

**Press review:
Mining in the South Pacific**

Vol. 9, No. 3, May – June 2017, 105 pages

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Abbreviations in common use:

BCL: Bougainville Copper Limited

LNG: Liquid Natural Gas

PIR: Pacific Islands Report

PNG: Papua New Guinea

Websites:

Pacific Islands Report: <http://www.pireport.org/>

PNG Post-Courier: <http://postcourier.com.pg/>

PNG National. <http://www.thenational.com.pg/>

Nautilus seeks Solwara funding

June 30, 2017 The National Business

By SHIRLEY MAULUDU

NAUTILUS Minerals is still exploring funding options for its Solwara 1 project, chief executive officer Mike Johnston says. Johnston told The National, in response to a question on whether Nautilus had already secured funding for the project, that it had strong support from its shareholders. “Nautilus has strong support from its major shareholders, who continue to provide a monthly bridge finance facility,” he said. “Additionally, we continue to explore other sources of funding for the Solwara 1 project, and remain in active discussions with a number of parties. “We will continue to update the market as those discussions progress.” Nautilus was granted its first mining lease in January 2011 for Solwara 1 in New Ireland. An environmental permit was awarded in December 2009.

The Solwara 1 deposit, which sits on the seafloor at a water depth of some 1600 metres, contains a copper grade of approximately 7 per cent. The company last July said it was seeking alternative sources of financing to maintain the development of the Solwara 1 project and its operations. Nauti-

lus said then that it required significant additional funding to complete the building and deployment of the seafloor production system to be used at the Solwara 1 project. Failure to secure bridge financing and/or project financing could result in the company taking steps to maximise shareholder value. It includes suspending or terminating the development of the seafloor production system and Solwara 1 project, and engaging in various transactions including, without limitation, asset sales, joint ventures and capital restructurings.

Bougainville govt's forthright support for BCL at Panguna

Dateline Pacific, Radio New Zealand, 30 June, 2017



President of the autonomous Bougainville government, John Momis. Photo: RNZI

The Bougainville Government says it won't give way to a landowner group that says it will not allow Bougainville Copper Ltd, or BCL, to return to the troubled Panguna mine. The autonomous government wants the mine re-opened to boost the economy ahead of the vote on independence from Papua New Guinea set for 2019. But the chairman of the Special Mining Lease Osikaiyang Landowners Association, Philip Miriori, is adamant they will not allow BCL to return, though they are keen to see the mine opened, using an Australian company they have aligned with, called RTG. However Bougainville President John Momis says the government is not about to let a company with no track record mine at Panguna.

JOHN MOMIS: RTG doesn't have any money. The RTG representative in fact, a fellow by the name of Renzie Duncan has Philip Miriori and a few of his cobbles on his payroll and their intention is to get the support of the landowners and the ABG and as a speculator go and find a developer. RTG itself as a company does not have the money.

DON WISEMAN: BCL doesn't have any money either does it?

JM: BCL doesn't have any money but BCL has the data. BCL has the first right of refusal. If we didn't give it to them and set a time frame within which to source funding then BCL might take us to court and thus delay the opening of the Panguna Mine. If they fail to secure the necessary funds then we have the liberty to invite anyone else. But we can't just give it to somebody, a company that has no standing, no track record, such as RTG.

DW: Well I don't think that is true. RTG has run mines. The thing with BCL and whether they are going to take Bougainville to court, well, that is not going to happen, is it, since Bougainville is effectively controlling BCL now?

JM: Well we may now control BCL but the original agreement, concocted in Australia by the colonial government and Rio Tinto.

DW: But they are not in the picture any more are they?

JM: They are not in the picture but the agreement itself is still valid.

DW: Is not the critical thing and you have told me this on a number of occasions. The critical thing is that you get the mine operating as soon as possible - the quickest way of doing that would be to accede to the demands of the landowner group that lives or owns the land right at the Panguna mine site?

JM: Philip Miriori's SML landowners is just one out of nine landowner groups. Eight out of nine support ABG and BCL to open the mine, because ABG has shares in the mine. Although the amount of money is not much but ABG as we have been telling people Rio Tinto is no longer the devil we knew. Now the devil we own as such will be operating under our law. Eight out of the nine landowners support ABG.

DW: Yet you has an attempt to sign this memorandum of agreement the Friday before last and it was unsuccessful. Raymond Masono [Vice President of Bougainville] said last week he was going to give those people two weeks to sort themselves out - his words - but they seem very adamant so do you think you can bridge the gap here?

JM: Well the ABG has told the landowners the onus is on you to sort yourselves out to reach an agreement and we are giving them two weeks. And we know for a fact that most of the landowners are in support - it is just Philip Miriori and his group who are on the payroll of Renzie Duncan. This could be interpreted as bribery as you know.

DW: Well they might say the same in a way. The thing is I guess, they end up being the pivotal landowner group, or that seems to be the way they see it.

JM: If the eight go against the SML landowners [Miriori's group] nothing will happen. If nothing happens then the whole of Bougainville will not benefit but the worst losers will be the landowners themselves. The ABG as the government has the perspective of making sure that we get the best interests of all the people, all the landowners, as well as all Bougainville. Whereas the SML people are just looking at their own selfish, legal interest and they are causing trouble. But we are not going to allow this to keep happening this way because it is time people put aside their selfish interests and worked for the common good of the people of Bougainville, which the government represents.

DW: Well their comeback to that is going to be that as landowners they control, as per the Mining Law, they control what is beneath the surface.

JM: That's right but the ABG is also a major stake holder and without ABG's approval nothing happens.

DW: The ABG has talked about mining in other areas. Have you gone any further with that?

JM: I am not sure what the Department of Mining is doing, but as you know they applied for exploration licences and they given and now I guess it is up to the companies which applied to find the funds which are necessary to carry out the exploration.

DW: Do you know whether there is outside interest in doing that?

JM: Toremana - a Western Australian company is interested there with the landowners in the Tinputz area, not far from Buka. But the other one is Isina, that is Sam Kauona and his people and they have been granted the exploration licence and I presume they're working to either find partners or find the money themselves to do the exploration.

DW: So in terms of resolving these issues and getting a viable economy, or getting things starting to happen over the next couple of years, how confident are you at this point?

JM: Well I think everybody knows that fiscal self-reliance is one of the most important benchmarks that will be taken into account after the outcome of the referendum - by the national government, by the UN and the international community and I think people know that, so they are working hard now to ensure that we reach a consensus to open the mine. Apart from other, agricultural and fisheries businesses, believe that the Panguna mine is probably the best, quickest way of generating revenue because a dollar invested in mining produces three dollars in other associated industries - that's agriculture or other businesses.

Australian Mining Company Proposes To Reopen Bougainville Mine With Landowners' Cooperation



RTG wants to replace Bougainville Copper Ltd as operator of Panguna

WELLINGTON, New Zealand (Radio New Zealand International, June 30, 2017) – The mining company RTG has informed the Australian sharemarket, the ASX, of its plan to link with a landowner group to re-open Bougainville's Panguna mine. The government in the autonomous Papua New Guinea region wanted the mine re-opened to spark the Bougainville economy ahead of an independence vote in June 2019. But it wants the former miner Bougainville Copper Ltd, in which it is a shareholder, to go back in. RTG opposes this plan. It has a joint venture with the Special Mining Lease Osikaiyang Landowners Association, or SML, and Central Exploration.

The SML owns the land at the mine site. RTG has told the ASX and the Toronto Stock Exchange that its proposal is a landowner initiative and it would take a minority position. It said the proposal was ultimately conditional upon the support of the Autonomous Bougainville Government and others. The company said it had a track record of community engagement in the seven mines in five countries that it has developed in the past. It said the joint venture proposal would enhance the prospects of a successful referendum and bring financial rewards much earlier for all Bougainvilleans.

MEDIA RELEASE

NAUTILUS AGM: Solwara 1 Deep Sea Mining Venture Remains a Speculative Pipe Dream *Thursday 29 June, 2017*



At its annual general meeting in Vancouver last week, *wannabe* deep sea miner Nautilus Inc failed to inspire shareholders with confidence in its Solwara 1 venture in Papua New Guinea[1]. Without sufficient funds to complete its equipment build, Nautilus' 2019 mining start date for its flagship Solwara 1 project is unlikely to be met. Its financing strategy has been

spectacularly unsuccessful with commercial operation delayed year after year since 2011. Investors and local PNG communities have raised serious doubts about the company's credibility. Nautilus CEO Mike Johnston was put on the defensive by questions posed at the AGM regarding investment risk. At the AGM, the Deep Sea Mining Campaign and the Vancouver-based Mining Justice Alliance reminded shareholders that Nautilus' [Annual Information Forms](#) for financial years 2015 and 2016 describe serious environmental and economic risks that render its Solwara 1 project a purely speculative venture[2]. The Forms describe Solwara 1 as an experiment as both the environmental impacts and profits are complete unknowns. Nautilus has declined to conduct a preliminary economic assessment, pre-feasibility study or feasibility study – as per conventional industry practice.

"This level of risk has scared off responsible investors. More importantly in terms of risk, the Solwara 1 project is opposed by local communities who are deeply concerned that the project will pollute the marine environment and ruin their livelihoods, health, and culture, all of which are strongly linked to the sea. The cost of conflict to mining projects has been well documented"[3] says Dr. Helen Rosenbaum of the Deep Sea Mining Campaign. According to Kate Murray of the Mining Justice Alliance, "experience with other mining projects shows us that local opposition often results in legal and/or public relations disasters for companies. In the case of Solwara 1, local opposition appears to be mounting." She also posed the following questions to CEO Mike Johnston at the AGM:

- "Is it true that without the normal economic and feasibility studies, the economic viability of Solwara 1 is unknown?"
- "Is it true that the risk to shareholders of losing their entire investment in Nautilus is high and the potential returns promoted by Nautilus are purely speculative?"
- "Is this why Nautilus is struggling to obtain the investment it requires to complete the construction of its vessel and equipment?"

Johnston declined to have his responses recorded and evaded providing clear answers. However, he did affirm the accuracy of the description of the Solwara 1 project in the Annual Information Forms as a "high" and "significant" risk.

NOTES

[1] If it proceeds the Solwara 1 mine will be located in the Bismarck Sea of Papua New Guinea, approximately 25 km from the coastline of New Ireland Province, about 35 km from Duke of York Islands and 60 km from Kokopo township in East New Britain.

[2] See sections on Risk factors in [Annual information forms](#) for financial years 2015 and 2016. For example:

"Our operations are speculative due to the high-risk nature of business related to the exploration and acquisition of rights to potential mineable deposits of metals. These risk factors could materially affect the Company's future results and could cause actual events to differ materially from those described in forward-looking statements relating to our Company." (FY 2016, p 52)

"... Performance, availability, reliability, maintenance, wear and life of equipment are unknown. There can be no guarantee that sub-sea engineering and recovery systems can be developed or if developed, will be employable in a commercially-viable manner." (FY 2015, p54)

"... while Company studies have indicated a low likelihood of risk to the aquatic environment from mining activities, the actual impact of any SMS [seafloor massive sulphide] mining operations on

the environment has yet to be determined.” (FY 2015, p61)

"Nautilus has not completed and does not intend to complete a preliminary economic assessment, pre-feasibility study or feasibility study before completing the construction and first deployment of the Seafloor Production System at the Solwara 1 Project."

"No independent Qualified Person has confirmed the amount of these costs or recommended that these costs be incurred. There is significant(FY 15, p52) risk with this approach and no assurance can be given that the Seafloor Production System, if fully funded and completed for deployment at the Solwara 1 Project, will successfully demonstrate that seafloor resource development is commercially viable."

[3] For example: Davis, Rachel and Daniel M. Franks. 2014. "Costs of Company-Community Conflict in the Extractive Sector." Corporate Social Responsibility Initiative Report No. 66. Cambridge, MA: Harvard Kennedy School.



IMAGE: Participants at the Seabed Mining Forum in Namatanai, New Ireland Province, PNG calling for a Ban on Seabed Mining in PNG & The Pacific. June 8th, 2017.

Can deep-sea mining avoid the environmental mistakes of mining on land?

Ambitious research aims to limit environmental damage on the sea floor – but some scientists fear mining this pitch black world will do more harm than good

Carol J Clouse, The Guardian, 28 June 2017

Each of the three mining machines outweighs the 200-ton blue whale – the largest animal the world has ever known – and they look fearsome, especially the bulk-cutter designed to grind up the ocean floor with its enormous roller, covered in spikes. If all goes as planned, come 2019 these giant remote-controlled robots will steamroll across the bottom of the Bismarck Sea off the coast of Papua New Guinea, chewing it up in pursuit of rich copper and gold reserves for a Canadian company called Nautilus Minerals. Nautilus chief executive Michael Johnston is anxious to demonstrate something besides making handsome profits. He also wants to show that his company has designed the mining expedition to have a small environmental footprint, especially when compared to the land-based counterpart. "People have a view of mining, and they think we're going to transport that

view into the ocean, and it's going to be ugly," says Johnston, a soft-spoken New Zealand native and a 30-year veteran of mining. "It's important to all of us, especially those of us who've worked in mining for a number of years, to show people that you can do it better. I think a lot of people will be surprised," says Johnson, 54, who joined Nautilus in 2006.

Johnston will have a lot to prove. The project, Solwara-1, will be the first ever attempt to extract minerals from the deep sea, and with the world watching closely. Deep sea mining presents an ethical conundrum and an opportunity to avoid the costly environmental and social mistakes of land-based mining. That has prompted a group of policymakers, businesses and academic researchers to design rules that they hope will minimize environmental harm. They have proposed ideas that range from setting aside no-mining zones within a region rich in minerals to using technology that will reduce the extent of sediment plumes during dredging. "We have the opportunity from the very beginning to understand the science, to understand the impact and to understand how to ameliorate the impacts," says Dr James Hein, a senior scientist with the US Geological Survey.

"This will really be the first time we can approach it from step one." But whether any of those ideas will work as designed to reduce environmental impact won't be known until the machines are put to work. Some of Nautilus's proposals, such as relocating some of the wildlife temporary to another location during mineral extraction – and recolonizing the spot afterward – attract strong skepticism. "Nautilus's claims that they can simply relocate parts of the site's ecosystem elsewhere don't stand up to scientific scrutiny, and the effectiveness of any measures to reduce other impacts will be difficult, if not impossible, to verify independently," says Dr David Santillo, senior scientist at Greenpeace Research Laboratories at the University of Exeter in the UK.

Earth's last mining frontier

The deep ocean plays a critical role in the Earth's biosphere – it regulates global temperatures, stores carbon and provides habitat for a huge array of creatures. Scientists and environmental advocates fear that mining this pitch black, frigid world will not only kill any marine life that gets in the way of the machines but could potentially devastate far wider areas by stirring up plumes of sediment and introducing chemical, noise and light pollution. Their worries underpin a sentiment that deep-sea mining appears inevitable. Demand for minerals to make virtually everything we use, including the phones and computers that run our lives, will only increase. Even technology that promises to cut our oil addiction and reduce emissions requires a reliable supply of raw materials, from tellurium for solar panels to lithium for electric vehicle batteries. The vast treasure of untouched resources on the ocean floor – copper, zinc, cobalt, manganese, titanium and other minerals – has tantalized mining companies around the globe.

The Clarion-Clipperton Zone (CCZ) is a particularly a coveted mining area that's roughly the size of the continental US and lies between Mexico and Hawaii. It contains potato-sized nodules of manganese, cobalt, nickel, copper and molybdenum worth roughly \$25.2tn, according to Hein's calculations. Not all of this amount would be economically recoverable, Hein says, but even 30% would equal \$7.56tn. Moreover, these minerals exist at much higher grades than on land, where supplies that are easily accessible have mostly been depleted and mining companies are blowing the tops off mountains, cutting down wider expanses of forests and digging ever-bigger holes to extract from harder-to-reach deposits. Mining copper in the Andes, which produces about 40% of the world's supply, would require the removal of 50 tons of barren rock to get to a 20 million ton ore deposit with 0.5% copper in it, Hein says. In a marine environment, you can find a 7% copper deposit sitting right on the seafloor. Of the 28 exploratory contracts signed with the International Seabed Authority, which regulates undersea mining in international waters, 16 are for mining in the CCZ. The US hasn't ratified the treaty and joined the ISA. US aerospace and defense firm Lockheed Martin has obtained two exploratory contracts through its British subsidiary UK Seabed Resources.

Deep-sea mining is an expensive undertaking. Nautilus has encountered delays for its roughly \$480m project and still needs to raise \$150m to \$250m to move ahead. Around the world, extensive work is now going into mapping ocean floor ecosystems and researching ways to mitigate the environmental impact of deep-sea mining. In the US, the National Oceanic and Atmospheric Administration has done exploratory and mapping work off the coast of Hawaii, along with projects by university researchers. The European Union has contributed millions of dollars to organizations such as MIDAS (Managing Impacts of Deep-Sea Resource Exploitation), and Blue Mining, an international consortium of 19 industry and research organizations. A UK-funded expedition conducted the first ever controlled deep-sea sediment plume experiment in the Atlantic last year, about 300 miles from the Canary Islands. Sediment plumes are big dust clouds kicked up by mineral extraction, and scientists worry that the plumes could travel great distances, choking sea life along the way.

“There’s a lot more research to be done on sediment plumes,” says Dr Bramley Murton, who led the expedition and heads the marine mineral research at the UK’s National Oceanography Center. “But we got some data and, at the moment, the initial indication is that we can’t see the plume from a kilometer, or roughly 0.6 miles, away.” That’s an encouraging result, because scientists previously suspected that sediment plumes would travel much further. Another way to minimize impact is to aside protected areas within mining zones. Back in 2013, a team of scientists led by Dr Craig Smith, a professor of oceanography in University of Hawaii’s Mānoa’s School of Ocean and Earth Sciences and Technology, recommended the ISA to designate roughly a quarter of the CCZ as a protected area.

The ISA accepted the team’s recommendations provisionally but will need to decide whether to include them in the final rules, which could take three to five years to finalize. Improving the precision of mining robots will also help to reduce environmental disturbances. Companies with the technology that could solve the problem include the Seattle-based [BluHaptics](#), which has developed software that enables a robot to recalibrate its aim and movement to improve precision by learning from each trip it makes to the seabed. “We use machine learning software to identify and track objects in real time, with high resolution situational awareness, so it can see through sediment or oil spills,” says Don Pickering, BluHaptics’ CEO.

What will Nautilus do?

At the Solwara-1 site, 25km off the Papua New Guinea coast, Nautilus plans to launch its project from a ship 230 meters long and 40 meters wide, with roughly 130 employees on it. The company will go after minerals born 1,000–3,000 meters deep in volcanically active zones, around vents that spurt super hot, acidic water containing metals dissolved from the earth’s crust. The active vents are populated by numerous species, including tubeworms, clams, snails, shrimp, crabs and any [species that are not yet known](#). The three Nautilus robots, designed by UK-based SMD, will be lowered into the water, break up the rocks and collect them to be piped back to the vessel. The ore will then be transported by smaller boats to China and sold to the Tongling Nonferrous Metals Group Holding Co. The ship plans to remain at the first project site for roughly three years, bringing up 2.5 million metric tons of ore containing metals worth roughly \$1.5bn, give or take shifts in commodity prices. To address sediment plumes, SMD designed the robots to suck the plume into the slurry with the ore and pump it up into the vessel. “Our ultimate goal is to recover as much of the material as possible, not to blow it away,” Johnston says.

Using a steel riser and pump system designed by GE Oil & Gas, once the ore is dropped into the vessel, the icy water will be pumped back down to the sea floor so it doesn’t mix with the warmer surface water and potentially cause algae blooms and other environmental disturbances. To minimize the use of bright light, which could disrupt marine life in the pitch black world, Nautilus will

use sonar and digital cameras to create 3D maps to guide its extraction with the remotely operated robots.

“These populations grow fast and they reproduce a lot, so in some sense one can argue that they might recover quickly. But the environmental issue is that these habitats are relatively rare on the sea floor, and they’re different from one site to the next because the animals have adapted to the fluid chemistries,” says Dr Cindy Lee Van Dover, director of the Duke University Marine Laboratory in North Carolina and a member of the Deep-Ocean Stewardship Initiative, an international group of scientists, lawyers and advocates that makes environmental recommendations to the ISA. “We aren’t talking about stopping mining, just thinking about how to do it well. We can map these environments to show where the highest density of animals is and avoid those high-density places. That’s a very rational approach,” says Van Dover. “I’m reasonably optimistic that we can come up with progressive environmental regulations.”

Renzie Duncan and Philip Miriori team up in another illegal Bougainville venture

PNGExposed, June 28, 2017

Sydney lawyer and mining venture capitalist, Renzie Duncan, is on the prowl again for Bougainville’s mineral wealth, with his old friend Philip Miriori, the scandal-plagued, self-appointed head of the Me’ekamui Tribal Government. This time its through Central Me’ekamui Exploration Limited, which is in partnership with Australian mining firm RTG Mining. Company extracts indicate that [Central Me'ekamui Exploration](#) Limited, despite its very local name, is in fact a foreign enterprise. This assertion is based on the fact it is 50% owned by Australian company, Central Exploration Pty Ltd. Central Exploration Pty Ltd’s thriving head office is 266 Burns Bay Road, Lane Cove, New South Wales, Australia. This leafy address on Sydney’s north shore, is also the registered home address for Renzie Duncan.



Under the Investment Promotion Act 1992, a company which is 50% owned by a foreign entity is deemed a foreign enterprise and must apply for certification to conduct business in Papua New Guinea. Section 41 of the Investment Promotion Act 1992 states it is an offence to carry on business without certification, punishable by a K100,000 fine. There is no record with the Investment Promotion Authority that Central Me’ekamui Exploration Limited has applied for certification, despite the fact it has been clearly conducting business with RTG Mining. However, this is not the first time Duncan, Miriori and the other Central Exploration Director, Michael Etheridge, have conducted business in Bougainville. The last time it was through Transpacific Ventures Limited. In that

case Transpacific Ventures informed investors: 'In the past 12 months, TPV has negotiated and signed an Agreement (the "Cairns Agreement") with the Sovereign Me'ekamui Tribal Government on an exclusive basis for 20 years, renewable, to advise customary landowners (the Me'ekamui) in developing their natural resources sector, including potential oil and gas, on the island of Bougainville, PNG and surrounding atolls and marine territories, and to participate with the Me'ekamui in such development and other business opportunities'.

Yes, that's right, Philip Mioriri and his self-styled tribal government proposed to sign away the natural resources, land and marine, across Bougainville. Clearly, he had no right to, and Transpacific Ventures had no legal business publishing this information to investors. Of course the claim by President Momis that RTG mining 'doesn't have any money', is rather ironic given that his preferred operator, BCL, can't even afford permanent staff – and has no means whatsoever to raise the sort of capital to develop Panguna. But the core point all this squabbling between various minority interests distracts from is this – 98% of the people in and around Panguna oppose mining, under any industrial guise. They have suffered the environment and human loss. The ordinary people – real landowners – don't have government support, nor do they have access to the internet or media. Their voice is unheard, except when they protest and resist.

The re-entry of Duncan and Mioriri, will be cynically used by the government to label all landowner resistance, simply a plot to bring in an alternative developer by the backdoor. If this is argued, it is a lie. Landowners throughout the mine area remain opposed, like they have since 1963, when the first rumblings of Panguna began. Journalists will not report this. They don't leave their offices, much less speak with someone who can't reply in English. On the rare occasions they do leave their office, they knock on the door of Lawrence Daveona, Philip Mioriri and other individuals, who falsely claim they somehow speak for all landowners, which they don't. Of course the colonial powers did this back in the 1960s. Some poor old man, was wielded out to say yes, while the mothers cried no. History has been a cruel teacher, it is unlikely the mothers of the land will allow the bulldozers through this time.

Fiji: No plans for deep sea mining

Felix Chaudhary, The Fiji Times, June 28, 2017

SEABED deep sea mineral mining will not be conducted in waters around Fiji in the near future, says Ministry of Lands and Mineral Resources permanent secretary Malakai Finau. "The costs involved are absolutely huge," he said. "Current exploration interest is in its very early or preliminary stages, we haven't even reached the advanced stages as yet. "Seabed resource exploration requires a lot of resources. One of the biggest costs is the need to engage a state-of-the-art marine research vessel. "Getting exploratory work done on land is very expensive, so you can imagine what it's like when you are attempting to do this out at sea." Meanwhile, a report by the World Bank released in April last year titled "Precautionary Management of Deep Sea Mining Potential", called on Pacific Island countries to be extra vigilant and cautious over any plans for seabed mining. The report said any Pacific country supporting or considering deep sea mining activities must proceed with a high degree of caution to avoid irreversible damage to ecosystems.

The World Bank report also emphasised the need for strong governance measures to ensure that appropriate social and environmental safeguards were in place. Pacific Island countries that have granted permits for deep sea mining exploration include Papua New Guinea, Fiji, Tonga, Vanuatu and Solomon Islands. The Cook Islands has advanced its efforts and done a minerals exploration tender process. Mr Finau is chairing the Science Technology and Resources (STAR) Network's 2017 conference at the Tanoa International Hotel in Nadi. The conference is supported by the Geoscience Division of the Pacific Community and sponsored by Standard Concrete Industries (Fiji),

XINFA Mines (Fiji) and the UNDP neglected development minerals project with support also from the Circum-Pacific Council.

Mine will not be in breach of law

Post-Courier, June 28, 2017

Canadian miner, NAUTILUS Minerals, asserts the world's first deep sea mine to be developed in Papua New Guinea, says it will not be in breach of any international laws. The company was responding to recent reports published by the Catholic Professionals Society, which had claimed there would be breach to the freedom of navigation by international vessels, if the project gets off the ground. The Solwara-1 project, will be developed in the waters between New Ireland and East New Britain provinces. In a statement sent to the Post-Courier yesterday, the Canadian miner said: "Nautilus would like to clarify that its operations will not be in breach of international laws." "While there will be an exclusion zone around its operations, it is only 1.25-km in radius." "This was determined by placing a 500 meter buffer around all mining areas."

"This buffer area was approved by the National Maritime Safety Authority (NMSA) in September 2016, with the relevant information sent to the Australian Hydrographic Service for inclusion on the relevant charts," the miner said. Nautilus said the exclusion zone will ensure shipping does not interfere with mining operations, and will no way impede shipping passing through the St George passage (it doesn't interfere with the Right of Passage as guaranteed by UNCLOS). "This exclusion zone is no different to the exclusion zone around an oil and gas production platform, for which, there are thousands all around the world and they too are not in breach of international law." "Its position will be marked on maritime charts and will be noted by all vessels and vessel captains," the firm further stated. Questions were put to NMSA to comment but the state agency had yet to respond at the time this paper went to press.

RTG in fresh bid to get Panguna running

Kristie Batten, PNG Industry News, 28 June, 2017



RTG confirmed that it had joined a consortium comprising the Special Mining Lease Osikaiyang Landowners Association (SMLOLA) and Central Exploration. The company has paid US\$750,000 for a minority stake in Central. The SMLOLA owns the minerals within the old Panguna mine and

control the land. The autonomous Bougainville government (ABG) owns a controlling stake in ASX-listed Bougainville Copper (BCL) after being gifted shares by former major shareholder Rio Tinto last year. The ABG supports BCL's plans to redevelop the abandoned mine. According to Radio New Zealand, a protest by local landowners last week prevented the ABG from signing a memorandum of understanding with other landowners last week. The SMLOLA is not prepared to grant access to the land to BCL.

RTG has agreed to partner SMLOLA in its proposed Panguna redevelopment if the proposal is successful. SMLOLA is seeking to redevelop the mine in stages, starting with an initial 15 million tonne per annum plant. RTG said there were strong parallels between the proposed redevelopment and the redevelopment of the Masbate gold mine in the Philippines, which was completed by the RTG management team. RTG's primary focus to date has been the Mabilo copper-gold project in the Philippines. The company said its three largest shareholders are backing the proposed Panguna development. Panguna has been suspended since 1989 due to the outbreak of civil war in Bougainville.

BCL has not had access to the mine since, and the company and Rio have faced allegations and lawsuits regarding their involvement in the conflict, as well as environmental damage. BCL plans to spend more than \$A100 million on feasibility studies and potentially introduce a new strategic partner. A 2016 order of magnitude study considered a 60 million tonne per annum operation, with a possible expansion to 90Mtpa. Under that scenario, capital costs would be \$US6 billion for a 24-year mine starting in 2027. The expansion would cost a further \$1 billion. At the end of 2015, Panguna had resources of 1.8 billion tonnes at 0.3% copper and 0.34 grams per tonne gold for 5.3 million tonnes of copper and 19.3 million ounces of gold. On the announcement, RTG shares jumped by 21% to A17c, capitalising the company at \$28.5 million. At BCL's last price of 33c, it had a market capitalisation of just over \$130 million.

Star Mountain Plaza a legacy for generations

June 28, 2017, The National Business

MORE than 400 people will be employed by the Star Mountain Plaza development project as the site workforce is expected to expand by 60 per cent in the next two months. Mineral Resources Development Company managing director Augustine Mano said skills-based training programmes offered to those working on the site would benefit local tradesmen. "The project is creating a legacy asset for future generations in terms of skills development and economic growth," Mano said.

