TITLE: **Classification of Class B Ground Water by Comparison to Another Ground Water Zone**

DATE EFFECTIVE: March 2009

HISTORY: Update of TGC document VA30010.09.002 - Changes were necessary to conform to rule revisions effective August 2014.

KEYWORDS: Ground water, classification, yield, comparison of zones

RULE/ AUTHORITY: OAC 3745-300-10(B)(2)(c)(i) and 3745-300-07(F)(7)(d)

QUESTION: OAC 3745-300-10(B)(2)(c)(i) allows ground water that yields between 0.1 gallons per minute and 3 gallons per minute to be Class B if it can be compared to another ground water zone beneath the property that is a likely source of potable water. How should this comparison be made?

BACKGROUND: Any ground water zone that is not being used as a source of drinking water within ½-mile of the property boundary, and that has a total dissolved solids content of less than 3000 mg/l, or has yield between 0.1 gallons per minute and 3 gallons per minute, may be classified as either Class A or Class B ground water [OAC 3745-300-10(B)(2) and (3)]. The classification is dependent on the vertical location of the ground water or a comparison of the yield of this zone to the yield of another ground water zone which also underlies the property. The ground water zone being classified is Class B if all parts are wholly contained within 15 feet of the ground surface and the zone yields less than 3 gpm [OAC 3745- 300-10(B)(2)(c)(ii)]. Otherwise, to be considered Class B, the ground water zone of interest must be compared to another ground water zone underlying the property that: (1) is present both beneath the property and the surrounding area off-property, (2) be capable of yielding at least 3 gpm and produce at least twice the yield of the ground water zone being classified and (3) is a likely source of drinking water within one mile of the property [OAC 3745-300- 10(B)(2)(c)(i)]. The yield of the zone used for comparison should be based on the <u>lowest</u> yielding well within one mile of the property; if there are no wells within one mile of the property boundary, Ohio Department of Natural Resources (ODNR) Ground Water Resource Maps can be used [OAC 3745-300-07(F)(7)(d)].

ANSWER: In order to determine that the ground water zone falls below the criteria of Class A ground water by comparing it to another saturated zone beneath the property, the zone used for comparison must be:

- Another saturated zone;
- Present both beneath the property and the surrounding area off-property;
- Be capable of yielding at least 3 gpm and produce at least twice the yield of the ground water zone being classified;
- A likely source of drinking water within one mile of the property boundary.

Another saturated zone: The volunteer needs to demonstrate that the two zones are distinctly different. For example, if the ground water zone being classified is at the bedrock/unconsolidated interface, and the zone used for comparison is deeper in the bedrock, then the volunteer would need to demonstrate that these two zones are distinctly different by demonstrating they are hydraulically separated. Zones may be considered as separate zones if they are distinctly different, such as saturated clayey tills above a sand aquifer.

Present beneath both the property and the surrounding area off-property: The volunteer must demonstrate that the zone used for comparison is present both beneath the property and the surrounding area off-property. Installation of borings/wells on the property provides the best evidence of the ground water zone's presence on-property. However, the rules allow for the use of the ODNR Ground Water Resource Maps if no wells are present within 1 mile of the property. These maps can also be used to determine if the ground water zone used for comparison is present off-property. When utilizing the maps, best professional judgment should be used to assess whether the zone is present beneath the property. For example, if the property falls within an area described on the ODNR map as low yielding, and/or dry holes are common, then it should not be assumed that the zone is present beneath the property. Likewise, if the locations of well logs are within a saturated zone that is not beneath the volunteer's property (e.g., property borders a buried valley aquifer), it should not be assumed that the zone is present beneath the property. In these cases, borings/wells may be necessary to show that the ground water zone is present beneath the property.

Yield at least 3 gpm or twice the yield of the ground water zone being

classified, whichever is greater: The yield of the zone used for comparison must be based on the lowest yield of any wells within one mile of the property. Therefore, the volunteer should review the yield data stated on the well logs for wells located within one mile of the property boundary. If no wells are present, then the Ohio Department of Natural Resources (ODNR) Ground Water Resource Maps can be used to determine yield of the saturated zone [OAC 3745-300-07 (F)(7)(d)]. Both the description provided for the zone and the yields should be evaluated. For example, if the ODNR map describes the zone as low yielding and the lowest value cited is less than twice the yield of the ground water zone being classified, then it cannot be assumed that the ground water zone used for comparison yields twice as much as the zone being classified.

A likely source of drinking water within one mile of the property boundary: If the ground water within one mile of the property boundary is not being used as a source of drinking water and regional information indicates that the water is low yielding and brackish, then it can be assumed that it is not a likely source of drinking water.

SUMMARY: When making the determination that a ground water zone that yields between 0.1 gallons per minute and 3 gallons per minute can be classified as a Class B zone, the volunteer needs to provide adequate documentation that the ground water zone used for comparison is present both beneath the property and the surrounding area off-property, has a yield of at least 3 gpm and produces at least twice as much ground water as the ground water zone being classified , and can be used for potable purposes. If insufficient regional data exist to document that the zone can be used for comparison, the volunteer may wish to install wells and conduct field tests to determine the yield and quality of the ground water zone being used for comparison.

OHIO EPA CONTACT: For any questions, please contact VAP Central Office staff at (614) 644-2924 or DDAGW-CO Office VAP support staff at (614) 644-2752.