Mining Due Diligence Checklist

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Summary

The following checklist covers eleven major risk categories typical of an advanced stage mining due diligence. Some of the categories are borrowed directly from the Canadian National Instrument Form 43-101F1 Technical Report.

The amount of detail you need on any particular category depends on the stage of the project, the magnitude of investment, and the perceived risk of the project. If you are studying a relatively low investment for drilling a green fields prospect you would need less due diligence than a multi-billion dollar project to build a mine.

A Project Manager (PM), typically an engineer, is assigned to each due diligence study. It's the PM that outlines the scope of the project, customizes the checklist with the relevant categories, and figures out who and when subject matter experts are needed.

A proper due diligence goes beyond searching and finding flaws. It also looks at ways to manage or mitigate any problems that are found. This way the reports are actionable working documents and not sitting on a shelf collecting dust.

This checklist is a work in process. If you find something that's not correct or missing, please let me know. Thanks!

Version 1.0

Mining Due Diligence

is a risk management process that uses independent multi-disciplinary engineers, geologists, and other qualified professionals to collect, analyze, review, and assess a mining project to better understand and manage risk.

Due Diligence Checklist

Property & Mineral Rights

- ❑ Adequacy of Mining Rights & Titles
- ❑ Sufficiency of Surface Rights
- ❑ Royalties, Agreements, & Encumbrances
- ❑ Other Significant Factors & Risks

Infrastructure

- ❑ Water Access, Quality, Reliability
- ❑ Power Access, Quality, Reliability
- ❑ Roads/Physical Access
- ❑ Communications
- ❑ Labor Availability & Skills
- ❑ Material Shipping/Transport Logistics
- ❑ Local Health, Safety, & Security
- ❑ Buildings & Structures
- ❑ Potential Tailings, Waste, & Leach Pads Areas
- ❑ Other Infrastructure
- ❑ Offsite Support

Geology, Exploration, & Mineral Resources

- ❑ Regional, Local, Property Geology
- ❑ Geological Model
- ❑ Mineral Deposit Type
- ❑ Significant Mineralized Zones
- ❑ Relevant Exploration Work
- ❑ Collar & Down-the-hole Surveys
- ❑ Drilling, Cores, Bulk Samples
- ❑ Sampling Methods, QC, & Security
- ❑ Resource Cutoff Grade
- ❑ Mineral Resources

Metallurgy & Mineral Processing

- ❑ Recovery Estimate Assumptions
- ❑ Sample Representativeness
- ❑ Contaminates & Ore Variability
- ❑ Metal Balance
- ❑ Test/Operational Results
- ❑ Crushing, Grinding, Process Flow
- ❑ Plant Design & Equipment Sizing
- ❑ Consumables
- ❑ Stockpiles, Tailings, & Waste

Mining & Mineral Reserves

- ❑ Mining Methods
- ❑ Mining Fleet Requirements
- ❑ Production, Scheduling & Mine Life
- ❑ Dilution & Cutoff Grade
- ❑ Mineral Reserves

Capital & Operating Costs

- ❑ Capital Cost Estimates
- ❑ Basis for Capital Cost Estimates
- ❑ Operating Cost Estimates
- ❑ Basis for Operating Cost Estimates

Environment, Permitting, & Social Impact

- ❑ Environmental Studies
- ❑ Environmental Issues
- ❑ Required Permits & Status
- ❑ Operating Requirements & Plans
- ❑ Reclamations & Other Bonds
- ❑ Ponds, Tailings, & Dams
- ❑ Emissions, Dust, & Noise
- ❑ Waste Rock Runoff
- ❑ Mine Closure
- ❑ Social & Community

Engineering, Construction, & Start-up

- ❑ Project Management
- ❑ Engineering
- ❑ Cost Control
- ❑ Procurement
- ❑ Construction
- ❑ Commissioning

Operational & Maintenance

- ❑ Management & Supervision
- ❑ Labor/Skills
- ❑ Health, Safety, Security
- ❑ Personnel Scheduling & Logistics
- ❑ Geology, Mine Planning, Ore Control
- ❑ Production Targets
- ❑ Cost Control
- ❑ Maintenance Critical Spares & Skills
- ❑ Mechanical Availability
- ❑ Weather/Climate/Altitude

Economics

- ❑ Market Studies & Contracts
- ❑ Long Term Labor Costs
- ❑ Long Term Power/Fuel Costs
- ❑ Exchange Rates
- ❑ Hedging
- ❑ Principal Economic Assumptions
- ❑ Cash Flow and Annual Production Forecasts/Actual
- ❑ Taxes, Royalties and Other Interests
- ❑ Sensitivity Analysis

Country & Political

- ❑ Political, Social, Economic Stability
- ❑ Supply Chain
- ❑ Industrial Relations
- ❑ Insurance
- ❑ Regulations/Legal
- ❑ NGOs / Social License

The requirements of a mining due diligence can vary considerably depending on the development stage of the mining project, magnitude of the investment, and perceived risk of the project. This list should give you a general idea of the broad topics and items involved in a typical mining project due diligence.

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