

# **EQT (Chevron Data) 02-13-21**

**Marshall County, WV Chevron**

**Longworth**

**M13H**

**OH**

**Design: Longworth 13H As Drilled**

## **Standard Survey Report**

**30 June, 2021**

**09/09/2022**

# EQT Survey Report

<b>Database:</b> EDM_Definitive <b>Company:</b> EQT (Chevron Data) 02-13-21 <b>Project:</b> Marshall County, WV Chevron <b>Site:</b> Longworth <b>Well:</b> M13H <b>Wellbore:</b> OH <b>Design:</b> Longworth 13H As Drilled	<b>Local Co-ordinate Reference:</b> Well M13H <b>TVD Reference:</b> Air RKB @ 1294.000usft (Highlands 9) <b>MD Reference:</b> Air RKB @ 1294.000usft (Highlands 9) <b>North Reference:</b> True <b>Survey Calculation Method:</b> Minimum Curvature
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<b>Project</b> Marshall County, WV Chevron			
<b>Map System:</b> US State Plane 1983	<b>System Datum:</b> Mean Sea Level		
<b>Geo Datum:</b> North American Datum 1983			
<b>Map Zone:</b> West Virginia Northern Zone			

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

<b>Well</b> M13H					
<b>Well Position</b>	<b>+N/-S</b> 0.000 usft	<b>Northing:</b> 493,082.920 usft	<b>Latitude:</b> 39.8473052		
	<b>+E/-W</b> 0.000 usft	<b>Easting:</b> 1,624,121.490 usft	<b>Longitude:</b> 80.7265817°W		
<b>Position Uncertainty</b>	0.000 usft	<b>Wellhead Elevation:</b> 0.000 usft	<b>Ground Level:</b> 1,270.000 usft		

<b>Wellbore</b> OH					
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination</b>	<b>Dip Angle</b>	<b>Field Strength</b>
	User Defined	5/16/2016	(°) -8.7190	(°) 67.0778	(nT) 52,269.32646129

<b>Design</b> Longworth 13H As Drilled					
<b>Audit Notes:</b>					
<b>Version:</b> 1.0	<b>Phase:</b> ACTUAL	<b>Tie On Depth:</b> 0.000			
<b>Vertical Section:</b>	<b>Depth From (TVD)</b>	<b>+N/-S</b>	<b>+E/-W</b>	<b>Direction</b>	
	(usft)	(usft)	(usft)	(°)	
	0.000	0.000	0.000	48.474	

<b>Survey Program</b>		<b>Date</b> 6/22/2021			
<b>From</b>	<b>To</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
( )	(usft)				
0.00	580.350	Surface Gyro (OH)	NS-GYRO-MS c	North sensing gyrocompassing m/s c	
0.00	2,175.000	EM Tool (OH)	MWD c	MWD - Standard c	

<b>Survey</b>											
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	0.180	349.230	100.000	-1,194.000	0.154	-0.029	0.080	0.18000	0.18000	0.00000	
125.000	0.260	349.120	125.000	-1,169.000	0.249	-0.047	0.129	0.32000	0.32000	-0.44000	
150.000	0.110	48.200	150.000	-1,144.000	0.320	-0.040	0.182	0.89718	-0.60000	236.32000	
175.000	0.230	78.350	174.999	-1,119.001	0.346	0.027	0.250	0.58303	0.48000	120.60000	
200.000	0.090	115.380	199.999	-1,094.001	0.348	0.094	0.301	0.66872	-0.56000	148.12000	
225.000	0.140	80.080	224.999	-1,069.001	0.345	0.142	0.335	0.33784	0.20000	-141.2000	0

