

Well Operator's Report of Well Work



Where energy meets innovation.

Well Number: 515278

API: 47 - 085 - 10096

Submission: Initial Amended

Notes: Correction to Production Cement Top
(MD)

APPROVED

NAME: *Michael Daff*

DATE: *3/17/16*

RECEIVED
Office of Oil and Gas

DEC 21 2015

WV Department of
Environmental Protection

AX WS 03/21/16
03/25/2016

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

API 47 - 085 - 10096 County RITCHIE District CLAY
Quad PENNSBORO Pad Name PEN15 Field/Pool Name _____
Farm name DEWAYNE BRITTON ET UX Well Number 515278
Operator (as registered with the OOG) EQT Production Company
Address 625 Liberty Ave. EQT Plaza, Suite 1700 City Pittsburgh State PA Zip 15222

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey
Top hole Northing 4,345,851 Easting 504,197
Landing Point of Curve Northing 5,345,367 Easting 503,543
Bottom Hole Northing 4,346,491 Easting 502,997

Elevation (ft) 1119 GL Type of Well New Existing Type of Report Interim Final
Permit Type Deviated Horizontal Horizontal 6A Vertical Depth Type Deep Shallow
Type of Operation Convert Deepen Drill Plug Back Redrilling Rework Stimulate
Well Type Brine Disposal CBM Gas Oil Secondary Recovery Solution Mining Storage Other _____
Type of Completion Single Multiple Fluids Produced Brine Gas NGL Oil Other _____
Drilled with Cable Rotary

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

Mud Type(s) and Additive(s)
Water base Mud 12.5 ppg barium sulfate, sodium chloride, xanthan gum, polyanionic cellulose, modified starch, sodium hydroxide, phosphonates and alkyl phosphates, glutaraldehyde solution, calcium hydroxide, partially hydrolyzed polyacrylamide/polyacrylate, potassium chloride, sodium carbonate, ground walnut shells, alcohol and modified fatty acid, ferrochrome lignosulfonate, calcium carbonate, fibrous cellulose

Date permit issued 05/22/2014 Date drilling commenced 06/18/2014 Date drilling ceased 04/02/2015
Date completion activities began 5/20/2015 Date completion activities ceased 5/25/2015
Verbal plugging (Y/N) N Date permission granted N/A Granted by N/A

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

Freshwater depth(s) ft 83',163',242',394',770',873' Open mine(s) (Y/N) depths N
Salt water depth(s) ft 1652',1943',2521' Void(s) encountered (Y/N) depths N
Coal depth(s) ft 14',273',379',744' Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

Reviewed by: _____

03/25/2016

API 47-085 - 10096 Farm name DEWAYNE BRITTON ET UX Well number 515278

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	26"	20"	40'	NEW	A-500 40LB/FT	NONE	Y
Surface	17.5"	13.375"	1,077'	NEW	J-55 54.5LB/FT	825',327'	Y
Coal							
Intermediate 1	12.25"	9.625"	5,417'	NEW	P-110 40LB/FT	4555'	Y
Intermediate 2							
Intermediate 3							
Production	8.5"	5.5"	12,433'	NEW	P-110 20LB/FT	NONE	N
Tubing							
Packer type and depth set							

Comment Details _____

CEMENT DATA	Class/Type of Cement	Number of Sacks	Slurry wt (ppg)	Yield (ft ³ /sks)	Volume (ft ³)	Cement Top (MD)	WOC (hrs)
Conductor	CLASS A	38	15.6	1.19	45.22	0	8
Surface	CLASS A	980	15.6	1.19	1166.2	0	8
Coal							
Intermediate 1	CLASS A / CLASS A / CLASS A	358 / 242 / 880	14.2 / 15.6 / 15.6	1.24 / 1.19 / 1.19	1779.1	0	8
Intermediate 2							
Intermediate 3							
Production	Class H / Class H	538 / 504	14.2 / 15.2	1.23 / 2.18	1760.5	4,749'	72
Tubing							

Drillers TD (ft) 12,433' MD Loggers TD (ft) N/A
 Deepest formation penetrated Marcellus Plug back to (ft) N/A
 Plug back procedure N/A

Kick off depth (ft) 4,040' MD

Check all wireline logs run caliper density deviated/directional induction
 neutron resistivity gamma ray temperature sonic

Well cored Yes No Conventional Sidewall Were cuttings collected Yes No

DESCRIBE THE CENTRALIZER PLACEMENT USED FOR EACH CASING STRING _____

CONDUCTOR- NONE
 SURFACE- JOINTS: 1,11,21
 INTERMEDIATE- RAN AT LEAST EVERY 500' FEET
 PRODUCTION- 195 Composite Centralizers. One on every joint from TD to 5,000'

WAS WELL COMPLETED AS SHOT HOLE Yes No DETAILS _____

WAS WELL COMPLETED OPEN HOLE? Yes No DETAILS _____

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

API 47- 085 - 10096 Farm name DEWAYNE BRITTON ET UX Well number 515278

PERFORATION RECORD

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

Please insert additional pages as applicable.

STIMULATION INFORMATION PER STAGE

Complete a separate record for each stimulation stage.

Stage No	Stimulations Date	Ave Pump Rate (BPM)	Ave Treatment Pressure (PSI)	Max Breakdown Pressure (PSI)	ISIP (PSI)	Amount of Proppant (lbs)	Amount of Water (bbls)	Amount of Nitrogen/other (units)
						Please	See	Attached

Please insert additional pages as applicable.

API 47- 085 - 10096 Farm name DEWAYNE BRITTON ET UX Well number 515278

<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>	
<u>Marcellus</u>	<u>6,371'</u> TVD	<u>8,169'</u> MD
_____	_____	_____
_____	_____	_____
_____	_____	_____

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump
 SHUT-IN PRESSURE Surface 2,237 psi Bottom Hole N/A psi DURATION OF TEST 45.5 hrs
 OPEN FLOW Gas 7,804 mcfpd Oil N/A bpd NGL 1.6 bpd Water 411.8 bpd GAS MEASURED BY Estimated Orifice Pilot

LITHOLOGY/ FORMATION	TOP DEPTH IN FT NAME 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 ₂ S, ETC)
	<u>0</u>		<u>0</u>		

Please insert additional pages as applicable.

Drilling Contractor ALPHA HUNTER DRILLING (RIG 5)
 Address P.O. BOX 430 City RENO State OH Zip 45773
 Logging Company HOSSCO SERVICES, LLC
 Address 614 TROTTERS LANE City CHARLESTON State WV Zip 25312
 Cementing Company ALLIED OIL & GAS SERVICES
 Address 1036 EAST MAIN ST. City BRIDGEPORT State WV Zip 26330
 Stimulating Company Stingray Energy
 Address 66680 Executive Drive City Saint Clairsville State OH Zip 43950

Please insert additional pages as applicable.

