



Ministry of
Environment

Recent Developments in British Columbia's Land Remediation Program

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**Environmental Managers of B.C. Workshop
February 16, 2012**

Key topics

- Sharpening ministry focus on high risk sites
 - How are Approved Professionals involved?
 - How are high risk sites classified?
 - What high risk sites have been identified?
- Resolving water use determination issues
- Issuing new and amended documents for public review and comment
- Planning amendments to the legal regime

Our mandate: focus on high risk sites

- Key strategy of the Ministry of Environment Service Plan:

“Managing the remediation of high risk contaminated sites and regulating the remediation of all contaminated sites.”

- The ministry does not have the capacity to provide detailed review of all applications
- Strategy implemented in 1999 to address the situation

Our mandate: focus on high risk sites

Approved Professionals background

- Section 42 of the *Environmental Management Act* enables
 - Director to establish the Roster of Approved Professionals
 - Roster members by way of a protocol to make classes of recommendations
- Protocol 6, “Eligibility of Applications for Review by Approved Professionals” requires Approved Professional recommendations for non-high risk site service applications

Our mandate: focus on high risk sites

Site risk classification

- Protocol 12, "Site Risk Classification, Reclassification and Reporting"
 - In effect June 1, 2011
- Triggers for submission of Site Risk Classification Reports include submission
 - Of service applications
 - Of notifications
 - Of ordered site investigation reports
 - When required by a Director

Our mandate: focus on high risk sites

Site risk classification

- 589 sites classified (as of January 30, 2012)
 - **7% (40 sites) high risk**
 - 91% (537 sites) non-high risk
 - 2% (12 sites) pending classification
- 4 reclassified from high risk to non-high risk
- High risk site locations
 - Lower Mainland (65%)
 - Vancouver Island (15%)
 - Other (20%)

