


Appendix I

Definitions Used in the Mining Information Kit

There are several models to describe the mineral resource development sequence. Although similar overall, they differ from one another in terms of how the various steps are defined.

For the purpose of simplicity, the mining sequence used in this Mining Information Kit groups together certain steps and therefore differs from the generalized model of mineral resource development used by Natural Resources Canada (refer to the table on the next page). Approved in 1997 by the federal, provincial and territorial governments and by the industry, the model is a more systematic approach that details the transition between the steps and facilitates a clear understanding of the economic value of projects. It includes, for each step, the objectives, evaluation methods, results, mineral resources inventory, investment, and risk.

For a description and detailed analysis of the generalized model, the reader can consult: http://mmsd1.mms.nrcan.gc.ca/mmsd/exploration/default_e.asp.

SUMMARY OF NRCan GENERALIZED MODEL OF MINERAL RESOURCE DEVELOPMENT

PHASES	MINERAL RESOURCE ASSESSMENT	MINERAL EXPLORATION					MINERAL DEPOSIT APPRAISAL				MINE COMPLEX DEVELOPMENT	MINE PRODUCTION	ENVIRONMENTAL RESTORATION
Stage	Surveys, research, synthesis	Exploration planning	Regional reconnaissance	Prospecting, ground surveys	Verification of anomalies	Discovery, delimitation	Deposit definition	Engineering	Economics	Feasibility, production decision	Construction	Production, marketing, renewal of reserves	Mine closure Decommissioning Restoration
Objectives	Supply information and tools to develop mineral potential.	Select targets. Establish exploration strategies.	Find regional anomalies. Select significant targets. Acquire claims or permits.	Confirm anomalies. Acquire additional claims.	Investigate anomalies. Find mineral showings.	Discover a mineral deposit. Appraise data to justify deposit appraisal.	Define characteristics of the deposit. Acquire data for engineering.	Establish technical feasibility. Obtain plans, cost estimates.	Carry out economic, financial, socio-political evaluation of the project.	Ensure validity of the project. Decide whether or not to undertake the project. Obtain permits.	Complete mine development and construction. Ensure mine and concentrator start-up.	Achieve planned rate and specifications of commercial production. Achieve profitability.	Restore the mine site to an environmentally acceptable condition. Ensure future quality of environment.
Evaluation methods	Surveys, research, compilation and synthesis	Research, review of information	Airborne surveys, aerial photography, prospecting	Ground surveys (geological, geophysical, geochemical)	Mapping, trenching, drilling, sampling	Stripping, mapping, drilling, down-hole geophysics, initial mineral processing tests, environmental surveys, resource estimation	Detailed mapping, sampling, drilling, envonmental studies, mineral processing tests, pre-feasibility studies	Pilot tests, engineering design and planning, cost studies, pre-feasibility studies	Market and financial studies, risk analysis, pre-feasibility studies	Due diligence review of all data, evaluation of all factors and profitability	Project management methods, training programs, detailed start-up plan	Production management methods, exploration, deposit appraisal and development of new zones	Mine closure, decommissioning, restoration, monitoring
Results	Geoscientific database	Exploration projects	Regional anomalies	Local anomalies	Mineral showings	Mineral deposit	Deposit appraisal project			Mining project	Mining complex	Mineral production	Restored site

Source: Canadian Minerals Yearbook, 2004 Review and Outlook, p. 2.2

SUMMARY OF MINING INFORMATION KIT MINING SEQUENCE

MODULES	EXPLORATION		DEVELOPMENT			OPERATION	CLOSURE
	Preliminary	**Detailed**	**Evaluation**	**Mine planning**	**Construction**		
Activities	Review of geoscientific data, maps Airborne surveys Prospecting Claim staking Sampling	Detailed sampling Geophysical, geochemical ground surveys Mapping Drilling Environmental baseline work	Detailed drilling Detailed analyis and evaluation Bulk sampling Processing tests Pre-feasibility studies Environmental assessment	Mine and plant design Feasibility studies Mine closure and reclamation plan Permitting Negotiation of agreements Decision	Construction of mine and infrastructure, training programs	Hiring Training Commissioning Production Mine expansion	Shut-down Decommissioning Reclamation Post-closure activities

Source: Mining Information Kit for Aboriginal Communities