Completed by Brad Maddox Telephone 412-395-7053
 Signature Title Director of Drilling Date 12/9/2015

API 47- 085 - 10096 Farm name DEWAYNE BRITTON ET UX Well number 515278

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

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

Logging Company _____
Address _____ City _____ State _____ Zip _____

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

API 47 - 085 - 10096

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	876	876
SAND/SHALE	0	0	17	17
WASHINGTON COAL	17	17	19	19
SAND/SHALE	19	19	276	276
COAL	276	276	284	284
SAND/SHALE	284	284	382	382
COAL	382	382	387	387
SAND/SHALE	387	387	747	747
COAL	747	747	751	751
SAND/SHALE	751	751	1,750	1,750
MAXTON	1,750	1,750	1,969	1,969
BIG LIME	1,969	1,969	2,037	2,037
KEENER	2,037	2,037	2,376	2,376
WEIR	2,376	2,376	2,581	2,581
GANTZ	2,581	2,581	2,721	2,721
50F	2,721	2,721	2,802	2,802
30F	2,802	2,802	2,846	2,846
GORDON	2,846	2,846	2,927	2,927
4TH	2,927	2,927	3,073	3,073
5TH	3,073	3,073	3,116	3,116
BAYARD	3,116	3,116	3,465	3,465
WARREN	3,465	3,465	3,508	3,508
B-5	3,508	3,508	3,546	3,546
SPEECHLEY	3,546	3,546	3,931	3,931
BALLTOWN A	3,931	3,931	4,197	4,197
BALLTOWN B	4,197	4,197	4,340	4,339
BRADFORD	4,340	4,339	4,582	4,579
RILEY	4,582	4,579	4,950	4,929
JAVA	4,950	4,929	4,953	4,932
BENSON	4,953	4,932	5,213	5,162
ALEXANDER	5,213	5,162	5,260	5,202
ANGOLA	5,260	5,202	5,739	5,553
RHINESTREET	5,739	5,553	7,325	6,105
SONYEA	7,325	6,105	7,635	6,217
MIDDLESEX	7,635	6,217	7,798	6,274
GENESSEE	7,798	6,274	7,965	6,324
GENESEO	7,965	6,324	8,072	6,351
TULLY	8,072	6,351	8,142	6,366
HAMILTON	8,142	6,366	8,169	6,371
MARCELLUS	8,169	6,371	12,433	6,415

03/25/2016



EQT Production - Marcellus

**Ritchie County, WV
Ritchie County 515278
Well #515278**

Main Wellbore

Design: 515278 As Drilled Surveys

Standard Survey Report

01 April, 2015



Database:	EDM 5000 1 Single User Db	Local Co-ordinate Reference:	Site Ritchie County 515278
Company:	EQT Production - Marcellus	TVD Reference:	KB@16 @ 1135.0usft
Project:	Ritchie County, WV	MD Reference:	KB@16 @ 1135.0usft
Site:	Ritchie County 515278	North Reference:	Grid
Well:	Well #515278	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	515278 As Drilled Surveys		

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

Site: Ritchie County, 515278					
Site Position:	Map	Northing:	280,821 80 usft	Latitude:	39.26
From:		Easting:	1,589,015 90 usft	Longitude:	-80.95
Position Uncertainty:	0 0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	-0.93 °

Well: Well #515278						
Well Position	+N-S	0.0 usft	Northing:	280 821 80 usft	Latitude:	39° 15' 42 861 N
	+E-W	0.0 usft	Easting:	1 589 015 90 usft	Longitude:	80° 57' 5 482 W
Position Uncertainty		0 0 usft	Wellhead Elevation:	usft	Ground Level:	1 119 0 usft

Wellbore: Main Wellbore					
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	3/16/2015	-8.33	66.77	52,196

Design: 515278 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	299.00	

Survey Program		Date	4/1/2015			
From (')	To (usft)	Survey (Wellbore)	Tool Name	Description		
0 00	4,298 0	515278 Gyrodata Gyro (Main Wellbore)	GYD_DP_MS	Gyrodata gyro-compassing and drop		
0 00	5,396 0	515278 PHX MWD (Main Wellbore)	MWD+IGRF	MWD+IGRF v3 standard declination		
0 00	12,433 0	515278 PHX MWD Curve and Lateral (Ma	MWD+IGRF	MWD+IGRF v3 standard declination		

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	-1 135.0	0 0	0 0	0 0	0 00	0 00	0 00
103 0	0 04	2 88	103 0	-1,032 0	0 0	0 0	0 0	0 04	0 04	0 00
203 0	0 08	16 04	203 0	-932 0	0 1	0 0	0 0	0 04	0 04	13.16
303 0	0 05	256 18	303 0	-832 0	0 2	0 0	0 1	0 11	-0.03	-119.86
403 0	0 07	119 49	403 0	-732 0	0 2	0 0	0 1	0 11	0 02	-136.69
503 0	0 05	134 35	503 0	-632 0	0 1	0 1	0 0	0 03	-0.02	14.86
603 0	0 06	134 51	603 0	-532 0	0 0	0 2	-0 1	0 01	0 01	0 16

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Site Ritchie County 515278
Company:	EQT Production - Marcellus	TVD Reference:	KB@18 @ 1135.0usft
Project:	Ritchie County, WV	MD Reference:	KB@16 @ 1135.0usft
Site:	Ritchie County 515278	North Reference:	Grid
Well:	Well #S15278	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	S15278 Aa 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)
703.0	0.07	130.15	703.0	-432.0	0.0	0.2	-0.2	0.01	0.01	-4.36
803.0	0.06	137.90	803.0	-332.0	-0.1	0.3	-0.4	0.01	-0.01	7.75
903.0	0.05	141.33	903.0	-232.0	-0.2	0.4	-0.4	0.01	-0.01	3.43
1,003.0	0.06	172.62	1,003.0	-132.0	-0.3	0.4	-0.5	0.03	0.01	31.29
1,103.0	0.23	154.64	1,103.0	-32.0	-0.5	0.5	-0.7	0.17	0.17	-17.98
1,203.0	0.44	141.57	1,203.0	68.0	-1.0	0.8	-1.2	0.22	0.21	-13.07
1,303.0	0.48	154.79	1,303.0	168.0	-1.7	1.3	-1.9	0.11	0.04	13.22
1,403.0	0.57	151.71	1,403.0	268.0	-2.5	1.7	-2.7	0.09	0.09	-3.08
1,503.0	0.43	155.79	1,503.0	368.0	-3.3	2.1	-3.4	0.14	-0.14	4.08
1,603.0	0.33	170.11	1,603.0	468.0	-3.9	2.3	-3.9	0.14	-0.10	14.32
1,703.0	0.37	173.06	1,703.0	568.0	-4.5	2.4	-4.2	0.04	0.04	2.95
1,803.0	0.40	162.87	1,803.0	668.0	-5.2	2.5	-4.7	0.07	0.03	-10.19
1,903.0	0.41	160.76	1,903.0	768.0	-5.8	2.7	-5.2	0.02	0.01	-2.11
2,003.0	0.41	171.38	2,003.0	868.0	-6.5	2.9	-5.7	0.08	0.00	10.62
2,103.0	0.43	167.28	2,103.0	968.0	-7.2	3.0	-6.2	0.04	0.02	-4.10
2,203.0	0.40	179.98	2,203.0	1,068.0	-8.0	3.1	-6.6	0.10	-0.03	12.70
2,303.0	0.46	176.67	2,303.0	1,168.0	-8.7	3.1	-7.0	0.06	0.06	-3.31
2,403.0	0.34	189.69	2,403.0	1,268.0	-9.4	3.1	-7.3	0.15	-0.12	13.02
2,503.0	0.32	185.49	2,503.0	1,368.0	-10.0	3.0	-7.5	0.03	-0.02	-4.20
2,603.0	0.34	205.31	2,603.0	1,468.0	-10.5	2.9	-7.6	0.12	0.02	19.82
2,703.0	0.33	203.93	2,703.0	1,568.0	-11.1	2.6	-7.7	0.01	-0.01	-1.38
2,803.0	0.30	207.50	2,803.0	1,668.0	-11.5	2.4	-7.7	0.04	-0.03	3.57
2,903.0	0.23	208.63	2,903.0	1,768.0	-12.0	2.2	-7.7	0.07	-0.07	1.13
3,003.0	0.28	214.85	3,003.0	1,868.0	-12.3	1.9	-7.7	0.06	0.05	6.22
3,103.0	0.21	220.08	3,103.0	1,968.0	-12.7	1.7	-7.6	0.07	-0.07	5.23
3,203.0	0.12	210.29	3,203.0	2,068.0	-12.9	1.5	-7.6	0.09	-0.09	-9.79
3,303.0	0.14	208.51	3,303.0	2,168.0	-13.1	1.4	-7.6	0.02	0.02	-1.78
3,403.0	0.16	222.93	3,403.0	2,268.0	-13.3	1.2	-7.5	0.04	0.02	14.42
3,503.0	0.20	228.23	3,503.0	2,368.0	-13.5	1.0	-7.5	0.04	0.04	5.30
3,603.0	0.16	220.19	3,603.0	2,468.0	-13.8	0.8	-7.4	0.05	-0.04	-8.04
3,703.0	0.21	239.34	3,703.0	2,568.0	-14.0	0.6	-7.2	0.08	0.05	19.15
3,803.0	0.20	242.19	3,803.0	2,668.0	-14.1	0.2	-7.1	0.01	-0.01	2.85
3,903.0	0.20	235.86	3,903.0	2,768.0	-14.3	-0.1	-6.9	0.02	0.00	-6.33
Gyro Tie In=3998' MD										
3,993.0	0.43	254.60	3,992.9	2,857.9	-14.5	-0.5	-6.6	0.28	0.26	20.82
4,040.0	0.40	258.10	4,039.9	2,904.9	-14.6	-0.8	-6.3	0.08	-0.06	7.45
4,083.0	1.40	238.20	4,082.9	2,947.9	-14.9	-1.4	-6.0	2.40	2.33	-46.28
4,126.0	3.00	237.70	4,125.9	2,990.9	-15.8	-2.8	-5.2	3.72	3.72	-1.16
4,169.0	4.20	233.80	4,168.8	3,033.8	-17.3	-5.1	-4.0	2.85	2.79	-9.07
4,212.0	5.70	222.90	4,211.7	3,076.7	-19.8	-7.8	-2.8	4.10	3.49	-25.35
4,277.0	6.70	221.30	4,276.3	3,141.3	-25.0	-12.5	-1.2	1.56	1.54	-2.46
Final MWD Survey=4298' MD										
4,298.0	6.90	222.70	4,297.1	3,162.1	-26.8	-14.1	-0.6	1.24	0.95	6.67

