Well Operator's Report of Well Work

EQT

Where energy meets innovation.

Well Number: 513917

API: 47 - 103 - 03041

Submission: ☐ Initial ☑ Amended

Notes: Add'l Inj Test - 12.01

Correction to Production Cement Top (MD)



AX WS 12/22/16

03/25/2016

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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 - 103 - 03041 County WETZEL District GRANT
Quad BIG RUN 7.5' Pad Name BIG192 Field/Pool Name
Farm name RICHARD DALLISON ET AL Well Number 513917
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 Easting 535,922
Landing Point of Curve Northing 4,375,417 Easting 535,483
Bottom Hole Northing 4,376,437 Easting 535,152

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 5/19/2015
Date completion activities began 6/17/2015 Date completion activities ceased 6/23/2015
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

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API 47- 103 - 03041 Farm name RICHARD DALLISON ET AL Well number 513917

| 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" | 1046' | NEW | J-55 54.5LB/FT | 581' | Y |
| Coal | | | | | | | |
| Intermediate 1 | 12.375" & 12.25" | 9.625" | 2777' | NEW | A-500 40LB/FT | NONE | Y |
| Intermediate 2 | | | | | | | |
| Intermediate 3 | | | | | | | |
| Production | 8.5" | 5.5" | 11,832' | 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 | 908 | 15.6 | 1.20 | 1089.6 | 0 | 8 |
| Coal | | | | | | | |
| Intermediate 1 | CLASS A / CLASS A | 803 / 197 | 15.6 / 15.6 | 1.18 / 1.20 | 1183.94 | 0 | 8 |
| Intermediate 2 | | | | | | | |
| Intermediate 3 | | | | | | | |
| Production | Class H/ Class H | 831 / 447 | 15.2 / 15.6 | 1.25/2.06 | 1959.57 | 3,447' MD | 72 |
| Tubing | | | | | | | |

Drillers TD (ft) 11,832' 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) 5,803' 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- 185 Composite Centralizers. One on every joint from TD to 4,300' 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

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API 47- 103 - 03041 Farm name RICHARD DALLISON ET AL Well number 513917

## PERFORATION RECORD

| Stage No. | Perforation date | Perforated from MD ft. | Perforated to MD ft. | Number of Perforations | Formation(s) |
|---|---|---|---|---|---|
| | | | | | Please See Attached |
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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 |
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Please insert additional pages as applicable.

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| PRODUCING FORMATION(S) | DEPTHS | |
|---|---|---|
| Marcellus | 7,628' TVD | 8,357' MD |
| | | |
| | | |
| | | |

Please insert additional pages as applicable.

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

SHUT-IN PRESSURE Surface 1,812 psi Bottom Hole N/A psi DURATION OF TEST 59.00 hrs

| OPEN FLOW | Gas | Oil | NGL | Water | GAS MEASURED BY |
|---|---|---|---|---|---|
| | 8,527 mcfpd | N/A bpd | 0 bpd | 1,098.3 bpd | ☐ Estimated ■ Orifice ☐ Pilot |

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

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API 47- 103 - 03041 Farm name RICHARD DALLISON ET AL Well number 513917

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

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

Logging Company
Address City State Zip

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

API 47 - 103 - 03041

| 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 | 2,437 |
| MAXTON | 2,444 | 2,437 | 2,484 | 2,477 |
| BIG LIME | 2,484 | 2,477 | 2,623 | 2,616 |
| BIG INJUN | 2,623 | 2,616 | 2,874 | 2,866 |
| WEIR | 2,874 | 2,866 | 3,082 | 3,074 |
| GANTZ | 3,082 | 3,074 | 3,108 | 3,100 |
| 50F | 3,108 | 3,100 | 3,193 | 3,185 |
| 30F | 3,193 | 3,185 | 3,310 | 3,302 |
| GORDON | 3,310 | 3,302 | 3,390 | 3,382 |
| 4TH | 3,390 | 3,382 | 3,539 | 3,531 |
| BAYARD | 3,539 | 3,531 | 3,965 | 3,957 |
| WARREN | 3,965 | 3,957 | 4,117 | 4,109 |
| SPEECHLEY | 4,117 | 4,109 | 5,006 | 4,998 |
| RILEY | 5,006 | 4,998 | 5,641 | 5,633 |
| BENSON | 5,641 | 5,633 | 5,978 | 5,967 |
| ALEXANDER | 5,978 | 5,967 | 7,537 | 7,188 |
| RHINESTREET | 7,537 | 7,188 | 7,757 | 7,347 |
| SONYEA | 7,757 | 7,347 | 7,840 | 7,402 |
| MIDDLESEX | 7,840 | 7,402 | 7,988 | 7,491 |
| GENESSEE | 7,988 | 7,491 | 8,039 | 7,516 |
| GENESEO | 8,039 | 7,516 | 8,085 | 7,538 |
| TULLY | 8,085 | 7,538 | 8,335 | 7,623 |
| HAMILTON | 8,335 | 7,623 | 8,357 | 7,628 |
| MARCELLUS | 8,357 | 7,628 | 11,832 | 7,643 |

03/25/2016

API 47 - 103 - 03041

PHOENIX
TECHNOLOGY SERVICES

# EQT Production - Marcellus

**Wetzel County, WV**
**Wetzel County 513917**
**Well #513917**

**Main Wellbore**

**Design: 513917 As Drilled Surveys**

# Standard Survey Report

**25 May, 2015**

EQT
Where energy meets innovation.

03/25/2016

| | | | |
|---|---|---|---|
| Database: | EDM 5000.1 Single User Db | Local Co-ordinate Reference: | Site Wetzel County 513917 |
| Company: | EQT Production - Marcellus | TVD Reference: | KB@16 ft @ 1468.0usft |
| Project: | Wetzel County, WV | MD Reference: | KB@16 ft @ 1468.0usft |
| Site: | Wetzel County 513917 | North Reference: | Grid |
| Well: | Well #513917 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | Main Wellbore | | |
| Design: | 513917 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 513917

| | | | | | |
|---|---|---|---|---|---|
| Site Position: | | Northing: | 376,081 50 usft | Latitude: | 39 53 |
| From: | Map | Easting: | 1,694,739.10 usft | Longitude: | -80 58 |
| Position Uncertainty: | 0 0 usft | Slot Radius: | 13-3/16 " | Grid Convergence: | -0 69 ° |

**Well** Well #513917

| | | | | | | |
|---|---|---|---|---|---|---|
| Well Position | +N/-S | 0 0 usft | Northing: | 376 081 50 usft | Latitude: | 39° 31' 39.058 N |
| | +E/-W | 0.0 usft | Easting: | 1 694 739 10 usft | Longitude: | 80° 34' 56 000 W |
| Position Uncertainty | | 0 0 usft | Wellhead Elevation: | usft | Ground Level: | 1,452.0 usft |

**Wellbore** Main Wellbore

| Magnetics | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
|---|---|---|---|---|---|
| | HDGM | 4/21/2015 | -8 32 | 67 07 | 52,542 |

**Design** 513917 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 | 324 09 |

Survey Program Date 5/25/2015

| From () | To (usft) | Survey (Wellbore) | Tool Name | Description |
|---|---|---|---|---|
| 0 00 | 5,723 0 | 513917 Gyrodata Gyros (Main Wellbore) | GYD_DP_MS | Gyrodata gyro-compassing and drop |
| 0 00 | 11 832 0 | 513917 PHX MWD Curve and Lateral (Ma | 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 21 | 94 17 | 103 0 | -1,365 0 | 0 0 | 0 2 | -0 1 | 0 20 | 0 20 | 0 00 |
| 203 0 | 0 25 | 102 83 | 203 0 | -1,265 0 | -0 1 | 0 6 | -0 4 | 0 05 | 0 04 | 8 66 |
| 303 0 | 0 06 | 121 73 | 303 0 | -1 165 0 | -0 2 | 0 8 | -0 6 | 0 19 | -0 19 | 18 90 |
| 403 0 | 0 04 | 43 14 | 403 0 | -1 065 0 | -0 2 | 0 9 | -0 7 | 0 07 | -0 02 | -78 59 |
| 503 0 | 0 07 | 93 08 | 503 0 | -965 0 | -0 1 | 1 0 | -0 7 | 0 05 | 0 03 | 49 94 |
| 603 0 | 0 07 | 168 60 | 603 0 | -865 0 | -0 2 | 1 1 | -0 8 | 0 09 | 0 00 | 75 52 |
| 703 0 | 0 10 | 111 05 | 703 0 | -765 0 | -0 3 | 1 2 | -0 9 | 0 09 | 0 03 | -57.55 |



