



AMoN ALPHA 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
- 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. Breath, perspiration, cleaners, and waxes are sources of potential contamination. Direct contact of any of these with the AMoN sampler should be avoided.
4. **Leave the filter paper in the bags containing the AMoN samplers.** These filters are coated with citric acid and will scavenge ammonia from the inside of the bag to prevent possible contamination of the sampler.
5. Sets of supplies should remain together, and should not be mixed with supply boxes for other deployment dates.
6. 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.

*ALPHA sampler with
embossed protective cap*

*ALPHA sampler with
smooth laboratory cap*

Upon Receiving the AMoN Supply Box

AMoN-2025_ALPHA_Sampler_Change-out
Version 1.0



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

If any 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 shipping bag and an anti-static bag with sampler(s) to be deployed (Figure 2), and possibly a second anti-static bag containing a Travel Blank (Figure 3). The anti-static bag 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 anti-static bag, inside the shipping 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 shipping bag containing the anti-static bag 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.

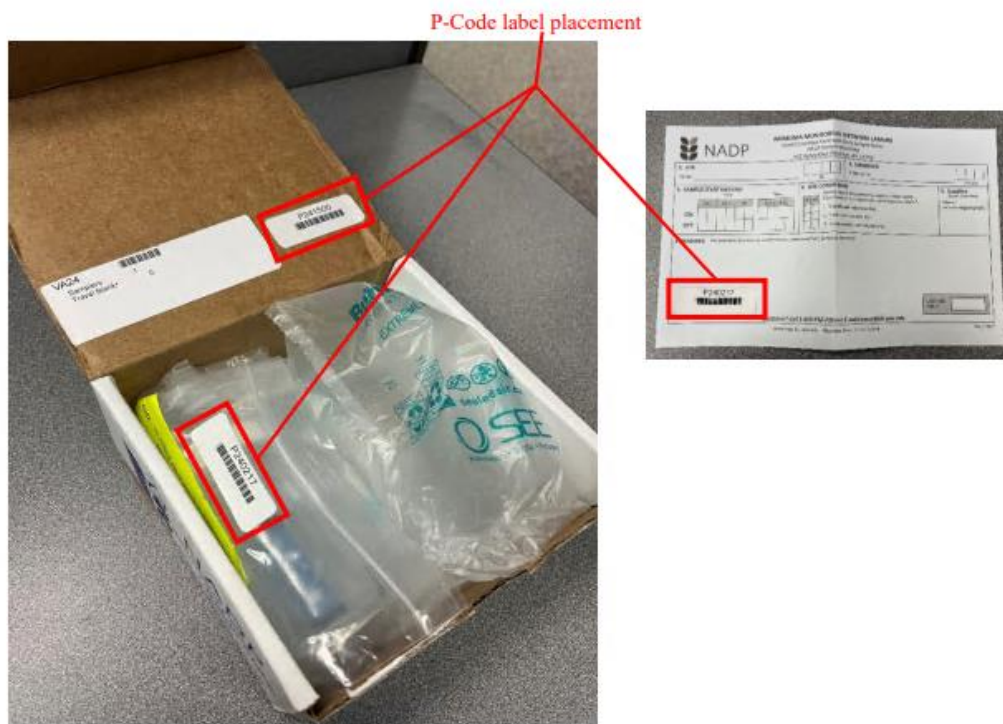


Figure 4. P-code labels on bag, box and field form



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 bag in shipping box)

Instructions – In the Field:



Sampler Deployment

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

1. SITE Name _____ ID <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td></td><td></td><td></td><td></td></tr></table>					2. OBSERVER Print name _____ Initials <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td></td><td></td><td></td></tr></table>			

Figure 8. Block 1. Site information and Block 2. Observer

3. 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 9. Block 3. Sampler Start date and time

4. Retrieve the anti-static bag for the sampler to be deployed from its shipping bag.
5. Put on a (one) clean laboratory glove. Using the gloved hand, open the anti-static bag and retrieve the new AMoN sampler(s) to be deployed. 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.
6. Remove the embossed protective cap from the sampler body, exposing the PTFE membrane. **Do not** touch the PTFE membrane or remove the membrane cap
7. While only touching the sampler body, secure the sampler inside the AMoN shelter by firmly pressing upwards to secure it to the Velcro.
8. If there are additional samplers in the anti-static bag (i.e., duplicate samplers), repeat steps 6-7 until each of the samplers has been deployed.



Figure 10. AMoN sampler deployed in shelter.

9. Re-seal the anti-static bag, place in shipping bag, and reseal the shipping bag. Again, leave the filter paper in the bag. The filter paper is coated with a citric acid and will scavenge ammonia from the inside of the bag to prevent possible contamination of the sampler.
10. Place the shipping bag (with anti-static bag 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.
11. 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.).

Sampler Removal

12. 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 11. Block 4. Site Conditions



13. 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.

A screenshot of the '6. REMARKS' section of a field form. The text '6. REMARKS' is followed by a small italicized example: 'For example: equipment malfunction, contamination, farming, burning'. The main area is a large empty box for text. In the bottom right corner, there is a smaller box labeled 'LAB USE ONLY' with an empty space next to it. At the very bottom, centered, is the text 'Questions? Call 1-800-952-7353 or E-mail amon@slh.wisc.edu'.

Figure 12. Block 6. Remarks

14. Retrieve the empty anti-static bag for the current sampling period from its shipping bag.
15. Put on clean laboratory gloves. Using the gloved hand, place the protective cap (embossed cap) back on the AMoN sampler.
16. Retrieve the AMoN sampler for the current sampling period by gently pulling on the body of the sampler to remove it from the Velcro weld nut in the AMoN shelter.



