4	0.10	-0.05	6.32
Gyro Tie IN MD=5730'										
5,730.0	0.54	18.78	5,729.8	4,240.8	30.0	3.3	29.7	0.78	-0.77	14.53
5,760.0	0.40	31.10	5,759.7	4,270.7	30.3	3.4	29.9	0.57	-0.47	41.08
5,791.0	0.80	4.30	5,790.7	4,301.7	30.6	3.5	30.2	1.54	1.29	-86.45
5,823.0	3.50	358.00	5,822.7	4,333.7	31.8	3.5	31.4	8.46	8.44	-19.69
5,854.0	6.90	352.50	5,853.6	4,364.6	34.6	3.2	34.2	11.07	10.97	-17.74
5,886.0	10.40	352.10	5,885.2	4,396.2	39.3	2.6	39.0	10.94	10.94	-1.25
5,917.0	12.90	3.40	5,915.6	4,426.6	45.5	2.4	45.2	10.88	8.06	36.45
5,949.0	14.30	12.80	5,946.7	4,457.7	53.0	3.5	52.6	8.16	4.38	29.38
5,980.0	16.40	23.30	5,976.6	4,487.6	60.7	6.0	60.1	11.21	6.77	33.87
6,012.0	17.90	32.80	6,007.2	4,518.2	69.0	10.5	68.0	9.91	4.69	29.69
6,044.0	19.90	43.80	6,037.4	4,548.4	77.1	16.9	75.6	12.74	6.25	34.38
6,075.0	21.40	54.60	6,066.5	4,577.5	84.2	25.2	82.0	13.18	4.84	34.84
6,107.0	22.90	65.00	6,096.1	4,607.1	90.2	35.6	87.3	13.10	4.69	32.50
6,138.0	22.90	72.40	6,124.7	4,635.7	94.6	46.8	90.8	9.28	0.00	23.87
6,169.0	25.00	73.20	6,153.0	4,664.0	98.3	58.8	93.6	6.85	6.77	2.58
6,201.0	27.60	70.40	6,181.7	4,692.7	102.7	72.3	97.0	9.00	8.13	-8.75
6,232.0	30.70	69.60	6,208.8	4,719.8	107.9	86.5	101.1	10.08	10.00	-2.58
6,264.0	34.50	68.80	6,235.7	4,746.7	114.0	102.6	106.0	11.95	11.88	-2.50
6,296.0	38.10	67.90	6,261.5	4,772.5	121.0	120.2	111.7	11.37	11.25	-2.81
6,328.0	41.80	67.30	6,286.0	4,797.0	128.8	139.2	118.1	11.62	11.56	-1.88
6,359.0	45.20	67.10	6,308.5	4,819.5	137.1	158.9	124.9	10.98	10.97	-0.65
6,391.0	45.20	66.30	6,331.1	4,842.1	146.1	179.7	132.3	1.77	0.00	-2.50
6,454.0	43.20	64.80	6,376.2	4,887.2	164.3	219.7	147.4	3.58	-3.17	-2.38
6,517.0	42.70	66.60	6,422.3	4,933.3	181.9	258.8	162.1	2.10	-0.79	2.86
6,580.0	41.80	67.90	6,469.0	4,980.0	198.3	297.9	175.5	1.99	-1.43	2.06
6,643.0	42.00	67.80	6,515.9	5,026.9	214.2	336.8	188.4	0.33	0.32	-0.16
6,706.0	41.30	68.90	6,562.9	5,073.9	229.6	375.8	200.9	1.61	-1.11	1.75
6,769.0	41.50	67.30	6,610.2	5,121.2	245.2	414.4	213.6	1.71	0.32	-2.54
6,832.0	41.80	66.10	6,657.3	5,168.3	261.7	452.9	227.2	1.35	0.48	-1.90
6,894.0	40.60	65.60	6,703.9	5,214.9	278.4	490.1	241.1	2.01	-1.94	-0.81
6,957.0	39.20	63.80	6,752.3	5,263.3	295.7	526.7	255.6	2.88	-2.22	-2.86
7,019.0	39.20	64.10	6,800.3	5,311.3	312.9	561.9	270.1	0.31	0.00	0.48
7,083.0	39.40	66.20	6,849.8	5,360.8	329.9	598.6	284.3	2.10	0.31	3.28
7,145.0	40.00	67.70	6,897.5	5,408.5	345.4	635.1	297.1	1.82	0.97	2.42

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Site Wetzel County 513925
Company:	EQT Production - Marcellus	**TVD Reference:**	KB @ 1489.0usft
Project:	Wetzel County, WV	**MD Reference:**	KB @ 1489.0usft
Site:	Wetzel County 513925	**North Reference:**	Grid
Well:	Well #513925	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	As Drilled Surveys		

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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)
7,208.0	40.60	69.20	6,945.6	5,456.6	360.4	673.0	309.2	1.81	0.95	2.38
7,270.0	41.40	69.70	6,992.4	5,503.4	374.7	711.1	320.6	1.39	1.29	0.81
7,333.0	42.60	68.40	7,039.2	5,550.2	389.7	750.4	332.7	2.35	1.90	-2.06
7,396.0	42.00	67.90	7,085.8	5,596.8	405.5	789.8	345.5	1.09	-0.95	-0.79
7,459.0	41.10	67.00	7,132.9	5,643.9	421.5	828.4	358.6	1.71	-1.43	-1.43
7,491.0	40.80	66.40	7,157.1	5,668.1	429.8	847.6	365.4	1.55	-0.94	-1.88
7,522.0	39.90	62.00	7,180.7	5,691.7	438.6	865.7	372.8	9.64	-2.90	-14.19
7,554.0	40.50	55.60	7,205.2	5,716.2	449.3	883.3	382.1	13.04	1.88	-20.00
7,585.0	41.50	51.10	7,228.6	5,739.6	461.4	899.7	393.0	10.05	3.23	-14.52
7,617.0	42.90	47.30	7,252.3	5,763.3	475.4	915.9	405.8	9.10	4.38	-11.88
7,648.0	44.90	42.90	7,274.6	5,785.6	490.6	931.1	419.8	11.77	6.45	-14.19
7,680.0	46.20	38.70	7,297.1	5,808.1	507.9	946.0	435.9	10.21	4.06	-13.13
7,711.0	47.80	35.50	7,318.2	5,829.2	526.0	959.7	452.9	9.14	5.16	-10.32
7,743.0	48.00	33.40	7,339.7	5,850.7	545.6	973.1	471.5	4.91	0.63	-6.56
7,774.0	48.30	29.90	7,360.3	5,871.3	565.2	985.2	490.1	8.46	0.97	-11.29
7,806.0	49.70	26.10	7,381.3	5,892.3	586.5	996.6	510.6	9.97	4.38	-11.88
7,837.0	52.80	23.50	7,400.7	5,911.7	608.5	1,006.7	531.7	11.95	10.00	-8.39
7,869.0	53.90	21.20	7,419.8	5,930.8	632.2	1,016.4	554.6	6.71	3.44	-7.19
7,900.0	56.00	19.00	7,437.6	5,948.6	656.1	1,025.2	577.8	8.92	6.77	-7.10
7,932.0	56.60	16.90	7,455.4	5,966.4	681.4	1,033.4	602.4	5.77	1.88	-6.56
7,963.0	59.40	13.20	7,471.8	5,982.8	706.8	1,040.2	627.2	13.56	9.03	-11.94
7,995.0	62.80	9.50	7,487.3	5,998.3	734.2	1,045.7	654.2	14.67	10.63	-11.56
8,026.0	66.30	6.70	7,500.6	6,011.6	761.9	1,049.6	681.5	13.93	11.29	-9.03
8,058.0	68.60	3.80	7,512.9	6,023.9	791.4	1,052.3	710.6	11.03	7.19	-9.06
8,089.0	70.90	1.00	7,523.6	6,034.6	820.4	1,053.5	739.5	11.26	7.42	-9.03
8,120.0	73.00	358.80	7,533.2	6,044.2	849.9	1,053.5	768.9	9.56	6.77	-7.10
8,152.0	74.90	356.40	7,542.1	6,053.1	880.6	1,052.2	799.7	9.34	5.94	-7.50
8,183.0	77.40	354.60	7,549.5	6,060.5	910.6	1,049.8	829.7	9.84	8.06	-5.81
8,214.0	77.80	353.00	7,556.2	6,067.2	940.7	1,046.5	860.0	5.20	1.29	-5.16
8,246.0	79.60	350.80	7,562.4	6,073.4	971.8	1,042.1	891.3	8.78	5.63	-6.88
8,278.0	81.50	349.50	7,567.7	6,078.7	1,002.9	1,036.7	922.7	7.16	5.94	-4.06
8,309.0	83.60	347.00	7,571.7	6,082.7	1,032.9	1,030.5	953.2	10.48	6.77	-8.06
8,341.0	87.10	345.60	7,574.3	6,085.3	1,063.9	1,022.9	984.7	11.77	10.94	-4.38
8,372.0	89.50	342.80	7,575.2	6,086.2	1,093.7	1,014.5	1,015.0	11.89	7.74	-9.03
8,404.0	91.30	342.30	7,575.0	6,086.0	1,124.3	1,004.9	1,046.2	5.84	5.63	-1.56
8,468.0	91.60	343.10	7,573.4	6,084.4	1,185.4	985.8	1,108.5	1.33	0.47	1.25
8,530.0	90.80	343.20	7,572.1	6,083.1	1,244.7	967.9	1,169.0	1.30	-1.29	0.16
8,594.0	90.80	344.70	7,571.2	6,082.2	1,306.2	950.2	1,231.7	2.34	0.00	2.34
8,657.0	91.30	345.80	7,570.0	6,081.0	1,367.1	934.1	1,293.6	1.92	0.79	1.75
8,719.0	91.50	345.70	7,568.5	6,079.5	1,427.2	918.9	1,354.6	0.36	0.32	-0.16
8,782.0	90.80	345.40	7,567.2	6,078.2	1,488.2	903.2	1,416.6	1.21	-1.11	-0.48
8,845.0	90.40	345.10	7,566.6	6,077.6	1,549.1	887.1	1,478.6	0.79	-0.63	-0.48
8,908.0	90.60	344.90	7,566.0	6,077.0	1,609.9	870.8	1,540.5	0.45	0.32	-0.32

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Site Wetzel County 513925
Company:	EQT Production - Marcellus	TVD Reference:	KB @ 1489.0usft
Project:	Wetzel County, WV	MD Reference:	KB @ 1489.0usft
Site:	Wetzel County 513925	North Reference:	Grid
Well:	Well #513925	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	As Drilled Surveys		

