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WV Department of
Environmental Protection

Well Operator's Report of Well Work



Where energy meets innovation.

Well Number: Longworth M14H

API: 47 - 051 - 02081

Submission: ☐ Initial ☒ Amended

Notes: Updated with Stimulation Info.

09/19/2025

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

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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 2400 Ansys Drive, Suite 200 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 523,532.15
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)

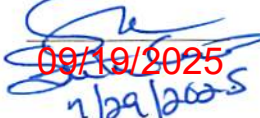
Synthetic Oil Based Mud 13.6 ppg barium sulfate, sodium chloride, xanthan gum, polyanionic cellulose, modified starch, sodium hydroxide, phosphonates and alkyl phosphates, glutaraldehyde solution, calcium hydroxide, partially hydrolyzed polyacrylamide/polyacrylate, potassium chloride, sodium carbonate, 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 03/22/2025 Date completion activities ceased 04/21/2025
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 by:


09/19/2025
nba/2025

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 ³ /sks)	Volume (ft ³)	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 RECEIVED
Deepest formation penetrated MARCELLUS Plug back to (ft) N/A Office of Oil and Gas
Plug back procedure _____ JUL 16 2025

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

PERFORATION RECORD

[illegible]

Please insert additional pages as applicable.

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STIMULATION INFORMATION PER STAGE

JUL 16 2025

Complete a separate record for each stimulation stage.

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[illegible]

Please insert additional pages as applicable.

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Well number Longworth M14H

MD

JUL 16 2025

09/19/2025

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

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 _____

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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

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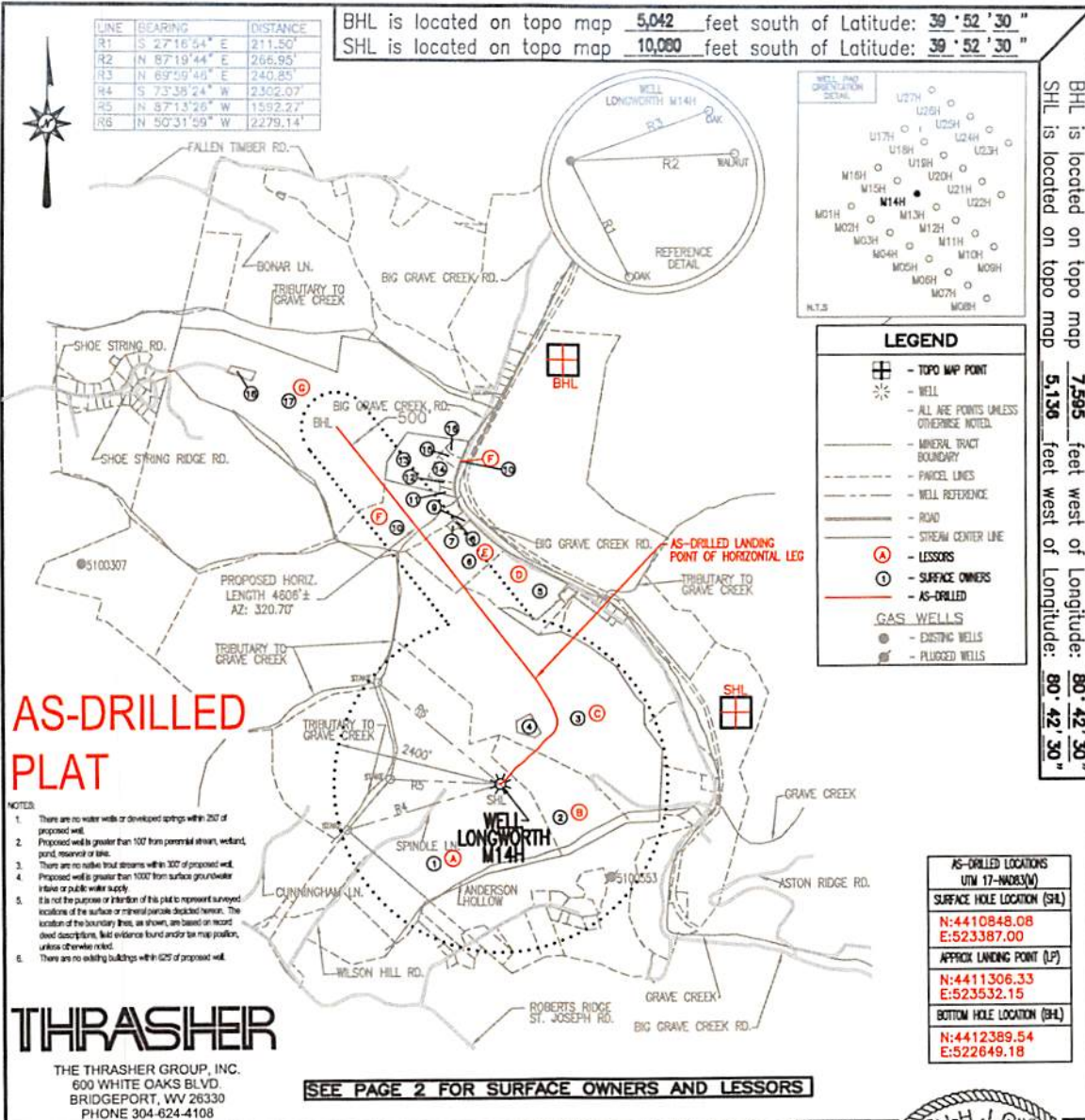
JUL 16 2025

NY Department of
Environmental Protection

09/19/2025

JUL 16 2025

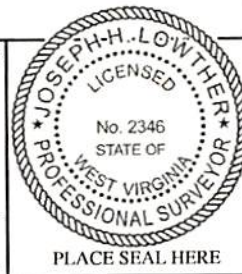
WV Department of
Environmental Protection



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
R.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: FEBRUARY 23, 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±
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: 115 PROFESSIONAL PLACE, PO BOX 280
City: CANONSBURG State: PA Zip Code: 15317 City: BRIDGEPORT State: WV Zip Code: 26330

