Contaminated Sites Review
Where Have all the Contaminated Sites Gone?

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Key topics

The B.C. contaminated sites regime

- Are contaminated sites still a problem in B.C.?
- What are the key legal provisions for contaminated sites?
- Current developments
- Planning to renew contaminated sites legislation
A typical service station . . .
Can turn into BIG problem . . .
With even bigger consequences . . .
And a costly ending . . .
Contaminated sites highlights

Typical sources of contamination

• Motor vehicle fuelling
• Residential and commercial heating oil tanks
• Dry cleaning operations
Contaminated sites highlights

12, 242 Sites on Site Registry (August 29, 2012)
Contaminated sites highlights

Number of Sites Added to Site Registry Annually

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Contaminated sites highlights

Annual Contaminated Sites Instruments Issued
(Based on Moving 12 Month Average Totals)
Contaminated sites highlights

Notifications of Independent Remediation Completion
(Based on Moving 12 Month Average Totals)
Contaminated sites highlights

Looking back

- First site reviewed in 1983
- Cleanup of Expo ’86 site (over 25 year project)
- Fish living again in Britannia Creek
  - Result of ministry order being issued to treat heavy metal acid rock drainage
- About 4,000 sites known to be cleaned up since 1997
  - 75% cleaned up to numerical standards
  - 25% remediated to risk-based standards
Contaminated sites highlights

Site risk classification

- Started June 2010
- 763 sites classified (August 28, 2012)
  - 7% (58 sites) high risk
  - 90% (683 sites) non-high risk
  - 3% (22 sites) pending classification
- 4 reclassified from high risk to non-high risk

High risk site locations

- Lower Mainland (65%)
- Vancouver Island (15%)
- Other (20%)
Contaminated sites highlights

Types of high risk contamination

- Petroleum hydrocarbons
- Dry cleaning solvent
- Metals
- Other
Contaminated sites highlights

Our mandate: focus on high risk sites

- Key strategy in the Ministry’s Service Plan:
  
  “Managing the remediation of high risk contaminated sites and regulating the remediation of all contaminated sites.”

- Land Remediation does not have the capacity to provide detailed review of all service applications or independent cleanups

- 75% of legal instrument requests now come with an Approved Professional’s recommendation

- Our goal is to increase this to 93%
Legal regime for contaminated sites

- Environmental Management Act
- Contaminated Sites Regulation
- Protocol 12 for Contaminated Sites

British Columbia

Land Remediation Section – Environmental Management Branch
Key legal features

- Parts 4 and 5 of *Environmental Management Act* plus entire Contaminated Sites Regulation
  - Staged identification, assessment and cleanup provisions
  - Provisions to certify site cleanups
  - Tools for access to site information
  - Flexible, scientifically-based standards
  - Extensive rules on liability
  - Guidance on independent remediation
  - Requirements for contaminant migration
  - Extensive reliance on Approved Professionals
  - Fees to offset our costs
Key legal features

"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;
Key legal features

**Environmental Management Act**

**Part 4**
- Identification of contaminated sites
- Liability for remediation
- Implementation of remediation
- Delegation
- Ministry authority
- General provisions

**Part 5**
- Remediation of mines and exploration sites

**Part 10**
- Offences and penalties
Key legal features

Contaminated Sites Regulation
- Site profiles
- Summaries of Site Condition
- Site Registry
- Fees
- Contaminated site definition/determination
- Remediation standards
- Liability
- Contaminated soil relocation
- Remediation plan approval and completion
- Independent remediation procedures
- Site investigations
- Orphan sites
- 11 Schedules
Key legal features

Protocols

- Issued by the Director of Waste Management
- Legally enforceable (EMA section 120 (17) (19))
- First issued in 1998 – 16 now in effect

Typical topics

- Requirements for investigations, analysis and interpretation, assessment, preparation of a remediation plan
- Requirements for planning, conducting and reporting on remediation
- Procedures for security
What have we been doing? Where next?

Documents, regulations, legislation

- 3 new and updated documents released in final form (July 17)
- 14 draft new and updated documents released for public review and comment (July 17)
- Amendments to Schedule 6 of the Contaminated Sites Regulation underway
- Planning legal amendments restarting
What have we been doing recently?

