



03/29/2019

**Jackie M. Scholar**  
Regulatory Reporting Coordinator

January 28, 2019

**CERTIFIED MAIL: 7016 0340 0000 4903 5976**

WV DEP  
Office of Oil and Gas  
601 – 57<sup>th</sup> Street  
Charleston, WV 25304

RE: Well Operator's Report of Well Work WR-35  
**Taylor B 8H**

Dear Sir/Madam,

Enclosed here within please find one (1) Well Operator's Report of Well Work WR-35, one (1) copy of the Plat on Mylar, one (1) copy of the FracFocus report, and one (1) copy of the Directional Survey for **Taylor B 8H, (API 37-051-01798)**.

If you have any questions, please contact me at (412) 865-3422. Thank you.

Sincerely,  
Chevron Appalachia, LLC

Jackie M. Scholar

Enclosures

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Office of Oil and Gas  
JAN 30 2019  
WV Department of  
Environmental Protection

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

API 47 - 051 - 01798 County Marshall District Clay  
Quad Glen Easton Pad Name Taylor B Field/Pool Name \_\_\_\_\_  
Farm name Williams Ohio Valley Midstream LLC Well Number Taylor B 8H  
Operator (as registered with the OOG) Chevron Appalachia, LLC  
Address 700 Cherrington Parkway City Coraopolis State PA Zip 15108

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey  
Top hole Northing 496405.08 Easting 1635063.68  
Landing Point of Curve Northing 496692.77 Easting 1636537.20  
Bottom Hole Northing 490271.14 Easting 1641662.70

Elevation (ft) 1222' 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)  
Synthetic - barite, fluid loss, emulsifiers, rheological control

Date permit issued 4/7/2015 Date drilling commenced 11/12/2015 Date drilling ceased 11/17/2017  
Date completion activities began 6/4/18 Date completion activities ceased 1/17/19  
Verbal plugging (Y/N) N Date permission granted \_\_\_\_\_ Granted by \_\_\_\_\_

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

Freshwater depth(s) ft 797' Open mine(s) (Y/N) depths N  
Salt water depth(s) ft \_\_\_\_\_ Void(s) encountered (Y/N) depths N  
Coal depth(s) ft 765' Cavern(s) encountered (Y/N) depths N  
Is coal being mined in area (Y/N) Y

**Reviewed**  
Reviewed by: J. [Signature]  
3/28/19

WR-35  
Rev. 8/23/13

API 47-051 - 01798 Farm name Williams Ohio Valley Midstream LLC Well number Taylor B 8H

| 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                 | 26"       | 20"         | 130'   | New         |               |                 | Y  |
| Surface                   | 17 1/2"   | 13 3/8"     | 531'   | New         | J-55 / 54.50# |                 | Y  |
| Coal                      | 12 1/4"   | 9 5/8"      | 2194'  | New         | J-55 / 40#    |                 | Y  |
| Intermediate 1            |           |             |        |             |               |                 |  |
| Intermediate 2            |           |             |        |             |               |                 |  |
| Intermediate 3            |           |             |        |             |               |                 |  |
| Production                | 8 1/2"    | 5 1/2"      | 15625' | New         | P-110 / 20#   |                 | Y  |
| 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      | Bulk Cement          | Bulk Cement         |                     |                              |                           | Surface         | 8         |
| Surface        | Class A              | 452                 | 15.6                | 1.20                         | 542                       | Surface         | 8         |
| Coal           | Class A              | 834                 | 15.6                | 1.19                         | 992                       | Surface         | 8         |
| Intermediate 1 |                      |                     |                     |                              |                           |                 |           |
| Intermediate 2 |                      |                     |                     |                              |                           |                 |           |
| Intermediate 3 |                      |                     |                     |                              |                           |                 |           |
| Production     | Class G/H            | L - 1373 / T - 1660 | L - 14.7 / T - 15.2 | L - 1.13 / T - 1.15          | L - 1561 / T - 2154       | Surface         | 8         |
| Tubing         |                      |                     |                     |                              |                           |                 |           |

Drillers TD (ft) <sup>15672'</sup> \_\_\_\_\_ Loggers TD (ft) <sup>15672'</sup> \_\_\_\_\_  
 Deepest formation penetrated Marcellus Plug back to (ft) \_\_\_\_\_  
 Plug back procedure \_\_\_\_\_

Kick off depth (ft) <sup>4880'</sup> \_\_\_\_\_

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 A bow string centralizer every two joints on the water string and intermediate. The production string has two centralizers every joint in the lateral and curve, then one every joint from KOP to surface.

\_\_\_\_\_

WAS WELL COMPLETED AS SHOT HOLE  Yes  No DETAILS SEE ATTACHED PERFORATION AND STIMULATION REPORT

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

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





WR-35  
Rev. 8/23/13

API 47- 051 - 01798 Farm name Williams Ohio Valley Midstream LLC Well number Taylor B 8H

| PRODUCING FORMATION(S) | DEPTHS |     |          |
|------------------------|--------|-----|----------|
| Marcellus              | 6570'  | TVD | 7400' MD |
|                        |        |     |          |
|                        |        |     |          |

Please insert additional pages as applicable.