03/25/2016

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|---|---|---|---|
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| Well: | Well #513917 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | Main Wellbore | | |
| Design: | 513917 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 | 0.18 | 127.75 | 803.0 | -665.0 | -0.4 | 1.4 | -1.1 | 0.09 | 0.08 | 16.70 |
| 903.0 | 0.15 | 142.32 | 903.0 | -565.0 | -0.6 | 1.6 | -1.4 | 0.05 | -0.03 | 14.57 |
| 1,003.0 | 0.13 | 127.76 | 1,003.0 | -465.0 | -0.8 | 1.7 | -1.7 | 0.04 | -0.02 | -14.56 |
| 1,103.0 | 0.37 | 92.75 | 1,103.0 | -365.0 | -0.9 | 2.2 | -2.0 | 0.27 | 0.24 | -35.01 |
| 1,203.0 | 0.39 | 97.45 | 1,203.0 | -265.0 | -0.9 | 2.8 | -2.4 | 0.04 | 0.02 | 4.70 |
| 1,303.0 | 0.40 | 89.51 | 1,303.0 | -165.0 | -1.0 | 3.5 | -2.8 | 0.06 | 0.01 | -7.94 |
| 1,403.0 | 0.46 | 97.42 | 1,403.0 | -65.0 | -1.0 | 4.2 | -3.3 | 0.08 | 0.06 | 7.91 |
| 1,503.0 | 0.60 | 131.45 | 1,503.0 | 35.0 | -1.4 | 5.0 | -4.1 | 0.34 | 0.14 | 34.03 |
| 1,603.0 | 9.34 | 187.31 | 1,602.5 | 134.5 | -9.8 | 4.4 | -10.5 | 9.02 | 8.74 | 55.86 |
| 1,703.0 | 14.44 | 192.37 | 1,700.3 | 232.3 | -30.1 | 0.7 | -24.8 | 5.20 | 5.10 | 5.06 |
| 1,803.0 | 10.05 | 195.62 | 1,798.1 | 330.1 | -50.7 | -4.3 | -38.5 | 4.44 | -4.39 | 3.25 |
| 1,903.0 | 6.07 | 202.40 | 1,897.0 | 429.0 | -64.0 | -8.7 | -46.7 | 4.09 | -3.98 | 6.78 |
| 2,003.0 | 3.02 | 194.07 | 1,996.7 | 528.7 | -71.4 | -11.4 | -51.2 | 3.11 | -3.05 | -8.33 |
| 2,103.0 | 1.37 | 104.38 | 2,096.7 | 628.7 | -74.3 | -10.8 | -53.8 | 3.31 | -1.65 | -89.69 |
| 2,203.0 | 1.65 | 85.09 | 2,196.6 | 728.6 | -74.4 | -8.2 | -55.5 | 0.58 | 0.28 | -19.29 |
| 2,303.0 | 2.23 | 62.09 | 2,296.6 | 828.6 | -73.4 | -5.1 | -56.5 | 0.96 | 0.58 | -23.00 |
| 2,403.0 | 3.01 | 51.23 | 2,396.5 | 928.5 | -70.8 | -1.3 | -56.6 | 0.92 | 0.78 | -10.86 |
| 2,503.0 | 3.78 | 45.56 | 2,496.3 | 1,028.3 | -66.9 | 3.1 | -56.0 | 0.84 | 0.77 | -5.67 |
| 2,603.0 | 4.03 | 46.23 | 2,596.1 | 1,128.1 | -62.2 | 8.0 | -55.0 | 0.25 | 0.25 | 0.67 |
| 2,703.0 | 4.26 | 47.03 | 2,695.8 | 1,227.8 | -57.2 | 13.2 | -54.1 | 0.24 | 0.23 | 0.80 |
| 2,803.0 | 4.34 | 46.71 | 2,795.5 | 1,327.5 | -52.1 | 18.7 | -53.1 | 0.08 | 0.08 | -0.32 |
| 2,903.0 | 3.28 | 42.93 | 2,895.3 | 1,427.3 | -47.4 | 23.4 | -52.1 | 1.09 | -1.06 | -3.78 |
| 3,003.0 | 2.10 | 38.09 | 2,995.2 | 1,527.2 | -43.8 | 26.5 | -51.0 | 1.20 | -1.18 | -4.84 |
| 3,103.0 | 1.23 | 32.44 | 3,095.1 | 1,627.1 | -41.5 | 28.2 | -50.1 | 0.88 | -0.87 | -5.65 |
| 3,203.0 | 0.65 | 21.59 | 3,195.1 | 1,727.1 | -40.1 | 29.0 | -49.4 | 0.60 | -0.58 | -10.85 |
| 3,303.0 | 0.09 | 342.26 | 3,295.1 | 1,827.1 | -39.5 | 29.2 | -49.1 | 0.58 | -0.56 | -39.33 |
| 3,403.0 | 0.15 | 47.36 | 3,395.1 | 1,927.1 | -39.3 | 29.2 | -49.0 | 0.14 | 0.06 | 65.10 |
| 3,503.0 | 0.41 | 18.33 | 3,495.1 | 2,027.1 | -38.9 | 29.4 | -48.7 | 0.29 | 0.26 | -29.03 |
| 3,603.0 | 0.59 | 324.12 | 3,595.1 | 2,127.1 | -38.1 | 29.2 | -48.0 | 0.48 | 0.18 | -54.21 |
| 3,703.0 | 0.53 | 319.36 | 3,695.1 | 2,227.1 | -37.3 | 28.6 | -47.0 | 0.08 | -0.06 | -4.76 |
| 3,803.0 | 0.37 | 326.89 | 3,795.1 | 2,327.1 | -36.7 | 28.2 | -46.3 | 0.17 | -0.16 | 7.53 |
| 3,903.0 | 0.39 | 313.13 | 3,895.1 | 2,427.1 | -36.2 | 27.7 | -45.6 | 0.09 | 0.02 | -13.76 |
| 4,003.0 | 0.39 | 316.09 | 3,995.1 | 2,527.1 | -35.7 | 27.3 | -44.9 | 0.02 | 0.00 | 2.96 |
| 4,103.0 | 0.31 | 305.19 | 4,095.1 | 2,627.1 | -35.3 | 26.8 | -44.3 | 0.10 | -0.08 | -10.90 |
| 4,203.0 | 0.31 | 300.33 | 4,195.1 | 2,727.1 | -35.0 | 26.3 | -43.8 | 0.03 | 0.00 | -4.86 |
| 4,303.0 | 0.45 | 286.20 | 4,295.1 | 2,827.1 | -34.8 | 25.7 | -43.3 | 0.17 | 0.14 | -14.13 |
| 4,403.0 | 0.44 | 289.81 | 4,395.1 | 2,927.1 | -34.6 | 25.0 | -42.6 | 0.03 | -0.01 | 3.61 |
| 4,503.0 | 0.49 | 295.64 | 4,495.1 | 3,027.1 | -34.2 | 24.2 | -42.0 | 0.07 | 0.05 | 5.83 |
| 4,603.0 | 0.53 | 295.41 | 4,595.1 | 3,127.1 | -33.9 | 23.4 | -41.2 | 0.04 | 0.04 | -0.23 |
| 4,703.0 | 0.51 | 294.39 | 4,695.1 | 3,227.1 | -33.5 | 22.6 | -40.4 | 0.02 | -0.02 | -1.02 |
| 4,803.0 | 0.49 | 288.81 | 4,795.1 | 3,327.1 | -33.2 | 21.8 | -39.6 | 0.05 | -0.02 | -5.58 |
| 4,903.0 | 0.56 | 287.11 | 4,895.1 | 3,427.1 | -32.9 | 20.9 | -38.9 | 0.07 | 0.07 | -1.70 |



