Valuation Early Stage Exploration Projects

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Everything has a value...

• Every project has a value
  – Even projects without a Mineral Resource Estimate have Value...

...but how much are you prepared to pay for it?

...How much is it worth?
Value it....

• This is not straightforward for early stage exploration projects due to the uncertainty of future development and monetary returns

• A valuation should be something that is meaningful

• It is important that the logic used is transparent, quantitative and justifiable
Why – Reasons for Valuation

Common reasons for Asset Valuation on mineral projects include:

– Mergers and acquisitions
– Purchases and sales
– Stock listings and capital raising
– Taxation valuation
– Expert witness and litigation
– Operational performance guides

Other less well understood reasons include:

– Quantifying exploration success
– Project ranking and prioritisation
– Assessing capital investment
Other Valuations

• Sometimes/often companies are valued rather than a project

• Brokers and bankers produce valuations which are largely based on range of techniques not easily used for early stage exploration projects

• It must be noted that our technical valuation which is the subject of this presentation is not to replace theirs
Valuation Guidelines

Internationally recognised Mineral Asset Valuation codes include:

- VALMIN (Australia)
- SAMVAL (South Africa)
- CIMVAL (Canada)

Each are aligned to their corresponding resource and reserve reporting standards.

Aspects of these codes include:

- Materiality / Transparency / Independency / Reasonableness
- Requirement to state data sources
- Competent Expert and sign off
- Assessment of suitable valuation method
- Statement of nature of valuation
- Provision of a range of technical values
Common Approaches

**Income Based Approach**

- Advanced projects with Proven and Probable Ore Reserves

**Market Based Approach**

- All stages of projects looking at what a free market would allow the prospect to sell for

**Cost Based Approach**

- Often Early Stage Projects, assessing whether exploration does have the potential to generate value

**Geology**

**Multiples of Exploration Expenditure**

**Probability**

**Yardstick**

Uses Geology
# Common Approaches

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Taken from the SAMVAL code
SRK Exploration’s Approach

• Geological Probability Approach (GPA)
• In line with codes the approach should be defendable and transparent
• Defines a **Minimum Value** - based on expenditure and committed expenditure
• **Maximum Potential Value** - based on the geological model
• Use above to derive a **Technical Value** based on geology and probability of success
Considerations of the GPA Valuation

• **Exploration Stage** – categorise into:
  – Grassroots
  – Intermediate
  – Advanced

• **Geology** - Size and Type of deposit

• **Probability** - looking at the chances that the project has of making it to the next stage and also reaching its maximum potential

• **Risk** - Country and Company (Financial and Technical)
Technical Value

What it is

- It is the value that SRK considers to be a fair and reasonable at that given stage and time
- Is a guide for negotiations (external)
- Manage business by strategising (internal)

What it is not

- It is not based on external factors such as market sentiment
- It is not the amount someone will pay
Where do you concentrate exploration?

What order do you rank them in?
SRK’s Ranking based on GPA

Development Phases:
- Surface Exploration
- Conceptual Target
- Drill Testing
- Resource Definition
- Feasibility Study
- Mine Construction

Probability of getting to next Stage:
- Low
- High

Development Costs to Next Phase:
- Low (US$5 million)
- Moderate (US$5 - $10 million)
- High (> S$10 million)

Technical Value of Asset:
- Small
- Medium
- Large

Probability of getting to next Stage:
- Low (Geological location, country risk, company fit etc.)

1. High (S$10 million+)
2. Moderate ($5 - $10 million)
3. Low (US$5 million)
Case Study 1 Background

- Project Location: West Africa
- Commodity: Gold
- Time spent by current company on exploration: 6 years
- Number of Assets: 4 Early Stage Exploration Assets
- Work Done: historical soils and IP, pitting trenching, and airborne geophysics magnetics and radiometrics and drilling, an in-house mineral contained gold estimate of some 300,000 ounces
  - Good set up and facilities, good industry practice procedures
- Geology: Birimian Greenstone. Shear Zone in a gold mining district, other large gold mines along strike. Potentially large deposit.
- Other: Client experience: in the region working on conceptual geological models looking at structure, alteration and mineralisation
Case Study 1 Valuation

- Exploration Stage: 1 advanced exploration stage, 1 intermediate, 2 grassroots

- Other (geologically) similar deposits in vicinity, similar projects with recent transactions, mines near by, reviewed public domain NPV’s

- Probability: chance of making it to the next stage – High

- Risk View: Low, artisanal/local miners, but Gov. Pro Mining, Client history of mining, exploration project being managed very well, well financed

- Spend: USD12m Min (6 Years) value based on spend
  - **Minimum Value** = USD9M
  - **Maximum Potential Value** = USD300M
  - **Technical Value** = USD50m
Case Study 1  Ranking based on GPA

Development Phases
- Conceptual Target
- Surface Exploration
- Drill Testing
- Resource Definition
- Feasibility Study
- Mine Construction

