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JUL 16 2025

WV Department of
Environmental Protection

Well Operator's Report of Well Work



Well Number: Longworth M15H

API: 47 - 051 - 02082

Submission: ☐ Initial ☒ Amended

Notes: Updated with Stimulation info.

09/26/2025

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 - 02082 County Marshall District Clay
Quad Glen Easton Pad Name Longworth Field/Pool Name N/A
Farm name Graham H. Longworth Jr. Well Number Longworth M15H
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 4,410,850.60 Easting 523,383.18
Landing Point of Curve Northing 4,410,932.65 Easting 523,070.94
Bottom Hole Northing 4,412,150.25 Easting 522,080.15

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 13.7 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 09/18/2018 Date drilling commenced 12/28/2018 Date drilling ceased 09/28/2019
Date completion activities began 03/21/2025 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:


09/26/2025
7/29/2025

API 47-051 - 02082 Farm name Graham H. Longworth Jr. Well number Longworth M15H

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"	629'	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"	12,052'	NEW	P-110 20#	N/A	N
Tubing							
Packer type and depth set							

Comment Details Production Cement job has a calculated TOC of 1748' 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	817	15.6	1.19	972	0	8
Intermediate 2							
Intermediate 3							
Production	CLASS A	1818	15.0	1.23	2178	1748	8+
Tubing							

Drillers TD (ft) 12,071' Loggers TD (ft) N/A
 Deepest formation penetrated MARCELLUS Plug back to (ft) N/A
 Plug back procedure _____

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Kick off depth (ft) 5606'

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 _____

09/26/2025

API 47- 051 - 02082 Farm name Graham H. Longworth Jr. Well number Longworth M15H

PERFORATION RECORD

[illegible]

Please insert additional pages as applicable.

STIMULATION INFORMATION PER STAGE

Complete a separate record for each stimulation stage.

[illegible]

Please insert additional pages as applicable.

09/26/2025

<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>	
Marcellus	6,476-6,509	TVD 6,735-21,071 MD

Please insert additional pages as applicable.

[illegible]

Drilling Contractor	Highlands Drilling LLC (Rig 9)						
Address	900 Virginia Street East	City	Charleston	State	WV	Zip	25301
Logging Company	Baker Hughes						
Address	400 Technology Dr Suite 100	City	Canonsburg	State	PA	Zip	15317
Cementing Company	BJ Services						
Address	1036 East Main Street	City	Bridgeport	State	WV	Zip	26330
	Cementing Company	Evolution Well Services					
Address	1780 Hughes Landing Blvd Suite 125	City	The Woodlands	State	TX	Zip	77380

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

09/26/2025

API 47- 051 - 02082 Farm name Graham H. Longworth Jr. Well number Longworth M15H

Drilling Contractor Precision Drilling (Rig 572)
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 15H Final Formations API# 47-051-02082				
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	1,869
Big Lime	1,872	1,869	2,100	2,096
Big Injun	2,100	2,096	2,182	2,177
Sand/Shale	2,182	2,177	2,819	2,811
Gantz	2,819	2,811	2,880	2,872
Gordon	2,880	2,872	2,960	2,951
50F	2,960	2,951	3,009	3,000
Sand/Shale	3,009	3,000	3,088	3,078
Bayard	3,088	3,078	3,453	3,441
Sand/Shale	3,453	3,441	5,255	5,235
Alexander	5,255	5,235	5,692	5,668
Elks	5,692	5,668	6,246	6,184
Sonyea	6,246	6,184	6,355	6,267
Middlesex	6,355	6,267	6,390	6,293
Genesee	6,390	6,293	6,463	6,344
Geneseo	6,463	6,344	6,499	6,367
Tully	6,499	6,367	6,584	6,414
Hamilton	6,584	6,414	6,735	6,476
Marcellus	6,735	6,476	21,071	6,509

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LEGEND		NOTES:	
	- TOPO MAP POINT	1.	There are no water wells or developed springs within 250' of proposed well.
	- WELL	2.	Proposed well is greater than 100' from perennial stream, wetland, pond, reservoir or lake.
	- MINERAL TRACT BOUNDARY	3.	There are no native trout streams within 300' of proposed well.
	- PARCEL LINES	4.	Proposed well is greater than 1000' from surface groundwater intake or public water supply.
	- WELL REFERENCE	5.	It is not the purpose or intention of this plat to represent surveyed locations of the surface or mineral parcels depicted herein. 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.
	- ROAD	6.	There are no existing buildings within 625' of proposed well.
	- STREAM CENTER LINE		
	- LESSORS		
	- SURFACE OWNERS		
	- AS-DRILLED		
GAS WELLS			
	- EXISTING WELLS		
	- PLUGGED WELLS		

AS-DRILLED PLAT

AS-DRILLED LOCATIONS
UTM 17-MAD30(V)
SURFACE HOLE LOCATION (SHL)
N:4410850.60
E:523383.18
APPROX LANDING POINT (LP)
N:4410932.65
E:523070.94
BOTTOM HOLE LOCATION (BHL)
N:4412150.25
E:522080.15

LINE	BEARING	DISTANCE
R1	S 29°05'53" E	224.81'
R2	N 89°10'57" E	279.07'
R3	N 72°47'27" E	249.89'
R4	S 08°02'50" W	1300.39'
R5	S 40°10'20" E	1372.40'
R6	N 46°12'14" W	2284.09'

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 M15H - AS-DRILLED	
DRAWING #: LONGWORTH M15H - 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:

R.P.E.: _____ L.L.S.: P.S. No. 2346

DATE: FEBRUARY 23, 2021

OPERATOR'S WELL #: LONGWORTH M15H - AS-DRILLED

API WELL #:	47	51	02082
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: 456.706±

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: 6,480'± TMD: 12,095'±

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

SHL is located on topo map 5,821 feet south of Latitude: 39° 52' 30"

SHL is located on topo map 10,072 feet south of Latitude: 39° 52' 30"

BHL is located on topo map 9,485 feet west of Longitude: 80° 42' 30"

SHL is located on topo map 5,149 feet west of Longitude: 80° 42' 30"

09/26/2025

LONGWORTH

M15H

PAGE 2 OF 2

AS-DRILLED

	LESSOR	DIST-TM/PAR
A	GRAHAM H. LONGWORTH JR. ET AL	4-11/1
B	DALE CUNNINGHAM ET UX	4-13/33
C	BRETT A. ANDREWS ET UX	4-12/19
D	JMK IREV TRST - SFX	4-12/4
	PURPLEBURGH VENTURES LLC - SFX	
	MARCELLUS TX MINERAL PRTRNS LTD - SFX	