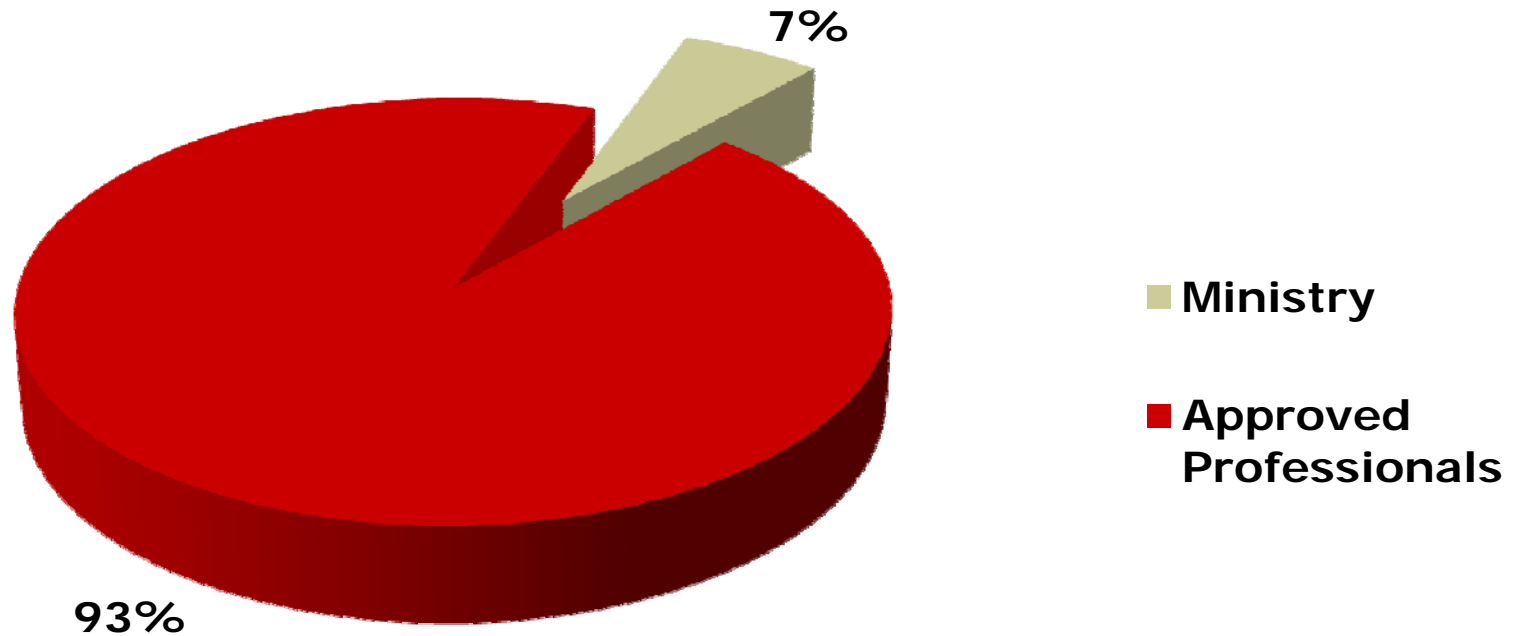
Our mandate: focus on high risk sites

Types of high risk contamination

- Petroleum hydrocarbons (38%)
- Dry cleaning solvent (23%)
- Metals (17%)
- Ammonia (7%)
- PAHs (coal tar) (7%)
- Other (8%)

