



**Abandoned
Mine-Site
Remediation**

geo-Logical

geo-Logical

**Incorporated
(Pending)**

Business Staff

President

vacant

info@geological.ca

Field Operations

John Petzelt

petzelja@geological.ca

Board of Directors 2003 – 2007

President

vacant

info@geological.ca

Vice President

vacant

info@geological.ca

Secretary

vacant

info@geological.ca

Treasurer

vacant

info@geological.ca

Industry Liaison

vacant

info@geological.ca

Education Liaison

vacant

info@geological.ca

Government Liaison

vacant

info@geological.ca

Community Liaison

vacant

info@geological.ca

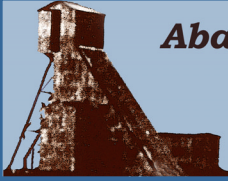
Concept and Funding Proposal



What is it? Who built it? Did it work? - Mount Washington (2001)



It looks pretty - but ain't! - Mount Washington (2001)



Abandoned Mine-Site Remediation

geo-Logical

In this proposal, key issues will be identified, and an unexplored solution presented. This blue sidebar will present pertinent quotes, definitions and statistics. While at the end of this proposal links are provided for further research, the online version of this document is fully linked to internal and external resources.

Some Key Notes From: Commissioner of the Environment and Sustainable Development

2002 Report — Chapter 3

<http://oag-bvg.gc.ca/dominio/reports.nsf/html/c20021003ce.html>

1. Total estimated cost of dealing with all of the Department's contaminated sites in the North: **\$723 million.**
2. Estimated cost of cleaning up & closing northern abandoned mines: **\$555 million.**
3. (3.32) The Department estimates the cost of cleaning up the Colomac Mine at about \$70 million. Only \$1.5 million in security deposits was collected for this mine when it was in operation. This leaves a gap of \$68.5 million that the federal government will have to pay. The mine has not generated any royalties to the government.
4. (3.47) The Department has staff dedicated to handling northern contaminated sites, but not enough resources to match the size of the problem. With the addition of major abandoned mines, such as our four case studies, departmental officials acknowledge that the situation has become dramatically worse since 1998. The management structure currently dealing with abandoned mines is both diffuse and inconsistent; no single entity within the Department has been given the lead, and there is no standard approach to managing the sites. The Department was not prepared for this situation and is having serious difficulties keeping up with the demands.
5. (3.78) Some jurisdictions, both in Canada and abroad, use industry-sponsored funds to pay for the cleanup of mine sites, while others use a variety of legal tools to address the issue. The federal government, in consultation with industry and the public, and northerners in particular, needs to consider a variety of options to solve the problems associated with abandoned mines.

Forward

In Canada we have a problem. We have abandoned mine-sites polluting the environment and funds cannot be found for the remediation. The cost of cleanup is projected to exceed one billion dollars but no one really knows for sure. The private sector, in most cases, is willing to help but far too scared to be involved. Liability is always an issue due to future lawsuits if current work does not result in complete remediation. Finding a contractor even willing to enter a site can be difficult. Numerous governments, and private groups, have attempted, over the years, to solve individual site problems but there is no cohesive lasting plan in the works to date.

The primary failures of past and ongoing attempts at remedial efforts are projects tied too closely to budgetary funding and objectives of the government of the day. Any funding shortfall compromises ongoing monitoring and data collection, facilitating an incomplete picture of 'what works and what fails to meet objectives.' Further, actual remedial works left unfinished merely concentrates the problem and aides in injecting contaminants into the environment. Local voter hysteria all-to-often leads to band-aide solutions merely to satisfy those voters in the short-term with little regard to a lasting solution. It is difficult, however, for the government of the day, faced with tight budgetary demands, to funnel dollars into an area with a small population, at the expense of programs needed in highly populated areas. Additionally, departments responsible for 'coming up with ideas and ensuring protection of the environment' are all understaffed. Budget cuts in the past have devastated previous efforts as workloads have shifted from many to a few. The rising dollar today will only exemplify the problem as many voters, and analysts, will surely point to 'fiscal responsibility' as the driving force behind the buoyant economy. This will put additional pressure on departments to accomplish more with fewer resources. In the end the environment will suffer and so too the communities adjacent to, or down-stream from, abandoned mine-sites.