# EQT

## Survey Report

Database:	EDM_Definitive	Local Co-ordinate Reference:	Well M13H
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:	M13H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Longworth 13H 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	0.210	29.580	249.999	-1,044.001	0.390	0.194	0.404	0.64867	0.28000	-202.0000
275.000	0.180	16.780	274.999	-1,019.001	0.468	0.228	0.481	0.21085	-0.12000	0
300.000	0.110	117.180	299.999	-994.001	0.494	0.261	0.523	0.90905	-0.28000	-51.20000
325.000	0.190	113.410	324.999	-969.001	0.467	0.320	0.549	0.32225	0.32000	401.60000
350.000	0.130	133.330	349.999	-944.001	0.431	0.379	0.569	0.32387	-0.24000	-15.08000
375.000	0.170	124.670	374.999	-919.001	0.390	0.430	0.581	0.18347	0.16000	79.68000
400.000	0.140	133.700	399.999	-894.001	0.348	0.483	0.592	0.15440	-0.12000	-34.64000
425.000	0.080	141.980	424.999	-869.001	0.313	0.515	0.594	0.24766	-0.24000	36.12000
450.000	0.170	102.840	449.998	-844.001	0.291	0.562	0.614	0.47671	0.36000	33.12000
475.000	0.280	83.650	474.998	-819.002	0.290	0.659	0.686	0.52748	0.44000	-156.5600
500.000	0.340	92.770	499.998	-794.002	0.293	0.794	0.789	0.31002	0.24000	0
525.000	0.320	102.100	524.998	-769.002	0.275	0.936	0.883	0.22904	-0.08000	-76.76000
550.000	0.320	63.030	549.997	-744.003	0.292	1.067	0.992	0.85602	0.00000	36.48000
575.000	0.930	17.610	574.996	-719.004	0.517	1.190	1.234	2.96519	2.44000	37.32000
<b>Final Gyro Survey=580' MD/TVD</b>										
580.350	1.090	15.050	580.345	-713.655	0.607	1.217	1.314	3.10658	2.99065	-156.2800
703.000	0.500	74.530	702.984	-591.016	1.877	2.036	2.768	0.76681	-0.48104	0
775.000	0.620	87.330	774.981	-519.019	1.979	2.727	3.354	0.23979	0.16667	-47.85047
828.000	0.700	95.330	827.977	-466.023	1.962	3.336	3.798	0.22990	0.15094	48.49572
922.000	0.850	72.200	921.969	-372.031	2.122	4.572	4.829	0.36567	0.15957	17.77778
1,015.000	2.390	43.500	1,014.930	-279.070	3.739	6.564	7.393	1.82183	1.65591	15.09434
1,109.000	4.560	43.450	1,108.752	-185.248	7.874	10.483	13.068	2.30851	2.30851	-24.60638
1,203.000	5.800	43.120	1,202.366	-91.634	14.054	16.299	21.520	1.31952	1.31915	-30.86022
1,296.000	6.340	42.340	1,294.844	0.844	21.280	22.970	31.304	0.58737	0.58065	-0.05319
1,390.000	6.980	42.810	1,388.209	94.209	29.306	30.347	42.148	0.68331	0.68085	-0.35106
1,484.000	7.210	49.680	1,481.491	187.491	37.313	38.726	53.730	0.93466	0.24468	-0.83871
1,577.000	7.170	51.780	1,573.760	279.760	44.680	47.736	65.359	0.28586	-0.04301	0.50000
1,671.000	7.240	46.020	1,667.019	373.019	52.423	56.607	77.133	0.77180	0.07447	7.30851
1,764.000	7.590	46.700	1,759.241	465.241	60.704	65.294	89.127	0.38799	0.37634	2.25806
1,859.000	7.720	54.110	1,853.397	559.397	68.748	75.029	101.748	1.04725	0.13684	-6.12766
1,954.000	7.610	53.430	1,947.548	653.548	76.236	85.251	114.365	0.15007	-0.11579	0.73118
2,048.000	7.430	48.980	2,040.740	746.740	83.934	94.835	126.643	0.64828	-0.19149	7.80000
2,143.000	8.400	48.010	2,134.834	840.834	92.608	104.627	139.725	1.03065	1.02105	-0.71579
<b>Tophole TD=2175' MD/ 2166' TVD - M13H LP - M13H BHL</b>										
2,175.000	8.520	48.130	2,166.486	872.486	95.753	108.130	144.432	0.37904	0.37500	-4.73404
										-1.02105

# EQT Survey Report

Database: EDM_Definitive Company: EQT (Chevron Data) 02-13-21 Project: Marshall County, WV Chevron Site: Longworth Well: M13H Wellbore: OH Design: Longworth 13H As Drilled	Local Co-ordinate Reference: TVD Reference: MD Reference: North Reference: Survey Calculation Method:	Well M13H Air RKB @ 1294.000usft (Highlands 9) Air RKB @ 1294.000usft (Highlands 9) True Minimum Curvature
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Design Targets										
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	
- hit/miss target	(°)	(°)	(usft)	(1,905.995)	(1,013.720)	(usft)	(usft)			
- Shape										
M13H LP	0.000	359.220	6,614.00 0	1,905.995	1,013.720	494,974.899	1,625,161.138	39.8525377	80.7229710°W	
- actual wellpath misses target center by 4886.456usft at 2175.000usft MD (2166.486 TVD, 95.753 N, 108.130 E)										
- Point										
M13H BHL	0.000	359.213	6,614.00 0	5,627.883	-2,033.841	498,738.048	1,622,164.676	39.8627552	80.7338271°W	
- actual wellpath misses target center by 7414.370usft at 2175.000usft MD (2166.486 TVD, 95.753 N, 108.130 E)										
- Point										

