

RULES FOR ON-SITE AND EXCESS SOIL MANAGEMENT

This document “Rules for On-Site and Excess Soil Management”, is adopted by reference in O. Reg. XXX/XX (On-Site and Excess Soil Management) made under the Environmental Protection Act, R.S.O. 1990, c. E.19 (“EPA”) (“the regulation”).

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INTRODUCTION

This document, titled “Rules for On-Site and Excess Soil Management” (“document”), is adopted by reference in O. Reg. XXX/XX (On-Site and Excess Soil Management) made under the *Environmental Protection Act*, R.S.O. 1990, c. E.19 (“EPA”) (“the regulation”).

This document contains mandatory requirements only. Additional guidance may be available on the website of the Ministry of the Environment, Conservation and Parks.

PART I of this document defines key terms. Some of these definitions are reproduced from the Act or regulation indicated, and in the event that any of these definitions are amended in the source Act or regulation, the definition in the source Act or regulation prevails.

PART II of this document provides excess soil planning and management requirements as provided for by O. Reg. XXX/XX, including those related to tracking systems, an excess soil destination assessment report, temporary excess soil storage Sites, local waste transfer facilities, on-site processing and soil deposited at a landfill or dump.

PART III of this document provides requirements in order to carry out an assessment of past uses, complete soil characterization, develop a sampling and analysis plan and develop a soil characterization report.

PART IV of this document provides direction on determining the excess soil standards to be used for final placement of excess soil at a reuse site. The applicable standards may be determined using generic tables of excess soil standards provided in this document or may be site-specific standards developed using acceptable tools or approaches enabled by this part, including the Beneficial Reuse Assessment Tool (BRAT). **Note:** for excess soil movements to RSC properties, please refer to requirements for soil being brought to an RSC property in O. Reg. 153/04.

Ce document intitulé « Règles relatives à la gestion de la terre d'excavation sur place et hors site » (le « document ») est adopté par renvoi, avec ses modifications, dans le **Règl. de l'Ont. XXX/XX** (Gestion de la terre d'excavation sur place et hors site) pris en application de la *Loi sur la protection de l'environnement*, L.R.O. 1990, chap. E.19 (le « règlement »).

Le document comprend un contenu obligatoire sur la façon planification de gestion de la terre d'excavation, sur la nécessité d'évaluer les utilisations et caractéristiques antérieures de la terre, sur la réutilisation de la terre d'excavation et sur l'application des normes de réutilisation de la terre d'excavation dans les sites de réutilisation. Il comprend également des exigences obligatoires pour les sites d'entreposage provisoires de la terre d'excavation.

Avertissement: Cette publication hautement spécialisée Règles relatives à la gestion de la terre d'excavation sur place et hors site n'est disponible qu'en anglais conformément au Règlement 671/92, selon lequel il n'est pas obligatoire de la traduire en vertu de la Loi sur les services en français. Pour obtenir des renseignements en français, veuillez communiquer avec le ministère de MECP au 416-314-7595 ou à karan.jandoo@ontario.ca

PART I GENERAL

Interpretation

1. (1) In this document,

“areas of potential environmental concern” has the same meaning as in O.Reg. 153/04 but are applicable to the project area;

“assessment of past uses study area” means the area that includes:

1. the project area;
2. any other property that is located, wholly or partly, within 250 metres from the nearest point on a boundary of the project area; and
3. any property that the qualified person determines should be included as a part of the assessment of past uses study area that is not located, wholly or partly, within 250 metres from the nearest point on a boundary of the project area;

“building” has the same meaning as in the *Building Code Act*, 1992, S.O. 1992, c. 23;

“Building Code” means Ontario Regulation 332/12 (Building Code) made under the *Building Code Act*, 1992, S.O. 1992, c. 23;

“BRAT” means beneficial reuse assessment tool;

“ceiling values” means values listed in the Table of Ceiling Values, contained in Appendix 3 of this document;

“contaminants of concern” has the same meaning as in O.Reg. 153/04 but are based on the applicable generic excess soil standards;

“contaminants of potential concern” has the same meaning as in O.Reg. 153/04 but are applicable to the project area

“environmentally sensitive area” means any of the following:

- a) An area reserved or set apart as a provincial park or conservation reserve under the *Provincial Parks and Conservation Reserves Act*, 2006, S.O. 2006, c. 12.
- b) An area of natural and scientific interest (life science or earth science) identified by the Ministry of Natural Resources as having provincial significance.
- c) A wetland, a coastal wetland identified by the Ministry of Natural Resources and Forestry as having provincial significance, or a wetland or coastal wetland that is not yet evaluated to determine whether it is provincially significant.
- d) A significant woodland identified by a municipality in accordance with the Provincial Policy Statement under the *Planning Act*, R.S.O. 1990, c. P.13.
- e) An area designated by a municipality in its official plan as environmentally significant, however expressed, including designations of areas as environmentally sensitive, as being of environmental concern and as being ecologically significant.

- f) An area designated as an escarpment natural area or an escarpment protection area by the Niagara Escarpment Plan under the *Niagara Escarpment Planning and Development Act*, R.S.O. 1990, c. N.2.
- g) An area identified by the Ministry of Natural Resources and Forestry as significant habitat of a threatened or endangered species.
- h) An area which is habitat of a species that is classified under section 7 of the *Endangered Species Act, 2007*, S.O. 2007, c. 6 as a threatened or endangered species.
- i) A property within an area designated as a natural core area or natural linkage area within the area to which the Oak Ridges Moraine Conservation Plan under the *Oak Ridges Moraine Conservation Act, 2001*, S.O. 2001, c. 31 applies.
- j) An area set apart as a wilderness area under the *Wilderness Areas Act*;

“EPA” means the *Environmental Protection Act*, R.S.O. 1990, c. E.19;

“excess soil” has the same meaning as in “the regulation”;

“generic excess soil standards” means all standards included in Table 1 “Full Depth Background Site Condition Standards”, in the tables for the “small volume excess soil standards” and in the tables for “volume independent excess soil standards”;

“infrastructure” has the same meaning as in “the regulation”;

“ministry” means the Ontario Ministry of the Environment, Conservation and Parks;

“Ontario Regulation 153/04” means Ontario Regulation 153/04 (Records of Site Condition — Part XV.1 of the Act) made under the Act;

“potentially contaminating activity” has the same meaning as set out in Column A of Table 2 of Schedule D of O. Reg. 153;

“project” has the same meaning as in “the regulation”;

“project area” has the same meaning as in “the regulation”;

“project leader” has the same meaning as in “the regulation”;

“public body” has the same meaning as in “the regulation”;

“qualified person” has the same meaning as in “the regulation”;

“rationale document” means the Rationale Document for Development of Excess Soil Standards as developed by the “ministry”;

“reuse site” has the same meaning as in “the regulation”;

“the regulation” means the On-Site and Excess Soil Management regulation made under the Environmental Protection Act, R.S.O. 1990, c. E.19 (“EPA”);

“Regulation 347” means Regulation 347, R.R.O. 1990 (General — Waste Management) made under the Act;

“sampling location” has the same meaning as in O. Reg. 153/04;

“small volume excess soil standards” are the same as the Soil, Ground Water and Sediment Standards (Tables 1 to 9) set out in O.Reg. 153/04);

“soil” has the same meaning as in “the regulation”;

“soil bank storage site” has the same meaning as in “the regulation”;

“soil processing site” has the same meaning as in “the regulation”;

“Soil, Ground Water and Sediment Standards” has the same meaning as in O. Reg. 153/04;

“Soil Rules” means the document entitled “Rules for On-Site and Excess Soil Management”, dated [*date to be confirmed before Regulation is finalized*], published by the ministry and available on a website of the Government of Ontario;

“subsurface soil” has the same meaning as in in O. Reg. 153/04;

“surface soil’ has the same meaning as in in O. Reg. 153/04;

“Table 1” means Table 1 of the Soil, Ground Water and Sediment Standards and can refer to either the background “small volume excess soil standards” or the background “volume independent excess soil standards”.

“temporary soil storage site” has the same meaning as in “the regulation”;

“topsoil” has the same meaning as in the *Municipal Act, 2001*, S.O. 2001, c. 25;

“volume independent excess soil standards” means excess soil standards included in this document (Table 1 and Table 2.1 to 9.1, inclusive, as included in Appendix 1) and includes leachate screening levels (Appendix 2);

“water body” has the same meaning as in in O. Reg. 153/04;

The following types of property uses have same meaning as in in O. Reg. 153/04:

1. Agricultural or other use;
2. Commercial use;
3. Community use;
4. Industrial use;
5. Institutional use
6. Parkland use; and
7. Residential use.

PART II

EXCESS SOIL PLANNING AND MANAGEMENT REQUIREMENTS

This Part includes requirements associated with specific components of excess soil planning and management relating to the movement of excess soil from a project area to a deposit site, as provided for by O. Reg. XXX/XXX, including:

- 1. Excess Soil Destination Assessment Reports,**
- 2. Tracking Systems, and**
- 3. Temporary Soil Storage Sites.**
- 4. Excavated soil processed at project area, designation as waste**
- 5. Local waste transfer facility operated by public body**
- 6. Depositing excess soil at a landfill or dump**

1. EXCESS SOIL DESTINATION ASSESSMENT REPORT:

For the purposes of paragraph 4 of subsection 7 (2) of the regulation, an Excess Soil Destination Assessment Report shall provide the following information:

- 1) The estimated volume and quality of soil to be removed from the project area as excess soil;
- 2) The estimated volume of soil to be excavated and reused at the project area;
- 3) The types of soil processing of soil that will be excess soil, if any, to be conducted at the project area;
- 4) The approximate date that excess soil will commence leaving the project area, and the approximate date when all excess soil will have been removed from the project area;
- 5) For each reuse site, soil bank storage site, soil processing site or landfill at which excess soil will be deposited, provide the following information:
 - i. Municipal address;
 - ii. The estimated quantity of excess soil to be deposited at the site;
 - iii. The estimated quality of the excess soil to be deposited at the site;
 - iv. The generic excess soil standards and site specific (if applicable) excess soil standards that apply to that site;
 - v. If the site is a reuse site, the undertaking for which the excess soil is required;
 - vi. Whether the site has any applicable legal instrument in place (i.e. Environmental Compliance Approval, by-law or permit issued under a by-law passed under section 142 of the Municipal Act);
 - vii. Whether a fill management plan was developed for that site; and
 - viii. If the site is a reuse site, confirmation that written consent has been received from the operator of the reuse site that the quantity and quality of excess soil estimated under ii. and iii. above will be accepted for deposit at the site.

- ix. If the project leader becomes aware that there is a higher concentration of contaminants in the excess soil than is indicated in the confirmation mentioned in item viii. above, or if the quantity of excess soil is greater than indicated in that confirmation, the project leader shall ensure a new confirmation is included within 30 days after the day the project leader becomes aware of the matter, in accordance with subsection 10 (2) of the regulation.

For every temporary soil storage site at which excess soil will be stored, provide the following information:

- i. Municipal address;
- ii. Confirmation that the temporary soil storage site is located on a property owned by a public body or by the project leader for the project in relation to which the soil will be excavated;
- iii. The estimated quantity and quality of excess soil to be stored at the temporary soil storage site;
- iv. Approximate dates during which excess soil will be stored at the temporary soil storage site;
- v. A list of the intended reuse site(s) and the date(s) when these reuse site(s) will accept the excess soil for final placement;
- vi. A list of any applicable legal instruments (i.e. Environmental Compliance Approval, by-law or permit issued under a by-law passed under section 142 of the Municipal Act) relevant to excess soil management planning at the temporary soil storage site, and identifying information about the instrument sufficient to allow for retrieval of the instrument; and
- vii. A declaration by the project leader as required by paragraph 14 of subsection 7 (8) of the regulation

2. TRACKING SYSTEM:

For the purposes of subsection 7 (7) of the regulation, a tracking system shall include procedures that will enable the generation and retention of information, and will be able to produce records on request for a period of two years following transportation of the excess soil, that verify the following:

- 1) That excavated soil at a project area that may be excess soil and that has been assessed for contaminants remains segregated from soil that has not been assessed, and that soils of differing qualities that may be excess soil remain segregated;
- 2) That the operator for each vehicle or carrier with excess soil leaving a project area has been directed to which site the excess soil must be taken for deposit and that the site is a reuse site that meets the conditions for reuse of the excess soil, if it is not waste, or is a waste disposal site that can accept the excess soil being transported;
- 3) Based on the assessments undertaken, reports prepared, and other information known to the project leader or any other person responsible for soil management, excavation, characterization and loading, the quality of soil in a vehicle or carrier leaving a project area;

- 4) The volume of excess soil in a vehicle or carrier at the time it leaves a project area, as assessed by the operator of the project area, and at the time it is deposited at the site described in paragraph 2, as verified by the operator of the deposit site;
- 5) The date and time that a vehicle or carrier with excess soil leaves a project area, as documented by the operator of the project area, and the date and time the excess soil is deposited at the site described in paragraph 2, as verified by the operator of the deposit site;
- 6) Through the use of an identifier for the vehicle or carrier, that the same vehicle or carrier directed in paragraph 1 to take excess soil to a deposit site was the vehicle or carrier that deposited excess soil at that site;
- 7) That the vehicle or carrier in which the excess soil is being transported or the excess soil is not tampered with, replaced, added to or otherwise modified from the time it is loaded at the project area to the time it is deposited at the site described in paragraph 2;
- 8) The name of the corporation that operates the vehicle or carrier and that is responsible to transport the excess soil from the project area to the site identified in paragraph 2.
- 9) The location, including the municipal address if relevant, at which the excess soil was deposited and the contact information of the person that verified receipt of the excess soil on behalf of the deposit site.
- 10) The total amount of excess soil that left a project area for each deposit site, updated daily, and that the same amount of excess soil was deposited at that deposit site from the project area.

3. TEMPORARY SOIL STORAGE SITES:

For the purposes of paragraph 10 of subsection 17 (1) of the regulation, the project leader or public body who owns the property on which the temporary soil storage site is located shall ensure that the following requirements are met:

- 1) Excess soil from different projects shall remain segregated unless the excess soil meets the same applicable excess soil standards table and is destined for the same reuse site.
- 2) Records containing the following information shall be maintained and made available to the ministry upon request:
 - i. municipal addresses of the project areas from which the excess soil originated;
 - ii. the dates that excess soil was received from each project area and total quantity and quality of excess soil received;
 - iii. for each segregated excess soil stockpile, the quality and quantity of excess soil and the project area from which it originated; and

- iv. the confirmed reuse site(s) as part of the Excess Soil Destination Assessment Report and the date on which the reuse site(s) can start to receive the relevant excess soil.
- 3) Excess soil shall be managed in such a way as to prevent any adverse effects associated with the receiving, processing, storage, and movement of excess soil, including management of:
 - i. noise;
 - ii. dust;
 - iii. mud tracking;
 - iv. leaching;
 - v. run-off and erosion; and
 - vi. potential odour issue(s).
 - 4) The maximum size of each pile of stored excess soil at a temporary soil storage site shall not exceed 2500 m³.
 - 5) Excess soil shall not leach to groundwater.
 - 6) Excess soil should not come into direct contact with vegetation at the temporary soil storage site.

4. EXCAVATED SOIL PROCESSED AT PROJECT AREA, DESIGNATION AS WASTE

For the purposes of section 15 of the regulation, the project area where excess soil is processed shall ensure the requirements set out in paragraphs 3,4,5 & 6 of the Temporary Soil Storage Sites Section (above) are met.

5. LOCAL WASTE TRANSFER FACILITY OPERATED BY PUBLIC BODY

For the purposes of section 16 of the regulation, a public body who owns the property on which the local waste transfer facility is located shall ensure the requirements set out in paragraphs 3,4,5 & 6 of the Temporary Soil Storage Sites Section (above) are met.

6. DEPOSITING EXCESS SOIL AT A LANDFILL OR DUMP

For the purposes of subsection 11 (2) of the regulation, excess soil that may not be deposited at a landfill or dump is soil that meets Table 2.1 for residential, parkland or institutional uses. If the excess soil has not been characterized, excess soil may not be deposited at a landfill or dump if the soil is excavated from property that is being used for agricultural or other, residential, institutional or parkland uses, there is no indication that the soil is from an area near a potentially contaminating activity or a remediation project, and there is no visual or olfactory evidence of contamination.

PART III

ASSESSMENT OF PAST USES AND SOIL CHARACTERIZATION

This Part includes requirements associated with specific components of excess soil planning related generally to excess soil quality, as provided for by O. Reg. XXX/XXX, including:

- 1. Assessments of Past Uses,**
- 2. Sampling and Analysis Plans, and**
- 3. Soil Characterization Reports.**

1. ASSESSMENT OF PAST USES

For the purposes of paragraph 1 of subsection 7 (2) of the regulation, an assessment of past uses is required as a component of excess soil management planning and shall meet the following requirements.

The assessment of past uses of the project area shall be carried out to achieve the following objectives:

- A. To develop a preliminary determination of the likelihood that one or more contaminants have affected soil in a location where soil is to be excavated within the project area.
- B. To identify any areas of potential environmental concern (APECs) within the project area and to determine if any location where soil is to be excavated could have been affected by a potentially contaminating activity (PCA).
- C. If any APECs are identified, to identify the contaminants of potential concern (COPCs) to determine the focus of the sampling and analysis plan.

The assessment of past uses shall include the following components:

- A. A records review;
- B. Interviews;
- C. Site reconnaissance;
- D. An evaluation of the information gathered from the records review, interviews and site reconnaissance;
- E. A conceptual site model; and
- F. An assessment of past uses report that includes the conceptual site model.

1) Records review

- i. The specific objective of the records review is to obtain and review records that relate to the assessment of past uses study area and to the current and past uses of and the potentially contaminating activities at or affecting the project area to determine if an APEC exists within the project area where soil will be excavated.

- ii. Subject to item 5 (below), the records review component shall comply with section 3 of Schedule D of O. Reg. 153/04, with necessary modifications.

2) Interviews

- i. The specific objectives of the interview component of the assessment of past uses are to:
 1. obtain information to assist in determining if an APEC exists within the project area where soil will be excavated; and
 2. identify details of PCAs or potential contaminant pathways that could result in the presence of contaminants in soil that is to be excavated within the project area.
- ii. Subject to item 5 (below), the interviews component shall be conducted in accordance with sections 5 to 8 of Schedule D of O. Reg. 153/04, with necessary modifications.

3) Site reconnaissance

- i. The specific objectives of the site reconnaissance component of the assessment of past uses are to:
 1. determine if any APECs exist within the project area where soil will be excavated through observations about current and past uses and PCAs in the assessment of past uses study area.
 2. identify details of:
 1. Potential contaminant pathways that could result in the presence of contaminants in soil to be excavated within the project area; and
 2. Every APEC and, the COPCs within the project area where soil will be excavated.
- ii. Subject to item 5 (below), the site reconnaissance component shall comply with sections 9 to 15 of Schedule D of O. Reg. 153/04, with necessary modifications.

4) An evaluation of the information gathered from the records review, interviews and site reconnaissance:

- i. Subject to item 5 (below), the evaluation shall comply with subsections (1) to (6) of section 16 of Schedule D of O. Reg. 153/04, with necessary modifications.

5) Schedule D Compliance: The records review, interviews, site reconnaissance and evaluation components of the assessment of past uses shall comply, with necessary modifications, with the requirements of Schedule D of O. Reg. 153/04 mentioned in items (3) to (6) above, respectively, unless the qualified person is of the opinion that,

- i. It is not necessary to undertake the interviews component, or comply with the requirement in order meet the general objectives of an assessment of past uses; or

- ii. Having regard to the nature of the project and the geographic size of the project area, it is not practicable to undertake the interviews component, or comply with the requirement.
- iii. Where a qualified person forms an opinion mentioned in a) or b) above, the qualified person shall, in the assessment of past uses report,
 - 1. identify every requirement in the relevant portion of Schedule D of O. Reg. 153/04 that was not complied with in carrying out that component of the assessment of past uses;
 - 2. describe the rationale for the opinion;
 - 3. identify and describe any information gaps in that component as a result of the non-compliance;
 - 4. describe how the information gaps shall be addressed in the preparation of the sampling and analysis plan to ensure that the general objectives of the excess soil characterization can be satisfied;
- iv. Description of the project and project area.

6) The preparation of a conceptual site model:

- i. The conceptual site model shall include one or more figures of the assessment of past uses study area that:
 - 1. show any existing buildings and structures in the project area;
 - 2. show roads, including names, within the assessment of past uses study area;
 - 3. show uses or properties adjacent to the project area (where the examination of the assessment of past uses study area is necessary);
 - 4. identify and locate where any PCA is occurring or has occurred within the assessment of past uses study area, and show tanks within such areas; and
 - 5. identify and locate any APECs within the project area that could result in the presence of contaminants in soil that is to be excavated within the project area.

7) The assessment of past uses report shall include:

- i. Persons Involved in the Project:
 - 1. Project leader(s): The name, mailing address, e-mail address, and telephone number of all project leader(s) for the project
 - 2. Qualified Person(s): The name, mailing address, e-mail address, telephone number, and type of licence(s) held for any qualified person(s) who prepared or supervised the preparation of the excess soil management planning.
- ii. Description of the Project and Project Area:
 - 1. A general description of the project and project type
 - 2. If the project involves a change of property use in the project area, describe the change

- iii. A general description of the current and most recent use(s) of the project area and their location(s) within the project area;
 - 1. Any municipal address(es) and property identification number(s) applicable to the property or properties comprising the project area;
 - 2. a list of the owner(s) of the property or properties comprising the project area;
 - 3. A map of the project area showing the boundaries of the project area and of the property or properties comprising the project area; structural features including buildings, paved surfaces, and natural features; and areas of planned excavation, stockpiling, and processing of soil that may be removed from the project area; Geographic coordinates of the approximately centre of the project area based on the UTM grid coordinate system identifying easting, northing and zone based on NAD 83 datum. A list of any legal instruments that apply to soil management within the project area; (i.e. Environmental Compliance Approval, by-law or permit issued under a by-law passed under section 142 of the Municipal Act);
 - 4. A statement as to whether a record of site condition has been or is intended to be submitted for filing under Part XV.1 of the EPA for all or part of the project area, and whether a risk assessment has been or will be submitted to the Director under the same Part.
 - 5. A statement as to whether any orders requiring remediation have been issued in relation to all or part of the project area.

 - iv. The qualified person's conclusions, based on a review of the information collected during the assessment of past uses and on the exercise of professional judgment, about the following:
 - 1. the existence and location of any APECs within the project area that could result in the presence of contaminants in soil that is to be excavated within the project area;
 - 2. the current and past uses of the project area;
 - 3. the likelihood that one or more contaminants have affected the soil that is to be excavated within the project area; and
 - 4. the COPCs that shall be the focus of the sampling and analysis plan.

 - v. A table, prepared by the qualified person, that sets out:
 - 1. every APEC within the project area that could result in the presence of contaminants in the soil to be excavated; and
 - 2. current and past activities that have been undertaken within the project area, to the extent past uses have been investigated as part of the assessment of past uses.
- 8) Sections 27, 28, 29 and 30 of O. Reg. 153/04 shall be complied with, with necessary modifications, in the preparation of the assessment of past uses report.

2. SAMPLING AND ANALYSIS PLAN

For the purposes of paragraph 2 of subsection 7 (2) of the regulation, a sampling and analysis plan is required as a component of excess soil management planning and shall meet the requirements outlined below.

The sampling and analysis plan shall be prepared to achieve the following general objectives:

1. Identify each location where soil is to be excavated defined by the APEC, that will be subject to sampling and analysis, based on the assessment of past uses and the conceptual site model.
2. Ensure an appropriate level of sampling and analysis is carried out to determine the concentration of contaminants in the excavated soil to determine:
 - i. Which soil may be reused within the project area, with or without processing at the project area, and which soil may be deposited at a soil processing site or a landfill; and,
 - ii. The potential reuse sites at which excess soil from the project area may be deposited for final placement, having regard to the excess soil standards set out in this Document.

An excess soil characterization shall include the following components:

- i. Preparing and implementing the sampling and analysis plan; and
- ii. The preparation of an excess soil characterization report including a review and evaluation of information.

1) Preparing a Sampling and Analysis Plan

A sampling and analysis plan shall achieve the following specific objectives based on the findings of the assessment of past uses, the conceptual site model, an understanding of the areas where excavations are planned within the project area and other information known to the qualified person:

- i. Identify those areas of the project area that must be investigated using sampling;
 - ii. Identify all other areas of the project area where excavations are planned and that will not be subject to sampling and to provide a rationale explaining why such areas of the project area are not required to be subject to sampling to make determinations on how the excavated soil from those areas shall be managed and disposed of;
 - iii. Determine the location, concentration and distribution of contaminants in the soil to be excavated within the areas of the project area subject to sampling by sampling undisturbed soil (i.e., in situ sampling). If an in-situ sampling approach is not practical or feasible, soil samples shall be collected from stockpiles where the soil is temporarily stored and,
 - iv. Characterize the distribution of contaminants in stockpiles of soil or sediment (that has been removed from a stormwater management pond, de-watered and temporarily stored).
- 2) **In implementing the sampling and analysis plan, the qualified person shall ensure that the following minimum sampling requirements are satisfied:**

- i. Soil samples shall be collected using professionally acceptable soil collection methods and shall be taken by or under the supervision of the qualified person;
- ii. Precautions shall be taken to minimize the potential for cross-contamination;
- iii. The qualified person shall ensure that the number of samples of soil collected and analyzed is sufficient to determine the subsurface stratigraphy at or under the project area, as well as the location of contaminants in soil, on, in or under the project area;
- iv. Where a contaminant is identified on, in or under the project area during the site investigation and the contaminant is one for which there is no standard listed in this Document, samples of the contaminant shall be collected and analyzed if the contaminant is a contaminant of concern;
- v. The qualified person shall ensure the following are considered when soil samples to be analyzed are being selected to ensure the samples analyzed are representative of the maximum concentration of a contaminant in each area of the project area to be investigated:
 1. Any evidence of the presence of a contaminant; and
 2. The maximum concentrations of a contaminant,
 - i. measured using field screening equipment; and
 - ii. any other field screening means which may be necessary to ensure the analysis includes such maximum concentrations;
- vi. The qualified person shall ensure that field logs are recorded and finalized for all sampling locations to document the soil conditions within the project area;
- vii. The qualified person shall ensure that the volume of any free-flowing product encountered at the project area and/or removed from the project area is monitored and recorded and disposed of appropriately;
- viii. For an in-situ sampling approach, the following rules apply (in relation to the area identified where sampling is required):
 1. a minimum of three soil samples must be analyzed if less than 600 cubic metres of soil will be excavated;
 2. At least one soil sample shall be analyzed for each 200 cubic metres of soil for the first 10,000 cubic metres of soil to be excavated; and
 3. At least one sample for each additional 450 cubic metres after the first 10,000 cubic metres of soil to be excavated, shall be analyzed;
- ix. For a stockpile sampling approach, the sampling frequencies specified in Table 1 of this Document shall be followed.

- x. At a minimum, soil samples are required to be analyzed for the following parameters:
1. petroleum hydrocarbons (F1 through F4) including BTEX;
 2. metals (antimony, arsenic, barium, beryllium, boron, cadmium, chromium, cobalt, copper, lead, molybdenum, nickel, selenium, silver, thallium, uranium, vanadium and zinc);
 3. Sodium adsorption ration (SAR) and electrical conductivity (EC) if the excess soil is excavated from an area where a substance has been used for the purpose of keeping the area safe for use under conditions of snow or ice, unless the soil is to be finally placed at a location referenced in item 4 in section 7 of Part IV of this Document.
 4. Any contaminants of potential concern identified during the assessment of past uses;
 5. leachate analysis for certain contaminants as outlined in item 5 (below).
- xi. Once sediment removed from stormwater management pond is segregated and dewatered, sampling of the stockpiled sediment shall be undertaken. These soil samples shall be analyzed for PAHs, EC, SAR and cyanide in addition to the minimum parameters listed in (i) and (ii) and leachate analysis for certain contaminants as outlined in item 4 (below); Important note: addition of chemicals or polymers to stabilize the sediment will make the sediment/soil unsuitable for re-use. If the sediment from the pond is removed, dewatered and segregated into stockpiles by zones from within the pond (i.e., sediment from zone 1 – inlet, sediment from zone 2 – centre, and sediment from zone 3 – outlet), the applicable sampling frequencies are as follows:
1. a minimum of three soil samples must be analyzed if less than 600 cubic metres of soil will be excavated;
 2. at least one soil sample shall be analyzed for each 200 cubic metres of soil for the first 10,000 cubic metres of soil to be excavated; and
 3. at least one sample for each additional 450 cubic metres after the first 10,000 cubic metres of soil to be excavated, shall be analyzed.
 4. If the sediment from the pond is removed without regard for the three different zones, then the applicable sampling frequencies are specified in the stockpile sampling table (see Table 1).
- xii. Where there is information regarding the location of potential sources of contaminants within an APEC (e.g. a former tank) that is within the project area, sample locations must be identified with the objective of locating the maximum concentration;
- xiii. The qualified person shall provide a rationale for the sampling design used;
- xiv. A sufficient number of soil samples shall be collected from representative depths and locations to allow the concentrations of any contaminants in the soil that is to be excavated to be known in order to meet the objectives of the sampling analysis plan.
- xv. If two or more samples of soil are taken from sampling points at the same sampling location (note definition of sampling location in ## of this Document) that are at the same

depth, the sample meets an applicable excess soil standard if the average of the sampling results meets that standard;

- xvi. The averaging provision set out immediately above does not allow for compositing of samples of soil that will be analyzed for volatile contaminants, including volatile organic compounds;
- xvii. A sufficient number of samples shall be collected at different depths within a stockpile to characterize the depth profile and the spatial variation, laterally and vertically, of the substances of concern within the stockpile; and
- xviii. Soil samples shall not be collected from the surface of the stockpile; rather, techniques and equipment need to allow for collection of samples from the entire stockpile, including the core.

xix. Table 1: Stockpile Sampling Frequencies

Volume of Stockpile (m ³)	Number of Samples
≤130	3
>130 to 220	4
> 220 to 320	5
> 320 to 430	6
> 430 to 550	7
> 550 to 670	8
> 670 to 800	9
> 800 to 950	10
> 950 to 1100	11
> 1100 to 1250	12
> 1250 to 1400	13
> 1400 to 1550	14
> 1550 to 1700	15
> 1700 to 1850	16
> 1850 to 2050	17
> 2050 to 2200	18
> 2200 to 2350	19
> 2350 to 2500	20
> 2500 to 2700	21
> 2700 to 2900	22
> 2900 to 3100	23
> 3100 to 3300	24
> 3300 to 3500	25
> 3500 to 3700	26
> 3700 to 3900	27
> 3900 to 4100	28
> 4100 to 4300	29
> 4300 to 4500	30
> 4500 to 4700	31
> 4700 to 5000	32
> 5000	$N = 32 + \frac{\text{volume} - 5000}{300}$

3) Requirements for Handling, Storage and Analysis of Samples:

Where a sample of soil is taken, the qualified person shall ensure that the requirements of section 47 (Analytical procedures) of O. Reg. 153/04 are complied with, including the requirements in relation to the handling and storage of the samples, the requirement that the analyses of the samples to be carried out by an accredited lab and the requirements to comply with the “Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act” published by the ministry and dated March 9, 2004, as it may be amended from time to time.

4) Mandatory Leachate Analyses Requirements

- i. If a soil sample is being analysed for a COPC identified during the assessment of past uses and leachate analysis is required based on Section 5 of Part IV of this Document, then the following soil sampling frequencies are required.
 1. A minimum of three soil samples must be submitted for leachate analysis from each APEC. The soil samples submitted for leachate analysis shall be collected from the sampling locations where the highest contaminant concentrations were found.
 2. Leachate samples should be analysed at a frequency of at least 10% of the number of bulk samples (see the in-situ sampling frequencies), in addition to the three minimum samples, unless the qualified person can provide a rationale regarding why additional sampling is not necessary in order to meet the general and specific objectives of the excess soil characterization.
- ii. For soil excavated from an APEC that is stored in stockpiles, the minimum leachate sample frequency is a minimum of three, plus 10% of the required number of bulk soil samples (as detailed in the stockpile sampling frequency table – see Table 1).
- iii. Where a sample of soil is submitted for leachate analysis, the leachate extraction shall be completed using the Synthetic Precipitation Leaching Procedure (US EPA SW-846 Method 1312), the Toxicity Characterization Leaching Procedure (US EPA SW-846 Method 1311) or another method approved by the Director. The subsequent analysis of the leachate elute must be completed in accordance with the requirements of Section 47 of O. Reg. 153/04, including the requirements in relation to the handling and storage of the samples, the requirement that the analyses of the samples to be carried out by an accredited lab and the requirements to comply with the “Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act” published by the ministry and dated March 9, 2004, as it may be amended from time to time.

5) **Heavily Impacted Soil That Cannot Be Reused at a Reuse Site**

- i. Where a qualified person determines based on limited sampling and analysis, that soil within an APEC contains a concentration of contaminants exceeding the full-depth excess soil standards for Residential/Parkland/Institutional property uses small volume excess soil standard tables set out in Appendix 2 of Part IV of this Document, the qualified person may depart from the sampling and analysis requirements set out in this part of this Document if the qualified person has determined that the only practical disposal option for the impacted soil is to transport it to a landfill or to a soil processing site.

3. **SOIL CHARACTERIZATION REPORT**

1) **Excess Soil Characterization Report Including a Review and Evaluation of Information.**

For the purposes of paragraph 3 of subsection 7 (2) of the regulation a soil characterization report shall include, cross-sections, figures, tables and narrative descriptions that illustrate the following, with respect to each area where excavations are planned within the project area:

- i. each area of potential environmental concern within the project area, and its dimensions;
- ii. each part of the project area that was subject to sampling, and its dimensions;
- iii. each area of potential environmental concern within the project area where soil is to be excavated and its dimensions, and for each such area of potential environmental concern, the related potentially contaminating activity;
- iv. the information required by report section 5 in Table 1 to Schedule E of O. Reg. 153/04 (investigation methods including drilling and excavating test pits, soil sampling, field screening methods and analytical testing), with necessary modifications and excluding any requirements related to groundwater;
- v. stratigraphy from ground surface to the depth of the deepest planned excavation within the project area;
- vi. approximate depth to water table, including whether the depths of excavation for each area where soil excavation is planned are below the water table;
- vii. the following information in relation to each area where in-situ soil samples were taken, each stockpile, and soil subject to leachate analysis;
 1. minimum number of samples required, and total number of samples collected;
 2. the locations and depths of samples, and a rationale for the selection of sampling locations;
 3. the parameter groups for analysis, including a rationale for the choice of parameter groups;
 4. the date of sample collection;
 5. the date of analysis;

6. contaminants of with measurable concentrations;
 7. the distribution of each contaminant present;
 8. a discussion of any soil field screening results along with a discussion and analysis of the laboratory analytical results
 9. If applicable in relation to leachate analysis, a rationale regarding why a sampling frequency of at least 10% of the number of bulk samples was not necessary, the leachate extraction method and rationale for the selection of method; and proof of Director approval for use of an alternate leachate extraction method; and
- viii. one or more tables that, (a) show soil quality data contained in laboratory certificates of analysis of samples taken at the project area; (b) include borehole, test hole or test pit identification number, sample depths, sample identification number, date of sample collection, date of analysis and laboratory certificate of analysis or analytical report reference number, and (c) include a comparison of the data to applicable excess soil standards.
- ix. laboratory certificates of analysis or analytical reports for all samples analyzed;
- x. the information required by report section 6, sub-heading (ix) in Table 1 to Schedule E of O. Reg. 153/04 (quality assurance and quality control results), with necessary modifications.
- xi. If, during the sampling and analysis of soil within an area of potential environmental concern, the qualified person determined that soil contains high concentrations of contaminants as described in item 6 (above) and the only practical disposal option is to dispose of the soil at a landfill or soil processing site, the qualified person shall:
1. describe the steps taken to delineate the impacted soil that is to be excavated, from other soil within the area of potential environmental concern that is to be excavated and that may be reusable; and
 2. describe and rationalize the extent of sampling and analysis undertaken in substitution to the sampling and analysis requirements set out in this Document.

PART IV

REUSE OF EXCESS SOIL AND APPLICATION OF THE STANDARDS FOR REUSE OF EXCESS SOIL AT REUSE SITES

1. GENERIC EXCESS SOIL STANDARDS

The tables of generic excess soil standards are found in Appendix 1 of this document.

Table 1 provides the “Full Depth Background Site Condition Standards” and is the same as Table 1 of the Soil, Ground Water and Sediment Standards.

Tables 2 to 9.1 provide excess soil standards in respect of two different volume classes of excess soil being brought to a property for use in an undertaking. In relation to each volume class, eight tables are provided for different location placement conditions: full-depth depth placement, stratified placement, potability of groundwater, shallow overburden thickness, and a nearby water body.

The tables for small volume excess soil standards (1, 2, 3, 4, 5, 6, 7, 8 and 9), must be used for excess soil volumes up to 350 m³, or up to 1000 m³ with a rationale provided by a qualified person. The standards in these tables are the same as those in tables 2 to 9 of the Soil, Ground Water and Sediment Standards, can be found in O. Reg. 153/04 and are set for coarse textured soil. These excess soil standards may be updated from time to time.

The tables for volume independent excess soil standards (1, 2.1, 3.1, 4.1, 5.1, 6.1, 7.1, 8.1 and 9.1) must be used for volumes of excess soil that are larger than 350 cubic metres but the qualified person has discretion to also use these standards for small soil volumes. For ease of reference, these tables have been presented in the same order with the same placement site conditions as the tables for small volume excess soil standards.

The following provides a summary of the generic excess soil standards tables available for use under the On-Site and Excess Soil Management:

Table Description	Small Volume (up to 350 m³) (or up to 1000 m³ with qualified person rationale)	Volume Independent
Full Depth Background	Table 1	Table 1
Full Depth, Potable	Table 2	Table 2.1
Full Depth, Non-Potable	Table 3	Table 3.1
Stratified, Potable	Table 4	Table 4.1
Stratified, Non-Potable	Table 5	Table 5.1
Full Depth, Shallow Soil, Potable	Table 6	Table 6.1
Full Depth, Shallow Soil, Non-Potable	Table 7	Table 7.1
Full Depth, Within 30 m of a Water Body, Potable	Table 8	Table 8.1
Full Depth, Within 30 m of a Water body, Non- Potable	Table 9	Table 9.1

Within each table, standards for contaminants are presented in relation to property use of the reuse site. Property use categories and definitions are the same as in O. Reg. 153/04 and are provided in Part I of this document.

In relation to standards in this document that are copied from tables in the Soil, Ground Water and Sediment Standards, the latter document prevails in the case of a discrepancy between standards.

Leachate analysis is a mandatory component, in specific circumstances, of meeting the volume independent excess soil standards, site-specific standards generated using BRAT and Table 1 in larger volume scenarios. Leachate analysis is required for contaminants for which soil to groundwater component values are not derived (e.g. metals), and for contaminants with analytical limitations. Rules governing the determination of whether leachate analysis is required, and how to complete leachate analysis, are provided in this document along with tables of leachate screening levels.

Additional rules that apply in special circumstances shall be considered when determining which excess soil standards are applicable to a particular type of soil or reuse site.