Abandoned mine-sites, in particular those near populated areas, are subject to security problems as well. Open pits and tailings piles attract youth (and those young at heart), along with their 'quads,' resulting in needless injury to people and accelerated run-off into the environment. Acid rock drainage (ARD), while a natural process within a dynamic environment, is already a problem at mine-sites. When tailings are continuously 'churned-up,' exposing new aggregate to weathering elements, the damage is exacerbated.

Any solution must consider, not only funds required, but also human resources in great quantity and expertise. Abandoned mine-sites along with its associated ARD are a billion dollar problem requiring a geo-Logical solution that does not deplete the public purse nor depend upon it for its survival.

...2



Abandoned Mine-Site Remediation

geo-Logical

Some Key Notes From: Mines Ministers' Conference 2002 - Winnipeg, Manitoba

Action Plan 2001: Status Reports

<http://www.nrcan.gc.ca/mms/mmc/2002/statreport-e.pdf>

(p.20) The report made several conclusions and recommendations with respect to voluntary abatement, remediation or reclamation of abandoned mines, which are briefly summarized below:

1. overall, the current legislative and regulatory regime in Canada is at best a patch-work, at worst indifferent to the problem;
2. in general there is no existing or proposed federal or provincial law regarding the subject of Good Samaritan legislation;
3. federal and provincial environmental and mining laws in Canada contain a number of regulation, permit and approval requirements that likely would have to be complied with by volunteers proposing to work on abandoned sites;
4. there are a number of liability disincentives to carrying out voluntary work, although there are a few limited exceptions;
5. there are examples of collaborative initiatives that have been undertaken without legislative reform;
6. opportunities such as variance authority exist in some jurisdictions;
7. both the federal and provincial / territorial legislatures will have to speak directly to the problem if progress is to be made.

Action Plan 2002

http://nrcan.gc.ca/mms/mmc/2002/aplan02_e.pdf

(p.2) Ministers agreed with stakeholder and industry representatives that continued emphasis on the development, in the short term, of strategies related to rehabilitation of orphaned and abandoned mine sites adapted to the needs of each jurisdiction is a priority.

Concentrate - The economically valuable minerals separated from the gangue.

Gangue - The rock surrounding a mineral or precious gem in its natural state.

Anomaly - An area where metals or minerals exist in concentrations that are much higher than normal.

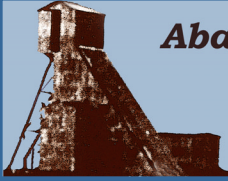
A Solution

The geo-Logical method is grounded in a tried and true educational tool, known by many names, but finding its roots in antiquity: apprenticeship training, hands-on training, and today, the word 'practicum.' The trend in education, and demanded by industry, is to ready students for the work place with a blend of classroom instruction and practical hands-on, in field, training. Well established for the accounting, legal, medical, and blue collar trades; practicum components are now part of all fisheries, forestry, and engineering courses. Environmental geology and engineering, on the other hand, except for short field trips and summer employment, offer little opportunity to get dirty and callused hands.

geo-Logical will encourage getting dirty with extended 'in-field' components tied back to the classroom through satellite communication and in-depth-onsite classroom training. Students, and educators as well, will have the opportunity to conduct experiments, try new ideas, and continue to monitor the results through online data collection statistics up-dated daily. Mine-sites will have personnel on-site 24/7 whose sole purpose would be to complete data collection, conduct experiments, and provide basic security services. The 24/7 personnel will themselves be graduate students working on a thesis or hermits looking for an expense paid working-vacation away from society. The primary goal thrown at students will be to create workable solutions based on 'sweat and calluses' as opposed to heavy equipment and fossil fuel based technologies. In brief, geo-Logical is a web-based application, which will move the field into the classroom.