GAS TEST  Build up  Drawdown  Open Flow OIL TEST  Flow  Pump

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

OPEN FLOW Gas \_\_\_\_\_ mcfpd Oil \_\_\_\_\_ bpd NGL \_\_\_\_\_ bpd Water \_\_\_\_\_ bpd  
GAS MEASURED BY  Estimated  Orifice  Pilot

| LITHOLOGY/<br>FORMATION | TOP                     | BOTTOM             | TOP               | BOTTOM            | DESCRIBE ROCK TYPE AND RECORD QUANTITY AND<br>TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H <sub>2</sub> S, ETC) |
|-------------------------|-------------------------|--------------------|-------------------|-------------------|--|
|                         | DEPTH IN FT<br>NAME TVD | DEPTH IN FT<br>TVD | DEPTH IN FT<br>MD | DEPTH IN FT<br>MD |  |
|                         | 0                       |                    | 0                 |                   |  |
| SEE                     | ATTACHED                |                    |                   |                   |  |
|                         |                         |                    |                   |                   |  |
|                         |                         |                    |                   |                   |  |
|                         |                         |                    |                   |                   |  |
|                         |                         |                    |                   |                   |  |
|                         |                         |                    |                   |                   |  |
|                         |                         |                    |                   |                   |  |
|                         |                         |                    |                   |                   |  |
|                         |                         |                    |                   |                   |  |
|                         |                         |                    |                   |                   |  |
|                         |                         |                    |                   |                   |  |
|                         |                         |                    |                   |                   |  |
|                         |                         |                    |                   |                   |  |

Please insert additional pages as applicable.

Drilling Contractor SEE ATTACHED  
Address \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Logging Company Stratagraph NE Inc  
Address 116 Ellsworth Avenue City Marietta State OH Zip 45750

Cementing Company SEE ATTACHED  
Address \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Stimulating Company Universal Pressure Pumping, Inc.  
Address 18360 Technology Drive City Meadville State PA Zip 16335

Please insert additional pages as applicable.

Completed by Jackie M. Scholar Telephone 412-865-3422  
Signature *[Signature]* Title Regulatory Compliance Team Lead Date 1/28/19

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



API: 47-051-01798

Farm Name: Williams Ohio Valley Midstream

Well Number: Taylor B 8H

**PERFORATION RECORD**

| Stage No. | Perforation Date | Perforated From TMD Ft. | Perforated To TMD Ft. | Number of Perforations | Formation(s) |
|-----------|------------------|-------------------------|-----------------------|------------------------|--------------|
| 1         | 8/24/18          | 15450                   | 15290                 | 47                     | Marcellus    |
| 2         | 8/24/18          | 15250                   | 15090                 | 47                     | Marcellus    |
| 3         | 8/25/18          | 15050                   | 14890                 | 47                     | Marcellus    |
| 4         | 8/25/18          | 14850                   | 14690                 | 47                     | Marcellus    |
| 5         | 8/25/18          | 14650                   | 14490                 | 47                     | Marcellus    |
| 6         | 8/25/18          | 14450                   | 14290                 | 47                     | Marcellus    |
| 7         | 8/26/18          | 14250                   | 14090                 | 47                     | Marcellus    |
| 8         | 8/26/18          | 14050                   | 13890                 | 47                     | Marcellus    |
| 9         | 8/26/18          | 13850                   | 13690                 | 47                     | Marcellus    |
| 10        | 8/27/18          | 13650                   | 13490                 | 47                     | Marcellus    |
| 11        | 8/27/18          | 13450                   | 13290                 | 47                     | Marcellus    |
| 12        | 8/27/18          | 13250                   | 13090                 | 47                     | Marcellus    |
| 13        | 8/28/18          | 13050                   | 12890                 | 47                     | Marcellus    |
| 14        | 8/28/18          | 12850                   | 12690                 | 47                     | Marcellus    |
| 15        | 8/28/18          | 12650                   | 12490                 | 47                     | Marcellus    |
| 16        | 8/29/18          | 12450                   | 12290                 | 47                     | Marcellus    |
| 17        | 8/29/18          | 12250                   | 12090                 | 47                     | Marcellus    |
| 18        | 8/30/18          | 12050                   | 11890                 | 47                     | Marcellus    |
| 19        | 8/30/18          | 11850                   | 11690                 | 47                     | Marcellus    |
| 20        | 8/30/18          | 11650                   | 11490                 | 47                     | Marcellus    |
| 21        | 8/30/18          | 11450                   | 11290                 | 47                     | Marcellus    |
| 22        | 8/31/18          | 11250                   | 11090                 | 47                     | Marcellus    |
| 23        | 9/1/18           | 11050                   | 10890                 | 47                     | Marcellus    |
| 24        | 9/1/18           | 10850                   | 10690                 | 47                     | Marcellus    |
| 25        | 9/1/18           | 10650                   | 10490                 | 47                     | Marcellus    |
| 26        | 9/1/18           | 10450                   | 10290                 | 47                     | Marcellus    |
| 27        | 9/2/18           | 10250                   | 10090                 | 47                     | Marcellus    |
| 28        | 9/2/18           | 10050                   | 9890                  | 47                     | Marcellus    |
| 29        | 9/2/18           | 9850                    | 9690                  | 47                     | Marcellus    |
| 30        | 9/3/18           | 9650                    | 9490                  | 47                     | Marcellus    |
| 31        | 9/3/18           | 9450                    | 9290                  | 47                     | Marcellus    |
| 32        | 9/4/18           | 9250                    | 9090                  | 47                     | Marcellus    |
| 33        | 9/5/18           | 9050                    | 8890                  | 47                     | Marcellus    |
| 34        | 9/6/18           | 8850                    | 8690                  | 47                     | Marcellus    |
| 35        | 9/7/18           | 8650                    | 8490                  | 47                     | Marcellus    |
| 36        | 9/8/18           | 8450                    | 8290                  | 47                     | Marcellus    |
| 37        | 9/8/18           | 8250                    | 8090                  | 47                     | Marcellus    |
| 38        | 9/8/18           | 8050                    | 7890                  | 47                     | Marcellus    |
| 39        | 9/9/18           | 7850                    | 7690                  | 47                     | Marcellus    |
| 40        | 9/9/18           | 7650                    | 7490                  | 47                     | Marcellus    |
| 41        | 9/9/18           | 7450                    | 7290                  | 47                     | Marcellus    |
| 42        | 9/10/18          | 7250                    | 7090                  | 47                     | Marcellus    |