Probability of getting to next Stage
- Low
- High

Technical Value of Asset
- Low (US$5million)
- Moderate (US$5 - $10 million)
- High (> S$10million)
- Small
- Medium
- Large

Probability of getting to next Stage
- Geological location, country risk, company fit etc.,
Case Study 2 Background

- Project Location: Asia
- Commodity: Gold
- Time spent by current company on exploration: 2 years
- Number of Assets: 4 Early Stage Exploration Assets
- Work Done: stream sediments, soils and rock chip sampling, Historic airborne geophysics
  - Reasonable set up and facilities, generally good industry practice procedures
- Geology: Miocene, High Sulphidation Epithermal Gold. In a gold mining district
- Other: Client experience: in the region working on conceptual geological models
Case Study 2 Valuation

- Exploration Stage: 1 intermediate
  3 grassroots

- Other (geologically) similar deposits in vicinity and similar projects, reviewed recent transactions and public domain NPV’s

- Probability: chance of making it to the next stage – High

- Risk View: Moderate, licence issues, possible Gov. Instability, Client history exploration, project being managed well,

- Spend: USD2.7m Min (2 Years) value based on spend

  - Minimum Value = USD2M

  - Maximum Potential Value = USD50M

  - Technical Value = USD3m
Case Study 2  Ranking based on GPA

Development Phases
- Conceptual Target
- Drill Testing
- Surface Exploration
- Feasibility Study
- Resource Definition
- Mine Construction

Development Costs to Next Phase
- Technical Value of Asset
  - Small
  - Medium
  - Large

Probability of getting to next Stage
- Low
- High

Technical Value of Asset
- Low (US$5 million)
- Moderate (US$5-$10 million)
- High (> S$10 million)

Probability of getting to next Stage
- (Geological location, country risk, company fit etc.,)
Case Study 3 Background

- Project Location: Southern Africa
- Commodity: REE
- Time spent by current company on exploration: 3 years
- Number of Assets: 1 Early Stage Exploration Asset,
- Work Done: random grab samples, no results
  - Very early stage, little set up and facilities, some observed evidence of industry practice procedures although no sampling during site visit.
- Geology: recent, beach sands from basic volcanics
- Other: Client experience: in country and exploration in general
Case Study 3 Valuation

- Exploration Stage: 1 grassroots

- Some (geologically) similar deposits in vicinity and similar projects within recent transactions, looked at NPV of similar mines

- Probability: chance of making it to the next stage – Moderate/High

- Risk View: Moderate, Risks - Gov. politics, geology dimensions, and processing, Client history exploration, not main project, managed ok, poor infrastructure could be problematic for exploration, Little known about current sample data selection and collection methodology, nothing done with historical data and verification of it

- Spend: USD2M value based on spend

- **Minimum Value** = USD1.2M

- **Maximum Potential Value** = USD25M

- **Technical Value** = USD2M
Case Study 1-3 Ranking based on GPA

- Technical Value of Asset
  - Small
  - Medium
  - Large

- Development Costs to Next Phase
  - Low
  - High

- Probability of getting to next Stage
  - Low
  - High

- (Geological location, country risk, company fit etc.,)

- Development Phases
  - Drill Testing
  - Surface Exploration
  - Conceptual Target
  - Resource Definition
  - Feasibility Study
  - Mine Construction

- Feasibility Study
  - Low
  - High
  - (US$5 - $10 million)

- Mine Construction
  - High
  - (> S$10 million)

- Conceptual Target
  - Low
  - (US$5 million)

- Surface Exploration
  - Low

- Drill Testing
  - Low

- Technical Value of Asset
  - Low
  - (US$5 million)

- Development Costs to Next Phase
  - Low
  - (US$5 million)

- Probability of getting to next Stage
  - Low
  - High

- (Geological location, country risk, company fit etc.,)
Why is it important for you to do?

...Are you spending your precious funds on the project that will ultimately return the best value?

SRK ES advocate that valuing and ranking early stage exploration projects on a regular basis...
SRK routinely perform valuations of mineral assets at a range of development stages, from exploration projects to operating mines, utilising a range of Income, Market and Cost based methodologies.

SRK maintains it’s own analysis of various comparable transaction (project and company transactions, comparable traders) datasets and tools, covering a broad range of commodities.
Thank you
Contact Details

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Tracey Laight is a Principal Consultant (Exploration Geology) for SRK Exploration Services (www.srkexploration.com), the exploration focused division of the SRK Group. Tracey has a strong background in Resource Geology including geological data acquisition, drilling programme management and Mineral Resource Estimation to international reporting guidelines.

Over her 15 year career, Tracey has worked on a variety of precious and base metal projects at various stages of development from exploration to feasibility studies, due diligence, valuation and technical audits, as well as Competent Person’s Reports as part of Stock Exchange Listings. She has worked in Africa, Central Asia, Europe, India, Middle East, North America and South East Asia.

Prior to becoming a consultant, Tracey worked as a mine geologist at both the Tara and Galmoy lead zinc mines in Ireland.