The following unsolicited letter from Mr. Ken Hugo, P. Geo. has come to our attention and was written to Alberta Environment and Parks Park Director, Michael Roycroft, in response to his letter raising concerns regarding Mountain Ash Limited Partnership's (MALP) Summit Pit project. MALP understands that Mr. Hugo is involved in other proposed developments in the area, which is why he reviewed the material related to our March 2, 2021, public hearing and decided to respond. With Mr. Hugo's permission, we've posted this letter on our website because on a scientific basis, it supports what our own professional geoscientists determined and provides additional comfort that MALP will not cause adverse effects to the groundwater surrounding its operations.

Groundwater Resources
Information Technologies Ltd.

March 9, 2021

Alberta Environment and Parks
Parks/Kananaskis Region
201 – 800 Railway Avenue
Canmore, AB T1W 1P1

Attention: Michael Roycroft

Dear Sir:

RE: Concerns with Mountain Ash Summit Gravel Pit

I was reviewing the submissions to Rocky View County with respect to the approval for the gravel pit and noticed that you had included a submission. I thought it would be good to write you to let you know that in our opinion the adverse affects to groundwater and surface water supplies will not be as bad as indicated by Jon Fennell.

By way of our background of our firm, we consist of professional hydrogeologists that undertake groundwater investigations for water supply wells for residential, community, commercial and industrial users. As such we have professional geologist designations and I have over 30 years experience conducting hydrogeological investigations within Alberta. As our work involves water supply we were concerned with Jon Fennell's assertations that groundwater quality would be adversely affected by migration of metal contaminants.

In review of Jon Fennel's report we do not feel his interpretations that metal contamination of the groundwater will result was neither supported by his site data or his literature review. In our opinion the effect of extracting gravel above the water table in an area with minimal stripping of the soil above the groundwater will not change the geochemical conditions of the groundwater sufficiently to change the groundwater chemistry of Big Hill Springs. We would note that the gravel in Alberta consists of quartzite and limestone which contains limited metals that would be released.

We would note, as a general rule, that compared to surface water the water from aquifers is usually free of bacterial contamination, but often contains elevated salts or metals that can be present above drinking water or aquatic standards. In an analysis of many groundwater samples the findings of slight exceedances of metals or salts above various criteria is a common condition and not indicative of contamination by human activity.

- The existing literature of the effects of changes in groundwater quality is relatively sparse. We did review the two papers referenced by Jon Fennell and found that this literature did not indicate an adverse affect.

I would like to quote directly from one of the papers referenced by Jon Fennell. The paper from 1995 entitled "The Direct and Cumulative Effects of Gravel Mining on Ground Water within Thurston County, Washington" has the following paragraph in the Executive Summary:

> *The simplest form of gravel mining, excavating above the water table with no associated activities such as vehicle maintenance or asphalt batch plants, causes a relatively low risk to ground water quantity and quality. Because even the limited protection provided by the soil layer has been removed, these excavations are extremely sensitive to the introduction of any type of contamination. But because this type of mining is essentially a relatively simple process of loading unconsolidated materials, it does not pose a serious risk of introducing contaminants.*

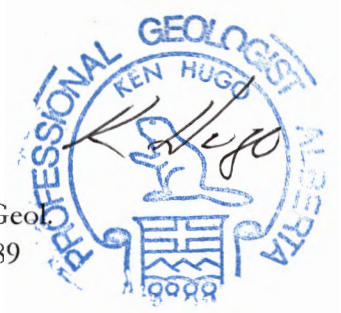
Even the references provided by Jon Fennell do not support his interpretations.

It is true that the gravel deposits can be easily contaminated as these highly permeable deposits are right at the surface. This is a relatively common phenomena in Alberta and there is a general risk for water supplies that are obtained from gravel aquifers (such as the water supply wells for the towns of Black Diamond, Turner Valley and High River) for contamination from spills.

In summary, while gravel operations may pose adverse aesthetic effects or possibly environmental effects related to wildlife, we are not convinced that it is the best interest of society to be proposing that the gravel process will contaminate groundwater supplies that will put people or the aquatic environment at risk.

In hopes that this letter alleviates your concerns, we would be more than willing to engage in further discussion if you would like.

Yours truly,



Ken Hugo, P.Geol.
APEGA P15289