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Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,971.0	90.50	344.30	7,565.4	6,076.4	1,670.7	854.1	1,602.3	0.97	-0.16	-0.95
9,035.0	90.40	344.30	7,564.9	6,075.9	1,732.3	836.8	1,665.0	0.16	-0.16	0.00
9,098.0	90.40	344.00	7,564.5	6,075.5	1,792.9	819.6	1,726.7	0.48	0.00	-0.48
9,161.0	89.80	343.30	7,564.4	6,075.4	1,853.3	801.8	1,788.3	1.46	-0.95	-1.11
9,224.0	89.60	342.50	7,564.7	6,075.7	1,913.5	783.3	1,849.8	1.31	-0.32	-1.27
9,287.0	89.90	342.30	7,565.0	6,076.0	1,973.6	764.3	1,911.1	0.57	0.48	-0.32
9,350.0	89.70	341.80	7,565.2	6,076.2	2,033.5	744.9	1,972.3	0.85	-0.32	-0.79
9,413.0	90.00	342.00	7,565.4	6,076.4	2,093.4	725.3	2,033.5	0.57	0.48	0.32
9,476.0	89.80	341.20	7,565.5	6,076.5	2,153.2	705.4	2,094.6	1.31	-0.32	-1.27
9,539.0	90.10	342.90	7,565.5	6,076.5	2,213.1	686.0	2,155.8	2.74	0.48	2.70
9,603.0	91.80	342.70	7,564.5	6,075.5	2,274.2	667.1	2,218.1	2.67	2.66	-0.31
9,666.0	91.90	341.50	7,562.4	6,073.4	2,334.2	647.7	2,279.3	1.91	0.16	-1.90
9,729.0	92.30	342.60	7,560.1	6,071.1	2,394.1	628.3	2,340.5	1.86	0.63	1.75
9,792.0	91.50	342.50	7,558.0	6,069.0	2,454.1	609.4	2,401.8	1.28	-1.27	-0.16
9,855.0	92.00	342.70	7,556.1	6,067.1	2,514.2	590.6	2,463.1	0.85	0.79	0.32
9,918.0	91.80	341.70	7,554.0	6,065.0	2,574.2	571.3	2,524.4	1.62	-0.32	-1.59
9,981.0	90.90	340.00	7,552.5	6,063.5	2,633.7	550.7	2,585.2	3.05	-1.43	-2.70
10,044.0	91.20	339.90	7,551.4	6,062.4	2,692.8	529.1	2,645.9	0.50	0.48	-0.16
10,107.0	91.70	340.40	7,549.8	6,060.8	2,752.1	507.7	2,706.5	1.12	0.79	0.79
10,170.0	90.90	341.20	7,548.4	6,059.4	2,811.5	487.0	2,767.4	1.80	-1.27	1.27
10,233.0	90.80	342.10	7,547.4	6,058.4	2,871.3	467.2	2,828.5	1.44	-0.16	1.43
10,296.0	90.00	342.20	7,547.0	6,058.0	2,931.3	447.8	2,889.7	1.28	-1.27	0.16
10,359.0	89.70	342.20	7,547.2	6,058.2	2,991.3	428.6	2,951.0	0.48	-0.48	0.00
10,422.0	89.70	342.40	7,547.5	6,058.5	3,051.3	409.4	3,012.3	0.32	0.00	0.32
10,485.0	90.10	342.60	7,547.6	6,058.6	3,111.4	390.5	3,073.6	0.71	0.63	0.32
10,549.0	90.70	342.30	7,547.1	6,058.1	3,172.4	371.2	3,135.9	1.05	0.94	-0.47
10,612.0	90.90	342.40	7,546.3	6,057.3	3,232.4	352.1	3,197.2	0.35	0.32	0.16
10,675.0	90.80	341.80	7,545.3	6,056.3	3,292.4	332.7	3,258.4	0.97	-0.16	-0.95
10,738.0	90.90	342.60	7,544.4	6,055.4	3,352.3	313.5	3,319.6	1.28	0.16	1.27
10,802.0	91.10	342.70	7,543.3	6,054.3	3,413.4	294.4	3,382.0	0.35	0.31	0.16
10,865.0	90.90	342.80	7,542.2	6,053.2	3,473.6	275.7	3,443.3	0.35	-0.32	0.16
10,928.0	91.20	342.80	7,541.0	6,052.0	3,533.8	257.1	3,504.7	0.48	0.48	0.00
10,991.0	90.60	342.00	7,540.0	6,051.0	3,593.8	238.0	3,566.0	1.59	-0.95	-1.27
11,054.0	89.10	341.40	7,540.2	6,051.2	3,653.6	218.3	3,627.1	2.56	-2.38	-0.95
11,117.0	89.30	341.10	7,541.1	6,052.1	3,713.3	198.0	3,688.1	0.57	0.32	-0.48
11,180.0	89.40	341.90	7,541.8	6,052.8	3,773.0	178.0	3,749.2	1.28	0.16	1.27
11,244.0	89.40	341.70	7,542.5	6,053.5	3,833.8	158.0	3,811.3	0.31	0.00	-0.31
11,307.0	89.70	341.30	7,543.0	6,054.0	3,893.5	138.0	3,872.4	0.79	0.48	-0.63
11,370.0	90.80	341.20	7,542.7	6,053.7	3,953.2	117.8	3,933.4	1.75	1.75	-0.16
11,433.0	91.20	342.50	7,541.6	6,052.6	4,013.1	98.2	3,994.5	2.16	0.63	2.06
11,496.0	91.30	343.30	7,540.2	6,051.2	4,073.3	79.6	4,056.0	1.28	0.16	1.27
11,559.0	91.30	342.90	7,538.8	6,049.8	4,133.5	61.3	4,117.4	0.63	0.00	-0.63

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Site Wetzel County 513925
Company:	EQT Production - Marcellus	**TVD Reference:**	KB @ 1489.0usft
Project:	Wetzel County, WV	**MD Reference:**	KB @ 1489.0usft
Site:	Wetzel County 513925	**North Reference:**	Grid
Well:	Well #513925	**Survey Calculation Method:**	Minimum Curvature
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11,622.0	91.30	342.90	7,537.4	6,048.4	4,193.7	42.8	4,178.8	0.00	0.00	0.00
11,685.0	91.60	342.20	7,535.8	6,046.8	4,253.8	23.9	4,240.2	1.21	0.48	-1.11
11,748.0	91.60	342.00	7,534.0	6,045.0	4,313.7	4.6	4,301.4	0.32	0.00	-0.32
11,811.0	91.70	340.70	7,532.2	6,043.2	4,373.4	-15.6	4,362.4	2.07	0.16	-2.06
11,874.0	91.50	341.80	7,530.4	6,041.4	4,433.0	-35.8	4,423.3	1.77	-0.32	1.75
11,938.0	91.10	342.10	7,529.0	6,040.0	4,493.9	-55.6	4,485.5	0.78	-0.63	0.47
12,001.0	89.70	342.80	7,528.5	6,039.5	4,553.9	-74.6	4,546.8	2.48	-2.22	1.11
12,064.0	88.80	342.00	7,529.4	6,040.4	4,614.0	-93.7	4,608.1	1.91	-1.43	-1.27
12,126.0	88.40	341.60	7,530.9	6,041.9	4,672.8	-113.0	4,668.3	0.91	-0.65	-0.65
12,189.0	88.70	342.40	7,532.5	6,043.5	4,732.7	-132.5	4,729.4	1.36	0.48	1.27
12,252.0	90.20	342.30	7,533.1	6,044.1	4,792.8	-151.6	4,790.7	2.39	2.38	-0.16
12,316.0	90.20	342.90	7,532.9	6,043.9	4,853.8	-170.7	4,853.1	0.94	0.00	0.94
12,379.0	90.60	343.50	7,532.4	6,043.4	4,914.2	-188.9	4,914.6	1.14	0.63	0.95
12,442.0	90.70	344.00	7,531.7	6,042.7	4,974.6	-206.6	4,976.2	0.81	0.16	0.79
12,505.0	90.90	344.60	7,530.8	6,041.8	5,035.3	-223.6	5,037.9	1.00	0.32	0.95
12,568.0	90.90	344.80	7,529.8	6,040.8	5,096.0	-240.2	5,099.8	0.32	0.00	0.32
12,631.0	90.90	345.40	7,528.8	6,039.8	5,156.9	-256.4	5,161.7	0.95	0.00	0.95
12,694.0	91.10	344.30	7,527.7	6,038.7	5,217.7	-272.9	5,223.5	1.77	0.32	-1.75
12,757.0	91.30	344.40	7,526.4	6,037.4	5,278.4	-289.9	5,285.3	0.35	0.32	0.16
12,820.0	91.30	344.40	7,525.0	6,036.0	5,339.0	-306.8	5,347.0	0.00	0.00	0.00
12,883.0	91.30	343.80	7,523.6	6,034.6	5,399.6	-324.1	5,408.7	0.95	0.00	-0.95
12,945.0	90.50	343.10	7,522.6	6,033.6	5,459.0	-341.7	5,469.3	1.71	-1.29	-1.13
13,008.0	90.20	343.00	7,522.2	6,033.2	5,519.3	-360.1	5,530.8	0.50	-0.48	-0.16
13,071.0	90.10	343.00	7,522.0	6,033.0	5,579.5	-378.5	5,592.2	0.16	-0.16	0.00
13,135.0	89.10	341.40	7,522.5	6,033.5	5,640.5	-398.1	5,654.4	2.95	-1.56	-2.50
Last Survey MD=13189'										
13,189.0	89.00	340.40	7,523.4	6,034.4	5,691.5	-415.8	5,706.6	1.86	-0.19	-1.85
Projection to TD MD=13249'										
13,249.0	89.00	340.40	7,524.4	6,035.4	5,748.0	-435.9	5,764.5	0.00	0.00	0.00

Design Annotations

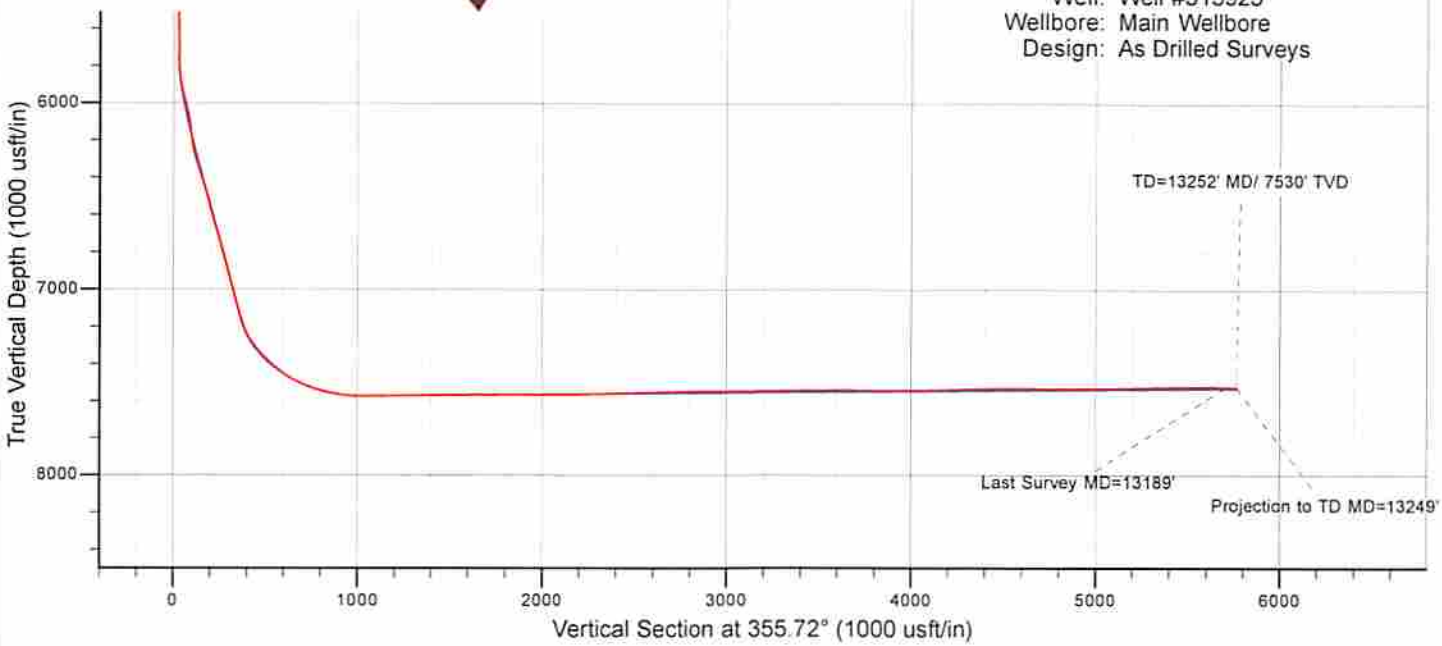
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
5,730.0	5,729.8	30.0	3.3	Gyro Tie IN MD=5730'
13,189.0	7,523.4	5,691.5	-415.8	Last Survey MD=13189'
13,249.0	7,524.4	5,748.0	-435.9	Projection to TD MD=13249'

