

NADP QAAG Agenda FINAL **Friday, October 14th, 2022** **10:00 AM – noon (CDT)**

Updates & Discussion

1. Roll Call – Martin (5min) 10:05

Martin Shafer, Katie Blaydes, Maria Jones, Melissa Puchalski, Greg Beachley, Cheryl Sue, Marcus Stewart, Richard Tanabe, Amy Mager, Greg Wetherbee, Timothy Sharac, Dana Grabowski, Jason O'Brien, David Gay, Nicole Miller, Noel Deyette, Mark Kuether, Wyatt Sherlock

2. QA Staffing Changes at NADP/WSLH & QAAG – Amy (5min) 10:10

- Nicole Miller has taken the position of QA Lab Specialist, from chemist position – slow rollout, set up shipping and receiving at Henry Mall, AMoN sample prep, and other tasks since the beginning and worked with Camille.
- Propose Martin step down as QAAG co-chair, retain Tim as co-chair with Nicole.
- Greg W. – QAAG works for the Executive Committee, QAAG can be self-governed and presented to Exec.
- Richard – we'd need to change the language to include an external person, as directed by EOS.
- Martin – how do we draft up language to approve?
- Greg W. – Yes
- Richard- Will work with Greg W. to draft up language.
- Martin – hiring a chemist to replace Nicole
- Amy – has taken a new position at State Lab, David Webb has retired, Lab has reorganized into four programs; one of which includes NADP. Amy took position of Director of this group; will continue her current role with NADP and working with larger umbrella area including NADP.
- Martin – Need to draft up language on external participation
- Greg – Will work with Richard to determine tenure length.

3. Site Support – EEMS/Richard/David (10min) 10:20

a. Update on EEMS Site Audits

Maria: Two sites in British Columbia will be shifted to next period. Lost Corey as an auditor. Sandy has started help backfill other audits.

b. AMNet Plan

Maria: Eric and Corey went to training. The only thing missing from this training is the photos – Maria is unclear what this refers to. NADP Annual Audit report was issued recently, next to deliver will be audit database through Sept 30th. Still going to need to resolve siting criteria issues – upcoming discussion, will still be plenty of sites not meeting siting criteria.

Richard: Four AMNet sites on the audit schedule this year, OH02 status was on hiatus, so not performed. AMNet training by Mark Olson and then training by Winston and PK. In talks with Eric to discuss reports to enter into a spreadsheet to be used. Plan on getting to other sites next year, based on proximity to other audits – likely another 4 more sites.

Tim: Current audit contract expires Feb 13, 2023, new contract planned to start Feb 14, 2023.

Greg W: Shout-out to EEMS for all their help.

c. Other Issues/Questions

4. **Siting Criteria** – Tim/Greg (20min) 10:40
a. *Status of Review*

Results were presented to the group. Brief summary, few siting criteria result in statistically significant differences to annual percent invalid data when comparing sites that pass versus fail.

Three motions were passed including:

Motion #1:

Shall QAAG adjust the siting criteria to change from a rule to guidance the following siting criteria rules:

1. Vegetation height $\leq 0.6\text{m}$ within $<5\text{ m}$ from collector
2. Objects $> 1\text{m}$ tall and $> 5\text{cm}$ in width or depth $\geq 5\text{m}$ from collector
3. Herbicide use within 20m from collector

Motion #2:

EPA staff will compile audit database results into an Excel sheet for NADP Program Office to post to the NADP website linking siting criteria violations

Motion #3

Add the following text (in red font) to the *NADP Site Selection and Installation Manual*:

“As noted in the wet-deposition siting criteria diagram in Appendix A to this document, the collector should be installed with the wet-side bucket (Aerochem Metrics collectors only) to the west and the sensor facing north. **N-Con collector lids should be oriented to the west. For sites where the predominant wind direction is outside of 270 degrees +/- 45 degrees based on a year-round, 30-year average, precipitation-event wind rose charts and with supporting documentation, the operator may request a waiver from the NADP program office to orient the collector with the wet-side bucket oriented to the local predominant wind direction. With a waiver, this collector orientation will not be recorded as a siting criteria violation during a site survey.** Particular orientation is not a requirement of AMoN or AMNet. Appendix B includes a diagram illustrating installation of equipment for monitoring atmospheric ammonia.”

Also, QAAG members will assist NADP site sponsors/operators to draft a waiver to the collector orientation siting criteria violation when precipitation-event wind rose plots are supportive of the non-standard collector orientation. If wind rose plots show the predominant wind direction is from the West, then the siting criteria violation remains.

5. **New NTN Bag Procurement and Validation** – Amy/Katie/Martin (10min) 10:50

Amy: Testing a new style bag for NTN, thinner and easier to add to bucket. Had been using VINS, will go with Degage due to supply issues. Test results forthcoming.

Martin: Performed Degage bag evaluation, showed MQ blanks. Test results show the bags are quite clean. High level spike solutions are showing +/- 1% recovery, no evidence of any loss. Testing around FMDL, no

losses for Ca, minor losses for K, substantial losses in NO₃, (), and (). In some reps, found no nitrate in recovery. Similar results with ammonium (0.029 mg/L), unusually low recovery at FMDL trials. Possible reason for poor data capture, due to bag charging. Will report back in Fall meeting.

Greg W.: Has found consistent results with NH₄⁺ at around 0.025 mg/L, that's pretty typical of prior field audit results. Suggests testing needs to be tested in the field, not in the lab. Greg W. is of little concern at these low NH₄⁺ concentrations.

Cheryl: What is the material of the bag?

Martin: It's a composite polyethylene.