Education is one of Canada's fastest growing industries, yet it is also one of Canada's oldest. Over the next few years, as the industry grows, experienced educators are retiring and the resultant void will drive the trend toward larger classrooms and higher teacher to student ratios. geo-Logical will ease the strain: classes can be divided into groups rotating into the field for two weeks at a time; as geo-Logical matures its 24/7 personnel could be instructors themselves negating the need for additional classroom space; and students vying for seats at universities could have the option of expense paid accommodation in tents. Most major universities already offer online courses in various genres so in-field learning need not compromise a balanced course load. geo-Logical learning is not limited to geology or engineering: the vital component of its success is information technology and its practical application. Fisheries and forestry programs are obvious candidates for inclusion as well but so too is nursing, hospitality, and the trades. Camps will be required for sleeping and learning; cooks for feeding; nurses for cuts and bruises; and select trades to keep it all running. geo-Logical will tap the education tree to secure its need for expert, as well as quantity, human resources needs.

...3



Abandoned Mine-Site Remediation

geo-Logical

Some Key Notes From: THE CANADIAN EDUCATION AND TRAINING INDUSTRY

April 2001

<http://strategis.ic.gc.ca/pics/bp/ets-eng.pdf>

Trends

There has been an increase in skill requirements across all sectors of the economy. Business and government are placing considerable emphasis on the need for continuous work-force training and lifelong learning. As Canada's training system expands to meet the needs of these learners, there will be new opportunities for Canadian suppliers of education and training services.

Canada's education & training industry is well positioned to compete in the international marketplace.

Diverse players...

- over 5,000 private training and e-learning companies
- 1,000 private career colleges
- 204 community colleges and cégeps
- 92 universities
- 400 school boards
- training components of companies in other industrial sectors
- corporate learning centres
- professional certification organizations
- industry associations

The global **corporate and government** training market is valued at US \$98B. (Merrill Lynch. *Book of Knowledge*, 1999).

IT Training, a sub sector of the corporate market, is worth US \$19B. (Merrill Lynch).

In 2000, Canada's educational service industries (including the public education system) was valued at \$41B., representing 5.2% of GDP.

Abandoned mine - A mine site that has not been properly cleaned up and closed down and whose ownership has reverted to the federal or provincial government because the owner has gone out of business.

Acid rock drainage - The results from a reaction of sulphur-containing minerals exposed to air and water, producing a toxic acidic run-off that damages ecosystems. Acid rock drainage is associated mainly with the mining of coal, copper, and other base or precious metals.

Hurdles

All venture launches have hoops and hurdles to master and geo-Logical is far from exempt. The temptation to rush launching of the service must be restrained. While the need is obvious from both an environmental point of view, and an educational vantage point, the infrastructure must be in place and proven prior to launch. The technologies exist but they are still new and bugs can crush confidence. geo-Logical, to be successful, must not only ensure remediation of abandoned mine-sites, but it must deliver dependable education that students can rely upon. Further, student's safety will be an issue, due to the remote nature of mine-sites, and while technology cannot prevent accidents, it can reduce response time to provide aide.

To facilitate a proven system, a test site will be chosen through consultation with the appropriate government authority, and 24/7 monitoring will commence two years before launch. Field trips will be encouraged and test classes held during this period. Only when all systems are proven dependable, and after flawless operation (within reason), will geo-Logical photocopy itself and expand into other sites.

Industry Opportunity

The world is going 'green' and the push for creative alternate energy systems is well underway. The coupling of education to the cleanup of remote mine-sites will fuel the need for dependable energy and anything other than use of 'clean-energy' is ruled out to avoid contributing to an already compromised ecosystem. All camps also produce waste and this sector, like the energy sector, demands field proven systems. geo-Logical not only provides a testing facility but an online marketing sales tool as a side effect of its operation.

During geo-Logical's incubation period various sectors will have the opportunity to contribute expertise, materials, services, and funding in exchange for a seat on the Board of Directors. Not withstanding the benefit of having a seat on the board to determine the direction geo-Logical proceeds, the benefit to help develop new technologies for delivery of remote based education, needs little elaboration. Education is experiencing tremendous growing pains and protests at campuses over tuition costs and lack of seats are commonplace today. Any growth sector that ties itself to education delivery is certain to please investors and secure a coveted 'good corporate citizen' title.

