

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

API 47 - 051 - 01902 County Marshall District Clay  
Quad Glen Easton Pad Name Hicks Pad A Field/Pool Name \_\_\_\_\_  
Farm name Thomas E. Hicks Well Number Hicks M07H  
Operator (as registered with the OOG) Chevron Appalachia, LLC (49449935)  
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 501902.340 Easting 1626586.560  
Landing Point of Curve Northing 499575.150 Easting 1625523.200  
Bottom Hole Northing 491718.580 Easting 1631907.810

Elevation (ft) 1177' 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

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Date permit issued 2/23/2017 Date drilling commenced 10/19/2017 Date drilling ceased 8/6/2019  
Date completion activities began 10/18/2019 Date completion activities ceased 3/8/2020  
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 n/a Open mine(s) (Y/N) depths N  
Salt water depth(s) ft n/a Void(s) encountered (Y/N) depths N  
Coal depth(s) ft 698' and 1290' Cavern(s) encountered (Y/N) depths N  
Is coal being mined in area (Y/N) N

Reviewed by:  
*Jane [Signature]*  
4/15/2020

API 47-051 - 01902 Farm name Thomas E. Hicks Well number Hicks M07H

| 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"         | 60'    | N           | X-52 / 78.67 |                 | Y  |
| Surface                   | 17-1/2"   | 13-3/8"     | 473'   | N           | J-55 / 54.50 |                 | Y  |
| Coal                      |           |             |        |             |              |                 |  |
| Intermediate 1            | 12-1/4"   | 9-5/8"      | 2011'  | N           | L-80 / 40    |                 | Y  |
| Intermediate 2            |           |             |        |             |              |                 |  |
| Intermediate 3            |           |             |        |             |              |                 |  |
| Production                | 8-1/2"    | 5-1/2"      | 17849' | N           | P-110EC / 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          |                 |                 |                              |                           | Surface         | 8         |
| Surface        | Class A              | 394             | 15.6            | 1.20                         | 473                       | Surface         | 8         |
| Coal           |                      |                 |                 |                              |                           |                 |           |
| Intermediate 1 | Class A              | 675             | 15.6            | 1.19                         | 675                       | Surface         | 8         |
| Intermediate 2 |                      |                 |                 |                              |                           |                 |           |
| Intermediate 3 |                      |                 |                 |                              |                           |                 |           |
| Production     | Class A              | 2870            | 15.0            | 1.23                         | 3524                      | Surface         | 8         |
| Tubing         |                      |                 |                 |                              |                           |                 |           |

Drillers TD (ft) 17869' Loggers TD (ft) 17869'  
 Deepest formation penetrated Marcellus Plug back to (ft) \_\_\_\_\_  
 Plug back procedure \_\_\_\_\_

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Kick off depth (ft) 6130'

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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 \_\_\_\_\_

SURFACE: (1) on shoe track with stop collar and (1) per joint over coupling to surface  
 INTERMEDIATE: (1) on shoe track with stop collar and (1) per 3 joints over coupling  
 PRODUCTION: (1) centralizer every joint in the lateral and curve and (1) every other joint from KOP to surface.

WAS WELL COMPLETED AS SHOT HOLE  Yes  No   DETAILS See attached Perforation and Stimulation reports.

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

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

API 47-051 - 01902 Farm name Thomas E. Hicks Well number Hicks M07H

PERFORATION RECORD

| Stage No. | Perforation date | Perforated from MD ft. | Perforated to MD ft. | Number of Perforations | Formation(s) |
|-----------|------------------|------------------------|----------------------|------------------------|--------------|
|           | 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) |
|-----------|-------------------|---------------------|------------------------------|------------------------------|------------|--------------------------|------------------------|----------------------------------|
|           |                   | SEE                 | ATTACHED                     |                              |            |                          |                        |                                  |
|           |                   |                     |                              |                              |            |                          |                        |                                  |
|           |                   |                     |                              |                              |            |                          |                        |                                  |
|           |                   |                     |                              |                              |            |                          |                        |                                  |
|           |                   |                     |                              |                              |            |                          |                        |                                  |
|           |                   |                     |                              |                              |            |                          |                        |                                  |
|           |                   |                     |                              |                              |            |                          |                        |                                  |
|           |                   |                     |                              |                              |            |                          |                        |                                  |
|           |                   |                     |                              |                              |            |                          |                        |                                  |
|           |                   |                     |                              |                              |            |                          |                        |                                  |
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|           |                   |                     |                              |                              |            |                          |                        |                                  |

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Please insert additional pages as applicable.

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API 47- 051 - 01902 Farm name Thomas E. Hicks Well number Hicks M07H

| <u>PRODUCING FORMATION(S)</u> | <u>DEPTHS</u>    |                 |
|-------------------------------|------------------|-----------------|
| <u>S2.A</u>                   | <u>6374'</u> TVD | <u>7564'</u> 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                |                    |                   |                   |  |
|                         |                         |                    |                   |                   |  |
|                         |                         |                    |                   |                   |  |
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|                         |                         |                    |                   |                   |  |
|                         |                         |                    |                   |                   |  |
|                         |                         |                    |                   |                   |  |

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 44646

Cementing Company BJ Services  
Address 3415 Millennium Boulevard SE City Massillon State OH Zip 44646

Stimulating Company Universal Pressure Pumping  
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 3/9/2020

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

|                   |                            |                         |
|-------------------|----------------------------|-------------------------|
| API: 47-051-01902 | Farm Name: Thomas E. Hicks | Well Number: Hicks M07H |
|-------------------|----------------------------|-------------------------|

| PERFORATION RECORD |                  |                         |                       |                        |              |
|--------------------|------------------|-------------------------|-----------------------|------------------------|--------------|
| Stage No.          | Perforation Date | Perforated From TMD Ft. | Perforated To TMD Ft. | Number of Perforations | Formation(s) |
| 1                  | 12/7/2019        | 17612                   | 17706                 | 47                     | Marcellus    |
| 2                  | 12/8/2019        | 17410                   | 17570                 | 47                     | Marcellus    |
| 3                  | 12/9/2019        | 17210                   | 17370                 | 47                     | Marcellus    |
| 4                  | 12/9/2019        | 17010                   | 17170                 | 47                     | Marcellus    |
| 5                  | 12/9/2019        | 16810                   | 16970                 | 47                     | Marcellus    |
| 6                  | 12/10/2019       | 16610                   | 16770                 | 47                     | Marcellus    |
| 7                  | 12/10/2019       | 16410                   | 16570                 | 47                     | Marcellus    |
| 8                  | 12/10/2019       | 16210                   | 16370                 | 47                     | Marcellus    |
| 9                  | 12/11/2019       | 16010                   | 16170                 | 47                     | Marcellus    |
| 10                 | 12/11/2019       | 15810                   | 15970                 | 47                     | Marcellus    |
| 11                 | 12/11/2019       | 15610                   | 15770                 | 47                     | Marcellus    |
| 12                 | 12/12/2019       | 15410                   | 15570                 | 47                     | Marcellus    |
| 13                 | 12/12/2019       | 15210                   | 15370                 | 47                     | Marcellus    |
| 14                 | 12/13/2019       | 15010                   | 15170                 | 47                     | Marcellus    |
| 15                 | 12/13/2019       | 14810                   | 14970                 | 47                     | Marcellus    |
| 16                 | 12/13/2019       | 14610                   | 14770                 | 47                     | Marcellus    |
| 17                 | 12/14/2019       | 14410                   | 14570                 | 47                     | Marcellus    |
| 18                 | 12/14/2019       | 14210                   | 14370                 | 47                     | Marcellus    |
| 19                 | 12/14/2019       | 14010                   | 14170                 | 47                     | Marcellus    |
| 20                 | 12/15/2019       | 13810                   | 13970                 | 47                     | Marcellus    |
| 21                 | 12/15/2019       | 13610                   | 13770                 | 47                     | Marcellus    |
| 22                 | 12/16/2019       | 13410                   | 13570                 | 47                     | Marcellus    |
| 23                 | 12/17/2019       | 13210                   | 13370                 | 47                     | Marcellus    |
| 24                 | 12/17/2019       | 13010                   | 13170                 | 47                     | Marcellus    |
| 25                 | 12/17/2019       | 12810                   | 12970                 | 47                     | Marcellus    |
| 26                 | 12/18/2019       | 12610                   | 12770                 | 47                     | Marcellus    |
| 27                 | 12/19/2019       | 12410                   | 12570                 | 47                     | Marcellus    |
| 28                 | 12/19/2019       | 12210                   | 12370                 | 47                     | Marcellus    |
| 29                 | 12/20/2019       | 12010                   | 12170                 | 47                     | Marcellus    |
| 30                 | 12/20/2019       | 11810                   | 11970                 | 47                     | Marcellus    |
| 31                 | 12/20/2019       | 11610                   | 11770                 | 47                     | Marcellus    |
| 32                 | 12/20/2019       | 11410                   | 11570                 | 47                     | Marcellus    |
| 33                 | 12/20/2019       | 11210                   | 11370                 | 47                     | Marcellus    |
| 34                 | 12/21/2019       | 11010                   | 11170                 | 47                     | Marcellus    |
| 35                 | 12/21/2019       | 10810                   | 10970                 | 47                     | Marcellus    |
| 36                 | 12/21/2019       | 10610                   | 10770                 | 47                     | Marcellus    |
| 37                 | 12/21/2019       | 10410                   | 10570                 | 47                     | Marcellus    |
| 38                 | 12/22/2019       | 10210                   | 10370                 | 47                     | Marcellus    |
| 39                 | 12/22/2019       | 10010                   | 10170                 | 47                     | Marcellus    |
| 40                 | 12/22/2019       | 9810                    | 9970                  | 47                     | Marcellus    |
| 41                 | 12/22/2019       | 9610                    | 9770                  | 47                     | Marcellus    |
| 42                 | 12/22/2019       | 9410                    | 9570                  | 47                     | Marcellus    |
| 43                 | 12/23/2019       | 9210                    | 9370                  | 47                     | Marcellus    |
| 44                 | 12/23/2019       | 9010                    | 9170                  | 47                     | Marcellus    |
| 45                 | 12/23/2019       | 8810                    | 8970                  | 47                     | Marcellus    |

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

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|                   |                            |                         |
|-------------------|----------------------------|-------------------------|
| API: 47-051-01902 | Farm Name: Thomas E. Hicks | Well Number: Hicks M07H |
|-------------------|----------------------------|-------------------------|

| <b>STIMULATION INFORMATION / STAGE</b>   |                  |                     |                              |                              |            |                          |                        |                                   |
|--|------------------|---------------------|------------------------------|------------------------------|------------|--------------------------|------------------------|-----------------------------------|
| 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  | 12/7/2019        | 90.4                | 9124                         | 6251                         | 3544       | 400041                   | 9387                   | n/a                               |
| 2  | 12/8/2019        | 99.8                | 8713                         | 4953                         | 3979       | 400153                   | 10025                  | n/a                               |
| 3  | 12/9/2019        | 99.6                | 9015                         | 5395                         | 4305       | 401520                   | 9914                   | n/a                               |
| 4  | 12/9/2019        | 98.9                | 8785                         | 4082                         | 5356       | 400120                   | 9820                   | n/a                               |
| 5  | 12/9/2019        | 99.9                | 8846                         | 5660                         | 4509       | 401815                   | 9894                   | n/a                               |
| 6  | 12/10/2019       | 99.8                | 8760                         | 5438                         | 4797       | 403087                   | 9808                   | n/a                               |
| 7  | 12/10/2019       | 99.6                | 8469                         | 4969                         | 5155       | 400091                   | 9839                   | n/a                               |
| 8  | 12/10/2019       | 99.3                | 8852                         | 5404                         | 4396       | 400839                   | 9826                   | n/a                               |
| 9  | 12/11/2019       | 99.9                | 8618                         | 4897                         | 4494       | 401127                   | 9867                   | n/a                               |
| 10   | 12/11/2019       | 99.8                | 8716                         | 5563                         | 4550       | 401610                   | 9931                   | n/a                               |
| 11   | 12/11/2019       | 99.8                | 8878                         | 5757                         | 4776       | 401232                   | 9680                   | n/a                               |
| 12   | 12/12/2019       | 99.8                | 8672                         | 5796                         | 4465       | 403502                   | 10167                  | n/a                               |
| 13   | 12/12/2019       | 100.2               | 8620                         | 5608                         | 4762       | 401047                   | 9688                   | n/a                               |
| 14   | 12/13/2019       | 100.5               | 8417                         | 5365                         | 4561       | 400561                   | 9695                   | n/a                               |
| 15   | 12/13/2019       | 98.7                | 8322                         | 4302                         | 4596       | 400841                   | 9757                   | n/a                               |
| 16   | 12/13/2019       | 99.5                | 8219                         | 5169                         | 4473       | 404941                   | 9744                   | n/a                               |
| 17   | 12/14/2019       | 100.4               | 8584                         | 5600                         | 4567       | 402945                   | 9743                   | n/a                               |
| 18   | 12/14/2019       | 99.8                | 8351                         | 6042                         | 4625       | 400489                   | 9620                   | n/a                               |
| 19   | 12/14/2019       | 100.3               | 8447                         | 5580                         | 4258       | 401287                   | 9645                   | n/a                               |
| 20   | 12/15/2019       | 99.8                | 8417                         | 5073                         | 4723       | 401359                   | 9642                   | n/a                               |
| 21   | 12/15/2019       | 98.6                | 8073                         | 4862                         | 4721       | 400590                   | 9702                   | n/a                               |
| 22   | 12/16/2019       | 99.4                | 8355                         | 5382                         | 4824       | 400188                   | 10090                  | n/a                               |
| 23   | 12/17/2019       | 99.3                | 8319                         | 5870                         | 4574       | 400152                   | 9604                   | n/a                               |
| 24   | 12/17/2019       | 98.9                | 8398                         | 5563                         | 4655       | 400631                   | 9596                   | n/a                               |
| 25   | 12/17/2019       | 100.2               | 8191                         | 4271                         | 4565       | 400163                   | 9556                   | n/a                               |
| 26   | 12/18/2019       | 99.4                | 8158                         | 5436                         | 4127       | 400353                   | 9514                   | n/a                               |
| 27   | 12/19/2019       | 100.7               | 8530                         | 5893                         | 4547       | 400999                   | 9554                   | n/a                               |
| 28   | 12/19/2019       | 100.2               | 8137                         | 4015                         | 4430       | 400240                   | 9424                   | n/a                               |
| 29   | 12/20/2019       | 100.2               | 8049                         | 4178                         | 4090       | 400338                   | 9421                   | n/a                               |
| 30   | 12/20/2019       | 100.4               | 8323                         | 4839                         | 4366       | 401128                   | 9496                   | n/a                               |
| 31   | 12/20/2019       | 100.2               | 8244                         | 5151                         | 4686       | 400647                   | 9417                   | n/a                               |
| 32   | 12/20/2019       | 100.1               | 8125                         | 4970                         | 4525       | 400353                   | 9427                   | n/a                               |
| 33   | 12/20/2019       | 99.7                | 8053                         | 4814                         | 4598       | 400171                   | 9359                   | n/a                               |
| 34   | 12/21/2019       | 99.6                | 7973                         | 5096                         | 4462       | 400253                   | 9428                   | n/a                               |
| 35   | 12/21/2019       | 100.4               | 8355                         | 4643                         | 4304       | 401201                   | 9409                   | n/a                               |
| 36   | 12/21/2019       | 100.4               | 8067                         | 4975                         | 4533       | 401319                   | 9359                   | n/a                               |
| 37   | 12/21/2019       | 99.6                | 8028                         | 4889                         | 4648       | 400300                   | 9373                   | n/a                               |
| 38   | 12/22/2019       | 100.2               | 7871                         | 5564                         | 4684       | 400169                   | 9345                   | n/a                               |
| 39   | 12/22/2019       | 99.8                | 7818                         | 5756                         | 4488       | 401413                   | 10383                  | n/a                               |
| 40   | 12/22/2019       | 100.7               | 7803                         | 5580                         | 4463       | 402671                   | 9375                   | n/a                               |

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|                   |                            |                         |
|-------------------|----------------------------|-------------------------|
| API: 47-051-01902 | Farm Name: Thomas E. Hicks | Well Number: Hicks M07H |
|-------------------|----------------------------|-------------------------|

| 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) |
| 41   | 12/22/2019       | 100                 | 7595                         | 4669                         | 4553       | 400322                   | 9292                   | n/a                               |
| 42   | 12/22/2019       | 100                 | 7584                         | 5095                         | 4606       | 400320                   | 9316                   | n/a                               |
| 43   | 12/23/2019       | 100.1               | 7627                         | 5945                         | 4549       | 402485                   | 9318                   | n/a                               |
| 44   | 12/23/2019       | 99.6                | 7603                         | 4780                         | 4675       | 401516                   | 9337                   | n/a                               |
| 45   | 12/23/2019       | 99.2                | 7395                         | 5034                         | 4850       | 400752                   | 9873                   | n/a                               |
| 46   | 12/23/2019       | 100.9               | 7586                         | 5131                         | 4527       | 400456                   | 9274                   | n/a                               |
| 47   | 12/24/2019       | 100.5               | 7670                         | 5313                         | 4646       | 400597                   | 9323                   | n/a                               |
| 48   | 12/24/2019       | 100.3               | 7417                         | 4191                         | 4837       | 401180                   | 9229                   | n/a                               |
| 49   | 12/26/2019       | 100.8               | 7459                         | 4464                         | 4650       | 400907                   | 9194                   | n/a                               |
| 50   | 12/26/2019       | 100.4               | 7563                         | 4976                         | 4890       | 402273                   | 9330                   | n/a                               |
| 51   | 12/26/2019       | 100.4               | 7456                         | 4371                         | 4668       | 400746                   | 9188                   | n/a                               |
| 52   | 12/27/2019       | 99.8                | 7486                         | 4549                         | 4625       | 401193                   | 9173                   | n/a                               |
| 53   | 12/27/2019       | 100.2               | 7380                         | 5117                         | 4457       | 400551                   | 9204                   | n/a                               |
|  |                  |                     |                              |                              |            |                          |                        |                                   |
|  |                  |                     |                              |                              |            |                          |                        |                                   |
|  |                  |                     |                              |                              |            |                          |                        |                                   |
|  |                  |                     |                              |                              |            |                          |                        |                                   |
|  |                  |                     |                              |                              |            |                          |                        |                                   |
|  |                  |                     |                              |                              |            |                          |                        |                                   |
|  |                  |                     |                              |                              |            |                          |                        |                                   |
|  |                  |                     |                              |                              |            |                          |                        |                                   |
|  |                  |                     |                              |                              |            |                          |                        |                                   |
|  |                  |                     |                              |                              |            |                          |                        |                                   |
|  |                  |                     |                              |                              |            |                          |                        |                                   |
|  |                  |                     |                              |                              |            |                          |                        |                                   |
|  |                  |                     |                              |                              |            |                          |                        |                                   |
|  |                  |                     |                              |                              |            |                          |                        |                                   |
|  |                  |                     |                              |                              |            |                          |                        |                                   |
|  |                  |                     |                              |                              |            |                          |                        |                                   |
|  |                  |                     |                              |                              |            |                          |                        |                                   |
|  |                  |                     |                              |                              |            |                          |                        |                                   |
|  |                  |                     |                              |                              |            |                          |                        |                                   |
|  |                  |                     |                              |                              |            |                          |                        |                                   |
|  |                  |                     |                              |                              |            |                          |                        |                                   |
|  |                  |                     |                              |                              |            |                          |                        |                                   |
|  |                  |                     |                              |                              |            |                          |                        |                                   |
|  |                  |                     |                              |                              |            |                          |                        |                                   |
|  |                  |                     |                              |                              |            |                          |                        |                                   |
|  |                  |                     |                              |                              |            |                          |                        |                                   |
|  |                  |                     |                              |                              |            |                          |                        |                                   |
|  |                  |                     |                              |                              |            |                          |                        |                                   |
|  |                  |                     |                              |                              |            |                          |                        |                                   |
|  |                  |                     |                              |                              |            |                          |                        |                                   |

