

# EXPERIMENTAL SEABED MINING IN PAPUA NEW GUINEA

The world's first experimental sea bed mining lease was given to Nautilus Minerals, a Canadian company, in January 2011 by the Government of Papua New Guinea. The mining lease covers a sea area of 59 square kilometers known as Solwara 1.

It is 30 km off the West coast of New Ireland and 50 km north of Rabaul in East New Britain.

Papua New Guinea has no law that governs mining of the sea bed - but that did not stop the government giving the project the go-ahead.



*A spider crab at a hydrocarbon seep community*  
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*The view towards the proposed Solwara 1 project site from the south coast of New Hanover, New Ireland Province, Papua New Guinea*

## **The Proposed Mining Operation**

Nautilus intends to mine copper and gold from 'high-grade massive sulphide deposits' on the sea floor at a depth of 1600 metres. These deposits occur around under-sea volcanoes (called sea floor hydrothermal vents).

Remote controlled machines will strip the ore from the sea floor, collect it and send it through a pipeline to the surface of the sea. Here the water is separated and sent back to the sea floor through a second pipeline.

The ore will then be transferred onto a barge and taken for processing.

The mine is estimated to last 30 months and is expected to extract up to 5,900 tonnes of ore and sediments per day.

### Serious Environmental Risks

Although seabed mining seems to hold certain advantages over land based mining, with a smaller area mined due to high grade deposits, minimum overburden to be removed, less waste and minimal infrastructure, the mining is not being done instead of land-based mining, it is additional AND some serious concerns remain:

- ▶ The excavation of the ore and the plumes of mud it will create will cause habitat destruction, loss of endemic or rare species, reduced species diversity, loss of knowledge and future opportunities.
- ▶ The hydrothermal vents that will be mined are one of the rarest and most unique ecosystems known to science. They are only just beginning to be explored and understood. Each vent has its own unique ecosystem.
- ▶ The light and especially noise from undersea mining machines could impact on whales and dolphins
- ▶ Disposal on the sea floor of 'rock and sediment' (estimated at 250,000 tonnes)
- ▶ Disposal of waste from surface vessels
- ▶ The integrity of pipelines and possible leakage
- ▶ Cumulative impacts of mining many sites over a relatively short period of time
- ▶ Pollution from surface ships and the risks of collision or spillage
- ▶ Risks of land based storage and on-shipment

Existing studies for Solwara 1 and the approved Environmental Impact Statement do NOT include storage of the ore on land, transportation to a processing facility, processing, waste disposal or on-shipment.

### Land rights

Nautilus Minerals and the PNG government claim there are no landholders to deal with and landowners will not benefit from any royalties.

But in PNG, people have rights to use the sea and to harvest the things that live there. We do not see the sea as being any different from the 'land'. The sea is just as much a part of our land as our mountains and our rivers.

The government has not identified who the relevant landholders are and has not obtained their free, prior, informed consent - that is illegal.

### Solwara 1 is Only Part of the Story

Solwara 1 is only a tiny part of Nautilus plans in PNG. It has at least 51 exploration licences covering over 100,00 square kilometers and up to a further 37 applications covering a further 88,900 square kilometers. It also holds licences in Tonga and the Solomon Islands and has applications in Tonga, Fiji and NZ.

### Conclusion

***“Clearly, the project is not sustainable, as it exploits a relatively finite mineral deposit, lasts only 30 months, contributes a relatively small amount of money to [Papua New Guinea], severely damages the benthic habitat for a rare deep- sea sulfide mound ecosystem, and poses risk to other marine resources in the region.”***

#### Professor Richard Steiner

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(Independent Review of the Environmental Impact Statement for the Proposed Nautilus Minerals Solwara 1 Sea Bed Mining Project, Papua New Guinea)

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