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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, procedures and guidance documents.

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 require definitions in the provincial contaminated sites regime. These may be lengthy and when repeated in various contaminated sites procedure documents and protocols they 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*;
- contaminated sites procedure documents signed by the Director of Waste Management , and
- technical and administrative guidance.

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 Procedure.

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. Also, if a term has an acronym in section 3.0, the applicable acronym is usually provided as part of the definition in square brackets after the term.

The definitions in this document are collected here for the convenience of ministry staff and are to be used in the context of the documents from which they have been taken.

If a definition contained in this document has been amended or updated in the *Environmental Management Act* or Contaminated Sites Regulation, the updated definition in that Act or Regulation takes precedence.

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 Site Registry 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 Site Registry 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 Site Registry status code that means that a site is undergoing or requires an environmental investigation.

“active – under remediation” is a Site Registry 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 parcel” means a parcel at which substances are present due to the migration of those substances from one or more neighbouring areas.

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

“agricultural land use” [AL] 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” [AiP] means an approval in principle under section 53 [of the Act].

“Approved Professional” [AP] 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 the ministry’s 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, estuarine or marine aquatic ecosystem, including phytoplankton, zooplankton, benthos, macrophytes and fish.

“aquatic life water use” [AW] 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 any surface water, watercourse, wetland, sediment or porewater 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 [APEGBC].

“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.

“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.

“brownfield” means underutilized property that is or is perceived to be contaminated and that has a reasonable potential for redevelopment.

“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.

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

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

“Client Information Officer” [CIO] means the ministry’s Client Information Officer who receives and does the initial administrative 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 [CABBC].

“commercial land use” [CL] 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.

“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.

“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*.

“complete exposure pathway” means an exposure pathway for which all of the following five elements are present:

- (a) a source of contamination;
- (b) an environmental medium and transport mechanism such as movement through groundwater;
- (c) a point of exposure such as a private well;
- (d) a route of exposure such as drinking, and
- (e) a receptor population such as people potentially or actually exposed.

“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].

“constructed ditch” means a regularly maintained man-made trench or furrow dug in the ground for the primary purpose of conveying or draining surface water, storm water or irrigation water that may or may not contain water at all times of the year.

“constructed pond” means a regularly maintained man-made pool of still water for the primary purpose of storing surface water, storm water or irrigation water collected from a constructed ditch or interconnected system of constructed ditches including, without limitation, sedimentation ponds, retention ponds, detention ponds, treatment lagoons and artificial wetland treatment systems.

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

“contaminant spreading” means the spreading of a contaminant within or between soil, sediment, water or vapour.

“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 Application Tracking system” [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*.

“contaminated sites legal instrument” [CSLI] includes an Approval in Principle, Certificate of Compliance, Contaminated Soil Relocation Agreement, Determination of Contaminated Site, Transfer Agreement and Voluntary Remediation Agreement.

“contaminated sites legal regime” means the provisions of the Act, Regulation and supporting protocols that provide the legal basis for the administration, investigation and remediation of contaminated sites in British Columbia.

“contaminated sites service application” [CSSAF] means an application for a service to be provided by the ministry typically listed in Schedule 3, Tables 2 and 3, of the Regulation.

“contaminated soil relocation agreement” [CSRA] 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” [DSI] 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.

“director's protocol” means a protocol established by a director under section 64 [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” [DW] means the use of water for the purpose of consumption by humans.

“ecological risk assessment” means a qualitative or quantitative appraisal of the actual or potential impacts of contaminants on biota other than humans.

“ecologically active zone” [EAZ] 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”[ENGC] means a risk management measure for controlling risks to human health and the environment from exposure to substances at a parcel by the use of a technology that

- (a) controls or contains the migration of a substance, or
- (b) prevents, minimizes or mitigates the release of a substance,

and

includes, without limitation, soil, sediment caps, solidification methodologies, chemically reactive barriers, impermeable artificial covers, surface water dikes, trenches, leachate collection systems, water treatment systems, vapour barriers, ventilation control systems, and groundwater containment systems or procedures.