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API: 4705101902

Farm Name: Thomas E. Hicks

Well Number: Hicks M07H

| Lithology/Tops         | MD Top | MD Base | TVD Top | TVD Base | Describe rock type and record quantity and type of fluid (Freshwater, Brine, Oil, Gas, H2S, Etc.) |
|------------------------|--------|---------|---------|----------|---|
| <b>Pittsburgh Coal</b> | 698    | 704     | 676     | 682      | coal  |
| <b>Conemaugh</b>       | 704    | 1096    | 704     | 1096     | shale & siltstone transitioning to shale & limestone at base; gas shows                           |
| <b>Allegheny</b>       | 1096   | 1304    | 1096    | 1304     | limey siltstones and shales; oil show   |
| <b>Clairion Coal</b>   | 1290   | 1,297   | 1290    | 1297     | coal  |
| <b>Salt Sands</b>      | 1,304  | 1,545   | 1304    | 1544     | interbedded sands and shales; gas shows   |
| <b>Mauch Chunk</b>     | 1,545  | 1,666   | 1544    | 1665     | sandy/silty shales  |
| <b>Big Lime</b>        | 1,666  | 1,733   | 1665    | 1731     | siltstone transitioning to limestone base   |
| <b>Burgoon</b>         | 1,733  | 1,952   | 1731    | 1947     | sandstone   |
| <b>Weir Shale</b>      | 1,952  | 2,070   | 1947    | 2070     | shale; brine  |
|                        |        |         |         |          |   |
| <b>CHQA</b>            | 6604   | 6704    | 6064    | 6137     | siltstone/shale, gas shows  |
| <b>MDLX</b>            | 6704   | 6744    | 6137    | 6164     | shale   |
| <b>PYAN</b>            | 6744   | 6796    | 6164    | 6195     | siltstone/shale, gas show   |
| <b>BRKT</b>            | 6796   | 6838    | 6195    | 6219     | shale   |
| <b>BRKT.a</b>          | 6838   | 6870    | 6219    | 6234     | shale   |
| <b>TLLY</b>            | 6870   | 6960    | 6234    | 6272     | limestone, gas shows  |
| <b>S5</b>              | 6960   | 7193    | 6272    | 6343     | shale, gas shows  |
| <b>S3</b>              | 7193   | 7308    | 6343    | 6365     | shale, gas shows  |
| <b>STFD</b>            | 7308   | 7322    | 6365    | 6366     | limestone   |
| <b>S2.B</b>            | 7322   | 7564    | 6366    | 6374     | shale, gas shows  |
| <b>S2.A</b>            | 7564   |         | 6374    |          | shale, gas shows  |
|                        |        |         |         |          |   |
|                        |        |         |         |          |   |
|                        |        |         |         |          |   |
|                        |        |         |         |          |   |
|                        |        |         |         |          |   |
|                        |        |         |         |          |   |
| <b>TD</b>              | 17,869 |         |         |          |   |

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|                   |                            |                         |
|-------------------|----------------------------|-------------------------|
| API: 47-051-01902 | Farm Name: Thomas E. Hicks | Well Number: Hicks M07H |
|-------------------|----------------------------|-------------------------|

| <b>DRILLING CONTRACTORS</b>            |   |   |
|--|---|---|
| <b>Driller</b>                         | <b>Driller</b>                              | <b>Driller</b>                              |
| Name<br>Rocky Mountain Drilling        | Name<br>Highlands Drilling LLC              | Name<br>Precision Drilling Holdings Company |
| Address<br>185 North Vernal Avenue     | 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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# Hydraulic Fracturing Fluid Product Component Information Disclosure

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|                                |                    |
|--------------------------------|--------------------|
| Job Start Date:                | 12/7/2019          |
| Job End Date:                  | 12/27/2019         |
| State:                         | West Virginia      |
| County:                        | Marshall           |
| API Number:                    | 47-051-01902-00-00 |
| Operator Name:                 | Chevron USA Inc.   |
| Well Name and Number:          | Hicks M07H         |
| Latitude:                      | 39.87160700        |
| Longitude:                     | -80.80156200       |
| Datum:                         | NAD83              |
| Federal Well:                  | NO                 |
| Indian Well:                   | NO                 |
| True Vertical Depth:           | 6,479              |
| Total Base Water Volume (gal): | 20,546,316         |
| 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  | 87.90011   | None     |
| Sand            | Upp      | Proppant           | Crystalline Silica in the form of Quartz | 14808-60-7                               | 99.90000   | 10.88578   | None     |
| HCL Acid (7.5%) | Upp      | Acidizing          | Hydrochloric Acid                        | 7647-01-0                                | 7.50000  | 0.08117  | None     |
| FR-11           | Upp      | Friction reducer   | Water                                    | 7732-18-5                                | 55.00000   | 0.03237  | None     |
|                 |          |                    | Hydroreated Petroleum Distillate         | 64742-47-8                               | 25.00000   | 0.01472  | None     |
|                 |          |                    | CHEMPLEX-Polymer_00019                   | Trade Secret                             | 25.00000   | 0.01472  | None     |
|                 |          |                    | Sodium Chloride                          | 7647-14-5                                | 15.00000   | 0.00883  | None     |
|                 |          |                    | Oleic Acid Diethanolamide                | 93-83-4                                  | 3.00000  | 0.00177  | None     |
|                 |          |                    | Alcohol Ethoxylate Surfactants           | 38551-12-2                               | 3.00000  | 0.00177  | None     |
|                 |          |                    | Ammonium Chloride                        | 12125-02-9                               | 2.00000  | 0.00118  | None     |
|                 |          |                    | Polyoxyethylene Sorbitan Monoleate       | 9005-65-6                                | 1.00000  | 0.00059  | None     |
| K-BAC 1020      | Upp      | Biocide            |  |  |  |  |          |

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| Other Chemical(s)  | Listed Above | See Trade Name(s) List |                                     |             |          |         |      |  |  |
|--|--------------|------------------------|-------------------------------------|-------------|----------|---------|------|--|--|
|  |              |                        | Polyethylene glycol                 | 25322-68-3  | 50.00000 | 0.01078 | None |  |  |
|  |              |                        | Water                               | 7732-18-5   | 30.00000 | 0.00647 | None |  |  |
|  |              |                        | 2,2-Dibromo-3-nitropropanamide      | 10222-01-2  | 21.00000 | 0.00453 | None |  |  |
| Scale Hlp PE-18  | Upp          | Scale Inhibitor        | Ethylene glycol                     | 107-21-1    | 40.00000 | 0.00732 | None |  |  |
|  |              |                        | Proprietary Scale Inhibitor         | Proprietary | 30.00000 | 0.00549 | None |  |  |
| TL   | Upp          | Iron Control Agent     | Ethylene Glycol                     | 107-21-1    | 20.00000 | 0.00426 | None |  |  |
|  |              |                        | Ammonium glycolate                  | 35249-89-9  | 20.00000 | 0.00426 | None |  |  |
|  |              |                        | Hydroxyacetic acid                  | 79-14-1     | 5.00000  | 0.00107 | None |  |  |
| Unihb G  | Upp          | Acid Inhibitor         | Buyl diglycol                       | 112-34-5    | 75.00000 | 0.00064 | None |  |  |
|  |              |                        | Alcohol, C10-16, ethoxylated        | 68002-97-1  | 50.00000 | 0.00042 | None |  |  |
|  |              |                        | Methanol                            | 67-56-1     | 5.00000  | 0.00004 | None |  |  |
|  |              |                        | Thiourea                            | 62-56-6     | 1.00000  | 0.00001 | None |  |  |
|  |              |                        | Formaldehyde                        | 50-00-0     | 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. |              |                        |                                     |             |          |         |      |  |  |
|  |              |                        | Water                               | 7732-18-5   | 55.00000 | 0.03237 |      |  |  |
|  |              |                        | Hydrotreated Petroleum Distillate   | 64742-47-8  | 25.00000 | 0.01472 |      |  |  |
|  |              |                        | Polyethylene glycol                 | 25322-68-3  | 50.00000 | 0.01078 |      |  |  |
|  |              |                        | Sodium Chloride                     | 7647-14-5   | 15.00000 | 0.00883 |      |  |  |
|  |              |                        | Ethylene glycol                     | 107-21-1    | 40.00000 | 0.00732 |      |  |  |
|  |              |                        | Water                               | 7732-18-5   | 30.00000 | 0.00647 |      |  |  |
|  |              |                        | Ammonium glycolate                  | 35249-89-9  | 20.00000 | 0.00426 |      |  |  |
|  |              |                        | Oleic Acid Diethanolamide           | 93-83-4     | 3.00000  | 0.00177 |      |  |  |
|  |              |                        | Alcohol Ethoxylate Surfactants      | 68551-12-2  | 3.00000  | 0.00177 |      |  |  |
|  |              |                        | Ammonium Chloride                   | 12125-02-9  | 2.00000  | 0.00118 |      |  |  |
|  |              |                        | Hydroxyacetic acid                  | 79-14-1     | 5.00000  | 0.00107 |      |  |  |
|  |              |                        | Polyoxyethylene Sorbitan Monooleate | 9005-65-6   | 1.00000  | 0.00059 |      |  |  |
|  |              |                        | Alcohol, C10-16, ethoxylated        | 68002-97-1  | 50.00000 | 0.00042 |      |  |  |
|  |              |                        | Methanol                            | 67-56-1     | 5.00000  | 0.00004 |      |  |  |
|  |              |                        | Formaldehyde                        | 50-00-0     | 1.00000  | 0.00001 |      |  |  |
|  |              |                        | Thiourea                            | 62-56-6     | 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)

ACTUAL WELLPATH REPORT (CSV version)  
Prepared by Baker Hughes  
Software System: WellArchitect® 5.1

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REFERENCE WELLPATH IDENTIFICATION  
Operator CHEVRON APPALACHIA, LLC  
Area Marshall County, WV  
Field Marshall County  
Facility Hicks Pad  
Slot Slot #07  
Well Hicks M07H  
Wellbore Hicks M07H AWB  
Wellpath Hicks M07H 869'  
Sidetrack (none)

REPORT SETUP INFORMATION  
Projection : NAD83 / Lambert West Virginia SP, Northern Zone (4701), US feet  
North Refe TRUE  
Scale 0.99995  
Convergen: 0.78° West  
Software S: WellArchitect® 5.1  
User Hilpithop  
Report Ger 09/Aug/2019 at 09:34  
Database/s: WA\_MPL\_EASTERNUS\_Defn/ev170.xml

|              | Wellpath | Local | North | Local | East    | Easting  | Northing    | Latitude      | Longitude |
|--------------|----------|-------|-------|-------|---------|----------|-------------|---------------|-----------|
|              |          | [ft]  |       | [ft]  | [US ft] | [US ft]  | [US ft]     |               |           |
| Slot Locatic | -87.93   |       | 19.1  |       | 1626587 | 501902.3 | 39°52'17.7" | 80°43'05.624" | W         |
| Facility Ref |          |       |       |       | 1626569 | 501990.5 | 39°52'18.6" | 80°43'05.869" | W         |
| Field Refer  |          |       |       |       | 1644569 | 516963.8 | 39°54'48.9" | 80°39'17.476" | W         |

WELLPATH DATUM  
Calculation Minimum curvature  
Horizontal Slot  
Vertical Rel Precision 560 (RKB)  
MD Refere Precision 560 (RKB)  
Field Vertic Mean Sea Level  
Precision 5 25.00ft  
Precision 5 1165.00ft  
Precision 5 25.00ft  
Section Ori N 0.00, E 0.00 ft

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Section Azi 140.16"

WELL PATH DATA + = interpolated/extrapolated station

| MD<br>(ft) | Inclination<br>[°] | Azimuth<br>[°] | TVD<br>(ft) | Vert Sect<br>(ft) | North<br>(ft) | East<br>(ft) | Grid East<br>[US ft] | Grid North<br>[US ft] | Latitude    | Longitude   | Closure Dis<br>(ft) | Closure Dir<br>[°] | DLS<br>[°/100ft] | Build Rate<br>[°/100ft] | Turn Rate<br>[°/100ft] |
|------------|--------------------|----------------|-------------|-------------------|---------------|--------------|----------------------|-----------------------|-------------|-------------|---------------------|--------------------|------------------|-------------------------|------------------------|
| 0          | 0                  | 113.75         | 0           | 0                 | 0             | 0            | 1626587              | 501902.3              | 39°52'17.7" | 80°43'05.6" | 0                   | 0                  | 0                | 0                       | 0                      |
| 25         | 0                  | 113.75         | 25          | 0                 | 0             | 0            | 1626587              | 501902.3              | 39°52'17.7" | 80°43'05.6" | 0                   | 0                  | 0                | 0                       | 0                      |
| 108        | 0.41               | 113.75         | 108         | 0.27              | -0.12         | 0.27         | 1626587              | 501902.2              | 39°52'17.7" | 80°43'05.6" | 0.3                 | 113.75             | 0.49             | 0.49                    | 137.05                 |
| 133        | 0.46               | 105            | 133         | 0.43              | -0.18         | 0.45         | 1626587              | 501902.2              | 39°52'17.7" | 80°43'05.6" | 0.49                | 111.949            | 0.33             | 0.2                     | -35                    |
| 158        | 0.45               | 109.68         | 158         | 0.59              | -0.24         | 0.64         | 1626587              | 501902.1              | 39°52'17.7" | 80°43'05.6" | 0.68                | 110.606            | 0.15             | -0.04                   | 18.72                  |
| 183        | 0.41               | 111.81         | 183         | 0.76              | -0.31         | 0.82         | 1626587              | 501902                | 39°52'17.7" | 80°43'05.6" | 0.87                | 110.625            | 0.17             | -0.16                   | 8.52                   |
| 208        | 0.52               | 114.62         | 208         | 0.94              | -0.39         | 1            | 1626588              | 501901.9              | 39°52'17.7" | 80°43'05.6" | 1.07                | 111.146            | 0.45             | 0.44                    | 11.24                  |
| 233        | 0.45               | 122.23         | 233         | 1.13              | -0.49         | 1.19         | 1626588              | 501901.8              | 39°52'17.7" | 80°43'05.6" | 1.28                | 112.295            | 0.38             | -0.28                   | 30.44                  |
| 258        | 0.68               | 105.57         | 257.99      | 1.35              | -0.58         | 1.41         | 1626588              | 501901.7              | 39°52'17.7" | 80°43'05.6" | 1.53                | 112.279            | 1.12             | 0.92                    | -66.64                 |
| 283        | 0.78               | 105.89         | 282.99      | 1.61              | -0.67         | 1.72         | 1626588              | 501901.7              | 39°52'17.7" | 80°43'05.6" | 1.84                | 111.152            | 0.4              | 0.4                     | 1.28                   |
| 308        | 0.6                | 109.17         | 307.99      | 1.87              | -0.76         | 2.01         | 1626589              | 501901.6              | 39°52'17.7" | 80°43'05.6" | 2.15                | 110.614            | 0.74             | -0.72                   | 13.12                  |
| 333        | 0.54               | 101.17         | 332.99      | 2.07              | -0.82         | 2.25         | 1626589              | 501901.5              | 39°52'17.7" | 80°43'05.5" | 2.39                | 110.072            | 0.4              | -0.24                   | -32                    |
| 358        | 0.39               | 107.16         | 357.99      | 2.23              | -0.87         | 2.44         | 1626589              | 501901.4              | 39°52'17.7" | 80°43'05.5" | 2.59                | 109.574            | 0.63             | -0.6                    | 23.96                  |
| 383        | 0.53               | 115.28         | 382.99      | 2.41              | -0.94         | 2.63         | 1626589              | 501901.4              | 39°52'17.7" | 80°43'05.5" | 2.79                | 109.736            | 0.62             | 0.56                    | 32.48                  |
| 408        | 0.81               | 110.95         | 407.99      | 2.67              | -1.06         | 2.9          | 1626589              | 501901.2              | 39°52'17.7" | 80°43'05.5" | 3.09                | 110.013            | 1.14             | 1.12                    | -17.32                 |
| 433        | 0.71               | 114.06         | 432.98      | 2.96              | -1.18         | 3.21         | 1626590              | 501901.1              | 39°52'17.7" | 80°43'05.5" | 3.42                | 110.245            | 0.43             | -0.4                    | 12.44                  |
| 455        | 0.66               | 105.42         | 454.98      | 3.19              | -1.27         | 3.45         | 1626590              | 501901                | 39°52'17.7" | 80°43'05.5" | 3.68                | 110.222            | 0.52             | -0.23                   | -39.27                 |
| 562        | 0.82               | 101.44         | 561.97      | 4.29              | -1.59         | 4.8          | 1626591              | 501900.7              | 39°52'17.7" | 80°43'05.5" | 5.05                | 108.31             | 0.16             | 0.15                    | -3.72                  |
| 593        | 0.81               | 103.73         | 592.97      | 4.64              | -1.68         | 5.23         | 1626592              | 501900.6              | 39°52'17.7" | 80°43'05.5" | 5.49                | 107.85             | 0.11             | -0.03                   | 7.39                   |
| 601        | 0.86               | 124.3          | 600.97      | 4.74              | -1.73         | 5.33         | 1626592              | 501900.5              | 39°52'17.7" | 80°43'05.5" | 5.61                | 107.983            | 3.78             | 0.62                    | 257.13                 |
| 624        | 0.79               | 123.17         | 623.97      | 5.06              | -1.91         | 5.61         | 1626592              | 501900.4              | 39°52'17.7" | 80°43'05.5" | 5.92                | 108.853            | 0.31             | -0.3                    | -4.91                  |
| 655        | 0.73               | 112.92         | 654.96      | 5.44              | -2.11         | 5.97         | 1626593              | 501900.2              | 39°52'17.7" | 80°43'05.5" | 6.33                | 109.459            | 0.48             | -0.19                   | -33.06                 |
| 686        | 0.92               | 121.39         | 685.96      | 5.85              | -2.31         | 6.36         | 1626593              | 501899.9              | 39°52'17.7" | 80°43'05.5" | 6.77                | 109.995            | 0.73             | 0.61                    | 27.32                  |
| 717        | 0.88               | 138.18         | 716.96      | 6.33              | -2.62         | 6.73         | 1626593              | 501899.6              | 39°52'17.7" | 80°43'05.5" | 7.23                | 111.276            | 0.86             | -0.13                   | 54.16                  |
| 749        | 1.11               | 136.36         | 748.95      | 6.88              | -3.03         | 7.11         | 1626594              | 501899.2              | 39°52'17.7" | 80°43'05.5" | 7.73                | 113.075            | 0.73             | 0.72                    | -5.69                  |
| 780        | 1.02               | 132.81         | 779.95      | 7.45              | -3.43         | 7.52         | 1626594              | 501898.8              | 39°52'17.7" | 80°43'05.5" | 8.27                | 114.543            | 0.36             | -0.29                   | -11.45                 |
| 811        | 1.33               | 133.91         | 810.94      | 8.09              | -3.87         | 7.98         | 1626594              | 501898.4              | 39°52'17.7" | 80°43'05.5" | 8.87                | 115.873            | 1                | 1                       | 3.55                   |
| 842        | 1.14               | 145.35         | 841.93      | 8.75              | -4.37         | 8.42         | 1626595              | 501897.9              | 39°52'17.7" | 80°43'05.5" | 9.49                | 117.462            | 1                | -0.61                   | 36.9                   |
| 873        | 1.53               | 141.46         | 872.92      | 9.47              | -4.95         | 8.85         | 1626595              | 501897.3              | 39°52'17.7" | 80°43'05.5" | 10.14               | 119.229            | 1.29             | 1.26                    | -12.55                 |
| 905        | 1.69               | 138.94         | 904.91      | 10.37             | -5.64         | 9.43         | 1626596              | 501896.6              | 39°52'17.7" | 80°43'05.5" | 10.99               | 120.902            | 0.55             | 0.5                     | -7.87                  |
| 936        | 1.43               | 133.22         | 935.9       | 11.21             | -6.25         | 10.01        | 1626596              | 501896                | 39°52'17.7" | 80°43'05.4" | 11.8                | 121.99             | 0.98             | -0.84                   | -18.45                 |
| 967        | 0.88               | 116.48         | 966.89      | 11.81             | -6.62         | 10.5         | 1626597              | 501895.6              | 39°52'17.7" | 80°43'05.4" | 12.42               | 122.232            | 2.06             | -1.77                   | -54                    |
| 998        | 0.61               | 49.6           | 997.89      | 12.03             | -6.62         | 10.84        | 1626597              | 501895.6              | 39°52'17.7" | 80°43'05.4" | 12.7                | 121.414            | 2.75             | -0.87                   | -215.74                |
| 1029       | 1.06               | 356.96         | 1028.89     | 11.8              | -6.23         | 10.95        | 1626597              | 501896                | 39°52'17.7" | 80°43'05.4" | 12.6                | 119.626            | 2.72             | 1.45                    | -169.81                |
| 1061       | 1.43               | 350.17         | 1060.88     | 11.22             | -5.54         | 10.87        | 1626597              | 501896.7              | 39°52'17.7" | 80°43'05.4" | 12.2                | 117.006            | 1.24             | 1.16                    | -21.22                 |

