

UPDATE REGARDING MMM MONITORING

Date: December 18, 2023

On October 10, 2023, Mid Michigan Materials (“MMM”) ended their practice of discharging process water offsite in response to the injunction issued by the Washtenaw County Circuit Court. Subsequently, several different monitoring efforts intended to assess recovery of the aquifer have been initiated. Three different monitoring efforts are discussed briefly below with some initial, tentative observations. It should be noted, however, that the lack of data existing prior to the date of the injunction impacts any conclusions that can be drawn from the data that has been collected.

Onsite Monitoring Wells

MMM has installed five onsite monitoring wells in the immediate vicinity of their mining operation. Data collection began on October 12. The Township has been provided with and reviewed data through November 21. The data show that the three monitoring wells located in close proximity to the active pit have seen an increase in static water levels by 3-4 feet. A monitoring well located farther to the west and away from the active pit has increased only about 1 foot. A monitoring well on the northeast side of the mining operation has changed very little.

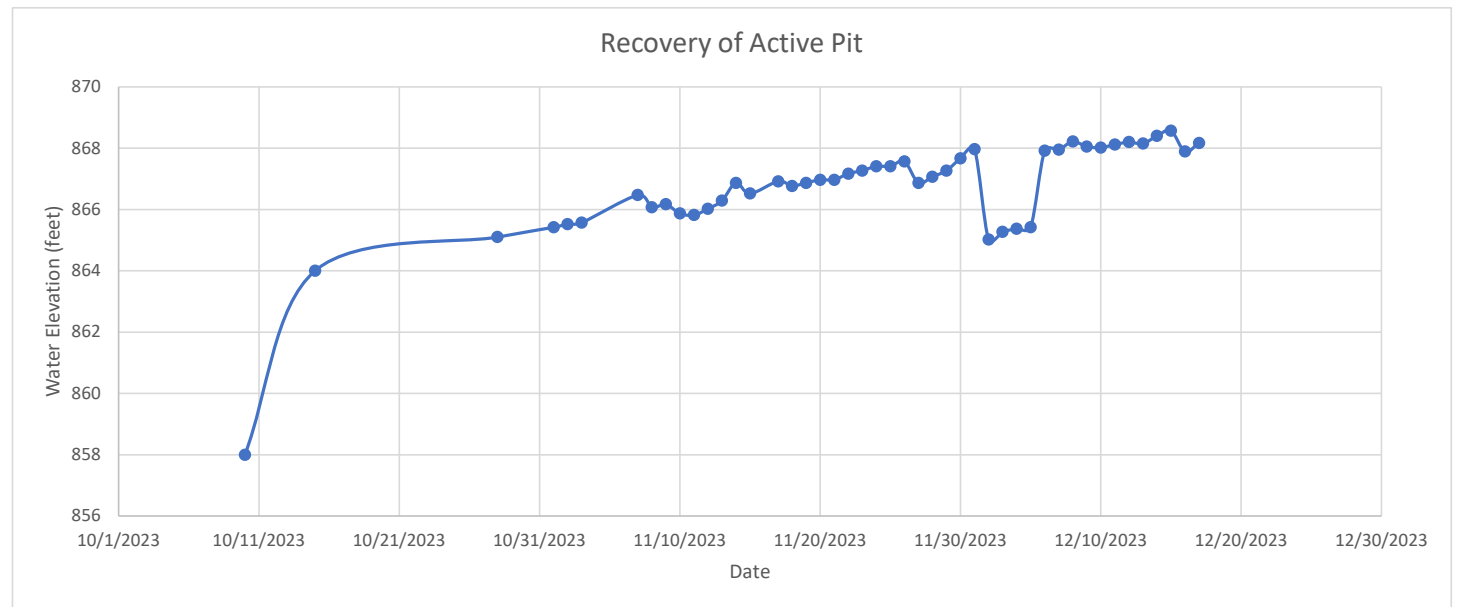
Residential Wells

About ten residential wells are currently being monitored on a weekly basis. Data collection began November 21, and the Township has reviewed data through December 6. In general, the wells located to the south and southeast of the active pit have shown some evidence of recovery. Additionally, it is probable that additional recovery occurred between October 10 when the offsite discharge pipe was closed and when data collection began. Some of the residential wells farther to the west have shown further small declines in groundwater levels, but this may be due to seasonal trends in natural groundwater levels that commonly occur in Michigan aquifers.

Active Pit Staff Gauge

A staff gauge was installed in the active pit to track changes in the water level. Data collection began on October 28 and the Township receives and reviews daily reports. Based on an estimate of the water level immediately prior to October 10, it appears that the water levels have increased about 10 feet. As expected, the data show a more rapid rise in water level at the beginning and slowing rates of rise in recent weeks. The results to date suggest that it will be several more months before an equilibrium condition in the active pit is achieved.

Date	Elevation	staff datum
10/10/2023	858	864.97
10/15/2023	864	
10/28/2023	865.1	
11/1/2023	0.45	865.42
11/2/2023	0.55	865.52
11/3/2023	0.6	865.57
11/7/2023	1.5	866.47
11/8/2023	1.1	866.07
11/9/2023	1.2	866.17
11/10/2023	0.9	865.87
11/11/2023	0.85	865.82
11/12/2023	1.05	866.02
11/13/2023	1.32	866.29
11/14/2023	1.9	866.87
11/15/2023	1.55	866.52
11/17/2023	1.95	866.92
11/18/2023	1.8	866.77
11/19/2023	1.9	866.87
11/20/2023	2	866.97
11/21/2023	2	866.97
11/22/2023	2.2	867.17
11/23/2023	2.3	867.27
11/24/2023	2.44	867.41
11/25/2023	2.44	867.41
11/26/2023	2.6	867.57
11/27/2023	1.9	866.87
11/28/2023	2.1	867.07
11/29/2023	2.3	867.27
11/30/2023	2.7	867.67
12/1/2023	3	867.97
12/2/2023	0.05	865.02
12/3/2023	0.3	865.27
12/4/2023	0.4	865.37
12/5/2023	0.45	865.42
12/6/2023	2.95	867.92
12/7/2023	2.98	867.95
12/8/2023	3.25	868.22
12/9/2023	3.08	868.05
12/10/2023	3.05	868.02
12/11/2023	3.15	868.12
12/12/2023	3.23	868.2
12/13/2023	3.18	868.15



12/14/2023	3.43	868.4
12/15/2023	3.6	868.57
12/16/2023	2.92	867.89
12/17/2023	3.2	868.17
12/18/2023		
12/19/2023		
12/20/2023		