03/25/2016

| | | | |
|---|---|---|---|
| Database: | EDM 5000.1 Single User Db | Local Co-ordinate Reference: | Site Wetzel County 513917 |
| Company: | EQT Production - Marcellus | TVD Reference: | KB@16 ft @ 1468.0usft |
| Project: | Wetzel County, WV | MD Reference: | KB@16 ft @ 1468.0usft |
| Site: | Wetzel County 513917 | North Reference: | Grid |
| Well: | Well #513917 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | Main Wellbore | | |
| Design: | 513917 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 | 0.56 | 287.29 | 4,995.1 | 3,527.1 | -32.6 | 20.0 | -38.1 | 0.00 | 0.00 | 0.18 |
| 5,103.0 | 0.59 | 291.51 | 5,095.1 | 3,627.1 | -32.3 | 19.1 | -37.3 | 0.05 | 0.03 | 4.22 |
| 5,203.0 | 0.62 | 291.71 | 5,195.1 | 3,727.1 | -31.9 | 18.1 | -36.4 | 0.03 | 0.03 | 0.20 |
| 5,303.0 | 0.65 | 290.25 | 5,295.1 | 3,827.1 | -31.5 | 17.0 | -35.5 | 0.03 | 0.03 | -1.46 |
| 5,403.0 | 0.74 | 292.21 | 5,395.1 | 3,927.1 | -31.0 | 15.9 | -34.5 | 0.09 | 0.09 | 1.96 |
| 5,503.0 | 0.68 | 302.52 | 5,495.0 | 4,027.0 | -30.5 | 14.8 | -33.4 | 0.14 | -0.06 | 10.31 |
| 5,603.0 | 0.67 | 300.22 | 5,595.0 | 4,127.0 | -29.8 | 13.8 | -32.3 | 0.03 | -0.01 | -2.30 |
| 5,703.0 | 0.90 | 297.68 | 5,695.0 | 4,227.0 | -29.2 | 12.6 | -31.0 | 0.23 | 0.23 | -2.54 |
| Gyro Tie In=5723' MD | | | | | | | | | | |
| 5,723.0 | 1.03 | 298.91 | 5,715.0 | 4,247.0 | -29.0 | 12.3 | -30.7 | 0.66 | 0.65 | 6.15 |
| 5,740.0 | 1.00 | 301.30 | 5,732.0 | 4,264.0 | -28.9 | 12.0 | -30.5 | 0.31 | -0.18 | 14.06 |
| 5,771.0 | 1.10 | 301.20 | 5,763.0 | 4,295.0 | -28.6 | 11.6 | -29.9 | 0.32 | 0.32 | -0.32 |
| KOP=5803' MD | | | | | | | | | | |
| 5,803.0 | 2.00 | 221.30 | 5,795.0 | 4,327.0 | -28.8 | 10.9 | -29.8 | 6.58 | 2.81 | -249.69 |
| 5,834.0 | 5.50 | 201.50 | 5,825.9 | 4,357.9 | -30.6 | 10.0 | -30.7 | 11.87 | 11.29 | -63.87 |
| 5,866.0 | 7.90 | 199.10 | 5,857.7 | 4,389.7 | -34.1 | 8.7 | -32.8 | 7.55 | 7.50 | -7.50 |
| 5,897.0 | 9.70 | 205.20 | 5,888.4 | 4,420.4 | -38.5 | 6.9 | -35.3 | 6.53 | 5.81 | 19.68 |
| 5,928.0 | 11.80 | 214.40 | 5,918.8 | 4,450.8 | -43.5 | 4.0 | -37.6 | 8.73 | 6.77 | 29.68 |
| 5,960.0 | 14.70 | 223.10 | 5,950.0 | 4,482.0 | -49.2 | -0.6 | -39.5 | 10.97 | 9.06 | 27.19 |
| 5,991.0 | 17.00 | 228.20 | 5,979.8 | 4,511.8 | -55.1 | -6.7 | -40.7 | 8.67 | 7.42 | 16.45 |
| 6,023.0 | 18.30 | 234.20 | 6,010.3 | 4,542.3 | -61.1 | -14.2 | -41.2 | 6.98 | 4.06 | 18.75 |
| 6,054.0 | 20.40 | 238.40 | 6,039.5 | 4,571.5 | -66.8 | -22.6 | -40.7 | 8.12 | 6.77 | 13.55 |
| 6,086.0 | 21.90 | 242.70 | 6,069.4 | 4,601.4 | -72.5 | -32.8 | -39.4 | 6.74 | 4.69 | 13.44 |
| 6,117.0 | 20.90 | 249.10 | 6,098.2 | 4,630.2 | -77.1 | -43.1 | -37.1 | 8.19 | -3.23 | 20.65 |
| 6,149.0 | 20.10 | 256.30 | 6,128.2 | 4,660.2 | -80.4 | -53.8 | -33.6 | 8.26 | -2.50 | 22.50 |
| 6,180.0 | 21.80 | 257.80 | 6,157.2 | 4,689.2 | -82.9 | -64.6 | -29.2 | 5.75 | 5.48 | 4.84 |
| 6,212.0 | 24.30 | 256.30 | 6,186.6 | 4,718.6 | -85.7 | -76.8 | -24.4 | 8.02 | 7.81 | -4.69 |
| 6,244.0 | 27.00 | 255.30 | 6,215.4 | 4,747.4 | -89.1 | -90.2 | -19.2 | 8.54 | 8.44 | -3.13 |
| 6,275.0 | 30.40 | 253.10 | 6,242.6 | 4,774.6 | -93.2 | -104.6 | -14.1 | 11.48 | 10.97 | -7.10 |
| 6,307.0 | 33.40 | 253.10 | 6,269.8 | 4,801.8 | -98.1 | -120.7 | -8.6 | 9.38 | 9.38 | 0.00 |
| 6,338.0 | 36.70 | 254.60 | 6,295.2 | 4,827.2 | -103.0 | -137.8 | -2.6 | 11.00 | 10.65 | 4.84 |
| 6,370.0 | 40.00 | 255.50 | 6,320.3 | 4,852.3 | -108.2 | -157.0 | 4.5 | 10.46 | 10.31 | 2.81 |
| 6,401.0 | 41.20 | 256.20 | 6,343.8 | 4,875.8 | -113.1 | -176.6 | 12.0 | 4.14 | 3.87 | 2.26 |
| 6,464.0 | 41.30 | 256.60 | 6,391.2 | 4,923.2 | -122.8 | -216.9 | 27.7 | 0.45 | 0.16 | 0.63 |
| 6,528.0 | 41.50 | 257.80 | 6,439.2 | 4,971.2 | -132.2 | -258.2 | 44.4 | 1.28 | 0.31 | 1.88 |
| 6,591.0 | 41.30 | 257.90 | 6,486.4 | 5,018.4 | -141.0 | -298.9 | 61.1 | 0.33 | -0.32 | 0.16 |
| 6,654.0 | 41.10 | 257.40 | 6,533.8 | 5,065.8 | -149.9 | -339.5 | 77.7 | 0.61 | -0.32 | -0.79 |
| 6,717.0 | 40.90 | 256.70 | 6,581.4 | 5,113.4 | -159.1 | -379.8 | 93.9 | 0.80 | -0.32 | -1.11 |
| 6,780.0 | 40.90 | 258.40 | 6,629.0 | 5,161.0 | -168.0 | -420.0 | 110.3 | 1.77 | 0.00 | 2.70 |
| 6,843.0 | 40.40 | 258.40 | 6,676.8 | 5,208.8 | -176.3 | -460.2 | 127.2 | 0.79 | -0.79 | 0.00 |
| 6,906.0 | 42.20 | 257.20 | 6,724.1 | 5,256.1 | -185.1 | -500.9 | 143.9 | 3.12 | 2.86 | -1.90 |
| 6,969.0 | 41.90 | 256.50 | 6,770.9 | 5,302.9 | -194.7 | -542.0 | 160.2 | 0.88 | -0.48 | -1.11 |
| 7,032.0 | 41.50 | 258.50 | 6,818.0 | 5,350.0 | -203.7 | -582.9 | 176.9 | 2.21 | -0.63 | 3.17 |