	SURFACE OWNER	DIST-TM/PAR
1	GRAHAM H. LONGWORTH JR.	4-11/1
2	DALE & MARY CUNNINGHAM	4-13/33
3	CODY M. JARRETT	4-12/19
4	MERLE L. CHAPLIN ET UX	4-12/4

AS-DRILLED LOCATIONS UTM 17-NAD83(04)
SURFACE HOLE LOCATION (SHL)
N:4410850.60 E:523383.18
APPROX LANDING POINT (LP)
N:4410932.65 E:523070.94
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BRIDGEPORT, WV 26330
PHONE 304-624-4108

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EQT (Chevron Data) 02-13-21

Marshall County, WV Chevron

Longworth

M15H

OH

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Design: Longworth 15H As Drilled

Standard Survey Report

20 July, 2021

09/26/2025



EQT

Survey Report

JUL 16 2025

WV Department of
Environmental Protection

Database:	EDM_Definitive	Local Co-ordinate Reference:	Well M15H
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:	M15H	Survey Calculation Method:	Minimum Curvature
Wellbore:	QH		
Design:	Longworth 15H 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		

Site	Longworth			
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	M15H			
Well Position	+N/-S	0.000 usft	Northing:	493,099.841 usft
	+E/-W	0.000 usft	Easting:	1,624,096.717 usft
Position Uncertainty	0.000 usft	Wellhead Elevation:	0.000 usft	Ground Level: 1,270.000 usft

Wellbore	QH			
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)
	User Defined	5/16/2016	-8.7189	67.0778
				Field Strength (nT)
				52,269.35945346

Design	Longworth 15H 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	315.073

Survey Program	Date 7/20/2021			
From (')	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	600.120	Surface Gyro (OH)	NS-GYRO-MS c	North sensing gyrocompassing m/s c
0.00	5,729.000	EM Tool (OH)	11_MWD+IFR1+AX+Sag c	A007Mb: IFR dec & axial + sag corrections c
0.00	12,095.000	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	0.610	334.640	99.998	-1,194.002	0.481	-0.228	0.502	0.61000	0.61000	0.00000	
125.000	0.450	325.380	124.997	-1,169.003	0.682	-0.341	0.724	0.72392	-0.64000	-37.04000	
150.000	0.500	319.770	149.996	-1,144.004	0.846	-0.467	0.929	0.27292	0.20000	-22.44000	
175.000	0.540	330.570	174.995	-1,119.005	1.032	-0.595	1.151	0.42265	0.16000	43.20000	
200.000	0.580	343.390	199.994	-1,094.006	1.256	-0.689	1.376	0.52482	0.16000	51.28000	
225.000	0.730	336.610	224.992	-1,069.008	1.523	-0.789	1.636	0.67435	0.60000	-27.12000	



EQT
Survey Report

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Project:	Marshall County, WV Chevron	MD Reference:	Air RKB @ 1294 000usft (Highlands 9)
Site:	Longworth	North Reference:	True
Well:	M15H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Longworth 15H 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	0.910	341.490	249.990	-1,044.010	1.858	-0.915	1.961	0.77166	0.72000	19.52000
275.000	0.940	340.670	274.986	-1,019.013	2.239	-1.046	2.324	0.13116	0.12000	-3.28000
300.000	1.090	338.810	299.983	-994.017	2.655	-1.200	2.727	0.61423	0.60000	-7.44000
325.000	0.920	322.940	324.979	-969.021	3.037	-1.407	3.143	1.29822	-0.68000	-63.48000
350.000	0.910	322.640	349.976	-944.024	3.355	-1.648	3.539	0.04435	-0.04000	-1.20000
375.000	0.870	314.270	374.973	-919.027	3.645	-1.904	3.926	0.54353	-0.16000	-33.48000
400.000	0.930	317.530	399.969	-894.030	3.927	-2.177	4.318	0.31543	0.24000	13.04000
425.000	0.860	320.840	424.966	-869.034	4.222	-2.433	4.707	0.34798	-0.28000	13.24000
450.000	0.950	333.630	449.963	-844.037	4.553	-2.643	5.090	0.88217	0.36000	51.16000
475.000	0.880	329.180	474.960	-819.040	4.904	-2.834	5.473	0.39880	-0.28000	-17.80000
500.000	1.050	326.040	499.957	-794.043	5.259	-3.060	5.884	0.71189	0.68000	-12.56000
525.000	1.020	325.900	524.953	-769.047	5.633	-3.313	6.328	0.12043	-0.12000	-0.56000
550.000	1.110	329.360	549.948	-744.052	6.026	-3.561	6.781	0.44231	0.36000	13.84000
575.000	1.060	333.680	574.944	-719.056	6.441	-3.787	7.235	0.38335	-0.20000	17.28000
600.000	0.880	322.770	599.940	-694.060	6.801	-4.006	7.644	1.02852	-0.72000	-43.64000
600.120	0.880	322.710	600.060	-693.940	6.803	-4.007	7.646	0.76791	0.00000	-50.00000
667.000	0.970	354.490	666.932	-627.068	7.775	-4.372	8.592	0.76830	0.13457	47.51794
668.000	0.970	353.770	667.932	-626.068	7.792	-4.374	8.605	1.21887	0.00000	-72.00000
729.000	0.890	114.050	728.928	-565.072	8.112	-3.997	8.566	2.64516	-0.13115	197.18033
777.000	1.670	155.050	776.916	-517.084	7.326	-3.362	7.561	2.40934	1.62500	85.41667
885.000	1.560	224.030	884.882	-409.118	4.842	-3.720	6.055	1.69547	-0.10185	63.87037
979.000	3.590	270.890	978.791	-315.209	3.967	-7.552	8.142	2.94454	2.15957	49.85107
1,073.000	4.690	266.040	1,072.545	-221.455	3.748	-14.329	12.773	1.22704	1.17021	-5.15957
1,166.000	4.460	258.540	1,165.249	-128.751	2.767	-21.666	17.259	0.68855	-0.24731	-8.06452
1,260.000	4.290	256.040	1,258.975	-35.025	1.192	-28.660	21.084	0.27175	-0.18085	-2.65957
1,353.000	4.510	251.130	1,351.701	57.701	-0.829	-35.496	24.480	0.46885	0.23656	-5.27957
1,540.000	5.220	244.740	1,538.028	244.028	-6.837	-50.146	30.572	0.47708	0.37968	-3.41711
1,634.000	5.250	240.370	1,631.636	337.636	-10.788	-57.752	33.146	0.42527	0.03191	-4.64894
1,728.000	5.380	236.100	1,725.232	431.232	-15.372	-65.148	35.123	0.44281	0.13830	-4.54255
1,821.000	4.540	239.910	1,817.883	523.884	-19.650	-71.951	36.900	0.96971	-0.90323	4.09677
1,915.000	3.900	257.370	1,911.632	617.632	-22.214	-78.290	39.560	1.51881	-0.68085	18.57447
2,008.000	4.550	262.960	2,004.379	710.379	-23.358	-85.037	43.516	0.82661	0.69892	6.01075
2,102.000	5.750	259.220	2,097.998	803.998	-24.695	-93.363	48.449	1.32494	1.27660	-3.97872
2,196.000	6.630	256.620	2,191.449	897.450	-26.832	-103.269	53.931	0.98229	0.93617	-2.76596
2,390.000	7.840	244.370	2,383.913	1,089.913	-35.148	-126.096	64.164	1.00731	0.62371	-6.31443
2,484.000	6.670	255.950	2,477.164	1,183.164	-39.246	-137.173	69.084	1.98641	-1.24468	12.31915
2,578.000	4.960	257.840	2,570.677	1,276.677	-41.428	-146.442	74.086	1.83027	-1.81915	2.01064
2,671.000	4.180	247.920	2,663.382	1,369.382	-43.549	-153.513	77.578	1.19110	-0.83871	-10.66667
2,765.000	3.890	249.550	2,757.148	1,463.149	-45.951	-159.675	80.229	0.33173	-0.30851	1.73404
2,858.000	5.500	249.200	2,849.833	1,555.833	-48.636	-166.798	83.358	1.73145	1.73118	-0.37634
2,952.000	6.240	248.340	2,943.340	1,649.340	-52.121	-175.757	87.217	0.79275	0.78723	-0.91489
3,046.000	6.190	247.830	3,036.787	1,742.787	-55.919	-185.198	91.195	0.07924	-0.05319	-0.54255
3,139.000	6.080	247.880	3,129.255	1,835.255	-59.666	-194.404	95.044	0.11842	-0.11828	0.05376



