

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 47-051-02081 County Marshall District Clay  
Quad Glen Easton Pad Name Longworth Field/Pool Name N/A  
Farm name Graham H. Longworth Jr. Well Number Longworth M14H  
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 4,410,848.08 Easting 523,387.00  
Landing Point of Curve Northing 4,411,306.33 Easting 523532.15  
Bottom Hole Northing 4,412,389.54 Easting 522,649.18

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 13.6 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 12/27/2018 Date drilling ceased 10/01/2019

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:  
[Signature]  
09/09/2022

API 47- 051 - 02081 Farm name Graham H. Longworth Jr. Well number Longworth M14H

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-52 218#	N/A	Y
Surface	17-1/2"	13-3/8"	619'	NEW	J-55 54.5#	N/A	Y
Coal							
Intermediate 1	12-3/8"	9-5/8"	2178'	NEW	L-80 40#	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-1/2"	5-1/2"	11,729'	NEW	P-110 20#	N/A	N
Tubing							
Packer type and depth set							

Comment Details Production Cement job has a calculated TOC of 1812' 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 <sup>3</sup> /sks)	Volume (ft <sup>3</sup> )	Cement Top (GL)	WOC (hrs)
Conductor	CLASS A	18BBLS	15.6	N/A	N/A	0	8+
Surface	CLASS A	520	15.6	1.20	624	0	8
Coal							
Intermediate 1	CLASS A	736	15.6	1.19	876	0	8
Intermediate 2							
Intermediate 3							
Production	CLASS A	1771	15.0	1.23	2178	1812	8+
Tubing							

Drillers TD (ft) 11,764' Loggers TD (ft) N/A  
 Deepest formation penetrated MARCELLUS Plug back to (ft) N/A  
 Plug back procedure \_\_\_\_\_

Kick off depth (ft) 2675'

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 ABOVE 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 \_\_\_\_\_





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

Logging Company Scientific Drilling International  
Address 124 Vista Drive City Charleroi State PA Zip 15022