Rules Associated with the Use of Excess Soil Standards

For the purposes of paragraph 1 of subsection 5 (1) of the regulation

- 1) In this Part,
 - i. a reference to a table of excess soil standards means the tables in Appendix 1 of this document
 - ii. in the event that an excess soil standard in one of Tables 1, 2, 3, 4, 5, 6, 7, 8 or 9 in this document is different than the analogous soil standard in the analogous table in the Soil, Ground Water and Sediment Standards, as it may be amended from time to time, the latter prevails provided it applies to coarse textured soil.
 - iii. volume independent tables means Tables 2.1, 3.1, 4.1, 5.1, 6.1, 7.1, 8.1, and 9.1;
 - iv. small volume tables means Tables 2, 3, 4, 5, 6, 7, 8, and 9;
 - v. potable tables means Tables 2, 4, 6, 8, 2.1, 4.1, 6.1, and 8.1;
 - vi. non-potable tables means Tables 3, 5, 7, 9, 3.1, 5.1, 7.1, and 9.1;
 - vii. near a water body tables means Tables 8, 9, 8.1, and 9.1;
 - viii. shallow soil tables means Tables 6, 7, 6.1, and 7.1;
 - ix. stratified standards tables means Tables 4, 5, 4.1 and 5.1

- 2) **The quality of the excess soil that is intended to be finally placed at a reuse site must meet the excess soil standards determined in accordance of paragraph 1 of subsection 5 (1) of the regulation with the following rules:**
 - i. Table 1 excess soil standards can be applied in relation to any reuse site and any volume of excess soil.
 - ii. If Table 1 is not being used or required to be used by this Part, the volume independent tables will be used unless it is determined that a small volume table is applicable in accordance with the following:

1. if the volume is less than or equal to 350 cubic metres the small volume tables shall be used; or
 2. if the volume is 1000 cubic metres or less the small volume tables shall only be used if a qualified person for the project area has determined that this volume of soil at that standard would not result in an increase in risk relative to the risk upon which the standards were developed, based upon an assessment of the potential contaminant receivers and contaminant pathways, the distribution and thickness of the excess soil, and the specific use of the excess soil.
- iii. The project leader and qualified persons must evaluate the potential cumulative impact of fill of various qualities. For example, when selecting the tables for small volume excess soil standards, existing reuse site conditions must be evaluated, including whether existing soil at the reuse site is or suspected of being impacted, or if the sum of the volume of the excess soil being brought to the reuse site and the volume of known or potentially impacted soil currently at the reuse site is greater than 350 cubic metres.
 - iv. Conditions can exist at a site for which the assumptions used to develop the excess soil standards are not valid. Some of these conditions are presented in Appendix 1. The qualified person must consider these when determining whether the overall site conditions are appropriate for use of the standards such that he/she can sign the declarations required.
 - v. Potable tables must be used unless the requirements set out Section 35 of O. Reg. 153/04 for use of non-potable tables are met (modified as necessary to apply to a reuse site rather than to the submission of a record of site condition for filing).
 - vi. If the final placement of the excess soil is to be within 30m of a waterbody then near a water body tables must be used.
 - vii. Shallow soil tables must be used if:
 1. the reuse site is at a property that has more than 1/3 of its area covered by 2 meters or less in depth beneath the soil surface, excluding any non-soil surface treatment such as asphalt, concrete or aggregate; or
 2. the contaminants of potential concern are volatile compounds (as described in the Rationale document) and there is or would be a separation distance of less than 0.8 m between the bottom of the gravel crush of an existing or future building associated with the beneficial purpose and the top of the capillary fringe, or if the depth to the water table is less than 3 metres from the surface of the soil.
 - viii. If the previous rules require both the use of shallow soil tables and the use of near a water body tables then the lower standard for each chemical applies when comparing the two tables;
 - ix. Stratified standards tables shall only be applied in compliance with the conditions in section 3;

- x. The excess soil standard selected within a table is the standard that relates to the property use of the reuse site as determined using the rules in section 4;
- xi. The excess soil standard includes the applicable Leachate Screening Level, if any, determined using the rules in section 6; and
- xii. The standard complies with the rules for specific circumstances in this Part of this document.

3) Stratified standards tables shall only be used if the reuse site and final placement comply with the following conditions:

- i. Placement of the excess soil achieves a stratified condition such that soil that meets the at-depth standards in the tables is located 1.5 metres or greater below the soil surface;
- ii. The reuse site does not have an Agricultural or Other property use, is not a shallow soil property, and the final placement is not within 30 metres of a water body; and
- iii. The location of final placement, the property use, and the type of beneficial purpose are such that a stratified condition will be maintained into the foreseeable future.
- iv. If stratified soil standards are used on a reuse site, then the reuse site owner, occupier, or person who has charge, management or control of the reuse site must ensure that surface soil and subsurface soil on, in or under the property or properties comprising the reuse site meets the applicable stratified condition standards for all prescribed contaminants. This responsibility must be communicated to subsequent property owners

4) The following rules apply to the determination of the property use to use when selecting the applicable excess soil standards within a table:

- i. Property uses to be used are the same as those applicable to O. Reg. 153/04, specifically:
 - 1. Agricultural and other use;
 - 2. Residential, parkland and institutional uses; and
 - 3. Community, commercial and industrial uses;
- ii. The applicable property use is the one that will apply to the reuse site at the time the undertaking for which the soil is being used is completed; and
- iii. If more than one property use applies to the reuse site, then the standards applicable to the more sensitive property use apply.

5) The following rules apply in cases where the generic excess soil standard are “N/A”, “N/V” or not listed:

- i. If a cell in a table in the excess soil standards indicates “N/A” or “N/V” in respect of a contaminant found in soil in relation to a type of property use, no applicable excess soil standard is prescribed for that contaminant.

- ii. In cases where a cell in a table in the excess soil standards indicates “N/V”, if the contaminant is detected in excess soil and is associated with potentially contaminating activity, and if the qualified person is of the opinion that a risk assessment is necessary to develop an excess soil standard for that contaminant, a risk assessment shall be completed in accordance with rules for site specific standards.
- iii. In cases where a contaminant is detected in excess soil and the contaminant is not listed in a table in the excess soil standards and is associated with potentially contaminating activity, if the qualified person is of the opinion that a risk assessment is necessary to develop an excess soil standard for that contaminant, a risk assessment shall be completed in accordance with the rules for site specific standards.

6) The following rules apply to the determination of leachate screening levels applicable to a given undertaking:

- i. If Table 1 or the tables for small volume excess soil standards are being applied in relation to a volume of excess soil equal to or less than 350 cubic metres, then leachate analysis is not required, and no leachate screening levels apply.
- ii. If Table 1 or the tables for small volume excess soil standards are being applied to excess soil volumes greater than 350 cubic metres, but less than 1000 cubic metres, the qualified person must consider whether leachate analysis is appropriate to assess potential increased risk and if necessary determine the appropriate leachate screening levels using the ministry’s approach which is detailed in the Rationale document.
- iii. In circumstances not listed in paragraphs A and B immediately above, leachate analysis is required, and leachate screening levels are applicable if:
 - 1. the excess soil originates from an areas of potential environmental concern or the origin is unknown; and
 - 2. a chemical identified as a contaminant of potential concern has a superscript “a” following the excess soil standard in the applicable generic excess soil standards Table.
- iv. If leachate analysis is required, the applicable Leachate Screening Level table is the table titled “leachate screening levels” and with the same Table number as the applicable excess soil standards. For example, if Table 3.1 excess soil standard is being used, the corresponding Leachate Screening Level Table is Table 3.1 leachate screening levels.

7) Rules for Determining and Applying Excess Soil Standards in Specific Circumstances

i. Environmentally Sensitive Areas

- 1. Excess soil shall only be finally placed within an environmentally sensitive area if the excess soil meets Table 1 and the results of any required leachate analysis, if required, meet the Table 1 leachate screening levels.

ii. **Soil for Growing Crops and Pasture**

1. Excess soil shall only be finally placed for the beneficial purpose of growing crops or pasture if the following criteria are met:

1. no excess soil will be placed on top of existing topsoil unless the excess soil is topsoil; and
2. the excess soil meets Table 1 and the results of any required leachate analysis, if required, meet the Table 1 leachate screening levels.

iii. **Local Background Concentrations**

1. An excess soil standard may be deemed to be met if the following criteria are met:

1. A qualified person has demonstrated that the excess soil contains a parameter that is naturally occurring at the reuse site and that does not exceed the naturally occurring range of concentrations typically found within the area of the reuse site; and
2. Documented evidence of the naturally occurring parameter concentrations is provided to the reuse site owner and retained by the reuse site owner and qualified person.

iv. **Salt Impacted Excess Soil**

1. Excess soil standards for chemicals (e.g. SAR and EC) in soil resulting solely from the use of a substance for the safety of vehicular or pedestrian traffic applied under conditions of snow or ice or both, are deemed to be met if the following criteria are met:

1. The excess soil standard for the chemical in question would not be met as a result of the past application of that chemical for the safety of vehicular or pedestrian traffic under conditions of snow or ice or both;
2. The excess soil will be finally placed at a location:
 1. where it is reasonable to expect that the soil will be affected by the same chemicals as a result of continued application of a substance for the safety of vehicular or pedestrian traffic under conditions of snow or ice and,
 2. with an industrial or commercial property use and to which non-potable standards would be applicable.
3. The excess soil will not be finally placed at a location:
 1. within 120 m of a waterbody;
 2. within 100 m of a potable water well; or
 3. that will be used for growing crops and pasturing livestock.

v. **Acceptable pH Range**

1. If excess soil or soil at the reuse site has pH levels outside the acceptable pH range (from 5.0 and 9.0 for surface soil and from 5.0 to 11.0 for subsurface soil), the excess soil must meet Table 1 and the results of any required leachate analysis must meet the Table 1 leachate screening levels
2. If excess soil has pH levels outside of the acceptable range specified in item 1. above, then the qualified person must complete an assessment of the potential impacts of the placement of this soil at the reuse site.

8) **Excess Soil Blended with Compost Materials**

- i. Regular compost from a leaf and yard waste composting site regulated by the “Recycling and Composting of Municipal Waste Regulation” (O. Reg. 101/94) under the Environmental Protection Act, and compost produced from a composting facility operating under an ECA for composting, that meets the requirements for Category AA compost in Part II of the “Ontario Compost Quality Standards”, dated July 25, 2012, and available on a website of the Government of Ontario, is deemed to meet the excess soil standards applicable to a reuse site if either,
 1. The excess soil standards are met in the mixed state; or
 2. The excess soil standards and the applicable compost standards (including the regulated metals and EC/SAR recommended in the compost standards) were both documented to have been met prior to mixing, whether that mixing takes place at the reuse site or at another site.
- ii. Compost rules, standards and guidelines were developed under the assumption that compost would be used as a soil amendment. Compost shall not be used as the principal constituent of a blended soil (e.g., not more than 50% compost by volume).
- iii. “Fertilization regulations” under the federal Fertilizers Act shall be considered when excess soil is blended with compost material and used at a reuse site. These regulations outline use restrictions and safety standards for fertilizers and soil amendments (Trade Memorandum T-4-93), which are used by provinces in setting policies. These standards are conservative to account for long term cumulative effects of metals on plant, animal and human health.
- iv. Caution should be taken when mixing larger volumes of compost with excess soil (i.e., greater than 20% compost by volume). The ministry recommends that when mixing more than 20% compost by volume, chemical analyses should be conducted on final blended soils and include for, at a minimum, total concentration of regulated metals and salt parameters (EC and SAR). Also, it is recommended that there be QP oversight of creation and use of blended soils to ensure that resulting soil quality is appropriate for reuse and protective of the environment and human health at the reuse site.

9) **Site-Specific Excess Soil Standards**

- i. In cases where there is a beneficial use, but it is not possible or desirable for excess soil to meet the generic excess soil standards, the soil is either unsuitable for reuse or site-specific excess soil standards must be determined using the ministry's Beneficial Reuse Assessment Tool (BRAT) or by conducting a risk assessment
- ii. The BRAT is an Excel-based spreadsheet model developed by the ministry. It uses the same models and algorithms used in the development of the volume independent excess soil standards. Note that the ministry also developed a user guide for using BRAT to generate site-specific standards. The qualified person shall review and understand all requirements and guidance in this document before using the BRAT. The ministry may update the BRAT and its user guide from time to time. A copy of the most current version of the BRAT will be available on a website of the Government of Ontario
- iii. The BRAT allows for the development of site-specific excess soil standards for a reuse site, by allowing for certain model input parameters to be modified from the default values used to develop the generic excess soil standards.
- iv. The use of site-specific standards is an alternative to the use of the generic excess soil standards. In general, the use of BRAT will not require oversight or approval by a public body, unless the site-specific standards developed by the BRAT exceed a maximum threshold based on a multiplier of the applicable generic standard (as stipulated in the BRAT) or in cases covered in sub-section v, below.

10) The BRAT shall be used to develop site specific excess soil standards in accordance with the following requirements:

- i. The BRAT shall only be used by a qualified person as determined in accordance with Section 5 or Section 6 of O. Reg. 153/04. In respect of clauses ii and v below:
 1. it is recommended that the qualified person have experience in risk assessment or consults with professionals with expertise in risk assessment.
- ii. The qualified person shall ascertain that the site conditions are appropriate for use of the BRAT to develop site-specific excess soil standards. To assist the qualified person in recognizing the types of site conditions that may be important in this respect, some key conditions are listed in Appendix 1. Some limitations related to the use of the BRAT are also listed directly in the BRAT. These limitations must be reviewed and understood by the qualified person in order to confirm the applicability of using the BRAT to develop site-specific excess soil standards.
- iii. Where a default value or an assumption is modified from those published by the ministry in the development of the excess soil standards, an assessment is carried out which satisfies the minimum requirements and meets the objective set out in Table 4 of Schedule E of O. Reg. 153/04. Additional requirements are also presented directly in the BRAT.

- iv. The BRAT shall not be used in relation to a project or beneficial use for which Table 1 excess soil standards would be required to apply by this document (e.g, soil placed in an Environmentally Sensitive Area, or soil placed for growing crops).
- v. The qualified person shall not utilize site use characteristics identified in the BRAT to modify site-specific excess soil standards unless:
 - 1. in relation to site use characteristics that are built, they are already built or are specified in approved planning or development permits (e.g. site plan approvals) or other site-specific legal instruments;
 - 2. in relation to the building prohibition site use characteristic, it is reasonably determined based on any site-specific legal instruments, land use planning policies and the proposed beneficial purpose of the fill that a building is not foreseeable in that area.
- vi. The BRAT can be used to generate site specific excess soil standards with and without application of a maximum threshold based on a multiplier of the applicable generic standards. The qualified person shall only use the BRAT to generate standards that exceed the maximum threshold if the BRAT is completed under a risk assessment in accordance with requirements in Section 11.
- vii. The qualified person certifies to the property owner that the site-specific excess soil standards (including any site use characteristics) are developed using the BRAT and used in accordance with any rules and limitations that are specified by the ministry.
- viii. The output tab of the BRAT, which includes a summary of key site-specific input used in BRAT and corresponding excess soil standards, ceiling values, leachate screening levels (where required) and site use characteristics (if any were selected) shall be printed and documented as part of the required documentation related to excess soil planning as referred in Part II of this document or other related assessment documents. The output tab must also be provided to any parties that may express an interest in the property.
- ix. When the BRAT is used to develop site-specific excess soil standards, it will also generate site-specific leachate screening levels which must be applied in the same way as for the volume independent excess soil standards.

11) Risk Assessment

- i. In addition to the BRAT mentioned above, other risk assessment approaches can be used to develop site-specific excess soil standards for a reuse site. Utilizing a risk assessment approach, for the development of site-specific excess soil standards for a reuse site will only be permitted with the deposit of excess soil at a reuse site that is to be governed by a site-specific instrument. The reason for this is the need to ensure that a public body has oversight over the conduct of the risk assessment.
- ii. As part of its process for issuing the site-specific instrument, the responsible public body would review or engage in a peer review of the risk assessment as part of its process when

assessing the reuse site. Another reason for requiring the oversight of a public body is that risk assessments often include the implementation of administrative controls and/or management measures at the reuse site. These controls and measures must be incorporated into any site-specific instrument that the public body will issue to govern deposit of excess soil at the reuse site. This includes specifying the level and mechanism to determine compliance with any related rules and professional best practices, such as approvals, review, peer review, application through a site-specific instrument, etc.

- iii. When risk assessment is used to develop site-specific excess soil standards for a reuse site, the following requirements apply:
 - 1. The risk assessment report shall be prepared by a qualified person as referred to in section 6 of O. Reg. 153/04 (qualified person, risk assessment).
 - 2. The risk assessment must include the following:
 - 1. Identification of the applicable generic excess soil standards for the reuse site, including identifying the applicable Table of generic excess soil standards and the current property use at the reuse site;
 - 2. A list of all of the contaminants of concern that must include any contaminants present in excess soil to be placed at the reuse site that are at concentrations that are greater than the applicable generic excess soil standards;
 - 3. An assessment of human health risk and of ecological risk associated with each contaminant of concern;
 - 4. Consideration of the leaching pathway and whether there is a need to develop site-specific leachate screening level (LSL) and, if this is the case, then it is recommended that site-specific LSL be developed using the ministry approved method which is detailed in the Rationale document; and
 - 5. Based on the outcome of the assessment of human health risk and of ecological risk, a site-specific excess soil standard must be specified in the risk assessment for each contaminant of concern.
 - 3. A risk assessment can also be based on the site-specific standards developed by the BRAT that exceed the maximum threshold (as stipulated in the BRAT).

12) Meeting Excess Soil Standards:

- i. An excess soil standard is deemed to be met for the purpose of this Regulation if the standard is met, using either the single-point compliance rules or the statistical compliance rules.
- ii. Leachate analysis is completed when required (i.e., when subscript “a” is present in a relevant cell or cells of the standards table for a contaminant of potential concern), the result of the leachate analysis is compared directly to the Leachate Screening Level and the result is less than or equal to the Leachate Screening Level.
- iii. There is no evidence of the presence of a contaminant in the soil as a result of visual or olfactory observations as listed in Part III.

13) **Single Point Compliance:** The applicable excess soil standard is deemed to be met at the reuse site using single point compliance if the following requirements are met:

- i. the applicable excess soil standard is met at each sampling point from which a sample is taken for soil analysis; or
- ii. if two or more in-situ samples of excess soil are taken from sampling points at the same sampling location, as specified in O. Reg. 153/04, s. 48 (4), that are at the same depth, the excess soil standard is deemed to be met if the average of these sampling results are less than or equal to the applicable excess soil standard.
- iii. The averaging provision set out immediately above does not allow for compositing of samples of soil that will be analyzed for volatile contaminants, including volatile organic compounds.

14) **Statistical Compliance:** The applicable excess soil standard is deemed to be met at the reuse site using statistical compliance if the following requirements are met:

- i. The 90th percentile of the data set (90% of the samples) must be less than or equal to the applicable excess soil standard.
- ii. The upper 95% confidence limit of the mean concentration of the samples must be less than or equal to the applicable excess soil standard.
- iii. No single sample within the data set exceeds the corresponding ceiling value for that contaminant. Ceiling values are specified below:
 1. For an excess soil standard provided in Appendix 1, the ceiling value is provided in the correspondingly numbered Table of Ceiling Values provided in Appendix 3.
 2. For a site-specific excess soil standard that is derived using the BRAT or other risk assessment method, a site-specific ceiling value should be derived using the ministry's approach which is detailed in the Rationale document.
- iv. Statistical compliance is only valid when a minimum of twenty (20) discrete soil samples have been collected for soil analysis. The samples must come from soil within an area of potential environmental concern or soil that has similar soil characteristics and that is interpreted to be impacted by a similar process.
- v. The statistical compliance approach cannot be used in respect of pH levels in excess soil being analyzed as required by clause 41(1) (b) of O. Reg. 153/04.
- vi. An individual who undertakes an assessment of excess soil results utilizing the statistical compliance approach must be familiar with statistical methods and/or consult with someone having this expertise.

APPENDIX 1. GENERIC EXCESS SOIL STANDARDS

The generic excess soil standards have been developed and organized in relation to a number of pre-defined categories, including property use, groundwater potability, overburden thickness, distance to the nearest water body and soil placement volume. This appendix provides a series of look-up tables that can be used for determining appropriate excess soil standards by matching the volume of excess soil being brought to a reuse site and conditions of the reuse site with the appropriate table of excess soil standards.

How to Read These Tables

Similar to Tables 2-9 in Site Condition Standards set in O.Reg. 153/04 for Soil, Ground Water and Sediment, the tables below set out prescribed excess soil standards for contaminants by listing contaminants in the column of rows that has the heading row entitled "Contaminant". The tables also set out prescribed excess soil standards for these contaminants by indicating in the appropriate locations the maximum concentrations of the contaminants in excess soil which is expressed in a number that is to be read as $\mu\text{g}/\text{g}$ dry weight.

The standard applicable for a type of property use can be found in the row named for the contaminant and in the column that has the heading row that indicates the type of property use of the property at which excess soil is reused.

A contaminant that is listed and for which the abbreviation "NV" appears in the cell, instead of a numerical standard, is a contaminant for which an excess soil standard is not prescribed. The abbreviation "NV" means "no value".

A contaminant that is listed and for which the abbreviation "NA" appears in the cell, instead of a numerical standard, is a contaminant for which an excess soil standard is not prescribed because no standard is required. The abbreviation "NA" means "not applicable".

In respect of Table 2.1 and 9.1, a contaminant that is listed and for which there is a superscript "a" following the excess soil standard is a contaminant for which corresponding leachate screening levels are also presented in Appendix 2. If the contaminant is identified as a contaminant of potential concern (COPC) in excess soil, leachate analysis is required (see Part IV and Appendix 2 for additional details).

In respect of Table 1, a contaminant that is listed and for which there is a superscript "RL" following the excess soil standard is a contaminant for which the Table 1 value is set at an analytical reporting limit (see notes below for additional details). In addition, a contaminant that is listed and for which there is a superscript "a" following the excess soil standard is a contaminant for which corresponding leachate screening levels are also presented in Appendix 2. If the contaminant is identified as a contaminant of potential concern (COPC) in excess soil, leachate analysis is required (see Part IV and Appendix 2 for additional details).

Notes on Table 1

The soil standards in Table 1 are intended to represent background conditions derived from the Ontario Typical Range (OTR) values for the land uses indicated. These values are considered representative of upper limits of typical province-wide background concentrations in soil that are not contaminated by point sources. However, an OTR value may be numerically lower (or not available) than what a laboratory can reliably measure with confidence (as established in O. Reg. 153/04) and referred to as the "reporting limit" (RL). In such instances, the Table 1 value is set at the RL instead of being derived from the OTR.

Notes on Tables 2 to 9 and 2.1 to 9.1

The following table provides a screening matrix of key site conditions and how they influence table selection.

Table Site Condition	Table 2/2.1	Table 3/3.1	Table 4/4.1	Table 5/5.1	Table 6/6.1	Table 7/7.1	Table 8/8.1	Table 9/9.1
Property is, or is adjacent to or within 30 m of an Environmentally Sensitive Area.	x	x	x	x	x	x	x	x
Groundwater use condition is potable	✓	x	✓	x	✓	x	✓	x
Land Use is Agricultural or Other	✓	x	x	x	✓	x	✓	x
Overburden thickness is unknown or is less than 2 m.	x	x	x	x	✓	✓	x	x
Depth to groundwater is unknown, is less than 3 m below ground surface or the capillary fringe is <0.8 m from the base of the gravel crush of any existing/future building foundation.	x	x	x	x	✓	✓	x	x
Nearest water body is unknown or less than 30 m from property.	x	x	x	x	x	x	✓	✓
Excess soil may be placed at any depth.	✓	✓	x*	x*	✓	✓	✓	✓
Stratified site conditions must be maintained to ensure that surface soil and subsurface soil meets the applicable stratified condition standards	x	x	✓	✓	x	x	x	x

X This table may not be appropriate.

✓ This table may be acceptable, see Section "Additional Notes" below for the additional considerations.

* This site condition is applied only to volatile compound

* * Standards for subsurface soil in Table 4/4.1 and Table 5/5.1 must be applied only for soil placed at 1.5m below ground surface or deeper.

Additional Notes

1. For all tables, the methyl naphthalene soil standard is applicable to both 1-methyl naphthalene and 2-methyl naphthalene, with the provision that if both are detected the sum of the two concentrations cannot exceed the standard.
2. There are two boron parameters in the tables, one for a hot water extract (HWS) that is designed for protection of plants and soil invertebrates, and one for a total (mixed strong acid digest). The HWS boron can be used by itself for all surface soils, as plants are the most sensitive receptor for boron. For subsurface soils the total boron standard can be used by itself, since plant protection for soils below the root zone is not a significant concern.

3. Conditions can exist at a reuse site for which the assumptions used to develop the generic excess soil standards may not be valid. The qualified person must ascertain that the conditions are appropriate for use of the generic standards. To assist the qualified person in recognizing the types of conditions that may be important in this respect the following examples are given:
 - a. If any exposure pathway that is not considered in the development of the generic excess soil standards is present at the reuse site, the use of the excess soil standards may not be protective of that exposure pathway.
 - b. The development of Table 2-9 relies on the assumption of a finite volume of impacted soil with specific dimensions (13 m by 13 m by 2 m or approximately 350 cubic metres in volume). As such, if the total contaminated zone (once excess soil is placed at the reuse site) has a volume or dimensions that are greater than what are assumed, the exposure pathways that employ source depletion or groundwater transport [e.g., soil to indoor air (S-IA), soil to groundwater (S-GW1, S-GW2, S-GW3), soil to odour (S-Odour)] may not be appropriately protected.
 - c. If excess soil and soil at the reuse site is highly permeable, it can potentially provide a direct preferential pathway for vapour migration to the building. Under such circumstances, the soil properties used in determining some generic component values (e.g. S-IA and S-GW2) may be non-conservative.
 - d. If the average fraction of organic carbon (foc) of soil above the water table is less than 0.002, a greater fraction of a contaminant may be present in the water and gas phases than assumed in the development of generic excess soil standards. This may lead to increase contaminant mobility.
 - e. or alkaline soil can cause contaminants to behave differently from the manner assumed in the generic model. This could result in generic excess soil standards inappropriate for use if excess soil or soil at the reuse site has pH levels outside the acceptable pH range (from 5.0 and 9.0 for surface soil and from 5.0 to 11.0 for subsurface soil).
 - f. If there is a continuous source of the contaminant present at the reuse site, the pathways which assume a depleting source (e.g., S-IA, S-GW1, S-GW2, S-GW3 and S-Odour) may be underestimated in the development of small volume standards, which may be non-conservative.
 - g. If buildings at the reuse site have characteristics that vary significantly from the generic assumptions (e.g., earthen floors, deteriorating basements, crawlspaces, etc.), this could result in the reduction in vapour attenuation between the subsurface and the building. Under such circumstances, the S-IA and S-GW2 component values may be non-conservative and inappropriate for use at the reuse site
 - h. The development of excess soil standards assumes that preferential pathways for vapour migration are not present. These preferential pathways may be caused by shallow bed rock, gas under pressure, utility conduits that provide a direct connection from the contamination source to the enclosed space of the building. If preferential pathways are present at the (S-IA and S-GW2 component values) may be non-conservative and inappropriate for use at the reuse site.
 - i. If there is a surface water body that could be affected by the property as a result of contaminant migration via groundwater, and the surface water has total hardness less than 70mg/L (as CaCO₃) and/or has pH less than 6.7, the aquatic protection values for some metals and pentachlorophenol may be non-conservative. In such cases, the qualified person may need to consider whether a site-specific estimate of hardness and pH resulting from mixing of groundwater and surface water is needed to estimate an appropriate aquatic protection value for this site.

The existence of any of the above conditions does not necessarily indicate that the use of generic excess soil standards are not valid for a given site. There are many interrelated parameters and factors that were used in the development of the generic standards, and in many cases one factor, such as any of those above, can be outweighed by differences in other factors in a manner that, overall, there is sufficient natural

protection provided by the site. In addition, it must also be considered that the component that drives the standard may not be affected by the particular limiting condition described above (e.g. a terrestrial ecological driver, but there are high permeable zones in the vadose zone). The qualified person should carefully consider these types of factors in assessing the appropriateness of the use of the generic standards.

For chemicals for which generic excess soil standards are not derived, if they are present in excess soil and known to have the potential to adversely impact human health or the environment, the qualified person should consider developing site-specific standards for those chemicals using a separate risk assessment, as outlined in Part IV.

TABLE 1: Full Depth Background Site Condition Standards[#]

(Unit in µg/g)

Contaminant	Agricultural and Other Property Use	Residential/Parkland/Institutional and Industrial/Commercial/Community Property Use
Acenaphthene	0.05 ^{RL}	0.072
Acenaphthylene	0.093	0.093
Acetone	0.5 ^{RL}	0.5 ^{RL}
Aldrin	0.05 ^{RL}	0.05 ^{RL}
Anthracene	0.05 ^{RL}	0.16
Antimony	1 ^{a,RL}	1.3
Arsenic	11	18
Barium	210	220
Benzene	0.02 ^{RL}	0.02 ^{RL}
Benz[a]anthracene	0.095	0.36
Benzo[a]pyrene	0.05 ^{RL}	0.3
Benzo[b]fluoranthene	0.3	0.47
Benzo[ghi]perylene	0.2	0.68
Benzo[k]fluoranthene	0.05 ^{RL}	0.48
Beryllium	2.5	2.5
Biphenyl 1,1'-	0.05 ^{RL}	0.05 ^{RL}
Bis(2-chloroethyl)ether	0.5 ^{a,RL}	0.5 ^{a,RL}
Bis(2-chloroisopropyl)ether	0.5 ^{a,RL}	0.5 ^{a,RL}
Bis(2-ethylhexyl)phthalate	5 ^{RL}	5 ^{RL}
Boron (Hot Water Soluble)*	NA	NA
Boron (total)	36	36
Bromodichloromethane	0.05 ^{RL}	0.05 ^{RL}
Bromoform	0.05 ^{RL}	0.05 ^{RL}
Bromomethane	0.05 ^{a,RL}	0.05 ^{a,RL}
Cadmium	1 ^{RL}	1.2
Carbon Tetrachloride	0.05 ^{a,RL}	0.05 ^{a,RL}
Chlordane	0.05 ^{RL}	0.05 ^{RL}
Chloroaniline p-	0.5 ^{a,RL}	0.5 ^{a,RL}
Chlorobenzene	0.05 ^{RL}	0.05 ^{RL}
Chloroform	0.05 ^{a,RL}	0.05 ^{a,RL}
Chlorophenol, 2-	0.1 ^{RL}	0.1 ^{RL}
Chromium Total	67	70
Chromium VI	0.66	0.66
Chrysene	0.18	2.8
Cobalt	19	21
Copper	62	92
Cyanide (CN-)	0.051	0.051

Contaminant	Agricultural and Other Property Use	Residential/Parkland/Institutional and Industrial/Commercial/Community Property Use
Dibenz[a h]anthracene	0.1 RL	0.1 RL
Dibromochloromethane	0.05 RL	0.05 RL
Dichlorobenzene, 1,2-	0.05 a, RL	0.05 a, RL
Dichlorobenzene, 1,3-	0.05 RL	0.05 RL
Dichlorobenzene, 1,4-	0.05 a, RL	0.05 a, RL
Dichlorobenzidine, 3,3'-	1 a, RL	1 a, RL
Dichlorodifluoromethane	0.05 RL	0.05 RL
DDD	0.05 RL	0.05 RL
DDE	0.05 RL	0.05 RL
DDT	0.078	1.4
Dichloroethane, 1,1-	0.05 a, RL	0.05 a, RL
Dichloroethane, 1,2-	0.05 a, RL	0.05 a, RL
Dichloroethylene, 1,1-	0.05 a, RL	0.05 a, RL
Dichloroethylene, 1,2-cis-	0.05 a, RL	0.05 a, RL
Dichloroethylene, 1,2-trans-	0.05 a, RL	0.05 a, RL
Dichlorophenol, 2,4-	0.1 RL	0.1 RL
Dichloropropane, 1,2-	0.05 a, RL	0.05 a, RL
Dichloropropene, 1,3-	0.05 a, RL	0.05 a, RL
Dieldrin	0.05 a, RL	0.05 a, RL
Diethyl Phthalate	0.5 a, RL	0.5 a, RL
Dimethylphthalate	0.5 a, RL	0.5 a, RL
Dimethylphenol, 2,4-	0.2 RL	0.2 RL
Dinitrophenol, 2,4-	2 a, RL	2 a, RL
Dinitrotoluene, 2,4 & 2,6-	0.5 a, RL	0.5 a, RL
Dioxane, 1,4	0.2 a, RL	0.2 a, RL
Dioxin/Furan (TEQ)	0.000007	0.000007 RL
Endosulfan	0.04 RL	0.04 RL
Endrin	0.04 a, RL	0.04 a, RL
Ethylbenzene	0.05 RL	0.05 RL
Ethylene dibromide	0.05 a, RL	0.05 a, RL
Fluoranthene	0.24	0.56
Fluorene	0.05 RL	0.12
Heptachlor	0.05 a, RL	0.05 a, RL
Heptachlor Epoxide	0.05 a, RL	0.05 a, RL
Hexachlorobenzene	0.01 RL	0.01 RL
Hexachlorobutadiene	0.01 RL	0.01 RL
Hexachlorocyclohexane Gamma-	0.01 RL	0.01 RL
Hexachloroethane	0.01 RL	0.01 RL
Hexane (n)	0.05 RL	0.05 RL
Indeno[1 2 3-cd]pyrene	0.11	0.23
Lead	45	120
Mercury	0.16	0.27
Methoxychlor	0.05 RL	0.05 RL
Methyl Ethyl Ketone	0.5 RL	0.5 RL
Methyl Isobutyl Ketone	0.5 RL	0.5 RL
Methyl Mercury **	NV	NV

Contaminant	Agricultural and Other Property Use	Residential/Parkland/Institutional and Industrial/Commercial/Community Property Use
Methyl tert-Butyl Ether (MTBE)	0.05 RL	0.05 RL
Methylene Chloride	0.05 RL	0.05 RL
Methylnaphthalene, 2-(1-) ***	0.05 RL	0.59
Molybdenum	2 a,RL	2 a,RL
Naphthalene	0.05 RL	0.09
Nickel	37	82
Pentachlorophenol	0.1 RL	0.1 RL
Petroleum Hydrocarbons F1****	17	25
Petroleum Hydrocarbons F2	10 RL	10 RL
Petroleum Hydrocarbons F3	240	240
Petroleum Hydrocarbons F4	120	120
Phenanthrene	0.19	0.69
Phenol	0.5 RL	0.5 RL
Polychlorinated Biphenyls	0.3 RL	0.3 RL
Pyrene	0.19	1
Selenium	1.2	1.5
Silver	0.5 a,RL	0.05 a,RL
Styrene	0.05 RL	0.05 RL
Tetrachloroethane, 1,1,1,2-	0.05 a,RL	0.05 a,RL
Tetrachloroethane, 1,1,2,2-	0.05 a,RL	0.05 a,RL
Tetrachloroethylene	0.05 a,RL	0.05 a,RL
Thallium	1 RL	1 RL
Toluene	0.2 RL	0.2 RL
Trichlorobenzene, 1,2,4-	0.05 RL	0.05 RL
Trichloroethane, 1,1,1-	0.05 RL	0.05 RL
Trichloroethane, 1,1,2-	0.05 a,RL	0.05 a,RL
Trichloroethylene	0.05 a,RL	0.05 a,RL
Trichlorofluoromethane	0.05 RL	0.25
Trichlorophenol, 2,4,5-	0.1 RL	0.1 RL
Trichlorophenol, 2,4,6-	0.1 a,RL	0.1 a,RL
Uranium	1.9	2.5
Vanadium	86	86
Vinyl Chloride	0.02 RL	0.02 RL
Xylene Mixture	0.05 RL	0.05 RL
Zinc	290	290
Electrical Conductivity (mS/cm)	0.47	0.57
Sodium Adsorption Ratio	1	2.4

Notes:

Standards in this table are the same as those in Table 2 of *Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act*, dated April 15, 2011, providing site condition standards applicable under O. Reg. 153/04 and that are set for coarse textured soils. Those standards may be updated from time to time.

NV: No Value; RL: Table 1 value set at Reporting Limits^a: Leachate analysis is required only for chemicals that are identified as chemicals of potential concern in excess soil.

*: The boron standards are for hot water soluble extract for all surface soils. For subsurface soils the standards are for total boron (mixed strong acid digest), since plant protection for soils below the root zone is not a significant concern.

**: Analysis for methyl mercury only applies when mercury (total) standard is exceeded.

***: The methyl naphthalene standards are applicable to both 1-methyl naphthalene and 2- methyl naphthalene, with the provision that if both are detected the sum of the two must not exceed the standard.

****: F1 fraction does not include benzene, toluene, ethylbenzene and xylene (BTEX); however, the proponent has the choice as to whether or not to subtract BTEX from the analytical result.

TABLE 2.1: Full Depth Excess Soil Standards in a Potable Ground Water Condition**Volume Independent**

(Unit in µg/g)

Contaminant	Agricultural or Other Property Use	Residential/Park and/ Institutional Property Use	Industrial/Commercial/Community Property Use
Acenaphthene	2.5	2.5	2.5
Acenaphthylene	0.093	0.093	0.093
Acetone	0.5	0.5	0.5
Aldrin	0.05	0.05	0.088
Anthracene	0.058	0.16	0.16
Antimony	7.5 ^a	7.5 ^a	40 ^a
Arsenic	11	18	18
Barium	390 ^a	390 ^a	670 ^a
Benzene	0.02	0.02	0.02
Benz[a]anthracene	0.5	0.5	0.92
Benzo[a]pyrene	0.31	0.31	0.31
Benzo[b]fluoranthene	3.2	3.2	3.2
Benzo[ghi]perylene	6.6	6.6	13
Benzo[k]fluoranthene	3.1	3.1	3.1
Beryllium	4 ^a	4 ^a	8 ^a
Biphenyl 1,1'-	0.05	0.05	0.05
Bis(2-chloroethyl)ether	0.5 ^a	0.5 ^a	0.5 ^a
Bis(2-chloroisopropyl)ether	0.5 ^a	0.5 ^a	0.5 ^a
Bis(2-ethylhexyl)phthalate	5	5	9.9
Boron (Hot Water Soluble)*	1.5	1.5	2
Boron (total)	120 ^a	120 ^a	120 ^a
Bromodichloromethane	0.05	0.05	0.05
Bromoform	0.05	0.05	0.05
Bromomethane	0.05 ^a	0.05 ^a	0.05 ^a
Cadmium	1 ^a	1.2	1.9 ^a
Carbon Tetrachloride	0.05 ^a	0.05 ^a	0.05 ^a
Chlordane	0.05	0.05	0.05
Chloroaniline p-	0.5 ^a	0.5 ^a	0.5 ^a
Chlorobenzene	0.083	0.083	0.083
Chloroform	0.05	0.05	0.05
Chlorophenol, 2-	0.1	0.1	0.1
Chromium Total	160 ^a	160 ^a	160 ^a
Chromium VI	8	8	8
Chrysene	7	7	9.4
Cobalt	22 ^a	22 ^a	80 ^a
Copper	140 ^a	140 ^a	230 ^a
Cyanide (CN-)	0.051	0.051	0.051
Dibenz[a h]anthracene	0.57	0.57	0.7
Dibromochloromethane	0.05	0.05	0.05
Dichlorobenzene, 1,2-	3.4 ^a	3.4 ^a	6.8 ^a
Dichlorobenzene, 1,3-	0.26	0.26	0.26
Dichlorobenzene, 1,4-	0.05 ^a	0.05 ^a	0.05 ^a
Dichlorobenzidine, 3,3'-	1 ^a	1 ^a	1 ^a

Contaminant	Agricultural or Other Property Use	Residential/Parkl and/ Institutional Property Use	Industrial/Commercial/ Community Property Use
Dichlorodifluoromethane	1.5	1.5	1.5
DDD	3.3	3.3	4.6
DDE	0.26	0.26	0.52
DDT	0.078	1.4	1.4
Dichloroethane, 1,1-	0.05	0.05	0.05
Dichloroethane, 1,2-	0.05 ^a	0.05 ^a	0.05 ^a
Dichloroethylene, 1,1-	0.05 ^a	0.05 ^a	0.05 ^a
Dichloroethylene, 1,2-cis-	0.05 ^a	0.05 ^a	0.05 ^a
Dichloroethylene, 1,2-trans-	0.05 ^a	0.05 ^a	0.05 ^a
Dichlorophenol, 2,4-	0.1	0.1	0.1
Dichloropropane, 1,2-	0.05 ^a	0.05 ^a	0.05 ^a
Dichloropropene, 1,3-	0.05	0.05	0.05
Dieldrin	0.05 ^a	0.05 ^a	0.088 ^a
Diethyl Phthalate	0.5 ^a	0.5 ^a	0.5 ^a
Dimethylphthalate	0.5 ^a	0.5 ^a	0.5 ^a
Dimethylphenol, 2,4-	0.43	0.43	0.43
Dinitrophenol, 2,4-	2 ^a	2 ^a	2 ^a
Dinitrotoluene, 2,4 & 2,6-	0.5 ^a	0.5 ^a	0.5 ^a
Dioxane, 1,4	0.2 ^a	0.2 ^a	0.2 ^a
Dioxin/Furan (TEQ)	0.000013	0.000013	0.000022
Endosulfan	0.04	0.04	0.04
Endrin	0.04 ^a	0.04 ^a	0.04 ^a
Ethylbenzene	0.05	0.05	0.05
Ethylene dibromide	0.05 ^a	0.05 ^a	0.05 ^a
Fluoranthene	0.69	0.69	2.8
Fluorene	6.8	6.8	6.8
Heptachlor	0.072	0.072	0.072
Heptachlor Epoxide	0.05 ^a	0.05 ^a	0.05 ^a
Hexachlorobenzene	0.034	0.034	0.034
Hexachlorobutadiene	0.01	0.01	0.01
Hexachlorocyclohexane Gamma-	0.01	0.01	0.01
Hexachloroethane	0.01	0.01	0.01
Hexane (n)	2.5	2.5	2.5
Indeno[1 2 3-cd]pyrene	0.38	0.38	0.76
Lead	45	120	120
Mercury	0.24	0.27	0.27
Methoxychlor	0.13	0.13	0.19
Methyl Ethyl Ketone	0.5	0.5	0.5
Methyl Isobutyl Ketone	0.5	0.5	0.5
Methyl Mercury **	0.00097	0.00097	0.00097
Methyl tert-Butyl Ether (MTBE)	0.05	0.05	0.05
Methylene Chloride	0.05	0.05	0.05
Methylnaphthalene, 2-(1-) ***	0.096	0.59	0.59
Molybdenum	6.9 ^a	6.9 ^a	40 ^a
Naphthalene	0.2	0.2	0.2
Nickel	100 ^a	100 ^a	270 ^a

Contaminant	Agricultural or Other Property Use	Residential/Parkl and/ Institutional Property Use	Industrial/Comme rcial/ Community Property Use
Pentachlorophenol	0.1	0.1	0.34
Petroleum Hydrocarbons F1****	17	25	25
Petroleum Hydrocarbons F2	10	10	26
Petroleum Hydrocarbons F3	240	240	240
Petroleum Hydrocarbons F4	2800	2800	3300
Phenanthrene	6.2	6.2	12
Phenol	2.4	2.4	2.4
Polychlorinated Biphenyls	0.35	0.35	0.78
Pyrene	28	28	28
Selenium	2.4 ^a	2.4 ^a	5.5 ^a
Silver	20 ^a	20 ^a	40 ^a
Styrene	0.05	0.05	0.05
Tetrachloroethane, 1,1,1,2-	0.05	0.05	0.05
Tetrachloroethane, 1,1,2,2-	0.05 ^a	0.05 ^a	0.05 ^a
Tetrachloroethylene	0.05 ^a	0.05 ^a	0.05 ^a
Thallium	1 ^a	1 ^a	3.3 ^a
Toluene	0.2	0.2	0.2
Trichlorobenzene, 1,2,4-	0.17	0.17	0.51
Trichloroethane, 1,1,1-	0.11	0.11	0.12
Trichloroethane, 1,1,2-	0.05	0.05	0.05
Trichloroethylene	0.05 ^a	0.05 ^a	0.05 ^a
Trichlorofluoromethane	0.17	0.25	0.25
Trichlorophenol, 2,4,5-	0.11	0.11	0.11
Trichlorophenol, 2,4,6-	4.4 ^a	4.4 ^a	10 ^a
Uranium	23 ^a	23 ^a	33 ^a
Vanadium	86	86	86
Vinyl Chloride	0.02	0.02	0.02
Xylene Mixture	0.091	0.091	0.091
Zinc	340 ^a	340 ^a	340 ^a
Electrical Conductivity (mS/cm)	0.7	0.7	1.4
Sodium Adsorption Ratio	5	5	12

Notes:

^a: Leachate analysis is required only for chemicals that are identified as chemicals of potential concern in excess soil.