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|------|-------|--------|---------|-------|---------|---------|---------|----------|----------------------|--------|---------|------|-------|--------|
| 1092 | 1.84  | 346.88 | 1091.87 | 10.44 | -4.67   | 10.69   | 1626597 | 501897.5 | 39°52'17.780°43'05.4 | 11.67  | 113.615 | 1.36 | 1.32  | -10.61 |
| 1123 | 2.29  | 336.49 | 1122.85 | 9.4   | -3.62   | 10.33   | 1626597 | 501898.6 | 39°52'17.780°43'05.4 | 10.95  | 109.317 | 1.88 | 1.45  | -33.52 |
| 1154 | 2.48  | 334    | 1153.82 | 8.15  | -2.45   | 9.79    | 1626596 | 501899.8 | 39°52'17.780°43'05.4 | 10.09  | 104.053 | 0.7  | 0.61  | -8.03  |
| 1186 | 2.22  | 329.31 | 1185.79 | 6.87  | -1.29   | 9.17    | 1626596 | 501900.9 | 39°52'17.780°43'05.5 | 9.26   | 98.038  | 1.01 | -0.81 | -14.66 |
| 1217 | 1.94  | 312.18 | 1216.77 | 5.76  | -0.43   | 8.47    | 1626595 | 501901.8 | 39°52'17.780°43'05.5 | 8.48   | 92.879  | 2.19 | -0.9  | -55.26 |
| 1248 | 1.63  | 290.13 | 1247.76 | 4.85  | 0.08    | 7.67    | 1626594 | 501902.3 | 39°52'17.780°43'05.5 | 7.67   | 89.418  | 2.41 | -1    | -71.13 |
| 1279 | 1.73  | 263.71 | 1278.75 | 4.21  | 0.18    | 6.79    | 1626593 | 501902.4 | 39°52'17.780°43'05.5 | 6.79   | 88.495  | 2.5  | 0.32  | -85.23 |
| 1310 | 2.33  | 243.97 | 1309.73 | 3.8   | -0.15   | 5.76    | 1626592 | 501902.1 | 39°52'17.780°43'05.5 | 5.76   | 91.486  | 2.95 | 1.94  | -63.68 |
| 1342 | 3.28  | 227.46 | 1341.69 | 3.69  | -1.05   | 4.5     | 1626591 | 501901.2 | 39°52'17.780°43'05.5 | 4.62   | 103.178 | 3.87 | 2.97  | -51.59 |
| 1373 | 4.02  | 221.24 | 1372.63 | 3.9   | -2.47   | 3.13    | 1626590 | 501899.8 | 39°52'17.780°43'05.5 | 3.99   | 128.275 | 2.7  | 2.39  | -20.06 |
| 1404 | 4.6   | 217.31 | 1403.54 | 4.35  | -4.28   | 1.66    | 1626588 | 501898   | 39°52'17.780°43'05.6 | 4.59   | 158.77  | 2.1  | 1.87  | -12.68 |
| 1435 | 5.04  | 212.73 | 1434.43 | 5.03  | -6.41   | 0.17    | 1626587 | 501895.9 | 39°52'17.780°43'05.6 | 6.41   | 178.467 | 1.88 | 1.42  | -14.77 |
| 1466 | 6.14  | 205.69 | 1465.28 | 6.13  | -9.05   | -1.28   | 1626585 | 501893.3 | 39°52'17.680°43'05.6 | 9.14   | 188.071 | 4.18 | 3.55  | -22.71 |
| 1498 | 6.84  | 200.5  | 1497.08 | 7.78  | -12.38  | -2.69   | 1626584 | 501890   | 39°52'17.680°43'05.6 | 12.67  | 192.273 | 2.85 | 2.19  | -16.22 |
| 1529 | 7.1   | 194.08 | 1527.85 | 9.82  | -15.96  | -3.81   | 1626583 | 501886.4 | 39°52'17.680°43'05.6 | 16.41  | 193.406 | 2.65 | 0.84  | -20.71 |
| 1560 | 7.29  | 188.05 | 1558.6  | 12.27 | -19.77  | -4.55   | 1626582 | 501882.6 | 39°52'17.580°43'05.6 | 20.29  | 192.951 | 2.51 | 0.61  | -19.45 |
| 1591 | 7.47  | 186.08 | 1589.35 | 14.99 | -23.72  | -5.04   | 1626581 | 501878.7 | 39°52'17.580°43'05.6 | 24.25  | 191.985 | 1    | 0.58  | -6.35  |
| 1622 | 7.79  | 184.28 | 1620.07 | 17.9  | -27.82  | -5.41   | 1626581 | 501874.6 | 39°52'17.580°43'05.6 | 28.34  | 190.996 | 1.29 | 1.03  | -5.81  |
| 1653 | 8.14  | 183.81 | 1650.77 | 20.99 | -32.11  | -5.71   | 1626580 | 501870.3 | 39°52'17.480°43'05.6 | 32.61  | 190.082 | 1.15 | 1.13  | -1.52  |
| 1684 | 7.98  | 185.16 | 1681.47 | 24.1  | -36.44  | -6.05   | 1626580 | 501866   | 39°52'17.480°43'05.7 | 36.94  | 189.424 | 0.8  | -0.52 | 4.35   |
| 1716 | 7.27  | 187.02 | 1713.18 | 27.06 | -40.66  | -6.5    | 1626580 | 501861.8 | 39°52'17.380°43'05.7 | 41.18  | 189.076 | 2.35 | 2.35  | 5.81   |
| 1747 | 7.17  | 189.3  | 1743.94 | 29.67 | -44.52  | -7.05   | 1626579 | 501857.9 | 39°52'17.380°43'05.7 | 45.07  | 188.996 | 0.98 | -0.32 | 7.35   |
| 1778 | 7.2   | 190.5  | 1774.7  | 32.17 | -48.34  | -7.71   | 1626578 | 501854.1 | 39°52'17.380°43'05.7 | 48.95  | 189.068 | 0.49 | 0.1   | 3.87   |
| 1809 | 7.34  | 191.2  | 1805.45 | 34.66 | -52.19  | -8.45   | 1626577 | 501850.3 | 39°52'17.280°43'05.7 | 52.87  | 189.2   | 0.53 | 0.45  | 2.26   |
| 1841 | 7.61  | 191.16 | 1837.17 | 37.28 | -56.27  | -9.26   | 1626577 | 501846.2 | 39°52'17.280°43'05.7 | 57.03  | 189.345 | 0.84 | 0.84  | -0.12  |
| 1872 | 7.76  | 191.28 | 1867.9  | 39.88 | -60.34  | -10.07  | 1626576 | 501842.2 | 39°52'17.180°43'05.7 | 61.17  | 189.472 | 0.49 | 0.48  | 0.39   |
| 1903 | 8.02  | 190.94 | 1898.6  | 42.56 | -64.51  | -10.89  | 1626575 | 501838   | 39°52'17.180°43'05.7 | 65.43  | 189.578 | 0.85 | 0.84  | -1.1   |
| 1934 | 8.37  | 191.4  | 1929.29 | 45.34 | -68.85  | -11.74  | 1626574 | 501833.7 | 39°52'17.180°43'05.7 | 69.84  | 189.679 | 1.15 | 1.13  | 1.48   |
| 1965 | 8.44  | 191.02 | 1959.95 | 48.19 | -73.29  | -12.62  | 1626573 | 501829.2 | 39°52'17.080°43'05.7 | 74.37  | 189.772 | 0.29 | 0.23  | -1.23  |
| 1996 | 7.87  | 189.73 | 1990.64 | 51    | -77.62  | -13.42  | 1626572 | 501824.9 | 39°52'17.080°43'05.7 | 78.77  | 189.807 | 1.93 | -1.84 | -4.16  |
| 2097 | 7.88  | 188.93 | 2090.69 | 60.05 | -91.27  | -15.66  | 1626570 | 501811.3 | 39°52'16.880°43'05.8 | 92.61  | 189.736 | 0.11 | 0.01  | -0.79  |
| 2187 | 8.22  | 245.01 | 2179.93 | 62.47 | -100.1  | -22.46  | 1626563 | 501802.6 | 39°52'16.780°43'06.1 | 102.59 | 192.646 | 8.39 | 0.38  | 62.31  |
| 2276 | 13.65 | 272.09 | 2267.33 | 53.81 | -102.41 | -38.74  | 1626546 | 501800.5 | 39°52'16.780°43'06.1 | 109.49 | 200.723 | 8.24 | 6.1   | 30.43  |
| 2366 | 14.78 | 256.99 | 2354.61 | 41.53 | -104.61 | -60.55  | 1626525 | 501798.6 | 39°52'16.780°43'06.4 | 120.87 | 210.064 | 4.29 | 1.26  | -16.78 |
| 2455 | 14.5  | 242.22 | 2440.75 | 34.07 | -112.36 | -81.48  | 1626504 | 501791.1 | 39°52'16.680°43'06.6 | 138.79 | 215.948 | 4.2  | -0.31 | -16.6  |
| 2545 | 13.78 | 231.39 | 2528.04 | 31.49 | -124.3  | -99.82  | 1626485 | 501779.4 | 39°52'16.580°43'06.9 | 159.42 | 218.768 | 3.04 | -0.8  | -12.03 |
| 2634 | 17.32 | 231.68 | 2613.77 | 30.91 | -139.13 | -118.51 | 1626466 | 501764.8 | 39°52'16.480°43'07.1 | 182.76 | 220.423 | 3.98 | 3.98  | 0.33   |
| 2724 | 22.71 | 233.85 | 2698.3  | 29.44 | -157.7  | -143.06 | 1626441 | 501746.6 | 39°52'16.280°43'07.4 | 212.92 | 222.214 | 6.04 | 5.99  | 2.41   |
| 2813 | 25.56 | 224.65 | 2779.54 | 30.17 | -181.51 | -170.44 | 1626414 | 501723.2 | 39°52'15.980°43'07.8 | 248.99 | 223.199 | 5.29 | 3.2   | -10.34 |
| 2903 | 28    | 217.8  | 2859.9  | 36.56 | -212.03 | -197.05 | 1626387 | 501693   | 39°52'15.680°43'08.1 | 289.45 | 222.903 | 4.37 | 2.71  | -7.61  |
| 2992 | 29.2  | 219.82 | 2938.04 | 44.93 | -245.21 | -223.76 | 1626360 | 501660.2 | 39°52'15.380°43'08.4 | 331.96 | 222.381 | 1.73 | 1.35  | 2.27   |

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|------|-------|--------|---------|--------|----------|----------|---------|-----------|-------------|--------------|---------|---------|-------|--------|--------|
| 3082 | 29.26 | 224.47 | 3016.59 | 51.05  | -277.77  | -253.23  | 1626330 | 501628.39 | 52°15.0'N   | 80°43'08.8"W | 375.87  | 222.353 | 2.52  | 0.07   | 5.17   |
| 3171 | 30.51 | 225.58 | 3093.76 | 55.02  | -309.11  | -284.6   | 1626298 | 501597.1  | 39°52'14.7" | 80°43'09.2"W | 420.17  | 222.636 | 1.54  | 1.4    | 1.25   |
| 3661 | 30.54 | 223.69 | 3171.28 | 59.42  | -341.63  | -316.71  | 1626265 | 501565.1  | 39°52'14.4" | 80°43'09.6"W | 465.85  | 222.832 | 1.07  | 0.03   | -2.1   |
| 3950 | 29.73 | 223.74 | 3248.25 | 64.43  | -373.93  | -347.59  | 1626234 | 501533.2  | 39°52'14.0" | 80°43'10.0"W | 510.53  | 222.91  | 0.91  | -0.91  | 0.06   |
| 4440 | 30.55 | 230.21 | 3326.11 | 66.91  | -404.7   | -380.61  | 1626201 | 501502.9  | 39°52'13.7" | 80°43'10.5"W | 555.55  | 223.243 | 3.72  | 0.91   | 7.19   |
| 4529 | 30.51 | 230.61 | 3402.77 | 66.71  | -433.51  | -415.45  | 1626165 | 501474.5  | 39°52'13.5" | 80°43'10.9"W | 600.44  | 223.781 | 0.23  | -0.04  | 0.45   |
| 4619 | 30.54 | 228.16 | 3480.3  | 67.33  | -463.26  | -450.14  | 1626130 | 501445.3  | 39°52'13.2" | 80°43'11.3"W | 645.94  | 224.177 | 1.38  | 0.03   | -2.72  |
| 4678 | 29.66 | 226.45 | 3557.3  | 69.54  | -493.52  | -482.95  | 1626097 | 501415.4  | 39°52'12.9" | 80°43'11.8"W | 690.51  | 224.38  | 1.38  | -0.99  | -1.92  |
| 4798 | 29.37 | 225.34 | 3635.62 | 72.84  | -524.37  | -514.79  | 1626065 | 501385.9  | 39°52'12.6" | 80°43'12.2"W | 734.83  | 224.471 | 0.69  | -0.32  | -1.23  |
| 4888 | 30.11 | 226.71 | 3713.76 | 76.05  | -555.37  | -546.92  | 1626032 | 501354.5  | 39°52'12.2" | 80°43'12.6"W | 779.46  | 224.561 | 1.12  | 0.82   | 1.52   |
| 4978 | 30.36 | 231.01 | 3791.53 | 77.07  | -585.16  | -581.03  | 1625998 | 501325.1  | 39°52'12.0" | 80°43'13.0"W | 824.63  | 224.797 | 2.42  | 0.28   | 4.78   |
| 4067 | 30.25 | 234.81 | 3868.38 | 74.92  | -612.23  | -616.84  | 1625962 | 501298.6  | 39°52'11.7" | 80°43'13.5"W | 869.09  | 225.215 | 2.16  | -0.12  | 4.27   |
| 4157 | 29.89 | 238.62 | 3946.27 | 69.78  | -636.98  | -654.51  | 1625924 | 501274.3  | 39°52'11.4" | 80°43'14.0"W | 913.31  | 225.778 | 2.16  | -0.12  | 4.23   |
| 4246 | 16.88 | 226.09 | 4027.83 | 67.43  | -657.59  | -682.89  | 1625895 | 501254.1  | 39°52'11.2" | 80°43'14.6"W | 948.03  | 226.081 | 15.57 | -14.62 | -14.08 |
| 4336 | 19.37 | 225.91 | 4113.36 | 69.46  | -677.04  | -703.03  | 1625874 | 501234.9  | 39°52'11.0" | 80°43'14.9"W | 976.03  | 226.079 | 2.77  | 2.77   | -0.2   |
| 4425 | 22.29 | 230.6  | 4196.54 | 70.43  | -698.03  | -726.68  | 1625851 | 501214.3  | 39°52'10.8" | 80°43'15.6"W | 1007.62 | 226.152 | 3.78  | 3.28   | 5.27   |
| 4515 | 25.58 | 225.77 | 4278.8  | 71.78  | -722.42  | -753.8   | 1625823 | 501190.2  | 39°52'10.6" | 80°43'15.2"W | 1044.08 | 226.218 | 4.25  | 3.66   | -5.37  |
| 4604 | 29.9  | 222.72 | 4357.55 | 76.13  | -752.14  | -782.63  | 1625794 | 501160.9  | 39°52'10.3" | 80°43'15.6"W | 1085.46 | 226.138 | 5.11  | 4.85   | -3.43  |
| 4694 | 29.65 | 224.77 | 4435.67 | 81.12  | -784.42  | -813.53  | 1625763 | 501129.1  | 39°52'10.0" | 80°43'16.0"W | 1130.11 | 226.044 | 1.16  | -0.28  | 2.28   |
| 4784 | 30.36 | 231.29 | 4513.63 | 82.77  | -814.46  | -846.96  | 1625729 | 501099.5  | 39°52'09.7" | 80°43'16.4"W | 1175.03 | 226.121 | 3.71  | 0.79   | 7.24   |
| 4873 | 31.4  | 236.32 | 4590.03 | 79.83  | -841.39  | -883.82  | 1625691 | 501073.1  | 39°52'09.4" | 80°43'16.9"W | 1220.27 | 226.409 | 3.13  | 1.17   | 5.65   |
| 4963 | 32.04 | 239.92 | 4666.59 | 73.27  | -866.36  | -923.99  | 1625651 | 501048.6  | 39°52'09.2" | 80°43'17.4"W | 1266.62 | 226.844 | 2.22  | 0.71   | 4      |
| 5052 | 32.02 | 241.08 | 4742.04 | 64.8   | -889.6   | -965.07  | 1625610 | 501026.9  | 39°52'08.9" | 80°43'18.0"W | 1312.53 | 227.33  | 0.69  | -0.02  | 1.3    |
| 5142 | 32.12 | 238.23 | 4818.31 | 56.92  | -913.74  | -1006.3  | 1625568 | 501002.4  | 39°52'08.7" | 80°43'18.5"W | 1359.25 | 227.76  | 1.68  | 0.11   | -3.17  |
| 5231 | 32.14 | 233.9  | 4893.69 | 52.05  | -940.15  | -1045.55 | 1625528 | 500976.5  | 39°52'08.4" | 80°43'19.0"W | 1406.07 | 228.038 | 2.59  | 0.02   | -4.87  |
| 5321 | 31.8  | 231.24 | 4970.05 | 50.05  | -969.1   | -1083.38 | 1625490 | 500948.1  | 39°52'08.2" | 80°43'19.5"W | 1453.57 | 228.187 | 1.61  | -0.38  | -2.96  |
| 5410 | 30.54 | 238.38 | 5046.22 | 46.37  | -995.64  | -1120.94 | 1625452 | 500922.9  | 39°52'07.9" | 80°43'20.0"W | 1499.27 | 228.388 | 4.38  | -1.42  | 8.02   |
| 5500 | 31.45 | 241.47 | 5123.38 | 38.49  | -1018.85 | -1161.04 | 1625412 | 500899.4  | 39°52'07.7" | 80°43'20.5"W | 1544.69 | 228.732 | 2.04  | 1.01   | 3.43   |
| 5589 | 32.16 | 234.76 | 5199.04 | 32.04  | -1043.61 | -1200.8  | 1625372 | 500875.2  | 39°52'07.4" | 80°43'21.0"W | 1590.93 | 229.006 | 4.05  | 0.8    | -7.54  |
| 5679 | 32.02 | 228.29 | 5275.31 | 30.9   | -1073.32 | -1238.18 | 1625334 | 500846.6  | 39°52'07.1" | 80°43'21.5"W | 1638.63 | 229.08  | 3.82  | -0.16  | -7.19  |
| 5768 | 32.16 | 231.31 | 5350.71 | 31.19  | -1103.83 | -1274.29 | 1625297 | 500816.6  | 39°52'06.8" | 80°43'21.9"W | 1685.9  | 229.1   | 1.81  | 0.16   | 3.39   |
| 5858 | 32.02 | 234.69 | 5426.97 | 28.83  | -1137.59 | -1312.46 | 1625259 | 500787.7  | 39°52'06.5" | 80°43'22.4"W | 1733.58 | 229.207 | 2     | -0.16  | 3.76   |
| 5947 | 31.56 | 236.32 | 5502.62 | 24.46  | -1159.15 | -1351.09 | 1625220 | 500761.7  | 39°52'06.3" | 80°43'22.9"W | 1780.19 | 229.373 | 1.09  | -0.52  | 1.83   |
| 6037 | 28.5  | 235.77 | 5580.53 | 19.84  | -1184.29 | -1388.46 | 1625182 | 500737.9  | 39°52'06.0" | 80°43'23.4"W | 1824.93 | 229.537 | 3.41  | -3.4   | -0.61  |
| 6126 | 29.03 | 232.13 | 5658.55 | 17.02  | -1209.5  | -1423.06 | 1625147 | 500712.3  | 39°52'05.8" | 80°43'23.8"W | 1867.61 | 229.638 | 2.06  | 0.6    | -4.09  |
| 6216 | 29.23 | 215.03 | 5737.31 | 22.01  | -1240.95 | -1452.96 | 1625117 | 500681.3  | 39°52'05.5" | 80°43'24.2"W | 1910.78 | 229.5   | 9.23  | 0.22   | -1.9   |
| 6305 | 30.59 | 203.2  | 5814.52 | 37.96  | -1279.59 | -1474.38 | 1625095 | 500642.9  | 39°52'05.1" | 80°43'24.5"W | 1952.22 | 229.046 | 6.79  | 1.53   | -13.29 |
| 6395 | 30.38 | 194.24 | 5892.12 | 61.71  | -1322.72 | -1489.01 | 1625080 | 500600.9  | 39°52'04.7" | 80°43'24.7"W | 1991.67 | 228.384 | 5.05  | -0.23  | -9.96  |
| 6484 | 34    | 187.81 | 5967.45 | 91.69  | -1369.22 | -1497.93 | 1625070 | 500553.6  | 39°52'04.2" | 80°43'24.8"W | 2029.42 | 227.57  | 5.59  | 4.07   | -7.22  |
| 6573 | 37.69 | 184.54 | 6039.59 | 127.92 | -1421.02 | -1503.47 | 1625064 | 500501.9  | 39°52'03.7" | 80°43'24.9"W | 2068.74 | 226.615 | 4.67  | 4.15   | -3.67  |
| 6663 | 43.12 | 182.04 | 6108.1  | 170.52 | -1479.23 | -1506.74 | 1625060 | 500443.8  | 39°52'03.1" | 80°43'24.9"W | 2111.49 | 225.528 | 6.3   | 6.03   | -2.78  |