Any question as to the marketing potential of co-partners in the geo-Logical venture will be dispelled as the launch proceeds. Educators as well as overworked geological government staff are notorious for their excitable nature. Those aware of the geo-Logical proposal are already anxiously awaiting further word of its progress and the invasion of print media's empty space is inevitable.



Abandoned Mine-Site Remediation

geo-Logical

Some Key Notes From:

Orphaned/Abandoned Mines
Workshop - June 2001 Proceedings

W. O. MACKASEY
WOM GEOLOGICAL ASSOCIATES INC.

What inventories of abandoned mines have been completed in your province / territory?

Only five provinces had what I would call systematic abandoned mines inventories. The remainder had lists or files in varying stages of completion and organization. The inventory for the Territories included only sites with no legally responsible party in operation. The Ontario inventory was based on the Ontario Geological Survey Mineral Deposit Inventory and appears to be the most complete. There is no consistency in the type of agency in charge of the inventory – it varies from Natural Resources, Mines, Environment, Energy ... to Indian and Northern Affairs.

How many abandoned mine sites have been identified and are on file?

Approximately 10,000 sites are on record in Canada. In my opinion, however, until systematic surveys are completed we will never know the exact number. We must look at the records of old mining exploration programs, not just past producers. We are talking here about the possibility of thousands, not tens of thousands. It is essential that all sites, irrespective of ownership, be included.

Of the abandoned mine sites identified, what percentage has been verified by field inspections?

The answer to this question really depends on what's included in the original survey. If the files show ten sites and all of them have been inspected, then the answer is 100%. However, did anyone look through the Mineral Deposit Inventory files? Is there a Mineral Deposit Inventory file? There are no standards across Canada on what should be included. I suspect that less than 30% of what really needs to be field inspected has been done.

How many sites were found to have physical / chemical stability problems? What percentage has undergone remedial work?

The answer to this question is not good. Although 10's of millions of dollars (my estimate) have been spent on reclamation - there is no consistency across Canada in either record keeping, or amount of work done. Some provinces/territories have made an effort; others appear to have done nothing.

The Two-Year Test Site

Numerous sites have been examined with the forerunner the Sherridon Mine in Northern Manitoba. The mine-site is considered one of Canada's worst and requires ongoing security due to its location encompassing the town of Sherridon. The mine has been closed for nearly half a century and Mother Nature has been unable to hide the scars --still clearly visible from aerial photos. The proximity to Kississing Lake, a premier sport fishing lake, creates great concern to locals and all levels of government. Further, the site is accessible by road, a great benefit for a test-site, and possesses such a broad range of problems that anything accomplished toward remediation will be an achievement.

The test-site must not only test the geo-Logical concept, but challenge it. The Sherridon problem is huge; complete with sinkholes, abandoned workings and a massive tailings pile that is sure to excite any environmental geology instructor.

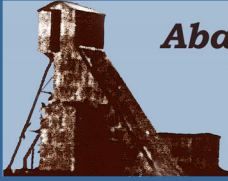
And What If It Does Not Work Out?

geo-logical must be started with the attitude that in the end continuation may not be deemed viable. It is through data collection that a residual asset is guaranteed regardless of the outcome. The benefit to the local community and government, after two years of data collection, cannot be under stated. Most sites, along with Sherridon, do not have 24/7 monitoring for an extended period of time through all seasons and all manner of weather conditions.

During the evaluation of Mount Washington on Vancouver Island, a past copper producing mine-site, low pH levels were obtained upstream of the mine-site. Was this an anomaly or a valid test result? The ramification to an ongoing lawsuit, for downstream damage, needs little explanation. One isolated test means little to science but provides defence lawyers quite an asset.

While the problem is usually obvious, the solution may be elusive. It is upon valid data collections that successful remediation plans are built. Tens of thousands of dollars are spent each year for impact statements that, by design, have time restraints and must depend upon sporadic, and rushed, data collections.

geo-Logical's strength is its dependency upon data. It is the data that will attract the educators and it is the preliminary data that will ultimately prove successful remediation. The data collected will remain long after completion and appreciate in value as an asset to future remediation efforts at the test-site, as well as, other sites to determine what works, and what fails, to meet objectives.