*: The boron standards are for hot water soluble extract for all surface soils. For subsurface soils the standards are for total boron (mixed strong acid digest), since plant protection for soils below the root zone is not a significant concern.

** : Analysis for methyl mercury only applies when mercury (total) standard is exceeded.

***: The methyl naphthalene standards are applicable to both 1-methyl naphthalene and 2- methyl naphthalene, with the provision that if both are detected the sum of the two must not exceed the standard.

****: F1 fraction does not include benzene, toluene, ethylbenzene and xylene (BTEX); however, the proponent has the choice as to whether or not to subtract BTEX from the analytical result.

TABLE 3.1: Full Depth Excess Soil Standards in a Non-Potable Ground Water Condition**Volume Independent**

(Unit in µg/g)

Contaminant	Residential/ Parkdale/ Institutional Property Use	Industrial/ Commercial/ Community Property Use
Acenaphthene	14	15
Acenaphthylene	0.093	0.093
Acetone	1.8	1.8
Aldrin	0.05	0.088
Anthracene	0.16	0.16
Antimony	7.5	40
Arsenic	18	18
Barium	390 ^a	670 ^a
Benzene	0.02	0.034
Benz[a]anthracene	0.5	1
Benzo[a]pyrene	0.57	0.7
Benzo[b]fluoranthene	5.7	7
Benzo[ghi]perylene	6.6	13
Benzo[k]fluoranthene	5.7	7
Beryllium	4 ^a	8 ^a
Biphenyl 1,1'-	0.3	21
Bis(2-chloroethyl)ether	0.5	0.5
Bis(2-chloroisopropyl)ether	0.5	11
Bis(2-ethylhexyl)phthalate	5	28
Boron (Hot Water Soluble)*	1.5	2
Boron (total)	120	120
Bromodichloromethane	5.8	5.8
Bromoform	2.5	2.5
Bromomethane	0.05 ^a	0.05 ^a
Cadmium	1.2	1.9 ^a
Carbon Tetrachloride	0.05 ^a	0.05 ^a
Chlordane	0.05	0.05
Chloroaniline p-	0.5	0.5
Chlorobenzene	0.28	0.28
Chloroform	0.08	0.26
Chlorophenol, 2-	1.6	2.3
Chromium Total	160 ^a	160 ^a
Chromium VI	8	8
Chrysene	7	14
Cobalt	22 ^a	80 ^a
Copper	140 ^a	230 ^a
Cyanide (CN-)	0.051	0.051
Dibenz[a h]anthracene	0.57	0.7
Dibromochloromethane	5.5	5.5
Dichlorobenzene, 1,2-	3.4	6.8
Dichlorobenzene, 1,3-	4.8	6.8
Dichlorobenzene, 1,4-	0.05	0.05
Dichlorobenzidine, 3,3'-	1	1
Dichlorodifluoromethane	1.8	1.8
DDD	3.3	4.6
DDE	0.26	0.52

DDT	1.4	1.4
Dichloroethane, 1,1-	0.14	0.57
Dichloroethane, 1,2-	0.05	0.05
Dichloroethylene, 1,1-	0.05 ^a	0.05 ^a
Dichloroethylene, 1,2-cis-	0.05	0.05
Dichloroethylene, 1,2-trans-	0.05 ^a	0.05 ^a
Dichlorophenol, 2,4-	1.7	3.4
Dichloropropane, 1,2-	0.05	0.05
Dichloropropene, 1,3-	0.05	0.05
Dieldrin	0.05 ^a	0.088 ^a
Diethyl Phthalate	0.5 ^a	0.5 ^a
Dimethylphthalate	0.5 ^a	0.5 ^a
Dimethylphenol, 2,4-	45	45
Dinitrophenol, 2,4-	6.7	6.7
Dinitrotoluene, 2,4 & 2,6-	0.92	1.2
Dioxane, 1,4	1.8	1.8
Dioxin/Furan (TEQ)	0.000013	0.000099
Endosulfan	0.04	0.04
Endrin	0.04 ^a	0.04 ^a
Ethylbenzene	1.9	1.9
Ethylene dibromide	0.05 ^a	0.05 ^a
Fluoranthene	0.69	70
Fluorene	6.8	6.8
Heptachlor	0.072	0.072
Heptachlor Epoxide	0.05 ^a	0.05 ^a
Hexachlorobenzene	0.52	0.66
Hexachlorobutadiene	0.01	0.01
Hexachlorocyclohexane Gamma-	0.01	0.01
Hexachloroethane	0.01	0.13
Hexane (n)	2.5	2.5
Indeno[1 2 3-cd]pyrene	0.38	0.76
Lead	120	120
Mercury	0.27	0.27
Methoxychlor	0.13	0.19
Methyl Ethyl Ketone	14	26
Methyl Isobutyl Ketone	0.89	17
Methyl Mercury **	0.00097	0.00097
Methyl tert-Butyl Ether (MTBE)	0.05	0.05
Methylene Chloride	0.06	0.2
Methylnaphthalene, 2-(1-) ***	0.92	8.7
Molybdenum	6.9	40 ^a
Naphthalene	0.59	1.8
Nickel	100 ^a	270 ^a
Pentachlorophenol	0.1	0.34
Petroleum Hydrocarbons F1****	25	25
Petroleum Hydrocarbons F2	10	26
Petroleum Hydrocarbons F3	300	1700
Petroleum Hydrocarbons F4	2800	3300
Phenanthrene	6.2	12

Phenol	5.3	5.3
Polychlorinated Biphenyls	0.35	0.78
Pyrene	70	70
Selenium	2.4 ^a	5.5 ^a
Silver	20 ^a	40 ^a
Styrene	0.5	6.8
Tetrachloroethane, 1,1,1,2-	0.05	0.05
Tetrachloroethane, 1,1,2,2-	0.05	0.05 ^a
Tetrachloroethylene	0.05 ^a	0.05 ^a
Thallium	1	3.3 ^a
Toluene	0.99	7.8
Trichlorobenzene, 1,2,4-	0.17	1.3
Trichloroethane, 1,1,1-	0.11	0.4
Trichloroethane, 1,1,2-	0.05	0.05
Trichloroethylene	0.05 ^a	0.05 ^a
Trichlorofluoromethane	0.46	0.46
Trichlorophenol, 2,4,5-	3.1	3.1
Trichlorophenol, 2,4,6-	0.43	0.43
Uranium	23 ^a	33 ^a
Vanadium	86	86
Vinyl Chloride	0.02	0.02
Xylene Mixture	0.9	3
Zinc	340 ^a	340 ^a
Electrical Conductivity (mS/cm)	0.7	1.4
Sodium Adsorption Ratio	5	12

Notes:

^a: Leachate analysis is required only for chemicals that are identified as chemicals of potential concern in excess soil.

*: The boron standards are for hot water soluble extract for all surface soils. For subsurface soils the standards are for total boron (mixed strong acid digest), since plant protection for soils below the root zone is not a significant concern.

** : Analysis for methyl mercury only applies when mercury (total) standard is exceeded.

***: The methyl naphthalene standards are applicable to both 1-methyl naphthalene and 2- methyl naphthalene, with the provision that if both are detected the sum of the two must not exceed the standard.

****: F1 fraction does not include benzene, toluene, ethylbenzene and xylene (BTEX); however, the proponent has the choice as to whether or not to subtract BTEX from the analytical result.

TABLE 4.1: Stratified Excess Soil Standards in a Potable Ground Water Condition

Volume Independent

(Unit in µg/g)

Contaminant	Residential/ Parkland/Institutional Property Use		Industrial/ Commercial/Community Property Use	
	Surface Soil	Subsurface Soil	Surface Soil	Subsurface Soil
Acenaphthene	2.5	2.5	2.5	2.5
Acenaphthylene	0.093	0.093	0.093	0.093
Acetone	0.5	0.5	0.5	0.5
Aldrin	0.05	0.37	0.088	0.37
Anthracene	0.16	0.16	0.16	0.16
Antimony	7.5 ^a	63 ^a	40 ^a	63 ^a
Arsenic	18	18	18	39 ^a
Barium	390 ^a	7700 ^a	670 ^a	7700 ^a
Benzene	0.02	0.02	0.02	0.02
Benzo[a]anthracene	0.5	0.92	0.92	0.92
Benzo[a]pyrene	0.31	0.31	0.31	0.31
Benzo[b]fluoranthene	3.2	3.2	3.2	3.2
Benzo[ghi]perylene	6.6	70	13	110
Benzo[k]fluoranthene	3.1	3.1	3.1	3.1
Beryllium	4 ^a	60 ^a	8 ^a	60 ^a
Biphenyl 1,1'-	0.05	0.05	0.05	0.05
Bis(2-chloroethyl)ether	0.5 ^a	0.5 ^a	0.5 ^a	0.5 ^a
Bis(2-chloroisopropyl)ether	0.5 ^a	0.5 ^a	0.5 ^a	0.5 ^a
Bis(2-ethylhexyl)phthalate	5	9.9	9.9	9.9
Boron (Hot Water Soluble)*	1.5	NA	2	NA
Boron (total)	NA	5000 ^a	NA	5000 ^a
Bromodichloromethane	0.05	0.05	0.05	0.05
Bromoform	0.05	0.05	0.05	0.05
Bromomethane	0.05 ^a	0.05 ^a	0.05 ^a	0.05 ^a
Cadmium	1.2	7.9 ^a	1.9 ^a	7.9 ^a
Carbon Tetrachloride	0.05 ^a	0.05 ^a	0.05 ^a	0.05 ^a
Chlordane	0.05	0.8	0.05	3.4
Chloroaniline p-	0.5 ^a	0.5 ^a	0.5 ^a	0.5 ^a
Chlorobenzene	0.083	0.083	0.083	0.083
Chloroform	0.05	0.05	0.05	0.05
Chlorophenol, 2-	0.1	0.1	0.1	0.1
Chromium Total	160 ^a	11000 ^a	160 ^a	11000 ^a
Chromium VI	8	40	8	40
Chrysene	7	9.4	9.4	9.4
Cobalt	22 ^a	250 ^a	80 ^a	2500 ^a
Copper	140 ^a	1900 ^a	230 ^a	1900 ^a
Cyanide (CN-)	0.051	0.051	0.051	0.051
Dibenz[a h]anthracene	0.57	0.7	0.7	1
Dibromochloromethane	0.05	0.05	0.05	0.05
Dichlorobenzene, 1,2-	3.4 ^a	4.9 ^a	6.8 ^a	14 ^a
Dichlorobenzene, 1,3-	0.26	0.26	0.26	0.26
Dichlorobenzene, 1,4-	0.05 ^a	0.05 ^a	0.05 ^a	0.05 ^a

Contaminant	Residential/ Parkland/Institutional Property Use		Industrial/ Commercial/Community Property Use	
	Surface Soil	Subsurface Soil	Surface Soil	Subsurface Soil
Dichlorobenzidine, 3,3'-	1 ^a	1 ^a	1 ^a	1 ^a
Dichlorodifluoromethane	1.5	1.5	1.5	1.5
DDD	3.3	4.6	4.6	15
DDE	0.26	3.2	0.52	15
DDT	1.4	3.2	1.4	22
Dichloroethane, 1,1-	0.05	0.05	0.05	0.05
Dichloroethane, 1,2-	0.05 ^a	0.05 ^a	0.05 ^a	0.05 ^a
Dichloroethylene, 1,1-	0.05 ^a	0.05 ^a	0.05 ^a	0.05 ^a
Dichloroethylene, 1,2-cis-	0.05 ^a	0.05 ^a	0.05 ^a	0.05 ^a
Dichloroethylene, 1,2-trans-	0.05 ^a	0.05 ^a	0.05 ^a	0.05 ^a
Dichlorophenol, 2,4-	0.1	0.1	0.1	0.1
Dichloropropane, 1,2-	0.05 ^a	0.05 ^a	0.05 ^a	0.05 ^a
Dichloropropene, 1,3-	0.05	0.05	0.05	0.05
Dieldrin	0.05 ^a	7.9 ^a	0.088 ^a	12 ^a
Diethyl Phthalate	0.5 ^a	0.5 ^a	0.5 ^a	0.5 ^a
Dimethylphthalate	0.5 ^a	0.5 ^a	0.5 ^a	0.5 ^a
Dimethylphenol, 2,4-	0.43	0.43	0.43	0.43
Dinitrophenol, 2,4-	2 ^a	2 ^a	2 ^a	2 ^a
Dinitrotoluene, 2,4 & 2,6-	0.5 ^a	0.5 ^a	0.5 ^a	0.5 ^a
Dioxane, 1,4	0.2 ^a	0.2 ^a	0.2 ^a	0.2 ^a
Dioxin/Furan (TEQ)	0.000013	0.000022	0.000022	0.000022
Endosulfan	0.04	0.04	0.04	0.04
Endrin	0.04 ^a	7.8 ^a	0.04 ^a	7.8 ^a
Ethylbenzene	0.05	0.05	0.05	0.05
Ethylene dibromide	0.05 ^a	0.05 ^a	0.05 ^a	0.05 ^a
Fluoranthene	0.69	2.8	2.8	2.8
Fluorene	6.8	6.8	6.8	6.8
Heptachlor	0.072	0.072	0.072	0.072
Heptachlor Epoxide	0.05 ^a	0.05 ^a	0.05 ^a	0.05 ^a
Hexachlorobenzene	0.034	0.034	0.034	0.034
Hexachlorobutadiene	0.01	0.01	0.01	0.01
Hexachlorocyclohexane Gamma-	0.01	0.01	0.01	0.01
Hexachloroethane	0.01	0.01	0.01	0.01
Hexane (n)	2.5	2.5	2.5	2.5
Indeno[1 2 3-cd]pyrene	0.38	7	0.76	11
Lead	120	1000 ^a	120	1000 ^a
Mercury	0.27	0.27	0.27	1.9
Methoxychlor	0.13	0.19	0.19	0.19
Methyl Ethyl Ketone	0.5	0.5	0.5	0.5
Methyl Isobutyl Ketone	0.5	0.5	0.5	0.5
Methyl Mercury **	0.00097	0.00097	0.00097	0.00097
Methyl tert-Butyl Ether (MTBE)	0.05	0.05	0.05	0.05
Methylene Chloride	0.05	0.05	0.05	0.05

Contaminant	Residential/ Parkland/Institutional Property Use		Industrial/ Commercial/Community Property Use	
	Surface Soil	Subsurface Soil	Surface Soil	Subsurface Soil
Methlynaphthalene, 2-(1-) ***	0.59	0.59	0.59	0.59
Molybdenum	6.9 ^a	1200 ^a	40 ^a	1200 ^a
Naphthalene	0.2	0.2	0.2	0.2
Nickel	100 ^a	510 ^a	270 ^a	510 ^a
Pentachlorophenol	0.1	0.34	0.34	0.34
Petroleum Hydrocarbons F1****	25	25	25	25
Petroleum Hydrocarbons F2	10	10	26	26
Petroleum Hydrocarbons F3	240	240	240	240
Petroleum Hydrocarbons F4	2800	6900	3300	6900
Phenanthrene	6.2	23	12	23
Phenol	2.4	2.4	2.4	2.4
Polychlorinated Biphenyls	0.35	2.7	0.78	4.1
Pyrene	28	28	28	28
Selenium	2.4 ^a	1200 ^a	5.5 ^a	1200 ^a
Silver	20 ^a	490 ^a	40 ^a	490 ^a
Styrene	0.05	0.05	0.05	0.05
Tetrachloroethane, 1,1,1,2-	0.05	0.05	0.05	0.05
Tetrachloroethane, 1,1,2,2-	0.05 ^a	0.05 ^a	0.05 ^a	0.05 ^a
Tetrachloroethylene	0.05 ^a	0.05 ^a	0.05 ^a	0.05 ^a
Thallium	1 ^a	3.3 ^a	3.3 ^a	33 ^a
Toluene	0.2	0.2	0.2	0.2
Trichlorobenzene, 1,2,4-	0.17	0.17	0.51	0.51
Trichloroethane, 1,1,1-	0.11	0.11	0.12	0.12
Trichloroethane, 1,1,2-	0.05	0.05	0.05	0.05
Trichloroethylene	0.05 ^a	0.05 ^a	0.05 ^a	0.05 ^a
Trichlorofluoromethane	0.25	0.25	0.25	0.25
Trichlorophenol, 2,4,5-	0.11	0.11	0.11	0.11
Trichlorophenol, 2,4,6-	4.4 ^a	24 ^a	10 ^a	24 ^a
Uranium	23 ^a	300 ^a	33 ^a	300 ^a
Vanadium	86	160 ^a	86	160 ^a
Vinyl Chloride	0.02	0.02	0.02	0.02
Xylene Mixture	0.091	0.091	0.091	0.091
Zinc	340 ^a	15000 ^a	340 ^a	15000 ^a
Electrical Conductivity (mS/cm)	0.7	0.7	1.4	1.4
Sodium Adsorption Ratio	5	5	12	12

Notes:

NA: Not Applicable; ^a: Leachate analysis is required only for chemicals that are identified as chemicals of potential concern in excess soil.

*: The boron standards are for hot water soluble extract for all surface soils. For subsurface soils the standards are for total boron (mixed strong acid digest), since plant protection for soils below the root zone is not a significant concern.

** : Analysis for methyl mercury only applies when mercury (total) standard is exceeded.

***: The methyl naphthalene standards are applicable to both 1-methyl naphthalene and 2- methyl naphthalene, with the provision that if both are detected the sum of the two must not exceed the standard.

****: F1 fraction does not include benzene, toluene, ethylbenzene and xylene (BTEX); however, the proponent has the choice as to whether or not to subtract BTEX from the analytical result.

TABLE 5.1: Stratified Excess Soil Standards in a Non-Potable Ground Water Condition**Volume Independent**

(Unit in µg/g)

Contaminant	Residential/Parkland/Institutional Property Use		Industrial/Commercial/Community Property Use	
	Surface Soil	Subsurface Soil	Surface Soil	Subsurface Soil
Acenaphthene	14	14	15	64
Acenaphthylene	0.093	0.093	0.093	0.093
Acetone	1.8	1.8	1.8	1.8
Aldrin	0.05	4.7	0.088	6.3
Anthracene	0.16	0.16	0.16	0.16
Antimony	7.5	63	40	63
Arsenic	18	18	18	39 ^a
Barium	390 ^a	7700 ^a	670 ^a	7700 ^a
Benzene	0.02	0.02	0.034	0.077
Benz[a]anthracene	0.5	7	1	260
Benzo[a]pyrene	0.57	0.7	0.7	17
Benzo[b]fluoranthene	5.7	7	7	260
Benzo[ghi]perylene	6.6	70	13	2600
Benzo[k]fluoranthene	5.7	7	7	260
Beryllium	4 ^a	60 ^a	8 ^a	60 ^a
Biphenyl 1,1'-	0.3	11	21	21
Bis(2-chloroethyl)ether	0.5	0.5	0.5	11
Bis(2-chloroisopropyl)ether	0.5	11	11	11
Bis(2-ethylhexyl)phthalate	5	7100	28	7100
Boron (Hot Water Soluble)*	1.5	NA	2	NA
Boron (total)	NA	5000 ^a	NA	5000 ^a
Bromodichloromethane	5.8	5.8	5.8	5.8
Bromoform	2.5	2.5	2.5	2.5
Bromomethane	0.05 ^a	0.05 ^a	0.05 ^a	0.05 ^a
Cadmium	1.2	7.9 ^a	1.9 ^a	7.9 ^a
Carbon Tetrachloride	0.05 ^a	0.05 ^a	0.05 ^a	0.05 ^a
Chlordane	0.05	0.8	0.05	3.4
Chloroaniline p-	0.5	0.5	0.5	0.5
Chlorobenzene	0.28	0.28	0.28	0.28
Chloroform	0.08	0.08	0.26	0.26
Chlorophenol, 2-	1.6	2.3	2.3	2.3
Chromium Total	160 ^a	11000 ^a	160 ^a	11000 ^a
Chromium VI	8	40	8	40
Chrysene	7	70	14	2600
Cobalt	22 ^a	250 ^a	80 ^a	2500 ^a
Copper	140 ^a	1900 ^a	230 ^a	1900 ^a
Cyanide (CN-)	0.051	0.051	0.051	0.051
Dibenz[a h]anthracene	0.57	0.7	0.7	26
Dibromochloromethane	5.5	5.5	5.5	5.5
Dichlorobenzene, 1,2-	3.4	4.9	6.8	6.9
Dichlorobenzene, 1,3-	4.8	6.8	6.8	6.8
Dichlorobenzene, 1,4-	0.05	0.05	0.05	0.05
Dichlorobenzidine, 3,3'-	1	1	1	7.5

Contaminant	Residential/Parkland/Institutional Property Use		Industrial/Commercial/Community Property Use	
	Surface Soil	Subsurface Soil	Surface Soil	Subsurface Soil
Dichlorodifluoromethane	1.8	1.8	1.8	1.8
DDD	3.3	4.6	4.6	110
DDE	0.26	3.2	0.52	110
DDT	1.4	3.2	1.4	110
Dichloroethane, 1,1-	0.14	0.14	0.57	0.57
Dichloroethane, 1,2-	0.05	0.05	0.05	0.05
Dichloroethylene, 1,1-	0.05 ^a	0.05 ^a	0.05 ^a	0.05 ^a
Dichloroethylene, 1,2-cis-	0.05	0.05	0.05	0.05
Dichloroethylene, 1,2-trans-	0.05 ^a	0.05 ^a	0.05 ^a	0.05 ^a
Dichlorophenol, 2,4-	1.7	5.3	3.4	5.3
Dichloropropane, 1,2-	0.05	0.05	0.05	0.05
Dichloropropene, 1,3-	0.05	0.05	0.05	0.05
Dieldrin	0.05 ^a	7.9 ^a	0.088 ^a	12 ^a
Diethyl Phthalate	0.5 ^a	0.5 ^a	0.5 ^a	0.5 ^a
Dimethylphthalate	0.5 ^a	0.5 ^a	0.5 ^a	0.5 ^a
Dimethylphenol, 2,4-	45	45	45	45
Dinitrophenol, 2,4-	6.7	6.7	6.7	6.7
Dinitrotoluene, 2,4 & 2,6-	0.92	1.2	1.2	1.7
Dioxane, 1,4	1.8	92	1.8	92
Dioxin/Furan (TEQ)	0.000013	0.00051	0.000099	0.0044
Endosulfan	0.04	0.04	0.04	0.04
Endrin	0.04 ^a	7.8 ^a	0.04 ^a	7.8 ^a
Ethylbenzene	1.9	1.9	1.9	1.9
Ethylene dibromide	0.05 ^a	0.05 ^a	0.05 ^a	0.05 ^a
Fluoranthene	0.69	70	70	1100
Fluorene	6.8	6.8	6.8	6.8
Heptachlor	0.072	0.072	0.072	0.072
Heptachlor Epoxide	0.05 ^a	0.05 ^a	0.05 ^a	0.05 ^a
Hexachlorobenzene	0.52	0.66	0.66	1.6
Hexachlorobutadiene	0.01	0.01	0.01	0.01
Hexachlorocyclohexane Gamma-	0.01	0.01	0.01	0.01
Hexachloroethane	0.01	0.01	0.13	0.22
Hexane (n)	2.5	2.5	2.5	2.5
Indeno[1 2 3-cd]pyrene	0.38	7	0.76	260
Lead	120	1000 ^a	120	1000 ^a
Mercury	0.27	0.27	0.27	1.9
Methoxychlor	0.13	0.19	0.19	0.19
Methyl Ethyl Ketone	14	16	26	26
Methyl Isobutyl Ketone	0.89	6.6	17	17
Methyl Mercury **	0.00097	0.00097	0.00097	0.00097
Methyl tert-Butyl Ether (MTBE)	0.05	0.05	0.05	0.05
Methylene Chloride	0.06	0.06	0.2	0.2
Methylnaphthalene, 2-(1-) ***	0.92	8.7	8.7	8.7
Molybdenum	6.9	1200 ^a	40 ^a	1200 ^a

Contaminant	Residential/Parkland/Institutional Property Use		Industrial/Commercial/Community Property Use	
	Surface Soil	Subsurface Soil	Surface Soil	Subsurface Soil
Naphthalene	0.59	0.59	1.8	23
Nickel	100 ^a	510 ^a	270 ^a	510 ^a
Pentachlorophenol	0.1	0.34	0.34	0.34
Petroleum Hydrocarbons F1****	25	25	25	25
Petroleum Hydrocarbons F2	10	10	26	26
Petroleum Hydrocarbons F3	300	5800	1700	5800
Petroleum Hydrocarbons F4	2800	6900	3300	6900
Phenanthrene	6.2	23	12	23
Phenol	5.3	5.3	5.3	5.3
Polychlorinated Biphenyls	0.35	2.7	0.78	4.1
Pyrene	70	70	70	70
Selenium	2.4 ^a	1200 ^a	5.5 ^a	1200 ^a
Silver	20 ^a	490 ^a	40 ^a	490 ^a
Styrene	0.5	1.6	6.8	6.8
Tetrachloroethane, 1,1,1,2-	0.05	0.05	0.05	0.05
Tetrachloroethane, 1,1,2,2-	0.05	0.05	0.05	0.05
Tetrachloroethylene	0.05 ^a	0.05 ^a	0.05 ^a	0.05 ^a
Thallium	1	3.3 ^a	3.3 ^a	33 ^a
Toluene	0.99	6.2	7.8	7.8
Trichlorobenzene, 1,2,4-	0.17	0.17	1.3	1.3
Trichloroethane, 1,1,1-	0.11	0.11	0.4	0.4
Trichloroethane, 1,1,2-	0.05	0.05	0.05	0.05
Trichloroethylene	0.05 ^a	0.05 ^a	0.05 ^a	0.05 ^a
Trichlorofluoromethane	0.46	0.46	0.46	0.46
Trichlorophenol, 2,4,5-	3.1	3.1	3.1	3.1
Trichlorophenol, 2,4,6-	0.43	0.43	0.43	0.43
Uranium	23 ^a	300 ^a	33 ^a	300 ^a
Vanadium	86	160 ^a	86	160 ^a
Vinyl Chloride	0.02	0.02	0.02	0.02
Xylene Mixture	0.9	0.9	3	3
Zinc	340 ^a	15000 ^a	340 ^a	15000 ^a
Electrical Conductivity (mS/cm)	0.7	0.7	1.4	1.4
Sodium Adsorption Ratio	5	5	12	12

Notes:

NA: Not Applicable; ^a: Leachate analysis is required only for chemicals that are identified as chemicals of potential concern in excess soil.

*: The boron standards are for hot water soluble extract for all surface soils. For subsurface soils the standards are for total boron (mixed strong acid digest), since plant protection for soils below the root zone is not a significant concern.

** : Analysis for methyl mercury only applies when mercury (total) standard is exceeded.

***: The methyl naphthalene standards are applicable to both 1-methyl naphthalene and 2- methyl naphthalene, with the provision that if both are detected the sum of the two must not exceed the standard.

****: F1 fraction does not include benzene, toluene, ethylbenzene and xylene (BTEX); however, the proponent has the choice as to whether or not to subtract BTEX from the analytical result.

TABLE 6.1: Full Depth Excess Soil Standards for Shallow Soils in a Potable Ground Water Condition**Volume Independent**

(Unit in µg/g)

Contaminant	Agricultural or Other Property Use	Residential/ Parkland/Institutional Property Use	Industrial/Commercial/Community Property Use
Acenaphthene	1.9	1.9	1.9
Acenaphthylene	0.093	0.093	0.093
Acetone	0.5	0.5	0.5
Aldrin	0.05	0.05	0.088
Anthracene	0.05	0.16	0.16
Antimony	7.5 ^a	7.5 ^a	40 ^a
Arsenic	11	18	18
Barium	390 ^a	390 ^a	670 ^a
Benzene	0.02	0.02	0.02
Benz[a]anthracene	0.5	0.5	0.83
Benzo[a]pyrene	0.31	0.31	0.31
Benzo[b]fluoranthene	3.2	3.2	3.2
Benzo[ghi]perylene	1.1	1.1	1.1
Benzo[k]fluoranthene	2.2	2.2	2.2
Beryllium	4 ^a	4 ^a	8 ^a
Biphenyl 1,1'-	0.05	0.05	0.05
Bis(2-chloroethyl)ether	0.5 ^a	0.5 ^a	0.5 ^a
Bis(2-chloroisopropyl)ether	0.5 ^a	0.5 ^a	0.5 ^a
Bis(2-ethylhexyl)phthalate	5	5	9.9
Boron (Hot Water Soluble)*	1.5	1.5	2
Boron (total)	120 ^a	120 ^a	120 ^a
Bromodichloromethane	0.05	0.05	0.05
Bromoform	0.05	0.05	0.05
Bromomethane	0.05 ^a	0.05 ^a	0.05 ^a
Cadmium	1 ^a	1.2	1.9 ^a
Carbon Tetrachloride	0.05 ^a	0.05 ^a	0.05 ^a
Chlordane	0.05	0.05	0.05
Chloroaniline p-	0.5 ^a	0.5 ^a	0.5 ^a
Chlorobenzene	0.083	0.083	0.083
Chloroform	0.05 ^a	0.05 ^a	0.05 ^a
Chlorophenol, 2-	0.1	0.1	0.1
Chromium Total	160 ^a	160 ^a	160 ^a
Chromium VI	8	8	8
Chrysene	0.33	2.8	2.8
Cobalt	22 ^a	22 ^a	80 ^a
Copper	140 ^a	140 ^a	230 ^a
Cyanide (CN-)	0.051	0.051	0.051
Dibenz[a h]anthracene	0.57	0.57	0.7
Dibromochloromethane	0.05	0.05	0.05
Dichlorobenzene, 1,2-	3.4 ^a	3.4 ^a	6.8 ^a
Dichlorobenzene, 1,3-	0.26	0.26	0.26
Dichlorobenzene, 1,4-	0.05 ^a	0.05 ^a	0.05 ^a
Dichlorobenzidine, 3,3'-	1 ^a	1 ^a	1 ^a

Contaminant	Agricultural or Other Property Use	Residential/ Parkland/Institutional Property Use	Industrial/Commercial/Community Property Use
Dichlorodifluoromethane	1.5	1.5	1.5
DDD	0.55	0.55	0.55
DDE	0.26	0.26	0.52
DDT	0.078	1.4	1.4
Dichloroethane, 1,1-	0.05 ^a	0.05 ^a	0.05 ^a
Dichloroethane, 1,2-	0.05 ^a	0.05 ^a	0.05 ^a
Dichloroethylene, 1,1-	0.05 ^a	0.05 ^a	0.05 ^a
Dichloroethylene, 1,2-cis-	0.05 ^a	0.05 ^a	0.05 ^a
Dichloroethylene, 1,2-trans-	0.05 ^a	0.05 ^a	0.05 ^a
Dichlorophenol, 2,4-	0.1	0.1	0.1
Dichloropropane, 1,2-	0.05 ^a	0.05 ^a	0.05 ^a
Dichloropropene, 1,3-	0.05 ^a	0.05 ^a	0.05 ^a
Dieldrin	0.05 ^a	0.05 ^a	0.088 ^a
Diethyl Phthalate	0.5 ^a	0.5 ^a	0.5 ^a
Dimethylphthalate	0.5 ^a	0.5 ^a	0.5 ^a
Dimethylphenol, 2,4-	0.43	0.43	0.43
Dinitrophenol, 2,4-	2 ^a	2 ^a	2 ^a
Dinitrotoluene, 2,4 & 2,6-	0.5 ^a	0.5 ^a	0.5 ^a
Dioxane, 1,4	0.2 ^a	0.2 ^a	0.2 ^a
Dioxin/Furan (TEQ)	0.000013	0.000013	0.000022
Endosulfan	0.04	0.04	0.04
Endrin	0.04 ^a	0.04 ^a	0.04 ^a
Ethylbenzene	0.05	0.05	0.05
Ethylene dibromide	0.05 ^a	0.05 ^a	0.05 ^a
Fluoranthene	0.69	0.69	2.8
Fluorene	6.6	6.6	6.6
Heptachlor	0.05 ^a	0.05 ^a	0.05 ^a
Heptachlor Epoxide	0.05 ^a	0.05 ^a	0.05 ^a
Hexachlorobenzene	0.034	0.034	0.034
Hexachlorobutadiene	0.01	0.01	0.01
Hexachlorocyclohexane Gamma-	0.01	0.01	0.01
Hexachloroethane	0.01	0.01	0.01
Hexane (n)	0.05	0.05	0.05
Indeno[1 2 3-cd]pyrene	0.38	0.38	0.76
Lead	45	120	120
Mercury	0.16	0.27	0.27
Methoxychlor	0.05	0.05	0.05
Methyl Ethyl Ketone	0.5	0.5	0.5
Methyl Isobutyl Ketone	0.5	0.5	0.5
Methyl Mercury **	0.00097	0.00097	0.00097
Methyl tert-Butyl Ether (MTBE)	0.05	0.05	0.05
Methylene Chloride	0.05	0.05	0.05
Methylnaphthalene, 2-(1-) ***	0.096	0.59	0.59
Molybdenum	6.9 ^a	6.9 ^a	40 ^a
Naphthalene	0.081	0.09	0.09
Nickel	100 ^a	100 ^a	270 ^a

Contaminant	Agricultural or Other Property Use	Residential/ Parkland/Insti- tutional Property Use	Industrial/Comm- ercial/ Community Property Use
Pentachlorophenol	0.1	0.1	0.34
Petroleum Hydrocarbons F1****	17	25	25
Petroleum Hydrocarbons F2	10	10	10
Petroleum Hydrocarbons F3	240	240	240
Petroleum Hydrocarbons F4	2800	2800	3300
Phenanthrene	6.2	6.2	12
Phenol	2.4	2.4	2.4
Polychlorinated Biphenyls	0.3	0.3	0.3
Pyrene	0.79	1	1
Selenium	2.4 ^a	2.4 ^a	5.5 ^a
Silver	20 ^a	20 ^a	40 ^a
Styrene	0.05	0.05	0.05
Tetrachloroethane, 1,1,1,2-	0.05 ^a	0.05 ^a	0.05 ^a
Tetrachloroethane, 1,1,2,2-	0.05 ^a	0.05 ^a	0.05 ^a
Tetrachloroethylene	0.05 ^a	0.05 ^a	0.05 ^a
Thallium	1 ^a	1	3.3 ^a
Toluene	0.2	0.2	0.2
Trichlorobenzene, 1,2,4-	0.05	0.05	0.05
Trichloroethane, 1,1,1-	0.05	0.05	0.05
Trichloroethane, 1,1,2-	0.05 ^a	0.05 ^a	0.05 ^a
Trichloroethylene	0.05 ^a	0.05 ^a	0.05 ^a
Trichlorofluoromethane	0.17	0.25	0.25
Trichlorophenol, 2,4,5-	0.11	0.11	0.11
Trichlorophenol, 2,4,6-	4.4 ^a	4.4 ^a	10 ^a
Uranium	23 ^a	23 ^a	33 ^a
Vanadium	86	86	86
Vinyl Chloride	0.02	0.02	0.02
Xylene Mixture	0.091	0.091	0.091
Zinc	340 ^a	340 ^a	340 ^a
Electrical Conductivity (mS/cm)	0.7	0.7	1.4
Sodium Adsorption Ratio	5	5	12

Notes:

^a: Leachate analysis is required only for chemicals that are identified as chemicals of potential concern in excess soil.

*: The boron standards are for hot water soluble extract for all surface soils. For subsurface soils the standards are for total boron (mixed strong acid digest), since plant protection for soils below the root zone is not a significant concern.

** : Analysis for methyl mercury only applies when mercury (total) standard is exceeded.

***: The methyl naphthalene standards are applicable to both 1-methyl naphthalene and 2- methyl naphthalene, with the provision that if both are detected the sum of the two must not exceed the standard.

****: F1 fraction does not include benzene, toluene, ethylbenzene and xylene (BTEX); however, the proponent has the choice as to whether or not to subtract BTEX from the analytical result.