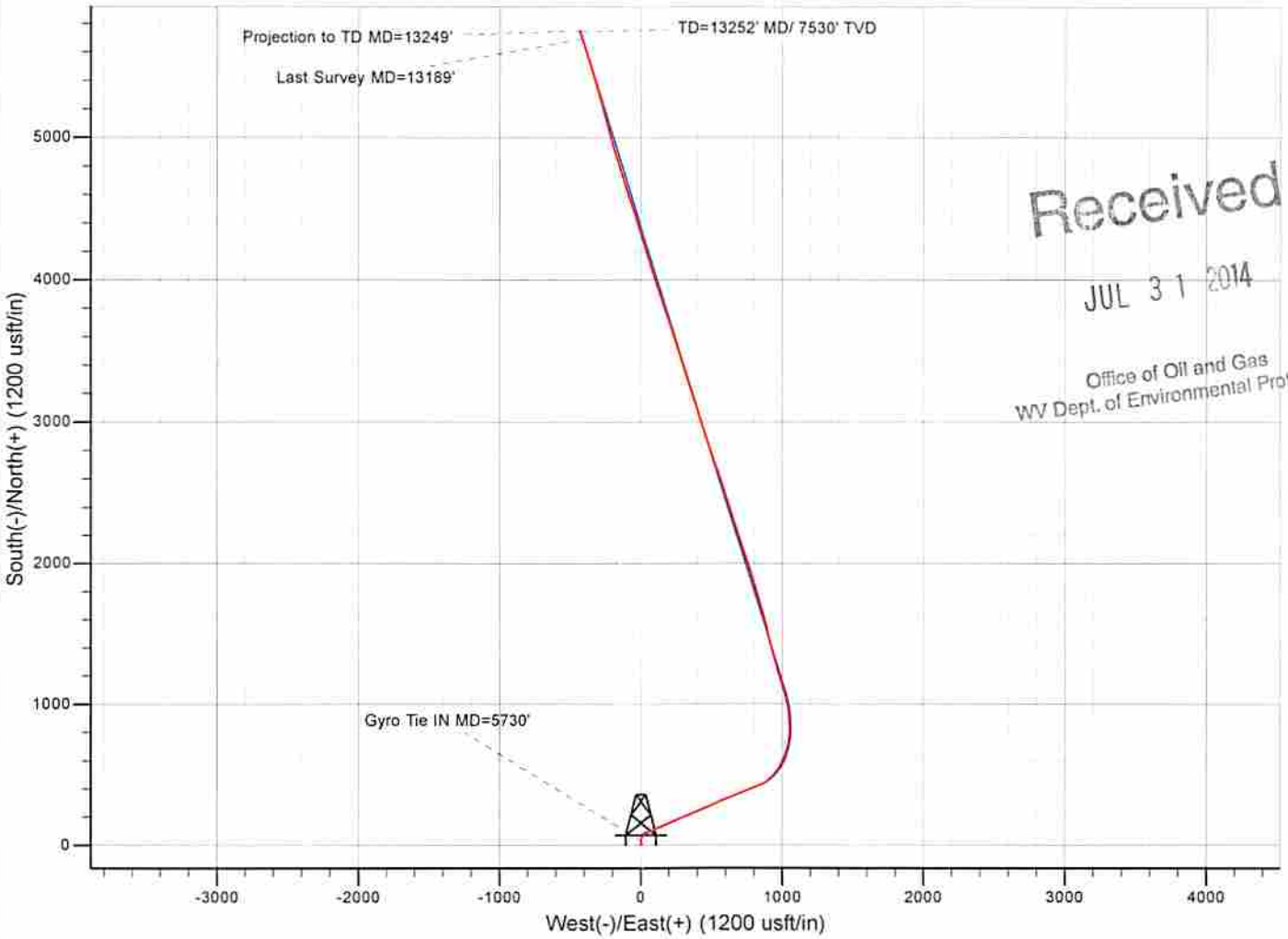
Checked By: _____ Approved By: _____ Date: _____

EQT Production - Marcellus

PHOENIX
TECHNOLOGY SERVICES

Project: Wetzel County, WV
Site: Wetzel County 513925
Well: Well #513925
Wellbore: Main Wellbore
Design: As Drilled Surveys





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Stimulation Notes:
Additional Injection test performed prior to stage 13

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513925 - Perforations

Stage Number	Perforation Date	Top Perf Depth (ftKB)	Bottom Perf Depth (ftKB)	Number of Shots	Formation
Initiation Sleeve	4/28/2014	13,214.00	13,217.00	10	MARCELLUS
1	4/28/2014	13,033.00	13,181.00	32	MARCELLUS
2	4/28/2014	12,809.00	12,991.00	40	MARCELLUS
3	4/29/2014	12,584.00	12,766.00	40	MARCELLUS
4	4/29/2014	12,359.00	12,541.00	40	MARCELLUS
5	4/29/2014	12,134.00	12,316.00	40	MARCELLUS
6	4/29/2014	11,909.00	12,091.00	40	MARCELLUS
7	4/30/2014	11,684.00	11,866.00	40	MARCELLUS
8	4/30/2014	11,459.00	11,636.00	40	MARCELLUS
9	4/30/2014	11,234.00	11,416.00	40	MARCELLUS
10	4/30/2014	11,009.00	11,191.00	40	MARCELLUS
11	5/1/2014	10,784.00	10,966.00	40	MARCELLUS
12	5/1/2014	10,559.00	10,741.00	40	MARCELLUS
13	5/1/2014	10,334.00	10,516.00	40	MARCELLUS
14	5/2/2014	10,109.00	10,291.00	40	MARCELLUS
15	5/3/2014	9,884.00	10,066.00	40	MARCELLUS
16	5/3/2014	9,659.00	9,841.00	40	MARCELLUS
17	5/3/2014	9,433.00	9,618.00	40	MARCELLUS
18	5/3/2014	9,209.00	9,391.00	40	MARCELLUS
19	5/4/2014	8,984.00	9,166.00	40	MARCELLUS
20	5/4/2014	8,759.00	8,941.00	40	MARCELLUS
21	5/4/2014	8,534.00	8,716.00	40	MARCELLUS
22	5/4/2014	8,309.00	8,491.00	40	MARCELLUS
23	5/4/2014	8,084.00	8,266.00	40	MARCELLUS

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513925 - 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	4/28/2014	13.33	8,069.00	NA	5,039	NA	1,238	0
1	4/28/2014	93.50	8,875.00	6,473.00	4,242	298,700	7,789	0
2	4/29/2014	98.40	8,631.00	6,188.00	5,424	301,000	9,488	0
3	4/29/2014	100.08	8,746.00	6,872.00	4,690	299,500	7,445	0
4	4/29/2014	100.10	8,487.00	6,754.00	5,462	299,000	9,861	0
5	4/29/2014	99.70	8,483.00	5,313.00	4,978	303,300	7,565	0
6	4/30/2014	100.50	8,556.00	6,348.00	4,994	307,200	7,665	0
7	4/30/2014	98.06	8,596.00	6,477.00	5,338	299,300	7,486	0
8	4/30/2014	98.33	8,705.00	6,067.00	4,492	299,400	7,652	0
9	4/30/2014	97.90	8,806.00	6,271.00	5,087	300,900	7,540	0
10	5/1/2014	100.30	8,646.00	6,468.00	4,506	300,600	7,928	0
11	5/1/2014	99.47	8,655.00	6,601.00	4,676	299,300	7,615	0
12	5/1/2014	97.67	8,627.00	6,025.00	4,521	299,300	8,338	0
Injection Test	5/1/2014	12.10	5,010.00	NA	5,437	NA	1,382	0
13	5/2/2014	98.90	8,649.00	5,761.00	5,193	269,800	7,339	0
14	5/3/2014	91.70	8,786.00	6,038.00	4,738	228,900	6,838	0
15	5/3/2014	93.64	8,537.00	5,884.00	5,167	300,600	7,302	0
16	5/3/2014	95.58	8,694.00	6,825.00	4,796	300,000	6,963	0
17	5/3/2014	100.34	8,139.00	6,724.00	4,519	300,700	7,051	0
18	5/3/2014	98.30	8,592.00	7,256.00	4,790	301,800	7,573	0
19	5/4/2014	99.90	8,335.00	6,401.00	4,730	302,200	7,613	0
20	5/4/2014	97.40	8,658.00	7,201.00	5,054	299,800	7,063	0
21	5/4/2014	86.91	7,913.00	6,029.00	4,498	300,200	6,977	0
22	5/4/2014	93.53	7,574.00	6,017.00	4,864	300,100	7,052	0
23	5/4/2014	100.30	7,758.00	7,184.00	4,068	302,000	8,352	0

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Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	4/28/2014
Job End Date:	5/4/2014
State:	West Virginia
County:	Wetzel
API Number:	47-103-02734-00-00
Operator Name:	EQT Production
Well Name and Number:	BIG190 - 513925
Longitude:	-80.60558900
Latitude:	39.55238200
Datum:	NAD27
Federal/Tribal Well:	NO
True Vertical Depth:	7,575
Total Base Water Volume (gal):	7,697,508
Total Base Non Water Volume:	340,121

