

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

API 47-033-05298 County Harrison District Sardis  
Quad Folsom 7.5' Pad Name Radtka Field/Pool Name \_\_\_\_\_  
Farm name Franklin Whay, Jr. etal Well Number 1997  
Operator (as registered with the OOG) Waco Oil & Gas Co., Inc.  
Address P.O. Box 397 City Glenville State WV Zip 26351

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey  
Top hole Northing 327368 Easting 1707332  
Landing Point of Curve Northing \_\_\_\_\_ Easting \_\_\_\_\_  
Bottom Hole Northing \_\_\_\_\_ Easting \_\_\_\_\_

Elevation (ft) 1144' 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)  
\_\_\_\_\_  
\_\_\_\_\_

Date permit issued 08/05/2009 Date drilling commenced 12/22/2009 Date drilling ceased 01/21/2010  
Date completion activities began 05/06/2010 Date completion activities ceased 05/06/2010  
Verbal plugging (Y/N) \_\_\_\_\_ Date permission granted \_\_\_\_\_ Granted by \_\_\_\_\_

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

Freshwater depth(s) ft 91' Open mine(s) (Y/N) depths None  
Salt water depth(s) ft None Void(s) encountered (Y/N) depths \_\_\_\_\_  
Coal depth(s) ft None Cavern(s) encountered (Y/N) depths \_\_\_\_\_  
Is coal being mined in area (Y/N) No

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**APPROVED**  
NAME: Jacqueline Johnston  
DATE: 5/27/2016

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| CASING STRINGS            | Hole Size | Casing Size | Depth | New or Used | Grade wt/ft | Basket Depth(s) | Did cement circulate (Y/ N)<br>* Provide details below* |
|---------------------------|-----------|-------------|-------|-------------|-------------|-----------------|---|
| Conductor                 |           |             |       |             |             |                 |   |
| Surface                   |           | 11 3/4      | 423   | N           | 36          |                 |   |
| Coal                      |           |             |       |             |             |                 |   |
| Intermediate 1            |           | 8 5/8       | 2393  | N           | 28          |                 |   |
| Intermediate 2            |           |             |       |             |             |                 |   |
| Intermediate 3            |           |             |       |             |             |                 |   |
| Production                |           | 5 1/2       | 7527  | N           |             |                 |   |
| Tubing                    |           |             |       |             |             |                 |   |
| Packer type and depth set |           |             |       |             |             |                 |   |

Comment Details \_\_\_\_\_

| CEMENT DATA    | Class/Type of Cement | Number of Sacks | Slurry wt (ppg) | Yield (ft <sup>3</sup> /sks) | Volume (ft <sup>3</sup> ) | Cement Top (MD) | WOC (hrs) |
|----------------|----------------------|-----------------|-----------------|------------------------------|---------------------------|-----------------|-----------|
| Conductor      |                      |                 |                 |                              |                           |                 |           |
| Surface        | A                    | 205             | 15.6            | 1.18                         |                           | Surface         | 8         |
| Coal           |                      |                 |                 |                              |                           |                 |           |
| Intermediate 1 | A                    | 435             | 15.6            | 1.18                         |                           | Surface         | 8         |
| Intermediate 2 |                      |                 |                 |                              |                           |                 |           |
| Intermediate 3 |                      |                 |                 |                              |                           |                 |           |
| Production     | A                    | 600             | 15.6            |                              |                           | 4802            |           |
| Tubing         |                      |                 |                 |                              |                           |                 |           |

Drillers TD (ft) 7528

Loggers TD (ft) 7530

Deepest formation penetrated Marcellus

Plug back to (ft) \_\_\_\_\_

Plug back procedure \_\_\_\_\_

Kick off depth (ft) \_\_\_\_\_

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 \_\_\_\_\_

WAS WELL COMPLETED AS SHOT HOLE  Yes  No    DETAILS \_\_\_\_\_

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WAS WELL COMPLETED OPEN HOLE?  Yes  No    DETAILS \_\_\_\_\_