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|-------|-------|--------|---------|---------|----------|----------|---------|----------|-------------|-------------|---------|---------|-------|-------|--------|
| 6752  | 50.4  | 176.97 | 6169.05 | 220.7   | -1543.98 | -1506.01 | 1625060 | 500379   | 39°52'02.5" | 80°43'24.9" | 2156.83 | 224.287 | 9.17  | 8.18  | -5.7   |
| 6842  | 59.46 | 170.21 | 6220.75 | 282.19  | -1617    | -1497.56 | 1625067 | 500305.9 | 39°52'01.8" | 80°43'24.8" | 2203.95 | 222.804 | 11.79 | 10.07 | -7.51  |
| 6931  | 66.75 | 160.59 | 6261.05 | 353.91  | -1693.58 | -1477.39 | 1625086 | 500229   | 39°52'01.0" | 80°43'24.5" | 2247.42 | 221.1   | 12.64 | 8.19  | -10.81 |
| 7020  | 71.59 | 150.77 | 6292.76 | 433.94  | -1769.2  | -1443.1  | 1625120 | 500153   | 39°52'00.3" | 80°43'24.1" | 2283.11 | 219.203 | 11.65 | 5.44  | -11.03 |
| 7110  | 72.95 | 143.21 | 6320.2  | 518.98  | -1841.01 | -1396.42 | 1625165 | 500080.5 | 39°51'59.5" | 80°43'23.5" | 2310.69 | 217.181 | 8.14  | 1.51  | -8.4   |
| 7199  | 75.19 | 140.7  | 6344.63 | 604.51  | -1908.39 | -1343.67 | 1625217 | 500012.4 | 39°51'58.9" | 80°43'22.8" | 2333.97 | 215.149 | 3.7   | 2.52  | -2.82  |
| 7289  | 82.06 | 145    | 6362.38 | 692.57  | -1978.68 | -1290.47 | 1625269 | 499941.4 | 39°51'58.2" | 80°43'22.1" | 2362.3  | 213.112 | 8.95  | 7.63  | 4.78   |
| 7378  | 86.95 | 147.66 | 6370.9  | 780.61  | -2052.38 | -1241.38 | 1625318 | 499867.1 | 39°51'57.5" | 80°43'21.5" | 2398.6  | 211.168 | 6.25  | 5.49  | 2.99   |
| 7468  | 89.63 | 148.67 | 6373.59 | 869.69  | -2128.8  | -1193.93 | 1625364 | 499790   | 39°51'56.7" | 80°43'20.9" | 2440.75 | 209.286 | 3.18  | 2.98  | 1.12   |
| 7557  | 89.6  | 144.83 | 6374.19 | 958.08  | -2203.22 | -1145.14 | 1625412 | 499715   | 39°51'56.0" | 80°43'20.3" | 2483.05 | 207.464 | 4.31  | -0.03 | -4.31  |
| 7646  | 88.28 | 138.41 | 6375.83 | 1046.99 | -2272.94 | -1089.93 | 1625466 | 499644.5 | 39°51'55.3" | 80°43'19.6" | 2520.75 | 205.619 | 7.36  | -1.48 | -7.21  |
| 7736  | 87.26 | 140.98 | 6379.34 | 1136.91 | -2341.51 | -1031.76 | 1625523 | 499575.2 | 39°51'54.6" | 80°43'18.8" | 2558.75 | 203.78  | 3.07  | -1.13 | 2.86   |
| 7825  | 87.88 | 146.68 | 6383.11 | 1225.61 | -2413.27 | -979.3   | 1625575 | 499502.7 | 39°51'53.9" | 80°43'18.1" | 2604.4  | 202.087 | 6.44  | 0.7   | 6.4    |
| 7915  | 89.08 | 149.46 | 6385.5  | 1314.71 | -2489.61 | -931.73  | 1625621 | 499425.7 | 39°51'53.1" | 80°43'17.5" | 2658.25 | 200.518 | 3.36  | 1.33  | 3.09   |
| 8004  | 89.91 | 151.13 | 6386.29 | 1402.31 | -2566.91 | -887.63  | 1625664 | 499347.8 | 39°51'52.4" | 80°43'16.4" | 2716.05 | 199.075 | 2.1   | 0.93  | 1.88   |
| 8094  | 90.31 | 146.8  | 6386.11 | 1491.23 | -2644.01 | -841.24  | 1625710 | 499270.1 | 39°51'51.6" | 80°43'16.4" | 2774.61 | 197.649 | 4.83  | 0.44  | -4.81  |
| 8183  | 90.06 | 144.87 | 6385.83 | 1579.79 | -2717.64 | -791.26  | 1625759 | 499195.8 | 39°51'50.9" | 80°43'15.7" | 2830.49 | 196.233 | 2.19  | -0.28 | -2.17  |
| 8273  | 90.4  | 137.75 | 6385.46 | 1669.71 | -2787.85 | -735.04  | 1625814 | 499124.9 | 39°51'50.2" | 80°43'15.0" | 2883.12 | 194.77  | 7.92  | 0.38  | -7.91  |
| 8362  | 89.57 | 137.46 | 6385.49 | 1758.62 | -2853.57 | -675.03  | 1625873 | 499058.3 | 39°51'49.5" | 80°43'14.2" | 2932.33 | 193.309 | 0.99  | -0.93 | -0.33  |
| 8451  | 89.57 | 137.91 | 6386.16 | 1847.54 | -2919.38 | -615.12  | 1625932 | 498991.7 | 39°51'48.9" | 80°43'13.5" | 2983.48 | 191.898 | 0.51  | 0     | 0.51   |
| 8541  | 90    | 137.7  | 6386.49 | 1937.46 | -2986.06 | -554.67  | 1625991 | 498924.2 | 39°51'48.2" | 80°43'12.7" | 3037.14 | 190.523 | 0.53  | 0.48  | -0.23  |
| 8630  | 87.26 | 138.31 | 6388.62 | 2026.36 | -3052.18 | -495.14  | 1626050 | 498857.3 | 39°51'47.6" | 80°43'11.9" | 3092.08 | 189.215 | 3.15  | -3.08 | 0.69   |
| 8719  | 88.34 | 143.12 | 6392.04 | 2115.27 | -3121    | -438.85  | 1626105 | 498787.7 | 39°51'46.9" | 80°43'11.2" | 3151.7  | 188.004 | 5.54  | 1.21  | 5.4    |
| 8809  | 89.91 | 146.22 | 6393.41 | 2204.96 | -3194.4  | -386.82  | 1626156 | 498713.6 | 39°51'46.2" | 80°43'10.5" | 3217.74 | 186.905 | 3.86  | 1.74  | 3.44   |
| 8898  | 90.77 | 140.74 | 6392.89 | 2293.78 | -3265.9  | -333.88  | 1626208 | 498641.4 | 39°51'45.5" | 80°43'09.9" | 3282.92 | 185.837 | 6.23  | 0.97  | -6.16  |
| 8988  | 90.09 | 136.51 | 6392.21 | 2383.72 | -3333.42 | -274.4   | 1626267 | 498573.1 | 39°51'44.8" | 80°43'09.1" | 3344.69 | 184.706 | 4.76  | -0.76 | -4.7   |
| 9078  | 88.92 | 135.57 | 6392.99 | 2473.48 | -3398.2  | -211.94  | 1626329 | 498507.5 | 39°51'44.2" | 80°43'08.3" | 3404.8  | 183.569 | 1.67  | -1.3  | -1.04  |
| 9167  | 89.02 | 137.33 | 6394.59 | 2562.28 | -3462.69 | -150.63  | 1626389 | 498442.2 | 39°51'43.5" | 80°43'07.5" | 3465.96 | 182.491 | 1.98  | 0.11  | 1.98   |
| 9257  | 89.75 | 135.25 | 6395.55 | 2652.06 | -3527.74 | -88.44   | 1626450 | 498376.3 | 39°51'42.9" | 80°43'06.7" | 3528.84 | 181.436 | 2.45  | 0.81  | -2.31  |
| 9346  | 89.08 | 133.66 | 6396.46 | 2740.61 | -3590.06 | -24.92   | 1626513 | 498313.1 | 39°51'42.3" | 80°43'05.9" | 3590.15 | 180.398 | 1.94  | -0.75 | -1.79  |
| 9435  | 89.01 | 134.7  | 6397.95 | 2829.12 | -3652.08 | 38.9     | 1626576 | 498250.3 | 39°51'41.6" | 80°43'05.1" | 3652.28 | 179.39  | 1.17  | -0.08 | 1.17   |
| 9525  | 88.24 | 139.26 | 6400.11 | 2918.93 | -3717.84 | 100.26   | 1626636 | 498183.7 | 39°51'41.0" | 80°43'04.3" | 3719.19 | 178.455 | 5.14  | -0.86 | 5.07   |
| 9614  | 87.78 | 139.55 | 6403.2  | 3007.87 | -3785.38 | 158.14   | 1626693 | 498115.4 | 39°51'40.3" | 80°43'03.5" | 3788.68 | 177.608 | 0.61  | -0.52 | 0.33   |
| 9703  | 88.4  | 139.21 | 6406.16 | 3096.81 | -3852.9  | 216.05   | 1626750 | 498047.1 | 39°51'39.7" | 80°43'02.8" | 3858.95 | 176.79  | 0.79  | 0.7   | -0.38  |
| 9793  | 89.08 | 139.11 | 6408.14 | 3186.77 | -3920.97 | 274.89   | 1626808 | 497978.2 | 39°51'39.0" | 80°43'02.0" | 3930.59 | 175.99  | 0.76  | 0.76  | -0.11  |
| 9882  | 88.92 | 139.08 | 6409.7  | 3275.74 | -3988.22 | 333.16   | 1626866 | 497910.2 | 39°51'38.3" | 80°43'01.3" | 4002.12 | 175.225 | 0.18  | -0.18 | -0.03  |
| 9972  | 89.05 | 140.47 | 6411.29 | 3365.72 | -4056.93 | 391.27   | 1626923 | 497840.7 | 39°51'37.6" | 80°43'00.6" | 4075.75 | 174.491 | 1.55  | 0.14  | 1.54   |
| 10061 | 89.05 | 140.04 | 6412.77 | 3454.71 | -4125.35 | 448.17   | 1626979 | 497771.5 | 39°51'37.0" | 80°42'59.8" | 4149.62 | 173.8   | 0.48  | 0     | -0.48  |
| 10151 | 88.89 | 138.65 | 6414.38 | 3544.69 | -4193.62 | 506.79   | 1627036 | 497702.5 | 39°51'36.3" | 80°42'59.1" | 4224.13 | 173.109 | 1.55  | -0.18 | -1.54  |
| 10240 | 88.92 | 139.06 | 6416.08 | 3633.65 | -4260.62 | 565.34   | 1627094 | 497634.7 | 39°51'35.6" | 80°42'58.3" | 4297.97 | 172.442 | 0.46  | 0.03  | 0.46   |
| 10329 | 88.95 | 139.49 | 6417.74 | 3722.62 | -4328.06 | 623.4    | 1627151 | 497566.5 | 39°51'35.0" | 80°42'57.6" | 4372.73 | 171.804 | 0.48  | 0.03  | 0.48   |

