

Soil Background Update: What's Been Going on?

Tanya P. Justham, P.G.
NHDES Hazardous Waste Remediation Bureau

2026 Environmental Regulatory Conference

Presented by BIA and NHDES

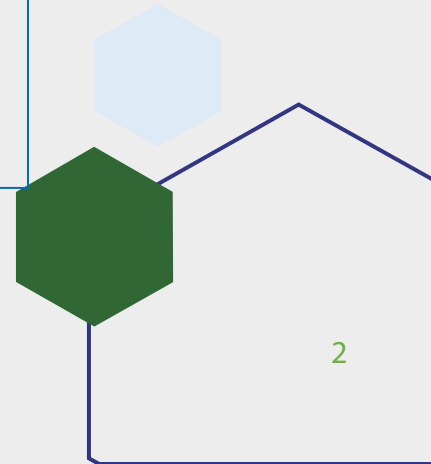
September 9, 2026



Background: Env-Or 602.03

“Background” means the concentration of a substance present in the environment that would exist at a location in the absence of a discharge, including substances that are ubiquitous and consistently present at or in the vicinity of the site...

For interpretations of rule applicability and consistency with other federal and state regulatory approaches, NHDES guidance considers:
“natural background” and *“anthropogenic ambient background”*



Guidance:

Site-Specific Anthropogenic Ambient Background

The concentration of a substance present in the environment due to anthropogenic sources that would exist at a location in the absence of a discharge related to activities at the property of concern, including substances that are ubiquitous and consistently present at or in the vicinity of the site such as:

- a) Coal or wood ash associated with fill material;
 - b) Petroleum residues that are incidental to the normal operation of motor vehicles;
 - c) Asphalt pavement and petroleum compounds contained in associated sub-base materials;
 - d) Fertilizers in soil that were applied in a manner consistent with their labeling; and
 - e) Pesticides in soil that were applied in a manner consistent with their labeling.
- Some per- and polyfluoroalkyl substances (PFAS) in soil at shallow depths associated with off-property sources.

Technical Guidance for Background Determinations

[DRAFT Determinations of Background as defined in Env-Or 602.03 for Soil Contamination](#)

DRAFT Technical Guidance Document

Determinations of Background as defined in Env-Or 602.03
for Soil Contamination

DRAFT January 22, 2026



29 Hazen Drive
Concord, NH 03301

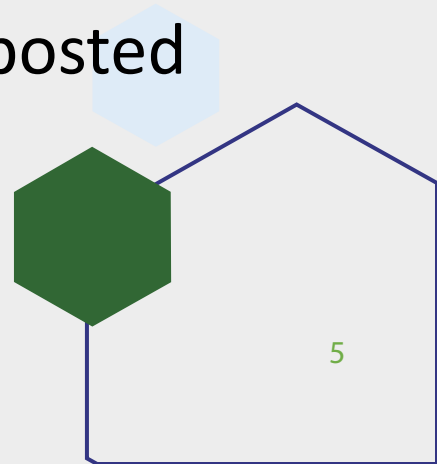
des.nh.gov



*This technical guidance is a reference tool to help parties comply with existing legal requirements.
It does not replace or modify applicable laws and regulations.*

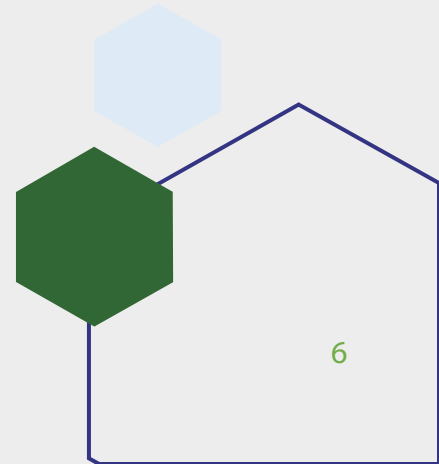
Technical Guidance for Background Determinations

- DRAFT document released in January 2026 with an informal request for public comment by June 2026
- One comment received
- Slight modifications made to document to address comment and other items that have come up in reviews
- Working to finalize the document and hope to have final copy posted soon



