**Section 725.191 Groundwater Monitoring System**

a) A groundwater monitoring system must be capable of yielding groundwater samples for analysis and must consist of the following components:

1) Monitoring wells (at least one) installed hydraulically upgradient (i.e., in the direction of increasing static head) from the limit of the waste management area. Their number, locations, and depths must be sufficient to yield groundwater samples that fulfill both of the following requirements:

A) The samples are representative of background groundwater quality in the uppermost aquifer near the facility; and

B) The samples are not affected by the facility; and

2) Monitoring wells (at least three) installed hydraulically downgradient (i.e., in the direction of decreasing static head) at the limit of the waste management area. Their number, locations, and depths must ensure that they immediately detect any statistically significant amounts of hazardous waste or hazardous waste constituents that migrate from the waste management area to the uppermost aquifer.

b) Separate monitoring systems for each waste management component of a facility are not required provided that provisions for sampling upgradient and downgradient water quality will detect any discharge from the waste management area.

1) In the case of a facility consisting of only one surface impoundment, landfill, or land treatment area, the waste management area is described by the waste boundary (perimeter).

2) In the case of a facility consisting of more than one surface impoundment, landfill, or land treatment area, the waste management area is described by the imaginary boundary line that circumscribes the several waste management components.

3) The facility owner or operator may demonstrate that an alternate hydraulically downgradient monitoring well location will meet the criteria outlined below. The demonstration must be in writing and kept at the facility. The demonstration must be certified by a qualified groundwater scientist and establish each of the following:

A) That an existing physical obstacle prevents monitoring well installation at the hydraulically downgradient limit of the waste management area.

B) That the selected alternate downgradient location is as close to the limit of the waste management area as practical.

C) That the alternate location ensures detection as early as possible of any statistically significant amounts of hazardous waste or hazardous waste constituents that migrate from the waste management area to the uppermost aquifer.

D) Lateral expansion, new, or replacement units are not eligible for an alternate downgradient location under this subsection (b)(3).

c) All monitoring wells must be cased in a manner that maintains the integrity of the monitoring well bore hole. This casing must be screened or perforated and packed with gravel or sand where necessary to enable sample collection at depths where appropriate aquifer flow zones exist. The annular space (i.e., the space between the bore hole and well casing) above the sampling depth must be sealed with a suitable material (e.g., cement grout or bentonite slurry) to prevent contamination of samples and the groundwater.

(Source: Amended at 29 Ill. Reg. 6389, effective April 22, 2005)