Abandoned Mine-Site Remediation

geo-Logical

Some Key Notes From:

CTV.ca - Ottawa slammed over toxic sites, closed mines

[Oct. 22 2002](#)

http://www.ctv.ca/servlet/ArticleNews/story/CTVNews/20021022/tar_pond_report_021022

A damning report released on Canada's worst toxic sites and abandoned mines reveals what most suspected: a massive cleanup is desperately needed and Ottawa is dragging its heels.

Johanne Gelinas, the Federal Commissioner of the Environment, says in her six-volume report that the government has bungled the clean-up of the thousands of sites across the country, and needs to spend billions of dollars to deal with the mess.

The report says there are more than 3,600 contaminated sites on federal land that Ottawa must deal with and another 1,500 sites where contamination is suspected. They include harbours, ports, military bases, government laboratories and abandoned mines.

[cnews.canoe.ca](#) - Cow manure used to treat mine drainage

January 6, 2003

PITTSBURGH (AP) - Rarely does anyone advertise to buy 400 tons of cow manure, but that's what Bob Du Breucq did to get enough fertilizer for a water treatment project at a mine in central Pennsylvania.

As vice president of Tanoma Mining Co., which ceased operating in 2000, Du Breucq had the task of putting together a reclamation project to make sure contaminated mine water doesn't pollute nearby waterways.

He settled on building a high-calcium settling pond with limestone and cow manure that will reduce the acidity of water seeping out of the mine --a process that mine reclamation experts say is safe for the environment and inexpensive.

Besides using cow manure, Skousen said other fertilizers such as sawdust; hay and mushroom compost can be just as effective.

Corporation Status

geo-Logical's tax status will be determined by the Board of Directors, however, initially, geo-Logical will function as a not-for-profit corporation.

What Will It All Cost? Who Will Pay?

The actual costs beyond the two-year test site cannot be determined at this time as each site will be unique and have its own administration costs due to location and severity of contamination. As for 'who will pay' for actual costs beyond the two year test site, similarly, there are far too many variables to be addressed such as: how much can universities contribute out of existing budget line items; what costs beyond tuition, if any, are passed on to the student; are there responsible parties available and able to pay for remediation; what funds are government departments currently paying for security; and so on.

As for the two-year test site:	Salaries:	288,000
	Office:	50,000
	Transportation	<u>50,000</u>
	Total	388,000

The estimate purposely omits typical costs such as accommodation, food, field equipment, technical equipment and services, etc. These items will be secured by donation, loan, barter (seat on board), blackmail (get on now or wait for the next bus), and/or are covered by the salary portion of the estimate.

What Can Government Do?

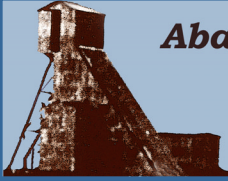
Provide initial funding, provide initial funding ... loan monitoring devices, research services, technical expertise, assist with site selection, and provide initial funding.

What Can The Private Sector Do?

Provide initial funding and do much the same as government with a specific focus on technical expertise and provision of services.

What Can The Education Sector Do?

Funds are Ok too but enthusiasm and technical expertise is the most valuable desired asset.



**Abandoned
Mine-Site
Remediation**

geo-Logical

Cyanide - A poisonous substance that is widely used in mining and other industrial processes. The most common form of cyanide is hydrocyanic acid (HCN), which is used in recovering ore, in electroplating and for fumigation. Other forms are sodium cyanide, potassium cyanide and calcium cyanide. All are found in the form of a salt, but can be dissolved in water to form a liquid or a gas. Cyanide is a highly toxic substance when ingested or inhaled.

Arsenic trioxide - A white, odourless, tasteless powder (also known as crude arsenic), which is a poisonous and cancer-causing chemical

Tailings - What is left over from mining; the rock where gold, copper, silver and other minerals are found is ground up into fine particles so the valuable material can be taken out and refined. Most of the ore, sometimes as high as 97% from mining and refining operations, end up as tailings. It usually amounts to hundreds of thousands of tonnes a year at a mine site.