Experts Warn that Seabed Mining Will Lead to 'Unavoidable' Loss of Biodiversity

Daniel Oberhaus, Motherboard, June 27 2017

Seabed mining companies are going to wipe out species we don't even know exist yet. An international group of 15 marine scientists and legal scholars published a letter on Monday warning of the dire effects that the nascent seabed mining industry could have on bottom dwelling marine life. The letter, published in [Nature Geoscience](#), is the latest in a series of [increasingly desperate pleas](#) from marine scientists to pump the brakes on mining the seafloor until marine scientists are able to get a better idea of what the effects this industry will have on this woefully understudied area of the planet. "Unlike on land, most of the biodiversity and ecosystem function in the deep sea is poorly understood," Cindy Dover, a professor of biological oceanography at Duke University and one of the signatories to the letter, told me via email. "We have learned that the deep sea is as exquisitely diverse as any bit of shallow marine or terrestrial environment. What we don't understand is how much we

can degrade deep-sea ecosystems before we reach tipping points, where the loss of biodiversity and ecosystem function affects the health of the ecosystem beyond levels that are acceptable to society." As such, Van Dover and the other signatories on the letter call for the International Seabed Authority, the UN-sanctioned regulatory body for the ocean's floor, to recognize the risk posed by deep sea mining and communicate this risk to the public at large.

"We ask that biodiversity loss resulting from deep-sea mining be recognized and be part of the public discourse about mining," Van Dover said. "The scientific community has been invited by the ISA to provide recommendations on responsible environmental practices for deep-sea mining. Our peer-reviewed letter responds to this invitation." Although the deep sea (defined as anything below a depth of about 650 feet) accounts for roughly two-thirds of the Earth's surface, we know remarkably little about what goes on down there. Dozens of new species are routinely discovered during forays to the bottom of the ocean and the deep sea ecosystem isn't well understood. Nevertheless, the deep sea has become the site of a new gold rush in recent years.

The discovery of a wealth of precious minerals such as nickel and cobalt, in addition to oil and potentially lifesaving molecules have incentivized seabed mining operations to begin exploratory missions to the bottom of the ocean to start staking claims. To get an idea of how this industry is developing, the authors of the recent letter point out that in 2001 there were only six contracts for deep sea mining operations. By the end of 2017, however, there will be 27 deep sea mining contracts. Of these, 17 will be in the Clarion-Clipperton Zone, a region of the Pacific Ocean between Hawaii and Central America. One of the proposed mining contracts alone covers 32,000 square miles, an area larger than the state of Maine.

Although some proponents of deep sea mining argue that the effects of this industry can be offset by taking more environmentally friendly measures elsewhere, such as building artificial reefs, the authors of the letter are calling BS. "The argument that you can compensate for the loss of biological diversity in the deep sea with gains in diversity elsewhere is so ambiguous as to be scientifically meaningless," Craig Smith, a professor of oceanography at the University of Hawaii, said in a statement. "This is like saving apple orchards to protect oranges," Van Dover added. For now, these contracts remain exploratory as the ISA struggles to establish a deep sea regulatory regime.

But as the letter's authors rightfully worry, it will be hard to establish effective seabed regulations since so little is known about the ocean floor. "The ISA has begun working on regional environmental protection plans that include identifying networks of Areas of Particular Environmental Interest (APEI) within regions of interest to contractors," Van Dover told me. "Mining and mining impacts would be excluded in these APEIs. Science-based recommendations for the design of these APEIs call for them to include representative habitats in the region."

Until these regulations are in place, however, the authors of the letter call for the ISA to acknowledge that deep sea mining will certainly be harmful to deep ocean biodiversity. According to the authors of the letter, this damage will likely be irrevocable. Even more frightening is that we'd likely never know the full extent of the damage because marine scientists won't have the opportunity to establish sufficient baseline measurements before the mining frenzy begins. "I do not know if responsible seabed mining is possible, given knowledge gaps in our understanding of deep-sea biodiversity and function, and the possibility that the cost of good, science-based environmental management and monitoring may be too high at present relative to the value of the product," Van Dover said. "There are ways to fill these knowledge gaps, but they require time and investment."

Finau: Fiji bauxite shipments reduced

Luke Rawalai, The Fiji Times, June 26, 2017



Shalend Prasad points at a spillage from the bauxite mine alleged by members of the public to be waste water from the sediment ponds. Picture: LUKE RAWALAI

THE number of bauxite shipments that leave the shores of Bua is determined by a lot of factors and chief among them is the global market price of the mineral. Ministry of Land and Mineral Resources permanent secretary Malakai Finau told this newspaper that shipments had been reduced lately because of the drop in world prices for bauxite. Mr Finau said there were other factors that affected the shipments of bauxite. "The other factor that affects the amount of shipments that is exported to China is related to production and the setup of the mine," he said. "Because of the prevailing prices of the mineral, the company only sells when the price is right or when they stock the right amount of bauxite to be exported.

"There are other mining issues like the recent allegations of spillage and mining has to be stopped until these issues are addressed. "As we speak, we have stockpiles of bauxite in the Naviqiri facility awaiting shipment." Earlier this month, director mineral development of the Ministry of Lands and Mineral Resources Dr Reijeli Taga said the first shipment of bauxite this year left Fiji's shores on March 3. She revealed that XINFA Aurum Exploration Fiji Ltd's first shipment this year occurred significantly earlier, compared with the single shipment of 2016, which did not take place until early September. Dr Taga said the bauxite shipped to China weighed 58,709.60 tonnes, raking in revenue of \$2.6 million.

RTG Joins Landowner Backed Consortium Proposal for Copper-Gold Panguna Project in Bougainville

RTG Mining, Stockhouse, 26 June, 2017

RTG Joins Landowner Backed Consortium Proposal in Respect of the Copper-Gold Panguna Project in Bougainville - Announcement to the Australian Securities Exchange and Toronto Stock Exchange. RTG Mining Inc. confirms recent press statements that it has been nominated as the development partner with the joint venture company of the Special Mining Lease Osikaiyang Landowners Association ("SMLOLA") and Central Exploration Pty Ltd ("Central") in their proposal with respect to the redevelopment of the 1.5B tonne Copper-Gold Panguna Project located in the Central Region of the island of Bougainville, within the Autonomous Region of Bougainville, Papua New

Guinea (“PNG”). RTG has subscribed US\$0.75M into Central for a minority position in Central. The proposal being led by the SMLOLA is a landowner initiative and will be subject to the success or otherwise of the SMLOLA in securing a role in the redevelopment of the mine.

This proposal is also, ultimately conditional upon the support of the Autonomous Bougainville Government (“ABG”) and others. RTG appreciates the trust and support the SMLOLA has shown the Company, recognising the community engagement track record and the development experience of the RTG management team, having successfully developed seven new mines in five different countries. RTG makes no representation that the SMLOLA led consortium proposal will be successful. Both the show cause notice issued by the ABG to Bougainville Copper Limited (“BCL”) in connection with the previous exploration permit, which expired in September 2016 and the application for extension of the term of the licence are still under review by the ABG. The ABG has expressed its support for BCL

The members of the SMLOLA are the owners of the customary land which is the subject of the old BCL operated Panguna open pit mine area. In implementing the Bougainville Peace Agreement, a change in the mining law in 2014 resulted in the PNG ownership of mineral rights being expunged and the customary landowners becoming owners of the minerals within their land. Accordingly, the SMLOLA own the minerals of the old Panguna Mine and are in control of access to their land, namely the Panguna pit. The SMLOLA has stated that it will not grant access to their lands to BCL, a position they have held and expressed for an extended period of time. The Autonomous Region of Bougainville has gone through transformative changes over the last couple of years and has recognised the reopening of the Panguna Mine is an important economic initiative for all Bougainvilleans, which is supported strongly by the SMLOLA.

RTG will fully respect any rights of BCL and has agreed to act as the development partner should the SMLOLA be successful in their proposal. RTG believes that the SMLOLA led consortium could provide a constructive and valuable contribution to resolving outstanding issues between all parties, with their proposal including the development of Panguna on a staged basis, starting at an initial targeted 15Mtpa plant size before then optimising the processing plant, subject to completion of a Feasibility Study. This will enhance the prospects of a successful referendum on Independence for Bougainville and much earlier access to financial rewards for all Bougainvilleans. There are strong parallels between this proposal and the redevelopment of the Masbate Gold Mine in the Philippines, which was successfully developed by the RTG Management team.

The proposal also includes a Bougainville Redevelopment Fund to assist the landowners and ABG in implementing much needed social and infrastructure programs to enhance the livelihoods of all those in and around Panguna. RTG’s three largest long term shareholders, whose publicly reported parent company net worth is in the order of US\$30 billion, have expressed support for entering into the Panguna redevelopment proposal should it be successful.

ABOUT RTG MINING INC

RTG Mining Inc. is a mining and exploration company listed on the main board of the Toronto Stock Exchange and Australian Securities Exchange. RTG is focused on developing the high grade copper/gold/magnetite Mabilo Project and advancing exploration on the highly prospective Bunawan Project, both in the Philippines, while also identifying major new projects which will allow the Company to move quickly and safely to production. RTG has an experienced management team (previously responsible for the development of the Masbate Gold Mine in the Philippines through CGA Mining Limited), and has B2Gold as one of its major shareholders in the Company. B2Gold is a member of both the S&P/TSX Global Gold and Global Mining Indices.

Over 80pc mining activities cover PNG

Loop PNG, June 25, 2017



Mining exploration activities in Papua New Guinea cover over 80 percent of the country, according to the PNG Extractive Industries Transparency Initiative Report 2013. This is expected to further enhance and strengthen Papua New Guinea's position as one of the top twenty gold and copper producing countries in the world. "The country is rich in minerals. It ranks in the top 20 world gold and copper producers and also produces silver, nickel and cobalt," the report said. "Mining in PNG dates back to 1888, with the modern mining industry developing in the mid-1960s. "During the reporting period, eight mines were operating in Papua New Guinea, distributed over a number of provinces," These include Ok Tedi, Porgera, Lihir, Hidden Valley, Ramu Nickel and Cobalt, Tolokuma, Simberi and Sinivit. This figure has been increased to nine with the inclusion of Eddie Creek in the 2014 Report. "New Projects in development include the deep-sea Solwara 1 (owned by Nautilus Minerals), Frieda (PanAust) and Wafi-Golpu (Harmony/Newcrest). Exploration activity is intensive covering over 80 percent of the country," the report said. It said mining companies active in PNG include international companies and a number of junior companies together with many small scale miners.

"Some 60 to 80 thousand people are estimated to be engaged in informal alluvial/small scale mining," the report said. Head of PNG EITI National Secretariat, Lucas Alkan, said promising times are ahead for the country in terms of the enormous benefit that the mining industry would bring to the economy. "At PNGEITI, we are excited that we are already playing our part in promoting accountability and transparency in the way the government, companies and landowners manage proceeds from these projects - through the annual EITI reporting process," Alkan said. "We hope to see more cooperation from all sectors of the economy so that we can produce comprehensive and timely information as we move forward in this journey. "Through our reporting process, we will try to get to the bottom of the payment mechanics so that correct information on what the government is receiving, the landowners are receiving and other related information, like mining licences, are accessible to the public for transparency and accountability's sake."

Proposed sea bed mining project in PNG in breach of International laws

NBC News via PNG Today, 24 June, 2017

The proposed sea bed mining project in Papua New Guinea will be in breach of International laws. Catholic Professionals Society of PNG Executive and Environmental Lawyer Camillus Narokobi highlighted this recently, saying that there will be a breach to the freedom of navigation by interna-

tional vessels if the project becomes a reality. The project Solwara 1, to be developed by Canadian Company, Nautilus Minerals in the New Ireland and East New Britain seas is set to begin in 2018. “The area that is being targeted for sea bed mining falls within our jurisdiction, it is an area that falls under international law. The passage between Rabaul and New Ireland is called St George Passage. That is regarded as an International Strait, it is one of the seven international straits Papua New Guinea has, it is all within the Bismarck Archipelago. And so both the New Ireland and East New Britain Provincial Governments have a right to say what has to be done or what should not be done. And International rights include freedom of navigation, by ships and submarines that can come through those waters without giving prior notice.

Plankton at risk from seafloor mining surveys

Cosmos, 23 June, 2017



Zooplankton like these are vulnerable to the acoustic surveys used to search for oil and gas under the seabed.

The search for oil and gas deposits beneath the sea uses acoustic imaging techniques that are deadly to vital marine organisms, according to new research. Tim Wallace reports. Climate scientists are agreed that global warming will have significant long-term impacts on plankton, the creatures that underpin the health and productivity of global marine ecosystems and which play a critical role in the planetary carbon cycle, though they are less sure what exactly those impacts will be. But more immediate effects from human reliance on fossil fuels are now clearer, thanks to research that shows acoustic survey techniques used to explore the seafloor for oil and gas deposits is associated with the widespread death of plankton. The study by marine scientists from Curtin University, in Western Australia, and the University of Tasmania has been [published in *Nature Ecology & Evolution*](#). It concludes that “potential large-scale modification of plankton community structure and abundance due to seismic survey operations has enormous ramifications for larval recruitment processes, all higher order predators and ocean health in general” and flags the “urgent need to prioritise development and testing of alternative surveying techniques”.

These results add to the growing body of evidence of the deleterious influence on marine life from man-made underwater noise, such as the disruption of whale behaviour from naval sonar use. Oceanic exploration for petroleum resources is done through acoustic imaging, by firing intense, low-frequency sound impulses down into the seabed. Those impulse signals are produced by arrays of

“air guns” that simultaneously shoot air at high pressure (13.8 MPa, or 2,000 psi) into the water. Acoustic echoes captured by strings of hydrophones enable sub-sea images to be generated. While details of the global extent of such survey activity are scarce, the authors provide some sense of scale with statistics from Australian waters: during 2014 and early 2015, an average of 15,848 km of petroleum-related marine seismic surveys were completed every three months.

To determine the impact of such activity, the research team conducted experiments off the south-east coast of Tasmania, measuring the effect of a single air gun on zooplankton, the small marine animals that typically graze on the plantlike phytoplankton found in abundance at depths to about 200 metres. Sonar surveys and net tows were used to measure both abundance and the ratio of dead to live zooplankton both before and after air gun use. The results: the average abundance of zooplankton caught in nets fell by more than 60% in the hour immediately after the air gun was fired, compared to control areas, and two to three times more dead zooplankton were found at all range groups for all taxa.

This mortality rate was “more than two orders of magnitude higher” than what has been assumed by previous modelling studies. Although they did not directly study the zooplankton for cause of death, the researchers offer a hypothesis: many marine invertebrates, including zooplankton, use mechanoreceptors to detect vibrations. For most zooplankton, these mechanosensory systems may be extremely sensitive, responding to air-gun impulses signal by ‘shaking’ to the point where damage could accrue to sensory hairs or tissue. “Impacted animals might not die immediately after air gun exposure, but rather may be disabled in their sensory capacity with an accompanying loss of fitness and so increased predation risk through time,” the authors suggest.

Women struggle in mining areas

June 23, 2017, The National

By ALPHONSE PORAU

GENDER-based violence is a major issue affecting the lives of women and families in the extractive resources areas and needs serious attention, says an official. Chairperson of Enga Family and Sexual Violence Association Committee (FSVAC) and founder of the Voice for Enga Women, Evelyn Sap, who recently did a study of women in Porgera district, said during the Consultative Implementation and Monitoring Council (CIMC) National Development Forum in Port Moresby, that many women were directly and indirectly impacted by mining activities. “According to the interviews with many women at Porgera district there were a number of issues affecting them and I am sure it is also happening in other places in as well,” Sap said. Those issues include:

- Health issues such as sexually transmitted diseases and HIV/Aids;
- Land issues;
- Payment of compensation and royalties to men on behalf of families and communities and denying women access to and control of financial benefits of mining;
- Women-headed families missing out on payments;
- Employment privileges are given to men rather than women;
- Increased work burden for women in homes where husbands do mine-related jobs.

She said also that social and health problems were more prevalent in communities when there was an influx of male workers into mining areas. Sap said while a lot has been done to address those issues there was still room for improvement.

Seabed mining petition goes to select committee in New Zealand

Heta Gardiner, Maori Television, 22 June 2017



The issue to place a moratorium on seabed mining has once again made it to Parliament. Local Government and Environment Select Committee were presented with a message from KASM (Kiwis Against Seabed Mining) to put a halt on seabed mining in New Zealand waters until a better understanding of the risks and impacts are provided. Phil McCabe from KASM says, "There is a bunch of stuff out there that we have the opportunity to turn into money. And I get that, I see the attraction, I'm a business person myself. The question is whether we have the knowledge or the ability to do that, to extract that material in a safe and responsible way. We don't have that knowledge now to do that safely." In September last year, Mr. McCabe lead a petition calling for a moratorium on all seabed mining which was later presented to Parliament. McCabe also said to the Select Committee today,

"The financial benefits of seabed mining may not be as vast as speculated." Rino Tirikatene from Labour was in Select Committee and agreed that a more cautious approach should be taken. "We just need to 'taihoa' and do some proper research, and not put all the pressure on the communities to fight against all these corporate interests," says Tirikatene. However, Nuk Korako of National says that a moratorium might not be the best solution. "Do we need a moratorium on this? Taking into account, there has been a really robust system in place, and when you look at all those applications, actually most of them have been turned down," says Korako. The Select Committee will be looking into Phil McCabe's submission over the next week.

Panguna Mine Protesters Not Landowners

Sebastian Hakalits, Post Courier, 22 June, 2017

The Vice President of the Autonomous Bougainville Government Raymond Masono has expressed disgust at the action of those calling themselves hardliners that recently prevented the signing of the Memorandum of Agreement (MOA). The signing scheduled for June 16 2017 was to be done between the ABG and the Panguna Mine Affected Landowners (PMAL) and other stakeholders to the Panguna Mine. Mr Masono said the signing would have started the process of removing impediments to reopening the Panguna Mine but the ABG team was prevented from travelling to Panguna for the signing by the group opposed to the reopening of the mine and Bougainville Copper Limited (BCL's) return to redevelop the mine. He said Bougainville is probably one of a few places in this country where individuals or groups disagreeing with a particular government policy can stop a legitimate government from carrying out its mandated duties for the common good of its citizens.

Mr Masono said this does not auger well for good governance, the rule of law and respect for lawful authority, that are important benchmarks in the ratification outcome of the referendum by the national government and the international community who are watching our every actions. "What kind of signal are we sending to the United Nations and the rest of the international community with regards to Bougainville's unity prior to the conduct of the referendum, as well as ratification by PNG and the support of the UN and the international community of the outcome," Mr Masono asked. The Vice President said it must also be understood that those opposed to the reopening of Panguna and the return of BCL are not landowners.

Bougainville Landowners Will Never Accept BCL Back To Operate Panguna

WELLINGTON, New Zealand (Radio New Zealand International, June 22, 2017) – The head of a landowners group controlling the site of the Panguna mine in Papua New Guinea's Bougainville says it is keen to see a resumption of mining but will always be opposed to the return of Bougainville Copper Ltd. BCL was the operator of the mine up to the outbreak of the civil war. The chairman of the Special Mining Lease Osikaiyang Landowners Association, Philip Miriori, was speaking after a protest by his supporters stopped the autonomous Bougainville Government from signing a memorandum of agreement with other landowners last week. Mr Miriori said there cannot be any progress at Panguna without his association's backing and they would not accept BCL. "It is a common sense that the people have here in Panguna, that by not accepting BCL to come back they had to stand for their rights," he said. "So they [Autonomous Bougainville Government] can make any tricks under the sun but with the records that BCL have in the past it is just not going to work. "The protest march was right, you know." The ABG said it has given the protesters two weeks to 'sort themselves out' after which it claims the MOA will be signed.

[PIR editor's note: On June 22, 2017 PNG Post-Courier [reported](#) that 'The Vice President of the Autonomous Bougainville Government Raymond Masono has expressed disgust at the action of those calling themselves hardliners that recently prevented the signing of a Memorandum of Agreement (MOA). ... Mr Masono said the signing would have started the process of removing impediments to reopening the Panguna mine but the ABG team was prevented from travelling to Panguna for the signing by a group opposed to the reopening of the mine and Bougainville Copper Limited (BCL's).']

BCL was the operator of the mine up to the outbreak of the civil war and for nearly 30 years Bougainvilleans have been demanding billions of dollars in reparations for the environmental and social destruction wrought by the mine. The principal owner until last year was multi-national, Rio Tinto, which has since walked away, giving its shares to the PNG and Bougainville governments. The Special Mining Lease Osikaiyang Landowners Association group has links with an Australian mining group RTG and Mr Miriori said a mining arrangement could be put in place immediately, benefiting the Bougainville economy well ahead of the crucial vote on independence in 2019.

Shareholders vote in favour of resolutions: Nautilus

June 22, 2017, The National Business

NAUTILUS Minerals Inc says shareholders have voted in favour of all the resolutions brought before them during the annual general meeting on Tuesday in Vancouver, Canada. The company said 59.12 per cent of the issued shares were represented. Chairman Russell Debney said: "We have continued to make excellent progress in the past year resulting in the delivery of our completed seafloor production equipment. "Subsequently, we have started submerged trials of the seafloor production tools in Papua New Guinea this past quarter. "We have delivered the launch and recovery

equipment to Mawei shipyard in China, while also progressing there with the building of our production support vessel. “We now look forward to seeing more of the equipment arrive for integration over the coming months at the shipyard as we gear up towards the launch of the PSV early in 2018. “Subject to financing, we continue to target the commencement of operations at the Solwara 1 project site in quarter one 2019.” The meeting also confirmed the:

- Re-election of Russell Debney, Dr Mohammed Al Barwani, Tariq Barwani and Mark Horn as directors of the company for the ensuing year;
- Re-appointment of PricewaterhouseCoopers as auditor of the company for the ensuing year. The directors were also authorised to fix their remuneration;
- Re-approval of option and share plans: The company’s stock option plan and share loan plan, and all entitlements thereunder, were re-approved by the shareholders in accordance with the requirements of the Toronto Stock Exchange.

Debney said shareholders’ passing the resolutions was a huge vote of confidence in Nautilus’ deepsea mining venture and spoke volumes of for their faith in the project. “It’s all go once everything is in place,” he said.

PNG a top mineral producer

June 22, 2017, The National Business

PAPUA New Guinea is ranked among the top 20 gold and copper producers in the world, according to the PNG Extractive Industries Transparency Initiative Report 2013. Secretariat head Lucas Alkan said according to the report, mining exploration activities covered more than 80 per cent of the country. This is expected to further enhance and strengthen Papua New Guinea’s position as one of the top gold and copper producing nations in the world, Alkan said. “The country is rich in minerals,” he said. “It ranks in the top 20 world gold and copper producers and also produces silver, nickel and cobalt.” During the reporting period, eight mines were operating in the country. They include OK Tedi, Porgera, Lihir, Hidden Valley, Ramu Nickel and Cobalt, Tolokuma, Simberi and Sinivit. This increased to nine with the inclusion of Eddie Creek in the 2014 report.

Alkan said there were promising times ahead for the country in terms of the enormous benefit the mining industry would bring to the economy. “At PNGEITI, we are excited that we are already playing our part in promoting accountability and transparency in the way the Government, companies and landowners manage proceeds from these projects through the annual EITI reporting process,” the secretariat head said. “We hope to see more cooperation from all sectors of the economy so that we can produce comprehensive and timely information as we move forward in this journey. “New projects in development include the deep-sea Solwara 1 (owned by Nautilus Minerals), Frieda (PanAust) and Wafi-Golpu (Harmony/Newcrest).”

MEDIA RELEASE, Deep Sea Mining Campaign 20 June 2017

Nautilus to go under before reaching the ocean floor

Risk hindering finance, shares could well become stranded assets

VANCOUVER. Nautilus braces itself for yet another AGM of excuses and bad news for investors. The *wannabe* deep sea miner is still struggling to convince financiers that its Solwara 1 deep sea mine is more than a *sci fi* pipe dream.[1] The company is unable to complete the build of its support vessel and equipment. According to the Annual information forms it's

lodged with Canadian Securities, the financial and environmental risks are significant and the operation entirely speculative.[2] "Even Nautilus doesn't want to waste money on the economic assessments, feasibility studies, cost studies and the assessments of ore grades considered normal in the mining industry. Mainstream financiers are not interested in experiments nor are individual investors.



This can be seen by the failure of share releases to raise funds for the company. Responsible shareholders weigh up the likely exposure to social and environmental risks and the value erosion that goes with that. In regards to Nautilus, they have voted with their wallets," says Dr. Helen Rosenbaum of the Deep Sea Mining Campaign. Local communities are also not interested in Nautilus's experiment. In the past two weeks, two large forums against the Nautilus Solwara 1 deep sea mining project in the Bismarck sea have been held in New Ireland and East New Britain provinces of Papua New Guinea. Supported by the Catholic Bishops and Caritas Papua New Guinea, both forums called for the halt of Nautilus Solwara 1 project and a complete ban on seabed mining in PNG and The Pacific.

Patrick Kitaun, Caritas PNG Coordinator said, "The Bismarck Sea is not a Laboratory for the world to experiment with seabed mining. Our ocean is our life! We get all our basics from the ocean so we need to protect it. We will not allow experimental seabed mining in Papua New Guinea. It must be stopped and banned for good." Jonathan Mesulam of the Alliance of Solwara Warriors stated, "Nautilus, we are not guinea pigs for your mining experiment! We in the Pacific are custodians of the world's largest ocean. These oceans are important to us as sources of food and livelihoods. They are vital for our culture and our very identity. In New Ireland Province, we are only 25 km away from the Solwara 1 site. It is right in the middle of our traditional fishing grounds. We will stand up for our rights!"

Vicar General, Father Vincent Takin of the Diocese of Kavieng stated, "In order, for any development to take place, the people must be the object of development and not subject to it. The people have not been fully informed about the impacts of Solwara 1 on the social, cultural, physical and spiritual aspects of their lives. Therefore they cannot give their consent." [3] Dr. Catherine Coumans of MiningWatch Canada says " Seabed mining is not only financially irresponsible, but also unconscionable given its unnecessary destruction of irreplaceable marine ecosystems. Our need for metals can be met in more creative and intelligent ways, in particular by the urban mining of electronic and other wastes, and the reduction of demand for virgin minerals through better product design, repairing and recycling.[4] "These options will provide win-win solutions for society, environment and the economy and gain a social licence that deep sea mining will never achieve. Shares in Nautilus's Solwara 1 will be stranded assets."

NOTES

[1] If it proceeds the Solwara 1 mine will be located in the Bismarck Sea of Papua New Guinea, approximately 25 km from the coastline of New Ireland Province, about 35 km from Duke of York Islands and 60 km from Kokopo township in East New Britain.

[2] See sections on Risk factors in [Annual information forms](#) for financial years 2015 and

2016. For example:

"Our operations are speculative due to the high-risk nature of business related to the exploration and acquisition of rights to potential mineable deposits of metals. These risk factors could materially affect the Company's future results and could cause actual events to differ materially from those described in forward-looking statements relating to our Company." (FY 2016, p 52)

"... Performance, availability, reliability, maintenance, wear and life of equipment are unknown. There can be no guarantee that sub-sea engineering and recovery systems can be developed or if developed, will be employable in a commercially-viable manner." (FY 2015, p54)

"... while Company studies have indicated a low likelihood of risk to the aquatic environment from mining activities, the actual impact of any SMS [seafloor massive sulphide] mining operations on the environment has yet to be determined." (FY 2015, p61)

"Nautilus has not completed and does not intend to complete a preliminary economic assessment, pre-feasibility study or feasibility study before completing the construction and first deployment of the Seafloor Production System at the Solwara 1 Project."

"No independent Qualified Person has confirmed the amount of these costs or recommended that these costs be incurred. There is significant(FY 15, p52) risk with this approach and no assurance can be given that the Seafloor Production System, if fully funded and completed for deployment at the Solwara 1 Project, will successfully demonstrate that seafloor resource development is commercially viable."

[3] Statement by Vicar General, Father Vincent Takin, representing the Diocese of Kavieng and speaking on behalf of His Lordship, Bishop Ambrose Kiapseni MSC DD and all the Catholic faithful of the Diocese of Kavieng. View full statement here:

<http://www.deepseaminingoutofourdepth.org/statement-diocese-of-kavieng-vicar-general-fr-vincent-takin/>

[4] For example, [No Mining Required](#); [No more mining says Apple](#); and [Apple will stop relying on mining for minerals 'one day'](#); California based [Blue Oak Resources](#) estimates that every year mining companies spend roughly \$12 billion for virgin ore deposits. While tons of cell phones and other electronics are thrown out every year, each ton contains 70 times the amount of gold and silver found in virgin ore. For copper the number is even higher, with the equivalent of roughly one-third of global mining production thrown out in e-waste globally every year; ['Urban mining': UBC engineers say e-waste richer than ore pulled from the ground](#); [Can 'urban mining' solve the world's e-waste problem?](#) And http://www.savethehighseas.org/publicdocs/DSM-RE-Resource-Report_UTS_July2016.pdf



IMAGE: Participants at the Seabed Mining Forum in Namatanai, New Ireland Province, PNG calling for a Ban on Seabed Mining in PNG & The Pacific. June 8th, 2017.