“enhanced attenuation” means the use of chemical, biological or physical methods to increase the rate of degradation of contaminants in an environmental medium.

“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 pathway” means the route that a substance takes in moving from its source to its end point and includes:

- (a) a source of contamination;
- (b) an environmental medium and transport mechanism such as movement through groundwater;
- (c) a point of exposure such as a private well;
- (d) a route of exposure such as drinking, and
- (e) a receptor population such as people potentially or actually exposed.

“Exposure Pathway Questionnaire” [EPQ] means the questionnaire which is part of a site risk classification report and which is used to evaluate the presence of complete exposure pathways in conjunction with the risk classification of a site.

“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” [FS] 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*.

“food chain” means a sequence of organisms in an ecological community in which each organism uses the next (usually lower) member of the sequence as a food source.

“food chain modelling” means the mathematical estimation for a substance of the extent of bioconcentration from environmental media and of the extent of bioaccumulation and biomagnification from food which occurs through a succession of organisms within a biological community or ecosystem.

“fractured bedrock” means a rock mass that contains fractures of hydrogeological significance as determined by the presence of any of the following conditions:

- (a) the rock mass is composed of crystalline rocks including most plutonic and metamorphic rocks, non-pyroclastic volcanic rocks, and highly cemented sedimentary rocks,
- (b) the rock mass is brittle and deforms by fracturing,
- (c) the rock mass contains fractures that are visible in surface exposures, core, or well-image logs, or
- (d) the bulk hydraulic conductivity of the rock mass exceeds 10^{-6} m/s.

“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, which has neither dissolved in water nor sorbed onto soil and retains its original physical state.

“freshwater” means natural water in a water body having a natural salinity < 1.5 g/L, but does not include water from an estuarine water body subject to tidal salt water infiltration.

“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 compliance point” means a location where concentrations of substances in groundwater are not greater than the applicable numerical or remediation standards.

“groundwater contamination source” means any part of the land surface or subsurface containing substances that are either known or anticipated to generate groundwater substance concentrations greater than or equal to the applicable numerical 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” [HI] means the sum of hazard quotients for any substance over all exposure pathways.

“hazard quotient” [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 residential” means the type of housing at a residential complex housing multiple persons or families in:

- (a) individual units, including boarding houses, apartments, condominiums, lodges, and townhouses, or
- (b) institutional facilities, including residential schools, hospitals, residential day care operations, retirement homes, prisons, correctional centres and community centres,

but does not include commercial hotels or motels

“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 priority site” means a site determined to be a high priority by the Director based on criteria other than those used for site risk classification.

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

“high risk pathway” means an exposure pathway for which there are upper cap exceedances and all the risk criteria for that exposure pathway are met, as defined in a director’s protocol.

“high risk site” means a site determined to be a high risk site under a director’s protocol.

“high risk site condition” means a condition at a site defined under a director’s protocol and includes the presence of mobile nonaqueous phase liquids and the potential for high risk exposure to contaminants to occur.

“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.

“human health risk assessment” means a qualitative or quantitative appraisal of the actual or potential impacts of contaminants on humans.

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

“in situ management facility” means a facility used to

- (a) prevent or control the movement or release of hazardous waste contaminants, or
- (b) treat or destroy hazardous waste contaminants in soil or groundwater at an historical hazardous waste contaminated site in such a way that the physical location of the hazardous waste contaminants and the soil is not substantially altered.

“inactive - no further action” is a Site Registry 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 Site Registry 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” [IR] means remediation carried out without the direct involvement of the Ministry of Environment or other agency delegated under section 57 of the Act, other than involvement specified under sections 54 and section 64 of the Act and section 57 of the Regulation.

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

“industrial land use” [IL] 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.