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LONGWORTH

M14H

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AS-DRILLED

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	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-WN03W
SURFACE HOLE LOCATION (SH)
N:4410848.08
E:523387.00
APPROX LANDING POINT (LP)
N:4411306.33
E:523532.15
BOTTOM HOLE LOCATION (BH)
N:4412389.54
E:522649.18

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FEBRUARY 23, 2021

THRASHER

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

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EQT (Chevron Data) 02-13-21

**Marshall County, WV Chevron
Longworth
M14H**

OH

Design: Longworth 14H As Drilled

Standard Survey Report

20 July, 2021

09/19/2025



EQT
Survey Report

Database:	EDM Definitive	Local Co-ordinate Reference:	Well M14H
Company:	EQT (Chevron Data) 02-13-21	TVD Reference:	Air RKB @ 1294.000usft (Highlands 9)
Project:	Marshall County, WV Chevron	MD Reference:	Air RKB @ 1294.000usft (Highlands 9)
Site:	Longworth	North Reference:	True
Well:	M14H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Longworth 14H As Drilled		

Project	Marshall County, WV Chevron		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	West Virginia Northern Zone		

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Site	Longworth			JUL 10 2025	
Site Position:		Northing:	493,086.404 usft	Latitude:	39.85
From:	Map	Easting:	1,624,022.636 usft	Longitude:	-80.73
Position Uncertainty:	0.000 usft	Slot Radius:	13-3/16 "	Grid Convergence:	-0.7825 "

Well	M14H				
Well Position	+N/-S	0.000 usft	Northing:	493,091.381 usft	Latitude: 39.8473279
	+E/-W	0.000 usft	Easting:	1,624,109.103 usft	Longitude: 80.7266263°W
Position Uncertainty		0.000 usft	Wellhead Elevation:	0.000 usft	Ground Level: 1,270.000 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	User Defined	5/16/2016	-8.7190	67.0778	52,269.34295740

Design	Longworth 14H As Drilled				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.000
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.000	0.000	0.000	334.528	

Survey Program	Date	7/20/2021			
From (°)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	583.610	Surface Gyro (OH)	NS-GYRO-MS c	North sensing gyrocompassing m/s c	
0.00	5,785.000	EM Tool (OH)	11_MWD+IFR1+AX+Sag c	A007Mb: IFR dec & axial + sag corrections c	
0.00	11,788.000	Survey #3 (OH)	11_MWD+IFR1+AX+Sag c	A007Mb: IFR dec & axial + sag corrections c	

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.000	0.000	0.000	0.000	-1,294.000	0.000	0.000	0.000	0.00000	0.00000	0.00000
100.000	0.400	298.300	99.999	-1,194.001	0.165	-0.307	0.282	0.40000	0.40000	0.00000
125.000	0.430	309.080	124.999	-1,169.001	0.266	-0.457	0.437	0.33396	0.12000	43.12000
150.000	0.370	310.530	149.998	-1,144.002	0.378	-0.591	0.595	0.24337	-0.24000	5.80000
175.000	0.350	308.210	174.997	-1,119.003	0.477	-0.713	0.737	0.09898	-0.08000	-9.28000
200.000	0.300	341.810	199.997	-1,094.003	0.587	-0.793	0.871	0.77549	-0.20000	134.40000
225.000	0.270	0.950	224.997	-1,069.003	0.708	-0.812	0.988	0.39709	-0.12000	76.56000



EQT
Survey Report

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Site:	Longworth	North Reference:	True
Well:	M14H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Longworth 14H As Drilled		