New and updated documents finalized July 17

Protocols
15. Soil treatment Facility Design and Operation for Bioremediation of Hydrocarbon Contaminated Soil (new)
17. Forms for Notifications of Independent Remediation and Migration (Update)

Technical guidance
07. Supplemental Guidance for Risk Assessments (update)
Where are we going? Next few months

Protocols comments requested

06. Eligibility of Applications for Review by Approved Professionals (update)

12. Site Risk Classification, Reclassification and Reporting (update)

18. Criteria for Establishing Multiple Land Uses at Sites (new)
Where are we going? Next few months

Procedures comments requested

08. Definitions and acronyms (update)

09. Site Profile Processing (update)

10. Requirements for Service Application Resubmissions, Withdrawals, Amendments (new)

11. Transfer Agreement Procedures for Mining Properties (new)

12. Procedures for Preparing and Issuing Contaminated Sites Legal Instruments (new)

16. Procedures for Administering Site Risk Classification (update)
Where are we going?  Next few months

Administrative guidance comments requested

11. Expectations and Requirements for Contaminant Migration (new)
Where are we going? Next few months

Technical guidance comments requested

14. The Operation of Soil Treatment Facilities for the Bioremediation of Hydrocarbon Contaminated Soil (new)

15. Concentration Limits for the Protection of Aquatic Receiving Environments (update)

22. Use of Monitored Natural Attenuation and Enhanced Attenuation for Groundwater Remediation (new)
Where are we going? Next few months

Amendments to Regulation Schedule 6

- Current drinking water standards for iron and manganese do not reflect their natural background levels

- The result
  - Unnecessary site investigation and cleanup costs for site owners
  - Unnecessary workload for ministry staff

Proposed regulation amendment

- Restrict their application to lands which may create iron and manganese as byproducts
Where are we going? Next few months

Protocols being drafted and revised

13. Screening Level Risk Assessment (update)
20. Detailed Ecological Risk Assessment (new)
Where are we going? Next few months

Technical guidance being drafted and revised

04. Vapour Investigation and Remediation (update)
06. Water Use Determination (update)
13. Groundwater model (update)
19. Sediment Quality Assessment (update)
21. Feasibility Studies (new)
Where are we going? Next few years

Updating and amending legislation

- Two options being pursued simultaneously
  - Preparing proposed changes to the *Environmental Management Act*
    - Key new policy initiatives
    - Housekeeping needs
  - Preparing proposed new *Site Remediation Act*
    - Concept papers to be drafted and discussed with stakeholders
Where are we going? Next few years

Updating and amending legislation

Key new policy initiative for both options

- Adopt new 14th CCME liability principle

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

- Currently under EMA owners who sell their land retain liability for remediation

- Is a key barrier to brownfields redevelopment

- Implementation would require “assurances”, e.g., financial security
Where are we going?  Next few years

How might new legislation look?

- *Thinner Act, thicker Regulation, more protocols*
- Fundamental principles and policies spelled out
- Fewer decision points and transactions
- Streamlined legislative model
- Similar provisions located in one place
Where are we going? Next few years

Ministry’s Site Remediation in B.C. Conference

- March 7–8, 2013 at Vancouver Convention Centre
- To address core regulatory and technical aspects of contaminated site remediation
  - Both introductory and advanced levels
- To include
  - An update and concept discussions on options for amending the contaminated sites legal regime
  - Brownfield remediation and redevelopment
  - Emerging initiatives such as sustainable remediation and innovative remediation techniques
Conclusions

Are contaminated sites still a problem in B.C.?

Yes

Why?

- Increasing number of sites identified
- Significant number of sites pose high risks to human health and the environment
- Many sites still need to be remediated
Subscribe to our CS e-Link system

Contaminated Sites e-Link Mailing List

The CS e-Link system notifies subscribers about ministry contaminated sites information, on-line documents, news and announcements. Also, it is a rapid message system to inform subscribers of developments in contaminated sites management in the province, and about other contaminated sites resources and references available on the Internet.

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Click here to view recent and archived messages.

How to Subscribe

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Key Topics

- Information on Sites
- Residential Heating Oil Storage Tanks
- Our Services
- Site Risk Classification
- Approved Professionals
- Independent Remediation
- Site Profiles
- Real Estate
- Brownfields
- Offsite Migration
- Remediation Liability
- High Profile Sites
- Soil Relocation
- Hazardous Waste
- Discharge Authorizations

Land Remediation

Welcome

The Land Remediation Section administers the provisions for the investigation and remediation of contaminated sites in British Columbia under the Environmental Management Act and Contaminated Sites Regulation.

Our section focuses on the remediation of brownfields, orphan sites and complex, high risk contaminated sites, and facilitates the remediation of low and medium risk sites. We also manage the Site Registry, provide operational and procedural contaminated sites guidance, and administer the site screening process using site profiles.

Through collaboration with communities, public organizations, other agencies and private parties, we strive to support development opportunities, protect human health and the environment, and improve appreciation of our natural heritage.
Thank you!

John.Ward@gov.bc.ca

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