

**ARCHIVE:** Archived because revisions made to VAP rules in 2002 in OAC Chapter 3745-300 render this guidance unnecessary. However, this document is accurate under the 1996 VAP rules.

## OHIO EPA

### DIVISION OF EMERGENCY AND REMEDIAL RESPONSE VOLUNTARY ACTION PROGRAM

# FREQUENTLY ASKED QUESTION #10: Use of Long-Term Monitoring to Demonstrate the Protection of Ground Water Requirements

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#### PURPOSE

This series of fact sheets is intended to provide guidance regarding the Agency's position concerning the interpretation of certain Voluntary Action Program (VAP) rule requirements. The information provided within these documents is based upon Agency evaluation of several VAP no further action letters submitted with the intent of obtaining a covenant not to sue as well as assistance provided for several VAP technical assistance projects.

#### QUESTION

Can compliance with the provisions for protection of ground water meeting unrestricted potable use standards (POGWMUPUS) be demonstrated through the application of long term monitoring alone?

#### BACKGROUND

The intended meaning of the language in Ohio Administrative Code (OAC) 3745-300-07(D)(3) has been raised during several recent no further action (NFA) letter reviews and technical assistance requests. One major question is whether it is appropriate to employ **only** long term ground water monitoring (and **no other** investigation) to detect impact to ground water due to leaching of contaminants from the unsaturated zone and; therefore, determine if the ground water will continue to meet the POGWMUPUS standard. OAC 3745-300-07(D)(3)(c)(i)

appears to imply that long term ground water monitoring is, by itself, sufficient to make the POGWMUPUS demonstration.

## ANSWER

No, compliance with the provisions for protection of ground water meeting unrestricted potable use standards (POGWMUPUS) cannot be demonstrated through the application of long term monitoring alone.

Although the language in OAC 3745-300-07(D)(3)(c)(i)(A) implies that monitoring alone may be used to demonstrate compliance with the provisions for POGWMUPUS, the VAP advises that long term monitoring, by itself - with **no other** investigation performed, is **unacceptable**. The following is supporting documentation:

- ORC 3746.06(B) requires that the remedial activities at a property shall ensure the continued compliance of the ground water underlying the property with those standards for residential use.
- OAC 3745-300-10(E)(1) requires that when any ground water in a saturated zone underneath the property complies with the unrestricted potable use standards, a voluntary action must ensure that migration of contaminants will not result in unrestricted potable use standards being exceeded anywhere within the saturated zone. Paragraph (E)(2) indicates that no other provision of this chapter modifies the requirements of this paragraph.

In addition, monitoring, by itself, will not ensure continued compliance due to the following:

- If the ground water is monitored and it is determined that leaching to ground water did occur such that concentrations in the ground water exceed the unrestricted potable use standards (UPUS), then the rule and statute would be violated (e.g., ground water would not have been protected).
- If monitoring of the ground water zone of concern underlying the property indicates that leaching of chemicals of concern (COCs) from sources on property are causing an exceedance of UPUS, the rule and statute requirements to protect the ground water have been violated.
- If monitoring of the ground water zone underlying the property indicates that COCs from sources on the property are leaching to ground water such that the concentrations of COCs in the ground water are below but approaching the UPUS, then there may not be a sufficient window of opportunity to prevent leaching to ground water at concentrations exceeding the UPUS.
- Many of the contaminants are resistant to remediation, and once present in the ground water are difficult to clean up.

**There do exist situations where long-term ground water monitoring, along with specific qualitative demonstrations or modeling demonstrations, may be an appropriate way to demonstrate compliance with POGWMUPUS. Examples of appropriate demonstrations are as follows:**

- When the COCs in the source(s) or source area(s) are highly immobile and not persistent, a qualitative assertion that the provisions for POGWMUPUS has been met, may be supported by an appropriate long-term ground water monitoring plan contained in the Operation and Maintenance Plan for the property.
- When fate and transport modeling results for the property indicate that the COCs in the source(s) or source area(s) will not leach to the ground water zone of concern above UPUS, an appropriate long-term ground water monitoring plan may be employed within the Operation and Maintenance Plan for the property, to confirm modeled predictions.