**Section 725.192 Sampling and Analysis**

a) The owner or operator must obtain and analyze samples from the installed groundwater monitoring system. The owner or operator must develop and follow a groundwater sampling and analysis plan. The owner or operator must keep this plan at the facility. The plan must include procedures and techniques for each of the following:

1) Sample collection;

2) Sample preservation and shipment;

3) Analytical procedures; and

4) Chain of custody control.

BOARD NOTE: See "Procedures Manual For Ground Water Monitoring At Solid Waste Disposal Facilities", USEPA document number EPA-530/SW-611, and "Methods for Chemical Analysis of Water and Wastes", USEPA document number EPA-600/4-79-020, incorporated by reference in 35 Ill. Adm. Code 720.111(a), for discussions of sampling and analysis procedures.

b) The owner or operator must determine the concentration or value of the following parameters in groundwater samples in accordance with subsections (c) and (d):

1) Parameters characterizing the suitability of the groundwater as a drinking water supply, as specified in Appendix C.

2) The following parameters establishing groundwater quality:

A) Chloride,

B) Iron,

C) Manganese,

D) Phenols,

E) Sodium, and

F) Sulfate.

BOARD NOTE: These parameters are to be used as a basis for comparison in the event a groundwater quality assessment is required under Section 725.193(d).

3) The following parameters used as indicators of groundwater contamination:

A) pH,

B) Specific Conductance,

C) Total Organic Carbon, and

D) Total Organic Halogen.

c) Establishing Background Concentrations

1) For all monitoring wells, the owner or operator must establish initial background concentrations or values of all parameters specified in subsection (b). The owner or operator must do this quarterly for one year.

2) For each of the indicator parameters specified in subsection (b)(3), the owner or operator must obtain at least four replicate measurements for each sample and determine the initial background arithmetic mean and variance by pooling the replicate measurements for the respective parameter concentrations or values in samples obtained from upgradient wells during the first year.

d) After the first year, the owner or operator must sample all monitoring wells and analyze the samples with the following frequencies:

1) Samples collected to establish groundwater quality must be obtained and analyzed for the parameters specified in subsection (b)(2) at least annually.

2) Samples collected to indicate groundwater contamination must be obtained and analyzed for the parameters specified in subsection (b)(3) at least semi-annually.

e) The owner or operator must determine the elevation of the groundwater surface at each monitoring well each time a sample is obtained.

(Source: Amended at 42 Ill. Reg. 23725, effective November 19, 2018)