Database: EDM 5000 1 Single User Db	Local Co-ordinate Reference: Site Ritchie County 515278
Company: EQT Production - Marcellus	TVD Reference: KB@16 @ 1135.0usft
Project: Ritchie County, WV	MD Reference: KB@16 @ 1135.0usft
Site: Ritchie County 515278	North Reference: Grid
Well: Well #515278	Survey Calculation Method: Minimum Curvature
Wellbore: Main Wellbore	
Design: 515278 As Drilled Surveys	

Survey											
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
4,341.0	7.20	223.20	4,339.8	3,204.8	-30.7	-17.7	0.6	0.71	0.70	1.16	
4,384.0	7.30	223.20	4,382.5	3,247.5	-34.7	-21.5	2.0	0.23	0.23	0.00	
4,427.0	7.40	219.80	4,425.1	3,290.1	-38.8	-25.1	3.2	1.04	0.23	-7.91	
4,470.0	7.50	221.90	4,467.7	3,332.7	-43.0	-28.7	4.3	0.67	0.23	4.88	
4,513.0	7.90	221.40	4,510.4	3,375.4	-47.3	-32.6	5.6	0.94	0.93	-1.16	
4,556.0	7.90	222.00	4,553.0	3,418.0	-51.7	-36.5	6.9	0.19	0.00	1.40	
4,599.0	8.90	226.20	4,595.5	3,460.5	-56.2	-40.9	8.5	2.73	2.33	9.77	
4,642.0	11.00	234.50	4,637.8	3,502.8	-60.9	-46.6	11.3	5.90	4.88	19.30	
4,685.0	13.00	232.30	4,679.9	3,544.9	-66.2	-53.8	14.9	4.77	4.65	-5.12	
4,707.0	13.70	229.60	4,701.3	3,566.3	-69.4	-57.7	16.8	4.26	3.18	-12.27	
4,728.0	15.20	227.70	4,721.6	3,586.6	-72.9	-61.7	18.6	7.49	7.14	-9.05	
4,771.0	17.60	226.50	4,762.9	3,627.9	-81.2	-70.5	22.4	5.64	5.58	-2.79	
4,815.0	20.30	224.90	4,804.5	3,669.5	-91.2	-80.8	26.4	6.25	6.14	-3.64	
4,858.0	22.20	222.20	4,844.6	3,709.6	-102.5	-91.5	30.3	4.97	4.42	-6.28	
4,902.0	23.30	220.20	4,885.2	3,750.2	-115.3	-102.7	33.9	3.06	2.50	-4.55	
4,945.0	24.70	216.60	4,924.4	3,789.4	-129.0	-113.5	36.8	4.71	3.26	-8.37	
4,988.0	25.70	216.80	4,963.3	3,828.3	-143.7	-124.5	39.2	2.33	2.33	0.47	
5,031.0	26.80	217.30	5,001.9	3,866.9	-158.8	-135.9	41.9	2.61	2.56	1.16	
5,074.0	27.20	216.30	5,040.2	3,905.2	-174.5	-147.6	44.5	1.41	0.93	-2.33	
5,117.0	27.50	219.00	5,078.4	3,943.4	-190.1	-159.7	47.5	2.97	0.70	6.28	
5,160.0	29.30	218.60	5,116.2	3,981.2	-206.0	-172.5	51.0	4.21	4.19	-0.93	
5,202.0	30.20	219.70	5,152.7	4,017.7	-222.2	-185.7	54.7	2.51	2.14	2.62	
5,247.0	31.40	221.00	5,191.4	4,056.4	-239.8	-200.6	59.2	3.05	2.67	2.89	
5,290.0	32.80	221.80	5,227.8	4,092.8	-256.9	-215.7	64.1	3.40	3.26	1.86	
5,334.0	34.40	223.60	5,264.4	4,129.4	-274.8	-232.2	69.9	4.28	3.64	4.09	
5,377.0	34.70	223.30	5,299.9	4,164.9	-292.5	-249.0	76.0	0.80	0.70	-0.70	
Final Survey=5390 MD/5310' TVD											
5,393.0	35.00	223.60	5,313.0	4,178.0	-299.1	-255.3	78.3	2.16	1.88	1.88	
Tie In=5395' MD											
5,396.0	35.00	223.60	5,315.4	4,180.4	-300.4	-256.5	78.7	0.00	0.00	0.00	
5,428.0	35.00	223.80	5,341.7	4,206.7	-313.6	-269.1	83.4	0.36	0.00	0.63	
5,460.0	34.70	223.90	5,367.9	4,232.9	-326.8	-281.8	88.0	0.95	-0.94	0.31	
5,491.0	37.10	223.00	5,393.0	4,258.0	-340.0	-294.3	92.6	7.93	7.74	-2.90	
5,523.0	40.80	223.00	5,417.9	4,282.9	-354.7	-308.0	97.4	11.56	11.56	0.00	
5,554.0	44.30	222.70	5,440.7	4,305.7	-370.1	-322.3	102.5	11.31	11.29	-0.97	
5,586.0	46.90	222.30	5,463.1	4,328.1	-387.0	-337.7	107.8	8.17	8.13	-1.25	
5,617.0	49.70	222.00	5,483.7	4,348.7	-404.1	-353.3	113.1	9.06	9.03	-0.97	
5,649.0	52.60	221.90	5,503.6	4,368.8	-422.6	-369.9	118.6	9.07	9.06	-0.31	
5,680.0	55.70	221.20	5,522.0	4,387.0	-441.5	-386.6	124.1	10.17	10.00	-2.26	
5,712.0	58.50	220.80	5,539.3	4,404.3	-461.7	-404.2	129.7	8.81	8.75	-1.25	
5,743.0	61.50	220.10	5,554.8	4,419.8	-482.2	-421.6	135.0	9.87	9.68	-2.26	
5,775.0	64.00	219.30	5,569.5	4,434.5	-504.0	-439.8	140.3	8.12	7.81	-2.50	
5,806.0	66.20	218.60	5,582.6	4,447.6	-525.9	-457.5	145.2	7.39	7.10	-2.26	