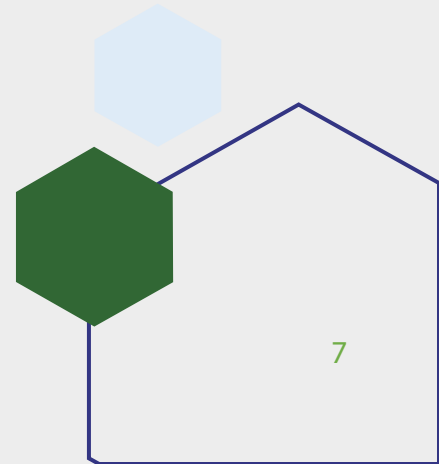
Background Assessments/Determinations

- Very few have been received by NHDES that are not associated with a known site.
- Those not associated with a known site have primarily been for arsenic
- Those associated with a known site have typically been provided during the Site Investigation phase or after detection of an emerging contaminant
- Include arsenic, PFAS, PAHs, and lead



Things to Keep in Mind – Arsenic+

- The state-wide natural background concentration for arsenic is 11 mg/kg (same as the SRS)
- NHDES **does not** have an urban background concentration for arsenic
- NHDES **does not** have a background condition for urban fill (also applies to PAHs, lead)



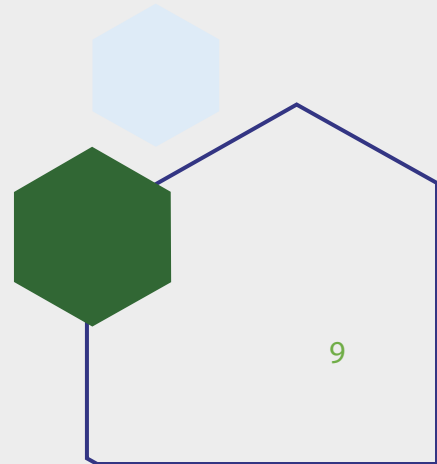
Things to Keep in Mind – Arsenic+

- To make an argument for a background condition based on coal or wood ash in fill, there should be fill present and some sort of observation of ash
- If you have lead and/or arsenic and no PAHs, it is hard to argue for an ash background condition!!
- USGS publications on the probability of arsenic concentrations in bedrock groundwater **are not a strong line of evidence** for elevated natural arsenic in soil (i.e., overburden)

Things to Keep in Mind - PFAS



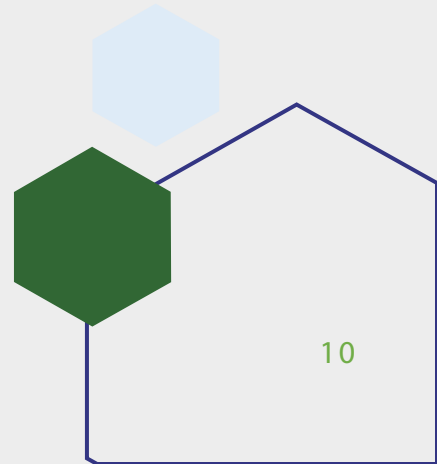
- NHDES **does not** have a background condition for urban fill
- Background Threshold Values (BTVs) are only applicable for PFOA and PFOS
- BTVs...



