Email correspondence with IML

# QC trouble shooting

Thanks Caroline,

I have decided to run the data through already converted to ml/l for simplicity but thank you very much for the help! I’ll keep those files as part of my documentation in case it is decided later on to run the data through differently.

Again, much appreciated!

Cheers,

Emily

**From:** Lafleur, Caroline <[Caroline.Lafleur@dfo-mpo.gc.ca](mailto:Caroline.Lafleur@dfo-mpo.gc.ca)>   
**Sent:** Friday, March 8, 2019 4:41 PM  
**To:** Chisholm, Emily <[Emily.Chisholm@dfo-mpo.gc.ca](mailto:Emily.Chisholm@dfo-mpo.gc.ca)>  
**Subject:** RE: QC of Oxygen data using IML scripts

Hello Emily,

You are right. I have done an example and I have found the same problem. I have tried to modified 2 functions in order to be able to process the oxygen in mmol/m³. But I am not sure I like the result. Maybe you could have a try and tell me what you think. The functions are B\_create\_btl.m and B\_addQ2btl.m. Just remove the .cl to use them.

The data\_btl.m file is called when the bottle structure is converted into the ODF-structure. If you want to keep your data in mmol/m³, you must use the following instead.

btlLIST(xx).name = 'bottle sample oxygen';

btlLIST(xx).units = 'mmol/m\*\*3';  %original units

btlLIST(xx).type = 'labo';

btlLIST(xx).code = 'OXYM\_';   %new variable code in the BTL\_\* file

btlLIST(xx).gf3 = 'OXYG';     %gf3 code stays the same

btlLIST(xx).btl2gf3 = 1;   %Conversion factor from mmol/m\*\*3 to umol/kg

btlLIST(xx).decimal = 3;

btlLIST(xx).method = {'OXYM\_01';'OXYM\_02';'OXYM\_XX';'OXYM\_03'};

btlLIST(xx).desc = {'Winkler dissolved oxygen titration method: Carpenter (1965) and Carrit and Carpenter (1966)';...

      'Winkler automated dissolved oxygen titration method: Jones, Zemlyak and Stewart (1992)';...

      'dissolved oxygen: unknown method';...

      'dissolved oxygen measured by laboratory electrode'};

Let me know of your results. If you don’t like the work around I am proposing, you can convert your data in ml/l before performing the QC.

Bon vent !

Caroline Lafleur   
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**De :** Chisholm, Emily <[Emily.Chisholm@dfo-mpo.gc.ca](mailto:Emily.Chisholm@dfo-mpo.gc.ca)>   
**Envoyé :** 6 mars 2019 08:21  
**À :** Lafleur, Caroline <[Caroline.Lafleur@dfo-mpo.gc.ca](mailto:Caroline.Lafleur@dfo-mpo.gc.ca)>  
**Objet :** RE: QC of Oxygen data using IML scripts

Caroline,

After closer inspection, this process is not running as smoothly as I thought. It appears that OXYM was not getting a Q\_OXYM column created in QC, I attempted to manually add in the OXYM and Q\_OXYM variables in B\_addQ2btl.m (by adding them to the list of variables – line 38-41). This started creating files with Q\_OXYM which then made it apparent that the program was still flagging all molar values as globally impossible values. I cannot seem to find where the btl2gf3 conversion would be applied in the program and I’m hoping you can help shed some more light on this.

Thanks so much,

Emily Chisholm

**From:** Chisholm, Emily   
**Sent:** Friday, February 22, 2019 1:36 PM  
**To:** Lafleur, Caroline <[Caroline.Lafleur@dfo-mpo.gc.ca](mailto:Caroline.Lafleur@dfo-mpo.gc.ca)>; Devine, Laure <[Laure.Devine@dfo-mpo.gc.ca](mailto:Laure.Devine@dfo-mpo.gc.ca)>  
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**Subject:** RE: QC of Oxygen data using IML scripts

Caroline,

Thank you so much for this information. I think I have successfully added this new data type, I added a new data method in our files for data in mmol/m\*\*3, which then maps to OXYM and runs through the QC appropriately.

Very much appreciated!

Emily

**From:** Lafleur, Caroline <[Caroline.Lafleur@dfo-mpo.gc.ca](mailto:Caroline.Lafleur@dfo-mpo.gc.ca)>   
**Sent:** Tuesday, February 12, 2019 3:43 PM  
**To:** Chisholm, Emily <[Emily.Chisholm@dfo-mpo.gc.ca](mailto:Emily.Chisholm@dfo-mpo.gc.ca)>; Devine, Laure <[Laure.Devine@dfo-mpo.gc.ca](mailto:Laure.Devine@dfo-mpo.gc.ca)>  
**Cc:** Lazin, Gordana <[Gordana.Lazin@dfo-mpo.gc.ca](mailto:Gordana.Lazin@dfo-mpo.gc.ca)>; Cardoso, Diana <[Diana.Cardoso@dfo-mpo.gc.ca](mailto:Diana.Cardoso@dfo-mpo.gc.ca)>  
**Subject:** RE: QC of Oxygen data using IML scripts

Hello Emily,

You can keep your oxygen data in mmol/m\*\*3. You just have to create a new variable in the data\_btl.m file with the correct conversion factor. The quality control procedure will then be done in ml/l but the data will remain mmol/m\*\*3 in your BTL\_\* file.

For example: xx is the btlLIST length +1

btlLIST(xx).name = 'bottle sample oxygen';

btlLIST(xx).units = 'mmol/m\*\*3';  %original units

btlLIST(xx).type = 'labo';

btlLIST(xx).code = 'OXYM\_';   %new variable code in the BTL\_\* file

btlLIST(xx).gf3 = 'DOXY';     %gf3 code stays the same

btlLIST(xx).btl2gf3 = 1/44.66;   %Conversion factor from mmol/m\*\*3 to ml/l

btlLIST(xx).decimal = 3;

btlLIST(xx).method = {'OXYM\_01';'OXYM\_02';'OXYM\_XX';'OXYM\_03'};

btlLIST(xx).desc = {'Winkler dissolved oxygen titration method: Carpenter (1965) and Carrit and Carpenter (1966)';...

      'Winkler automated dissolved oxygen titration method: Jones, Zemlyak and Stewart (1992)';...

      'dissolved oxygen: unknown method';...

      'dissolved oxygen measured by laboratory electrode'};

Let me know how you handle this.

Bon vent !

Caroline Lafleur   
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**De :** Chisholm, Emily <[Emily.Chisholm@dfo-mpo.gc.ca](mailto:Emily.Chisholm@dfo-mpo.gc.ca)>   
**Envoyé :** 11 février 2019 14:55  
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**Objet :** QC of Oxygen data using IML scripts

Hello!

I have been working with Gordana in using your QC scripts to assess oxygen data from BIO’s archives and I have come across a question I am hoping you can help with. There is a significant chunk of our historical oxygen data which is recorded in mmol/m\*\*3, it appears to me that your QC is designed to handle only oxygen data in ml/l based on the global range that has been set. I am wondering if you have ever come across this issue before and if you have any advice on how to proceed? We have been discussing either converting the data to ml/l before running QC (using a consistent, standard factor) or creating a new variable which compares to a global range in mmol/m\*\*3 within the QC. Any thoughts or suggestions would be appreciated.

Thanks so much for your time,

Emily

**Emily Chisholm**

Student                                                                 |  Étudiante

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