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Site Ritchie County 515278
Company:	EQT Production - Marcellus	TVD Reference:	KB@18 @ 1135.0usft
Project:	Ritchie County, WV	MD Reference:	KB@18 @ 1135.0usft
Site:	Ritchie County 515278	North Reference:	Grid
Well:	Well #515278	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	515278 Ag 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)
5,838.0	68 10	218.30	5,595.0	4,460.0	-549.0	-475.8	150.0	6.00	5.94	-0.94
5,901.0	69 70	217.80	5,617.7	4,482.7	-595.3	-512.0	159.2	2.65	2.54	-0.79
5,965.0	68 70	217.60	5,640.4	4,505.4	-642.6	-548.6	168.3	1.59	-1.56	-0.31
6,028.0	68 80	217.10	5,663.2	4,528.2	-689.3	-584.2	176.8	0.76	0.16	-0.79
6,092.0	69 90	216.50	5,685.8	4,550.8	-737.3	-620.1	185.0	1.93	1.72	-0.94
6,155.0	70 20	218.20	5,707.3	4,572.3	-784.3	-656.0	193.6	2.58	0.48	2.70
6,218.0	70 90	218.60	5,728.3	4,593.3	-830.9	-692.9	203.3	1.26	1.11	0.63
6,281.0	69 60	219.40	5,749.5	4,614.5	-877.0	-730.2	213.6	2.38	-2.06	1.27
6,344.0	69 80	219.40	5,771.4	4,636.4	-922.6	-767.7	224.2	0.32	0.32	0.00
6,407.0	71 10	218.70	5,792.5	4,657.5	-968.7	-805.1	234.6	2.31	2.06	-1.11
6,470.0	69 60	217.80	5,813.7	4,678.7	-1,015.3	-841.9	244.1	2.73	-2.38	-1.43
6,533.0	69 30	217.80	5,835.8	4,700.8	-1,061.9	-878.0	253.2	0.48	-0.48	0.00
6,597.0	70.20	216.90	5,857.9	4,722.9	-1,109.7	-914.4	261.9	1.93	1.41	-1.41
6,660.0	68 70	216.80	5,880.1	4,745.1	-1,156.9	-949.8	269.9	2.39	-2.38	-0.16
6,723.0	68.30	216.50	5,903.1	4,768.1	-1,203.9	-984.8	277.7	0.77	-0.63	-0.48
6,786.0	68.80	217.90	5,926.2	4,791.2	-1,250.6	-1,020.3	286.1	2.22	0.79	2.22
6,849.0	69.50	218.50	5,948.6	4,813.6	-1,296.9	-1,056.7	295.5	1.42	1.11	0.95
6,912.0	70.50	219.70	5,970.2	4,835.2	-1,342.8	-1,094.0	305.9	2.39	1.59	1.90
6,976.0	71.40	220.20	5,991.0	4,856.0	-1,389.2	-1,132.9	317.4	1.59	1.41	0.78
7,039.0	70.20	219.60	6,011.8	4,876.8	-1,434.8	-1,171.0	328.7	2.11	-1.90	-0.95
7,102.0	71 10	219.10	6,032.6	4,897.6	-1,480.8	-1,208.7	339.3	1.61	1.43	-0.79
7,165.0	70.60	218.00	6,053.3	4,918.3	-1,527.3	-1,245.8	349.2	1.83	-0.79	-1.75
7,228.0	71 20	218.00	6,073.9	4,938.9	-1,574.2	-1,282.4	358.5	0.95	0.95	0.00
7,259.0	71 90	217.50	6,083.7	4,948.7	-1,597.5	-1,300.5	363.0	2.73	2.26	-1.61
7,291.0	71 40	219.30	6,093.8	4,958.8	-1,621.3	-1,319.3	368.0	5.56	-1.56	5.63
7,322.0	70 70	221.60	6,103.9	4,968.9	-1,643.6	-1,338.3	373.8	7.37	-2.26	7.42
7,354.0	70.20	223.90	6,114.6	4,979.6	-1,665.7	-1,358.8	380.9	6.95	-1.56	7.19
7,385.0	70 00	227.00	6,125.1	4,990.1	-1,686.2	-1,379.6	389.2	9.42	-0.65	10.00
7,417.0	69 60	230.40	6,136.2	5,001.2	-1,706.0	-1,402.1	399.3	10.05	-1.25	10.63
7,448.0	68 90	234.20	6,147.2	5,012.2	-1,723.7	-1,425.1	410.8	11.68	-2.26	12.26
7,480.0	68 80	236.00	6,158.7	5,023.7	-1,740.4	-1,449.8	424.4	11.08	-0.31	11.88
7,512.0	68 40	241.40	6,170.4	5,035.4	-1,755.4	-1,475.5	439.6	9.97	-1.25	10.63
7,543.0	67 60	244.80	6,182.0	5,047.0	-1,768.4	-1,501.2	455.7	10.49	-2.58	10.97
7,575.0	67.10	248.40	6,194.3	5,059.3	-1,780.1	-1,528.3	473.7	10.50	-1.56	11.25
7,606.0	67 30	251.90	6,206.4	5,071.4	-1,789.8	-1,555.1	492.5	10.43	0.65	11.29
7,638.0	68 00	255.30	6,218.5	5,083.5	-1,798.2	-1,583.5	513.3	10.07	2.19	10.63
7,669.0	68 80	258.80	6,229.9	5,094.9	-1,804.6	-1,611.6	534.7	10.81	2.58	11.29
7,701.0	69.60	262.60	6,241.3	5,106.3	-1,809.5	-1,641.1	558.2	11.38	2.50	11.88
7,732.0	70 50	266.40	6,251.9	5,116.9	-1,812.3	-1,670.1	582.2	11.88	2.90	12.26
7,764.0	70 90	270.50	6,262.5	5,127.5	-1,813.1	-1,700.3	608.2	12.16	1.25	12.81
7,795.0	71 20	274.40	6,272.5	5,137.5	-1,811.8	-1,729.6	634.4	11.94	0.97	12.58
7,828.0	71 50	279.10	6,283.1	5,148.1	-1,808.1	-1,760.6	663.4	13.52	0.91	14.24

Database:	00 1 Single User Db	Local Co-ordinate Reference:	
Company:	Phillips	TVD Reference:	
Project:		MD Reference:	
Site:		North Reference:	
Well:		Survey Calculation Method:	
Wellbore:			
Design:			

