



Ministry of
Environment

Environmental Protection Division

Name of procedure:

Definitions and Acronyms for Contaminated Sites

Staff affected:

Ministry of Environment staff responsible for administering the contaminated sites provisions of the *Environmental Management Act* and Contaminated Sites Regulation

Authority:

Environmental Management Act
Contaminated Sites Regulation

Purpose of procedure:

To consolidate for easy reference acronyms and definitions relating to contaminated sites in the *Environmental Management Act*, Contaminated Sites Regulation and various contaminated sites protocols and procedures.

Relationship to previous procedure:

None.

Issued by: Director, Environmental Management Branch

Director's Approval: _____

Environmental Management Branch

Date: _____

1.0 General

There are many terms and acronyms which have required definition in the provincial contaminated sites regime. These may be lengthy and when repeated in various contaminated sites procedure documents and protocols result in unnecessary detail.

This document consolidates the contaminated sites related acronyms and definitions used in the ministry's contaminated sites regime, including those in:

- the *Environmental Management Act*;
- the Contaminated Sites Regulation;
- Protocols under section 64 of the *Environmental Management Act*; and
- contaminated sites procedure documents signed by the Director of Waste Management

Terms and acronyms which require definition in ministry contaminated sites documents such as protocols, procedures, and guidance documents will be listed in those documents and their definitions established by reference to this document.

For clarity, a number of definitions have been elaborated by adding explanatory text in square brackets. That text should not be considered a formal part of a definition.

2.0 Definitions

The following definitions are to be used by ministry staff in the preparation of contaminated sites documents.

“Act” means the *Environmental Management Act*, S.B.C. 2003, c. 53.

“active – assessment complete” is a status code that means that a site, or an area of concern at a site, has been investigated sufficiently to decide if remediation is necessary, and if so, enough information is present to support any recommended remedial approach.

“active – remediation complete” is a status code that means that either:

1. a) remediation is complete under the risk assessment/risk management remediation approach, risk management works have been constructed, all appropriate permits and approvals have been obtained,
- b) a Letter of Comfort was issued before July 1, 1995, or a Confirmation of Compliance was issued before April 1, 1997, or a Certificate of

- Compliance was issued on or after July 1, 1995, or a Conditional Certificate of Compliance was issued on or after April 1, 1997, and
- c) there are ongoing requirements such as treatment, monitoring or maintenance; or
2. a) remediation is complete under the contaminant concentration or numerical standards approach,
 - b) a Letter of Comfort was issued before July 1, 1995, or a Confirmation of Compliance was issued before April 1, 1997, or a Certificate of Compliance was issued on or after July 1, 1995, and
 - c) there are ongoing requirements such as treatment, monitoring or maintenance.

“active – under assessment” is a status code that means that a site is undergoing or requires an environmental investigation.

“active – under remediation” is a status code that means that a remediation plan has been accepted by the ministry, developed and implemented at a site, or that remediation is known by ministry personnel to be occurring at the site. No information has been submitted to the ministry or provided by the ministry to verify that remediation is complete.

“advanced exploration site” means

- (a) an area described by a valid and subsisting mineral title as defined under the *Mineral Tenure Act* where mineral exploration activities have been undertaken,
 - (b) an area described by a valid and subsisting Crown granted claim under the *Land Act* where mineral exploration activities have been undertaken, or
 - (c) a valid and subsisting location as defined under the *Coal Act* where coal exploration activities have been undertaken,
- if
- (d) bedrock has been excavated for the purpose of underground development, removed as bulk samples, or removed for trial cargos or test shipments, in an amount less than or equal to 1 000 tonnes, or
 - (e) coal has been mined, removed as bulk samples, or removed for trial cargos or test shipments, in an amount less than or equal to
 - (i) 50 000 tonnes of coal, or
 - (ii) 200 000 tonnes of total material disturbed, including coal.

“affected site” means a parcel at which substances are present due to the migration of those substances from neighbouring areas.

“agricultural land use” means the use of land for the primary purpose of producing agricultural products for human or animal consumption including, without limitation, livestock raising operations, croplands, orchards, pastures, greenhouses, plant nurseries and farms.

“agricultural quality” means soil or other material that is suitable for agricultural or any other land use as specified in the Contaminated Sites Regulation.

“allocation panel” means an allocation panel appointed under section 49 (2) [of the Act].

“anthropogenic barium” means any form of barium present, stored, used, or disposed of at a site by humans.

“appeal board” means the Environmental Appeal Board continued under section 93 [of the Act].

“approval” means an approval under section 15 of the Act.

“Approval in Principle” means an approval in principle under section 53 [of the Act].

“Approved Professional” means a person who is named on a roster established under section 42 of the Act.

“Approved Professional work” means work undertaken by an Approved Professional that is specified in Table 1 of Procedures for the Roster of Approved Professionals that:

- (a) is within the scope of the applicable profession of the Approved Professional, and
- (b) is of a type required to be performed by an Approved Professional under the *Environmental Management Act*.

“approving authority” means an approving officer under the *Land Title Act*, a local trust committee under the *Islands Trust Act*, a municipality under the *Local Government Act* or the council or its delegate under the *Vancouver Charter*.

“approving officer” means an approving officer as defined in the *Land Title Act*.

“aquatic habitat” means habitat defined in a protocol approved by the Director or as used by “aquatic life” as defined in the Regulation.

“aquatic life” means any living component of the freshwater or marine aquatic ecosystem, including phytoplankton, zooplankton, benthos, macrophytes and fish.

“aquatic life water use” means the use of water as habitat for any component of the freshwater or marine aquatic ecosystem, including phytoplankton, zooplankton, benthos, macrophytes and fish.

“aquatic receiving environment” means surface water, porewater or sediment containing aquatic life.

“arm’s length review” means Approved Professional work consisting of a review by an Approved Professional of a reviewable document where

- (a) the Approved Professional performing the review and any person involved in the preparation of the reviewable document did not directly supervise or report to the other either at the time the reviewable document was prepared or at the time of the review, and
- (b) the Approved Professional performing the review did not participate in the preparation of the reviewable document nor give any instructions as to its preparation except through the issuance of general guidance regarding the approach and methodology to be used in relation to the preparation of that document.

“Association” means the Association of Professional Engineers and Geoscientists of the Province of British Columbia.

“authorization” refers to one or more approvals or permits including zoning, subdivision, development permits, development variance permits, soil removal permits and demolition permits for which an application triggers the requirement to submit a site profile.

“available funds” means [for the purposes of section 26 of the Regulation] any and all funds realized by a receiver less

- (a) the costs of realization and sale of property,
- (b) the claims of trade creditors of the receiver,
- (c) the claims of the receiver for remuneration and indemnification,
- (d) the authorized borrowings of the receiver inclusive of interest, and
- (e) the proceeds of property disposed of by the receiver, but only to the extent that those proceeds are required by the receiver to discharge a mortgage, lien, charge or security interest in the property which was filed, perfected or registered before the earlier of
 - (i) the date when a remediation order or other order under the Act

- respecting the property was entered on the site registry, or
- (ii) the date when the receiver receives a remediation order or other order under the Act respecting the property;

“available funds” means [for the purposes of section 27 of the Regulation] the net realizable value of the trust property but does not include

- (a) the costs of realization and sale of trust property,
- (b) the claims of the trustee for remuneration and indemnification,
- (c) trust property paid, distributed or transferred to any party by the trustee before receiving a remediation order or other order under the Act, but only if, at the time the trustee paid, distributed or transferred the trust property,
 - (i) there was no requirement on the trustee to provide a site profile, and
 - (ii) the trustee had no actual knowledge of any contamination at the site, or
- (d) the proceeds of trust property disposed of by the trustee, but only to the extent that those proceeds are required by the trustee to discharge a mortgage, lien, charge or security interest in the property which was filed, perfected or registered before the earlier of
 - (i) the date when a remediation order or other order under the Act respecting the property is entered on the site registry, or
 - (ii) the date when the trustee receives a remediation order or other order under the Act respecting the property;

“background concentration” means the concentration of a substance in an environmental medium in a geographic area, but does not include any contribution from local human-made point sources, determined by following director's protocols.

