

NADP QAAG Minutes
Tuesday, April 18, 2023
1:00 PM – 3:00 PM CENTRAL
Join via MS Teams

Attendance: Greg Beachley, Katie Blaydes, Noel Deyette, Dana Grabowski, Eric Hebert, Mark Kuether, Winston Luke, Amy Mager, Nichole Miller, Zac Najacht, Melissa Puchalski, Martin Shafer, Tim Sharac, Wyatt Sherlock, Marcus Stewart, Cheryl Sue, Richard Tanabe, Greg Wetherbee

Updates

1. **Site Support** Issues/Questions – **Eric H.**

- a. Update on EEMS Site Audits – on track for limited number of site surveys scheduled, contract ends August 13th
- b. AMNet Audits – need three outstanding reports from last year (2022), no scheduled AMNeT audits until August
- c. Lingering (reoccurring) field Issues? I.e. windscreens, pesticides... - communications with Dana in the PO is going well

2. **Site Operations** – **Richard T.**

- a. Overall Update – from the PO external audit we are consolidating site support issues and where that information is located; have been working on this since October 2022. Using a new type of Google Doc and will demonstrate it at the Spring Meeting 2023. Currently used by Wyatt, Dana, and Richard and now integrating sample receiving team into it via the trouble ticket button (which will now be this shared doc). For new sites – interest from tribal sites; some interest from an air shed in Alberta they want to add 3-4 sites; Alberta government may add about 6 more sites.

3. **Siting Criteria Survey Results for NADP website** – **Tim S.**

Discussed during NOS in Fall Meeting 2022 proposing posting the site survey compilation spreadsheet on the NADP website under QA section so site owners can review the progress of their siting criteria. The in-depth audit reports by EEMS is long and the spreadsheet would be easier to use and filter out the data.

Winston L. – Are a lot of these duplicate entries? Some sites appear to have similar entries.

Tim S. – There shouldn't be, but will double check on that.

Martin S. – Are sponsors comfortable seeing this data publically available on NADP website or should we discuss with them?

Richard T. – Some sites already have EEMS reports published on the site.

Melissa P. – Since it is EPA's data we should be able to post unless objections.

4. **Results of collector incorrect orientation and on-site precip-weighted wind direction** – **Tim**

Looking at all of the sites failing criteria due to wind direction. Presumptions is predominate wind comes from west and flows east. Using wind rose plots should we decide to offer sites a waiver to change collector direction? Is it clear that the wind is or is not coming predominately from the west? If evidence

is not clear, continue to follow the handbook. However, if it is clearly wrong, we would support a waiver.

Martin S. – What does a waiver infer? Is it a mandatory change of direction?

Tim S. – It is just an option for the site to allow for reorientation to pass criteria.

We intended to go through all of the wind rose plots and vote if we support a waiver, but after a few there was more discussion related the viability of this data since it is based on airport data and may not reflect the collector data.

Winston L. – Angle of acceptance is west +/- 45 degrees. If you're worried about the wind splashing rain over the collector lid, it may be acceptable to have a 90 degree acceptance level.

Eric H. – It has always been 45 degrees, but unsure of the bias.

Tim will rework the plots and send out a gage sheet so people can vote for each site.

5. **External QA Update – Greg and Noel (Noel doing the presentation)**

As of 12/2022 Noel is handling the inter laboratory comparison samples.

Hg: ~0.38 ng/L bias – 220% variance from other labs.

NTN: positive bias for Ca, NH₄, and pH; negative bias for K, Cl, and SO₄ – lowest variability amongst labs
Field audit samples showed a positive bias.

Collocated sites (OH09 and NE99) showed quite a bit a variance, but there was also sample volume variations between collectors.

6. **Lab Investigation Projects (current and upcoming) – Nichole**

We have had some staff turnover and reorganization, but we are finally feeling stable and have time to start working on some of these projects.