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
7,859.0	71.80	282.70	6,292.9	5,157.9	-1,802.6	-1,789.5	691.3	11.06	0.97	11.61
7,891.0	72.40	286.60	6,302.7	5,167.7	-1,794.9	-1,819.0	720.8	11.75	1.88	12.19
7,923.0	73.00	289.90	6,312.2	5,177.2	-1,785.3	-1,848.0	750.8	10.02	1.88	10.31
7,954.0	74.10	294.10	6,321.0	5,186.0	-1,774.2	-1,875.5	780.3	13.47	3.55	13.55
7,986.0	75.20	297.10	6,329.5	5,194.5	-1,760.8	-1,903.4	811.1	9.67	3.44	9.38
8,017.0	75.50	297.80	6,337.3	5,202.3	-1,747.0	-1,930.0	841.1	2.39	0.97	2.26
8,049.0	75.80	300.10	6,345.2	5,210.2	-1,732.0	-1,957.1	872.1	7.03	0.94	7.19
8,081.0	76.50	303.30	6,352.9	5,217.9	-1,715.7	-1,983.5	903.1	9.95	2.19	10.00
8,112.0	77.40	306.00	6,359.9	5,224.9	-1,698.5	-2,008.4	933.2	8.97	2.90	8.71
8,144.0	78.60	308.70	6,366.6	5,231.6	-1,679.5	-2,033.3	964.2	9.06	3.75	8.44
8,175.0	79.50	311.50	6,372.5	5,237.5	-1,659.9	-2,056.5	994.0	9.33	2.90	9.03
8,207.0	80.00	314.20	6,378.2	5,243.2	-1,638.5	-2,079.6	1,024.6	8.45	1.56	8.44
8,239.0	81.10	316.40	6,383.4	5,248.4	-1,616.1	-2,101.8	1,054.9	7.60	3.44	6.88
8,270.0	82.90	319.80	6,387.7	5,252.7	-1,593.2	-2,122.3	1,083.9	12.32	5.81	10.97
8,302.0	84.70	323.00	6,391.2	5,256.2	-1,568.4	-2,142.2	1,113.3	11.42	5.63	10.00
8,333.0	85.50	326.30	6,393.8	5,258.8	-1,543.2	-2,160.0	1,141.1	10.92	2.58	10.65
8,365.0	86.50	328.60	6,396.1	5,261.1	-1,516.3	-2,177.2	1,169.2	7.82	3.13	7.19
LP= 8367; MD= 8397; TVD										
8,397.0	88.80	330.50	6,397.4	5,262.4	-1,488.7	-2,193.4	1,196.7	9.32	7.19	5.94
8,428.0	90.00	333.30	6,397.7	5,262.7	-1,461.4	-2,208.0	1,222.8	9.83	3.87	9.03
8,491.0	90.20	333.40	6,397.6	5,262.6	-1,405.1	-2,236.3	1,274.8	0.35	0.32	0.16
8,555.0	90.40	332.60	6,397.2	5,262.2	-1,348.0	-2,265.3	1,327.8	1.29	0.31	-1.25
8,618.0	90.30	332.40	6,396.9	5,261.9	-1,292.2	-2,294.4	1,380.4	0.35	-0.16	-0.32
8,681.0	91.10	333.60	6,396.1	5,261.1	-1,236.0	-2,323.0	1,432.6	2.29	1.27	1.90
8,744.0	90.90	332.50	6,395.0	5,260.0	-1,179.9	-2,351.5	1,484.8	1.77	-0.32	-1.75
8,807.0	90.40	334.50	6,394.3	5,259.3	-1,123.5	-2,379.7	1,536.7	3.27	-0.79	3.17
8,870.0	90.00	333.40	6,394.1	5,259.1	-1,066.9	-2,407.3	1,588.3	1.86	-0.63	-1.75
8,933.0	89.50	334.30	6,394.3	5,259.3	-1,010.4	-2,435.1	1,640.0	1.63	-0.79	1.43
8,996.0	88.60	335.50	6,395.4	5,260.4	-953.3	-2,461.8	1,691.0	2.38	-1.43	1.90
9,059.0	88.60	336.60	6,396.9	5,261.9	-895.8	-2,487.4	1,741.3	1.75	0.00	1.75
9,122.0	89.00	336.20	6,398.2	5,263.2	-838.1	-2,512.6	1,791.3	0.90	0.63	-0.63
9,185.0	89.30	337.10	6,399.2	5,264.2	-780.2	-2,537.6	1,841.2	1.51	0.48	1.43
9,248.0	89.40	336.80	6,399.9	5,264.9	-722.3	-2,562.2	1,890.9	0.50	0.16	-0.48
9,311.0	89.40	335.60	6,400.5	5,265.5	-664.6	-2,587.6	1,941.1	1.90	0.00	-1.90
9,375.0	89.70	335.10	6,401.1	5,266.1	-606.4	-2,614.3	1,992.6	0.91	0.47	-0.78
9,438.0	89.60	336.30	6,401.4	5,266.4	-549.0	-2,640.3	2,043.1	1.91	-0.16	1.90
9,501.0	89.80	337.00	6,401.8	5,266.8	-491.2	-2,665.2	2,093.0	1.16	0.32	1.11
9,564.0	90.10	336.90	6,401.8	5,266.8	-433.2	-2,689.9	2,142.7	0.50	0.48	-0.16
9,627.0	90.10	336.50	6,401.7	5,266.7	-375.4	-2,714.8	2,192.5	0.63	0.00	-0.63
9,691.0	90.60	336.40	6,401.3	5,266.3	-316.7	-2,740.4	2,243.3	0.80	0.78	-0.16
9,754.0	90.80	336.10	6,400.5	5,265.5	-259.0	-2,765.8	2,293.5	0.57	0.32	-0.48
9,817.0	89.10	335.90	6,400.6	5,265.6	-201.5	-2,791.4	2,343.8	2.72	-2.70	-0.32
9,880.0	88.70	335.40	6,401.8	5,266.8	-144.1	-2,817.3	2,394.3	1.02	-0.63	-0.79