“barite” means the chemical compound, barium sulphate (BaSO_4 ; CAS No. 7727-43-7, 13462-56-7).

“barite site” means a site at which it can be demonstrated to the satisfaction of the Director that anthropogenic barium at the site is exclusively in the form of barite.

“berm” means an earthen embankment constructed around a soil treatment facility.

“bioaccumulative substances” means substances with any of the following characteristics: bioaccumulation factors [BAF] greater than 5,000;

bioconcentration factors [BCF] greater than 5,000; or Log octanol-water partition coefficients [Log K_{ow}] greater than 5.

“blend” means to mix or dilute so as to obtain a uniform material of a desired quality, obscuring or harmonizing the individual components.

“cancer risk” means the probability of the occurrence of cancer from exposure to a carcinogenic substance.

“carcinogenic substance” means any chemical classified by

- (a) the International Agency for Research on Cancer as a group 1 or group 2A carcinogen, or
- (b) the United States Environmental Protection Agency as a group A or group B1 carcinogen.

“case file” means an application package received by the ministry for a contaminated sites service request under the Act and Regulation.

“casefile worker” means a member of the ministry who reviews reports and plans associated with contaminated sites.

“CATs” means the Contaminated Sites Application Tracking system, a Microsoft Access computer application for managing contaminated sites service applications received under the contaminated sites provisions of the *Environmental Management Act*.

“Certificate of Compliance” means a certificate of compliance under section 53 [of the Act].

“Chief Inspector” means the Chief Inspector of Mines under the *Mines Act*.

“CIO” means the ministry’s Client Information Officer who receives and does the initial processing for contaminated sites service applications.

“closure plan” means a plan as a requirement under the Health, Safety and Reclamation Code for Mines in British Columbia describing a program for environmental protection and reclamation of the land and watercourses affected by a mine.

“code of practice”, except in Part 3 of the Act, means a code of practice established by the minister under section 22 [of the Act].

“College” means the College of Applied Biology British Columbia.

“commercial land use” means the use of land for the primary purpose of buying, selling or trading of merchandise or services including, without limitation, shopping malls, office complexes, restaurants, hotels, motels, grocery stores, automobile service stations, petroleum distribution operations, dry cleaning operations, municipal yards, warehouses, law courts, museums, churches, golf courses, government offices, air and sea terminals, bus and railway stations, and storage associated with these uses.

“commission” has the same meaning as in the *Petroleum and Natural Gas Act*.

“commissioner” has the same meaning as in the *Petroleum and Natural Gas Act*.

“conceptual model” means a written description and an illustrated picture of the geologic, hydrogeologic, and environmental conditions of a site. A conceptual model also depicts the type and extent of subsurface contamination, defines the pathways for contaminant migration, and identifies potential receptors.

“confirmation of remediation report” means a report under section 49 (2) (b) [of the Regulation].

“contaminant” means a substance causing contamination as defined in Part 4 [of the Act].

“contaminated site” means an area of the land in which the soil or any groundwater lying beneath it, or the water or the underlying sediment, contains

- (a) a hazardous waste, or
- (b) another prescribed substance

in quantities or concentrations exceeding prescribed risk based or numerical criteria or standards or conditions.

“contaminated sites legal instrument” includes, but is not limited to, an Approval in Principle, Certificate of Compliance, Contaminated Soil Relocation Agreement, Determination of Contaminated Site, Remediation Order and Voluntary Remediation Agreement.

“contaminated soil relocation agreement” means a contaminated soil relocation agreement under section 55 [of the Act].

“contamination” means the presence in soil, sediment, water or groundwater of

- (a) a hazardous waste, or
- (b) a substance prescribed for the purposes of paragraph (b) of the definition

of “contaminated site”

in quantities or concentrations exceeding the criteria, standards or conditions prescribed for the purposes of the definition of “contaminated site”.

“**core area**” means any of the following areas at an advanced exploration site or at a producing or past producing mine site:

- (a) an area where waste rock or mine tailings are placed;
- (b) an area where there is disturbance of the ground by mechanical means including, without limitation, trenches, open pits and underground workings;
- (c) an area where there has been construction, modification, deactivation or reclamation of an access road;
- (d) an area where prescribed activities take place or that is used for a prescribed use.

“**CSAP Society**” means the Society of Contaminated Sites Approved Professionals of British Columbia.

“**decommission a site**” means the removal, destruction or treatment of soil, process equipment or buildings, including the removal of storage tanks, in a manner designed to stop or reduce a significant portion of the operations at a site or to significantly change the use of the site.

“**dense nonaqueous phase liquid**” [DNAPL] means a nonaqueous phase liquid having a specific gravity greater than 1.0.

“**detailed site investigation**” means a detailed site investigation and report under section 41 [of the Act] that complies with the regulations.

“**Director**” means a person employed by the government and designated in writing by the minister as a director of waste management or as an acting, deputy or assistant director of waste management [under the Act].

“**director's interim standards**” means the substances and risk based or numerical criteria, standards and conditions prescribed by the director under section 63.1 of the Act.

“**dispose**” includes [for the purposes of section 26 of the Regulation] to transfer by a vesting order issued by a court;

“**dispute resolution process**” means a process to resolve disputes established in an agreement between the deputy ministers of the Ministry of Energy, Mines and Petroleum Resources and the Ministry of Environment concerning the

administration of mines under the *Mines Act* and the Act.

“drinking water use” means the use of water for the purpose of consumption by humans.

“ecologically active zone” means the top 1 metre of sediment below the sediment/surface water interface where a variety of important ecological and physiochemical conditions and processes occur.

“EHw₁₀₋₁₉” means light extractable petroleum hydrocarbons in water, including acenaphthene, acridine, anthracene, fluorene, naphthalene and phenanthrene.

“electronic Site Registry” means the part of the Site Registry into which computer-based records are deposited and which is delivered by BC OnLine or other electronic service.

“engineering control” means a technology designed to control or contain the migration of substances or to prevent, minimize or mitigate environmental damage which may otherwise result from a release or threatened release, including, but not limited to, caps, covers, dikes, trenches, leachate collection systems, treatment systems, and groundwater containment systems or procedures.

“environment” means air, land, water and all other external conditions or influences under which humans, animals and plants live or are developed.

“environmental media” means soil, sediments, surface water, groundwater, air, vapour, animals and plants.

“environmental risk assessment report” means a report under section 18 (6) or 18.1 (5) [of the Regulation].