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

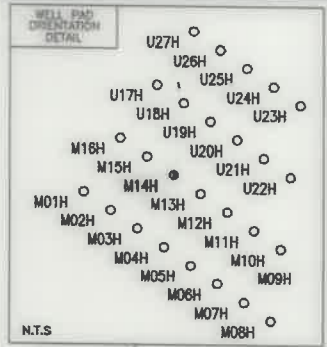
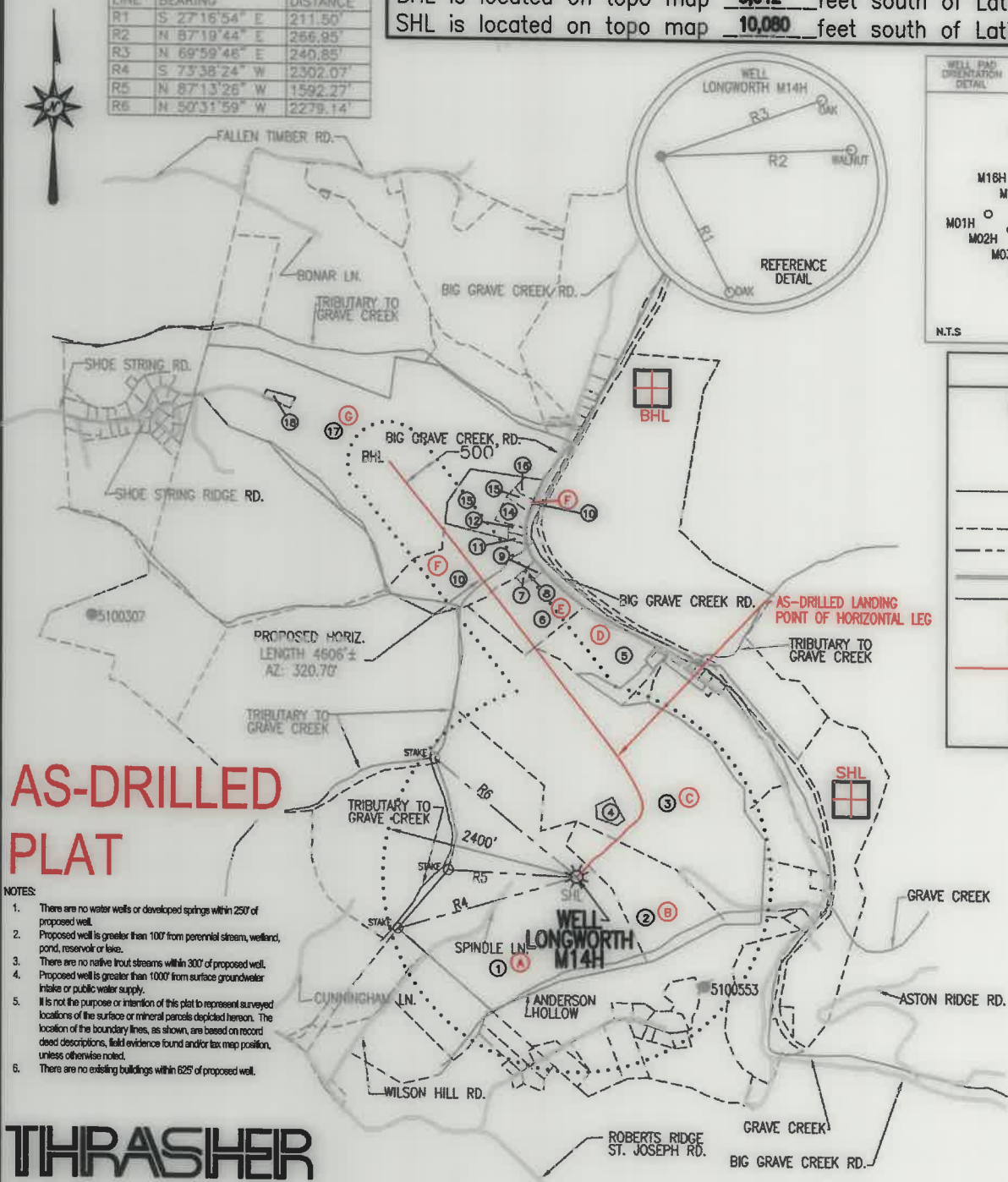
Drilling Contractor \_\_\_\_\_  
Address \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Well # Longworth 14H Final Formations API# 47-051-02081				
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	2,818
Gantz	2,819	2,818	2,880	2,879
Gordon	2,880	2,879	2,960	2,957
50F	2,960	2,957	3,009	3,005
Sand/Shale	3,009	3,005	3,088	3,081
Bayard	3,088	3,081	3,453	3,423
Sand/Shale	3,453	3,423	5,255	5,113
Alexander	5,255	5,113	5,692	5,521
Elks	5,692	5,521	6,430	6,193
Sonyea	6,430	6,193	6,541	6,276
Middlesex	6,541	6,276	6,579	6,301
Genesee	6,579	6,301	6,659	6,352
Geneseo	6,659	6,352	6,699	6,375
Tully	6,699	6,375	6,786	6,420
Hamilton	6,786	6,420	6,942	6,479
Marcellus	6,942	6,479	11,764	6,511

LINE	BEARING	DISTANCE
R1	S 27°16'54" E	211.50'
R2	N 87°19'44" E	266.95'
R3	N 69°59'46" E	240.85'
R4	S 73°38'24" W	2302.07'
R5	N 87°13'26" W	1592.27'
R6	N 50°31'59" W	2279.14'

BHL is located on topo map 5,042 feet south of Latitude: 39° 52' 30"  
 SHL is located on topo map 10,080 feet south of Latitude: 39° 52' 30"

BHL is located on topo map 7,595 feet west of Longitude: 80° 42' 30"  
 SHL is located on topo map 5,136 feet west of Longitude: 80° 42' 30"



**LEGEND**

- TOPO MAP POINT
- WELL
- ALL ARE POINTS UNLESS OTHERWISE NOTED.
- MINERAL TRACT BOUNDARY
- PARCEL LINES
- WELL REFERENCE
- ROAD
- STREAM CENTER LINE
- (A) - LESSORS
- (1) - SURFACE OWNERS
- AS-DRILLED

**GAS WELLS**

- EXISTING WELLS
- PLUGGED WELLS

**AS-DRILLED PLAT**

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

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

**SEE PAGE 2 FOR SURFACE OWNERS AND LESSORS**

**AS-DRILLED LOCATIONS UTM 17-MAD83(M)**

<b>SURFACE HOLE LOCATION (SHL)</b>
N:4410848.08 E:523387.00
<b>APPROX LANDING POINT (LP)</b>
N:4411306.33 E:523532.15
<b>BOTTOM HOLE LOCATION (BHL)</b>
N:4412389.54 E:522649.18