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| | | | |
|---|---|---|---|
| Database: | EDM 5000.1 Single User Db | Local Co-ordinate Reference: | Site Wetzel County 513917 |
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| Project: | Wetzel County, WV | MD Reference: | KB@16 ft @ 1468.0usft |
| Site: | Wetzel County 513917 | North Reference: | Grid |
| Well: | Well #513917 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | Main Wellbore | | |
| Design: | 513917 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) |
|---|---|---|---|---|---|---|---|---|---|---|
| 7,095.0 | 42.80 | 259.10 | 6,864.7 | 5,396.7 | -211.9 | -624.4 | 194.5 | 2.16 | 2.06 | 0.95 |
| 7,158.0 | 42.90 | 258.90 | 6,910.8 | 5,442.8 | -220.1 | -666.4 | 212.6 | 0.27 | 0.16 | -0.32 |
| 7,221.0 | 42.70 | 258.20 | 6,957.1 | 5,489.1 | -228.6 | -708.4 | 230.3 | 0.82 | -0.32 | -1.11 |
| 7,284.0 | 42.40 | 257.70 | 7,003.5 | 5,535.5 | -237.5 | -750.0 | 247.5 | 0.72 | -0.48 | -0.79 |
| 7,347.0 | 43.00 | 257.40 | 7,049.8 | 5,581.8 | -246.7 | -791.7 | 264.6 | 1.01 | 0.95 | -0.48 |
| 7,410.0 | 43.30 | 257.40 | 7,095.7 | 5,627.7 | -256.1 | -833.8 | 281.6 | 0.48 | 0.48 | 0.00 |
| 7,474.0 | 43.30 | 260.10 | 7,142.3 | 5,674.3 | -264.7 | -876.8 | 299.9 | 2.89 | 0.00 | 4.22 |
| 7,505.0 | 43.40 | 260.40 | 7,164.9 | 5,696.9 | -268.3 | -897.8 | 309.3 | 0.74 | 0.32 | 0.97 |
| 7,537.0 | 43.20 | 262.60 | 7,188.2 | 5,720.2 | -271.5 | -919.5 | 319.4 | 4.76 | -0.63 | 6.88 |
| 7,568.0 | 42.80 | 268.70 | 7,210.8 | 5,742.8 | -273.1 | -940.6 | 330.5 | 13.48 | -1.29 | 19.68 |
| 7,600.0 | 43.20 | 273.30 | 7,234.3 | 5,766.3 | -272.8 | -962.4 | 343.6 | 9.88 | 1.25 | 14.38 |
| 7,631.0 | 43.90 | 276.90 | 7,256.7 | 5,788.7 | -270.9 | -983.6 | 357.6 | 8.31 | 2.26 | 11.61 |
| 7,663.0 | 43.80 | 279.30 | 7,279.8 | 5,811.8 | -267.7 | -1,005.6 | 373.0 | 5.20 | -0.31 | 7.50 |
| 7,694.0 | 43.90 | 282.80 | 7,302.2 | 5,834.2 | -263.6 | -1,026.7 | 388.7 | 7.83 | 0.32 | 11.29 |
| 7,726.0 | 45.20 | 287.20 | 7,325.0 | 5,857.0 | -257.8 | -1,048.3 | 406.1 | 10.46 | 4.06 | 13.75 |
| 7,757.0 | 46.20 | 290.40 | 7,346.6 | 5,878.6 | -250.6 | -1,069.3 | 424.2 | 8.06 | 3.23 | 10.32 |
| 513918 Top of Port | | | | | | | | | | |
| 7,778.4 | 47.20 | 292.22 | 7,361.3 | 5,893.3 | -245.0 | -1,083.9 | 437.3 | 7.74 | 4.65 | 8.51 |
| 7,789.0 | 47.70 | 293.10 | 7,368.5 | 5,900.5 | -242.0 | -1,091.0 | 443.9 | 7.74 | 4.75 | 8.30 |
| 7,820.0 | 48.70 | 295.30 | 7,389.1 | 5,921.1 | -232.5 | -1,112.1 | 464.0 | 6.20 | 3.23 | 7.10 |
| 7,852.0 | 50.10 | 297.80 | 7,410.0 | 5,942.0 | -221.6 | -1,133.8 | 485.5 | 7.37 | 4.38 | 7.81 |
| 7,884.0 | 51.50 | 300.30 | 7,430.2 | 5,962.2 | -209.6 | -1,155.5 | 508.0 | 7.47 | 4.38 | 7.81 |
| 7,915.0 | 52.80 | 302.00 | 7,449.2 | 5,981.2 | -196.9 | -1,176.5 | 530.5 | 6.03 | 4.19 | 5.48 |
| 7,946.0 | 55.00 | 302.90 | 7,467.5 | 5,999.5 | -183.5 | -1,197.6 | 553.8 | 7.47 | 7.10 | 2.90 |
| 7,978.0 | 57.50 | 304.70 | 7,485.2 | 6,017.2 | -168.7 | -1,219.7 | 578.8 | 9.10 | 7.81 | 5.63 |
| 8,010.0 | 60.00 | 307.60 | 7,501.9 | 6,033.9 | -152.5 | -1,241.8 | 604.8 | 11.00 | 7.81 | 9.06 |
| 8,041.0 | 61.20 | 310.40 | 7,517.1 | 6,049.1 | -135.5 | -1,262.8 | 630.9 | 8.77 | 3.87 | 9.03 |
| 513538 Top of Port | | | | | | | | | | |
| 8,073.0 | 61.80 | 313.20 | 7,532.3 | 6,064.3 | -116.8 | -1,283.7 | 658.3 | 7.91 | 1.88 | 8.75 |
| 8,104.0 | 63.00 | 315.30 | 7,546.7 | 6,078.7 | -97.6 | -1,303.4 | 685.4 | 7.14 | 3.87 | 6.77 |
| 8,136.0 | 64.90 | 316.80 | 7,560.8 | 6,092.8 | -76.9 | -1,323.3 | 713.9 | 7.28 | 5.94 | 4.69 |
| 8,167.0 | 66.90 | 318.40 | 7,573.4 | 6,105.4 | -56.0 | -1,342.4 | 742.0 | 7.99 | 6.45 | 5.16 |
| 8,199.0 | 69.40 | 320.10 | 7,585.3 | 6,117.3 | -33.5 | -1,361.8 | 771.6 | 9.24 | 7.81 | 5.31 |
| 8,230.0 | 71.60 | 322.70 | 7,595.7 | 6,127.7 | -10.7 | -1,380.0 | 800.8 | 10.62 | 7.10 | 8.39 |
| 8,262.0 | 72.90 | 326.30 | 7,605.4 | 6,137.4 | 14.1 | -1,397.7 | 831.2 | 11.46 | 4.06 | 11.25 |
| 8,293.0 | 75.50 | 329.30 | 7,613.9 | 6,145.9 | 39.3 | -1,413.6 | 861.0 | 12.53 | 8.39 | 9.68 |
| 513917 Plat LP 2 | | | | | | | | | | |
| 8,320.0 | 77.44 | 330.65 | 7,620.2 | 6,152.2 | 62.1 | -1,426.7 | 887.1 | 8.68 | 7.19 | 5.01 |
| 8,325.0 | 77.80 | 330.90 | 7,621.3 | 6,153.3 | 66.3 | -1,429.1 | 892.0 | 8.68 | 7.20 | 4.96 |
| 8,357.0 | 78.90 | 332.90 | 7,627.7 | 6,159.7 | 94.0 | -1,443.9 | 923.0 | 7.02 | 3.44 | 6.25 |
| 8,388.0 | 80.60 | 334.00 | 7,633.2 | 6,165.2 | 121.3 | -1,457.5 | 953.1 | 6.50 | 5.48 | 3.55 |
| 8,419.0 | 82.90 | 335.90 | 7,637.7 | 6,169.7 | 149.1 | -1,470.5 | 983.2 | 9.58 | 7.42 | 6.13 |
| 8,451.0 | 85.50 | 338.70 | 7,640.9 | 6,172.9 | 178.4 | -1,482.8 | 1,014.2 | 11.91 | 8.13 | 8.75 |