Bougainville: Court halts Panguna signing

June 20, 2017 The National National

By CHARLES MOI

A COURT has issued a restraining order to stop the signing of an agreement between landowners and the Autonomous Bougainville Government regarding the reopening of the Panguna mine. Justice Ambeng Kandakasi issued the order at the Waigani National Court following an application filed by Philip Miriori, the chairman of the Special Mining Lease Osikaiyang Landowners Incorporated (SMLOLI). He ordered that the parties to the proposed memorandum of agreement for the re-development of the Panguna mine were “forthwith restrained from signing the agreement”. “If in the event the agreement has already been signed, the parties to that agreement and any person wanting to implement it are forthwith restrained from doing so,” Kandakasi said. The signing of the agreement would have paved the way for the Bougainville Copper Limited to start work on the mine’s reopening. The agreement was to have been signed last Friday but was cancelled after women from the area protested. The court also restrained Lawrence Daveona from acting as the chairman of SMLOLI. The matter will return to court on Friday. Justice Kandakasi said the order would remain in force unless the parties to the agreement could produce evidence that they had obtained the consent of the more than 500 block holders.

Department eyes change of status in 12 months

June 20, 2017 The National Business

THE Department of Petroleum and Energy is working on becoming an “authority” in the next six to 12 months, acting secretary Kepsey Puiye says. He has written to the PNG Chamber of Mines and Petroleum seeking assistance to have the authority in place. He said the chamber had “given me representatives from the industry such as Santos, ExxonMobil, Oil Search, Repsol. So I’m working with them now”. “I need to set up a secretariat for the authority,” Puiye said. “The secretariat will be the main vehicle to undertake all the key deliverables and activities to establish the authority. “I will actually engage with the Chief Secretary (Isaac Lupari) to bring the work through with line agencies to see a smooth transition from a department to the authority.” Puiye said the petroleum sector in the country was expanding. “We see a lot of positive signs in terms of the PNG LNG project. The project is tremendous,” he said. “We’ve got the second LNG project lined up.”

Ramu: More spin offs for landowners

Post-Courier, June 20, 2017

INCREASED business opportunities for Ramu nickel mine area landowners can be easily procured if they continue to fully cooperate with developer Ramu NiCo. Usino-Bundi businessman and former health officer, Edward Kiza said most of the business opportunities the landowners have been able to participate in emanate from the company’s investment. He said for that beneficial stream to continue Ramu NiCo needs the consistent support of the landowners. Mr Kiza said this last week at the Enikuwai relocation site during the official handover of two brand new 25-seat buses to Arikoro Investment Ltd by the Madang BSP branch management. Arikoro Investment Ltd is owned by two major sub-clans, Arini and Korongu of Pagazi clan, one of the major clans situated on the special mining lease area at Kurumbukari in Bundi LLG.

The bus service provides subsidised fares between Enikuwai relocation site to Banu Village close to the Ramu River to ensure landowners do not trespass through the active mining area for safety purposes. “Because of MCC-Ramu NiCo, we participate in the business opportunities. We must support MCC so we can fully participate in the future to reap more benefits,” Mr Kiza said. Mr Kiza

said when Ramu NiCo initially awarded the contract, the landowners did not have the financial and management capacity to operate their business and he stepped in and purchased two new 25-seater buses and managed until late last year. "I did not want outsiders to get this contract and our resource landowners become spectators. That's why I used my resource and family business to assist them. Now I ask the landowners to work together and make the company grow with two new buses obtained through BSP loan," Mr Kiza said.

New Zealand Seafloor mining decision deferred

Simon Hartley, Otago Daily Times, 19 June, 2017

A decision on the controversial seabed mining application by Trans Tasman Resources has been extended several weeks by the Environmental Protection Authority (EPA). The body's decision-making committee advised last week it would be extending the deadline for delivering its decision to the EPA from June until July 27. The decision would be publicly released "as soon as practicable after that". In late April, anti-seabed mining groups Kiwis Against Seabed Mining (Kasm) and Greenpeace threatened the EPA they may yet seek a judicial review or court action over its handling of Trans Tasman Resources' mining application. Trans Tasman's first seabed mining application was turned down in early 2014, but last August it reapplied to the EPA, seeking to mine five million tonnes of iron-rich sands offshore in the Taranaki Bight for export.

General manager of the EPA's EEZ applications team general manager Siobhan Quayle said time extension was made to allow preparation of a "fully reasoned decision" for all concerned parties. At issue for the environmentalists was the EPA having last September formally accepted Trans Tasman's application as "complete", but since then it had requested a wide range of new information for the application, which the groups claimed would leave it disadvantaged. The groups have said they rallied a record 17,000 submissions to the EPA against the application. Last November, Kasm and Greenpeace were successful in the Environment Court in overturning a decision by the EPA that would have allowed Trans Tasman to redact 190 pages of its application.

PNGEITI releases findings for 2014 report

Post-Courier, June 19, 2017

THE petroleum and mining sector contributed 12.7 percent of government revenue in 2014 compared with 7.5 percent in 2013. This is according to the PNG Extractive Industry Initiative Transparency Initiative (PNGEITI) 2014 Report, released this year. The report states this increase correlated with the commencement of the PNG LNG project. It states the total value of mineral exports from PNG mines for 2014 was K17, 522.5 million comprising 84.18 percent of total export value. It noted the government's attempts through policy intervention to manage such fluctuations, as in the case of the Sovereign Wealth Fund (SWF) and promoting investment in the non-extractive sector of the economy. In stark contrast to the total export value the industry represents, the extractive industry provides limited direct employment, with estimates running from 2.5 percent to 10 percent of PNG's formal workforce.

"However, it directly supports a significant proportion of employment across the economy. During the construction, the PNG LNG Project provided up to 21,200 jobs (in 2012), while in operations, it employs around 2, 400 workers (as at December 2015), 75 percent of whom were PNG citizens" the report stated. "There are also up to 80,000 small-scale miners, largely working outside the formal economy" it said. Head of the PNGEITI Lucas Alkan said for the first time in this country, "we have published a comprehensive and detailed report covering the extractive sector, and they provide

a reliable source of information for public use”. “We are already working on the next two reports based on 2015 and 2015 financial years and these will be published in December,” he said.

Bougainville Women Protest Signing Of Agreement To Reopen Panguna Mine

PORT MORESBY, Papua New Guinea (The National, June 15, 2017) – A group of women in Central Bougainville, supported by men and children, staged a march to protest the planned reopening of the Panguna mine. The signing of an agreement is to be between the Autonomous Bougainville Government (ABG) and the Panguna landowners. It will pave the way for the Bougainville Copper Limited to reopen the Panguna Mine. The deadline is before June 2019. The women are members of the Panguna landowners. They marched to the office of the Special Mining Lease Osikaiyang Landowners Association in Arawa where they met former chairman Lawrence Daveona and his executives.

Panguna landowner representative Bernadine Gemel Kama said they raised their concerns with Daveona and his executives because they were the ones who wanted to sign the agreement with the ABG without consulting the women. She warned that the Panguna issue would cause division among the people of Bougainville. “As a landowner in Panguna, I want everyone to know that it is only a minority of people especially men who want to open the Panguna mine,” Kama said. “All of us do not want BCL to ever come back to Panguna and mine.” Youth representative Robert Barananko, who joined the march with the women, said they we are not aware of the agreement to be signed. He said there was obviously a lack of consultation.

Ok Tedi Mining Ltd damaged by O’Neill

Mekere Morauta, 14 June 2017

At a rally in Kiunga today, the former Prime Minister and current chairman of PNG Sustainable Development Program Ltd, Sir Mekere Morauta, told Western Province people the sad story of the Ok Tedi mine since Prime Minister Peter O’Neill took it in 2013. He told them that the latest annual financial results are a disgrace, and confirm his worst fears about Mr O’Neill’s expropriation without compensation in 2013. “They show that a well-managed and very profitable company under PNGSDP’s majority ownership has been turned into a corporate disaster under Mr O’Neill, as I predicted,” Sir Mekere said. “OTML made a loss of K350 million in 2015, by far the largest in its history and far outstripping the K15 million loss caused by the very severe drought in 1997. The company never made a loss under PNGSDP majority ownership. “This is Mr O’Neill’s dirty little secret. He and the OTML Board micro-managed by Dr Jacob Weiss have tried to hide the loss by not publishing OTML’s 2015 Annual Review, or its 2015 and 2016 quarterly financial results.

There is no explanation anywhere in the latest 2016 Annual Review to account for a loss of this magnitude. “The only explanation can be the waste and mismanagement we have come to expect of the O’Neill Government.” Mr O’Neill has decimated OTML profits. Under PNGSDP, average annual profits were almost K1.2 billion a year; under Mr O’Neill they are just K100 million. OTML used to be the biggest taxpayer in PNG, which helped the national Government pay for education, health and infrastructure maintenance. Under PNGSDP average annual taxes were K640 million; under Mr O’Neill they are just K100 million. OTML paid practically NO company tax at all in 2015 and 2016. PNGSDP’s profitable and well run mine delivered large dividends: K288 million a year was paid on average to the State and the people of Western Province. A further K426 million a year went to PNGSDP.

After administration costs (which are capped), two-thirds was saved in the Long Term Fund and one-third went to the Development Fund to support programs for the people of Western Province and PNG. Under Mr O'Neill total dividends have fallen to just K68 million a year on average, and no dividends at all were paid in 2013 and 2015. Only K150 million was paid in 2016 compared to K723 million in 2012, PNGSDP's last full year of ownership. PNGSDP received K5.5 billion in dividends from OTML between 2002 and 2012. Two-thirds of these dividends were invested in the Long Term Fund to be used after the mine closes. The balance of the LTF at the end of March 2017 had grown to K4.3 billion (\$US1.36 billion). Moreover, the LTF remains safe and well protected from the tentacles of the octopus. One-third of these dividends (about K1.8 billion) were used for development programs in PNG and especially Western Province.

In total Western Province received more than K4.7 billion in direct benefits from OTML and PNGSDP: K2.0 billion in royalties, CMCA and other payments, K1.7 billion in dividends from OTML, K400 million for Kiunga-Tabubil road maintenance and more than K600 million in development projects from PNGSDP. In October 2013, shortly after the expropriation of PNGSDP's shares in OTML, Sir Mekere warned that OTML faced the same fate as the Tolukuma gold mine under state ownership: State ownership "would spell disaster for Ok Tedi. Tolukuma has been ruined since it was turned into a State-Owned Enterprise, and instead of an asset it has become a huge liability. Ok Tedi will suffer the same fate. It will die a long and painful death. There will be risks to jobs and wages. There will be a lower standard of operations, including in workplace health and safety. The quality of environmental management will fall. Transparency and accountability will be compromised, especially in the area of contracts." Sir Mekere said his predictions had come true. "Mr O'Neill has killed Western Province's Golden Goose."

Court actions stall LNG payouts for Hela

Post-Courier, June 14, 2017

Government officials say the landowner identification process in Hela has been stalled due to the lack of cooperation. Hence, all payments will remain in the trust account at the Central bank until this process is completed. Furthermore, the real landowners have not been identified. Prime Minister Peter O'Neill and the Chief Secretary of Government, Isaac Lupari, were responding to a report carried by Radio New Zealand pertaining to the Australian government's Export Finance Insurance Corporation (EFIC) about its role in the PNG LNG project. According to the report, EFIC's US\$350 million loan to the project was the biggest ever foreign loan made by Australia's government. "There's been particular scrutiny applied to EFIC's response to the non-payment of royalties to LNG project landowners." "PNG's LNG project, lead operated by ExxonMobil, has been successfully shipping annual exports worth billions of dollars since 2014." "However, landowners in the project area say they have not been paid royalties, promised them under the project's founding agreement, estimated to the total of US\$300 million."

"Western Australia's Senator Scott Ludlam, took EFIC to task over why it had not taken measures to ensure payments were made," the report had stated. Mr O'Neill in a statement in response said: "We inherited the mess from Pruaitch (former treasurer) and the Somare government, where agreements were signed without proper clan vetting to identify rightful landowners." "Today all these issues are before the courts, and whilst awaiting that decision of various cases, we have parked all the royalties in a trust account with the Central Bank." "It will accumulate until landowners are properly identified and sanctioned by the Courts." Mr Lupari said; "the process has come to a halt because of the lack of cooperation from the landowners themselves." "The government has been frustrated over this. It has put out a program, with a whole of government approach. We have the secretary for Justice, who is the team leader to lead that process and put in program on what it needs to do. We

have also mobilised funding for it but at the moment we can't because of the matters before the court." "We can't pay to anyone and it is not the fault of government," Mr Lupari said.

Lupari gives assurance on LNG payments

Post-Courier, June 14, 2017

Landowners of the PNG LNG Plant site, in Central province, have been assured by government they will be paid once the relevant state agencies have determined the amount for payment. And the responsibility for that falls between the Department of Petroleum and Energy, Treasury, Finance and State-owned Mineral Resources Development Company Limited (MRDC). The assurance was given by Chief Secretary to Government Isaac Lupari in an interview he gave the Post-Courier yesterday in an update on royalty payments owed to landowners, particularly from the Central Province. This follows reports over the weekend of a planned protest by landowners from Central Province who are aggrieved over the delay in the royalty payments owed to them. They were to have been paid over a month ago due to having concluded due diligence and identification of landowners and other pre-requisites.

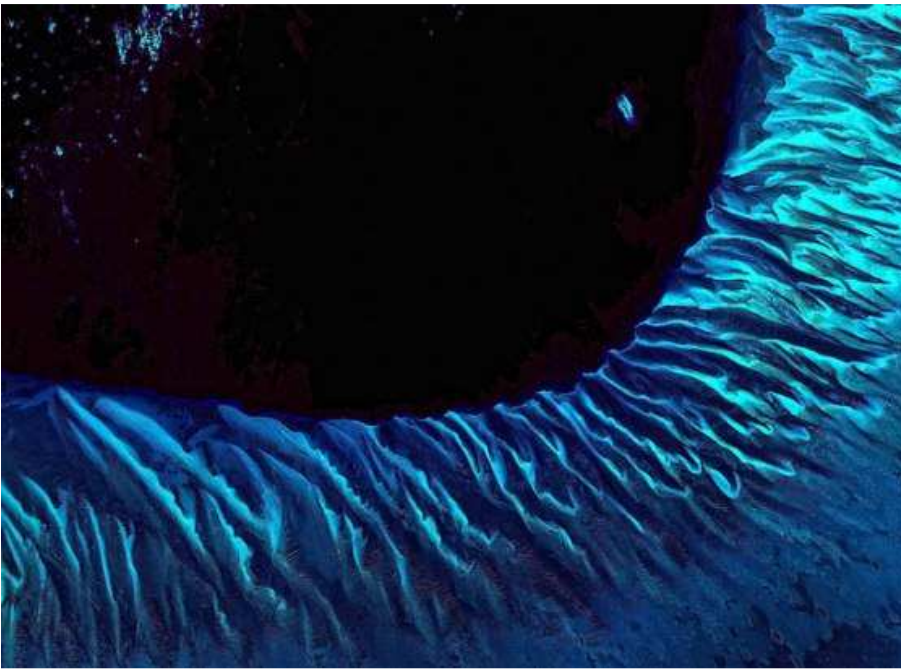
Mr Lupari said the level of cooperation that had been rendered by the landowners had been commendable. This is towards the landowner identification process, establishment of a landowner association and subsidiary company which would be managed by the MRDC under a chairman and board of directors. He said what was outstanding and on the part of government is the payment of the royalties to the landowners. "The issue is really getting the whole of government agencies that being the Department of Petroleum and Energy (DPE), Department of Treasury and Department of Finance together with MRDC to determine how much the landowners of the plant site will be paid. "The payment will then be made to MRDC which will then go out and pay the landowners.

"I have already discussed with the Secretary for Treasury, DPE and MRDC to get this process completed so that payment can be made to the landowners of the plant site," Mr Lupari said. With regards to the reports of a protest and possible shut down of the plant site operations, Mr Lupari had advised against it stating this would mean the landowners taking the law into their own hands. Further that should this happen this would be deemed a law and order issue and police would be pulled in to deal with this matter. "I have been encouraged by their attitude and I am asking that they be patient while we sort the government system out," Mr Lupari said.

In the Depths of the Oceans, Human Activities Are Beginning to Take Their Toll

Erik Vance, Truthout, June 13, 2017

Imagine sinking into the deepest parts of the Central Pacific Ocean, somewhere between Mexico and Hawaii. Watch as the water turns from clear to blue to dark blue to black. And then continue on for another 15,000 feet (4,600 meters) to the seafloor -- roughly the distance from the peak of California's Mount Whitney to the bottom of nearby Death Valley. "As soon as you start to descend, all of the wave action and bouncing goes away and it's like you're just floating and then you sink really slowly and watch the light fade out through the windows and then you really are in another world," says Erik Cordes, a researcher at Temple University and frequent visitor to the deep ocean. Finally, you come to a stop 12,000 feet (3,700 meters) below the last bits of light from the surface. The water here is strangely viscous yet remarkably transparent, and the light from your flashlight extends for hundreds of yards.



Edited Landsat 8 image of one of the deep blue holes in the Caribbean Sea. Once seen as too remote to harm, the deep sea is facing new pressures from mining, pollution, overfishing and more. (Photo: Stuart Rankin / Flickr)

You are in the heart of the Clarion-Clipperton Fracture Zone, a region of the ocean seafloor roughly the size of the United States, populated by colorless invertebrates adapted in astounding ways to the sparse, crushing conditions found here. And all around you -- as far as the eye can't see -- are small, spherical rocks. Varying from microscopic to the size of a volleyball, they look like something stolen from the set of "Gremlins" or maybe "Invasion of the Body Snatchers." And they're worth millions. Because inside these mysterious little eggs are untouched stores of copper, titanium, cobalt and especially manganese -- crucial for making anything from the steel in your car's frame to the circuitry that tells you how much gas is left in it. Some metals exist in larger quantities here than on all the continents of the world -- and you had better believe they have caught the eye of mining companies.



The deep ocean, which in some places extends farther below Earth's surface than Mt. Everest stands above, is facing threats from humans despite its remoteness. It's hard to draw a line exactly where the deep ocean starts. Starting at about 650 feet (200 meters), there's not enough light to support photosynthesis, and at around 3,000 feet (1,000 meters) there's no light at all. From there to the deepest spot, at the bottom of the 36,000-foot-deep (11,000-meter-deep) Mariana Trench between Japan and Papua New Guinea (deep enough to hold Mount Everest with New Hampshire's Mount

Washington stuck on top of it) is loosely defined as the "deep sea." However it's defined, the deep sea today is a place of change. Human activities already are affecting it -- and are poised, as these mineral stores suggest -- to radically affect it even more in the decades to come. Attention we pay and decisions we make now could make all the difference in its fate.

Mining the Depths

The mineral riches of this deep ocean are vast and nearly untouched for now. But that's changing as new technologies are allowing humans to access ever-deeper parts of the seafloor. Current mining strategies break down along two rough categories. First is nodule mining -- gathering up those bizarre seafloor billiard balls that have slowly collected minerals over the centuries as they trickled down like rain from above or seeped up from below and congregated around some central particle like rock candy around a string. There is no industry standard for sweeping up nodules so far below the surface -- about 4,000 to 6,000 meters (13,000 to 20,000 feet) -- though companies have proposed ideas as varied as deepwater vacuum cleaners and massive trawlers dragging across the seafloor. One 1985 study estimated 550 billion metric tons (610 billion tons) of nodules in the sea.

The second form of mining is targeted around sulfur vents and other types of seeps. These operations would be in shallower water -- 4,000 to 12,000 feet (1,200 to 3,700 meters) -- and look more like traditional mining operations scraping sulfur, phosphorus or precious metals from the sides of underwater ridges. So far, all of these projects are theoretical. Most of the permits currently granted for deep-sea mining are for nodules, but the first ones to actually break ground are likely to be around ocean vents. Nautilus Minerals, a Canadian company working off the coast of Papua New Guinea, has begun implementing a project to mine gold and copper at a ridge about 5,000 feet (2,000 meters) below the surface and in April began receiving equipment.

Company executives have pointed out that they have passed environmental impact reviews and that their project is friendlier to the Earth than other mining operations because the ore is so rich they can get more of it by disturbing less of the soil. But scientists point out that [much remains unknown about what deep-water strip mining will do to the environment](#). In the case of ocean vents, there are some animals that may live only in that spot, and a single mine could wipe out entire species. In addition, both styles of mining would kick up potentially toxic plumes of ultra-fine sand that could travel hundreds of miles through a part of the ocean that has remained undisturbed for thousands of years. "They're going into new environments with a lot of environmental impacts," says Lisa Levin, an expert in the deep sea at Scripps Institute of Oceanography. "We are going to lose stuff before we ever discover it."

Climate Change and the Deep Ocean

Because life in the deep ocean is more sensitive to change than in the shallows, the smallest shift in pH, oxygen or temperature can have huge effects. Thus, one of the most serious concerns about the deep ocean is climate change. According to Andrew Thurber, an assistant professor at Oregon State University, a quarter to a third of the CO₂ humans have released has gone to the deep ocean. Some of it gets absorbed into the water itself or turns to particulate, thus lowering the pH and oxygen levels, and some is buried and turned to stone, where it effectively neutralized and stored for millions of years. A quarter to a third of the CO₂ humans have released has gone to the deep ocean. Ironically, the deep ocean is one of the greatest mitigators of climate change as well, since it absorbs a massive portion of the Earth's heat and CO₂. In fact, [one recent study](#) showed that the ocean is absorbing phenomenally more heat now than ever before -- about the same amount between 1997 and 2015 as it had in the previous 132 years. As a result, scientists are already seeing incremental temperature rise in the deep sea. Though less than at the surface, changes down there tend to represent more permanent ocean shifts.

Trickle Down Effects

Then there is chemical pollution. While mining the deep sea might be new, polluting it is not. Recent studies have found toxic terrestrial chemicals like PCBs and PBDEs in the tissues of animals living in the deepest places on Earth. In fact, where once scientists assumed the deep ocean was rather isolated from the surface, new studies have shown that the two are closely connected and that material can pass quickly into the depths. The most spectacular example of this was the aftermath of the 2010 Deepwater Horizon oil spill on the Gulf of Mexico. It was assumed at the time that much of the millions of barrels of oil released by the faulty offshore drilling rig would float; they did not. It was assumed that the dispersant would neutralize the oil; in fact it was more toxic to deep sea corals than the oil itself. "The probability of an accident goes up with depth," and thus the potential for harming ocean life, Cordes says of deep-sea operations. "The deeper you go, the more stable the environment is; the more stable it is, the less those organisms can deal with changes."

Cordes studies all sorts of pollution effects beyond the reach of sunlight. He and colleagues published pioneering research looking at the first evidence of acidification in the deep ocean in the Gulf of Mexico and off the coast of Norway. He says it's easy to think of the deep sea as some kind of wasteland, while in fact it's brimming with life. "People don't realize that there are massive coral reefs all over the Gulf of Mexico, there's corals right off shore in California, there's corals up in New England," he says. To overload this system or tinker with it at all is to play with fire. "If we put something in the deep ocean, we pretty much can't clean it up," Thurber says. And we can't depend on the animals down there to adapt and clean up after us as they often do at the surface. Cordes says microbes at the surface can double their numbers in 12 hours; in the deep ocean it takes half a year. Because the generation time is so much slower, Thurber says, it takes decades for carbon-munching deep water microbes to battle, say, higher methane levels than the days or weeks it would take critters at the surface. Thus, our decisions around greenhouse gas emissions at the surface have now affected every ecosystem on Earth.

Permanent Decline

And it's not just the microbes that grow slowly -- fish in the deep ocean also take their time. As a result, fishing is another threat to the deep ocean. With most normal, surface fishing practices, it's possible to manage a population such that what you take out is the same as what the population can replenish. But because fish found far from the surface grow slowly, some scientists have gone so far as to say that deep sea fishing is more analogous to mining than to fishing. The classic case of this is the common slimehead. The slimehead is a delicious, bulky, dark red fish found from 180 to 1,500 meters (590 to 4,920 feet) below the surface in many of the world's oceans. In the late 1970s, concerned that cod was on a permanent decline, seafood marketers in New Zealand began pushing slimehead under the more palatable name, orange roughy, because it turns orange after death.

Why this seemed like a good idea is a mystery. Slimehead spawn only 4 percent of the number of eggs as cod and take 20 to 30 years to reach maturity (rather than about two for cod). Within a couple decades the Australian government started reducing allowable harvest and then closing fisheries altogether as they tried to figure out catch limits that wouldn't decimate the creature. Some scientists now say there is no such number. One team estimated The New Zealand Ministry of Fisheries in 2009 estimated that a single 40-square-mile (100-square-kilometer) deep ocean fishery in the Pacific can only sustainably produce about 200 kilograms (400 pounds) of product per year. That's about 57 adult slimehead. But that particular fishery produces 8,000 metric tons (9,000 tons) of slimehead per year. A similar story is playing out in other slimehead fisheries across the world, as well as other deepwater creatures like grenadiers, sharks and toothfish (otherwise known as Chilean seabass).

Direct Connection

In many ways, the deep sea truly is a new world waiting to be explored. But in our rush to exploit that new world, unless we think carefully about the impacts, we may find ourselves harming it before we even understand it -- with implications for ourselves. "[The deep oceans] are supporting these fish that we are depending on for food, they're helping to recycle nutrients that come back to shallow waters, fuel the productivity of the ocean, produce half of the oxygen we breathe," says Cordes. "We are directly connected to them."

Talks on Bougainville copper mine looks good

Post-Courier, June 13, 2017

Bougainville Copper Limited (BCL) has welcomed reports of strong support among Panguna landowners and the wider community for its participation in a new mining project. BCL chairman Robert Burns said the Autonomous Bougainville Government (ABG) had confirmed that ministerial forums held at Panguna and Arawa last week were well-attended and had demonstrated majority support. "We are very encouraged by these developments, which reflect the levels of support, we have experienced on the ground during our own direct interactions with landowners and other stakeholders," he said. "Notwithstanding, we of course acknowledge that there are people with differing views, and these are to be respected. We are very committed to community engagement and invite reasonable dialogue."

"We also look forward to the prospect of a Memorandum of Agreement being finalised between landowners and the ABG." "This would open the way for further steps to be taken towards realising the longer term goal of renewing mining," Mr Burns said. Through its ongoing engagement with landowners in mining areas, BCL also continues to make progress toward finalising land occupation fees and finish payments outstanding from 1990. In addition, a joint steering committee is being formed with the backing of the ABG and national government. It will be instrumental in recommending future steps to overcoming hurdles and will be representative of all key stakeholders, including landowners and women of Panguna. "I am also pleased to confirm that we are in the process of finalising arrangements to establish a full-time presence in Bougainville with the recent appointment of a locally-based manager and the opening of an office in Buka imminent," Mr Burns said.

Spotlight on Australian govt financing role in LNG Project

Radio New Zealand, 13 June, 2017

The Australian government's Export Finance Insurance Corporation has been questioned in the senate about its role in Papua New Guinea's LNG Project. EFIC's US\$350 million loan to the PNG LNG Project was the biggest ever foreign loan made by Australia's government. There's been particular scrutiny applied to EFIC's response to the non-payment of royalties to LNG Project landowners. PNG's LNG Project, lead operated by ExxonMobil, has been successfully shipping annual exports worth billions of dollars since 2014. However landowners in the project area say they have not been paid royalties promised them under the project's founding agreement, estimated to total US\$300 million. Western Australia's Senator Scott Ludlam took EFIC to task over why it had not taken measures to ensure payments were made. "So I understand that, May 2017, the 300th shipment of LNG left Port Moresby, but the payment of royalties owed to landowners under benefit sharing arrangements hasn't even begun," he said. EFIC's director of environmental and technical review, Jan Parsons, told the senator royalties were not its responsibility.



"It's the benefits, the royalties as you say, which only started flowing after LNG gas started being exported." "That is the part which is managed by the government, and the project has no role in that, legally or morally, if you like," he said. "And my understanding of the problem that's holding up the distribution of those payments is identifying the actual people who should be receiving the payments." Senator Ludlam sensed EFIC was trying to distance itself from its project obligations, by identifying royalties as strictly a government matter. "It's easy to say that it's not a project matter. But landholders have been dispossessed. They've been told that they'd be paid out." "There's an amount of benefits which I understand is in the range of 400 million Australian dollars which hasn't actually hit the ground. And this thing is busy exporting PNG LNG over the horizon." According to PNG's Treasurer for the past three years, Patrick Pruaitch, the identification process Mr Parsons referred to, or clan vetting, should have been completed well before the first LNG shipment left PNG's shores. Mr Pruaitch admitted the Peter O'Neill-led government, of which he had been a key member until recent weeks, had failed to resolve this issue.