TABLE 7.1: Full Depth Excess Soil Standards for Shallow Soils in a Non-Potable Ground Water Condition**Volume Independent**

(Unit in µg/g)

Contaminant	Residential/Parkland/Institutional Property Use	Industrial/Commercial/Community Property Use
Acenaphthene	1.9	1.9
Acenaphthylene	0.093	0.093
Acetone	1.8	1.8
Aldrin	0.05	0.088
Anthracene	0.16	0.16
Antimony	7.5	40
Arsenic	18	18
Barium	390 ^a	670 ^a
Benzene	0.02	0.02
Benz[a]anthracene	0.5	0.83
Benzo[a]pyrene	0.57	0.7
Benzo[b]fluoranthene	5.7	6.8
Benzo[ghi]perylene	1.1	1.1
Benzo[k]fluoranthene	2.2	2.2
Beryllium	4 ^a	8 ^a
Biphenyl 1,1'-	0.3	21
Bis(2-chloroethyl)ether	0.5	0.5
Bis(2-chloroisopropyl)ether	0.5	11
Bis(2-ethylhexyl)phthalate	5	9.9
Boron (Hot Water Soluble)*	1.5	2
Boron (total)	120	120
Bromodichloromethane	5.8	5.8
Bromoform	2.5	2.5
Bromomethane	0.05 ^a	0.05 ^a
Cadmium	1.2	1.9 ^a
Carbon Tetrachloride	0.05 ^a	0.05 ^a
Chlordane	0.05	0.05
Chloroaniline p-	0.5	0.5
Chlorobenzene	0.28	0.28
Chloroform	0.05 ^a	0.05 ^a
Chlorophenol, 2-	1.6	2.3
Chromium Total	160 ^a	160 ^a
Chromium VI	8	8
Chrysene	2.8	2.8
Cobalt	22 ^a	80 ^a
Copper	140 ^a	230 ^a
Cyanide (CN-)	0.051	0.051
Dibenz[a h]anthracene	0.57	0.7
Dibromochloromethane	5.5	5.5
Dichlorobenzene, 1,2-	0.69	0.69
Dichlorobenzene, 1,3-	4.8	6.8

Contaminant	Residential/Parkland/Institutional Property Use	Industrial/Commercial/Community Property Use
Dichlorobenzene, 1,4-	0.05	0.05
Dichlorobenzidine, 3,3'-	1	1
Dichlorodifluoromethane	1.8	1.8
DDD	0.55	0.55
DDE	0.26	0.52
DDT	1.4	1.4
Dichloroethane, 1,1-	0.14 ^a	2.3 ^a
Dichloroethane, 1,2-	0.05 ^a	0.05 ^a
Dichloroethylene, 1,1-	0.05 ^a	0.05 ^a
Dichloroethylene, 1,2-cis-	0.05	0.05
Dichloroethylene, 1,2-trans-	0.05 ^a	0.05 ^a
Dichlorophenol, 2,4-	1.7	3.4
Dichloropropane, 1,2-	0.05 ^a	0.05 ^a
Dichloropropene, 1,3-	0.05 ^a	0.05 ^a
Dieldrin	0.05 ^a	0.088 ^a
Diethyl Phthalate	0.5 ^a	0.5 ^a
Dimethylphthalate	0.5 ^a	0.5 ^a
Dimethylphenol, 2,4-	45	45
Dinitrophenol, 2,4-	6.7	6.7
Dinitrotoluene, 2,4 & 2,6-	0.92	1.2
Dioxane, 1,4	1.8	1.8
Dioxin/Furan (TEQ)	0.000013	0.000029
Endosulfan	0.04	0.04
Endrin	0.04 ^a	0.04 ^a
Ethylbenzene	0.6	0.6
Ethylene dibromide	0.05 ^a	0.05 ^a
Fluoranthene	0.69	10
Fluorene	6.6	6.6
Heptachlor	0.05 ^a	0.05 ^a
Heptachlor Epoxide	0.05 ^a	0.05 ^a
Hexachlorobenzene	0.52	0.66
Hexachlorobutadiene	0.01	0.01
Hexachlorocyclohexane Gamma-	0.01	0.01
Hexachloroethane	0.01	0.01
Hexane (n)	0.05	0.05
Indeno[1 2 3-cd]pyrene	0.38	0.76
Lead	120	120
Mercury	0.27	0.27
Methoxychlor	0.05	0.05
Methyl Ethyl Ketone	2.3	2.3
Methyl Isobutyl Ketone	0.89	0.93
Methyl Mercury **	0.00097	0.00097
Methyl tert-Butyl Ether (MTBE)	0.05	0.05
Methylene Chloride	0.05	0.05

Contaminant	Residential/Parkland/Institutional Property Use	Industrial/Commercial/Community Property Use
Methylnaphthalene, 2-(1-) ***	0.92	8.7
Molybdenum	6.9	40 ^a
Naphthalene	0.09	0.09
Nickel	100 ^a	270 ^a
Pentachlorophenol	0.1	0.34
Petroleum Hydrocarbons F1****	25	25
Petroleum Hydrocarbons F2	10	10
Petroleum Hydrocarbons F3	300	1700
Petroleum Hydrocarbons F4	2800	3300
Phenanthrene	6.2	12
Phenol	5.3	5.3
Polychlorinated Biphenyls	0.3	0.3
Pyrene	1	1
Selenium	2.4 ^a	5.5 ^a
Silver	20 ^a	40 ^a
Styrene	0.23	0.23
Tetrachloroethane, 1,1,1,2-	0.05 ^a	0.05 ^a
Tetrachloroethane, 1,1,2,2-	0.05 ^a	0.05 ^a
Tetrachloroethylene	0.05 ^a	0.05 ^a
Thallium	1	3.3 ^a
Toluene	0.88	0.88
Trichlorobenzene, 1,2,4-	0.05	0.05
Trichloroethane, 1,1,1-	0.05	0.05
Trichloroethane, 1,1,2-	0.05 ^a	0.05 ^a
Trichloroethylene	0.05 ^a	0.05 ^a
Trichlorofluoromethane	0.46	0.46
Trichlorophenol, 2,4,5-	3.1	3.1
Trichlorophenol, 2,4,6-	0.43	0.43
Uranium	23 ^a	33 ^a
Vanadium	86	86
Vinyl Chloride	0.02	0.02
Xylene Mixture	0.12	0.12
Zinc	340 ^a	340 ^a
Electrical Conductivity (mS/cm)	0.7	1.4
Sodium Adsorption Ratio	5	12

Notes:

^a: Leachate analysis is required only for chemicals that are identified as chemicals of potential concern in excess soil.

*: The boron standards are for hot water soluble extract for all surface soils. For subsurface soils the standards are for total boron (mixed strong acid digest), since plant protection for soils below the root zone is not a significant concern.

** : Analysis for methyl mercury only applies when mercury (total) standard is exceeded.

*** : The methyl naphthalene standards are applicable to both 1-methyl naphthalene and 2- methyl naphthalene, with the provision that if both are detected the sum of the two must not exceed the standard.

**** : F1 fraction does not include benzene, toluene, ethylbenzene and xylene (BTEX); however, the proponent has the choice as to whether or not to subtract BTEX from the analytical result.

TABLE 8.1: Full Depth Excess Soil Standards for Use within 30 m of a Water Body in a Potable Ground Water Condition**Volume Independent**

(Unit in µg/g)

Contaminant	Agricultural or Other Property Use	Residential/ Parkland/Institutional Property Use	Industrial/Commercial/Community Property Use
Acenaphthene	0.05	0.072	0.072
Acenaphthylene	0.093	0.093	0.093
Acetone	0.5	0.5	0.5
Aldrin	0.05	0.05	0.05
Anthracene	0.05	0.16	0.16
Antimony	1 ^a	1.3	1.3
Arsenic	11	18	18
Barium	210	220	220
Benzene	0.02	0.02	0.02
Benz[a]anthracene	0.32	0.36	0.36
Benzo[a]pyrene	0.31	0.31	0.31
Benzo[b]fluoranthene	0.3	0.47	0.47
Benzo[ghi]perylene	0.2	0.68	0.68
Benzo[k]fluoranthene	0.24	0.48	0.48
Beryllium	2.5	2.5	2.5
Biphenyl 1,1'-	0.05	0.05	0.05
Bis(2-chloroethyl)ether	0.5 ^a	0.5 ^a	0.5 ^a
Bis(2-chloroisopropyl)ether	0.5 ^a	0.5 ^a	0.5 ^a
Bis(2-ethylhexyl)phthalate	5	5	5
Boron (Hot Water Soluble)*	1.5	1.5	1.5
Boron (total)	36	36	36
Bromodichloromethane	0.05	0.05	0.05
Bromoform	0.05	0.05	0.05
Bromomethane	0.05 ^a	0.05 ^a	0.05 ^a
Cadmium	1 ^a	1.2	1.2
Carbon Tetrachloride	0.05 ^a	0.05 ^a	0.05 ^a
Chlordane	0.05	0.05	0.05
Chloroaniline p-	0.5 ^a	0.5 ^a	0.5 ^a
Chlorobenzene	0.05	0.05	0.05
Chloroform	0.05	0.05	0.05
Chlorophenol, 2-	0.1	0.1	0.1
Chromium Total	67	70	70
Chromium VI	0.66	0.66	0.66
Chrysene	0.33	2.8	2.8
Cobalt	22 ^a	22 ^a	40 ^a
Copper	62	92	92
Cyanide (CN-)	0.051	0.051	0.051
Dibenz[a h]anthracene	0.1	0.1	0.1
Dibromochloromethane	0.05	0.05	0.05
Dichlorobenzene, 1,2-	0.05 ^a	0.05 ^a	0.05 ^a
Dichlorobenzene, 1,3-	0.05	0.05	0.05

Contaminant	Agricultural or Other Property Use	Residential/ Parkland/Institutional Property Use	Industrial/Commercial/Community Property Use
Dichlorobenzene, 1,4-	0.05 ^a	0.05 ^a	0.05 ^a
Dichlorobenzidine, 3,3'-	1 ^a	1 ^a	1 ^a
Dichlorodifluoromethane	0.05	0.05	0.05
DDD	0.05	0.05	0.05
DDE	0.05	0.05	0.05
DDT	0.078	1.4	1.4
Dichloroethane, 1,1-	0.05	0.05	0.05
Dichloroethane, 1,2-	0.05 ^a	0.05 ^a	0.05 ^a
Dichloroethylene, 1,1-	0.05 ^a	0.05 ^a	0.05 ^a
Dichloroethylene, 1,2-cis-	0.05 ^a	0.05 ^a	0.05 ^a
Dichloroethylene, 1,2-trans-	0.05 ^a	0.05 ^a	0.05 ^a
Dichlorophenol, 2,4-	0.1	0.1	0.1
Dichloropropane, 1,2-	0.05 ^a	0.05 ^a	0.05 ^a
Dichloropropene, 1,3-	0.05	0.05	0.05
Dieldrin	0.05 ^a	0.05 ^a	0.05 ^a
Diethyl Phthalate	0.5 ^a	0.5 ^a	0.5 ^a
Dimethylphthalate	0.5 ^a	0.5 ^a	0.5 ^a
Dimethylphenol, 2,4-	0.2	0.2	0.2
Dinitrophenol, 2,4-	2 ^a	2 ^a	2 ^a
Dinitrotoluene, 2,4 & 2,6-	0.5 ^a	0.5 ^a	0.5 ^a
Dioxane, 1,4	0.2 ^a	0.2 ^a	0.2 ^a
Dioxin/Furan (TEQ)	0.000007	0.000007	0.000007
Endosulfan	0.04	0.04	0.04
Endrin	0.04 ^a	0.04 ^a	0.04 ^a
Ethylbenzene	0.05	0.05	0.05
Ethylene dibromide	0.05 ^a	0.05 ^a	0.05 ^a
Fluoranthene	0.69	0.69	0.69
Fluorene	0.19	0.19	0.19
Heptachlor	0.05 ^a	0.05 ^a	0.05 ^a
Heptachlor Epoxide	0.05 ^a	0.05 ^a	0.05 ^a
Hexachlorobenzene	0.02	0.02	0.02
Hexachlorobutadiene	0.01	0.01	0.01
Hexachlorocyclohexane Gamma-	0.01	0.01	0.01
Hexachloroethane	0.01	0.01	0.01
Hexane (n)	0.05	0.05	0.05
Indeno[1 2 3-cd]pyrene	0.2	0.23	0.23
Lead	45	120	120
Mercury	0.2	0.27	0.27
Methoxychlor	0.05	0.05	0.05
Methyl Ethyl Ketone	0.5	0.5	0.5
Methyl Isobutyl Ketone	0.5	0.5	0.5
Methyl Mercury **	NV	NV	NV
Methyl tert-Butyl Ether (MTBE)	0.05	0.05	0.05
Methylene Chloride	0.05	0.05	0.05
Methylnaphthalene, 2-(1-) ***	0.05	0.59	0.59
Molybdenum	2 ^a	2 ^a	2 ^a

Contaminant	Agricultural or Other Property Use	Residential/ Parkland/Institu tional Property Use	Industrial/Comm ercial/ Community Property Use
Naphthalene	0.05	0.09	0.09
Nickel	37	82	82
Pentachlorophenol	0.1	0.1	0.1
Petroleum Hydrocarbons F1****	17	25	25
Petroleum Hydrocarbons F2	10	10	10
Petroleum Hydrocarbons F3	240	240	240
Petroleum Hydrocarbons F4	120	120	120
Phenanthrene	0.56	0.69	0.69
Phenol	0.5	0.5	0.5
Polychlorinated Biphenyls	0.3	0.3	0.3
Pyrene	0.49	1	1
Selenium	1.2	1.5	1.5
Silver	0.5 ^a	0.5 ^a	0.5 ^a
Styrene	0.05	0.05	0.05
Tetrachloroethane, 1,1,1,2-	0.05	0.05	0.05
Tetrachloroethane, 1,1,2,2-	0.05 ^a	0.05 ^a	0.05 ^a
Tetrachloroethylene	0.05 ^a	0.05 ^a	0.05 ^a
Thallium	1 ^a	1 ^a	1 ^a
Toluene	0.2	0.2	0.2
Trichlorobenzene, 1,2,4-	0.05	0.05	0.05
Trichloroethane, 1,1,1-	0.05	0.05	0.05
Trichloroethane, 1,1,2-	0.05	0.05	0.05
Trichloroethylene	0.05 ^a	0.05 ^a	0.05 ^a
Trichlorofluoromethane	0.05	0.25	0.25
Trichlorophenol, 2,4,5-	0.1	0.1	0.1
Trichlorophenol, 2,4,6-	0.1 ^a	0.1 ^a	0.1 ^a
Uranium	1.9	2.5	2.5
Vanadium	86	86	86
Vinyl Chloride	0.02	0.02	0.02
Xylene Mixture	0.05	0.05	0.05
Zinc	290	290	290
Electrical Conductivity (mS/cm)	0.7	0.7	0.7
Sodium Adsorption Ratio	5	5	5

Notes:

NV: No Value; ^a: Leachate analysis is required only for chemicals that are identified as chemicals of potential concern in excess soil.

*: The boron standards are for hot water soluble extract for all surface soils. For subsurface soils the standards are for total boron (mixed strong acid digest), since plant protection for soils below the root zone is not a significant concern.

** : Analysis for methyl mercury only applies when mercury (total) standard is exceeded.

***: The methyl naphthalene standards are applicable to both 1-methyl naphthalene and 2- methyl naphthalene, with the provision that if both are detected the sum of the two must not exceed the standard.

****: F1 fraction does not include benzene, toluene, ethylbenzene and xylene (BTEX); however, the proponent has the choice as to whether or not to subtract BTEX from the analytical result.

TABLE 9.1: Full Depth Excess Soil Standards for Use within 30 m of a Water Body in a Non-Potable Ground Water Condition**Volume Independent**

(Unit in µg/g)

Contaminant	Residential/Parkland/Institutional/ Property Use	Industrial/Commercial/Community Property Use
Acenaphthene	0.072	0.072
Acenaphthylene	0.093	0.093
Acetone	0.5	0.5
Aldrin	0.05	0.05
Anthracene	0.16	0.16
Antimony	1.3	1.3
Arsenic	18	18
Barium	220	220
Benzene	0.02	0.02
Benz[a]anthracene	0.36	0.36
Benzo[a]pyrene	0.37	0.37
Benzo[b]fluoranthene	0.47	0.47
Benzo[ghi]perylene	0.68	0.68
Benzo[k]fluoranthene	0.48	0.48
Beryllium	2.5	2.5
Biphenyl 1,1'-	0.05	0.05
Bis(2-chloroethyl)ether	0.5	0.5
Bis(2-chloroisopropyl)ether	0.5	0.5
Bis(2-ethylhexyl)phthalate	5	5
Boron (Hot Water Soluble)*	1.5	1.5
Boron (total)	36	36
Bromodichloromethane	0.05	0.05
Bromoform	0.05	0.05
Bromomethane	0.05 ^a	0.05 ^a
Cadmium	1.2	1.2
Carbon Tetrachloride	0.05 ^a	0.05 ^a
Chlordane	0.05	0.05
Chloroaniline p-	0.5	0.5
Chlorobenzene	0.05	0.05
Chloroform	0.05	0.05
Chlorophenol, 2-	0.1	0.1
Chromium Total	70	70
Chromium VI	0.66	0.66
Chrysene	2.8	2.8
Cobalt	22 ^a	40 ^a
Copper	92	92
Cyanide (CN-)	0.051	0.051
Dibenz[a h]anthracene	0.1	0.1
Dibromochloromethane	0.05	0.05
Dichlorobenzene, 1,2-	0.05	0.05
Dichlorobenzene, 1,3-	0.05	0.05

Contaminant	Residential/Parkland/Institutional/ Property Use	Industrial/Commercial/Community Property Use
Dichlorobenzene, 1,4-	0.05	0.05
Dichlorobenzidine, 3,3'-	1	1
Dichlorodifluoromethane	0.05	0.05
DDD	0.05	0.05
DDE	0.05	0.05
DDT	1.4	1.4
Dichloroethane, 1,1-	0.05	0.05
Dichloroethane, 1,2-	0.05	0.05
Dichloroethylene, 1,1-	0.05 ^a	0.05 ^a
Dichloroethylene, 1,2-cis-	0.05	0.05
Dichloroethylene, 1,2-trans-	0.05 ^a	0.05 ^a
Dichlorophenol, 2,4-	0.1	0.1
Dichloropropane, 1,2-	0.05	0.05
Dichloropropene, 1,3-	0.05	0.05
Dieldrin	0.05 ^a	0.05 ^a
Diethyl Phthalate	0.5 ^a	0.5 ^a
Dimethylphthalate	0.5 ^a	0.5 ^a
Dimethylphenol, 2,4-	0.2	0.2
Dinitrophenol, 2,4-	2	2
Dinitrotoluene, 2,4 & 2,6-	0.5	0.5
Dioxane, 1,4	0.2	0.2
Dioxin/Furan (TEQ)	0.000007	0.000007
Endosulfan	0.04	0.04
Endrin	0.04 ^a	0.04 ^a
Ethylbenzene	0.05	0.05
Ethylene dibromide	0.05 ^a	0.05 ^a
Fluoranthene	0.69	0.69
Fluorene	0.19	0.19
Heptachlor	0.05 ^a	0.05 ^a
Heptachlor Epoxide	0.05 ^a	0.05 ^a
Hexachlorobenzene	0.02	0.02
Hexachlorobutadiene	0.01	0.01
Hexachlorocyclohexane Gamma-	0.01	0.01
Hexachloroethane	0.01	0.01
Hexane (n)	0.05	0.05
Indeno[1 2 3-cd]pyrene	0.23	0.23
Lead	120	120
Mercury	0.27	0.27
Methoxychlor	0.05	0.05
Methyl Ethyl Ketone	0.5	0.5
Methyl Isobutyl Ketone	0.5	0.5
Methyl Mercury **	NV	NV
Methyl tert-Butyl Ether (MTBE)	0.05	0.05
Methylene Chloride	0.05	0.05

Contaminant	Residential/Parkland/Institutional/ Property Use	Industrial/Commercial/Community Property Use
Methylnaphthalene, 2-(1-) ***	0.59	0.59
Molybdenum	2	2
Naphthalene	0.09	0.09
Nickel	82	82
Pentachlorophenol	0.1	0.1
Petroleum Hydrocarbons F1****	25	25
Petroleum Hydrocarbons F2	10	10
Petroleum Hydrocarbons F3	240	240
Petroleum Hydrocarbons F4	120	120
Phenanthrene	0.69	0.69
Phenol	0.5	0.5
Polychlorinated Biphenyls	0.3	0.3
Pyrene	1	1
Selenium	1.5	1.5
Silver	0.5 ^a	0.5 ^a
Styrene	0.05	0.05
Tetrachloroethane, 1,1,1,2-	0.05	0.05
Tetrachloroethane, 1,1,2,2-	0.05	0.05
Tetrachloroethylene	0.05 ^a	0.05 ^a
Thallium	1	1
Toluene	0.2	0.2
Trichlorobenzene, 1,2,4-	0.05	0.05
Trichloroethane, 1,1,1-	0.05	0.05
Trichloroethane, 1,1,2-	0.05	0.05
Trichloroethylene	0.05 ^a	0.05 ^a
Trichlorofluoromethane	0.25	0.25
Trichlorophenol, 2,4,5-	0.1	0.1
Trichlorophenol, 2,4,6-	0.1	0.1
Uranium	2.5	2.5
Vanadium	86	86
Vinyl Chloride	0.02	0.02
Xylene Mixture	0.05	0.05
Zinc	290	290
Electrical Conductivity (mS/cm)	0.7	0.7
Sodium Adsorption Ratio	5	5

Notes:

NV: No Value; ^a: Leachate analysis is required only for chemicals that are identified as chemicals of potential concern in excess soil.

*: The boron standards are for hot water soluble extract for all surface soils. For subsurface soils the standards are for total boron (mixed strong acid digest), since plant protection for soils below the root zone is not a significant concern.

** : Analysis for methyl mercury only applies when mercury (total) standard is exceeded.

*** : The methyl naphthalene standards are applicable to both 1-methyl naphthalene and 2- methyl naphthalene, with the provision that if both are detected the sum of the two must not exceed the standard.

**** : F1 fraction does not include benzene, toluene, ethylbenzene and xylene (BTEX); however, the proponent has the choice as to whether or not to subtract BTEX from the analytical result.

APPENDIX 2. GENERIC LEACHATE SCREENING LEVELS FOR EXCESS SOIL REUSE

The ministry incorporated leachate analysis as a mandatory component, in certain situations, to confirm acceptable soil quality for the following conditions:

- when soil to groundwater component values (S-GW1, S-GW2, or S-GW3) are not derived within the development of excess soil standards; and,
- when a soil standard for a chemical is identified as having analytical limitations (as explained in the rationale document).

This appendix provides leachate screening levels organized in a series of look-up tables that correspond to the tables of generic excess soil standards, including Table 1 and Tables 2.1 to 9.1.

Leachate analysis is not required when Tables 2-9 are used for small volumes of excess soil and therefore leachate screening levels are not provided for these Tables.

How to Read These Tables

The tables of leachate screening levels set out prescribed contaminants by listing contaminants in the column of rows that has the heading row entitled "Contaminant". The tables set out prescribed leachate screening levels for these contaminants by indicating in the appropriate locations the maximum concentrations of the contaminant in leachate expressed in a number that is to be read as $\mu\text{g}/\text{L}$.

The leachate screening level that is applicable for a type of property can be found in the row named for the contaminant and in the column that has the heading row that indicates the type of property use of the property at which excess soil is reused.

A contaminant that is listed and for which the symbol "--" appears in the cell, instead of a numerical value, is a contaminant for which leachate analysis is not required for the contaminant in that Table, because neither of the aforementioned conditions which would require leachate analysis are present.

A contaminant that is listed and for which the abbreviation "NA" appears in the cell, instead of a numerical value, is a contaminant for which a standard is not prescribed because no standard is required. The abbreviation "NA" means "not applicable".

Notes for Tables 1 and 2.1 to 9.1

Leachate screening levels presented in this Appendix are associated with their corresponding excess soil standards provided in Appendix 1. For example, if Table 2.1 for residential property use presented in Appendix 1 is selected as the appropriate table of excess soil standards, the leachate screening levels of Table 2.1 for residential land use presented in this Appendix must be used.

Any site conditions that may lead to the inappropriateness of the use of the generic excess soil standards at a given property may also result in leachate screening levels not being appropriate for use. The qualified person must ascertain that the site conditions, as specified in Appendix 1, are appropriate for use of the generic excess soil standards and corresponding leachate screening levels.

For a contaminant in excess soil that originates from an area of potential environmental concern (APEC) and that is identified as a contaminant of potential concern (COPC), if there is a numerical screening level

shown in the table being used, leachate analysis requires to be completed. In such cases, leachate screening levels shall be met in order for excess soil standards to be met (see Part IV for additional leachate rules).

TABLE 1: Leachate Screening Levels for Excess Soil Reuse

(Unit in µg/L)

Contaminant	Agricultural and Others Property Use	Residential/Parkland/Institutional and Industrial/Commercial/Community Property Use
Acenaphthene	-	-
Acenaphthylene	-	-
Acetone	-	-
Aldrin	-	-
Anthracene	-	-
Antimony	6	-
Arsenic	-	-
Barium	-	-
Benzene	-	-
Benz[a]anthracene	-	-
Benzo[a]pyrene	-	-
Benzo[b]fluoranthene	-	-
Benzo[ghi]perylene	-	-
Benzo[k]fluoranthene	-	-
Beryllium	-	-
Biphenyl 1,1'-	-	-
Bis(2-chloroethyl)ether	5	5
Bis(2-chloroisopropyl)ether	4	4
Bis(2-ethylhexyl)phthalate	-	-
Boron (Hot Water Soluble)	-	-
Boron (total)	-	-
Bromodichloromethane	-	-
Bromoform	-	-
Bromomethane	0.5	0.5
Cadmium	-	-
Carbon Tetrachloride	0.2	0.2
Chlordane	-	-
Chloroaniline p-	10	10
Chlorobenzene	-	-
Chloroform	1	1
Chlorophenol, 2-	-	-
Chromium Total	-	-
Chromium VI	-	-
Chrysene	-	-
Cobalt	-	-
Copper	-	-
Cyanide (CN-)	-	-
Dibenz[a h]anthracene	-	-
Dibromochloromethane	-	-
Dichlorobenzene, 1,2-	0.55	0.55
Dichlorobenzene, 1,3-	-	-
Dichlorobenzene, 1,4-	0.5	0.5
Dichlorobenzidine, 3,3'-	0.5	0.5
Dichlorodifluoromethane	-	-

Contaminant	Agricultural and Others Property Use	Residential/Parkland/Institutional and Industrial/Commercial/Community Property Use
DDD	-	-
DDE	-	-
DDT	-	-
Dichloroethane, 1,1-	0.5	0.5
Dichloroethane, 1,2-	0.5	0.5
Dichloroethylene, 1,1-	0.5	0.5
Dichloroethylene, 1,2-cis-	0.5	0.5
Dichloroethylene, 1,2-trans-	0.5	0.5
Dichlorophenol, 2,4-	-	-
Dichloropropane, 1,2-	0.5	0.5
Dichloropropene, 1,3-	0.5	0.5
Dieldrin	0.095	0.095
Diethyl Phthalate	2	2
Dimethylphthalate	2	2
Dimethylphenol, 2,4-	-	-
Dinitrophenol, 2,4-	10	10
Dinitrotoluene, 2,4 & 2,6-	5	5
Dioxane, 1,4	2	2
Dioxin/Furan (TEQ)	-	-
Endosulfan	-	-
Endrin	0.061	0.061
Ethylbenzene	-	-
Ethylene dibromide	0.2	0.2
Fluoranthene	-	-
Fluorene	-	-
Heptachlor	0.01	0.01
Heptachlor Epoxide	0.01	0.01
Hexachlorobenzene	-	-
Hexachlorobutadiene	-	-
Hexachlorocyclohexane Gamma-	-	-
Hexachloroethane	-	-
Hexane (n)	-	-
Indeno[1 2 3-cd]pyrene	-	-
Lead	-	-
Mercury	-	-
Methoxychlor	-	-
Methyl Ethyl Ketone	-	-
Methyl Isobutyl Ketone	-	-
Methyl Mercury	-	-
Methyl tert-Butyl Ether (MTBE)	-	-
Methylene Chloride	-	-
Methylnaphthalene, 2-(1-)	-	-
Molybdenum	15	15
Naphthalene	-	-
Nickel	-	-
Pentachlorophenol	-	-

Contaminant	Agricultural and Others Property Use	Residential/Parkland/Institutional and Industrial/Commercial/Community Property Use
Petroleum Hydrocarbons F1	-	-
Petroleum Hydrocarbons F2	-	-
Petroleum Hydrocarbons F3	-	-
Petroleum Hydrocarbons F4	-	-
Phenanthrene	-	-
Phenol	-	-
Polychlorinated Biphenyls	-	-
Pyrene	-	-
Selenium	-	-
Silver	0.3	0.3
Styrene	-	-
Tetrachloroethane, 1,1,1,2-	0.5	0.5
Tetrachloroethane, 1,1,2,2-	0.5	0.5
Tetrachloroethylene	0.5	0.5
Thallium	-	2
Toluene	-	-
Trichlorobenzene, 1,2,4-	-	-
Trichloroethane, 1,1,1-	-	-
Trichloroethane, 1,1,2-	0.5	0.5
Trichloroethylene	0.5	0.5
Trichlorofluoromethane	-	-
Trichlorophenol, 2,4,5-	-	-
Trichlorophenol, 2,4,6-	0.75	0.75
Uranium	-	-
Vanadium	-	-
Vinyl Chloride	-	-
Xylene Mixture	-	-
Zinc	-	-
Electrical Conductivity (mS/cm)	NA	NA
Sodium Adsorption Ratio	NA	NA

Notes: NA: Not Applicable; -: No leachate analysis required.

**TABLE 2.1: Leachate Screening Levels for Full Depth Excess Soil
in a Potable Ground Water Condition**

Volume Independent

(Unit in µg/L)

Contaminant	Agricultural or Other Property Use	Residential/ Parkland/Institutional Property Use	Industrial/Commercial/Community Property Use
Acenaphthene	-	-	-
Acenaphthylene	-	-	-
Acetone	-	-	-
Aldrin	-	-	-
Anthracene	-	-	-
Antimony	6	6	6
Arsenic	-	-	-
Barium	1000	1000	1000
Benzene	-	-	-
Benz[a]anthracene	-	-	-
Benzo[a]pyrene	-	-	-
Benzo[b]fluoranthene	-	-	-
Benzo[ghi]perylene	-	-	-
Benzo[k]fluoranthene	-	-	-
Beryllium	4	4	4
Biphenyl 1,1'-	-	-	-
Bis(2-chloroethyl)ether	5	5	5
Bis(2-chloroisopropyl)ether	4	4	4
Bis(2-ethylhexyl)phthalate	-	-	-
Boron (Hot Water Soluble)	-	-	-
Boron (total)	5000	5000	5000
Bromodichloromethane	-	-	-
Bromoform	-	-	-
Bromomethane	0.5	0.5	0.5
Cadmium	0.5	-	0.5
Carbon Tetrachloride	0.2	0.2	0.2
Chlordane	-	-	-
Chloroaniline p-	10	10	10
Chlorobenzene	-	-	-
Chloroform	-	-	-
Chlorophenol, 2-	-	-	-
Chromium Total	50	50	50
Chromium VI	-	-	-
Chrysene	-	-	-
Cobalt	3	3	3
Copper	14	14	14
Cyanide (CN-)	-	-	-
Dibenz[a h]anthracene	-	-	-
Dibromochloromethane	-	-	-
Dichlorobenzene, 1,2-	0.55	0.55	0.55
Dichlorobenzene, 1,3-	-	-	-
Dichlorobenzene, 1,4-	0.5	0.5	0.5
Dichlorobenzidine, 3,3'-	0.5	0.5	0.5
Dichlorodifluoromethane	-	-	-
DDD	-	-	-
DDE	-	-	-
DDT	-	-	-

Contaminant	Agricultural or Other Property Use	Residential/ Parkland/Institutional Property Use	Industrial/Commercial/Community Property Use
Dichloroethane, 1,1-	-	-	-
Dichloroethane, 1,2-	0.5	0.5	0.5
Dichloroethylene, 1,1-	0.5	0.5	0.5
Dichloroethylene, 1,2-cis-	0.5	0.5	0.5
Dichloroethylene, 1,2-trans-	0.5	0.5	0.5
Dichlorophenol, 2,4-	-	-	-
Dichloropropane, 1,2-	0.5	0.5	0.5
Dichloropropene, 1,3-	-	-	-
Dieldrin	0.097	0.097	0.097
Diethyl Phthalate	2	2	2
Dimethylphthalate	2	2	2
Dimethylphenol, 2,4-	-	-	-
Dinitrophenol, 2,4-	10	10	10
Dinitrotoluene, 2,4 & 2,6-	5	5	5
Dioxane, 1,4	2	2	2
Dioxin/Furan (TEQ)	-	-	-
Endosulfan	-	-	-
Endrin	0.062	0.062	0.062
Ethylbenzene	-	-	-
Ethylene dibromide	0.2	0.2	0.2
Fluoranthene	-	-	-
Fluorene	-	-	-
Heptachlor	-	-	-
Heptachlor Epoxide	0.01	0.01	0.01
Hexachlorobenzene	-	-	-
Hexachlorobutadiene	-	-	-
Hexachlorocyclohexane Gamma-	-	-	-
Hexachloroethane	-	-	-
Hexane (n)	-	-	-
Indeno[1 2 3-cd]pyrene	-	-	-
Lead	-	-	-
Mercury	-	-	-
Methoxychlor	-	-	-
Methyl Ethyl Ketone	-	-	-
Methyl Isobutyl Ketone	-	-	-
Methyl Mercury	-	-	-
Methyl tert-Butyl Ether (MTBE)	-	-	-
Methylene Chloride	-	-	-
Methylnaphthalene, 2-(1-)	-	-	-
Molybdenum	15	15	15
Naphthalene	-	-	-
Nickel	78	78	78
Pentachlorophenol	-	-	-
Petroleum Hydrocarbons F1	-	-	-
Petroleum Hydrocarbons F2	-	-	-
Petroleum Hydrocarbons F3	-	-	-

Contaminant	Agricultural or Other Property Use	Residential/Parkland/Institutional Property Use	Industrial/Commercial/Community Property Use
Petroleum Hydrocarbons F4	-	-	-
Phenanthrene	-	-	-
Phenol	-	-	-
Polychlorinated Biphenyls	-	-	-
Pyrene	-	-	-
Selenium	10	10	10
Silver	0.3	0.3	0.3
Styrene	-	-	-
Tetrachloroethane, 1,1,1,2-	-	-	-
Tetrachloroethane, 1,1,2,2-	0.5	0.5	0.5
Tetrachloroethylene	0.5	0.5	0.5
Thallium	2	2	2
Toluene	-	-	-
Trichlorobenzene, 1,2,4-	-	-	-
Trichloroethane, 1,1,1-	-	-	-
Trichloroethane, 1,1,2-	-	-	-
Trichloroethylene	0.5	0.5	0.5
Trichlorofluoromethane	-	-	-
Trichlorophenol, 2,4,5-	-	-	-
Trichlorophenol, 2,4,6-	0.75	0.75	0.75
Uranium	20	20	20
Vanadium	-	-	-
Vinyl Chloride	-	-	-
Xylene Mixture	-	-	-
Zinc	180	180	180
Electrical Conductivity (mS/cm)	NA	NA	NA
Sodium Adsorption Ratio	NA	NA	NA

Notes: NA: Not Applicable; -: No leachate analysis required.

TABLE 3.1: Leachate Screening Levels for Full Depth Excess Soil in a Non-Potable Ground Water Condition

Volume Independent

(Unit in µg/L)

Contaminant	Residential/Parkland/Institutional Property Use	Industrial/Commercial/Community Property Use
Acenaphthene	-	-
Acenaphthylene	-	-
Acetone	-	-
Aldrin	-	-
Anthracene	-	-
Antimony	-	-
Arsenic	-	-
Barium	4600 ^a	4600 ^a
Benzene	-	-
Benz[a]anthracene	-	-
Benzo[a]pyrene	-	-
Benzo[b]fluoranthene	-	-
Benzo[ghi]perylene	-	-
Benzo[k]fluoranthene	-	-
Beryllium	11 ^a	11 ^a
Biphenyl 1,1'-	-	-
Bis(2-chloroethyl)ether	-	-
Bis(2-chloroisopropyl)ether	-	-
Bis(2-ethylhexyl)phthalate	-	-
Boron (Hot Water Soluble)	-	-
Boron (total)	-	-
Bromodichloromethane	-	-
Bromoform	-	-
Bromomethane	0.5 ^a	0.5 ^a
Cadmium	-	0.5 ^a
Carbon Tetrachloride	0.2 ^a	0.2 ^a
Chlordane	-	-
Chloroaniline p-	-	-
Chlorobenzene	-	-
Chloroform	-	-
Chlorophenol, 2-	-	-
Chromium Total	130 ^a	130 ^a
Chromium VI	-	-
Chrysene	-	-
Cobalt	10 ^a	10 ^a
Copper	14 ^a	14 ^a
Cyanide (CN-)	-	-
Dibenz[a h]anthracene	-	-
Dibromochloromethane	-	-
Dichlorobenzene, 1,2-	-	-
Dichlorobenzene, 1,3-	-	-

Contaminant	Residential/Parkland/Institutional Property Use	Industrial/Commercial/Community Property Use
Dichlorobenzene, 1,4-	-	-
Dichlorobenzidine, 3,3'-	-	-
Dichlorodifluoromethane	-	-
DDD	-	-
DDE	-	-
DDT	-	-
Dichloroethane, 1,1-	-	-
Dichloroethane, 1,2-	-	-
Dichloroethylene, 1,1-	0.5 ^a	0.5 ^a
Dichloroethylene, 1,2-cis-	-	-
Dichloroethylene, 1,2-trans-	0.5 ^a	0.5 ^a
Dichlorophenol, 2,4-	-	-
Dichloropropane, 1,2-	-	-
Dichloropropene, 1,3-	-	-
Dieldrin	0.097 ^a	0.097 ^a
Diethyl Phthalate	2 ^a	2 ^a
Dimethylphthalate	2 ^a	2 ^a
Dimethylphenol, 2,4-	-	-
Dinitrophenol, 2,4-	-	-
Dinitrotoluene, 2,4 & 2,6-	-	-
Dioxane, 1,4	-	-
Dioxin/Furan (TEQ)	-	-
Endosulfan	-	-
Endrin	0.062 ^a	0.062 ^a
Ethylbenzene	-	-
Ethylene dibromide	0.2 ^a	0.2 ^a
Fluoranthene	-	-
Fluorene	-	-
Heptachlor	-	-
Heptachlor Epoxide	0.01 ^a	0.01 ^a
Hexachlorobenzene	-	-
Hexachlorobutadiene	-	-
Hexachlorocyclohexane Gamma-	-	-
Hexachloroethane	-	-
Hexane (n)	-	-
Indeno[1 2 3-cd]pyrene	-	-
Lead	-	-
Mercury	-	-
Methoxychlor	-	-
Methyl Ethyl Ketone	-	-
Methyl Isobutyl Ketone	-	-
Methyl Mercury	-	-
Methyl tert-Butyl Ether (MTBE)	-	-
Methylene Chloride	-	-
Methylnaphthalene, 2-(1-)	-	-

Contaminant	Residential/Parkland/Institutional Property Use	Industrial/Commercial/Community Property Use
Molybdenum	-	1500 ^a
Naphthalene	-	-
Nickel	78 ^a	78 ^a
Pentachlorophenol	-	-
Petroleum Hydrocarbons F1	-	-
Petroleum Hydrocarbons F2	-	-
Petroleum Hydrocarbons F3	-	-
Petroleum Hydrocarbons F4	-	-
Phenanthrene	-	-
Phenol	-	-
Polychlorinated Biphenyls	-	-
Pyrene	-	-
Selenium	10 ^a	10 ^a
Silver	0.3 ^a	0.3 ^a
Styrene	-	-
Tetrachloroethane, 1,1,1,2-	-	-
Tetrachloroethane, 1,1,2,2-	-	-
Tetrachloroethylene	0.5 ^a	0.5 ^a
Thallium	-	80 ^a
Toluene	-	-
Trichlorobenzene, 1,2,4-	-	-
Trichloroethane, 1,1,1-	-	-
Trichloroethane, 1,1,2-	-	-
Trichloroethylene	0.5 ^a	0.5 ^a
Trichlorofluoromethane	-	-
Trichlorophenol, 2,4,5-	-	-
Trichlorophenol, 2,4,6-	-	-
Uranium	66 ^a	66 ^a
Vanadium	-	-
Vinyl Chloride	-	-
Xylene Mixture	-	-
Zinc	180 ^a	180 ^a
Electrical Conductivity (mS/cm)	NA	NA
Sodium Adsorption Ratio	NA	NA

Notes: NA: Not Applicable; -: No leachate analysis required.