“exploration site” means

- (a) an area described by a valid and subsisting mineral title as defined under the *Mineral Tenure Act* where mineral exploration activities have been undertaken,
- (b) an area described by a valid and subsisting Crown granted claim under the *Land Act* where mineral exploration activities have been undertaken, or
- (c) a valid and subsisting location as defined under the *Coal Act* where coal exploration activities have been undertaken,

if

- (d) bulk samples, trial cargos or test shipments have not been taken, and
- (e) bedrock has not been excavated for the purpose of underground development.

“exposure zone” means the zone in which humans or biota can come into direct contact with contaminants in the absence of measures to prevent exposure.

“extent of the receivership” means [for the purposes of subsection 26(3) of the Regulation]

- (a) the limit of the available funds, and
- (b) the period commencing with the receiver's appointment and ending with a termination under subsection (5).

“extent of the trust” means [for the purposes of section 27(3.1) of the Regulation]

- (a) the limit of the available funds, and
- (b) the period commencing with the trustee's appointment and ending with a termination under subsection (5).

“external contract reviewer” means a person with whom a director has entered into a contract under section 10 (1) [of the Regulation].

“facility” includes any land or building, and any machinery, equipment, device, tank, system or other works.

“feasibility study” means a study on the development, screening, and detailed evaluation of alternative remedial actions for a contaminated site.

“financial risk” means the risk to government of incurring financial costs to remediate contaminated sites where persons are unwilling or unable to fund remediation.

“financial security” means one, or a combination, of the following in the amount and under terms as specified by the Director:

- irrevocable letters of credit,
- security deposits including short-term deposits,
- registered bonds,
- treasury bill notes,
- bank drafts,
- money orders,
- certified cheques, and
- any other type of security acceptable to the Director.

“FOI request” means a request for records pursuant to the *Freedom of Information and Protection of Privacy Act*.

“free phase liquid” means a nonaqueous liquid that has not been absorbed onto soil, retains its original state and is free to move under prevailing site conditions.

“free product” means a chemical substance at a site, usually liquid petroleum, that has neither dissolved in water nor sorbed onto soil and retains its original physical state.

“generic numerical sediment criterion” means the concentration of a substance specified in Schedule 9 [of the Regulation] for a particular sediment use.

“generic numerical soil standard” means the concentration of a substance in soil specified for a particular land use in Schedule 4 or Schedule 10 [of the Regulation].

“generic numerical vapour standard” means the concentration in vapour of a substance specified for a particular land use in Schedule 11 [of the Regulation].

“generic numerical water standard” means the concentration of a substance in water specified for a particular water use in Schedule 6 or Schedule 10 [of the Regulation].

“government body” means a federal, provincial or municipal body, including an agency or ministry of the Crown in right of Canada or British Columbia or an agency of a municipality.

“groundwater contamination source” means any part of the land surface or subsurface containing substances that are either known or anticipated to generate groundwater concentrations in excess of applicable standards.

“groundwater travel time” means the time required for groundwater to travel a given distance by advection. By convention, travel time is calculated using average linear flow velocity.

“halogenated hydrocarbon” means an aliphatic or aromatic hydrocarbon in which one or more hydrogen atoms is substituted by fluorine, chlorine, bromine or iodine.

“hazard index” means the sum of hazard quotients for any substance over all

exposure pathways.

“hazard quotient” or “HQ” means the quotient determined from the equation

$$HQ = EDI \div RfD$$

where

“EDI” is the estimated daily intake (in milligrams per kilogram of body weight per day) for any substance having non-carcinogenic deleterious effects, and

“RfD” is the reference dose which is an estimate of the maximum daily exposure level (in milligrams per kilogram of body weight per day) to a substance that is unlikely to produce an appreciable risk of non-carcinogenic deleterious effects during a lifetime of exposure to that substance.

“hazardous waste” means materials defined as hazardous waste in the Hazardous Waste Regulation.

“high density urban area” means an area within a municipal boundary, excluding areas that are characterized predominantly by detached single family dwellings or zoned or used for urban parks.

“high risk orphan site” means an orphan site determined under section 58 [of the Act] to be a high risk orphan site.

“high risk site” means a site defined as a high risk site under a protocol issued by a Director under the Act.

“high water mark” means:

- a) for freshwater, means the visible high water mark of a stream where the presence and action of the water are so common and usual, and so long continued in all ordinary years, as to mark on the soil of the bed of the stream a character distinct from that of its banks, in vegetation, as well as in the nature of the soil itself, and includes the active floodplain; and
- b) for marine water, a high water mark as defined by the Higher High Water Mean Tide by Fisheries and Oceans Canada and as mapped on Canadian Hydrographic Services navigational charts.

“historic mine site” means an area

- (a) where mechanical disturbance of the ground or any excavation has been made to produce coal or mineral bearing substances, including a site used for processing, concentrating or waste disposal, and
- (b) for which a *Mines Act* permit does not exist and no identifiable owner or

operator is taking responsibility for contamination at the site.

“historical information” means information that the ministry had in its possession before April 1, 1997 relating to the environmental condition of land, water and sediments.

“historical site notification process” means the process required under subsection 43 (3) of the *Environmental Management Act* where regional Environmental Protection managers informed site owners and operators of their intention to request the Site Registrar to deposit into the Site Registry historical information concerning the environmental condition of property, and provide a period for comment.

“hydrocarbon contaminated soil” means soil contaminated with a petroleum product, including, but not limited to gasoline, diesel, fuel oil, hydraulic oil and lubricating oil.

“inactive - no further action” is a status code that means that:

- 1) a site may not have gone through the entire remediation process and that the ministry presently requires no additional information or action. Sites assigned this status may require assessment or remediation in the future; or
- 2) a site may be considered not to require further action or be considered remediated by the site owner or operator through independent remediation, but confirmation of remediation has not been provided by the ministry in:
 - a) a Letter of Comfort issued before July 1, 1995,
 - b) a Confirmation of Compliance issued before April 1, 1997;
 - c) a Certificate of Compliance issued on or after July 1, 1995; or
 - d) a Conditional Certificate of Compliance issued on or after April 1, 1997 with no ongoing requirements.

“inactive - remediation complete” is a status code that means that:

- 1) a Letter of Comfort was issued before July 1, 1995, or a Confirmation of Compliance was issued before April 1, 1997, or a Certificate of Compliance was issued on or after July 1, 1995 or a Conditional Certificate of Compliance was issued on or after April 1, 1997; and
- 2) there are no outstanding *Environmental Management Act* permits or other requirements such as monitoring, treatment or maintenance of works.

“independent remediation” means remediation carried out without direct ministry involvement other than involvement required under sections 54 and

section 64 (protocols) of the Act and section 57 of the Regulation.

“industrial/commercial quality” means soil or other material that is not suitable for residential, urban park, or agricultural land use, but is suitable for industrial or commercial land use as specified in the Contaminated Sites Regulation.

“industrial land use” means the use of land for the primary purpose of conducting industrial manufacturing and assembling processes and their ancillary uses including, without limitation, factories, metal foundries, wood treatment facilities, mines, refineries, hydroelectric dams, metal smelters, automotive assembly plants, rail car or locomotive maintenance facilities, railyards, non-retail breweries and bakeries, roads and highways, wastewater and sewage treatment plants, electrical transformer stations and salvage yards.

“Institute” means the British Columbia Institute of Agrologists.

