

Abandoned Mines Inventory and Assesment in Québec

Abandoned Mines
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Definitions

Active Mine Site : The owner is already working the property

Inactive Mine Site : The owner is not working on the property

Abandoned Mine Site : Site having no owner or the owner is unable to pay for decommissioning and clean up





Hazardous Mines Openings

1959 ; « Inspectors of Mines began to insist on the capping or backfilling of shafts and adits » (Boivin 1982).

1975 : Beginning of inventory and Abatement of safety hazards by Daniel Boivin former president of CLRA/ACRSD (Boivin 1985).

1982 : Mining Act is modified : Request securing of mines openings





IN 1985

**INVENTORY OF MINE SITES WITH
HAZARDOUS OPENINGS**

Identified 977 sites

870 were visited

1650 openings mapped





ABATMENT OF SAFETY HAZARDS

WORKS
For
Abatement
of Safety
Hazards
Start in
1975





First program for securing hazardous mines openings

Year	number of sites	cumul	secured openings	cumul
1975	3		5	
1977	9	12	12	17
1978	15	27	33	50
1979	18	45	18	68
1980	23	68	25	93
1981	21	89	21	114
1982	16	105	27	141
1983	19	124	21	162
1984	11	135	14	176





ABATMENT OF SAFETY HAZARDS

Total secured

1975 to 1992 : 442 Openings

1975 to 2001 : 1129 Openings

To do : 200 Openings



In Abitibi-Témiscamingue

•2001-01-01

•1157
mines
openings

82 % were
visited





Inventory in Québec

More than **5 800** mineral prospects on files

More than **2 200** openings mapped

More than **900** mineral deposits with tonnage evaluated





Tailings Confinement Area

- 1977 : The B.E.S.T mentioned mine wastes as a major problem for environment.**
- 1982 : First inventory of mine waste piles in Abitibi-Témiscamingue (50 tailings).**
- 1987: Most completed inventory by ministries of Environment and Natural Resources (105 tailings sites).**
- 1989 : Ministry of Natural Resources start his work on abandoned mine sites**

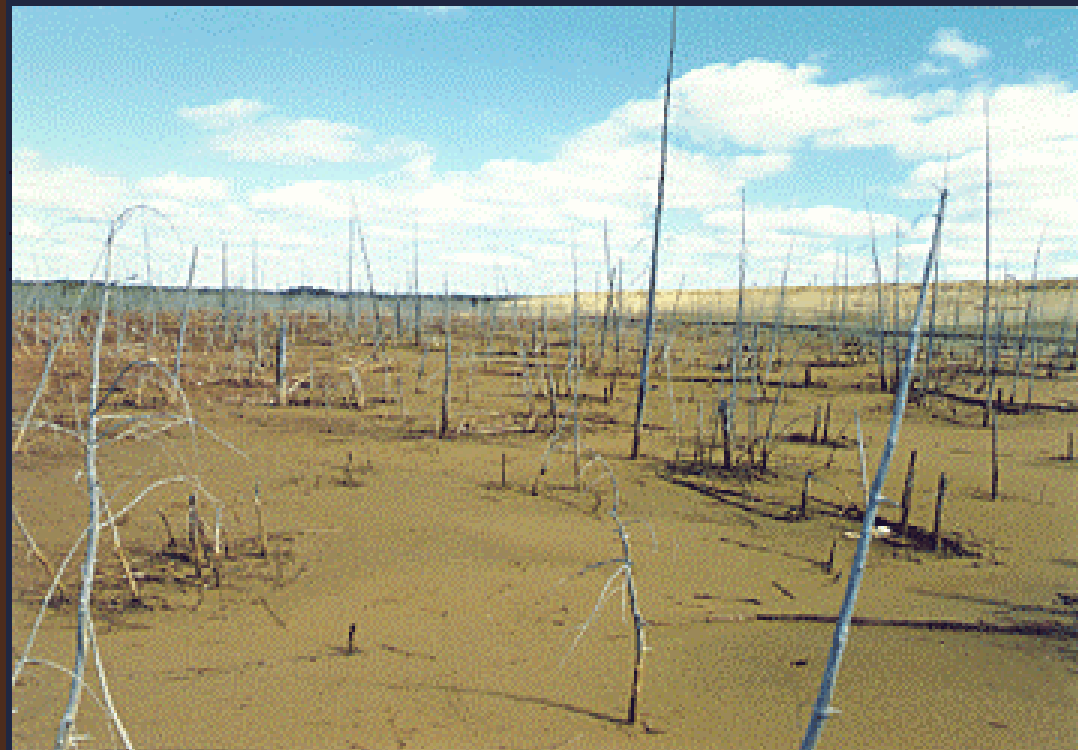




In Québec

**11 sites
given back
to the
Government**

**14 tailings
area**





In Québec

**Plus 85
abandoned
tailings
sites**




In Québec



423 tailings areas
15 330 hectares





Expenses for Government sites From 1987 to 1991 : 776 000\$

169 \$	1987-1988
108 \$	1988-1989
16 \$	1989-1990
407 \$	1991-1992





Expenses for Government sites

From 1992 to 2002 : 19 259 000\$

1992-1993	895 K\$	1997-1998	1 999 K\$
1993-1994	838 K\$	1998-1999	2 213 K\$
1994-1995	1 878 K\$	1999-2000	1 989 K\$
1995-1996	2 551K \$	2000-2001	1 930 K\$
1996-1997	2 966 K\$	2001-2002	2 000 K\$





Total Investment for Abandoned sites

Government Sites : 20 m \$

Government Investment on others Sites : 10 m \$

Private Investment on Abandoned Sites : 10 m \$

TOTAL to date 40 M \$

Future Cost for all Known Abandoned Mine Sites in Québec : 75 M \$





Assesment

- **DATABANK FOR THE SITES**
- **CARACTERIZATION OF TAILINGS CONFINMENT**
- **SURROUNDING ENVIRONMENT QUALITY EVALUATION**
- **PRIORITIZATION OF SITES TO RESTORE**
(REF. Marcotte, 1999)



SOME GOOD RESULTS





SOME WORKS TO COMPLETE





Performance indicators

Progress of mine restoration works in Québec

	1995	1996	1997	1998	1999	2000
area (ha)						
disturbed	12548	13199	13365	13580	13626	14182
in used	6279	6745	6924	7017	6483	6519
Inactive (SI)	6269	6454	6443	6528	7143	7663
Restored(SR)	2169	2454	2622	2861	3179	3307
SR/SI %	34,6%	38,0%	40,7%	43,8%	44,5%	43,4%





Conclusion

- We have a good knowledge of the problem
- We have a lot of expertise
- All we need is money to complete the work
- And we think that all the stakeholders must contribute to the solution





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MERCI DE VOTRE ATTENTION



Ressources naturelles
Québec