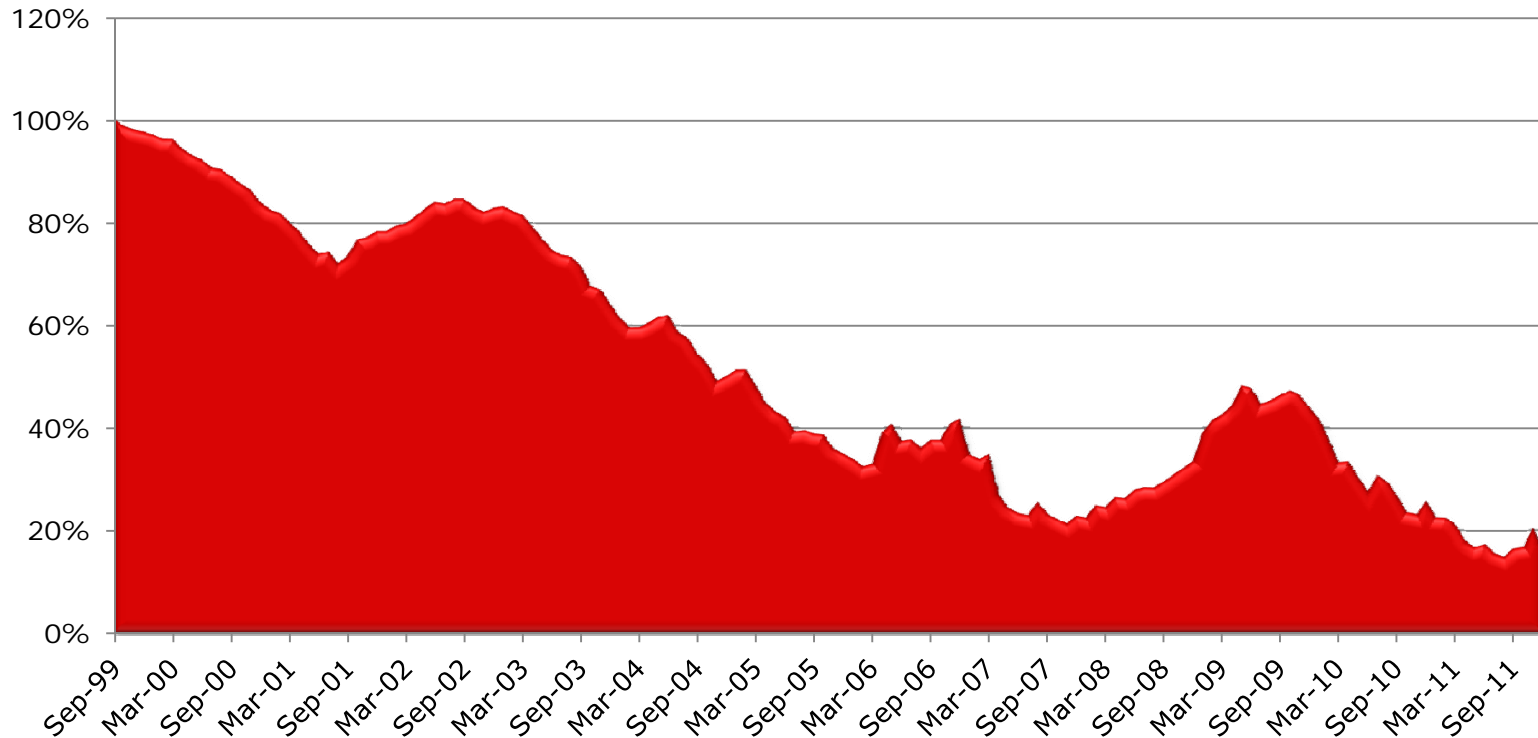
Our mandate: focus on high risk sites

Our goal for instrument application reviews



Our mandate: focus on high risk sites

Percentage of Instruments Issued by Direct Ministry Submission (Based on Moving 12 Month Totals)



Water use determination

Contaminated Sites Regulation

- Defines four water uses
 - Drinking
 - Aquatic Life
 - Irrigation
 - Livestock
- The uses
 - Apply at a site and at neighbouring sites
 - May be specified by a Director of Waste Management

Water use determination

Technical Guidance 6

- Deals with water use determinations
- Came into effect February 11, 2011
- Objectives
 - To protect viable groundwater resources for highest value use, currently and in the future
 - To protect groundwater discharging to aquatic receiving environments
 - To ensure contaminant plumes in viable aquifers and nearby aquatic receiving environments are mapped, investigated and remediated

Water use determination

Technical Guidance 6

- Provides rules for determining what current and future water uses apply at a site
- If no water uses apply at a site, the site would be determined to have “no water use”
 - Exemptions for future drinking water use provided

Water use determination

Technical Guidance 6

- Findings after one year
 - Drinking water standards apply to more sites
 - Many more sites are contaminated with iron and manganese
 - More sites have potential soil contamination for substances in Schedule 5 of the Regulation
 - Increased costs for investigating and remediation some sites
- Additional exemption criteria and other relief requested

Water use determination

Technical Guidance 6

- Three working groups created by the CSAP Society
 - Exemption criteria
 - Drinking water in soil assessment
 - Iron and manganese
- Focussed workshops on June 9
- Interim results made public October 26
- Final reports submitted to ministry December 19
- Reports now under ministry review

New and updated documents

13 draft documents involved

- To be released on ministry website for public review and comment
 - To be announced by CS e-Link message
- Last two draft documents being finalized
- Expect release on Internet this Spring

New and updated documents

Protocol highlights

06. Eligibility of Applications for Review by Approved Professionals

- Expanding use of preapprovals

12. Site Risk Classification, Reclassification and Reporting

- Adding exemptions

20. Detailed Ecological Risk Assessment Requirements

- Includes a checklist

New and updated documents

Procedure highlights

08. Definitions and Acronyms for Contaminated Sites

- Adding new terms

09. Procedures for Processing Site Profiles

- Amending authorization release scenarios
- Adding new provisions for contaminant migration and performance assessments