Phoenix Technologies
Survey Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Site Ritchie County 515278
Company:	EQT Production - Marcellus	TVD Reference:	KB@18 @ 1135.0usft
Project:	Ritchie County, WV	MD Reference:	KB@18 @ 1135.0usft
Site:	Ritchie County 515278	North Reference:	Grid
Well:	Well #515278	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	515278 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)
9 943 0	89 10	336.10	6,403.0	5,268.0	-86.7	-2,843.2	2,444 8	1.28	0.63	1.11
10,006 0	88 00	335.50	6,404.6	5,269 6	-29 2	-2,869 0	2,495 2	1 99	-1 75	-0 95
10,069 0	88 10	335.20	6,406 8	5,271.8	28 0	-2,895 3	2,545 9	0 50	0 16	-0 48
10,132 0	88 80	334.20	6,408 5	5,273 5	84 9	-2,922 2	2,597 0	1 94	1 11	-1 59
10,195 0	90 60	332.50	6,408 8	5,273 8	141.2	-2,950 5	2,649 1	3 93	2 86	-2 70
10,258 0	91 60	331.50	6,407 6	5,272 6	196 9	-2,980 0	2,701 9	2 24	1 59	-1 59
10,322 0	89 80	332.80	6,406.8	5,271.8	253 4	-3,009 9	2,755 5	3 47	-2 81	2 03
10,385 0	89 10	333 40	6,407 4	5,272 4	309 6	-3,038 4	2,807 6	1 46	-1 11	0 95
10,448 0	89 20	333 50	6,408 3	5,273 3	366 0	-3,066 6	2,859 6	0 22	0 16	0 16
10,511 0	88 40	334 40	6,409 7	5,274 7	422 6	-3,094 2	2,911 2	1 91	-1 27	1 43
10,575 0	88 60	333 80	6,411 3	5,276 3	480 1	-3,122 2	2,963 5	0 99	0 31	-0 94
10,638 0	88 70	335 30	6,412 8	5,277 8	537 0	-3,149 3	3,014 8	2 39	0 16	2 38
10,701 0	89 10	334.50	6,414 0	5,279 0	594 0	-3,176 0	3,065 8	1 42	0 63	-1 27
Deepest Point of Well# 10764' MD/6418' TVD										
10,764 0	89 40	332.50	6,414.9	5,279 9	650.4	-3,204.1	3,117 7	3 21	0 48	-3 17
10,827 0	92 00	332 90	6,414.1	5,279 1	706.4	-3,233 0	3,170 1	4 18	4 13	0 63
10,890 0	92 40	335.40	6,411 7	5,276 7	763 0	-3,260 4	3,221 6	4 02	0 63	3 97
10,953 0	90 20	335.30	6,410 2	5,275 2	820 5	-3,286 2	3,272 0	3 77	-3 49	1 43
11,016 0	90 00	336.70	6,410 1	5,275.1	878 2	-3,311 3	3,321 9	0 71	-0 32	0 63
11,079 0	90 70	336 80	6,409 7	5,274 7	936 1	-3,336 2	3,371 8	1 12	1 11	0 16
11,142 0	91 10	335.30	6,408 8	5,273 8	993 7	-3,361 7	3,422 0	2 46	0 63	-2 38
11,205 0	91 40	334.80	6,407 4	5,272 4	1,050 8	-3,388 3	3,473 0	0 93	0 48	-0 79
11,268 0	90 40	335.80	6,406 4	5,271 4	1,108 0	-3,414 6	3,523 7	2 24	-1 59	1 59
11,331 0	90 10	334 80	6,406 1	5,271 1	1,165 3	-3,441 0	3,574 5	1 66	-0 48	-1 59
11,394 0	90 50	335 20	6,405 8	5,270 8	1,222 4	-3,467 6	3,625 5	0 90	0 63	0 63
11,457 0	87 60	335 50	6,406 8	5,271 8	1,279 6	-3,493 9	3,676 2	4 63	-4 60	0 48
11,521 0	87 70	334.90	6,409 5	5,274 5	1,337 7	-3,520 7	3,727 8	0 95	0 16	-0 94
11,584 0	88 10	334.10	6,411 8	5,276 8	1,394 5	-3,547 8	3,779 0	1 42	0 63	-1 27
11,647 0	88 90	336.10	6,413 4	5,278 4	1,451 6	-3,574 3	3,829 9	3 42	1 27	3 17
11,710 0	89 50	335.10	6,414 3	5,279 3	1,509 0	-3,600 3	3,880 5	1 85	0 95	-1 59
11,773 0	90 20	333.70	6,414 5	5,279 5	1,565 8	-3,627 5	3,931 8	2 48	1 11	-2 22
11,836 0	91 80	335.30	6,413 4	5,278 4	1,622 6	-3,654 7	3,983 1	3 59	2 54	2 54
11,899 0	90 40	336.70	6,412 1	5,277 1	1,680 2	-3,680 3	4,033 4	3 14	-2 22	2 22
11,962 0	90 30	336.50	6,411 8	5,276 8	1,738 0	-3,705 3	4,083 3	0 35	-0 16	-0 32
12,025 0	90 90	335.10	6,411 1	5,276 1	1,795 4	-3,731 1	4,133 8	2 42	0 95	-2 22
12,088 0	90 50	335.90	6,410 3	5,275 3	1,852 8	-3,757 2	4,184 4	1 42	-0 63	1 27
12,151 0	90 60	336.00	6,409 7	5,274 7	1,910 3	-3,782 9	4,234 7	0 22	0 16	0 16
12,214 0	89 10	336 20	6,409 9	5,274 9	1,967 9	-3,808 4	4,285 0	2 40	-2 38	0 32
12,277 0	88 90	335 40	6,411 0	5,276 0	2,025 4	-3,834 3	4,335 4	1 31	-0 32	-1 27
12,340 0	89 70	334 80	6,411 8	5,276 8	2,082 5	-3,860 8	4,386 3	1 59	1 27	-0 95
Final Survey= 12381' MD/6412' TVD										
12,381 0	90 40	335 20	6,411 7	5,276 7	2,119 6	-3,878 1	4,419 5	1 97	1 71	0 98
Projection to TD= 12433' MD/6411' TVD										

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Site Ritchie County 515278
Company:	EQT Production - Marcellus	TVD Reference:	KB @ 18 @ 1135.0usft
Project:	Ritchie County, WV	MD Reference:	KB @ 18 @ 1135.0usft
Site:	Ritchie County 515278	North Reference:	Grid
Well:	Well #515278	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	515278 As Drilled Surveys		

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
12,433.0	90.40	335.20	6,411.4	5,276.4	2,166.9	-3,899.9	4,461.5	0.00	0.00	0.00