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|---|---|---|---|
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| Project: | Wetzel County, WV | MD Reference: | KB@16 ft @ 1466.0usft |
| Site: | Wetzel County 513917 | North Reference: | Grid |
| Well: | Well #513917 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | Main Wellbore | | |
| Design: | 513917 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) |
|---|---|---|---|---|---|---|---|---|---|---|
| 8,462.0 | 88.30 | 339.70 | 7,642.6 | 6,174.6 | 207.4 | -1,493.8 | 1,044.1 | 9.59 | 9.03 | 3.23 |
| 513917 LP1051' VS | | | | | | | | | | |
| 8,490.7 | 88.84 | 339.94 | 7,642.8 | 6,174.8 | 215.5 | -1,496.8 | 1,052.5 | 6.85 | 6.25 | 2.81 |
| LP/Deepest Point of Well=8514' MD/7643' TVD | | | | | | | | | | |
| 8,514.0 | 90.30 | 340.60 | 7,643.0 | 6,175.0 | 237.5 | -1,504.6 | 1,074.8 | 6.85 | 6.25 | 2.81 |
| 8,546.0 | 90.80 | 340.40 | 7,642.7 | 6,174.7 | 267.6 | -1,515.3 | 1,105.5 | 1.68 | 1.56 | -0.63 |
| 8,609.0 | 91.80 | 342.40 | 7,641.3 | 6,173.3 | 327.3 | -1,535.4 | 1,165.7 | 3.55 | 1.59 | 3.17 |
| 8,672.0 | 90.60 | 342.80 | 7,639.9 | 6,171.9 | 387.4 | -1,554.2 | 1,225.4 | 2.01 | -1.90 | 0.63 |
| 8,735.0 | 89.70 | 341.80 | 7,639.8 | 6,171.8 | 447.4 | -1,573.4 | 1,285.2 | 2.14 | -1.43 | -1.59 |
| 8,798.0 | 89.50 | 343.30 | 7,640.2 | 6,172.2 | 507.5 | -1,592.3 | 1,345.0 | 2.40 | -0.32 | 2.38 |
| 8,862.0 | 89.70 | 343.50 | 7,640.7 | 6,172.7 | 568.9 | -1,610.6 | 1,405.4 | 0.44 | 0.31 | 0.31 |
| 8,924.0 | 90.30 | 344.60 | 7,640.7 | 6,172.7 | 628.5 | -1,627.6 | 1,463.7 | 2.02 | 0.97 | 1.77 |
| 8,987.0 | 91.30 | 344.50 | 7,639.8 | 6,171.8 | 689.2 | -1,644.4 | 1,522.7 | 1.60 | 1.59 | -0.16 |
| 9,050.0 | 91.40 | 344.00 | 7,638.3 | 6,170.3 | 749.8 | -1,661.5 | 1,581.8 | 0.81 | 0.16 | -0.79 |
| 9,113.0 | 91.30 | 343.60 | 7,636.8 | 6,168.8 | 810.3 | -1,679.1 | 1,641.1 | 0.65 | -0.16 | -0.63 |
| 9,176.0 | 89.10 | 343.80 | 7,636.6 | 6,168.6 | 870.7 | -1,696.7 | 1,700.4 | 3.51 | -3.49 | 0.32 |
| 9,239.0 | 88.50 | 342.60 | 7,637.9 | 6,169.9 | 931.0 | -1,714.9 | 1,759.9 | 2.13 | -0.95 | -1.90 |
| 9,302.0 | 89.60 | 343.30 | 7,639.0 | 6,171.0 | 991.3 | -1,733.4 | 1,819.6 | 2.07 | 1.75 | 1.11 |
| 9,365.0 | 90.50 | 342.50 | 7,638.9 | 6,170.9 | 1,051.5 | -1,751.9 | 1,879.2 | 1.91 | 1.43 | -1.27 |
| 9,428.0 | 91.30 | 342.90 | 7,637.9 | 6,169.9 | 1,111.6 | -1,770.7 | 1,938.9 | 1.42 | 1.27 | 0.63 |
| 9,491.0 | 91.50 | 343.30 | 7,636.4 | 6,168.4 | 1,171.9 | -1,789.0 | 1,998.4 | 0.71 | 0.32 | 0.63 |
| 9,554.0 | 91.30 | 343.20 | 7,634.8 | 6,166.8 | 1,232.2 | -1,807.1 | 2,057.9 | 0.35 | -0.32 | -0.16 |
| 9,617.0 | 91.00 | 342.60 | 7,633.6 | 6,165.6 | 1,292.4 | -1,825.6 | 2,117.5 | 1.06 | -0.48 | -0.95 |
| 9,680.0 | 90.80 | 341.50 | 7,632.6 | 6,164.6 | 1,352.3 | -1,845.1 | 2,177.5 | 1.77 | -0.32 | -1.75 |
| 9,743.0 | 90.40 | 340.90 | 7,631.9 | 6,163.9 | 1,411.9 | -1,865.4 | 2,237.7 | 1.14 | -0.63 | -0.95 |
| 9,806.0 | 90.50 | 342.60 | 7,631.4 | 6,163.4 | 1,471.8 | -1,885.1 | 2,297.7 | 2.70 | 0.16 | 2.70 |
| 9,869.0 | 90.10 | 342.50 | 7,631.1 | 6,163.1 | 1,531.9 | -1,904.0 | 2,357.5 | 0.65 | -0.63 | -0.16 |
| 9,932.0 | 89.70 | 342.60 | 7,631.2 | 6,163.2 | 1,592.0 | -1,922.9 | 2,417.2 | 0.65 | -0.63 | 0.16 |
| 9,995.0 | 90.70 | 343.00 | 7,631.0 | 6,163.0 | 1,652.2 | -1,941.5 | 2,476.9 | 1.71 | 1.59 | 0.63 |
| 10,059.0 | 90.80 | 343.00 | 7,630.1 | 6,162.1 | 1,713.4 | -1,960.2 | 2,537.4 | 0.16 | 0.16 | 0.00 |
| 10,122.0 | 90.40 | 343.00 | 7,629.5 | 6,161.5 | 1,773.6 | -1,978.6 | 2,597.0 | 0.63 | -0.63 | 0.00 |
| 10,185.0 | 91.10 | 343.80 | 7,628.7 | 6,160.7 | 1,834.0 | -1,996.6 | 2,656.5 | 1.69 | 1.11 | 1.27 |
| 10,248.0 | 91.30 | 344.30 | 7,627.3 | 6,159.3 | 1,894.5 | -2,013.9 | 2,715.7 | 0.85 | 0.32 | 0.79 |
| 10,311.0 | 91.20 | 343.90 | 7,626.0 | 6,158.0 | 1,955.1 | -2,031.2 | 2,774.8 | 0.65 | -0.16 | -0.63 |
| 10,374.0 | 91.00 | 343.80 | 7,624.8 | 6,156.8 | 2,015.6 | -2,048.7 | 2,834.1 | 0.35 | -0.32 | -0.16 |
| 10,437.0 | 90.80 | 343.10 | 7,623.8 | 6,155.8 | 2,076.0 | -2,066.7 | 2,893.6 | 1.16 | -0.32 | -1.11 |
| 10,500.0 | 91.30 | 343.40 | 7,622.6 | 6,154.6 | 2,136.3 | -2,084.8 | 2,953.1 | 0.93 | 0.79 | 0.48 |
| 10,563.0 | 90.90 | 343.00 | 7,621.4 | 6,153.4 | 2,196.6 | -2,103.0 | 3,012.6 | 0.90 | -0.63 | -0.63 |
| 10,626.0 | 91.30 | 344.40 | 7,620.2 | 6,152.2 | 2,257.1 | -2,120.7 | 3,071.9 | 2.31 | 0.63 | 2.22 |
| 10,690.0 | 90.60 | 344.70 | 7,619.1 | 6,151.1 | 2,318.7 | -2,137.7 | 3,131.9 | 1.19 | -1.09 | 0.47 |
| 10,753.0 | 89.80 | 344.50 | 7,618.9 | 6,150.9 | 2,379.5 | -2,154.5 | 3,190.9 | 1.31 | -1.27 | -0.32 |
| 10,816.0 | 89.60 | 343.80 | 7,619.2 | 6,151.2 | 2,440.1 | -2,171.7 | 3,250.0 | 1.16 | -0.32 | -1.11 |
| 10,879.0 | 89.30 | 345.40 | 7,619.8 | 6,151.8 | 2,500.8 | -2,188.4 | 3,309.0 | 2.58 | -0.48 | 2.54 |



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|---|---|---|---|
| Database: | EDM 5000 1 Single User Db | Local Co-ordinate Reference: | |
| Company: | | TVD Reference: | |
| Project: | | MD Reference: | |
| Site: | | North Reference: | |
| Well: | | Survey Calculation Method: | |
| Wellbore: | | | |
| Design: | | | |

Survey

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | Subsea Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|---|---|---|---|---|---|---|---|---|---|---|
| 10,942.0 | 89.50 | 342.50 | 7,620.5 | 6,152.5 | 2,561.3 | -2,205.8 | 3,368.3 | 4.61 | 0.32 | -4.60 |
| 11,005.0 | 89.80 | 341.70 | 7,620.9 | 6,152.9 | 2,621.3 | -2,225.2 | 3,428.2 | 1.36 | 0.48 | -1.27 |
| 11,068.0 | 90.20 | 342.40 | 7,620.9 | 6,152.9 | 2,681.2 | -2,244.6 | 3,488.1 | 1.28 | 0.63 | 1.11 |
| 11,131.0 | 89.90 | 342.40 | 7,620.8 | 6,152.8 | 2,741.3 | -2,263.6 | 3,547.9 | 0.48 | -0.48 | 0.00 |
| 11,194.0 | 90.20 | 343.10 | 7,620.8 | 6,152.8 | 2,801.4 | -2,282.3 | 3,607.6 | 1.21 | 0.48 | 1.11 |
| 11,257.0 | 90.80 | 344.10 | 7,620.2 | 6,152.2 | 2,861.9 | -2,300.1 | 3,667.0 | 1.85 | 0.95 | 1.59 |
| 11,320.0 | 90.60 | 343.60 | 7,619.5 | 6,151.5 | 2,922.4 | -2,317.6 | 3,726.3 | 0.85 | -0.32 | -0.79 |
| 11,383.0 | 90.90 | 343.60 | 7,618.6 | 6,150.6 | 2,982.8 | -2,335.4 | 3,785.7 | 0.48 | 0.48 | 0.00 |
| 11,446.0 | 89.90 | 342.70 | 7,618.2 | 6,150.2 | 3,043.1 | -2,353.7 | 3,845.2 | 2.14 | -1.59 | -1.43 |
| 11,509.0 | 89.20 | 342.80 | 7,618.7 | 6,150.7 | 3,103.3 | -2,372.4 | 3,904.9 | 1.12 | -1.11 | 0.16 |
| 11,572.0 | 88.80 | 342.00 | 7,619.8 | 6,151.8 | 3,163.3 | -2,391.4 | 3,964.7 | 1.42 | -0.63 | -1.27 |
| 11,635.0 | 88.20 | 341.10 | 7,621.4 | 6,153.4 | 3,223.1 | -2,411.3 | 4,024.8 | 1.72 | -0.95 | -1.43 |
| 11,698.0 | 92.00 | 343.10 | 7,621.3 | 6,153.3 | 3,283.0 | -2,430.7 | 4,084.7 | 6.82 | 6.03 | 3.17 |
| 11,761.0 | 92.40 | 343.60 | 7,618.9 | 6,150.9 | 3,343.3 | -2,448.7 | 4,144.1 | 1.02 | 0.63 | 0.79 |
| Final Survey=11774' MD/ 7618' TVD | | | | | | | | | | |
| 11,774.0 | 92.50 | 343.70 | 7,618.4 | 6,150.4 | 3,355.8 | -2,452.4 | 4,156.3 | 1.09 | 0.77 | 0.77 |
| 6/3917 Plat TD 2 | | | | | | | | | | |
| 11,831.4 | 92.50 | 343.70 | 7,615.9 | 6,147.9 | 3,410.8 | -2,468.5 | 4,210.4 | 0.00 | 0.00 | 0.00 |
| Projection to TD=11832' MD/ 7616' TVD | | | | | | | | | | |
| 11,832.0 | 92.50 | 343.70 | 7,615.8 | 6,147.8 | 3,411.4 | -2,468.7 | 4,210.9 | 0.00 | 0.00 | 0.00 |

