

**NATIONAL ATMOSPHERIC DEPOSITION PROGRAM  
AND NATIONAL TRENDS NETWORK  
INSTRUCTIONS FOR THE SUBMISSION OF THE BLIND AUDIT SAMPLE**

**PLEASE READ ALL INSTRUCTIONS BEFORE PROCEEDING  
Please verify ahead of time that you have all the necessary supplies**

**\*\*\*\* DO NOT SUBMIT THE SAMPLE UNTIL YOUR ASSIGNED DATE \*\*\*\***

**(Please refer to the cover letter that accompanied the blind audit sample for your assigned date)**

**PLEASE FIND THE FOLLOWING SUPPLIES IN THE BLIND AUDIT PACKET THAT WAS MAILED TO YOU:**

- one – either 250-, 500-, or 1000-milliliter blind audit sample
- one - postage paid “Blind-Audit Record – Card 1” card for sample transfer and decanting times, pre-addressed to the USGS
- one - postage paid “Blind-Audit Record – Card 2” card, pre-addressed to Roger Claybrooke at the CAL
- one - postage paid pre-addressed mailing envelope to Roger Claybrooke at the CAL
- one - dummy Field Observer Report Form (FORF)

If you did not receive any of these items, contact Natalie Latysh at (303)236-1874 or e-mail: nlatysh@usgs.gov immediately.

**ADDITIONAL SUPPLIES THAT YOU WILL NEED (ITEMS PROVIDED BY CAL BEYOND WHAT YOU NORMALLY USE FOR A WEEKLY SAMPLE):**

- one - clean 3.5 gallon field bucket (bagged)
- one - clean snap on lid for field bucket (bagged)
- one - clean 1 liter High-Density Poly-Ethylene (HDPE) wide-mouth sample bottle (bagged)
- four - clean 4 milliliter vials

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OVERVIEW: 75% of the blind audit sample will be submitted disguised as a precipitation sample from your site with a FORF listing details for the actual weekly sample, while the actual sample from your site will be submitted with a dummy FORF (included in the packet with blind audit sample). The remaining 25% of the blind audit sample will be shipped to CAL in its original container. There are many detailed steps that need to be correctly completed; please read all instructions carefully before you begin, then follow all instructions in the order they are listed.  
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**A) Initial processing of the blind audit sample**

On the morning of day before you go to the field (typically Monday) to collect the wet-side bucket from your site (the day before the assigned bucket-off date for your blind audit sample), you will need to do some initial processing of the blind audit sample:

Pour 75% of the blind audit sample (down to the line on the bottle) into a clean NADP/NTN field bucket. Be careful not to contaminate the sample -- handle it as if it were a precipitation sample from your site. Tightly recap the bottle in which the blind audit sample was shipped to you: you will send this bottle containing 25% of the blind audit sample to the CAL. **Using the bag as a glove, cover the bucket with a clean snap-on lid. Record on the “Blind Audit Record – Card 1” card, under “Step A”, the date and time that you transferred 75% of the sample.**

*Note: the blind audit sample must reside in the bucket for a minimum of 24 hours **and no more than 6 days**, so we recommend completing the initial processing step just described on the morning before the assigned submission date (the submission date is the “bucket-off” date. See FAQ # 10 near the back of these instructions for additional details regarding the residence time in the bucket).*

**B) Procedures for submitting the wet-side sample from your site to the CAL:**

On the “bucket-off” date indicated on the enclosed dummy Field Observer Report Form, collect the wet-side bucket as you normally do each Tuesday; **HOWEVER** use the enclosed DUMMY FIELD OBSERVER REPORT FORM for submission of the precipitation sample to CAL. Note that the sections labeled **SITE, OBSERVER, BUCKET ON** and **BUCKET OFF DATE** are already filled in. Do not enter your name in section 2. Please enter the correct bucket on and off times in section 3.

Process the sample as usual and complete the remaining sections of the dummy Field Observer Report Form using the correct information for the wet-side bucket. **All information in sections 3 through 10 should refer to the actual wet-side precipitation sample you have just collected.**

If there was no precipitation at your site you will still submit the blind audit sample. On the Field Observer Report Form, in sections 4 through 10, you are recording actual conditions at your site. Record the fact that there was no precipitation in the appropriate section of the dummy form.