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
250.000	0.290	3.920	249.996	-1,044.004	0.830	-0.807	1.096	0.09882	0.08000	11.88000
275.000	0.260	3.000	274.996	-1,019.004	0.950	-0.800	1.201	0.12129	-0.12000	-3.68000
300.000	0.100	7.070	299.996	-994.004	1.028	-0.794	1.269	0.64164	-0.64000	16.28000
325.000	0.260	13.490	324.996	-969.004	1.105	-0.778	1.332	0.64406	0.64000	25.68000
350.000	0.470	355.710	349.995	-944.005	1.262	-0.773	1.472	0.94466	0.84000	-71.12000
375.000	0.430	339.520	374.995	-919.005	1.452	-0.813	1.661	0.53110	-0.16000	-64.76000
400.000	0.390	343.560	399.994	-894.006	1.622	-0.870	1.838	0.19732	-0.16000	16.16000
425.000	0.400	326.640	424.993	-869.007	1.776	-0.942	2.009	0.46657	0.04000	-67.68000
450.000	0.430	324.040	449.993	-844.007	1.925	-1.045	2.187	0.14165	0.12000	-10.40000
475.000	0.550	329.840	474.992	-819.008	2.105	-1.161	2.399	0.51879	0.48000	23.20000
500.000	0.660	335.860	499.990	-794.010	2.340	-1.280	2.663	0.50760	0.44000	24.08000
525.000	0.660	337.690	524.989	-769.011	2.604	-1.393	2.950	0.08431	0.00000	7.32000
550.000	0.710	330.520	549.987	-744.013	2.872	-1.524	3.249	0.39655	0.20000	-28.68000
575.000	1.040	32.710	574.985	-719.015	3.198	-1.478	3.523	3.78770	1.32000	248.76000
583.610	1.300	42.280	583.593	-710.407	3.336	-1.370	3.601	3.76754	3.01974	111.14983
699.000	0.470	7.500	698.969	-595.031	4.774	-0.427	4.494	0.82544	-0.71930	-30.14126
700.000	0.470	7.230	699.969	-594.031	4.782	-0.426	4.501	0.22148	0.00000	-27.00000
776.000	0.650	25.270	775.965	-518.035	5.481	-0.203	5.036	0.32878	0.23684	23.73684
887.000	0.630	22.690	886.958	-407.042	6.613	0.301	5.841	0.03160	-0.01802	-2.32432
1,012.000	0.650	21.000	1,011.950	-282.050	7.909	0.820	6.788	0.02200	0.01600	-1.35200
1,106.000	0.880	16.810	1,105.942	-188.058	9.098	1.220	7.689	0.25165	0.24468	-4.45745
1,199.000	0.970	13.050	1,198.930	-95.070	10.549	1.604	8.833	0.11668	0.09677	-4.04301
1,293.000	0.640	357.920	1,292.920	-1.080	11.848	1.765	9.938	0.41467	-0.35106	-16.09575
1,386.000	0.250	213.470	1,385.919	91.919	12.198	1.634	10.310	0.92025	-0.41935	-155.32258
1,480.000	0.780	159.920	1,479.915	185.915	11.426	1.741	9.567	0.70502	0.56383	-56.96809
1,574.000	1.090	160.900	1,573.902	279.902	9.981	2.253	8.041	0.33021	0.32979	1.04255
1,667.000	1.260	160.860	1,666.883	372.883	8.179	2.878	6.146	0.18280	0.18280	-0.04301
1,761.000	1.080	167.740	1,760.863	466.863	6.337	3.405	4.256	0.24258	-0.19149	7.31915
1,854.000	0.130	222.150	1,853.857	559.857	5.402	3.520	3.363	1.08590	-1.02151	58.50538
1,948.000	0.100	45.580	1,947.857	653.857	5.380	3.507	3.349	0.24457	-0.03191	-187.84043
2,042.000	0.300	40.410	2,041.856	747.857	5.625	3.725	3.476	0.21341	0.21277	-5.50000
2,135.000	0.640	55.350	2,134.853	840.853	6.106	4.310	3.659	0.38557	0.36559	16.06452
2,231.000	1.140	67.380	2,230.841	936.841	6.778	5.633	3.697	0.55321	0.52083	12.53125
2,324.000	0.750	319.360	2,323.834	1,029.834	7.596	6.090	4.238	1.66268	-0.41935	-116.15054
2,418.000	1.870	293.180	2,417.808	1,123.809	8.666	4.280	5.983	1.32109	1.19149	-27.85106
2,512.000	0.970	232.550	2,511.783	1,217.783	8.786	2.238	6.970	1.73450	-0.95745	-64.50000
2,605.000	1.520	178.990	2,604.764	1,310.764	7.074	1.635	5.683	1.31677	0.59140	-57.59140
KOP=1294' MD/TVD										
2,699.000	0.890	103.360	2,698.747	1,404.747	5.659	2.367	4.091	1.65863	-0.67021	-80.45745
2,792.000	4.010	53.420	2,791.657	1,497.657	7.430	5.682	4.264	3.76768	3.35484	-53.69893
2,886.000	8.790	50.960	2,885.044	1,591.044	13.917	13.905	6.584	5.09231	5.08511	-2.61702



EQT
Survey Report

Database:	EDM Definitive	Local Co-ordinate Reference:	Well M14H
Company:	EQT (Chevron Data) 02-13-21	TVD Reference:	Air RKB @ 1294.000usft (Highlands 9)
Project:	Marshall County, WV Chevron	MD Reference:	Air RKB @ 1294.000usft (Highlands 9)
Site:	Longworth	North Reference:	True
Well:	M14H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Longworth 14H As Drilled		