TABLE 4.1: Leachate Screening Levels for Stratified Excess Soil in a Potable Ground Water Condition

Volume Independent

(Unit in µg/L)

Contaminant	Residential/Parkland/Institutional Property Use		Industrial/Commercial/Community Property Use	
	Surface Soil	Subsurface Soil	Surface Soil	Subsurface Soil
Acenaphthene	-	-	-	-
Acenaphthylene	-	-	-	-
Acetone	-	-	-	-
Aldrin	-	-	-	-
Anthracene	-	-	-	-
Antimony	6 ^a	6 ^a	6 ^a	6 ^a
Arsenic	-	-	-	10 ^a
Barium	1000 ^a	1000 ^a	1000 ^a	1000 ^a
Benzene	-	-	-	-
Benz[a]anthracene	-	-	-	-
Benzo[a]pyrene	-	-	-	-
Benzo[b]fluoranthene	-	-	-	-
Benzo[ghi]perylene	-	-	-	-
Benzo[k]fluoranthene	-	-	-	-
Beryllium	4 ^a	4 ^a	4 ^a	4 ^a
Biphenyl 1,1'-	-	-	-	-
Bis(2-chloroethyl)ether	5 ^a	5 ^a	5 ^a	5 ^a
Bis(2-chloroisopropyl)ether	4 ^a	4 ^a	4 ^a	4 ^a
Bis(2-ethylhexyl)phthalate	-	-	-	-
Boron (Hot Water Soluble)	-	-	-	-
Boron (total)	-	5000 ^a	-	5000 ^a
Bromodichloromethane	-	-	-	-
Bromoform	-	-	-	-
Bromomethane	0.5 ^a	0.5 ^a	0.5 ^a	0.5 ^a
Cadmium	-	0.5 ^a	0.5 ^a	0.5 ^a
Carbon Tetrachloride	0.2 ^a	0.2 ^a	0.2 ^a	0.2 ^a
Chlordane	-	-	-	-
Chloroaniline p-	10 ^a	10 ^a	10 ^a	10 ^a
Chlorobenzene	-	-	-	-
Chloroform	-	-	-	-
Chlorophenol, 2-	-	-	-	-
Chromium Total	50 ^a	50 ^a	50 ^a	50 ^a
Chromium VI	-	-	-	-
Chrysene	-	-	-	-
Cobalt	3 ^a	3 ^a	3 ^a	3 ^a
Copper	14 ^a	14 ^a	14 ^a	14 ^a
Cyanide (CN-)	-	-	-	-
Dibenz[a h]anthracene	-	-	-	-
Dibromochloromethane	-	-	-	-
Dichlorobenzene, 1,2-	0.55 ^a	0.55 ^a	0.55 ^a	0.55 ^a
Dichlorobenzene, 1,3-	-	-	-	-
Dichlorobenzene, 1,4-	0.5 ^a	0.5 ^a	0.5 ^a	0.5 ^a
Dichlorobenzidine, 3,3'-	0.5 ^a	0.5 ^a	0.5 ^a	0.5 ^a
Dichlorodifluoromethane	-	-	-	-
DDD	-	-	-	-
DDE	-	-	-	-
DDT	-	-	-	-

Contaminant	Residential/Parkland/Institutional Property Use		Industrial/Commercial/Community Property Use	
	Surface Soil	Subsurface Soil	Surface Soil	Subsurface Soil
Dichloroethane, 1,1-	-	-	-	-
Dichloroethane, 1,2-	0.5 ^a	0.5 ^a	0.5 ^a	0.5 ^a
Dichloroethylene, 1,1-	0.5 ^a	0.5 ^a	0.5 ^a	0.5 ^a
Dichloroethylene, 1,2-cis-	0.5 ^a	0.5 ^a	0.5 ^a	0.5 ^a
Dichloroethylene, 1,2-trans-	0.5 ^a	0.5 ^a	0.5 ^a	0.5 ^a
Dichlorophenol, 2,4-	-	-	-	-
Dichloropropane, 1,2-	0.5 ^a	0.5 ^a	0.5 ^a	0.5 ^a
Dichloropropene, 1,3-	-	-	-	-
Dieldrin	0.097 ^a	0.097 ^a	0.097 ^a	0.097 ^a
Diethyl Phthalate	2 ^a	2 ^a	2 ^a	2 ^a
Dimethylphthalate	2 ^a	2 ^a	2 ^a	2 ^a
Dimethylphenol, 2,4-	-	-	-	-
Dinitrophenol, 2,4-	10 ^a	10 ^a	10 ^a	10 ^a
Dinitrotoluene, 2,4 & 2,6-	5 ^a	5 ^a	5 ^a	5 ^a
Dioxane, 1,4	2 ^a	2 ^a	2 ^a	2 ^a
Dioxin/Furan (TEQ)	-	-	-	-
Endosulfan	-	-	-	-
Endrin	0.062 ^a	0.062 ^a	0.062 ^a	0.062 ^a
Ethylbenzene	-	-	-	-
Ethylene dibromide	0.2 ^a	0.2 ^a	0.2 ^a	0.2 ^a
Fluoranthene	-	-	-	-
Fluorene	-	-	-	-
Heptachlor	-	-	-	-
Heptachlor Epoxide	0.01 ^a	0.01 ^a	0.01 ^a	0.01 ^a
Hexachlorobenzene	-	-	-	-
Hexachlorobutadiene	-	-	-	-
Hexachlorocyclohexane Gamma-	-	-	-	-
Hexachloroethane	-	-	-	-
Hexane (n)	-	-	-	-
Indeno[1 2 3-cd]pyrene	-	-	-	-
Lead	-	4 ^a	-	4 ^a
Mercury	-	-	-	-
Methoxychlor	-	-	-	-
Methyl Ethyl Ketone	-	-	-	-
Methyl Isobutyl Ketone	-	-	-	-
Methyl Mercury	-	-	-	-
Methyl tert-Butyl Ether (MTBE)	-	-	-	-
Methylene Chloride	-	-	-	-
Methylnaphthalene, 2-(1-)	-	-	-	-
Molybdenum	15 ^a	15 ^a	15 ^a	15 ^a
Naphthalene	-	-	-	-
Nickel	78 ^a	78 ^a	78 ^a	78 ^a
Pentachlorophenol	-	-	-	-
Petroleum Hydrocarbons F1	-	-	-	-
Petroleum Hydrocarbons F2	-	-	-	-

Contaminant	Residential/Parkland/Institutional Property Use		Industrial/Commercial/Community Property Use	
	Surface Soil	Subsurface Soil	Surface Soil	Subsurface Soil
Petroleum Hydrocarbons F3	-	-	-	-
Petroleum Hydrocarbons F4	-	-	-	-
Phenanthrene	-	-	-	-
Phenol	-	-	-	-
Polychlorinated Biphenyls	-	-	-	-
Pyrene	-	-	-	-
Selenium	10 ^a	10 ^a	10 ^a	10 ^a
Silver	0.3 ^a	0.3 ^a	0.3 ^a	0.3 ^a
Styrene	-	-	-	-
Tetrachloroethane, 1,1,1,2-	-	-	-	-
Tetrachloroethane, 1,1,2,2-	0.5 ^a	0.5 ^a	0.5 ^a	0.5 ^a
Tetrachloroethylene	0.5 ^a	0.5 ^a	0.5 ^a	0.5 ^a
Thallium	2	2 ^a	2 ^a	2 ^a
Toluene	-	-	-	-
Trichlorobenzene, 1,2,4-	-	-	-	-
Trichloroethane, 1,1,1-	-	-	-	-
Trichloroethane, 1,1,2-	-	-	-	-
Trichloroethylene	0.5 ^a	0.5 ^a	0.5 ^a	0.5 ^a
Trichlorofluoromethane	-	-	-	-
Trichlorophenol, 2,4,5-	-	-	-	-
Trichlorophenol, 2,4,6-	0.75 ^a	0.75 ^a	0.75 ^a	0.75 ^a
Uranium	20 ^a	20 ^a	20 ^a	20 ^a
Vanadium	-	6.2 ^a	-	6.2 ^a
Vinyl Chloride	-	-	-	-
Xylene Mixture	-	-	-	-
Zinc	180 ^a	180 ^a	180 ^a	180 ^a
Electrical Conductivity (mS/cm)	NA	NA	NA	NA
Sodium Adsorption Ratio	NA	NA	NA	NA

Notes: NA: Not Applicable; -: No leachate analysis required

TABLE 5.1: Leachate Screening Levels for Stratified Excess Soil in a Non-Potable Ground Water Condition**Volume Independent**

(Unit in µg/L)

Contaminant	Residential/Parkland/Institutional Property Use		Industrial/Commercial/Community Property Use	
	Surface Soil	Subsurface Soil	Surface Soil	Subsurface Soil
Acenaphthene	-	-	-	-
Acenaphthylene	-	-	-	-
Acetone	-	-	-	-
Aldrin	-	-	-	-
Anthracene	-	-	-	-
Antimony	-	-	-	-
Arsenic	-	-	-	300 ^a
Barium	4600 ^a	4600 ^a	4600 ^a	4600 ^a
Benzene	-	-	-	-
Benz[a]anthracene	-	-	-	-
Benzo[a]pyrene	-	-	-	-
Benzo[b]fluoranthene	-	-	-	-
Benzo[ghi]perylene	-	-	-	-
Benzo[k]fluoranthene	-	-	-	-
Beryllium	11 ^a	11 ^a	11 ^a	11 ^a
Biphenyl 1,1'-	-	-	-	-
Bis(2-chloroethyl)ether	-	-	-	-
Bis(2-chloroisopropyl)ether	-	-	-	-
Bis(2-ethylhexyl)phthalate	-	-	-	-
Boron (Hot Water Soluble)	-	-	-	-
Boron (total)	-	7100 ^a	-	7100 ^a
Bromodichloromethane	-	-	-	-
Bromoform	-	-	-	-
Bromomethane	0.5 ^a	0.5 ^a	0.5 ^a	0.5 ^a
Cadmium	-	0.5 ^a	0.5 ^a	0.5 ^a
Carbon Tetrachloride	0.2 ^a	0.2 ^a	0.2 ^a	0.2 ^a
Chlordane	-	-	-	-
Chloroaniline p-	-	-	-	-
Chlorobenzene	-	-	-	-
Chloroform	-	-	-	-
Chlorophenol, 2-	-	-	-	-
Chromium Total	130 ^a	130 ^a	130 ^a	130 ^a
Chromium VI	-	-	-	-
Chrysene	-	-	-	-
Cobalt	10 ^a	10 ^a	10 ^a	10 ^a
Copper	14 ^a	14 ^a	14 ^a	14 ^a
Cyanide (CN-)	-	-	-	-
Dibenz[a h]anthracene	-	-	-	-
Dibromochloromethane	-	-	-	-
Dichlorobenzene, 1,2-	-	-	-	-
Dichlorobenzene, 1,3-	-	-	-	-
Dichlorobenzene, 1,4-	-	-	-	-

Contaminant	Residential/Parkland/Institutional Property Use		Industrial/Commercial/Community Property Use	
	Surface Soil	Subsurface Soil	Surface Soil	Subsurface Soil
Dichlorobenzidine, 3,3'-	-	-	-	-
Dichlorodifluoromethane	-	-	-	-
DDD	-	-	-	-
DDE	-	-	-	-
DDT	-	-	-	-
Dichloroethane, 1,1-	-	-	-	-
Dichloroethane, 1,2-	-	-	-	-
Dichloroethylene, 1,1-	0.5 ^a	0.5 ^a	0.5 ^a	0.5 ^a
Dichloroethylene, 1,2-cis-	-	-	-	-
Dichloroethylene, 1,2-trans-	0.5 ^a	0.5 ^a	0.5 ^a	0.5 ^a
Dichlorophenol, 2,4-	-	-	-	-
Dichloropropane, 1,2-	-	-	-	-
Dichloropropene, 1,3-	-	-	-	-
Dieldrin	0.097 ^a	0.097 ^a	0.097 ^a	0.097 ^a
Diethyl Phthalate	2 ^a	2 ^a	2 ^a	2 ^a
Dimethylphthalate	2 ^a	2 ^a	2 ^a	2 ^a
Dimethylphenol, 2,4-	-	-	-	-
Dinitrophenol, 2,4-	-	-	-	-
Dinitrotoluene, 2,4 & 2,6-	-	-	-	-
Dioxane, 1,4	-	-	-	-
Dioxin/Furan (TEQ)	-	-	-	-
Endosulfan	-	-	-	-
Endrin	0.062 ^a	0.062 ^a	0.062 ^a	0.062 ^a
Ethylbenzene	-	-	-	-
Ethylene dibromide	0.2 ^a	0.2 ^a	0.2 ^a	0.2 ^a
Fluoranthene	-	-	-	-
Fluorene	-	-	-	-
Heptachlor	-	-	-	-
Heptachlor Epoxide	0.01 ^a	0.01 ^a	0.01 ^a	0.01 ^a
Hexachlorobenzene	-	-	-	-
Hexachlorobutadiene	-	-	-	-
Hexachlorocyclohexane Gamma-	-	-	-	-
Hexachloroethane	-	-	-	-
Hexane (n)	-	-	-	-
Indeno[1 2 3-cd]pyrene	-	-	-	-
Lead	-	4 ^a	-	4 ^a
Mercury	-	-	-	-
Methoxychlor	-	-	-	-
Methyl Ethyl Ketone	-	-	-	-
Methyl Isobutyl Ketone	-	-	-	-
Methyl Mercury	-	-	-	-
Methyl tert-Butyl Ether (MTBE)	-	-	-	-
Methylene Chloride	-	-	-	-
Methylnaphthalene, 2-(1-)	-	-	-	-
Molybdenum	-	1500 ^a	1500 ^a	1500 ^a

Contaminant	Residential/Parkland/Institutional Property Use		Industrial/Commercial/Community Property Use	
	Surface Soil	Subsurface Soil	Surface Soil	Subsurface Soil
Naphthalene	-	-	-	-
Nickel	78 ^a	78 ^a	78 ^a	78 ^a
Pentachlorophenol	-	-	-	-
Petroleum Hydrocarbons F1	-	-	-	-
Petroleum Hydrocarbons F2	-	-	-	-
Petroleum Hydrocarbons F3	-	-	-	-
Petroleum Hydrocarbons F4	-	-	-	-
Phenanthrene	-	-	-	-
Phenol	-	-	-	-
Polychlorinated Biphenyls	-	-	-	-
Pyrene	-	-	-	-
Selenium	10 ^a	10 ^a	10 ^a	10 ^a
Silver	0.3 ^a	0.3 ^a	0.3 ^a	0.3 ^a
Styrene	-	-	-	-
Tetrachloroethane, 1,1,1,2-	-	-	-	-
Tetrachloroethane, 1,1,2,2-	-	-	-	-
Tetrachloroethylene	0.5 ^a	0.5 ^a	0.5 ^a	0.5 ^a
Thallium	-	80 ^a	80 ^a	80 ^a
Toluene	-	-	-	-
Trichlorobenzene, 1,2,4-	-	-	-	-
Trichloroethane, 1,1,1-	-	-	-	-
Trichloroethane, 1,1,2-	-	-	-	-
Trichloroethylene	0.5 ^a	0.5 ^a	0.5 ^a	0.5 ^a
Trichlorofluoromethane	-	-	-	-
Trichlorophenol, 2,4,5-	-	-	-	-
Trichlorophenol, 2,4,6-	-	-	-	-
Uranium	66 ^a	66 ^a	66 ^a	66 ^a
Vanadium	-	40 ^a	-	40 ^a
Vinyl Chloride	-	-	-	-
Xylene Mixture	-	-	-	-
Zinc	180 ^a	180 ^a	180 ^a	180 ^a
Electrical Conductivity (mS/cm)	NA	NA	NA	NA
Sodium Adsorption Ratio	NA	NA	NA	NA

Notes: NA: Not Applicable; -: No leachate analysis required.

TABLE 6.1: Leachate Screening Levels for Full Depth Excess Soil in hallow Soils in a Potable Ground Water Condition**Volume Independent**

(Unit in µg/L)

Contaminant	Agricultural or Other Property Use	Residential/ Parkland/Institutional Property Use	Industrial/Commercial/Community Property Use
Acenaphthene	-	-	-
Acenaphthylene	-	-	-
Acetone	-	-	-
Aldrin	-	-	-
Anthracene	-	-	-
Antimony	6 ^a	6 ^a	6 ^a
Arsenic	-	-	-
Barium	1000 ^a	1000 ^a	1000 ^a
Benzene	-	-	-
Benz[a]anthracene	-	-	-
Benzo[a]pyrene	-	-	-
Benzo[b]fluoranthene	-	-	-
Benzo[ghi]perylene	-	-	-
Benzo[k]fluoranthene	-	-	-
Beryllium	4 ^a	4 ^a	4 ^a
Biphenyl 1,1'-	-	-	-
Bis(2-chloroethyl)ether	5 ^a	5 ^a	5 ^a
Bis(2-chloroisopropyl)ether	4 ^a	4 ^a	4 ^a
Bis(2-ethylhexyl)phthalate	-	-	-
Boron (Hot Water Soluble)	-	-	-
Boron (total)	5000 ^a	5000 ^a	5000 ^a
Bromodichloromethane	-	-	-
Bromoform	-	-	-
Bromomethane	0.5 ^a	0.5 ^a	0.5 ^a
Cadmium	0.5	-	0.5 ^a
Carbon Tetrachloride	0.2 ^a	0.2 ^a	0.2 ^a
Chlordane	-	-	-
Chloroaniline p-	10 ^a	10 ^a	10 ^a
Chlorobenzene	-	-	-
Chloroform	1 ^a	1 ^a	1 ^a
Chlorophenol, 2-	-	-	-
Chromium Total	50 ^a	50 ^a	50 ^a
Chromium VI	-	-	-
Chrysene	-	-	-
Cobalt	3 ^a	3 ^a	3 ^a
Copper	14 ^a	14 ^a	14 ^a
Cyanide (CN-)	-	-	-
Dibenz[a h]anthracene	-	-	-
Dibromochloromethane	-	-	-
Dichlorobenzene, 1,2-	0.55 ^a	0.55 ^a	0.55 ^a
Dichlorobenzene, 1,3-	-	-	-
Dichlorobenzene, 1,4-	0.5 ^a	0.5 ^a	0.5 ^a

Contaminant	Agricultural or Other Property Use	Residential/ Parkland/Institutional Property Use	Industrial/Commercial/Community Property Use
Dichlorobenzidine, 3,3'-	0.5 ^a	0.5 ^a	0.5 ^a
Dichlorodifluoromethane	-	-	-
DDD	-	-	-
DDE	-	-	-
DDT	-	-	-
Dichloroethane, 1,1-	0.5 ^a	0.5 ^a	0.5 ^a
Dichloroethane, 1,2-	0.5 ^a	0.5 ^a	0.5 ^a
Dichloroethylene, 1,1-	0.5 ^a	0.5 ^a	0.5 ^a
Dichloroethylene, 1,2-cis-	0.5 ^a	0.5 ^a	0.5 ^a
Dichloroethylene, 1,2-trans-	0.5 ^a	0.5 ^a	0.5 ^a
Dichlorophenol, 2,4-	-	-	-
Dichloropropane, 1,2-	0.5 ^a	0.5 ^a	0.5 ^a
Dichloropropene, 1,3-	0.5 ^a	0.5 ^a	0.5 ^a
Dieldrin	0.095 ^a	0.095 ^a	0.095 ^a
Diethyl Phthalate	2 ^a	2 ^a	2 ^a
Dimethylphthalate	2 ^a	2 ^a	2 ^a
Dimethylphenol, 2,4-	-	-	-
Dinitrophenol, 2,4-	10 ^a	10 ^a	10 ^a
Dinitrotoluene, 2,4 & 2,6-	5 ^a	5 ^a	5 ^a
Dioxane, 1,4	2 ^a	2 ^a	2 ^a
Dioxin/Furan (TEQ)	-	-	-
Endosulfan	-	-	-
Endrin	0.061 ^a	0.061 ^a	0.061 ^a
Ethylbenzene	-	-	-
Ethylene dibromide	0.2 ^a	0.2 ^a	0.2 ^a
Fluoranthene	-	-	-
Fluorene	-	-	-
Heptachlor	0.01 ^a	0.01 ^a	0.01 ^a
Heptachlor Epoxide	0.01 ^a	0.01 ^a	0.01 ^a
Hexachlorobenzene	-	-	-
Hexachlorobutadiene	-	-	-
Hexachlorocyclohexane Gamma-	-	-	-
Hexachloroethane	-	-	-
Hexane (n)	-	-	-
Indeno[1 2 3-cd]pyrene	-	-	-
Lead	-	-	-
Mercury	-	-	-
Methoxychlor	-	-	-
Methyl Ethyl Ketone	-	-	-
Methyl Isobutyl Ketone	-	-	-
Methyl Mercury	-	-	-
Methyl tert-Butyl Ether (MTBE)	-	-	-
Methylene Chloride	-	-	-
Methylnaphthalene, 2-(1-)	-	-	-
Molybdenum	15 ^a	15 ^a	15 ^a
Naphthalene	-	-	-

Contaminant	Agricultural or Other Property Use	Residential/ Parkland/Institutional Property Use	Industrial/Commercial/Community Property Use
Nickel	78 ^a	78 ^a	78 ^a
Pentachlorophenol	-	-	-
Petroleum Hydrocarbons F1	-	-	-
Petroleum Hydrocarbons F2	-	-	-
Petroleum Hydrocarbons F3	-	-	-
Petroleum Hydrocarbons F4	-	-	-
Phenanthrene	-	-	-
Phenol	-	-	-
Polychlorinated Biphenyls	-	-	-
Pyrene	-	-	-
Selenium	10 ^a	10 ^a	10 ^a
Silver	0.3 ^a	0.3 ^a	0.3 ^a
Styrene	-	-	-
Tetrachloroethane, 1,1,1,2-	0.5 ^a	0.5 ^a	0.5 ^a
Tetrachloroethane, 1,1,2,2-	0.5 ^a	0.5 ^a	0.5 ^a
Tetrachloroethylene	0.5 ^a	0.5 ^a	0.5 ^a
Thallium	2	2	2 ^a
Toluene	-	-	-
Trichlorobenzene, 1,2,4-	-	-	-
Trichloroethane, 1,1,1-	-	-	-
Trichloroethane, 1,1,2-	0.5 ^a	0.5 ^a	0.5 ^a
Trichloroethylene	0.5 ^a	0.5 ^a	0.5 ^a
Trichlorofluoromethane	-	-	-
Trichlorophenol, 2,4,5-	-	-	-
Trichlorophenol, 2,4,6-	0.75 ^a	0.75 ^a	0.75 ^a
Uranium	20 ^a	20 ^a	20 ^a
Vanadium	-	-	-
Vinyl Chloride	-	-	-
Xylene Mixture	-	-	-
Zinc	180 ^a	180 ^a	180 ^a
Electrical Conductivity (mS/cm)	NA	NA	NA
Sodium Adsorption Ratio	NA	NA	NA

Notes: NA: Not Applicable; -: No leachate analysis required.

TABLE 7.1: Leachate Screening Levels for Full Depth Excess Soil in Shallow Soils in a Non-Potable Ground Water Condition**Volume Independent**

(Unit in µg/L)

Contaminant	Residential/Parkland/Institutional Property Use	Industrial/Commercial/Community Property Use
Acenaphthene	-	-
Acenaphthylene	-	-
Acetone	-	-
Aldrin	-	-
Anthracene	-	-
Antimony	-	-
Arsenic	-	-
Barium	4600 ^a	4600 ^a
Benzene	-	-
Benz[a]anthracene	-	-
Benzo[a]pyrene	-	-
Benzo[b]fluoranthene	-	-
Benzo[ghi]perylene	-	-
Benzo[k]fluoranthene	-	-
Beryllium	11 ^a	11 ^a
Biphenyl 1,1'-	-	-
Bis(2-chloroethyl)ether	-	-
Bis(2-chloroisopropyl)ether	-	-
Bis(2-ethylhexyl)phthalate	-	-
Boron (Hot Water Soluble)	-	-
Boron (total)	-	-
Bromodichloromethane	-	-
Bromoform	-	-
Bromomethane	0.5 ^a	0.5 ^a
Cadmium	-	0.5 ^a
Carbon Tetrachloride	0.2 ^a	0.2 ^a
Chlordane	-	-
Chloroaniline p-	-	-
Chlorobenzene	-	-
Chloroform	1 ^a	1 ^a
Chlorophenol, 2-	-	-
Chromium Total	130 ^a	130 ^a
Chromium VI	-	-
Chrysene	-	-
Cobalt	10 ^a	10 ^a
Copper	14 ^a	14 ^a
Cyanide (CN-)	-	-
Dibenz[a h]anthracene	-	-
Dibromochloromethane	-	-
Dichlorobenzene, 1,2-	-	-
Dichlorobenzene, 1,3-	-	-
Dichlorobenzene, 1,4-	-	-

Contaminant	Residential/Parkland/Institutional Property Use	Industrial/Commercial/Community Property Use
Dichlorobenzidine, 3,3'-	-	-
Dichlorodifluoromethane	-	-
DDD	-	-
DDE	-	-
DDT	-	-
Dichloroethane, 1,1-	0.97 ^a	0.97 ^a
Dichloroethane, 1,2-	0.5 ^a	0.5 ^a
Dichloroethylene, 1,1-	0.5 ^a	0.5 ^a
Dichloroethylene, 1,2-cis-	-	-
Dichloroethylene, 1,2-trans-	0.5 ^a	0.5 ^a
Dichlorophenol, 2,4-	-	-
Dichloropropane, 1,2-	0.5 ^a	0.5 ^a
Dichloropropene, 1,3-	0.5 ^a	0.5 ^a
Dieldrin	0.095 ^a	0.095 ^a
Diethyl Phthalate	2 ^a	2 ^a
Dimethylphthalate	2 ^a	2 ^a
Dimethylphenol, 2,4-	-	-
Dinitrophenol, 2,4-	-	-
Dinitrotoluene, 2,4 & 2,6-	-	-
Dioxane, 1,4	-	-
Dioxin/Furan (TEQ)	-	-
Endosulfan	-	-
Endrin	0.061 ^a	0.061 ^a
Ethylbenzene	-	-
Ethylene dibromide	0.2 ^a	0.2 ^a
Fluoranthene	-	-
Fluorene	-	-
Heptachlor	0.01 ^a	0.01 ^a
Heptachlor Epoxide	0.01 ^a	0.01 ^a
Hexachlorobenzene	-	-
Hexachlorobutadiene	-	-
Hexachlorocyclohexane Gamma-	-	-
Hexachloroethane	-	-
Hexane (n)	-	-
Indeno[1 2 3-cd]pyrene	-	-
Lead	-	-
Mercury	-	-
Methoxychlor	-	-
Methyl Ethyl Ketone	-	-
Methyl Isobutyl Ketone	-	-
Methyl Mercury	-	-
Methyl tert-Butyl Ether (MTBE)	-	-
Methylene Chloride	-	-
Methylnaphthalene, 2-(1-)	-	-
Molybdenum	-	1500 ^a

Contaminant	Residential/Parkland/Institutional Property Use	Industrial/Commercial/Community Property Use
Naphthalene	-	-
Nickel	78 ^a	78 ^a
Pentachlorophenol	-	-
Petroleum Hydrocarbons F1	-	-
Petroleum Hydrocarbons F2	-	-
Petroleum Hydrocarbons F3	-	-
Petroleum Hydrocarbons F4	-	-
Phenanthrene	-	-
Phenol	-	-
Polychlorinated Biphenyls	-	-
Pyrene	-	-
Selenium	10 ^a	10 ^a
Silver	0.3 ^a	0.3 ^a
Styrene	-	-
Tetrachloroethane, 1,1,1,2-	0.5 ^a	0.5 ^a
Tetrachloroethane, 1,1,2,2-	0.5 ^a	0.5 ^a
Tetrachloroethylene	0.5 ^a	0.5 ^a
Thallium	-	80 ^a
Toluene	-	-
Trichlorobenzene, 1,2,4-	-	-
Trichloroethane, 1,1,1-	-	-
Trichloroethane, 1,1,2-	0.5 ^a	0.5 ^a
Trichloroethylene	0.5 ^a	0.5 ^a
Trichlorofluoromethane	-	-
Trichlorophenol, 2,4,5-	-	-
Trichlorophenol, 2,4,6-	-	-
Uranium	66 ^a	66 ^a
Vanadium	-	-
Vinyl Chloride	-	-
Xylene Mixture	-	-
Zinc	180 ^a	180 ^a
Electrical Conductivity (mS/cm)	NA	NA
Sodium Adsorption Ratio	NA	NA

Notes: NA: Not Applicable; -: No leachate analysis required.

TABLE 8.1: Leachate Screening Levels for Full Depth Excess Soil for Use within 30 m of a Water Body in a Potable Ground Water Condition

Volume Independent

(Unit in µg/L)

Contaminant	Agricultural or Other Property Use	Residential/ Parkland/Institutional Property Use	Industrial/Commercial/Community Property Use
Acenaphthene	-	-	-
Acenaphthylene	-	-	-
Acetone	-	-	-
Aldrin	-	-	-
Anthracene	-	-	-
Antimony	6	-	-
Arsenic	-	-	-
Barium	-	-	-
Benzene	-	-	-
Benz[a]anthracene	-	-	-
Benzo[a]pyrene	-	-	-
Benzo[b]fluoranthene	-	-	-
Benzo[ghi]perylene	-	-	-
Benzo[k]fluoranthene	-	-	-
Beryllium	-	-	-
Biphenyl 1,1'-	-	-	-
Bis(2-chloroethyl)ether	5 ^a	5 ^a	5 ^a
Bis(2-chloroisopropyl)ether	4 ^a	4 ^a	4 ^a
Bis(2-ethylhexyl)phthalate	-	-	-
Boron (Hot Water Soluble)	-	-	-
Boron (total)	-	-	-
Bromodichloromethane	-	-	-
Bromoform	-	-	-
Bromomethane	0.5 ^a	0.5 ^a	0.5 ^a
Cadmium	0.5	-	-
Carbon Tetrachloride	0.2 ^a	0.2 ^a	0.2 ^a
Chlordane	-	-	-
Chloroaniline p-	10 ^a	10 ^a	10 ^a
Chlorobenzene	-	-	-
Chloroform	-	-	-
Chlorophenol, 2-	-	-	-
Chromium Total	-	-	-
Chromium VI	-	-	-
Chrysene	-	-	-
Cobalt	3 ^a	3 ^a	3 ^a
Copper	-	-	-
Cyanide (CN-)	-	-	-
Dibenz[a h]anthracene	-	-	-
Dibromochloromethane	-	-	-
Dichlorobenzene, 1,2-	0.55 ^a	0.55 ^a	0.55 ^a
Dichlorobenzene, 1,3-	-	-	-
Dichlorobenzene, 1,4-	0.5 ^a	0.5 ^a	0.5 ^a
Dichlorobenzidine, 3,3'-	0.5 ^a	0.5 ^a	0.5 ^a

Contaminant	Agricultural or Other Property Use	Residential/ Parkland/Institutional Property Use	Industrial/Commercial/Community Property Use
Dichlorodifluoromethane	-	-	-
DDD	-	-	-
DDE	-	-	-
DDT	-	-	-
Dichloroethane, 1,1-	-	-	-
Dichloroethane, 1,2-	0.5 ^a	0.5 ^a	0.5 ^a
Dichloroethylene, 1,1-	0.5 ^a	0.5 ^a	0.5 ^a
Dichloroethylene, 1,2-cis-	0.5 ^a	0.5 ^a	0.5 ^a
Dichloroethylene, 1,2-trans-	0.5 ^a	0.5 ^a	0.5 ^a
Dichlorophenol, 2,4-	-	-	-
Dichloropropane, 1,2-	0.5 ^a	0.5 ^a	0.5 ^a
Dichloropropene, 1,3-	-	-	-
Dieldrin	0.095 ^a	0.095 ^a	0.095 ^a
Diethyl Phthalate	2 ^a	2 ^a	2 ^a
Dimethylphthalate	2 ^a	2 ^a	2 ^a
Dimethylphenol, 2,4-	-	-	-
Dinitrophenol, 2,4-	10 ^a	10 ^a	10 ^a
Dinitrotoluene, 2,4 & 2,6-	5 ^a	5 ^a	5 ^a
Dioxane, 1,4	2 ^a	2 ^a	2 ^a
Dioxin/Furan (TEQ)	-	-	-
Endosulfan	-	-	-
Endrin	0.061 ^a	0.061 ^a	0.061 ^a
Ethylbenzene	-	-	-
Ethylene dibromide	0.2 ^a	0.2 ^a	0.2 ^a
Fluoranthene	-	-	-
Fluorene	-	-	-
Heptachlor	0.01 ^a	0.01 ^a	0.01 ^a
Heptachlor Epoxide	0.01 ^a	0.01 ^a	0.01 ^a
Hexachlorobenzene	-	-	-
Hexachlorobutadiene	-	-	-
Hexachlorocyclohexane Gamma-	-	-	-
Hexachloroethane	-	-	-
Hexane (n)	-	-	-
Indeno[1 2 3-cd]pyrene	-	-	-
Lead	-	-	-
Mercury	-	-	-
Methoxychlor	-	-	-
Methyl Ethyl Ketone	-	-	-
Methyl Isobutyl Ketone	-	-	-
Methyl Mercury	-	-	-
Methyl tert-Butyl Ether (MTBE)	-	-	-
Methylene Chloride	-	-	-
Methylnaphthalene, 2-(1-)	-	-	-
Molybdenum	15	15	15
Naphthalene	-	-	-
Nickel	-	-	-

Contaminant	Agricultural or Other Property Use	Residential/ Parkland/Institutional Property Use	Industrial/Commercial/Community Property Use
Pentachlorophenol	-	-	-
Petroleum Hydrocarbons F1	-	-	-
Petroleum Hydrocarbons F2	-	-	-
Petroleum Hydrocarbons F3	-	-	-
Petroleum Hydrocarbons F4	-	-	-
Phenanthrene	-	-	-
Phenol	-	-	-
Polychlorinated Biphenyls	-	-	-
Pyrene	-	-	-
Selenium	-	-	-
Silver	0.3	0.3	0.3
Styrene	-	-	-
Tetrachloroethane, 1,1,1,2-	-	-	-
Tetrachloroethane, 1,1,2,2-	0.5 ^a	0.5 ^a	0.5 ^a
Tetrachloroethylene	0.5 ^a	0.5 ^a	0.5 ^a
Thallium	2	2	2
Toluene	-	-	-
Trichlorobenzene, 1,2,4-	-	-	-
Trichloroethane, 1,1,1-	-	-	-
Trichloroethane, 1,1,2-	-	-	-
Trichloroethylene	0.5 ^a	0.5 ^a	0.5 ^a
Trichlorofluoromethane	-	-	-
Trichlorophenol, 2,4,5-	-	-	-
Trichlorophenol, 2,4,6-	0.75 ^a	0.75 ^a	0.75 ^a
Uranium	-	-	-
Vanadium	-	-	-
Vinyl Chloride	-	-	-
Xylene Mixture	-	-	-
Zinc	-	-	-
Electrical Conductivity (mS/cm)	NA	NA	NA
Sodium Adsorption Ratio	NA	NA	NA

Notes:

NA: Not Applicable; -: No leachate analysis required.

TABLE 9.1: Leachate Screening Levels for Full Depth Excess Soil for Use**within 30 m of a Water Body in a Non-Potable Ground Water Condition**

Volume Independent
µg/L)

(Unit in

Contaminant	Residential/Parkland/Institutional/ Property Use	Industrial/Commercial/Community Property Use
Acenaphthene	-	-
Acenaphthylene	-	-
Acetone	-	-
Aldrin	-	-
Anthracene	-	-
Antimony	-	-
Arsenic	-	-
Barium	-	-
Benzene	-	-
Benz[a]anthracene	-	-
Benzo[a]pyrene	-	-
Benzo[b]fluoranthene	-	-
Benzo[ghi]perylene	-	-
Benzo[k]fluoranthene	-	-
Beryllium	-	-
Biphenyl 1,1'-	-	-
Bis(2-chloroethyl)ether	-	-
Bis(2-chloroisopropyl)ether	-	-
Bis(2-ethylhexyl)phthalate	-	-
Boron (Hot Water Soluble)	-	-
Boron (total)	-	-
Bromodichloromethane	-	-
Bromoform	-	-
Bromomethane	0.5 ^a	0.5 ^a
Cadmium	-	-
Carbon Tetrachloride	0.2 ^a	0.2 ^a
Chlordane	-	-
Chloroaniline p-	-	-
Chlorobenzene	-	-
Chloroform	-	-
Chlorophenol, 2-	-	-
Chromium Total	-	-
Chromium VI	-	-
Chrysene	-	-
Cobalt	10 ^a	10 ^a
Copper	-	-
Cyanide (CN-)	-	-
Dibenz[a h]anthracene	-	-
Dibromochloromethane	-	-
Dichlorobenzene, 1,2-	-	-
Dichlorobenzene, 1,3-	-	-
Dichlorobenzene, 1,4-	-	-
Dichlorobenzidine, 3,3'-	-	-
Dichlorodifluoromethane	-	-

Contaminant	Residential/Parkland/Institutional/ Property Use	Industrial/Commercial/Community Property Use
DDD	-	-
DDE	-	-
DDT	-	-
Dichloroethane, 1,1-	-	-
Dichloroethane, 1,2-	-	-
Dichloroethylene, 1,1-	0.5 ^a	0.5 ^a
Dichloroethylene, 1,2-cis-	-	-
Dichloroethylene, 1,2-trans-	0.5 ^a	0.5 ^a
Dichlorophenol, 2,4-	-	-
Dichloropropane, 1,2-	-	-
Dichloropropene, 1,3-	-	-
Dieldrin	0.095 ^a	0.095 ^a
Diethyl Phthalate	2 ^a	2 ^a
Dimethylphthalate	2 ^a	2 ^a
Dimethylphenol, 2,4-	-	-
Dinitrophenol, 2,4-	-	-
Dinitrotoluene, 2,4 & 2,6-	-	-
Dioxane, 1,4	-	-
Dioxin/Furan (TEQ)	-	-
Endosulfan	-	-
Endrin	0.061 ^a	0.061 ^a
Ethylbenzene	-	-
Ethylene dibromide	0.2 ^a	0.2 ^a
Fluoranthene	-	-
Fluorene	-	-
Heptachlor	0.01 ^a	0.01 ^a
Heptachlor Epoxide	0.01 ^a	0.01 ^a
Hexachlorobenzene	-	-
Hexachlorobutadiene	-	-
Hexachlorocyclohexane Gamma-	-	-
Hexachloroethane	-	-
Hexane (n)	-	-
Indeno[1 2 3-cd]pyrene	-	-
Lead	-	-
Mercury	-	-
Methoxychlor	-	-
Methyl Ethyl Ketone	-	-
Methyl Isobutyl Ketone	-	-
Methyl Mercury	-	-
Methyl tert-Butyl Ether (MTBE)	-	-
Methylene Chloride	-	-
Methylnaphthalene, 2-(1-)	-	-
Molybdenum	-	-
Naphthalene	-	-
Nickel	-	-

Contaminant	Residential/Parkland/Institutional/ Property Use	Industrial/Commercial/Community Property Use
Pentachlorophenol	-	-
Petroleum Hydrocarbons F1	-	-
Petroleum Hydrocarbons F2	-	-
Petroleum Hydrocarbons F3	-	-
Petroleum Hydrocarbons F4	-	-
Phenanthrene	-	-
Phenol	-	-
Polychlorinated Biphenyls	-	-
Pyrene	-	-
Selenium	-	-
Silver	0.3	0.3
Styrene	-	-
Tetrachloroethane, 1,1,1,2-	-	-
Tetrachloroethane, 1,1,2,2-	-	-
Tetrachloroethylene	0.5 ^a	0.5 ^a
Thallium	-	-
Toluene	-	-
Trichlorobenzene, 1,2,4-	-	-
Trichloroethane, 1,1,1-	-	-
Trichloroethane, 1,1,2-	-	-
Trichloroethylene	0.5 ^a	0.5 ^a
Trichlorofluoromethane	-	-
Trichlorophenol, 2,4,5-	-	-
Trichlorophenol, 2,4,6-	-	-
Uranium	-	-
Vanadium	-	-
Vinyl Chloride	-	-
Xylene Mixture	-	-
Zinc	-	-
Electrical Conductivity (mS/cm)	NA	NA
Sodium Adsorption Ratio	NA	NA

Notes: NA: Not Applicable; -: No leachate analysis required.

APPENDIX 3. CEILING VALUES FOR EXCESS SOIL REUSE

This appendix provides ceiling values that are developed as part of the statistical compliance method for meeting generic excess soil standards. These ceiling values are organized in a series of look-up tables that correspond to the tables of excess soil standards, including Table 1, Tables 2 to 9, and Tables 2.1 to 9.1.

How to Read These Tables

The tables set out prescribed contaminants by listing contaminants in the column of rows that has the heading row entitled "Contaminant". The tables set out prescribed ceiling values for these contaminants by indicating in the appropriate locations the maximum concentrations of the contaminants in excess soil which is expressed in a number that is to be read as $\mu\text{g/g}$ dry weight.

The ceiling value that is applicable for a type of property can be found in the row named for the contaminant and in the column that has the heading row that indicates the type of property use of the property at which excess soil is reused.