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|-------|-------|--------|---------|---------|----------|---------|---------|----------|------------|------------|---------|---------|------|-------|-------|
| 10419 | 89.29 | 140.25 | 6419.12 | 3812.61 | -4396.86 | 681.4   | 1627208 | 497496.9 | 39°51'34.3 | 80°42'56.8 | 4449.35 | 171.191 | 0.93 | 0.38  | 0.84  |
| 10508 | 89.08 | 138.87 | 6420.39 | 3901.59 | -4464.59 | 739.12  | 1627265 | 497428.4 | 39°51'33.6 | 80°42'56.1 | 4525.36 | 170.6   | 1.57 | -0.24 | -1.55 |
| 10598 | 89.32 | 139.75 | 6421.64 | 3991.57 | -4532.83 | 797.79  | 1627323 | 497359.4 | 39°51'32.9 | 80°42'55.3 | 4602.5  | 170.018 | 1.01 | 0.27  | 0.98  |
| 10687 | 89.17 | 139.41 | 6422.82 | 4080.56 | -4600.58 | 855.49  | 1627380 | 497290.8 | 39°51'32.3 | 80°42'54.6 | 4679.44 | 169.466 | 0.42 | -0.17 | -0.38 |
| 10776 | 89.23 | 139.44 | 6424.06 | 4169.54 | -4668.17 | 913.38  | 1627437 | 497222.5 | 39°51'31.6 | 80°42'53.9 | 4756.69 | 168.929 | 0.08 | 0.07  | 0.03  |
| 10866 | 89.42 | 139.24 | 6425.12 | 4259.53 | -4736.44 | 972.01  | 1627494 | 497153.4 | 39°51'30.9 | 80°42'53.1 | 4835.15 | 168.403 | 0.31 | 0.21  | -0.22 |
| 10955 | 89.35 | 139.01 | 6426.07 | 4348.51 | -4803.73 | 1030.25 | 1627552 | 497085.3 | 39°51'30.3 | 80°42'52.4 | 4912.97 | 167.895 | 0.27 | -0.08 | -0.26 |
| 11045 | 89.85 | 139.56 | 6426.7  | 4438.49 | -4871.95 | 1088.96 | 1627609 | 497016.3 | 39°51'29.6 | 80°42'51.6 | 4992.16 | 167.401 | 0.83 | 0.56  | 0.61  |
| 11134 | 89.75 | 138.81 | 6427.01 | 4527.48 | -4939.3  | 1147.13 | 1627667 | 496948.2 | 39°51'28.9 | 80°42'50.9 | 5070.76 | 166.925 | 0.85 | -0.11 | -0.84 |
| 11224 | 89.69 | 138.88 | 6427.45 | 4617.46 | -5007.07 | 1206.36 | 1627725 | 496879.6 | 39°51'28.3 | 80°42'50.1 | 5150.34 | 166.454 | 0.1  | -0.07 | 0.08  |
| 11313 | 89.6  | 138.83 | 6428    | 4706.43 | -5074.09 | 1264.91 | 1627782 | 496811.8 | 39°51'27.6 | 80°42'49.4 | 5229.38 | 166.002 | 0.12 | -0.07 | -0.06 |
| 11402 | 89.88 | 139.53 | 6428.41 | 4795.42 | -5141.44 | 1323.09 | 1627840 | 496743.7 | 39°51'26.9 | 80°42'48.6 | 5308.95 | 165.569 | 0.85 | 0.31  | 0.79  |
| 11491 | 89.66 | 139.19 | 6428.77 | 4884.41 | -5208.97 | 1381.06 | 1627897 | 496675.4 | 39°51'26.3 | 80°42'47.9 | 5388.94 | 165.151 | 0.46 | -0.25 | -0.38 |
| 11581 | 89.72 | 139.29 | 6429.25 | 4974.39 | -5277.14 | 1439.82 | 1627955 | 496606.4 | 39°51'25.6 | 80°42'47.1 | 5470.04 | 164.739 | 0.13 | 0.07  | 0.11  |
| 11670 | 89.66 | 139.43 | 6429.73 | 5063.38 | -5344.68 | 1497.78 | 1628012 | 496538.1 | 39°51'24.9 | 80°42'46.4 | 5550.58 | 164.345 | 0.17 | -0.07 | 0.16  |
| 11759 | 89.78 | 139.06 | 6430.17 | 5152.37 | -5412.09 | 1555.88 | 1628069 | 496469.9 | 39°51'24.2 | 80°42'45.6 | 5631.3  | 163.961 | 0.44 | 0.13  | -0.42 |
| 11849 | 89.75 | 139.32 | 6430.54 | 5242.36 | -5480.21 | 1614.7  | 1628127 | 496401.3 | 39°51'23.6 | 80°42'44.9 | 5713.14 | 163.583 | 0.29 | -0.03 | 0.29  |
| 11938 | 89.11 | 139.93 | 6431.42 | 5331.35 | -5548.01 | 1672.35 | 1628183 | 496332.5 | 39°51'22.9 | 80°42'44.1 | 5794.58 | 163.225 | 0.99 | -0.72 | 0.69  |
| 12028 | 89.29 | 142.96 | 6432.68 | 5421.31 | -5618.38 | 1728.43 | 1628239 | 496261.3 | 39°51'22.2 | 80°42'43.4 | 5878.23 | 162.9   | 3.37 | 0.2   | 3.37  |
| 12117 | 89.05 | 139.16 | 6433.97 | 5510.27 | -5687.58 | 1784.35 | 1628294 | 496191.4 | 39°51'21.5 | 80°42'42.7 | 5960.91 | 162.582 | 4.28 | -0.27 | -4.27 |
| 12206 | 89.23 | 139.12 | 6435.31 | 5599.25 | -5754.88 | 1842.57 | 1628351 | 496123.3 | 39°51'20.9 | 80°42'41.9 | 6042.66 | 162.246 | 0.21 | 0.2   | -0.04 |
| 12296 | 89.32 | 139.44 | 6436.44 | 5689.23 | -5823.09 | 1901.28 | 1628409 | 496054.3 | 39°51'20.2 | 80°42'41.2 | 6125.62 | 161.918 | 0.37 | 0.1   | 0.36  |
| 12385 | 89.54 | 139.36 | 6437.33 | 5778.22 | -5890.66 | 1959.2  | 1628466 | 495986.3 | 39°51'19.5 | 80°42'40.5 | 6207.93 | 161.603 | 0.26 | 0.25  | -0.09 |
| 12475 | 89.45 | 139.46 | 6438.12 | 5868.2  | -5959    | 2017.75 | 1628523 | 495916.8 | 39°51'18.8 | 80°42'39.7 | 6291.35 | 161.294 | 0.15 | -0.1  | 0.11  |
| 12564 | 89.6  | 140.3  | 6438.86 | 5957.2  | -6027.06 | 2075.1  | 1628580 | 495848.3 | 39°51'18.2 | 80°42'39.0 | 6374.28 | 161.002 | 0.96 | 0.17  | 0.94  |
| 12653 | 89.51 | 139.16 | 6439.55 | 6046.19 | -6094.96 | 2132.62 | 1628636 | 495779.3 | 39°51'17.5 | 80°42'38.2 | 6457.3  | 160.715 | 1.28 | -0.1  | -1.28 |
| 12743 | 89.57 | 139.22 | 6440.27 | 6136.18 | -6163.08 | 2191.44 | 1628694 | 495710.4 | 39°51'16.8 | 80°42'37.5 | 6541.1  | 160.426 | 0.09 | 0.07  | 0.07  |
| 12832 | 89.72 | 139.77 | 6440.83 | 6225.17 | -6230.75 | 2249.25 | 1628751 | 495642.3 | 39°51'16.2 | 80°42'36.7 | 6624.3  | 160.151 | 0.64 | 0.17  | 0.62  |
| 12921 | 89.57 | 139.09 | 6441.38 | 6314.16 | -6298.35 | 2307.13 | 1628808 | 495573.6 | 39°51'15.5 | 80°42'36.0 | 6707.62 | 159.882 | 0.78 | -0.17 | -0.76 |
| 13011 | 89.66 | 139.28 | 6441.98 | 6404.14 | -6366.47 | 2365.95 | 1628866 | 495504.7 | 39°51'14.8 | 80°42'35.2 | 6791.88 | 159.614 | 0.23 | 0.1   | 0.21  |
| 13100 | 89.72 | 139.39 | 6442.46 | 6493.13 | -6433.97 | 2423.95 | 1628923 | 495436.4 | 39°51'14.2 | 80°42'34.5 | 6875.43 | 159.356 | 0.14 | 0.07  | 0.12  |
| 13190 | 89.97 | 139.1  | 6442.71 | 6583.12 | -6502.15 | 2482.7  | 1628981 | 495367.5 | 39°51'13.5 | 80°42'33.7 | 6960.01 | 159.102 | 0.43 | 0.28  | -0.32 |
| 13279 | 90.09 | 139.12 | 6442.66 | 6672.11 | -6569.43 | 2540.96 | 1629038 | 495299.4 | 39°51'12.8 | 80°42'33.0 | 7043.71 | 158.854 | 0.14 | 0.13  | 0.02  |
| 13369 | 89.57 | 138.84 | 6442.93 | 6762.09 | -6637.33 | 2600.03 | 1629096 | 495230.7 | 39°51'12.1 | 80°42'32.2 | 7128.42 | 158.608 | 0.66 | -0.58 | -0.31 |
| 13458 | 89.69 | 141.06 | 6443.5  | 6851.08 | -6705.46 | 2657.29 | 1629153 | 495161.8 | 39°51'11.5 | 80°42'31.5 | 7212.79 | 158.382 | 2.5  | 0.13  | 2.49  |
| 13547 | 89.72 | 141.05 | 6443.96 | 6940.07 | -6774.67 | 2713.24 | 1629208 | 495091.9 | 39°51'10.8 | 80°42'30.8 | 7297.8  | 158.174 | 0.04 | 0.03  | -0.01 |
| 13637 | 89.78 | 141.45 | 6444.35 | 7030.05 | -6844.86 | 2769.57 | 1629263 | 495020.9 | 39°51'10.1 | 80°42'30.1 | 7383.95 | 157.971 | 0.45 | 0.07  | 0.44  |
| 13726 | 89.69 | 140.98 | 6444.77 | 7119.03 | -6914.24 | 2825.32 | 1629318 | 494950.8 | 39°51'09.4 | 80°42'29.3 | 7469.21 | 157.774 | 0.54 | -0.1  | -0.53 |
| 13816 | 89.57 | 140.75 | 6445.35 | 7209.02 | -6984.05 | 2882.12 | 1629374 | 494880.2 | 39°51'08.7 | 80°42'28.6 | 7555.36 | 157.575 | 0.29 | -0.13 | -0.26 |
| 13905 | 89.6  | 141.21 | 6445.99 | 7298.01 | -7053.19 | 2938.15 | 1629429 | 494810.3 | 39°51'08.0 | 80°42'27.9 | 7640.7  | 157.385 | 0.52 | 0.03  | 0.52  |
| 13995 | 89.69 | 141.63 | 6446.55 | 7387.99 | -7123.55 | 2994.28 | 1629484 | 494739.2 | 39°51'07.3 | 80°42'27.2 | 7727.26 | 157.201 | 0.48 | 0.1   | 0.47  |

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|-------|-------|--------|---------|----------|----------|---------|---------|----------|----------------------|----------|---------|------|-------|-------|
| 14084 | 89.35 | 141.77 | 6447.29 | 7476.95  | -7193.39 | 3049.43 | 1629538 | 494668.6 | 39°51'06.680°42'26.5 | 7813.06  | 157.027 | 0.41 | -0.38 | 0.16  |
| 14174 | 89.14 | 141.52 | 6448.48 | 7566.92  | -7263.96 | 3105.28 | 1629593 | 494597.3 | 39°51'05.980°42'25.8 | 7899.86  | 156.854 | 0.36 | -0.23 | -0.28 |
| 14263 | 89.17 | 141.58 | 6449.79 | 7655.88  | -7333.65 | 3160.61 | 1629647 | 494526.9 | 39°51'05.380°42'25.0 | 7985.73  | 156.685 | 0.08 | 0.03  | 0.07  |
| 14353 | 89.08 | 141.05 | 6451.17 | 7745.85  | -7403.9  | 3216.86 | 1629703 | 494455.9 | 39°51'04.680°42'24.3 | 8072.54  | 156.516 | 0.6  | -0.1  | -0.59 |
| 14442 | 89.23 | 141.54 | 6452.48 | 7834.82  | -7473.34 | 3272.51 | 1629757 | 494385.7 | 39°51'03.980°42'23.6 | 8158.44  | 156.352 | 0.58 | 0.17  | 0.55  |
| 14532 | 89.29 | 141.67 | 6453.64 | 7924.79  | -7543.87 | 3328.4  | 1629812 | 494314.4 | 39°51'03.280°42'22.9 | 8245.5   | 156.193 | 0.16 | 0.07  | 0.14  |
| 14622 | 89.14 | 141.56 | 6454.88 | 8014.75  | -7614.41 | 3384.28 | 1629867 | 494243.1 | 39°51'02.580°42'22.2 | 8332.63  | 156.037 | 0.21 | -0.17 | -0.12 |
| 14711 | 89.26 | 140.93 | 6456.12 | 8103.72  | -7683.81 | 3439.99 | 1629922 | 494173   | 39°51'01.880°42'21.5 | 8418.7   | 155.882 | 0.72 | 0.13  | -0.71 |
| 14800 | 89.14 | 141.08 | 6457.36 | 8192.71  | -7752.98 | 3495.98 | 1629977 | 494103.1 | 39°51'01.180°42'20.8 | 8504.74  | 155.728 | 0.22 | -0.13 | 0.17  |
| 14890 | 89.14 | 141.65 | 6458.71 | 8282.68  | -7823.27 | 3552.17 | 1630032 | 494032   | 39°51'00.480°42'20.0 | 8591.94  | 155.579 | 0.63 | 0.03  | 0.63  |
| 14979 | 89.17 | 141.67 | 6460.02 | 8371.63  | -7893.07 | 3607.37 | 1630086 | 493961.5 | 39°50'59.780°42'19.3 | 8678.35  | 155.438 | 0.04 | 0.03  | 0.02  |
| 15069 | 89.05 | 141.49 | 6461.42 | 8461.6   | -7963.57 | 3663.29 | 1630141 | 493890.2 | 39°50'59.080°42'18.6 | 8765.74  | 155.297 | 0.24 | -0.13 | -0.2  |
| 15158 | 89.17 | 141.51 | 6462.8  | 8550.56  | -8033.22 | 3718.69 | 1630196 | 493819.9 | 39°50'58.380°42'17.9 | 8852.19  | 155.16  | 0.14 | 0.13  | 0.02  |
| 15248 | 89.29 | 141.32 | 6464.01 | 8640.53  | -8103.56 | 3774.82 | 1630251 | 493748.8 | 39°50'57.680°42'17.2 | 8939.63  | 155.023 | 0.25 | 0.13  | -0.21 |
| 15338 | 89.42 | 141.44 | 6465.03 | 8730.51  | -8173.87 | 3830.99 | 1630306 | 493677.7 | 39°50'57.080°42'16.5 | 9027.11  | 154.888 | 0.2  | 0.14  | 0.13  |
| 15428 | 89.38 | 142.11 | 6465.97 | 8820.46  | -8244.57 | 3886.67 | 1630361 | 493606.3 | 39°50'56.380°42'15.7 | 9114.78  | 154.76  | 0.75 | -0.04 | 0.74  |
| 15517 | 89.2  | 141.27 | 6467.07 | 8909.42  | -8314.4  | 3941.84 | 1630415 | 493535.7 | 39°50'55.680°42'15.0 | 9201.49  | 154.634 | 0.97 | -0.2  | -0.94 |
| 15607 | 89.32 | 141.44 | 6468.23 | 8999.4   | -8384.69 | 3998.04 | 1630470 | 493464.7 | 39°50'54.980°42'14.3 | 9289.1   | 154.507 | 0.23 | 0.13  | 0.19  |
| 15697 | 89.51 | 141.13 | 6469.15 | 9089.38  | -8454.91 | 4054.33 | 1630526 | 493393.7 | 39°50'54.280°42'13.6 | 9376.73  | 154.381 | 0.4  | 0.21  | -0.34 |
| 15786 | 89.48 | 141.63 | 6469.94 | 9178.35  | -8524.44 | 4109.87 | 1630580 | 493323.4 | 39°50'53.580°42'12.9 | 9463.47  | 154.26  | 0.56 | -0.03 | 0.56  |
| 15876 | 90.03 | 141.44 | 6470.32 | 9268.32  | -8594.91 | 4165.86 | 1630635 | 493252.2 | 39°50'52.880°42'12.2 | 9551.27  | 154.141 | 0.65 | 0.61  | -0.21 |
| 16055 | 90.03 | 139.39 | 6470.23 | 9447.31  | -8732.86 | 4279.91 | 1630747 | 493112.7 | 39°50'51.480°42'10.7 | 9725.25  | 153.891 | 1.15 | 0     | -1.15 |
| 16145 | 89.78 | 139.17 | 6470.38 | 9537.3   | -8801.07 | 4338.63 | 1630805 | 493043.7 | 39°50'50.880°42'09.9 | 9812.36  | 153.758 | 0.37 | -0.28 | -0.24 |
| 16324 | 90.06 | 139.61 | 6470.63 | 9716.29  | -8936.96 | 4455.14 | 1630920 | 492906.3 | 39°50'49.480°42'08.5 | 9985.86  | 153.503 | 0.29 | 0.16  | 0.25  |
| 16414 | 89.91 | 139.73 | 6470.65 | 9806.28  | -9005.56 | 4513.38 | 1630977 | 492836.9 | 39°50'48.780°42'07.7 | 10073.27 | 153.381 | 0.21 | -0.17 | 0.13  |
| 16503 | 89.94 | 139.36 | 6470.77 | 9895.28  | -9073.29 | 4571.13 | 1631034 | 492768.4 | 39°50'48.180°42'07.0 | 10159.71 | 153.261 | 0.42 | 0.03  | -0.42 |
| 16592 | 89.94 | 139.53 | 6470.86 | 9984.27  | -9140.91 | 4629    | 1631091 | 492700   | 39°50'47.480°42'06.2 | 10246.16 | 153.142 | 0.19 | 0     | 0.19  |
| 16682 | 89.94 | 139.64 | 6470.96 | 10074.26 | -9209.43 | 4687.35 | 1631148 | 492630.7 | 39°50'46.780°42'05.5 | 10333.67 | 153.025 | 0.12 | 0     | 0.12  |
| 16771 | 89.72 | 139.64 | 6471.22 | 10163.26 | -9277.25 | 4744.98 | 1631205 | 492562.1 | 39°50'46.080°42'04.7 | 10420.28 | 152.912 | 0.25 | -0.25 | 0     |
| 16861 | 89.57 | 139.12 | 6471.78 | 10253.25 | -9345.56 | 4803.57 | 1631263 | 492493   | 39°50'45.480°42'04.0 | 10507.8  | 152.797 | 0.6  | -0.17 | -0.58 |
| 16950 | 89.69 | 139.66 | 6472.35 | 10342.24 | -9413.12 | 4861.5  | 1631320 | 492424.7 | 39°50'44.780°42'03.2 | 10594.39 | 152.685 | 0.62 | 0.13  | 0.61  |
| 17040 | 89.66 | 139.49 | 6472.86 | 10432.23 | -9481.63 | 4919.86 | 1631377 | 492355.4 | 39°50'44.080°42'02.5 | 10682.06 | 152.576 | 0.19 | -0.03 | -0.19 |
| 17129 | 89.14 | 139.31 | 6473.79 | 10521.22 | -9549.21 | 4977.78 | 1631434 | 492287   | 39°50'43.480°42'01.8 | 10768.73 | 152.468 | 0.62 | -0.58 | -0.2  |
| 17218 | 89.14 | 139.13 | 6475.13 | 10610.2  | -9616.59 | 5035.9  | 1631491 | 492218.9 | 39°50'42.780°42'01.0 | 10855.37 | 152.36  | 0.2  | 0     | -0.2  |
| 17308 | 89.26 | 139.89 | 6476.39 | 10700.18 | -9685.03 | 5094.33 | 1631549 | 492149.6 | 39°50'42.080°42'00.3 | 10943.13 | 152.256 | 0.85 | 0.13  | 0.84  |
| 17398 | 89.38 | 139.02 | 6477.46 | 10790.17 | -9753.42 | 5152.83 | 1631606 | 492080.5 | 39°50'41.380°41'59.5 | 11030.9  | 152.152 | 0.98 | 0.13  | -0.97 |
| 17487 | 89.48 | 139.53 | 6478.34 | 10879.15 | -9820.86 | 5210.9  | 1631664 | 492012.2 | 39°50'40.780°41'58.8 | 11117.68 | 152.05  | 0.58 | 0.11  | 0.57  |
| 17576 | 89.69 | 139.37 | 6478.99 | 10968.15 | -9888.48 | 5268.76 | 1631720 | 491943.8 | 39°50'40.080°41'58.0 | 11204.55 | 151.951 | 0.3  | 0.24  | -0.18 |
| 17666 | 89.78 | 139.43 | 6479.4  | 11058.14 | -9956.82 | 5327.32 | 1631778 | 491874.7 | 39°50'39.380°41'57.3 | 11292.41 | 151.851 | 0.12 | 0.1   | 0.07  |
| 17755 | 89.78 | 139.64 | 6479.74 | 11147.13 | -10024.5 | 5385.08 | 1631835 | 491806.2 | 39°50'38.780°41'56.5 | 11379.38 | 151.756 | 0.24 | 0     | 0.24  |
| 17844 | 89.75 | 139.39 | 6480.11 | 11236.12 | -10092.2 | 5442.87 | 1631892 | 491737.8 | 39°50'38.080°41'55.8 | 11466.37 | 151.661 | 0.28 | -0.03 | -0.28 |

17869 89.75 139.39 6480.22 11261.12 -10111.2 5459.14 1631908 491718.6 39°50'37.8 80°41'55.6 11490.8 151635 0 0 0

HOLE AND 869'

| String/Dian | Start MD [ft] | End MD [ft] | Interval [ft] | Start TVD [ft] | End TVD [ft] | Start N/S [ft] | Start E/W [ft] | End N/S [ft] | End E/W [ft] |
|-------------|---------------|-------------|---------------|----------------|--------------|----------------|----------------|--------------|--------------|
| 26in Open   | 25            | 85          | 60            | 25             | 85           | 0              | 0              | -0.06        | 0.14         |
| 20in Concl. | 25            | 85          | 60            | 25             | 85           | 0              | 0              | -0.06        | 0.14         |
| 17.5in Ope  | 85            | 528         | 443           | 85             | 527.98       | -0.06          | 0.14           | -1.49        | 4.34         |
| 13.375in C  | 25            | 500         | 475           | 25             | 499.98       | 0              | 0              | -1.41        | 3.98         |
| 12.25in Op  | 528           | 2081        | 1553          | 527.98         | 2074.84      | -1.49          | 4.34           | -89.11       | -15.32       |
| 9.625in Cai | 25            | 2044        | 2019          | 25             | 2038.19      | 0              | 0              | -84.1        | -14.51       |
| 8.5in Open  | 2081          | 17869       | 15788         | 2074.84        | 6480.22      | -89.11         | -15.32         | -10111.2     | 5459.14      |
| 5.5in Casin | 25            | 17869       | 17844         | 25             | 6480.22      | 0              | 0              | -10111.2     | 5459.14      |

TARGETS

| Name        | TVD [ft] | North [ft] | East [ft] | Grid East [ft] | Grid North [US ft] | Latitude [US ft] | Longitude  | Shape   | Comment |
|-------------|----------|------------|-----------|----------------|--------------------|------------------|------------|---------|---------|
| Hicks M071  | 6369.48  | -1990.04   | -1293.29  | 1625266        | 499930.1           | 39°51'58.1       | 80°43'22.2 | point   |         |
| Hicks M071  | 6489.8   | -11739     | 6839.87   | 1633266        | 490072.3           | 39°50'21.7       | 80°41'37.9 | point   |         |
| Hicks Pad - | 6500     | -11045.5   | 5934.06   | 1632370        | 490778             | 39°50'28.6       | 80°41'49.5 | polygon |         |

WELLPATH 869'

| Log Name/  | Start MD [ft] | End MD [ft] | Pos Unc Model                                   |
|------------|---------------|-------------|---|
| 01_SDI Gyr | 25            | 455         | SDI Keeper v1.04                                |
| 03_APS EV  | 455           | 1996        | OWSG MWD rev2 + IFR1 + Multi-Station Correction |
| 04_BH AT ( | 1996          | 17844       | OWSG MWD rev2 + IFR1 + Multi-Station Correction |
| Projection | 17844         | 17869       | Blind Drilling (std)                            |

COMMENTS

Wellpath general comments  
 API: 47-051-01902-0000  
 BH Job #: 109850783  
 Rig: Precision 560  
 Duration: 7/30/2019 - 8/6/2019

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 WV Department of  
 Environmental Protection



**Jackie M. Scholar**  
Regulatory Reporting Coordinator

March 16, 2020

**CERTIFIED MAIL: 7018 1830 0000 6083 3554**

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  
**Hicks M08H**

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 **Hicks M08H, (API 47-051-01993)**.