Design Annotations

| Measured Depth (usft) | Vertical Depth (usft) | Local Coordinates +N/-S (usft) | Local Coordinates +E/-W (usft) | Comment |
|---|---|---|---|---|
| 5,723.0 | 5,715.0 | -29.0 | 12.3 | Gyro Tie In=5723' MD |
| 5,803.0 | 5,795.0 | -28.8 | 10.9 | KOP=5803' MD |
| 8,514.0 | 7,643.0 | 237.5 | -1,504.6 | LP/Deepest Point of Well=8514' MD/ 7643' TVD |
| 11,774.0 | 7,618.4 | 3,355.8 | -2,452.4 | Final Survey=11774' MD/ 7618' TVD |
| 11,832.0 | 7,615.8 | 3,411.4 | -2,468.7 | Projection to TD=11832' MD/ 7616' TVD |

Checked By: _____ Approved By: _____ Date: _____

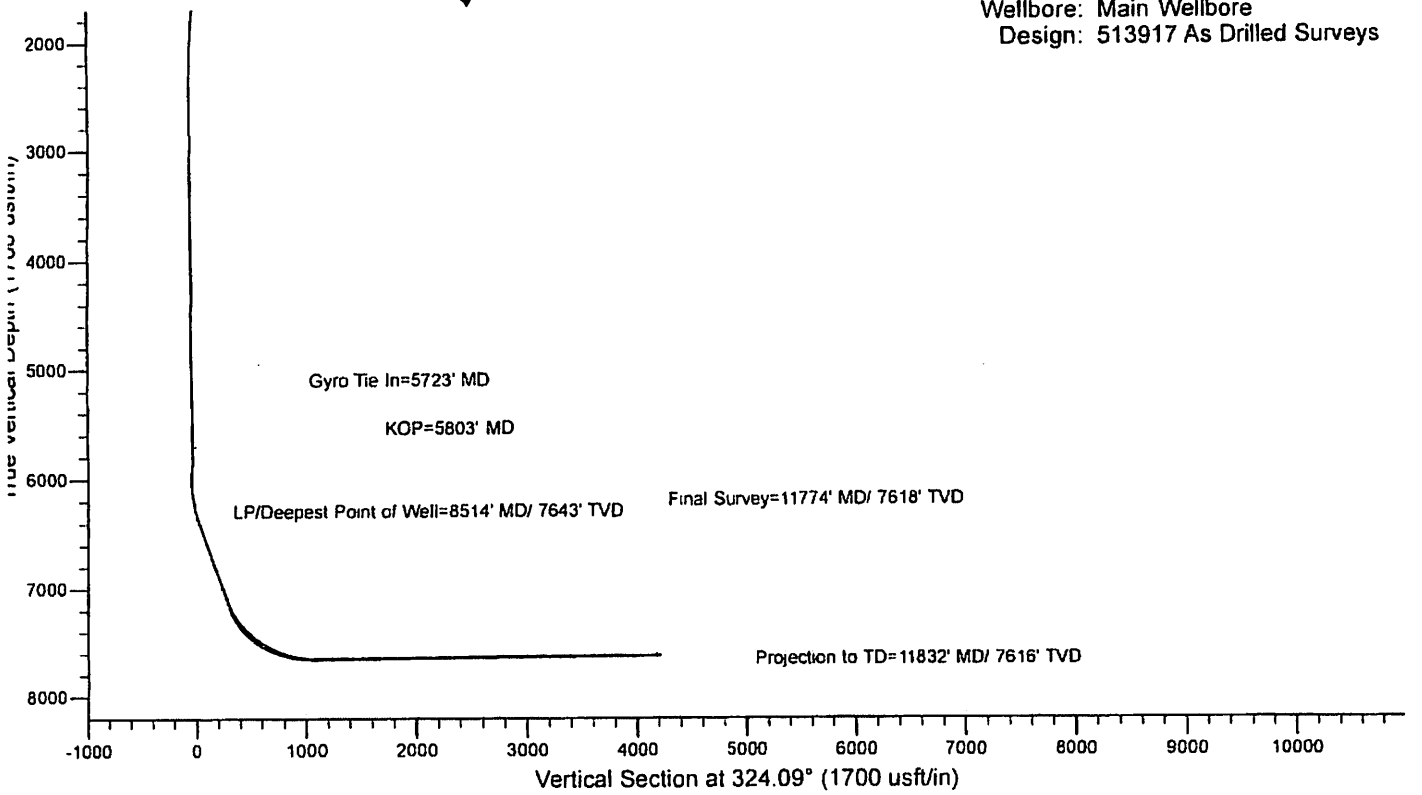


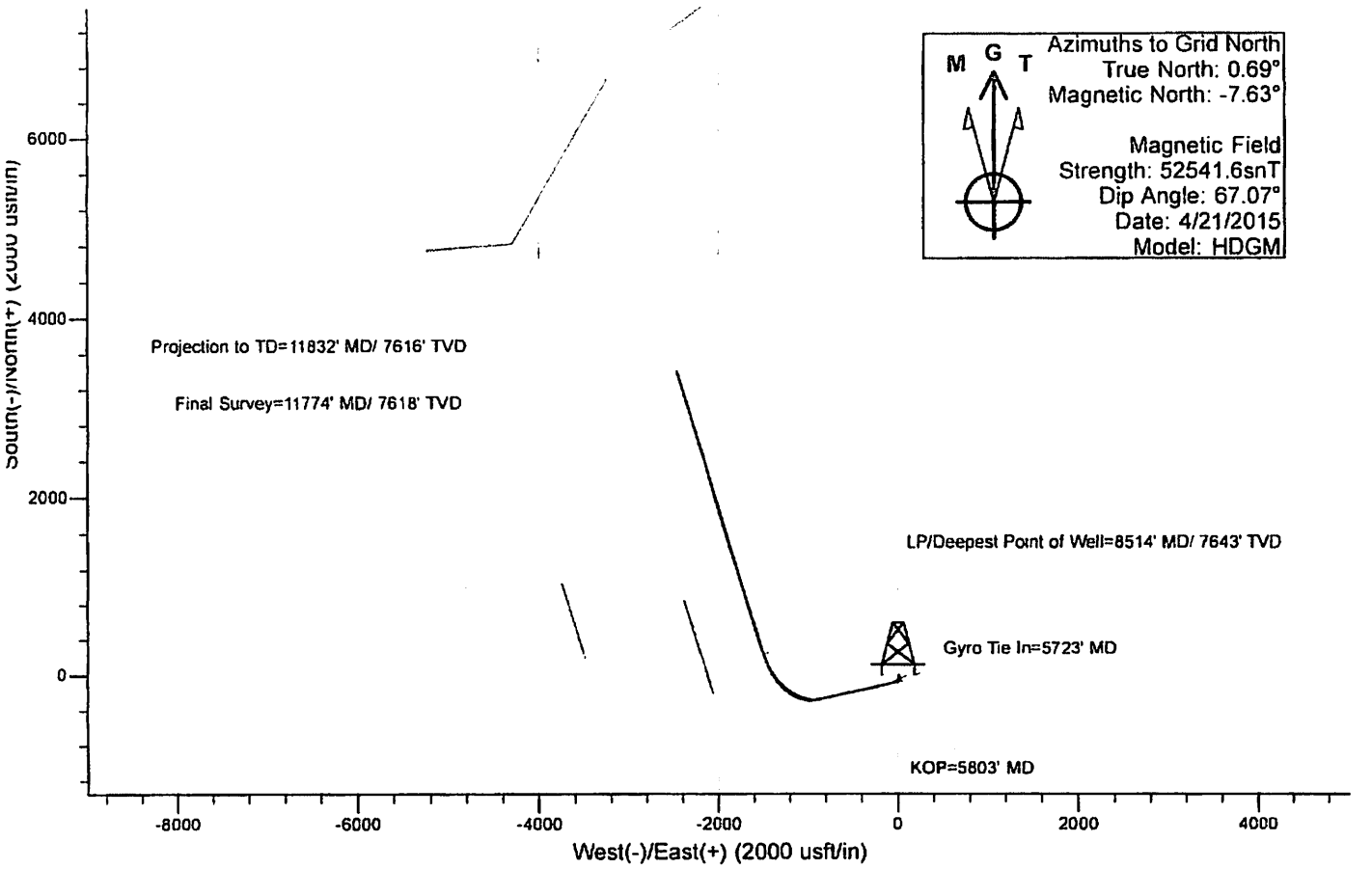
03/25/2016

# EQT Production - Marcellus

PHOENIX TECHNOLOGY SERVICES

Project: Wetzel County, WV
Site: Wetzel County 513917
Well: Well #513917
Wellbore: Main Wellbore
Design: 513917 As Drilled Surveys




