TITLE: **Acceptable Ground Water Recharge Rates for SESOIL Modeling**

DATE EFFECTIVE: August 2005

HISTORY: Update to VA30007.09.030 - Revision was necessary to reflect changes in the rule citations that became effective in August 2014.

KEYWORDS: SESOIL; fate and transport model; modeling; recharge rate

RULE/ AUTHORITY: OAC 3745-300-07(G); 3745-300-07(F)(4); 3745-300-10(E)

QUESTION: What is an acceptable ground water recharge rate to use when conducting SESOIL modeling for a VAP property?

ANSWER: When using SESOIL, ground water recharge rate is used to calibrate the hydraulic cycle. The target rate should be based on soil type and climate. Table 1 provides the range of ground water recharge rates used to develop the VAP leach-based soil values. The target rates used to develop Ohio EPA leach-based soil values were based on information provided in Ground Water Pollution Potential Reports (i.e., DRASTIC maps) for Ohio counties. The net recharge values from these reports included infiltration of precipitation, in addition to infiltration from rivers, streams and lakes. Thus, the values are conservative developing soil values protective of ground water. The table also provides acceptable recharge rates based on infiltrating water from the surface alone (Ohio EPA, 2005).

Table 1: Acceptable ground water recharge rates for SESOIL

material type	**Ground Water recharge Rates** (in/yr)	
		Ohio EPA, DHWM (2005)
clean sand	8 to 12	7
silts & silty sands	4 to 10	4.6
tills, silty clays	2 to 4	3

OHIO EPA CONTACT: For further information regarding this issue, please contact the VAP Staff at (614) 644-2924 or DDAGW-VAP Support Staff at (614) 644-2752.

REFERENCES: Ohio EPA, 2002. VAP Derived Leach-Based Soils Values, Appendix Technical Support Document. Division of Emergency and Remedial Response.

Ohio EPA. 2005. Vadose Zone Modeling for RCRA Closure. Division of Hazardous Waste Management.