Please insert additional copies of this page if additional rows/stages are needed.

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|                   |   |                          |
|-------------------|---|--------------------------|
| API: 47-051-01798 | Well Name: Williams Ohio Valley Midstream | Well Number: Taylor B 8H |
|-------------------|---|--------------------------|

| STIMULATION INFORMATION / STAGE  |                  |                     |                              |                              |            |                          |                        |                                   |
|--|------------------|---------------------|------------------------------|------------------------------|------------|--------------------------|------------------------|-----------------------------------|
| Complete a separate record for each stimulation stage. (Please insert additional lines for additional stages or additional pages as applicable). |                  |                     |                              |                              |            |                          |                        |                                   |
| Stg No.  | 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) |
| 1  | 8/24/18          | 87.5                | 8385                         | n/a                          | 4150       | 397304                   | 10681                  | n/a                               |
| 2  | 8/24/18          | 93                  | 8618                         | 6340                         | 4214       | 401180                   | 9711                   | n/a                               |
| 3  | 8/25/18          | 100                 | 8593                         | n/a                          | 4932       | 400256                   | 9781                   | n/a                               |
| 4  | 8/25/18          | 97.4                | 8492                         | 6652                         | 4655       | 401333                   | 9817                   | n/a                               |
| 5  | 8/25/18          | 98.7                | 8483                         | 6064                         | 4698       | 400452                   | 9704                   | n/a                               |
| 6  | 8/25/18          | 100.1               | 8361                         | 5898                         | 4912       | 401170                   | 9683                   | n/a                               |
| 7  | 8/26/18          | 100                 | 8474                         | 5922                         | 4857       | 402084                   | 9707                   | n/a                               |
| 8  | 8/26/18          | 99.6                | 8526                         | 5628                         | 4965       | 399665                   | 9535                   | n/a                               |
| 9  | 8/26/18          | 100.4               | 8417                         | n/a                          | 4904       | 402732                   | 9630                   | n/a                               |
| 10   | 8/27/18          | 100.7               | 8638                         | 5837                         | 4901       | 399563                   | 9636                   | n/a                               |
| 11   | 8/27/18          | 100.6               | 8451                         | 5752                         | 4954       | 403698                   | 9635                   | n/a                               |
| 12   | 8/27/18          | 99.4                | 8326                         | 6476                         | 4667       | 401888                   | 9707                   | n/a                               |
| 13   | 8/28/18          | 100.1               | 8342                         | 6313                         | 4710       | 399680                   | 9614                   | n/a                               |
| 14   | 8/28/18          | 98.3                | 8515                         | 6375                         | 4848       | 399500                   | 9517                   | n/a                               |
| 15   | 8/28/18          | 100.4               | 8330                         | 6546                         | 4786       | 401149                   | 9562                   | n/a                               |
| 16   | 8/29/18          | 99.4                | 8682                         | 5868                         | 4961       | 399597                   | 9517                   | n/a                               |
| 17   | 8/29/18          | 100.3               | 8730                         | 6143                         | 4846       | 399398                   | 9479                   | n/a                               |
| 18   | 8/30/18          | 99.8                | 8396                         | 5865                         | 4807       | 399814                   | 10724                  | n/a                               |
| 19   | 8/30/18          | 100.5               | 8733                         | 6558                         | 4995       | 399499                   | 9395                   | n/a                               |
| 20   | 8/30/18          | 100.2               | 8698                         | 5993                         | 4677       | 399588                   | 9401                   | n/a                               |
| 21   | 8/30/18          | 96.7                | 8123                         | 5623                         | 4306       | 399311                   | 10402                  | n/a                               |
| 22   | 8/31/18          | 98.8                | 8331                         | 6282                         | 4586       | 400064                   | 9566                   | n/a                               |