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GROUNDWATER PROTECTION COUNCIL
Frac Focus Chemical Disclosure Registry
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	Nabors	Carrier					
			Water	7732-18-5	100.00000	89.99468	
Sand	Nabors	Proppant					
			Crystalline Silica	14808-60-7	100.00000	9.56309	
MX-5	Halliburton	Biocide					
			Sodium Nitrate	7631-99-4	60.00000	0.05864	
WFR-3B	Nabors	Friction Reducer					
			Hydrotreated Light Distillates (Petroleum)	64742-47-8	50.00000	0.02952	
			Ethoxylated Alcohols	68551-12-2	15.00000	0.00885	
			Ethoxylated Oleylamine	26635-93-8	5.00000	0.00295	
Hydrochloric Acid 15%	Nabors	Acidizing					
			Hydrochloric Acid	7647-01-0	15.00000	0.03356	
MX-8	Halliburton	Biocide					
			Bacteria Culture	000-00-0	100.00000	0.01000	
LSG-100L	Nabors	Adds viscosity to fluid					
			Solvent Naptha, petroleum, heavy aliph	64742-47-8	65.00000	0.00574	
AI-2	Nabors	Corrosion Inhibitor					
			Glycol Ethers	111-76-2	40.00000	0.00015	

			Isoprpyl Alcohol	67-63-0	40.00000	0.00015	
			Propargyl Alcohol	107-19-7	40.00000	0.00015	
			Ethoxylated Nonylphenol	68412-54-4	13.00000	0.00005	
			Tar bases, quinoline derivs, benzyl chloride-quaternized	72480-70-7	10.00000	0.00004	
OB-2	Nabors	Reduces viscosity of the fluid					
			Ammonium Persulfate	7727-54-0	100.00000	0.00011	
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.							
Super TSC LT	Nabors	Scale Inhibitor					
			Amine Salts	NA			Non-Hazardous
EXP-F1111-13	Nabors	Friction Reducer					
			Anionic Water-Soluble Polymer	NA			Non Hazardous

* 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)

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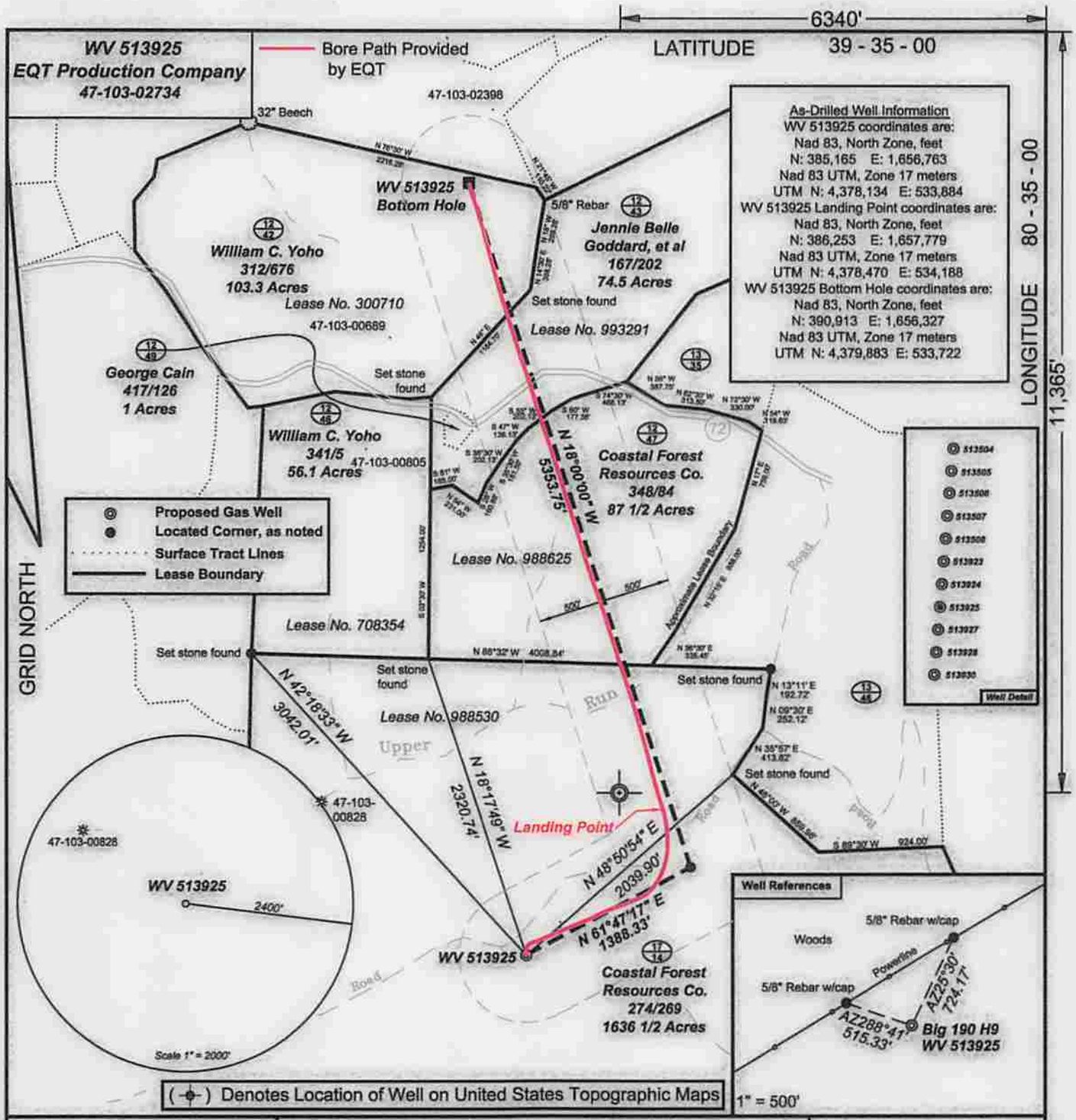

Allegheny Surveys, Inc. Established 1988

I, the undersigned, hereby certify that this plat is correct to the best of my knowledge and belief and shows all the information required by law and the regulations issued and prescribed by the Department of Environmental Protection.

Ben R. Singleton
P.S. 2092

Ben R. Singleton LICENSED NO. 2092 STATE OF WEST VIRGINIA PROFESSIONAL SURVEYOR

SEAL

FILE NO: 196-34-G-10
DRAWING NO: 196-10 Big 190 H9 Plat As Drilled.dwg
SCALE: 1" = 1000'
MINIMUM DEGREE OF ACCURACY: 1:2500
PROVEN SOURCE OF ELEVATION: NGS CORS Station

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

DATE: July 10 20 14
OPERATOR'S WELL NO. WV 513925

API WELL NO
47 - 103 - 02734
STATE COUNTY PERMIT

WELL TYPE: ☐ OIL ☒ GAS ☐ LIQUID INJECTION ☐ WASTE DISPOSAL
(IF GAS) PRODUCTION: ☐ STORAGE ☐ DEEP ☒ SHALLOW
LOCATION: ELEVATION: 1473.5' (As-built) WATERSHED Upper Run and North Fork QUADRANGLE: Big Run
DISTRICT: Grant COUNTY: Wetzel
SURFACE OWNER: Coastal Forest Resources Co. f/k/a Coastal Lumber Company ACREAGE: 1,636.5
ROYALTY OWNER: Mills-Wetzel Land, Inc., Piney Holdings Inc. et. al., Barbara Ann Roche et. al., James Douglas White et. al. LEASE NO: 988530, 988625, 993291, 300710 ACREAGE: 659, 87.5, 74.5, 103.3
PROPOSED WORK: ☒ DRILL ☐ CONVERT ☐ DRILL DEEPER ☒ FRACTURE OR STIMULATE ☐ PLUG OFF OLD FORMATION
☐ PERFORATE NEW FORMATION ☐ OTHER PHYSICAL CHANGE IN WELL (SPECIFY)
☐ PLUG AND ABANDON ☐ CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus ESTIMATED DEPTH: TVD=7,800 MD=15,550

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

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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 - 103 - 02856 County Wetzel District Grant
Quad Big Run 7.5' Pad Name BIG190 Field/Pool Name
Farm name COASTAL LUMBER COMPANY Well Number 513930
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 4378120.3	Easting 533883.6
Landing Point of Curve	Northing 4378162.3	Easting 534134.8
Bottom Hole	Northing 4377440.7	Easting 534317.4

Elevation (ft) 1473 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 14.0 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 2/21/2013 Date drilling commenced 10/16/2013 Date drilling ceased 1/28/2014
Date completion activities began 4/24/2014 Date completion activities ceased 4/27/2014
Verbal plugging (Y/N) n/a 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 751' Open mine(s) (Y/N) depths N
Salt water depth(s) ft 2163' Void(s) encountered (Y/N) depths N
Coal depth(s) ft 411, 1204, 1222 Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

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Environmental Protection

Reviewed by: ____

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API 47- 103 - 02856 Farm name COASTAL LUMBER COMPANY Well number 513930

CASING STRINGS	Hole Size	Casing Size	Depth	New or Used	Grade wt/ft	Basket Depth(s)	Did cement circulate (Y/ N) * Provide details below*
Conductor	28"	26"	40'	New	82.6#/ft	n/a	Y
Surface	17-1/2"	13-3/8"	844'	New	54.5#/ft	96'	Y
Coal							
Intermediate 1	12-3/8"	9-5/8"	3412'	New	40#/ft	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-1/2"	5-1/2"	10646'	New	20#	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	49	15.6	1.18	57.82	0	8
Surface	Class A	775	15.6	1.19	923	0	8
Coal							
Intermediate 1	Class A	1195	15.6	1.20	1434	0	8
Intermediate 2							
Intermediate 3							
Production	Class A/Class H	780/360	15/15.6	1.21/1.83	2297	4480	8
Tubing							

Drillers TD (ft) 10,647' Loggers TD (ft) N/A
Deepest formation penetrated Marcellus Plug back to (ft) N/A
Plug back procedure N/A

Kick off depth (ft) 6050'

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 set at 604', 685', 568', 451', 333', 214', 94'
Intermediate-bowspring centralizers set at 3368, 2900', 2395', 1887', 1380', 916', 409'
Production-composite centralizer ran on every joint from td up to 4,500'

WAS WELL COMPLETED AS SHOT HOLE ☐ Yes ■ No DETAILS

WAS WELL COMPLETED OPEN HOLE? ☐ Yes ■ No DETAILS

WERE TRACERS USED ☐ Yes ■ No TYPE OF TRACER(S) USED

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API 47- 103 - 02856 Farm name COASTAL LUMBER COMPANY Well number 513930

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.

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API 47- 103 - 02856 Farm name COASTAL LUMBER COMPANY Well number 513925

PRODUCING FORMATION(S)	DEPTHS			
Marcellus	7,553	TVD	8,030	MD

Please insert additional pages as applicable.