EQT
Survey Report

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WV Department of
Environmental Protection

Database: EDM Definitive
Company: EQT (Chevron Data) 02-13-21
Project: Marshall County, WV Chevron
Site: Longworth
Well: M15H
Wellbore: OH
Design: Longworth 15H As Drilled

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

Well M15H
Air RKB @ 1294.000usft (Highlands B)
Air RKB @ 1294.000usft (Highlands B)
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)
3,233.000	6.120	246.500	3,222.723	1,928.723	-63.538	-203.611	98.804	0.16170	0.04255	-1.46809
3,326.000	6.110	247.030	3,315.193	2,021.193	-67.446	-212.714	102.465	0.06165	-0.01075	0.56989
3,420.000	5.980	246.260	3,408.671	2,114.671	-71.370	-221.802	106.106	0.16299	-0.13830	-0.81915
3,515.000	5.830	247.920	3,503.167	2,209.167	-75.176	-230.803	109.767	0.23925	-0.15789	1.74737
3,608.000	6.140	248.120	3,595.660	2,301.660	-78.805	-239.795	113.548	0.33409	0.33333	0.21505
3,702.000	6.430	248.350	3,689.095	2,395.095	-82.620	-249.352	117.596	0.30967	0.30851	0.24468
3,795.000	5.650	244.230	3,781.578	2,487.578	-86.532	-258.315	121.156	0.95903	-0.83871	-4.43011
3,889.000	5.100	240.460	3,875.165	2,581.165	-90.603	-266.117	123.783	0.69504	-0.58511	-4.01064
3,982.000	5.130	238.260	3,967.794	2,673.794	-94.829	-273.250	125.829	0.21334	0.03226	-2.36559
4,076.000	5.370	236.290	4,061.400	2,767.400	-99.481	-280.483	127.643	0.31928	0.25532	-2.09574
4,169.000	4.470	237.510	4,154.056	2,860.056	-103.843	-287.160	129.270	0.97421	-0.96774	1.31183
4,263.000	4.290	235.820	4,247.782	2,953.782	-107.785	-293.158	130.714	0.23561	-0.19149	-1.79787
4,357.000	4.410	235.330	4,341.511	3,047.511	-111.816	-299.039	132.013	0.13364	0.12766	-0.52128
4,450.000	4.710	236.010	4,434.217	3,140.217	-115.985	-305.145	133.374	0.32777	0.32258	0.73118
4,544.000	5.570	247.200	4,527.840	3,233.840	-119.910	-312.551	135.825	1.40105	0.91489	11.90426
4,638.000	5.630	253.630	4,621.392	3,327.392	-122.978	-321.181	139.747	0.67020	0.06383	6.84043
4,731.000	5.560	254.920	4,713.949	3,419.949	-125.436	-329.908	144.170	0.15477	-0.07527	1.38710
4,825.000	5.470	250.670	4,807.515	3,513.515	-128.103	-338.532	148.372	0.44484	-0.09574	-4.52128
4,919.000	5.670	244.410	4,901.072	3,607.072	-131.592	-346.948	151.845	0.68011	0.21277	-6.65957
5,012.000	6.480	252.200	4,993.550	3,699.550	-135.181	-356.088	155.760	1.24086	0.87097	8.37634
5,106.000	7.200	255.590	5,086.881	3,792.881	-138.268	-366.844	161.169	0.87784	0.76596	3.60638
5,199.000	5.960	254.990	5,179.266	3,885.267	-140.969	-377.153	166.537	1.33536	-1.33333	-0.64516
5,293.000	5.840	253.870	5,272.769	3,978.769	-143.562	-386.461	171.275	0.17690	-0.12766	-1.19149
5,387.000	6.570	254.560	5,366.217	4,072.217	-146.322	-396.238	176.225	0.78062	0.77660	0.73404
5,481.000	7.090	251.580	5,459.550	4,165.550	-149.587	-406.926	181.461	0.66927	0.55319	-3.17021
5,574.000	7.360	249.640	5,551.812	4,257.812	-153.473	-417.956	186.499	0.39126	0.29032	-2.08602
5,668.000	7.970	250.660	5,644.971	4,350.971	-157.726	-429.750	191.817	0.66485	0.64894	1.08511
5,729.000	8.816	247.260	5,705.318	4,411.318	-160.933	-438.051	195.409	1.60714	1.38673	-5.57326
KOP=5730' MD/5795' TVD										
5,730.000	8.830	248.090	5,706.306	4,412.306	-160.991	-438.193	195.467	12.80359	1.40973	82.96857
5,788.000	9.660	244.170	5,763.553	4,469.553	-164.773	-446.704	198.800	1.79557	1.43103	-6.75862
5,833.000	10.560	259.680	5,807.862	4,513.862	-167.157	-454.160	202.378	6.34962	2.00000	34.46667
5,925.000	14.300	293.060	5,897.802	4,603.802	-164.212	-472.938	217.724	8.63498	4.06522	36.28261
6,017.000	18.810	294.380	5,985.965	4,691.966	-153.634	-496.914	242.145	4.91888	4.90217	1.43478
6,110.000	26.690	287.790	6,071.676	4,777.676	-141.042	-530.516	274.790	8.89279	8.47312	-7.08602
6,202.000	31.520	295.520	6,152.064	4,858.064	-124.353	-571.931	315.854	6.64383	5.25000	8.40217
6,294.000	39.700	300.320	6,226.811	4,932.811	-99.110	-619.087	367.027	9.39005	8.89130	5.21739
6,387.000	42.200	306.170	6,297.073	5,003.073	-65.663	-669.969	426.641	4.91944	2.68817	6.29032
6,479.000	46.760	305.740	6,362.698	5,068.698	-27.833	-722.140	490.268	4.96731	4.95652	-0.46739
6,571.000	57.440	308.580	6,419.137	5,125.137	16.050	-779.822	562.074	11.85944	11.60870	3.08696
6,664.000	64.610	311.810	6,464.169	5,170.169	68.575	-841.865	643.076	8.28536	7.70968	3.47312



