Well Operator's Report of Well Work

EQT

Where energy meets innovation.

Well Number: 513916

API: 47 - 103 - 03040

Submission: ☐ Initial ☑ Amended

Notes: Correction to Production Cement Top (MD)

RECEIVED
Office of Oil and Gas

DEC 21 2015

WV Department of
Environmental Protection

03/25/2016

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 - 103 - 03040 County WETZEL District GRANT
Quad BIG RUN 7.5' Pad Name BIG192 Field/Pool Name
Farm name RICHARD DALLISON ET AL Well Number 513916
Operator (as registered with the OOG) EQT Production Company
Address 625 Liberty Ave. EQT Plaza, Suite 1700 City Pittsburgh State PA Zip 15222

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey
Top hole Northing 4,375,411.6 Easting 535,917.3
Landing Point of Curve Northing 4,375,475.4 Easting 535,667.1
Bottom Hole Northing 4,376,568.2 Easting 535,313.0

Elevation (ft) 1452 GL Type of Well ■New □ Existing Type of Report □Interim ■Final

Permit Type □ Deviated □ Horizontal ■ Horizontal 6A □ Vertical Depth Type □ Deep ■ Shallow

Type of Operation □ Convert □ Deepen ■ Drill □ Plug Back □ Redrilling □ Rework ■ Stimulate

Well Type □ Brine Disposal □ CBM ■ Gas □ Oil □ Secondary Recovery □ Solution Mining □ Storage □ Other

Type of Completion ■ Single □ Multiple Fluids Produced □ Brine ■Gas ■ NGL □ Oil □ Other
Drilled with □ Cable ■ Rotary

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

Mud Type(s) and Additive(s)
Water base Mud 13.5 ppg barium sulfate, sodium chloride, xanthan gum, polyanionic cellulose, modified starch, sodium hydroxide, phosphonates and alkyl 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 12/08/2014 Date drilling commenced 01/12/2015 Date drilling ceased 5/25/2015
Date completion activities began 6/17/2015 Date completion activities ceased 7/12/2015
Verbal plugging (Y/N) N Date permission granted N/A Granted by N/A

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

Freshwater depth(s) ft 549',581',780' Open mine(s) (Y/N) depths N
Salt water depth(s) ft 2257',2370' Void(s) encountered (Y/N) depths N
Coal depth(s) ft 743',804',919',1009',1240' Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

Reviewed by:
DMH
03/25/2016

WR-35
Rev. 8/23/13

Page ___ of ___

API 47- 103 - 03040 Farm name RICHARD DALLISON ET AL Well number 513916

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"	80'	NEW	A-500 40LB/FT	NONE	Y
Surface	17.5"	13.375"	1,004'	NEW	J-55 54.5LB/FT	457'	Y
Coal							
Intermediate 1	12.375" & 12.25"	9.625"	2,771'	NEW	A-500 40LB/FT	NONE	Y
Intermediate 2							
Intermediate 3							
Production	8.5"	5.5"	11,940'	NEW	P-110 20LB/FT	NONE	N
Tubing							
Packer type and depth set							

Comment Details N/A

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	98	15.6	1.18	115.64	0	8
Surface	CLASS A	909	15.6	1.20	1090.8	0	8
Coal							
Intermediate 1	CLASS A / CLASS A	838 / 220	15.6 / 15.6	1.18 / 1.20	1,252.84	0	8
Intermediate 2							
Intermediate 3							
Production	Class H / Class H	636 / 489	15.2 / 15.6	1.25 / 2.06	1,802.34	4,174' MD	72
Tubing							

Drillers TD (ft) 11,940' 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) 6,541' 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- 166 Composite Centralizers. One on every joint from TD to 5,000' MD

WAS WELL COMPLETED AS SHOT HOLE ☐ Yes ■ No DETAILS

WAS WELL COMPLETED OPEN HOLE? ☐ Yes ■ No DETAILS

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

03/25/2016

WR-35
Rev. 8/23/13

Page ___ of ___

API 47- 103 - 03040 Farm name RICHARD DALLISON ET AL Well number 513916

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.

03/25/2016

WR-35
Rev. 8/23/13

Page ___ of ___

API 47- 103 - 03040 Farm name RICHARD DALLISON ET AL Well number 513916

PRODUCING FORMATION(S)	DEPTHS		
Marcellus	7,630 TVD	8,069 MD	

Please insert additional pages as applicable.

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

SHUT-IN PRESSURE Surface 1,517 psi Bottom Hole N/A psi DURATION OF TEST 83.00 hrs

OPEN FLOW	Gas	Oil	NGL	Water	GAS MEASURED BY
	10,238 mcfpd	____ bpd	3.4 bpd	574.1 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 ALPHA HUNTER DRILLING (RIG 6)
Address P.O. BOX 430 City RENO State OH Zip 45773

Logging Company Phoenix Technology Services
Address 1805 Brittmoore Road City HOUSTON State TX Zip 77043

Cementing Company ALLIED CEMENTING SERVICES
Address 333 Technology Drive, Suite 290 City Canonsburg State PA Zip 15317

Stimulating Company C&J Energy Services
Address 3990 Rogerdale City Houston State TX Zip 77042
Please insert additional pages as applicable.

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

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

03/25/2016

WR-35
Rev. 8/23/13

Page ___ of _

API 47- 103 - 03040 Farm name RICHARD DALLISON ET AL Well number 513916

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

03/25/2016

API 47 - 103 - 03040

Formation Name	Final Top MD (ftGL) (ft)	Final Top TVD (ft)	Final Btm MD (ftGL) (ft)	Final Btm TVD (ft)
FRESH WATER ZONE	0	0	783	783
SAND/SHALE	0	0	746	746
WASHIGNTON COAL	746	746	748	748
SAND/SHALE	748	748	807	807
COAL	807	807	817	817
SAND/SHALE	817	817	922	922
COAL	922	922	927	927
SAND/SHALE	927	927	1,012	1,012
COAL	1,012	1,012	1,022	1,022
SAND/SHALE	1,022	1,022	1,243	1,243
PITTSBURGH COAL	1,243	1,243	1,248	1,248
SAND/SHALE	1,248	1,248	2,444	2,444
MAXTON	2,444	2,444	2,484	2,484
BIG LIME	2,484	2,484	2,623	2,623
BIG INJUN	2,623	2,623	2,874	2,874
WEIR	2,874	2,874	3,082	3,082
GANTZ	3,082	3,082	3,108	3,108
50F	3,108	3,108	3,193	3,193
30F	3,193	3,193	3,310	3,310
GORDON	3,310	3,310	3,390	3,390
4TH	3,390	3,390	3,539	3,539
BAYARD	3,539	3,539	3,965	3,965
WARREN	3,965	3,965	4,117	4,117
SPEECHLEY	4,117	4,117	5,006	5,006
RILEY	5,006	5,006	5,641	5,641
BENSON	5,641	5,641	5,964	5,964
ALEXANDER	5,964	5,964	6,543	6,543
RHINESTREET	6,543	6,543	7,189	7,129
SONYEA	7,189	7,129	7,352	7,261
MIDDLESEX	7,352	7,261	7,564	7,409
GENESSEE	7,564	7,409	7,707	7,492
GENESEO	7,707	7,492	7,754	7,517
TULLY	7,754	7,517	7,800	7,540
HAMILTON	7,800	7,540	8,069	7,630
MARCELLUS	8,069	7,630	11,940	7,651

API 47 - 103 - 03040

PHOENIX
TECHNOLOGY SERVICES

EQT Production - Marcellus

Wetzel County, WV
Wetzel County 513916
Well #513916

Main Wellbore

Design: 513916 As Drilled Surveys

Standard Survey Report

26 May, 2015

EQT
Where energy meets innovation.