WERE TRACERS USED  Yes  No    TYPE OF TRACER(S) USED \_\_\_\_\_

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PERFORATION RECORD

| Stage No. | Perforation date | Perforated from MD ft. | Perforated to MD ft. | Number of Perforations | Formation(s) |
|-----------|------------------|------------------------|----------------------|------------------------|--------------|
| 1         | 05/06/2010       | 7420                   | 7515                 | 120                    | Marcellus    |
|           |                  |                        |                      |                        |              |
|           |                  |                        |                      |                        |              |
|           |                  |                        |                      |                        |              |
|           |                  |                        |                      |                        |              |
|           |                  |                        |                      |                        |              |
|           |                  |                        |                      |                        |              |
|           |                  |                        |                      |                        |              |
|           |                  |                        |                      |                        |              |
|           |                  |                        |                      |                        |              |
|           |                  |                        |                      |                        |              |
|           |                  |                        |                      |                        |              |
|           |                  |                        |                      |                        |              |
|           |                  |                        |                      |                        |              |
|           |                  |                        |                      |                        |              |
|           |                  |                        |                      |                        |              |

Please insert additional pages as applicable.

STIMULATION INFORMATION PER STAGE

Complete a separate record for each stimulation stage.

| Stage No. | Stimulations Date | Ave Pump Rate (BPM) | Ave Treatment Pressure (PSI) | Max Breakdown Pressure (PSI) | ISIP (PSI) | Amount of Proppant (lbs) | Amount of Water (bbls) | Amount of Nitrogen/other (units) |
|-----------|-------------------|---------------------|------------------------------|------------------------------|------------|--------------------------|------------------------|----------------------------------|
| 1         | 05/06/10          | 81.7                | 3463                         | 3895                         | 2642       | 652,912                  | 12,615                 | 0                                |
|           |                   |                     |                              |                              |            |                          |                        |                                  |
|           |                   |                     |                              |                              |            |                          |                        |                                  |
|           |                   |                     |                              |                              |            |                          |                        |                                  |
|           |                   |                     |                              |                              |            |                          |                        |                                  |
|           |                   |                     |                              |                              |            |                          |                        |                                  |
|           |                   |                     |                              |                              |            |                          |                        |                                  |
|           |                   |                     |                              |                              |            |                          |                        |                                  |
|           |                   |                     |                              |                              |            |                          |                        |                                  |
|           |                   |                     |                              |                              |            |                          |                        |                                  |
|           |                   |                     |                              |                              |            |                          |                        |                                  |
|           |                   |                     |                              |                              |            |                          |                        |                                  |
|           |                   |                     |                              |                              |            |                          |                        |                                  |
|           |                   |                     |                              |                              |            |                          |                        |                                  |

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| <u>PRODUCING FORMATION(S)</u> | <u>DEPTHS</u> |     |    |
|-------------------------------|---------------|-----|----|
| Marcellus                     | 7420 - 7515   | TVD | MD |
|                               |               |     |    |
|                               |               |     |    |
|                               |               |     |    |

Please insert additional pages as applicable.

GAS TEST  Build up  Drawdown  Open Flow OIL TEST  Flow  Pump  
 SHUT-IN PRESSURE Surface 622 psi Bottom Hole \_\_\_\_\_ psi DURATION OF TEST 4 hrs  
 OPEN FLOW Gas 2,000 mcfpd Oil \_\_\_\_\_ bpd NGL \_\_\_\_\_ bpd Water \_\_\_\_\_ bpd  
 GAS MEASURED BY  Estimated  Orifice  Pilot