03/25/2016

## 513917 - 47-103-03041-0000 - Perforations

| Stage Number | Perforation Date | Top Perf Depth (ftKB) | Bottom Perf Depth (ftKB) | Number of Shots | Formation |
|---|---|---|---|---|---|
| Initiation Sleeve | 6/17/2015 | 11,813.00 | 11,815.00 | 10 | MARCELLUS |
| 1 | 6/18/2015 | 11,692.00 | 11,784.00 | 32 | MARCELLUS |
| 2 | 6/18/2015 | 11,542.00 | 11,664.00 | 40 | MARCELLUS |
| 3 | 6/18/2015 | 11,392.00 | 11,514.00 | 40 | MARCELLUS |
| 4 | 6/18/2015 | 11,242.00 | 11,364.00 | 40 | MARCELLUS |
| 5 | 6/19/2015 | 11,092.00 | 11,214.00 | 40 | MARCELLUS |
| 6 | 6/19/2015 | 10,942.00 | 11,064.00 | 40 | MARCELLUS |
| 7 | 6/19/2015 | 10,792.00 | 10,914.00 | 40 | MARCELLUS |
| 8 | 6/19/2015 | 10,640.00 | 10,764.00 | 40 | MARCELLUS |
| 9 | 6/19/2015 | 10,492.00 | 10,614.00 | 40 | MARCELLUS |
| 10 | 6/20/2015 | 10,342.00 | 10,464.00 | 40 | MARCELLUS |
| 11 | 6/20/2015 | 10,192.00 | 10,314.00 | 40 | MARCELLUS |
| 12 | 6/20/2015 | 10,042.00 | 10,164.00 | 40 | MARCELLUS |
| 12.01 | 6/20/2015 | 10,042.00 | 10,164.00 | 32 | MARCELLUS |
| 13 | 6/21/2015 | 9,892.00 | 10,014.00 | 40 | MARCELLUS |
| 14 | 6/21/2015 | 9,742.00 | 9,864.00 | 40 | MARCELLUS |
| 15 | 6/22/2015 | 9,592.00 | 9,714.00 | 40 | MARCELLUS |
| 16 | 6/22/2015 | 9,442.00 | 9,564.00 | 40 | MARCELLUS |
| 17 | 6/22/2015 | 9,292.00 | 9,414.00 | 40 | MARCELLUS |
| 18 | 6/22/2015 | 9,142.00 | 9,264.00 | 40 | MARCELLUS |
| 19 | 6/22/2015 | 8,992.00 | 9,114.00 | 40 | MARCELLUS |
| 20 | 6/22/2015 | 8,845.00 | 8,964.00 | 40 | MARCELLUS |
| 21 | 6/22/2015 | 8,692.00 | 8,814.00 | 40 | MARCELLUS |
| 22 | 6/23/2015 | 8,542.00 | 8,664.00 | 40 | MARCELLUS |
| 23 | 6/23/2015 | 8,392.00 | 8,514.00 | 40 | MARCELLUS |
| | | | | | |
| | | | | | |
| | | | | | |

| 513917 - 47-103-03041-0000 - 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 | 6/18/2015 | 17.2 | 7,486.00 | 9,313.00 | 5,781.00 | 0 | 702 | 0 |
| 1 | 6/18/2015 | 83.7 | 8,629.00 | 8,935.00 | 4,205.00 | 202,200 | 6449 | 0 |
| 2 | 6/18/2015 | 96.4 | 8,290.00 | 8,613.00 | 4,550.00 | 201,900 | 5772 | 0 |
| 3 | 6/18/2015 | 97.2 | 8,733.00 | 9,079.00 | 5,051.00 | 199,600 | 5470 | 0 |
| 4 | 6/19/2015 | 101.9 | 8,519.00 | 9,451.00 | 4,332.00 | 200,800 | 5502 | 0 |
| 5 | 6/19/2015 | 95 | 8,806.00 | 9,011.00 | 5,385.00 | 201,300 | 5731 | 0 |
| 6 | 6/19/2015 | 93.3 | 8,729.00 | 9,144.00 | 5,009.00 | 201,900 | 5883 | 0 |
| 7 | 6/19/2015 | 99.6 | 8,268.00 | 9,282.00 | 4,412.00 | 200,400 | 5694 | 0 |
| 8 | 6/19/2015 | 98.6 | 8,693.00 | 9,579.00 | 5,044.00 | 200,500 | 5493 | 0 |
| 9 | 6/19/2015 | 102.8 | 8,574.00 | 9,250.00 | 4,602.00 | 200,400 | 5368 | 0 |
| 10 | 6/20/2015 | 98 | 8,766.00 | 9,417.00 | 4,865.00 | 200,100 | 5249 | 0 |
| 11 | 6/20/2015 | 99.6 | 8,294.00 | 8,881.00 | 4,866.00 | 200,700 | 5590 | 0 |
| 12 | 6/20/2015 | 99.9 | 8,320.00 | 9,812.00 | 5,999.00 | 200,000 | 5297 | 0 |
| 12.01 | 6/20/2015 | 10.7 | 5,087.00 | 6,732.00 | 5,704.00 | 0 | 2780 | 0 |
| 13 | 6/21/2015 | 97.9 | 8,844.00 | 9,415.00 | 5,048.00 | 199,600 | 5404 | 0 |
| 14 | 6/21/2015 | 97.9 | 8,794.00 | 9,309.00 | 5,680.00 | 200,500 | 5338 | 0 |
| 15 | 6/22/2015 | 102.3 | 8,062.00 | 8,984.00 | 5,576.00 | 200,400 | 5153 | 0 |
| 16 | 6/22/2015 | 100.2 | 8,113.00 | 8,500.00 | 4,937.00 | 199,900 | 5451 | 0 |
| 17 | 6/22/2015 | 90.90 | 8,450.00 | 8,900.00 | 5,033.00 | 201,300 | 5,219 | 0 |
| 18 | 6/22/2015 | 100.10 | 7,943.00 | 8,526.00 | 5,169.00 | 200,100 | 5,337 | 0 |
| 19 | 6/22/2015 | 100.10 | 7,585.00 | 7,900.00 | 5,181.00 | 200,400 | 5,080 | 0 |
| 20 | 6/22/2015 | 100.40 | 7,672.00 | 8,262.00 | 5,385.00 | 200,200 | 5,005 | 0 |
| 21 | 6/23/2015 | 100.80 | 8,029.00 | 9,290.00 | 5,286.00 | 199,800 | 4,998 | 0 |
| 22 | 6/23/2015 | 100.60 | 7,906.00 | 8,178.00 | 5,782.00 | 199,800 | 5,075 | 0 |
| 23 | 6/23/2015 | 101.9 | 7,605.00 | 8,266.00 | 4,597.00 | 199,600 | 5201 | 0 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

# Hydraulic Fracturing Fluid Product Component Information Disclosure

| | |
|---|---|
| Job Start Date: | 6/17/2015 |
| Job End Date: | 6/23/2015 |
| State: | West Virginia |
| County: | Wetzel |
| API Number: | 47-103-03041-00-00 |
| Operator Name: | EQT Production |
| Well Name and Number: | 513917 |
| Longitude: | -80.58222200 |
| Latitude: | 39.52751600 |
| Datum: | NAD83 |
| Federal/Tribal Well: | NO |
| True Vertical Depth: | 7,628 |
| Total Base Water Volume (gal): | 5,386,122 |
| Total Base Non Water Volume: | 0 |

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 | C and J Energy Services | Carrier/Base Fluid | | | | | |
| | | | Water | 7732-18-5 | 100.00000 | 90.30412 | None |
| Sand (Proppant) | C and J Energy Services | Proppant | | | | | |
| | | | Silica Substrate | 14808-60-7 | 100.00000 | 9.26484 | None |
| MC MX 437-5 | Multi-Chem | Calcium nitrate solution | | | | | |
| | | | Calcium nitrate | 10124-37-5 | 60.00000 | 0.05786 | None |
| WFR-12W | C and J Energy Services | Friction reducer | | | | | |
| | | | Anionic water-soluble polymer | Proprietary | 100.00000 | 0.04281 | None |
| Hydrochloric Acid (15%) | C and J Energy Services | Acidizing | | | | | |
| | | | Hydrochloric Acid | 7647-01-0 | 15.00000 | 0.03498 | None |
| Super TSC LT | C and J Energy Services | Scale control | | | | | |
| | | | Proprietary non-hazardous materials | Proprietary | 100.00000 | 0.02667 | None |
| PermVis VFR-10 | Multi-Chem | Friction reducer | | | | | |
| | | | Hydrotreated light petroleum distillate | 64742-47-8 | 30.00000 | 0.00855 | None |
| | | | Ammonium chloride | 12125-02-9 | 10.00000 | 0.00285 | None |
| | | | Alcohols, C12-16, ethoxylated | 68551-12-2 | 10.00000 | 0.00285 | None |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | 9-Octadecenamide, n,n-bis-2 (hydroxy-ethyl)-,(Z) | 93-83-4 | 5.00000 | 0.00142 | None |
| LSG-100 | C and J Energy Services | Gelling agent | | | | | |
| | | | Solvent naphtha | 64742-47-8 | 65.00000 | 0.00192 | None |
| AI-2 | C and J Energy Services | Acid Inhibitor | | | | | |
| | | | Isopropyl Alcohol | 67-63-0 | 40.00000 | 0.00017 | None |
| | | | Glycol Ethers | 111-76-2 | 40.00000 | 0.00017 | None |
| | | | Propargyl Alcohol | 107-19-7 | 40.00000 | 0.00017 | None |
| | | | Ethoxylated Nonylphenol | 68412-54-4 | 13.00000 | 0.00006 | None |
| | | | Benzyl Chloride-Quaternized | 72480-70-7 | 10.00000 | 0.00004 | None |
| OB-2 | C and J Energy Services | Gel Breaker | | | | | |
| | | | Ammonium Persulfate | 7727-54-0 | 100.00000 | 0.00003 | None |
| | | | Sillica, crystalline quartz | 7631-86-9 | 30.00000 | 0.00001 | 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)