03/25/2016

PHOENIX TECHNOLOGY SERVICES

PHX
Survey Report

EQT Where energy meets innovation

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

Project [illegible]

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 [illegible]

Site Position:		Northing:	376,084.20 usft	Latitude:	39.53
From:	Map	Easting:	1,694,724.30 usft	Longitude:	-80.58
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	-0.69 °

Well [illegible]

Well Position	+N/-S	0.0 usft	Northing:	376,084.20 usft	Latitude:	39° 31' 39.083 N
	+E/-W	0.0 usft	Easting:	1,694,724.30 usft	Longitude:	80° 34' 56.189 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	1,452.0 usft

Wellbore [illegible]

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	5/18/2015	-8.32	67.05	52,531

Design [illegible]

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	333.37

Survey Program Date 5/26/2015

From ()	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	6,509.0	513916 Gyrodata Gyros (Main Wellbore)	GYD_DP_MS	Gyrodata gyro-compassing and drop
0.00	7,490.0	513916 PHX MWD Air Curve (Main Wellbo	PHX+MWD+HDGM	PHX+OWSG MWD + HDGM
0.00	11,940.0	513916 PHX MWD Curve and Lat (Main W	PHX+MWD+HDGM	PHX+OWSG MWD + HDGM

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	-1,468.0	0.0	0.0	0.0	0.00	0.00	0.00
103.0	0.03	300.78	103.0	-1,365.0	0.0	0.0	0.0	0.03	0.03	0.00
203.0	0.09	81.75	203.0	-1,265.0	0.0	0.0	0.0	0.11	0.06	140.97
303.0	0.06	122.43	303.0	-1,165.0	0.0	0.2	0.0	0.06	-0.03	40.68
403.0	0.04	264.19	403.0	-1,065.0	0.0	0.2	-0.1	0.09	-0.02	141.76
503.0	0.07	280.33	503.0	-965.0	0.0	0.1	0.0	0.03	0.03	16.14
603.0	0.07	155.13	603.0	-865.0	0.0	0.0	-0.1	0.12	0.00	-125.20

03/25/2016

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

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	208.76	703.0	-765.0	-0.2	0.0	-0.2	0.06	0.00	53.63
803.0	0.02	219.20	803.0	-665.0	-0.2	0.0	-0.2	0.05	-0.05	10.44
903.0	0.06	161.04	903.0	-565.0	-0.3	0.0	-0.3	0.05	0.04	-58.16
1,003.0	0.14	169.17	1,003.0	-465.0	-0.5	0.0	-0.4	0.08	0.08	8.13
1,103.0	0.18	173.59	1,103.0	-365.0	-0.7	0.1	-0.7	0.04	0.04	4.42
1,203.0	0.24	165.03	1,203.0	-265.0	-1.1	0.1	-1.0	0.07	0.06	-8.56
1,303.0	0.21	165.06	1,303.0	-165.0	-1.5	0.2	-1.4	0.03	-0.03	0.03
1,403.0	0.23	150.77	1,403.0	-65.0	-1.8	0.4	-1.8	0.06	0.02	-14.29
1,503.0	0.22	169.82	1,503.0	35.0	-2.2	0.5	-2.2	0.08	-0.01	19.05
1,603.0	0.15	193.16	1,603.0	135.0	-2.5	0.5	-2.5	0.10	-0.07	23.34
1,703.0	0.10	184.98	1,703.0	235.0	-2.7	0.5	-2.6	0.05	-0.05	-8.18
1,803.0	0.13	181.29	1,803.0	335.0	-2.9	0.5	-2.8	0.03	0.03	-3.69
1,903.0	0.18	184.81	1,903.0	435.0	-3.2	0.5	-3.1	0.05	0.05	3.52
2,003.0	0.31	171.76	2,003.0	535.0	-3.6	0.5	-3.4	0.14	0.13	-13.05
2,103.0	0.59	174.04	2,103.0	635.0	-4.4	0.6	-4.2	0.28	0.28	2.28
2,203.0	0.77	165.78	2,203.0	735.0	-5.6	0.8	-5.3	0.20	0.18	-8.26
2,303.0	1.19	167.13	2,303.0	835.0	-7.2	1.2	-7.0	0.42	0.42	1.35
2,403.0	1.49	172.19	2,402.9	934.9	-9.5	1.6	-9.2	0.32	0.30	5.06
2,503.0	1.59	176.13	2,502.9	1,034.9	-12.2	1.9	-11.7	0.15	0.10	3.94
2,603.0	1.49	180.33	2,602.9	1,134.9	-14.9	2.0	-14.2	0.15	-0.10	4.20
2,703.0	1.27	182.09	2,702.8	1,234.8	-17.3	1.9	-16.3	0.22	-0.22	1.76
2,803.0	1.13	183.80	2,802.8	1,334.8	-19.4	1.8	-18.1	0.14	-0.14	1.71
2,903.0	0.85	188.99	2,902.8	1,434.8	-21.1	1.6	-19.6	0.29	-0.28	5.19
3,003.0	0.63	206.38	3,002.8	1,534.8	-22.3	1.3	-20.5	0.31	-0.22	17.39
3,103.0	0.58	219.98	3,102.8	1,634.8	-23.2	0.7	-21.0	0.15	-0.05	13.60
3,203.0	0.65	227.53	3,202.8	1,734.8	-24.0	0.0	-21.4	0.11	0.07	7.55
3,303.0	0.60	226.27	3,302.8	1,834.8	-24.7	-0.8	-21.7	0.05	-0.05	-1.26
3,403.0	0.15	261.68	3,402.8	1,934.8	-25.1	-1.3	-21.8	0.49	-0.45	35.41
3,503.0	0.09	114.44	3,502.8	2,034.8	-25.1	-1.4	-21.8	0.23	-0.06	-147.24
3,603.0	0.35	297.29	3,602.8	2,134.8	-25.0	-1.6	-21.7	0.44	0.26	-177.15
3,703.0	0.46	297.84	3,702.8	2,234.8	-24.7	-2.2	-21.1	0.11	0.11	0.55
3,803.0	0.52	298.69	3,802.8	2,334.8	-24.3	-3.0	-20.4	0.06	0.06	0.85
3,903.0	0.42	289.39	3,902.8	2,434.8	-24.0	-3.7	-19.8	0.13	-0.10	-9.30
4,003.0	0.49	290.45	4,002.8	2,534.8	-23.7	-4.5	-19.2	0.07	0.07	1.06
4,103.0	0.61	289.36	4,102.8	2,634.8	-23.4	-5.4	-18.5	0.12	0.12	-1.09
4,203.0	0.43	283.20	4,202.8	2,734.8	-23.1	-6.2	-17.9	0.19	-0.18	-6.16
4,303.0	0.50	287.39	4,302.7	2,834.7	-22.9	-7.0	-17.3	0.08	0.07	4.19
4,403.0	0.49	283.47	4,402.7	2,934.7	-22.7	-7.9	-16.7	0.04	-0.01	-3.92
4,503.0	0.48	280.80	4,502.7	3,034.7	-22.5	-8.7	-16.2	0.02	-0.01	-2.67
4,603.0	0.52	280.97	4,602.7	3,134.7	-22.3	-9.5	-15.7	0.04	0.04	0.17
4,703.0	0.52	277.42	4,702.7	3,234.7	-22.2	-10.4	-15.1	0.03	0.00	-3.55
4,803.0	0.57	281.79	4,802.7	3,334.7	-22.0	-11.4	-14.6	0.06	0.05	4.37
4,903.0	0.57	286.68	4,902.7	3,434.7	-21.8	-12.3	-13.9	0.05	0.00	4.89