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

Sincerely,  
Chevron Appalachia, LLC

Jackie M. Scholar

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WV Department of  
Environmental Protection



**Jackie M. Scholar**  
Regulatory Reporting Coordinator

March 9, 2020

**CERTIFIED MAIL: 7018 1830 0000 6083 3622**

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  
**Hicks M07H**

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 **Hicks M07H, (API 47-051-01902)**.

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

Sincerely,  
Chevron Appalachia, LLC

Jackie M. Scholar

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| Other Chemical(s) | Listed Above | See Trade Name(s) List | 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. | MSDS        | Concentration | MSDS    | Concentration | MSDS | Concentration |
|-------------------|--------------|------------------------|--|-------------|---------------|---------|---------------|------|---------------|
|                   |              |                        | Polyethylene glycol  | 25322-68-3  | 50.00000      | 0.01028 | None          |      |               |
|                   |              |                        | Water  | 7732-18-5   | 30.00000      | 0.00617 | None          |      |               |
|                   |              |                        | 2,2-Dibromo-3-nitropropionamide  | 10222-01-2  | 21.00000      | 0.00432 | None          |      |               |
| Scale Hib PE-18   | Upp          | Scale Inhibitor        | Ethylene glycol  | 107-21-1    | 40.00000      | 0.00699 | None          |      |               |
|                   |              |                        | Proprietary Scale Inhibitor  | Proprietary | 30.00000      | 0.00524 | None          |      |               |
| 7L                | Upp          | Iron Control Agent     | Ammonium glycolate   | 35249-89-9  | 20.00000      | 0.00408 | None          |      |               |
|                   |              |                        | Ethylene Glycol  | 107-21-1    | 20.00000      | 0.00408 | None          |      |               |
|                   |              |                        | Hydroxyacetic acid   | 79-14-1     | 5.00000       | 0.00102 | None          |      |               |
| Unhib G           | Upp          | Acid inhibitor         | Butyl diglycol   | 112-34-5    | 75.00000      | 0.00061 | None          |      |               |
|                   |              |                        | Alcohol, 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          |      |               |
| Unigel 5F         | Upp          | Viscosifier            | Guar Gum   | 9000-30-0   | 99.00000      | 0.00014 | None          |      |               |
| AP Breaker        | Upp          | Gel Breaker            | Ammonium Persulfate  | 7727-54-0   | 100.00000     | 0.00000 | None          |      |               |
|                   |              |                        | Water  | 7732-18-5   | 55.00000      | 0.04232 |               |      |               |
|                   |              |                        | Hydrotreated Petroleum Distillate  | 64742-47-8  | 25.00000      | 0.01924 |               |      |               |
|                   |              |                        | Sodium Chloride  | 7647-14-5   | 15.00000      | 0.01154 |               |      |               |
|                   |              |                        | Polyethylene glycol  | 25322-68-3  | 50.00000      | 0.01028 |               |      |               |
|                   |              |                        | Ethylene glycol  | 107-21-1    | 40.00000      | 0.00699 |               |      |               |
|                   |              |                        | Water  | 7732-18-5   | 30.00000      | 0.00617 |               |      |               |
|                   |              |                        | Ammonium glycolate   | 35249-89-9  | 20.00000      | 0.00408 |               |      |               |
|                   |              |                        | Alcohol Ethoxylate Surfactants   | 68551-12-2  | 3.00000       | 0.00231 |               |      |               |
|                   |              |                        | Oleic Acid Diethanolamide  | 93-83-4     | 3.00000       | 0.00231 |               |      |               |
|                   |              |                        | Ammonium Chloride  | 12125-02-9  | 2.00000       | 0.00154 |               |      |               |
|                   |              |                        | Hydroxyacetic acid   | 79-14-1     | 5.00000       | 0.00102 |               |      |               |
|                   |              |                        | Polyoxyethylene Sorbitan Monoleate   | 9005-65-6   | 1.00000       | 0.00077 |               |      |               |
|                   |              |                        | Alcohol, 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)

Office of Oil and Gas  
 MAR 18 2020  
 WV Department of Environmental Protection

ACTUAL WELLPATH REPORT (CSV version)

Prepared by Baker Hughes  
 Software System: WellArchitect® 5.1

REFERENCE WELLPATH IDENTIFICATION

Operator CHEVRON APPALACHIA, LLC  
 Area Marshall County, WV  
 Field Marshall County  
 Facility Hicks Pad  
 Slot Slot #08  
 Well Hicks M08H  
 Wellbore Hicks M08H AWB  
 Wellpath Hicks M081935'  
 Sidetrack (none)

REPORT SETUP INFORMATION

Projection : NAD83 / Lambert West Virginia SP, Northern Zone (4701), US feet  
 North Refe TRUE  
 Scale 0.99995  
 Convergen 0.78° West  
 Software S: WellArchitect® 5.1  
 User Hilipthop  
 Report Ger 03/Sep/2019 at 10:39  
 Database/s/WA\_MPL\_EASTERNUS\_Defn/ev170.xml

| WELLPATH Local | North  | Local East | Easting | Northing | Latitude                  | Longitude |
|----------------|--------|------------|---------|----------|---------------------------|-----------|
| [ft]           | [ft]   | [US ft]    | [US ft] | [US ft]  |                           |           |
| Slot Locatic   | -81.36 | 48.26      | 1626616 | 501908.5 | 39°52'17.8:80°43'05.250"W |           |
| Facility Ref   |        |            | 1626569 | 501990.5 | 39°52'18.6:80°43'05.869"W |           |
| Field Refer    |        |            | 1644569 | 516963.8 | 39°54'48.9:80°39'17.476"W |           |

WELLPATH DATUM

Calculation Minimum curvature  
 Horizontal Slot  
 Vertical Ref Precision 560 (RKB)  
 MD Referer Precision 560 (RKB)  
 Field Vertic Mean Sea Level  
 Precision 5.25.00ft  
 Precision 5.1165.00ft  
 Precision 5.25.00ft  
 Section Ori N 0.00, E 0.00 ft  
 Section Azi 139.91°

WELLPATH DATA + = interpolated/extrapolated station

| MD   | Inclination | Azimuth | TVD    | Vert Sect | North | East | Grid East | Grid North | Latitude | Longitude              | Closure | Dis Closure | Dir DLS   | Build Rate | Turn Rate |
|------|-------------|---------|--------|-----------|-------|------|-----------|------------|----------|------------------------|---------|-------------|-----------|------------|-----------|
| [ft] | [°]         | [°]     | [ft]   | [ft]      | [ft]  | [ft] | [US ft]   | [US ft]    |          |                        | [ft]    | [°]         | [°/100ft] | [°/100ft]  | [°/100ft] |
| 0    | 0           | 0       | 209.52 | 0         | 0     | 0    | 0         | 1626616    | 501908.5 | 39°52'17.8:80°43'05.2: | 0       | 0           | 0         | 0          | 0         |

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|        |      |        |         |        |       |         |          |            |            |       |         |      |       |       |         |         |
|--------|------|--------|---------|--------|-------|---------|----------|------------|------------|-------|---------|------|-------|-------|---------|---------|
| 25     | 0    | 209.52 | 25      | 0      | 0     | 1626616 | 501908.5 | 39°52'17.8 | 80°43'05.2 | 0     | 0       | 0    | 0     | 0     | 0       | 0       |
| 101    | 0.88 | 209.52 | 101     | 0.2    | -0.51 | 1626616 | 501908   | 39°52'17.8 | 80°43'05.2 | 0.58  | 209.52  | 1.16 | 1.16  | 0     | -198    | -198    |
| 126    | 0.92 | 200.09 | 125.99  | 0.37   | -0.86 | 1626615 | 501907.7 | 39°52'17.8 | 80°43'05.2 | 0.97  | 207.586 | 0.61 | 0.16  | 0.16  | -37.72  | -37.72  |
| 151    | 0.94 | 208.51 | 150.99  | 0.54   | -1.23 | 1626615 | 501907.3 | 39°52'17.8 | 80°43'05.2 | 1.38  | 206.635 | 0.55 | 0.08  | 0.08  | 33.68   | 33.68   |
| 176    | 1.06 | 221.1  | 175.99  | 0.65   | -1.59 | 1626615 | 501907   | 39°52'17.8 | 80°43'05.2 | 1.81  | 208.678 | 1    | 0.48  | 0.48  | 50.36   | 50.36   |
| 201    | 1.19 | 217.79 | 200.98  | 0.74   | -1.97 | 1626615 | 501906.6 | 39°52'17.8 | 80°43'05.2 | 2.29  | 210.949 | 0.58 | 0.52  | 0.52  | -13.24  | -13.24  |
| 226    | 1.18 | 222.17 | 225.98  | 0.83   | -2.36 | 1626614 | 501906.2 | 39°52'17.8 | 80°43'05.2 | 2.8   | 212.605 | 0.36 | -0.04 | -0.04 | 17.52   | 17.52   |
| 251    | 1.12 | 212.47 | 250.97  | 0.94   | -2.76 | 1626614 | 501905.8 | 39°52'17.8 | 80°43'05.2 | 3.3   | 213.337 | 0.81 | -0.24 | -0.24 | -38.8   | -38.8   |
| 276    | 1.09 | 213.13 | 275.97  | 1.08   | -3.16 | 1626614 | 501905.4 | 39°52'17.8 | 80°43'05.2 | 3.78  | 213.268 | 0.13 | -0.12 | -0.12 | 2.64    | 2.64    |
| 301    | 1.29 | 212.21 | 300.96  | 1.24   | -3.6  | 1626613 | 501905   | 39°52'17.8 | 80°43'05.2 | 4.3   | 213.191 | 0.8  | 0.8   | 0.8   | -3.68   | -3.68   |
| 326    | 1.38 | 211.84 | 325.95  | 1.42   | -4.1  | 1626613 | 501904.5 | 39°52'17.8 | 80°43'05.2 | 4.89  | 213.052 | 0.36 | 0.36  | 0.36  | -1.48   | -1.48   |
| 351    | 1.24 | 210.02 | 350.95  | 1.6    | -4.59 | 1626613 | 501904   | 39°52'17.8 | 80°43'05.2 | 5.46  | 212.885 | 0.58 | -0.56 | -0.56 | -7.28   | -7.28   |
| 376    | 1.27 | 202.63 | 375.94  | 1.82   | -5.08 | 1626613 | 501903.5 | 39°52'17.8 | 80°43'05.2 | 6     | 212.239 | 0.66 | 0.12  | 0.12  | -29.56  | -29.56  |
| 401    | 1.56 | 203.4  | 400.93  | 2.1    | -5.64 | 1626612 | 501902.9 | 39°52'17.7 | 80°43'05.2 | 6.61  | 211.385 | 1.16 | 1.16  | 1.16  | 3.08    | 3.08    |
| 426    | 1.5  | 205.55 | 425.93  | 2.39   | -6.25 | 1626612 | 501902.3 | 39°52'17.7 | 80°43'05.2 | 7.27  | 210.75  | 0.33 | -0.24 | -0.24 | 8.6     | 8.6     |
| 429.74 | 1.57 | 206.07 | 429.66  | 2.43   | -6.34 | 1626612 | 501902.2 | 39°52'17.7 | 80°43'05.2 | 7.37  | 210.683 | 1.91 | 1.87  | 1.87  | 13.9    | 13.9    |
| 573    | 0.94 | 287.19 | 572.9   | 2.23   | -7.76 | 1626610 | 501900.8 | 39°52'17.7 | 80°43'05.3 | 9.65  | 216.539 | 1.19 | -0.44 | -0.44 | 56.62   | 56.62   |
| 599    | 0.17 | 307.47 | 598.9   | 2.02   | -7.67 | 1626610 | 501900.9 | 39°52'17.7 | 80°43'05.3 | 9.73  | 217.952 | 3.01 | -2.96 | -2.96 | 78      | 78      |
| 635    | 0.45 | 26.93  | 634.9   | 1.91   | -7.51 | 1626610 | 501901.1 | 39°52'17.7 | 80°43'05.3 | 9.59  | 218.432 | 1.25 | 0.78  | 0.78  | 220.72  | 220.72  |
| 666    | 0.85 | 33.11  | 665.89  | 1.79   | -7.21 | 1626610 | 501901.4 | 39°52'17.7 | 80°43'05.3 | 9.24  | 218.715 | 1.31 | 1.29  | 1.29  | 19.94   | 19.94   |
| 697    | 1.48 | 22.98  | 696.89  | 1.55   | -6.65 | 1626610 | 501902   | 39°52'17.7 | 80°43'05.3 | 8.63  | 219.585 | 2.13 | 2.03  | 2.03  | -32.68  | -32.68  |
| 729    | 1.56 | 16.85  | 728.88  | 1.12   | -5.85 | 1626611 | 501903.5 | 39°52'17.8 | 80°43'05.3 | 7.84  | 221.68  | 0.57 | 0.25  | 0.25  | -19.16  | -19.16  |
| 760    | 1.69 | 31.23  | 759.86  | 0.74   | -5.06 | 1626611 | 501903.5 | 39°52'17.8 | 80°43'05.3 | 7.01  | 223.808 | 1.38 | 0.42  | 0.42  | 46.39   | 46.39   |
| 791    | 1.61 | 27.07  | 790.85  | 0.43   | -4.28 | 1626611 | 501904.3 | 39°52'17.8 | 80°43'05.3 | 6.15  | 225.904 | 0.46 | -0.26 | -0.26 | -13.42  | -13.42  |
| 822    | 1.57 | 27     | 821.84  | 0.1    | -3.51 | 1626612 | 501905.1 | 39°52'17.8 | 80°43'05.3 | 5.34  | 228.89  | 0.13 | -0.13 | -0.13 | -0.23   | -0.23   |
| 853    | 1.45 | 23.13  | 852.83  | -0.25  | -2.77 | 1626612 | 501905.8 | 39°52'17.8 | 80°43'05.2 | 4.61  | 232.983 | 0.51 | -0.39 | -0.39 | -12.48  | -12.48  |
| 885    | 1.44 | 12.2   | 884.82  | -0.68  | -2.01 | 1626612 | 501906.6 | 39°52'17.8 | 80°43'05.2 | 3.98  | 239.684 | 0.86 | -0.03 | -0.03 | -34.16  | -34.16  |
| 916    | 1.4  | 6.01   | 915.81  | -1.18  | -1.25 | 1626612 | 501907.3 | 39°52'17.8 | 80°43'05.2 | 3.54  | 249.314 | 0.51 | -0.13 | -0.13 | -19.97  | -19.97  |
| 947    | 1.32 | 16.53  | 946.8   | -1.64  | -0.53 | 1626613 | 501908   | 39°52'17.8 | 80°43'05.2 | 3.21  | 260.483 | 0.84 | -0.26 | -0.26 | 33.94   | 33.94   |
| 978    | 2.32 | 26.81  | 977.78  | -2.08  | -2.79 | 1626613 | 501908.9 | 39°52'17.8 | 80°43'05.2 | 2.81  | 277.581 | 3.38 | 3.23  | 3.23  | 33.16   | 33.16   |
| 1009   | 1.04 | 6.3    | 1008.77 | -2.52  | -2.47 | 1626613 | 501909.8 | 39°52'17.8 | 80°43'05.2 | 2.75  | 296.089 | 4.5  | -4.13 | -4.13 | -66.16  | -66.16  |
| 1041   | 1.17 | 349.2  | 1040.76 | -3     | -1.82 | 1626613 | 501910.4 | 39°52'17.8 | 80°43'05.2 | 3.09  | 306.039 | 1.1  | 0.41  | 0.41  | -53.44  | -53.44  |
| 1072   | 1.04 | 2.53   | 1071.76 | -3.49  | -2.41 | 1626613 | 501911   | 39°52'17.8 | 80°43'05.2 | 3.51  | 313.425 | 0.93 | -0.42 | -0.42 | 43      | 43      |
| 1103   | 1.09 | 344.35 | 1102.75 | -3.96  | -2.98 | 1626613 | 501911.5 | 39°52'17.8 | 80°43'05.2 | 3.96  | 318.699 | 1.1  | 0.16  | 0.16  | -58.65  | -58.65  |
| 1134   | 1.09 | 5.14   | 1133.75 | -4.44  | -2.67 | 1626613 | 501912.1 | 39°52'17.8 | 80°43'05.2 | 4.44  | 323.103 | 1.27 | 0     | 0     | 67.06   | 67.06   |
| 1166   | 1.04 | 356.69 | 1165.74 | -4.88  | -2.66 | 1626613 | 501912.7 | 39°52'17.8 | 80°43'05.2 | 4.93  | 327.346 | 0.51 | -0.16 | -0.16 | -26.41  | -26.41  |
| 1197   | 1.1  | 4.8    | 1196.74 | -5.32  | -2.65 | 1626613 | 501913.3 | 39°52'17.8 | 80°43'05.2 | 5.42  | 330.72  | 0.52 | 0.19  | 0.19  | 26.16   | 26.16   |
| 1228   | 1.54 | 5.85   | 1227.73 | -5.82  | -2.58 | 1626613 | 501914   | 39°52'17.9 | 80°43'05.2 | 6.02  | 334.592 | 1.42 | 1.42  | 1.42  | 3.39    | 3.39    |
| 1259   | 1.71 | 0.54   | 1258.72 | -6.46  | -2.54 | 1626613 | 501914.9 | 39°52'17.9 | 80°43'05.2 | 6.8   | 338.12  | 0.73 | 0.55  | 0.55  | -17.13  | -17.13  |
| 1291   | 2.76 | 308.92 | 1290.69 | -7.58  | -3.13 | 1626613 | 501915.8 | 39°52'17.9 | 80°43'05.2 | 7.92  | 336.717 | 6.76 | 3.28  | 3.28  | -161.31 | -161.31 |
| 1322   | 2.26 | 13.86  | 1321.67 | -8.67  | -3.56 | 1626612 | 501916.9 | 39°52'17.9 | 80°43'05.2 | 9.07  | 336.85  | 8.8  | -1.61 | -1.61 | 209.48  | 209.48  |
| 1353   | 2.65 | 350.95 | 1352.64 | -9.65  | -3.53 | 1626612 | 501918.2 | 39°52'17.9 | 80°43'05.2 | 10.26 | 339.88  | 3.38 | 1.26  | 1.26  | -73.9   | -73.9   |
| 1384   | 2.87 | 16.62  | 1383.61 | -10.69 | -3.42 | 1626613 | 501919.7 | 39°52'17.9 | 80°43'05.2 | 11.61 | 342.853 | 4.01 | 0.71  | 0.71  | 82.81   | 82.81   |
| 1415   | 3.02 | 20.12  | 1414.57 | -11.52 | -2.92 | 1626613 | 501921.2 | 39°52'17.9 | 80°43'05.2 | 12.93 | 346.958 | 0.76 | 0.48  | 0.48  | 11.29   | 11.29   |
| 1447   | 1.78 | 17.43  | 1446.54 | -12.2  | -2.48 | 1626614 | 501922.4 | 39°52'17.9 | 80°43'05.2 | 14.09 | 349.86  | 3.89 | -3.88 | -3.88 | -8.41   | -8.41   |
| 1509   | 0.8  | 39.81  | 1508.52 | -12.8  | -1.91 | 1626614 | 501923.7 | 39°52'17.9 | 80°43'05.2 | 15.24 | 352.783 | 1.75 | -1.58 | -1.58 | 36.1    | 36.1    |
| 1540   | 0.34 | 99.72  | 1539.52 | -12.77 | -1.69 | 1626614 | 501923.8 | 39°52'18.0 | 80°43'05.2 | 15.36 | 353.702 | 2.24 | -1.48 | -1.48 | 193.26  | 193.26  |
| 1571   | 0.92 | 157.15 | 1570.52 | -12.46 | -1.5  | 1626615 | 501923.6 | 39°52'17.9 | 80°43'05.2 | 15.1  | 354.306 | 2.55 | 1.87  | 1.87  | 185.26  | 185.26  |

