



MINING DUE DILIGENCE CHECKLIST



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SUMMARY

Harradynamics due diligence checklist for mining projects covers eleven major risk categories that are typical of an advanced stage mining due diligence process. Whilst these categories are often reflected in mineral resource & reserve estimates they are not a substitute for a JORC, NI43-101, or other public reporting code.

The amount of detail required to be reported for any particular category depends on the stage of the projects development, the magnitude of investment, source of financing, and the perceived risks involved.

Due diligence processes are typically staged or 'gated' with increasing effort and level of knowledge required as the process moves forward. This staged process allows for the elimination of some unattractive mining assets early, and at a lower cost, whilst progressing other more attractive assets under greater scrutiny, and therefore at a larger cost.

A well conducted due diligence goes beyond searching and finding flaws in a mining project or operating asset. It also looks at ways to manage or mitigate any problems that are discovered. By this means the due diligence process can and should discover unrealised value and potential in the hands of a new owner.



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MINING DUE DILIGENCE CHECKLIST

Mining Due Diligence is a risk management process that uses independent multi-disciplinary engineers, geologists, and other qualified professionals to collect, analyse, review, evaluate, and report on a mining project. It seeks to better understand, define and manage risk.

Mineral and Property Rights

- Adequacy of mining rights & titles
- Sufficiency of surface rights
- > Royalties, agreements, & encumbrances
- Overlapping tenements and titles
- Other significant factors and risks

Infrastructure and Supply Chain

- > Water access, quality, reliability
- Power access, quality, reliability
- Roads and physical access
- Communications
- Labour availability, skills, costs
- Material shipping & transport logistics
- Local and regional health & safety
- Onsite buildings, structures, facilities & amenities
- > Tailings, waste, leach, & contaminants
- > Other enabling infrastructure
- Offsite road, rail, conveyor, pipeline services

Geology, Exploration, & Mineral Resources

- Regional, local, property geology
- Geological model
- Mineral deposit type
- > Significant mineralised zones
- Relevant exploration & quality work
- Collar & down-the-hole surveys
- Drilling, cores, bulk samples
- > Sampling methods, QC, & security
- > Resource cut-off grade
- Mineral resources & economics

Metallurgy & Mineral Processing

- Recovery estimate assumptions
- Sample representatives
- Contaminates & ore variability
- Metal or mineral balance
- > Tests and other operational results
- > Crushing, grinding, milling process flow
- Plant design & equipment sizing
- Plant layouts, elevations, GA's
- > Stockpiles, tailings, & waste
- Consumables, reagents, other supplies

Mining & Mineral Reserves

- Mining methods
- Mining fleet requirements
- Production, scheduling & mine life
- Dilution & cut-off grade
- Mineral reserves4

Capital & Operating Costs

- Capital cost estimates
- Basis for capital cost estimates
- Operating cost estimates
- Basis for operating cost estimates



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Environment, Permitting, & Social Impact

- Environmental studies
- Environmental issues
- Required permits & status of permitting
- Operating requirements & plans
- > Reclamation, rehabilitation & other bonds
- Ponds, tailings, dams, other civil structures
- > Emissions, dust, light & noise
- Waste rock and Dumps management
- Mine closure planning
- Social & community

Engineering, Construction, & Start-Up

- Project management
- > Engineering & design
- Cost control & contract management
- Procurement, tendering, contracts
- Construction & commissioning
- Operational readiness

Operational & Maintenance

- Management & supervision
- Labour availability, skills, training
- > Health, safety, security
- Personnel accommodation & transport
- Geology, mine planning, ore control
- Production and quality targets & schedules
- Cost control & administration
- Maintenance planning, critical spares & skills
- Mechanical plant availability
- Weather and climate factors

Economics & Financial Analysis

- Marketing studies & offtake agreements
- Long term labour planning
- Long term water, power, fuel agreements
- > Exchange rates & FOREX exposure
- Hedging, funding or financing costs
- > Cash flow and production forecasts or actuals
- > Escalation, inflation, discounting assumptions
- > Taxes, royalties, interests, other variables
- Sensitivity and risk analysis

Sovereign, Regional & Local Risks

- Political, social, economic stability
- Supply chain
- Industrial relations

- Insurances & bonds
- Regulations, Acts, legal
- > NGOs, community, social licence



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