03/25/2016

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

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 59	285.76	5,002 7	3,534 7	-21 5	-13.3	-13.2	0.02	0 02	-0.92
5,103 0	0 53	285.45	5,102.7	3,634.7	-21.2	-14 3	-12 6	0 06	-0 06	-0 31
5,203 0	0 56	284.64	5,202.7	3,734.7	-21.0	-15 2	-11 9	0 03	0 03	-0 81
5,303 0	0 64	283.24	5,302.7	3,834.7	-20.7	-16 2	-11 3	0 08	0.08	-1 40
5,403.0	0 66	285.10	5,402.7	3,934.7	-20.4	-17 3	-10 5	0 03	0 02	1 86
5,503 0	0 57	301.81	5,502 7	4,034.7	-20.0	-18 3	-9 7	0 20	-0 09	16 71
5,603 0	0 64	298.63	5,602.7	4,134.7	-19.5	-19 2	-8 8	0 08	0 07	-3 18
5,703.0	0.69	297 12	5,702 7	4,234 7	-19 0	-20 2	-7 9	0 05	0.05	-1 51
5,803 0	0 75	294.83	5,802.7	4,334.7	-18.4	-21 3	-6 9	0 07	0 06	-2 29
5,903 0	0 79	295 69	5,902 7	4,434 7	-17 8	-22 6	-5 8	0 04	0 04	0 86
6,003 0	0 93	294 84	6 002 7	4,534 7	-17 2	-23 9	-4 7	0 14	0 14	-0 85
6,103.0	0 95	297.56	6,102 6	4,634 6	-16 5	-25 4	-3 3	0 05	0 02	2 72
6,203.0	0.64	313.56	6,202.6	4,734.6	-15.7	-26.5	-2.2	0.38	-0.31	16.00
6,303 0	0 63	338 60	6,302 6	4,834 6	-14 8	-27.1	-1.1	0.28	-0.01	25.04
6,403 0	0 60	342.33	6,402 6	4,934.6	-13.8	-27 5	0 0	0 05	-0 03	3 73
6 503 0	0 53	339.53	6,502.6	5,034.6	-12.9	-27 8	1 0	0 08	-0 07	-2 80
6 509 0	0 55	341.42	6,508.6	5,040.6	-12.8	-27 8	1 0	0 45	0 33	31 50
6,541 0	0 79	282.82	6,540.6	5,072.6	-12.6	-28 1	1 3	2 15	0 76	-183 12
6,584 0	1.60	259.60	6,583.6	5,115.6	-12.7	-29 0	1 7	2 15	1 88	-54 00
6,628 0	2 20	265.30	6,627.6	5,159.6	-12.8	-30 4	2 2	1 43	1 36	12 95
6,671.0	4 20	253.30	6,670 5	5,202.5	-13.4	-32 7	2 7	4 88	4 65	-27 91
6,714.0	9 50	240.30	6,713.2	5,245.2	-15.6	-37 3	2 8	12 76	12 33	-30 23
6,757 0	15 30	237.70	6,755 2	5,287.2	-20 4	-45 2	2 1	13 55	13 49	-6.05
6,800 0	19 10	238 60	6,796.2	5,328 2	-27 1	-56 0	0 9	8.86	8 84	2 09
6,843.0	22.50	240.40	6,836.4	5,368.4	-34.8	-69.2	-0.1	8.04	7.91	4 19
6,886.0	25.90	241.40	6,875.6	5,407.6	-43.4	-84.6	-0.8	7.96	7.91	2.33
6,929 0	29 40	243.20	6,913.7	5,445.7	-52.6	-102 3	-1.2	8.37	8.14	4.19
6,972.0	31.90	247.70	6,950.7	5,482.7	-61.7	-122.2	-0.4	7.89	5.81	10.47
7,015.0	33.80	252.00	6,986.9	5,518 9	-69.7	-144.1	2.3	6.99	4.42	10.00
7,058 0	36.40	250.80	7,022.0	5,554.0	-77.6	-167.5	5.7	6.26	6.05	-2.79
7,101 0	36 40	248.50	7,056.6	5,588 6	-86.5	-191.4	8.5	3.17	0.00	-5.35
7,144 0	35 20	246.50	7,091.5	5,623.5	-96.1	-214 7	10 3	3 90	-2 79	-4 65
7,187 0	33.30	244.80	7,127.1	5,659.1	-106.1	-236 7	11 3	4 95	-4 42	-3 95
7,230 0	33.60	246.10	7,162.9	5,694.9	-115.9	-258 3	12 2	1 81	0 70	3 02
7,275 0	35 20	250.00	7,200.1	5,732.1	-125.4	-281 9	14 3	6 05	3 56	8 67
7 318 0	38 20	253.50	7,234.5	5,766.5	-133.4	-306 3	18 0	8 50	6 98	8 14
7 361 0	40 30	256.30	7,267.8	5,799.8	-140.5	-332 5	23 5	6 39	4 88	6 51
7,374 0	40 82	257.75	7,277.7	5,809.7	-142.4	-340 8	25 5	8 33	4 03	11 20
7,404 0	42 10	261 00	7,300 2	5,832.2	-146 0	-360 3	31 0	8 33	4 25	10 81
7,447 0	44 80	263 60	7,331 4	5,863 4	-150 0	-389 6	40 6	7 53	6 28	6 05

