



Ammonia Monitoring Network (AMoN) Sampler Change-out

Items needed:

- AMoN supply box for current sampling period
- AMoN supply box for next sampling period
- laboratory gloves, provided by the NAL
- fresh (< 6 months old) deionized or distilled water in a plastic squeeze bottle
- paper towels or laboratory wipes (e.g., Kimwipes^{*})
- AMoN field form for current sampling period
- log book, if used

Precautions:

1. Store AMoN supply boxes in a cool, dry place.
2. Wear clean laboratory gloves when handling the AMoN sampler.
3. Handle the sampler by the coupler nut at the top of the sampler only.
4. Do not disassemble the sampler. It is shipped ready to deploy.
5. Breath, perspiration, cleaners, and waxes are sources of potential contamination. Direct contact of any of these with the AMoN sampler should be avoided.
6. **Leave the filter paper in the bags containing the glass jars.** These filters are coated with citric acid and will scavenge ammonia from the inside the bag to prevent possible contamination of the sampler.
7. Sets of supplies should remain together, and should not be mixed with supply boxes for other deployment dates.
8. The AMoN sampler has a 3 character ID label on its base (Figure 1.). Please leave this label in place. It is used to track problems (e.g., deployed sampler found on the ground, sampler body fell apart, dropped sampler in the grass when deploying it) with specific samplers.



Figure 1. Radiello passive sampler with 3 character body ID.

Upon Receiving the AMoN Supply Box

When the AMoN supply box is received, visually inspect the contents of the box.

- Verify the deployment date on the box is correct. The sampler box will have a “Deploy from mm/dd/yy to mm/dd/yy” label on the side of the box. The date should match the next deployment date on the calendar.
- Check that the sampler or Travel Blank (if present) jars are not broken or cracked.
- Check that the sampler is in one piece. If there are any loose pieces in the jar, refer to Appendix C: Can I still deploy this sampler?

If any of the above issues are found, contact the NADP Site Liaison (800-952-7353, or amon@slh.wisc.edu) to report the problem and notify them of the issues or to request a replacement supply box.

In the Laboratory/Office:

The AMoN supply box will contain a glass jar with sampler(s) to be deployed (Figure 2.), and possibly a second glass jar containing a Travel Blank (Figure 3.). The glass jar containing the sampler(s) to be deployed will contain either one sampler, or two samplers (for duplicate measurements). The Travel Blank should be left in its sealed glass jar, inside the plastic bag (which should have a sticker over the seal), and in the supply box.



Figure 2. Supply box with one or duplicate sampler(s) to be deployed.



Figure 3. Supply box with one or duplicate sampler(s) and a Travel Blank.

The plastic bag containing the glass jar with the samplers to be deployed, the field form, and the inside lid of the shipping box are labeled with matching bar code numbers (P code) as shown in Figure 4 (red boxes). The bar code labels should remain in place; do not remove them. If the numbers do not match, contact the NADP Site Liaison.

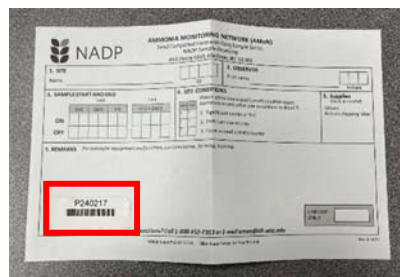
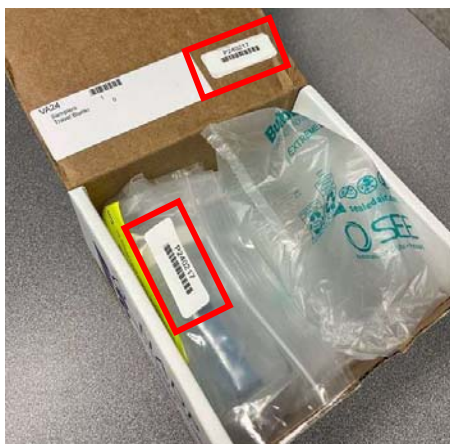


Figure 4. P-code labels on bag, box, and field form.



Figure 5. Two samplers to deploy with citric acid filter paper.



Figure 6. One sampler to deploy with citric acid filter paper.



Figure 7. Travel Blank with citric acid filter paper. (leave in sealed jar in shipping box).

Instructions – In the Field:

Sampler Removal

1. Complete Block 4 **Site Conditions** (Figure 8.) of the AMoN field form for the sampling period that is ending.

4. SITE CONDITIONS	
Please check any and all conditions that apply. Comment on any other site conditions in Block 7.	
YES	NO
2	1
2	1
2	1

1. Significant smoke or fire
2. Fertilizer use nearby
3. Farm animal activity nearby

Figure 8. Block 4. Site Conditions.