03/25/2016

Welcome Michelle N., 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 | 6/23/2015 | 47-103-03041-00-00 | West Virginia --- Wetzel |

Well Name
513917

| Longitude | Latitude | Datum | Federal/Tribal Well? |
|---|---|---|---|
| -80.582222 | 39.527516 | NAD83 | |

| True Vertical Depth (ft) | Total Water Vol (gal) | Total Non Water Vol | Total Mass (lbs) |
|---|---|---|---|
| 7628 | 5386122 | 0 | 49773133 |


## 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% | 90.3041170251% | None | 44947188.09 |
| Edit | Sand (Proppant) | C and J Energy Services | Proppant | | | | | | |
| | | | | Silica Substrate | 14808-60-7 | 100% | 9.2648377562% | None | 4611400 |
| Edit | MC MX 437-5 | Multi-Chem | Calcium nitrate solution | | | | | | |
| | | | | Calcium nitrate | 10124-37-5 | 60% | .0578610897% | None | 28799.277 |
| Edit | WFR-12W | C and J Energy Services | Friction reducer | | | | | | |
| | | | | Anionic water-soluble polymer | Proprietary | 100% | .042808262% | None | 21307.013 |
| Edit | Hydrochloric Acid (15%) | C and J Energy Services | Acidizing | | | | | | |
| | | | | Hydrochloric Acid | 7647-01-0 | 15% | .0349824122% | None | 17411.843 |
| Edit | Super TSC LT | C and J Energy Services | Scale control | | | | | | |
| | | | | Proprietary non-hazardous materials | Proprietary | 100% | .0266721403% | None | 13275.56 |
| Edit | | Multi-Chem | | | | | | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| PermVis VFR-10 | | Friction reducer | | | | | | |
| | | | Hydrotreated light petroleum distillate | 64742-47-8 | 30% | .0085483676% | None | 4254.79 |
| | | | Ammonium chloride | 12125-02-9 | 10% | .0028494559% | None | 1418.263 |
| | | | Alcohols, C12-16, ethoxylated | 68551-12-2 | 10% | .0028494559% | None | 1418.263 |
| | | | 9-Octadecenamide, n,n-bis-2(hydroxy-ethyl)-,(Z) | 93-83-4 | 5% | .0014247279% | None | 709.132 |
| Edit LSG-100 | C and J Energy Services | Gelling agent | | | | | | |
| | | | Solvent naphtha | 64742-47-8 | 65% | .0019208287% | None | 956.057 |
| Edit AI-2 | C and J Energy Services | Acid Inhibitor | | | | | | |
| | | | Isopropyl Alcohol | 67-63-0 | 40% | .0001726235% | None | 85.92 |
| | | | Glycol Ethers | 111-76-2 | 40% | .0001726235% | None | 85.92 |
| | | | Propargyl Alcohol | 107-19-7 | 40% | .0001726235% | None | 85.92 |
| | | | Ethoxylated Nonylphenol | 68412-54-4 | 13% | .0000561026% | None | 27.924 |
| | | | Benzyl Chloride-Quaternized | 72480-70-7 | 10% | .0000431559% | None | 21.48 |
| Edit OB-2 | C and J Energy Services | Gel Breaker | | | | | | |
| | | | Ammonium Persulfate | 7727-54-0 | 100% | .0000323468% | None | 16.1 |
| | | | Silica, crystalline quartz | 7631-86-9 | 30% | .000009704% | None | 4.83 |

## Non-MSDS Chemical Ingredients

New Ingredients

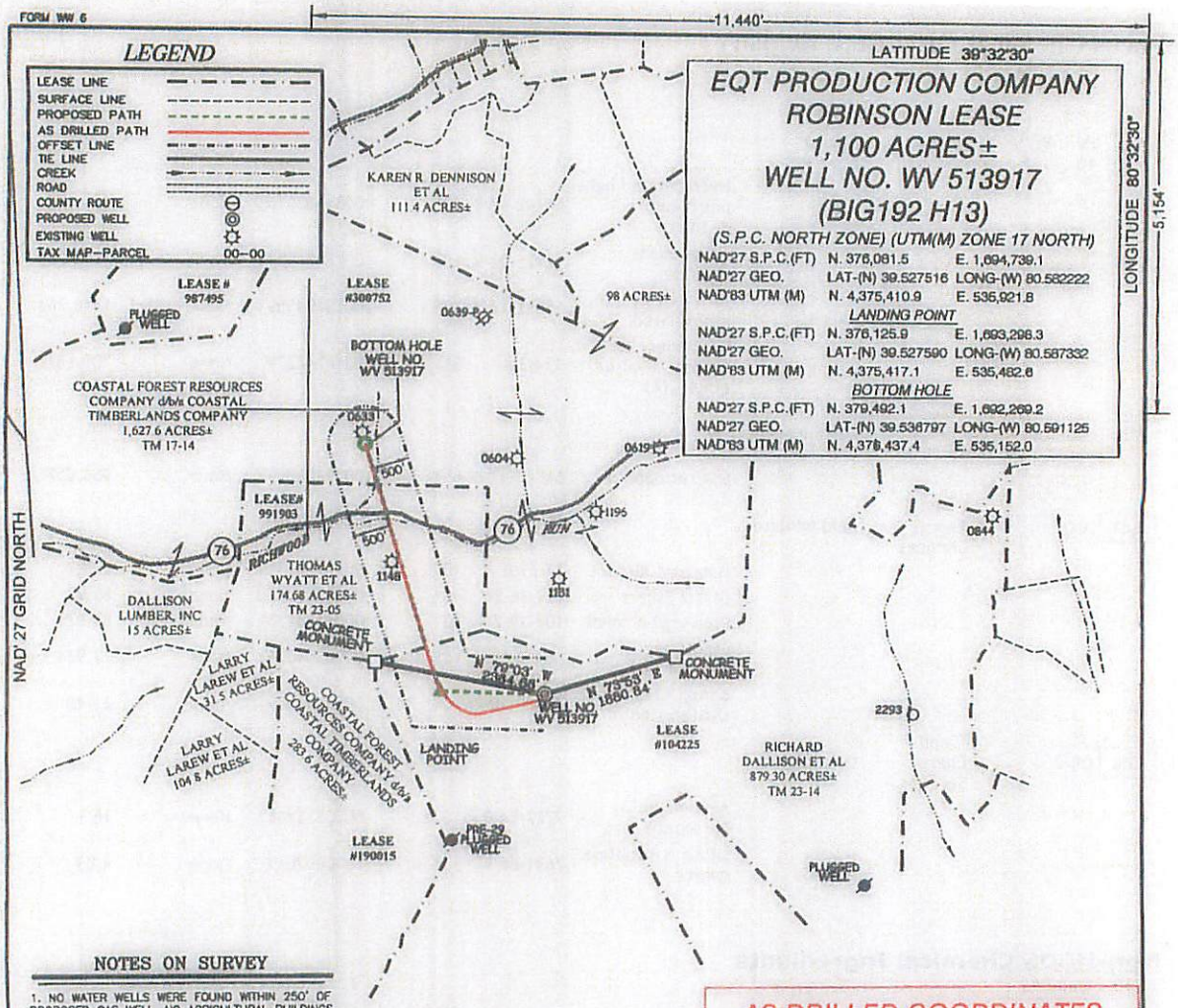
| Trade Name | Supplier | Purpose | Ingredients | CAS # | % High Additive | % HF Job | Comments | Ingredient Mass |
|---|---|---|---|---|---|---|---|---|





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 | 176 AC.± | LEASE NO. 991903 |
| MILLS WIETZEL LANDS INC. | 1000 AC.± | LEASE NO. 300752 |

Professional Energy Consultants
A DIVISION OF SMITH LAND SURVEYING INC.
SLS SURVEYORS ENGINEERS ENVIRONMENTAL PROJECT MGMT.
(304) 462-5634 WWW.SLSSURVEYS.COM

## AS DRILLED COORDINATES FOR WELL NO. WV 513917

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

NAD'27 S.P.C.(FT) N. 376,081.5 E. 1,694,739.1
NAD'27 GEO. LAT-(N) 39.527516 LONG-(W) 80.582222
NAD'83 UTM (M) N. 4,375,410.9 E. 535,921.8
BOTTOM HOLE
NAD'27 S.P.C.(FT) N. 379,492.7 E. 1,692,270.6
NAD'27 GEO. LAT-(N) 39.536799 LONG-(W) 80.591120
NAD'83 UTM (M) N. 4,376,437.6 E. 535,152.4

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 & 06/22/15

OPERATORS WELL NO. WV 513917

API WELL NO. 47 — 103 — 03041H
STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 200

FILE NO. 7797AD513917

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