

Instructions for SOIL/HW Standards – NELAC Accreditation Set

SCOPE AND APPLICATION

Wibby Environmental's SOIL/HW Proficiency Testing (PT) Standards are designed to be used with promulgated EPA methods as well as applicable methods from consensus organizations such as AWWA and ASTM. If you have any questions about the use of these standards, please contact Wibby Environmental Customer Service at 1-866-WibbyPT (866-942-2978).

INDIVIDUAL INSTRUCTION SHEETS ALSO AVAILABLE

NOTE: This sheet contains instructions for all standards included in Wibby Environmental's WP NELAC Accreditation Set. Individual instruction sheets for these standards are also available on line at www.wibby.com (click on the "PT" link in the blue bar that runs horizontally across the home page) or upon request. If your laboratory would prefer to receive individual instruction sheets with future orders instead of this sheet, please call customer service at 1-866-WibbyPT (866-942-2978).

SAMPLE PREPARATION, ANALYSIS AND STORAGE

As summarized in the following steps, SOIL/HW PT standards are supplied as ready to use standards or as concentrates that require spiking onto the supplied blank matrix prior to use. For best results, all SOIL/HW PT standards should be stored at the temperature listed on the label. PT standards stored at 4°C should be brought to room temperature (near 20°C) prior to use.

INORGANIC SOIL/HW Standards

All Inorganic Wibby Environmental SOIL/HW Standards in the NELAC Accreditation Set (**Metals, Hexavalent Chromium, Cyanide, Corrosivity/pH, Anions, Nutrients, and Flash Point,**) are ready for preparation and analysis as received. Thoroughly mix the standard prior to removing an aliquot for preparation and analysis. Additional instructions for the Inorganic SOIL/HW standards can be found on the back of this page.

ORGANIC SOIL/HW Standards

SOIL/HW Volatile Standard (Low level)

1. The SOIL/HW Volatile (Low level) standard and Volatiles by GC standard includes two separate containers; a VOA vial containing Blank Soil Matrix and a 2 ml flame sealed ampule containing the analytes of interest. The solvent for the Volatiles concentrate is methanol.
2. Open the Blank Soil Matrix vial and transfer 5 g of the matrix into your sparger cell.
3. Carefully open the ampule containing the Volatiles concentrate by snapping off the top at the narrow part of the neck.
4. Transfer exactly 50 µL (micro liters) of the PT concentrate onto the Blank Soil Matrix in the sparger cell using a gas tight syringe. Add the spike below the surface of the matrix.
5. Add 5 ml of volatile free deionized water to the sparger cell containing the Blank Solid Matrix and PT concentrate.
6. The standard is now ready for analysis per the selected method(s).

SOIL/HW Medium Level Volatile Standard

1. The Medium Level Volatiles and Crossover Volatiles in Soil Standards have been provided as ready-to-use standards.
2. 5.00 g of soil containing the Volatiles of interest has been preserved with 5.00 mL of purge and trap grade Methanol in a 10mL flame sealed ampule.
3. Carefully open the ampule containing the Volatiles concentrate by snapping off the top at the narrow part of the neck.
4. Following your normal procedures for the analysis of a medium level VOAs in Soil sample, remove an aliquot from the ampule for preparation and analysis. The remainder of the Methanol extract should be immediately transferred to an appropriate storage vial for additional analyses if necessary.

**SOIL/HW BNA, Pesticides, Chlordane,
Toxaphene, PCBs, Herbicides and PAHs
Standards**

1. Each standard listed above is packaged in two vials. Open one vial and quantitatively transfer the **entire** contents of the vial to your extraction apparatus. Rinse the vial thoroughly with extraction solvent and transfer the solvent to the extraction apparatus. For the purposes of calculating results, the percent moisture of each standard is 0% and the sample weight is 30.0 g.
2. Follow your normal procedures for extraction and analysis of a soil sample.
3. A second identical vial of each standard listed in this section has been provided as a back up in the event you experience problems with the extraction or analysis of the initial vial.

REPORTING RESULTS

1. Report results to three significant figures.
2. For the purposes of reporting results, the percent moisture of each SOIL/HW standard except for Flash Point is 0%. Report all results on a dry weight basis. Report your Flash Point result corrected to standard temperature and pressure (STP).
3. Report your results on line at www.wibby.com. Click on the "Online Data Entry" link or the "PT Manage" link.
4. You may also report your results using the Data Reporting Sheets enclosed with your standards. FAX your results to Wibby Environmental at 866-283-0269 or mail the results to Wibby Environmental, 6390 Joyce Drive, #100, Golden, CO, 80403.
5. Wibby Environmental must receive all results prior to the study closing date shown on the Data Reporting Sheets.

SAFETY

These standards are designed for use by laboratory professionals who are familiar with handling environmental reference materials as well as hazardous materials. If you have any questions about the safe handling of these standards or require a Material Safety Data Sheet (MSDS,) please contact Wibby Environmental at 1-866-WibbyPT (866-942-2978).

QUESTIONS?

If you have any questions regarding these standards or reporting requirements, please call Wibby Environmental at 1-866-WibbyPT (866-942-2978).

ADDITIONAL INFORMATION

The **Metals** Proficiency Testing Standard is designed to be used for all USEPA ICP and atomic absorption methods as well as USEPA Method 7471 (mercury). The standard requires digestion by USPEA Method 3050 (hot plate digestion) or 3051 (microwave digestion) or an equivalent procedure prior to analysis.

The **Anions** standard requires an extraction with deionized water prior to analysis. Weigh out 10.0 g of standard and add 100 ml of deionized water. Extract using a suitable apparatus (e.g., TCLP rotary extraction box, wrist shaker, etc) for two hours at room temperature (~20°C). After extraction, filter out the solids and collect the water. Follow your routine procedures for the determination of anions in the water extract. When reporting results, be sure to calculate your results back to the original 10.0 g aliquot taken for extraction.

The **Corrosivity/pH** standard requires an extraction with deionized water prior to analysis. Transfer 20 g of the standard to a 50-mL beaker. Add 20 mL of reagent water, cover, and continuously stir the suspension for five minutes. Allow the soil suspension to stand for one hour. The sample is now ready for determination of pH. Lower the electrode(s) into the beaker, just deep enough into the supernatant solution to establish a good electrical contact through the ground-glass joint or the fiber-capillary hole. For combination electrodes, immerse just below the suspension.

The **Hexavalent Chromium** Proficiency Testing Standard requires digestion by USPEA Method 3060 or an equivalent procedure prior to analysis.

The **Cyanide** Proficiency Testing Standard requires digestion by USPEA Method 9010, 9012 or an equivalent procedure prior to analysis.

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