Place the 1-liter HDPE sample bottle containing the actual precipitation sample collected from your site in a black mailer and ship it to CAL in accordance with the sample collection protocol. Enclose the white and yellow copies of the dummy Field Observer Report Form. Retain the pink copy for your records. Do not include the actual raingage chart and do not include a raingage chart of any kind. Be sure to include the empty 3.5 gallon bucket in which the weekly sample was collected, along with the bucket’s snap-on lid. On the bag containing the 1-liter HDPE bottle and on the bag containing the field bucket, write the dummy site ID, the bucket on and off times, and the contamination summary for your actual weekly sample.

**TO SUMMARIZE SO FAR:**

- 1) YOU HAVE COMPLETED SOME INTIAL PROCESSING OF THE BLIND AUDIT SAMPLE;
- 2) YOU ARE SUBMITTING YOUR WET-SIDE PRECIPITATION SAMPLE DISGUISED AS THE DUMMY SAMPLE

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You will now submit 75% of the blind audit sample disguised as your wet-side sample.

*PLEASE FOLLOW INSTRUCTIONS IN THE ORDER LISTED:*

**C) Procedures for submitting the blind audit sample:**

As you go through the following steps, please keep in mind that one of your goals is to handle the blind audit sample in the same manner that you would an actual precipitation sample. Take the same care with the blind audit sample that you exercise with the weekly precipitation sample. Prepare a Field Observer Report Form. (NOT THE DUMMY FORM SENT WITH THE BLIND AUDIT PACKET). Do not indicate in any way on the report form that it is a blind audit or the sample will be invalidated. **FILL OUT A FIELD OBSERVER REPORT FORM FOR THE BLIND AUDIT SAMPLE FOLLOWING THESE INSTRUCTIONS:**

**1. SITE**

Enter your site name and site id.

**2. OBSERVER**

Print your name and initials.

**3. BUCKET ON/BUCKET OFF**

Record the same dates and times that were used for the actual wet-side sample which you submitted using the dummy form.

**4. SITE OPERATORS**

Check yes for all items.

**5. SAMPLE CONDITION**

If any contamination is accidentally introduced, check the appropriate box. Otherwise check no for all items.

**6. BUCKET SAMPLE WEIGHT**

Determine the weight of the bucket containing 75% of the blind audit sample with the snap-on lid in place. Record this value in the field labeled "Bucket + Lid + Sample". By subtraction, determine the sample weight and record this value. Multiply the sample weight by 0.00058 and record this value in "Sample Depth."

**7. PRECIPITATION RECORD**

Create a seven-day precipitation record. For the 250-, 500-, or 1000-ml blind audit sample make up and record daily values that add up to approximately 0.12, 0.23, or 0.46 inches, respectively\* (you can *slightly* adjust this fictitious total depth for the week to help match the sample depth calculated in the previous step within +/- 5 percent). *Total rain gage depth and sample depth should agree within +/- 5 percent, calculated in reference to the raingage depth using the following formula:*

$$= (raingage\ depth - sample\ depth) / raingage\ depth \times 100.$$

**Enter the total depth value in the "Total Rain Gage Depth" block on the form.**

Check yes for the question "Did you pour sample into the bottle?"

Daily precipitation values:

Sample size 250 ml-precipitation = 0.12"

Sample size 250 ml-precipitation = 0.23"

Sample size 250 ml-precipitation = 0.46"

D) After a minimum 24-hour residence time, transfer the 75% portion of the blind audit sample from the field

bucket into a clean 1-liter HDPE bottle following standard NADP protocols. Be sure that the lip of the bucket does not touch the lip of the bottle while pouring the contents of the bucket into the bottle.

**Record on the “Blind Audit Record – Card 1” card, under “Step B”, the date and time that you transferred the blind audit sample from the bucket to the 1 liter bottle. Under “Step C”, record the On Date, Off Date, sample pH, and sample conductance.** Complete the FORF as follows:

**8. SAMPLE CHEMISTRY**

Pour your normal amounts from the 1-liter HDPE bottle into clean 4-milliliter vials and measure the pH and specific conductance following standard procedures; record your measurements

**9. SUPPLIES**

Leave blank.