“institutional control” means a non-engineering instrument such as an administrative or legal control that reduces the potential for exposure to contamination by limiting land or resource use.

“irrigation water use” means the use of water for the purpose of producing hay, forage crops, pasture, cereal crops, vegetables and fruit.

“land” means the solid part of the earth's surface including the foreshore and land covered by water.

“leachable toxic waste” means waste which when subjected to the Leachate Extraction Procedure described in Part 1 of Schedule 4 of the Hazardous Waste Regulation produces an extract with a substance concentration greater than that in Table 1 of Schedule 4 of the Hazardous Waste Regulation.

“leachate quality standards” means the leachate quality standards listed in Table 1 of Schedule 4 of the Hazardous Waste Regulation.

“LEPHw” means light extractable petroleum hydrocarbons in water, and includes light extractable petroleum hydrocarbons with the exception of acenaphthene, acridine, anthracene, fluorene, naphthalene and phenanthrene.

“letter of comfort” means a letter or other notice issued by the ministry before July 1, 1995 which indicates that the remediation of a site met the ministry's requirements at that time.

“light nonaqueous phase liquid” [LNAPL] means a nonaqueous phase liquid having a specific gravity less than 1.0.

“liner” means a continuous layer of low permeability material, either synthetic or compacted fine-grained soil, constructed as the base of a soil treatment cell to restrict downward or lateral movement of substances.

“livestock water use” means the use of water for the purpose of consumption by livestock.

“local background concentration in soil” means the concentration in soil determined within a local geographical area, which can be attributed to natural and anthropogenic non-point sources, and does not include any contribution from anthropogenic point sources.

“local human - made point source” means a location or area at a site where, as a result of human activity, a substance was introduced into the environment causing the substance concentration to exceed the local background concentration.

“matrix numerical soil standard” means the concentration of a substance in soil specified for a particular land use and a particular site-specific factor in Schedule 5 [of the Regulation].

“medical health officer” means a medical health officer as defined in the *Health Act*.

“ministry” means the Ministry of Environment.

“minor contributor” means a responsible person determined under section 50 [of the Act] to be a minor contributor.

“mobile DNAPL” means dense nonaqueous phase liquid that is capable of moving or is moving in geologic media as defined in a protocol issued by the Director.

“mobile LNAPL” means light nonaqueous phase liquid that is capable of moving or is moving in geologic media as defined in a protocol issued by the Director.

“mobile NAPL” means nonaqueous phase liquid that is capable of moving or is moving in geologic media as defined in a protocol issued by the Director.

“municipality” means a municipality as defined in section 1 [of the Act] but including the Islands Trust and not including an improvement district or the Greater Vancouver Sewerage and Drainage District.

“muskeg” means a North American terrain composed of peat bog with tussocky meadow and woody vegetation including spruce.

“nonaqueous phase liquid” [NAPL] means a liquid that does not dissolve in water and forms a separate phase from water.

“non-core area” means an area at an advanced exploration site or producing or past producing mine site that is not a core area including, without limitation, areas where facilities and operations such as maintenance shops, storage facilities, accommodation complexes, mineral crushing and processing mills and mineral treatment operations are located.

“non-hazardous waste” means soil as defined in the Contaminated Sites Regulation which is not classified as hazardous waste, but contains one or more substances whose concentrations exceed the numerical standards of the Regulation for the applicable land use at the site.

“notation” means an entry in the Site Registry that repeats, summarizes or comments on a matter relating to a site, including partial or complete correspondence, reports, plans, notes, and entries for events.

“numerical standards” means generic numerical soil standards, generic numerical vapour standards, generic numerical water standards, matrix numerical soil standards, generic numerical sediment criteria, director's interim standards and site-specific numerical standards.

“numerical water standards” means the generic numerical water standards listed in Schedules 6 and 10 of the Contaminated Sites Regulation.

“officer” means

- (a) a person or class of persons employed by the government or a municipality and designated in writing by a director as an officer, or
- (b) a conservation officer.

“offsite” means located away from a neighbouring parcel. In some circumstances the neighbouring parcel may be a source of contamination at the offsite lands.

“offsite migration” means the migration of contaminants or other substances from a source parcel to a neighbouring parcel or area where the source parcel and neighbouring parcel or area have different ownership or tenure.

“one-time capital costs” means those costs associated with purchase of equipment, installation of equipment, construction of buildings and other permanent structures, one-time consultant services, architect services, laboratory expenses, fencing, hauling, excavation, costs of expert advice, costs of environmental engineers, etc. which normally occur at the beginning of the remediation process.

“onsite” means located at a parcel. Sometimes that parcel may be the source of contamination or substances which may migrate or has migrated offsite.

“operator” means, subject to subsection (2) [of the Act], a person who is or was in control of or responsible for any operation located at a contaminated site, but does not include a secured creditor unless the secured creditor is described in section 45 (3) [of the Act].

“order” means an order made or given under this Act [*Environmental Management Act*].

“orphan site” means a contaminated site determined under section 58 [of the Act] to be an orphan site.

“owner” means a person who

- (a) is in possession,
- (b) has the right of control, or
- (c) occupies or controls the use

of real property, and includes, without limitation, a person who has an estate or interest, legal or equitable, in the real property, but does not include a secured creditor unless the secured creditor is described in section 45 (3) [of the Act].

“ownership interest”, when used in Part 2 [of the Regulation], means

- (a) a fee simple interest,
- (b) a lease or similar form of tenure respecting real property having a term, including any option to renew, equal to or exceeding 30 years, or
- (c) a licence of occupation under section 39 of the *Land Act* having a term, including any option to renew, equal to or exceeding 30 years,

but does not include an interest in the nature of

- (d) a mortgage,
- (e) a right of way,

- (f) a tenure under the *Forest Act*,
- (g) a lien,
- (h) a judgement,
- (i) an interest in real property which deals exclusively with subsurface rights including a tenure under the *Geothermal Resources Act*, the *Mineral Tenure Act* or the *Petroleum and Natural Gas Act*,
- (j) an option to purchase,
- (k) an equitable charge,
- (l) a restrictive covenant,
- (m) a covenant under section 219 of the *Land Title Act*, or
- (n) a right to purchase an ownership interest.

“paper Site Registry” means the part of the Site Registry into which paper records are deposited.

“parcel” means an area of land the subject of

- a) a fee simple interest;
- b) a lease or similar form of tenure respecting real property;
- c) a licence of occupation under section 39 of the *Land Act*;
- d) rights granted to occupy land under the *Forest Act* and Forest Practices Code;
- e) an interest in real property which deals with subsurface rights including a tenure under the *Geothermal Resources Act*, the *Mineral Tenure Act*, and the *Petroleum and Natural Gas Act*;
- f) a description by metes and bounds.

“periodic costs” means those costs expected to occur less frequently than annually but at predictable periods, which generally occur after the initial one-time capital costs have been incurred and relate to costs such as capital improvements to existing structures, costs of a five year review, payment for external experts and contractors (e.g. engineering advice to maintain the remedial option), laboratory costs, periodic soil testing, inspection, etc.

“person” includes a government body and any director, officer, employee or agent of a person or government body.

“point of compliance” means the location on land or in water at which a given substance concentration in an environmental medium must meet applicable standards and criteria.