2. Include additional information in Block 6 **Remarks** (Figure 9.) of the field form to help describe any problem(s) or local activities that may have impacted the sampler. Remember to include the 3 character Body ID of the sampler body if multiple samplers are deployed.

6. REMARKS		
For example: equipment malfunction, contamination, farming, burning		
<table border="1"> <tr> <td>LAB USE ONLY</td> <td><input type="text"/></td> </tr> </table>	LAB USE ONLY	<input type="text"/>
LAB USE ONLY	<input type="text"/>	
Questions? Call 1-800-952-7353 or E-mail amon@slh.wisc.edu		

Figure 9. Block 6. Remarks.

3. Retrieve the empty glass shipping jar for the current sampling period from its plastic bag and loosen (but do not remove) its cap. Place the jar on a flat, stable surface.

- Put on a (one) clean laboratory glove. Using the gloved hand, retrieve the AMoN sampler for the current sampling period by unscrewing its coupler nut from the mounting bolt in the AMoN shelter. Handle the sampler by its coupler nut only.

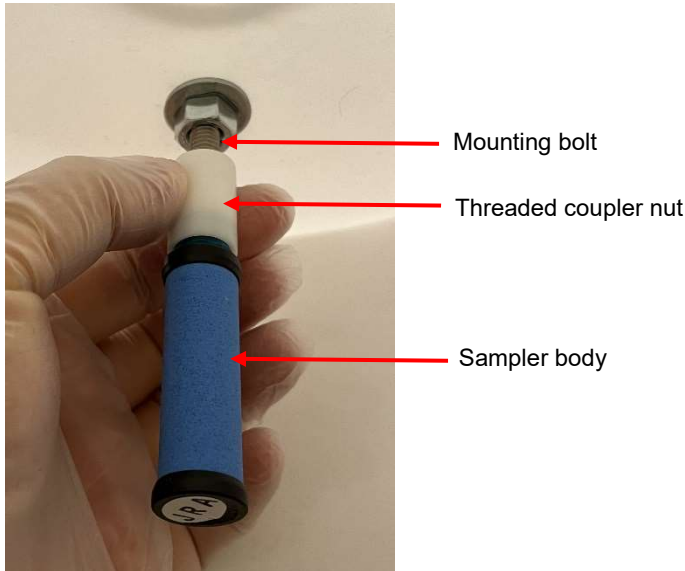


Figure 10. AMoN sampler being removed from shelter.

- Open the glass shipping jar and place the AMoN sampler inside. Re-seal the glass jar.
- If additional samplers are deployed (i.e., duplicate samplers), repeat steps 3-5 until each of the deployed samplers has been collected and stored in the same glass shipping jar.
- Ensure the lid is secure on the glass shipping jar, and return the jar to its shipping bag. Leave the filter paper in the bag. The filter paper is coated with citric acid and will scavenge ammonia from the inside the bag to prevent possible contamination of the sampler.
- Seal the plastic bag and place the sealed bag (with shipping jar inside) in the AMoN supply box.
- Inspect the AMoN shelter for cracks and other conditions that could impact the integrity of the samplers. Contact the NADP Site Liaison if a new shelter is required.
- Moisten a lab wipe (e.g., Kimwipe) or paper towel (non-print/non-colored) with deionized (or distilled) water. Wipe down the AMoN shelter. Be certain to remove bird droppings from the surface of the AMoN shelter. Bird droppings are a possible contamination source. Cleaning agents (e.g., Windex) may contain ammonia and should never be used.
- Remove and discard the laboratory glove after cleaning the AMoN shelter.

12. Complete Block 3 **Sample Start and End** to indicate the OFF date and time that the AMoN sampler was removed from the AMoN shelter. The date and time that the AMoN sampler was deployed (i.e., ON) should have been recorded on the form already.

3. SAMPLE START AND END						
Date					Time	
	MO	DAY	YR		0001-2400	
ON						
OFF						

Figure 11. Block 3. Sample End date and time.

13. Make note of any supplies required in Block 5 **Supplies**. Circle the supplies requires or write-in.

5. Supplies (Circle if needed)
Gloves
Return shipping label

Figure 12. Block 5. Supplies.

14. Include any additional comments in Block 6 **Remarks** (on the AMoN field form for the sampler that was just removed) that may help with sample validation. Such notes may include: *extended duration sample, short duration sample – AMoN supplies received late, travel blank jar arrived cracked, or sampler with ID IOT dropped on ground when deploying it.*
15. Place the completed field form in the AMoN supply box containing the sampler that was just removed. Set the completed supply box aside.