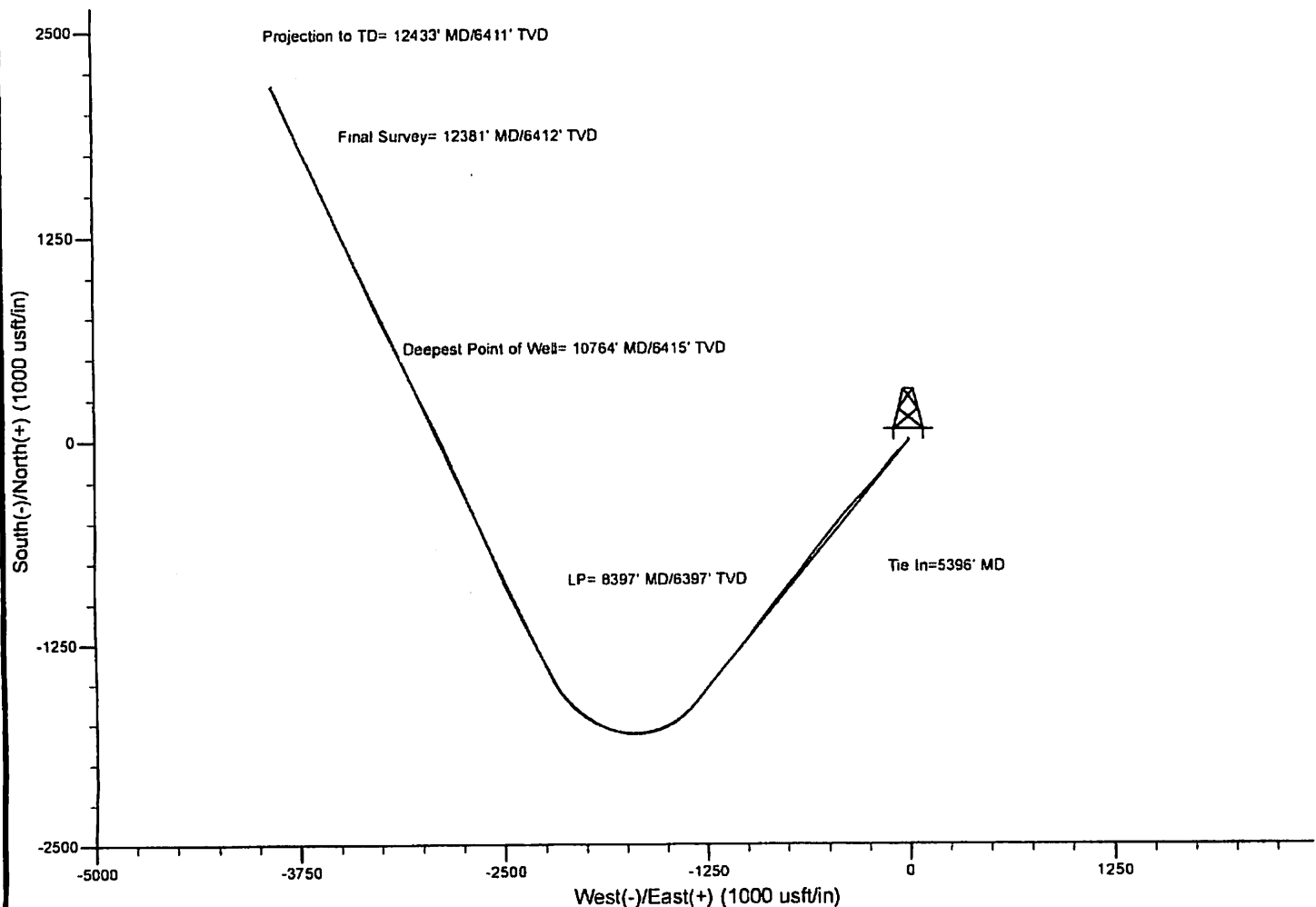
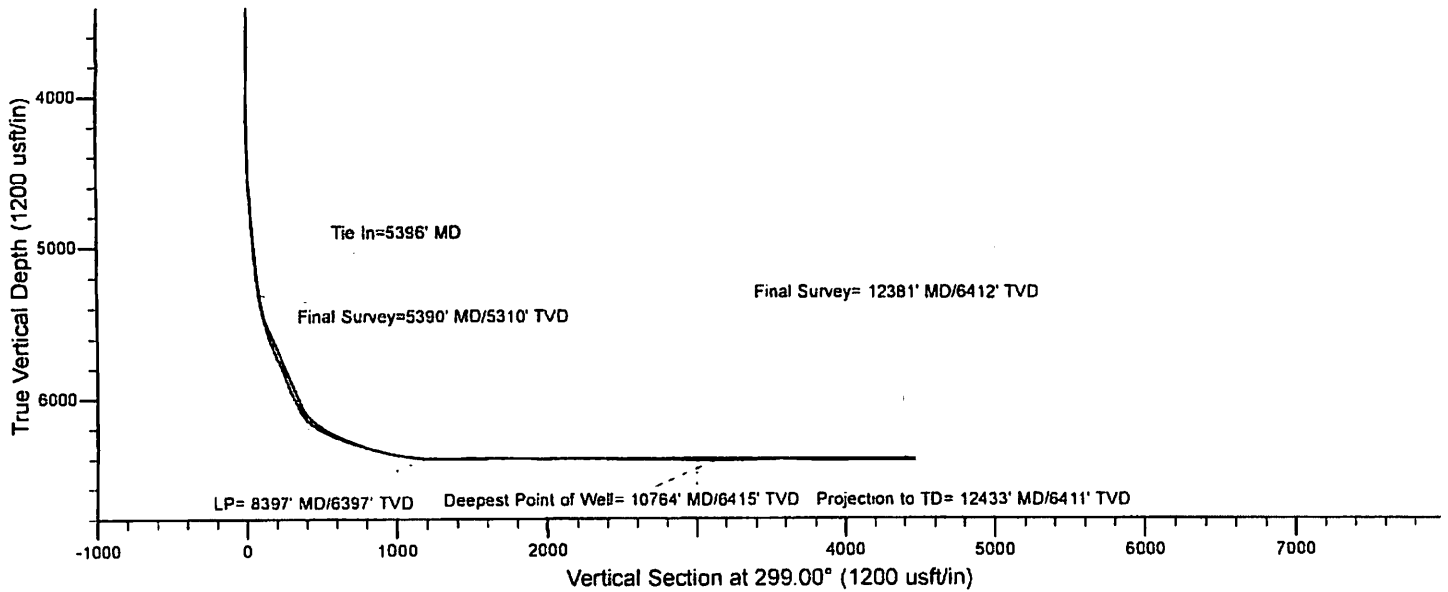
Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
3,993.0	3,992.9	-14.5	-0.5	Gyro Tie In=3990' MD	
4,298.0	4,297.1	-26.8	-14.1	First MWD Survey=4295' MD	
5,393.0	5,313.0	-299.1	-255.3	Final Survey=5390' MD/5310' TVD	
5,396.0	5,315.4	-300.4	-256.5	Tie In=5396' MD	
8,397.0	6,397.4	-1,488.7	-2,193.4	LP= 8397' MD/6397' TVD	
10,764.0	6,414.9	650.4	-3,204.1	Deepest Point of Well= 10764' MD/6415' TVD	
12,381.0	6,411.7	2,119.6	-3,878.1	Final Survey= 12381' MD/6412' TVD	
12,433.0	6,411.4	2,166.9	-3,899.9	Projection to TD= 12433' MD/6411' TVD	

Checked By: _____ Approved By: _____ Date: _____



EQT Production - Marcellus

Project: Ritchie County, WV
Site: Ritchie County 515278
Well: Well #515278
Wellbore: Main Wellbore
Design: 515278 As Drilled Surveys



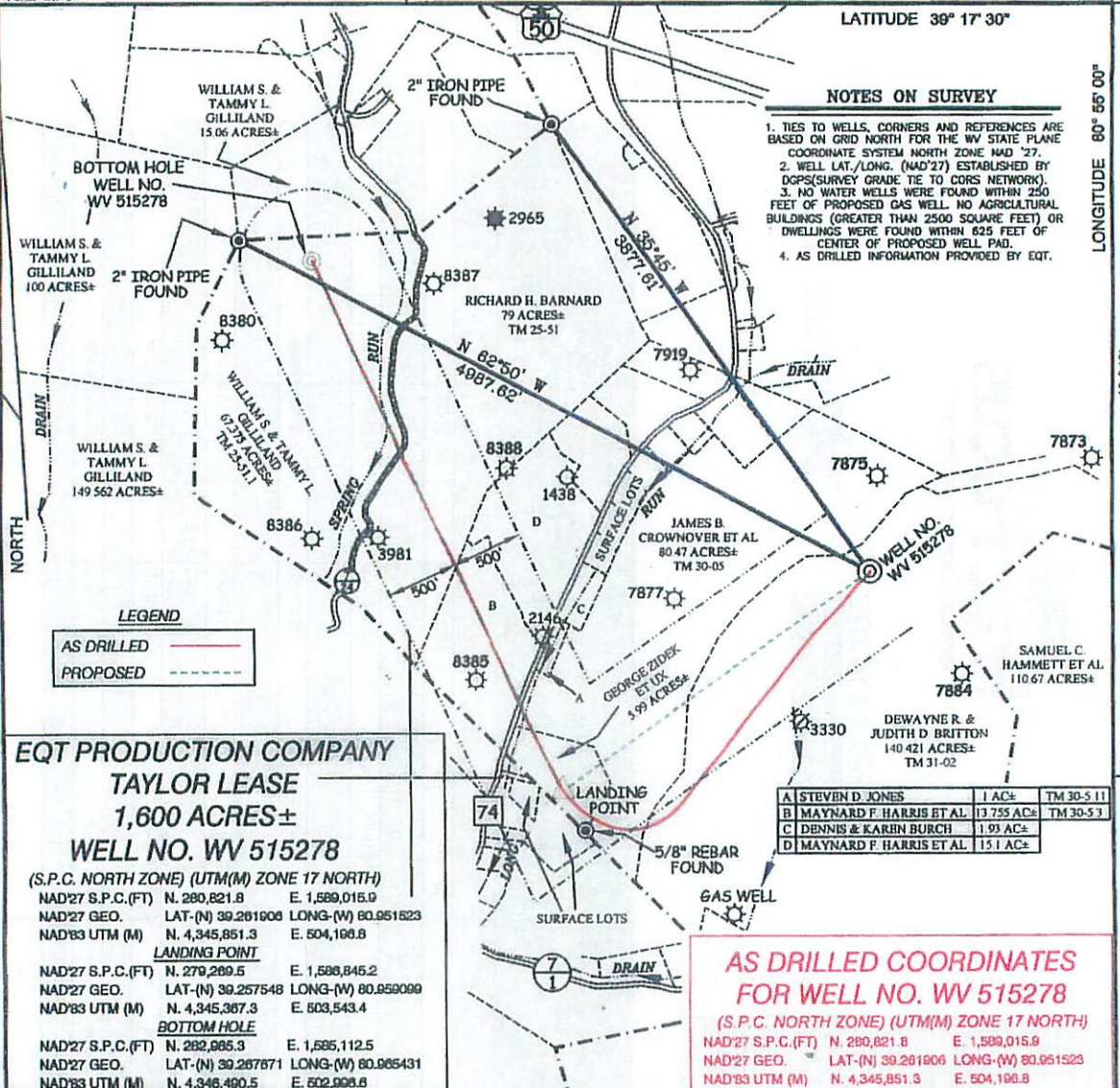
Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date	5/20/2015
Job End Date	5/25/2015
State	West Virginia
County	Ritchie
API Number	47-085-10096-00-00
Operator Name	EQT Production
Well Name and Number	515278
Longitude	-80.95152300
Latitude	39.26190600
Datum	NAD83
Federal/Tribal Well	NO
True Vertical Depth	6,371
Total Base Water Volume (gal)	6,547,002
Total Base Non Water Volume	0