“plume front” means the down gradient extent of a contaminant plume that is defined outside its boundary by:

- i) the absence of detectable contaminant concentrations; or
- ii) contaminant concentrations below the numerical water standard for the nearest down gradient water use.

“pollution” means the presence in the environment of substances or contaminants that substantially alter or impair the usefulness of the environment.

“potential contaminant of concern” [PCOC] means any contaminant which might be expected to occur at a site based on the historical use of the site, whether or not that substance has been measured in any environmental medium or determined to exceed the numerical standards of the Regulation.

“potential terrestrial habitat” means land that satisfies any of the following conditions:

- a) urban park land use classification applies;
- b) contains over 50 m² (where residential land use applies at the site) or over 1,000 m² (where commercial or industrial land use applies at the site) of contiguous undeveloped land; or
- c) lies within 300 m (where residential, commercial or industrial land use applies at the site) of sensitive habitat.

“preferential flow pathway” means a pathway that is significantly (greater than 1 order of magnitude) more water or gas permeable than the soil media that surrounds it.

“preliminary site investigation” means a preliminary site investigation and report under section 41 [of the Act] that complies with the regulations.

“producing or past producing mine site” means a mine

- (a) defined by the area of
 - (i) a mineral title as defined under the *Mineral Tenure Act*,
 - (ii) a Crown granted claim under the *Land Act*, or
 - (iii) a location as defined under the *Coal Act*,
 - (b) in respect of which there is a valid and subsisting permit under the *Mines Act*, and
 - (c) that is currently producing or has produced minerals or coal,
- if
- (d) bedrock has been excavated for the purpose of underground development, removed as bulk samples or removed for trial cargos or test shipments, in an amount greater than 1 000 tonnes, or

- (e) coal has been mined, removed as bulk samples or removed for trial cargos or test shipments, in an amount greater than
 - (i) 50 000 tonnes of coal, or
 - (ii) 200 000 tonnes of total material disturbed, including coal.

“protocol” means a protocol established by a director under section 64 [of the Act].

“Provincial health officer” means the Provincial health officer appointed under the *Health Act*.

“Qualified professional” means an applied scientist or technologist specializing in a particular applied science or technology including, but not limited to agrology, biology, chemistry, engineering, geology, or hydrogeology and:

- a) who is registered in British Columbia with an appropriate professional organization, acting under that association's Code of Ethics and subject to disciplinary action by that association, and
- b) who, through suitable education, experience, accreditation and knowledge, may be reasonably relied on to provide advice within his or her area of expertise.

“receiver” means [for the purposes of section 26 of the Regulation] a current or previous receiver, receiver manager, liquidator or bankruptcy trustee who is an owner or operator under the Act.

“receiving environment” means any land, water, sediment, bog, swamp, or muskeg containing receptors, or an area subject to a compensation agreement. It does not include artificial watercourses such as drainage or irrigation ditches/canals, standing water, treatment ponds, or artificial watercourses such as those whose primary purpose is to convey storm water.

“receiving site” means [for the purposes of Part 8 of the Regulation] the site to which contaminated soil is or will be relocated under a Contaminated Soil Relocation Agreement.

“receptor” means a living plant, animal or human that may be exposed to a substance.

“recurring costs” means those costs for management and monitoring, labour, materials, ongoing contract services, performance and site monitoring, offsite treatment and disposal, project management, insurance, technical support, etc., that may recur from year to year and are expressed on an annual basis.

“regional background soil quality estimate” means a background concentration in soil for a substance, for a region, as listed in a protocol established by a Director.

“Registrar” means the registrar appointed under section 43 [of the Act].

“Regulation” means the Contaminated Sites Regulation (B.C. Reg. 375/96).

“release” means, where a site profile is required under section 40 of the Act, the removal of a prohibition placed on an approving authority to grant an authorization in relation to zoning, subdivision, development and development variance permits, demolition and soil removal.

“remediation” means action to eliminate, limit, correct, counteract, mitigate or remove any contaminant or the adverse effects on the environment or human health of any contaminant, and includes, but is not limited to, the following:

- (a) preliminary site investigations, detailed site investigations, analysis and interpretation, including tests, sampling, surveys, data evaluation, risk assessment and environmental impact assessment;
- (b) evaluation of alternative methods of remediation;
- (c) preparation of a remediation plan, including a plan for any consequential or associated removal of soil or soil relocation from the site;
- (d) implementation of a remediation plan;
- (e) monitoring, verification and confirmation of whether the remediation complies with the remediation plan, applicable standards and requirements imposed by a director;
- (f) other activities prescribed by the minister.

“remediation liability” means the liability held by a responsible person for remediating a contaminated site under Part 4 of the Act.

“remediation order” means a remediation order under section 48 [of the Act].

“remediation plan” means a written document which may include, but is not necessarily limited to, plans and other information respecting

- (a) overall site location and delineated horizontal and vertical locations of contamination presented in maps, cross-sections and other graphic representations,
- (b) remediation alternatives which were considered for managing contamination from or at a site, and evaluation methods used to assess the factors under section 56 of the Act,
- (c) remediation methods selected to ensure compliance with the numerical

standards, or the risk based standards prescribed in this regulation, and the conditions imposed by a director under section 53 of the Act or in a remediation order,

- (d) identification and classification in accordance with the numerical standards of the substances in any soil, surface water, groundwater, sediment or vapour to remain in place,
- (d.1) identification and classification in accordance with the numerical standards of the substances in any soil or sediment to be relocated,
- (e) risk assessment calculations and methodology to demonstrate compliance with risk-based remediation standards if remediation is assessed relative to the risk-based remediation standards,
- (f) a schedule with estimated dates for implementing remediation,
- (g) identification and discussion of the effects of known regulatory requirements on remediation, including any authorizations which will be required to implement remediation,
- (h) proposed confirmatory sampling, analysis, testing or monitoring during and after treatment, management or removal of contamination,
- (i) proposed measures and controls to ensure security, including covenants under section 219 of the *Land Title Act*, restrictive covenants and financial security in accordance with section 48 of this regulation, for ongoing management of any contamination if it will be managed at the site, and
- (j) any public consultation or review of remediation which has occurred or which is proposed during remediation.

“remediation standards” means numerical standards relating to concentrations of substances and standards relating to risk assessment, as prescribed in the regulations.

“residential land use” means the use of land for the primary purpose of

- (a) a residence by persons on a permanent, temporary or seasonal basis, including, without limitation, single family dwellings, cabins, apartments, condominiums or townhouses, or
- (b) institutional facilities, including, without limitation, schools, hospitals, daycare operations, prisons, correctional centres and community centres.

“residential/urban park quality” means soil or other material that is not suitable for agricultural land use, but is suitable for residential, urban park, commercial, or industrial land use as specified in the Contaminated Sites Regulation.

“responsible person” means a person described in section 45 [of the Act].

“reviewable document” means a preliminary or detailed site investigation report, a human health or environmental risk assessment report, a remediation plan, a confirmation of remediation report, a site monitoring report, a report respecting local background concentrations of substances or any other document required to be reviewed by an Approved Professional to perform any of the types of Approved Professional work described in Table 1 of Procedures for the Roster of Approved Professionals.

“right of way” includes

- (a) an easement,
- (b) a statutory right of way, and
- (c) a limited interest in the land or a licence or a permit that grants the right to construct, operate or maintain works of a lineal nature on, over or under land.