Jan Parsons would only offer that the Project was trying to help the government in identifying the landowners who should receive the royalties "And in speeding up the payments, because it's in the Project's interests. But that's something the project is doing, not as a legal matter, but being a good neighbour, if you like." Senator Ludlum mentioned reports of an arms build-up and escalating tensions among landowners in the region where LNG Project's well heads are based, the Highlands province of Hela. "When does the Commonwealth start to get its money back? EFIC's chief credit officer John Pacey stepped in to answer the question. "Repayments have already commenced." "So the Australian tax payer's getting paid and the population of PNG is not. That seems a little perverse," Mr Pacey said. "What are the risks to Australia being repaid if we end up with another Bougainville on our hands through civil unrest, armed or otherwise, in the impact area where people are likely pretty pissed off that they're 400 million dollars short of the royalties that they're owed?" Export Finance Insurance Corporation wouldn't be drawn on impacts of a "hypothetical" situation, telling the senator it had evaluated risks of the project, but not specifically about the potential for armed conflict in relation to the project.

Be innovative: Chan

June 13, 2017, The National Business

MINING Minister Byron Chan says the next lot of mining projects will be difficult to find as exploration becomes more challenging. He attended last Friday's celebration to mark the Mineral Re-

sources Authority's 10th anniversary. "Exploration will be more challenging. We may need to go deeper into the crust as the country tries to diversify its mineral resources base," he said. "Our geologists will need to acquire more geo-scientific data to attract more investors. "Hence, you will need to be more innovative and creative in providing that attractiveness to the mining industry. "It is a global international business. "The MRA must continue to transform itself into a statutory entity capable of regulating, transacting and servicing the demands of these international business."

Chan noted the importance of the first seabed mining project. "The challenges ahead will be enormous as some of the projects that we will be managing in the next five to 10 years will be among the firsts in the world. "The Solwara 1 project in our very own Bismarck Sea is not only a first in the country but a first for the globe. "And when it becomes a success, Papua New Guinea will be looked upon as a leader not only in deep sea mining, but also in the use and application of innovative technology. "The new copper-gold mining projects, Wafi-Golpu and Frieda River, will come with their own challenges. "One of them is set to become the biggest under-ground mining project this country has seen to date. The other will be attempting to use its own tailings facility to generate electricity."

Solomon Islands Mineral Resource Owners To Have More Say Over Development

HONIARA, Solomon Islands (Solomon Islands Broadcasting Corporation, June 12, 2017) – Resource owners will now have more to say in terms of developing their mineral resources following the release of the new National Minerals Policy 2017-2021. Launched in Honiara, the Policy, which was tentatively endorsed by locally-based miner Axiom, has been created to provide a legal framework to guide the extraction of mineral resources in the country. Acting Director of Mines, Energy and Rural Electrification Thomas Toba told SIBC News the policy encouraged people's participation in developing their mineral resources. "There have been many improvements," he said. "We now have some kind of a legal framework to guide the industry which was not present in the past. "Another thing is people will realise that resource owners have a part to play in this; they have a voice in this industry compared to the past when they can only participate through signing of surface access agreements.

"At the launch of this policy they have more to say and more rights and more participation." Axiom Mining sustainable development general manager Dr Philip Tagini said the road ahead required a more collaborative effort from all stakeholders involved. Speaking from an investor's perspective, Dr Tagini, whose Australian company is looking to mine in the Isabel Province, said while he acknowledged the work done to formulate the policy, a collaborative effort was needed going forward. Meanwhile, Mr Toba adds, provincial governments will also have a role to play under this new policy, saying an advisory group will also be established. "Under this policy you will see that the Provinces also have a role to play and responsibilities as well as the setting up of an independent advisory group which has never been established in the past; "This is where people can go with their complaints or seek negotiations when they actually don't know what to ask for, so at this point of time this policy has the opportunity to give resource owners advise and guidance especially on what they should do."

Landowners threaten to shutdown LNG Operations

NBC News, PNG Today, June 12, 2017

Landowners in the Central Province are set to close down the PNG LNG site on today over unpaid compensations demands since 2014. They held a meeting with representatives from operator ExxonMobil, Department of Petroleum and Energy, PNG Ports and Police yesterday. The meeting was

to stop the people, comprising four beneficiary villages of Papa, Lealea, Boera and Porebada from staging their protest. However, landowner spokesman and Association Secretary, Robert Kauga said, their minds are made up and they won't back down on their decision to carry out the protest until the government pays them their outstanding royalties and equities. Mr. Kauga said the people are already fed up with the continuous lies and promises of payment by the government. "They are admonishing us not to stage the protest but we cannot back down now, we have already prepared everything," he said.

K3.7 m for development projects

Post-Courier, June 9, 2017

Under the revised Memorandum of Agreement for the Tolukuma gold mine project in Central province, the state has committed to five projects valued at K3.7 million. This was announced by the Mining Minister Byron Chan at the signing of the revised MOA in Port Moresby yesterday. The signing was the second this week, the first being the revised MOA for the Ok Tedi mine project in Western Province. In attendance were Mineral Resources Authority (MRA) managing director Philip Samar, Governor for Central Kila Haoda, Tolokuma Gold Mine executive director Vincent Siow, Woitape local level government president Joe Geru, and Yulai Landowner Association chairman George Gusi. Mr Chan said the infrastructure projects the state has committed to establish under the revised MOA for over three years include the Baikoidu-Tolukuma access road which is valued at K1.5 million, which he directed MRA to ensure is made a priority.

The other include the Tolokuma Resource Center-K100,000, the Mondo Community School-K1.5 million. Woitape LLG council chamber-K200,000 and Tolokuma Primary School upgrade K400,000. "The Baikoidu-Tolokuma access road must be a priority during the term of this revised MOA. We must open up the road to allow the industrious people of Goilala to bring their produce to the market, their fathers and mothers to work, their sick to the hospitals and their children to school-that is development at its best," Mr Chan said. Other benefits under the revised MOA, which Mr Chan said the state had agreed also to were:

- Fund the annual operational cost of a liaison officer to be based on site at Tolokuma
- Establishment of a new landowner company with clear clan based shareholding structure;
- Two percent royalty from the sale of gold from the mine; and the
- Special Support Grant and Tax Credit Scheme.

The minister said the signing marked a significant milestone and he had commended all parties who had been involved in ensuring it happened. "The support and commitment by the parties to the MOA is critical and together we can deal with the issues and benefit from the project as well," Mr Chan said.

Tolukuma gold mine begins production

By ROSALYN ALBANI, Post-Courier, June 9, 2017

Tolukuma gold mine, in Central Province will begin full production next month. This is under the management of the new operator, Tolokuma Gold Mines Limited, a subsidiary of Asidokona Mining Resources Pty Limited. Tolokuma Gold Mines Limited executive director Vincent Siow said the firm had taken over from Petromin after they had been approached. He said for the past year and a half the company had been preparing for the production phase. He said while the mine still had a lot of potential, the firm acknowledged with it would come challenges as well. He said unlike in the heydays of the mine, staff strength had been reduced from 600 plus and it would be going into pro-

duction with levels between, 300-400 workers, while production from the 9,000 ounces to just 1000-2000oz, with plans to ramp up.

“Production will not be full scale because equipment is a bit old and we are expecting there will be some stress points. We may have to buy new equipment after we indentify the stress points but we have everything all planned,” Mr Siow said. Commenting on revised the Memorandum of Agreement, which had been signed off yesterday by all except one of the parties, Mr Siow expressed relief on the part of the company. He said when they firm took over from Petromin they had agreed to take on all the commitments that had been agreed on by their predecessor. “The board in Singapore had agreed because to disagree would only mean further delay,” he said. “By and large this MOA is a very important document. It identifies the role of all parties, if we all stick to it I believe we will have a very good working relationship. I hope to see that good cooperation among all parties,” he added.

Pacific Spotlights Sea Bed Mining at UN Ocean Conference

PIANGO, SCOOP, 9 June 2017

Activists and representatives from prominent Pacific Island organisations, led by the Pacific Islands Association of Non-Governmental Organisations (PIANGO), are taking part in a high-profile side event at the United Nations (UN) Oceans Conference at UN Headquarters in New York today. PIANGO is the Pacific Organising Partner for the UN NGO Major Group at the Oceans Conference. The panel discussion, aptly themed “Voices from the Blue Frontier,” focused on a more sustainable approach to the “Blue Economy” and shared community experiences from the world’s first experimental deep sea mining project “Solwara One” in Papua New Guinea (PNG), highlighting environmental threats and rights violations of indigenous resource owners and local communities through deep sea mining. The panel is featuring prominent speakers such as the Secretary General of the Pacific Islands Development Forum (PIDF), Francois Martel; Executive Director of PIANGO, Emele Duituturaga; Human Rights Attorney, Julian Aguon; Sarah Thomas nededog, PNG Catholic Cardinal John Ribat and Fair Oceans Expert, Kai Kaschinski.

The side event is designed to provide a platform for engagement and knowledge sharing on the underlying science of seabed mining and to highlight the need for strong governance measures to ensure that appropriate social and environmental safeguards are in place to protect against projected adverse effects of seabed mining in the Pacific Ocean. “The United Nations Oceans Conference provides a further opportunity for multi-stakeholder participation and partnership building between governments, the private sector and civil society. This event is a demonstration of this inclusive approach and in particular, amplifies the voices of Pacific people, who have the greatest stake in the outcomes of the Oceans Conference,” Emele Duituturaga, Executive Director of PIANGO explained. “As Small Island Developing States, Pacific Island countries are particularly affected by these ocean developments. Our people rely largely on the ocean and marine resources for their livelihoods, while environmental pollution of oceans and climate change increasingly threaten existing economies.

“For many years, organisations of small-scale fishermen around the world have been fighting against ocean grabbing and the privatisation of fisheries resources. Deep sea mining is an example of such growth-oriented strategies and the unsustainable utilisation of marine resources. It disregards the rights of local communities and their livelihoods, and satisfies the resource needs of industrialised countries and emerging economies,” Ms Duituturaga said. “Deep sea mining is not a strategy for sustainable development of Pacific Island countries. Deep sea mining and the negative impacts of climate change are based on the same failed model of development. Both threaten the health of the marine environment that is of such vital importance for Pacific Small Island Develop-

ing States. We have repeatedly reiterated that we need to rethink prevailing development models and approaches and reshape the Pacific we want.” The Ocean Conference will result in a [Call for Action](#) that has been agreed to by countries, and which will be formally adopted at the conclusion of the Conference. Additional outcomes include the results of seven partnership dialogues that will focus on solutions, and the voluntary commitments to action.

Government commits 2% royalty from Tolukuma sales

Loop PNG, June 9, 2017

The National Government has committed to pay landowners from the Tolukuma Project site a 2 per cent royalty. This will come from the sale of gold from the gold mine. This is the first of five major commitments outlined in the revised Tolukuma Gold Mine memorandum of agreement (MOA) signed yesterday in Port Moresby. The commitments were announced by Mining Minister, Byron Chan, who urged the landowners to look after their money. “Please ensure that royalty funds allocated to the Yulai Future Generation Trust are governed and operated under a Trust Deed and not to repeat the mistakes of existing operating mines where the stakeholders have wasted such funds on dubious investment proposals only to see no returns,” he said. According to the agreement the state will pay project landowners royalty calculated at 2 per cent of free on board (FOB) of the sale of gold. Landowners have agreed to split the royalty where Mining Lease Landowners receive 80 per cent while the balance is split equally between Woitape LLG and Central Province Government. Mining Lease Landowners have agreed to share 2 per cent of their royalty with the Women and Youth. Other commitments in the MOA include:

- The Special Support Grant (SSG) and Tax Credit Scheme (TCS);
- The establishment of the Infrastructure Development Committee and Office;
- Funding the annual operation cost of the Provincial Liaison Officer to be based at Tolukuma; and
- The establishment of a new Landowner Company with a clear clan-based shareholding structure and company requirements.

Meanwhile Yulai Landowner Association Chairman, George Gusi, refused to sign the MOA yesterday stating outstanding issues were yet to be discussed and that no proper consultation was done with the MRA. MRA Managing Director, Phillip Samar, said the refusal of Gusi to sign does not affect the commercial agreement on the Tolukuma Mine. Samar said they will continue to speak with Gusi to address any of the outstanding issues.

Tolukuma landowner refuses to sign deal

LOOP PNG, June 9, 2017



Picture: Signatories to the revised Tolukuma MOA having a toast while Yulai Landowner Association Chairman, George Gusi, shows disinterest.

The Tolukuma (Yulai) Landowner Group representing landowners of the Tolukuma Gold Mine refused to sign the revised Memorandum of Agreement (MOA) in Port Moresby today. Chairman George Gusi snubbed the long overdue revised MOA, claiming there are still outstanding issues to be settled. Facilitated by the Mineral Resources Authority (MRA), the signing ceremony was attended by Mining Minister Byron Chan, Central Province Governor, Kila Haoda, Executive Director of Asidokona, Vincent Siou, Woitape LLG President Joe Geru, and MRA Managing Director, Phillip Samar. Speaking at the ceremony, Gusi asked for an extension to iron out outstanding issues which they want to see contained in the current MOA as he claims there was a lack of consultation by the MRA. He said some of the outstanding issues include:

- Establishment of the Infrastructure Development Committee;
- Environmental damage report on the waterway and tailings dam, which is a national issue on the reputation of the mine;
- No proper mine development plan showing the lifespan and economic value of the mine; and
- No proper landowner business plan under the spin off benefits and life after mine programs.

Gusi also asked why there was a rush to sign the MOA on the eve of the elections, questioning the legal basis justifying Minister Chan and Governor Haoda to proceed as signatories. “We are confused as to why we are rushing to sign. I strongly recommend that we defer the MOA signing till after the return of writs. It’s only five weeks away,” he said. “So after the elections, we have a legitimate Government and authority to execute our MOA. “Ladies and gentlemen, both national and provincial governments have totally failed to implement many undertakings in the previous MOA.” Despite his refusal, the signing ceremony went ahead with all parties content with the MOA. Gusi maintained his stance and did not sign. Following the signing, Minister

Chan said the previous MOA did not contain any Government commitment, however, the revised agreement contained guarantees which the government was willing to deliver. They include, among others, the Tolukuma Highway upgrade project. Chan said he would not have proceeded with any signing if he knew there were still outstanding issues. However, he said the revision of the MOA was an ongoing thing and any outstanding issue would be catered for down the track. “Whatever we sign today, it’s continuous, it’s a Government commitment to the people of Central Province, Goilala District and to your people. It is our commitment,” he said. “This Government has committed all of these projects to you as of today.” Meanwhile, Bonnie Gelu, from the State Solicitors office, who was present informed landowners and guests that Minister Chan and Governor Haoda, as signatories to the MOA, are acting within the legal parameters as they are still recognized as elected leaders until the return of writs.

This World Oceans Day, protect oceans from mining

Payal Sampat, Earthworks, June 8, 2017

This week, delegates from around the world are meeting at the United Nations for the first UN Oceans Conference, to discuss the implementation of Sustainable Development Goal 14: the conservation of oceans, seas and marine resources.

We are subjecting our oceans to a barrage of assaults, many of which we are all familiar with - rising temperatures, overfishing, acidification. Less well-known are the dual threats to oceans from mining: the ongoing pollution of marine ecosystems by mine waste and the irreversible harm to deep-sea ecosystems that would result from proposed deep-seabed mining.

Mining pollution

Each year, mining companies dump more than 180 million tonnes of hazardous mine waste into oceans, rivers, and lakes worldwide. This is an out-of-sight, out-of-mind problem - mining corporations are using the cheapest solution to disposing of the massive amounts of waste generated at their mining operations. Earthworks has documented some of the egregious examples of marine mine waste disposal in a report, *Troubled Waters*. Mine waste dumping in oceans has led to reduced populations of fish and bottom-dwelling organisms in Indonesia and Papua New Guinea. In Norway, mine tailings are being dumped into designated national salmon fjords, which support huge fishing and tourism industries.



A girl in Papua New Guinea opposed to ocean mine waste dumping. Credit: Martin Wurt

Deep-sea mining

Lurking around the corner is another serious threat to oceans from mining. Deep-sea mining is a high-risk, experimental industrial activity being proposed in one of the most fragile, unexplored areas of our planet. Companies from a number of countries – including the US, Canada, Australia, Japan, China -- are seeking to mine metals from cobalt crusts, manganese nodules, and hydrothermal vents on the seafloor. As yet, there are no viable deep-sea mining operations – but many companies and governments are actively lobbying for that to change.

A United Nations-established body, the International Seabed Authority, is charged with regulating and granting exploration permits for deep seabed mining in waters outside national jurisdictions. It is currently in the process of developing regulations for deep-sea mining - but to date, these have been far from protective, and quite insubstantial. Leading up to the UN Oceans Conference, ocean advocates from across the globe have joined to oppose deep-seabed mining given the threat it poses to vulnerable ocean ecosystems and species. A statement from Seas At Risk supported by 34 international organizations, including Earthworks, calls on the International Seabed Authority to halt the granting of contracts for deep-sea mining and to direct its energies to increased resource efficiency and sustainable consumption.

It's also time to protect our oceans by permanently banning the egregious and outdated practice of dumping mine waste into oceans. There are far more responsible ways to dispose of mine waste. Countries -- including Norway, Turkey, Papua New Guinea, and Indonesia -- must reject any new

proposals that would dump mine waste into marine waters. And companies must publicly commit to taking this unsafe practice off the table once and for all.

Seabed mining threatens ‘last frontier’

PACNEWS/Pasifik, June 8, 2017

THE Solwara Em Laif Campaign has released a documentary as part of a series focusing on experimental seabed mining, an imminent venture in the Pacific. This documentary presents the situation in Papua New Guinea. “Despite the experimental nature and a dearth of knowledge about hydrothermal vents and deep sea ecosystems, Nautilus Minerals Inc. is already prospecting PNG’s Bismarck Sea with an aim to begin mining as early as 2019,” said a Pacific Network on Globalisation (PANG) spokesman. “This film highlights a general failure by authorities to incorporate sufficient environmental protections, as well as the norm of free, prior, and informed consent (FPIC) for indigenous peoples of the Bismarck Sea. “These are the voices of the guardians protecting the Last Frontier.” This documentary will also be featured to world leaders at the UN Ocean Conference currently under way in New York, at the Blue Frontier side-event.

Exxon’s LNG project going well

June 8, 2017, The National Business

THE managing director of ExxonMobil PNG Ltd ANDREW BARRY says the US\$19billion PNG LNG project has achieved outstanding performances in its different areas of operation. He told The National Business Editor SHIRLEY MAULUDU that the project had not only made great progress but also invested millions of kina in the different areas of its operations. Below are excerpts from the interview.

MAULUDU: Briefly tell us about ExxonMobil PNG Ltd and its operations in Papua New Guinea.

BARRY: There are three different parts of the operations at the moment. We are the operator of the PNG LNG project. And with the recent acquisition we’ve made of InterOil, we are now a partner in the PRL 15 or the Papua LNG project operated by Total. And then we have also recently entered into some offshore licence areas which are more than 150 kilometres off the coast of the Gulf of Papua and in more than 1500 metres of water.

MAULUDU: It has been three years since the first LNG shipment was made from the PNG LNG project. How would you describe the progress so far?

BARRY: I would say absolutely outstanding. And I’ll characterise it in a number of different areas. The first one and most important is our safety performance. If you think of 2016, we had the best year ever from a safety perspective. And we are really actually the best in class.

Whether you look at it internally from ExxonMobil and externally from the industry as well. We’ve worked almost 70 million hours without a single lost time to injury.

And we’ve worked since 2013 without anyone getting hurt from that perspective. So it was an outstanding performance.

And from environmental performance, again we had our best year ever in 2016. We see that from the biodiversity perspective things went really well. The regeneration of all our sites is going better than expected. We continue to invest heavily in the communities in the areas of education, empowering women, and health.

We have recently been helping in the Highlands Highway – K150 million investment in Highlands Highway. And from a production perspective, we have just delivered our 300th cargo. Production has been going about 20 per cent above what our designed at the PNG LNG. So all the key matrix, we are doing outstanding. Most important thing is that the performance of the teams have done that. In my position, I couldn’t be more proud and more privileged to lead such a fantastic team.

We've got about 2500 people working on the PNG LNG project and more than 80 per cent of them are Papua New Guineans.

MAULUDU: Being the first operator of the major LNG project in the country, do you think Government legislations and policies for the petroleum sector are framed in a way to encourage further investment in the industry itself?

BARRY: I think the policies and legislations are sound. We have demonstrated through the PNG LNG project that within that framework, we can make projects happen.

And so we understand that and are comfortable with it. With any legislation or policies, there is room and opportunities for improvement. But we don't see that there needs to be a whole rewrite of any of the policies or legislations. We think they are sound. And importantly, the development of multiple projects happens, improving and increasing the capacity and resources within the Government.

For example, the DPE (Department of Petroleum and Energy) is really what is needed to be able to progress some other projects going forward.

MAULUDU: It has been revealed recently that there is still a huge potential of oil reserves yet to be tapped into. What is ExxonMobil's view on that?

BARRY: We are very upbeat of that and excited about the opportunities right across the country.

And as part of the InterOil acquisition, we picked up some exploration acreage around PRL 15, around Papua LNG. So we feel that there is more potential out there that we would like to go out and explore. In the offshore, we now have got three offshore blocks (more than 150 kilometers offshore, 1500 metres of water) and that really played to ExxonMobil's strengths and capabilities to be able to develop those types of resources.

It still requires a lot of work at the early days because we need to go out and do more seismic activities and drill wells to be able to then understand what these resource base is.

But we are very excited and would like to think that there is a lot of opportunities.

MAULUDU: How competitive then do you think the country's petroleum industry is?

BARRY: Within PNG, it can be quite expensive to develop resources, driven by the terrain and logistics and such. For example, an exploration well can cost more than K300million to drill one. When I look at the competitiveness, there are different factors that ultimately play into that competitiveness.

It's the cost of developing those resources, it's the fiscal regime that's in the country.

And what's really important is that when we work in partnership with Government, is to be able to find that balance to be able to continue to make the country competitive for resources.

Certainly there are lots of opportunities out there and we are excited about, I think that we'd be able to develop the resources but we've got to work on the cost, to get the cost down and more importantly, a stable, physical environment such that we have confidence in developments.

MAULUDU: We understand the PNG LNG project has just shipped its 300th LNG cargo. What does that mean to ExxonMobil as the operator?

BARRY: We are fiercely proud of what we've done with PNG LNG. I think from the reputation that it has in the international community, it is of a very safe, reliable supplier, and that is really important to us because that reflects on the reputation.

And importantly, that reflects on the reputation of the country.

If you think about other players, for example, Total, coming into the country, to look to develop additional resources, the success of the PNG LNG project has enabled or given the opportunity for others to come in and say if ExxonMobil is able to do it, we could come in and do it as well.

And so, we welcome that because we look at the development of the oil and gas resources in the country, which is really important enabler to improve the living standard of the country. And as we see others come in and ourselves looking to develop more, we encourage that.

We are very proud of what we've done as an operator and believe that our leadership has been key to that. But we also can't forget that it's a partnership and a team.

And so with our co-venture partners Oil Search, Santos, Kumul Petroleum Holdings Limited, Mineral Resources Development Company, JX Nippon Oil and Energy, very important partnership that

we have within our co-venture. And extremely important is the Government and the communities where we operate.

And we've also got the buyers in China, Japan and Taiwan, all of our suppliers.

It's a really about partnerships and team work. And what is important is that we are all working together for the success of the project because if you have one element of it that is pulling against that, then it sort of falls apart.

MAULUDU: How involved are the locals in the spin-offs of the PNG LNG project?

BARRY: They are very much involved. And there are multiple different ways that the community benefits from a project like ours. We are using a lot of Papua New Guinean businesses and in particular landowner companies. At the moment I think there are about nine landowner companies we are using at all the production activities. If you look at how much money was spent on landowner companies, it will be more than K3.5 billion.

And more than K13 billion with Papua New Guinean companies. Then the employment, and community investments and that. And you also have the royalty development levies that go directly to the landowners and provincial governments. There have been some of the challenges where they have been held up in some courts. But there is multiple facets of opportunities.

And importantly if we look at business opportunities, if you look at SMEs, we would like to look at the full range of opportunities from large landowner companies right through to micro SMEs.

Revenue From Fiji Bauxite Mine Tops \$24 Million

By Luke Rawalai



SUVA, Fiji (Fiji Times, June 7, 2017) – Fiji has earned a total revenue of \$50.6 million [US\$24.3 million] since bauxite mining began in Nawailevu, Bua six years ago. Responding to questions from this newspaper, Mineral Resources Department acting director Dr Raijeli Taga said the revenue was derived from 23 shipments of the mineral. Dr Taga said the shipments consisted of soil containing bauxite which was further processed and separated in processing plants in China. "The total mass exported was 1,191,530 dry metric tonnes," she said. "In total the exact amount of revenue derived from the bauxite stands at \$50,653,983. "The value of each shipment was in excess of \$1.5 million [US\$720,000]." Dr Taga said only one shipment of bauxite left Fiji's shores in 2016 bound for China. "The average annual shipments varied from one to four respective years," she said.

Responding to questions on how much of the revenue had been paid to resource owners, Ms Taga said the mining company would be in a better position to answer this question since they would provide details of employment and other social corporate responsibilities. "However, please be advised that the royalty derived from these exports had been deposited to the Government," she said. "Some of the returns of this investment so far include employment, compensation, social assistance and community project assistance." Earlier, Dr Taga revealed to this newspaper that \$2.8 million [US\$1.3 million] in revenue was derived from the first shipment of bauxite this year. However, when contacted for a comment yesterday, XINFA Aurum Exploration Fiji Ltd manager Sireli Dagaga said the Mineral Resources Department would be in a better position to comment.

Extractive sector generates more income, says Alkan

June 7, 2017 The National Business

A LARGE portion of the Government revenue is generated by the extractive industry, according to the Extractive Industry Transparency Initiative (EITI) National Secretariat head Lucas Alkan. Alkan was part of a panel discussing the importance of EITI in the country on the FM100 radio talk-back show yesterday. He said the considerable revenue generated warranted greater accountability and transparency on how the wealth was used. "The EITI is actually a global initiative established by the PNG Government and is implemented by about 51 countries that are rich in mineral wealth, oil and gas. "It is trying to bring global best practice into the extractive sector in terms of managing resources or revenue flows that are coming into the Government and how it is spent.

"So it is all to do with transparency and accountability while trying to track the revenue flows. "With the Government budget, a substantial amount of money comes through and is driven by the extractive sector with more than 80 per cent of revenue. "It is a lucrative industry and the Government needs to be accountable for the revenue that is being generated. I think it is well over due. This revenue is coming from nonrenewable sector and we need to better manage it." Newcrest PNG country manager Peter Aitsi noted that there had been a shift from agriculture to the extractive sector in terms of revenue generation in recent years. He said the PNG economy had been largely agricultural-based until "the onset of Panguna and later Ok Tedi and then Porgera". "Clearly we have moved to an extractive-based economy," he said.

Government given 14 day ultimatum

BY LYNETTE KIL, Post-Courier, June 7, 2017

The four LNG landowner villagers – Papa, Boera, Rearea and Porebada have given the government a 14 day ultimatum to response to their petition. "The government must address the issue of royalty and equity payments, the land mobilisation funds and the alleged illegal appointment of chairman of PNG LNG Plant Site," said Boera Heritage Association president Muri Henao. The landowners in the PNG LNG Project plant site have urged the government to start campaigning on changes for itself then for the people. Henao made this remark during a press conference organised by the LNG Plant Landowners Association Inc .

Henao said the people have not experienced any changes in the community and landowners are still suffering. "I really don't know what the government is campaigning about as we have been betrayed. "Our money was used to host the Pacific leader's summit and cater for the 2018 Asia Pacific Economic summit, what will the government give to its people," he said. Henao expressed disappointment over non compliance from the office of the Chief Secretary Isaac Lupari of numerous letters concerning the landowner's grievances. Other representatives from the affected landowners'

villagers share the same sentiments and are demanding that the government respond to their petitions within 14 days.

Papua New Guineans a lot worse off than in 1980 thanks to mining

Radio New Zealand, 6 June 2017

An economist says Papua New Guineans have lost nearly half of the economic power they had in 1980. Paul Flanagan, from the Australian National University, has worked in PNG and studied the economy for many years. He says the focus of successive governments on resource development has brought few gains for the people. He says the average Papua New Guinean's economic wellbeing has fallen dramatically since 1980. Mr Flanagan spoke with Don Wiseman who began by asking him to define the term 'economic wellbeing'.



Coastal village of Hanuabada, adjacent to the CDB, in Papua New Guinea's capital Port Moresby. Photo: RNZ/Johnny Blades

PAUL FLANAGAN: In this particular case the specific definition is using the size of the non-resource part of the economy and putting that in per-person terms. So it is non-resource GDP per capita. This is the best attempt to try and evaluate essentially how an individual's ability to purchase goods and services has changed from 1980 to 2017 and that number is a very worrying minus 40.4 percent.

DON WISEMAN: And in real terms that means what for your average Papua New Guinean?

