**Section 620.510 Monitoring and Analytical Requirements**

a) Representative Samples

 A representative sample shall be taken from locations as specified in Section 620.505.

b) Sampling and Analytical Procedures

1) Samples must be collected in accordance with the procedures set forth in the documents pertaining to groundwater monitoring and analysis "Methods for Chemical Analysis of Water and Wastes," "Methods for the Determination of Inorganic Substances in Environmental Samples," "Methods for the Determination of Metals in Environmental Samples," "Methods for the Determination of Organic Compounds in Drinking Water," "Methods for the Determination or Organic Compounds in Drinking Water, Supplement I," "Methods for the Determination of Organic Compounds in Drinking Water, Supplement II," "Methods for the Determination of Organic Compounds in Drinking Water, Supplement III," "Methods for the Determination of Organic and Inorganic Compounds in Drinking Water," "Prescribed Procedures for Measurement of Radioactivity in Drinking Water," "Procedures for Radiochemical Analysis of Nuclear Reactor Aqueous Solutions," "Radiochemical Analytical Procedures for Analysis of Environmental Samples," "Radiochemistry Procedures Manual," "Practical Guide for Ground Water Sampling," "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods" (SW-846), 40 CFR 136, appendix B, 40 CFR 141.80, 40 CFR 141.61, and 40 CFR 141.62, "Techniques of Water Resources Investigations of the United States Geological Survey, Guidelines for Collection and Field Analysis of Ground Water Samples for Selected Unstable Constituents," "Practical Guide for Ground-Water Sampling," "Techniques of Water Resources Investigations of the United States Geological Survey, Guidelines for Collection and Field Analysis of Ground-Water Samples for Selected Unstable Constituents," incorporated by reference at Section 620.125 or other procedures adopted by the appropriate regulatory agency.

2) Groundwater elevation in a groundwater monitoring well must be determined and recorded when necessary to determine the gradient.

3) The analytical methodology used for the analysis of constituents in Subparts C and D must be consistent with both of the following:

A) The methodology must have a PQL at or below the preventive response levels of Subpart C or groundwater standard set forth in Subpart D, whichever is applicable; and

B) "Methods for Chemical Analysis of Water and Wastes," "Methods for the Determination of Inorganic Substances in Environmental Samples," "Methods for the Determination of Metals in Environmental Samples," "Methods for the Determination of Organic Compounds in Drinking Water," "Methods for the Determination of Organic Compounds in Drinking Water, Supplement I," "Methods for the Determination of Organic Compounds in Drinking Water, Supplement II," "Methods for the Determination of Organic Compounds in Drinking Water, Supplement III," "Methods for the Determination of Organic and Inorganic Compounds in Drinking Water," "Prescribed Procedures for Measurement of Radioactivity in Drinking Water," "Procedures for Radiochemical Analysis of Nuclear Reactor Aqueous Solutions," "Radiochemical Analytical Procedures for Analysis of Environmental Samples," "Radiochemistry Procedures Manual," "Practical Guide for Ground Water Sampling," "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods" (SW-846), 40 CFR 136, appendix B, 40 CFR 141.80, 40 CFR 141.61, and 40 CFR 141.62, "Techniques of Water Resources Investigations of the United States Geological Survey, Guidelines for Collection and Field Analysis of Ground Water Samples for Selected Unstable Constituents," "Practical Guide for Ground-Water Sampling", "Techniques of Water Resources Investigations of the United States Geological Survey, Guidelines for Collection and Field Analysis of Ground-Water Samples for Selected Unstable Constituents", incorporated by reference at Section 620.125.

c) Reporting Requirements

 At a minimum, groundwater monitoring analytical results must include information, procedures and techniques for:

1) Sample collection (including but not limited to name of sample collector, time and date of the sample, method of collection, and identification of the monitoring location);

2) Sample preservation and shipment (including but not limited to field quality control);

3) Analytical procedures (including but not limited to the method detection limits and the PQLs); and

4) Chain of custody control.

(Source: Amended at 36 Ill. Reg. 15206, effective October 5, 2012)