| 23   | 9/1/18           | 98.8                | 8047                         | 6327                         | 4361       | 400754                   | 9430                   | n/a                               |
| 24   | 9/1/18           | 100.1               | 8357                         | 6590                         | 4646       | 399592                   | 9334                   | n/a                               |
| 25   | 9/1/18           | 99.9                | 8175                         | 6616                         | 4655       | 399687                   | 9202                   | n/a                               |
| 26   | 9/1/18           | 99.1                | 7745                         | 6123                         | 4412       | 400125                   | 9396                   | n/a                               |
| 27   | 9/2/18           | 100                 | 8111                         | 5735                         | 4478       | 399982                   | 9258                   | n/a                               |
| 28   | 9/2/18           | 99.9                | 8226                         | 6840                         | 4516       | 399412                   | 9289                   | n/a                               |
| 29   | 9/2/18           | 98.9                | 7818                         | 6630                         | 4582       | 400585                   | 9423                   | n/a                               |
| 30   | 9/3/18           | 99.7                | 7633                         | 6108                         | 4459       | 399958                   | 9342                   | n/a                               |
| 31   | 9/3/18           | 100.2               | 7891                         | 6544                         | 4536       | 401514                   | 9303                   | n/a                               |
| 32   | 9/4/18           | 100                 | 8178                         | 6013                         | 4640       | 399092                   | 9343                   | n/a                               |
| 33   | 9/5/18           | 99.9                | 8120                         | 5362                         | 4676       | 400053                   | 9434                   | n/a                               |
| 34   | 9/6/18           | 97.8                | 7591                         | 6441                         | 4629       | 399381                   | 9289                   | n/a                               |
| 35   | 9/7/18           | 99.3                | 7761                         | 5325                         | 4610       | 400407                   | 9073                   | n/a                               |
| 36   | 9/8/18           | 98.7                | 8349                         | 6501                         | 4768       | 400958                   | 9327                   | n/a                               |
| 37   | 9/8/18           | 100.2               | 7872                         | n/a                          | 4829       | 400088                   | 9234                   | n/a                               |
| 38   | 9/8/18           | 99.9                | 7835                         | 6633                         | 4872       | 401994                   | 9197                   | n/a                               |
| 39   | 9/9/18           | 100.5               | 7884                         | 6894                         | 4745       | 402605                   | 9174                   | n/a                               |
| 40   | 9/9/18           | 100.1               | 7367                         | 7030                         | 4549       | 401142                   | 9305                   | n/a                               |
| 41   | 9/9/18           | 99.4                | 7547                         | n/a                          | 4727       | 404536                   | 9582                   | n/a                               |
| 42   | 9/10/18          | 100.3               | 7540                         | 7043                         | 4087       | 401463                   | 9117                   | n/a                               |

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|-------------------|---|--------------------------|
| API: 47-051-01798 | Farm Name: Williams Ohio Valley Midstream LLC | Well Number: Taylor B 8H |
|-------------------|---|--------------------------|

| DRILLING CONTRACTORS                        |   |   |
|---|---|---|
| Driller                                     | Driller                                     | Driller                                     |
| Name<br>Rocky Mountain Drilling             | Name<br>Highlands Drilling LLC              | Name<br>Precision Drilling Holdings Company |
| Address<br>185 North Vernal Avenue, Suite 2 | Address<br>900 Virginia Street East         | Address<br>10350 Richmond Avenue, Suite 700 |
| City - State - Zip<br>Vernal, UT 84078      | City - State - Zip<br>Charlestown, WV 25301 | City - State - Zip<br>Houston, TX 77042     |

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WR-35

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|                   |   |                          |
|-------------------|---|--------------------------|
| API: 47-051-01798 | Farm Name: Williams Ohio Valley Midstream LLC | Well Number: Taylor B 8H |
|-------------------|---|--------------------------|

| CEMENTING CONTRACTORS                   |   |                    |
|---|---|--------------------|
| Name<br>Baker Hughes                    | Name<br>BJ Services                       | Name               |
| Address<br>5373 West Alabama, Suite 300 | Address<br>3415 Millennium Boulevard SE   | Address            |
| City - State - Zip<br>Houston, TX 77056 | City - State - Zip<br>Massillon, OH 44646 | City - State - Zip |