Design Annotations					
Measured Depth	Vertical Depth	Local Coordinates		Comment	
(usft)	(usft)	+N/-S	+E/-W		
		(usft)	(usft)		
580.350	580.345	0.607	1.217	Final Gyro Survey=580' MD/TVD	
2,175.000	2,166.486	95.753	108.130	Tophole TD=2175' MD/ 2166' TVD	

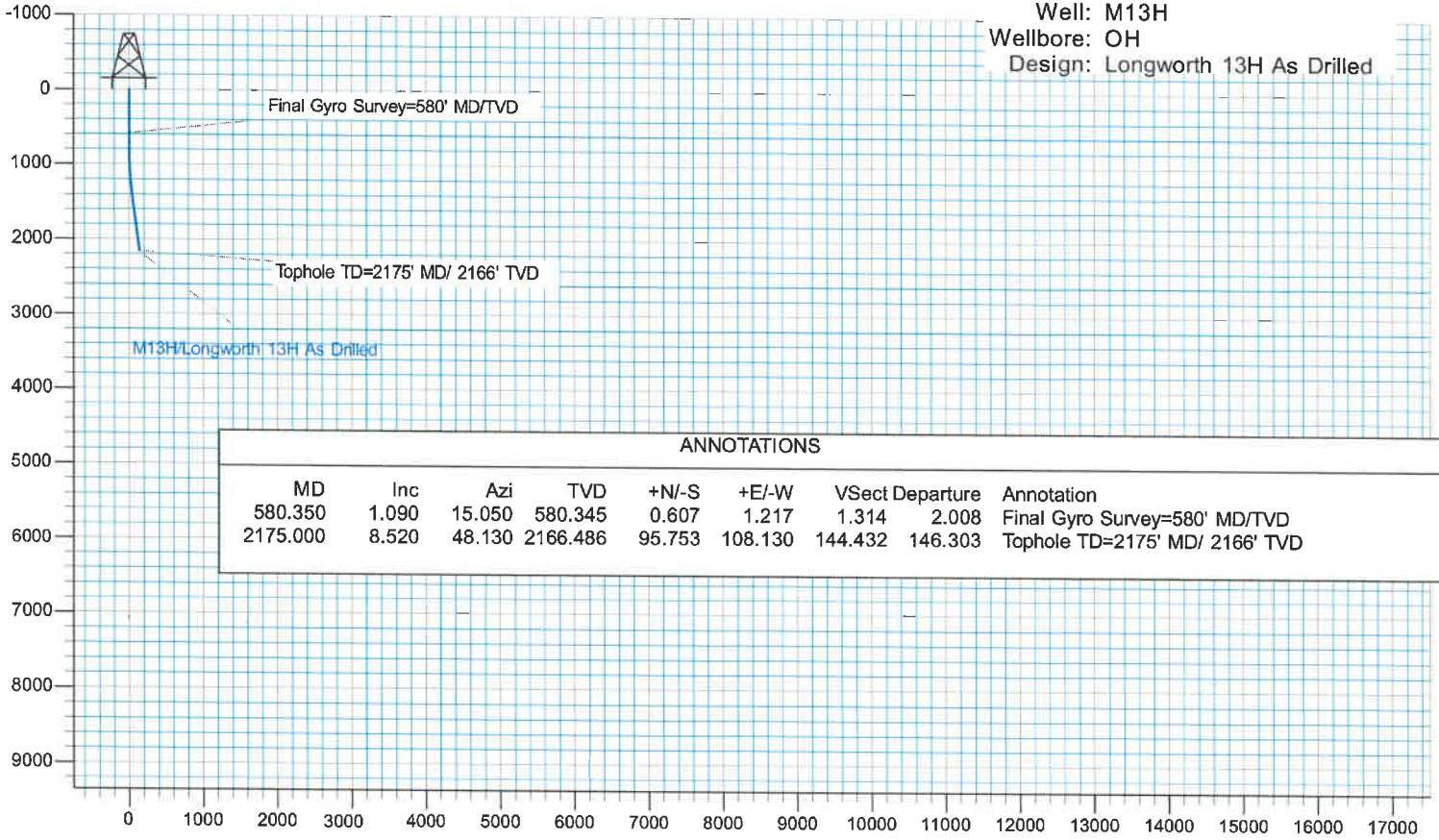
Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_



