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Ontario's Abandoned Mines Program

Orphaned/Abandoned Mines Workshop
Winnipeg, Manitoba
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- Historical Background

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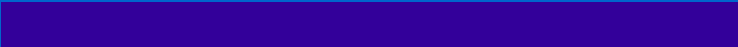
- mining vital part of Ontario's development

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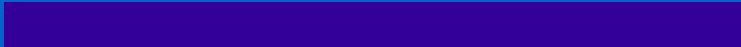
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- **Matachewan tailings-1990**





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- **Deloro**



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- 3 year, \$10 million program, 1991
 - Objectives

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 - accelerate testing and remedial work for high risk areas

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- **conduct further research for stabilization of acid mine wastes**

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- 3 year, \$10 million program, 1991

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- strengthen emergency planning and response
- accelerate testing and remedial work for high risk areas
- conduct further research for stabilization of acid mine wastes
- locate, assess abandoned mines hazards

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- Abandoned Mines Inventory

- Approximately \$2 million spent 1991-94

- Two phased approach

- 1 .“Desktop” Evaluation of Existing Records

- focusing on:

- openings more hazardous than natural topography
 - exploration excavations
 - past producers’ structures, tailings areas, waste piles, equipment and machinery



- information collected included
 - site name, alternates and location (UTM, Lat. and Long.)
 - mine features/dimensions
 - hazard type and status/existing protection
 - inspections/recommended action
- 18,000 records searched from which 6000 sites and 16,000 features identified
- each site provided a unique numerical identifier and entered into database (AMIS)
- coordinated with MDI system



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2 . Assessment of Identified hazards

- consultants engaged to review in stages and by Residents District Boundaries.
- confirmed entered data as well as collecting/providing
 - site photos and video
 - location maps
 - recommendations for remedial measures and cost estimates
 - updated AMIS database
 - hazard rating assessment



- inventory program was able to assess approximately 1/3 of the sites 1991-93 at a cost of \$900 per site.
- gross cost estimates were approximately \$300 million with 30-40% identified as crown held.
- fund was discontinued in late 1994 as a part of general cost cutting measures, but AMIS lives on



Abandoned Mines Report

Site ID	Site Name	OBM Map	Date Opened			
03420	NERLIP	760525				
Operational Access	Safe Access	Plans	Date Closed			
ALL WEATHER ROAD	ALL WEATHER ROAD	Y	Friday, December 01, 1944			
Division	Township	Lot	Concession	MDI #	NTS	UTM Zone
COBALT	COLEMAN	2	6	T 0198	31M05NE	17
Northing	Easting	Latitude	Longitude	District File #		
5250095	601715	47.3989	79.6528			

Background Information

PAST PRODUCER WITH ONE SHAFT;

Alternate Names

NERLIP

Features (Dimensions in Metres)

Mine Feature	Shaft Collar	Depth	Width	Length
SHAFT - 2 COMPARTMENT	UNKNOWN	232	0	0
LATERAL WORKINGS	NOT APPLICABLE	0	0	1988
TAILINGS	NOT APPLICABLE	0	0	0
TRENCH OR PIT	NOT APPLICABLE	0	0	0
WINZE	NOT APPLICABLE	44	0	0

Known Hazards

ID No.	Rank	Rating	Status	Hazard Type	Existing Protection
S01	0	0	C	SHAFT - 2 COMPARTMENT	CAP CONCRETE FIXED
W01	0	0	A	WASTE ROCK DUMP	NO PROTECTION EVIDENT
T01	0	0	A	TRENCH OR PIT	FILLED SAND

Hazard Action

Action ID	Action Name	Date Completed	Performed By
S0101	CAP CONCRETE FIXED	Sunday, December 01, 1985	
T0101	FILL SAND		

Inspection

ID No	Inspector Name	Last Inspected
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References

Reference Type	Description
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- Hazard Rating System

- developed by MNDM through Laurentian University
- subject of several papers presented at several conferences mid-90's
- objective to assist in directing resources

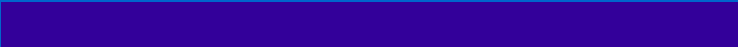


- considers both technical and socio-economic factors using “Expert System”
 - each feature scored for public safety, health, environment and economic and social factors for risk, magnitude (along with exposure for health and safety) criteria
 - pairwise comparison method and measure of consistency of experts judgement used to develop conceptual model and relative weights for the criteria and factors





- ratings were applied to those sites assessed in 92/93. Results indicated one contractor consistently scored features higher resulting in skewed ratings for one particular area
- priority listing is of limited value currently until all sites have been assessed and rating system applied
- the system has considerable merit and expect to complete its application late this year



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- Current Program

- \$27 million provided late '99 over 4 years

- includes

- capital works and specific engineering studies

- completion of site assessments

- provision of AMIS stored data to general public

- note AMIS, in addition to electronically stored data contains significant information in hardcopy



– completed year 2 of program with total expenditures of \$7 million. Major projects include:

- Coldstream Copper
- Caland Mine
- Zenmac
- Hollinger/McIntyre
- Kam Kotia



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- *In summary*



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- **Summary**

- By year end will have completed and entered field assessment data for the approximate 6000 sites and 19,000 features
- **AMIS electronic component should be available via internet**

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- ## Summary

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- AMIS electronic component should be available via internet
- **AMHAZ will be applied to all sites**



- Ontario will have a good platform on which to plan, schedule and undertake remedial works to reduce risk to the public and environment





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