10. Requirements for Service Application Resubmissions, Withdrawals and Amendments

New and updated documents

Procedure highlights

11. Transfer Agreement Procedures for Mining Properties

- Provides mine vendors liability relief

12. Procedures for Preparing and Issuing Contaminated Sites Legal Instruments

- Has detailed requirements for ministry staff and Approved Professionals

16. Procedures for Administering Site Risk Classification

- Assists ministry staff in prioritizing high risk sites

New and updated documents

Administrative Guidance highlights

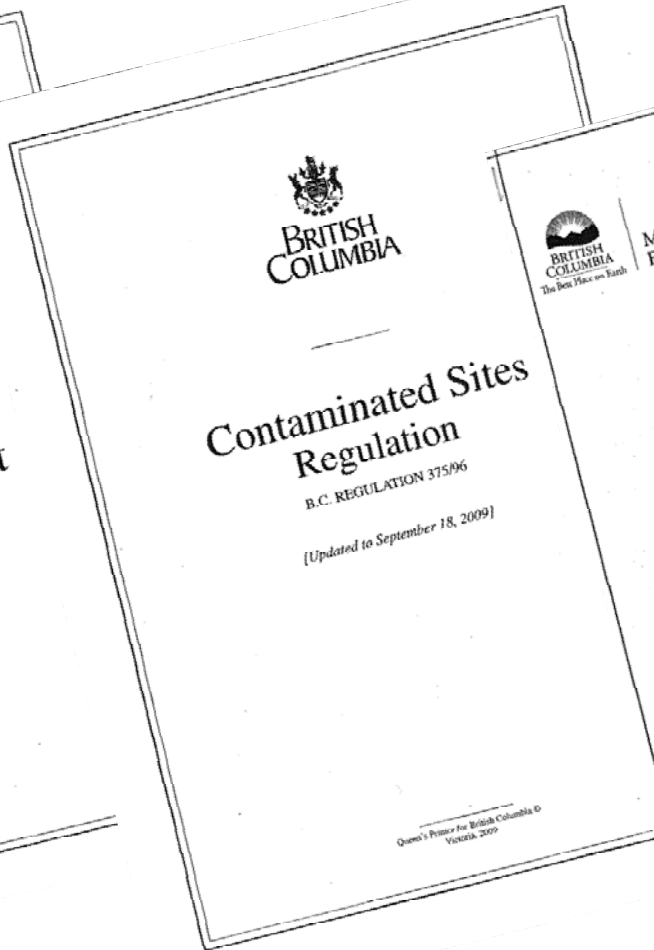
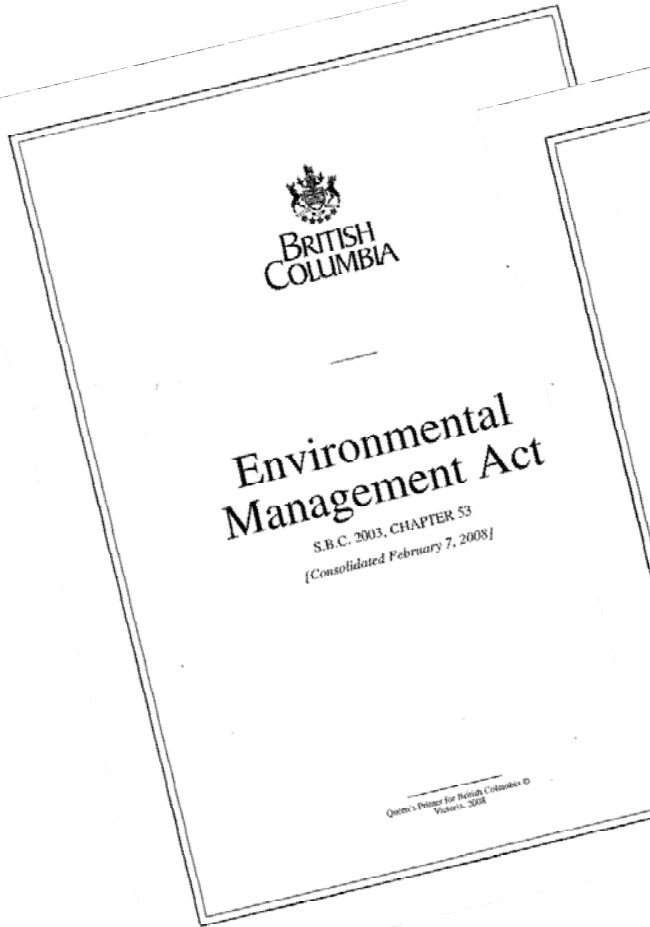
11. Expectations and Requirements for Contaminant Migration
 - Focuses on communication requirements for source and affected parcel owners
12. The External Contract Review Process
 - A comprehensive description with procedures