A contaminant that is listed and for which the abbreviation "NV" appears in the cell, instead of a numerical value, is a contaminant for which a ceiling value is not prescribed. The abbreviation "NV" means "no value".

A contaminant that is listed and for which the abbreviation "NA" appears in the cell, instead of a numerical value, is a contaminant for which a ceiling value is not prescribed because no standard is required. The abbreviation "NA" means "not applicable".

Notes for Tables 1, 2 to 9 and 2.1 to 9.1

Ceiling values presented in this Appendix are associated with their corresponding excess soil standards. For example, if Table 2.1 for residential land use presented in Appendix 1 is selected as the appropriate table of excess soil standards, the ceiling values of Table 2.1 for residential land use presented in this Appendix must be used.

Any site conditions that may lead to the inappropriateness of the use of the generic excess soil standards at a given property may also result in ceiling values not being appropriate for use. The qualified person must ascertain that the site conditions, as specified in Appendix 1, are appropriate for use of the generic excess soil standards and corresponding ceiling values.

TABLE 1: Ceiling Values for Excess Soil Reuse

(Unit in µg/g)

Contaminant	Agricultural or Other Property Use	Residential/Parkland/Institutional / Industrial/Commercial/Community Property Use
Acenaphthene	0.05	0.14
Acenaphthylene	0.17	0.17
Acetone	0.5	0.5
Aldrin	0.05	0.05
Anthracene	0.05	0.32
Antimony	1	2.6
Arsenic	11	18
Barium	430	430
Benzene	0.02	0.02
Benz[a]anthracene	0.19	0.72
Benzo[a]pyrene	0.05	0.6
Benzo[b]fluoranthene	0.59	0.94
Benzo[ghi]perylene	0.4	1.4
Benzo[k]fluoranthene	0.05	0.97
Beryllium	5	5
Biphenyl 1,1'-	0.05	0.05
Bis(2-chloroethyl)ether	0.5	0.5
Bis(2-chloroisopropyl)ether	0.5	0.5
Bis(2-ethylhexyl)phthalate	5	5
Boron (Hot Water Soluble)*	NA	NA
Boron (total)	72	72
Bromodichloromethane	0.05	0.05
Bromoform	0.05	0.05
Bromomethane	0.05	0.05
Cadmium	1	1.4
Carbon Tetrachloride	0.05	0.05
Chlordane	0.05	0.05
Chloroaniline p-	0.5	0.5
Chlorobenzene	0.05	0.05
Chloroform	0.05	0.05
Chlorophenol, 2-	0.1	0.1
Chromium Total	130	140
Chromium VI	1.3	1.3
Chrysene	0.36	3.3
Cobalt	22	22
Copper	120	180
Cyanide (CN-)	0.051	0.051
Dibenz[a h]anthracene	0.1	0.1
Dibromochloromethane	0.05	0.05
Dichlorobenzene, 1,2-	0.05	0.05
Dichlorobenzene, 1,3-	0.05	0.05
Dichlorobenzene, 1,4-	0.05	0.05
Dichlorobenzidine, 3,3'-	1	1
Dichlorodifluoromethane	0.05	0.05

Contaminant	Agricultural or Other Property Use	Residential/Parkland/Institutional / Industrial/Commercial/Communit y Property Use
DDD	0.05	0.05
DDE	0.05	0.05
DDT	0.078	1.4
Dichloroethane, 1,1-	0.05	0.05
Dichloroethane, 1,2-	0.05	0.05
Dichloroethylene, 1,1-	0.05	0.05
Dichloroethylene, 1,2-cis-	0.05	0.05
Dichloroethylene, 1,2-trans-	0.05	0.05
Dichlorophenol, 2,4-	0.1	0.1
Dichloropropane, 1,2-	0.05	0.05
Dichloropropene, 1,3-	0.05	0.05
Dieldrin	0.05	0.05
Diethyl Phthalate	0.5	0.5
Dimethylphthalate	0.5	0.5
Dimethylphenol, 2,4-	0.2	0.2
Dinitrophenol, 2,4-	2	2
Dinitrotoluene, 2,4 & 2,6-	0.5	0.5
Dioxane, 1,4	0.2	0.2
Dioxin/Furan (TEQ)	0.000013	0.000007
Endosulfan	0.04	0.04
Endrin	0.04	0.04
Ethylbenzene	0.05	0.05
Ethylene dibromide	0.05	0.05
Fluoranthene	0.49	1.1
Fluorene	0.05	0.23
Heptachlor	0.05	0.05
Heptachlor Epoxide	0.05	0.05
Hexachlorobenzene	0.01	0.01
Hexachlorobutadiene	0.01	0.01
Hexachlorocyclohexane Gamma-	0.01	0.01
Hexachloroethane	0.01	0.01
Hexane (n)	0.05	0.05
Indeno[1 2 3-cd]pyrene	0.21	0.46
Lead	90	120
Mercury	0.16	0.27
Methoxychlor	0.05	0.05
Methyl Ethyl Ketone	0.5	0.5
Methyl Isobutyl Ketone	0.5	0.5
Methyl Mercury **	NV	NV
Methyl tert-Butyl Ether (MTBE)	0.05	0.05
Methylene Chloride	0.05	0.05
Methlynaphthalene, 2-(1-) ***	0.05	0.59
Molybdenum	2	2
Naphthalene	0.05	0.18
Nickel	74	160
Pentachlorophenol	0.1	0.1

Contaminant	Agricultural or Other Property Use	Residential/Parkland/Institutional / Industrial/Commercial/Community Property Use
Petroleum Hydrocarbons F1****	17	25
Petroleum Hydrocarbons F2	10	10
Petroleum Hydrocarbons F3	480	480
Petroleum Hydrocarbons F4	240	240
Phenanthrene	0.37	1.4
Phenol	0.5	0.5
Polychlorinated Biphenyls	0.3	0.3
Pyrene	0.38	2.1
Selenium	2.4	3.1
Silver	0.5	0.5
Styrene	0.05	0.05
Tetrachloroethane, 1,1,1,2-	0.05	0.05
Tetrachloroethane, 1,1,2,2-	0.05	0.05
Tetrachloroethylene	0.05	0.05
Thallium	1	1
Toluene	0.2	0.2
Trichlorobenzene, 1,2,4-	0.05	0.05
Trichloroethane, 1,1,1-	0.05	0.05
Trichloroethane, 1,1,2-	0.05	0.05
Trichloroethylene	0.05	0.05
Trichlorofluoromethane	0.05	0.51
Trichlorophenol, 2,4,5-	0.1	0.1
Trichlorophenol, 2,4,6-	0.1	0.1
Uranium	3.8	5
Vanadium	86	86
Vinyl Chloride	0.02	0.02
Xylene Mixture	0.05	0.05
Zinc	590	590
Electrical Conductivity (mS/cm)	0.94	1.1
Sodium Adsorption Ratio	2	4.7

Notes:

NA: Not Applicable; NV: No Value.

*: The boron ceiling values are for hot water soluble extract for all surface soils. For subsurface soils the ceiling values are for total boron (mixed strong acid digest), since plant protection for soils below the root zone is not a significant concern.

** : Analysis for methyl mercury only applies when mercury (total) excess soil standard is exceeded.

***: The methyl naphthalene ceiling values are applicable to both 1-methyl naphthalene and 2-methyl naphthalene, with the provision that if both are detected the sum of the two must not exceed the ceiling value..

****: F1 fraction does not include benzene, toluene, ethylbenzene and xylene (BTEX); however, the proponent has the choice as to whether or not to subtract BTEX from the analytical result.

TABLE 2: Ceiling Values for Full Depth Excess Soil in a Potable Ground Water Condition**Small Volume**

(Unit in µg/g)

Contaminant	Agricultural or Other Property Use	Residential/ Parkland/Institutional Property Use	Industrial/Commercial/Community Property Use
Acenaphthene	16	16	42
Acenaphthylene	0.3	0.3	0.3
Acetone	32	32	32
Aldrin	0.05	0.05	0.088
Anthracene	1.3	1.3	1.3
Antimony	7.5	7.5	63
Arsenic	11	18	18
Barium	780	780	1300
Benzene	0.42	0.42	0.64
Benzo[a]anthracene	1	1	1.9
Benzo[a]pyrene	0.16	0.6	0.6
Benzo[b]fluoranthene	1.6	1.6	1.9
Benzo[ghi]perylene	13	13	19
Benzo[k]fluoranthene	1.6	1.6	1.9
Beryllium	8	8	16
Biphenyl 1,1'-	0.31	0.31	52
Bis(2-chloroethyl)ether	0.5	0.5	0.5
Bis(2-chloroisopropyl)ether	0.67	0.67	11
Bis(2-ethylhexyl)phthalate	8	8	56
Boron (Hot Water Soluble)*	3	3	4
Boron (total)	240	240	240
Bromodichloromethane	3	3	3
Bromoform	0.54	0.54	1.2
Bromomethane	0.1	0.1	0.1
Cadmium	1.4	1.4	3.8
Carbon Tetrachloride	0.066	0.066	0.36
Chlordane	0.05	0.05	0.05
Chloroaniline p-	1	1	1
Chlorobenzene	3.7	3.7	4.8
Chloroform	0.1	0.1	0.94
Chlorophenol, 2-	3.2	3.2	6.2
Chromium Total	320	320	320
Chromium VI	16	16	16
Chrysene	14	14	19
Cobalt	22	22	160
Copper	200	200	460
Cyanide (CN-)	0.1	0.1	0.1
Dibenz[a h]anthracene	0.2	0.2	0.2
Dibromochloromethane	3.3	3.3	3.3
Dichlorobenzene, 1,2-	1.2	1.2	1.2
Dichlorobenzene, 1,3-	9.6	9.6	19
Dichlorobenzene, 1,4-	0.17	0.17	0.4
Dichlorobenzidine, 3,3'-	2	2	2

Contaminant	Agricultural or Other Property Use	Residential/ Parkland/Institutional Property Use	Industrial/Commercial/Community Property Use
Dichlorodifluoromethane	32	32	32
DDD	6.6	6.6	9.2
DDE	0.26	0.26	0.52
DDT	0.078	1.4	1.4
Dichloroethane, 1,1-	0.94	0.94	0.94
Dichloroethane, 1,2-	0.1	0.1	0.1
Dichloroethylene, 1,1-	0.051	0.051	0.13
Dichloroethylene, 1,2-cis-	1.9	1.9	1.9
Dichloroethylene, 1,2-trans-	0.17	0.17	1.3
Dichlorophenol, 2,4-	0.19	0.19	0.19
Dichloropropane, 1,2-	0.05	0.05	0.28
Dichloropropene, 1,3-	0.1	0.1	0.12
Dieldrin	0.05	0.05	0.088
Diethyl Phthalate	0.64	0.64	0.64
Dimethylphthalate	0.5	0.5	0.5
Dimethylphenol, 2,4-	76	76	76
Dinitrophenol, 2,4-	4	4	4
Dinitrotoluene, 2,4 & 2,6-	1	1	1
Dioxane, 1,4	0.4	3.6	3.6
Dioxin/Furan (TEQ)	0.000013	0.000013	0.000099
Endosulfan	0.04	0.04	0.3
Endrin	0.04	0.04	0.04
Ethylbenzene	1.1	1.1	1.1
Ethylene dibromide	0.079	0.079	0.079
Fluoranthene	1.4	1.4	19
Fluorene	120	120	120
Heptachlor	0.2	0.2	0.38
Heptachlor Epoxide	0.05	0.05	0.05
Hexachlorobenzene	1	1	1.3
Hexachlorobutadiene	0.024	0.024	0.062
Hexachlorocyclohexane Gamma-	0.056	0.056	0.056
Hexachloroethane	0.18	0.18	0.42
Hexane (n)	5.6	5.6	92
Indeno[1 2 3-cd]pyrene	0.76	0.76	1.5
Lead	90	120	240
Mercury	0.25	0.27	3.9
Methoxychlor	0.26	0.26	1.6
Methyl Ethyl Ketone	26	26	140
Methyl Isobutyl Ketone	1.7	1.7	31
Methyl Mercury **	0.0084	0.0084	0.0084
Methyl tert-Butyl Ether (MTBE)	1.5	1.5	1.6
Methylene Chloride	0.2	0.2	3.2
Methylnaphthalene, 2-(1-) ***	0.99	0.99	30
Molybdenum	14	14	80
Naphthalene	1.2	1.2	17
Nickel	200	200	540

Contaminant	Agricultural or Other Property Use	Residential/ Parkland/Institutional Property Use	Industrial/Commercial/Community Property Use
Pentachlorophenol	0.1	0.1	2.9
Petroleum Hydrocarbons F1****	110	110	110
Petroleum Hydrocarbons F2	200	200	460
Petroleum Hydrocarbons F3	600	600	3400
Petroleum Hydrocarbons F4	5600	5600	6600
Phenanthrene	12	12	24
Phenol	19	19	19
Polychlorinated Biphenyls	0.35	0.35	1.1
Pyrene	160	160	190
Selenium	4.8	4.8	11
Silver	40	40	80
Styrene	0.7	0.7	34
Tetrachloroethane, 1,1,1,2-	0.12	0.12	0.17
Tetrachloroethane, 1,1,2,2-	0.1	0.1	0.1
Tetrachloroethylene	0.56	0.56	1.9
Thallium	1	1	3.3
Toluene	2.3	2.3	6.4
Trichlorobenzene, 1,2,4-	0.72	0.72	6.4
Trichloroethane, 1,1,1-	0.76	0.76	10
Trichloroethane, 1,1,2-	0.1	0.1	0.1
Trichloroethylene	0.061	0.061	0.55
Trichlorofluoromethane	8	8	8
Trichlorophenol, 2,4,5-	8.8	8.8	18
Trichlorophenol, 2,4,6-	2.1	2.1	2.1
Uranium	23	23	66
Vanadium	86	86	130
Vinyl Chloride	0.04	0.04	0.064
Xylene Mixture	6.2	6.2	26
Zinc	680	680	680
Electrical Conductivity (mS/cm)	1.4	1.4	2.8
Sodium Adsorption Ratio	10	10	24

Notes:

*: The boron ceiling values are for hot water soluble extract for all surface soils. For subsurface soils the ceiling values are for total boron (mixed strong acid digest), since plant protection for soils below the root zone is not a significant concern.

** : Analysis for methyl mercury only applies when mercury (total) excess soil standard is exceeded.

***: The methyl naphthalene ceiling values are applicable to both 1-methyl naphthalene and 2-methyl naphthalene, with the provision that if both are detected the sum of the two must not exceed the ceiling value.

****: F1 fraction does not include benzene, toluene, ethylbenzene and xylene (BTEX); however, the proponent has the choice as to whether or not to subtract BTEX from the analytical result.

TABLE 3: Ceiling Values for Full Depth Excess Soil in a Non-Potable Ground Water Condition**Small Volume**

(Unit in µg/g)

Contaminant	Residential/Parkland/Institutional Property Use	Industrial/Commercial/Community Property Use
Acenaphthene	16	190
Acenaphthylene	0.3	0.3
Acetone	32	32
Aldrin	0.05	0.088
Anthracene	1.3	1.3
Antimony	7.5	63
Arsenic	18	18
Barium	780	1300
Benzene	0.42	0.64
Benz[a]anthracene	1	1.9
Benzo[a]pyrene	0.6	0.6
Benzo[b]fluoranthene	1.6	1.9
Benzo[ghi]perylene	13	19
Benzo[k]fluoranthene	1.6	1.9
Beryllium	8	16
Biphenyl 1,1'-	0.31	52
Bis(2-chloroethyl)ether	1	1
Bis(2-chloroisopropyl)ether	0.67	11
Bis(2-ethylhexyl)phthalate	8	56
Boron (Hot Water Soluble)*	3	4
Boron (total)	240	240
Bromodichloromethane	26	36
Bromoform	0.54	1.2
Bromomethane	0.1	0.1
Cadmium	1.4	3.8
Carbon Tetrachloride	0.066	0.36
Chlordane	0.05	0.05
Chloroaniline p-	1	1
Chlorobenzene	3.7	4.8
Chloroform	0.1	0.94
Chlorophenol, 2-	3.2	6.2
Chromium Total	320	320
Chromium VI	16	16
Chrysene	14	19
Cobalt	22	160
Copper	200	460
Cyanide (CN-)	0.1	0.1
Dibenz[a h]anthracene	0.2	0.2
Dibromochloromethane	19	26
Dichlorobenzene, 1,2-	6.1	14
Dichlorobenzene, 1,3-	9.6	19

Contaminant	Residential/Parkland/Institutional Property Use	Industrial/Commercial/Community Property Use
Dichlorobenzene, 1,4-	0.17	0.4
Dichlorobenzidine, 3,3'-	2	2
Dichlorodifluoromethane	32	32
DDD	6.6	9.2
DDE	0.26	0.52
DDT	1.4	1.4
Dichloroethane, 1,1-	7	34
Dichloroethane, 1,2-	0.1	0.1
Dichloroethylene, 1,1-	0.051	0.13
Dichloroethylene, 1,2-cis-	6.8	55
Dichloroethylene, 1,2-trans-	0.17	1.3
Dichlorophenol, 2,4-	3.4	6.8
Dichloropropane, 1,2-	0.05	0.28
Dichloropropene, 1,3-	0.1	0.36
Dieldrin	0.05	0.088
Diethyl Phthalate	0.64	0.64
Dimethylphthalate	0.5	0.5
Dimethylphenol, 2,4-	420	780
Dinitrophenol, 2,4-	38	120
Dinitrotoluene, 2,4 & 2,6-	1.8	2.4
Dioxane, 1,4	3.6	3.6
Dioxin/Furan (TEQ)	0.000013	0.000099
Endosulfan	0.04	0.3
Endrin	0.04	0.04
Ethylbenzene	4	19
Ethylene dibromide	0.1	0.1
Fluoranthene	1.4	19
Fluorene	120	120
Heptachlor	0.2	0.38
Heptachlor Epoxide	0.05	0.05
Hexachlorobenzene	1	1.3
Hexachlorobutadiene	0.024	0.062
Hexachlorocyclohexane Gamma-	0.056	0.056
Hexachloroethane	0.18	0.42
Hexane (n)	5.6	92
Indeno[1 2 3-cd]pyrene	0.76	1.5
Lead	120	240
Mercury	0.27	3.9
Methoxychlor	0.26	1.6
Methyl Ethyl Ketone	26	140
Methyl Isobutyl Ketone	1.7	62
Methyl Mercury **	0.0084	0.0084
Methyl tert-Butyl Ether (MTBE)	1.5	22
Methylene Chloride	0.2	3.2

Contaminant	Residential/Parkland/Institutional Property Use	Industrial/Commercial/Community Property Use
Methylnaphthalene, 2-(1-) ***	0.99	150
Molybdenum	14	80
Naphthalene	1.2	19
Nickel	200	540
Pentachlorophenol	0.1	2.9
Petroleum Hydrocarbons F1****	110	110
Petroleum Hydrocarbons F2	200	460
Petroleum Hydrocarbons F3	600	3400
Petroleum Hydrocarbons F4	5600	6600
Phenanthrene	12	24
Phenol	19	19
Polychlorinated Biphenyls	0.35	1.1
Pyrene	160	190
Selenium	4.8	11
Silver	40	80
Styrene	0.7	68
Tetrachloroethane, 1,1,1,2-	0.12	0.17
Tetrachloroethane, 1,1,2,2-	0.1	0.1
Tetrachloroethylene	0.56	4.5
Thallium	1	3.3
Toluene	2.3	100
Trichlorobenzene, 1,2,4-	0.72	6.4
Trichloroethane, 1,1,1-	0.76	10
Trichloroethane, 1,1,2-	0.1	0.1
Trichloroethylene	0.061	0.91
Trichlorofluoromethane	8	8
Trichlorophenol, 2,4,5-	8.8	20
Trichlorophenol, 2,4,6-	7.6	7.6
Uranium	23	66
Vanadium	86	130
Vinyl Chloride	0.04	0.064
Xylene Mixture	6.2	52
Zinc	680	680
Electrical Conductivity (mS/cm)	1.4	2.8
Sodium Adsorption Ratio	10	24

Notes:

*: The boron ceiling values are for hot water soluble extract for all surface soils. For subsurface soils the ceiling values are for total boron (mixed strong acid digest), since plant protection for soils below the root zone is not a significant concern.

** : Analysis for methyl mercury only applies when mercury (total) excess soil standard is exceeded.

***: The methyl naphthalene ceiling values are applicable to both 1-methyl naphthalene and 2-methyl naphthalene, with the provision that if both are detected the sum of the two must not exceed the ceiling value.

****: F1 fraction does not include benzene, toluene, ethylbenzene and xylene (BTEX); however, the proponent has the choice as to whether or not to subtract BTEX from the analytical result.

TABLE 4: Ceiling Values for Stratified Excess Soil in a Potable Ground Water Condition

Small Volume
(Unit in µg/g)

Contaminant	Residential/Parkland/Institutional Property Use		Industrial/Commercial/Community Property Use	
	Surface Soil	Subsurface Soil	Surface Soil	Subsurface Soil
Acenaphthene	16	16	42	42
Acenaphthylene	0.3	0.3	0.3	0.3
Acetone	32	32	32	32
Aldrin	0.05	6.4	0.088	13
Anthracene	1.3	1.3	1.3	1.3
Antimony	7.5	63	63	130
Arsenic	18	18	18	94
Barium	780	7700	1300	7700
Benzene	0.42	0.42	0.64	1.8
Benzo[a]anthracene	1	1.9	1.9	72
Benzo[a]pyrene	0.6	0.6	0.6	7.2
Benzo[b]fluoranthene	1.6	1.9	1.9	72
Benzo[ghi]perylene	13	19	19	720
Benzo[k]fluoranthene	1.6	1.9	1.9	72
Beryllium	8	120	16	120
Biphenyl 1,1'-	0.31	11	52	52
Bis(2-chloroethyl)ether	0.5	0.5	0.5	0.5
Bis(2-chloroisopropyl)ether	0.67	11	11	11
Bis(2-ethylhexyl)phthalate	8	1700	56	1700
Boron (Hot Water Soluble)*	3	NA	4	NA
Boron (total)	NA	5000	NA	5000
Bromodichloromethane	3	3	3	3
Bromoform	0.54	0.54	1.2	4
Bromomethane	0.1	0.1	0.1	0.1
Cadmium	1.4	16	3.8	16
Carbon Tetrachloride	0.066	0.066	0.36	0.43
Chlordane	0.05	1.6	0.05	30
Chloroaniline p-	1	1	1	1
Chlorobenzene	3.7	4.8	4.8	4.8
Chloroform	0.1	0.1	0.94	1.7
Chlorophenol, 2-	3.2	7.4	6.2	7.4
Chromium Total	320	11000	320	11000
Chromium VI	16	80	16	80
Chrysene	14	19	19	40
Cobalt	22	250	160	2500
Copper	200	5600	460	5600
Cyanide (CN-)	0.1	0.1	0.1	0.1
Dibenz[a h]anthracene	0.2	0.2	0.2	7.2
Dibromochloromethane	3.3	3.3	3.3	3.3
Dichlorobenzene, 1,2-	1.2	1.2	1.2	1.2
Dichlorobenzene, 1,3-	9.6	48	19	48
Dichlorobenzene, 1,4-	0.17	0.17	0.4	0.4

Contaminant	Residential/Parkland/Institutional Property Use		Industrial/Commercial/Community Property Use	
	Surface Soil	Subsurface Soil	Surface Soil	Subsurface Soil
Dichlorobenzidine, 3,3'-	2	2	2	2
Dichlorodifluoromethane	32	32	32	32
DDD	6.6	9.2	9.2	110
DDE	0.26	6.4	0.52	110
DDT	1.4	6.4	1.4	110
Dichloroethane, 1,1-	0.94	0.94	0.94	0.94
Dichloroethane, 1,2-	0.1	0.1	0.1	0.11
Dichloroethylene, 1,1-	0.051	0.051	0.13	0.24
Dichloroethylene, 1,2-cis-	1.9	1.9	1.9	1.9
Dichloroethylene, 1,2-trans-	0.17	0.17	1.3	1.9
Dichlorophenol, 2,4-	0.19	0.19	0.19	0.19
Dichloropropane, 1,2-	0.05	0.05	0.28	0.33
Dichloropropene, 1,3-	0.1	0.1	0.12	0.12
Dieldrin	0.05	0.11	0.088	0.11
Diethyl Phthalate	0.64	0.64	0.64	0.64
Dimethylphthalate	0.5	0.5	0.5	0.5
Dimethylphenol, 2,4-	76	76	76	76
Dinitrophenol, 2,4-	4	4	4	4
Dinitrotoluene, 2,4 & 2,6-	1	1	1	1
Dioxane, 1,4	3.6	15	3.6	15
Dioxin/Furan (TEQ)	0.000013	0.00065	0.000099	0.0036
Endosulfan	0.04	0.46	0.3	0.46
Endrin	0.04	0.071	0.04	0.071
Ethylbenzene	1.1	1.1	1.1	1.1
Ethylene dibromide	0.079	0.079	0.079	0.079
Fluoranthene	1.4	19	19	48
Fluorene	120	120	120	120
Heptachlor	0.2	0.38	0.38	1.8
Heptachlor Epoxide	0.05	0.05	0.05	0.05
Hexachlorobenzene	1	1.3	1.3	2.9
Hexachlorobutadiene	0.024	0.024	0.062	0.12
Hexachlorocyclohexane Gamma-	0.056	0.056	0.056	0.056
Hexachloroethane	0.18	0.18	0.42	0.98
Hexane (n)	5.6	5.6	92	110
Indeno[1 2 3-cd]pyrene	0.76	1.9	1.5	72
Lead	120	1000	240	1000
Mercury	0.27	0.27	3.9	13
Methoxychlor	0.26	1.6	1.6	1.7
Methyl Ethyl Ketone	26	32	140	160
Methyl Isobutyl Ketone	1.7	6.6	31	64
Methyl Mercury **	0.0084	0.0084	0.0084	0.0084
Methyl tert-Butyl Ether (MTBE)	1.5	1.5	1.6	1.6
Methylene Chloride	0.2	0.2	3.2	3.9
Methylnaphthalene, 2-(1-) ***	0.99	30	30	30
Molybdenum	14	1200	80	2400

Contaminant	Residential/Parkland/Institutional Property Use		Industrial/Commercial/Community Property Use	
	Surface Soil	Subsurface Soil	Surface Soil	Subsurface Soil
Naphthalene	1.2	1.3	17	93
Nickel	200	1000	540	1000
Pentachlorophenol	0.1	2.9	2.9	2.9
Petroleum Hydrocarbons F1****	110	110	110	110
Petroleum Hydrocarbons F2	200	200	460	460
Petroleum Hydrocarbons F3	600	5800	3400	5800
Petroleum Hydrocarbons F4	5600	6900	6600	6900
Phenanthrene	12	34	24	34
Phenol	19	92	19	92
Polychlorinated Biphenyls	0.35	2.7	1.1	7.3
Pyrene	160	190	190	480
Selenium	4.8	1200	11	2400
Silver	40	490	80	980
Styrene	0.7	16	34	47
Tetrachloroethane, 1,1,1,2-	0.12	0.12	0.17	0.3
Tetrachloroethane, 1,1,2,2-	0.1	0.1	0.1	0.1
Tetrachloroethylene	0.56	0.56	1.9	1.9
Thallium	1	3.3	3.3	33
Toluene	2.3	6.2	6.4	6.4
Trichlorobenzene, 1,2,4-	0.72	0.72	6.4	17
Trichloroethane, 1,1,1-	0.76	0.76	10	10
Trichloroethane, 1,1,2-	0.1	0.1	0.1	0.14
Trichloroethylene	0.061	0.061	0.55	0.55
Trichlorofluoromethane	8	8	8	8
Trichlorophenol, 2,4,5-	8.8	18	18	18
Trichlorophenol, 2,4,6-	2.1	2.1	2.1	2.1
Uranium	23	300	66	300
Vanadium	86	160	130	320
Vinyl Chloride	0.04	0.04	0.064	0.11
Xylene Mixture	6.2	6.2	26	26
Zinc	680	15000	680	15000
Electrical Conductivity (mS/cm)	1.4	NA	2.8	NA
Sodium Adsorption Ratio	10	NA	24	NA

Notes:

NA: Not Applicable.

*: The boron ceiling values are for hot water soluble extract for all surface soils. For subsurface soils the ceiling values are for total boron (mixed strong acid digest), since plant protection for soils below the root zone is not a significant concern.

** : Analysis for methyl mercury only applies when mercury (total) excess soil standard is exceeded.

***: The methyl naphthalene ceiling values are applicable to both 1-methyl naphthalene and 2- methyl naphthalene, with the provision that if both are detected the sum of the two must not exceed the ceiling value.

****: F1 fraction does not include benzene, toluene, ethylbenzene and xylene (BTEX); however, the proponent has the choice as to whether or not to subtract BTEX from the analytical result.

TABLE 5: Ceiling Values for Stratified Excess Soil in a Non-Potable Ground Water Condition

Small Volume
(Unit in µg/g)

Contaminant	Residential/Parkland/Institutional Property Use		Industrial/Commercial/Community Property Use	
	Surface Soil	Subsurface Soil	Surface Soil	Subsurface Soil
Acenaphthene	16	16	190	660
Acenaphthylene	0.3	0.3	0.3	0.3
Acetone	32	32	32	32
Aldrin	0.05	6.4	0.088	13
Anthracene	1.3	1.3	1.3	1.3
Antimony	7.5	63	63	130
Arsenic	18	18	18	94
Barium	780	7700	1300	7700
Benzene	0.42	0.42	0.64	12
Benz[a]anthracene	1	1.9	1.9	72
Benzo[a]pyrene	0.6	0.6	0.6	7.2
Benzo[b]fluoranthene	1.6	1.9	1.9	72
Benzo[ghi]perylene	13	19	19	720
Benzo[k]fluoranthene	1.6	1.9	1.9	72
Beryllium	8	120	16	120
Biphenyl 1,1'-	0.31	11	52	100
Bis(2-chloroethyl)ether	1	1	1	32
Bis(2-chloroisopropyl)ether	0.67	11	11	11
Bis(2-ethylhexyl)phthalate	8	7100	56	7100
Boron (Hot Water Soluble)*	3	NA	4	NA
Boron (total)	NA	5000	NA	5000
Bromodichloromethane	26	36	36	100
Bromoform	0.54	0.54	1.2	4
Bromomethane	0.1	0.1	0.1	0.1
Cadmium	1.4	16	3.8	16
Carbon Tetrachloride	0.066	0.066	0.36	0.43
Chlordane	0.05	1.6	0.05	30
Chloroaniline p-	1	1	1	1
Chlorobenzene	3.7	4.8	4.8	4.8
Chloroform	0.1	0.1	0.94	1.7
Chlorophenol, 2-	3.2	42	6.2	42
Chromium Total	320	11000	320	11000
Chromium VI	16	80	16	80
Chrysene	14	19	19	720
Cobalt	22	250	160	2500
Copper	200	5600	460	5600
Cyanide (CN-)	0.1	0.1	0.1	0.1
Dibenz[a h]anthracene	0.2	0.2	0.2	7.2
Dibromochloromethane	19	26	26	96
Dichlorobenzene, 1,2-	6.1	70	14	120
Dichlorobenzene, 1,3-	9.6	120	19	120
Dichlorobenzene, 1,4-	0.17	0.17	0.4	0.78

Contaminant	Residential/Parkland/Institutional Property Use		Industrial/Commercial/Community Property Use	
	Surface Soil	Subsurface Soil	Surface Soil	Subsurface Soil
Dichlorobenzidine, 3,3'-	2	2	2	50
Dichlorodifluoromethane	32	32	32	32
DDD	6.6	9.2	9.2	110
DDE	0.26	6.4	0.52	110
DDT	1.4	6.4	1.4	110
Dichloroethane, 1,1-	7	7	34	120
Dichloroethane, 1,2-	0.1	0.1	0.1	0.11
Dichloroethylene, 1,1-	0.051	0.051	0.13	0.24
Dichloroethylene, 1,2-cis-	6.8	6.8	55	110
Dichloroethylene, 1,2-trans-	0.17	0.17	1.3	2.9
Dichlorophenol, 2,4-	3.4	92	6.8	92
Dichloropropane, 1,2-	0.05	0.05	0.28	0.33
Dichloropropene, 1,3-	0.1	0.1	0.36	0.68
Dieldrin	0.05	0.11	0.088	0.11
Diethyl Phthalate	0.64	0.64	0.64	0.64
Dimethylphthalate	0.5	0.5	0.5	0.5
Dimethylphenol, 2,4-	420	780	780	780
Dinitrophenol, 2,4-	38	120	120	120
Dinitrotoluene, 2,4 & 2,6-	1.8	2.4	2.4	30
Dioxane, 1,4	3.6	200	3.6	1600
Dioxin/Furan (TEQ)	0.000013	0.00065	0.000099	0.0088
Endosulfan	0.04	0.46	0.3	0.46
Endrin	0.04	0.071	0.04	0.071
Ethylbenzene	4	4	19	34
Ethylene dibromide	0.1	0.1	0.1	0.1
Fluoranthene	1.4	19	19	720
Fluorene	120	120	120	120
Heptachlor	0.2	0.38	0.38	1.8
Heptachlor Epoxide	0.05	0.05	0.05	0.05
Hexachlorobenzene	1	1.3	1.3	14
Hexachlorobutadiene	0.024	0.024	0.062	0.12
Hexachlorocyclohexane Gamma-	0.056	0.056	0.056	0.056
Hexachloroethane	0.18	0.18	0.42	3.4
Hexane (n)	5.6	5.6	92	110
Indeno[1 2 3-cd]pyrene	0.76	1.9	1.5	72
Lead	120	1000	240	1000
Mercury	0.27	0.27	3.9	13
Methoxychlor	0.26	1.6	1.6	1.7
Methyl Ethyl Ketone	26	32	140	300
Methyl Isobutyl Ketone	1.7	6.6	62	64
Methyl Mercury **	0.0084	0.0084	0.0084	0.0084
Methyl tert-Butyl Ether (MTBE)	1.5	1.5	22	28
Methylene Chloride	0.2	0.2	3.2	3.9
Methylnaphthalene, 2-(1-) ***	0.99	34	150	150
Molybdenum	14	1200	80	2400

Contaminant	Residential/Parkland/Institutional Property Use		Industrial/Commercial/Community Property Use	
	Surface Soil	Subsurface Soil	Surface Soil	Subsurface Soil
Naphthalene	1.2	1.3	19	250
Nickel	200	1000	540	1000
Pentachlorophenol	0.1	2.9	2.9	2.9
Petroleum Hydrocarbons F1****	110	110	110	110
Petroleum Hydrocarbons F2	200	200	460	460
Petroleum Hydrocarbons F3	600	5800	3400	5800
Petroleum Hydrocarbons F4	5600	6900	6600	6900
Phenanthrene	12	540	24	540
Phenol	19	92	19	92
Polychlorinated Biphenyls	0.35	2.7	1.1	7.3
Pyrene	160	190	190	5200
Selenium	4.8	1200	11	2400
Silver	40	490	80	980
Styrene	0.7	18	68	100
Tetrachloroethane, 1,1,1,2-	0.12	0.12	0.17	0.48
Tetrachloroethane, 1,1,2,2-	0.1	0.1	0.1	0.1
Tetrachloroethylene	0.56	0.56	4.5	9.5
Thallium	1	3.3	3.3	33
Toluene	2.3	9	100	140
Trichlorobenzene, 1,2,4-	0.72	0.72	6.4	17
Trichloroethane, 1,1,1-	0.76	0.76	10	10
Trichloroethane, 1,1,2-	0.1	0.1	0.1	0.14
Trichloroethylene	0.061	0.061	0.91	1.8
Trichlorofluoromethane	8	8	8	8
Trichlorophenol, 2,4,5-	8.8	54	20	54
Trichlorophenol, 2,4,6-	7.6	7.6	7.6	7.6
Uranium	23	300	66	300
Vanadium	86	160	130	320
Vinyl Chloride	0.04	0.04	0.064	0.11
Xylene Mixture	6.2	6.2	52	52
Zinc	680	15000	680	15000
Electrical Conductivity (mS/cm)	1.4	NA	2.8	NA
Sodium Adsorption Ratio	10	NA	24	NA

Notes:

NA: Not Applicable.

*: The boron ceiling values are for hot water soluble extract for all surface soils. For subsurface soils the ceiling values are for total boron (mixed strong acid digest), since plant protection for soils below the root zone is not a significant concern.

**: Analysis for methyl mercury only applies when mercury (total) excess soil standard is exceeded.

***: The methyl naphthalene ceiling values are applicable to both 1-methyl naphthalene and 2- methyl naphthalene, with the provision that if both are detected the sum of the two must not exceed the ceiling value.

****: F1 fraction does not include benzene, toluene, ethylbenzene and xylene (BTEX); however, the proponent has the choice as to whether or not to subtract BTEX from the analytical result.

TABLE 6: Ceiling Values for Full Depth Excess Soil in Shallow Soils in a Potable Ground Water Condition**Small Volume**

(Unit in µg/g)

Contaminant	Agricultural or Other Property Use	Residential/ Parkland/Institutional Property Use	Industrial/Commercial/Community Property Use
Acenaphthene	16	16	42
Acenaphthylene	0.3	0.3	0.3
Acetone	32	32	32
Aldrin	0.05	0.05	0.088
Anthracene	1.3	1.3	1.3
Antimony	7.5	7.5	63
Arsenic	11	18	18
Barium	780	780	1300
Benzene	0.21	0.21	0.32
Benz[a]anthracene	1	1	1.9
Benzo[a]pyrene	0.16	0.6	0.6
Benzo[b]fluoranthene	1.6	1.6	1.9
Benzo[ghi]perylene	13	13	19
Benzo[k]fluoranthene	1.6	1.6	1.9
Beryllium	8	8	16
Biphenyl 1,1'-	0.31	0.31	52
Bis(2-chloroethyl)ether	0.5	0.5	0.5
Bis(2-chloroisopropyl)ether	0.67	0.67	11
Bis(2-ethylhexyl)phthalate	8	8	56
Boron (Hot Water Soluble)*	3	3	4
Boron (total)	240	240	240
Bromodichloromethane	3	3	3
Bromoform	0.54	0.54	1.2
Bromomethane	0.05	0.05	0.05
Cadmium	1.4	1.4	3.8
Carbon Tetrachloride	0.05	0.05	0.21
Chlordane	0.05	0.05	0.05
Chloroaniline p-	1	1	1
Chlorobenzene	3.7	3.7	4.8
Chloroform	0.1	0.1	0.94
Chlorophenol, 2-	3.2	3.2	6.2
Chromium Total	320	320	320
Chromium VI	16	16	16
Chrysene	14	14	19
Cobalt	22	22	160
Copper	200	200	460
Cyanide (CN-)	0.1	0.1	0.1
Dibenz[a h]anthracene	0.2	0.2	0.2
Dibromochloromethane	3.3	3.3	3.3
Dichlorobenzene, 1,2-	1.2	1.2	1.2
Dichlorobenzene, 1,3-	9.6	9.6	19
Dichlorobenzene, 1,4-	0.17	0.17	0.4

Contaminant	Agricultural or Other Property Use	Residential/ Parkland/Institutional Property Use	Industrial/Commercial/Community Property Use
Dichlorobenzidine, 3,3'-	2	2	2
Dichlorodifluoromethane	32	32	32
DDD	3.8	3.8	4.6
DDE	0.26	0.26	0.52
DDT	0.078	1.4	1.4
Dichloroethane, 1,1-	0.94	0.94	0.94
Dichloroethane, 1,2-	0.1	0.1	0.1
Dichloroethylene, 1,1-	0.05	0.05	0.064
Dichloroethylene, 1,2-cis-	1.9	1.9	1.9
Dichloroethylene, 1,2-trans-	0.084	0.084	1.3
Dichlorophenol, 2,4-	0.19	0.19	0.19
Dichloropropane, 1,2-	0.05	0.05	0.16
Dichloropropene, 1,3-	0.1	0.1	0.12
Dieldrin	0.05	0.05	0.088
Diethyl Phthalate	0.56	0.56	0.56
Dimethylphthalate	0.5	0.5	0.5
Dimethylphenol, 2,4-	76	76	76
Dinitrophenol, 2,4-	4	4	4
Dinitrotoluene, 2,4 & 2,6-	1	1	1
Dioxane, 1,4	0.4	3.6	3.6
Dioxin/Furan (TEQ)	0.000013	0.000013	0.000099
Endosulfan	0.04	0.04	0.3
Endrin	0.04	0.04	0.04
Ethylbenzene	1.1	1.1	1.1
Ethylene dibromide	0.05	0.05	0.05
Fluoranthene	1.4	1.4	19
Fluorene	120	120	120
Heptachlor	0.15	0.15	0.19
Heptachlor Epoxide	0.05	0.05	0.05
Hexachlorobenzene	1	1	1.3
Hexachlorobutadiene	0.024	0.024	0.062
Hexachlorocyclohexane Gamma-	0.056	0.056	0.056
Hexachloroethane	0.11	0.11	0.21
Hexane (n)	2.9	2.9	46
Indeno[1 2 3-cd]pyrene	0.76	0.76	1.5
Lead	90	120	240
Mercury	0.25	0.27	3.9
Methoxychlor	0.26	0.26	1.6
Methyl Ethyl Ketone	16	16	70
Methyl Isobutyl Ketone	1.7	1.7	31
Methyl Mercury **	0.0084	0.0084	0.0084
Methyl tert-Butyl Ether (MTBE)	1.5	1.5	1.6
Methylene Chloride	0.17	0.17	1.6
Methylnaphthalene, 2-(1-) ***	0.99	0.99	30
Molybdenum	14	14	80
Naphthalene	0.76	0.76	9.6

Contaminant	Agricultural or Other Property Use	Residential/ Parkland/Institutional Property Use	Industrial/Commercial/Community Property Use
Nickel	200	200	540
Pentachlorophenol	0.1	0.1	2.9
Petroleum Hydrocarbons F1****	55	55	55
Petroleum Hydrocarbons F2	98	98	230
Petroleum Hydrocarbons F3	600	600	3400
Petroleum Hydrocarbons F4	5600	5600	6600
Phenanthrene	12	12	24
Phenol	19	19	19
Polychlorinated Biphenyls	0.35	0.35	1.1
Pyrene	78	78	96
Selenium	4.8	4.8	11
Silver	40	40	80
Styrene	0.7	0.7	34
Tetrachloroethane, 1,1,1,2-	0.12	0.12	0.14
Tetrachloroethane, 1,1,2,2-	0.1	0.1	0.1
Tetrachloroethylene	0.28	0.28	1.9
Thallium	1	1	3.3
Toluene	2.3	2.3	6.4
Trichlorobenzene, 1,2,4-	0.36	0.36	3.2
Trichloroethane, 1,1,1-	0.38	0.38	6.1
Trichloroethane, 1,1,2-	0.1	0.1	0.1
Trichloroethylene	0.061	0.061	0.55
Trichlorofluoromethane	8	8	8
Trichlorophenol, 2,4,5-	8.8	8.8	18
Trichlorophenol, 2,4,6-	2.1	2.1	2.1
Uranium	23	23	66
Vanadium	86	86	130
Vinyl Chloride	0.04	0.04	0.064
Xylene Mixture	3.1	3.1	26
Zinc	680	680	680
Electrical Conductivity (mS/cm)	1.4	1.4	2.8
Sodium Adsorption Ratio	10	10	24

Notes:

*: The boron ceiling values are for hot water soluble extract for all surface soils. For subsurface soils the ceiling values are for total boron (mixed strong acid digest), since plant protection for soils below the root zone is not a significant concern.