03/25/2016

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

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)
7,490.0	47.50	266.80	7,361.2	5,893.2	-152.5	-420.5	52.1	8.26	6.28	7.44
7,536.0	51.10	273.20	7,391.2	5,923.2	-152.5	-455.3	67.8	13.13	7.83	13.91
7,567.0	52.60	277.60	7,410.4	5,942.4	-150.2	-479.6	80.7	12.16	4.84	14.19
7,592.3	53.53	282.28	7,425.6	5,957.6	-146.7	-499.5	92.8	15.23	3.66	18.50
7,599.0	53.80	283.50	7,429.6	5,961.6	-145.5	-504.7	96.2	15.23	4.11	18.21
7,630.0	54.40	289.80	7,447.7	5,979.7	-138.3	-528.8	113.4	16.57	1.94	20.32
7,662.0	55.10	295.40	7,466.2	5,998.2	-128.2	-552.9	133.2	14.46	2.19	17.50
7,694.0	56.10	299.70	7,484.3	6,016.3	-116.0	-576.3	154.6	11.52	3.13	13.44
7,725.0	56.70	303.20	7,501.5	6,033.5	-102.6	-598.3	176.5	9.60	1.94	11.29
7,757.0	58.20	305.90	7,518.7	6,050.7	-87.3	-620.5	200.1	8.52	4.69	8.44
7,788.0	60.40	307.80	7,534.5	6,066.5	-71.3	-641.8	224.0	8.84	7.10	6.13
7,820.0	63.20	310.10	7,549.6	6,081.6	-53.5	-663.8	249.7	10.80	8.75	7.19
7,837.8	64.68	311.66	7,557.4	6,089.4	-43.1	-675.8	264.4	11.49	8.35	8.79
7,851.0	65.80	312.80	7,563.0	6,095.0	-35.0	-684.7	275.6	11.49	8.43	8.60
7,883.0	66.70	313.20	7,575.9	6,107.9	-15.0	-706.1	303.1	3.04	2.81	1.25
7,914.0	68.20	315.00	7,587.8	6,119.8	4.9	-726.7	330.1	7.22	4.84	5.81
7,946.0	70.50	318.80	7,599.0	6,131.0	26.7	-747.1	358.8	13.23	7.19	11.88
7,977.0	73.30	322.30	7,608.7	6,140.7	49.5	-765.9	387.5	14.03	9.03	11.29
8,009.0	75.30	324.60	7,617.3	6,149.3	74.2	-784.2	417.9	9.32	6.25	7.19
8,040.0	77.60	326.80	7,624.6	6,156.6	99.1	-801.2	447.7	10.13	7.42	7.10
8,072.0	79.50	330.00	7,631.0	6,163.0	125.8	-817.6	479.0	11.46	5.94	10.00
8,103.0	80.70	333.30	7,636.3	6,168.3	152.7	-832.1	509.5	11.18	3.87	10.65
8,135.0	81.80	335.10	7,641.2	6,173.2	181.2	-845.9	541.1	6.54	3.44	5.63
8,162.9	83.60	337.44	7,644.7	6,176.7	206.6	-857.0	568.8	10.53	6.45	8.39
8,166.0	83.80	337.70	7,645.0	6,177.0	209.4	-858.2	571.8	10.53	6.47	8.36
8,198.0	86.40	340.70	7,647.8	6,179.8	239.2	-869.5	603.5	12.38	8.13	9.38
8,202.0	86.63	341.01	7,648.0	6,180.0	242.9	-870.8	607.5	9.67	5.80	7.75
8,229.0	88.20	343.10	7,649.2	6,181.2	268.6	-879.1	634.2	9.67	5.81	7.74
8,261.0	88.90	344.00	7,650.0	6,182.0	299.3	-888.2	665.6	3.56	2.19	2.81
8,292.0	89.20	343.90	7,650.6	6,182.6	329.1	-896.7	696.1	1.02	0.97	-0.32
8,355.0	91.10	345.60	7,650.4	6,182.4	389.8	-913.3	757.9	4.05	3.02	2.70
8,418.0	91.70	346.30	7,648.9	6,180.9	450.9	-928.6	819.3	1.46	0.95	1.11
8,481.0	90.50	345.80	7,647.6	6,179.6	512.1	-943.8	880.8	2.06	-1.90	-0.79
8,545.0	90.60	345.20	7,647.0	6,179.0	574.0	-959.8	943.4	0.95	0.16	-0.94
8,608.0	91.30	345.30	7,646.0	6,178.0	634.9	-975.9	1,005.0	1.12	1.11	0.16
8,671.0	91.70	345.10	7,644.3	6,176.3	695.8	-991.9	1,066.6	0.71	0.63	-0.32
8,734.0	91.50	344.50	7,642.6	6,174.6	756.6	-1,008.4	1,128.4	1.00	-0.32	-0.95

03/25/2016

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

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)
8,797 0	90.60	343.90	7,641.4	6,173.4	817.2	-1,025.6	1,190.2	1.72	-1 43	-0 95
8,860 0	91.30	343.80	7,640.4	6,172 4	877 7	-1,043.1	1,252.2	1.12	1.11	-0.16
8,923.0	89 50	343 20	7,639 9	6,171 9	938 1	-1,061.0	1 314.2	3.01	-2.86	-0 95
8,986.0	89.60	342.90	7,640 4	6,172.4	998.4	-1,079.4	1,376.3	0.50	0.16	-0.48
9,049.0	90 00	343.10	7,640.7	6,172.7	1,058.6	-1,097.8	1,438.4	0.71	0.63	0.32
9,112.0	90.60	342.90	7,640.3	6,172 3	1,118.9	-1,116.2	1,500.5	1.00	0.95	-0.32
9,175 0	89.20	343.50	7,640 4	6,172 4	1,179 2	-1,134 4	1,562 6	2 42	-2.22	0 95
9,238 0	89 40	343.80	7,641.2	6,173.2	1,239.6	-1,152 2	1,624 6	0 57	0 32	0 48
9,301 0	90 00	343.50	7,641.5	6,173 5	1,300.1	-1,169 9	1,686 5	1 06	0 95	-0 48
9,365 0	90 80	343.60	7,641 1	6,173.1	1,361.5	-1 188 0	1,749 5	1 26	1 25	0 16
9,428.0	90.10	344.50	7,640.6	6,172.6	1,422.0	-1,205 3	1,811 4	1 81	-1 11	1 43
9,491 0	90 50	344 40	7,640 3	6,172 3	1,482 7	-1,222 2	1,873 3	0 65	0 63	-0 16
9,554.0	88.70	344.60	7,640.7	6,172.7	1,543.4	-1,239.1	1,935 1	2.87	-2.86	0.32
9,617.0	88 50	344.20	7,642 2	6,174 2	1,604.1	-1,256.0	1,996 9	0.71	-0.32	-0.63
9,680.0	89.20	343.80	7,643.5	6,175.5	1,664.6	-1,273.3	2,058.8	1.28	1.11	-0.63
9,744 0	89 90	343.40	7,644.0	6,176.0	1,726.0	-1,291.4	2,121.8	1.26	1.09	-0.63
9,806.0	90 70	342.80	7,643 7	6,175.7	1,785.3	-1,309.4	2,182.9	1.61	1 29	-0 97
9,870 0	91.60	342.40	7,642 4	6,174 4	1,846.4	-1,328.6	2,246.0	1.54	1.41	-0.63
9,932 0	89 80	342.60	7,641.6	6,173.6	1,905.5	-1,347.2	2,307 3	2.92	-2 90	0 32
9,995.0	89 50	341.60	7,642 0	6,174.0	1,965.5	-1,366.6	2,369.5	1.66	-0 48	-1 59
10,059.0	88.80	343.70	7,643 0	6,175 0	2,026 6	-1,385 7	2,432 7	3 46	-1 09	3 28
10,122 0	88 90	343.90	7,644 2	6,176 2	2,087.0	-1,403.2	2,494.6	0 35	0.16	0.32
10,185 0	89 30	343 80	7,645 2	6,177 2	2,147 5	-1,420 8	2,556.6	0.65	0.63	-0.16
10,248.0	90 90	344 40	7,645 1	6,177 1	2,208 1	-1,438.0	2,618.5	2.71	2.54	0.95
10,312 0	93 30	344 20	7,642 8	6,174 8	2,269 7	-1,455.3	2,681.2	3.76	3.75	-0.31
10,375 0	91 90	343 80	7,639 9	6,171 9	2,330 2	-1,472 7	2,743 1	2 31	-2 22	-0 63
10,438.0	92 10	343.10	7,637.7	6,169.7	2,390.5	-1,490 6	2,805.1	1 15	0 32	-1 11
10,501.0	89.80	342.70	7,636.7	6,168.7	2,450.8	-1,509.1	2,867.2	3.71	-3.65	-0.63
10,564 0	89.10	342.10	7,637.3	6,169 3	2,510.8	-1,528.2	2,929.4	1.46	-1.11	-0.95
10,627.0	89.80	341.50	7,637.9	6,169.9	2,570.6	-1,547.8	2,991.7	1.46	1.11	-0.95
10,690.0	90.90	341.50	7,637.5	6,169.5	2,630.4	-1,567.8	3,054 1	1.75	1 75	0 00
10,753.0	90.20	343.00	7,636 9	6,168 9	2,690.4	-1,587.0	3,116.3	2.63	-1.11	2.38
10,816.0	89.90	342.80	7,636.8	6,168.8	2,750.6	-1,605.6	3,178.5	0 57	-0 48	-0 32
10,879.0	90 60	342.90	7,636.6	6,168.6	2,810.8	-1,624.1	3,240.6	1.12	1.11	0.16
10,942.0	90.50	344.80	7,636 0	6,168 0	2,871.3	-1,641.7	3,302.6	3.02	-0.16	3.02
11,006.0	91.10	346.00	7,635.1	6,167.1	2,933.2	-1,657.8	3,365.1	2.10	0.94	1.88
11,069.0	89.10	345.50	7,635 0	6,167.0	2,994.3	-1,673.3	3,426.7	3.27	-3.17	-0.79
11,132.0	89.50	345.30	7,635.7	6,167.7	3,055.2	-1,689.2	3,488.3	0.71	0.63	-0.32
11,195.0	89.50	344 20	7,636 3	6,168 3	3,116 0	-1,705.8	3,550 0	1 75	0 00	-1 75
11,258 0	90 00	344.10	7,636 6	6,168.6	3,176.6	-1,723.0	3,611.9	0 81	0 79	-0.16
11,321 0	90 60	343 60	7 636 2	6,168 2	3,237 1	-1,740 5	3,673 9	1 24	0 95	-0 79
11,384 0	90 80	343 20	7,635 5	6,167 5	3,297 5	-1,758 5	3,735 9	0 71	0 32	-0 63
11,447 0	89.80	343 10	7,635 1	6,167 1	3,357 8	-1,776 7	3,798 0	1 60	-1 59	-0 16