BTVs for PFOA and PFOS

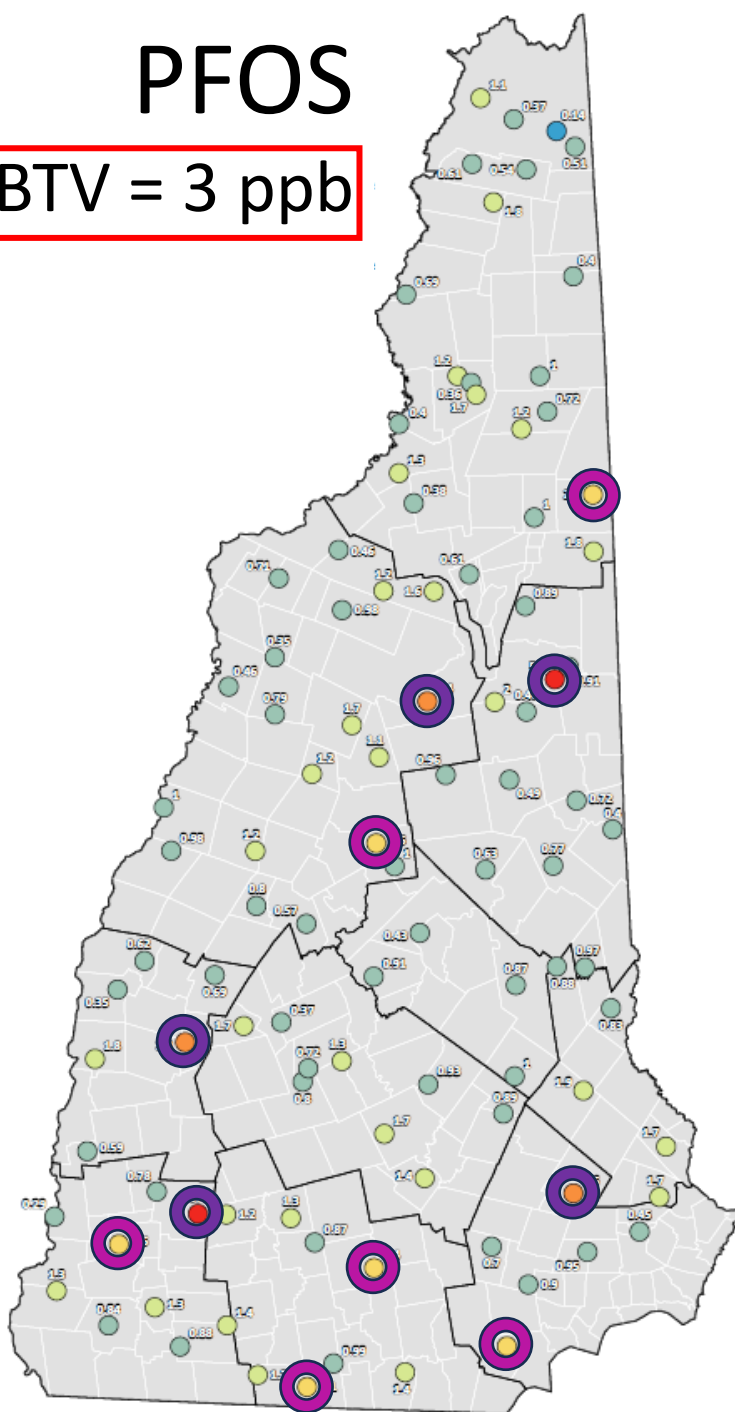
ARE NOT

- Regulatory values
- Able to be used as replacements for Soil Remediation Standards
- Able to be used as a site-specific background value
- A strong line of evidence for a background condition
- A good representation of anthropogenic ambient background concentrations in NH shallow soil



PFOS

BTV = 3 ppb



Distribution of PFOS and PFOA in Shallow Soil

Samples collected from 0 to 6 inches below grade

Legend

County Boundaries

Town Boundaries

($\mu\text{g}/\text{kg}$ = ppb)