PF: There are obviously distributional elements there. Some people in areas of Port Moresby would have done very well since 1980, but on average, across the country as a whole, it means people in PNG are able to buy less goods and less services relative to 1980. They have gone back by 40 percent in real terms.

DW: And all of this is because of this pre-occupation, since independence, with developing resources, or bringing people in to develop resources.

PF: It is the different path between the resource sector, which has done extra-ordinarily well and the non-resource sector, which has gone back so severely. One thinks that the reason for that is the policy emphasis towards the resource sector - favourable taxation policies, favourable decisions as to where to put infrastructure, just the time and energy of the government is going too much into great big resource projects, and not enough time on the smallholder projects that are good for coffee growers in the Highlands, support small sized businesses in areas such as retail trade and that. Too much focus is going on the big projects, not enough on those smaller projects that would really benefit the people of PNG

DW: And the people with their land - this is actually the true resource of PNG as you see it?

PF: It is the land. It is the extraordinary beauty of PNG, the untapped tourism potential of the country is extraordinary also, but the real resource is the people themselves and educating them better, having them more able to engage with the Asian century, being able to tap their potential, that is the area of development policy that is really missing at the moment.

DW: Successive governments have gone for resource development because it's seen like easy money, isn't it?

PF: It does almost seem as if it is money growing on trees and some of the figures we have heard from the current government, and their estimates of just how much the ten of billions of dollars they would be talking would be coming through on tax revenues, therefore they could go and do things that led to massive increases in expenditure back in 2013, 2014, - it does seem like very, very easy money. The real inclusive elements development tends to be a much longer path. It will often take five to ten years to start seeing results of those type of micro-economic changes that really unleashes the potential of people. We saw that during the 2000s, and some of the hard work that was done and the turnaround of the economic mismanagement of 1998/99, but that took a good five years before some of the benefits started being seen from those changes in policies. So it is pretty tempting for a politician to go for those easy money on trees rather than that really hard work on micro-economic reform to build a more inclusive development.

DW: In your report you have some focus on Bougainville, and Bougainville of course has experienced the highs and the very deep lows as a result of this focus on resources, but they are trying to develop their economy now and it is still this focus on resource development.

PF: That's right. There are so many options and so many elements that make for successful development. And there isn't a simple silver wand that will allow one policy of government to change that will lead to a more inclusive type of development. Bougainville is a care - incredibly complicated, institutions are weak, infrastructure is weak, there is still a lot of social issues there to actually be dealt with, including gender issues, to actually build up a more inclusive pattern of development. But to the extent to which the focus moves on 'just let's re-open the mine and that will save Bougainville' that will be a very worrying, tempting, but very worrying pass for Bougainville to go down.

DW: Going into the election and it is in just a couple of week's time, do you think what we have heard from any of the political parties is going to lead to a different direction if the [Peter] O'Neill government doesn't remain in power?

PF: Well I think there are. I mean it is obviously a very broad range of parties that are standing. Quite a few of them are talking about more focus on people. They are talking about things such as changing the tax concessions that might be available, they are talking about re-orientating the big project expenditure on the big areas such as APEC. Some of the parties are talking quite openly about 'We can't afford that sort of thing - we need to put the money back into health and education - these are the priorities'. So there is a great range of policies. What I am hearing from some, and of course the former prime minister [Sir Mekere] Morauta who did help with things back in 1999/2000, are putting up policies, which once again, do suggest sensible approaches to economic repair, bringing in international partners to assist with that and getting the focus back on track for a more people focussed development. You see that also in Pangu Party in some ways, the people they have there, in dealing with institutions and dealing with corruption. There are I think some good alternatives there but obviously the O'Neill government has enormous power in being the incumbent, so the chances of change are very uncertain.

Mines to haul over K25.5 billion: Chan

Post-Courier, June 6, 2017

Mining minister Byron Chan says the existing mines are projected to haul in over K25.5 billion in benefits from 2017 onwards. Mr Chan made this announcement, while officiating at the signing of

the revised memorandum of agreement (MOA) for the Ok Tedi mine in Tabubil, Western Province on Tuesday. Mr Chan said this figure will be exceeded once the next generation mines of Wafi in Morobe and Freida in West Sepik province come into production in the next five years. The minister said he has been working with the government team to approve the MOAs that have been completed for the existing and new mines and for the state's commitment of K155 million over the next five years under each of the agreements.

The minister said OK Tedi mine remains the single largest contributor to the national coffers having produced 12 million ounces of gold, 4.5 million tonnes of copper and 29 million ounces of silver generating a total revenue of over K56 million from 1985-2016. "From this total, benefits to PNG in goods and services, compensation, training and education, tax credit scheme projects, royalties, taxes, levies and dividends amounts to K20 billion over the same period of time." "However, this does not include national employee's salaries, which have not been made available at the date of the compilation of this National Executive Council (NEC) submission and subsequent decision," the minister said.

OTML revised MOA signed

Post-Courier, June 6, 2017

The revised Memorandum of Agreement (MOA) for Papua New Guinea's largest mine, Ok Tedi has been signed. The event took place on Tuesday at Tabubil and was officiated by Mining Minister Byron Chan. In attendance at this event were other project stakeholders including governor of Western province Roy Biyama, Ok Tedi Mining Limited (OTML) chief executive officer (CEO) Peter Graham and his management team and landowners. Mining Minister Bryon Chan said he was pleased to be officiating at this event and commended the project stakeholders, particularly the governor and the people of Western province, for their dedication and commitment over the past few years, culminating in the signing ceremony. The minister said out of the eight operating mines, six MOAs have been reviewed, with only three revised MOAs being approved by the National Executive Council (NEC).

These three include OK Tedi, Tolokuma, and Simberi projects. He said MOAs are benefits sharing agreements, provided for under the Mining Act of 1992. They are implemented over a three to five year period following which they are then reviewed and upon approval take effect for the next operating period. The reviews are coordinated by MRA with the support of other key departments. He said the revised MOA's including for the Ok Tedi one had taken two years to complete. He added this was an outstanding achievement for the current government, especially as these usually take longer to review due to the difficulty in reaching a consensus or resolving disputes between parties to these MOA's. He said the two MOA's that are yet to be completed due to the reasons he cited were the Porgera and Lihir mines.

New Caledonia Nickel Company Fined \$2,000 For Small Acid Spill

WELLINGTON, New Zealand (Radio New Zealand International, June 6, 2017) – New Caledonia's Vale nickel company has been fined just under \$US2,000 for an acid spill in 2014. The court found the company was negligent. In May 2014, a few litres of acid was spilled in a storage area at the port in Prony. At the time, the company said when the leak of hydrochloric acid was detected, specialist staff immediately found its source and contained it. Vale may appeal against the conviction. Civil cases brought against Vale by environmentalists are yet to be heard. The plant in Goro in the very south of the territory has had several industrial accidents, with acid spilling into the lagoon which is a World Heritage site.



Photo: Timkal

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‘Respect the ecosystem’

June 6, 2017 The National Business

THE Lutheran Church of PNG opposes the proposed deep sea mining project in the country. Head Bishop Jack Urame said it was one of the church’s resolutions during the 2014 Karkar Synod in Madang. “The Lutheran Church is totally against the Government’s proposed seabed mining and we stand united with our sister Catholic Church in the country,” Urame said. “The creation of this universe is God’s free gift to humanity, we shouldn’t destroy the foundation of the ecological systems in the name of development and economy instead respect and manage the creation wisely.”

The role of transnational corporations and extractive industries in seabed mining, and the impacts on oceans health and food security

PNG Mine Watch, 5 June 2017



The Reflection Group on the 2030 Agenda for Sustainable Development will launch its “Spotlight on Sustainable Development 2017” during this years High-Level Political Forum on Sustainable

Development in July in New York. As an advance excerpt, the Group has published the Chapter on SDG 14 by Maureen Penjueli (Pacific Network on Globalization) on occasion of the Ocean Conference (June 5-9, 2017 at UNHQ, New York).

Introduction

Despite the importance of a healthy Pacific Ocean, evidence is mounting that this unique ecosystem is in real danger from anthropogenic threats such as overfishing, habitat destruction, and pollution and probably the most severe threat of all, climate change and resulting sea level rise. The rush to mine the deep seas is representing the newest frontier of extractive industry and perhaps the biggest threat to the world's oceans in the 21st century. There is a significant concern that seabed mining has the potential to cause major environmental destruction to the entire Pacific Ocean and would seriously undermine the implementation of SDG 14, to conserve and sustainably use the oceans, seas and marine resources. The fact that the International Seabed Authority does not have an agreed policy on the sustainable management of seabed minerals yet, points to the significant global gap in oceans governance.

Link: https://ramumine.files.wordpress.com/2017/06/spotlight_report_2017_-_ch14_-_advance_copy.pdf

ExxonMobil Scientist Among Group Temporarily Taken Hostage In PNG's Hela Province

By Jeffrey Elapa

PORT MORESBY, Papua New Guinea (PNG Post-Courier, June 5, 2017) – Komo tribesmen held three people, including a female scientist, hostage last Friday as they negotiated for the release of two fellow gunmen whom police had arrested in Hela Province. One of the hostages was wounded during the day-long tense negotiations, which resulted in the release of the hostages and the two Komo gunmen later in the afternoon. Hela provincial police commander Superintendent Michael Wally said yesterday that police in routine patrol in Komo had arrested the two warlords carrying unlicensed guns and locked them up at Tari police station last week.

He said angry relatives of the two men from the Tope tribe, who inhabit the hills above the Komo airport, entered the Komo airport premises last Friday morning by cutting the parameter, and took three workers hostage. They were a ExxonMobil female environmental scientist, a local helper and a driver of a contractor, HGDC, who were doing environmental investigation and research work in the area. Supt Wally said the tribesmen held them as hostages, called police and demanded the release of the two gunmen for the safe return of the workers. He said police decided to release the gunmen in fear of the woman (the environmental scientist) being hurt. He said what the villagers did was a criminal act and they would be arrested and charged, adding police were pleased the woman was released unharmed, but the helper was assaulted while being held. PNG LNG project developer ExxonMobil PNG Limited said in a statement it was taking very seriously the abduction of one of its staff in the vicinity of Komo airfield on Friday.

“We are relieved to say that the incident was resolved quickly, and our staff is safe. We take this opportunity to commend the police for making their highest priority the safety of all persons concerned,” a company spokesman said. The company source also made it clear that the issue was not related to PNG LNG activities. “We continue to encourage constructive dialogue as the means to resolving tensions. ExxonMobil PNG is committed to maintaining a positive relationship with landowners, the government and the wider community,” the spokesman said. Hela province recently went through a month-long firearms amnesty, during which time people with unlicensed weapons were encouraged to hand them to police for destruction. It was hailed a success in many districts including Tari and Komo.

Compensation demand for Lihir airport land use

Radio New Zealand, 2 June 2017



The Lihir gold mine in Papua New Guinea's New Ireland Province. Photo: Supplied/ Newcrest Mining Limited

Landowners on Lihir in Papua New Guinea's New Ireland province are threatening to close the island's airport if their demand for compensation is not met. Operation of the Lihir gold mine, which is run by Australian company Newcrest, are dependent on the small Kunaye airport, known also as Londolovit. Nimarmar Local Level Government Council Media Officer, Tony Sapan said that landowners were frustrated that the mine had operated for over twenty years without any formal compensation for use of their land. He said the landowners wanted \$US900 million or \$K3 billion, in compensation. "They've played around with their calculations and they think that's what the compensation outstanding is worth. And then they can come up with a future for the continued use of that land where the Kunaye airport stands," said Tony Sapan.

Despite the existence of memorandums of agreement between the provincial government and various local stakeholders for operation of the mine, there is no formal agreement between landowners for use of the airport. "The airport physically supplies the mine. And there is no such agreement. That is what the landowners are up in arms about," he said. The landowners earlier gave notice of their demands in April and have been in discussions with the mine owners, the government and the Mineral Resources Authority. According to Mr Sapan, the landowners were planning for a meeting next Wednesday, where it was hoped a representative of the mining company could be present for discussions. He said the landowners were trying to exhaust negotiation options before carrying out their threat. "At the last resort, I'm sure, they would want to do that," Mr Sapan explained. "But they are talking to the mine, they are talking to the government, they are talking to the Mineral Resources Authority that handles mines in Papua New Guinea. So they are trying their best to do this under the law."

Woodlark mine optimisation positive

Cedric Patjole, LOOP PNG, 2 June 2017

Mine operators Geopacific Resources Limited announced in a statement that many technical aspects of the mine have been investigated in detail and consequently, work is centered on assessing optimisation opportunities. They include modular construction techniques; refining the processing plant flow sheet and technology. Geopacific says considerable effort is being applied to optimising min-

ing with areas of interest, including optimal mine design, refining grade-scheduling to shorten the capital paycheck period and equipment selection. The company adds that capital savings directly affect the financing period of the mine, while operational cost directly affect the size of the gold reserve and optimising both provides for a robust project.



“Woodlark is a solid project – a multi-million-ounce gold deposit with approvals in place to build a 1.8 Mtpa (million ton per annum) plant and opportune timing in the mining cycle,” reads the statement. “Woodlark is beneficially differentiated by being on an island. Cost-effective modular build options and operational logistics come into play because we are located on the coast with access in protected bay with deep water. “Our focus is to optimise Woodlark and take it into production. We are taking a comprehensive approach to our review and optimisation work program, with positive results and encouraging levels of progress – evident in this update.”

\$2.8m for Fiji from bauxite

Luke Rawalai, The Fiji Times, June 01, 2017

FIJI earned \$2.8 million in revenue from the first shipment of bauxite this year, bringing total earnings to about \$52.2m since mining started at Nawailevu in Bua in 2010. Director Mineral Development Dr Rajeli Taga said the first shipment this year left Fiji's shores on March 3. XINFA Aurum Exploration Fiji Ltd's first shipment this year occurred significantly earlier compared with the single shipment of 2016, which did not take place until early September. Dr Taga said the bauxite shipped to China weighed 58,709.60 tonnes. "This raked in revenues of \$1,350,320.80 in US dollars," she said. In 2015, this newspaper reported that the company had so far exported 1.2 million tonnes of bauxite worth \$48m from the shores of Bua in the Northern Division. In July last year, the company said they were expecting to export 70,000 tonnes of bauxite valued at \$4m by mid August, however, in September it was announced that a shipment of 69,000 tonnes valued at \$1.4m had been exported. Company director Derek Qiu had said then that they could not export more bauxite because of a drop in global market price. He said the quality of bauxite was another contributing factor to the slow export process.

Earlier Dr Taga said the generally challenging bauxite market, coupled with issues surrounding the ore's quality, affected bauxite export. Despite this situation, Dr Taga said XINFA Aurum Exploration Fiji Ltd would continue with its mining operation to stockpile for later export when the commodity price improved. When contacted for comment on Monday, XINFA Aurum Exploration Fiji Ltd said all comments on bauxite issues would be made by the Department of Mineral Resources. Dr Taga had said the number of bauxite exports could not be estimated for 2017 because of the volatile nature of the mining business. She said bauxite from Fiji was not of premium grade and had to

compete with bauxite from countries such as Australia, Mongolia and Indonesia which were of superior grade. Dr Taga said further exports would be purely a business decision of the tenement holder which would depend on the market price in terms of profitability and sustainability of their operations. She said if the export price was not feasible then the tenement holder would continue with the mining activity and export when the price was right.

Seabed mining has no place in a future shaped by the 2030 Agenda for sustainable development Seas At Risk, Statement for the Ocean Conference United Nations, New York, 5-9 June 2017 via PNG Mine Watch, 1 June 2017



For more than a century we have ripped apart the land, exploiting it beyond its limits in our insatiable quest for gold, silver, copper, manganese, cobalt, nickel, rare earth elements and other minerals. Now the mining industry plans to move into the deep sea. With the risk for irreversible and significant environmental impacts, and socio-economic benefits that are uncertain and inevitably short term, deep-sea mining imposes a serious threat to global sustainability. Deep-sea mining has no place in the world's Agenda 2030 for sustainable development. The precautionary principle means we must prioritise sustainable alternatives and avoid locking our economy into this high risk technology. Alternatives to deep-sea mining are available, and can be found in the transition of economies towards more sustainable approaches. Reducing the demand for raw materials through better product design, sharing, re-use, repairing and recycling, the development of new materials, a transition to smart energy and mobility systems and structural changes in consumption patterns and lifestyles are key to the solution.

Up to 90% of the world's electronic waste is illegally traded or dumped. Every year in the EU, 100 million mobile phones go unused, less than 10% are recycled. This represents an enormous quantity of gold and other metals gone to waste. These figures indicate the huge potential of policies to increase resource efficiency world-wide, and the importance of focusing on e.g. urban mining instead of deep-sea mining. The Sustainable Development Goals (SDGs), and in particular SDG 12 "Ensure sustainable consumption and production patterns", and SDG 14 "Conserve and sustainably use the oceans, seas and marine resources" set the global frame for rethinking our economy. Unless we stop and think, we risk squandering one of our most precious ecosystems, which has a vital role to play in the health of our planet, for an obsolete dream of boundless growth. Seas At Risk, supported by the NGOs listed below, therefore calls:

- On the International Seabed Authority to end the granting of contracts for deep-sea mining exploration and to not issue contracts for exploitation;

- On the United Nations to make a strong link between SDG12 and SDG14 and to ensure the growth in demand for minerals is reduced through ambitious sustainable consumption and production policies worldwide;
- On the European Union to stop financing the development of deep-sea mining technology and invest instead in enhancing and implementing policies on the circular economy, resource efficiency and sustainable consumption; and
- On all countries to cease the sponsorship of exploration and exploitation licences in Areas Beyond National Jurisdiction and end the issuing of permits for deep-sea mining in their territorial waters.

Background

The deep sea occupies 90% of the marine environment and functions as an important regulatory body of the biosphere. These habitats have distinct fauna with widely divergent ecological and life-history characteristics. Most species resident there have low productivity and are extremely vulnerable to human disturbance. The deep sea spans areas both within and beyond national jurisdictions, leading to complex governance frameworks. The unique features of this extreme, enormous, three-dimensional environment create the need for a specialised approach to its management. Juxtaposed against these reasons for caution, commercial interest in the potential for deep-seabed mining is growing rapidly. In the global quest for raw materials, the deep-seabed mining potential currently focuses on polymetallic sulphides, manganese nodules, cobalt-rich ferromanganese crusts, methane hydrates and phosphate.

There is however a widespread concern about the impact deep-sea mining will have on the ecosystems and habitats of the deep and how the practice can be managed. Sites of mining interest often include highly vulnerable marine ecosystems and biodiversity hotspots. Mining poses potentially significant risks both to the sites themselves and into the water column beyond, as indicated by the results of among others the EU funded MIDAS research project. These risks include irreversible ecosystem destruction, direct as well as indirect biodiversity loss from plumes and sedimentation, underwater noise and toxic pollution, to name but a few. Globally, some 1.2 million km² of seabed have already been licensed for exploration in the international portion of the seabed, potentially creating the largest mining operation the planet has ever seen and dwarfing anything comparable on land. The area is close to the size of Europe.

In Areas Beyond National Jurisdiction (the ‘Area’), deep-seabed mining is governed by the International Seabed Authority, which was established under the 1982 UN Convention on the Law of the Sea (UNCLOS) to govern ‘the Area’, which is to be considered the Common Heritage of Mankind. In the Area, the ISA retains the right to issue exploration and exploitation licenses for mining. So far the International Seabed Authority has put in place 26 exploration contracts. Sponsoring states for International Seabed Authority exploration contracts are: Belgium, Brazil, Bulgaria, Czech Republic, China, Cook Islands, Cuba, France, Germany, India, Japan, Kiribati, Korea, Nauru, Poland, Russia, Singapore, Tonga, United Kingdom.

The International Seabed Authority has not yet issued any exploitation contracts. National governments have until now issued two deep-sea marine exploitation (or commercial mining) licenses: one by the government of Papua New Guinea (Solwara 1 project in the Bismarck Sea) and one by the governments of both Saudi Arabia and Sudan (Atlantis II project in the Red Sea). Mining has not yet started but plans for pilot mining are under way. A 2016 periodic review of the International Seabed Authority pointed to severe structural shortcomings in terms of its transparency and capacity, calling into question its ability to govern the Area effectively. As the global steward of the world’s ocean heritage the ISA must prioritise conservation of the deep sea, the rights of coastal communities and the rights of mankind as a whole.



Mellam joins Chamber as new executive director

LOOP PNG, 1 June 2017



Professor Albert Mellam has been appointed as the new executive director of the PNG Chamber of Mines and Petroleum, replacing Greg Anderson.

The Chamber Council announced today the appointment of the former University of Papua New Guinea Vice Chancellor to replace Anderson, who has been at the helm of the resource industry association for 28 years. President of the PNG Chamber of Mines and Petroleum, Gereia Aopi, welcomed Prof. Mellam's appointment and thanked Anderson for his tireless service to the Chamber and the PNG resource industry. Mellam brings to the Chamber a wealth of experience, having worked as a senior academic and vice chancellor for more than 29 years at the University of Papua New Guinea.

He also holds adjunct professorial positions in a number of Australasian Universities. As well as having a vast public sector experience, he is also well placed to draw on his private sector exposure as a director of Nambawan Super Limited, Credit Corporation (PNG), Brian Bell & Co Ltd and the Investment Promotion Authority Board. His distinguished career includes serving as a key advisor to the PNG Vision 2050 and other Government projects such as the PNG LNG project. His applied research areas have included the extractive industry, for example, research on mine closure arrangements and involvement in the Misima Mines Closure project.

“The Board is confident Prof. Mellam will continue the good work Mr Anderson has done in developing the Chamber into a highly respected peak industry body that has served the interest of its members with distinction,” Aopi said. “We would also like to sincerely thank Mr Anderson for his contribution, not only to the industry but to the country as a whole.” Anderson was first appointed as executive director of the Chamber in 1989 and since then, he has been involved in numerous consultations on Government policies and legislation, which have underwritten PNG’s world-class resource industry. “Through his role at the Chamber, Mr Anderson was also instrumental in fostering investment and growth in the mining and petroleum sectors through Chamber-organised international and domestic investment conferences, and the commissioning of a wide range of studies and reports that have benefited many projects and industry stakeholders.

“He also played a pivotal role in advancing developments in the areas of taxation, education and training, health and community development,” Aopi said. Anderson first arrived in PNG in 1975 to work with the Geological Survey of PNG. He held a number of positions in the PNG Geological Survey and was appointed director of the survey in 1986 and was responsible for the overall management of mining and petroleum exploration in PNG during a period of intense activity. In 1989, he was appointed to the position of executive director of the newly-established PNG Chamber of Mines and Petroleum.

Ban deep sea mining: Church

June 1, 2017 The National Business

By LUKE KAMA

THE Catholic church is calling on the Government to ban deep sea mining in the country. President of the Federation of the Catholic Bishops Conferences of Oceania Cardinal Sir John Ribat and general secretary Father Victor Roche said such technology should not be tested in PNG waters. The 17 Catholic Bishops from PNG and one administrator from the Solomon Islands who attended their annual general meeting recently discussed the proposed seabed mining called Solwara One and Solwara Two close to the shores of PNG. “We were informed that the machines belonging to the company Nautilus have arrived already in Port Moresby and are ready to go ahead with the testings of technology for seabed mining in the waters of PNG,” Sir John said. “This will be the first of its kind for such technology to be tested in PNG and if successful, the actual seabed mining will be done in many parts of Pacific with the agreement of the different island countries and that is a great concern.”

He said responsible use of the environment and resources was a duty and task, for everyone. And the Catholic bishops support the coastal people and the groups who raised their voice to question the proposed seabed mining. “What kind of international agreement permits foreign companies to engage in practices and processes which in their own country are illegal? “The sea is a treasure for all and should never become a playground of exploitation. Seabed mining will cause direct physical destruction of the unique ecosystems and in terms of benefits, we have many mining operating on the land and the landowners, the people are still disadvantaged. “Now we are trying to dig from the sea and what guarantee of satisfaction and benefits will the people and the country reap to satisfy?”

Ramu NiCo mine achieves another production record

Post-Courier, May 31, 2017

The country’s lone nickel miner Ramu NiCo achieved another record high production in April. The company announced yesterday, it had reached 108.3 percent of its design capacity metallurgical recovery compared with 89.09 percent in February of 3008.77 tonnes. It said recovery was main-

tained as high as 89.38 percent while nickel grade of MHP (Mix Hydroxide Product) was 38.49 percent. The cumulative nickel production for the first 4 months of 2017 had reached 10,884 tonnes, amounting to 36.3 percent of the annual target. "Continuous dedication to management optimisation over past years has gained Ramu NiCo a leading position among laterite developers worldwide in terms of hydrometallurgy processing maturity and unit production cost control," the management said. Ramu NiCo is a nickel laterite project integrating mining, beneficiation and refining. As the first nickel project, Ramu NiCo comprises an open-pit mine in Kurumbukari in Bundi LLG and a highly modernised refinery in Basamuk, Rai Coast district, which are connected by a 135-km long slurry pipeline. The project produces nickel and cobalt intermediate product, in which the aggregate nickel metal accounts for 31,000tpa and cobalt 3,000tpa. Since the resumption of operation in July 2016, tremendous efforts have been put into improving processing stability and equipment availability.

No to experimental seabed mining plans for Pacific, says PNG's Cardinal Ribat

Meredith Kuusa, TVWan News, Pacific Media Centre News Desk, 31 May 2017

Papua New Guinea's Catholic Church leader has given a resounding "no" to deep sea mining after returning from his visit to Germany. The Archbishop of Port Moresby Archdiocese, Cardinal John Ribat, was highly critical of the proposed plans of the Canadian mining company Nautilus for the Pacific. He spoke to a global conference as a representative for Oceania on the effects of climate change in the Pacific. Cardinal Ribat was encouraged with the support he received when visiting the office of Chancellor Angela Merkel. He said the Catholic Church was against deep sea mining because it would cause destruction to the surrounding environment. He condemned the "shocking" robot machinery planned for the mining. He said it would also not contribute to coping with climate change.

New Wharf In Lautoka, Fiji To Service Planned Iron Sand Mine In Ba

By Kalesi Mele

SUVA, Fiji (Fiji Times, May 30, 2017) – More than 200 people in the Western Division will be employed within the next few months as a new wharf and ship-loading infrastructure is built in Lautoka. The handing over ceremony for the project — which will be constructed to export Fiji's first ever mined iron sand, was done in Lautoka yesterday. The handing over ceremony took place between Amex Resources and Chinese company First Harbour Consultants. Amex Company has invested more than \$200 million [US\$96 million] into the project with the site for mining expected to be in the Ba area. Company chairman Richard Alston said construction was expected to be completed within the next year. "We expect that there will at least be 250 full time jobs available for the people of Ba both skilled and unskilled and it will be of benefit for the Fijian economy," he said. "So construction phase will take 12 months and then the life of the mine will be at least 20 years and possibly a lot more because we think there are other reserves that are off shore."

"We are very grateful to the Fijian Government for all the support they have given and certainly First Harbour Construction, they have great partners." He added they had conducted feasibility studies on the mining site. *[PIR editor's note: On May 30, 2017 Fiji Times reported that 'AMEX Resources is exploring the sandbanks of the delta at the mouth of the Ba River between Raviravi and Vatutavui from its Sorokoba field base for iron sand.]* "We started in 2009, so it's a long time ago, and we followed all the processes. We identified there was a further area offshore but we didn't want to worry too much about that until we got this major one up and running. "We had to make sure it met environmental standards and we also had to make sure the people of Ba were happy through the whole process and we think we got their support right through." Fiji is one of few coun-

tries in the South Pacific to have iron sand reserves which Amex sought to develop to meet international demand for the steel component. "We think this is a world class reserve."

Papua's Massive Grasberg Mine Is Hit By Further Strike Action



WELLINGTON, New Zealand (Radio New Zealand International, May 29, 2017) – Production has been hit at the massive Grasberg mine in Indonesia's Papua province as more than 9,000 workers stage an extended strike. The mine's owner, Freeport McMoRan, also says a "large number" of the absentee workers are deemed to have resigned. Meanwhile, the striking miners, angry at the American company's decision to lay off thousands of workers, have agreed to extend their industrial action for a second month. Freeport deems the strike illegal, and had followed through on a threat to take disciplinary action against absenteeism, considering staff who are absent for more than five days to have resigned. A Freeport spokesperson told Reuters it was trying to mitigate the strike's effect on mining and milling rates, which it did not quantify, by re-allocating resources and training additional workers. The strike was a further disruption for Freeport, which had lost hundreds of millions of dollars in a protracted dispute with the Indonesian government over new mining laws. Copper concentrate exports had only resumed late last month, when the strike began.

Mining projects to benefit locals: PM

May 29, 2017, The National Main Stories

THE Wafi-Golpu mine in Morobe, Frieda River in East Sepik and the Papua LNG Project in Gulf will benefit a lot of people and the Government when they start. Prime Minister Peter O'Neill (pictured) told the FM100 radio talkback show last week that developers Harmony and Newcrest had submitted their licence development plans to Mineral Resources Authority and Department of Mining. "Our team is now processing that licence. "I'm certain that once we come back after the general election, we will issue them their development licences. "It is certainly a world-class deposit

and I'm certain that it will bring in immense benefits not only to Morobe but also to Papua New Guinea and provide employment for people living in and around the mining communities.