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
2,980.000	12.700	52.140	2,977.378	1,683.378	24.786	27.646	10.487	4.16594	4.15957	1.25532
3,073.000	15.710	49.590	3,067.525	1,773.525	39.226	45.309	15.927	3.30499	3.23656	-2.74194
3,167.000	17.560	43.980	3,157.593	1,863.593	57.682	64.848	24.186	2.60412	1.96809	-5.96809
3,260.000	19.070	42.840	3,245.879	1,951.879	78.919	84.922	34.726	1.66865	1.62366	-1.22581
3,354.000	21.570	42.040	3,334.023	2,040.023	103.015	106.938	47.012	2.67589	2.65957	-0.85106
3,447.000	23.710	36.920	3,419.860	2,125.860	130.666	129.622	62.219	3.12635	2.30108	-5.50538
3,541.000	21.260	33.640	3,506.711	2,212.711	159.969	150.420	79.730	2.92722	-2.60638	-3.48936
3,635.000	16.470	39.530	3,595.643	2,301.644	184.451	168.354	94.119	5.47762	-5.09574	6.26596
3,728.000	15.760	41.940	3,684.990	2,390.990	204.015	185.186	104.542	1.04876	-0.76344	2.59140
3,822.000	15.910	41.930	3,775.422	2,481.422	223.095	202.328	114.396	0.15960	0.15957	-0.01064
3,916.000	16.010	48.180	3,865.806	2,571.806	241.325	220.599	122.997	1.83048	0.10638	6.64894
4,009.000	18.160	55.920	3,954.708	2,660.708	258.002	242.166	128.777	3.36032	2.31183	8.32258
4,102.000	21.590	58.110	4,042.157	2,748.157	275.168	268.705	132.861	3.77344	3.68817	2.35484
4,196.000	24.430	53.330	4,128.677	2,834.677	295.919	298.989	138.571	3.61427	3.02128	-5.08511
4,290.000	24.530	46.190	4,214.246	2,920.246	321.041	328.669	148.487	3.14760	0.10638	-7.59574
4,383.000	23.380	41.640	4,299.241	3,005.241	348.199	354.864	161.740	2.33905	-1.23656	-4.89247
4,476.000	22.810	37.950	4,384.792	3,090.792	376.206	378.212	176.983	1.67239	-0.61290	-3.96774
4,570.000	18.220	44.820	4,472.820	3,178.820	401.015	399.791	190.100	5.50619	-4.88298	7.30851
4,663.000	18.490	52.160	4,561.100	3,267.100	420.377	421.688	198.163	2.50068	0.29032	7.89247
4,757.000	19.020	51.440	4,650.109	3,356.109	439.069	445.437	204.825	0.61526	0.56383	-0.76596
4,851.000	21.030	49.980	4,738.422	3,444.422	459.465	470.333	212.531	2.20329	2.13830	-1.55319
4,945.000	21.740	46.630	4,825.953	3,531.953	482.266	495.906	222.118	1.50277	0.75532	-3.56383
5,038.000	20.890	42.350	4,912.596	3,618.596	506.350	519.598	233.672	1.90568	-0.91398	-4.60215
5,132.000	21.310	39.040	5,000.296	3,706.296	532.003	541.647	247.349	1.34389	0.44681	-3.52128
5,225.000	21.220	35.420	5,086.968	3,792.968	558.845	562.046	262.809	1.41484	-0.09677	-3.89247
5,319.000	21.040	37.000	5,174.648	3,880.648	586.185	582.061	278.883	0.63544	-0.19149	1.68085
5,412.000	20.610	39.670	5,261.575	3,967.575	612.117	602.557	293.481	1.12039	-0.46237	2.87097
5,506.000	20.010	47.630	5,349.747	4,055.747	635.695	625.005	305.113	3.00544	-0.63830	8.46809
5,600.000	21.430	52.920	5,437.673	4,143.673	656.890	650.591	313.244	2.49790	1.51064	5.62766
5,694.000	22.860	52.450	5,524.736	4,230.737	678.373	678.768	320.520	1.53290	1.52128	-0.50000
5,906.000	20.760	43.930	5,721.601	4,427.601	730.547	737.503	342.364	1.78947	-0.99057	-4.01887
5,999.000	21.870	25.130	5,808.340	4,514.340	758.133	756.317	359.177	7.41379	1.19355	-20.21505
6,091.000	21.890	22.870	5,893.714	4,599.714	789.448	770.259	381.452	0.91566	0.02174	-2.45652
6,183.000	21.810	23.120	5,979.105	4,685.105	820.968	783.635	404.155	0.13338	-0.08696	0.27174
6,276.000	25.230	8.220	6,064.442	4,770.442	856.516	793.264	432.107	7.34884	3.67742	-16.02151
6,368.000	30.420	356.300	6,145.840	4,851.840	899.227	794.566	470.107	8.24636	5.64130	-12.95652
6,460.000	37.890	344.010	6,222.009	4,928.009	949.760	785.257	519.731	11.01958	8.11957	-13.35870
6,552.000	45.290	339.010	6,290.789	4,996.789	1,007.536	765.732	580.288	8.81025	8.04348	-5.43478
6,645.000	50.280	334.620	6,353.274	5,059.274	1,070.761	738.540	649.062	6.40177	5.36559	-4.72043
6,737.000	57.280	333.920	6,407.602	5,113.602	1,137.572	706.320	723.236	7.63334	7.60870	-0.76087
6,830.000	63.340	329.980	6,453.653	5,159.658	1,208.779	668.284	803.880	7.48190	6.51613	-4.23656
6,895.577	68.309	327.303	6,480.509	5,186.509	1,259.830	637.141	863.362	8.44268	7.57784	-4.08220

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WV Department of
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EQT
Survey Report

Database:	EDM Definitive	Local Co-ordinate Reference:	Well M14H
Company:	EQT (Chevron Data) 02-13-21	TVD Reference:	Air RKB @ 1294.000usft (Highlands 9)
Project:	Marshall County, WV Chevron	MD Reference:	Air RKB @ 1294.000usft (Highlands 9)
Site:	Longworth	North Reference:	True
Well:	M14H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Longworth 14H As Drilled		