6. New MDN Collection Bottle Validation – Christa/Martin (10min) 11:00

Christa: PET vs PETG comparison for MDN. USGS uses PET. Performed a small scope of testing. Have 3 sets of samples, reagent blanks, reagent spikes, and natural samples. Started with acid-preservation. Going to test for stability of samples. Should have results just before the Fall Conference.

Greg W.: Are we going to have 1-week or 2-week testing for NOS meeting. Excited to see preliminary results.

7. System Blank and Field Audit Update – Amy (5min) 11:05

Amy: It was decided at NADP to take over the system blank and field audit supplies when there's dry weeks. They have done this for 2022. They have sent out system blank kits. This should save on shipping costs and include in the coolers (MDN) or supply boxes (NTN). Started sending out to 100 NTN sites. Slightly different process to select the 100 sites. Developed a survey for site operators to fill out to talk about collection. Received 25% of system blanks back and 10% of field blanks. Fairly good feedback so far from operators and learning things for next year. Hope for smoother operations in 2023.

Greg W. This is a huge improvement and going very well. Good return so far. Let's keep it going. Finds this procedure to be more efficient with shipping.

8. PFAS Collection Protocol & Bag Testing – Martin (10min) 11:15

Martin: PFAS is not a bag-collected compound. Would like to move to all bags. Have a long-series of experiments to bag-collection. And if we move to bags, is this impacted by the methanol rinse? Trying this currently with support from USGS. Doing blanks and 7-day collections, doing spikes, and methanol rinses separately. Also doing kinetic 3 and 7 day samples. Also doing field collections of bag sampling of what's in the bag and what's in the aqueous solution. Not seeing any PFAS above LOD using these bags. NTN bag spike recoveries – (n=3) many compounds showing strong recovery, others showing much less. The goal is to move to all bags and determine whether the bags can be rinsed in the lab.

9. Archive Sample Storage Plans & Ongoing Evaluation – Amy/Martin (5min) 11:20

Also conducting a long-term storage stability of NTN precip samples ("Five Year Archive Preservation Study"). Wondering what should the limit be for long-term archiving. Study design: 112 NTN samples (with excess volume), each filtered using NTN protocol, split into 11, 50-mL aliquots. Analyze one sub-sample immediately for all NTN analytes. Set up paired samples (5 frozen and 5 refrigerated). We're on year 3 currently. Basically, no changes in year 1. Some losses (on average) in the refrigerated samples on Year 2. More losses with Year 1 Frozen and Year 2 Refrigerated samples.

Jason: CAPMoN is also currently conducting a similar precip. sample stability study (Refrigerated only) to determine the effects of delayed analysis of our samples due to COVID restrictions.

10. Program Office External Audit: Debrief – David (5min) 11:25

David: Sharing exit interview slides from the committee. Doug Burns, Catherine Collins, Kristi Morris, and Chris Rogers. A few key findings: concerns about Casey Lanham's duties, appears to be somewhat overwhelmed, difficulty prioritizing tasks, needs guidance from NADP, needs to work with Bob to develop program for checking NTN precipitation data. Casey is working with the LIMS system, the LIMS system is coded in an old language, causing difficulty. Bob needs to spend additional time with Mark to transition remaining tasks. Bob

is going to retire on Jan 1, 2023. Prioritize transition of front-end LIMS functions to Horizon – should ease pressure on Casey. Concerns above partially covered by NADP funds. Additionally: some QA documents need updating, network support a central tracking system (too much time wasted because of the different ways that problems are identified), DQO process needs to be re-invigorated (stalled during COVID), increase the presence of NADP on the WSLH website (no link to NADP).

Will provide a full report on Fall Conference. They may move these findings to recommendations. David, Richard, and Jamie were briefed. Reviewers happy with the financial system.

Greg W. – The network QA revision caught his eye, wants to assist – and address this for Spring Conference.

Martin: The network QA will be on his plate this winter.

11. External QA Update/Preview of Fall 2022 Meeting Report – Greg (10min) 11:35

Systems audits are fine. Everything is on track.

12. Lab Investigation Projects – TN/TP Evaluation & SNIpIT – Katie (5min) 11:40

Katie: have a presentation at NOS; made positive progress and looking forward to sharing results.

13. AMoN Passive Sampler Evaluation – Katie/David/Martin (5min) 11:45

- a. Consider moving to ALPHA samplers to reduce cost?
- b. Review previous comparison studies
- c. QC logistics associated with switch from Radiello to ALPHA samplers

David: Ordered a number of alphas and he's looking at monetary savings. Will bring this up at Exec.

Katie: will try to set up a test in the lab next week.

14. Update on ACM sensor comparison study – Richard/Greg (5min) 11:50

Greg W. request a sensor that he can do testing. Will get this up going this Winter. Would like to a collocated test.

David: It's not that we don't want to do the testing, there's been availability difficulty this summer.

Richard: At the Spring meeting, it was proposed a matrix of various sensors for testing. There's presently 3 different generations of the sensors in the field.

Greg W.: We need to test multiple sensors in different weather conditions, to gauge whether there are differences. Agree, a one-year study will be of limited use, would need a multi-year study in the field.

Richard: Will put in a request to ship a sensor to Greg W.

15. DQOs! Is this the year that we make progress? (5min) 11:55

Martin: Focused on 2 out of 5 DQOs (focusing on network uncertainty and parsed/component network uncertainty). Starting early December, will rehash the two work teams. Hopefully Winter '22/'23, will bring forward a report for Spring '23 Conference.

Motion to adjourn: Martin Shafer

Seconded by Amy Mager