“risk assessment” means the systematic process of identifying and evaluating substances, persons potentially affected, and exposures to the substances in order to estimate cancer risks or hazard indices in accordance with a director's protocol.

“risk management” means actions, including monitoring, designed to prevent or mitigate risks to human health or the environment caused by contamination at a site.

“routine release” means the release of records which are available to the public without a request for access pursuant to the *Freedom of Information and Protection of Privacy Act*.

“screening level risk assessment” means a screening level risk assessment and report described in a director's protocol.

“secured creditor” means a person who holds a mortgage, charge, debenture, hypothecation or other security interest in property at a contaminated site, and includes an agent for that person.

“security” means the guarantee of an undertaking to address actual and potential impacts at a contaminated site, and may include financial security, and real and personal property.

“sediment” means particulate material that usually lies below water.

“sensitive habitat” includes:

- a) national, provincial, regional or municipal parks;

- b) sensitive ecosystems identified by the ministry or the local municipality¹;
- c) habitat supporting sensitive species identified by the ministry²;
- d) habitat used for sensitive sediment use as defined in the Regulation; and
- e) wetlands and riparian assessment areas defined in the Riparian Areas Regulation.³

“sensitive sediment use” means the use as habitat for sensitive components of freshwater, marine or estuarine aquatic ecosystems of a site containing sediment, which sensitive components include, but are not limited to,

- (a) phytoplankton, zooplankton, benthos, macrophytes and fish,
- (b) habitats used by endangered or threatened species or species of special concern under the *Species at Risk Act* (Canada),
- (c) watercourses, wetlands, forested riparian areas, mudflats and intertidal zones that are important to the preservation of fish or wildlife,
- (d) reaches of aquatic habitats that are important to fish spawning or serve as important rearing habitat for fish,
- (e) reaches of aquatic environments that encompass or border habitat compensation or restoration sites or other areas that are intended or designed to create, restore or enhance biological or habitat features, and
- (f) areas and aquatic habitat included in wild life management areas designated under the *Wildlife Act*.

“SITE” means the ministry's electronic database recording information in the possession of the ministry relating to the environmental condition of property.

“site activity” means the current primary industrial or commercial purpose or activity at a parcel as listed in Schedule 2 of the Regulation.

“site information request” means means a request for information to be provided by ministry staff pursuant to items 2 and 3 in Table 1 of Schedule 3 of the Regulation.

¹ B.C. Ministry of Environment. Sensitive Ecosystem Inventories at: <http://www.env.gov.bc.ca/sei/index.html>

² B.C. Ministry of Environment. BC Species and Ecosystem Explorer at: <http://www.env.gov.bc.ca/atrisk/toolintro.html>.

³ Riparian assessment areas generally include areas:

- (i) within 30 m of the high water mark of surface water, or
- (ii) within 10 m upslope of the top of the bank of a ravine (side slope greater than 3:1) if wider than 60 m containing surface water, or
- (iii) within 30 m of the top of bank of a ravine (side slope greater than 3:1) if less than 60 m wide.

“site investigation” means a detailed or preliminary site investigation referred to in section 41 [of the Act].

“site profile” means a site profile referred to in section 40 [of the Act].

“site profile form” means the form prescribed in Schedule 1 [of the Regulation].

“site profile received” is a status code that means that a site profile has been received and entered into the Site Registry; however, no further action has taken place.

“Site Registry” means the site registry established under section 43 [of the Act].

“site-specific numerical standard” means the concentration of a substance in soil, water, sediment or vapour

- (a) determined for a particular land, water, sediment or vapour use at a specific site by applying the applicable director’s protocol, and
- (b) approved by the director.

“Society” means the Society of the Contaminated Sites Approved Professionals of British Columbia established to administer the work of the Roster of Approved Professionals on behalf of the Director [also referred to as the “CSAP Society”].

“soil” includes

- (a) unconsolidated mineral or organic material,
- (b) rock,
- (c) fill, and
- (d) sediment deposited on land,

but does not include the following, which are applied to land for a beneficial purpose in compliance with the Organic Matter Recycling Regulation or an authorization given under the Act:

- (e) sewage sludge;
- (f) composted organic materials;
- (g) products derived from the materials described in paragraph (e) or (f).

“soil received” is a status code that means that a Contaminated Soil Relocation Agreement under the *Environmental Management Act* has been finalized, and that a site has received, or will receive soil under that agreement and is not under investigation or remediation.

“soil surface” means the upper surface of the soil layer below open air or

constructed surface covers other than buildings.

“sorption” means the action where substances adhere or are attracted solid material such as soil.

“source site” means

- (a) a parcel which has or had substances which migrated to neighbouring parcels or areas, or
- (b) [for the purposes of Part 8 of the Regulation] means the site from which contaminated soil is or will be relocated under a Contaminated Soil Relocation Agreement.

“subdivision” means

- (a) a subdivision as defined in the *Land Title Act*, or
- (b) a subdivision under the *Strata Property Act*.

“Summary of Site Condition” means a document that complies with subsection [39(3) of the Act].

“Summary of Site Condition form” means the form set out as Schedule 1.1 [of the Regulation].

“terrestrial habitat” includes areas that:

- a) are classified as urban park land;
- b) lie within 200 m (applies to lands used for residential or commercial land use) or 300 m (applies to lands used for industrial land use) of sensitive habitat;
- c) occupy over 1,000 m² (applies to lands used for residential or commercial land use) or 2,500 m² (applies to lands used for industrial land use) of contiguous undeveloped land that either:
 - (i) acts as part of a wildlife corridor to additional undeveloped land; or
 - (ii) lies within 300 m of additional undeveloped land greater than 2,500 m² in size; or
- d) occupy over 5,000 m² (applies to lands used for residential or commercial land use) or 7,500 m² (applies to lands used for industrial land use) of contiguous undeveloped land.

“transfer agreement” means a written agreement between the Chief Inspector of Mines under the *Mines Act* and a director under this Act regarding the transfer of a *Mines Act* permit.

“trustee” includes [for the purposes of section 27 of the Regulation]

- (a) an executor or an administrator of the estate of a deceased person,
 - (b) an express trustee or a bare trustee,
 - (c) a committee or other person appointed by a court as a representative under any adult guardianship legislation,
 - (d) a guardian of the estate of an infant, and
 - (e) an attorney acting under an enduring power of attorney whose principal lacks the capacity to manage his or her own affairs,
- but does not include a receiver as defined in section 26 [of the Regulation];

“trust property” means [for the purposes of section 27 of the Regulation] the property held by a trustee in a fiduciary capacity and includes

- (a) in relation to a trustee who is a committee of the estate of a patient, the patient's property,
- (b) in relation to a trustee who is an attorney acting under an enduring power of attorney whose principal lacks the capacity to manage his or her affairs, the principal's property, and
- (c) in relation to a guardian of an infant, the infant's property.

“typical sediment use” means the use of a site containing sediment for a use that is not a sensitive sediment use.

“undeveloped land” means any bare or vegetated soil, excluding

- (a) gravelled walkways,
- (b) roadways or highways and associated roadside or highway margins,
- (c) parking areas, and
- (d) soil contained and isolated in planters and similar structures.

“unknown status” is a status code that means that a site is known to exist by the ministry, but because of circumstances such as lack of reporting, the remedial status is unknown to the ministry.