** : Analysis for methyl mercury only applies when mercury (total) excess soil standard is exceeded.

*** : The methyl naphthalene ceiling values are applicable to both 1-methyl naphthalene and 2-methyl naphthalene, with the provision that if both are detected the sum of the two must not exceed the ceiling value.

**** : F1 fraction does not include benzene, toluene, ethylbenzene and xylene (BTEX); however, the proponent has the choice as to whether or not to subtract BTEX from the analytical result.

TABLE 7: Ceiling Values for Full Depth Excess Soil in Shallow Soils in a Non-Potable Ground Water Condition**Small Volume**

(Unit in µg/g)

Contaminant	Residential/Parkland/Institutional Property Use	Industrial/Commercial/Community Property Use
Acenaphthene	16	190
Acenaphthylene	0.3	0.3
Acetone	32	32
Aldrin	0.05	0.088
Anthracene	1.3	1.3
Antimony	7.5	63
Arsenic	18	18
Barium	780	1300
Benzene	0.21	0.64
Benz[a]anthracene	1	1.9
Benzo[a]pyrene	0.6	0.6
Benzo[b]fluoranthene	1.6	1.9
Benzo[ghi]perylene	13	19
Benzo[k]fluoranthene	1.6	1.9
Beryllium	8	16
Biphenyl 1,1'-	0.31	52
Bis(2-chloroethyl)ether	1	1
Bis(2-chloroisopropyl)ether	0.67	11
Bis(2-ethylhexyl)phthalate	8	56
Boron (Hot Water Soluble)*	3	4
Boron (total)	240	240
Bromodichloromethane	26	36
Bromoform	0.54	1.2
Bromomethane	0.05	0.05
Cadmium	1.4	3.8
Carbon Tetrachloride	0.05	0.21
Chlordane	0.05	0.05
Chloroaniline p-	1	1
Chlorobenzene	3.7	4.8
Chloroform	0.1	0.94
Chlorophenol, 2-	3.2	6.2
Chromium Total	320	320
Chromium VI	16	16
Chrysene	14	19
Cobalt	22	160
Copper	200	460
Cyanide (CN-)	0.1	0.1
Dibenz[a h]anthracene	0.2	0.2
Dibromochloromethane	19	26
Dichlorobenzene, 1,2-	6.1	14

Contaminant	Residential/Parkland/Institutional Property Use	Industrial/Commercial/Community Property Use
Dichlorobenzene, 1,3-	9.6	19
Dichlorobenzene, 1,4-	0.17	0.4
Dichlorobenzidine, 3,3'-	2	2
Dichlorodifluoromethane	32	32
DDD	3.8	4.6
DDE	0.26	0.52
DDT	1.4	1.4
Dichloroethane, 1,1-	3.5	17
Dichloroethane, 1,2-	0.1	0.1
Dichloroethylene, 1,1-	0.05	0.064
Dichloroethylene, 1,2-cis-	3.4	55
Dichloroethylene, 1,2-trans-	0.084	1.3
Dichlorophenol, 2,4-	3.4	6.8
Dichloropropane, 1,2-	0.05	0.16
Dichloropropene, 1,3-	0.1	0.34
Dieldrin	0.05	0.088
Diethyl Phthalate	0.56	0.56
Dimethylphthalate	0.5	0.5
Dimethylphenol, 2,4-	420	780
Dinitrophenol, 2,4-	38	120
Dinitrotoluene, 2,4 & 2,6-	1.8	2.4
Dioxane, 1,4	3.6	3.6
Dioxin/Furan (TEQ)	0.000013	0.000099
Endosulfan	0.04	0.3
Endrin	0.04	0.04
Ethylbenzene	4	9.5
Ethylene dibromide	0.05	0.05
Fluoranthene	1.4	19
Fluorene	120	120
Heptachlor	0.15	0.19
Heptachlor Epoxide	0.05	0.05
Hexachlorobenzene	1	1.3
Hexachlorobutadiene	0.024	0.062
Hexachlorocyclohexane Gamma-	0.056	0.056
Hexachloroethane	0.11	0.21
Hexane (n)	2.9	46
Indeno[1 2 3-cd]pyrene	0.76	1.5
Lead	120	240
Mercury	0.27	3.9
Methoxychlor	0.26	1.6
Methyl Ethyl Ketone	16	70
Methyl Isobutyl Ketone	1.7	31
Methyl Mercury **	0.0084	0.0084
Methyl tert-Butyl Ether (MTBE)	1.5	15
Methylene Chloride	0.17	1.6

Contaminant	Residential/Parkland/Institutional Property Use	Industrial/Commercial/Community Property Use
Methlynaphthalene, 2-(1-) ***	0.99	150
Molybdenum	14	80
Naphthalene	0.76	9.6
Nickel	200	540
Pentachlorophenol	0.1	2.9
Petroleum Hydrocarbons F1****	55	55
Petroleum Hydrocarbons F2	98	230
Petroleum Hydrocarbons F3	600	3400
Petroleum Hydrocarbons F4	5600	6600
Phenanthrene	12	24
Phenol	19	19
Polychlorinated Biphenyls	0.35	1.1
Pyrene	78	96
Selenium	4.8	11
Silver	40	80
Styrene	0.7	34
Tetrachloroethane, 1,1,1,2-	0.12	0.14
Tetrachloroethane, 1,1,2,2-	0.1	0.1
Tetrachloroethylene	0.28	4.5
Thallium	1	3.3
Toluene	2.3	68
Trichlorobenzene, 1,2,4-	0.36	3.2
Trichloroethane, 1,1,1-	0.38	6.1
Trichloroethane, 1,1,2-	0.1	0.1
Trichloroethylene	0.061	0.91
Trichlorofluoromethane	8	8
Trichlorophenol, 2,4,5-	8.8	20
Trichlorophenol, 2,4,6-	7.6	7.6
Uranium	23	66
Vanadium	86	130
Vinyl Chloride	0.04	0.064
Xylene Mixture	3.1	26
Zinc	680	680
Electrical Conductivity (mS/cm)	1.4	2.8
Sodium Adsorption Ratio	10	24

Notes:

*: The boron ceiling values are for hot water soluble extract for all surface soils. For subsurface soils the ceiling values are for total boron (mixed strong acid digest), since plant protection for soils below the root zone is not a significant concern.

** : Analysis for methyl mercury only applies when mercury (total) excess soil standard is exceeded.

***: The methyl naphthalene ceiling values are applicable to both 1-methyl naphthalene and 2-methyl naphthalene, with the provision that if both are detected the sum of the two must not exceed the ceiling value.

****: F1 fraction does not include benzene, toluene, ethylbenzene and xylene (BTEX); however, the proponent has the choice as to whether or not to subtract BTEX from the analytical result.

TABLE 8: Ceiling Values for Full Depth Excess Soil for Use within 30 m of A Water Body in a Potable Ground Water Condition

Small Volume

(Unit in µg/g)

Contaminant	Agricultural or Other Property Use	Residential/ Parkland/Institutional Property Use	Industrial/Commercial/Community Property Use
Acenaphthene	0.1	0.14	0.14
Acenaphthylene	0.19	0.19	0.19
Acetone	1	1	1
Aldrin	0.05	0.05	0.05
Anthracene	0.44	0.44	0.44
Antimony	2	2.6	2.6
Arsenic	11	18	18
Barium	390	440	440
Benzene	0.04	0.04	0.04
Benz[a]anthracene	0.64	0.72	0.72
Benzo[a]pyrene	0.16	0.6	0.6
Benzo[b]fluoranthene	0.6	0.94	0.94
Benzo[ghi]perylene	0.4	1.4	1.4
Benzo[k]fluoranthene	0.48	0.96	0.96
Beryllium	4	5	5
Biphenyl 1,1'-	0.1	0.1	0.1
Bis(2-chloroethyl)ether	0.5	0.5	0.5
Bis(2-chloroisopropyl)ether	0.67	0.67	1
Bis(2-ethylhexyl)phthalate	8	8	8
Boron (Hot Water Soluble)*	1.5	3	3
Boron (total)	72	72	72
Bromodichloromethane	0.1	0.1	0.1
Bromoform	0.1	0.1	0.1
Bromomethane	0.1	0.1	0.1
Cadmium	1.4	1.4	2.4
Carbon Tetrachloride	0.066	0.066	0.1
Chlordane	0.05	0.05	0.05
Chloroaniline p-	1	1	1
Chlorobenzene	0.1	0.1	0.1
Chloroform	0.1	0.1	0.1
Chlorophenol, 2-	0.2	0.2	0.2
Chromium Total	130	140	140
Chromium VI	1.3	1.3	1.3
Chrysene	0.68	5.6	5.6
Cobalt	22	22	44
Copper	120	180	180
Cyanide (CN-)	0.1	0.1	0.1
Dibenz[a h]anthracene	0.2	0.2	0.2
Dibromochloromethane	0.1	0.1	0.1
Dichlorobenzene, 1,2-	0.1	0.1	0.1
Dichlorobenzene, 1,3-	0.1	0.1	0.1
Dichlorobenzene, 1,4-	0.1	0.1	0.1

Contaminant	Agricultural or Other Property Use	Residential/ Parkland/Institutional Property Use	Industrial/Commercial/Community Property Use
Dichlorobenzidine, 3,3'-	2	2	2
Dichlorodifluoromethane	0.1	0.1	0.1
DDD	0.1	0.1	0.1
DDE	0.1	0.1	0.1
DDT	0.078	1.4	1.4
Dichloroethane, 1,1-	0.1	0.1	0.1
Dichloroethane, 1,2-	0.1	0.1	0.1
Dichloroethylene, 1,1-	0.051	0.051	0.1
Dichloroethylene, 1,2-cis-	0.1	0.1	0.1
Dichloroethylene, 1,2-trans-	0.1	0.1	0.1
Dichlorophenol, 2,4-	0.19	0.19	0.19
Dichloropropane, 1,2-	0.05	0.05	0.1
Dichloropropene, 1,3-	0.1	0.1	0.1
Dieldrin	0.05	0.05	0.05
Diethyl Phthalate	0.56	0.56	0.56
Dimethylphthalate	0.5	0.5	0.5
Dimethylphenol, 2,4-	0.4	0.4	0.4
Dinitrophenol, 2,4-	4	4	4
Dinitrotoluene, 2,4 & 2,6-	1	1	1
Dioxane, 1,4	0.4	0.4	0.4
Dioxin/Furan (TEQ)	0.000013	0.000013	0.000013
Endosulfan	0.04	0.04	0.04
Endrin	0.04	0.04	0.04
Ethylbenzene	0.1	0.1	0.1
Ethylene dibromide	0.079	0.079	0.079
Fluoranthene	1.4	1.4	1.4
Fluorene	0.38	0.38	0.38
Heptachlor	0.05	0.05	0.05
Heptachlor Epoxide	0.05	0.05	0.05
Hexachlorobenzene	0.04	0.04	0.04
Hexachlorobutadiene	0.02	0.02	0.02
Hexachlorocyclohexane Gamma-	0.02	0.02	0.02
Hexachloroethane	0.02	0.02	0.02
Hexane (n)	0.1	0.1	0.1
Indeno[1 2 3-cd]pyrene	0.4	0.46	0.46
Lead	45	120	240
Mercury	0.25	0.27	0.54
Methoxychlor	0.1	0.1	0.1
Methyl Ethyl Ketone	1	1	1
Methyl Isobutyl Ketone	1	1	1
Methyl Mercury **	NV	NV	NV
Methyl tert-Butyl Ether (MTBE)	0.1	0.1	0.1
Methylene Chloride	0.1	0.1	0.1
Methylnaphthalene, 2-(1-) ***	0.1	0.99	1.2
Molybdenum	4	4	4
Naphthalene	0.1	0.18	0.18

Contaminant	Agricultural or Other Property Use	Residential/ Parkland/Institutional Property Use	Industrial/Commercial/Community Property Use
Nickel	74	160	160
Pentachlorophenol	0.1	0.1	0.1
Petroleum Hydrocarbons F1****	34	50	50
Petroleum Hydrocarbons F2	20	20	20
Petroleum Hydrocarbons F3	300	480	480
Petroleum Hydrocarbons F4	240	240	240
Phenanthrene	1.1	1.4	1.4
Phenol	1	1	1
Polychlorinated Biphenyls	0.35	0.35	0.6
Pyrene	0.98	2	2
Selenium	2.4	3	3
Silver	1	1	1
Styrene	0.1	0.1	0.1
Tetrachloroethane, 1,1,1,2-	0.1	0.1	0.1
Tetrachloroethane, 1,1,2,2-	0.1	0.1	0.1
Tetrachloroethylene	0.1	0.1	0.1
Thallium	1	1	2
Toluene	0.4	0.4	0.4
Trichlorobenzene, 1,2,4-	0.1	0.1	0.1
Trichloroethane, 1,1,1-	0.1	0.1	0.1
Trichloroethane, 1,1,2-	0.1	0.1	0.1
Trichloroethylene	0.05	0.05	0.05
Trichlorofluoromethane	0.1	0.5	0.5
Trichlorophenol, 2,4,5-	0.2	0.2	0.2
Trichlorophenol, 2,4,6-	0.2	0.2	0.2
Uranium	3.8	5	5
Vanadium	86	86	130
Vinyl Chloride	0.04	0.04	0.04
Xylene Mixture	0.1	0.1	0.1
Zinc	340	580	580
Electrical Conductivity (mS/cm)	0.7	1.4	1.4
Sodium Adsorption Ratio	5	10	10

Notes:

NV: No Value.

*: The boron ceiling values are for hot water soluble extract for all surface soils. For subsurface soils the ceiling values are for total boron (mixed strong acid digest), since plant protection for soils below the root zone is not a significant concern.

**: Analysis for methyl mercury only applies when mercury (total) excess soil standard is exceeded.

***: The methyl naphthalene ceiling values are applicable to both 1-methyl naphthalene and 2-methyl naphthalene, with the provision that if both are detected the sum of the two must not exceed the ceiling value.

****: F1 fraction does not include benzene, toluene, ethylbenzene and xylene (BTEX); however, the proponent has the choice as to whether or not to subtract BTEX from the analytical result.

TABLE 9: Ceiling Values for Full Depth Excess Soil for Use within 30 m of A Water Body in a Non-Potable Ground Water Condition**Small Volume**

(Unit in µg/g)

Contaminant	Residential/ Parkland/Institutional/ Property Use	Industrial/Commercial/ Community Property Use
Acenaphthene	0.14	0.14
Acenaphthylene	0.19	0.19
Acetone	1	1
Aldrin	0.05	0.05
Anthracene	0.44	0.44
Antimony	2.6	2.6
Arsenic	18	18
Barium	440	440
Benzene	0.04	0.04
Benz[a]anthracene	0.72	0.72
Benzo[a]pyrene	0.6	0.6
Benzo[b]fluoranthene	0.94	0.94
Benzo[ghi]perylene	1.4	1.4
Benzo[k]fluoranthene	0.96	0.96
Beryllium	5	5
Biphenyl 1,1'-	0.1	0.1
Bis(2-chloroethyl)ether	1	1
Bis(2-chloroisopropyl)ether	0.67	1
Bis(2-ethylhexyl)phthalate	8	8
Boron (Hot Water Soluble)*	3	3
Boron (total)	72	72
Bromodichloromethane	0.1	0.1
Bromoform	0.1	0.1
Bromomethane	0.1	0.1
Cadmium	1.4	2.4
Carbon Tetrachloride	0.066	0.1
Chlordane	0.05	0.05
Chloroaniline p-	1	1
Chlorobenzene	0.1	0.1
Chloroform	0.1	0.1
Chlorophenol, 2-	0.2	0.2
Chromium Total	140	140
Chromium VI	1.3	1.3
Chrysene	5.6	5.6
Cobalt	22	44
Copper	180	180
Cyanide (CN-)	0.1	0.1
Dibenz[a h]anthracene	0.2	0.2
Dibromochloromethane	0.1	0.1
Dichlorobenzene, 1,2-	0.1	0.1
Dichlorobenzene, 1,3-	0.1	0.1
Dichlorobenzene, 1,4-	0.1	0.1

Contaminant	Residential/ Parkland/Institutional/ Property Use	Industrial/Commercial/ Community Property Use
Dichlorobenzidine, 3,3'-	2	2
Dichlorodifluoromethane	0.1	0.1
DDD	0.1	0.1
DDE	0.1	0.1
DDT	1.4	1.4
Dichloroethane, 1,1-	0.1	0.1
Dichloroethane, 1,2-	0.1	0.1
Dichloroethylene, 1,1-	0.051	0.1
Dichloroethylene, 1,2-cis-	0.1	0.1
Dichloroethylene, 1,2-trans-	0.1	0.1
Dichlorophenol, 2,4-	0.2	0.2
Dichloropropane, 1,2-	0.05	0.1
Dichloropropene, 1,3-	0.1	0.1
Dieldrin	0.05	0.05
Diethyl Phthalate	0.56	0.56
Dimethylphthalate	0.5	0.5
Dimethylphenol, 2,4-	0.4	0.4
Dinitrophenol, 2,4-	4	4
Dinitrotoluene, 2,4 & 2,6-	1	1
Dioxane, 1,4	0.4	0.4
Dioxin/Furan (TEQ)	0.000013	0.000013
Endosulfan	0.04	0.04
Endrin	0.04	0.04
Ethylbenzene	0.1	0.1
Ethylene dibromide	0.1	0.1
Fluoranthene	1.4	1.4
Fluorene	0.38	0.38
Heptachlor	0.05	0.05
Heptachlor Epoxide	0.05	0.05
Hexachlorobenzene	0.04	0.04
Hexachlorobutadiene	0.02	0.02
Hexachlorocyclohexane Gamma-	0.02	0.02
Hexachloroethane	0.02	0.02
Hexane (n)	0.1	0.1
Indeno[1 2 3-cd]pyrene	0.46	0.46
Lead	120	240
Mercury	0.27	0.54
Methoxychlor	0.1	0.1
Methyl Ethyl Ketone	1	1
Methyl Isobutyl Ketone	1	1
Methyl Mercury **	NV	NV
Methyl tert-Butyl Ether (MTBE)	0.1	0.1
Methylene Chloride	0.1	0.1
Methylnaphthalene, 2-(1-) ***	0.99	1.2
Molybdenum	4	4
Naphthalene	0.18	0.18

Contaminant	Residential/ Parkland/Institutional/ Property Use	Industrial/Commercial/ Community Property Use
Nickel	160	160
Pentachlorophenol	0.1	0.1
Petroleum Hydrocarbons F1****	50	50
Petroleum Hydrocarbons F2	20	20
Petroleum Hydrocarbons F3	480	480
Petroleum Hydrocarbons F4	240	240
Phenanthrene	1.4	1.4
Phenol	1	1
Polychlorinated Biphenyls	0.35	0.6
Pyrene	2	2
Selenium	3	3
Silver	1	1
Styrene	0.1	0.1
Tetrachloroethane, 1,1,1,2-	0.1	0.1
Tetrachloroethane, 1,1,2,2-	0.1	0.1
Tetrachloroethylene	0.1	0.1
Thallium	1	2
Toluene	0.4	0.4
Trichlorobenzene, 1,2,4-	0.1	0.1
Trichloroethane, 1,1,1-	0.1	0.1
Trichloroethane, 1,1,2-	0.1	0.1
Trichloroethylene	0.05	0.05
Trichlorofluoromethane	0.5	0.5
Trichlorophenol, 2,4,5-	0.2	0.2
Trichlorophenol, 2,4,6-	0.2	0.2
Uranium	5	5
Vanadium	86	130
Vinyl Chloride	0.04	0.04
Xylene Mixture	0.1	0.1
Zinc	580	580
Electrical Conductivity (mS/cm)	1.4	1.4
Sodium Adsorption Ratio	10	10

Notes:

NV: No Value.

*: The boron ceiling values are for hot water soluble extract for all surface soils. For subsurface soils the ceiling values are for total boron (mixed strong acid digest), since plant protection for soils below the root zone is not a significant concern.

**: Analysis for methyl mercury only applies when mercury (total) excess soil standard is exceeded.

***: The methyl naphthalene ceiling values are applicable to both 1-methyl naphthalene and 2-methyl naphthalene, with the provision that if both are detected the sum of the two must not exceed the ceiling value.

****: F1 fraction does not include benzene, toluene, ethylbenzene and xylene (BTEX); however, the proponent has the choice as to whether or not to subtract BTEX from the analytical result.

TABLE 2.1: Ceiling Values for Full Depth Excess Soil in a Potable Ground Water Condition**Volume Independent**

(Unit in µg/g)

Contaminant	Agricultural or Other Property Use	Residential/ Parkland/Institutional Property Use	Industrial/Commercial/Community Property Use
Acenaphthene	4.1	4.1	4.1
Acenaphthylene	0.17	0.17	0.17
Acetone	1	1	1
Aldrin	0.05	0.05	0.088
Anthracene	0.12	0.32	0.32
Antimony	7.5	7.5	63
Arsenic	11	18	18
Barium	790	790	1300
Benzene	0.029	0.029	0.04
Benz[a]anthracene	1	1	1.8
Benzo[a]pyrene	0.63	0.63	0.63
Benzo[b]fluoranthene	6.4	6.4	6.4
Benzo[ghi]perylene	13	13	26
Benzo[k]fluoranthene	6.3	6.3	6.3
Beryllium	8	8	16
Biphenyl 1,1'-	0.05	0.05	0.05
Bis(2-chloroethyl)ether	0.5	0.5	0.5
Bis(2-chloroisopropyl)ether	0.5	0.5	0.5
Bis(2-ethylhexyl)phthalate	8	8	20
Boron (Hot Water Soluble)*	3	3	4
Boron (total)	230	230	230
Bromodichloromethane	0.05	0.05	0.05
Bromoform	0.1	0.1	0.1
Bromomethane	0.05	0.05	0.05
Cadmium	1.4	1.4	3.8
Carbon Tetrachloride	0.05	0.05	0.05
Chlordane	0.05	0.05	0.05
Chloroaniline p-	0.5	0.5	0.5
Chlorobenzene	0.083	0.083	0.083
Chloroform	0.097	0.097	0.097
Chlorophenol, 2-	0.19	0.19	0.19
Chromium Total	320	320	320
Chromium VI	16	16	16
Chrysene	14	14	19
Cobalt	22	22	160
Copper	200	200	450
Cyanide (CN-)	0.051	0.051	0.051
Dibenz[a h]anthracene	1.1	1.1	1.4
Dibromochloromethane	0.05	0.05	0.05
Dichlorobenzene, 1,2-	4.6	4.6	14
Dichlorobenzene, 1,3-	0.52	0.52	0.52
Dichlorobenzene, 1,4-	0.05	0.05	0.05
Dichlorobenzidine, 3,3'-	1	1	1

Contaminant	Agricultural or Other Property Use	Residential/ Parkland/Institutional Property Use	Industrial/Commercial/Community Property Use
Dichlorodifluoromethane	3.1	3.1	3.1
DDD	6.6	6.6	9.2
DDE	0.26	0.26	0.52
DDT	0.078	1.4	1.4
Dichloroethane, 1,1-	0.1	0.1	0.1
Dichloroethane, 1,2-	0.05	0.05	0.05
Dichloroethylene, 1,1-	0.05	0.05	0.05
Dichloroethylene, 1,2-cis-	0.05	0.05	0.05
Dichloroethylene, 1,2-trans-	0.05	0.05	0.05
Dichlorophenol, 2,4-	0.1	0.1	0.1
Dichloropropane, 1,2-	0.05	0.05	0.05
Dichloropropene, 1,3-	0.05	0.05	0.05
Dieldrin	0.05	0.05	0.088
Diethyl Phthalate	0.5	0.5	0.5
Dimethylphthalate	0.5	0.5	0.5
Dimethylphenol, 2,4-	0.86	0.86	0.86
Dinitrophenol, 2,4-	2	2	2
Dinitrotoluene, 2,4 & 2,6-	0.5	0.5	0.5
Dioxane, 1,4	0.2	0.2	0.2
Dioxin/Furan (TEQ)	0.000013	0.000013	0.000044
Endosulfan	0.04	0.04	0.04
Endrin	0.04	0.04	0.04
Ethylbenzene	0.05	0.05	0.05
Ethylene dibromide	0.05	0.05	0.05
Fluoranthene	1.4	1.4	5.7
Fluorene	14	14	14
Heptachlor	0.072	0.072	0.072
Heptachlor Epoxide	0.05	0.05	0.05
Hexachlorobenzene	0.034	0.034	0.034
Hexachlorobutadiene	0.02	0.02	0.02
Hexachlorocyclohexane Gamma-	0.01	0.01	0.01
Hexachloroethane	0.02	0.02	0.02
Hexane (n)	3.2	3.2	3.2
Indeno[1 2 3-cd]pyrene	0.76	0.76	1.5
Lead	90	120	250
Mercury	0.24	0.27	0.27
Methoxychlor	0.26	0.26	0.38
Methyl Ethyl Ketone	0.5	0.5	0.5
Methyl Isobutyl Ketone	0.5	0.5	0.5
Methyl Mercury **	0.00097	0.00097	0.00097
Methyl tert-Butyl Ether (MTBE)	0.05	0.05	0.05
Methylene Chloride	0.1	0.1	0.1
Methylnaphthalene, 2-(1-) ***	0.096	0.59	0.59
Molybdenum	14	14	80
Naphthalene	0.2	0.2	0.2
Nickel	200	200	540

Contaminant	Agricultural or Other Property Use	Residential/ Parkland/Institutional Property Use	Industrial/Commercial/Community Property Use
Pentachlorophenol	0.1	0.1	0.34
Petroleum Hydrocarbons F1****	17	25	50
Petroleum Hydrocarbons F2	16	16	52
Petroleum Hydrocarbons F3	480	480	480
Petroleum Hydrocarbons F4	5600	5600	6600
Phenanthrene	12	12	25
Phenol	4.9	4.9	4.9
Polychlorinated Biphenyls	0.35	0.35	1.1
Pyrene	56	56	56
Selenium	4.8	4.8	11
Silver	40	40	80
Styrene	0.05	0.05	0.05
Tetrachloroethane, 1,1,1,2-	0.059	0.059	0.1
Tetrachloroethane, 1,1,2,2-	0.05	0.05	0.05
Tetrachloroethylene	0.05	0.05	0.05
Thallium	1	1	3.3
Toluene	0.2	0.2	0.2
Trichlorobenzene, 1,2,4-	0.35	0.35	1
Trichloroethane, 1,1,1-	0.21	0.21	0.25
Trichloroethane, 1,1,2-	0.05	0.05	0.05
Trichloroethylene	0.05	0.05	0.05
Trichlorofluoromethane	0.34	0.51	0.51
Trichlorophenol, 2,4,5-	0.21	0.21	0.21
Trichlorophenol, 2,4,6-	8.8	8.8	20
Uranium	23	23	66
Vanadium	86	86	130
Vinyl Chloride	0.02	0.02	0.02
Xylene Mixture	0.091	0.091	0.091
Zinc	670	670	670
Electrical Conductivity (mS/cm)	1.4	1.4	2.8
Sodium Adsorption Ratio	10	10	24

Notes:

*: The boron ceiling values are for hot water soluble extract for all surface soils. For subsurface soils the ceiling values are for total boron (mixed strong acid digest), since plant protection for soils below the root zone is not a significant concern.

** : Analysis for methyl mercury only applies when mercury (total) standard is excess soil exceeded.

***: The methyl naphthalene ceiling values are applicable to both 1-methyl naphthalene and 2-methyl naphthalene, with the provision that if both are detected the sum of the two must not exceed the ceiling value.

****: F1 fraction does not include benzene, toluene, ethylbenzene and xylene (BTEX); however, the proponent has the choice as to whether or not to subtract BTEX from the analytical result.

TABLE 3.1: Ceiling Values for Full Depth Excess Soil in a Non-Potable Ground Water Condition**Volume Independent**

(Unit in µg/g)

Contaminant	Residential/Parkland/Institutional Property Use	Industrial/Commercial/Community Property Use
Acenaphthene	29	31
Acenaphthylene	0.17	0.17
Acetone	3.6	3.6
Aldrin	0.05	0.088
Anthracene	0.32	0.32
Antimony	7.5	63
Arsenic	18	18
Barium	790	1300
Benzene	0.029	0.069
Benz[a]anthracene	1	2
Benzo[a]pyrene	1.1	1.4
Benzo[b]fluoranthene	11	14
Benzo[ghi]perylene	13	26
Benzo[k]fluoranthene	11	14
Beryllium	8	16
Biphenyl 1,1'-	0.3	43
Bis(2-chloroethyl)ether	1	1
Bis(2-chloroisopropyl)ether	0.5	11
Bis(2-ethylhexyl)phthalate	8	55
Boron (Hot Water Soluble)*	3	4
Boron (total)	230	230
Bromodichloromethane	12	12
Bromoform	4.2	4.9
Bromomethane	0.05	0.05
Cadmium	1.4	3.8
Carbon Tetrachloride	0.05	0.05
Chlordane	0.05	0.05
Chloroaniline p-	0.51	0.51
Chlorobenzene	0.55	0.55
Chloroform	0.16	0.51
Chlorophenol, 2-	3.1	4.7
Chromium Total	320	320
Chromium VI	16	16
Chrysene	14	28
Cobalt	22	160
Copper	200	450
Cyanide (CN-)	0.051	0.051
Dibenz[a h]anthracene	1.1	1.4
Dibromochloromethane	11	11
Dichlorobenzene, 1,2-	4.6	14
Dichlorobenzene, 1,3-	9.6	14

Contaminant	Residential/Parkland/Institutional Property Use	Industrial/Commercial/Community Property Use
Dichlorobenzene, 1,4-	0.1	0.1
Dichlorobenzidine, 3,3'-	2	2
Dichlorodifluoromethane	3.7	3.7
DDD	6.6	9.2
DDE	0.26	0.52
DDT	1.4	1.4
Dichloroethane, 1,1-	0.18	0.72
Dichloroethane, 1,2-	0.05	0.081
Dichloroethylene, 1,1-	0.05	0.05
Dichloroethylene, 1,2-cis-	0.1	0.1
Dichloroethylene, 1,2-trans-	0.05	0.05
Dichlorophenol, 2,4-	3.4	6.7
Dichloropropane, 1,2-	0.05	0.061
Dichloropropene, 1,3-	0.076	0.1
Dieldrin	0.05	0.088
Diethyl Phthalate	0.5	0.5
Dimethylphthalate	0.5	0.5
Dimethylphenol, 2,4-	90	90
Dinitrophenol, 2,4-	13	13
Dinitrotoluene, 2,4 & 2,6-	1.8	2.3
Dioxane, 1,4	3.6	3.6
Dioxin/Furan (TEQ)	0.000013	0.000099
Endosulfan	0.04	0.04
Endrin	0.04	0.04
Ethylbenzene	2.8	3.8
Ethylene dibromide	0.05	0.05
Fluoranthene	1.4	140
Fluorene	14	14
Heptachlor	0.072	0.072
Heptachlor Epoxide	0.05	0.05
Hexachlorobenzene	1	1.3
Hexachlorobutadiene	0.02	0.02
Hexachlorocyclohexane Gamma-	0.01	0.01
Hexachloroethane	0.02	0.26
Hexane (n)	3.2	3.2
Indeno[1 2 3-cd]pyrene	0.76	1.5
Lead	120	250
Mercury	0.27	0.27
Methoxychlor	0.26	0.38
Methyl Ethyl Ketone	14	52
Methyl Isobutyl Ketone	0.89	25
Methyl Mercury **	0.00097	0.00097
Methyl tert-Butyl Ether (MTBE)	0.1	0.1
Methylene Chloride	0.12	0.39

Contaminant	Residential/Parkland/Institutional Property Use	Industrial/Commercial/Community Property Use
Methylnaphthalene, 2-(1-) ***	0.92	17
Molybdenum	14	80
Naphthalene	1.2	3.5
Nickel	200	540
Pentachlorophenol	0.1	0.34
Petroleum Hydrocarbons F1****	25	50
Petroleum Hydrocarbons F2	16	52
Petroleum Hydrocarbons F3	600	3400
Petroleum Hydrocarbons F4	5600	6600
Phenanthrene	12	25
Phenol	11	11
Polychlorinated Biphenyls	0.35	1.1
Pyrene	140	140
Selenium	4.8	11
Silver	40	80
Styrene	0.5	14
Tetrachloroethane, 1,1,1,2-	0.059	0.1
Tetrachloroethane, 1,1,2,2-	0.093	0.1
Tetrachloroethylene	0.05	0.05
Thallium	1	3.3
Toluene	0.99	16
Trichlorobenzene, 1,2,4-	0.35	2.6
Trichloroethane, 1,1,1-	0.21	0.79
Trichloroethane, 1,1,2-	0.093	0.1
Trichloroethylene	0.05	0.05
Trichlorofluoromethane	0.91	0.91
Trichlorophenol, 2,4,5-	6.2	6.2
Trichlorophenol, 2,4,6-	0.86	0.86
Uranium	23	66
Vanadium	86	130
Vinyl Chloride	0.02	0.02
Xylene Mixture	1.8	6
Zinc	670	670
Electrical Conductivity (mS/cm)	1.4	2.8
Sodium Adsorption Ratio	10	24

Notes:

*: The boron ceiling values are for hot water soluble extract for all surface soils. For subsurface soils the ceiling values are for total boron (mixed strong acid digest), since plant protection for soils below the root zone is not a significant concern.

** : Analysis for methyl mercury only applies when mercury (total) excess soil standard is exceeded.

***: The methyl naphthalene ceiling values are applicable to both 1-methyl naphthalene and 2-methyl naphthalene, with the provision that if both are detected the sum of the two must not exceed the ceiling value.

****: F1 fraction does not include benzene, toluene, ethylbenzene and xylene (BTEX); however, the proponent has the choice as to whether or not to subtract BTEX from the analytical result.

