Graphic images included in rules are published separately in this tables and graphics section. Graphic images are arranged in this section in the following order: Title Number, Part Number, Chapter Number and Section Number.

Graphic images are indicated in the text of the emergency, proposed, and adopted rules by the following tag: the word "Figure" followed by the TAC citation, rule number, and the appropriate subsection, paragraph, subparagraph, and so on.

Figure: 30 TAC §210.3(7)

APPENDIX 1

DRASTIC - An Approach to Ground-Water Pollution Potential Mapping

DRASTIC was developed as a tool for comparing land units on the basis of their vulnerability to ground-water pollution. Artificial classification of natural systems, including aquifers, has been used for years. A system for ranking ground-water pollution potential which took into consideration a relatively large number of parameters had not been developed, however. Through a consensus process, a group sponsored by the National Water Well Association and the Robert S. Kerr Environmental Research Laboratory developed the methodology described in limited detail here.

DRASTIC is a systematic approach for assessing the ground-water pollution potential of hydrogeologic settings. The DRASTIC system is a methodology which involves delineation of hydrogeologic settings and data analysis to develop a single index number which represents the sensitivity of that setting to ground-water pollution potential. The system to some degree depends on subjective, but skilled judgement by the user (Texas Water Commission, 1989).

Hydrogeologic settings are delineated based on seven parameters which are used to develop an index number for each setting. The parameters have been organized to create the acronym DRASTIC.

DRASTIC stands for:

D	-	Depth to water
R	-	Annual recharge
A	-	Aquifer media
S	-	Soil media
T	-	Topography
I	-	Vadose zone impact
C	-	Hydraulic conductivity

After index numbers are developed, maps can be constructed to present a graphic display of the pollution potential. Two maps can be generated using the DRASTIC methodology, a map depicting general vulnerability to ground-water pollution and another specifically aimed at pollution from certain agricultural practices.

A generic contaminant is used for this methodology. The contaminant is introduced at the land surface as a solid or liquid and travels to the aquifer with recharge waters derived from

precipitation. Mobility of the contaminant is assumed to be equal to that of groundwater and attenuation processes are assumed to go on in the soil, Vadose zone and aquifer.

Parameters used in the DRASTIC system are divided into ranges with corresponding ratings. Rating values depend on the impact of the factor on contamination potential. The general and agricultural DRASTIC evaluations use the same ranges and rating values, but the weighting of parameters changes. Weighting represents an attempt to define the relative importance of each factor in its ability to affect pollution transport to and within the aquifer and it creates the differences between the general and agricultural indices (Texas Water Commission, 1989).

Two pollution potential numbers, one for generalized pollution sources and one for pollution due to agricultural activities, are derived for each hydrogeologic setting. The formula for the index number is:

$$I = (Dr \times Dw) + (Rr \times Rw) + (Ar \times Aw) + (Sr \times Sw) + (Tr \times Tw) + (Ir \times Iw) + (Cr \times Cw)$$

I = DRASTIC index number

D, R, A, S, T, I, C - parameters

r - rating

w - weight

Maps are labeled with designations for the hydrogeologic settings and pollution potential numbers and the indices are then divided into ranges for color coding of the final maps.

More detailed information may be found in *DRASTIC: A standardized system for evaluating ground water pollution potential using hydrogeologic settings*: U.S. Environmental Protection Agency, EPA/600/2-87/035, authored by L. Allen, T. Bennett, J. H. Lehr, R. J. Petty and G. Hackett.