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|      |       |        |         |        |         |          |         |          |              |              |         |         |      |       |        |
|------|-------|--------|---------|--------|---------|----------|---------|----------|--------------|--------------|---------|---------|------|-------|--------|
| 1603 | 1.21  | 176.9  | 1602.51 | -11.94 | 14.45   | -1.38    | 1626615 | 501923   | 39°52'17.91" | 80°43'05.21" | 14.51   | 354.545 | 1.45 | 0.91  | 61.72  |
| 1634 | 1.77  | 167.12 | 1633.5  | -11.26 | 13.66   | -1.26    | 1626615 | 501922.2 | 39°52'17.91" | 80°43'05.21" | 13.71   | 354.747 | 1.98 | 1.81  | -31.55 |
| 1665 | 2.23  | 173.86 | 1664.48 | -10.33 | 12.59   | -1.08    | 1626615 | 501921.1 | 39°52'17.91" | 80°43'05.21" | 12.64   | 355.078 | 1.66 | 1.48  | 21.74  |
| 1696 | 2.66  | 181.67 | 1695.46 | -9.29  | 11.27   | -1.04    | 1626615 | 501919.8 | 39°52'17.91" | 80°43'05.21" | 11.32   | 354.725 | 1.75 | 1.39  | 25.19  |
| 1727 | 2.92  | 188.41 | 1726.42 | -8.23  | 9.77    | -1.18    | 1626615 | 501918.3 | 39°52'17.91" | 80°43'05.21" | 9.84    | 353.13  | 1.35 | 0.84  | 21.74  |
| 1759 | 3.41  | 193.33 | 1758.37 | -7.13  | 8.04    | -1.52    | 1626614 | 501916.6 | 39°52'17.91" | 80°43'05.21" | 8.18    | 349.321 | 1.75 | 1.53  | 15.38  |
| 1790 | 3.85  | 195.86 | 1789.31 | -5.99  | 6.14    | -2.01    | 1626614 | 501914.7 | 39°52'17.91" | 80°43'05.21" | 6.46    | 341.849 | 1.51 | 1.42  | 8.16   |
| 1821 | 4.16  | 194.59 | 1820.23 | -4.76  | 4.05    | -2.58    | 1626613 | 501912.6 | 39°52'17.81" | 80°43'05.21" | 4.8     | 327.498 | 1.04 | 1     | -4.1   |
| 1852 | 4.93  | 202.2  | 1851.14 | -3.49  | 1.73    | -3.37    | 1626612 | 501910.3 | 39°52'17.71" | 80°43'05.21" | 3.78    | 297.175 | 3.15 | 2.48  | 24.55  |
| 1884 | 5.14  | 205.57 | 1883.01 | -2.26  | -0.84   | -4.51    | 1626611 | 501907.7 | 39°52'17.81" | 80°43'05.31" | 4.58    | 259.467 | 1.13 | 0.66  | 10.53  |
| 1915 | 5.56  | 209.05 | 1913.88 | -1.15  | -3.4    | -5.83    | 1626610 | 501905.2 | 39°52'17.81" | 80°43'05.31" | 6.75    | 239.742 | 1.71 | 1.35  | 11.23  |
| 1946 | 5.81  | 212.21 | 1944.72 | -0.14  | -6.04   | -7.4     | 1626608 | 501902.6 | 39°52'17.71" | 80°43'05.31" | 9.55    | 230.759 | 1.29 | 0.81  | 10.19  |
| 1977 | 6.36  | 214.45 | 1975.55 | 0.79   | -8.79   | -9.21    | 1626606 | 501899.9 | 39°52'17.71" | 80°43'05.31" | 12.73   | 226.337 | 1.93 | 1.77  | 7.23   |
| 2008 | 6.94  | 215.35 | 2006.34 | 1.72   | -11.73  | -11.26   | 1626604 | 501896.9 | 39°52'17.71" | 80°43'05.31" | 16.26   | 223.832 | 1.9  | 1.87  | 2.9    |
| 2039 | 7.42  | 214.73 | 2037.1  | 2.72   | -14.9   | -13.49   | 1626602 | 501893.8 | 39°52'17.71" | 80°43'05.41" | 20.1    | 222.142 | 1.57 | 1.55  | -2     |
| 2131 | 6.92  | 213.59 | 2128.38 | 5.83   | -24.4   | -19.94   | 1626596 | 501884.4 | 39°52'17.61" | 80°43'05.51" | 31.51   | 219.248 | 0.57 | -0.54 | -1.24  |
| 2220 | 7.05  | 219.91 | 2216.72 | 8.28   | -33.06  | -26.41   | 1626589 | 501875.8 | 39°52'17.51" | 80°43'05.51" | 42.31   | 218.618 | 0.88 | 0.15  | 7.1    |
| 2310 | 7.56  | 226.33 | 2305.99 | 9.61   | -41.38  | -34.23   | 1626581 | 501867.6 | 39°52'17.41" | 80°43'05.61" | 53.71   | 219.598 | 1.07 | 0.57  | 7.13   |
| 2399 | 7.75  | 229.03 | 2394.2  | 10.07  | -49.36  | -43      | 1626572 | 501859.8 | 39°52'17.31" | 80°43'05.81" | 65.46   | 221.06  | 0.46 | 0.21  | 3.03   |
| 2489 | 10.88 | 226.92 | 2483    | 10.61  | -59.14  | -53.79   | 1626561 | 501850.1 | 39°52'17.21" | 80°43'05.91" | 79.94   | 222.285 | 0.46 | 0.21  | 3.03   |
| 2579 | 15.3  | 225.47 | 2570.64 | 11.97  | -73.28  | -68.46   | 1626546 | 501836.2 | 39°52'17.11" | 80°43'06.11" | 100.28  | 223.054 | 3.5  | 3.48  | -2.34  |
| 2668 | 18.63 | 231.43 | 2655.76 | 12.5   | -90.38  | -87.96   | 1626527 | 501819.3 | 39°52'16.91" | 80°43'06.31" | 126.12  | 224.221 | 4.22 | 4.91  | -1.61  |
| 2758 | 24.48 | 239.43 | 2739.45 | 9.03   | -108.85 | -115.28  | 1626499 | 501801.3 | 39°52'16.71" | 80°43'06.71" | 158.55  | 226.644 | 7.26 | 6.5   | 8.89   |
| 2847 | 25.85 | 235.04 | 2820.01 | 4.25   | -129.35 | -147.06  | 1626467 | 501781.2 | 39°52'16.51" | 80°43'07.11" | 195.85  | 228.667 | 2.6  | 1.54  | -4.93  |
| 2937 | 27.05 | 228.06 | 2900.6  | 3.15   | -154.28 | -178.37  | 1626435 | 501756.7 | 39°52'16.31" | 80°43'07.51" | 235.84  | 229.144 | 3.7  | 1.33  | -7.76  |
| 3026 | 30.99 | 229.12 | 2978.41 | 4.12   | -182.81 | -210.76  | 1626403 | 501728.6 | 39°52'16.01" | 80°43'07.91" | 279     | 229.063 | 4.46 | 4.43  | 1.19   |
| 3115 | 35.68 | 228.54 | 3052.75 | 5.06   | -215.01 | -247.56  | 1626365 | 501696.9 | 39°52'15.71" | 80°43'08.41" | 327.89  | 229.026 | 5.28 | 5.27  | -0.65  |
| 3205 | 35.59 | 226.92 | 3125.9  | 7.05   | -250.27 | -286.36  | 1626326 | 501662.2 | 39°52'15.31" | 80°43'08.91" | 380.31  | 228.847 | 1.05 | -0.1  | -1.8   |
| 3294 | 38.98 | 230.33 | 3196.71 | 8.2    | -285.85 | -326.84  | 1626285 | 501627.2 | 39°52'15.01" | 80°43'09.41" | 434.2   | 228.828 | 4.46 | 3.81  | 3.83   |
| 3384 | 38.97 | 237.39 | 3266.71 | 4.31   | -319.18 | -372.49  | 1626239 | 501594.4 | 39°52'14.61" | 80°43'10.01" | 490.54  | 229.407 | 4.93 | -0.01 | 7.84   |
| 3473 | 38.99 | 237.38 | 3335.9  | -2.98  | -349.36 | -419.65  | 1626191 | 501564.9 | 39°52'14.31" | 80°43'10.61" | 546.04  | 230.222 | 0.02 | 0.02  | -0.01  |
| 3563 | 38.89 | 227.28 | 3405.97 | -5.36  | -383.82 | -464.3   | 1626146 | 501531.1 | 39°52'14.01" | 80°43'11.21" | 602.41  | 230.42  | 7.05 | -0.11 | -11.22 |
| 3653 | 38.97 | 229.96 | 3475.99 | -4.09  | -421.2  | -506.72  | 1626103 | 501494.3 | 39°52'13.61" | 80°43'11.71" | 658.92  | 230.266 | 1.87 | 0.09  | 2.98   |
| 3742 | 38.59 | 233.35 | 3545.38 | -5.78  | -455.78 | -550.42  | 1626059 | 501460.3 | 39°52'13.31" | 80°43'12.31" | 714.63  | 230.374 | 2.42 | -0.43 | 3.81   |
| 3832 | 38.99 | 235.83 | 3615.53 | -10.39 | -488.44 | -596.37  | 1626013 | 501428.2 | 39°52'13.01" | 80°43'12.81" | 770.86  | 230.682 | 1.78 | 0.44  | 2.76   |
| 3922 | 38.64 | 236.27 | 3685.66 | -16.42 | -519.94 | -643.17  | 1625966 | 501397.4 | 39°52'12.71" | 80°43'13.41" | 827.04  | 231.048 | 0.5  | -0.39 | 0.49   |
| 4011 | 38.95 | 236.38 | 3755.02 | -22.65 | -550.86 | -689.57  | 1625919 | 501367.1 | 39°52'12.41" | 80°43'14.01" | 882.58  | 231.381 | 0.36 | 0.35  | 0.12   |
| 4101 | 38.98 | 235.25 | 3825    | -28.47 | -582.66 | -736.39  | 1625872 | 501335.9 | 39°52'12.01" | 80°43'14.61" | 939.02  | 231.648 | 0.79 | 0.03  | -1.26  |
| 4190 | 38.58 | 232.97 | 3894.38 | -32.56 | -615.33 | -781.54  | 1625826 | 501303.9 | 39°52'11.71" | 80°43'15.21" | 994.71  | 231.786 | 1.67 | -0.45 | -2.56  |
| 4280 | 38.42 | 231.8  | 3964.82 | -34.98 | -649.52 | -825.92  | 1625781 | 501270.3 | 39°52'11.41" | 80°43'15.81" | 1050.73 | 231.818 | 0.83 | -0.18 | -1.3   |
| 4370 | 37.65 | 231    | 4035.71 | -36.42 | -684.12 | -869.26  | 1625737 | 501236.3 | 39°52'11.01" | 80°43'16.31" | 1106.18 | 231.797 | 1.02 | -0.86 | -0.89  |
| 4459 | 39.37 | 231.68 | 4105.35 | -37.81 | -718.73 | -912.53  | 1625694 | 501202.3 | 39°52'10.71" | 80°43'16.91" | 1161.59 | 231.775 | 1.99 | 1.93  | 0.76   |
| 4549 | 39.34 | 230.83 | 4174.94 | -39.15 | -754.44 | -957.05  | 1625649 | 501167.2 | 39°52'10.31" | 80°43'17.51" | 1218.66 | 231.751 | 0.6  | -0.03 | -0.94  |
| 4638 | 39.27 | 230.96 | 4243.81 | -40.12 | -790    | -1000.79 | 1625604 | 501132.2 | 39°52'10.01" | 80°43'18.01" | 1275.03 | 231.713 | 0.12 | -0.08 | 0.15   |
| 4728 | 39.28 | 231.32 | 4313.48 | -41.35 | -825.75 | -1045.16 | 1625560 | 501097.1 | 39°52'09.61" | 80°43'18.61" | 1332    | 231.689 | 0.25 | 0.01  | 0.4    |
| 4817 | 39.36 | 231.65 | 4382.33 | -42.9  | -860.87 | -1089.28 | 1625515 | 501062.5 | 39°52'09.31" | 80°43'19.21" | 1388.39 | 231.68  | 0.25 | 0.09  | 0.37   |
| 4907 | 39.38 | 232.38 | 4451.91 | -44.99 | -896    | -1134.28 | 1625470 | 501028   | 39°52'08.91" | 80°43'19.71" | 1445.48 | 231.694 | 0.51 | 0.02  | 0.81   |
| 4996 | 39.37 | 232.8  | 4520.7  | -47.63 | -930.3  | -1179.13 | 1625424 | 500994.3 | 39°52'08.61" | 80°43'20.31" | 1501.93 | 231.727 | 0.3  | -0.01 | 0.47   |







|       |       |        |         |          |          |         |         |          |            |            |          |         |      |       |       |
|-------|-------|--------|---------|----------|----------|---------|---------|----------|------------|------------|----------|---------|------|-------|-------|
| 17967 | 89.57 | 139.16 | 6473.32 | 10779.91 | -10182.3 | 4643.07 | 1631120 | 491664.7 | 39°50'37.2 | 80°42'05.7 | 11190.96 | 155.487 | 0.38 | 0.03  | 0.38  |
| 18057 | 89.6  | 139.01 | 6473.97 | 10869.89 | -10250.3 | 4702.01 | 1631178 | 491595.9 | 39°50'36.5 | 80°42'04.9 | 11277.33 | 155.358 | 0.17 | 0.03  | -0.17 |
| 18146 | 89.42 | 138.98 | 6474.73 | 10958.88 | -10317.5 | 4760.4  | 1631236 | 491528   | 39°50'35.8 | 80°42'04.2 | 11362.75 | 155.232 | 0.21 | -0.2  | -0.03 |
| 18236 | 89.6  | 138.47 | 6475.5  | 11048.86 | -10385.1 | 4819.77 | 1631294 | 491459.5 | 39°50'35.2 | 80°42'03.4 | 11449.06 | 155.104 | 0.6  | 0.2   | -0.57 |
| 18325 | 89.57 | 138.96 | 6476.15 | 11137.83 | -10452   | 4878.49 | 1631352 | 491391.9 | 39°50'34.5 | 80°42'02.7 | 11534.47 | 154.979 | 0.55 | -0.03 | 0.55  |
| 18415 | 89.66 | 138.9  | 6476.75 | 11227.82 | -10519.9 | 4937.62 | 1631410 | 491323.2 | 39°50'33.8 | 80°42'01.9 | 11620.99 | 154.856 | 0.12 | 0.1   | -0.07 |
| 18504 | 89.63 | 139.17 | 6477.3  | 11316.81 | -10587.1 | 4995.97 | 1631468 | 491255.3 | 39°50'33.2 | 80°42'01.2 | 11706.64 | 154.738 | 0.31 | -0.03 | 0.3   |
| 18593 | 89.66 | 139.59 | 6477.86 | 11405.8  | -10654.6 | 5053.91 | 1631525 | 491186.9 | 39°50'32.5 | 80°42'00.4 | 11792.48 | 154.623 | 0.47 | 0.03  | 0.47  |
| 18682 | 89.66 | 139.2  | 6478.38 | 11494.8  | -10722.2 | 5111.83 | 1631582 | 491118.6 | 39°50'31.8 | 80°41'59.7 | 11878.38 | 154.51  | 0.44 | 0     | -0.44 |
| 18771 | 89.63 | 138.98 | 6478.94 | 11583.79 | -10789.4 | 5170.11 | 1631639 | 491050.5 | 39°50'31.2 | 80°41'58.9 | 11964.2  | 154.397 | 0.25 | -0.03 | -0.25 |
| 18861 | 89.54 | 138.68 | 6479.59 | 11673.77 | -10857.2 | 5229.36 | 1631697 | 490982   | 39°50'30.5 | 80°41'58.2 | 12050.92 | 154.282 | 0.35 | -0.1  | -0.33 |
| 18910 | 89.57 | 138.55 | 6479.97 | 11722.75 | -10894   | 5261.75 | 1631729 | 490944.8 | 39°50'30.1 | 80°41'57.7 | 12098.1  | 154.22  | 0.27 | 0.06  | -0.27 |
| 18935 | 89.57 | 138.55 | 6480.16 | 11747.75 | -10912.7 | 5278.3  | 1631745 | 490925.8 | 39°50'29.9 | 80°41'57.5 | 12122.17 | 154.188 | 0    | 0     | 0     |