“upper cap concentration” means a concentration established by the Director for a substance with a numerical standard in the Contaminated Sites Regulation and which, when present in the exposure zone of soil, water, sediment or vapour, poses a high risk to environmental or human health.

“urban park land use” means the use of urban land for the primary purpose of outdoor recreation including, without limitation, municipal parks, fairgrounds, sports fields, rifle ranges, captive wildlife parks, biking and hiking areas, community beaches and picnic areas, but does not mean wildlands such as ecological reserves, national or provincial parks, protected wetlands or woodlands, native forests, tundra and alpine meadows.

“vapour” means gaseous emissions from soil, sediment or water.

“VHw₆₋₁₀” means volatile petroleum hydrocarbons in water, including benzene, toluene, ethylbenzene and xylenes.

“volatile or semi-volatile substances” includes volatile petroleum hydrocarbons [VPH], light extractable petroleum hydrocarbons [LEPH], and all substances listed in the Schedule 11 of the Regulation.

“voluntary remediation agreement” means a voluntary remediation agreement referred to in section 51 [of the Act].

“VPHw” means volatile petroleum hydrocarbons in water, and includes volatile petroleum hydrocarbons with the exception of benzene, toluene, ethylbenzene and xylenes.

“waste” includes

- (a) air contaminants,
- (b) litter,
- (c) effluent,
- (d) refuse,
- (e) biomedical waste,
- (f) hazardous waste, and
- (g) any other substance prescribed by the Lieutenant Governor in Council, or the minister under section 22 [*minister's regulations – codes of practice*], or, if either of them prescribes circumstances in which a substance is a waste, a substance that is present in those circumstances,

whether or not the type of waste referred to in paragraphs (a) to (f) or prescribed under paragraph (g) has any commercial value or is capable of being used for a useful purpose.

“waste quality” means soil or other material that is not suitable for industrial, commercial, urban park, residential, agricultural, or any other land use as specified in the Contaminated Site Regulation.

“wide area remediation plan” means a remediation plan for a wide area site for one or more specific substances which have originated from one or more sources specified in the plan.

“wide area site” means a site which is designated by a director under section 14

[of the Regulation].

“wildlands land use” means the use of land for the primary purpose of supporting natural ecosystems including, the use of land for ecological reserves, national or provincial parks, protected wetlands or woodlands, native forests, tundra and alpine meadows, but does not include uses defined as urban park land use.

“wildlife corridors” means segments of undeveloped land connected to additional undeveloped lands onsite or offsite, and may consist of:

- a) above-ground utility rights-of-way, hedges, and vegetated road rights-of-way; or
- b) closely spaced (< 10 m separation) small areas (> 1 m²) of undeveloped land.

“works” includes [the following when they are deliberately created and used to manage contaminants, pollutants and other substances]:

- (a) a drain, ditch and sewer,
- (b) a waste disposal system including a sewage treatment plant, pumping station and outfall,
- (c) a device, equipment, land and a structure that is used to
 - (i) measure, handle, transport, store, treat or destroy waste or a substance that is capable of causing pollution, or
 - (ii) introduce into the environment waste or a substance that is capable of causing pollution,
- (d) an installation, plant, machinery, equipment, land or a process that causes or may cause pollution or is designed or used to measure or control the introduction of waste into the environment or to measure or control a substance that is capable of causing pollution, or
- (e) an installation, plant, machinery, equipment, land or a process that is used to monitor or clean up pollution or waste.

3.0 Acronyms

The following acronyms may be used by ministry staff in the preparation of contaminated sites documents:

| | |
|---------------------|-------------------------------------|
| 2,3,7,8-TCDD | 2,3,7,8-tetrachlorodibenzo-p-dioxin |
| 2,4-D | 2,4-dichlorophenoxyacetic acid |
| 2,4-DB | 2,4-dichlorophenoxy butyric acid |
| 2,4,5-T | 2,4,5-trichlorophenoxy acetic acid |

2-2,4,5-TPP 2-(2,4,5-trichlorophenoxy) propionic acid

| | |
|----------------|--|
| AAS | atomic adsorption spectrometry |
| ACC | air concentration criteria |
| ADI | acceptable daily intake |
| ADM | Assistant Deputy Minister |
| AEC | area of environmental concern |
| AiP | Approval in Principle |
| AL | agricultural land use |
| AMS | authorization management system |
| AP | Approved Professional |
| APEC | area of potential environmental concern |
| APEGBC | Association of Professional Engineers and Geoscientists - British Columbia |
| AS | environmental health aquatic life sediment exposure |
| ATSDR | Agency for Toxic Substances and Disease Registry |
| AW | aquatic life water use |
| AW | environmental health aquatic life water exposure |
| BACT | best available control technology |
| BAF | bioaccumulation factor |
| BCBC | British Columbia Business Council |
| BCE | British Columbia Environment |
| BCEIA | British Columbia Environmental Industry Association |
| BCF | bioconcentration factor |
| BCIA | British Columbia Institute of Agrologists |
| BCLQAAC | British Columbia Laboratory Quality Assurance Advisory Committee |
| BEDS | Biological Effects Database - Sediment |
| BIAP | Burrard Inlet Environmental Action Plan |
| BOD | biochemical oxygen demand |
| BTEX | benzene, toluene, ethylbenzene, and xylenes |
| CABBC | College of Applied Biologists of British Columbia |
| CAPP | Canadian Association of Petroleum Producers |
| CAS | chemical abstract service number |
| CATS | contaminated sites application tracking system |
| CBN | Canadian Brownfields Network |
| CCME | Canadian Council of Ministers of the Environment |
| CCoC | Conditional Certificate of Compliance |
| CSSAF | Contaminated Sites Services Application Form |
| CDC | Centre for Disease Control |

CEPA Canadian Environmental Protection Act
CFIA Canadian Food Inspection Agency
CIO Client Information Officer
CL commercial land use
CMCS criteria for managing contaminated sites
CoC Certificate of Compliance
COC contaminant of concern
COORS conservation officer on-line reporting system
COPC contaminant of potential concern
COSEWIC Committee on the Status of Endangered Wildlife in Canada
CP chlorinated phenol
CPPI Canadian Petroleum Products Institute
CSAP Contaminated Sites Approved Professional
CSIC Contaminated Sites Implementation Committee
CSP Contaminated Sites Program
CSR Contaminated Sites Regulation
CSRA Contaminated Soil Relocation Agreement
CSST Contaminated Sites Soil Task Group

DBP dibutyl phthalate
DDD 2,2-bis(p-chlorophenyl)-1,1-dichloroethane
DDE 2,2-bis(p-chlorophenyl)-1,1-dichloroethylene
DDT 2,2-bis(p-chlorophenyl)-1,1,1-trichloroethane
DEHP di(2-ethylhexyl)phthalate
DFO Department of Fisheries and Oceans
dl detection limit
DNAPL dense nonaqueous phase liquid
DPPD n,n-diphenyl-1,4 benzenediamine
DRA detailed risk assessment
DSI detailed site investigation
DW drinking water use

EA environmental assessment
ECO SSL ecological soil screening level
ECOTOX ecotoxicology database
ECX effects concentration
EDI estimated daily intake
EERO Environmental Emergency Response Officer
EMA Environmental Management Act
EMB Environmental Management Branch
EMMC Environmental Management Management Committee