"Also professionals around the country can also benefit from the employment opportunities. O'Neill said Frieda River, after many years of discussions, had submitted a development licence application which was being processed by the Government. The Frieda River project will be the first major large-scale resource project in East and West Sepik. This project should be the catalyst to grow other sustainable economies of the Sepik region. "We are certain that we will approve that right after the election and certainly before the end of the year," he said. "We are giving priority to those two mines because, as I've said, they are world-class mining developments." On the PNG Gas Project, he said it must be done on commercial terms, which must be properly discussed by all stakeholders. "We have not reached that position yet," O'Neill said. "Today, we have not got a development licence lodged by the developers."

Frustrations over mining coming to a head in Solomon Islands' Temotu province

Johnny Blades, Radio New Zealand, 27 May 2017

"There is good mining, and there is bad mining, and I've witnessed a lot of bad mining," said the Australian man to the villagers of Noipe in Solomon Islands' Temotu province. Given the anger among the local community about bauxite mining, the conversation was remarkably cordial. He stood at a roadblock near their village, speaking to a handful of local adults, a teacher and a couple of dozens kids from Noipe's primary school. "We work really hard with the community," said the man, "we have agreements with communities for good mining. We do everything we can to protect the land, the villages, the people. "We provide education for the children, we provide training for the adults. Can I show you some photos?" he said, turning to get something from his nearby vehicle. "Excuse me," responded the teacher. "We don't need photos.... we don't need mining and we don't need prospecting, that's all. Our land is our heritage, our future for young generations." "Okay, alright, thank you very much" said the Australian politely, before leaving. The villagers posted a video of the exchange, saying they do not agree with mining prospecting proceeding on their land.

Bauxite interests on Nende

The Australian man in the video is Mark Gwynne, the executive chairman of Pacific Bauxite. This Australian company owns 50 percent of AU Capital Mining, the entity which in 2015 won a license to prospect for bauxite at Nende in Temotu. Temotu is the most remote of Solomon Islands' provinces. Ships only general visit once a fortnight, and the twice weekly scheduled flights from Honiara are often cancelled as there's little money to have the grass on Temotu's airstrip cut. Yet there was a hotly anticipated visit to Temotu this month by Mr Gwynne and company. Pacific Bauxite, formerly named Iron Mountain Mining, is coming in for increased criticism in Temotu over the way in which it gained a business licence to conduct its prospecting at Nende. The license was granted soon after the Temotu provincial assembly voted in a new premier, David Maina, to replace Nelson Omar in late March. Shortly in advance of this, there was a flurry of activity on the Australian stock exchange as people bought up shares in Pacific Bauxite. Mr Omar said the basis for moves to oust him was to approve the business license. "(But) the consent from the resource owners, the land owners, how it was conducted was not done in accordance with existing legislations which govern the mining and logging acts," he explained.

On its website, Pacific Bauxite insists it has consulted with locals. "The Company is extensively engaged with the local community and is ensuring that all stakeholders are made fully aware of current and future activities regarding the Project." But its assertion that "meetings held with local parties to date have been extremely positive and much enthusiasm has been generated by the recent phase of exploration" contradicts comments from the local communities themselves. In reality,

there's a groundswell of concern about the mining among the community on Temotu's main island of Nende (Santa Cruz). The concern stems partly from the feeling that local people weren't adequately consulted in advance about the prospecting by either the company or government.



NASA picture of Nende, known also as Santa Cruz, in Solomon Islands' Temotu province. Photo: NASA

It's also about fear of the potential environmental impacts of mining. Grace Kava, who is from the west side of Temotu's capital Lata, said most locals did not approve of bauxite mining due to fear it would devastate the soil. "Because they already knew something like the bauxite mining up in Rennell (Rennell and Bellona) province up the road, getting into a big disaster. They think the same thing will happen to them." Ben Menivi, who is from Graciosa Bay, said mining posed a big threat to the water source from which the community gets much of its drinking water. "So that's my concern, that if the bauxite continues, they come and continue the work, they might destroy some of the top soils at the top of the mountain where the water source comes from."



Ngadeli village in Temotu Province, Solomon Islands, is threatened by sea level rise. Photo: Britt Basel

Another local, Henry Kapu, explained that because Temotu was prone to natural disasters and sea level rise, people from smaller islands in the group flocked to Nende, the province's main island, when they needed support, for food or other materials. This support system, he explained, would be at stake once bauxite mining had disrupted then island. "We will lose all our arable land, crops, an-

cestral land boundaries and this will further exacerbate land disputes," he said, warning that this could lead to more ethnic tensions in Solomon Islands.

Beu comments controversial

But the Temotu provincial executive is firmly supportive of the project. A provincial minister, and former Temotu Premier, Father Brown Beu said they had considered the environmental impacts, and had consulted with landowners who were largely in favour. "The people who are against this prospecting are all working class, and they're all in town (Honiara)," said Mr Beu. "They should be assisting in some form, but they are not. Let me tell you that these people as far as we in Temotu are concerned, we're not listening to them, full stop." He claimed that as a remote and under-developed province, Temotu needed the kind of investment the bauxite project will bring. "Unlike other investors who are invested in Temotu Province, they (the mining company) will shortly after this be able to provide medical facilities that we will never - I don't know, centuries to come - never have. "Isn't that something that's worth looking forward to?" he said.



Vanikoro Photo: Supplied

Beu's characterisation of those against mining as outsiders sparked an outpouring of frustration on Facebook. "BB is our past parliamentarian. He says we are backwards in terms of development. Has he done any thing better for our province since his leadership to date?" commented one Temotu man, Desmond Nimepo. When several personnel from the mining company turned up to Temotu in the past week, roadblocks were mounted by landowners to stop them moving around. Mr Beu, who confirmed the miners were under police protection while in Lata, has been criticised by a former governor general of Solomon Islands. Sir John Ini Lapli, speaking on behalf of Nende people, said Mr Beu's comments were way off the mark, and that the provincial executive had not taken the impacts of mining into account.

According to Sir John, the issue had created tension in Temotu. He indicated that the upper levels of government and the ministry of mines were essentially likely to proceed with the mining, no matter how people felt. "You know they said in this law that certain feet below the ground it is not people's land it is government's so that is where the government is sort of proceeding with this. "They came with some agent unknown, they didn't come through the procedure and so they were able to pay some people to sign accepting this proposal they signed up and that is how they locked these landowners," said Sir John.

The provincial government's involvement in this process echoes the murky experience around logging operations on Temotu's Vanikoro Island. These operations, which have proved deeply divisive

among the local community, are run by a Malaysian company, Galego Logging, whose local partner is Vanikoro Lumber Limited. VLL's chief executive is Temotu's deputy premier, Ezekiel Tamoia. According to a Vanikoro native, Edward Pae, Mr Tamoia promised that the developer would come and build infrastructure like roads, clinics, wharves, even an airstrip. "But up to now, they only cleared the land... There's totally no infrastructure developments on the land at the moment," said Mr Pae.



Logging machinery being burnt by landowners in Vanikoro, 2016. Photo: Facebook

"After five years, there's a lot of environmental damages done: rivers crossed, tabu sites illegally entered, and most of the water sources that villages or communities around Vanikoro used to use have been badly damaged. And now the people on the ground in Vanikoro are really affected." Mr Tamoia disagreed, saying an airstrip and roads were being developed. He also denied there was any conflict of interest in him being the head of a company which got a license to log from the government he is part of. "Overall I think most of the landowners are ok with these developments. They stand to benefit from it."



Logging erosion, Vanikoro. Photo: Planet.com

Mr Tamoia disputed claims that in Vanikoro there had been no benefits from the logging, saying an airstrip and roads are being developed. He insisted only a few locals had reservations about logging,

but opposition to the project has already boiled over into unrest last year in the form of sabotage of logging machinery, and has the potential to do so again.

Public momentum

Numerous moves are underway to press the provincial government to halt bauxite mining activities, including a public petition. Furthermore, a paralegal officer and concerned landowner Ruddy Oti has been collecting affidavits signed by Nende landowners who feel they were misled by the mining company when it sought to get landowner consent. Mr Oti said that earlier some individual landowners had been approached by the company and gave their consent. "After OceansWatch (environmental NGO) did some awareness in Nende, there was some sense of realisation among these landowners who had previously given their consent, then they eventually agreed to have their consent revoked." A Nende local, Titus Godfrey, said developers coming to Temotu tended not to follow the full process for gaining consent, knowing some local people were interested in quick gains. "I mean, people gave their signature because the guy who came, he came in December, when he came in at Lata they said if you want to survey our places to do the drilling you can pay two hundred dollars or something like that."



OceansWatch ranger Titus Godfrey (left) and Nelson Nyieda, the NGO's Solomon Islands Lata Office manager. Photo: Oceans Watch

It's a theme echoed by Father Colton Medobu, an Anglican priest in Noole village. "The situation like here is people wait for opportunities of money: money, money, money... And when people talk about these things, people resort to advances of big money. That's why these people get caught up and use this as the basis for working with the people. And sometimes it extends to bribing people without explaining to people what they're asked to do." He said that local people wanted development and were not strictly against resource extractive operators. But he said there had to be proper consultation and a proper strategy to avoid potential displacement and negative health and environmental consequences from these developments. While the provincial government appears unlikely to answer the petition's call to revoke the mining company's business license, it is under increasing pressure to respond to the community's concerns. Yet Brown Beu said that until the prospecting finished, it was premature to stop the project.

"Then, we'll be able to ascertain as to whether there is enough minerals in the soil for mining later on," he explained. "And that of course depends on the people. Once the reports have come out and the people basically 'no we don't want mining' then that's it, it's finished." This may not be the case - once a Surface Access Agreement is signed, there is most likely little way to stop the mining other than through the courts at the Development Consent stage. However out of the current venting on

Temotu has come an elevated level of public discourse about mining and logging. Raising awareness about these areas was the aim of NGO Oceans Watch. The co-director of Oceans Watch Solomon Islands, Chris Bone, said there had been a lack of awareness about not only the impacts of logging and mining, but also about what the better options were. Of those options, eco-tourism is an area that Temotu has huge potential in. "The place is absolutely gorgeous. It's a very, very special and very treasured place, and one of the last places in the Pacific that has this wonderful primary rainforest," he said.



Temotu locals want to protect their land against devastation from mining activities. Photo: Facebook

For now, Temotu's leadership and the national government are being urged to be decisive about community concerns over the mining issue. Sir John Ini Lapli and others have warned that frustrations among landowners and tribal groups could escalate to violence if nothing is done.

Chemicals in river affect villagers

Michael Arnold | Post Courier | May 26, 2017

Medical teams have found trace amounts of cyanide in the blood of people living in the Mekeo villages of Veifa'a and Aipeana along the banks of the Angabanga River in Central Province. According to councillor of Veifa'a ward two, Ben Afaisa, medical teams from Port Moresby had done an awareness on the effects, if any of the upstream Tolokuma Gold Mine in Veifa'a and other villages along the river, and had been approached by villagers who became sick after washing in the river. Upon a return trip to the villages, doctors discovered that villagers had traces of cyanide in their blood which could have been absorbed through the skin or through consumption of plants and animals that also inhabit the area. "We were tested by doctors from Port Moresby, and they found out that in our bodies we have cyanide and other harmful chemicals," Cr Afaisa said. Efforts to approach the Central governor with their concerns have been unsuccessful, and villagers are hoping that the new government will be able to address the issue. "We haven't heard anything from the governor about how they plan to address the issue. That river feeds all the west Mekeo villages along its banks, up till Bereina which is at the mouth of the river," Cr Afaisa said. The Angabanga River connects many other villages in the Mekeo LLG to Goilala where Tolokuma Gold Mine is also located.

Taranaki seabed mining would harm sea life, hearing told

Eric Frykberg, Radio New Zealand, 25 May 2017



Busloads of people have been protesting outside the Environmental Protection Agency as the hearings have continued. Photo: RNZ / Robin Martin

Opponents of a proposal to mine millions of tonnes of iron sands from the Taranaki seabed have resumed their attacks in the final day of hearings on the project. Trans-Tasman Resources wants to dig five million tonnes of iron ore from the seabed every year for the next 35 years. Two lobby groups, Greenpeace and Kiwis Against Seabed Mining (KASM), want the scheme blocked by the Environmental Protection Agency. KASM representative Ruby Haazen told the EPA hearing this morning a plume of mined sediment would harm the sea and sea life. "Marine mammals is the most egregious example but the most fundamental example is the plume," she said. "The applicant knew how central it was, yet this hearing was delayed and thrown out of kilter by the need to re-run a worst case scenario, which for reasons we have canvassed was not worst case." Ms Haazen said the worst case did not stack up economically either. The company will make its final statement this afternoon.

NZ EPA must again refuse experimental seabed mining application

KASM, Scoop, 25 May 2017

Trans Tasman Resources (TTR) had failed to provide the information on the impacts of seabed mining that the EPA used as a basis for refusing the company's first application in 2014, so there was no choice but to again refuse consent, Kiwis Against Seabed Mining and Greenpeace told the hearing today. After a four-month EPA hearing into TTR's application to mine 50 million tonnes of the South Taranaki Bight seabed every year for 35 years, KASM and Greenpeace gave their closing arguments to the EPA today. In 2014, the EPA gave clear directives as to the information that should be gathered before submitting a new application, the groups told the hearing. TTR did some new modelling on the sediment "plume" and economics, but that was all. "The other key areas for work such as marine mammals, benthic and seabird studies had not been undertaken. It just wasn't done," KASM and Greenpeace lawyer Ruby Haazen told the hearing.

"The South Taranaki Bight is an area that has not been the subject of any in-depth scientific or environmental research. What we know has always been limited. [TTR] has attempted to convince us that there is in fact a lack of environmental activity in the area. "This thinking underpins the philosophy of the applicant in approaching this application and sums up how things have gone so wrong.

She noted that this application was - and still is - the first of its kind, not just in New Zealand but internationally; its effects are new and unique, and the scale of the proposed application is large and unlike any carried out in New Zealand before. “The South Taranaki Bight is an environment that hosts an array of marine life, supporting some of the most threatened and rare species in the world and a feeding ground for seabirds, fish, marine mammals and a breeding ground for blue whales. This is only what we have found out so far.”

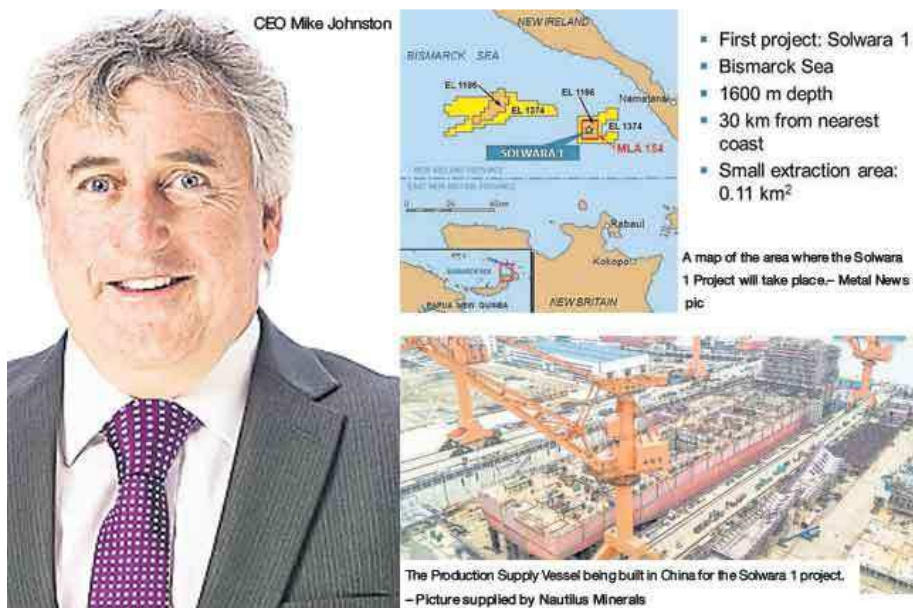
“The evidence presented has demonstrated that from what we do know, this area may be much more significant than anyone previously thought,” she said. The company had modelled the spread of the “plume” of sediment around the STB, but had withheld key data. There were not enough samples for any expert to be able to verify the company’s claims that “flocculation” would reduce the effect of the plume. The so-called “worst case scenario” modelling that the EPA sent the company back to carry out was nothing like the “worst case” – and cannot be verified. “Enormous uncertainties remain, not only on the worst case plume model but on the effects of the model presented as worst case, on primary productivity, the benthos, marine mammals and seabirds.”

Despite what the EPA said in its 2014 decision, TTR hadn’t done any further marine mammal surveys for this second application, and even then those surveys were only between the mine site and the shoreline. This contrasted with evidence given by blue whale expert Dr Leigh Torres, who confirmed to the hearing that many blue whales had been seen in the South Taranaki Bight, and that her research confirmed that the Bight may be host to New Zealand’s own population of blue whales. Nobody really knew what the effect of noise from the mining would have on marine mammals, including the whales. “The underwater noise predictions are inadequate and insufficient as a basis for a biological risk assessment. Insufficient information is available at this time to estimate the noise levels that would be experienced by marine mammals in the area.”

The EPA decision is due around the end of June.

CEO explains undersea mining

May 25, 2017, The National Business



THE first undersea mining in the country will take place in New Ireland and operated by Nautilus Minerals. Chief executive officer MIKE JOHNSTON explained to The National’s Business Editor SHIRLEY MAULUDU the nature of the project. He also discussed environmental aspects of the project.

MAULUDU: Tell us briefly about the company Nautilus Minerals.

JOHNSTON: Nautilus is listed on the Toronto Stock Exchange and is the first public company to explore the deep ocean floor the world's future mineral resources. Nautilus was granted the world's first exploration licence for deep sea mineral resources in 1997. Our first mining lease and environment permit were granted in 2009 and 2010 respectively.

MAULUDU: Tell us about the Solwara 1 project in New Ireland.

JOHNSTON: The Solwara 1 project is located in the Bismarck Sea, Papua New Guinea, 30 kms from the coast of New Ireland and 1600 meters below the surface. The project uses technologies from the offshore oil and gas industry, and terrestrial underground mining to produce high grade copper and gold. The planned extraction area is very small at 0.1 km². Additional benefits include that no tailings are produced, no landowners are required to be moved, and there is no impact from mining above 1300m water depth. The project is being developed in partnership with the PNG Government. It is fully permitted and has strong local and national support.

MAULUDU: Which communities, wards or the district in New Ireland will be directly impacted by the project?

JOHNSTON: As Solwara 1 is located at 1,600m water depth in the ocean, 30km from land, no one is directly impacted by the project. There is also no requirement to clear land, and no impact on tuna or coastal fisheries. An area known as the "Coastal Area of Benefit" (CAB) has been established by the provincial and national governments, where communication and community benefit programmes are focussed. The CAB comprises seven wards on the west coast of New Ireland. Only last week, Nautilus, in partnership with the NIPG, and with the assistance of Abt Associates and the New Ireland Provincial Health Authority, completed a health patrol and data collection programme (began in Oct 2016). The team estimated during this programme that they saw 7000-plus patients, out of a population of around 8500. These programmes will be ongoing.

MAULUDU: What sort of tools will be used to carry out the mining?

JOHNSTON: The production system uses existing technology from the offshore oil and gas sector, combined with rock cutting and materials handling technologies used in land-based operations.

The three main components of the Seafloor Production System are:

- 1 Seafloor Production Tools comprising auxiliary cutter, bulk cutter and collecting machine;
- 1 riser and Lifting System; and,
- 1 Production Support Vessel.

The mining tools cut the rock material, which is then transferred to the Production Support Vessel as a "sloppy slurry" via a very large pump and steel pipe (riser) system. On board the vessel the high grade rock is separated from the water by gravity methods. The resulting rock is stored in the ship's hull, to be later transfer to a bulk cargo vessel, then shipped directly to China.

MAULUDU: How will the minerals be mined from under the sea?

JOHNSTON: Rock is cut on the seafloor by the AC and the BC, and then pumped to an adjacent stockpile area. The third machine, CM, then collects the cut material, sucking it up and transferring it as seawater slurry to the main pump, situated at the bottom of the steel riser system. The riser system comprises a rigid steel riser pipe supported from the vessel which delivers the slurry to the surface. The large subsea pump is situated at the bottom of the riser pump, just off the sea floor. The entire riser and pump system is suspended directly beneath the support vessel. On the deck of the Production Support Vessel, the slurry is dewatered using gravity. The solid material is stored temporarily in the PSV's hull, and then discharged to a transportation vessel moored alongside. Filtered seawater is pumped back to the seafloor through the riser pipes and provides hydraulic power to operate the RALS pump. Discharge of the return water at the seafloor from where it came eliminates mixing of the water column, and minimises the environmental impact of the operation.

MAULUDU: What minerals in particular will Nautilus be mining for?

JOHNSTON: Copper and gold.

MAULUDU: Environmental issues have been raised by individuals, groups, regarding the Solwara 1 project. How will Nautilus avoid causing any impact on the environment within which it will operate?

JOHNSTON: There are many significant environmental benefits to mining in the deep sea. And our systems try to use these benefits as much as possible. These include effectively no mine tailings, minimal pre-stripping of sediment, low fresh water needs, no vegetation stripping or fresh water catchment issues, minimal rehabilitation costs with no permanent on-site infrastructure such as roads, power lines, buildings and so on. At Solwara 1 we were able for example to design our riser system as a fully enclosed pump and pipe system to extract the mineralised material from the sea-floor. There is no mixing of the water column and there is no impact from mining shallower than 1300m water depth at Solwara 1 (more than 1000 meters below where most tuna, whales etc live)

MAULUDU: How is Nautilus doing with its awareness programme in educating the impact communities on the nature of the project?

JOHNSTON: Nautilus has always and continues to ensure that the communities located closest to its Solwara 1 Project (and the wider community in PNG) are fully informed about the Solwara 1 Project. During the development of the Solwara 1 Environmental Impact Statement (EIS), we visited a number of villages and towns in PNG to ensure the views and concerns of local communities were heard. The specific villages and towns were determined in consultation with PNG national and provincial governments. Our commitment to the community does not end with the completion of the EIS or granting of the Environment Permit. Community engagements have continued to take place since the Environment Permit was granted by the then Department of Environment and Conservation (DEC) in December 2009. Representatives from the national and provincial governments accompany Nautilus Minerals during these community engagement campaigns. To date, Nautilus Minerals has recorded the attendance of around 30,000 people at engagements/awareness campaigns held in 46 locations within PNG. Both numbers are still growing. We plan to continue with our community engagement campaigns in New Ireland and East New Britain as we move into the operations phase of the project. We have and will continue to focus our engagement programme on the villages located nearest to the Solwara 1 Project site, the CAB. This area covers the communities who have the greatest interest in understanding the project and this will be where many of our CSR programs will be implemented.

MAULUDU: Give an update on the progress of the Solwara 1 project.

JOHNSTON: Nautilus has taken delivery of the Seafloor Production Tools (SPTs). They are currently undergoing submerged trials in PNG. The Riser and Ancillary equipment is completed and currently in storage. The Subsea Slurry and Lift Pump is completed and Nautilus will take delivery of it later this year. The Production Support Vessel is currently being built in China and is progressing to schedule.

Company starts gold production

May 23, 2017 The National Business

By SHIRLEY MAULUDU

K92 MINING Inc has started drilling the first hole from the Kora Drive which is being developed from the Irumafimpa Mine towards the Kora Deposit in Eastern Highlands. K92 Mining has started gold production at the Irumafimpa gold deposit, which together with the Kora gold deposit, is part of the company's Kainantu gold project. The company is targeting the start of production in first half of next year. It also provides the company with the ability to drill test between Irumafimpa and Kora from underground drill cuddies. K92 chief executive officer, Ian Stalker, said: "The expansion of the high grade Kora deposit has been a goal of K92 from the first day we acquired Kainantu and the commencement of the first ever underground drill programme targeting to do so is therefore a big milestone. Kora represents the potential for exceptional size and grade." Consideration would be given to extending the drive beyond the mining lease 150 into the adjacent exploration lease (EL 693) which is also held by K92, to allow exploration drilling to be undertaken to potentially extend the known limit of mineralisation to the North. Kainantu has infrastructure including underground

mine development, mill processing facility, staff housing, licensed tailings pond, office space, paved access roads and reliable hydro supply via a dedicated power line.

NEC endorses PNGEITI report recommendations

Post-Courier, May 22, 2017

The PNG Extractive Industries Transparency Initiative (PNGEITI) secretariat has called on government entities responsible for mineral and petroleum sectors to implement a National Executive Council decision. This is in relation to the implementation of recommendations from the first PNG EITI report. The NEC, through decision number 91/2017 last week, gave directions for the implementation of recommendations of the first PNG EITI report, which is based on the 2013 fiscal year. The directions relate to government entities including the Department of Petroleum and Energy, Mineral Resource Development Company, Kumul state-owned enterprises, Auditor-General's Office, Office of the State Solicitor, Mineral Resource Authority, and departments of Finance and Treasury to fully participate in the EITI process. Head of secretariat Lucas Alkan said the onus was now with the named government agencies to act accordingly because it was important to take actions on the report recommendations now to be able to validate on its EITI candidate status early next year.

“It is only through these efforts that we will be seen as making meaningful progress to meeting global best practice in managing our resource wealth and PNG can be accredited as a full-pledged EITI member country by EITI International. “The national secretariat has always had the assurance and the support of the government, civil society and the private sector in driving the EITI concept, and the NEC decision only cements the kind working relationship we have with the government,” Mr Alkan said. “When it comes to promoting accountability and transparency in how we manage our wealth generated from non-renewal resources, it is everyone’s business to ensure such wealth is invested in other sectors of the economy for broad-based economic growth for a better society.” “We at the secretariat with the multi stake-holder group believe that we are part of the bigger calling to promote accountability and transparency in how we manage extractive wealth to tackle pertinent issues like poverty and corruption” he said. “I am very confident that the respective government institutions and departments will give us the backing by way of acting on the NEC direction to help us in our efforts to promote EITI process in the country,” he said.

New Ireland Province Government refuses to sign new MoA

Post-Courier, May 22, 2017

By SHARON LOWA

The New Ireland provincial government has refused to sign the Simberi Gold Mine memorandum of agreement recently approved by the National Executive Council (NEC) in April. Deputy governor and chairman for natural resources in the provincial executive council Ambrose Silul said they are sick and tired of being misled by the state team negotiating the new MoA for both Simberi and Lihir Gold Mines. Mr Silul insists that the state keep its word, and until it does, the New Ireland government will not sign any new MoA. The New Ireland team had been renegotiating the Simberi MoA for over four years and a provisional MoA had been agreed in 2013, but that it was conditional on approval by the PEC. “Our team wrote to the state team and Mineral Resources Authority (MRA) on October 6, 2013 that the draft MoA must include the provisions approved by the New Ireland PEC on May 21, 2013.

“That includes increasing the rate of royalties from two percent (FOB) annual revenues to 10 percent, as well as similar increases in the special support grant and tax credit scheme,” Mr Silul said.

Mr Silul further stated that the state solicitor's office agreed that the changes the New Ireland government wanted made to the MoA would be included in the draft to go to the NEC. He said that in a meeting in April 2015 in Kavieng, the state solicitor agreed they would include New Ireland's provisions in both the Lihir and Simberi MoAs and allow the NEC to make a final decision. "All we are asking is that NEC – and not the state bureaucrats – decide on the merits of our suggestions. Instead, we have a bunch of bureaucrats making decisions that should be made by NEC." "We will not accept this dishonesty on the part of the state team," Mr Silul said. Mr Silul is calling on the mining minister to conduct an immediate investigation into this affair. The MRA mining coordinators and the state solicitor's office deliberately and willfully misled the NEC by submitting an MoA that did not include the provisions they promised would be included.

Gas expansion focus for OilSearch

Post-Courier, May 22, 2017

Liquefied natural gas (LNG) Expansion is the focus for Oil Search in 2017 and beyond. Oil Search says Papua New Guinea is poised with its locality and world-class assets. Shareholders were told by the managing director Peter Botten during the firm's Annual General Meeting in Port Moresby last Friday, it had 10 trillion cubic feet (tcf) of undeveloped reserves. This is in addition to the PNG LNG reserves that in 2017 and Quarter 1 of 2017 had been producing 20 percent above its nameplate capacity. Mr Botten said drilling at the Elk/Antelope fields had been completed, while drilling in Pnyang would continue this year. He said these two combined had the potential to underwrite a two-train expansion, and for Oil Search result in a material growth by about 50 percent. He said there were other prospects as well to further support this; Angore, Juha and more recently Muruk, which he had hailed as an exciting discovery.

