

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

RECEIVED
Office of Oil and Gas

JUN 14 2022

WV Department of
Environmental Protection

API 47 - 051 - 02079 County Marshall District Clay
Quad Glen Easton Pad Name Longworth Field/Pool Name N/A
Farm name Graham H. Longworth Jr. Well Number Longworth M02H
Operator (as registered with the OOG) EQT CHAP LLC
Address 400 Woodcliff Drive City Canonsburg State PA Zip 15317

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey
Top hole Northing 4,410,842.96 Easting 523,378.15
Landing Point of Curve Northing 4,410,609.19 Easting 522,648.85
Bottom Hole Northing 4,413,034.46 Easting 520,672.12

Elevation (ft) 1270' 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 Oil Based Mud 13.5 ppg barium sulfate, sodium chloride, xanthan gum, polyanionic cellulose, modified starch, sodium hydroxide, phosphonates and alkyl phosphates, glutaraldehyde solution, calcium hydroxide, partially hydrolyzed polyacrylamide/polyacrylate, potassium chloride, sodium carbonate, ground walnut shells, alcohol and modified fatty acid, ferrochrome lignosulfonate, calcium carbonate, fibrous cellulose

Date permit issued 09/17/2018 Date drilling commenced 12/21/2018 Date drilling ceased 12/07/2019
Date completion activities began _____ Date completion activities ceased _____
Verbal plugging (Y/N) N Date permission granted N/A Granted by N/A

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

Freshwater depth(s) ft 99,605 Open mine(s) (Y/N) depths N
Salt water depth(s) ft 1576,1998,2102,2139 Void(s) encountered (Y/N) depths N
Coal depth(s) ft 583,853 Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

Reviewed

Reviewed by:
gh 9/23/22
09/09/2022

API 47- 051 - 02079 Farm name Graham H. Longworth Jr. Well number Longworth M02H

| CASING STRINGS | Hole Size | Casing Size | Depth (GL) | New or Used | Grade wt/ft | Basket Depth(s) (GL) | Did cement circulate (Y/N) * Provide details below* |
|---------------------------|-----------|-------------|------------|-------------|-------------|----------------------|--|
| Conductor | 30" | 20" | 40' | NEW | X-52 78.67# | N/A | Y |
| Surface | 17-1/2" | 13-3/8" | 630' | NEW | J-55 54.5# | 857' | Y |
| Coal | | | | | | | |
| Intermediate 1 | 12-3/8" | 9-5/8" | 2224' | NEW | L-80 40# | N/A | Y |
| Intermediate 2 | | | | | | | |
| Intermediate 3 | | | | | | | |
| Production | 8-1/2" | 5-1/2" | 18,010' | NEW | P-110 20# | N/A | N |
| Tubing | | | | | | | |
| Packer type and depth set | | | | | | | |

Comment Details Production Cement job has a calculated TOC of 1880' GL, which is greater than 500' TVD above the producing formation. No issues during cement job.

| CEMENT DATA | Class/Type of Cement | Number of Sacks | Slurry wt (ppg) | Yield (ft ³ /sks) | Volume (ft ³) | Cement Top (GL) | WOC (hrs) |
|----------------|----------------------|-----------------|-----------------|------------------------------|---------------------------|-----------------|-----------|
| Conductor | CLASS A | N/A | N/A | N/A | N/A | 0 | 8+ |
| Surface | CLASS A | 520 | 15.6 | 1.20 | 624 | 0 | 8 |
| Coal | | | | | | | |
| Intermediate 1 | CLASS A | 741 | 15.6 | 1.19 | 882 | 0 | 8 |
| Intermediate 2 | | | | | | | |
| Intermediate 3 | | | | | | | |
| Production | CLASS A | 2873 | 15.0 | 1.23 | 3533 | 1880 | 8+ |
| Tubing | | | | | | | |

Drillers TD (ft) 18,021' Loggers TD (ft) N/A
 Deepest formation penetrated MARCELLUS Plug back to (ft) N/A
 Plug back procedure Cement plug 4/23/2019 1073' (.623 sks @ 15.6ppg and 1.19yld)
 Kick off Plug 11/23/2019 TOC @ 594' (449 sks @ 17ppg and .99yld)

Kick off depth (ft) 3078'

Check all wireline logs run caliper density deviated/directional induction
 neutron resistivity gamma ray temperature sonic

Well cored Yes No Conventional Sidewall Were cuttings collected Yes No

DESCRIBE THE CENTRALIZER PLACEMENT USED FOR EACH CASING STRING

CONDUCTOR- NONE
 SURFACE- ON SHOE TRACK AND EVERY 500' TO SURFACE
 INTERMEDIATE: ON SHOE TRACK AND EVERY 500' FEET TO SURFACE
 PRODUCTION: ON SHOE TRACK AND EVERY JOINT TO TOC