“information order” means an order for information under section 77 of the Act.

“Institute” means the British Columbia Institute of Agrologists [BCIA].

“institutional control” [INSC] means a risk management measure for controlling risks to human health and the environment from exposure to

substances at a parcel by the imposition of legal or administrative requirements that

- (a) limit the use of soil, water, sediment, vapour or a resource at the parcel, or
- (b) limit access to substances at the parcel;

and

includes, without limitation, fences, signs, easements, covenants, zoning restrictions, contingency or emergency response plans or actions, orders, notices in records, and notifications to persons and government agencies.

“intrinsic control” [INTC] means an inherent feature at a parcel which without the use of engineering or institutional controls, controls risks to human health and the environment from exposure to substances and includes, without limitation

- (a) a natural physical barrier, and
- (b) an inherent feature which modifies
 - (i) the physical, chemical or biological behaviour or properties of a substance, or
 - (ii) the environmental media in which a substance is contained.

“irrigation water use” [IW] 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. [Note that for contaminated sites regulatory purposes, “land” is distinct from “sediment” in that sediment is particulate material usually overlain by water. Also see the definition for “sediment.”]

“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.

“legal instrument” means a contaminated sites legal instrument.

“legal 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*.

“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” [LW] 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.

“maintained watercourse” means a constructed ditch or constructed pond that:

- (a) conveys irrigation water on agricultural land, or
- (b) conveys or drains storm water or surface water on agricultural, residential, commercial, or industrial land;

unless the constructed ditch or constructed pond:

- (c) has been designated as critical habitat for aquatic species at risk under the *Federal Species at Risk Act*, or

(d) constitutes sensitive habitat for designated endangered or threatened aquatic species under the British Columbia *Wildlife Act*.

“marine or estuarine dredged material” means dredged sediments or other particulate material obtained from a water body other than a freshwater water body.

“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 *Public Health Act*.

“migration” includes the migration of

- (a) environmental media, and
- (b) substances contained in, or emanating from, environmental media whose movement is due to the influence of natural forces, but does not include the relocation of environmental media or substances by a person.

“ministry” [MoE] 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.

“monitored natural attenuation” [MNA] means the use of natural attenuation processes in a carefully controlled and monitored approach to site remediation.

“monitoring plan” means a plan for physical, chemical or biological sampling and analysis to evaluate environmental conditions at a site.

“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 boreal wetland bog, fen or permanent marsh as classified by the Canadian Wetland Classification System¹ and is characterized, without limitation, by a surface or near-surface water table and a preponderant presence of peat, Sphagnum mosses and sedges.

“natural attenuation” means a variety of physical, chemical, and biological processes that, under favorable conditions, act without human intervention to reduce the mass, toxicity, mobility, volume, or concentration of substances in soil, sediment or groundwater. They include biodegradation, dispersion, dilution, sorption, volatilization, radioactive decay, and chemical or biological stabilization, transformation, and destruction of substances.

“near shore” means the location of land situated above the marine or estuarine high water mark within an area where groundwater quality is or may be under marine tidal influence. Unless groundwater characterization data indicates otherwise, a near shore area is assumed to extend from the marine or estuarine high water mark a distance of 1 kilometre inland.

“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.

“non-high risk site” means a site which is not classified as a high risk site and includes a site which was a high risk site at which all high risk conditions were removed.

“notation” means an entry in the Site Registry that repeats, summarizes or comments on a matter relating to a site, including partial or complete

¹ Environment Canada. The Canadian Wetland Classification System. at: http://www.qc.ec.gc.ca/faune/atlasterreshumides/html/classification_e.html

correspondence, reports, plans, notes, and entries for events.

“Notification of Completion of Independent Remediation” means a notification to a Director on the completion of independent remediation by a person referred to in section 54 (2) (b) of the Act.

“Notification of Independent Remediation” [NIR] means a Notification of Initiation of Independent Remediation or a Notification of Completion of Independent Remediation.