FILE #: LONGWORTH M14H - AS-DRILLED  
 DRAWING #: LONGWORTH M14H - 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 H. Lowther*  
 F.P.E.: \_\_\_\_\_ L.L.S.: P.S. No. 2346



(+) 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 M14H - AS-DRILLED  
 API WELL #: 47 51 02081  
 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: 505.949± **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: 6,488'± TMD: 11,788'±  
 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

## M14H

### PAGE 2 OF 2

## AS-DRILLED

	LESSOR	DIST-TM/PAR
A	GRAHAM H. LONGWORTH JR. ET AL	4-11/1
B	GRAHAM H. LONGWORTH JR. ET AL	4-11/2
	LISA NICEWARNER	
	JULIA RODGERS	
	KEITH FRIESE	
	MARK FRIESE	
	ANTHONY FRIESE	
	JAMES FRIESE	
	HENRY FRIESE	
STEVEN FRIESE		
C	GRAHAM H. LONGWORTH JR. ET AL	4-12/16
	SHERI L. EVRAETS FAMILY TRUST	
	LISA NICEWARNER	
	JULIA RODGERS	
	KEITH FRIESE	
	MARK FRIESE	
	ANTHONY FRIESE	
	JAMES FRIESE	
	HENRY FRIESE	
	STEVEN FRIESE	
D	MICHAEL A. JOBES ET UX	4-12/12
E	MARY ANN BAKER	4-12/10.2
	ULMAN TRUST MARY ANN BAKER TRSTE	
	DIOCESE OF WHEELING - CHARLESTON	
	ROBERT S. WUERTHELE	
	MARK K. WUERTHELE	
	JEFFREY A. WUERTHELE	
	MICHAEL D. WUERTHELE	
	SISTERS OF ST FRANCIS PROV OF GOD	
	SUSAN ZIDAR ET VIR	
	VICKIE L. MARKEY IRREVOCABLE TRST	
F	MARY ANN BAKER	4-12/10
	ULMAN TRUST MARY ANN BAKER TRSTE	
	DIOCESE OF WHEELING - CHARLESTON	
	ROBERT S. WUERTHELE	
	MARK K. WUERTHELE	
	JEFFREY A. WUERTHELE	
	MICHAEL D. WUERTHELE	
	SISTERS OF ST FRANCIS PROV OF GOD	
SUSAN ZIDAR ET VIR		
VICKIE L. MARKEY IRREVOCABLE TRST		
G	JMK IREV TRST	4-12/3
	PURPLEBURGH VENTURES LLC	
	MARCELLUS TX MINERAL PRTRNS LTD	

	SURFACE OWNER	DIST-TM/PAR
1	GRAHAM H. LONGWORTH JR.	4-11/1
2	GRAHAM H. LONGWORTH JR.	4-11/2
3	DANIEL C. LONGWORTH	4-12/16
4	DANIEL C. SR. AND JEANNETTE L. LONGWORTH	4-12/16.1
5	KEVIN HAUGHT	4-12/12
6	THOMAS L. AND CLARA J. HAUGHT-LIFE	4-12/10.2
7	THOMAS L. AND CLARA J. HAUGHT-LIFE	4-12/6
8	THOMAS L. AND CLARA J. HAUGHT-LIFE	4-12/11
9	THOMAS L. & CLARA J. HAUGHT	4-12/10.1
10	THOMAS HAUGHT ET AL	4-12/10
11	CLIFFORD A. & JOY M. WHITE	4-12/10.3
12	CLIFFORD A. & JOY M. WHITE	4-12/10.4
13	CLIFFORD A. & JOY M. WHITE	4-12/10.5
14	THOMAS L. & CLARA J. HAUGHT	4-12/9
15	THOMAS L. & CLARA J. HAUGHT	4-12/8
16	THOMAS L. & CLARA J. HAUGHT	4-12/7
17	MERLE CHAPLIN ET UX	4-12/3
18	MERLE R. & JEAN E. CHAPLIN	4-12/3.1

AS-DRILLED LOCATIONS UTM 17-NAD83(M)
SURFACE HOLE LOCATION (SHL)
N:4410848.08 E:523387.00
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DECEMBER 28, 2021

09/09/2022

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