HOLE AND 935'

| String/Dian | Start MD | End MD | Interval | Start TVD | End TVD | Start N/S | Start E/W | End N/S  | End E/W |
|-------------|----------|--------|----------|-----------|---------|-----------|-----------|----------|---------|
| [ft]        | [ft]     | [ft]   | [ft]     | [ft]      | [ft]    | [ft]      | [ft]      | [ft]     | [ft]    |
| 26in Open   | 25       | 85     | 60       | 25        | 85      | 0         | 0         | -0.32    | -0.18   |
| 20in Condu  | 25       | 85     | 60       | 25        | 85      | 0         | 0         | -0.32    | -0.18   |
| 17.5in Ope  | 85       | 546    | 461      | 85        | 545.9   | -0.32     | -0.18     | -7.81    | -5.33   |
| 13.375in C  | 25       | 517    | 492      | 25        | 516.91  | 0         | 0         | -7.71    | -4.91   |
| 12.25in Op  | 546      | 2110   | 1564     | 545.9     | 2107.53 | -7.81     | -5.33     | -22.28   | -18.52  |
| 9.625in Cai | 25       | 2072   | 2047     | 25        | 2069.83 | 0         | 0         | -18.37   | -15.87  |
| 8.5in Open  | 2110     | 18935  | 16825    | 2107.53   | 6480.16 | -22.28    | -18.52    | -10912.7 | 5278.3  |
| 5.5in Casin | 25       | 18935  | 18910    | 25        | 6480.16 | 0         | 0         | -10912.7 | 5278.3  |

TARGETS

| Name        | TVD     | North    | East     | Grid East | Grid North | Latitude   | Longitude  | Shape   | Comment |
|-------------|---------|----------|----------|-----------|------------|------------|------------|---------|---------|
| [ft]        | [ft]    | [ft]     | [ft]     | [ft]      | [US ft]    | [US ft]    | [ft]       |         |         |
| Hicks M08f  | 6375.49 | -2378.77 | -1895.13 | 1624689   | 499555.8   | 39°51'54.3 | 80°43'29.5 | point   |         |
| Hicks Pad - | 6385    | 279.64   | 60.41    | 1626680   | 502187.3   | 39°52'20.6 | 80°43'04.4 | polygon |         |
| Hicks M08f  | 6480.81 | -10907.3 | 5284.82  | 1631752   | 490931.1   | 39°50'30.0 | 80°41'57.4 | point   |         |

WELLPATH 935'

| Log Name/    | Start MD | End MD | Pos Unc   | Model |
|--------------|----------|--------|---|-------|
| [ft]         | [ft]     | [ft]   |   |       |
| 01_SDI Gyr   | 25       | 429.74 | SDI Keeper v1.04                                |       |
| 03_APS EM    | 429.74   | 2039   | OWSG MWD rev2 + IFR1 + Multi-Station Correction |       |
| 04_BH AT C   | 2039     | 18910  | OWSG MWD rev2 + IFR1 + Multi-Station Correction |       |
| Projection : | 18910    | 18935  | Blind Drilling (std)                            |       |

COMMENTS

Wellpath general comments  
 API: 47-051-01993-0000  
 BH Job #: 109899708A  
 Rig: Precision 560  
 Duration: 8/22/2019 - 8/29/2019

SDI Gyro <17-1/2> (100'-428.74)''  
APS EM + MagVAR MSA <12-1/4> (429.74)(573-2039)''  
BH AT Curve + MagVAR MSA <8.5> (2039)(2131'-18910)''  
Projected MD at TD: 18,935'

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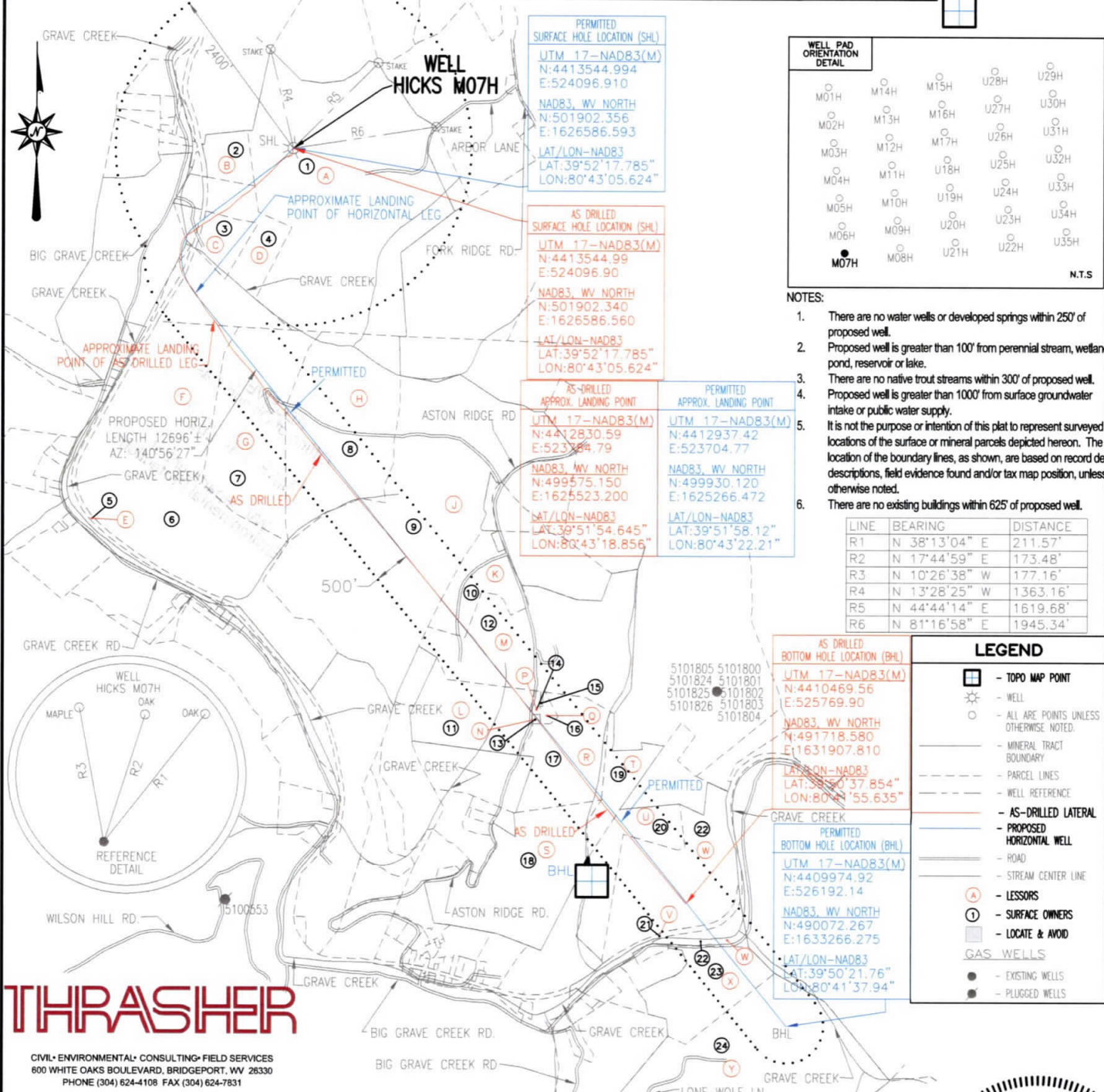
MAR 18 2020

WV Department of  
Environmental Protection

# AS DRILLED PLAT

BHL is located on topo map 13,003 feet south of Latitude: 39° 55' 00"  
 SHL is located on topo map 1,236 feet south of Latitude: 39° 52' 30"

SEE PAGE 2 FOR SURFACE OWNERS AND LESSORS



BHL is located on topo map 7,694 feet west of Longitude: 80° 40' 00"  
 SHL is located on topo map 2,777 feet west of Longitude: 80° 42' 30"

# THRASHER

CIVIL • ENVIRONMENTAL • CONSULTING • FIELD SERVICES  
 600 WHITE OAKS BOULEVARD, BRIDGEPORT, WV 28330  
 PHONE (304) 624-4108 FAX (304) 624-7831

FILE #: HICKS M07H-AS DRILLED  
 DRAWING #: HICKS M07H-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



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

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

WATERSHED: MIDDLE GRAVE CREEK-GRAVE CREEK ELEVATION: 1181.38'  
 COUNTY/DISTRICT: MARSHALL / CLAY QUADRANGLE: GLEN EASTON, WV 7.5'  
 SURFACE OWNER: THOMAS E. HICKS ACREAGE: 172.100±  
 OIL & GAS ROYALTY OWNER: CHRISTA DAWN HICKS, ET AL ACREAGE: 1245.184±  
 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: 6,600'± TMD: 20,742.27'±  
 WELL OPERATOR CHEVRON APPALACHIA, LLC DESIGNATED AGENT KENNETH E. TAWNEY  
 Address 800 MOUNTAIN VIEW DRIVE Address 500 LEE STREET, EAST SUITE 1600  
 City SMITHFIELD State PA Zip Code 15478 City CHARLESTON State WV Zip Code 25301-3202

DATE: JANUARY 31, 2020  
 OPERATOR'S WELL #: HICKS M07H-AS DRILLED  
 API WELL #: 47 51 01902  
 STATE COUNTY PERMIT



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Environmental Protection

# HICKS M07H PAGE 2 OF 2

AS DRILLED PLAT

|   | LESSOR  | DIST-TM/PAR |
|---|---|-------------|
| A | CHRISTA DAWN HICKS, ET AL.                      | 4-8/37      |
| B | SIDNEY P. POND, ET UX.                          | 4-8/36.1    |
| C | SIDNEY P. POND, ET UX.                          | 4-8/36.2    |
| D | LILLIE LAVERN GAREY                             | 4-8/36      |
| E | CNX GAS COMPANY, LLC.                           | 4-12/25     |
| F | DIOCESE OF WHEELING-CHARLESTON                  | 4-10/1      |
|   | ROBERT S. WUERTHELE                             |             |
|   | MARK K. WUERTHELE                               |             |
|   | JEFFREY A. WUERTHELE                            |             |
|   | MICHAEL D. WUERTHELE                            |             |
|   | SISTERS OF ST. FRANCIS OF THE PROVIDENCE OF GOD |             |
|   | MARY ANN BAKER                                  |             |
|   | ULMAN TRUST MARY ANN BAKER TRSTE                |             |
|   | SUSAN M. & BERNARD LUKE ZIDAR                   |             |
|   | LAUREN M. TEKELY IRREVOCABLE TRUST              |             |
| G | JAMES L. COSTER, ET AL.                         | 4-10/2      |
|   | FLOYD G. GREATHOUSE, ET UX.                     |             |
|   | PAUL R. BLAZER, ET UX.                          |             |
|   | ROBERT A. HOWARD EDGE JR., ET UX.               |             |
|   | THOMAS A. MONTI, ET UX.                         |             |
|   | G. JEANETTE SOUTH                               |             |
|   | RONALD L. LANCH, ET UX.                         |             |
|   | MICHAEL E. RHODEHAMEL, ET UX.                   |             |
|   | EDWARD D. YEATER                                |             |
|   | ROBERT A. EDGE, ET UX.                          |             |
|   | KENNETH R. RUNYAN, ET UX.                       |             |
|   | DANIEL G. MAY, ET UX.                           |             |
|   | KEVIN R. DURBIN, ET UX.                         |             |
|   | GARY D. HINERMAN, ET UX.                        |             |
| H | JAMES L. COSTER, ET AL.                         | 4-10/3      |
|   | FLOYD G. GREATHOUSE, ET UX.                     |             |
|   | PAUL R. BLAZER, ET UX.                          |             |
|   | ROBERT A. HOWARD EDGE JR., ET UX.               |             |
|   | THOMAS A. MONTI, ET UX.                         |             |
|   | G. JEANETTE SOUTH                               |             |
|   | RONALD L. LANCH, ET UX.                         |             |
|   | MICHAEL E. RHODEHAMEL, ET UX.                   |             |
|   | EDWARD D. YEATER, ET UX.                        |             |
|   | ROBERT A. EDGE, ET UX.                          |             |
|   | KENNETH R. RUNYAN, ET UX.                       |             |
|   | DANIEL G. MAY, ET UX.                           |             |
|   | KEVIN R. DURBIN, ET UX.                         |             |
|   | GARY D. HINERMAN, ET UX.                        |             |

|   | LESSOR  | DIST-TM/PAR |
|---|---|-------------|
| J | ELAINE A. FONTES                                | 4-10/4      |
|   | THE DAKAN FAMILY REVOCABLE LIVING TRUST         |             |
|   | RONALD W. DAKAN                                 |             |
|   | DAVID H. DAKAN                                  |             |
|   | SUZANNE SWIFT                                   |             |
|   | BARBARA D. FURFARI                              |             |
|   | DIANE WILLIS, ET VIR.                           |             |
|   | LESLIE MARIE BUTTS                              |             |
| K | CHARLES EMERY, ET UX.                           | 4-10/7.3    |
| L | JOSEPH W. GOULDSBERRY, ET UX.                   | 4-10/11     |
| M | JOSEPH W. GOULDSBERRY, ET UX.                   | 4-10/7      |
| N | DEVRON WEST, ET UX.                             | 4-10/12.1   |
| P | JOSEPH S. EMERY                                 | 4-10/12     |
| Q | DEVRON WEST, ET UX.                             | 4-10/13.1   |
| R | DEVRON LEE WEST, ET UX.                         | 4-10/13     |
| S | *WILLIAM R. STANIFORD II, ET UX.                | 4-11/8.5    |
| T | ROBERT M. SULLIVAN                              | 4-10/14     |
| U | ROBERT M. SULLIVAN                              | 4-11/9      |
| V | CNX GAS COMPANY LLC.                            | 4-11/59     |
| W | ROBERT M. SULLIVAN                              | 4-11/10     |
| X | HAROLD CROW, ET UX.                             | 9-2/2       |
| Y | GEORGE BARNARD CROW JR., ET UX.                 | 9-2/1       |
|   | CLARA I. CROW                                   |             |
|   | DIOCESE OF WHEELING-CHARLESTON                  |             |
|   | MARK K. WUERTHELE                               |             |
|   | JEFFREY A. WUERTHELE                            |             |
|   | MICHAEL D. WURTHELE                             |             |
|   | ROBERT S. WURTHELE                              |             |
|   | SISTERS OF ST. FRANCIS OF THE PROVIDENCE OF GOD |             |
|   | MARY ANN BAKER                                  |             |
|   | ULMAN TRUST MARY ANN BAKER TRSTE                |             |
|   | SUSAN M. & BERNARD LUKE ZIDAR                   |             |
|   | LAUREN M. TEKELY IRREVOCABLE TRUST              |             |

| PERMITTED SURFACE HOLE LOCATION (SHL)                   | PERMITTED APPROX. LANDING POINT                       | PERMITTED BOTTOM HOLE LOCATION (BHL)                  |
|---|---|---|
| UTM 17-NAD83(M)<br>N:4413544.994<br>E:524096.910        | UTM 17-NAD83(M)<br>N:4412937.42<br>E:523704.77        | UTM 17-NAD83(M)<br>N:4409974.92<br>E:526192.14        |
| NAD83_WV NORTH<br>N:501902.356<br>E:1626586.593         | NAD83_WV NORTH<br>N:499930.120<br>E:1625266.472       | NAD83_WV NORTH<br>N:490072.267<br>E:1633266.275       |
| LAT/LON-NAD83<br>LAT:39°52'17.785"<br>LON:80°43'05.624" | LAT/LON-NAD83<br>LAT:39°51'58.12"<br>LON:80°43'22.21" | LAT/LON-NAD83<br>LAT:39°50'21.76"<br>LON:80°41'37.94" |

|    | SURFACE OWNER  | DIST-TM/PAR |
|----|--|-------------|
| 1  | THOMAS E. HICKS  | 4-8/37      |
| 2  | VOCKIE L. & SIDNEY P. POND                             | 4-8/36.1    |
| 3  | SIDNEY P. POND ET UX                                   | 4-8/36.2    |
| 4  | LILLIE LAVERN GAREY                                    | 4-8/36      |
| 5  | CONSOLIDATION COAL COMPANY/MURRAY ENERGY C/O LAND DEPT | 4-12/25     |
| 6  | CITY OF MOUNDSVILLE                                    | 4-10/1      |
| 7  | JAMES L. COSTER  | 4-10/2      |
| 8  | JAMES L. COSTER  | 4-10/3      |
| 9  | DENNIS D. WINGROVE ET UX                               | 4-10/4      |
| 10 | CHARLES E. & DEBBY EMERY                               | 4-10/7.3    |
| 11 | JOSEPH W. GOULDSBERRY ET UX                            | 4-10/11     |
| 12 | JOSEPH W. GOULDSBERRY ET UX                            | 4-10/7      |
| 13 | DEVRON L. WEST ET UX                                   | 4-10/12.1   |
| 14 | JOSEPH S. EMERY ET UX                                  | 4-10/12     |
| 15 | JOSEPH S. EMERY ET UX                                  | 4-10/13.2   |
| 16 | DEVRON LEE WEST ET UX                                  | 4-10/13.1   |
| 17 | DEVRON LEE & TRACIE JANE WEST                          | 4-10/13     |
| 18 | *WILLIAM R. STANDIFORD II ET UX                        | 4-11/8.5    |
| 19 | ROBERT MORRIS SULLIVAN                                 | 4-10/14     |
| 20 | ROBERT MORRIS SULLIVAN                                 | 4-11/9      |
| 21 | CONSOLIDATION COAL COMPANY                             | 4-11/59     |
| 22 | ROBERT MORRIS SULLIVAN                                 | 4-11/10     |
| 23 | HAROLD CROW ET UX                                      | 9-2/2       |
| 24 | GEORGE J. CROW & SHIRLEY CROW                          | 9-2/1       |

| AS DRILLED SURFACE HOLE LOCATION (SHL)                  | AS DRILLED APPROX. LANDING POINT                        | AS DRILLED BOTTOM HOLE LOCATION (BHL)                   |
|---|---|---|
| UTM 17-NAD83(M)<br>N:4413544.99<br>E:524096.90          | UTM 17-NAD83(M)<br>N:4412830.59<br>E:523784.79          | UTM 17-NAD83(M)<br>N:4410469.56<br>E:525769.90          |
| NAD83_WV NORTH<br>N:501902.340<br>E:1626586.560         | NAD83_WV NORTH<br>N:499575.150<br>E:1625523.200         | NAD83_WV NORTH<br>N:491718.580<br>E:1631907.810         |
| LAT/LON-NAD83<br>LAT:39°52'17.785"<br>LON:80°43'05.624" | LAT/LON-NAD83<br>LAT:39°51'54.645"<br>LON:80°43'18.856" | LAT/LON-NAD83<br>LAT:39°50'37.854"<br>LON:80°41'55.635" |

**JANUARY 31, 2020**

\* - DENOTES PARCEL WITHIN 30 FEET OF PLANNED WELL BORE

RECEIVED  
Office of Oil and Gas

MAR 16 2020

WV Department of  
Environmental Protection

THRASHER

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600 WHITE OAKS BOULEVARD, BRIDGEPORT, WV 26330  
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