03/25/2016

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

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)
11,510 0	90 20	343.60	7,635 1	6,167.1	3,418.2	-1,794 8	3,860 0	1 02	0 63	0 79
11,573.0	91.00	343.40	7,634 5	6,166 5	3,478 6	-1,812 7	3,922 1	1 31	1 27	-0 32
11,637 0	91 90	343.50	7,632 8	6,164 8	3 539.9	-1,830 9	3,985 0	1 41	1 41	0 16
11,700 0	89 40	343.30	7,632 1	6 164 1	3,600.3	-1,848.9	4,047.1	3.98	-3.97	-0.32
11,763 0	88 40	342 90	7,633.3	6,165.3	3,660 5	-1,867.2	4,109 2	1 71	-1 59	-0 63
11,826 0	89 20	343 00	7,634 7	6,166 7	3,720 7	-1,885 7	4,171 3	1 28	1 27	0 16
11 888 0	89 80	343.30	7,635.2	6,167.2	3,780.1	-1,903 7	4,232 4	1 08	0 97	0 48
11,939 1	89 80	343 30	7,635 4	6 167 4	3,829 1	-1,918 3	4,282 7	0 00	0 00	0 00
11 940 0	89 80	343 30	7,635 4	6 167 4	3,829 9	-1,918 6	4,283 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
6,509.0	6,508 6	-12 8	-27 8	Gyro Tie In=6509' MD
6,541 0	6,540.6	-12 6	-28 1	KOP=6541' MD
7,490 0	7,361.2	-152 5	-420 5	Plan Tie In=7490' MD
8,292.0	7,650.6	329.1	-896 7	LP/Deepest Point of Well=8292' MD/ 7651' TVD
11,888 0	7,635 2	3 780 1	-1,903 7	Final Survey=11888' MD/ 7635' TVD
11,940.0	7,635 4	3 829 9	-1,918 6	Projection to TD=11940' MD/ 7635' TVD

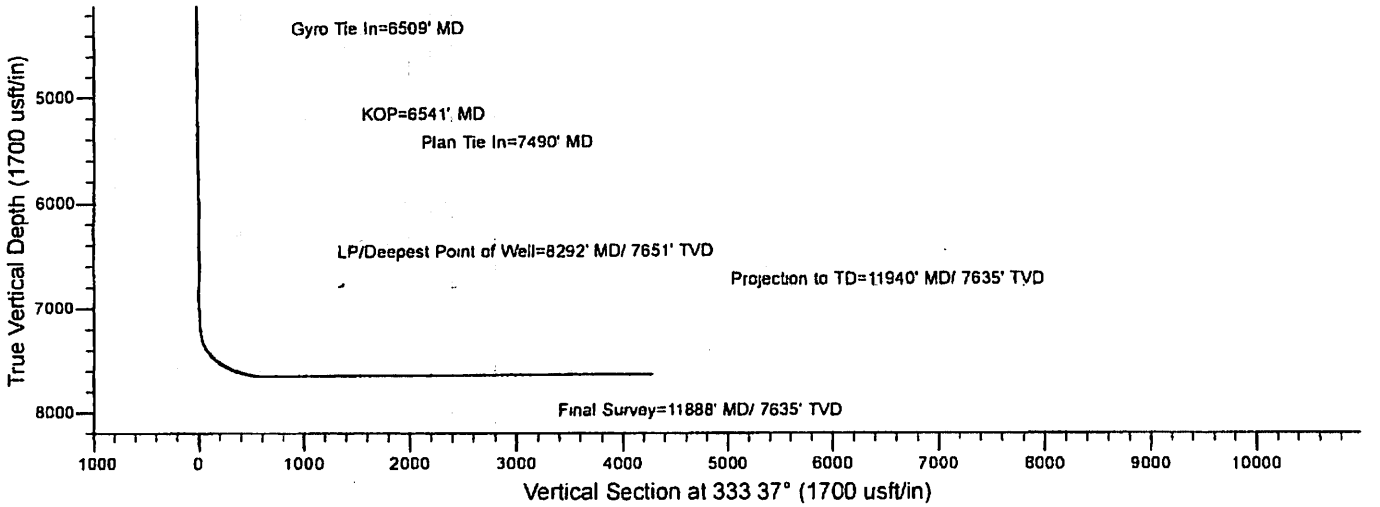
Checked By: _____ Approved By: _____ Date: _____