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989

| Taylor B 8H (51-01798) |        |         |       |       |
|------------------------|--------|---------|-------|-------|
| Top                    | Top MD | Base MD | TVD   | TVD   |
| Dunkard                | 0      | 472     | 0     | 472   |
| Waynesburg/Monongahela | 472    | 771     | 472   | 771   |
| Pittsburgh Coal        | 765    | 771     | 765   | 771   |
| Conemaugh              | 771    | 1109    | 771   | 1109  |
| Salt Sands             | 1489   | 1729    | 1488  | 1728  |
| Mauch Chunk            | 1729   | 1836    | 1728  | 1835  |
| Big Lime               | 1836   | 1924    | 1835  | 1923  |
| Burgoon                | 1924   | 2144    | 1923  | 2143  |
| Squaw                  | 2144   | 2269    | 2143  | 2268  |
| Weir                   | 2269   | 2469    | 2268  | 2468  |
| Berea                  | 2483   | 2499    | 2482  | 2498  |
| Gordon                 | 2729   | 2809    | 2728  | 2808  |
| Upper Bayard           | 3082   | 3114    | 3081  | 3113  |
| Rhinestreet            | 5889   | 6186    | 5885  | 6164  |
| Sycamore               | 6186   | 6281    | 6164  | 6248  |
| Middlesex              | 6281   | 6,925   | 6248  | 6,415 |
| BRKT                   | 6,925  | 6,953   | 6,415 | 6,429 |
| TLLY                   | 6,953  | 7,026   | 6,429 | 6,461 |
| S5                     | 7,026  | 7,270   | 6,461 | 6,545 |
| S3                     | 7,270  | 7,386   | 6,545 | 6,568 |
| STFD*                  | 7,386  | 7,400   | 6,568 | 6,570 |
| S2.B                   | 7,400  | 7,518   | 6,570 | 6,581 |
| S2.A                   | 7,518  |         | 6,581 |       |

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# Hydraulic Fracturing Fluid Product Component Information Disclosure

|                                |                    |
|--------------------------------|--------------------|
| Job Start Date:                | 8/24/2018          |
| Job End Date:                  | 9/10/2018          |
| State:                         | West Virginia      |
| County:                        | Marshall           |
| API Number:                    | 47-051-01798-00-00 |
| Operator Name:                 | Chevron USA Inc.   |
| Well Name and Number:          | Taylor B 8H        |
| Latitude:                      | 39.85682800        |
| Longitude:                     | -80.68777000       |
| Datum:                         | NAD83              |
| Federal Well:                  | NO                 |
| Indian Well:                   | NO                 |
| True Vertical Depth:           | 6,633              |
| Total Base Water Volume (gal): | 16,819,152         |
| Total Base Non Water Volume:   | 0                  |



## Hydraulic Fracturing Fluid Composition:

| Trade Name      | Supplier | Purpose            | Ingredients                               | Chemical Abstract Service Number (CAS #) | Maximum Ingredient Concentration in Additive (% by mass)** | Maximum Ingredient Concentration in HF Fluid (% by mass)** | Comments |
|-----------------|----------|--------------------|---|--|--|--|----------|
| Water           | Chevron  | Carrier/Base Fluid |   |  |  |  |          |
|                 |          |                    | Water                                     | 7732-18-5                                | 100.00000  | 88.26222   | None     |
| Sand            | Upp      | Proppant           |   |  |  |  |          |
|                 |          |                    | Crystalline Silica in the form of Quartz  | 14808-60-7                               | 99.90000   | 10.56803   | None     |
| HCL Acid (7.5%) | Upp      | Acidizing          |   |  |  |  |          |
|                 |          |                    | Hydrochloric Acid                         | 7647-01-0                                | 7.50000  | 0.07885  | None     |
| Unislick ST50   | Upp      | Friction reducer   |   |  |  |  |          |
|                 |          |                    | Petroleum distillates, hydrotreated light | 64742-47-8                               | 30.00000   | 0.01962  | None     |
|                 |          |                    | Ammonium acetate                          | 631-61-8                                 | 13.00000   | 0.00850  | None     |
|                 |          |                    | Alcohols, ethoxylated                     | 68002-97-1                               | 5.00000  | 0.00327  | None     |
|                 |          |                    | Alcohols, ethoxylated                     | 68439-50-9                               | 5.00000  | 0.00327  | None     |
|                 |          |                    | Alcohols, ethoxylated                     | 68551-12-2                               | 5.00000  | 0.00327  | None     |
| K-Bac 1020      | Upp      | Biocide            |   |  |  |  |          |
|                 |          |                    | Polyethylene glycol                       | 7732-18-5                                | 50.00000   | 0.00436  | None     |
|                 |          |                    | Water                                     | 7732-18-5                                | 30.00000   | 0.00262  | None     |
|                 |          |                    | 2,2-Dibromo-3-nitropropionamide           | 10222-01-2                               | 21.00000   | 0.00183  | None     |