ND to < 0.2

> 0.2 to 1

> 1 to 2

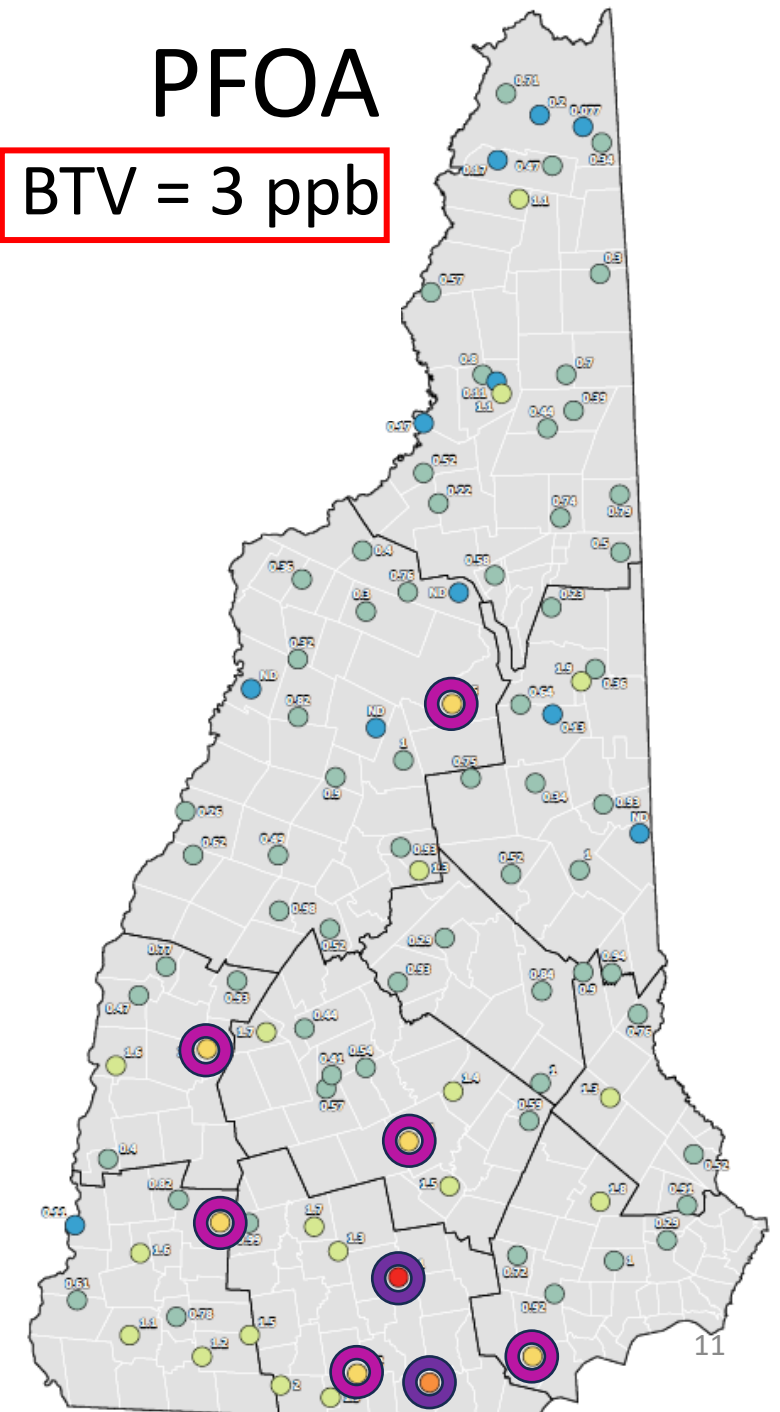
> 2 to 3

> 3 to 4

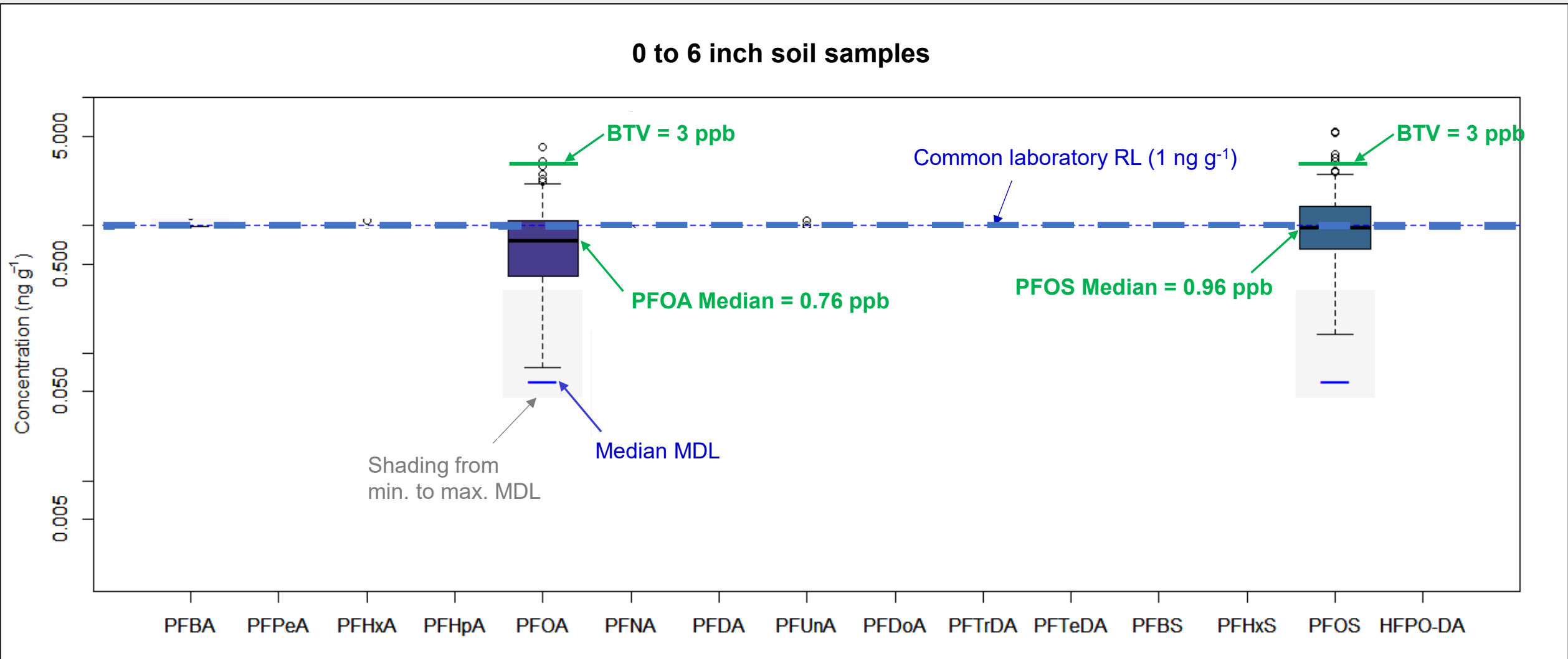
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PFOA

