

Barenco Facts Release

Tailored Generic Criteria

The Ministry of Environment (MOE) "Guideline for Use at Contaminated Sites in Ontario", revised February 1997, includes three different approaches for determining which soil quality criteria to use when cleaning up contaminated sites. These three approaches are:

1. Background approach in which the naturally occurring "background" values (developed from an Ontario-wide sampling at rural and urban parks) are used as the clean up criteria.
2. Generic approach where clean up concentrations are listed in Guideline Tables generated by the MOE using generic site criteria and risk assessment models.
3. Site specific risk assessment (SSRA) approach where the clean up criteria for a site are designed from site specific data, instead of involving the use of existing criteria.

Background criteria are usually the most stringent.

The Generic criteria were developed by the MOE using risk-based contaminant exposure and transport models. In most cases, the assumptions that were made to run the models and generate criteria in each of the land and ground water use classifications were based on worst case situations. For example, the water table is always assumed to be one metre below basement levels and coarse soil is assumed to have a hydraulic conductivity of 10-2 cm/s.

At many sites, the use of the MOE Generic criteria produces clean up criteria that are more stringent than required to be protective of human health and the environment. This can result in elevated clean up costs, sometimes preventing the clean up from going ahead.

In order to take advantage of the more flexible SSRA approach without incurring significant developmental costs and time delays, **BARENCO** has developed a method called **TAILORED GENERIC CRITERIA™**. This method involves substitution of site specific physical and chemical

data into the same models used by the MOE to produce the Generic criteria and produces risk-based criteria specific to the site that are fully protective of the environment. Essentially, this is a combination of the SSRA approach and the Generic Criteria approach.

An analogy may be made to the calculation of income taxes. Although Revenue Canada provides tax tables which are a quick way to determine tax payable, the long form tax calculation will often result in considerable tax saving for only slightly more effort.

BARENCO has used the **TAILORED GENERIC CRITERIA™** method at several sites in Ontario. The results have permitted chemical concentrations otherwise considered to be at Generic non-potable ground water conditions to be used at potable ground water sites and increased the acceptable clean up criteria well above the Generic values at others.

The **TAILORED GENERIC CRITERIA™** approach can achieve considerable reduction in clean up costs due to the reduced requirement for remediation. For ground water, which is notoriously difficult and expensive to clean up, the **TAILORED GENERIC CRITERIA™** method can be the difference that allows the clean up of a site to move forward.

Since the **TAILORED GENERIC CRITERIA™** method uses the MOE Generic criteria models, only substituting real site data, the process is readily understood and accepted by the MOE. No toxicology evaluation is required and the exposure scenarios are not changed from the Generic models. This is the simplest form of site specific risk assessment. No registration on title is required if a full depth clean up approach is used.

TAILORED GENERIC CRITERIA™ can often reduce clean up costs and, depending on the site conditions and contaminants of concern, eliminate the requirement for any physical clean up at all.

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