EQT
Survey Report

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JUL 16 2025

Database:	EDM Database	Local Co-ordinate Reference:	WV Department of Environmental Protection
Company:	EQT (Chevron Delta) 02-13-21	TVD Reference:	Air RKB @ 1294.000ush (Highlands 9)
Project:	Marshall County, WV Chevron	MD Reference:	Air RKB @ 1294.000ush (Highlands 9)
Site:	Longworth	North Reference:	True
Well:	M15H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Longworth 15H 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)	
6,754.056	69.758	316.365	6,499.094	5,205.095	126.336	-901.405	726.019	7.37471	5.71593	5.05827	
6,756.000	69.870	316.460	6,499.765	5,205.765	127.657	-902.663	727.842	7.37471	5.78531	4.87277	
6,849.000	79.040	319.600	6,524.668	5,230.668	194.229	-962.468	817.210	10.38156	9.86022	3.37634	
M15H LP											
6,907.527	86.635	320.797	6,531.960	5,237.960	238.812	-999.608	875.004	13.13489	12.97755	2.04452	
LP/Deepest Point of Well=8942' MD/ 8533' TVD											
6,942.000	91.110	321.490	6,532.638	5,238.638	265.644	-1,021.226	909.268	13.13489	12.98011	2.01145	
M15H LP2											
6,972.201	90.769	321.595	6,532.143	5,238.143	289.291	-1,040.007	939.274	1.18273	-1.13043	0.34787	
7,034.000	90.070	321.810	6,531.691	5,237.691	337.789	-1,078.305	1,000.657	1.18273	-1.13044	0.34780	
7,127.000	90.400	321.910	6,531.309	5,237.309	410.933	-1,135.740	1,093.004	0.37077	0.35484	0.10753	
7,220.000	90.300	322.910	6,530.741	5,236.741	484.624	-1,192.468	1,185.240	1.08061	-0.10753	1.07527	
7,312.000	90.300	321.780	6,530.259	5,236.259	557.458	-1,248.670	1,276.497	1.22824	0.00000	-1.22826	
7,405.000	90.230	322.160	6,529.829	5,235.829	630.712	-1,305.964	1,368.823	0.41547	-0.07527	0.40860	
7,497.000	90.570	321.490	6,529.187	5,235.187	703.034	-1,362.824	1,460.182	0.81665	0.36957	-0.72826	
7,590.000	90.270	321.000	6,528.505	5,234.505	775.556	-1,421.040	1,552.641	0.61778	-0.32258	-0.52688	
7,683.000	90.340	321.700	6,528.010	5,234.010	848.185	-1,479.123	1,645.081	0.75643	0.07527	0.75269	
7,775.000	90.440	321.220	6,527.384	5,233.384	920.143	-1,536.443	1,736.508	0.53293	0.10870	-0.52174	
7,868.000	90.500	321.430	6,526.621	5,232.621	992.746	-1,594.557	1,828.952	0.23483	0.06452	0.22581	
7,961.000	90.970	321.710	6,525.428	5,231.428	1,065.593	-1,652.357	1,921.347	0.58825	0.50538	0.30108	
8,054.000	90.440	319.850	6,524.284	5,230.284	1,137.633	-1,711.153	2,013.874	2.07946	-0.56989	-2.00000	
8,146.000	90.470	319.620	6,523.553	5,229.553	1,207.833	-1,770.613	2,105.567	0.25211	0.03261	-0.25000	
8,239.000	90.570	320.490	6,522.709	5,228.709	1,279.129	-1,830.321	2,198.211	0.94160	0.10753	0.93548	
8,331.000	90.600	320.010	6,521.770	5,227.770	1,349.858	-1,889.146	2,289.831	0.52273	0.03261	-0.52174	
8,424.000	90.600	320.190	6,520.796	5,226.796	1,421.201	-1,948.798	2,382.468	0.19354	0.00000	0.19355	
8,517.000	90.270	319.660	6,520.090	5,226.090	1,492.362	-2,008.668	2,475.132	0.67132	-0.35484	-0.56989	
8,609.000	90.600	319.650	6,519.391	5,225.391	1,562.479	-2,068.226	2,566.835	0.35886	0.35870	-0.01087	
8,702.000	90.570	320.570	6,518.442	5,224.442	1,633.831	-2,127.865	2,659.470	0.98972	-0.03226	0.98925	
8,794.000	90.570	320.140	6,517.527	5,223.527	1,704.668	-2,186.560	2,751.075	0.46737	0.00000	-0.46739	
8,887.000	90.640	322.010	6,516.544	5,222.545	1,777.012	-2,244.987	2,843.556	2.01205	0.07527	2.01075	
8,980.000	90.540	321.520	6,515.587	5,221.587	1,850.058	-2,302.540	2,935.917	0.53771	-0.10753	-0.52688	
9,072.000	90.600	322.440	6,514.672	5,220.672	1,922.530	-2,359.203	3,027.244	1.00207	0.06522	1.00000	
9,165.000	90.570	322.050	6,513.722	5,219.722	1,996.056	-2,416.142	3,119.511	0.42057	-0.03226	-0.41935	
9,258.000	90.600	322.410	6,512.772	5,218.773	2,069.566	-2,473.101	3,211.782	0.38842	0.03226	0.38710	
9,350.000	90.540	322.220	6,511.857	5,217.857	2,142.370	-2,529.340	3,303.044	0.21656	-0.06522	-0.20652	
9,443.000	90.570	322.710	6,510.956	5,216.956	2,216.113	-2,585.997	3,395.266	0.52784	0.03226	0.52688	
9,536.000	90.540	321.100	6,510.056	5,216.056	2,289.297	-2,643.370	3,487.598	1.73140	-0.03226	-1.73118	
9,628.000	90.500	322.060	6,509.221	5,215.221	2,361.373	-2,700.538	3,579.001	1.04434	-0.04348	1.04348	
9,721.000	90.600	322.340	6,508.328	5,214.328	2,434.854	-2,757.536	3,671.278	0.31969	0.10753	0.30108	
9,814.000	90.540	322.080	6,507.403	5,213.403	2,508.345	-2,814.520	3,763.553	0.28690	-0.06452	-0.27957	
9,906.000	90.440	322.090	6,506.616	5,212.616	2,580.923	-2,871.051	3,854.862	0.10924	-0.10870	0.01087	
9,999.000	90.600	321.940	6,505.772	5,211.772	2,654.220	-2,928.286	3,947.176	0.23582	0.17204	-0.16129	
10,091.000	90.400	321.410	6,504.969	5,210.969	2,726.392	-2,985.335	4,038.562	0.61572	-0.21739	-0.57609	