- a. Hg Passive Samplers – Christa and her group have gotten these samplers out in the field; Martin put up the ones at Eagle Heights (WI) and Winston has deployed the ones he received. This is a monthly testing and will probably have data for the Fall 2023 Meeting.
- b. PET vs. PETG Study – during the first study, we discovered this issue with the contaminated bottle lot; we are still interested in the endeavor and have a set of PET bottles set aside to do this study again.
- c. TN/TP – has been delayed due to staffing, but is one of the main NTN research drives currently for Katie's group. We need to figure out the pH issue with the low volume samples.
- d. AMoN Alpha Samplers – David may discuss these in detail at the Spring 2023 Meeting. Will set up a collocated study with them. Implementing these would reduce cost and labor due to shorter cleaning time.

7. **DQO Update – Martin**

There will be a formal update on this at the Spring 2023 Meeting. The two current main focuses are network and lab uncertainties in a sample. Will use Greg W's collocated work. Need to rework the team to add new members. Has been difficult to find the time to dedicate to this project; will take significant resources and may strain the budget. Will try and focus on the easy portions first.

8. **External PO Audit Review Summary – Nichole**

There will be detailed overview of this at the Spring 2023 Meeting by Richard. But all of the documents and responses have been finalized with Doug Burns and his team. These were passed onto the group via email a few weeks ago for review. Have been actively working on correcting the findings, many are already in the process.

9. **System Blank and Field Audit – Amy**

WSLH took over the SB and DF/DK samples in 2022 – bottom line is MDN SB was 52% completion (started June 2022) and NTN DF/DK was 45% completion (started September 2022). Since a dry week is required some sites may not even have the opportunity to do this – especially with a shortened window. Pretty similar return rates as previous years.

MDN process worked out really well, easy to prepare, and shipping worked well in current supply coolers.

NTN was a bit more of a process. Making the solution took quite a bit of time and supplies. Materials didn't fit well in current supply boxes and it took a month to roll out based on how we currently ship NTN supplies.

Experienced the MDN bottle lot contamination issue during this process and it affected some of the results.

Used an electronic response system instead of postcard – got 50% response for SB and 40% response for DF/DK.

Didn't see the efficiency savings we were really expecting, but this was just the first go of things. We can get started sooner in 2023, and learn from 2022. Questioning if we should send this back to USGS – one or both projects?

Greg W. – Thanks to Amy and staff for the effort. If field audit was too much trouble, USGS can take that effort back. In the past, it took Roseanne (alone) 2-3 days to implement it.

Nichole M. – One of the time sinks was that we only had two 10 L carboys to use for the solution, we were waiting for the 50 L carboy (which we have now) so it should be quicker this time.

Greg W. – Really like the use of the electronic format and would like to keep utilizing that. If USGS takes it back this year, maybe get things shipped out by middle of June.

Will discuss more at the Spring 2023 Meeting to make a decision.

10. **Lab QA Issues Update – Nichole**

- a. ICP Backup – ICP went down due to a mechanical board issue and a tech couldn't get out to us for a few weeks. We cut it close on holding times, but didn't end up exceeding/qualifying any samples. This brought up the thought of having a backup process if it goes down for too long. Chris B is going to work with the lab's metals group to get our method verified on their instrumentation in case needed in the future.
- b. AMoN Hood Filters – We were planning on changing out the carbon hood filters at the beginning of the year; we had the filters ready for the change but when we went to put them in they were too small. Had to work with the company quite a bit to get what we needed but they are on the way and will be installed as soon as possible. The hood filter blanks have been creeping up higher, but no failures. All other prep QC is looking fine.

- c. FIA “long term” issue (PO4) – Had a long term (a few weeks) issue with the NTN Lachat with low recovery on our check standard for orthophosphate. After a lot of troubleshooting, we got it back up and running. But we were cutting it close on holding times for NH4 data, so we accepted a few runs with failing PO4 check standards, just to get the ammonium data. PO4 is not on the website, just used for contamination checks, so it was more important to get the NH4 data. This just opened up the conversation on how we utilize PO4 data and will have some further discussion on this matter.

11. Bag procurement and validation – Nichole

There will be a more detailed presentation at the Spring 2023 Meeting with graphs and figures. There was only one study done between the Fall 2022 Meeting and today. We were just focusing on NH4 and NO3 at different concentration and combinations during this study. Recoveries came back between 95%-107% even on the really low levels so it was a successful study. This just reaffirms the thought that the loss was due to our FMDL solution itself and not the bags.