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
6,923.000	70.400	326.240	6,490.178	5,196.178	1,281.293	623.079	888.786	8.44268	7.62382	-3.87637
7,015.000	77.020	327.400	6,515.970	5,221.970	1,355.168	574.791	976.246	7.29658	7.19565	1.26087
7,108.000	83.120	326.350	6,532.000	5,238.000	1,431.845	524.749	1,066.992	6.65266	6.55914	-1.12903
M14H LP										
7,175.955	88.979	323.899	6,536.680	5,242.680	1,487.431	486.001	1,133.839	9.34286	8.62254	-3.60750
LP/Deepest Point of Well=7201' MD/ 6535' TVD										
7,201.000	91.140	323.000	6,536.654	5,242.654	1,507.549	471.087	1,158.416	9.34286	8.62668	-3.58763
7,293.000	91.010	322.970	6,534.928	5,240.928	1,580.996	415.710	1,248.539	0.14502	-0.14130	-0.03261
7,386.000	90.870	322.500	6,533.403	5,239.403	1,654.999	359.406	1,339.563	0.52726	-0.15054	-0.50538
7,479.000	90.440	320.800	6,532.339	5,238.339	1,727.925	301.709	1,430.214	1.88541	-0.46237	-1.82796
7,571.000	90.640	320.890	6,531.472	5,237.472	1,799.263	243.621	1,519.599	0.23839	0.21739	0.09783
7,664.000	90.470	320.620	6,530.571	5,236.572	1,871.283	184.788	1,609.921	0.34306	-0.18280	-0.29032
7,757.000	90.770	320.790	6,529.565	5,235.565	1,943.251	125.894	1,700.222	0.37077	0.32258	0.18280
7,849.000	90.540	320.930	6,528.513	5,234.513	2,014.602	67.826	1,789.610	0.29267	-0.25000	0.15217
7,942.000	90.640	321.840	6,527.556	5,233.556	2,087.263	9.790	1,880.168	0.98433	0.10753	0.97849
8,035.000	90.540	321.750	6,526.598	5,232.598	2,160.339	-47.726	1,970.876	0.14466	-0.10753	-0.09677
8,127.000	90.440	321.810	6,525.811	5,231.811	2,232.615	-104.642	2,060.605	0.12676	-0.10870	0.06522
8,220.000	90.670	321.140	6,524.910	5,230.911	2,305.369	-162.565	2,151.197	0.76166	0.24731	-0.72043
8,313.000	90.570	320.900	6,523.904	5,229.904	2,377.660	-221.063	2,241.619	0.27956	-0.10753	-0.25806
8,405.000	90.570	321.960	6,522.989	5,228.989	2,449.585	-278.419	2,331.220	1.15212	0.00000	1.15217
8,498.000	90.600	320.980	6,522.039	5,228.039	2,522.332	-336.347	2,421.809	1.05420	0.03226	-1.05376
8,591.000	90.270	320.920	6,521.333	5,227.333	2,594.554	-394.935	2,512.207	0.36066	-0.35484	-0.06452
8,683.000	90.070	321.120	6,521.060	5,227.060	2,666.071	-452.807	2,601.661	0.30744	-0.21739	0.21739
8,776.000	90.130	320.420	6,520.898	5,226.898	2,738.109	-511.623	2,691.992	0.75545	0.06452	-0.75269
8,868.000	90.440	320.980	6,520.440	5,226.440	2,809.302	-569.893	2,781.324	0.69573	0.33696	0.60870
8,961.000	90.130	320.260	6,519.978	5,225.978	2,881.185	-628.897	2,871.595	0.84289	-0.33333	-0.77419
9,053.000	90.370	321.160	6,519.576	5,225.576	2,952.387	-687.154	2,960.931	1.01244	0.26087	0.97826
9,146.000	90.200	320.870	6,519.114	5,225.114	3,024.676	-745.661	3,051.355	0.36145	-0.18280	-0.31183
9,239.000	90.440	321.250	6,518.594	5,224.594	3,097.010	-804.111	3,141.796	0.48327	0.25806	0.40860
9,332.000	90.500	320.530	6,517.831	5,223.831	3,169.169	-862.774	3,232.170	0.77685	0.06452	-0.77419
9,424.000	90.400	321.020	6,517.109	5,223.109	3,240.437	-920.950	3,321.529	0.54357	-0.10870	0.53261
9,517.000	90.400	321.060	6,516.460	5,222.460	3,312.750	-979.425	3,411.961	0.04301	0.00000	0.04301
9,609.000	90.570	321.760	6,515.681	5,221.681	3,384.657	-1,036.807	3,501.557	0.78296	0.18478	0.76087
9,702.000	90.740	321.630	6,514.618	5,220.618	3,457.631	-1,094.449	3,592.227	0.23011	0.18280	-0.13978
9,795.000	90.810	320.730	6,513.360	5,219.360	3,530.082	-1,152.743	3,682.706	0.97058	0.07527	-0.96774
9,887.000	90.770	321.250	6,512.091	5,218.091	3,601.562	-1,210.647	3,772.141	0.56683	-0.04348	0.56522
9,980.000	90.870	321.130	6,510.760	5,216.760	3,674.023	-1,268.928	3,862.623	0.16795	0.10753	-0.12903
10,072.000	90.840	320.920	6,509.388	5,215.388	3,745.538	-1,326.787	3,952.069	0.23055	-0.03261	-0.22826
0										
10,165.000	90.940	320.520	6,507.943	5,213.943	3,817.517	-1,385.660	4,042.370	0.44329	0.10753	-0.43011
0										
10,257.000	90.700	320.960	6,506.626	5,212.626	3,888.743	-1,443.875	4,131.710	0.54474	-0.26087	0.47826
0										



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EQT
Survey Report

JUL 16 2025

WV Department of
Environmental Protection

Database: EDM Definitive
Company: EQT (Chevron Data) 02-13-21
Project: Marshall County, WV Chevron
Site: Longworth
Well: M14H
Wellbore: OH
Design: Longworth 14H As Drilled

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:

Well M14H
Air RKB @ 1294.000usft (Highlands 9)
Air RKB @ 1294.000usft (Highlands 9)
True
Minimum Curvature

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
10,350.00 0	90.640	320.620	6,505.539	5,211.539	3,960.798	-1,502.662	4,222.043	0.37122	-0.06452	-0.36559
10,442.00 0	90.540	320.780	6,504.591	5,210.592	4,031.987	-1,560.930	4,311.371	0.20508	-0.10870	0.17391
10,535.00 0	90.330	320.690	6,503.885	5,209.885	4,103.988	-1,619.789	4,401.687	0.24567	-0.22581	-0.09677
10,628.00 0	90.700	321.440	6,503.049	5,209.050	4,176.326	-1,678.230	4,492.127	0.89922	0.39785	0.80645
10,720.00 0	90.270	320.380	6,502.271	5,208.271	4,247.728	-1,736.237	4,581.535	1.24333	-0.46739	-1.15217
10,813.00 0	90.440	320.900	6,501.694	5,207.695	4,319.632	-1,795.216	4,671.814	0.58825	0.18280	0.55914
10,905.00 0	90.600	321.410	6,500.860	5,206.860	4,391.282	-1,852.917	4,761.316	0.58097	0.17391	0.55435
10,997.00 0	90.440	320.410	6,500.025	5,206.025	4,462.685	-1,910.923	4,850.724	1.10074	-0.17391	-1.08696
11,090.000	90.800	320.760	6,499.018	5,205.018	4,534.529	-1,969.968	4,940.978	0.53987	0.38710	0.37634
11,182.000	90.540	320.370	6,497.942	5,203.942	4,605.580	-2,028.403	5,030.253	0.50946	-0.28261	-0.42391
11,274.000	90.870	320.540	6,496.810	5,202.810	4,676.518	-2,086.973	5,119.485	0.40349	0.35870	0.18478
11,367.000	90.740	320.310	6,495.504	5,201.504	4,748.194	-2,146.217	5,209.673	0.28406	-0.13978	-0.24731
11,459.000	90.600	320.350	6,494.428	5,200.428	4,819.005	-2,204.942	5,298.856	0.15826	-0.15217	0.04348
11,552.000	90.840	319.780	6,493.259	5,199.259	4,890.309	-2,264.635	5,388.901	0.66497	0.25806	-0.61290
11,644.000	90.840	320.260	6,491.911	5,197.911	4,960.798	-2,323.741	5,477.958	0.52168	0.00000	0.52174
11,736.000	90.840	320.240	6,490.562	5,196.562	5,031.524	-2,382.563	5,567.106	0.02174	0.00000	-0.02174
Final Survey=11766' MD/ 6488' TVD - M14H BHL										
11,766.000	90.800	320.130	6,490.133	5,196.133	5,054.565	-2,401.770	5,596.168	0.39012	-0.13333	-0.36667
Projection to TD=11788' MD/ 6488' TVD										
11,788.000	90.800	320.130	6,489.825	5,195.825	5,071.448	-2,415.872	5,617.475	0.00000	0.00000	0.00000