"We are about to go into a testing program and this will give us an indication on how good the reservoirs are," Mr Botten said "We think we have only just found 40 percent of the gas reserves, and we estimate there more to be found. There are an additional seven billion barrels of oil equivalent (bboe) yet to be found, 90 percent of that gas," Mr Botten added. Mr Botten said with the Asian market, seen now as the largest growth area in the world, PNG with the PNG LNG and with Papua LNG to come online, the country is perfectly placed. However, the challenge will be to ensure PNG is at the bottom end of the cost curve to secure this market, with suppliers like Australia and US entering the market. There are a new importing countries, Pakistan, Vietnam, Cambodia. Places that are typically not part of an LNG supply network. These are potential customers for PNG gas.

Methanhydrat: China zapft neuartige Energiequelle am Meeresgrund an

Methanhydrat gilt als möglicher Energieträger der Zukunft. Das brennbare Eis schlummert massenhaft in den Ozeanen. Nun melden China und Japan fast zeitgleich einen Durchbruch.

Von Christoph Behrens, Süddeutsche Zeitung, 21. Mai 2017

China und Japan ist es nach eigenen Angaben gelungen, Methanhydrat am Meeresgrund abzubauen - eine fossile Ressource, die in rauen Mengen in den Ozeanen und Eiskappen des Planeten gebunden ist und als Energieträger der Zukunft gehandelt wird. Von einer Bohrinself im südchinesischen Meer aus sei der Rohstoff in einer Tiefe von 1266 Metern gefördert worden, gab die Nachrichtenagentur Xinhua diese Woche bekannt. Es sei das erste Mal, das China die Ressource sammeln konnte. Japan meldete vor zwei Wochen einen ähnlichen Durchbruch beim Anzapfen von Methanhydrat vor der eigenen Küste.

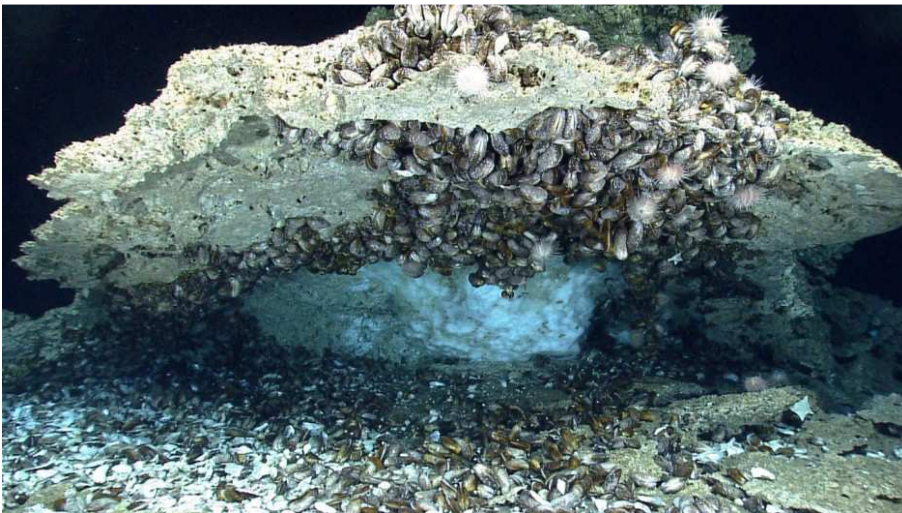
Damit rückt die Erschließung eines Rohstoffs näher, dessen Vorräte die von konventionellem Öl und Gas deutlich übersteigen. Methanhydrat wird auch "brennbares Eis" genannt, weil sich die

schneeartigen Klumpen bei Raumtemperatur anzünden lassen. Der Stoff ist eine Mischung aus Wasser und Methan, dem Hauptbestandteil von Erdgas. In Form von Methanhydrat bilden die Wassermoleküle eine Art Gerüst und umschließen das energiereiche Methan. Nur bei hohem Druck und tiefen Temperaturen ist der Stoff stabil, er findet sich daher vor allem im Sediment des Meeresbodens oder im Permafrost der Arktis. Auch im gefrorenen Boden des tibetischen Plateaus werden große Mengen Methanhydrat vermutet.

Bis zu 28 Milliarden Kubikmeter Methan sind im Eis komprimiert

Für China ist die Erschließung der Ressource von hoher strategischer Bedeutung. Das Land verfügt kaum über eigenes Erdöl; Schiefergas mithilfe von Fracking zu gewinnen, ist aufgrund der komplexen geologischen Verhältnisse schwierig. Die Methanhydrat-Bohrungen südöstlich von Hong Kong nannte der Minister für Ressourcen Jiang Daming nun "einen großen Durchbruch, der zu einer weltweiten Energierevolution führen könnte". Insgesamt fördern die Chinesen laut Xinhua bei den derzeitigen Probebohrungen täglich etwa 16 000 Kubikmeter Gas vom Meeresgrund.

Verglichen mit den japanischen Bohrungen "haben die chinesischen Wissenschaftlicher sehr viel mehr Gas bei ihren Anstrengungen gewonnen", sagte der Chemieingenieur Praveen Linga von der nationalen Universität Singapur der BBC. Dies sei "ein großer Schritt" bei der Entwicklung der Technologie. Die USA, Japan, Indien, Südkorea und Kanada verfolgen ebenfalls Forschungsprogramme, um die Ressource abzubauen. Das US-Energieministerium schätzt, dass weltweit zwischen 2800 Billionen und 28 000 Billionen Kubikmeter Methan zusammengepresst im Eis schlummern. Zum Vergleich: 2015 wurden weltweit etwa 3,5 Milliarden Kubikmeter Erdgas produziert, also weniger als ein Tausendstel der Gashydrat-Vorräte.



Gashydrat-Vorkommen in 1000 Meter Tiefe im Golf von Mexiko unter einem mit Muscheln bewachsenen Felsen: Viele der Vorkommen liegen in ökologisch empfindlichen Regionen. (Foto: United States Geological Survey (USGS))

Allerdings widersetzt sich die neuartige Ressource bislang einer kommerziellen Gewinnung, die Bohrungen bewegen sich noch auf der Ebene der Grundlagenforschung. Nur ein kleiner Teil des brennbaren Eises liegt in einfach erreichbaren Schichten am Meeresgrund oder in arktischem Sandgestein. Das meiste ist dagegen zu flüchtig, niedrig konzentriert oder tief gelegen, um technisch interessant zu sein. Auch wissen Geologen bislang nur sehr wenig darüber, wie sich Methanhydrat verhält. Bei Störungen reagiert der Stoff jedenfalls äußerst sensibel. Wird die Gitterstruktur zerstört, so kann das enthaltene Methan leicht verloren gehen.

Dieser Mechanismus birgt vermutlich auch neue Risiken. So führen Geologen einen zerstörerischen Erdbeben vor 8000 Jahren auf Methanhydrate zurück. Vor der Küste Norwegens bildete sich damals eine bis zu sechs Meter hohe Flutwelle. Forscher vermuten, dass eine explosive Freisetzung von Methangas am Erdboden die prähistorische Naturkatastrophe auslöste. Im Fachjournal Nature

Communications berichteten Materialwissenschaftler kürzlich, dass eine menschengemachte Störung der Eiskristalle wohl ähnliche Kräfte freisetzen könnte. Dazu kommen Risiken für die Umwelt: Wie die Tiefseebohrungen die Ökosysteme am Meeresgrund beeinflussen ist bislang unbekannt. Klimaforscher fürchten zudem, dass eine Erwärmung der Ozeane auch das Methan-Eis zum Schmelzen bringen könnte und das entweichende Gas die Erderwärmung noch anheizen könnte. Zumindest diese Gefahr ist laut einer aktuellen Analyse der US-amerikanischen Akademie der Wissenschaften aber gering: Das gashaltige Eis schmelze zwar an einigen Orten, doch das Methan verteile sich hauptsächlich im Ozean, statt die Atmosphäre zu erreichen.

Shifting sands: Why seabed-mining dredges up such opposition

by Rebecca Howard, New Zealand Listener, 20 May, 2017



The South Taranaki Bight at Kaupokonui. Photo/Alamy

A second application for what would be the first seabed-mining permit in New Zealand is meeting heavyweight opposition from iwi, environmentalists and oil and gas interests. The battle lines are again being drawn in the black ironsand of the South Taranaki Bight as Trans-Tasman Resources (TTR) makes a second bid for permission to mine a remote piece of seabed off the west coast of the North Island. TTR, which describes the ironsand deposit as “world-class, with enormous, and currently untapped, economic benefit for New Zealand”, gained early government agency backing when it first began talking up the project in the late 2000s. Those opposed argue that the venture will do irreparable damage to the local environment and any benefits do not outweigh that cost.

In 2007, the company began investigating the deposits, most of which lie more than 20km west of Patea, within the 200km Exclusive Economic Zone (EEZ). Its aim is to excavate 50 million tonnes of seabed material a year and process it for export into up to five million tonnes of iron ore annually for 35 years. It is a seabed-mining version of the Taharoa ironsands export business, which has operated since the 1970s and was sold to Maori interests last month. The material is mined using a slow-moving crawler, which creeps along the seafloor “vacuuming” up sand and seawater and pumping it to a vessel. The iron ore is magnetically separated and the residue sand, about 90% of the total, is immediately redeposited.

“It’s not sucked up, held on a ship for days and then put back. This is a continuous dredging operation where it’s coming in the front and going out the back while we’re mining,” TTR chairman Alan Eggers told the committee hearing TTR’s second application for a seabed-mining consent. No chemicals are added and the iron ore never comes ashore; it is pumped straight to purpose-built vessels. TTR says this method of extracting ore is much cheaper than land-based mining. That insulates the venture from fluctuations in global ore prices, which tanked two years ago but have recovered somewhat lately. The project, which the company estimates could make about \$400 million in annual iron-ore sales, will cost US\$550-600 million (\$790-860 million) to develop. The company says the vast majority of the redeposited sand will settle back on the seabed, filling areas already dredged. However, the process will form a “plume” in the water column, which will drift depending on tides, ocean currents and general weather conditions in an often turbulent part of the Tasman Sea.

The potential environmental impact of this plume was the reason TTR failed at its first attempt to be granted what would have been the first seabed-mining permit in New Zealand. In 2014, a committee appointed by the Environmental Protection Authority ruled that the effects of the proposal were too difficult to gauge on the evidence available. Under the terms of new and previously untested law governing the EEZ, that was grounds for rejection. TTR, which has so far invested more than \$70 million, decided not to appeal the original decision but rather submit a new application, which required a new committee. That second hearing has been under way since mid-February. Opponents, including environmentalists, local iwi, Maori organisations, parts of the fishing industry and the Australian owner of the Kupe oil and gas field, Origin Energy, say TTR has failed to provide enough new evidence in the latest bid and there are still too many unknowns.

“TTR’s most recent application is simply the same old car with a new lick of paint,” said Robert Makgill, a lawyer for the fisheries submitters. In a joint submission, Greenpeace and Kiwis Against Seabed Mining (Kasm) said the application “in no way overcomes the reasons the first application was denied”. According to TTR, however, it has undertaken “significant new work to substantially improve knowledge of both the existing environment and the extent of the potential effects arising from the sand-dredging operations”. This evidence demonstrates that the effects of the proposal on both the marine environment and existing interests are “generally very small to negligible”, the company said. However, expert witnesses for the project’s opponents take issue with the way the results of TTR’s modelling were interpreted, and the new committee asked TTR to provide more worst-case scenarios.

Danger to marine life

Ironsands support little marine life, but a plethora of opposition experts say the area covered by the application is home to creatures ranging from tiny organisms living in the bottom sediments to blue whales and the critically endangered Maui’s dolphin. Experts for TTR claim there is a low likelihood of marine mammals being present in the proposed mining area. There was “nothing to suggest that the mining area is of any significance to any marine mammal species”, said scientist Simon Childerhouse of Blue Planet Marine New Zealand. His view was disputed by zoology professor Liz Slooten, who blasted TTR for “poor information”, including an incomplete species list and a lack of data about the effect of noise. “There is no way that we can estimate the number of individuals of each species that might be affected by noise, through physical injury or behavioural disturbance, or that might be impacted by other effects from the mining operation,” she said. Debbie Ngarewa-Packer of Te Runanga o Ngati Ruanui Trust told the committee that “there is too much uncertainty”.

Origin, concerned with the potential impact on its own offshore operation, hasn’t seen “sufficient difference” in TTR’s new evidence to justify a different result for this application and worries particularly about the potential for a collision at sea. Origin and TTR have agreed conditions if consent

is granted, but “we would prefer not to have TTR operating in our area”, said Origin’s Martin Aylward. The committee, headed by former Wellington deputy mayor Alick Shaw, has extended its deadline from the original April 13 to May 31, citing “a number of evidential matters still to be addressed”. Even that decision was fraught with controversy: submitters argued that the company had failed to dispel any of the uncertainties and should not be given more time to do so. Greenpeace and Kasm argued the committee should have “returned the application as incomplete” and said it is crucial that the next closing submissions be final. Fisheries and iwi submitters say they will not bear the additional cost and effort “to address information gaps in TTR’s application during this hearing”. Greenpeace and Kasm may apply for a judicial review of the TTR bid, arguing the process is flawed. The critical question for TTR may be whether scientific uncertainty can ever be sufficiently dispelled for a new activity in a little-understood ocean environment. If the answer is no, it won’t be dredging any time soon. **This article was first published in the May 13, 2017 issue of the New Zealand Listener.**

Publish production data: EITI

May 18, 2017 The National Business

IT is important that investment companies disclose their production data for public consumption, according to the PNG Extractive Industry Transparency International (EITI). Head of the EITI secretariat Lucas Alkan welcomed the recent disclosure by ExxonMobil on its 300th shipment of liquefied natural gas cargo leaving PNG shores for overseas buyers. “It is pleasing to note that the company is disclosing such information so that the public can be kept informed,” he said. ExxonMobil’s operations last year produced 7.9 million tonnes of LNG – an increase of 14 per cent from the original design specification of 6.9 million tonnes per annum (mta). Over the next 30 years, it is estimated that the project will produce more than 11 trillion cubic feet of LNG.

The estimated value of each LNG shipment was said to be between US\$48 million (K151.4 million) and US\$50 million (K157.7 million). ExxonMobil is a member of the Multi Stakeholder Group, the body that oversees what is done in the country to achieve EITI global best practice in terms of reporting on how they manage the petroleum and mineral wealth. Alkan welcomed the decision by ExxonMobil (PNG) to give updates on the LNG cargoes leaving PNG shores. “I’ve seen that the Exxon team is media-friendly and we are grateful for that, particularly when Papua New Guinea’s EITI candidate status is validated early next year (2018) by the EITI International Secretariat to determine whether we have met or are making meaningful progress in meeting the global best practice to be a fully-pledged member country,” he said.

Local firm gets mining licence

The National, May 18, 2017

A LANDOWNER company in Enga has been granted seven alluvial mining licence leases by the Mineral Resources Authority. It allows the Koekam PM Holdings Ltd in the Kompiam-Ambum district to engage exploration companies on their tribal land. Company chairman Peter Malix, while thanking the MRA for granting the licence, said it had taken a long time and resources to finally receive the mining licence. He thanked Mining Minister Byron Chan, the Mineral Resources Authority and those who had done a lot so that the landowner company “can have a say in the development of resources in our own land”. The licence will allow investment in development of the mineral-rich Koekam area where alluvial mining activities are on a small scale. “Now we have the five-year mining leases,” Malix said. “I appeal to people from the five council wards to work together so that we can get maximum benefit from the mining development,” The impact areas will cover Poreyalin, Aiyal, Malipin, Liu-Tip and the Kukin-Kalimb tribe from the Kompiam Local Level Government.

Alonge Alupi from Koekam said he was happy that they would now look for investors to develop the alluvial mining.

Taga: Volatile nature of mining impacts bauxite

Serafina Silaitoga, The Fiji Times, May 17, 2017



The number of bauxite export cannot be estimated for 2017 because of volatile nature of the mining business, says director Mineral Development Dr Rajjeli Taga. Picture: Luke Rawalai

THE volatile nature of the mining business has impacted bauxite export from the shores of Bua. Director Mineral Development Dr Rajjeli Taga said this resulted in one shipment being sent so far this year to China. This, she said, was sent in March. Despite this situation, Dr Taga said XINFA Aurum Exploration Fiji Ltd would continue with its mining operation to stockpile for later export when the commodity price improved. "The number of bauxite export cannot be estimated for 2017 due to volatile nature of the mining business," she said. "Further exports will be purely a business decision of the tenement holder which will depend on the market price in terms of profitability and sustainability of their operations. "If the export price is not feasible then the tenement holder would continue with the mining activity and export when the price is right."

For last year, Dr Taga said the export declined because of low commodity price in China who was the primary buyers of Fijian bauxite. "Since the bauxite from Fiji is not of premium grade, it has to compete with bauxite from countries such as Australia, Mongolia and Indonesia which are of superior grade," she said. "According to the quarter one update of 2017 from the Bauxite Index, the Chinese domestic alumina prices have fallen from recent highs in January, as supply was ramped up to take advantage of the higher prices. "Subsequently, it assumed that the bauxite export would be very similar to 2016 unless the price improves." However, announcements, she said indicated that bauxite import would remain weak as China had suspended spot import for three months because of ample cheaper DOM (Days on Market) supply. She said Beijing also announced plans for winter cuts

New Zealand seafood companies, iwi slam EPA over seabed mining application

Undercurrent News, May 16, 2017

Seafood companies have slammed the New Zealand Environmental Protection Authority's (EPA) handling of the application to mine for 35 years 50 million metric tons of iron sand from the ocean floor off the coast of Taranaki. The application by Trans-Tasman Resources (TTR) is opposed by Fisheries Inshore New Zealand, the New Zealand Federation of Commercial Fishermen, Talley's Group, Southern Inshore Fisheries Management, and Cloudy Bay Clams. A range of environmental groups have also submitted opposition to the bid. TTR's first application was refused in June 2014 after a decision-making committee appointed by the EPA found the application was premature and more time should have been taken to understand the proposed operation, its effects on the receiving environment and existing interests. "TTR's latest application is almost identical to the first, and does not address the EPA's key reasons for refusing TTR consent in 2014," Fisheries Inshore New Zealand's chief executive, Jeremy Helson, said.

"TTR's 2014 application was refused due to inadequate information, and adverse effects on the environment and existing economic activity. It is hard to understand why the EPA allowed TTR to re-submit a largely unchanged application," Helson added. TTR's latest application, lodged with the EPA in August 2016, has been dogged with controversy from the start, as the TTR sought to withhold information on the effects of the sediment plume from the public for reasons of commercial sensitivity, said the release. The EPA's decision to approve this withholding of information was overturned by the Environment Court, on the application of the seafood industry, iwi and environmental groups.

TTR has a responsibility to provide robust information to support its application. Its failure to do so has seen the EPA directing those opposing the application to fill in the gaps, said the complainants. "The extension of the process and continued re-submission of evidence has resulted in submitters incurring unreasonable costs to address the deficiencies in TTR's application." The hearing began in February and was initially to have ended on April 12. Instead the EPA extended the hearing to May 31 to address further questions concerning the information provided by TTR in support of its application.

Papua New Guinea moves to launch new coal mining industry

Catherine Wilson, Mongabay, 16 May 2017



In 2006, a young girl walks between coconut palms on the coastline of Puil Island, part of the Carteret Islands, where rising sea levels eroded much of the coastlines and contaminated crops and freshwater. In 2009, evacuation began to nearby Bougainville Island. Photo by Jeremy Sutton-Hibbert/Greenpeace.

Recent plans call for both coal mining and coal-fired electricity generation, raising questions about the government's commitments to climate change action and leadership.

- Two years ago, the Papua New Guinea government allocated \$3 million for research into the viability of coal extraction.
- An Australian company plans to build three mixed coal power generation plants in the country.
- Proponents argue affordable and reliable electricity is needed to boost economic growth, while opponents cite environmental risks including the threat of climate change and rising sea levels.
- Analysts also question how much urban-based power plants will raise electrification rates, since most un-electrified households are in rural areas that cannot easily be connected to electrical grids.

The Papua New Guinea (PNG) government is actively pursuing the potential of developing a coal mining industry for the first time in the country's history. Two years ago, it channeled 10 million kina (US\$3million) to its Mineral Resources Authority for research into the viability of coal extraction. Now, an Australian company engaged in exploration is proposing to build three mixed coal power generation plants in the cities of Port Moresby, Lae and Madang, citing the need for affordable and reliable electricity to boost economic growth. But environmental science experts and civil society groups are concerned about the potential environmental and climate impacts of developing a domestic coal industry, and the risk of undermining the country's commitments to climate change action and leadership. "It is no secret that the first ever climate change refugees in the world are from Papua New Guinea," declared Dagia Aka, member of the youth climate change movement, 350 PNG.

In 2009 residents of the Carteret Islands in the far east of Papua New Guinea were forced to begin migration to nearby Bougainville Island after rising sea levels and the contamination of crops and freshwater sources rendered their island homes uninhabitable. "Mining ventures in Papua New Guinea have a dark history of destroying the environment around them and there has been a failure to put measures in place to avoid such [damage]," Aka continued. "Given the overall assessment of PNG's energy policy and its natural resources, it is important not to develop the coal mining industry," Chalapan Kaluwin, head of environmental science and geography and director of the Centre for Climate Change and Sustainable Development at the University of Papua New Guinea, told Mongabay. "The sustainability of other energy sources, such as geothermal and renewable energy, including wind, solar and waves in the country, is significant. Coal mining has far more adverse negative impacts on the overall sustainability of PNG, its landowners and long-term health of its communities."

Exploration underway

While three international companies — Waterford, Pacific Mining Partners and Mayur Resources — are currently engaged in coal exploration in PNG, the Department of Petroleum and Energy has yet to report the granting of any coal mining leases. But Brisbane-based Mayur Resources, which is exploring for coal in the southern Gulf Province and claims to have discovered extensive reserves, is already planning to build three urban-based mixed coal electricity generation plants. "The first project to build an Enviro Energy Park (EEP) at Lae with 2MW solar and 2x 30MW conventional generation fueled by domestic coal and PNG renewable biomass is in a very advanced stage waiting only the conclusion of a Power Purchase Agreement with PNG Power," Paul Mulder, Managing Director of Mayur Resources told Mongabay. He said the project already had environmental approval from the government's Conservation and Environment Protection Authority (CEPA), which was granted in June last year.



While Papua New Guinea does not yet have coal mines, it has already faced severe environmental impacts from mines, such as this open-pit gold mine in the country's Western Province. Photo by Glen Barry/Greenpeace.

PNG's extractive industries: costs and benefits

PNG, with major reserves of gold, copper, nickel, silver, oil and gas, has been a natural resources-dependent economy since Independence from Australia in 1975. The mineral resources sector alone accounts for more than one-third of government tax revenue. In 2013, taxes on the extractive industry amounted to US\$292 million. From 2011-2013, it contributed an average 15.6 percent annually to the country's GDP. Coal, which remains one of the cheapest available sources of energy and fuel, drove industrialization and modernization in Europe and North America. But the environmental impacts of coal mining include the depletion of forest cover, air and water pollution, and contribution to global warming through the release of methane, a greenhouse gas, from natural coal seams. Burning coal to generate electricity produces carbon dioxide and oxides of sulfur and nitrogen, further contributing to the greenhouse effect.

This is a major concern for small Pacific Island developing states which are disproportionately exposed to climate change, whether in the form of extreme weather or rising sea levels. In April last year, in line with the forceful advocacy by many Pacific Island leaders for industrialized nations to reduce their carbon footprint, Charles Lepani, PNG's High Commissioner to Australia, publicly called on the Australian Government to downsize its coal mining industry in light of the Paris Climate Agreement and its goals. Australia produced an estimated 16.3 metric tons of carbon emissions per capita in 2013, compared to 0.8 tons per capita in PNG, the most populous Pacific Island nation of 7.6 million people.

"To cry foul to the major contributors to the fossil fuel industry and climate change, yet participate in something that will only make matters worse for us definitely does not paint a good picture," Dacia Aka responded. "Pacific Island countries have a moral responsibility to take a lead with the Paris agreement simply because we are the ones facing the worst effects of climate change at this point in time." Other regional governments have also expressed concerns about coal mining. In 2015 leaders of Pacific Smaller Island States — comprising the Cook Islands, Kiribati, Federated States of Micronesia, Republic of the Marshall Islands, Nauru, Niue, Palau and Tuvalu — issued the Port Moresby Declaration on Climate Change which calls for "a global moratorium on all new coal mines."



Forest lining the Bairaman River in PNG. New Guinea Island has some of the world's largest and most biodiverse remaining tropical forests. Photo by Paul Hilton/Greenpeace.

In countries across the region, higher sea levels and temperatures have led to the flooding of villages, coastal erosion, deteriorating crop yields and freshwater supplies. Affected communities have been forced to relocate in the Carteret Islands in PNG, Nuatamba and Nararo Islands in the Solomon Islands and Vanua Levu in Fiji. Internal migration is a very expensive undertaking for Pacific Island governments presiding over small economies and restricted budgets already over-stretched with a wide range of human and socioeconomic development goals. And the burden of adapting to climate change is only forecast to increase. In PNG alone, annual mean and extremely high daily temperatures, ocean acidification and sea levels are all predicted to rise this century, reports the Pacific Climate Change Science Program ([pdf](#)). Under a high emissions scenario, annual surface air temperatures could rise between 2.1-4.2 degrees Celsius and sea levels by 0.87 meters by 2090.



Aerial view of a coal mining operation in Palangkaraya, Central Kalimantan, Indonesia, illustrating the damage coal mining causes forests. Photo by Daniel Beltra/Greenpeace.

Future plans

The global pact reached at the COP21 United Nations Climate Change Conference held in Paris two years ago does not contain an explicit anti-fossil fuel stance. However, it does state “the need to

promote universal access to sustainable energy in developing countries through the enhanced deployment of renewable energy” as part of the overall ambition of ensuring the global average temperature increase does not reach or exceed 2 degrees Celsius above pre-industrial levels. In March 2016, PNG, the first nation to submit its national plan for climate action following ratification of the Paris climate agreement, stated “the main mitigation contribution for PNG would be in terms of an indicative replacement of fossil fueled electricity generation with renewable energy sources” with a target of employing “100 percent renewable energy by 2030, contingent on funding being made available.”

Mayur Resources, developer of the Lae energy park, is keen to promote its support of the country’s transition to low carbon energy. It claims that its plants, by combining coal with renewable energy sources and employing state of the art clean emissions technology, will only result in PNG using coal for 10-20 percent of its power generation, in contrast to 71 percent in Australia. The company also argues the facilities will not increase emissions and comply with the nation’s commitment to the Paris climate agreement. “The proposed [Enviro Energy Park] project will maintain the same level of carbon dioxide as the current level from the power generation sector, as nearly 40-50 percent of current power is being generated through diesel and heavy fuel oil. However, the EEP will bring in substantial environmental benefits to the ambient air quality [in Lae] by massively reducing the acid rain-causing gases, like oxides of sulfur, potentially 8-14 times less, and oxides of nitrogen, about 12 times reduced,” Mulder said.

However, while Mayur resources classes biomass as a carbon-reducing element of the project, many researchers question the tendency to classify biomass as a carbon-neutral energy source. London-based Chatham House reports that “while some instances of biomass energy use may result in lower lifecycle emissions than fossil fuels, in most circumstances, comparing technologies of similar ages, the use of woody biomass for energy will release higher levels of emissions than coal and considerably higher levels than gas.”



Rounded white stones line the Bairaman river in West Pomio district. Photo by Paul Hilton/Greenpeace.

Mayur Resources further says its planned coal mines will result in minimal land disturbance mainly due to “the scale of these operations being very small compared to most other mines globally.....being in the bottom 1 percent of the smallest mines.” But the University of Papua New Guinea’s Kaluwin claims the full potential impacts of the company’s planned operations are still to be thoroughly assessed. “The impacts on the environment, destruction of land, atmospheric pollution, water, livelihoods, health, housing, education, culture and traditions, economic benefit sharing and

most importantly governance, have not been properly evaluated for such a project to be implemented in PNG,” he said.

Businesses and the government also make an economic argument for coal. Mayur Resources believes that low electricity generation costs of about \$0.10 per kilowatt hour, about 35-40 percent lower than the average wholesale cost of power in the local area, will boost business and industrial growth in the eastern coastal city of Lae. The urban center is strategically located between a major cargo shipping port and the Highlands Highway, the only overland transport network into the country’s heavily populated interior. However, these urban-based plants will contribute little to increasing electricity coverage in rural and remote areas of the country where more than 80 percent of PNG’s population resides and energy deprivation is the greatest.



In this 2003 image, Melanie John, Lulu John, Aebi Sakas and Warume Sakas walk along a logging road in Western Province. The majority of PNG’s population continues to live in rural areas, which are nearly impossible to connect to a national electrical grid. Photo by Sandy Scheltema/Greenpeace.

Energy poverty is a major development challenge in the region. Only 20 percent of households across the Pacific Islands region, and 12 percent in PNG, have access to electricity, hindering human and socioeconomic development. An estimated 40 percent of PNG’s population live in hardship, only 63 percent are literate and only 40 percent have access to clean water. Geographical barriers, such as arduous mountain terrain, dense forest and scattered islands, separated by the sea, make a national power grid virtually impossible. In this context, energy experts recommend greater investment in off-grid and standalone power systems, especially those compatible with renewable technologies, to achieve a substantial improvement in rural and, therefore, national electrification. “Papua New Guinea, being a tropical island state, is a prime area for solar and hydro clean energy,” Dagia Aka emphasized.