Bags are now out in the field for use and haven't gotten any complaints/issues reported from field operators.

12. PFAS bag testing – Martin

Most of the sites in the PFAS network that the EPA is funding are using buckets not bags. Some new sites are trying the use of bags. The question was if we still needed the methanol rinse of the bags like we do with the buckets. All testing is done, and it is confirmed that there is no need for the methanol rinse due to low detection. We are recovering everything in the aqueous phase. This bags will make it easier for operators.

13. Field Hold Times and Lab Hold Times Status – Zac/Dana

Zac N. - Hold times changed in January 2022 and nearing the end of 2022 data. Want to have 2022 data reviewed with maps ready for Fall 2023 Meeting. Learned some things going through the updates. It took a lot of effort from the data review staff. We are in a better place now on improved hold times, flagging, and criteria, but effort to get here put us a bit behind.

From DMAG – Nichole, Zac, and Dana worked with Casey on getting our lab qualifiers spreadsheet into LIMS. Currently transitioning this process and so far so good. Also, trying to automate and consolidate data review by prescreening data to decrease turnaround times. Working to change workflow from serial to parallel and having other staff pick up some of the different tasks as appropriate. Will have updates at the Spring 2023 Meeting.

Dana G. – In development of a new precipitation management program. Slow going but will hopefully improve efficiency for data review specific to precipitation review.

Discussion

14. Updating language on EEMS site survey reports – Tim

We would like to change the language on the site survey reports. Right now they are a bit confusing with yes and no being used in opposite ways throughout the document. Would like concise language like “violating/not violating”. Eric H is going to pose this as a presentation at the Spring 2023 Meeting.

15. QA Documents Potential Approvals - Nichole

- a. NADP Lab QAR Approval (2021) – Still going through internal review process and then will pass along to group for review and approval. We combined the CAL and HAL in this document. The 2022 QAR will go much quicker and should be presented to group by the Fall 2023 Meeting.
- b. NADP QAP Approval (Network & Analytical) - These documents were sent out to the group a few weeks ago and a survey was attached for approval on each. I will keep the surveys open until after the Spring 2023 Meeting.

16. QA Review Items - Nichole

- a. 2023 MDLS – Confirmed all NTN MDL's from 2022, but Ca was moved from 0.01 to 0.008 (same as Na). AMoN moved up slightly from 0.01 to 0.014. MDN were verified as same as 2022. The data group has these ready for the 2023 data.

17. MDN bottle contamination – Nichole, Dana, Martin, Amy

This lot of bottles passed our initial QA process and was sent out into the field. This contamination issue was discovered during the PET vs. PETG study (issues with the DF/DK samples). Bottles were put on hold on the shipping end. There are still some out there, but the heavy use was from October 2022-December 2022.

We don't want to throw out all of the data so our invalidation process was as follows: We plotted precipitation data that was site, season, and volume specific and then only accepted the data points that were within two standard deviations from the mean. If a site was newer (less historical data) we used the data from the closest MDN site. Samples that were invalid were pretty obvious and contained on the low volume end. Overall, it invalidates ~30% of samples which is better than we expected. Valid samples are still coded with a B and a comment. Graphs are available upon request.

- a. Plan going forward for data on website – Dana currently has these samples on hold. The question is what is advised going forward with putting this data on the website.

Greg W. – Clarifying, samples censored, are we certain those were using the bad bottle lot?

Amy M. – Yes, we track those.

Greg W. – If a sample was otherwise contaminated (C coded) is the data available on the website?

Dana G. – Yes

Greg W. – So if other contaminated data is available should this be too? How is this different from other types of contamination? Someone may find the data useful.

Martin S. – Researchers would really need to evaluate the data carefully and maybe use another analyte to compare.

Greg W. – Maybe we need a disclaimer on the data. Vote to make data available with ample notification and warning.

Nichole M. – Going forward, we will have a disclaimer ready for the Executive committee at the Spring 2023 Meeting for review and approval to go forward with getting the data on the web.

No objections to this plan. Dana will continue to work through the data.