“Notification of Initiation of Independent Remediation” means a notification to a Director on the initiation of independent remediation by a person referred to in section 54 (2) (a) of the Act.

“Notification of Likely or Actual Migration” [NOM] means a notification under sections 57 and 60.1 of the Regulation to a Director and to the owner of neighbouring parcels which have been or likely have been contaminated by the offsite migration of substances from a source parcel to the neighbouring parcels.

“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 in Schedules 6 and 10 of the Contaminated Sites Regulation.

“Numerical Standards Approved Professional” means an Approved Professional who has passed an examination sponsored by the Society of Approved Professionals of British Columbia for applicants to qualify as “standards assessment specialists” and whose qualifications and experience:

- (a) represent an application of the knowledge of contaminant sources, fate and transport;
- (b) were gained in an environment where the individual had primary responsibility for the technical and scientific aspects of site assessment and/or remediation;
- (c) show that appropriate regulatory requirements and guidelines for site investigations, management and remediation work were met; and
- (d) span all stages of contaminated sites investigation and remediation.

“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 at a parcel or area neighbouring a site. [In some circumstances the neighbouring parcel or area 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.

“operations and maintenance plan” [O&M plan] means a plan for ongoing management and performance verification of risk management works which is typically required for works involving engineered control systems that involve automated or manual inspection, monitoring, operation or maintenance.

“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*].

“organic soil” means any soil containing at least 30% organic matter by weight and includes most of the soils commonly known as peat, muck or bog soils.

“organoleptic” means affecting or involving a sense organ such as that of taste, smell, or sight.

“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.

“permit” means a permit issued under section 14 [*permits*][of the Act] or under the regulations [under the Act].

“performance verification” [PV] means risk management performance verification activity which may include inspection and implementation of a monitoring plan.

“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:

- (a) the absence of detectable contaminant concentrations; or
- (b) substance concentrations below the applicable numerical standards.

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

“pollution abatement order” means an order issued by a Director under section 83 of the Act.

“pollution prevention order” means an order issued by a Director under section 81 of the Act.

“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.

“preapproval” means a preapproval required under a director’s protocol.

“preferential flow pathway” and “preferential pathway” mean a pathway that is significantly (greater than 1 order of magnitude) more water or gas permeable than the soil media that surrounds it and may be anthropogenic (including pathways such as underground utilities for sewers, water and gas lines) or natural (including pathways such as fractured bedrock, surface depressions, streambeds and ditches that intersect and drain shallow aquifers).

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

“probabilistic risk assessment” means the use of a mathematical model based on probability distribution functions as opposed to fixed point estimates to characterize exposure and quantify risk and hazard in a risk assessment.

“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 *Public Health Act*.

“qualified professional” [QP] means a person who

- (a) is registered in British Columbia with his or her appropriate professional association, acts under that professional association's code of ethics, and is subject to disciplinary action by that professional association, and
- (b) 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, wetland, 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 has been 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.

“record keeping” means maintaining records of monitoring, inspections, operation and maintenance and contingency actions, conditions and performance.

“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 objective” means a concentration of a substance in soil, water, sediment or vapour which must be met in order for a site to be considered to meet the remediation standards of the Contaminated Sites Regulation and include:

- (a) a numerical remediation standard,
- (b) a local background standard established under the applicable protocol,
and
- (c) a site-specific risk-based concentration.

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

“remediation plan” [RP] 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” [RL] 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, day care 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” [RP] 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” [RA] 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-based standards” means the standards prescribed in sections 18 and 18.1 of the Regulation.