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|  |              |                        |  |            |          |         |      |
|--|--------------|------------------------|--|------------|----------|---------|------|
| Iron Control A   | JPP          | Iron Control Agent     |  |            |          |         |      |
|  |              |                        | Ethylene Glycol  | 107-21-1   | 30.00000 | 0.00540 | None |
| Scale Inhibitor E  | JPP          | Scale Inhibitor        |  |            |          |         |      |
|  |              |                        | Copolymer of Maleic and Acrylic Acid                     | 52255-49-9 | 20.00000 | 0.00275 | None |
|  |              |                        | Hexamethylene Triamine Penta (Methylene Phosphonic Acid) | 34690-00-1 | 5.00000  | 0.00069 | None |
|  |              |                        | DETA phosphonate   | 15827-60-8 | 5.00000  | 0.00069 | None |
| K-Bac 1005   | JPP          | Biocide                |  |            |          |         |      |
|  |              |                        | Polyethylene glycol                                      | 7732-18-5  | 50.00000 | 0.00055 | None |
|  |              |                        | Water  | 7732-18-5  | 44.30000 | 0.00048 | None |
|  |              |                        | 2,2-Dibromo-3-nitrilopropionamide                        | 10222-01-2 | 5.80000  | 0.00006 | None |
| Unihib G   | JPP          | Acid inhibitor         |  |            |          |         |      |
|  |              |                        | Butyl diglycol   | 112-34-5   | 75.00000 | 0.00062 | None |
|  |              |                        | Alcohols, C10-16, ethoxylated                            | 68002-97-1 | 50.00000 | 0.00041 | None |
|  |              |                        | Methanol   | 67-56-1    | 5.00000  | 0.00004 | None |
|  |              |                        | Formaldehyde   | 50-00-0    | 1.00000  | 0.00001 | None |
|  |              |                        | Thiourea   | 62-56-6    | 1.00000  | 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. |              |                        |  |            |          |         |      |
| Other Chemical(s)  | Listed Above | See Trade Name(s) List |  |            |          |         |      |
|  |              |                        | Ammonium acetate   | 631-61-8   | 13.00000 | 0.00850 |      |
|  |              |                        | Polyethylene glycol                                      | 7732-18-5  | 50.00000 | 0.00436 |      |
|  |              |                        | Alcohols, ethoxylated                                    | 68551-12-2 | 5.00000  | 0.00327 |      |
|  |              |                        | Alcohols, ethoxylated                                    | 68439-50-9 | 5.00000  | 0.00327 |      |
|  |              |                        | Alcohols, ethoxylated                                    | 68002-97-1 | 5.00000  | 0.00327 |      |
|  |              |                        | Water  | 7732-18-5  | 30.00000 | 0.00262 |      |
|  |              |                        | Hexamethylene Triamine Penta (Methylene Phosphonic Acid) | 34690-00-1 | 5.00000  | 0.00069 |      |
|  |              |                        | DETA phosphonate   | 15827-60-8 | 5.00000  | 0.00069 |      |
|  |              |                        | Polyethylene glycol                                      | 7732-18-5  | 50.00000 | 0.00055 |      |
|  |              |                        | Water  | 7732-18-5  | 44.30000 | 0.00048 |      |
|  |              |                        | Alcohols, C10-16, ethoxylated                            | 68002-97-1 | 50.00000 | 0.00041 |      |
|  |              |                        | Methanol   | 67-56-1    | 5.00000  | 0.00004 |      |
|  |              |                        | Thiourea   | 62-56-6    | 1.00000  | 0.00001 |      |
|  |              |                        | Formaldehyde   | 50-00-0    | 1.00000  | 0.00001 |      |

\* Total Water Volume sources may include fresh water, produced water, and/or recycled water

\*\* Information is based on the maximum potential for concentration and thus the total may be over 100%

Note: For Field Development Products (products that begin with FDP), MSDS level only information has been provided.