| LITHOLOGY/<br>FORMATION | TOP<br>DEPTH IN FT<br>NAME TVD | BOTTOM<br>DEPTH IN FT<br>TVD | TOP<br>DEPTH IN FT<br>MD | BOTTOM<br>DEPTH IN FT<br>MD | DESCRIBE ROCK TYPE AND RECORD QUANTITY AND<br>TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H <sub>2</sub> S, ETC) |
|-------------------------|--------------------------------|------------------------------|--------------------------|-----------------------------|--|
|                         | 0                              | 240                          | 0                        |                             | Grey, soft   |
| Red Rock                | 240                            | 260                          |                          |                             | Red, soft  |
| Sd & Shale              | 260                            | 457                          |                          |                             | Grey, med  |
| Sd & Shale              | 457                            | 700                          |                          |                             | Grey, med  |
| Sand                    | 700                            | 780                          |                          |                             | White, hard  |
| Sd & Shale              | 780                            | 1652                         |                          |                             | Grey, med  |
| Shale                   | 1652                           | 2210                         |                          |                             | Grey mix, hard   |
| Injun                   | 2210                           | 2298                         |                          |                             | hard   |
| Squaw                   | 2298                           | 2367                         |                          |                             | Grey, med  |
| Shale                   | 2367                           | 2780                         |                          |                             | Mix, soft  |
| 50 foot                 | 2780                           | 2802                         |                          |                             | Grey, soft   |
| Shale                   | 2802                           | 2870                         |                          |                             | Grey, soft   |
| 30 foot                 | 2870                           | 2900                         |                          |                             | Grey, soft   |
| Shale                   | 2900                           | 2920                         |                          |                             | Grey, med  |

Please insert additional pages as applicable.

Drilling Contractor Waco Oil & Gas Co., Inc.  
 Address P.O. Box 397 City Glenville State WV Zip 26351

Logging Company Schlumberger  
 Address \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Cementing Company Superior  
 Address \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Stimulating Company Halliburton  
 Address \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Please insert additional pages as applicable.

Completed by Stephen E. Holloway Telephone 304-462-5347  
 Signature  Title Land Manager Date 02/22/2016

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

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WELL NUMBER

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| LITHOLOGY/<br>FORMATION | TOP<br>DEPTH IN FT<br>NAME TVD | BOTTOM<br>DEPTH IN FT<br>TVD | TOP<br>DEPTH IN FT<br>MD | BOTTOM<br>DEPTH IN FT<br>MD | DESCRIBE ROCK TYPE AND RECORD QUANTITIES AND<br>TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H <sub>2</sub> S, ETC.) |
|-------------------------|--------------------------------|------------------------------|--------------------------|-----------------------------|---|
|                         | 0                              |                              | 0                        |                             |   |
| Gordon Stray            | 2920                           | 2960                         |                          |                             | Mlx, med  |
| Sd & Shale              | 2960                           | 2989                         |                          |                             | Grey, med   |
| Gordon                  | 2989                           | 3027                         |                          |                             | Grey, med   |
| Shale                   | 3027                           | 3585                         |                          |                             | Grey, soft  |
| Speechly                | 3585                           | 3645                         |                          |                             | Grey, soft  |
| Shale                   | 3645                           | 4125                         |                          |                             | Grey, soft  |
| Balltown                | 4125                           | 4181                         |                          |                             | Grey, med   |
| Shale                   | 4181                           | 4555                         |                          |                             | Grey, soft  |
| Riley                   | 4555                           | 4970                         |                          |                             | Grey, med   |
| Shale                   | 4970                           | 5210                         |                          |                             | Grey, soft  |
| Benson                  | 5210                           | 5220                         |                          |                             | Grey, med   |
| Shale                   | 5220                           | 5480                         |                          |                             | Grey, soft  |
| Alexander               | 5480                           | 5535                         |                          |                             | Grey, med   |
| Shale                   | 5535                           | 6142                         |                          |                             | Grey, soft  |
| Sycamore Grit           | 6142                           | 6172                         |                          |                             | Grey, med   |
| Shale                   | 6172                           | 7150                         |                          |                             | Grey, soft  |
| Gennessee               | 7150                           | 7318                         |                          |                             | Dark, soft  |
| Sd & Shale              | 7318                           | 7340                         |                          |                             | Grey, med   |
| Tully Lime              | 7340                           | 7398                         |                          |                             | Grey, hard  |
| Marcellus               | 7418                           | 7526                         |                          |                             | TD  |

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