Status Report on Site Remediation in B.C.
A Ministry of Environment Policy Perspective

Dr. John E.H. Ward

Second Annual Conference for Contaminated Sites
Science Advisory Board for Contaminated Sites in B.C.

September 27, 2012
Key topics

The B.C. contaminated sites regime
- Contaminated sites highlights
- Contaminated sites trends
- Current developments – draft documents
- Planning to renew contaminated sites legislation
Contaminated sites highlights

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

Status of Sites in B.C.

- Active - Assessment Complete: 48%
- Active - Remediation Complete: 17%
- Active - Under Assessment: 10%
- Active - Under Remediation: 18%
- Inactive - No Further Action: 3%
- Inactive - Remediation Complete: 1%
- Site Profile Received: 1%
Contaminated sites highlights

Number of Sites Added to Site Registry Annually

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Land Remediation Section – Environmental Management Branch
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

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%
Contaminated sites highlights

Annual Number of Instruments Issued Based on Ministry Recommendations
(Based on Moving 12 Month Average Totals)
Contaminated sites highlights

Annual Number of Instruments Issued
Based on Roster Recommendations
(Based on Moving 12 Month Average Totals)
Contaminated sites highlights

Percentage of Instruments Issued Via Roster
(Based on Moving 12 Month Average Totals)
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)
  - Comments due September 30
- Amendments to Schedules 5 and 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 month

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 month

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 month

Administrative guidance comments requested

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

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

Protocols being drafted and revised

11. Upper Cap Concentrations for Substances Listed in the Contaminated Sites Regulation (update)
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)
07. Supplemental Guidance for Risk Assessments (update)
13. Groundwater model (update)
19. Sediment Quality Assessment (update)
21. Feasibility Studies (new)
Where are we going? Next few months

Amendments to Regulation Schedule 5

<table>
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<tr>
<th>Site-specific Factor</th>
<th>COLUMN I</th>
<th>COLUMN II</th>
<th>COLUMN III</th>
<th>COLUMN IV</th>
<th>COLUMN V</th>
<th>COLUMN VI</th>
<th>Note</th>
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<tr>
<td>SOIL STANDARD FOR PROTECTION OF SITE-SPECIFIC FACTOR</td>
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<td>Agricultural (AL)</td>
<td>Urban Park (PL)</td>
<td>Residential (RL)</td>
<td>Commercial (CL)</td>
<td>Industrial (IL)</td>
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<td>HUMAN HEALTH PROTECTION</td>
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<td>Intake of contaminated soil</td>
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<td></td>
<td>Groundwater used for drinking water</td>
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Where are we going? Next few months

Amendments to Regulation Schedule 5

- Missing matrix numerical standards
  - Site-specific factor “intake of contaminated soil”
  - For industrial land use

Proposed regulation amendments

- Provide industrial land use human health standards for all matrices except lead
- Expect Director’s interim standards to be issued for lead
Where are we going? Next few months

Amendments to Regulation Schedule 6

- Current drinking water standards for iron and manganese do not reflect natural background
- 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
- Service stations not included on the list
  - Remediation to be addressed by protocol
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

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
  - Emerging initiatives such as sustainable remediation and innovative remediation techniques
  - An update and concept discussions on options for amending the contaminated sites legal regime
  - Brownfield remediation and redevelopment
- Registration should start in October 2012
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