Ingredient information for chemicals subject to 29 CFR 1910.1200(i) and Appendix D are obtained from suppliers Material Safety Data Sheets (MSDS)

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# AS DRILLED PLAT

BHL is located on topo map 12,699 feet south of Latitude: 39° 52' 30"  
 SHL is located on topo map 6,619 feet south of Latitude: 39° 52' 30"

| LINE | BEARING       | DISTANCE |
|------|---------------|----------|
| R1   | S 35°06'35" W | 277.63'  |
| R2   | N 30°21'34" E | 115.21'  |
| R3   | N 77°16'53" E | 88.76'   |
| R4   | N 68°59'41" W | 1037.13' |
| R5   | S 46°20'12" W | 763.79'  |
| R6   | S 0°55'19" E  | 1086.53' |

**PERMITTED SURFACE HOLE LOCATION (SHL)**  
 UTM 17-NAD83(M)  
 N:4411913.39  
 E:526707.48  
 NAD 83, WV NORTH  
 N:498405.08  
 E:1635063.68  
 LAT/LON DATUM-NAD83  
 LAT:39.856828  
 LON:-80.687789

**PERMITTED APPROX. LANDING POINT**  
 UTM 17-NAD83(M)  
 N:4412001.48  
 E:527172.32  
 NAD 83, WV NORTH  
 N:496688.62  
 E:1636593.87  
 LAT/LON DATUM-NAD83  
 LAT:39.857608  
 LON:-80.682333

**AS DRILLED APPROX. LANDING POINT**  
 UTM 17-NAD83(M)  
 N:4412008.54  
 E:527154.93  
 NAD 83, WV NORTH  
 N:496692.77  
 E:1636637.20  
 LAT/LON DATUM-NAD83  
 LAT:39.857672  
 LON:-80.682536

BHL is located on topo map 10,896 feet west of Longitude: 80° 37' 30"  
 SHL is located on topo map 5,924 feet west of Longitude: 80° 40' 00"



**LEGEND**

- GRID - GRID MAP POINT
- WELL - WELL
- ALL ARC POINTS UNLESS OTHERWISE NOTED
- MINERAL TRACT BOUNDARY
- PARCEL LINE
- WELL REFERENCE
- PROPOSED HORIZONTAL WELL
- AS DRILLED
- ROAD
- STREAM CENTER LINE
- LESSORS
- SURFACE OWNERS
- GAS WELLS
- EXISTING WELLS
- PLUGGED WELLS

**AS DRILLED SURFACE HOLE LOCATION (SHL)**  
 UTM 17-NAD83(M)  
 N:4411913.39  
 E:526707.48  
 NAD 83, WV NORTH  
 N:498405.08  
 E:1635063.68  
 LAT/LON DATUM-NAD83  
 LAT:39.856828  
 LON:-80.687769

**AS DRILLED BOTTOM HOLE LOCATION (BHL)**  
 UTM 17-NAD83(M)  
 N:4410078.27  
 E:528749.14  
 NAD 83, WV NORTH  
 N:490271.14  
 E:1641662.70  
 LAT/LON DATUM-NAD83  
 LAT:39.840228  
 LON:-80.663983

**PERMITTED BOTTOM HOLE LOCATION (BHL)**  
 UTM 17-NAD83(M)  
 N:4410068.51  
 E:528764.30  
 NAD 83, WV NORTH  
 N:490238.29  
 E:1641711.89  
 LAT/LON DATUM-NAD83  
 LAT:39.840139  
 LON:-80.663806

- NOTES:**
- There are no water wells or developed springs within 250' of proposed well.
  - There are no existing buildings within 625' of proposed well.
  - Proposed well pad is within 100' from perennial stream, wetland, pond, reservoir or lake.
  - There are no native trout streams within 300' of proposed well.
  - Proposed well is greater than 1000' from surface/groundwater intake or public water supply.
  - It is not the purpose or intention of this plat to represent surveyed locations of the surface or mineral parcels depicted hereon. The location of the boundary lines, as shown, are based on record deed descriptions, field evidence found and/or tax map position, unless otherwise noted.



SEE PAGE 2 FOR SURFACE OWNERS AND LESSORS

**Blue Mountain Inc.**  
 10125 MASON DIXON HIGHWAY  
 BURTON, WV 26562  
 PHONE: (304) 662-6486

FILE #: TAYLOR B 8H-AS DRILLED  
 DRAWING #: TAYLOR B 8H-AS DRILLED  
 SCALE: 1" = 2000'  
 MINIMUM DEGREE OF ACCURACY: 1/2500  
 PROVEN SOURCE OF ELEVATION: U.S.G.S. MONUMENT THOMAS 1498.81'

I, THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE REGULATIONS ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

Signed: *George D. Six*  
 R.P.E.: \_\_\_\_\_ L.L.S.: P.S. No. 2000

**GEORGE D SIX LICENSED No. 2000 STATE OF WEST VIRGINIA PROFESSIONAL SURVEYOR**

PLACE SEAL HERE

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS WVDEP  
 OFFICE OF OIL & GAS  
 601 57TH STREET  
 CHARLESTON, WV 25304



DATE: JANUARY 08, 2018  
 OPERATOR'S WELL #: TAYLOR B 8H-AS DRILLED  
 API WELL #: 47 51 **01798**  
 STATE COUNTY PERMIT

Well Type:  Oil  Waste Disposal  Production  Deep  Gas  Liquid Injection  Storage  Shallow

WATERSHED: MIDDLE GRAVE CREEK-GRAVE CREEK ELEVATION: 1222.00'