Ore - A natural aggregate of one or more minerals that can be mined and profitably sold under current conditions, or from which one or more minerals can be profitably extracted.

Tailings slurry - Created when the fine tailings are mixed with water, creating a thin, watery mixture. The slurry is often contaminated with material used in the refining process, including cyanide.

Heap Leaching - Cyanide heap leaching is a process used with very low-grade ore. Rather than use expensive mechanical processes, tonnes of ground-up rock are simply piled into giant heaps, usually contained in "leach pads" lined with a plastic membrane. Then the ore is sprayed with cyanide and water to "leach" out the tiny bits of gold. It's the cheapest way to get what's left out of the ground. But it's also a tough process to manage.

Sulphuric Acid (H₂SO₄) - Acid commonly used in industry for the refining of metals, solvent extraction of uranium and in the manufacture of chemicals and fertiliser.

Sulphur Dioxide (SO₂) - A gas that contributes to climate effects, acidification and other air quality problems.

Acidic Water - Referring to water with a pH below 7 but generally referring to pH values of 4 and below. Any water solution where the concentration of hydrogen ions (H⁺) is greater than the concentration of hydroxide ions (OH⁻).

Monetary Return

geo-Logical will deal with a billion dollar problem, economically, and responsible parties should pay for services rendered but the final decision will rest with the Board of Directors.

Key Employees

[President]

Dialogue is currently underway with two individuals for this position.

John Petzelt [Field Operations]

John Petzelt is the hermit mentioned earlier and is currently questing for a geology degree, however, the quest is at a self determined pace of one course every few years. John spent ten years with Public Works Canada (Highways) and combined with the construction and management of northern exploration camps brings extensive camp and mining experience.

Time Table

geo-Logical should be ready to pick a site early in 2004 and 'move on' will be determined by snow levels and accessibility.

Conclusion

This is a preliminary proposal and additional information can and will be provided upon request. There are always unanswered questions such as: who owns the land after remediation; who should own the land; should geo-Logical be for profit or not; what are the tax advantages either way; what is it worth to the government to remove a thorn from its side; and so on? Foreseeing these questions is the driving force behind the creation of a Board of Directors to steer geo-Logical in the right direction. Further, the exact disposition of ownership of geo-Logical will rest with the board as well. As stated previously, this is a billion-dollar problem and billion-dollar problems create billion-dollar opportunity. geo-Logical is a long-term solution to a legacy left by builders of this nation. The resource industry has contributed much to what Canada is today and through geo-Logical the legacy can continue to do so.

geo-Logical is a unique opportunity for interested parties and signing-up early is the only way to ensure a say in its direction.

Thank you

Links and research sources follow ...



Abandoned Mine-Site Remediation

geo-Logical

A Key Note From:

Prioritization of Abandoned Mines
in the Animas Watershed, Colorado

<http://geological.ca/ref/usgov/422-animas.pdf>

Carol Cox Russell
EPA - US Government

DATA COLLECTION AND ANALYTICAL

METHODS: The ability to assess environmental problems, compare them, and select strategies to reduce them all depend on the availability of relevant data and analytical tools. Sound data to evaluate risks and establish priorities did not --- and in many cases still do not --- exist in the Animas. In addition to the lack of data, inadequate methods for prioritization impeded the project on the Animas. As long as there are large gaps in key data sets, efforts to evaluate risk and establish priorities in a consistent, rigorous manner necessarily will be incomplete and the results of remediation will be difficult to interpret.

A Key Note From:

Mine Waste Technology Program
Success Stories

<http://geological.ca/ref/usgov/mwtpsuccess.pdf>

MSE Technology Applications, Inc
(US Government)

Reductive Precipitation Technology: Dr. Larry Twidwell, President of Montana Environment and Metallurgical Engineering Professor at Montana Tech, is the developer of the Reductive Precipitation Process. MSE licenses the technology. Reductive Precipitation is a proven technology that effectively removes arsenic and other heavy metals by forming insoluble salts. Pilot-scale studies have proven that the Reductive Precipitation effectively reduces arsenic and antimony concentrations to less than the EPA drinking water standards of 10 parts per billion (ppb) for arsenic and 6 ppb for antimony. MSE has been successfully marketing this technology. The technology was implemented at a high profile superfund site in Emeryville, California to remove arsenic from groundwater. MSE designed, installed, and commissioned the full-scale plant. The Reductive Precipitation process has been operating successfully since March 1999. The Reductive Precipitation process has reliably operated since March of 1999. Current potential customers interested in implementation of this process are Rhone-Poulenc Basic Chemicals Company; Salt Lake City Supply Water facilities; and Camp, Dresser and McKee.