0



EQT Survey Report

Database:	EDM Definitive	Local Co-ordinate Reference:	Well M15H
Company:	EQT (Chevron Data) 02-15-21	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:	M15H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Longworth 15H 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)
10,184.00	90.740	320.830	6,504.044	5,210.044	2,798.785	-3,043.707	4,131.040	0.72289	0.36559	-0.62366
0										
10,276.00	90.500	320.930	6,503.048	5,209.048	2,870.156	-3,101.751	4,222.562	0.28261	-0.26087	0.10870
0										
10,369.00	90.540	320.750	6,502.204	5,208.204	2,942.264	-3,160.477	4,315.088	0.19826	0.04301	-0.19355
0										
10,461.00	90.600	321.380	6,501.289	5,207.289	3,013.823	-3,218.290	4,406.580	0.68785	0.06522	0.68478
0										
10,554.00	90.570	321.750	6,500.339	5,206.340	3,086.668	-3,276.098	4,498.979	0.39913	-0.03226	0.39785
0										
10,647.00	90.970	322.000	6,499.090	5,205.090	3,159.821	-3,333.509	4,591.316	0.50719	0.43011	0.26882
0										
10,739.00	90.870	321.730	6,497.612	5,203.613	3,232.175	-3,390.313	4,682.659	0.31292	-0.10870	-0.29348
0										
10,832.00	90.800	321.110	6,496.257	5,202.257	3,304.868	-3,448.302	4,775.078	0.67083	-0.07527	-0.66667
0										
10,924.00	90.900	320.810	6,494.892	5,200.892	3,376.317	-3,506.243	4,866.583	0.34369	0.10870	-0.32609
0										
11,016.000	90.740	320.950	6,493.576	5,199.576	3,447.686	-3,564.284	4,958.102	0.23108	-0.17391	0.15217
11,109.000	90.770	320.770	6,492.350	5,198.350	3,519.811	-3,622.982	5,050.620	0.19620	0.03226	-0.19355
11,201.000	90.770	319.650	6,491.114	5,197.114	3,590.496	-3,681.854	5,142.241	1.21728	0.00000	-1.21739
11,293.000	90.770	319.790	6,489.878	5,195.878	3,660.676	-3,741.328	5,233.930	0.15216	0.00000	0.15217
11,386.000	90.540	319.750	6,488.814	5,194.814	3,731.673	-3,801.389	5,326.611	0.25102	-0.24731	-0.04301
11,478.000	90.640	319.780	6,487.867	5,193.867	3,801.902	-3,860.811	5,418.298	0.11348	0.10870	0.03261
11,571.000	90.440	319.470	6,486.991	5,192.991	3,872.748	-3,921.053	5,511.001	0.39667	-0.21505	-0.33333
11,663.000	90.810	319.780	6,485.987	5,191.987	3,942.831	-3,980.645	5,602.705	0.52466	0.40217	0.33696
11,755.000	90.840	319.480	6,484.662	5,190.662	4,012.916	-4,040.229	5,694.405	0.32768	0.03261	-0.32609
11,847.000	90.640	319.940	6,483.474	5,189.474	4,083.086	-4,099.717	5,786.096	0.54518	-0.21739	0.50000
11,940.000	90.740	319.580	6,482.354	5,188.354	4,154.072	-4,159.789	5,878.778	0.40173	0.10753	-0.38710
12,033.00	90.870	319.220	6,481.048	5,187.048	4,224.677	-4,220.305	5,971.503	0.41153	0.13978	-0.38710
0										
Final Survey=12073' MD/ 6481' TVD										
12,073.00	90.840	319.340	6,480.451	5,186.451	4,254.990	-4,246.397	6,011.391	0.30920	-0.07500	0.30000
0										
Projection to TD=12095' MD/ 6480' TVD - M15H BHL										
12,095.00	90.840	319.340	6,480.128	5,186.128	4,271.677	-4,260.730	6,033.328	0.00000	0.00000	0.00000
0										

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EQT Survey Report

Database:	EDM_Delimitive	Local Co-ordinate Reference:	Well M15H
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:	M15H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Longworth 15H Air Drilled		

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (-160.991)	+E/-W (-438.193)	Northing (usft)	Easting (usft)	Latitude	Longitude
Longworth 15H KOP - actual wellpath hits target center - Point	0.000	0.000	5,706.30 6	-160.991	-438.193	492,944.848	1,623,656.367	39.8469087	80.7282315°W
Longworth 15H BHL - actual wellpath hits target center - Point	0.000	0.000	6,480.12 8	4,271.677	-4,260.730	497,429.297	1,619,894.710	39.8590768	80.7418484°W
Longworth 15H LP - actual wellpath hits target center - Point	0.000	0.000	6,532.63 8	265.644	-1,021.226	493,379.404	1,623,079.213	39.8480799	80.7303080°W

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
6,754.056	6,501.300	Top of Marcellus@6501' TVD		-1.0000	

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
5,730.000	5,706.306	-160.991	-438.193	KOP=5730' MD/ 5706' TVD
6,942.000	6,532.638	265.644	-1,021.226	LP/Deepest Point of Well=6942' MD/ 6533' TVD
12,073.000	6,480.451	4,254.990	-4,246.397	Final Survey=12073' MD/ 6481' TVD
12,095.000	6,480.128	4,271.677	-4,260.730	Projection to TD=12095' MD/ 6480' TVD