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (5.659)	+E/-W (2.367)	Northing (usft)	Easting (usft)	Latitude	Longitude
Longworth 14H KOP	0.000	0.000	2,698.74 7	5.659	2.367	493,097.007	1,624,111.548	39.8473435	80.7266178°W
- actual wellpath hits target center - Point									
Longworth 14H BHL	0.000	0.000	6,488.34 9	5,074.638	-2,413.932	498,198.505	1,621,764.683	39.8612590	80.7352255°W
- actual wellpath misses target center by 4.015usft at 11788.000usft MD (6489.826 TVD, 5071.449 N, -2415.872 E) - Point									
Longworth 14H LP	0.000	0.000	6,535.17 8	1,510.739	473.026	494,595.520	1,624,602.713	39.8514754	80.7249414°W
- actual wellpath misses target center by 3.760usft at 7202.407usft MD (6536.627 TVD, 1508.672 N, 470.240 E) - Point									



EQT
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Project:	Marshall County, WV Chevron	MD Reference:	Air RKB @ 1294.000usft (Highlands 9)
Site:	Longworth	North Reference:	True
Well:	M14H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Longworth 14H As Drilled		

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
6,895.577	6,502.500	Top of Marcellus@6503' TVD		-1.0000	

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
2,699.000	2,698.747	5.659	2.367	KOP=2699' MD/TVD	
7,201.000	6,536.654	1,507.549	471.087	LP/Deepest Point of Well=7201' MD/ 6535' TVD	
11,766.000	6,490.133	5,054.565	-2,401.770	Final Survey=11766' MD/ 6489' TVD	
11,788.000	6,489.825	5,071.448	-2,415.872	Projection to TD=11788' MD/ 6488' TVD	

Checked By: _____ Approved By: _____ Date: _____

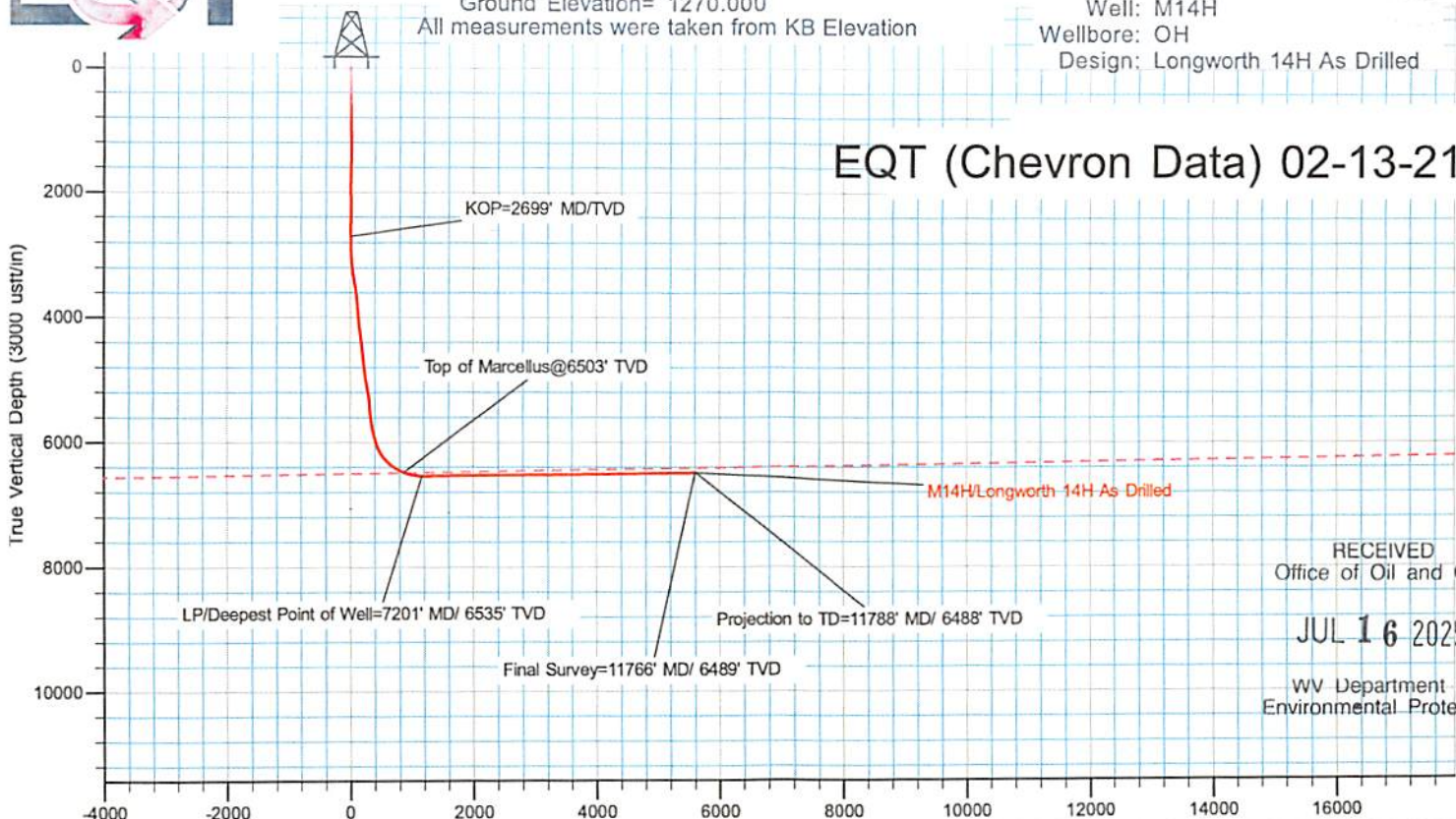
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KB Elevation= Air RKB @ 1294.000usft (Highlands 9)
Ground Elevation= 1270.000
All measurements were taken from KB Elevation

