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PM**1. Please provide the following contact information**

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**1. Are cleanup goals used when remediating contaminated mining sites?**

Yes

[http://www.bclaws.ca/EPLibraries/bclaws\\_new/document/ID/freeside/375\\_96\\_06](http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/375_96_06)[http://www.bclaws.ca/EPLibraries/bclaws\\_new/document/ID/freeside/375\\_96\\_07](http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/375_96_07)[http://www.bclaws.ca/EPLibraries/bclaws\\_new/document/ID/freeside/375\\_96\\_08](http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/375_96_08)[http://www.bclaws.ca/EPLibraries/bclaws\\_new/document/ID/freeside/375\\_96\\_09](http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/375_96_09)[http://www.bclaws.ca/EPLibraries/bclaws\\_new/document/ID/freeside/375\\_96\\_11](http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/375_96_11)[http://www.bclaws.ca/EPLibraries/bclaws\\_new/document/ID/freeside/375\\_96\\_12](http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/375_96_12)[http://www.bclaws.ca/EPLibraries/bclaws\\_new/document/ID/freeside/375\\_96\\_13](http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/375_96_13)[http://www.env.gov.bc.ca/epd/remediation/policy\\_procedure\\_protocol/protocols/pdf/protocol11-final.pdf](http://www.env.gov.bc.ca/epd/remediation/policy_procedure_protocol/protocols/pdf/protocol11-final.pdf)**2. Is site-specific risk assessment used to clean up mining sites?**

Yes

<http://www.env.gov.bc.ca/epd/remediation/guidance/technical/pdf/tg07.pdf> Specific guidance documents are hyperlinked within the above document. For human health risk assessments additional guidance is available on request from Health Canada. For ecological risk assessments additional guidance is available here: <http://www.sabcs.chem.uvic.ca/DERA2008.pdf> We are currently working on the regulatory policy decisions that would be used to support the use of

this document. Pathway elimination can be addressed using Screening Level Risk Assessments [http://www.env.gov.bc.ca/epd/remediation/policy\\_procedure\\_protocol/protocols/pdf/protocol\\_13.pdf](http://www.env.gov.bc.ca/epd/remediation/policy_procedure_protocol/protocols/pdf/protocol_13.pdf)

**1. Are any Best Management Practices (BMP) or Best Available Technologies (BAT) implemented when treating mining waste, mine tailings and/or mine influenced waters?**

Yes

Guidance and Agreements [http://www.env.gov.bc.ca/epd/industrial/mining/guidance\\_agree.htm](http://www.env.gov.bc.ca/epd/industrial/mining/guidance_agree.htm)  
Code of Practice for the Discharge of Produced Water from Coalbed Gas Operations  
<http://www.env.gov.bc.ca/epd/industrial/regs/codes/coalbed/>

**1. Is mining waste being reused for beneficial purposes?**

Yes

Where appropriate, road bed and road construction, capping material, rip rap below the low water mark

**2. Are there any initiatives or practices to encourage locating alternative energy facilities at contaminated or active mining sites?**

Yes

Currently entertaining a number of small independent power producer projects (hydroelectric, wind)

**3. Are reuse practices (such as carbon sequestration) and/or ecological revitalization activities implemented at contaminated mining sites (e.g., education centers, historical landmarks, commercial or industrial parks, wildlife refuge, etc.)?**

Yes

Guided by site specific considerations, reuses at sites have included historical landmarks, education centres, commercial and industrial parks, reclamation of habitat and recreation facilities (eg. ballfields) Below are links to the Britannia Mine site project for which we are the regulator and for which Crown Lands is the responsible party for site remediation.  
<http://www.agf.gov.bc.ca/clad/ccs/britannia/index.html>  
<http://www.agf.gov.bc.ca/clad/britannia/index.html>

**1. Do you have a regulatory framework(s) or other programs in your country that addresses the cleanup of properties impacted by mining contamination?**

Yes

Clean up is primarily governed by the provisions of the Environmental Management Act and the Contaminate Site Regulation under the jurisdiction of the Ministry of Environment.  
[http://www.bclaws.ca/EPLibraries/bclaws\\_new/document/ID/freeside/03053\\_00](http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/03053_00)  
[http://www.env.gov.bc.ca/epd/remediation/leg\\_regs/csr.htm](http://www.env.gov.bc.ca/epd/remediation/leg_regs/csr.htm) Liability provisions are provided under section 47 of the Environmental Management Act "A person who is responsible for

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remediation of a contaminated site is absolutely, retroactively and jointly and separately liable to any person or government body for reasonably incurred costs of remediation of the contaminated site, whether incurred on or off the contaminated site" Orphan mine sites may fall to the responsibility of the provincial crown and are the responsibility of the Crown Lands Restoration Branch to assess and remediate.