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

SHUT-IN PRESSURE Surface 1,950 psi Bottom Hole NA psi DURATION OF TEST 51.5 hrs

OPEN FLOW	Gas	Oil	NGL	Water	GAS MEASURED BY
	12,384 mcfpd	0 bpd	0 bpd	144 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 Halliburton Energy Services
Address 121 Champion Way City Canonsburg State PA Zip 15317

Stimulating Company Nabors Completion and Production Services
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 7/22/2014

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	751	751
Sand / Shale	1	1	411	411
Mapletown Coal	411	411	417	417
Sand / Shale	417	417	1,211.00	1,211.00
Pittsburgh Coal	1,211.00	1,211.00	1,218.00	1,218.00
Sand / Shale	1,218.00	1,218.00	1,229.00	1,229.00
Coal	1,229.00	1,229.00	1,235.00	1,235.00
Sand / Shale	1,235.00	1,235.00	2,269.00	2,268.90
Maxton	2,269.00	2,268.90	2,425.00	2,424.90
Big Lime	2,425.00	2,424.90	2,554.00	2,553.90
Big Injun	2,554.00	2,553.90	2,832.00	2,831.90
Weir	2,832.00	2,831.90	2,999.00	2,998.90
Gantz	2,999.00	2,998.90	3,034.00	3,033.90
Fifty foot	3,034.00	3,033.90	3,129.00	3,128.90
Thirty foot	3,129.00	3,128.90	3,274.00	3,273.90
Gordon	3,274.00	3,273.90	3,347.00	3,346.90
Forth Sand	3,347.00	3,346.90	3,504.00	3,503.90
Bayard	3,504.00	3,503.90	3,887.00	3,886.90
Warren	3,887.00	3,886.90	4,084.00	4,083.80
Speechley	4,084.00	4,083.80	4,455.00	4,454.80
Balltown A	4,455.00	4,454.80	4,912.00	4,911.80
Riley	4,912.00	4,911.80	5,556.00	5,555.70
Benson	5,556.00	5,555.70	5,930.00	5,929.70
Alexander	5,930.00	5,929.70	7,079.00	6,886.00
Rhinestreet	7,079.00	6,886.00	7,391.00	7,146.40
Sonyea	7,391.00	7,146.40	7,554.00	7,287.60
Middlesex	7,554.00	7,287.60	7,620.00	7,340.70
Genesee	7,620.00	7,340.70	7,729.00	7,419.10
Geneseo	7,729.00	7,419.10	7,761.00	7,439.70
Tully	7,761.00	7,439.70	7,793.00	7,459.00
Hamilton	7,793.00	7,459.00	8,030.00	7,553.00
Marcellus	8,030.00	7,553.00	10,647.00	7,613.30

PHOENIX
TECHNOLOGY SERVICES

EQT Production - Marcellus

Wetzel County, WV
Wetzel County 513930
Well #513930

Main Wellbore

Design: As Drilled Surveys

Standard Survey Report

28 January, 2014

EQT
Where energy meets innovation.

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Site Wetzel County 513930
Company:	EQT Production - Marcellus	**TVD Reference:**	KB @ 1489.0usft
Project:	Wetzel County, WV	**MD Reference:**	KB @ 1489.0usft
Site:	Wetzel County 513930	**North Reference:**	Grid
Well:	Well #513930	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	As Drilled Surveys		

Project — Wetzel County, WV

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

Site — Wetzel County 513930

Site Position:		**Northing:**	385,084.00 usft	**Latitude:**	39.55
From:	Map	**Easting:**	1,688,199.00 usft	**Longitude:**	-80.61
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	-0.71 °

Well — Well #513930

Well Position	**+N/-S**	0.0 usft	**Northing:**	385,084.00 usft	**Latitude:**	39° 33' 7.244 N
	+E/-W	0.0 usft	**Easting:**	1,688,199.00 usft	**Longitude:**	80° 36' 20.876 W
Position Uncertainty		0.0 usft	**Wellhead Elevation:**	usft	**Ground Level:**	1,473.0 usft

Wellbore — Main Wellbore

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010_14	1/14/2014	-8.64	67.03	52,456

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	149.04

Survey Program — **Date** 1/28/2014

From ()	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	5,798.0	513930 VES Gyro (Main Wellbore)	Gyroflex Multishot	North sensing gyrocompassing m/s
0.00	10,647.0	513930 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	-1,489.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.21	308.36	100.0	-1,389.0	0.1	-0.1	-0.2	0.21	0.21	0.00
200.0	0.10	304.20	200.0	-1,289.0	0.3	-0.4	-0.4	0.11	-0.11	-4.16
300.0	0.17	304.08	300.0	-1,189.0	0.4	-0.6	-0.6	0.07	0.07	-0.12
400.0	0.03	302.08	400.0	-1,089.0	0.5	-0.7	-0.8	0.14	-0.14	-2.00
500.0	0.21	310.98	500.0	-989.0	0.6	-0.9	-1.0	0.18	0.18	8.90
600.0	0.18	314.09	600.0	-889.0	0.9	-1.1	-1.3	0.03	-0.03	3.11
700.0	0.26	310.69	700.0	-789.0	1.1	-1.4	-1.7	0.08	0.08	-3.40

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Site Wetzel County 513930
Company:	EQT Production - Marcellus	**TVD Reference:**	KB @ 1489.0usft
Project:	Wetzel County, WV	**MD Reference:**	KB @ 1489.0usft
Site:	Wetzel County 513930	**North Reference:**	Grid
Well:	Well #513930	**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)
800.0	0.13	310.79	800.0	-689.0	1.3	-1.7	-2.0	0.13	-0.13	0.10
900.0	0.30	308.15	900.0	-589.0	1.6	-1.9	-2.4	0.17	0.17	-2.64
1,000.0	0.30	282.90	1,000.0	-489.0	1.8	-2.4	-2.8	0.13	0.00	-25.25
1,100.0	0.40	282.80	1,100.0	-389.0	1.9	-3.0	-3.2	0.10	0.10	-0.10
1,200.0	0.45	277.82	1,200.0	-289.0	2.1	-3.7	-3.7	0.06	0.05	-4.98
1,300.0	0.50	285.48	1,300.0	-189.0	2.2	-4.5	-4.3	0.08	0.05	7.66
1,400.0	0.48	288.03	1,400.0	-89.0	2.5	-5.4	-4.9	0.03	-0.02	2.55
1,500.0	0.64	290.03	1,500.0	11.0	2.8	-6.3	-5.6	0.16	0.16	2.00
1,600.0	0.50	303.40	1,600.0	111.0	3.2	-7.2	-6.5	0.19	-0.14	13.37
1,700.0	0.65	304.06	1,700.0	211.0	3.8	-8.0	-7.4	0.15	0.15	0.66
1,800.0	0.66	315.80	1,800.0	311.0	4.5	-8.9	-8.5	0.13	0.01	11.74
1,900.0	0.56	322.72	1,900.0	411.0	5.3	-9.6	-9.5	0.12	-0.10	6.92
2,000.0	0.53	321.76	2,000.0	511.0	6.1	-10.2	-10.4	0.03	-0.03	-0.96
2,100.0	0.24	324.63	2,099.9	610.9	6.6	-10.6	-11.1	0.29	-0.29	2.87
2,200.0	0.43	345.56	2,199.9	710.9	7.2	-10.8	-11.7	0.22	0.19	20.93
2,300.0	0.33	352.49	2,299.9	810.9	7.8	-10.9	-12.3	0.11	-0.10	6.93
2,400.0	0.40	354.25	2,399.9	910.9	8.4	-11.0	-12.9	0.07	0.07	1.76
2,500.0	0.46	4.76	2,499.9	1,010.9	9.2	-11.0	-13.5	0.10	0.06	10.51
2,600.0	0.43	11.59	2,599.9	1,110.9	9.9	-10.9	-14.1	0.06	-0.03	6.83
2,700.0	0.59	18.46	2,699.9	1,210.9	10.8	-10.6	-14.7	0.17	0.16	6.87
2,800.0	0.68	1.48	2,799.9	1,310.9	11.9	-10.5	-15.6	0.21	0.09	-16.98
2,900.0	0.63	6.72	2,899.9	1,410.9	13.0	-10.4	-16.5	0.08	-0.05	5.24
3,000.0	0.46	355.23	2,999.9	1,510.9	14.0	-10.3	-17.3	0.20	-0.17	-11.49
3,100.0	0.68	355.31	3,099.9	1,610.9	15.0	-10.4	-18.2	0.22	0.22	0.08
3,200.0	0.74	341.22	3,199.9	1,710.9	16.2	-10.7	-19.4	0.18	0.06	-14.09
3,300.0	0.47	332.49	3,299.9	1,810.9	17.1	-11.1	-20.4	0.28	-0.27	-8.73
3,400.0	0.59	323.72	3,399.9	1,910.9	17.9	-11.6	-21.3	0.14	0.12	-8.77
3,500.0	0.41	319.12	3,499.9	2,010.9	18.6	-12.1	-22.2	0.18	-0.18	-4.60
3,600.0	0.89	323.61	3,599.9	2,110.9	19.5	-12.8	-23.3	0.48	0.48	4.49
3,700.0	0.89	295.56	3,699.9	2,210.9	20.5	-14.0	-24.7	0.43	0.00	-28.05
3,800.0	0.85	317.70	3,799.9	2,310.9	21.3	-15.2	-26.1	0.34	-0.04	22.14
3,900.0	0.88	357.77	3,899.8	2,410.8	22.7	-15.7	-27.5	0.59	0.03	40.07
4,000.0	0.52	350.67	3,999.8	2,510.8	23.9	-15.8	-28.6	0.37	-0.36	-7.10
4,100.0	0.39	327.97	4,099.8	2,610.8	24.6	-16.1	-29.4	0.22	-0.13	-22.70
4,200.0	0.79	318.62	4,199.8	2,710.8	25.4	-16.7	-30.4	0.41	0.40	-9.35
4,300.0	0.94	332.49	4,299.8	2,810.8	26.7	-17.5	-31.9	0.26	0.15	13.87
4,400.0	0.95	333.49	4,399.8	2,910.8	28.1	-18.3	-33.5	0.02	0.01	1.00
4,500.0	0.76	310.94	4,499.8	3,010.8	29.3	-19.2	-35.0	0.38	-0.19	-22.55
4,600.0	0.62	351.55	4,599.8	3,110.8	30.3	-19.7	-36.1	0.50	-0.14	40.61
4,700.0	0.36	35.73	4,699.8	3,210.8	31.1	-19.6	-36.7	0.44	-0.26	44.18
4,800.0	0.37	39.81	4,799.8	3,310.8	31.6	-19.2	-37.0	0.03	0.01	4.08
4,900.0	0.34	49.65	4,899.8	3,410.8	32.0	-18.8	-37.1	0.07	-0.03	9.84