New and updated documents

Technical Guidance highlights

7. Supplemental Guidance for Risk Assessments
 - A major update
14. The Operation of Soil Treatment Facilities for the Bioremediation of Hydrocarbon Contaminated Soil
 - Complements Protocol 15, "Soil Treatment Facility Design and Operation for Bioremediation of Hydrocarbon Contaminated Soil"

Legal regime for contaminated sites



Legal regime for contaminated sites

Drivers for change

- Internal developments
 - Commissioned report follow up
 - Site boundaries procedures
 - Procedures for affected sites consultations
- External developments
 - National policy on remediation liability
 - B.C. appeals and court cases
 - Trends in other jurisdictions
 - Increasing number of wide area sites

Possible amendments to the Regulation

Possible Ministerial Order amendments

- Environmental quality standards
 - Update Schedule 4
 - New industrial land use human health standards in Schedule 5
 - Possible changes to iron and manganese drinking water standards
 - New toxicity equivalency factors (TEFs) for coplanar (dioxin-like) PCBs
 - Use WHO instead of NATO TEFs for polychlorinated dioxins and furans

Possible amendments to the Regulation

Possible Ministerial Order amendments

- Site profiles
 - Amend existing exemptions
 - Allow metes and bounds description of land
- Soil Relocation Agreements
 - Fine tune exemptions
 - Include wildlands land use
- Summaries of Site Condition
 - Under internal review

Possible amendments to the Regulation

Possible Order-in-Council amendments

- Align designations of wide area sites with Determination of Contaminated Site provisions

Possible amendments to legislation

Parts 4 and 5 of EMA

- Proposed amendments to contaminated sites provisions accommodate
 - Key new policy initiative
 - Housekeeping needs
- Timing of amendments is uncertain

Possible amendments to legislation

Parts 4 and 5 of EMA

Key new policy initiative

- Implement Speech from the Throne commitments supported by the B.C. Brownfields Renewal Strategy
- Adopt new 14th CCME liability principle for contaminated sites

Owners of a contaminated site would have the capacity to transfer remediation liability to purchasers

Possible amendments to legislation

Parts 4 and 5 of EMA

Other proposals

- Simplify site profile provisions
 - Delete several triggers
 - Automate requirements for site investigation
- Consolidate in the Regulation
 - Persons not responsible for remediating contamination
 - Items which must be noted on Site Registry
 - Part 5 – Remediation of mineral exploration sites and mines

Possible amendments to legislation

Parts 4 and 5 of EMA

Other proposals

- Clarify protection for affected site owners if substances flow through their parcels
- Delete minor contributor provisions
- Provide a more effective alternate dispute resolution process
- Introduce feasibility studies
- Introduce supplemental environmental projects (offsets)

Possible amendments to legislation

Parts 4 and 5 of EMA

Other proposals

- General section for contaminated sites instruments (e.g., Certificates of Compliance)
- Strengthen offence provisions
- Strengthen enforceability of conditions in instruments
- Exempt contaminated sites from onsite hazardous waste provisions

Possible new streamlined statute

What could be improved?

- Fundamental principles not always provided
- Stigma with label “contaminated site”
- Focus on social outcomes, e.g. brownfields
- Provisions for discharge authorizations and hazardous waste
- Provisions for site profiles and soil relocation

Possible new streamlined statute

How might new legislation look?

- A thinner Act, a thicker Regulation
- Similar provisions located in one place
- Fundamental principles clearly spelled out
- Fewer decision points and transactions
- Offsite migration issues clearly addressed
- Streamlined legislative model

Thank you!

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<http://www.env.gov.bc.ca/epd/remediation/>