[http://www.agf.gov.bc.ca/clad/ccs/candidate\\_sites.html](http://www.agf.gov.bc.ca/clad/ccs/candidate_sites.html)

**2. What types of enforcement measures and/or programs are available to recover costs from mining companies that caused the contamination?**

Routine inspection and reporting requirements are evaluated through a compliance and enforcement matrix and are undertaken by the Ministry of Environment regional offices responsible for waste discharge permitting and the Ministry of Energy and Mines responsible for the Mines Permit. There are cost recovery provisions under the Environmental Management Act (EMA) applicable to contaminated site remediation expenses. We have not needed to rely on these provisions for a mine site since their introduction in 1997. A remediation Order under the EMA was used to pursue the past owners and operators of the Britannia Mine site ([http://www.env.gov.bc.ca/epd/remediation/high\\_profile/britannia/orders/index.htm](http://www.env.gov.bc.ca/epd/remediation/high_profile/britannia/orders/index.htm)) and following a settlement agreement and funding, responsibility for remediation was undertaken by the Crown Lands Restoration Branch (<http://www.agf.gov.bc.ca/clad/ccs/britannia/index.html>).

**3. Is cleanup and reclamation of mined land part of the mine permitting process?**

Yes

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Reclamation is covered by the permitting process of the Ministry of Energy and Mines <http://www.empr.gov.bc.ca/Mining/Permitting-Reclamation/Guidance/PermitAppReqs/Pages/default.aspx> It is unclear as to whether adequate authorities exist for the Ministry of Energy and Mines to require bonding associated with remediation costs, however statutory amendments to address these needs are under consideration.

**4. Is “designing for closure and post-closure” actively practiced?**

Yes

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Largely, however there is considerable variability depending on the age of the mine, its remoteness and the associated costs and risks posed by the site. Some sites have needed to amend their closure plans based on subsequent opportunities to reuse the site.

**5. Is an Environmental Impact Analysis/Statement (EIA/EIS) performed for proposed mining operations?**

Yes

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Environmental Assessment Process [http://www.eao.gov.bc.ca/ea\\_process.html](http://www.eao.gov.bc.ca/ea_process.html) Current list of Environmental Assessment Projects [http://a100.gov.bc.ca/appsdata/epic/html/deploy/epic\\_project\\_index\\_report.html](http://a100.gov.bc.ca/appsdata/epic/html/deploy/epic_project_index_report.html)

**1. What are the funding mechanisms used to cleanup abandoned mine/mining impacted areas?**

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Reclamation funds are paid posted by the mining companies; remediation of sites is the expense of the owner/operator (current and/or historic) based on the polluter pay principle.

**2. How are these mechanisms funded (e.g., public or mining industry contributions)?**

Where sites are orphaned and no successor company can be found or established, funding is from public funds on a priority basis.

**3. Are there any laws, regulations, and policies and practices setting the approach for environmental financial assurance for mine closure?**

Yes

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Reclamation Liability costing procedure are provided here:  
<http://www.empr.gov.bc.ca/Mining/Permitting-Reclamation/Costing-Security/Pages/default.aspx> There are currently some concerns with respect to the true contingent costs associated with corporate liabilities and whether additional disclosure and assessments of such costs are needed.

**1. How does the local community participate in mine permitting, design/construction, financial responsibility calculations and the mine closure process?**

Regional Mine Development Review Committees have been established to coordinate these functions further information on these is available here:  
<http://www.empr.gov.bc.ca/Mining/Permitting-Reclamation/RMDRCs/Pages/default.aspx>  
Public and First Nations Consultation is also incorporated into the Environmental Assessment process <http://www.eao.gov.bc.ca/participation.html> For the remediation of contaminated sites the director can order public consultation, at the expense of the responsible person(s) and most frequently utilized where the use of risk assessment and risk management approaches to the remediation of site are selected.

**2. Are there any regulations/programs that address/manage social impacts of mining and mine reclamation?**

Some opportunities may exist through the Rural BC Secretariat <http://www.ruralbc.gov.bc.ca/>