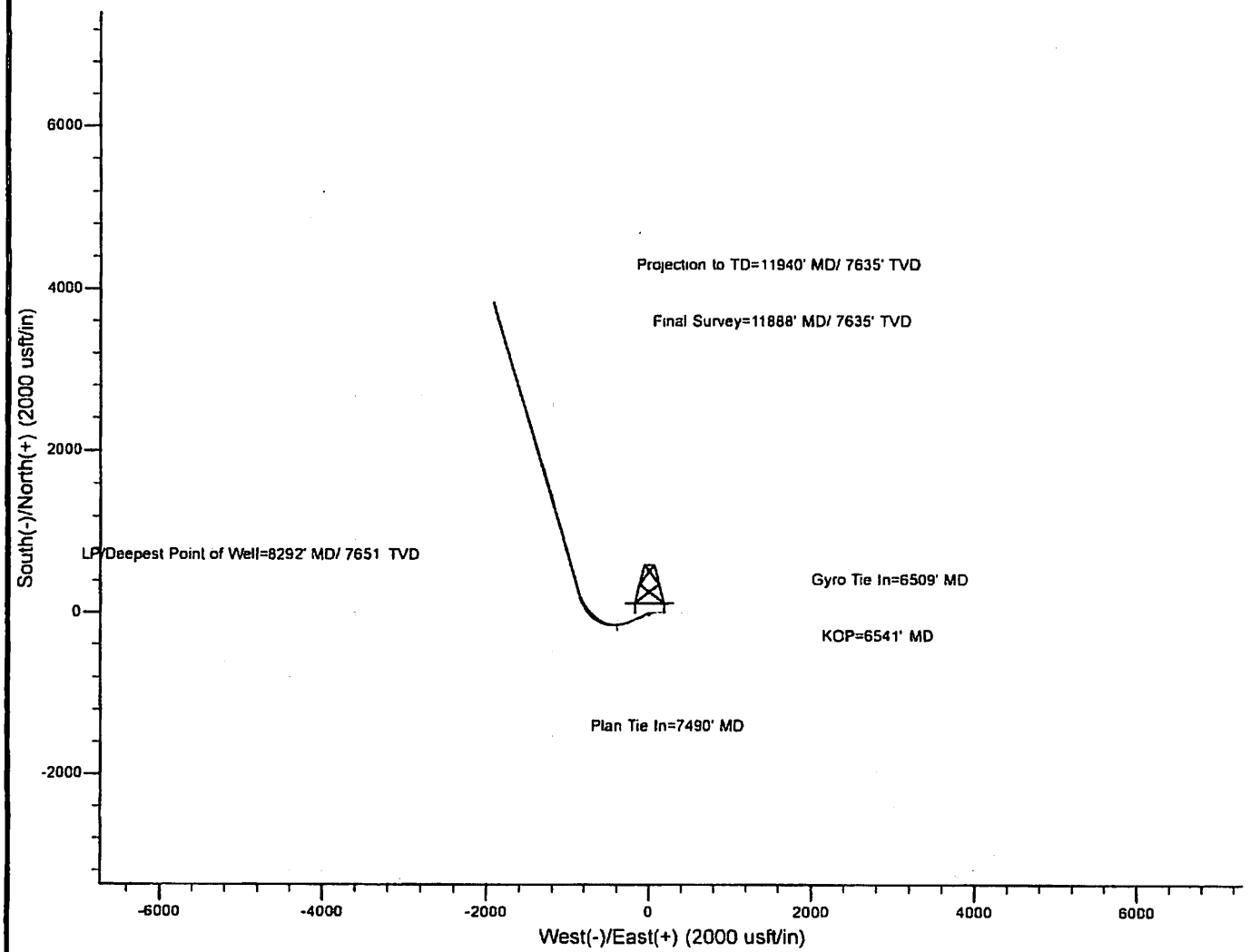
03/25/2016

PHOENIX
TECHNOLOGY SERVICES

EQT Production - Marcellus

Project: Wetzel County, WV
Site: Wetzel County 513916
Well: Well #513916
Wellbore: Main Wellbore
Design: 513916 As Drilled Surveys





03/25/2016

513916- 47-103-03040-0000 - Stimulated Stages								
Stage Number	Stimulation Date	Ave Pump Rate (BPM)	Ave Treatment Pressure (PSI)	Max Breakdown Pressure (PSI)	ISIP (PSI)	Amount of Proppant (lbs)	Amount of Water (bbls)	Amount of Nitrogen/other (units)
Initiation Sleeve	6/17/2015	16.9	6,157	7,835	4,844	0	782	0
1.02	7/5/2015	14.2	6,736	8,118	5,695	0	485	0
1.03	7/5/2015	10.7	9,263	9,594	7,262	0	1,387	0
1	7/5/2015	79.9	8,313	8,830	4,396	200,700.00	10,008	0
2	7/6/2015	93.2	8,491	8,912	4,756	202,400.00	5,805	0
3	7/6/2015	91	8,996	9,344	4,572	202,000.00	6,912	0
4	7/6/2015	86.4	8,473	9,139	4,541	200,700.00	5,789	0
5	7/7/2015	85.5	8,616	9,078	5,141	202,500.00	5,492	0
6	7/7/2015	97.1	8,872	9,348	5,016	201,600.00	5,851	0
7	7/7/2015	100.3	8,484	9,235	5,300	201,600.00	5,307	0
8	7/7/2015	93.6	8,503	9,163	4,443	203,100.00	5,594	0
9	7/8/2015	97.7	8,735	9,041	5,218	199,700.00	5,546	0
10	7/8/2015	99.8	8,384	8,786	5,171	200,500.00	5,588	0
11	7/8/2015	97.2	8,567	9,199	5,160	201,300.00	5,625	0
12	7/9/2015	100.7	8,511	9,146	5,546	200,600.00	5,674	0
13	7/9/2015	100.3	8,348	8,889	5,463	200,100.00	5,496	0
14	7/9/2015	97	8,360	8,759	5,557	203,900.00	6,091	0
15	7/10/2015	95.8	8,604	9,308	5,590	200,000.00	5,556	0
16	7/10/2015	100.8	8,120	8,544	5,441	200,900.00	5,351	0
17	7/10/2015	101	8,307	8,916	5,045	201,300.00	5,376	0
18	7/10/2015	98.9	8,384	8,772	5,129	203,100.00	5,474	0
19	7/11/2015	82.3	8,553	9,133	4,995	201,600.00	5,652	0
20	7/11/2015	101.5	8,071	8,409	5,363	200,700.00	5,302	0
21	7/11/2015	99.7	8,419	8,756	5,706	203,600.00	5,371	0
22	7/11/2015	100.3	8,480	8,749	5,307	201,100.00	5,214	0
23	7/12/2015	100.6	8,276	8,747	5,484	198,600.00	5,200	0
24	7/12/2015	100	8,203	9,092	5,609	198,900.00	5,279	0
25	7/12/2015	101.5	7,725	8,558	5,363	198,300.00	5,158	0

513916- 47-103-03040-0000 - Perforations					
Stage Number	Perforation Date	Top Perf Depth (ftKB)	Bottom Perf Depth (ftKB)	Number of Shots	Formation
Initiation Sleeve	6/17/2015	11,939	11,940	10	MARCELLUS
1	6/17/2015	11,933	11,933	4	MARCELLUS
1.1	7/4/2015	11,933	11,933	4	MARCELLUS
1.2	7/4/2015	11,933	11,933	4	MARCELLUS
1.3	7/4/2015	11,933	11,933	4	MARCELLUS
1.4	7/5/2015	11,933	11,933	4	MARCELLUS
1.5	7/5/2015	11,933	11,933	4	MARCELLUS
1.6	7/5/2015	11,933	11,933	4	MARCELLUS
1.7	7/5/2015	11,794	11,886	4	MARCELLUS
2	7/5/2015	11,780	11,780	4	MARCELLUS
2.1	7/6/2015	11,644	11,764	4	MARCELLUS
3	7/6/2015	11,630	11,630	0	MARCELLUS
3.1	7/6/2015	11,524	11,616	4	MARCELLUS
4	7/6/2015	11,510	11,510	0	MARCELLUS
4.1	7/6/2015	11,374	11,494	4	MARCELLUS
5	7/6/2015	11,360	11,362	0	MARCELLUS
5.1	7/6/2015	11,224	11,344	4	MARCELLUS
6	7/7/2015	11,210	11,212	0	MARCELLUS
6.1	7/7/2015	11,074	11,186	4	MARCELLUS
7	7/7/2015	11,050	11,050	0	MARCELLUS
7.1	7/7/2015	10,914	11,036	4	MARCELLUS
8	7/7/2015	10,900	10,902	0	MARCELLUS
8.1	7/7/2015	10,764	10,880	4	MARCELLUS
9	7/8/2015	10,746	10,748	0	MARCELLUS
9.1	7/8/2015	10,614	10,734	4	MARCELLUS
10	7/8/2015	10,600	10,602	0	MARCELLUS
10.1	7/8/2015	10,464	10,579	4	MARCELLUS
11	7/8/2015	10,450	10,452	0	MARCELLUS
11.1	7/8/2015	10,314	10,434	4	MARCELLUS
12	7/9/2015	10,300	10,302	0	MARCELLUS
12.1	7/9/2015	10,164	10,284	4	MARCELLUS
13	7/9/2015	10,150	10,150	0	MARCELLUS
13.1	7/9/2015	10,014	10,134	4	MARCELLUS
14	7/9/2015	10,000	10,002	0	MARCELLUS
14.1	7/9/2015	9,864	9,986	4	MARCELLUS
15	7/9/2015	9,850	9,852	0	MARCELLUS
15.1	7/9/2015	9,804	9,834	4	MARCELLUS
15.2	7/9/2015	9,714	9,774	4	MARCELLUS
16	7/10/2015	9,700	9,702	0	MARCELLUS
16.1	7/10/2015	9,566	9,684	4	MARCELLUS
17	7/10/2015	9,550	9,552	0	MARCELLUS
17.1	7/10/2015	9,414	9,534	4	MARCELLUS
18	7/10/2015	9,400	9,402	0	MARCELLUS
18.1	7/10/2015	9,264	9,384	4	MARCELLUS
19	7/10/2015	9,250	9,252	0	MARCELLUS
19.1	7/10/2015	9,114	9,234	4	MARCELLUS
20	7/11/2015	9,100	9,102	0	MARCELLUS
20.1	7/11/2015	8,964	9,080	4	MARCELLUS
21	7/11/2015	8,950	8,952	0	MARCELLUS
21.1	7/11/2015	8,814	8,934	4	MARCELLUS
22	7/11/2015	8,800	8,802	0	MARCELLUS
22.1	7/11/2015	8,664	8,784	4	MARCELLUS
23	7/11/2015	8,650	8,652	0	MARCELLUS
23.1	7/11/2015	8,517	8,634	4	MARCELLUS
24	7/12/2015	8,500	8,502	0	MARCELLUS
24.1	7/12/2015	8,364	8,484	4	MARCELLUS
25	7/12/2015	8,350	8,350	0	MARCELLUS
25.1	7/12/2015	8,214	8,334	4	MARCELLUS

