

Bulletin 2016-23

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New Soil Endpoint and Post-Disposal Sampling Values Under *Directive 050: Drilling Waste Management* for Boron, Nickel, Ethylbenzene, and Xylenes

In February 2016, the Government of Alberta released a revised edition of *Alberta Tier 1 Soil and Groundwater Remediation Guidelines* (the 2016 guidelines), which came into effect on May 1, 2016.

The Alberta Energy Regulator (AER) identified four parameters in *Directive 050: Drilling Waste Management* for which the soil endpoints and trigger concentrations for post-disposal sampling needed to be adjusted to align with the 2016 guidelines: nickel, boron, ethylbenzene, and xylenes.

As a result, the AER has released a revised edition of *Directive 050*, effective immediately. The July 2016 edition contains the following changes:

- The endpoints in table 3.2 (ethylbenzene and xylenes) and table 3.4 (nickel and boron) have been revised as follows:

	Natural area land use		Agricultural land use		Residential/parkland land use	
	Fine (mg/kg)	Coarse (mg/kg)	Fine (mg/kg)	Coarse (mg/kg)	Fine (mg/kg)	Coarse (mg/kg)
Boron (mg/L saturated paste extract)	3.3	3.3	3.3	3.3	3.3	3.3
Nickel	45	45	45	45	45	45
Ethylbenzene	0.073	0.14	0.073	0.14	0.073	0.14
Xylenes	0.99	1.9	0.99	1.9	0.99	1.9

- The trigger concentrations in table 3.3 (ethylbenzene and xylenes) and table 3.5 (nickel and boron) have also been revised. These tables provide trigger concentrations for parameters in drilling waste that would require an operator to conduct post-disposal sampling to ensure that the soil endpoints set out in tables 3.2 and 3.4 have been met. The changes in the guidelines for boron, nickel, ethylbenzene, and xylenes have had a corresponding effect on the trigger concentrations for these parameters.

With respect to boron, the change in the guidelines was accompanied by a change in the analytical method from hot water soluble to saturated paste extract. As a result, table 3.5 has been broken down into two tables: (a) and (b). Table 3.5a contains all the previous parameters except boron. Table 3.5b provides the trigger concentrations for boron in milligrams per litre for saturated paste extract (cuttings) and extracts obtained from oversaturated waste streams.

- Appendix 4 has been expanded to explain how the trigger concentrations in table 3.5b were calculated.

Directive 050 is available on the AER website, www.aer.ca. Printed copies of the directive can be purchased from AER Order Fulfillment, Suite 1000, 250 – 5 Street SW, Calgary, Alberta T2P 0R4; telephone: 403-297-8311 or 1-855-297-8311 (toll free; option 2); fax: 403-297-7040; e-mail: InformationRequest@er.ca.

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