BTV = 3 ppb



Results with Regression on Order Statistics



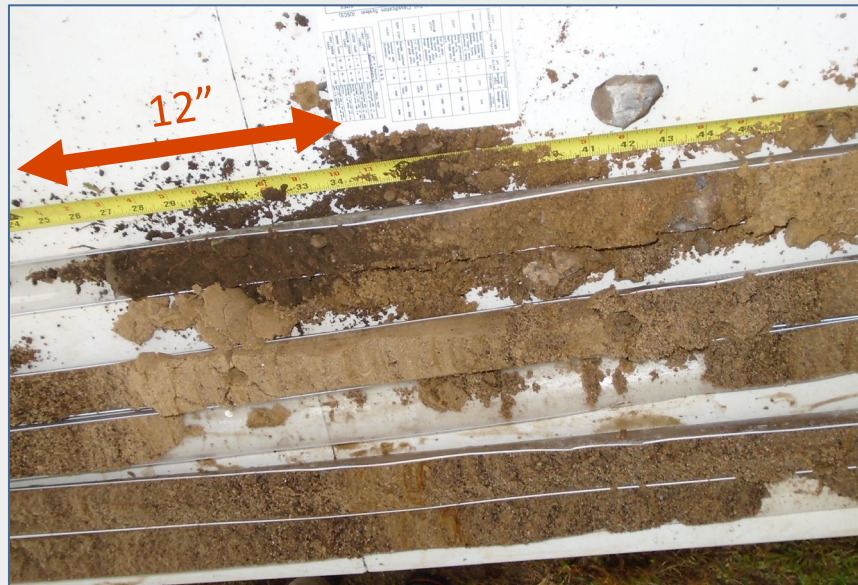
Colored boxes span 25th – 75th percentile; median shown as thick black line; whiskers extend up to 1.5 times the interquartile range

Preliminary Information – Subject to Revision. Not for Citation or Distribution.

BTVs for PFOA and PFOS

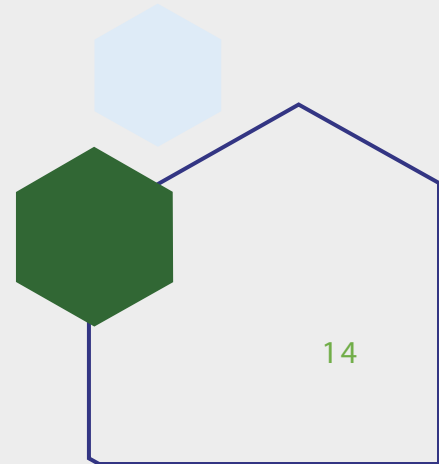
ARE

- A screening value
- Only applicable to the top 12 inches of soil
- A better screening indicator for a discharge than a screening indicator for a background condition



Things to Keep in Mind - General

- Hazardous waste **cannot** be a background condition (e.g., trichloroethylene, lead that has failed TCLP)
- If groundwater has been impacted by the contaminants at concentrations above AGQS, then the soil contamination is not a background condition (source for groundwater contamination)
- “Ubiquitous and consistently present” can be a hard bar to reach, but some discharge sources are already identified in NHDES precedent



Thank you

Tanya P. Justham, P.G.

Tanya.P.Justham@des.nh.gov

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