Checked By: _____ Approved By: _____ Date: _____

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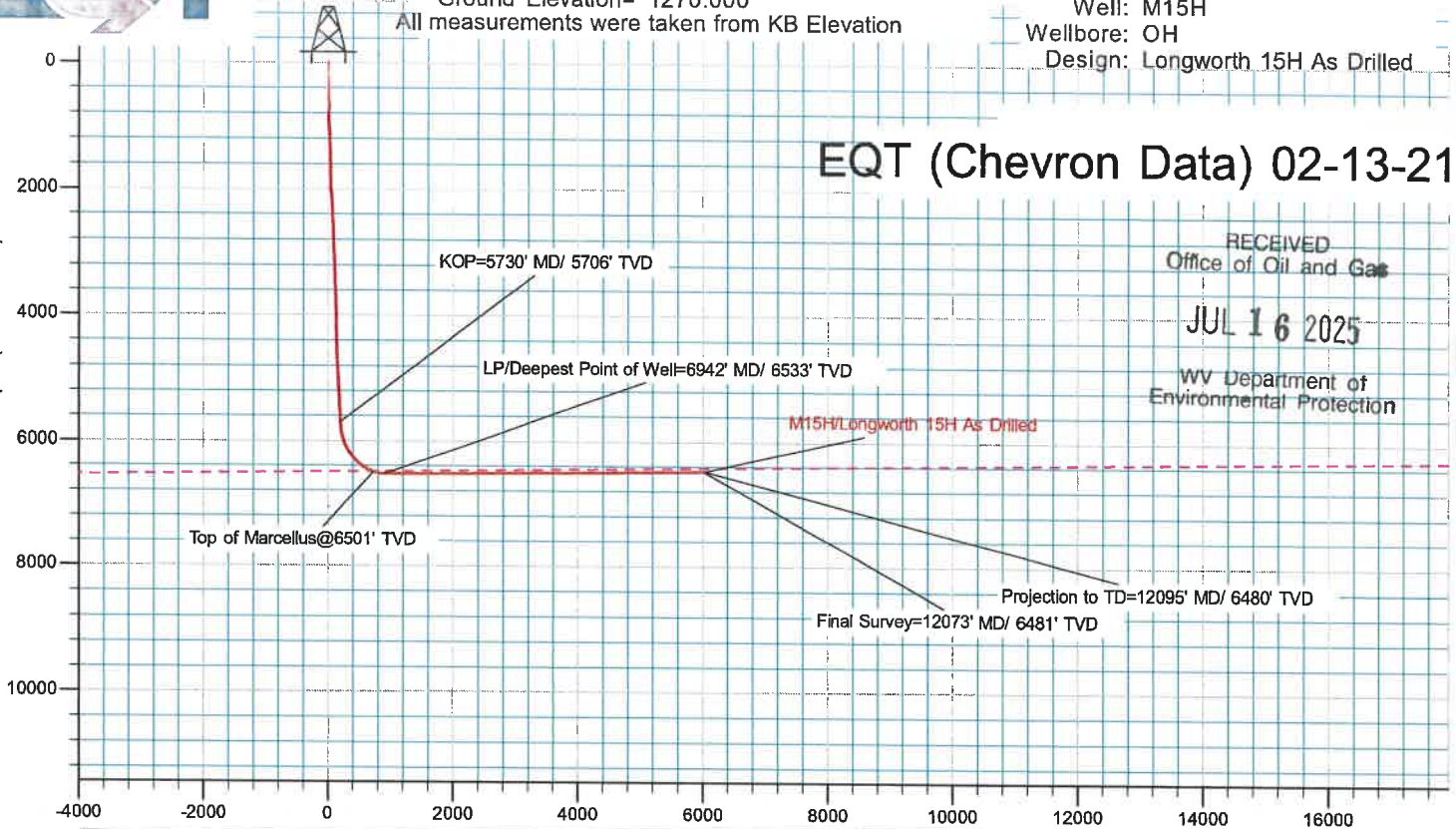


KB Elevation= Air RKB @ 1294.000usft (Highlands 9)
Ground Elevation= 1270.000
All measurements were taken from KB Elevation

Project: Marshall County, WV Chevron
Site: Longworth
Well: M15H
Wellbore: OH
Design: Longworth 15H As Drilled

EQT (Chevron Data) 02-13-21

True Vertical Depth (3000 usft/in)



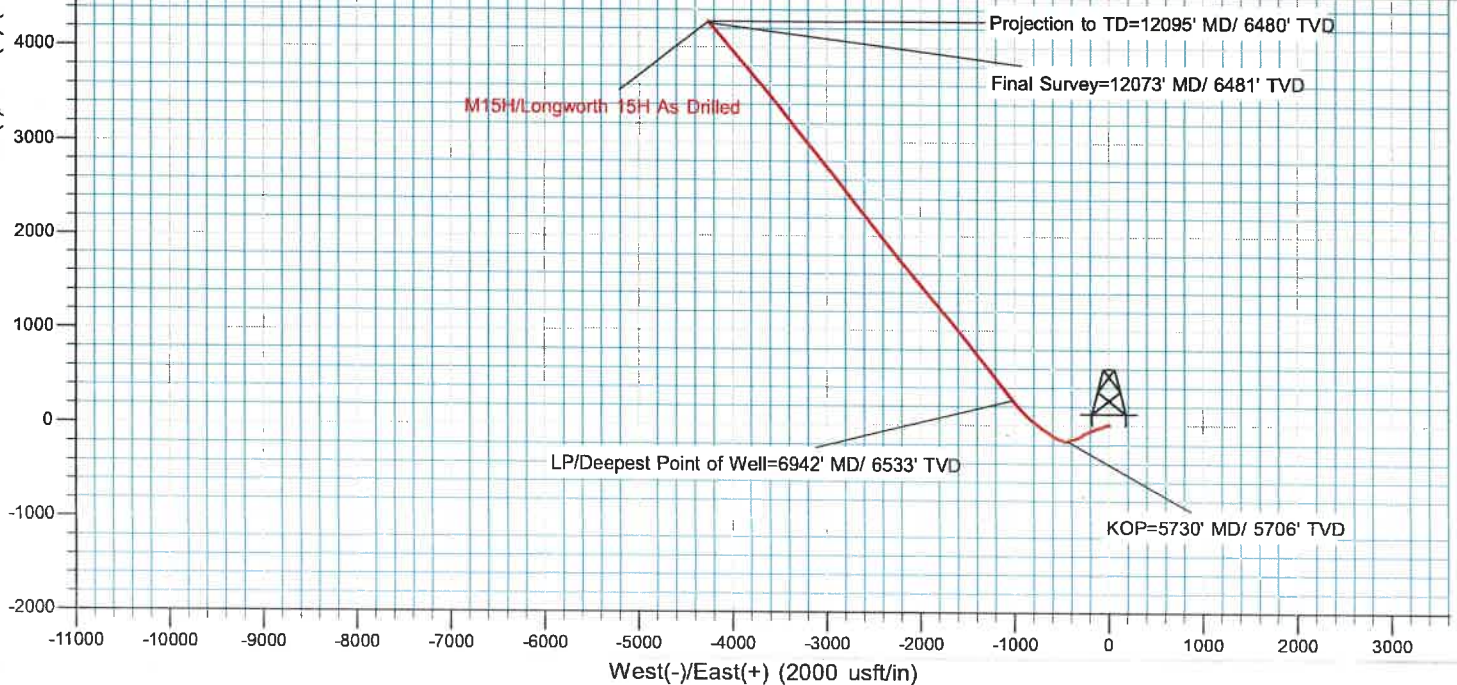
Surface Location: M15H

+N/-S	+E/-W	Northing	Easting	Ground Level: 1270.000	Latitude	Longitude	Slot
0.000	0.000	493099.841	1624096.717		39.8473506	80.7266708°W	