**10. REMARKS**

Leave blank. Please do not indicate in any way that this a blind-audit sample.

E) Ship the 75% portion of the blind-audit sample that has been decanted into a clean 1-liter bottle to the CAL as if it were the actual wet-side sample for your site. Enclose the raingage chart from your site, and the white and yellow copies of the blind audit sample Field Observer Report Form (completed as stated above in steps 1-10) in the bucket mailer. Retain the pink copy of the Field Observer Report Form for your records. Reminder: please mail the empty sample collection bucket into which you temporarily decanted 75% of the blind audit sample and the bucket lid in the black box mailer (STEP B). The bucket and lid should be bagged. Write your real site id, date and time off on both the bucket bag and bottle bag. If contamination was accidentally introduced into the sample, write this on the bags. Otherwise, please write “no contamination” for the contamination summary on both the bucket and bottle bags.

F) Fill in the requested information regarding the blind audit sample on the enclosed postcard labeled “**Blind-Audit Record – Card 2**”. Please mail both of the postcards promptly.

**G) MAIL THE SOLUTION REMAINING IN THE ORIGINAL BLIND AUDIT SAMPLE BOTTLE TO THE CAL:**

Place the bottle containing the remaining 25% of the blind audit solution in the ziploc plastic bag it was shipped in. Please ship the bottle in the enclosed mailing envelope addressed to Roger Claybrooke. We have had problems with the padded mailers coming open in transit resulting in lost samples. Please staple the mailer shut and wrap with packaging tape. Be sure the tape covers any sharp staples. The mailing envelope is supplied with postage; no additional postage is required.

## Answers To Frequently Asked Questions:

- 1. Q:** Do I mail the remaining contents (25%) of the blind audit sample bottle with the bucket?  
**A:** No, use the mailing envelope provided.
- 2. Q:** Do I need to make up a dummy raingage chart? After all, my raingage chart looks a lot different from the precipitation record I made up.  
**A:** No, do not make up a dummy raingage chart. The chart and bucket get separated immediately once they reach CAL; no one will notice (at least for several weeks).
- 3. Q:** In which mailer should I put the raingage chart?  
**A:** Put the raingage chart in the mailer with the clean, 1-L shipping bottle containing 75% of the blind audit sample.
- 4. Q:** Won't CAL know they received two weekly samples from my site (therefore comprising the "blindness" of the sample).  
**A:** No, they won't notice until all of the analyses are done because of the order in which things are processed and compiled.
- 5. Q:** If there wasn't any precipitation at my site during the past week, do I still submit the sample?  
**A:** Yes, you will still submit the blind audit sample. Remember, you are using sections 4 to 10 on the dummy field observer form to record the actual conditions at your site. Record the fact there was no precipitation in the appropriate section of the dummy form.
- 6. Q:** Will I lose the data for my actual wet-side bucket sample, since I am submitting it to CAL disguised as a dummy sample?  
**A:** No, after all the analyses are completed and the results are tabulated, the database is corrected and site identifications are carefully matched to the correct data.
- 7. Q:** Do I need to write anything on the 1-L shipping bottle that contains my actual sample or on the 1-L shipping bottle containing 75% of the blind audit sample for identification purposes?  
**A:** No, the information written on the 2 forms you filled out will be matched up to the right sample at a future date when the database is corrected.
- 8. Q:** Which sample information should go on the enclosed post cards?  
**A:** Enter the information about the blind-audit sample on the post cards.
- 9. Q:** The instructions are to decant 75% of the sample the morning of the day before the regular sample is pulled. This is Monday is a holiday. I hadn't planned to come into the office that day. Could I decant the 75% today (Friday), since it says that the sample should be in the bucket a minimum 24 hours?  
**A:** The sample can be decanted into the clean bucket up to 6 days before the scheduled date. Be sure to record the date and time on the postcards. A range of residence times varying from 1 to 7 days, with most being 1-2 days, replicates what happens with actual precipitation at the site.

Please direct further questions regarding the Blind Audit Program to:

Natalie Latysh (303) 236-1874, e-mail address: [nlatysh@usgs.gov](mailto:nlatysh@usgs.gov)

Thank you for your interest in the Program.