WAS WELL COMPLETED AS SHOT HOLE Yes No DETAILS _____

WAS WELL COMPLETED OPEN HOLE? Yes No DETAILS _____

WERE TRACERS USED Yes No TYPE OF TRACER(S) USED _____

API 47- 051 - 02079 Farm name Graham H. Longworth Jr. Well number Longworth M02H

Drilling Contractor Precision Drilling
Address 10350 Richmond Ave. Suite 700 City Houston State TX Zip 77042

Logging Company _____
Address _____ City _____ State _____ Zip _____

Logging Company _____
Address _____ City _____ State _____ Zip _____

Drilling Contractor _____
Address _____ City _____ State _____ Zip _____

Well # Longworth M02H Final Formations API# 47-051-02079

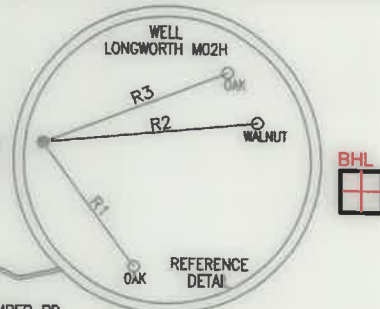
| Formation Name | Drill Top MD (ftGRD) | Drill Top (TVD) (ftGRD) | Drill Btm MD (ftGRD) | Drill Btm (TVD) (ftGRD) |
|-----------------|----------------------|-------------------------|----------------------|-------------------------|
| Sand/Shale | 1 | 1 | 583 | 583 |
| Waynesburg Coal | 583 | 583 | 583 | 583 |
| Sand/Shale | 583 | 583 | 853 | 853 |
| Pittsburgh Coal | 853 | 853 | 858 | 858 |
| Sand/Shale | 858 | 858 | 1,872 | 1,872 |
| Big Lime | 1,872 | 1,872 | 2,100 | 2,100 |
| Big Injun | 2,100 | 2,100 | 2,182 | 2,182 |
| Sand/Shale | 2,182 | 2,182 | 2,819 | 2,819 |
| Gantz | 2,819 | 2,819 | 2,880 | 2,880 |
| Gordon | 2,880 | 2,880 | 2,960 | 2,960 |
| 50F | 2,960 | 2,960 | 3,009 | 3,009 |
| Sand/Shale | 3,009 | 3,009 | 3,088 | 3,088 |
| Bayard | 3,088 | 3,088 | 3,453 | 3,453 |
| Sand/Shale | 3,453 | 3,453 | 5,255 | 4,945 |
| Alexander | 5,255 | 4,945 | 5,692 | 5,273 |
| Elks | 5,692 | 5,273 | 6,892 | 6,216 |
| Sonyea | 6,892 | 6,216 | 7,017 | 6,297 |
| Middlesex | 7,017 | 6,297 | 7,059 | 6,322 |
| Genesee | 7,059 | 6,322 | 7,150 | 6,372 |
| Geneseo | 7,150 | 6,372 | 7,194 | 6,394 |
| Tully | 7,194 | 6,394 | 7,293 | 6,438 |
| Hamilton | 7,293 | 6,438 | 7,494 | 6,498 |
| Marcellus | 7,494 | 6,498 | 18,021 | 6,520 |

| LINE | BEARING | DISTANCE |
|------|---------------|----------|
| R1 | S 36°19'52" E | 213.09' |
| R2 | N 84°27'05" E | 287.35' |
| R3 | N 68°53'13" E | 274.01' |
| R4 | S 73°49'36" W | 2269.38' |
| R5 | N 86°31'43" W | 1562.93' |
| R6 | N 50°51'39" W | 2213.27' |

BHL is located on topo map 2,908 feet south of Latitude: 39° 52' 30"
 SHL is located on topo map 10,097 feet south of Latitude: 39° 52' 30"

NOTES:

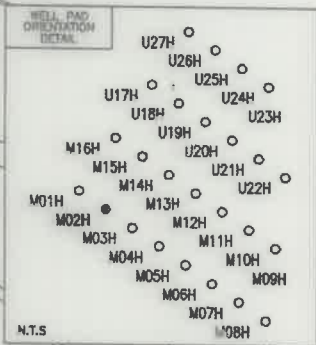
1. There are no water wells or developed springs within 250' of proposed well.
2. Proposed well is greater than 100' from perennial stream, wetland, pond, reservoir or lake.
3. There are no native trout streams within 300' of proposed well.
4. Proposed well is greater than 1000' from surface groundwater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