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Site Wetzel County 513930
Company:	EQT Production - Marcellus	**TVD Reference:**	KB @ 1489.0usft
Project:	Wetzel County, WV	**MD Reference:**	KB @ 1489.0usft
Site:	Wetzel County 513930	**North Reference:**	Grid
Well:	Well #513930	**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)
5,000.0	0.60	50.97	4,999.8	3,510.8	32.5	-18.2	-37.2	0.26	0.26	1.32
5,100.0	0.58	51.05	5,099.8	3,610.8	33.2	-17.4	-37.4	0.02	-0.02	0.08
5,200.0	0.66	84.54	5,199.8	3,710.8	33.6	-16.4	-37.2	0.37	0.08	33.49
5,300.0	0.84	79.37	5,299.8	3,810.8	33.7	-15.1	-36.7	0.19	0.18	-5.17
5,400.0	0.99	124.35	5,399.7	3,910.7	33.4	-13.7	-35.7	0.71	0.15	44.98
5,500.0	0.86	115.40	5,499.7	4,010.7	32.6	-12.3	-34.3	0.19	-0.13	-8.95
5,600.0	1.02	125.90	5,599.7	4,110.7	31.7	-10.9	-32.8	0.23	0.16	10.50
5,700.0	1.11	136.67	5,699.7	4,210.7	30.5	-9.5	-31.1	0.22	0.09	10.77
Gyro Tie In MD=5798'										
5,798.0	1.08	141.13	5,797.7	4,308.7	29.1	-8.3	-29.2	0.09	-0.03	4.55
5,826.0	0.70	154.30	5,825.7	4,336.7	28.7	-8.0	-28.8	1.53	-1.36	47.04
5,889.0	0.60	150.50	5,888.7	4,399.7	28.1	-7.7	-28.1	0.17	-0.16	-6.03
5,920.0	0.60	155.40	5,919.7	4,430.7	27.8	-7.6	-27.7	0.17	0.00	15.81
5,952.0	0.50	141.70	5,951.7	4,462.7	27.6	-7.4	-27.4	0.51	-0.31	-42.81
5,983.0	0.10	16.10	5,982.7	4,493.7	27.5	-7.3	-27.3	1.82	-1.29	-405.16
6,015.0	3.40	33.30	6,014.7	4,525.7	28.3	-6.8	-27.8	10.33	10.31	53.75
6,047.0	8.10	32.80	6,046.5	4,557.5	31.0	-5.0	-29.2	14.69	14.69	-1.56
6,078.0	11.30	32.40	6,077.0	4,588.0	35.4	-2.2	-31.5	10.32	10.32	-1.29
6,110.0	12.20	36.00	6,108.4	4,619.4	40.8	1.4	-34.2	3.63	2.81	11.25
6,141.0	14.30	34.80	6,138.5	4,649.5	46.6	5.6	-37.1	6.83	6.77	-3.87
6,172.0	17.10	34.00	6,168.4	4,679.4	53.5	10.3	-40.6	9.06	9.03	-2.58
6,204.0	20.00	33.60	6,198.7	4,709.7	61.9	15.9	-44.9	9.07	9.06	-1.25
6,235.0	21.90	33.50	6,227.7	4,738.7	71.2	22.1	-49.7	6.13	6.13	-0.32
6,267.0	25.10	33.50	6,257.0	4,768.0	81.8	29.1	-55.2	10.00	10.00	0.00
6,298.0	28.40	33.00	6,284.7	4,795.7	93.5	36.8	-61.3	10.67	10.65	-1.61
6,330.0	31.90	32.60	6,312.4	4,823.4	107.0	45.5	-68.4	10.96	10.94	-1.25
6,361.0	35.30	32.40	6,338.2	4,849.2	121.5	54.7	-76.0	10.97	10.97	-0.65
6,393.0	39.60	31.90	6,363.6	4,874.6	137.9	65.0	-84.8	13.47	13.44	-1.56
6,424.0	42.50	32.30	6,386.9	4,897.9	155.2	75.8	-94.1	9.39	9.35	1.29
6,456.0	42.70	32.40	6,410.5	4,921.5	173.5	87.4	-103.8	0.66	0.63	0.31
6,519.0	41.20	30.80	6,457.4	4,968.4	209.3	109.5	-123.2	2.92	-2.38	-2.54
6,582.0	41.80	33.70	6,504.5	5,015.5	244.6	131.8	-142.0	3.20	0.95	4.60
6,645.0	40.40	35.00	6,552.0	5,063.0	278.8	155.1	-159.3	2.60	-2.22	2.06
6,708.0	39.10	35.10	6,600.5	5,111.5	311.8	178.3	-175.7	2.07	-2.06	0.16
6,771.0	39.30	35.40	6,649.3	5,160.3	344.3	201.3	-191.7	0.44	0.32	0.48
6,834.0	39.60	36.90	6,697.9	5,208.9	376.6	224.9	-207.3	1.59	0.48	2.38
6,897.0	38.40	36.70	6,746.9	5,257.9	408.4	248.6	-222.3	1.92	-1.90	-0.32
6,959.0	39.00	36.50	6,795.3	5,306.3	439.5	271.7	-237.1	0.99	0.97	-0.32
7,022.0	41.80	33.00	6,843.2	5,354.2	473.1	295.0	-253.9	5.72	4.44	-5.56
7,054.0	41.60	32.00	6,867.1	5,378.1	491.0	306.4	-263.4	2.17	-0.63	-3.13
7,085.0	40.50	36.40	6,890.5	5,401.5	507.9	317.8	-272.0	9.97	-3.55	14.19
7,117.0	38.80	43.70	6,915.2	5,426.2	523.5	330.9	-278.6	15.49	-5.31	22.81
7,148.0	37.80	50.50	6,939.5	5,450.5	536.5	345.0	-282.6	13.97	-3.23	21.94

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Site:	Wetzel County 513930	**North Reference:**	Grid
Well:	Well #513930	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Main Wellbore		
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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)
7,180.0	36.50	57.90	6,965.0	5,476.0	547.9	360.6	-284.3	14.54	-4.06	23.13
7,211.0	35.10	63.90	6,990.2	5,501.2	556.7	376.4	-283.7	12.18	-4.52	19.35
7,243.0	32.70	69.10	7,016.7	5,527.7	563.8	392.8	-281.4	11.76	-7.50	16.25
7,275.0	29.50	72.70	7,044.1	5,555.1	569.2	408.4	-278.0	11.56	-10.00	11.25
7,306.0	28.10	76.80	7,071.3	5,582.3	573.2	422.8	-274.0	7.81	-4.52	13.23
7,338.0	28.30	77.50	7,099.5	5,610.5	576.5	437.5	-269.3	1.21	0.63	2.19
7,369.0	27.80	82.40	7,126.9	5,637.9	579.1	451.9	-264.1	7.60	-1.61	15.81
7,401.0	27.40	88.30	7,155.2	5,666.2	580.3	466.6	-257.6	8.63	-1.25	18.44
7,433.0	28.40	92.50	7,183.5	5,694.5	580.2	481.6	-249.8	6.89	3.13	13.13
7,464.0	29.40	95.60	7,210.7	5,721.7	579.1	496.5	-241.2	5.81	3.23	10.00
7,496.0	30.20	102.30	7,238.4	5,749.4	576.6	512.2	-231.0	10.70	2.50	20.94
7,527.0	32.30	106.40	7,264.9	5,775.9	572.6	527.8	-219.5	9.64	6.77	13.23
7,559.0	34.20	110.80	7,291.7	5,802.7	567.0	544.4	-206.2	9.59	5.94	13.75
7,591.0	36.30	116.30	7,317.8	5,828.8	559.6	561.3	-191.1	11.89	6.56	17.19
7,622.0	39.70	119.50	7,342.3	5,853.3	550.7	578.2	-174.8	12.67	10.97	10.32
7,654.0	42.40	122.90	7,366.4	5,877.4	539.8	596.1	-156.2	10.95	8.44	10.63
7,717.0	47.30	129.40	7,411.1	5,922.1	513.5	631.9	-115.3	10.64	7.78	10.32
7,748.0	50.20	132.40	7,431.5	5,942.5	498.3	649.5	-93.2	11.85	9.35	9.68
7,780.0	53.20	135.90	7,451.4	5,962.4	480.8	667.5	-68.9	12.71	9.38	10.94
7,811.0	56.40	139.90	7,469.2	5,980.2	462.0	684.4	-44.0	14.75	10.32	12.90
7,843.0	58.30	143.60	7,486.5	5,997.5	440.8	701.1	-17.3	11.40	5.94	11.56
7,874.0	62.50	145.40	7,501.8	6,012.8	418.9	716.8	9.5	14.46	13.55	5.81
7,906.0	66.40	147.50	7,515.6	6,026.6	394.8	732.7	38.4	13.55	12.19	6.56
7,938.0	69.20	151.10	7,527.7	6,038.7	369.3	747.8	68.0	13.60	8.75	11.25
7,969.0	73.20	154.70	7,537.7	6,048.7	343.2	761.2	97.3	16.95	12.90	11.61
8,001.0	75.90	158.70	7,546.2	6,057.2	314.9	773.4	127.8	14.71	8.44	12.50
8,032.0	77.20	160.10	7,553.4	6,064.4	286.7	784.0	157.5	6.07	4.19	4.52
8,064.0	78.70	162.40	7,560.1	6,071.1	257.0	794.0	188.1	8.45	4.69	7.19
8,096.0	80.80	165.00	7,565.8	6,076.8	226.8	802.9	218.5	10.34	6.56	8.13
8,127.0	84.10	167.10	7,569.9	6,080.9	197.0	810.3	247.9	12.59	10.65	6.77
8,159.0	87.10	167.60	7,572.3	6,083.3	165.9	817.2	278.2	9.50	9.38	1.56
8,222.0	89.90	166.70	7,574.0	6,085.0	104.5	831.2	338.0	4.67	4.44	-1.43
8,286.0	89.40	167.00	7,574.4	6,085.4	42.2	845.8	399.0	0.91	-0.78	0.47
8,349.0	89.00	167.20	7,575.3	6,086.3	-19.2	859.9	458.9	0.71	-0.63	0.32
8,412.0	88.70	168.00	7,576.5	6,087.5	-80.8	873.4	518.6	1.36	-0.48	1.27
8,475.0	88.20	168.00	7,578.2	6,089.2	-142.4	886.5	578.1	0.79	-0.79	0.00
8,538.0	87.50	167.30	7,580.6	6,091.6	-203.9	900.0	637.8	1.57	-1.11	-1.11
8,601.0	88.10	167.50	7,583.0	6,094.0	-265.3	913.7	697.5	1.00	0.95	0.32
8,664.0	88.80	167.70	7,584.7	6,095.7	-326.8	927.2	757.2	1.16	1.11	0.32
8,727.0	88.60	168.20	7,586.1	6,097.1	-388.4	940.4	816.8	0.85	-0.32	0.79
8,790.0	89.60	169.30	7,587.1	6,098.1	-450.2	952.6	876.1	2.36	1.59	1.75
8,853.0	90.20	169.90	7,587.2	6,098.2	-512.1	964.0	935.1	1.35	0.95	0.95
8,916.0	90.20	169.00	7,587.0	6,098.0	-574.1	975.6	994.2	1.43	0.00	-1.43