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	6/17/2015
Job End Date:	7/12/2015
State:	West Virginia
County:	Wetzel
API Number:	47-103-03040-00-00
Operator Name:	EQT Production
Well Name and Number:	513916
Longitude:	-80.58227500
Latitude:	39.52752300
Datum:	NAD83
Federal/Tribal Well:	NO
True Vertical Depth:	7,630
Total Base Water Volume (gal):	6,147,330
Total Base Non Water Volume:	0

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	C and J Energy Services	Carrier/Base Fluid					
			Water	7732-18-5	100.00000	90.64739	None
Sand (Proppant)	C and J Energy Services	Proppant					
			Silica Substrate	14808-60-7	100.00000	8.88601	None
MC MX 437-5	Multi-Chem	Calcium nitrate solution					
			Calcium nitrate	10124-37-5	60.00000	0.05757	None
Hydrochloric Acid (15%)	C and J Energy Services	Acidizing					
			Hydrochloric Acid	7647-01-0	15.00000	0.04142	None
WFR-12W	C and J Energy Services	Friction reducer					
			Anionic water-soluble polymer	Proprietary	100.00000	0.03624	None
Super TSC LT	C and J Energy Services	Scale control					
			Proprietary non-hazardous materials	Proprietary	100.00000	0.02634	None
PermVis VFR-10	Multi-Chem	Friction reducer					
			Hydrotreated light petroleum distillate	64742-47-8	30.00000	0.00902	None
			Alcohols, C12-16, ethoxylated	68551-12-2	10.00000	0.00301	None
			Ammonium chloride	12125-02-9	10.00000	0.00301	None

			9-Octadecenamide, n,n-bis-2 (hydroxy-ethyl)-,(Z)	93-83-4	5.00000	0.00150	None
LSG-100	C and J Energy Services	Gelling agent					
			Solvent naphtha	64742-47-8	65.00000	0.00088	None
AI-2	C and J Energy Services	Acid Inhibitor					
			Isopropyl Alcohol	67-63-0	40.00000	0.00020	None
			Glycol Ethers	111-76-2	40.00000	0.00020	None
			Propargyl Alcohol	107-19-7	40.00000	0.00020	None
			Ethoxylated Nonylphenol	68412-54-4	13.00000	0.00007	None
			Benzyl Chloride-Quaternized	72480-70-7	10.00000	0.00005	None
OB-2	C and J Energy Services	Gel Breaker					
			Ammonium Persulfate	7727-54-0	100.00000	0.00002	None
			Sillica, crystalline quartz	7631-86-9	30.00000	0.00000	None

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

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

Note: For Field Development Products (products that begin with FDP), MSDS level only information has been provided.
Ingredient information for chemicals subject to 29 CFR 1910.1200(i) and Appendix D are obtained from suppliers Material Safety Data Sheets (MSDS)

Welcome Samantha S., Operator - OpNo. E1210363 [Log Out]

Hydraulic Fracturing DISCLOSURE

FracFocus Chemical Disclosure Registry

Submission to FracFocus using Excel Spreadsheets has been turned off.

FIND A WELL BY STATE | ABOUT PROJECT PARTNERS

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

Prepare Disclosure for FracFocus Submission

Disclosure Lists | Dashboard

Disclosure has been submitted.

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

Preview Disclosure PDF | Validate Disclosure | Submit To FracFocus

Hydraulic Fracturing Data

Edit

Job Start Date	Job End Date	API Number	State & County
6/17/2015	7/12/2015	47-103-03040-00-00	West Virginia ··· Wetzel

Well Name
513916

Longitude	Latitude	Datum	Federal/Tribal Well?
-80.582275	39.527523	NAD83	

True Vertical Depth (ft)	Total Water Vol (gal)	Total Non Water Vol	Total Mass (lbs)
7630	6147330	0	56592331

MSDS Chemical Ingredients

New Additive | Select Additive | Add Additive

	Trade Name	Supplier	Purpose	Ingredients	CAS #	% High Additive	% HF Job	Comments	Ingredient Mass
Edit	Water	C and J Energy Services	Carrier/Base Fluid	Water	7732-18-5	100%	90.6473867359%	None	51299468.85
Edit	Sand (Proppant)	C and J Energy Services	Proppant	Silica Substrate	14808-60-7	100%	8.8860097119%	None	5028800
Edit	MC MX 437-5	Multi-Chem	Calcium nitrate solution	Calcium nitrate	10124-37-5	60%	.0575672829%	None	32578.667
Edit	Hydrochloric Acid (15%)	C and J Energy Services	Acidizing	Hydrochloric Acid	7647-01-0	15%	.041417306%	None	23439.019
Edit	WFR-12W	C and J Energy Services	Friction reducer	Anionic water-soluble polymer	Proprietary	100%	.0362390184%	None	20508.505
Edit	Super TSC LT	C and J Energy Services	Scale control	Proprietary non-hazardous materials	Proprietary	100%	.0263425125%	None	14907.842
Edit		Multi-Chem							