Project: Marshall County, WV Chevron
Site: Longworth
Well: M14H
Wellbore: OH
Design: Longworth 14H As Drilled

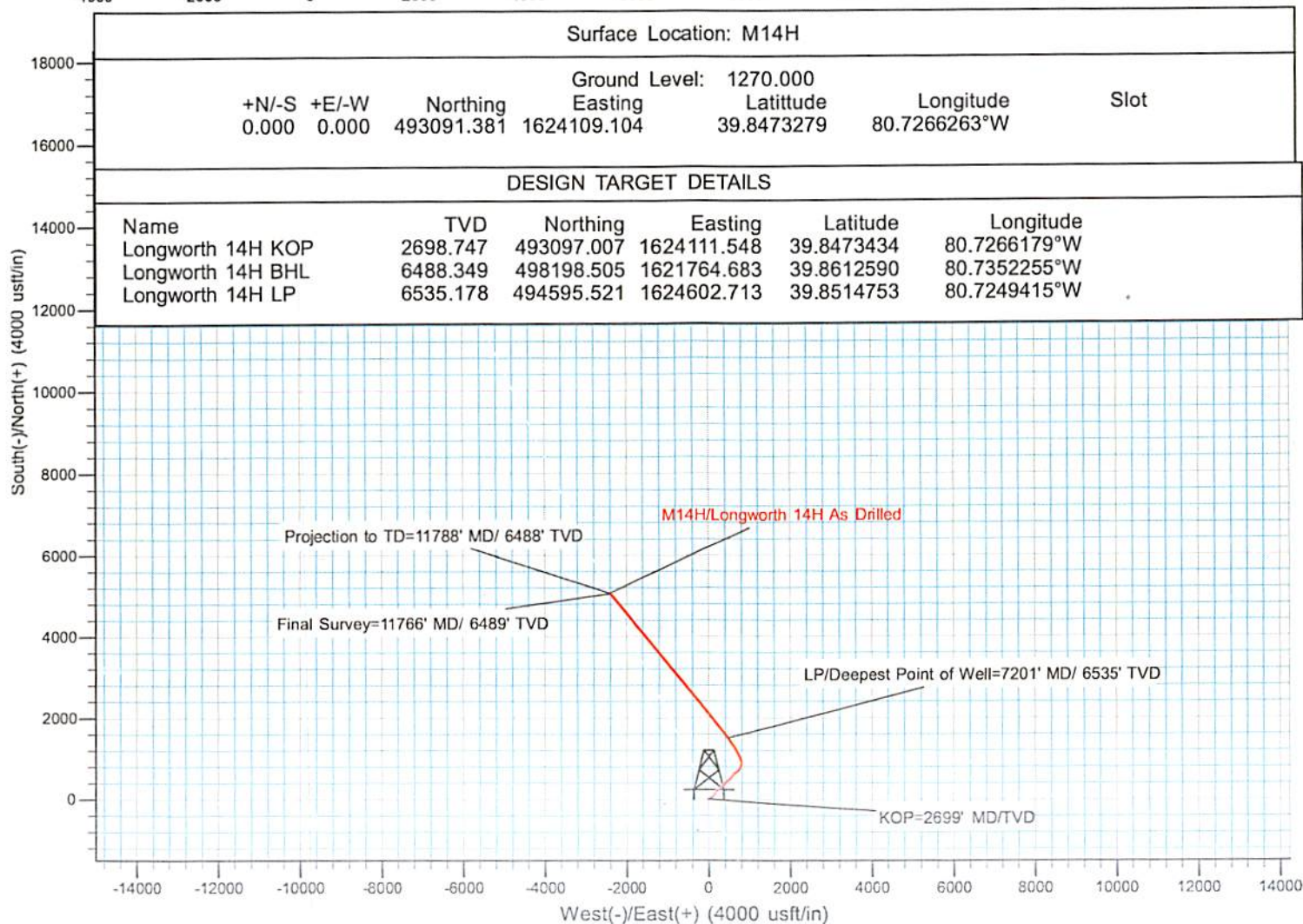
EQT (Chevron Data) 02-13-21



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Perforation Data

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Stage No.	Perforation Date	Stage Perforated From TMD Ft.	Stage Perforated To TMD Ft.	# of Perforations/Stage	Formation(s)
2	03/23/2025	11417	11267	36	Marcellus
3	03/23/2025	11237	11086	36	Marcellus
4	03/24/2025	11057	10906	36	Marcellus
5	03/24/2025	10877	10726	36	Marcellus
6	03/25/2025	10696	10545	36	Marcellus
7	03/25/2025	10516	10365	36	Marcellus
8	03/26/2025	10336	10185	36	Marcellus
9	03/26/2025	10156	10004	36	Marcellus
10	03/26/2025	9975	9824	36	Marcellus
11	03/27/2025	9795	9644	36	Marcellus
12	03/27/2025	9615	9464	36	Marcellus
13	03/28/2025	9434	9283	36	Marcellus
14	03/28/2025	9254	9103	36	Marcellus
15	03/28/2025	9074	8923	36	Marcellus
16	03/29/2025	8893	8742	36	Marcellus
17	03/29/2025	8713	8562	36	Marcellus
18	03/29/2025	8533	8382	36	Marcellus
19	03/30/2025	8353	8201	36	Marcellus
20	03/30/2025	8172	8021	36	Marcellus
21	03/30/2025	7992	7841	36	Marcellus
22	03/31/2025	7812	7661	36	Marcellus
23	03/31/2025	7631	7480	36	Marcellus
24	04/01/2025	7451	7300	36	Marcellus
25	04/02/2025	7271	7120	36	Marcellus
26	04/02/2025	7090	6969	30	Marcellus