“Risk-based Standards Approved Professional” means an Approved Professional who has passed an examination sponsored by the Society of Approved Professionals of British Columbia for applicants to qualify as “risk assessment specialists” and whose qualifications and experience:

- (a) represent an application of the knowledge of contaminant sources, fate, exposure and effects on biota (including humans);
- (b) were gained in an environment where the individual had primary responsibility for the technical and scientific aspects of the human health

- and/or ecological risk assessment;
- (c) show evidence that the accomplishment required a synthesis capability that only those who fully appreciate the topics of their discipline would have; and
 - (d) show that appropriate regulatory requirements and guidelines for risk assessment work and the application of risk-based standards were met.

“risk-managed high risk site” means a high risk site where high risk conditions are addressed by the risk management approach.

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

“risk management measure” means an engineering or institutional control implemented to mitigate or eliminate risks from the exposure of humans, animals and plants to contaminants.

“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” [SLRA] 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.

“sediment porewater” means the interstitial water within the uppermost 1 metre of stable sediment within an aquatic receiving environment.

“sensitive habitat” includes:

- (a) national, provincial, regional and municipal parks;

- (b) sensitive ecosystems identified by Federal, Provincial² and local governments;
- (c) habitat supporting red and blue listed species identified by the ministry³;
- (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.⁴

“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*.

“sentinel well” means a monitoring well established between a plume front and a receptor to detect whether a plume has migrated beyond predicted boundaries and which is used to ensure there will be time for remedial actions to prevent contamination reaching the receptor.

“single family residential” means the type of housing at a residence which houses a single person or family in a common unit, including a private home, cabin, shack, hut or tent.

² B.C. Ministry of Environment. Sensitive Ecosystem Inventories at: <http://www.env.gov.bc.ca/sei/index.html>

³ B.C. Ministry of Environment. BC Species and Ecosystem Explorer at: <http://www.env.gov.bc.ca/atrisk/toolintro.html>

⁴ 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” means the ministry's electronic database recording information in the possession of the ministry relating to the environmental condition of property.

“Site ID” means a unique identification number assigned by the ministry to a site listed in the Site Registry.

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

“site information request” [SIR] 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.

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

“site investigation order” means an order issued by a Director under section 41 (1) of the Act.

“site monitoring report” means a report which describes work intended:

- (a) to gather information on basic site characteristics to establish current or baseline conditions;
- (b) to establish long term trends in natural unperturbed systems to establish natural baselines at a site;
- (c) to estimate inherent variation within environmental media at a site, which can be compared with the variation observed in another specific area;
- (d) to make comparisons between different situations at a site (e.g., pre-development and post development; pre-remediation and post remediation; upstream and downstream; at different distances from a source) to detect changes; and
- (e) to make comparisons against a standard applicable to a site.

“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 order” means an order issued by a Director under section 40 (8) of the Act.

“site profile received” is a Site Registry 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 risk classification” means the categorization of a site based on the risks it poses to human health and the environment.

“Site Risk Classification Report” [SRCR] means a report providing information about the risk classification of a site whose content, format and other requirements are specified in a director’s protocol.

“site-specific numerical standard” [SSS] 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.

“site-specific risk-based concentration” means a concentration of a substance in an environmental medium back-calculated in a risk assessment completed for a specific site, such that exposure to that substance in all environmental media for which all complete exposure pathways exist at that site would not exceed

- (a) for a non-threshold carcinogenic substance, a calculated human lifetime cancer risk of one in 100,000, and
- (b) for a threshold non-carcinogenic substance, a hazard index of one.

“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 Site Registry 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 parcel” means a parcel which has or had substances which migrated to one or more neighbouring areas.

“source site” means

- (a) a site which has or had substances which migrated to one or more neighbouring 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.

“status code” means a short statement assigned by ministry staff to describe the stage at which a site is in the investigation or remediation process.

“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” [SoSC] 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].

“supplemental environmental project” means an environmentally beneficial project that a responsible person agrees to undertake which the responsible person is otherwise not legally required to perform.

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

- (a) the agriculture, wildlands, or urban park land use classification applies;
- (b) contains terrestrial sensitive habitat;
- (c) 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

(d) lies within 300 m of sensitive habitat where residential, commercial or industrial land use applies at the site.

