

From: [Marc Casas](#)
To: [julian.kanigan@aandc.gc.ca](#); [screeningofficer@eastarm.com](#); [scellis@eastarm.com](#); [jbrennan@yellowknife.ca](#); [rlong@yellowknife.ca](#); [Lisa.Bridges@golder.com](#); [Peter.Chapman@golder.com](#); [lmandeville@denenation.com](#); [Carolc.lands@gmail.com](#); [ima_dkfn@northwestel.net](#); [admin_dkfn@northwestel.net](#); [Rick.Walbourne@dfo-mpo.gc.ca](#); [Lorraine.Sawdon@dfo-mpo.gc.ca](#); [Sao_enterprise@northwestel.net](#); [ec.ea.nwt@ec.gc.ca](#); [Frmc53@yahoo.ca](#); [Carolc.lands@gmail.com](#); [fortsmithmetiscouncil@northwestel.net](#); [rcc.nwtmn@northwestel.net](#); [Gnwt_ea@gov.nt.ca](#); [Rhonda.Batchelor@gov.nt.ca](#); [Patrick.Clancy@gov.nt.ca](#); [Duane.Fleming@gov.nt.ca](#); [Amy.Lizotte@gov.nt.ca](#); [Russell.Teed@gov.nt.ca](#); [Mark.Davy@gov.nt.ca](#); [Glen.Mackay@gov.nt.ca](#); [hrc@northwestel.net](#); [hrc@northwestel.net](#); [intergov@aandc.gc.ca](#); [MDD@aandc.gc.ca](#); [PDD@aandc.gc.ca](#); [consultationsupportunit@aandc.gc.ca](#); [Krystal.Thompson@aandc.gc.ca](#); [Charlotte.Henry@aandc.gc.ca](#); [Scott.Stewart@aandc.gc.ca](#); [Charlene.Coe@aandc.gc.ca](#); [Robert.Jenkins@aandc.gc.ca](#); [Nathen.Richea@aandc.gc.ca](#); [CAU-UCA@aandc.gc.ca](#); [landsnresources@katodeeche.com](#); [lkdfn.executiveChiefandCouncil@gmail.com](#); [lkdfnlands@gmail.com](#); [preliminaryscreening@reviewboard.ca](#); [permits@mvlwb.com](#); [enviromgr@nsma.net](#); [reganalyst@nsma.net](#); [arnoldenge@gmail.com](#); [Matthew.Spence@cannor.gc.ca](#); [Kate.Witherly@cannor.gc.ca](#); [rcc.nwtmn@northwestel.net](#); [Maxwell.Morapeli@debeerscanada.com](#); [Alexandra.hood@debeerscanada.com](#); [chief@srfn195.com](#); [c_heron@smithlanding.com](#); [dwhite@slema.ca](#); [zliu@slema.ca](#); [lauraduncan@tlicho.com](#); [vgibson@interchange.ubc.ca](#); [kerrigarner@tlicho.com](#); [jhood@fortsmith.ca](#); [mrichardson@hayriver.com](#); [Susan.Abernethy@wscc.nt.ca](#); [wfn@northwestel.net](#); [environment@ykdene.com](#); [tslack@ykdene.com](#); [esangris@ykdene.com](#); [tsetta@ykdene.com](#)
Cc: [Kathy.Racher - WLWB](#); ["Tyree Mullaney"](#); [Zabey Nevitt](#)
Subject: MV2011L2-Snap - SNP - TDS letter on Modeling
Date: Wednesday, January 09, 2013 10:54:57 AM
Attachments: [2013-01-09 TDS Lake Model FINAL.pdf](#)

Hello everyone, please see the attached notification/update regarding **SNP condition D 3** (last page of the WL).

If you have any comments please feel free to contact me.