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Stimulation Data

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Stage #	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	03/22/2025	101	7994	5415	3861	300811	6635.000	
2	03/23/2025	101	8013	5310	4153	450133	8718.000	
3	03/24/2025	100	8123	5470	4561	449632	8730.000	
4	03/24/2025	100	8251	5123	4670	450569	8721.000	
5	03/25/2025	100	7914	4790	4699	450087	8702.000	
6	03/25/2025	100	8518	5350	4707	450603	8680.000	
7	03/26/2025	101	8473	5090	4790	450741	8744.000	
8	03/26/2025	100	8301	5121	5042	451054	8752.999	
9	03/26/2025	100	8489	5377	4930	450334	8707.000	
10	03/27/2025	101	8375	5890	4784	450256	8763.000	
11	03/27/2025	100	8388	5082	4618	450262	8688.000	
12	03/28/2025	101	8583	5103	4822	450062	8671.000	
13	03/28/2025	100	8452	5103	4697	450037	8671.000	
14	03/28/2025	101	8276	5011	4890	450060	8718.000	
15	03/29/2025	100	8270	5561	4717	450165	8709.000	
16	03/29/2025	100	8099	5633	4959	450190	8707.000	
17	03/29/2025	101	8008	5659	4919	450035	8760.000	
18	03/30/2025	100	7872	5232	4928	450775	8740.000	
19	03/30/2025	98	7721	4368	4866	450099	8632.000	
20	03/30/2025	101	7906	5242	4748	450143	8629.000	
21	03/31/2025	100	7642	4680	4946	450066	8642.000	
22	03/31/2025	100	8210	5356	4747	450759	8643.000	
23	04/01/2025	100	8113	5297	4707	450113	8621.000	
24	04/02/2025	101	8075	5391	4700	450095	8614.000	
25	04/02/2025	100	8434	5775	5080	450120	8678.000	
26	04/02/2025	83	8875	5884	4582	375234	7308.000	

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Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	03/22/2025
Job End Date:	04/21/2025
State:	West Virginia
County:	Marshall
API Number:	47-051-02081-00-00
Operator Name:	EQT Production
Well Name and Number:	Longworth A 14H
Latitude:	39.847322
Longitude:	-80.72662
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6535
Total Base Water Volume (gal)*:	9348528.01208483
Total Base Non Water Volume:	0



Water Source	Percent
--------------	---------

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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	EQT	Carrier/Base Fluid					
			Water	7732-18-5	100.00000	87.08996	None
Sand (Proppant)	EQT	Proppant					
			Silica Substrate	14808-60-7	100.00000	12.81836	None
Clearal 268	ChemStream	Biocide					
			Water	7732-18-5	80.00000	0.00884	None
StimSTREAM FR 9800	ChemStream	Friction Reducer					
			ACRYLAMIDE-CHLORIDE SALT OF TRIMETHYLAMMONIO-ETHYL ACRYLATE COPOLYMER	69418-26-4	40.00000	0.00538	None
StimSTREAM FR 9800	ChemStream	Friction Reducer					
			ALKANES, C12-26-BRANCHED AND LINEAR	90622-53-0	40.00000	0.00538	None

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Enviro-Syn HCR-7000- WL	Fluid USA, Inc.	Synthetic Acid					
			FLUID-Acid-00001	Proprietary	20.00000	0.00140	None
StimSTREAM FR 9800	ChemStream	Friction Reducer					
			Water	7732-18-5	15.00000	0.00076	None
Clearal 268	ChemStream	Biocide					
			Glutaraldehyde	111-30-8	20.00000	0.00055	None
Enviro-Syn HCR-7000- WL	Fluid USA, Inc.	Synthetic Acid					
			FLUID-Amine-00001	Proprietary	10.00000	0.00035	None
StimSTREAM FR 9800	ChemStream	Friction Reducer					
			ETHOXYLATED ALCOHOLS (C12-16)	68551-12-2	5.00000	0.00008	None
StimSTREAM SC-398	ChemStream	Scale Inhibitor					
			AA/ATBS Co-polymer	9003-05-8	5.00000	0.00002	None
Clearal 268	ChemStream	Biocide					
			Quaternary Ammonium Compounds	68424-85-1	3.00000	0.00001	None
Clearal 268	ChemStream	Biocide					
			Didecyl dimethyl ammonium chloride	7173-51-5	3.00000	0.00001	None
Clearal 268	ChemStream	Biocide					
			Ethanol	64-17-5	1.50000	0.00000	None
StimSTREAM SC-398	ChemStream	Scale Inhibitor					
			AA/Maleic Anhydride Co- polymer	9003-04-7	1.00000	0.00000	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

* Total Water Volume sources may include various types of water including fresh water, produced water, and recycled water

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

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

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

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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"

**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

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*

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: FEBRUARY 23, 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±

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: 115 PROFESSIONAL PLACE, PO BOX 280

City: CANONSBURG State: PA Zip Code: 15317 City: BRIDGEPORT State: WV Zip Code: 26330

03/19/2025

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 FREISE	
	ANTHONY FREISE	
	JAMES FRIESE	
	HENRY FREISE	
	STEVEN FRIESE	
C	GRAHAM H. LONGWORTH JR. ET AL	4-12/16
	SHERI L. EVRAETS FAMILY TRUST	
	LISA NICEWARNER	
	JULIA RODGERS	
	KEITH FRIESE	
	MARK FREISE	
	ANTHONY FREISE	
	JAMES FRIESE	
	HENRY FREISE	
	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
APPROX LANDING POINT (LP)
N:4411306.33 E:523532.15
BOTTOM HOLE LOCATION (BHL)
N:4412389.54 E:522649.18

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FEBRUARY 23, 2021

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