“theoretical solubility limit” means the saturated concentration of a chemical compound in water at 25 degrees Celsius and 1 atmosphere of pressure.

“toxicity reference value” [TRV] means a maximal estimate of exposure to a substance which would not elicit an unacceptable adverse toxicological effect in an organism, including without limitation; acceptable daily intake (ADI), benchmark dose [BMD], cancer potency slope factor [CPSF], ecological soil screening level [Eco-SSL], lowest observed adverse effect level [LOAEL], minimum risk level [MRL], no observed adverse effect level [NOAEL], reference dose [RfD], reference concentration [RfC], risk specific dose [RSD], tolerable daily intake [TDI], tumorigenic concentration 05 [TC05], tumorigenic dose 05 [TD05] and unit risk [UR].

“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,
- (d) soil contained and isolated in planters and similar structures, and
- (e) storage areas at active commercial and industrial operations.

“unknown status” is a Site Registry 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.

“upland” means land located inland of the near shore of a water body.

“upper cap concentration” [UCC] 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” [PL] 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 Schedule 11 of the Regulation.

“voluntary remediation agreement” [VRA] 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 discharge authorization” means an authorization listed in section 6 (5) (a) of the Act and an Approval in Principle in accordance with section 47 (6) of the Regulation.

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

“weight-of-evidence” means a structured framework approach for evaluating and assigning the relative or proportional contributions or weightings to each of multiple lines of evidence influencing the qualitative or quantitative estimation of risk or hazard in a risk assessment.

“wide area remediation plan” [WARP] 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” [WAS] means a site which is designated by a director under section 14 [of the Regulation].

“wildlands land use” [WL] 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 of British Columbia
AS	environmental health aquatic life sediment exposure
AST	above ground storage tank
ATSDR	Agency for Toxic Substances and Disease Registry
AW	aquatic life water use
BACT	best available control technology
BAF	bioaccumulation factor
BCBC	British Columbia Business Council
BCE	British Columbia Environment [i.e. MoE]
BCEIA	British Columbia Environmental Industry Association
BCELTAC	British Columbia Environmental Laboratory Technical Advisory Committee [formerly BCLQAAC]
BCF	bioconcentration factor
BCIA	British Columbia Institute of Agrologists
BCLQAAC	British Columbia Laboratory Quality Assurance Advisory Committee [now BCELTAC]
BEDS	biological effects database - sediment
BERC	Burrard Environmental Review Committee
BIEAP	Burrard Inlet Environmental Action Plan
BOD	biochemical oxygen demand
BTEX	benzene, toluene, ethylbenzene, and xylenes
CABBC	College of Applied Biology British Columbia
Cal EPA	California Environmental Protection Agency
CALA	Canadian Association of Laboratory Accreditation
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
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
COSEWIC	Committee on the Status of Endangered Wildlife in Canada
CP	chlorinated phenol
CPPI	Canadian Petroleum Products Institute
CPSF	cancer potency slope factor
CSAP	Contaminated Sites Approved Professional
CSIC	Contaminated Sites Implementation Committee
CSLI	contaminated sites legal instrument
CSM	conceptual site model
CSP	Contaminated Sites Program
CSR	Contaminated Sites Regulation
CSRA	Contaminated Soil Relocation Agreement
CSSAF	Contaminated Sites Services Application form
CSST	Contaminated Sites Soil Task Group
DA	decision analysis
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
DERA	detailed environmental risk assessment or detailed ecological risk assessment
DFO	Department of Fisheries and Oceans
dl	detection limit
DM	Deputy Minister
DNAPL	dense nonaqueous phase liquid
DPPD	n,n-diphenyl-1,4 benzenediamine
DQO	data quality objective
DRA	detailed risk assessment
DSI	detailed site investigation
DW	drinking water use
EA	environmental assessment or enhanced attenuation
EAZ	ecologically active zone
ECO SSL	ecological soil screening level