DESIGN TARGET DETAILS

Name	TVD	Northing	Easting	Latitude	Longitude
Longworth 15H KOP	5706.306	492944.848	1623656.367	39.8469087	80.7282315°W
Longworth 15H BHL	6480.129	497429.296	1619894.710	39.8590767	80.7418485°W
Longworth 15H LP	6532.638	493379.405	1623079.214	39.8480799	80.7303081°W

South(-)/North(+) (2000 usft/in)



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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)
6	03/21/2025	11013	10861	36	Marcellus
7	03/21/2025	10832	10681	36	Marcellus
8	03/22/2025	10652	10502	36	Marcellus
9	03/22/2025	10472	10322	36	Marcellus
10	03/22/2025	10293	10142	36	Marcellus
11	03/23/2025	10113	9962	36	Marcellus
12	03/23/2025	9933	9783	36	Marcellus
13	03/23/2025	9754	9603	36	Marcellus
14	03/24/2025	9574	9423	36	Marcellus
15	03/24/2025	9394	9244	36	Marcellus
16	03/24/2025	9214	9064	36	Marcellus
17	03/25/2025	9035	8884	36	Marcellus
18	03/25/2025	8855	8705	36	Marcellus
19	03/26/2025	8675	8525	36	Marcellus
20	03/26/2025	8496	8345	36	Marcellus
21	03/26/2025	8316	8165	36	Marcellus
22	03/27/2025	8136	7986	36	Marcellus
23	03/28/2025	7957	7806	36	Marcellus
24	03/28/2025	7777	7626	36	Marcellus
25	04/02/2025	7597	7447	36	Marcellus
26	04/03/2025	7417	7267	36	Marcellus
27	04/03/2025	7238	7087	36	Marcellus
28	04/04/2025	7058	6908	36	Marcellus
29	04/04/2025	6878	6758	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	01/24/2020	78	6250	5610	4352	400242	9505.000	
2	01/25/2020	85	7055	5217	4246	399811	10037.000	
3	01/25/2020	90	7057	5209	4281	399980	9297.000	
4	01/25/2020	91	7090	4669	4485	400036	9222.000	
5	01/25/2020	90	6888	4774	4514	399994	9246.000	
6	03/21/2025	100	7919	6085	3844	450224	9568.000	
7	03/22/2025	100	8181	6058	4450	449844	8837.000	
8	03/22/2025	100	7652	6286	4718	449850	8531.000	
9	03/22/2025	101	8112	5900	4773	450432	8579.000	
10	03/23/2025	100	8017	6114	4552	450342	8719.000	
11	03/23/2025	101	7931	6155	4566	449799	8633.000	
12	03/23/2025	100	7713	6188	4735	450519	8697.000	
13	03/24/2025	100	7928	5676	4813	450589	8703.000	
14	03/24/2025	100	7893	5958	4924	449420	8682.000	
15	03/24/2025	101	7637	6239	4608	450404	8674.999	
16	03/25/2025	100	7409	5681	4848	450476	8686.000	
17	03/25/2025	100	7863	5834	4811	449739	8597.000	
18	03/26/2025	100	7720	5112	4657	450076	8659.000	
19	03/26/2025	100	7705	6240	4534	449964	8646.000	
20	03/26/2025	100	7798	5603	4817	450024	8649.000	
21	03/27/2025	100	7573	4786	4710	451114	8608.000	
22	03/28/2025	101	7570	4280	4691	450041	8586.000	
23	03/28/2025	99	7809	4634	4575	450164	8627.000	
24	04/02/2025	101	7889	6227	4471	449964	8647.000	
25	04/03/2025	100	7507	6154	4664	450044	8637.000	
26	04/03/2025	100	7476	4926	4880	450145	8673.000	
27	04/04/2025	101	7657	6147	4793	451419	8645.000	
28	04/04/2025	101	7407	6085	4733	450076	8640.000	
29	04/04/2025	101	7819	6078	4241	375025	7323.000	

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Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	03/21/2025
Job End Date:	04/21/2025
State:	West Virginia
County:	Marshall
API Number:	47-051-02082-00-00
Operator Name:	EQT Production
Well Name and Number:	Longworth A 15H
Latitude:	39.847345
Longitude:	-80.726665
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6533
Total Base Water Volume (gal)*:	10691267.9175933
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	87.25644	None
Sand (Proppant)	EQT	Proppant					
			Silica Substrate	14808-60-7	100.00000	12.44979	None
7.5% HCl	Universal Well Services	Acid					
			Hydrogen Chloride	7647-01-0	7.50000	0.01447	None
StimSTREAM FR 9800	ChemStream	Friction Reducer					
			ALKANES, C12-26-BRANCHED AND LINEAR	90622-53-0	40.00000	0.01205	None
StimSTREAM FR 9800	ChemStream	Friction Reducer					
			ACRYLAMIDE-CHLORIDE SALT OF TRIMETHYLAMMONIO-	69418-26-4	40.00000	0.01205	None

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			ETHYL ACRYLATE COPOLYMER				
Clearal 268	ChemStream	Biocide					
			Water	7732-18-5	80.00000	0.00898	None
FR-11	Universal Well Services	Friction Reducer					
			Water	7732-18-5	50.00000	0.00814	None
Enviro-Syn HCR-7000- WL	Fluid USA, Inc.	Synthenic Acid					
			FLUID-Acid-00001	Proprietary	20.00000	0.00477	None
StimSTREAM FR 9800	ChemStream	Friction Reducer					
			Water	7732-18-5	15.00000	0.00452	None
FR-11	Universal Well Services	Friction Reducer					
			copolymer of 2-propenamide	Proprietary	20.00000	0.00326	None
FR-11	Universal Well Services	Friction Reducer					
			Hydrotreated Distillate	64742-47-8	20.00000	0.00326	None
Enviro-Syn HCR-7000- WL	Fluid USA, Inc.	Synthenic Acid					
			FLUID-Amine-00001	Proprietary	10.00000	0.00239	None
Clearal 268	ChemStream	Biocide					
			Glutaraldehyde	111-30-8	20.00000	0.00224	None
K-BAC 1020	Universal Well Services	Bacteriacide					
			Polyethylene glycol	25322-68-3	50.00000	0.00199	None
StimSTREAM FR 9800	ChemStream	Friction Reducer					
			ETHOXYLATED ALCOHOLS (C12-16)	68551-12-2	5.00000	0.00151	None
Scale Hib PE- 18	Universal Well Services	Scale Inhibitor					
			Proprietary Scale Inhibitor	Proprietary	30.00000	0.00145	None
Scale Hib PE- 18	Universal Well Services	Scale Inhibitor					
			Ethylene glycol	107-21-1	40.00000	0.00145	None
K-BAC 1020	Universal Well	Bacteriacide					

