



To:	Ida Porter (NWB)
Cc:	Luis Manzo (KIA)
From:	Alan Sexton (GeoVector)
Date:	October 7, 2016

Subject: Review of Water License 2AM-MEL1631, Items 1 & 2 – Submission of Final Design and Construction Diagrams for Berm 3 and Channel 5

Executive Summary

Introduction

At the request of the Kivalliq Inuit Association (KivIA) a technical review of Water License 2AM-MEL1631, Items 1 & 2 – Submission of Final Design and Construction Diagrams for Berm 3 and Channel 5 was completed by GeoVector Management Inc. (GeoVector).

The mandate of this review was to review and provide comments on the construction diagrams and design report provided for Berm 3 and Channel 5.

The author is not a P.Eng., therefore cannot comment on the validity of the construction diagrams for Berm 3 and Channel 5. However, the author is a P. Geo. and has the following comments on the 5,820 cubic metres of selected unfrozen till to be used in Berm 3:

- 1) The areas with 1 to 3 metre active layers tend to be from the tops of eskers which are dominantly sand sand size material and well drained with much less ice content. Whereas, the “till material” tends to be from lower elevations with active layers of centimeters to 10’s of centimeters and more ice content. Can the proponent please provide an estimate of how much of the ice free sand material and ice bearing till material will be used during the construction of Berm 3.
- 2) Can the proponent comment on the difference in particle size for each of these materials and how this will ensure the integrity of Berms 3 over the berms operation life.
- 3) Can the proponent comment on the difference in ice content for each of these materials and how this will impact on the integrity of Berms 3 over the berms operation life.



- 4) Can the proponent comment on whether field compaction tests will be completed as part of the QA/QC be completed during the construction of Berm 3.
- 5) Can the proponent comment on what type and frequency of field compaction tests will be completed and what will the frequency be.
- 6) Can the proponent comment on why field compaction tests may not be completed.

Regards

Alan J. Sexton, P.Geo.

GeoVector Management Inc.

REFERENCES

Zhang, G. and Jones, K. 2016. Design report for Berm 3 and Channel 5. Meliadine Gold Project, Nunavut. 32p.