## GENERALIZED MODEL OF MINERAL RESOURCE DEVELOPMENT

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<th>PHASE</th>
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<th>MINERAL EXPLORATION</th>
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<td>MRA</td>
<td>EX-1</td>
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<td>GRASS-ROOTS EXPLORATION</td>
<td>Exploration planning.</td>
<td>Regional reconnaissance and surveys.</td>
<td>Verification of anomalies and showings.</td>
<td>Project mining.</td>
<td>Mining development, construction of processing plant and infrastructure.</td>
<td>MINE complex closure and decommissioning site restoration.</td>
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<tr>
<td>STAGE</td>
<td>Various surveys, research and synthesis.</td>
<td>Select target commodities. Establish exploration objectives and strategies. Select target areas and sites. Acquire claims or permits if appropriate.</td>
<td>Investigate the presence, exact location and characteristics of anomalies. Acquire claims, leases and properties.</td>
<td>Acquire additional claims, leases and properties.</td>
<td>Complete mine development and construction on schedule and within budgets and specifications. Achieve commercial production on schedule and meet cash flow forecasts and quantity and quality specifications. Ensure efficient and timely mine complex start-up according to schedule, specific targets and financing.</td>
<td>Restore mine site, outside plant and infrastructure to environmentally acceptable condition. Ensure the future quality of the environment.</td>
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<tr>
<td>OBJECTIVES</td>
<td>Supply information and tools required to develop the mineral potential of the nation for economic benefit, in the perspective of sustainable development.</td>
<td>Seek anomalies of interest over wide areas by various survey methods. Select the more promising targets. Acquire claims or permits if appropriate.</td>
<td>Define the limits, controls and internal distribution of grades, mineralogy and mineral processing characteristics of the deposit. Acquire all data required for project engineering and cost estimation.</td>
<td>Clarify the limits, controls and internal distribution of mineral resources. Acquire all data required for project engineering and cost estimation.</td>
<td>Complete mine development and construction on schedule and meet cash flow forecasts and quantity and quality specifications. Ensure efficient and timely mine complex start-up according to schedule, specific targets and financing.</td>
<td>Mine complex closure and decommissioning site restoration.</td>
</tr>
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### UNDISCOVERED MINERAL POTENTIAL

- **MINERAL INVENTORY**
- **ESTIMATION ERROR** (targeted margin of error of tonnage/grade estimates at the 90% confidence level)
  - **SPECULATIVE**
  - **HYPOTHETICAL**
  - **INDICATED**
  - **INDICATED AND MEASURED**
  - **PROVEN AND PROBABLE**

### MINE COMPLEX DEVELOPMENT

- **MINERAL RESERVE**
- **MINERAL PRODUCTION**
- **ENVIRONMENTAL RESTORATION**

### INVESTMENTS

- **Moderate**
  - Low, but increasing multiple investments.
  - Larger and increasing multiple investments.
  - Very large industrial investment.
  - Moderate to low industrial risk.

### RISK LEVEL

- **Low**
  - Very high, but decreasing risk of failure and financial loss.
  - High, but decreasing risk of failure.

### SOURCES


### NOTES

- For more information, please contact: Minerals and Mining Statistics Division, Minerals and Metals Sector, Natural Resources Canada, 590 Booth Street, Ottawa, Ontario K1A 2E4, telephone (toll-free) 1-800-267-0452 or fax (toll-free) 1-877-336-3100.