Sampler Deployment

16. Retrieve the AMoN supply box containing the new sampler to be deployed.
17. Complete Block 1 **Site** and Block 2 **Observer** on the AMoN field form for the sampler to be deployed.

1. SITE	2. OBSERVER					
Name _____	Print name _____					
ID <table border="1" style="display: inline-table; width: 40px; height: 20px;"><tr><td></td><td></td><td></td></tr></table>				Initials <table border="1" style="display: inline-table; width: 40px; height: 20px;"><tr><td></td><td></td></tr></table>		

Figure 13. Block 1. Site Information and Block 2. Observer.

18. Enter the ON date and time in Block 3 **Sample Start and End** on the AMoN field form (for the sampler to be deployed).

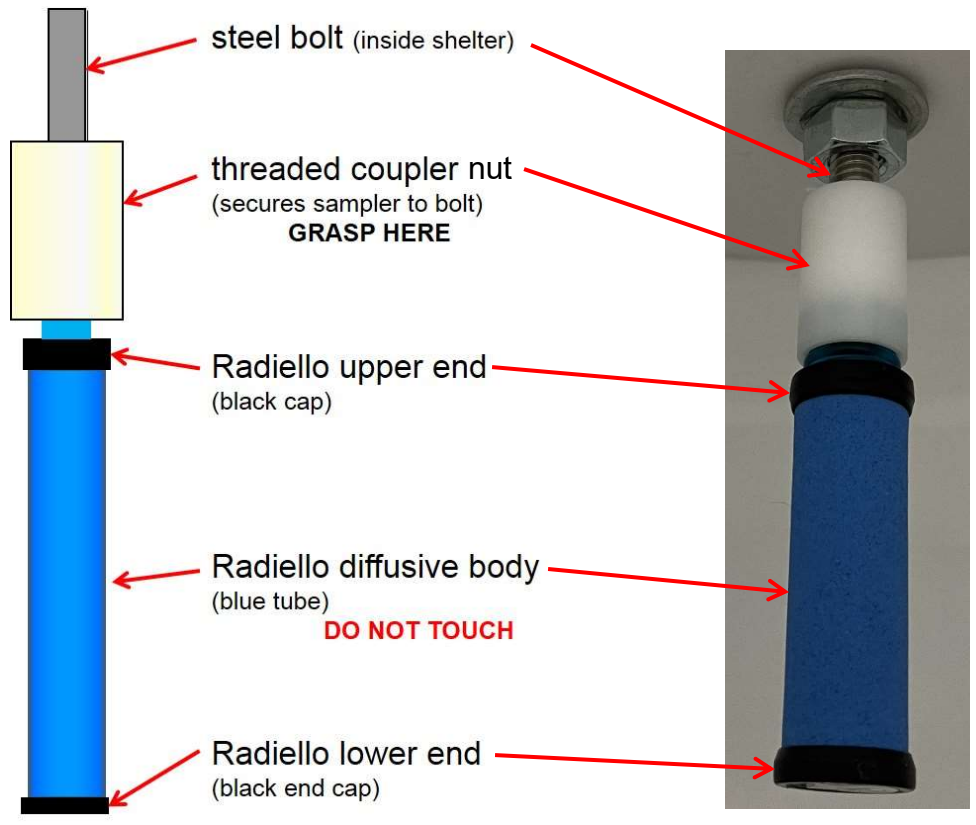
3. SAMPLE START AND END						
Date					Time	
MO	DAY	YR	0001-2400			
ON						
OFF						

Figure 14. Block 3. Sample Start date and time.

19. Retrieve the glass shipping jar for the sampler to be deployed from its plastic bag.
20. Put on a (one) clean laboratory glove. Using the gloved hand, unscrew the lid from the glass shipping jar and retrieve the new AMoN sampler to be deployed. Handle the sampler by its coupler nut only. If the sampler must be deployed during a precipitation event, perform this step under the AMoN shelter to prevent the sampler body from getting wet.
21. Secure the sampler inside the AMoN shelter using its coupler nut by screwing the coupler nut to the mounting bolt.
22. If there are additional samplers in the glass jar (i.e., duplicate samplers), repeat steps 19-20 until each of the samplers has been deployed.
23. Re-seal the glass jar, place in the bag, and reseal the shipping bag. Again, leave the filter paper in the bag. The filter paper is coated with citric acid and will scavenge ammonia from the inside the bag to prevent possible contamination of the sampler.
24. Place the shipping bag (with shipping jar inside) and the field form in the AMoN supply box for use when the sampler(s) is/are collected at the end of the sampling period.
25. Store the AMoN supply box (for the newly deployed sampler) in a cool, dry place. Storage in a refrigerator or freezer is encouraged, provided it does not contain food, or samples containing ammonia (e.g., urea, etc.).
26. Affix the pre-paid shipping form (and customs labels, if appropriate) to the outside of the AMoN supply box containing the sampler that was collected.
27. Seal the AMoN supply box, and ship it to the NAL for analysis. The shipping address for the NAL is:

NADP Sample Receiving
 465 Henry Mall
 Madison, Wisconsin 53706
 USA

Appendix A – AMoN Sampler Body



Appendix B – AMoN Field Form



AMMONIA MONITORING NETWORK (AMoN)

Send Completed Form with Each Sample Set to:
 NADP Sample Receiving
 465 Henry Mall, Madison, WI 53706

<p>1. SITE Name _____</p> <p style="text-align: center;">ID <table border="1" style="display: inline-table; width: 40px; height: 20px; vertical-align: middle;"><tr><td style="width: 10px; height: 15px;"></td><td style="width: 10px; height: 15px;"></td><td style="width: 10px; height: 15px;"></td><td style="width: 10px; height: 15px;"></td></tr></table></p>					<p>2. OBSERVER Print name _____</p> <p style="text-align: center;">Initials <table border="1" style="display: inline-table; width: 40px; height: 20px; vertical-align: middle;"><tr><td style="width: 10px; height: 15px;"></td><td style="width: 10px; height: 15px;"></td><td style="width: 10px; height: 15px;"></td></tr></table></p>																							
<p>3. SAMPLE START AND END</p> <p style="text-align: center;">Date Time</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;"></th> <th style="width: 15%;">MO</th> <th style="width: 15%;">DAY</th> <th style="width: 15%;">YR</th> <th style="width: 10%;"></th> <th style="width: 15%;">0001-2400</th> </tr> </thead> <tbody> <tr> <td style="text-align: right;">ON</td> <td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td style="text-align: right;">OFF</td> <td></td><td></td><td></td><td></td><td></td> </tr> </tbody> </table>		MO	DAY	YR		0001-2400	ON						OFF						<p>4. SITE CONDITIONS <i>Please check any and all conditions that apply. Comment on any other site conditions in Block 7.</i></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;">YES</th> <th style="width: 50%;">NO</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">2</td> <td style="text-align: center;">1</td> </tr> <tr> <td style="text-align: center;">2</td> <td style="text-align: center;">1</td> </tr> <tr> <td style="text-align: center;">2</td> <td style="text-align: center;">1</td> </tr> </tbody> </table> <ol style="list-style-type: none"> 1. Significant smoke or fire 2. Fertilizer use nearby 3. Farm animal activity nearby 	YES	NO	2	1	2	1	2	1	<p>5. Supplies <i>(Circle if needed)</i> Gloves Return shipping label</p>
	MO	DAY	YR		0001-2400																							
ON																												
OFF																												
YES	NO																											
2	1																											
2	1																											
2	1																											
<p>6. REMARKS <i>For example: equipment malfunction, contamination, farming, burning</i></p> <div style="border: 1px solid black; height: 150px; width: 100%;"></div> <div style="text-align: right; margin-top: 20px;"> <table border="1" style="border-collapse: collapse;"> <tr> <td style="padding: 2px;">LAB USE ONLY</td> <td style="width: 60px; height: 20px;"></td> </tr> </table> </div> <p style="text-align: center; margin-top: 20px;"><i>Questions? Call 1-800-952-7353 or E-mail amon@slh.wisc.edu</i></p>			LAB USE ONLY																									
LAB USE ONLY																												

White Copy: Return to NAL Blue Copy: Retain for Your Records

Rev. 11.2024

Appendix C: Can I still deploy this sampler?

Reassemble the Sampler

If the sampler body is intact, and it appears only the white threaded coupler nut has come unthreaded during the shipping process, the sampler can be put together and deployed. Always wear gloves when handling the sampler parts.

- Figure A. is a single sampler with unthreaded coupler nut.
- Figure B. is a duplicate sampler with one unthreaded coupler nut.
- Figure C, the white cap can be replaced back in the body with the narrow end down. Then the white coupler nut can be threaded on the body.

Make a note on the field form “Remarks” block, noting the 3 character body ID and what parts required reassembly.



Request a Replacement Sampler

If the sampler body was broken during the shipping process, a replacement sampler must be requested.

- Figure D. is a single sampler with the black upper cap broken off the blue body.
- Figure E. is a single sampler with the bottom end cap broken off the blue body.

These are not repairable in the field, contact the NADP Site Liaison at 1-800-952-7353 or email amon@slh.wisc.edu to request a replacement supply box. Make a note on the field form “Remarks” block, noting the 3 character body ID and that the sampler was not used, and send the box back to the lab, using the enclosed return shipping label.