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Site Wetzel County 513930
Company:	EQT Production - Marcellus	**TVD Reference:**	KB @ 1489.0usft
Project:	Wetzel County, WV	**MD Reference:**	KB @ 1489.0usft
Site:	Wetzel County 513930	**North Reference:**	Grid
Well:	Well #513930	**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)
8,979.0	89.80	168.10	7,587.0	6,098.0	-635.8	988.1	1,053.5	1.56	-0.63	-1.43
9,042.0	89.50	168.50	7,587.4	6,098.4	-697.5	1,000.8	1,113.0	0.79	-0.48	0.63
9,105.0	89.20	168.30	7,588.1	6,099.1	-759.2	1,013.5	1,172.4	0.57	-0.48	-0.32
9,167.0	88.40	167.40	7,589.4	6,100.4	-819.8	1,026.6	1,231.1	1.94	-1.29	-1.45
9,230.0	88.10	167.00	7,591.3	6,102.3	-881.2	1,040.5	1,291.0	0.79	-0.48	-0.63
9,294.0	88.20	167.30	7,593.4	6,104.4	-943.6	1,054.7	1,351.7	0.49	0.16	0.47
9,357.0	89.90	167.50	7,594.4	6,105.4	-1,005.1	1,068.5	1,411.5	2.72	2.70	0.32
9,420.0	89.80	167.20	7,594.6	6,105.6	-1,066.5	1,082.3	1,471.3	0.50	-0.16	-0.48
9,483.0	89.50	166.60	7,595.0	6,106.0	-1,127.9	1,096.5	1,531.3	1.06	-0.48	-0.95
9,546.0	89.00	166.20	7,595.8	6,106.8	-1,189.1	1,111.4	1,591.4	1.02	-0.79	-0.63
9,609.0	89.10	165.60	7,596.9	6,107.9	-1,250.2	1,126.7	1,651.7	0.97	0.16	-0.95
9,672.0	88.90	165.50	7,598.0	6,109.0	-1,311.2	1,142.4	1,712.1	0.35	-0.32	-0.16
9,736.0	88.70	165.20	7,599.3	6,110.3	-1,373.1	1,158.6	1,773.5	0.56	-0.31	-0.47
9,799.0	88.90	166.50	7,600.6	6,111.6	-1,434.2	1,174.0	1,833.8	2.09	0.32	2.06
9,862.0	89.60	168.50	7,601.4	6,112.4	-1,495.7	1,187.6	1,893.6	3.36	1.11	3.17
9,925.0	89.50	168.90	7,601.9	6,112.9	-1,557.5	1,200.0	1,952.9	0.65	-0.16	0.63
9,988.0	89.20	169.40	7,602.7	6,113.7	-1,619.3	1,211.8	2,012.0	0.93	-0.48	0.79
10,051.0	89.00	167.80	7,603.6	6,114.6	-1,681.1	1,224.3	2,071.4	2.56	-0.32	-2.54
10,114.0	91.30	166.40	7,603.5	6,114.5	-1,742.5	1,238.4	2,131.3	4.27	3.65	-2.22
10,177.0	91.20	165.70	7,602.1	6,113.1	-1,803.6	1,253.5	2,191.5	1.12	-0.16	-1.11
10,240.0	90.10	164.30	7,601.4	6,112.4	-1,864.5	1,269.8	2,252.1	2.83	-1.75	-2.22
10,303.0	88.30	162.10	7,602.3	6,113.3	-1,924.8	1,288.0	2,313.2	4.51	-2.86	-3.49
10,366.0	87.50	161.00	7,604.6	6,115.6	-1,984.5	1,308.0	2,374.6	2.16	-1.27	-1.75
10,428.0	87.20	160.80	7,607.4	6,118.4	-2,043.0	1,328.2	2,435.2	0.58	-0.48	-0.32
10,491.0	88.20	164.60	7,610.0	6,121.0	-2,103.1	1,346.9	2,496.4	6.23	1.59	6.03
10,554.0	88.80	165.20	7,611.6	6,122.6	-2,163.9	1,363.4	2,557.0	1.35	0.95	0.95
Last Survey MD=10595'										
10,595.0	89.00	165.60	7,612.4	6,123.4	-2,203.6	1,373.7	2,596.3	1.09	0.49	0.98
Projection to TD MD=10647'										
10,647.0	89.00	165.60	7,613.3	6,124.3	-2,253.9	1,386.6	2,646.1	0.00	0.00	0.00

Design Annotations

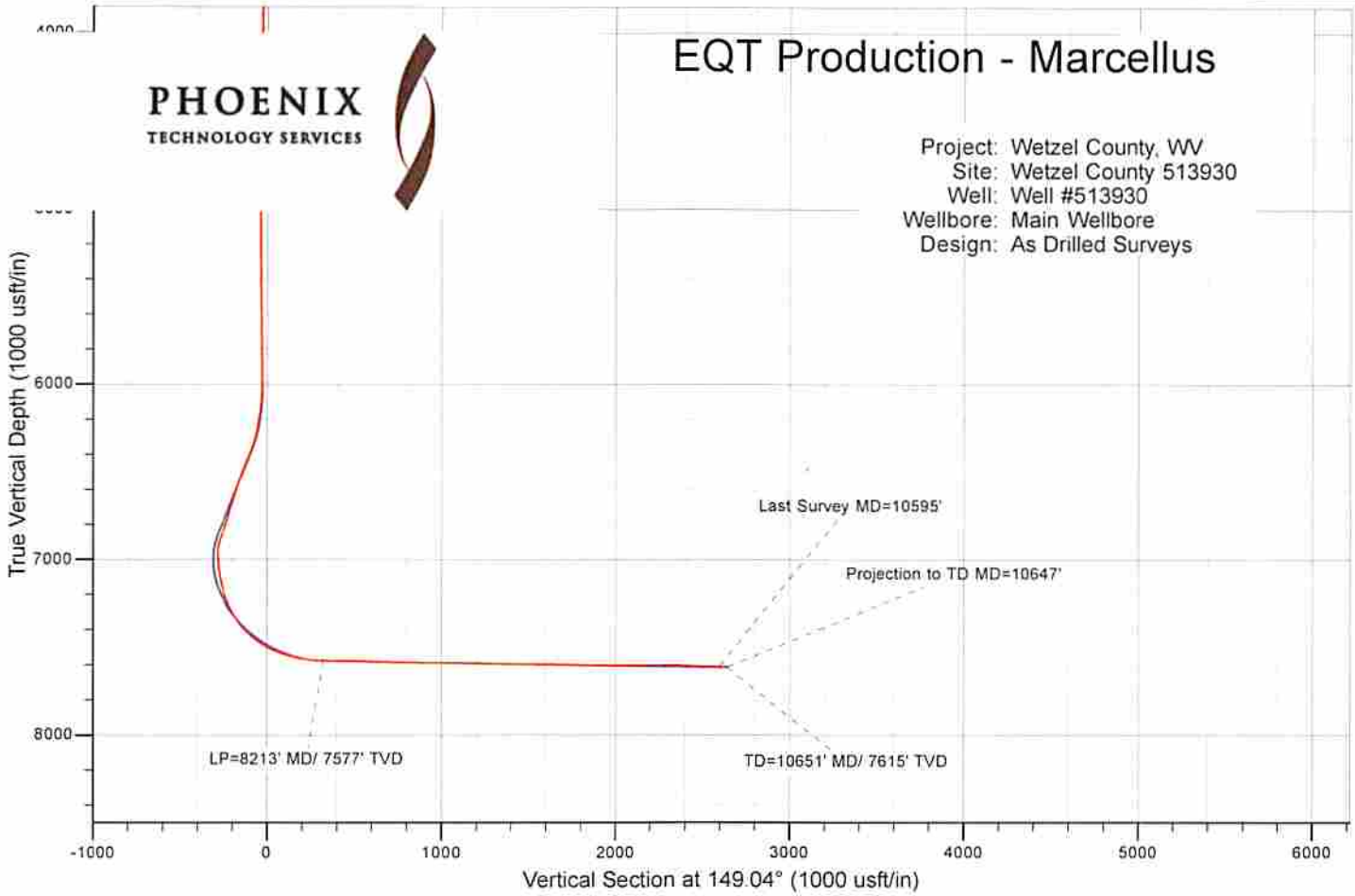
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
5,798.0	5,797.7	29.1	-8.3	Gyro Tie In MD=5798'
10,595.0	7,612.4	-2,203.6	1,373.7	Last Survey MD=10595'
10,647.0	7,613.3	-2,253.9	1,386.6	Projection to TD MD=10647'

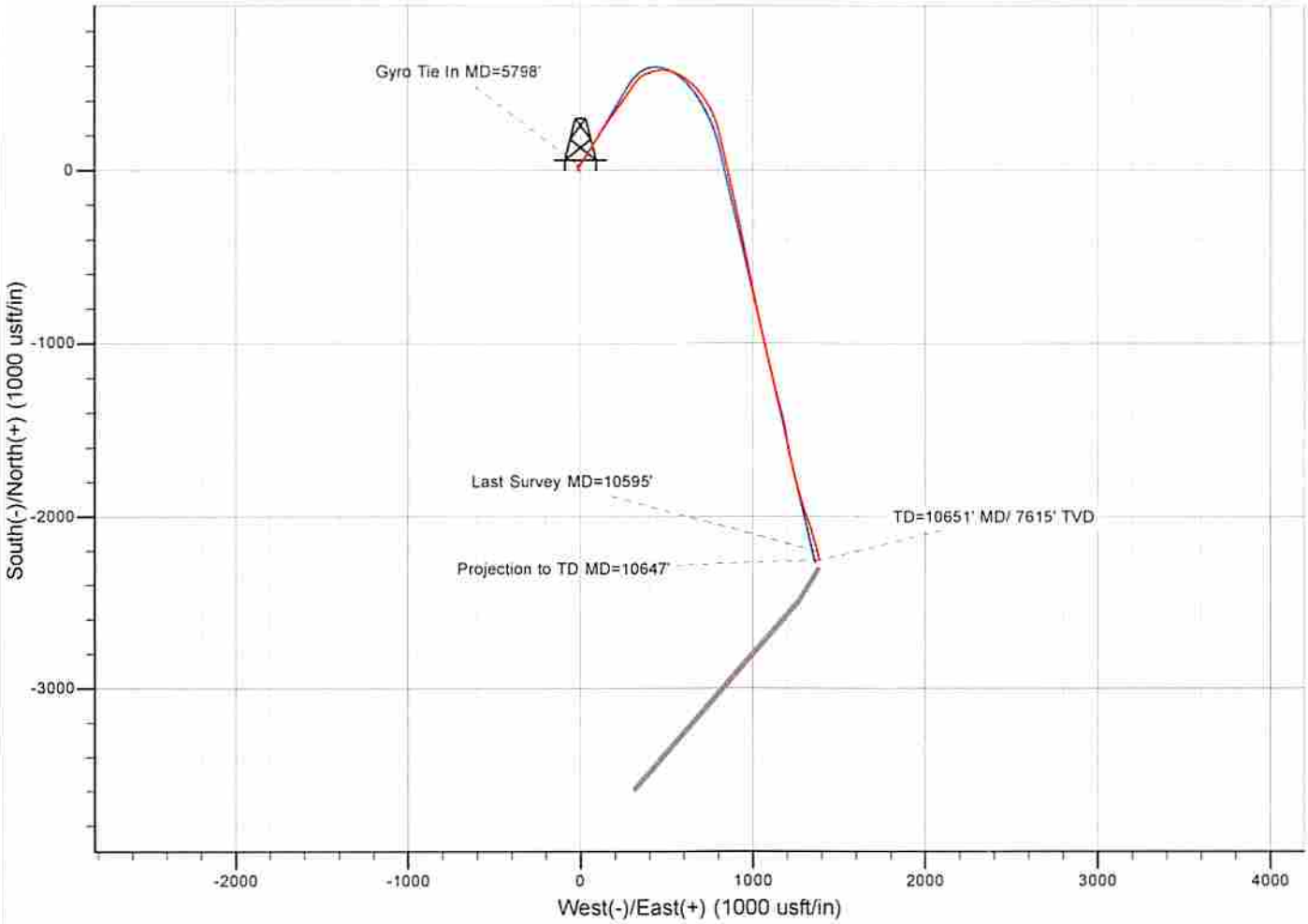
Checked By: _____ Approved By: _____ Date: _____