Figure 13. Embossed lid replaced on sampler



Figure 14. Sampler being removed from shelter

17. Open the anti-static bag and place the AMoN sampler inside. Re-seal the bag.
18. If additional samplers are deployed (i.e., duplicate samplers), repeat steps 16-17 until each of the deployed samplers has been collected and stored in the same anti-static bag.
19. **In a dry location**, remove the sampler from the anti-static bag, and retrieve the non-embossed laboratory lid.



20. Remove the embossed lid and membrane cap from the sampler. **Do not touch the inner filter paper.** This is the collection filter that contains ammonia and will be extracted back at the lab.

21. Place the laboratory lid on the sampler, and return all parts to the anti-static bag.



Figure 15. Sampler with embossed lid for travel



Figure 16. Sampler with embossed lid and PTFE membrane cap removed



Figure 17. Sampler with laboratory lid installed

22. Ensure the anti-static bag is sealed completely, and return it 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 of the bag to prevent possible contamination of the sampler.

23. Seal the shipping bag and place it (with the anti-static bag inside) in the AMoN supply box.

24. 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.

25. 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.

26. Remove and discard the laboratory glove after cleaning the AMoN shelter.

27. 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 18. Block 3. Sample End date and time

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

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

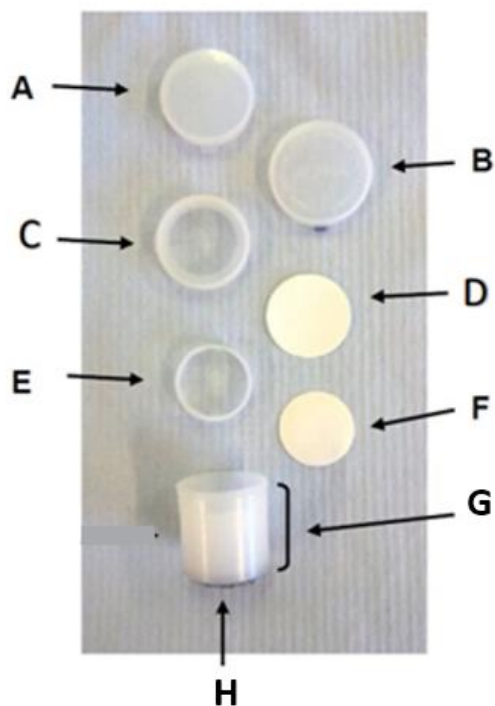
Figure 19. Block 5. Supplies

29. 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 sampler*, *short duration sample – AMoN supplies received late*, *travel blank bag arrived open*, or *sampler with ID IOT dropped on ground when deploying it*.
30. Place the completed field form in the AMoN supply box containing the sampler that was just removed. Set the completed supply box aside.
31. 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.
32. 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




ALPHA Parts

- A. Laboratory cap
- B. Protective cap (embossed)
- C. Membrane cap (cap with hole)
- D. PTFE membrane
- E. Support ring to hold filter paper in place
- F. Filter paper
- G. ALPHA body
- H. Velcro – hook side

**** Please note that parts E and F will not be handled during field operations ****



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

1. SITE Name _____		<div style="border: 1px solid black; width: 40px; height: 20px; margin: 0 auto;"></div> ID	2. OBSERVER Print name _____		<div style="border: 1px solid black; width: 40px; height: 20px; margin: 0 auto;"></div> Initials																																
3. SAMPLE START AND END <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> Date <table border="1" style="border-collapse: collapse;"> <tr> <th style="padding: 2px;">MO</th> <th style="padding: 2px;">DAY</th> <th style="padding: 2px;">YR</th> </tr> <tr> <td style="width: 30px; height: 20px;"></td> <td style="width: 30px; height: 20px;"></td> <td style="width: 30px; height: 20px;"></td> </tr> </table> </div> <div style="text-align: center;"> Time <table border="1" style="border-collapse: collapse;"> <tr> <th style="padding: 2px;">0001-2400</th> </tr> <tr> <td style="width: 60px; height: 20px;"></td> </tr> </table> </div> </div> <div style="display: flex; margin-top: 5px;"> <div style="width: 30px; text-align: center;">ON</div> <table border="1" style="border-collapse: collapse; width: 100px;"> <tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr> <tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr> </table> </div> <div style="display: flex; margin-top: 5px;"> <div style="width: 30px; text-align: center;">OFF</div> <table border="1" style="border-collapse: collapse; width: 100px;"> <tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr> <tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr> </table> </div>		MO	DAY	YR				0001-2400																		4. SITE CONDITIONS <i>Please check any and all conditions that apply. Comment on any other site conditions in Block 7.</i> <table border="1" style="border-collapse: collapse; width: 100px; margin-top: 5px;"> <tr> <th style="padding: 2px;">YES</th> <th style="padding: 2px;">NO</th> </tr> <tr> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> </tr> <tr> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> </tr> <tr> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> </tr> </table> <ol style="list-style-type: none"> 1. Significant smoke or fire 2. Fertilizer use nearby 3. Farm animal activity nearby 		YES	NO							5. Supplies <i>(Circle if needed)</i> Gloves Return shipping label	
MO	DAY	YR																																			
0001-2400																																					
YES	NO																																				
6. REMARKS <i>For example: equipment malfunction, contamination, farming, burning</i> <div style="height: 150px; border: 1px solid black; margin-top: 5px;"></div> <div style="text-align: right; margin-top: 20px;"> <div style="border: 1px solid black; padding: 2px; display: inline-block;"> LAB USE ONLY <div style="border: 1px solid black; width: 60px; height: 20px; display: inline-block; vertical-align: middle;"></div> </div> </div>																																					

Questions? Call 1-800-952-7353 or E-mail amon@slh.wisc.edu

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