



## UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

May 27, 2020

OFFICE OF  
LAND AND EMERGENCY  
MANAGEMENT

Ms. Judy Morgan  
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Thank you for your letter dated March 9, 2020, requesting clarification on how holding times in the SW-846 Compendium, from sample collection to preparation and analysis, are interpreted, particularly for holding times greater than or equal to 7 days. While we do not agree that the holding time guidelines or associated sample preservation recommendations published in SW-846 are technically deficient, we understand and agree that inconsistent interpretations of how holding times are evaluated across EPA programs can create inadvertent problems or lead to confusion for sample collectors, laboratories, and data users.

We agree that the primary purpose of establishing maximum holding times from sample collection to preparation and analysis is to minimize changes to specific, measurable properties that were representative of the material at the time it was collected. As you identified in your letter, the concentrations of many metals and organic chemicals have been observed to change more slowly in properly preserved materials and holding times on the order of days or months have been established for these tests. However, some chemicals are identified in SW-846 as unstable or reactive over a short timeframe, and for projects where these chemicals are of particular interest, the best practice for obtaining representative measurements is to complete testing as soon as possible after samples are collected.

Recommended holding times in Chapters 3 and 4 of SW-846 are clearly identified as guidelines and not EPA requirements. Holding time studies referenced in [SW-846 Chapter 4](#)<sup>1</sup> do not provide a clear basis to discriminate between acceptable and unacceptable measurements within a small tolerance of the nominal holding time, such as within a few hours for holding times of 7 days. Additional variables can affect chemical stability that may not have been evaluated as part of a holding time study and may need to be considered during project planning. Chapter 4 suggests that the project team consider existing information and data regarding analyte stability or perform additional testing in order to determine how best to preserve sample integrity for the analytes of interest. This information can be used to support holding times and/or sample preservation and storage conditions that are appropriate or necessary to meet project-specific data quality objectives.

Given these factors and after examining the recommended holding times and associated studies referenced in SW-846 and interpretations of how holding times are evaluated across other EPA programs, the Office of Resource Conservation and Recovery (ORCR) has decided to clarify that the recommended holding times in [SW-846 Chapter 3](#)<sup>2</sup> (Table 3-2) and Chapter 4 (Table 4-1)

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<sup>1</sup> <https://www.epa.gov/hw-sw846/chapter-four-sw-846-compendium-organic-analytes>

<sup>2</sup> <https://www.epa.gov/hw-sw846/chapter-three-sw-846-compendium-inorganic-analytes>

greater than or equal to 7 days can be evaluated in the same units in which they are expressed. This interpretation of recommended holding times is consistent with that described in the current versions of the [Contract Laboratory Program's National Functional Guidelines for Organic and Inorganic Superfund Methods Data Review](#)<sup>3</sup> and with [DoD's Quality Systems Manual v. 5.3](#).<sup>4</sup>

The new guidance on sample holding times for the SW-846 program is:

***Holding times for sample preparation and analysis greater than or equal to 7 days have been met if the sample is prepared or analyzed by the end of the last day or month of the specified maximum holding time. For example, a sample collected on a Tuesday is considered to have met a specified 7-day holding time as long as it is prepared or analyzed by the end of the day on the following Tuesday. A sample collected in January is considered to have met a specified 6 month holding time if it is prepared or analyzed before the end of July.***

The SW-846 Methods Team will revise guidance related to holding times to be consistent with the interpretation above, and this interpretation will also be incorporated into Chapters 3 and 4 at the next available opportunity.

It is also important to point out that authorized states can be more stringent when designating holding times or interpreting guidance on measuring holding times.

The SW-846 Methods Team thanks you for bringing this to our attention. Please contact Kim Kirkland of my staff at 703-308-0490 or [Kirkland.Kim@epa.gov](mailto:Kirkland.Kim@epa.gov) regarding any questions you may have.

Sincerely,

*Gregory Sullivan*

Gregory Sullivan, Acting Deputy Director  
Office of Resource Conservation and  
Recovery

cc: David Friedman  
Michelle Briscoe  
Richard Bright

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<sup>3</sup> <https://www.epa.gov/clp/superfund-clp-national-functional-guidelines-data-review>

<sup>4</sup> <https://denix.osd.mil/edqw/documents/manuals/qsm-version-5-3-final/>