EQT Production - Marcellus

PHOENIX
TECHNOLOGY SERVICES

Project: Wetzel County, WV
Site: Wetzel County 513930
Well: Well #513930
Wellbore: Main Wellbore
Design: As Drilled Surveys





513930 - Perforations					
Stage Number	Perforation Date	Top Perf Depth (ftKB)	Bottom Perf Depth (ftKB)	Number of Shots	Formation
Initiation Sleeve	4/24/2014	10,618.00	10,620.00	10	MARCELLUS
1	4/25/2014	10,439.00	10,576.00	32	MARCELLUS
2	4/25/2014	10,215.00	10,397.00	40	MARCELLUS
3	4/25/2014	9,989.00	10,172.00	40	MARCELLUS
4	4/25/2014	9,764.00	9,947.00	40	MARCELLUS
5	4/25/2014	9,539.00	9,722.00	40	MARCELLUS
6	4/26/2014	9,315.00	9,497.00	40	MARCELLUS
7	4/26/2014	9,089.00	9,272.00	40	MARCELLUS
8	4/26/2014	8,865.00	9,045.00	40	MARCELLUS
9	4/27/2014	8,640.00	8,822.00	40	MARCELLUS
10	4/27/2014	8,415.00	8,597.00	40	MARCELLUS
11	4/27/2014	8,190.00	8,372.00	40	MARCELLUS
12	4/27/2014	7,964.00	8,147.00	40	MARCELLUS

513930 - 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	4/24/2014	15.20	8,760.00	NA	5,552	NA	1,671	0
1	4/25/2014	85.90	8,696.00	5,864.00	4,190	301,000	7,104	0
2	4/25/2014	95.32	8,466.00	7,480.00	4,154	299,800	7,122	0
3	4/25/2014	99.41	8,501.00	6,086.00	4,984	300,000	7,592	0
4	4/25/2014	100.10	8,180.00	6,602.00	5,721	299,800	7,337	0
5	4/26/2014	101.50	8,244.00	6,429.00	5,544	301,400	7,822	0
6	4/26/2014	99.38	8,446.00	6,661.00	4,811	299,500	7,378	0
7	4/26/2014	100.31	7,799.00	6,329.00	5,623	300,700	7,836	0
8	4/26/2014	100.80	8,106.00	6,407.00	5,069	300,900	7,348	0
9	4/27/2014	103.20	8,313.00	6,179.00	4,823	299,400	7,111	0
10	4/27/2014	100.56	8,324.00	6,339.00	5,217	300,600	7,409	0
11	4/27/2014	100.03	8,198.00	6,641.00	5,675	300,200	7,372	0
12	4/27/2014	101.80	7,757.00	7,725.00	4,384	301,700	7,020	0

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	4/24/2014
Job End Date:	4/27/2014
State:	West Virginia
County:	Wetzel
API Number:	47-103-02856-00-00
Operator Name:	EQT Production
Well Name and Number:	BIG190 - 513930
Longitude:	-80.60561500
Latitude:	39.55209400
Datum:	NAD83
Federal/Tribal Well:	NO
True Vertical Depth:	7,612
Total Base Water Volume (gal):	3,907,470
Total Base Non Water Volume:	180,461

FracFocus Chemical Disclosure Registry

GROUNDWATER PROTECTION COUNCIL

Interstate Oil & Gas Compact Commission

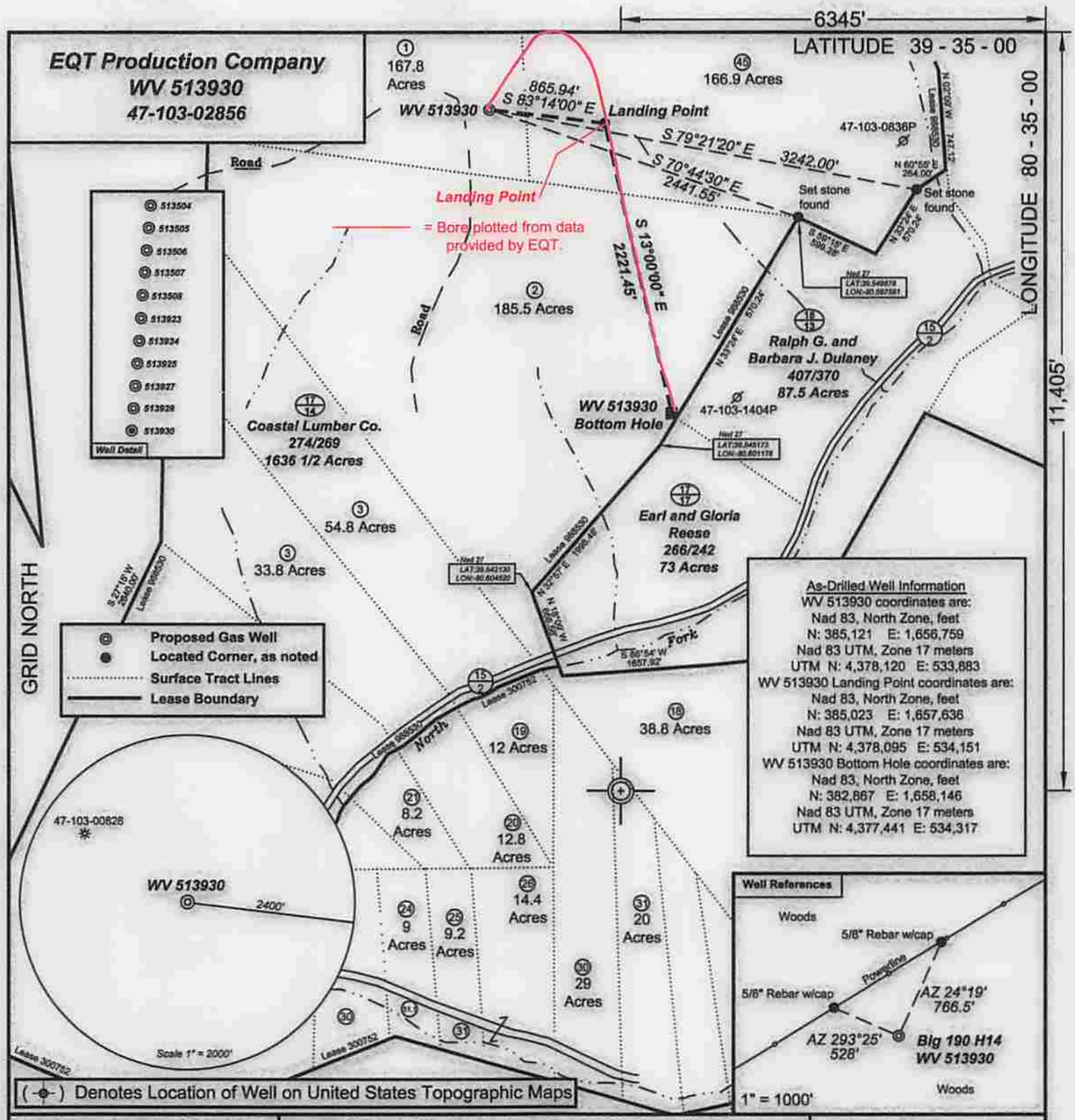
Hydraulic Fracturing Fluid Composition:

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	Nabors	Carrier					
			Water	7732-18-5	100.00000	89.63710	
Sand	Nabors	Proppant					
			Crystalline Silica	14808-60-7	100.00000	9.92780	
MX-5	Halliburton	Biocide					
			Sodium Nitrate	7631-99-4	60.00000	0.05730	
WFR-3B	Nabors	Reduces friction between pipe and fluid					
			Hydrotreated light distillates (petroleum)	64742-47-8	50.00000	0.03470	
			Ethoxylated alcohols	68551-12-2	15.00000	0.01040	
			Ethoxylated oleylamine	26635-93-8	5.00000	0.00350	
Hydrochloric Acid 15%	Nabors	Acidizing					
			Hydrochloric Acid	7647-01-0	15.00000	0.03790	
MX-8	Halliburton	Biocide					
			Bacteria Culture	000-00-0	100.00000	0.00970	
LSG-100L	Nabors	Adds viscosity to fluid					
			Solvent Naptha, petroleum, heavy aliph	64742-47-8	65.00000	0.00470	
AI-2	Nabors	Protects Casing					
			Propargyl Alcohol	107-19-7	40.00000	0.00017	

			Glycol Ethers	111-76-2	40.00000	0.00017	
			Isopropanol	67-63-0	40.00000	0.00017	
			Ethoxylated Nonylphenol	68412-54-4	13.00000	0.00010	
			Tar bases, quinoline derivs, benzyl chloride-quaternized	72480-70-7	10.00000	0.00004	
OB-2	Nabors	Reduces viscosity of the fluid					
			Ammonium Persulfate	7727-54-0	100.00000	0.00010	
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.							
Super TSC-LT	Nabors	Scale Inhibitor					
			Amine Salts	NA			Non Hazardous

* 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)



Allegheny Surveys, Inc. Established 1988

I, the undersigned, hereby certify that this plat is correct to the best of my knowledge and belief and shows all the information required by law and the regulations issued and prescribed by the Department of Environmental Protection.

Ben R. Singleton

P.S. 2092

Ben R. Singleton LICENSED NO. 2092 STATE OF WEST VIRGINIA PROFESSIONAL SURVEYOR

SEAL

FILE NO: 196-34-G-10
DRAWING NO: 196-10 Big 190 H14.dwg
SCALE: 1" = 1000'
MINIMUM DEGREE OF ACCURACY: 1:2500
PROVEN SOURCE OF ELEVATION: NGS CORS Station

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

DATE: July 10 20 14
OPERATOR'S WELL NO. WV 513930

API WELL NO
47 - 103 - 02856
STATE COUNTY PERMIT

WELL TYPE: ☐ OIL ☒ GAS ☐ LIQUID INJECTION ☐ WASTE DISPOSAL
(IF GAS) PRODUCTION: ☐ STORAGE ☐ DEEP ☒ SHALLOW
LOCATION: ELEVATION: Ground N/A Proposed 1473' WATERSHED Upper Run and North Fork QUADRANGLE: Big Run
DISTRICT: Grant COUNTY: Wetzel
SURFACE OWNER: Coastal Lumber Company ACREAGE: 1,636.5
ROYALTY OWNER: Mills-Wetzel Land, Inc. LEASE NO: 988530 ACREAGE: 659
PROPOSED WORK: ☒ DRILL ☐ CONVERT ☐ DRILL DEEPER ☒ FRACTURE OR STIMULATE ☐ PLUG OFF OLD FORMATION
☐ PERFORATE NEW FORMATION ☐ OTHER PHYSICAL CHANGE IN WELL (SPECIFY)
☐ PLUG AND ABANDON ☐ CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus ESTIMATED DEPTH: TVD=7,800 MD=12,000

WELL OPERATOR: EQT Production Company DESIGNATED AGENT: Rex C. Ray
ADDRESS: 1710 Pennsylvania Avenue ADDRESS: 1710 Pennsylvania Avenue
Charleston, WV 25302 Charleston, WV 25302