TABLE 4.1: Ceiling Values for Stratified Excess Soil in a Potable Ground Water Condition

Volume Independent
(Unit in µg/g)

Contaminant	Residential/Parkland/Institutional Property Use		Industrial/Commercial/Community Property Use	
	Surface Soil	Subsurface Soil	Surface Soil	Subsurface Soil
Acenaphthene	4.1	4.1	4.1	4.1
Acenaphthylene	0.17	0.17	0.17	0.17
Acetone	1	1	1	1
Aldrin	0.05	0.47	0.088	0.47
Anthracene	0.32	0.32	0.32	0.32
Antimony	7.5	63	63	130
Arsenic	18	18	18	78
Barium	790	7700	1300	7700
Benzene	0.029	0.029	0.04	0.04
Benz[a]anthracene	1	1.8	1.8	1.8
Benzo[a]pyrene	0.63	0.63	0.63	0.63
Benzo[b]fluoranthene	6.4	6.4	6.4	6.4
Benzo[ghi]perylene	13	140	26	210
Benzo[k]fluoranthene	6.3	6.3	6.3	6.3
Beryllium	8	120	16	120
Biphenyl 1,1'-	0.05	0.05	0.05	0.05
Bis(2-chloroethyl)ether	0.5	0.5	0.5	0.5
Bis(2-chloroisopropyl)ether	0.5	0.5	0.5	0.5
Bis(2-ethylhexyl)phthalate	8	20	20	20
Boron (Hot Water Soluble)*	3	NA	4	NA
Boron (total)	NA	5000	NA	5000
Bromodichloromethane	0.05	0.05	0.05	0.05
Bromoform	0.1	0.1	0.1	0.1
Bromomethane	0.05	0.05	0.05	0.05
Cadmium	1.4	16	3.8	16
Carbon Tetrachloride	0.05	0.05	0.05	0.05
Chlordane	0.05	1.6	0.05	3.4
Chloroaniline p-	0.5	0.5	0.5	0.5
Chlorobenzene	0.083	0.083	0.083	0.083
Chloroform	0.097	0.097	0.097	0.097
Chlorophenol, 2-	0.19	0.19	0.19	0.19
Chromium Total	320	11000	320	11000
Chromium VI	16	80	16	80
Chrysene	14	19	19	19
Cobalt	22	250	160	2500
Copper	200	1900	450	1900
Cyanide (CN-)	0.051	0.051	0.051	0.051
Dibenz[a h]anthracene	1.1	1.4	1.4	2.1
Dibromochloromethane	0.05	0.05	0.05	0.05
Dichlorobenzene, 1,2-	4.6	9.8	14	14
Dichlorobenzene, 1,3-	0.52	0.52	0.52	0.52
Dichlorobenzene, 1,4-	0.05	0.05	0.05	0.05

Contaminant	Residential/Parkland/Institutional Property Use		Industrial/Commercial/Community Property Use	
	Surface Soil	Subsurface Soil	Surface Soil	Subsurface Soil
Dichlorobenzidine, 3,3'-	1	1	1	1
Dichlorodifluoromethane	3.1	3.1	3.1	3.1
DDD	6.6	9.2	9.2	15
DDE	0.26	6.5	0.52	15
DDT	1.4	6.5	1.4	22
Dichloroethane, 1,1-	0.1	0.1	0.1	0.1
Dichloroethane, 1,2-	0.05	0.05	0.05	0.05
Dichloroethylene, 1,1-	0.05	0.05	0.05	0.05
Dichloroethylene, 1,2-cis-	0.05	0.05	0.05	0.05
Dichloroethylene, 1,2-trans-	0.05	0.05	0.05	0.05
Dichlorophenol, 2,4-	0.1	0.1	0.1	0.1
Dichloropropane, 1,2-	0.05	0.05	0.05	0.05
Dichloropropene, 1,3-	0.05	0.05	0.05	0.05
Dieldrin	0.05	7.9	0.088	12
Diethyl Phthalate	0.5	0.5	0.5	0.5
Dimethylphthalate	0.5	0.5	0.5	0.5
Dimethylphenol, 2,4-	0.86	0.86	0.86	0.86
Dinitrophenol, 2,4-	2	2	2	2
Dinitrotoluene, 2,4 & 2,6-	0.5	0.5	0.5	0.5
Dioxane, 1,4	0.2	0.2	0.2	0.2
Dioxin/Furan (TEQ)	0.000013	0.000044	0.000044	0.000044
Endosulfan	0.04	0.04	0.04	0.04
Endrin	0.04	7.8	0.04	7.8
Ethylbenzene	0.05	0.05	0.05	0.05
Ethylene dibromide	0.05	0.05	0.05	0.05
Fluoranthene	1.4	5.7	5.7	5.7
Fluorene	14	14	14	14
Heptachlor	0.072	0.072	0.072	0.072
Heptachlor Epoxide	0.05	0.05	0.05	0.05
Hexachlorobenzene	0.034	0.034	0.034	0.034
Hexachlorobutadiene	0.02	0.02	0.02	0.02
Hexachlorocyclohexane Gamma-	0.01	0.01	0.01	0.01
Hexachloroethane	0.02	0.02	0.02	0.02
Hexane (n)	3.2	3.2	3.2	3.2
Indeno[1 2 3-cd]pyrene	0.76	14	1.5	21
Lead	120	1000	250	1000
Mercury	0.27	0.27	0.27	1.9
Methoxychlor	0.26	0.38	0.38	0.39
Methyl Ethyl Ketone	0.5	0.5	0.5	0.5
Methyl Isobutyl Ketone	0.5	0.5	0.5	0.5
Methyl Mercury **	0.00097	0.00097	0.00097	0.00097
Methyl tert-Butyl Ether (MTBE)	0.05	0.05	0.05	0.05
Methylene Chloride	0.1	0.1	0.1	0.1
Methylnaphthalene, 2-(1-) ***	0.59	0.59	0.59	0.59
Molybdenum	14	1200	80	2500

Contaminant	Residential/Parkland/Institutional Property Use		Industrial/Commercial/Community Property Use	
	Surface Soil	Subsurface Soil	Surface Soil	Subsurface Soil
Naphthalene	0.2	0.2	0.2	0.2
Nickel	200	1000	540	1000
Pentachlorophenol	0.1	0.34	0.34	0.34
Petroleum Hydrocarbons F1****	25	25	50	50
Petroleum Hydrocarbons F2	16	16	52	52
Petroleum Hydrocarbons F3	480	480	480	480
Petroleum Hydrocarbons F4	5600	6900	6600	6900
Phenanthrene	12	46	25	46
Phenol	4.9	4.9	4.9	4.9
Polychlorinated Biphenyls	0.35	2.7	1.1	7.3
Pyrene	56	56	56	56
Selenium	4.8	1200	11	2500
Silver	40	490	80	980
Styrene	0.05	0.05	0.05	0.05
Tetrachloroethane, 1,1,1,2-	0.059	0.059	0.1	0.1
Tetrachloroethane, 1,1,2,2-	0.05	0.05	0.05	0.05
Tetrachloroethylene	0.05	0.05	0.05	0.05
Thallium	1	3.3	3.3	33
Toluene	0.2	0.2	0.2	0.2
Trichlorobenzene, 1,2,4-	0.35	0.35	1	1
Trichloroethane, 1,1,1-	0.21	0.21	0.25	0.25
Trichloroethane, 1,1,2-	0.05	0.05	0.05	0.05
Trichloroethylene	0.05	0.05	0.05	0.05
Trichlorofluoromethane	0.51	0.51	0.51	0.51
Trichlorophenol, 2,4,5-	0.21	0.21	0.21	0.21
Trichlorophenol, 2,4,6-	8.8	24	20	24
Uranium	23	300	66	300
Vanadium	86	160	130	330
Vinyl Chloride	0.02	0.02	0.02	0.02
Xylene Mixture	0.091	0.091	0.091	0.091
Zinc	670	15000	670	15000
Electrical Conductivity (mS/cm)	1.4	1.4	2.8	2.8
Sodium Adsorption Ratio	10	10	24	24

Notes:

NA: Not Applicable.

*: The boron ceiling values are for hot water soluble extract for all surface soils. For subsurface soils the ceiling values are for total boron (mixed strong acid digest), since plant protection for soils below the root zone is not a significant concern.

**: Analysis for methyl mercury only applies when mercury (total) excess soil standard is exceeded.

***: The methyl naphthalene ceiling values are applicable to both 1-methyl naphthalene and 2- methyl naphthalene, with the provision that if both are detected the sum of the two must not exceed the ceiling value.

****: F1 fraction does not include benzene, toluene, ethylbenzene and xylene (BTEX); however, the proponent has the choice as to whether or not to subtract BTEX from the analytical result.

TABLE 5.1: Ceiling Values for Stratified Excess Soil in a Non-Potable Ground Water Condition

Volume Independent
(Unit in µg/g)

Contaminant	Residential/Parkland/Institutional Property Use		Industrial/Commercial/Community Property Use	
	Surface Soil	Subsurface Soil	Surface Soil	Subsurface Soil
Acenaphthene	29	29	31	130
Acenaphthylene	0.17	0.17	0.17	0.17
Acetone	3.6	3.6	3.6	3.6
Aldrin	0.05	6.4	0.088	13
Anthracene	0.32	0.32	0.32	0.32
Antimony	7.5	63	63	130
Arsenic	18	18	18	78
Barium	790	7700	1300	7700
Benzene	0.029	0.029	0.069	0.15
Benz[a]anthracene	1	14	2	520
Benzo[a]pyrene	1.1	1.4	1.4	34
Benzo[b]fluoranthene	11	14	14	520
Benzo[ghi]perylene	13	140	26	5200
Benzo[k]fluoranthene	11	14	14	520
Beryllium	8	120	16	120
Biphenyl 1,1'-	0.3	11	43	43
Bis(2-chloroethyl)ether	1	1	1	21
Bis(2-chloroisopropyl)ether	0.5	11	11	11
Bis(2-ethylhexyl)phthalate	8	7100	55	7100
Boron (Hot Water Soluble)*	3	NA	4	NA
Boron (total)	NA	5000	NA	5000
Bromodichloromethane	12	12	12	12
Bromoform	4.2	4.9	4.9	4.9
Bromomethane	0.05	0.05	0.05	0.05
Cadmium	1.4	16	3.8	16
Carbon Tetrachloride	0.05	0.05	0.05	0.05
Chlordane	0.05	1.6	0.05	3.4
Chloroaniline p-	0.51	0.51	0.51	0.51
Chlorobenzene	0.55	0.55	0.55	0.55
Chloroform	0.16	0.16	0.51	0.51
Chlorophenol, 2-	3.1	4.7	4.7	4.7
Chromium Total	320	11000	320	11000
Chromium VI	16	80	16	80
Chrysene	14	140	28	5200
Cobalt	22	250	160	2500
Copper	200	1900	450	1900
Cyanide (CN-)	0.051	0.051	0.051	0.051
Dibenz[a h]anthracene	1.1	1.4	1.4	52
Dibromochloromethane	11	11	11	11
Dichlorobenzene, 1,2-	4.6	9.8	14	14
Dichlorobenzene, 1,3-	9.6	14	14	14
Dichlorobenzene, 1,4-	0.1	0.1	0.1	0.1

Contaminant	Residential/Parkland/Institutional Property Use		Industrial/Commercial/Community Property Use	
	Surface Soil	Subsurface Soil	Surface Soil	Subsurface Soil
Dichlorobenzidine, 3,3'-	2	2	2	15
Dichlorodifluoromethane	3.7	3.7	3.7	3.7
DDD	6.6	9.2	9.2	110
DDE	0.26	6.5	0.52	110
DDT	1.4	6.5	1.4	110
Dichloroethane, 1,1-	0.18	0.18	0.72	0.72
Dichloroethane, 1,2-	0.05	0.05	0.081	0.081
Dichloroethylene, 1,1-	0.05	0.05	0.05	0.05
Dichloroethylene, 1,2-cis-	0.1	0.1	0.1	0.1
Dichloroethylene, 1,2-trans-	0.05	0.05	0.05	0.05
Dichlorophenol, 2,4-	3.4	11	6.7	11
Dichloropropane, 1,2-	0.05	0.05	0.061	0.061
Dichloropropene, 1,3-	0.076	0.076	0.1	0.1
Dieldrin	0.05	7.9	0.088	12
Diethyl Phthalate	0.5	0.5	0.5	0.5
Dimethylphthalate	0.5	0.5	0.5	0.5
Dimethylphenol, 2,4-	90	90	90	90
Dinitrophenol, 2,4-	13	13	13	13
Dinitrotoluene, 2,4 & 2,6-	1.8	2.3	2.3	3.4
Dioxane, 1,4	3.6	180	3.6	180
Dioxin/Furan (TEQ)	0.000013	0.00065	0.000099	0.0088
Endosulfan	0.04	0.04	0.04	0.04
Endrin	0.04	7.8	0.04	7.8
Ethylbenzene	2.8	3.8	3.8	3.8
Ethylene dibromide	0.05	0.05	0.05	0.05
Fluoranthene	1.4	140	140	2100
Fluorene	14	14	14	14
Heptachlor	0.072	0.072	0.072	0.072
Heptachlor Epoxide	0.05	0.05	0.05	0.05
Hexachlorobenzene	1	1.3	1.3	1.6
Hexachlorobutadiene	0.02	0.02	0.02	0.02
Hexachlorocyclohexane Gamma-	0.01	0.01	0.01	0.01
Hexachloroethane	0.02	0.02	0.26	0.44
Hexane (n)	3.2	3.2	3.2	3.2
Indeno[1 2 3-cd]pyrene	0.76	14	1.5	520
Lead	120	1000	250	1000
Mercury	0.27	0.27	0.27	1.9
Methoxychlor	0.26	0.38	0.38	0.39
Methyl Ethyl Ketone	14	32	52	52
Methyl Isobutyl Ketone	0.89	6.6	25	25
Methyl Mercury **	0.00097	0.00097	0.00097	0.00097
Methyl tert-Butyl Ether (MTBE)	0.1	0.1	0.1	0.1
Methylene Chloride	0.12	0.12	0.39	0.39
Methylnaphthalene, 2-(1-) ***	0.92	17	17	17
Molybdenum	14	1200	80	2500

Contaminant	Residential/Parkland/Institutional Property Use		Industrial/Commercial/Community Property Use	
	Surface Soil	Subsurface Soil	Surface Soil	Subsurface Soil
Naphthalene	1.2	1.2	3.5	46
Nickel	200	1000	540	1000
Pentachlorophenol	0.1	0.34	0.34	0.34
Petroleum Hydrocarbons F1****	25	25	50	50
Petroleum Hydrocarbons F2	16	16	52	52
Petroleum Hydrocarbons F3	600	5800	3400	5800
Petroleum Hydrocarbons F4	5600	6900	6600	6900
Phenanthrene	12	46	25	46
Phenol	11	11	11	11
Polychlorinated Biphenyls	0.35	2.7	1.1	7.3
Pyrene	140	140	140	140
Selenium	4.8	1200	11	2500
Silver	40	490	80	980
Styrene	0.5	3.2	14	14
Tetrachloroethane, 1,1,1,2-	0.059	0.059	0.1	0.1
Tetrachloroethane, 1,1,2,2-	0.093	0.093	0.1	0.1
Tetrachloroethylene	0.05	0.05	0.05	0.05
Thallium	1	3.3	3.3	33
Toluene	0.99	9	16	16
Trichlorobenzene, 1,2,4-	0.35	0.35	2.6	2.6
Trichloroethane, 1,1,1-	0.21	0.21	0.79	0.79
Trichloroethane, 1,1,2-	0.093	0.093	0.1	0.1
Trichloroethylene	0.05	0.05	0.05	0.05
Trichlorofluoromethane	0.91	0.91	0.91	0.91
Trichlorophenol, 2,4,5-	6.2	6.2	6.2	6.2
Trichlorophenol, 2,4,6-	0.86	0.86	0.86	0.86
Uranium	23	300	66	300
Vanadium	86	160	130	330
Vinyl Chloride	0.02	0.02	0.02	0.02
Xylene Mixture	1.8	1.8	6	6
Zinc	670	15000	670	15000
Electrical Conductivity (mS/cm)	1.4	1.4	2.8	2.8
Sodium Adsorption Ratio	10	10	24	24

Notes:

NA: Not Applicable.

*: The boron ceiling values are for hot water soluble extract for all surface soils. For subsurface soils the ceiling values are for total boron (mixed strong acid digest), since plant protection for soils below the root zone is not a significant concern.

**: Analysis for methyl mercury only applies when mercury (total) excess soil standard is exceeded.

***: The methyl naphthalene ceiling values are applicable to both 1-methyl naphthalene and 2- methyl naphthalene, with the provision that if both are detected the sum of the two must not exceed the ceiling value.

****: F1 fraction does not include benzene, toluene, ethylbenzene and xylene (BTEX); however, the proponent has the choice as to whether or not to subtract BTEX from the analytical result.

TABLE 6.1: Ceiling Values for Full Depth Excess Soil in Shallow Soils in a Potable Ground Water Condition**Volume Independent**

(Unit in µg/g)

Contaminant	Agricultural or Other Property Use	Residential/ Parkland/ Institutional Property Use	Industrial/ Commercial/ Community Property Use
Acenaphthene	3.8	3.8	3.8
Acenaphthylene	0.17	0.17	0.17
Acetone	1	1	1
Aldrin	0.05	0.05	0.088
Anthracene	0.1	0.32	0.32
Antimony	7.5	7.5	63
Arsenic	11	18	18
Barium	790	790	1300
Benzene	0.02	0.02	0.02
Benz[a]anthracene	1	1	1.7
Benzo[a]pyrene	0.63	0.63	0.63
Benzo[b]fluoranthene	6.4	6.4	6.4
Benzo[ghi]perylene	2.1	2.1	2.1
Benzo[k]fluoranthene	4.4	4.4	4.4
Beryllium	8	8	16
Biphenyl 1,1'-	0.05	0.05	0.05
Bis(2-chloroethyl)ether	0.5	0.5	0.5
Bis(2-chloroisopropyl)ether	0.5	0.5	0.5
Bis(2-ethylhexyl)phthalate	8	8	20
Boron (Hot Water Soluble)*	3	3	4
Boron (total)	230	230	230
Bromodichloromethane	0.05	0.05	0.05
Bromoform	0.1	0.1	0.1
Bromomethane	0.05	0.05	0.05
Cadmium	1.4	1.4	3.8
Carbon Tetrachloride	0.05	0.05	0.05
Chlordane	0.05	0.05	0.05
Chloroaniline p-	0.5	0.5	0.5
Chlorobenzene	0.083	0.083	0.083
Chloroform	0.05	0.05	0.05
Chlorophenol, 2-	0.19	0.19	0.19
Chromium Total	320	320	320
Chromium VI	16	16	16
Chrysene	0.66	3.3	3.3
Cobalt	22	22	160
Copper	200	200	450
Cyanide (CN-)	0.051	0.051	0.051
Dibenz[a h]anthracene	1.1	1.1	1.4
Dibromochloromethane	0.05	0.05	0.05
Dichlorobenzene, 1,2-	4.6	4.6	14
Dichlorobenzene, 1,3-	0.52	0.52	0.52
Dichlorobenzene, 1,4-	0.05	0.05	0.05

Contaminant	Agricultural or Other Property Use	Residential/ Parkland/Instituti onal Property Use	Industrial/ Commercial/Com munity Property Use
Dichlorobenzidine, 3,3'-	1	1	1
Dichlorodifluoromethane	3.1	3.1	3.1
DDD	0.55	0.55	0.55
DDE	0.26	0.26	0.52
DDT	0.078	1.4	1.4
Dichloroethane, 1,1-	0.05	0.05	0.05
Dichloroethane, 1,2-	0.05	0.05	0.05
Dichloroethylene, 1,1-	0.05	0.05	0.05
Dichloroethylene, 1,2-cis-	0.05	0.05	0.05
Dichloroethylene, 1,2-trans-	0.05	0.05	0.05
Dichlorophenol, 2,4-	0.1	0.1	0.1
Dichloropropane, 1,2-	0.05	0.05	0.05
Dichloropropene, 1,3-	0.05	0.05	0.05
Dieldrin	0.05	0.05	0.088
Diethyl Phthalate	0.5	0.5	0.5
Dimethylphthalate	0.5	0.5	0.5
Dimethylphenol, 2,4-	0.86	0.86	0.86
Dinitrophenol, 2,4-	2	2	2
Dinitrotoluene, 2,4 & 2,6-	0.5	0.5	0.5
Dioxane, 1,4	0.2	0.2	0.2
Dioxin/Furan (TEQ)	0.000013	0.000013	0.000029
Endosulfan	0.04	0.04	0.04
Endrin	0.04	0.04	0.04
Ethylbenzene	0.05	0.05	0.05
Ethylene dibromide	0.05	0.05	0.05
Fluoranthene	1.4	1.4	5.7
Fluorene	13	13	13
Heptachlor	0.05	0.05	0.05
Heptachlor Epoxide	0.05	0.05	0.05
Hexachlorobenzene	0.034	0.034	0.034
Hexachlorobutadiene	0.012	0.012	0.012
Hexachlorocyclohexane Gamma-	0.01	0.01	0.01
Hexachloroethane	0.02	0.02	0.02
Hexane (n)	0.05	0.05	0.05
Indeno[1 2 3-cd]pyrene	0.76	0.76	1.5
Lead	90	120	250
Mercury	0.16	0.27	0.27
Methoxychlor	0.1	0.1	0.1
Methyl Ethyl Ketone	0.5	0.5	0.5
Methyl Isobutyl Ketone	0.5	0.5	0.5
Methyl Mercury **	0.00097	0.00097	0.00097
Methyl tert-Butyl Ether (MTBE)	0.05	0.05	0.05
Methylene Chloride	0.07	0.07	0.07
Methylnaphthalene, 2-(1-) ***	0.096	0.59	0.59
Molybdenum	14	14	80
Naphthalene	0.16	0.18	0.18

Contaminant	Agricultural or Other Property Use	Residential/ Parkland/Instituti onal Property Use	Industrial/ Commercial/Com munity Property Use
Nickel	200	200	540
Pentachlorophenol	0.1	0.1	0.34
Petroleum Hydrocarbons F1****	17	25	25
Petroleum Hydrocarbons F2	10	10	10
Petroleum Hydrocarbons F3	480	480	480
Petroleum Hydrocarbons F4	5600	5600	6600
Phenanthrene	12	12	25
Phenol	4.9	4.9	4.9
Polychlorinated Biphenyls	0.3	0.3	0.3
Pyrene	1.6	2.1	2.1
Selenium	4.8	4.8	11
Silver	40	40	80
Styrene	0.05	0.05	0.05
Tetrachloroethane, 1,1,1,2-	0.05	0.05	0.05
Tetrachloroethane, 1,1,2,2-	0.05	0.05	0.05
Tetrachloroethylene	0.05	0.05	0.05
Thallium	1	1	3.3
Toluene	0.2	0.2	0.2
Trichlorobenzene, 1,2,4-	0.1	0.1	0.1
Trichloroethane, 1,1,1-	0.071	0.071	0.071
Trichloroethane, 1,1,2-	0.05	0.05	0.05
Trichloroethylene	0.05	0.05	0.05
Trichlorofluoromethane	0.34	0.51	0.51
Trichlorophenol, 2,4,5-	0.21	0.21	0.21
Trichlorophenol, 2,4,6-	8.8	8.8	20
Uranium	23	23	66
Vanadium	86	86	130
Vinyl Chloride	0.02	0.02	0.02
Xylene Mixture	0.091	0.091	0.091
Zinc	670	670	670
Electrical Conductivity (mS/cm)	1.4	1.4	2.8
Sodium Adsorption Ratio	10	10	24

Notes:

*: The boron ceiling values are for hot water soluble extract for all surface soils. For subsurface soils the ceiling values are for total boron (mixed strong acid digest), since plant protection for soils below the root zone is not a significant concern.

** : Analysis for methyl mercury only applies when mercury (total) excess soil standard is exceeded.

*** : The methyl naphthalene ceiling values are applicable to both 1-methyl naphthalene and 2-methyl naphthalene, with the provision that if both are detected the sum of the two must not exceed the ceiling value.

**** : F1 fraction does not include benzene, toluene, ethylbenzene and xylene (BTEX); however, the proponent has the choice as to whether or not to subtract BTEX from the analytical result.

TABLE 7.1: Ceiling Values for Full Depth Excess Soil in Shallow Soils in a Non-Potable Ground Water Condition**Volume Independent**(Unit in $\mu\text{g/g}$)

Contaminant	Residential/Parkland/Institutional Property Use	Industrial/Commercial/Community Property Use
Acenaphthene	3.8	3.8
Acenaphthylene	0.17	0.17
Acetone	3.6	3.6
Aldrin	0.05	0.088
Anthracene	0.32	0.32
Antimony	7.5	63
Arsenic	18	18
Barium	790	1300
Benzene	0.02	0.02
Benz[a]anthracene	1	1.7
Benzo[a]pyrene	1.1	1.4
Benzo[b]fluoranthene	11	14
Benzo[ghi]perylene	2.1	2.1
Benzo[k]fluoranthene	4.4	4.4
Beryllium	8	16
Biphenyl 1,1'-	0.3	43
Bis(2-chloroethyl)ether	1	1
Bis(2-chloroisopropyl)ether	0.5	11
Bis(2-ethylhexyl)phthalate	8	20
Boron (Hot Water Soluble)*	3	4
Boron (total)	230	230
Bromodichloromethane	12	12
Bromoform	4.2	4.9
Bromomethane	0.05	0.05
Cadmium	1.4	3.8
Carbon Tetrachloride	0.05	0.05
Chlordane	0.05	0.05
Chloroaniline p-	0.51	0.51
Chlorobenzene	0.55	0.55
Chloroform	0.05	0.05
Chlorophenol, 2-	3.1	4.7
Chromium Total	320	320
Chromium VI	16	16
Chrysene	3.3	3.3
Cobalt	22	160
Copper	200	450
Cyanide (CN-)	0.051	0.051
Dibenz[a h]anthracene	1.1	1.4
Dibromochloromethane	11	11
Dichlorobenzene, 1,2-	1.4	1.4

Contaminant	Residential/Parkland/Institutional Property Use	Industrial/Commercial/Community Property Use
Dichlorobenzene, 1,3-	9.6	14
Dichlorobenzene, 1,4-	0.1	0.1
Dichlorobenzidine, 3,3'-	2	2
Dichlorodifluoromethane	3.7	3.7
DDD	0.55	0.55
DDE	0.26	0.52
DDT	1.4	1.4
Dichloroethane, 1,1-	0.18	2.9
Dichloroethane, 1,2-	0.05	0.05
Dichloroethylene, 1,1-	0.05	0.05
Dichloroethylene, 1,2-cis-	0.05	0.05
Dichloroethylene, 1,2-trans-	0.05	0.05
Dichlorophenol, 2,4-	3.4	6.7
Dichloropropane, 1,2-	0.05	0.05
Dichloropropene, 1,3-	0.05	0.05
Dieldrin	0.05	0.088
Diethyl Phthalate	0.5	0.5
Dimethylphthalate	0.5	0.5
Dimethylphenol, 2,4-	90	90
Dinitrophenol, 2,4-	13	13
Dinitrotoluene, 2,4 & 2,6-	1.8	2.3
Dioxane, 1,4	3.6	3.6
Dioxin/Furan (TEQ)	0.000013	0.000029
Endosulfan	0.04	0.04
Endrin	0.04	0.04
Ethylbenzene	1.2	1.2
Ethylene dibromide	0.05	0.05
Fluoranthene	1.4	21
Fluorene	13	13
Heptachlor	0.05	0.05
Heptachlor Epoxide	0.05	0.05
Hexachlorobenzene	1	1.3
Hexachlorobutadiene	0.012	0.012
Hexachlorocyclohexane Gamma-	0.01	0.01
Hexachloroethane	0.02	0.02
Hexane (n)	0.05	0.05
Indeno[1 2 3-cd]pyrene	0.76	1.5
Lead	120	250
Mercury	0.27	0.27
Methoxychlor	0.1	0.1
Methyl Ethyl Ketone	4.5	4.5
Methyl Isobutyl Ketone	0.89	1.9
Methyl Mercury **	0.00097	0.00097
Methyl tert-Butyl Ether (MTBE)	0.1	0.1
Methylene Chloride	0.07	0.073

Contaminant	Residential/Parkland/Institutional Property Use	Industrial/Commercial/Community Property Use
Methylnaphthalene, 2-(1-) ***	0.92	17
Molybdenum	14	80
Naphthalene	0.18	0.18
Nickel	200	540
Pentachlorophenol	0.1	0.34
Petroleum Hydrocarbons F1****	25	25
Petroleum Hydrocarbons F2	10	10
Petroleum Hydrocarbons F3	600	3400
Petroleum Hydrocarbons F4	5600	6600
Phenanthrene	12	25
Phenol	11	11
Polychlorinated Biphenyls	0.3	0.3
Pyrene	2.1	2.1
Selenium	4.8	11
Silver	40	80
Styrene	0.45	0.45
Tetrachloroethane, 1,1,1,2-	0.05	0.05
Tetrachloroethane, 1,1,2,2-	0.05	0.05
Tetrachloroethylene	0.05	0.05
Thallium	1	3.3
Toluene	0.99	1.8
Trichlorobenzene, 1,2,4-	0.1	0.1
Trichloroethane, 1,1,1-	0.071	0.071
Trichloroethane, 1,1,2-	0.05	0.05
Trichloroethylene	0.05	0.05
Trichlorofluoromethane	0.91	0.91
Trichlorophenol, 2,4,5-	6.2	6.2
Trichlorophenol, 2,4,6-	0.86	0.86
Uranium	23	66
Vanadium	86	130
Vinyl Chloride	0.02	0.02
Xylene Mixture	0.24	0.24
Zinc	670	670
Electrical Conductivity (mS/cm)	1.4	2.8
Sodium Adsorption Ratio	10	24

Notes:

*: The boron ceiling values are for hot water soluble extract for all surface soils. For subsurface soils the ceiling values are for total boron (mixed strong acid digest), since plant protection for soils below the root zone is not a significant concern.

** : Analysis for methyl mercury only applies when mercury (total) excess soil standard is exceeded.

*** : The methyl naphthalene ceiling values are applicable to both 1-methyl naphthalene and 2-methyl naphthalene, with the provision that if both are detected the sum of the two must not exceed the ceiling value.

**** : F1 fraction does not include benzene, toluene, ethylbenzene and xylene (BTEX); however, the proponent has the choice as to whether or not to subtract BTEX from the analytical result.

TABLE 8.1: Ceiling Values for Full Depth Excess Soil for Use within 30 m of A Water Body in a Potable Ground Water Condition

Volume Independent

(Unit in µg/g)

Contaminant	Agricultural or Other Property Use	Residential/ Parkland/Institutional Property Use	Industrial/Commercial/Community Property Use
Acenaphthene	0.1	0.14	0.14
Acenaphthylene	0.17	0.17	0.17
Acetone	1	1	1
Aldrin	0.05	0.05	0.05
Anthracene	0.1	0.32	0.32
Antimony	2	2.6	2.6
Arsenic	11	18	18
Barium	390	430	430
Benzene	0.029	0.029	0.04
Benz[a]anthracene	0.64	0.72	0.72
Benzo[a]pyrene	0.63	0.63	0.63
Benzo[b]fluoranthene	0.59	0.94	0.94
Benzo[ghi]perylene	0.4	1.4	1.4
Benzo[k]fluoranthene	0.48	0.97	0.97
Beryllium	4	5	5
Biphenyl 1,1'-	0.05	0.05	0.05
Bis(2-chloroethyl)ether	0.5	0.5	0.5
Bis(2-chloroisopropyl)ether	0.5	0.5	0.5
Bis(2-ethylhexyl)phthalate	8	8	8
Boron (Hot Water Soluble)*	1.5	3	3
Boron (total)	72	72	72
Bromodichloromethane	0.05	0.05	0.05
Bromoform	0.1	0.1	0.1
Bromomethane	0.05	0.05	0.05
Cadmium	1.4	1.4	2.4
Carbon Tetrachloride	0.05	0.05	0.05
Chlordane	0.05	0.05	0.05
Chloroaniline p-	0.5	0.5	0.5
Chlorobenzene	0.083	0.083	0.083
Chloroform	0.097	0.097	0.097
Chlorophenol, 2-	0.19	0.19	0.19
Chromium Total	130	140	140
Chromium VI	1.3	1.3	1.3
Chrysene	0.66	3.3	3.3
Cobalt	22	22	80
Copper	120	180	180
Cyanide (CN-)	0.051	0.051	0.051
Dibenz[a h]anthracene	0.2	0.2	0.2
Dibromochloromethane	0.05	0.05	0.05
Dichlorobenzene, 1,2-	0.1	0.1	0.1
Dichlorobenzene, 1,3-	0.1	0.1	0.1

Contaminant	Agricultural or Other Property Use	Residential/ Parkland/Institutional Property Use	Industrial/Commercial/Community Property Use
Dichlorobenzene, 1,4-	0.05	0.05	0.05
Dichlorobenzidine, 3,3'-	1	1	1
Dichlorodifluoromethane	0.1	0.1	0.1
DDD	0.1	0.1	0.1
DDE	0.1	0.1	0.1
DDT	0.078	1.4	1.4
Dichloroethane, 1,1-	0.1	0.1	0.1
Dichloroethane, 1,2-	0.05	0.05	0.05
Dichloroethylene, 1,1-	0.05	0.05	0.05
Dichloroethylene, 1,2-cis-	0.05	0.05	0.05
Dichloroethylene, 1,2-trans-	0.05	0.05	0.05
Dichlorophenol, 2,4-	0.1	0.1	0.1
Dichloropropane, 1,2-	0.05	0.05	0.05
Dichloropropene, 1,3-	0.05	0.05	0.05
Dieldrin	0.05	0.05	0.05
Diethyl Phthalate	0.5	0.5	0.5
Dimethylphthalate	0.5	0.5	0.5
Dimethylphenol, 2,4-	0.4	0.4	0.4
Dinitrophenol, 2,4-	2	2	2
Dinitrotoluene, 2,4 & 2,6-	0.5	0.5	0.5
Dioxane, 1,4	0.2	0.2	0.2
Dioxin/Furan (TEQ)	0.000013	0.000013	0.000013
Endosulfan	0.04	0.04	0.04
Endrin	0.04	0.04	0.04
Ethylbenzene	0.05	0.05	0.05
Ethylene dibromide	0.05	0.05	0.05
Fluoranthene	1.4	1.4	1.4
Fluorene	0.38	0.38	0.38
Heptachlor	0.05	0.05	0.05
Heptachlor Epoxide	0.05	0.05	0.05
Hexachlorobenzene	0.034	0.034	0.034
Hexachlorobutadiene	0.02	0.02	0.02
Hexachlorocyclohexane Gamma-	0.01	0.01	0.01
Hexachloroethane	0.02	0.02	0.02
Hexane (n)	0.1	0.1	0.1
Indeno[1 2 3-cd]pyrene	0.4	0.46	0.46
Lead	45	120	250
Mercury	0.24	0.27	0.27
Methoxychlor	0.1	0.1	0.1
Methyl Ethyl Ketone	0.5	0.5	0.5
Methyl Isobutyl Ketone	0.5	0.5	0.5
Methyl Mercury **	NV	NV	NV
Methyl tert-Butyl Ether (MTBE)	0.05	0.05	0.05
Methylene Chloride	0.1	0.1	0.1
Methylnaphthalene, 2-(1-) ***	0.096	0.59	0.59
Molybdenum	4	4	4

Contaminant	Agricultural or Other Property Use	Residential/ Parkland/Institu tional Property Use	Industrial/Comm ercial/Communit y Property Use
Naphthalene	0.1	0.18	0.18
Nickel	74	160	160
Pentachlorophenol	0.1	0.1	0.1
Petroleum Hydrocarbons F1****	17	25	46
Petroleum Hydrocarbons F2	16	16	20
Petroleum Hydrocarbons F3	300	480	480
Petroleum Hydrocarbons F4	240	240	240
Phenanthrene	1.1	1.4	1.4
Phenol	1	1	1
Polychlorinated Biphenyls	0.3	0.3	0.3
Pyrene	0.98	2.1	2.1
Selenium	2.4	3.1	3.1
Silver	1	1	1
Styrene	0.05	0.05	0.05
Tetrachloroethane, 1,1,1,2-	0.059	0.059	0.1
Tetrachloroethane, 1,1,2,2-	0.05	0.05	0.05
Tetrachloroethylene	0.05	0.05	0.05
Thallium	1	1	2
Toluene	0.2	0.2	0.2
Trichlorobenzene, 1,2,4-	0.1	0.1	0.1
Trichloroethane, 1,1,1-	0.1	0.1	0.1
Trichloroethane, 1,1,2-	0.05	0.05	0.05
Trichloroethylene	0.05	0.05	0.05
Trichlorofluoromethane	0.1	0.51	0.51
Trichlorophenol, 2,4,5-	0.2	0.2	0.2
Trichlorophenol, 2,4,6-	0.2	0.2	0.2
Uranium	3.8	5	5
Vanadium	86	86	130
Vinyl Chloride	0.02	0.02	0.02
Xylene Mixture	0.091	0.091	0.091
Zinc	340	590	590
Electrical Conductivity (mS/cm)	0.7	1.4	1.4
Sodium Adsorption Ratio	5	10	10

Notes:

NV: No Value.

*: The boron ceiling values are for hot water soluble extract for all surface soils. For subsurface soils the ceiling values are for total boron (mixed strong acid digest), since plant protection for soils below the root zone is not a significant concern.

**: Analysis for methyl mercury only applies when mercury (total) excess soil standard is exceeded

***: The methyl naphthalene ceiling values are applicable to both 1-methyl naphthalene and 2-methyl naphthalene, with the provision that if both are detected the sum of the two must not exceed the ceiling value.

****: F1 fraction does not include benzene, toluene, ethylbenzene and xylene (BTEX; however, the proponent has the choice as to whether or not to subtract BTEX from the analytical result.

TABLE 9.1: Ceiling Values for Full Depth Excess Soil for Use within 30 m of A Water Body in a Non-Potable Ground Water Condition

Volume Independent

(Unit in µg/g)

Contaminant	Residential/Parkland/Institutional/ Property Use	Industrial/Commercial/Community Property Use
Acenaphthene	0.14	0.14
Acenaphthylene	0.17	0.17
Acetone	1	1
Aldrin	0.05	0.05
Anthracene	0.32	0.32
Antimony	2.6	2.6
Arsenic	18	18
Barium	430	430
Benzene	0.029	0.04
Benz[a]anthracene	0.72	0.72
Benzo[a]pyrene	0.74	0.74
Benzo[b]fluoranthene	0.94	0.94
Benzo[ghi]perylene	1.4	1.4
Benzo[k]fluoranthene	0.97	0.97
Beryllium	5	5
Biphenyl 1,1'-	0.1	0.1
Bis(2-chloroethyl)ether	1	1
Bis(2-chloroisopropyl)ether	0.5	1
Bis(2-ethylhexyl)phthalate	8	8
Boron (Hot Water Soluble)*	3	3
Boron (total)	72	72
Bromodichloromethane	0.1	0.1
Bromoform	0.1	0.1
Bromomethane	0.05	0.05
Cadmium	1.4	2.4
Carbon Tetrachloride	0.05	0.05
Chlordane	0.05	0.05
Chloroaniline p-	0.51	0.51
Chlorobenzene	0.1	0.1
Chloroform	0.1	0.1
Chlorophenol, 2-	0.2	0.2
Chromium Total	140	140
Chromium VI	1.3	1.3
Chrysene	3.3	3.3
Cobalt	22	80
Copper	180	180
Cyanide (CN-)	0.051	0.051
Dibenz[a h]anthracene	0.2	0.2
Dibromochloromethane	0.1	0.1
Dichlorobenzene, 1,2-	0.1	0.1

Contaminant	Residential/Parkland/Institutional/ Property Use	Industrial/Commercial/Community Property Use
Dichlorobenzene, 1,3-	0.1	0.1
Dichlorobenzene, 1,4-	0.1	0.1
Dichlorobenzidine, 3,3'-	2	2
Dichlorodifluoromethane	0.1	0.1
DDD	0.1	0.1
DDE	0.1	0.1
DDT	1.4	1.4
Dichloroethane, 1,1-	0.1	0.1
Dichloroethane, 1,2-	0.05	0.081
Dichloroethylene, 1,1-	0.05	0.05
Dichloroethylene, 1,2-cis-	0.1	0.1
Dichloroethylene, 1,2-trans-	0.05	0.05
Dichlorophenol, 2,4-	0.2	0.2
Dichloropropane, 1,2-	0.05	0.061
Dichloropropene, 1,3-	0.076	0.1
Dieldrin	0.05	0.05
Diethyl Phthalate	0.5	0.5
Dimethylphthalate	0.5	0.5
Dimethylphenol, 2,4-	0.4	0.4
Dinitrophenol, 2,4-	4	4
Dinitrotoluene, 2,4 & 2,6-	1	1
Dioxane, 1,4	0.4	0.4
Dioxin/Furan (TEQ)	0.000013	0.000013
Endosulfan	0.04	0.04
Endrin	0.04	0.04
Ethylbenzene	0.1	0.1
Ethylene dibromide	0.05	0.05
Fluoranthene	1.4	1.4
Fluorene	0.38	0.38
Heptachlor	0.05	0.05
Heptachlor Epoxide	0.05	0.05
Hexachlorobenzene	0.04	0.04
Hexachlorobutadiene	0.02	0.02
Hexachlorocyclohexane Gamma-	0.01	0.01
Hexachloroethane	0.02	0.02
Hexane (n)	0.1	0.1
Indeno[1 2 3-cd]pyrene	0.46	0.46
Lead	120	250
Mercury	0.27	0.27
Methoxychlor	0.1	0.1
Methyl Ethyl Ketone	1	1
Methyl Isobutyl Ketone	0.89	1
Methyl Mercury **	NV	NV
Methyl tert-Butyl Ether (MTBE)	0.1	0.1
Methylene Chloride	0.1	0.1

Contaminant	Residential/Parkland/Institutional/ Property Use	Industrial/Commercial/Community Property Use
Methylnaphthalene, 2-(1-) ***	0.92	1.2
Molybdenum	4	4
Naphthalene	0.18	0.18
Nickel	160	160
Pentachlorophenol	0.1	0.1
Petroleum Hydrocarbons F1****	25	46
Petroleum Hydrocarbons F2	16	20
Petroleum Hydrocarbons F3	480	480
Petroleum Hydrocarbons F4	240	240
Phenanthrene	1.4	1.4
Phenol	1	1
Polychlorinated Biphenyls	0.3	0.3
Pyrene	2.1	2.1
Selenium	3.1	3.1
Silver	1	1
Styrene	0.1	0.1
Tetrachloroethane, 1,1,1,2-	0.059	0.1
Tetrachloroethane, 1,1,2,2-	0.093	0.1
Tetrachloroethylene	0.05	0.05
Thallium	1	2
Toluene	0.4	0.4
Trichlorobenzene, 1,2,4-	0.1	0.1
Trichloroethane, 1,1,1-	0.1	0.1
Trichloroethane, 1,1,2-	0.093	0.1
Trichloroethylene	0.05	0.05
Trichlorofluoromethane	0.51	0.51
Trichlorophenol, 2,4,5-	0.2	0.2
Trichlorophenol, 2,4,6-	0.2	0.2
Uranium	5	5
Vanadium	86	130
Vinyl Chloride	0.02	0.02
Xylene Mixture	0.1	0.1
Zinc	590	590
Electrical Conductivity (mS/cm)	1.4	1.4
Sodium Adsorption Ratio	10	10

Notes:

NV: No Value.

*: The boron ceiling values are for hot water soluble extract for all surface soils. For subsurface soils the ceiling values are for total boron (mixed strong acid digest), since plant protection for soils below the root zone is not a significant concern.

**: Analysis for methyl mercury only applies when mercury (total) excess soil standard is exceeded.

***: The methyl naphthalene ceiling values are applicable to both 1-methyl naphthalene and 2-methyl naphthalene, with the provision that if both are detected the sum of the two must not exceed the ceiling value.

****: F1 fraction does not include benzene, toluene, ethylbenzene and xylene (BTEX); however, the proponent has the choice as to whether or not to subtract BTEX from the analytical result.