EPMC Environmental Protection Management Committee
EPA Environmental Protection Agency
EPD Environmental Protection Division
EPH extractable petroleum hydrocarbon
EPPC Environmental Protection and Planning Committee (CCME)
EPTC s-ethyl dipropylthiocarbamate
ERA environmental risk assessment
ERL effects range low
ERH effects range high
ESD Environmental Stewardship Division
ETU ethylene thiourea

FAA Financial Administration Act
f oc fraction of organic carbon
FREMP Fraser River Estuary Management Plan
FS feasibility study

GC/AES gas chromatography/atomic emission spectrometry
GC/ECD gas chromatography/electron capture detection
GC/FID gas chromatography/flame ionization detection
GC/FTIR gas chromatography/fourier transform infra-red detection
GC/MS gas chromatography/mass spectrometry
GC/PID gas chromatography/photo ionization detection
GC/TCD gas chromatography/thermal combustion detection
GIS geographic information system
GIS groundwater interception system
GOAT GIS and Oracle access tool
GVRD Greater Vancouver Regional District

H2S hydrogen sulphide
HCFC-142b 1-chloro-1,1-difluoroethane
HCH hexachlorocyclohexane
HCH-gamma lindane
HEPA high efficiency particulate air
HEPH heavy extractable petroleum hydrocarbon
HI hazard index
HMX octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine
HQ hazard quotient
HS human health soil exposure
HV human health vapour exposure

HVAC heating, ventilating, and air conditioning
HW human health water exposure

IARC International Agency for Research on Cancer
IC institutional control
IL industrial land use
ILMB Integrated Land Management Bureau
IR independent remediation
IRIS Integrated Risk Information System
I-TEF NATO international toxicity equivalency factor
IW irrigation water use

Kd dissociation constant
Koc organic carbon partition coefficient
Kow octanol-water partition coefficient

LC X lethal concentration (x%)
LEPH light extractable petroleum hydrocarbon
LIW environmental livestock & irrigation water exposure
LNAPL light nonaqueous phase liquid
LOAEL lowest observed adverse effect level
LOEL lowest observed effect level
LMHO Local Medical Health Officer
LMHOC Local Medical Health Officer Council
LRS Land Remediation Section
LTO land title office
LUST leaking underground storage tank
LW livestock water use
LW environmental health livestock exposure

MAG Ministry of Attorney General
MAH monocyclic aromatic hydrocarbon
MAL Ministry of Agriculture and Lands
MCPA 4-chloro-2-methylphenoxy acetic acid
MEMPR Ministry of Energy, Mines and Petroleum Resources
MNA monitored natural attenuation
MoE Ministry of Environment
MoFR Ministry of Forests and Range
MoH Ministry of Health

| | |
|--------------|---|
| MRL | minimum risk level |
| MSDS | materials safety data sheet |
| MTBE | methyl tertiary butyl ether |
| NAPL | nonaqueous phase liquid |
| NATO | North Atlantic Treaty Organisation |
| NBA | National Brownfields Association |
| NCSRP | National Contaminated Sites Remediation Program |
| NIR | Notification of Independent Remediation |
| NOAEL | no observed adverse effect level |
| NOEL | no observed effect level |
| NOM | Notification of Offsite Migration |
| NS | no standard |
| NTA | nitrilotriacetic acid |
| NUCC | no upper cap concentration |
| OECD | Organization for Economic Cooperation and Development |
| OGC | Oil and Gas Commission |
| OIC | order-in-council |
| ORNL | Oak Ridge National Library |
| ORO | Oak Ridge Operations |
| PAH | polycyclic aromatic hydrocarbon |
| PBB | polybrominated biphenyl |
| PCB | polychlorinated biphenyl |
| PCDD | polychlorinated dibenzo-p-dioxin |
| PCDF | polychlorinated dibenzofuran |
| PCE | tetrachloroethylene |
| PCOC | potential contaminant of concern |
| PCP | pentachlorophenol |
| PCT | polychlorinated terphenyl |
| PEC | probable effect concentration |
| PEL | probable effect limit |
| PEP | Provincial Emergency Program |
| PERC | tetrachloroethylene |
| PMHO | Provincial Medical Health Officer |
| PID | land title parcel identifier |
| PIN | Crown land parcel identification number |
| PL | urban park land use |
| PPRTV | provisional peer-reviewed toxicity value |

PQL practical quantification limit
PQRA Guidance on Human Health Preliminary Quantitative Risk Assessment
PRA probabilistic risk assessment
PRG preliminary remedial goal
PSI preliminary site investigation
PSQS HH preliminary soil quality standard human health
PSQS EH preliminary soil quality standard ecological health
PTAC Petroleum Technology Alliance Canada

QA quality assurance
QC quality control

RA risk assessment
RAGS Risk Assessment Guidance for Superfund
RAIS Risk Assessment Information System
RAP remedial action plan
RAR Riparian Area Regulation
RfC reference concentration
RfD reference dose
RL residential land use
RLUST residential leaking underground storage tank
RM risk management
RP responsible person
RSC Roster Steering Committee

SABCS Science Advisory Board for Contaminated Sites in B.C.
SAD strong acid dissociable
SALM strong acid leachable metals
SARA Species at Risk Act
SedQC SCS sensitive sediment use
SedQC TCS typical sediment use
SETAC Society for Environmental Toxicology and Chemistry
SFi slope factor - inhalation
SFo slope factor - oral
SHW suspect hazardous waste
SIR site information request
SLRA Screening Level Risk Assessment
SOP standard operating procedure
SoSC summary of site condition

| | |
|--------------|--|
| SPLP | synthetic precipitation leaching procedure |
| SQG | soil quality guideline |
| SQSHH | soil quality standard human health |
| SQSEH | soil quality standard ecological health |
| SRA | stochastic risk assessment |
| SSD | species sensitivity distribution |
| SSL | soil screening level |
| SSO | site specific objective |
| SSS | site specific standards |
| SWR | Special Waste Regulation |
| SWIS | Special Waste Information System |
| | |
| TBTO | tributyltin oxide |
| TCE | trichloroethylene |
| TCLP | toxicity characteristic leaching procedure |
| TC 05 | tumorigenic concentration - 5% incidence |
| TD 05 | tumorigenic dose - 5% incidence |
| TDI | tolerable daily intake |
| TEC | threshold effect concentration |
| TEF | toxicity equivalency factor |
| TEL | threshold effect level |
| TEQ | toxic equivalent |
| TLV | threshold limit value |
| TMAN | trimellitic anhydride |
| TRC | tissue residue criteria |
| TRG | tissue residue guideline |
| TRV | toxicity reference value |
| TS | environmental health terrestrial soil exposure |
| | |
| UC | upper cap |
| UN | United Nations |
| URi | cancer unit risk - inhalation |
| URo | cancer unit risk - oral |
| USEPA | United States Environmental Protection Agency |
| UST | underground storage tank |
| | |
| VES | vapour extraction system |
| VMS | vapour management system |
| VOC | volatile organic compounds |
| VPH | volatile petroleum hydrocarbons |

VRA Voluntary Remediation Agreement

WAD weak acid dissociable

WARP wide area remediation plan

WAS wide area site

WCB Workers' Compensation Board

WDR Waste Discharge Regulation

WERL Water Engineering Research Laboratory

WHO World Health Organization

WMA Waste Management Act

WQG water quality guideline

DRAFT