AZIMUTH ENVIRONMENTAL CONSULTING, INC.
Environmental Assessments & Approvals

July 2, 2025 AEC 17-178

Duivenvoorden Haulage Limited
By email

Attention: Travis Green, Project Manager

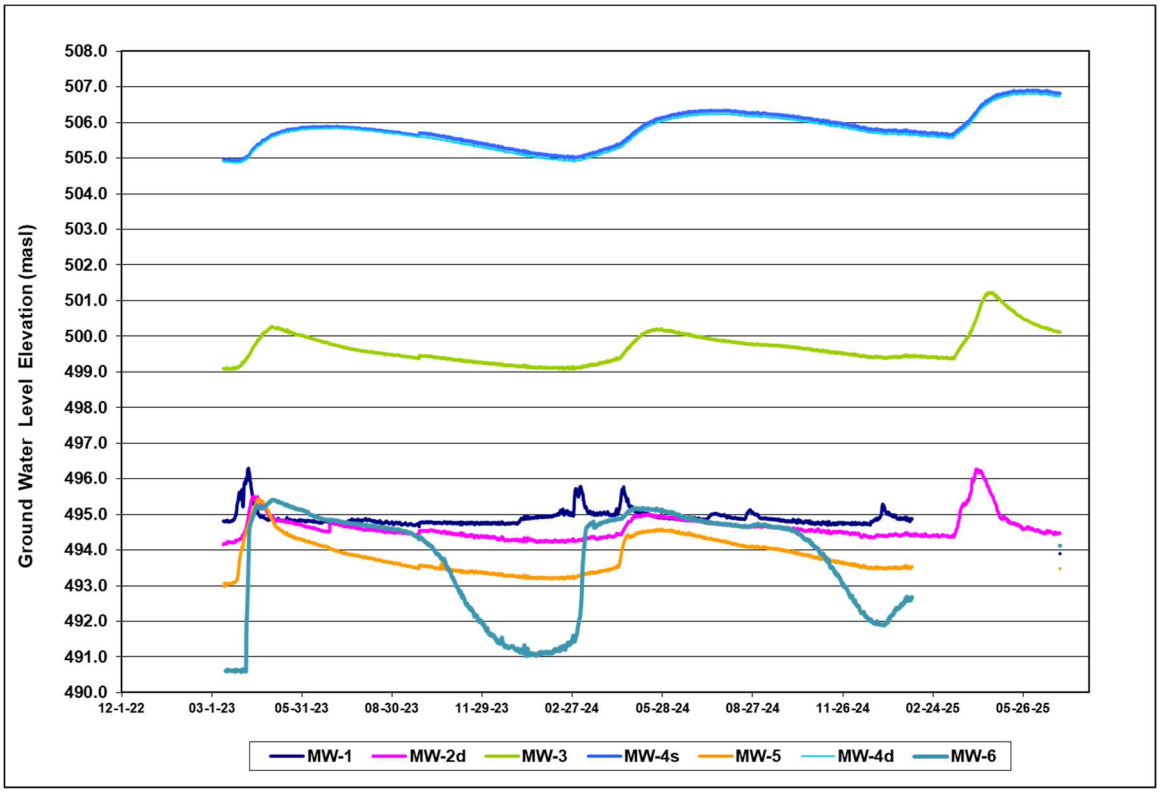
Re: **Review of Overburden Ground Water Levels, Melancthon Pit**

Dear Sir:
We understand that the Township's peer reviewer, WSP, had additional questions regarding the overburden ground water levels on the eastern side of the property, as the eastern side is the downgradient side. Part of the query also relates to whether MW-6 is at an adequate depth to provide a sentry function if there was a contaminant spill of Petroleum Hydrocarbons within the pit area.

The Hydrogeological Level 1-2 Report was updated in September 2023. In March 2023, MW-6 was installed as a new monitoring well to document water levels in this area. The screened interval of MW-6 falls between 490.5 and 494masl, and its base corresponds to the top of the bedrock surface. The upper screened interval is comprised of a till-like very dense sandy silt. Right above the bedrock, is 0.6m of more permeable sand and gravel.

