A hypothetical polymetallic sulphide mine in the area.

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Mike Johnston
– VP Corporate Development
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Talk Outline

• Who is Nautilus?
• Deep sea mining – what we know
• The “model mine” as envisaged today.
• What makes mining different.
• The benefits.
• Conclusions.
Nautilus – snap shot today

- Issued Capital: 49.3 million FD
- Share price: CAD$2.08 per share.
- Market Capitalisation: CAD$102 million.
- Barrick Gold: major shareholder (9.5%).
- TSX_V: NUS
Project Location

Nautilus Minerals
PNG Tenure (as at 1 May 2006)
Nautilus – exploration so far

- 2005 - geophysics and sampling
- 2006 – drilling and cutting tests
What have we learnt?

• The “genetic models” hold up well.
• High grades present.
• Can “cut the material”.
• Topography will present engineering challenges.
Sketch of hydrothermal circulation and formation of low- and high-temperature near-bottom fluids (HYFIFLUX-SO 134) (P. Halbach et al. 2000; DeRidge, Bremen)

Extension

Courtesy Prof. Peter Halbach
Manganese Nodule Mining
5,200m
Polymetallic Sulphide - mining

Worley Parsons Scoping Study - 2003

• Examined the potential for combining technologies from conventional land-based mining equipment with technology used in the offshore oil and gas industry.

• Technip update of the Worley Study commissioned by Placer Dome.

• Studies recommend a mining system comprising:
  – continuous mining machine suitably adapted for operation at sub-sea depths of 2000m;
  – Pump or air lift material via 300mm riser to vessel on surface.
  – Ore shipped to a land-based concentrator. concentrates.
Worley Study – Capex / Opex

1. Mining (17% of Capex)
2. Pumping (11%)
3. Support Platform (26%)
4. Ore Carrier
5. Concentrator (39%)
6. Concentrate

- Worley Estimated Capex of USD 260 million
- Opex of USD 48/tonne for 2Mtpa
- Significant opportunity to optimize capital requirements.
Mining System

- Riser - 1,620 m flexible, 229 mm ID x 320 mm OD
- Jumper - 200 m flexible, 229 mm ID x 506 mm OD
- Major riser equipment
  - Top end termination equipment
  - Air lift joint and 51 mm ID flexible
  - Dump Valve with connection to jumper
  - Quick disconnect connector

- Excavator

NAUTILUS Minerals Inc.
Environmental / Sustainability

Smaller Footprint

- less waste rock, tailings, land owner/social, greenhouse gases,

Less impact than onshore mine for same metal production
Mining – EEZ vs the AREA

Nautilus is starting in territorial waters
Mining – EEZ vs the AREA

- Polymetallic sulphides occur in many EEZs and in the AREA.
- It is likely those in an EEZ will be developed before those in the AREA providing the ISA with environmental information on which to develop its own regulations.
- ISA terms (i.e. “taxes”) are less attractive to development than many State EEZ’s with ISA demanding an onerous 50% participation or 50% product sharing.
What Makes Mining Different?

• Most of the capital is upfront

• You never know the complete “answer” until the mine is finished.

• The discovery phase (exploration) is very high risk - <1:100 prospects ever become mines.

• “Taxes” add to the risk.
What are the benefits to mankind?

- Do we want to mine them, or are they to be the deposits of last resort?
- Small footprints.
- High grades.
- Active geology – can be gone tomorrow!
Impact of proposed ISA regulations on project return (risk)

Profit Share Model

- Company can not use equity to finance project.
- Debt financing will be expensive (>12%).
- ETR >70%
- Company carries all the risk.
Impact of proposed ISA regulations on project return (risk)

- Half the revenue goes as debt and/or financing costs.
- Banks make all the money, for little risk!
Equity split model – 50/30/20

- ISA 20% free carried.
- Debt costs significantly reduced.
- ISA return only 50% of previous model, but project is more robust.
Conclusions

• Polymetallic mines can have limited environmental impact.

• Technology is available to do it.

• Risks are high, so commercial terms need to recognize this.

• Do we want to mine these deposits??
  
  • If yes then the regulations need to be competitive with land based operations.
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