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	Services		Water	7732-18-5	30.00000	0.00119	None
K-BAC 1020	Universal Well Services	Bacteriacide					
			2,2-Dibromo-3-nitripropionamide	10222-01-2	21.00000	0.00084	None
I-7L	Universal Well Services	Iron Control					
			Ethylene Glycol	107-21-1	20.00000	0.00079	None
I-7L	Universal Well Services	Iron Control					
			Triethanolamine hydroxyacetate	68299-02-5	20.00000	0.00079	None
StimSTREAM SC-398	ChemStream	Scale Inhibitor					
			AA/ATBS Co-polymer	9003-05-8	5.00000	0.00038	None
Clearal 268	ChemStream	Biocide					
			Didecyl dimethyl ammonium chloride	7173-51-5	3.00000	0.00034	None
Clearal 268	ChemStream	Biocide					
			Quaternary Ammonium Compounds	68424-85-1	3.00000	0.00034	None
FR-11	Universal Well Services	Friction Reducer					
			Alcohols, C12-16, ethoxylated	68551-12-2	2.00000	0.00033	None
FR-11	Universal Well Services	Friction Reducer					
			Oleic Acid Diethanolamide	93-83-4	2.00000	0.00033	None
Clearal 268	ChemStream	Biocide					
			Ethanol	64-17-5	1.50000	0.00017	None
Unihib-G	Universal Well Services	Acid Corrosion Inhibitor					
			Butyl Diglycol	112-34-5	75.00000	0.00011	None
I-7L	Universal Well Services	Iron Control					
			Glycolic acid	79-14-1	2.50000	0.00010	None
StimSTREAM SC-398	ChemStream	Scale Inhibitor					
			AA/Maleic Anhydride Co-	9003-04-7	1.00000	0.00008	None

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			polymer				
Unigel 5F	Universal Well Services	Polymer					
			Guar Gum	9000-30-0	100.00000	0.00005	None
AP Breaker	Universal Well Services	Gelling Agent					
			Ammonium Persulfate	7727-54-0	100.00000	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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BHL is located on topo map 5,821 feet south of Latitude: 39° 52' 30"
SHL is located on topo map 10,072 feet south of Latitude: 39° 52' 30"

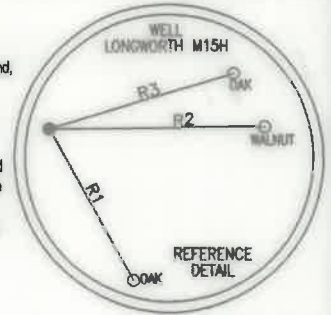
LEGEND

- 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

AS-DRILLED PLAT

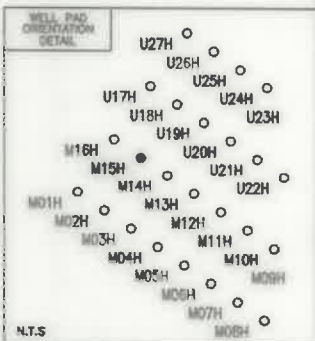
NOTES:

- 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.



AS-DRILLED LOCATIONS	
UTM 17-WAD83(M)	
SURFACE HOLE LOCATION (SHL)	
N:4410850.60	E:523383.18
APPROX LANDING POINT (LP)	
N:4410932.65	E:523070.94
BOTTOM HOLE LOCATION (BHL)	
N:4412150.25	E:522080.15

LINE	BEARING	DISTANCE
R1	S 29°05'53" E	224.81
R2	N 89°10'57" E	279.07
R3	N 72°47'27" E	249.89
R4	S 08°02'50" W	1300.39
R5	S 40°10'20" E	1372.40
R6	N 46°12'14" W	2284.09



THRASHER

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

SEE PAGE 2 FOR SURFACE OWNERS AND LESSORS

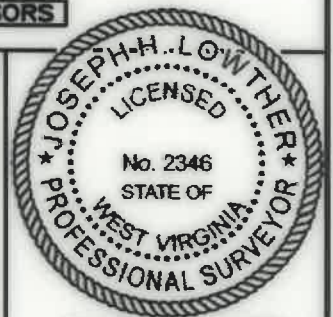
FILE #: LONGWORTH M15H - AS-DRILLED
DRAWING #: LONGWORTH M15H - AS-DRILLED
SCALE: 1" = 2000'
MINIMUM DEGREE OF ACCURACY: 1/2500
PROVEN SOURCE OF ELEVATION: U.S.G.S. MONUMENT THOMAS 1498.81'

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:

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 M15H - AS-DRILLED

API WELL #: 47 51 02082
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: 456.706±

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: 6,480'± TMD: 12,095'±

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

LONGWORTH
M15H
PAGE 2 OF 2
AS-DRILLED

	LESSOR	DIST-TM/PAR
A	GRAHAM H. LONGWORTH JR. ET AL	4-11/1
B	DALE CUNNINGHAM ET UX	4-13/33
C	BRETT A. ANDREWS ET UX	4-12/19
D	JMK IREV TRST - SFX	4-12/4
	PURPLEBURGH VENTURES LLC - SFX	
	MARCELLUS TX MINERAL PRTNRS LTD - SFX	

	SURFACE OWNER	DIST-TM/PAR
1	GRAHAM H. LONGWORTH JR.	4-11/1
2	DALE & MARY CUNNINGHAM	4-13/33
3	CODY M. JARRETT	4-12/19
4	MERLE L. CHAPLIN ET UX	4-12/4

AS-DRILLED LOCATIONS UTM 17-WAD83(M)
SURFACE HOLE LOCATION (SHL)
N:4410850.60 E:523383.18
APPROX LANDING POINT (LP)
N:4410932.65 E:523070.94
BOTTOM HOLE LOCATION (BHL)
N:4412150.25 E:522080.15

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FEBRUARY 23, 2021

THRASHER

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