ECOTOX	ecotoxicology database
EC	Environment Canada
EC_x	effects concentration (x)
EDI	estimated daily intake
EERO	Environmental Emergency Response Officer
EMA	Environmental Management Act
EMB	Environmental Management Branch
EMMC	Environmental Management Management Committee
ENA	enhanced natural attenuation
ENG C	engineering control
EPA	Environmental Protection Agency [United States]
EPA NCEA	Environmental Protection Agency National Center for Environmental Assessment
EPD	Environmental Protection Division
EPH	extractable petroleum hydrocarbon
EPMC	Environmental Protection Management Committee
EPPC	Environmental Protection and Planning Committee [CCME]
EPQ	Environmental Pathway Questionnaire
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
foc	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 conductivity detection
GIS	geographic information system or groundwater

GOAT	interception system
GPR	GIS and Oracle access tool
GVRD	ground penetrating radar
	Greater Vancouver Regional District
H ₂ S	hydrogen sulphide
HCFC-142b	1-chloro-1,1-difluoroethane
HCH	hexachlorocyclohexane
HCH-gamma	lindane
HEPA	high efficiency particulate air
HEPH	heavy extractable petroleum hydrocarbon
HHRA	human health risk assessment
HI	hazard index
HMX	octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine
HQ	hazard quotient
HR	high risk
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
IL	industrial land use
ILMB	Integrated Land Management Bureau
INTC	intrinsic control
INSC	institutional control
IR	independent remediation
IRIS	Integrated Risk Information System
I-TEF	NATO international toxicity equivalency factor
ITER	International Toxicity Estimate for Risk [database]
IW	irrigation water use
K _d	dissociation constant
K _{oc}	organic carbon partition coefficient
K _{ow}	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
LOEC lowest observed effect concentration
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 or 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
MDC mean detection concentration
MDL method detection limit
MEMPR Ministry of Energy, Mines and Petroleum Resources
MNA monitored natural attenuation
MoE Ministry of Environment
MoH Ministry of Health Services
MNA monitored natural attenuation
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
NHR non-high risk
NIR Notification of Independent Remediation
NOAEL no observed adverse effect level
NOEC no observed effect concentration
NOEL no observed effect level
NOM Notification of Likely or Actual Offsite Migration
NORM naturally occurring radioactive material
NS no standard
NTA nitilotriacetic acid

NUCC	no upper cap concentration
O&M	operations and management
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
OSWER	Office of Solid Waste and Emergency Response [United States]
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
PV	performance verification

QA	quality assurance
QC	quality control
QP	qualified professional
RA	risk assessment
RAGS	Risk Assessment Guidance for Superfund
RAIS	Risk Assessment Information System
RAR	Riparian Area Regulation
RASS	risk assessment guidance for Superfund
RfC	reference concentration
RfD	reference dose
RL	residential land use
RIVM	Netherlands National Institute of Public Health and the Environment
RLUST	residential leaking underground storage tank
RM	risk management
RP	responsible person or remediation plan
RPD	relative percent difference
RSC	Roster Steering Committee
RSD	risk specific dose
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	sediment quality criteria - sensitive sediment use
SedQC TCS	sediment quality criteria - typical sediment use
SETAC	Society for Environmental Toxicology and Chemistry
SF _i	slope factor - inhalation
SF _o	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
SRCR	Site Risk Classification Report
SSL	soil screening level
SSO	site-specific objective
SSS	site-specific standard
STEL	short term exposure limit
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
TWA	time weighted average
UC	upper cap
UN	United Nations
UR	unit risk
UR _i	cancer unit risk - inhalation
UR _o	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 compound
VPH volatile petroleum hydrocarbon
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
WL wildlands land use
WMA Waste Management Act
WSD Water Stewardship Division
WQG water quality guideline

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