**Section 1100.610 Compliance Evaluation; Performance and Documentation of Soil Sampling and Chemical Analysis**

a) For purposes of this Subpart F, the chemical constituents to be evaluated and the soil sample points must be determined on a site-specific basis by the PE or PG.

b) If soil sampling and analysis are used to evaluate compliance with the maximum allowable concentrations for chemical constituents in uncontaminated soils, compliance generally must be determined by comparing total soil concentrations from the laboratory reports with the maximum allowable concentrations as determined pursuant to Section 1100.605. The following procedures will be required, as applicable, when making the comparisons:

1) If the background value from 35 Ill. Adm. Code 742.Appendix A, Table G or H was determined to be the maximum allowable concentration in accordance with Section 1100.605 for an inorganic constituent or a polynuclear aromatic hydrocarbon constituent, compliance must be determined as follows:

A) The applicable background value from Table G or H may be compared directly with the total soil concentration from the laboratory report; or

B) If, as determined pursuant to Section1100.605 (a) and (b), the applicable background value for an inorganic chemical constituent from Table G has been selected as the maximum allowable concentration in place of a more stringent value for the Class I soil component of the groundwater ingestion exposure route in 35 Ill. Adm. Code 742.Appendix B, Table A, concentration in the extract from the Toxicity Characteristic Leaching Procedure (TCLP) or Synthetic Precipitation Leaching Procedure (SPLP) analytical extraction test in accordance with Methods 1311 and 1312, respectively, in SW-846, incorporated by reference at Section 1100.104, may be compared with the chemical's Class I soil component of the groundwater ingestion exposure route value in 35 Ill. Adm. Code 742.Appendix B, Table A.

2) For ionizing organic constituents, if, as determined pursuant to Section 1100.605, the lowest Tier 1 chemical-specific soil value is for the soil component of the Class I groundwater ingestion exposure route, the total soil concentration from the laboratory report must be compared with the lowest corresponding pH-dependent value in 35 Ill. Adm. Code 742.Appendix B, Table C.

3) For inorganic constituents and, except as provided in subsection (b)(1)(B) of this Section, if, as determined pursuant to Section 1100.605, the lowest Tier 1 chemical-specific soil value is for the soil component of the Class I groundwater ingestion exposure route, compliance must be evaluated by comparing the total soil concentration from the laboratory report using the following methods:

A) Total soil concentrations from the laboratory report must be compared with the lowest chemical-specific, pH-dependent value for the soil component of the Class I groundwater ingestion exposure route in 35 Ill. Adm. Code 742.Appendix B, Table C; or

B) For inorganic chemical constituents that are listed in Appendix B, Table A but not in Appendix B, Table C, the total soil concentrations from the laboratory report must be compared with the product of the extraction test values for the soil component of the Class I groundwater ingestion exposure route in Appendix B, Table A multiplied by 20 to convert to total soil concentration values; or

C) As an alternative to subsections (b)(3)(A) and (b)(3)(B) of this Section, concentrations in the extract from TCLP or SPLP analytical extraction test in accordance with Methods 1311 and 1312, respectively, in SW-846 may be compared with the chemical's Class I soil component of the groundwater ingestion exposure route value in 35 Ill. Adm. Code 742.Appendix B, Table A.

c) *Chemical analysis* of soil samples *conducted under this* Subpart F *must be conducted in accordance with the requirements of 35 Ill. Adm. Code 742 and "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods", USEPA Publication No. SW-846*, incorporated by reference in Section 1100.104 [415 ILCS 5/22.51(f)(3) and 22.51a(d)(3)]. If SW-846 methods do not support detection at the concentration specified for a particular chemical constituent (e.g., aldicarb, carbofuran, endothall), the laboratory may use modified or alternative methods available to the laboratory to achieve the lowest practical detection level possible. If concentrations of these constituents in soil are demonstrated to be equal to or lower than the applicable maximum allowable concentrations using modified or alternative methods pursuant to this subsection (c), the soil may be certified as complying with the maximum allowable concentrations.

d) Compositing and averaging of soil samples.

1) Samples must not be composited for analysis, except as specified in subsection (d)(2).

2) Samples taken from a site that is not a potentially impacted property may be composited for analysis if samples are composited in accordance with 35 Ill. Adm. Code 742.225(c) and (d).

3) Analytical results of soil samples from subsections (d)(1) and (d)(2) must not be averaged.

e) All quantitative analyses of samples must be completed by an accredited laboratory in accordance with the requirements of 35 Ill. Adm. Code 186 and the scope of the accreditation. *Documentation of any chemical analysis must include, but is not limited to:*

1) Chain of custody control;

2) *A copy of the lab analysis;*

3) *Accreditation status of the laboratory performing the analysis; and*

4) *Certification by an authorized agent of the laboratory that the analysis has been performed in accordance with the Agency's rules for the accreditation of environmental laboratories and the scope of the accreditation.* [415 ILCS 5/22.51(f)(2)(D)]

(Source: Added at 36 Ill. Reg. 13892, effective August 27, 2012)