Hydraulic Fracturing Fluid Composition:

Trade Name	Supplier	Purpose	Ingredients	Chemical Abstract Service Number (CAS #)	Maximum Ingredient Concentration in Additive (% by mass)**	Maximum Ingredient Concentration in HF Fluid (% by mass)**	Comments
Water	Stingray Pressure Pumping, LLC	Carrier/Base Fluid					
			Water	7732-18-5	100.00000	90.35032	None
Sand (Proppant)	Stingray Pressure Pumping, LLC	Proppant					
			Silica Substrate	14808-60-7	100.00000	9.29871	None
MC MX 437-5	Multi-Chem	Calcium nitrate solution					
			Calcium nitrate	10124-37-5	60.00000	0.05693	None
Hydrochloric Acid (15%)	Stingray Pressure Pumping, LLC	Acidizing					
			Hydrochloric Acid	7647-01-0	15.00000	0.03333	None
FRA-405	Stingray Pressure Pumping, LLC	Friction reducer					
			Petroleum distillates	64742-47-8	40.00000	0.00320	None
			Sodium chloride	7647-14-5	10.00000	0.00080	None
			Ammonium chloride	12125-02-9	7.00000	0.00056	None
ScaleClear 125	Stingray Pressure Pumping, LLC	Scale inhibitor					
			Alcohols, C12-16, Ethoxylated	68551-12-2	7.00000	0.00056	None
			Phosphonomethylated polyamine, compd. w/ substituted amine	Proprietary	15.00000	0.00368	None
			Ammonium chloride	12125-02-9	2.50000	0.00061	None



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. WELL LAT./LONG. (NAD'27) ESTABLISHED BY DGPS(SURVEY GRADE TIE TO CORN NETWORK).
3. NO WATER WELLS WERE FOUND WITHIN 250 FEET OF PROPOSED GAS WELL. NO AGRICULTURAL BUILDINGS (GREATER THAN 2500 SQUARE FEET) OR DWELLINGS WERE FOUND WITHIN 625 FEET OF CENTER OF PROPOSED WELL PAD.
4. AS DRILLED INFORMATION PROVIDED BY EQT.

LEGEND

AS DRILLED	—
PROPOSED	- - -

**EQT PRODUCTION COMPANY
TAYLOR LEASE
1,600 ACRES±
WELL NO. WV 515278**

(S.P.C. NORTH ZONE) (UTM(M) ZONE 17 NORTH)

NAD'27 S.P.C.(FT)	N. 280,821.8	E. 1,589,015.9
NAD'27 GEO.	LAT.-(N) 39.261906	LONG.-(W) 80.951523
NAD'83 UTM (M)	N. 4,345,851.3	E. 504,109.8

LANDING POINT

NAD'27 S.P.C.(FT)	N. 279,289.5	E. 1,588,845.2
NAD'27 GEO.	LAT.-(N) 39.257548	LONG.-(W) 80.950099
NAD'83 UTM (M)	N. 4,345,367.3	E. 503,543.4

BOTTOM HOLE

NAD'27 S.P.C.(FT)	N. 282,965.3	E. 1,585,112.5
NAD'27 GEO.	LAT.-(N) 39.267671	LONG.-(W) 80.965431
NAD'83 UTM (M)	N. 4,346,400.5	E. 502,998.6

A STEVEN D. JONES	1 AC±	TM 30-5.11
B MAYNARD F. HARRIS ET AL.	13.755 AC±	TM 30-5.3
C DENNIS & KAREN BURCH	1.93 AC±	
D MAYNARD F. HARRIS ET AL.	15.1 AC±	

**AS DRILLED COORDINATES
FOR WELL NO. WV 515278**

(S.P.C. NORTH ZONE) (UTM(M) ZONE 17 NORTH)

NAD'27 S.P.C.(FT)	N. 280,821.8	E. 1,589,015.9
NAD'27 GEO.	LAT.-(N) 39.261906	LONG.-(W) 80.951523
NAD'83 UTM (M)	N. 4,345,851.3	E. 504,109.8

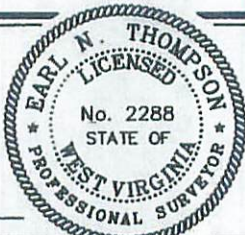
BOTTOM HOLE

NAD'27 S.P.C.(FT)	N. 282,968.8	E. 1,585,116.1
NAD'27 GEO.	LAT.-(N) 39.267680	LONG.-(W) 80.965419
NAD'83 UTM (M)	N. 4,346,401.5	E. 502,997.7



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. 2288 *Earl N. Thompson*



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

DATE JANUARY 10, 20 14

REVISED 02/10/14 & 04/14/15

OPERATORS WELL NO. WV 515278


API WELL NO. 47-085-10096-H

STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1/200 FILE NO. 7496AD515278

PROVEN SOURCE OF ELEVATION DGPS (SUVERY GRADE TIE TO CORN NETWORK) SCALE 1" = 1000'

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



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

LOCATION: ELEVATION 1,119 (PAD ELEVATION) WATERSHED LONG RUN OF NORTH FORK HUGHES RIVER

DISTRICT CLAY COUNTY RITCHIE QUADRANGLE PENNSBORO 7.5'

SURFACE OWNER DEWAYNE BRITTON ET UX ACREAGE 140.421

ROYALTY OWNER E. R. TAYLOR HEIRS ACREAGE 1,600±

PROPOSED WORK: 105804

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

PHYSICAL CHANGE IN WELL (SPECIFY) _____ TARGET FORMATION MARCELLUS

ESTIMATED DEPTH _____

WELL OPERATOR EQT PRODUCTION COMPANY DESIGNATED AGENT REX C. RAY

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