Read Till Your Eyes Pop Out

1. Canada

- Initiatives at Natural Resources Canada to Deal with [Orphan and Abandoned Mines](#). NRCan -> Tremblay, GA & Hogan, CM, 2006. <http://geological.ca/ref/canada/Tremblay200606.pdf>
- Capacity Building For A National Inventory of [Orphaned/Abandoned Mines In Canada](#). NOAMI -> Cal Data Ltd. 2005. <http://geological.ca/ref/noami/caldata.pdf>
- [Potential Funding Approaches](#) for Orphaned/Abandoned Mines in Canada. NOAMI -> Castrilli, J. 2003. <http://geological.ca/ref/canada/PotentialFundingApproaches2003.pdf>
- Rehabilitating Abandoned Mines in Canada: [A Toolkit of Funding Options](#). NOAMI -> Cowan W. Mackasey W. 200610. <http://geological.ca/ref/noami/ToolKitFundingReport.pdf>
- Orphaned and Abandoned Mines: [A Workshop to Explore Best Practices](#) NOAMI -> Stratoss Inc. 200612. <http://geological.ca/ref/noami/WorkshopFINAL2006.pdf>
- [Assessing Liabilities and Funding Options](#). NOAMI -> Stratos Inc. 2005. <http://geological.ca/ref/noami/workshop-proceedings.pdf>
- Programs to Enhance and Sustain Safety and the Quality of the Environment In and Around [Orphaned and Abandoned Mine Sites](#). NRCan -> CANMET http://geological.ca/ref/nrcan/orp_e.pdf
- [Best Practices in Community Involvement](#): Planning For and Rehabilitating Abandoned Mines in Canada. NOAMI -> brochure <http://geological.ca/ref/noami/NOAM12.pdf>

2. USA

- Prioritization of Abandoned Mines in the Animas Watershed, [South-western Colorado](#). EPA -> Russell C. <http://geological.ca/ref/usgov/422-animas.pdf>
- Mine Waste Technology Program: [2005 Annual Report](#). EPA/DOE -> Montana Tech. 2005. <http://geological.ca/ref/usgov/mwtp2005annualrpt.pdf>
- Mine Waste Technology Program: [Success Stories](#). EPA/DOE -> MSE Tech. <http://geological.ca/ref/usgov/mwtpsuccess.pdf>
- [Abandoned Mine Land Program Policy Handbook](#) Bureau of Land Management -> 20070320. pub # H-3720-1 <http://geological.ca/ref/usgov/BLMAMLHandbookH-3720.pdf>
- [Settled, Mined & Left Behind](#) Trout Unlimited -> Schnitzer R. & R. Roberts. 2004. http://geological.ca/ref/troutUnlimited/mining_report04_full.pdf
- [Restoring the Wealth of the Mountains](#): Cleaning up Appalachia's Abandoned Mines Trout Unlimited -> Zink T., A. Wolfe & K. Curley. 2005. http://geological.ca/ref/troutUnlimited/wealth_of_mountains.pdf

3. World

- [Abandoned Mines](#): Problems, Issues, and Policy Challenges for Decision Makers. Santiago, Chile -> 20010618. http://geological.ca/ref/world/abandoned_report.pdf
- [Mining for Closure](#): Policies and Guidelines for Sustainable Mining Practice and Closure of Mines. ENVSEC -> Peck, P. 2005. http://geological.ca/ref/world/mining_for_closure_src.pdf
- Mining for the Future. Appendix C: [Abandoned Mines Working Paper](#). MMSD -> IIED. 2002. http://geological.ca/world/mining_future2002/draft_paper_am.pdf