COUNTY/DISTRICT: MARSHALL / CLAY QUADRANGLE: GLEN EASTON, WV 7.5'

SURFACE OWNER: WILLIAMS OHIO VALLEY MIDSTREAM LLC ACREAGE: 91.93±

OIL & GAS ROYALTY OWNER: LEE R. & SHERRI L. TAYLOR ACREAGE: 760.188±

DRILL  CONVERT  DRILL DEEPER  REDRILL  FRACTURE OR STIMULATE  PLUG OFF OLD FORMATION

PERFORATE NEW FORMATION  PLUG & ABANDON  CLEAN OUT & REPLUG  OTHER CHANGE

(SPECIFY): AS DRILLED

TARGET FORMATION: MARCELLUS ESTIMATED DEPTH: TVD: 6,533'± TMD: 15,963.03'±

WELL OPERATOR: CHEVRON APPALACHIA, LLC DESIGNATED AGENT: KENNETH E. TAWNEY  
 Address: 700 CHERRINGTON PARKWAY Address: 500 LEE STREET, EAST SUITE 1600  
 City: CORAOPOLIS State: PA Zip Code: 15108 City: CHARLESTON State: WV Zip Code: 25301-3202

TAYLOR B  
8H  
PAGE 2 OF 2

03/29/2019

AS DRILLED PLAT

|   | SURFACE OWNER                      | DIST-TM/PAR |
|---|------------------------------------|-------------|
| 1 | WILLIAMS OHIO VALLEY MIDSTREAM LLC | 4-10/20     |
| 2 | JAMES D. RULONG                    | 4-9/20      |
| 3 | HUBERT & ANDREA KUHN               | 3-12/3      |
| 4 | MARY T. HARDMAN                    | 3-12/3.2    |
| 5 | JOHN A. BUNGARD                    | 3-12/4      |
| 6 | TRACIE L. WEST, ET AL              | 9-2/5       |
| 7 | ROBERT W. ZIRKLE, ET AL            | 3-12/5      |
| 8 | ROBERT W. ZIRKLE                   | 3-12/5.1    |
| 9 | CONSOLIDATION COAL COMPANY         | 3-12/28     |

|   | LESSOR                     |
|---|----------------------------|
| A | LEE R. & SHERRI L. TAYLOR  |
| B | CLARENCE RULONG            |
| C | HUBERT & ANDREA KUHN       |
| D | MARY T. HARDMAN            |
| E | JOHN A. BUNGARD            |
| F | TRACIE J. WEST             |
| G | ROBERT W. & SABRINA ZIRKLE |
| H | ROBERT W. & SABRINA ZIRKLE |
| J | CNX GAS COMPANY, LLC       |

| PERMITTED<br>SURFACE HOLE LOCATION (SHL)  | PERMITTED<br>APPROX. LANDING POINT  | PERMITTED<br>BOTTOM HOLE LOCATION (BHL)   |
|---|---|---|
| UTM 17-NAD83(M)<br>N:4411913.39<br>E:526707.48<br>NAD 83, WV NORTH<br>N:496405.08<br>E:1635063.68<br>LAT/LON DATUM-NAD83<br>LAT:39.856828<br>LON:-80.687769 | UTM 17-NAD83(M)<br>N:4412001.48<br>E:527172.32<br>NAD 83, WV NORTH<br>N:496668.62<br>E:1636593.87<br>LAT/LON DATUM-NAD83<br>LAT:39.857608<br>LON:-80.682333 | UTM 17-NAD83(M)<br>N:4410068.51<br>E:528764.30<br>NAD 83, WV NORTH<br>N:490238.29<br>E:1641711.89<br>LAT/LON DATUM-NAD83<br>LAT:39.840139<br>LON:-80.663806 |

| AS DRILLED<br>SURFACE HOLE LOCATION (SHL)   | AS DRILLED<br>APPROX. LANDING POINT   | AS DRILLED<br>BOTTOM HOLE LOCATION (BHL)  |
|---|---|---|
| UTM 17-NAD83(M)<br>N:4411913.39<br>E:526707.48<br>NAD 83, WV NORTH<br>N:496405.08<br>E:1635063.68<br>LAT/LON DATUM-NAD83<br>LAT:39.856828<br>LON:-80.687769 | UTM 17-NAD83(M)<br>N:4412008.54<br>E:527154.93<br>NAD 83, WV NORTH<br>N:496692.77<br>E:1636537.20<br>LAT/LON DATUM-NAD83<br>LAT:39.857672<br>LON:-80.682536 | UTM 17-NAD83(M)<br>N:4410078.27<br>E:528749.14<br>NAD 83, WV NORTH<br>N:490271.14<br>E:1641662.70<br>LAT/LON DATUM-NAD83<br>LAT:39.840228<br>LON:-80.663983 |

JANUARY 08, 2018