After drilling on March 15, 2023, water levels in MW-6 did not start to respond until April 23, 2023, a period of approximately 40 days. This initial period is interpreted to be the period when the well annulus was gradually infilling, and took time because the silt unit has lower permeability. Seasonally, the water levels in MW-6 dropped to approximately 491masl (~1m above the base) during the 2024 summer and to approximately 492masl (~2m above the base) during 2024-2025 winter. The water levels since 2024 have remained above the base of the screened zone. The hydrographs are shown in the following chart.

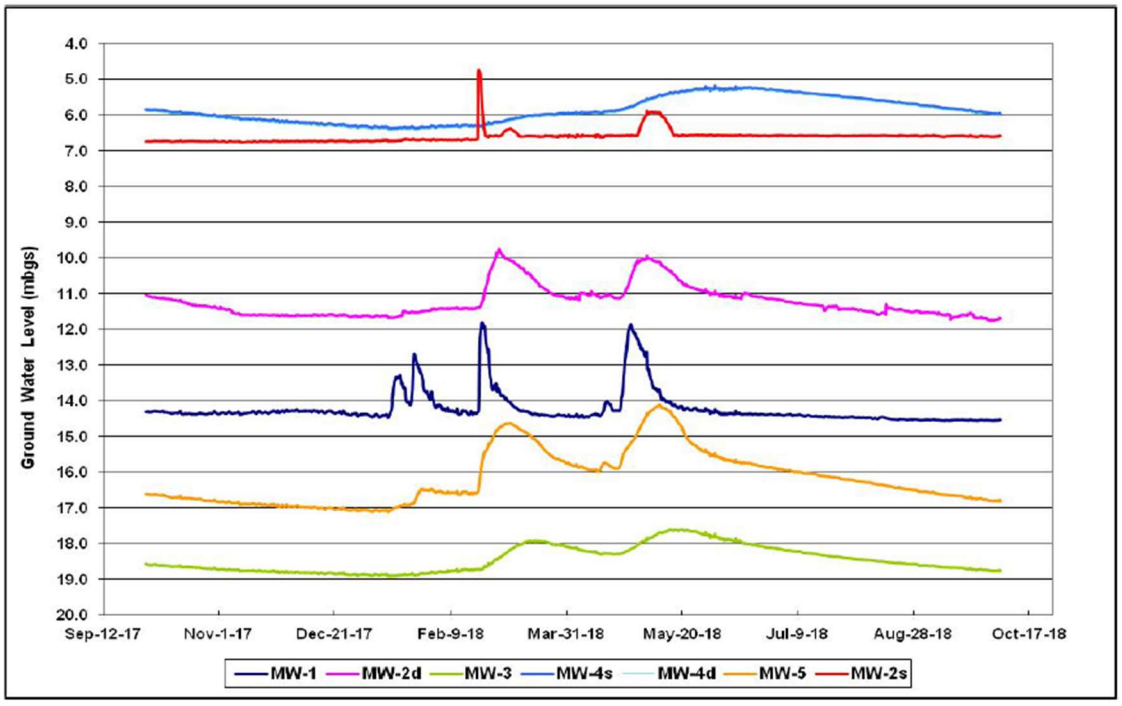
Chart A – 2023-2024 Water Levels



Based on the 2017-2018 data shown on the following hydrograph, it had been noted that the water table transitioned into the bedrock seasonally, notably at MW-1 and MW-2. In retrospect, only MW-2S shows that the water level is below the monitor (MW-2S flatlines), and the other data from MW-2D and MW-1 show that the water level is close to the bottom of the well but still present (i.e. still hydraulic responses).

Therefore, the conclusion is reached that MW-6 remains saturated throughout the year, and is capable of providing a sentry function for potential hydrocarbon contamination.

Chart B – 2017-2018 Water Levels



The bedrock surface slopes downwards towards the east, and these locations represent higher areas of the bedrock to the south and west.

Yours truly,
AZIMUTH ENVIRONMENTAL CONSULTING, INC.

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