

January 21, 2011

Véronique D'Amours Gauthier, Science and Regulatory Officer
NWT Water Board
Inuvik, NT



Dear Véronique D'Amours Gauthier:

Re: 2010 Mallik Annual Sump Monitoring Report (licence N7L1-1817)

In response to further clarification regarding the 2010 Mallik Annual Sump Monitoring Report (licence N7L1-1817), we offer the following amendments to be added to the report or clarification on where to find the information being requested. We also agree that the timing of the 2010 Monitoring program was outside of the ideal monitoring weather/season, we are committed to commencing the 2011 Monitoring program earlier in the year (mid-August).

1. The dimensions of the capped sump in metres (length and width); the approximate thickness of sump cap above grade

Response:

Construction details of the sumps were provided in the Introduction section (see page 1-1) of the report, including the original size of the sumps. Cap thickness was not provided as this is relatively unknown and was not confirmed at the site this year. Previous site assessments for the Mallik site reported the following:

Kiggiak EBA, 2005

Cap thickness for both the 1998 and 2002 drill sumps were between 3 and 3.5 mbg. Native soil was encountered at 4.3 and 4.7 mbg for both sumps. This indicated overall thickness of the sumps to range between 0.8 and 1.7 m thick. Some low lying areas and pooling of water on both sumps was observed.

Kavik-AXYS Inc., 2006

Settlement of the sump caps was observed at the 2002 sump and the two 1998 drill sumps. Pondered water was observed at the 2002 and western 1998 drill sump. The sump cap does not completely cover the 1998 camp sump; and vegetation was not observed to be growing on any sump caps. Additional fill was recommended to be added to the cap during the 2007-2008 Mallik Drilling Program; however this activity did not occur.

2. The degree of ponding in area extending 50 m from sump cap in all directions;

Response:

Section 4.1 Visual Assessment of the Report addresses the ponding of the Mallik site.

The Mallik site is characterized by several naturally occurring water ponding areas. These ponding areas are generally shallow (about 30 cm of water) and their extent range from a few square meters (m²) to about 250 m². The presence and extent of each pond is similar to observations during previous field visits.

Small shallow depressions were observed on both east and west limits of the 1998 sump. These depressions, approximately 50 to 60 cm below the ground surface, were filled with water at the time of visit (Figure 4-4). Two samples were collected for water analysis (see section 4.5 Water Analysis). Observations for evidence of settlement, erosion or instability were limited due to snow cover. A detailed visual assessment of the vegetation will be undertaken during the 2011 field visit.

These observations went beyond the 50 m in all directions and have been supported by figures 4-1 to 4-4.

3. Indicate if sump cap is collapsing and estimated the percentage of the cap that has collapsed;

Response:

Prior observation of both the 1998 and 2002 Sumps indicate an approximate cap dome of 1.5 m above the surrounding terrain. Visual assessment at the time of the site visit was limited due to the snowfall covering the sumps, however a comparison between photos and prior reporting indicates similar low areas and ponding surrounding the sumps suggested no new noticeable collapsing is apparent.

4. In regards to the active-layer depth measurements, what was the length of the transect and the intervals of each measurements;

Response:



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Sections 3.2 and 4.2 outline the active-layer depth measurements and the location of the transects. Methodology and locations of measurement points were as per the Protocol for the Monitoring of Drilling-Waste Disposal Inuvialuit Settlement Region Northwest Territories (NWT Water Board 2006). As such, the control transect was 35 m long and the recorded measurements on the sumps varied depending on the width and lengths of the sumps. The transects on the 1998 sump were approximately 50 m in length and on the 2002 sump were approximately 60 m in length. Eight measurements were taken around the perimeter of each sump as outlined on the Table 4-1 inset.

5. Were the electromagnetic surveys performed by foot on a 10 m grid covering the entire sump cap and an area of 50 m from the sump edge in all directions?

Response:

The EM surveys was performed by foot (see Figure 3-2, 2010 Mallik Annual Sump Monitoring Report) on a 10 m grid covering the entire sump cap and an area of 50 m from the sumps in all directions. The traversed path is outlined on the EM survey figures in Appendix B.

6. Identification and quantity of any potential risks to either health and/or the environment as a result of activity at the site.

Response:

Risks to the either the health and/or the environment as a result of the monitoring activities at the Mallik site were minimal. The Project Description approved by the EISC outlined the potential impacts and mitigations that were to be conducted/observed while at site for the Mallik Monitoring Program (*Table 12-1 in Mallik 2L-38 and 3L/4L/5L-38 Sump Monitoring and Retrofit Program, 2008*); these mitigations were observed or preformed for the health and safety of the environment while at site in 2010. The site was accessed daily via helicopter and all equipment and waste were removed daily from the site, with the exception of the monitoring equipment. Equipment was installed in a manner to reduce interference with the environment as much as possible. Monitoring equipment was placed and anchored down sufficiently to sustain annual flooding of the region and to minimize interaction with potential wildlife. All other activities onsite were passive and did not result in risks to the environment.

7. It is mentioned at page 3-4 that ESSIS conducted EM surveys (EM31 and EM38) on September 30th, 2009. The NWT Water Board would like to know if you meant in 2010.

Response:

Yes, this is a typing error and should read 2010.



KAVIK-AXYS Inc.

I trust these answers provide further clarification the NWT Water Board is seeking, however if additional clarification is require, please do not hesitate to ask.

Sincerely,



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cc: Pippa Seccombe-Hett, Aurora College



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