AS-DRILLED PLAT

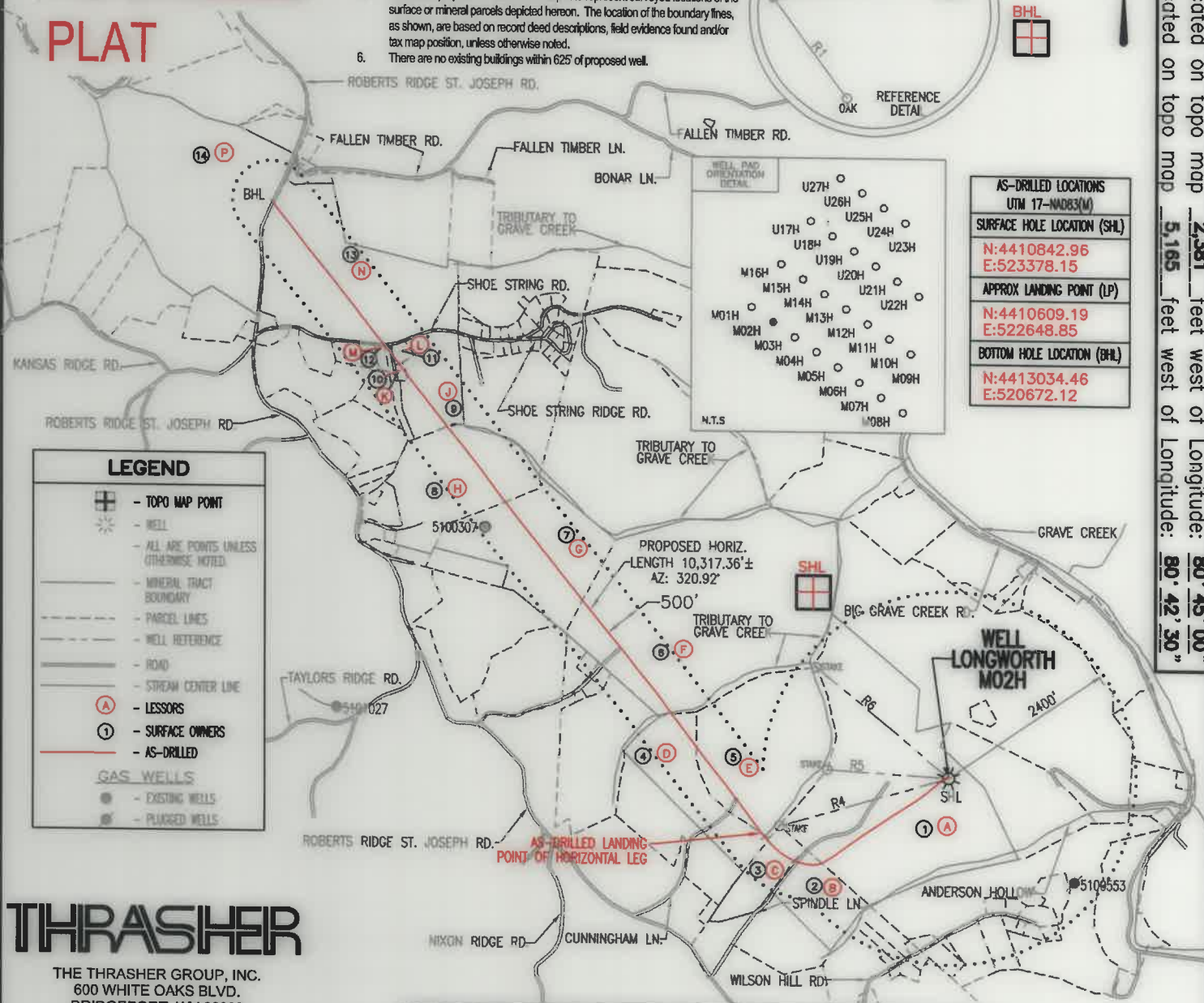
BHL is located on topo map 2,381 feet west of Longitude: 80° 45' 00"
 SHL is located on topo map 5,165 feet west of Longitude: 80° 42' 30"

| AS-DRILLED LOCATIONS UTM 17-NADE3(M) | |
|---|-------------|
| SURFACE HOLE LOCATION (SHL) | |
| N:4410842.96 | E:523378.15 |
| APPROX LANDING POINT (LP) | |
| N:4410609.19 | E:522648.85 |
| BOTTOM HOLE LOCATION (BHL) | |
| N:4413034.46 | E:520672.12 |



LEGEND

- TOPO MAP POINT
- WELL
- ALL ARE POINTS UNLESS OTHERWISE NOTED
- MINERAL TRACT BOUNDARY
- PARCEL LINES
- WELL REFERENCE
- ROAD
- STREAM CENTER LINE
- LESSORS
- SURFACE OWNERS
- AS-DRILLED
- GAS WELLS
- EXISTING WELLS
- PLUGGED WELLS