# EQI (Chevron Data) 02-13-21

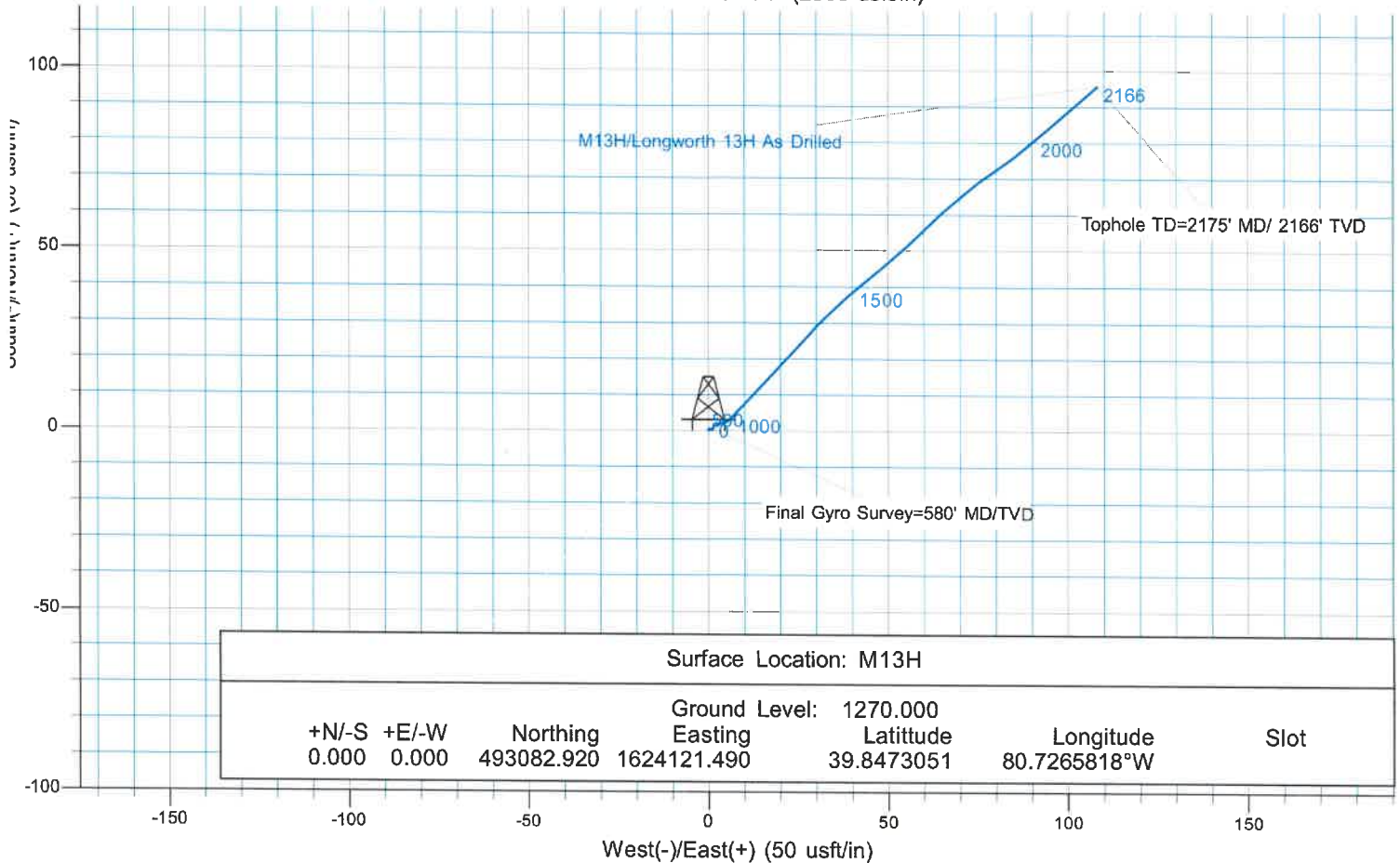
KB Elevation= Air RKB @ 1294.000usft (Highlands 9)  
 Ground Elevation= 1270.000  
 All measurements were taken from KB Elevation

Project: Marshall County, WV Chevron  
 Site: Longworth  
 Well: M13H  
 Wellbore: OH  
 Design: Longworth 13H As Drilled



ANNOTATIONS								
MD	Inc	Azi	TVD	+N/-S	+E/-W	Vsect	Departure	Annotation
580.350	1.090	15.050	580.345	0.607	1.217	1.314	2.008	Final Gyro Survey=580' MD/TVD
2175.000	8.520	48.130	2166.486	95.753	108.130	144.432	146.303	Tophole TD=2175' MD/ 2166' TVD

Vertical Section at 48.474° (2500 usft/in)



Surface Location: M13H							
+N/-S	+E/-W	Northing	Ground Level:	Latitude	Longitude	Slot	
0.000	0.000	493082.920	1270.000	39.8473051	80.7265818°W		
		1624121.490					