Marc Casas
Regulatory Officer
Mackenzie Valley Land and Water Board
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From: Hood, Alexandra [<mailto:Alexandra.Hood@debeerscanada.com>]
Sent: January-09-13 9:19 AM
To: Marc Casas
Subject: RE: TDS letter on Modeling

Hi Marc,
You're right. I have revised accordingly to add a paragraph with our intent to modeling.
Hopefully this one is less airy on our commitments.
Let me know if this works and thanks for all of your help and patience!
Alex

Alex Hood
Permitting and Environmental Superintendent

Snap Lake Mine
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c/o Det'on Cho Logistica
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Alexandra Hood

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Disclaimer - January 9, 2013

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From: Marc Casas [<mailto:mcasas@mvlwb.com>]
Sent: Tuesday, January 08, 2013 1:28 PM
To: Hood, Alexandra
Subject: RE: TDS letter on Modeling

Hey Alex I think this letter does a really good job of providing an explanation of the situation. The one thing I noticed was you did not mention when model updates would be provided. Your current letter only says that you 'will submit these updated model results to the Board as they become available in 2013.' That is a pretty weak commitment. I assume you are reluctant to commit to a date in case it can't be done, however can you commit to submitting something within the next few months? This would show the Board and reviewers that something will be provided sooner rather than later.

Let me know, thanks

Marc Casas

Regulatory Officer

Mackenzie Valley Land and Water Board

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From: Hood, Alexandra [<mailto:Alexandra.Hood@debeerscanada.com>]
Sent: January-07-13 3:52 PM
To: Marc Casas
Subject: TDS letter on Modeling

Hi Marc,

As discussed here is the draft letter on tds modeling in the license for this year.

Let me know if this makes more sense.

Thanks Alex

Alexandra Hood

*Environment & Permitting Superintendent
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Disclaimer - January 7, 2013

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January 9, 2013

File:

Willard Hagen, Chair
Mackenzie Valley Land and Water Board
PO Box 2130
Yellowknife, Northwest Territories
X1A 2P6

Dear: Mr. Hagen:

**Re: Snap Lake Mine
De Beers Canada Inc.
Water License #MV2011L2-0004 – Whole Lake TDS Calculation**

Under Annex A: Surveillance Network Program, Part D, Item 3 of the Water License, there is a requirement for *“annual forecasting of whole lake average TDS in Snap Lake to verify that the whole lake average TDS levels will remain below the compliance limit set in Part F, Item 13 throughout the life of the project.”*

We are writing to explain why we have not yet updated the forecasts provided during the Water License Renewal process. Basically, as explained further below, the model predictions are no longer tracking actual TDS concentrations due to unanticipated increases in water flowing from underground, which contains elevated TDS concentrations, as well as higher discharges from the treatment plant to Snap Lake. More work than anticipated is required to provide reliable forecasting.

As you are aware, predictions of concentrations of TDS (and other substances) in Snap Lake are provided by 3 integrated models: a model of underground flows to surface; a model of operational water on the Mine site and underground flows to the treatment plant; and, a model of Snap Lake water quality that uses the information provided by the two other models. The delay in updating and calibrating the models is largely due to the need for further drilling to more accurately delineate underground water quality in areas proposed for future mining.

Because of the additional underground flows, we are revising the underground model to account for these flows. We will then revise the site and lake models to provide forecasts of whole lake average TDS. These forecasts will more accurately reflect future scenarios (i.e., both future underground water quality and treated water discharges to Snap Lake) than is currently possible. We will submit these updated model results to the Board as they become available in 2013. The 2012 whole-lake average TDS values have been provided in recent SNP reports, including plots showing historical values. Similar plots will continue to be provided in future reports.





De Beers is currently working with ITASCA and Golder to update our lake and site model predictions for TDS and chloride. While the ITASCA model is still in draft and will not be finalized until late summer/early fall 2013 models are currently being run with draft underground data to update predictions for the upcoming year(s) to 2015 if possible. The intent is that this information will be provided in a technical memorandum to be submitted to the Board in February 2013. A further update to predictions will be made available once the underground model is finalized as it is required to provide inputs to the site and lake models.

Should you have any questions, comments or require further clarification, please do not hesitate to contact the undersigned at (867) 767-8646 or by e-mail at the following address: Alexandra.Hood@debeerscanada.com.

Sincerely,

DE BEERS CANADA INC.

A handwritten signature in blue ink that reads "A. Hood".

Alexandra Hood
Permitting and Environmental Superintendent
Snap Lake Mine

Attachments

Copied to:	M. Casas	MVLWB
	D. White	SLEMA
	T. Covey	AANDC
	A. Hood	DBCI
	D. Raymond	DBCI