THRASHER
 THE THRASHER GROUP, INC.
 600 WHITE OAKS BLVD.
 BRIDGEPORT, WV 26330
 PHONE 304-624-4108

SEE PAGE 2 FOR SURFACE OWNERS AND LESSORS

FILE #: LONGWORTH M02H - AS-DRILLED
 DRAWING #: LONGWORTH M02H - 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: *Joseph C. Mallow*
 R.P.E.: _____ L.L.S.: P.S. No. 2346

PLACE SEAL HERE

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



DATE: DECEMBER 28, 2021
 OPERATOR'S WELL #: LONGWORTH M02H - AS-DRILLED
 API WELL #: 47 51 02079
 STATE COUNTY PERMIT

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

WATERSHED: MIDDLE GRAVE CREEK-GRAVE CREEK ELEVATION: 1295'

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

SURFACE OWNER: GRAHAM H. LONGWORTH JR. ACREAGE: 123.589±

OIL & GAS ROYALTY OWNER: GRAHAM H. LONGWORTH JR. ACREAGE: 709.816± 09/09/2022

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 PLAT

TARGET FORMATION: MARCELLUS ESTIMATED DEPTH: TVD: 6,423'± TMD: 18,045'±

WELL OPERATOR: EQT CHAP, LLC DESIGNATED AGENT: JOSEPH C. MALLOW

Address: 400 WOODCLIFF DRIVE Address: 427 MIDSTATE DRIVE

City: CANONSBURG State: PA Zip Code: 15317 City: CLARKSBURG State: WV Zip Code: 26301

LONGWORTH M02H PAGE 2 OF 2 AS-DRILLED

| | LESSOR | DIST-TM/PAR |
|---|-------------------------------|-------------|
| A | GRAHAM H. LONGWORTH JR. ET AL | 4-11/1 |
| B | HOLMES CWC LEGACY LLC | 4-11/55 |
| C | JEFFREY S. HOLMES ET UX | 4-13/39.1 |
| D | DALE CUNNINGHAM ET UX | 4-13/34 |
| E | DALE CUNNINGHAM ET UX | 4-13/33 |
| F | BRETT A. ANDREWS ET UX | 4-12/19 |
| G | RALPH E. WOOD | 4-12/21 |
| H | RALPH E. WOOD | 4-12/22 |
| J | KENNETH D. TUCKER ET UX | 4-12/1 |
| K | GARY L. ECKHARDT | 4-13/14.1 |
| L | RICHARD D. ARRUDA ET UX | 4-12/1.1 |
| M | *LIONEL SCHWING ET UX | 4-13/13 |
| N | BYRON C. FREELAND ET UX | 4-7/28 |
| P | JOSEPH L. FREELAND ET UX | 4-7/21 |

| | SURFACE OWNER | DIST-TM/PAR |
|----|---------------------------------|-------------|
| 1 | GRAHAM H. LONGWORTH JR. | 4-11/1 |
| 2 | HOLMES-CWC-LEGACY LLC | 4-11/55 |
| 3 | JEFFREY SCOTT HOLMES ET AL | 4-13/39.1 |
| 4 | DALE & MARY CUNNINGHAM | 4-13/34 |
| 5 | DALE & MARY CUNNINGHAM | 4-13/33 |
| 6 | CODY M. JARRETT | 4-12/19 |
| 7 | RALPH E. WOOD | 4-12/21 |
| 8 | RALPH E. WOOD | 4-12/22 |
| 9 | KEITH J. GUZEK | 4-12/1 |
| 10 | GARY L. ECKHARDT | 4-13/14.1 |
| 11 | RICHARD DAVID & TAMMY D. ARRUDA | 4-12/1.1 |
| 12 | *LIONEL SCHWING ET UX | 4-13/13 |
| 13 | BYRON FREELAND | 4-7/28 |
| 14 | JOSEPH L. FREELAND ET UX | 4-7/21 |

| AS-DRILLED LOCATIONS UTM 17-MA083(M) | |
|---|-------------|
| SURFACE HOLE LOCATION (SHL) | |
| N:4410842.96 | E:523378.15 |
| APPROX LANDING POINT (LP) | |
| N:4410609.19 | E:522648.85 |
| BOTTOM HOLE LOCATION (BHL) | |
| N:4413034.46 | E:520672.12 |

* - DENOTES PARCEL WITHIN 30 FEET OF PLANNED WELL BORE

DECEMBER 28, 2021

09/09/2022

THRASHER

THE THRASHER GROUP, INC.
600 WHITE OAKS BLVD.
BRIDGEPORT, WV 26330
PHONE 304-624-4108