PermVis VFR-10		Friction reducer						
			Hydrotreated light petroleum distillate	64742-47-8	30%	.0090238013%	None	5106.779
			Alcohols, C12-16, ethoxylated	68551-12-2	10%	.0030079338%	None	1702.26
			Ammonium chloride	12125-02-9	10%	.0030079338%	None	1702.26
			9-Octadecenamide, n,n-bis-2(hydroxy-ethyl)-,(Z)	93-83-4	5%	.0015039669%	None	851.13
Edit LSG-100	C and J Energy Services	Gelling agent						
			Solvent naphtha	64742-47-8	65%	.0008808604%	None	498.499
Edit AI-2	C and J Energy Services	Acid Inhibitor						
			Isopropyl Alcohol	67-63-0	40%	.000204377%	None	115.662
			Glycol Ethers	111-76-2	40%	.000204377%	None	115.662
			Propargyl Alcohol	107-19-7	40%	.000204377%	None	115.662
			Ethoxylated Nonylphenol	68412-54-4	13%	.0000664225%	None	37.59
			Benzyl Chloride-Quaternized	72480-70-7	10%	.0000510942%	None	28.915
Edit OB-2	C and J Energy Services	Gel Breaker						
			Ammonium Persulfate	7727-54-0	100%	.0000157265%	None	8.9
			Silica, crystalline quartz	7631-86-9	30%	.000004718%	None	2.67

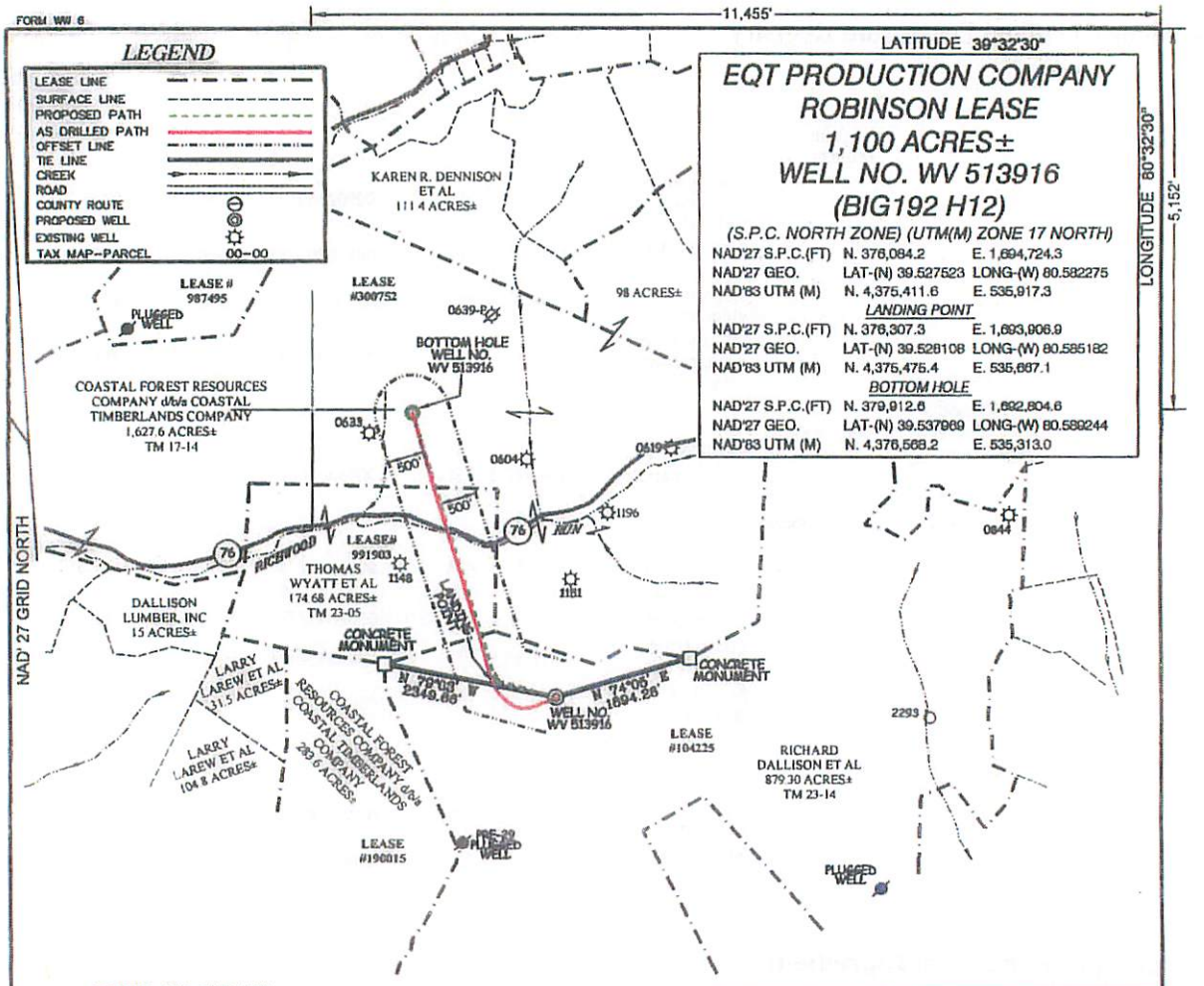
Non-MSDS Chemical Ingredients

New Ingredients

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

03/25/2016

FORM WW-6



NOTES ON SURVEY

1. NO WATER WELLS WERE FOUND WITHIN 250' OF PROPOSED GAS WELL, NO AGRICULTURAL BUILDINGS ≥ 2500 SQ. FT. OR DWELLINGS WERE FOUND WITHIN 625' OF THE CENTER OF PROPOSED WELL PAD.
2. AS DRILLED INFORMATION PROVIDED BY EQT.

ROYALTY OWNERS

GLADY WILLEY ET AL.	178 AC.±	LEASE NO. 691605
MILLS WETZEL LANDS INC.	1000 AC.±	LEASE NO. 300752

AS DRILLED COORDINATES FOR WELL NO. WV 513916

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

NAD'27 S.P.C.(FT) N. 376,084.2 E 1,694,724.3
NAD'27 GEO. LAT-(N) 39.527523 LONG-(W) 80.582275
NAD'83 UTM (M) N 4,375,411.6 E. 535,917.3

BOTTOM HOLE

NAD'27 S.P.C.(FT) N. 379,913.9 E 1,692,805.8
NAD'27 GEO LAT-(N) 39.537973 LONG-(W) 80.589240
NAD'83 UTM (M) N 4,376,568.6 E. 535,313.4

Professional Energy Consultants
A DIVISION OF SMITH LAND SURVEYING, INC.
SLS
SURVEYING ENGINEERING ENVIRONMENTAL PROJECT MGMT.
(304) 443-4834 WWW.SLSSURVEYS.COM

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

EARL N. THOMPSON LICENSED No. 2288 STATE OF WEST VIRGINIA PROFESSIONAL SURVEYOR

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

DATE AUGUST 03 , 20 12

REVISED 09/17/12, 07/09/14, 08/05/14 & 06/23/15

OPERATORS WELL NO. WV 513916

API WELL NO. 47 — 103 — 03040H
STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 200

FILE NO. 7797AD513916

SCALE 1" = 2000'

HORIZONTAL & VERTICAL CONTROL DETERMINED BY 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 1,452' (PAD ELEVATION) WATERSHED AUNTY RUN OF SOUTH FORK FISHING CREEK

DISTRICT GRANT COUNTY WETZEL QUADRANGLE BIG RUN 7.5'

SURFACE OWNER RICHARD DALLISON ET AL ACREAGE 879.30±

ROYALTY OWNER ED BROOME, INC ET AL ACREAGE 1,100±

PROPOSED WORK : LEASE NO. 104225

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 TVD 7,631'

COUNTY NAME

PERMIT

WELL OPERATOR EQT PRODUCTION COMPANY
ADDRESS 115 PROFESSIONAL PLACE P.O. BOX 280
BRIDGEPORT, WV 26330

DESIGNATED AGENT REX C. RAY
ADDRESS 115 PROFESSIONAL PLACE P.O. BOX 280
BRIDGEPORT, WV 26330

03/25/2016