Landowners told to engage consultant on oil spill issue

May 16, 2017, The National Main Stories

LANDOWNERS whose fisheries and coastlines have been affected by the oil spill in Fairfax Harbour need to get independent advice to see if they can sue Puma Energy for any damage caused to the environment, an expert says. The expert from the Conservation and Environment Protection Authority (CEPA), said the landowners need to engage a consultant to look into their case. “The query in relation to the possibility of local landowners suing the company is yes, however, it is well obvious that Puma is registered and has a valid environment permit which has obligation to fulfil the re-

spective permit conditions.” The spill at Fairfax Harbour, Port Moresby, occurred on April 25 from a leak from a subsea hose leading to Puma’s Kanudi terminal facility. The leak resulted in about 19 barrels of oil product being released into the harbour area, Puma said at the time. The National asked the CEPA expert yesterday, who asked not to be named, for his opinion and he said: “It is now onus on the local landowners to engage an independent environmental consultant to independently calculate and verify the environmental damage caused by Puma Energy and taken up to key stakeholders – CEPA, Department of Justice and the Department of Petroleum and Energy.



Landowners told to engage consultant on oil spill issue

“I understand that the CEPA has cooperated with Puma in working together to address this oil spill which were in relation to regulatory compliance under the Environment Act 2000 administratively. “Our Environment Act 2000, in my personal view, is not that effective in considering the case of the local landowners when it comes to the environmental damage. However, we have a clause under Environment Act 2000 that warrants the emergency clean-up should CEPA see that Puma is not doing enough to control the environmental damage.” Puma’s country manager, Jim Collings, told journalists last month that Puma wanted to “reassure people that this is a product that has been contained and cleaned up and we are managing that. We will continue to work to ensure that any work on the shore gets cleaned up”. Collings said Puma safely dealt with 100,000 cubic metres of oil each month – approximately 630,000 US barrels – and that the incident posed no threat to the local fishing industry and marine life in the area.

Cook Islands Earns More Than \$62,000 From Deep Sea Minerals Agreement

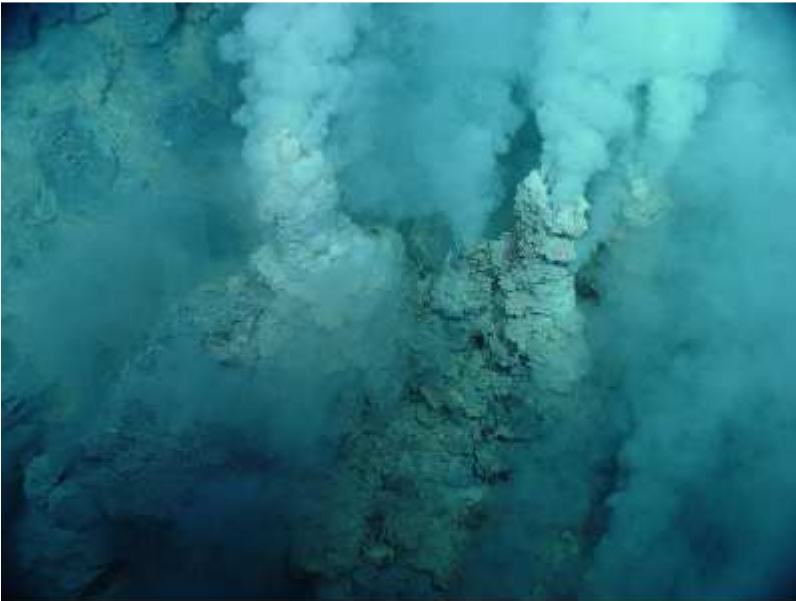
American company pays \$8,000/month to reserve first right to apply for exploration license

By Rashneel Kumar

RAROTONGA, Cook Islands (Cook Islands News, May 15, 2017) – Cook Islands have already earned more than \$90,000 [US\$62,000] from one deep sea minerals agreement signed in 2016 with an American company to give them reserved rights in certain deep seabed areas within the country’s Exclusive Economic Zone. In September last year, the Cook Islands led by Natural Resources and Minerals minister Mark Brown signed an agreement with Ocean Minerals (OML) to have the first option to explore and prospect for rare earth elements (REE) in certain high-value deep sea mineral areas. The draft agreement was approved by Cabinet before it was signed. In the agreement, the Houston-based company now has a five year right to one reserved block of 11,000km² in the

Cook Islands EEZ to one day explore for the elements that are now known to be found in the sediments of our deep ocean floor. No actual seabed licence has been issued to OML at this stage.

In return for this reserved right, the company agreed in the signed agreement, approved by Cabinet, to pay the Cook Islands the sum of US\$8000 (\$11,681.86) per month for five years or until they apply for an exploration licence over that reserve block from the Seabed Minerals Authority. Also under the contract, the company has to provide internships and training opportunities to suitable Cook Islanders and contribute to an awareness programme to inform the community about their project. According to the Seabed Minerals Authority Commissioner Paul Lynch, the company is now seeking to attract the large capital investment needed to apply for the exploration licence. Therefore, he said under the agreement, the Ocean Minerals has a “holding right” and while it gets organised for exploration, it is required to pay the agreed amount every month to the Cook Islands Government, via its commercial entity, the Cook Islands Investment Corporation.



**Photo: Pacific Ring of Fire 2004 Expedition.
NOAA Office of Ocean Exploration;
Dr. Bob Embley, NOAA PMEL, Chief Scientist**

“The time is ticking on them. They have got to apply for exploration licence within five years and have it all completed within seven years. So until then that US\$8000 keeps coming in,” Lynch said. “And if they are unable to make an application right to their maximum seven years, without even giving the licence away, we will get about a million dollars just under the existing agreement. “The Government is already receiving this seabed revenue even without granting any licence. So this is quite a positive progress for our seabed minerals sector. It is separate from the nodules resource and is focused on exploring for valuable REE in our deep sea sediments.” China controls about 90 per cent of global REE, which is used in many devices that people use every day such as computers, rechargeable batteries, cell phones, catalytic converters, magnets, fluorescent lighting and much more. It is also used in the security forces for night-vision goggles, precision-guided weapons, communications equipment, GPS equipment, batteries, and other defense electronics. REE are also key ingredients for making the very hard alloys used in armoured vehicles and projectiles that shatter upon impact.

China’s control over the REE through land mining in Mongolia has disadvantaged other nations who are looking at other avenues to extract these rare earth elements. Lynch said the country’s deep sea minerals resource may be a viable addition to the global REE market, from which the Cook Islands can benefit. He said the United States Department of Defence has granted almost a million

dollars to Ocean Minerals to investigate the recovery of the REE from other sources apart from China's resources. "We were able to initiate the proposal between the Government and Ocean Minerals during an overseas seabed minerals conference in 2015," Lynch said. "They visited and were referred to the relevant authorities in our country. Ultimately the draft agreement was approved by Cabinet after vetting by MFEM, Crown Law, Foreign Affairs and the Seabed Minerals Authority. "We were not even really looking at or set up then for sediments or REE. Our regulatory framework that finished in 2015 was really set up for the manganese nodules then. But a 2015 amendment to the 2009 Seabed Minerals Act granted a new power to the Minister to reserve Blocks for special national strategic purposes. And CIIC were the legal government entity to execute the agreement on our nation's behalf.

"Currently as a nation, we are focused on the exploration phase of our deep sea minerals sector for the next say 3-5 years. One of the reviews that will take place before any possible extraction could happen is that we are going to ensure that we get the benefit if any extraction might happen. Not just from the nodules but also of the sediments under the nodules for REE. "We have got to have the full suite of regulations in place so that nothing gets taken without us benefiting." Lynch said OMI chose the area based on Scripps' and SPC report done in the 1970-80s which showed an abundance of REE in a specific area in the Cook Islands waters. "They also realised there were few other areas of interest. So the Cook Islands Government said 'you can't have all of them but you have the first right for these other blocks. But if another applicant comes and wants that block for nodules, then you will have to decide where you will have your one reserve block'. "They will only occupy one block at any time until an exploration application is made under the SBM Act."

Lynch said Ocean Minerals was already teaming up with expert New Zealand companies to carry out a Resource Assessment to validate the earlier reports produced on REE in the Cook Islands EEZ. Cook Islander Thomas Whiddon, a young marine geologist, has been contracted to assist on that work in New Zealand. He said the company can then use that report to attract potential investors to carry out exploration and possibly extraction in the future. "We will only be able to make the decision on the extraction once they finish the exploration work. Then we can see whether there is anything economically worthwhile to sustainably harvest from our deep seabed. "And during OML's anticipated five year exploration programme, they have to take suitably qualified Cook Islanders on the vessels and also share the data with us so we can see the potential impacts of it to our seabed."

Lynch said usually in the minerals sector globally, in the exploration phase, the resource owner does not receive much revenue. But he said they would most likely earn some "real money", employment, training and benefits, when the extraction phase begins, which is expected in the next 8-10 years. He said the Cook Islands has a rigorous licencing process for seabed minerals. This includes a multi-stakeholder consultation process, and Environmental Impact Assessment process and report, among other things, before they would consider allowing companies to extract resources from the deep seabed mineral zones, north east of Aitutaki. "One economic challenge for the Cook Islands is, we don't have enough economic opportunities. We have a growing tourism sector, but we need to diversify our income sources.

"The reason our various government's have progressed seabed minerals is that this new sector can be an alternative revenue source because the tourism industry can be very fickle. "There is a big risk for any nation in putting all its economic interests into one basket. So for us, seabed minerals sector revenue is a possible addition to our national budget in the future, from our own resources. So we must manage this opportunity well as every opportunity carries its own risks and challenges. "So what we are doing now is setting up a possible viable industry here for the future. But at least even now we are already getting some significant national revenue from our seabed minerals sector, before even issuing any exploration licences."

Company confident PNG seabed mining project on track

A Canadian mining company says it is confident that a controversial seabed mine will be operational off Papua New Guinea in 2019, as planned.

Radio New Zealand, 15 May 2017



Mining for copper under the sea Photo: Nautilus Minerals

There have been ongoing concerns about what the impact the Solwara 1 project off the coast of New Ireland Province will have on the environment and local communities. Nautilus Minerals was granted an environmental permit in 2009 to develop the mine, but it is still yet to be built. Nautilus chief executive Michael Johnston said the company has conducted robust consultations with a range of groups about the impact of the mine, and he says these had been factored into their planning process. He said the company had run various hearings and workshops in New Ireland, Kokopo, Rabaul and Port Moresby and any issues that were raised at the meetings were recorded and, where appropriate, were attached as conditions to the company's licences. "I know NGOs around countries like Australia and New Zealand jump up and down about free and prior informed consent, but you actually have a system in PNG where it's actually obtained."

There had been concerns raised about the process mixing the water column and the potential for it to cause plumes, but Mr Johnston said that the mining process had been designed so that this wouldn't be an issue. "We designed our system taking that on board and have a system where we take the water up on to the vessel, separate the ore-bearing material. It then goes through a de-watering plant which is basically a series of screens, cyclones and eventually filters to remove the ore material and we filter it to 8 microns and then the filtered water is then returned in pipes." He said that the technology the company would use, was not new, and been used in the oil and gas industry for years. "Deep water is anything over about 2000-25000 m. The machines that we are deploying are basically a modification of oil and gas of an oil and gas trenching machine." The company is confident the project will be on track to start extracting ore in the first quarter of 2019, he said. "So that's the budgeted first ore date and we're tracking to that schedule at the moment so I don't see any reason why it won't achieve it."

The forgotten children of Lake Murray

BY DIANNE WAKETSI, Post-Courier, May 15, 2017

While many perceive that a good education is the key to a successful life, for the children of Lake Murray that is a myth. Boboa Station once had three schools that educated the young people of

Middle Fly, however, today the bare grassy plain is the only reminder of those schools. The people of Lake Murray in Western Province lack basic services after the closure of the PNGSDP in the area. Ward Member Jacob Kobas says that prior to the closure of the PNGSDP, Lake Murray was a flourishing community. “We had electricity, clean running water, all the schools were up and running, the villagers had a stable income and the hospital was fully equipped with medicine and staff,” said Kobas.

He added that today the people of Lake Murray have been left in the dark, slowly suffering from the lack of basic services that can only be accessed thousands of miles away in Kiunga. Provincial LLG Advisor Soy Soyaba says that while the provincial government has seen the plight of the people, funding has been a major concern. “The Provincial Government has a lot of projects waiting to be implemented however the release of funding from Port Moresby has been slow and this has affected the process,” said Soyaba. Soyaba assured the people of Lake Murray that their concerns of basic services were noted and that once the elections were over the people’s needs would be addressed.

World Bank to assist PNG Sovereign Wealth Fund

By ROSALYN ALBANIEL, Post-Courier, May 14, 2017

THE World Bank will be assisting the Bank of Papua New Guinea establish PNG’s Sovereign Wealth Fund Secretariat. This was announced last Friday by BPNG governor Loi Bakani during an update on the matter. “We got a visit from the World Bank and have got someone on the ground to help us set up that office. This is the administrative secretariat reporting to the board of the SWF,” Mr Bakani said. Mr Bakani said there had been some issues on the appointment of the board of directors for the fund but said this is being handled by accounting firm KPMG under the directions of the Department of Treasury. “As far as the secretariat is concerned, we hope to have someone very experienced on the ground to set up the office that will coordinate work here and we will set up the office once everything is in order,” he said.

On the issue of revenue flow into the fund, he said the main providers would be companies in the mining and petroleum sector including the LNG projects. In the case of the multi-billion kina PNG LNG project, he indicated that this was likely to happen round about 2021, 2022 onwards. “The national budget is framed around that time. This is when government expects the budget will also be balanced.” “This is when government expects the PNG LNG will start paying taxes.” “As it is, we have not got any foreign exchange from this project.” “Until and unless the accelerated depreciation ends, which is seven to eight years, is over since first export in 2014. “This is when we will see some taxes. It is still a long way away,” he said.

PNGEITI pleased with ExxonMobil

Post-Courier, May 14, 2017

The Papua New Guinea Extractive Industries Transparency Initiative (PNGEITI) National Secretariat has commended ExxonMobil (PNG) for the update on the PNG Liquefied Natural Gas Project (PNG LNG). ExxonMobil (PNG) is the operator of the US\$19 billion project, which also is the US energy firm, single biggest investment in the country. PNG EITI head of secretariat Lucas Alkan was responding to media reports in which Exxon had disclosed that it has made 300 shipments of LNG cargos to date. He said it was pleasing the company has been open and transparent so that the public can be kept informed. He said it has been three years since the first shipment left PNG shores on May 25, 2014. Operations last year produced 7.9 million tonnes of LNG – an increase of 14 per cent from the original design specification of 6.9 million tonnes per annum (mta).

Over the next 30 years, it is estimated that the project will produce more than 11 trillion cubic feet of LNG. The estimated value of each LNG shipment was said to be between US\$48 million (K151.4 million) and US\$ 50million (K157.7 million). “ExxonMobil is a member of the Multi Stakeholder Group (MSG), the body that oversees what we do as a country towards achieving EITI global best practice.” “It is pleasing to note that ExxonMobil (PNG) from time to time is giving updates on how many LNG cargoes are leaving our shores.” “I’ve seen that the Exxon team is media friendly, and we are grateful for that, particularly when PNG’s EITI candidate status will be validated early next year (2018) by EITI International. Meanwhile Mr Alkan said he is satisfied with the progress made to date in implementing the EITI concept in the country and acknowledge the strong commitment demonstrated by the MSG members in driving this initiative.

BCL Working Closely With ABG

Post Courier, May 12, 2017

Bougainville Copper Limited (BCL) has been engaged in planning and implementing agreed-upon activities in Bougainville since 2012, BCL chairman Rob Burns said this week. Mr Burns said in a statement this had been at the invitation of the Autonomous Bougainville Government and the nine landowner associations involved in discussions on the future of the Panguna resource. “BCL meets routinely with the ABG and the landowning associations to review these plans and agree on further activities,” he said. He reiterated his statement at the recent annual general meeting on April 27, outlining some of the progress regarding the Panguna project that had been achieved with the support of Panguna landowners and other stakeholders. Mr Burns said this in relation to an article in *Post-Courier* on May 3 in which a landowner group claimed that BCL wanted to get easy access to the Panguna mine. “BCL is now a predominately locally owned company with landowners at the core of its operations,” he said, adding that the Panguna project had the support of Prime Minister Peter O’Neill and Bougainville president John Momis. Mr Burns noted that one interest group from the Panguna area recently petitioned the ABG to cancel BCL’s exploration rights.

“This group purports to represent all Panguna landowners, and questions the ABG and national government support for BCL. “As noted by president Momis in his interview with Radio New Zealand last week, the group has a separate commitment to an Australian resource company, which is in pursuit of mineral rights at Panguna, of which BCL has been granted tenure.” Much of the public discourse in the media regarding resource development at Panguna must be viewed in terms of competing commercial interest in Panguna’s mineral rights. He said that differing views on the future of the Panguna project, especially from the customary landowners, should be respected. However, when those views do not reflect the broad support from landowners, these views are being driven by personal ambition at the expense of customary landowners and the economic security of Bougainville. “There is still much work to do to strengthen alignment between stakeholders on the range of issues affecting project progress. “BCL will continue to engage with the landowning groups at Panguna who have continuously provided support in finding a pathway through the many issues that confront us all.”

Nautilus completes US\$2 Million Private Placement

TORONTO, ONTARIO--(Marketwired - May 11, 2017) - Nautilus Minerals Inc. (the "Company" or "Nautilus") announces that it has closed its previously announced private placement pursuant to its financing notice dated April 19, 2017, delivered under the Company's subscription agreement with Mawarid Offshore Mining Ltd. and Metalloinvest Holding (Cyprus) Limited (together, the "Investors") dated August 21, 2016, as amended. At the closing, the Company issued an aggregate of 11,197,488 common shares to the Investors at an issue price of C\$0.239 per share for aggregate

proceeds to the Company of US\$2,000,000. The private placement was allocated equally between the two Investors. The private placement forms part of the up to US\$20 million financing approved by the Company's shareholders at the extraordinary general meeting of the Company held on October 26, 2016.

Solomons landowners discuss concerns on reopening gold mine

Radio New Zealand, 10 May 2017



The over-full tailings dam facility at the Gold Ridge Gold Mine on Guadalcanal in Solomon Islands in January 2015. Photo: copyright Dr Matthew Allen – ANU

Landowners on Guadalcanal in Solomon Islands have been consulted about the proposed reopening of the Gold Ridge gold mine. The mine was closed in 2014 after massive floods and its ownership was then transferred from the Australian owner St Barbara to a local land-owning company Guadalcanal Community Investments Ltd. Guadalcanal Community Investments Ltd is now working with Chinese-owned Australian property developer AXF Group which plans to have the mine operational by the end of 2018. Bringing the gold mine back to life is also a major policy objective of the government which says it wants to do it right. Members of landowning communities discussed a range of issues with government officials and company representatives relating to royalties, security, environmental impact, revenue sharing and the relocation of people. They were assured by both the government and the company that their concerns would be taken onboard and addressed to ensure a smooth reopening.

Partial operations start at Fiji Vatukoula Gold Mines

Dhanjay Deo, Fiji Village, 10 May 2017



The Mineral Resources Department has given the green light to the Vatukoula Gold Mines to start underground operations in some parts of the mine. Director Mineral Development, Dr. Rajjeli Taga says the areas that have been opened for operations have been identified as safe with its procedures in place. Meanwhile Taga says the full audit will take time as there are many issues to be addressed with the underground mining to ensure that work practices are up to the standard that are safe to work in. Underground operations at the Vatukoula Gold Mine were shut down last month because of safety reasons. An audit is being done after ground conditions had resulted in three incidents which include a fatality and two lost time injuries.

Nautilus Minerals announces financial results for Q1 2017

TORONTO, ONTARIO--(Marketwired - May 10, 2017) - Nautilus Minerals Inc. (the "Company" or "Nautilus") announces the release of its unaudited consolidated Financial Statements for the first quarter ended March 31, 2017, together with Management's Discussion and Analysis.

2017 Significant Events to date

- Received US\$4 million through the US\$20 million bridge financing facility provided by the Company's two largest shareholders.
- Announced the arrival of the Seafloor Production Tools (SPTs) in PNG.
- Announced the arrival of the LARS and ancillary equipment to the Mawei shipyard in China.
- US\$19.5 million in cash and cash equivalents as at March 31, 2017.

Mike Johnston, Nautilus' CEO, commented, "It was very pleasing to see the SPTs arrive in PNG where they will undergo submerged trials in the coming months. We now remain focused on the build of the Production Support Vessel and the integration of the rest of the equipment on it. Subject to further financing, we remain on schedule to develop the world's first commercial high grade seafloor copper-gold mine at the Solwara 1 project site in Q1 2019."

Momis pledges to put landowner interests first

May 10, 2017, The National Business

THE Autonomous Bougainville Government promises to push the interests of the landowners in any resource development exercise it partakes in on Bougainville. President Dr John Momis said this to landowners of Isina, Jaba and Tore where the government had lifted the moratorium on mining exploration. "If we are to re-establish mining operations, it must be a cooperative approach. Consultation must occur and your rights must be at the forefront of all considerations," Momis said. He called on the landowner groups to play an active role in the process and to use the negotiation and consultation mechanisms available to them. "If you have concerns, then they must be addressed peacefully and lawfully, lest Bougainville makes the same mistakes of the past," Momis said. "I believe in you and I have faith that all Bougainvilleans want to move forward where sustainable economic development helps and allows us to achieve our self-determination goals."

The moratorium does not cover the Panguna mine. But the ABG and the Government had committed to working with the Bougainville Copper Limited to restart mining operations after Bougainville gains a majority stake in the now defunct mine. "I will be watching this process very closely to ensure that BCL honours their obligations, adhere to our laws and not repeat the mistakes of the past," Momis said. Momis in his discussions with the BCL received a commitment that the company intends to work with landowner groups to ensure their wants were addressed. "To achieve this, the Prime Minister and I agreed to establish a steering committee to guide future operations at

Panguna,” Momis said. “This committee will have an independent chair and include representatives from landowner groups, governments, regulatory agencies, NGOs and BCL.”

Bougainville aims to develop mining projects

May 10, 2017, The National Business

THE Autonomous Bougainville Government has taken a huge step in its drive to develop the mining industry when it accepts applications for mining exploration licenses on Bougainville. This follows the partial lifting of the mining and exploration moratorium on Bougainville. President Dr John Momis said the event marked the resetting of relations between the people of Bougainville and the mining sector. “As we move towards the Independence Referendum in 2019, and continue our journey towards full autonomy and reconciliation, it is timely to reflect on the work that has been done and the progress that has been made,” Momis said. He said the agreement must work towards achieving financial self-reliance.

“What that means is that we must find ways to generate revenue and income so that we can meet the needs of all Bougainvilleans in the future,” Momis said. He warned that the announcement in April 2017 was not about revisiting the past. “It is not about going back to doing things the old way which caused conflict and concern,” he said. “It is about putting in place a cautious and sustainable process that allows Bougainville to embark on a new journey of partnership – a journey where landowners, the Government and mining and exploration companies work together to ensure that the interests of Bougainville are always at the forefront of any decisions on whether to embark upon new mining projects, or rehabilitate existing mining sites,” Momis said.

Resource-Hungry India to Invest \$1.5 Billion in Seabed Mining

India is set to step up efforts to harness mineral wealth from the seabed of the Indian Ocean with the government soon to launch a \$1.5-billion deep ocean mission. The proposed mission aims to rein in energy, food, medicine and other natural resources that surround the Indian peninsula.

ARUN SANKAR, Sputnik, 9 May 2017

New Delhi (Sputnik) — The major components of the project have been said to be deep ocean energy, desalination plant along the Chennai coast, deep sea science and fisheries, minerals and polymetallic nodules. India needs vital minerals such as copper, cobalt, nickel and manganese for future generation manufacturing including the production of hybrid cars, and smartphones. Currently, China has a monopoly over such minerals. Indian scientists estimate 380 million tons of polymetallic nodules in the retained Indian Pioneer area. India's National Institute of Ocean Technology has been working on a mining concept where a crawler-based mining machine collects, crushes and pumps nodules to the mother ship using a positive displacement pump through a flexible riser system.

"A deep-sea research center is coming up. We are going to launch an inter-disciplinary and inter-ministerial Deep Ocean Mission. The Ministry of Earth Sciences is preparing a proposal that will be put before the Cabinet for approval," Madhavan Nair Rajeevan, Secretary of India's Ministry of Earth Sciences, said. Last year, India signed a 15-year contract with the International Seabed Authority (ISA) for exploration of Poly-Metallic Sulphides in the Indian Ocean. It is expected that basic exploration activities would require no more than \$100 million. India has a 7,500-km coastline and 2.4 million square kilometers of Exclusive Economic Zone.

Bishop Bernard Unabali Condemns Bougainville Mining Rush

Bernard Unabali, via PNG Mine Watch 9 May 2017

Today I was invited to attend the ABG "launching of [the] mining Industry", [which heralds the] formal opening up for exploration licenses, and application, on this formerly "closed up" issue. So now Isina in Kongara II Jaba tailing area, and Mt Tore in Tinputz can be formerly accepted in their application for exploration licenses.

Reasons [highlighted by the ABG]:

- Progress
- Independence
- Church support
- Monetary self-reliance
- Spin off [benefits]
- New people based mining; and
- A system fed up with Panguna alone

Only [as] a footnote [was] responsibility for environment damages mentioned. No one starkly mentioned that in reality Luluai, Eorun, Rawa, Wakunai, Aita, Raruma, and many other rivers will be gone especially if [an] incapacitated ABG and Mining Department pretend to safeguard us from highly experienced foreign evaders of truth, and of whom some are just serial environmental rapists. We must accept that intending the good [of mining], we have also celebrated our future social, physical and even spiritual graveyard !! The church fought [against] a unjust, wrong, foreigner, CRA, in the past. I hope sadly the church will not [have to now] fight the wrong guys in our own people evading law and truth for the sake of money, with pretentious leaders of 'landowner groups', if [these] licenses evolve into actual mining [leases] later?

Frieda expected to last 18yrs

May 8, 2017, The National Business

THE initial mine life of the Frieda River project in West Sepik is estimated to be around 18 years, according to PanAust Limited. The company noted this in a recent announcement following a feasibility study for the copper-gold project carried out last year. According to PanAust, the initial mine life would have 714 million tonnes (Mt) of mill feed that includes 686 million tonnes of ore reserves. The pre-production capital cost is estimated at US\$3.6 billion (K11.8 billion). The project configuration, as described in supporting documentation submitted with application for a special mining lease and in the environmental impact statement, is largely unchanged. However, the economic value and risk profile for the project has been materially improved as a result of the updated mineral resource estimate, revised open-pit designs and optimised mine production schedule.

The pre-production capital cost will equate to a pre-production capital intensity of US\$17,000 (K55,760) /t of copper equivalent in concentrate production. As per report from the feasibility study, there is an increase in ore reserves in the project. Data and technical analysis from last year's geological, geotechnical and metallurgical field programme for Ekwai and Koki deposits had been incorporated into a feasibility study addendum. It was not available at the time of the feasibility study completion in May 2016 and subsequent lodgment of special mining lease application for the project last year. The addendum confirmed the feasibility of an initial project based on the HITEK (Horse-Ivaal-Trukai-Ekwai-Koki) copper-gold porphyry deposits and comprising a large-scale, open-pit mining operation that supplies a conventional process plant with a nominal capacity of 40 million tonnes per annum (Mtpa). The Frieda River project in West Sepik is said to represent one of the largest undeveloped copper-gold deposits in the world.

Report: Frieda ore reserves increasing

May 5, 2017 The National Business

A FEASIBILITY study shows an increase in ore reserves in the Frieda River project in West Sepik, according to PanAust. PanAust yesterday released an update on the feasibility study for the Frieda River copper-gold project carried out last year. Data and technical analysis from last year's geological, geotechnical and metallurgical field programme for Ekwai and Koki deposits had been incorporated into a feasibility study addendum. It was not available at the time of the feasibility study completion in May 2016 and subsequent lodgment of special mining lease application for the project last year. The main outcomes reported in the addendum included:

- Conversion of approximately 120 million tonnes (mt) of mineral resource from inferred to indicated category in Ekwai and Koki deposits;
- the global Horse-Ivaal-Trukai-Ekwai-Koki (HITEK) measured and indicated mineral resource increased from 1846 Mt at 0.44 per cent copper to 1860 Mt at 0.47 per cent copper equating to an 8 per cent increase in copper metal;
- ore reserves increased by 13 per cent to 686 Mt at 0.5 per cent copper and 0.28g/t gold as a result of the conversion of inferred to indicated mineral resources at Ekwai and Koki and improvements to the open-pit design incorporating interim stage designs and water management structures;
- project post-tax net present value increased by 38 per cent to US\$1130 million (K70.87 million) and the project risk profile reduced through a reduction of inferred mineral resource in the mill feed and independent reviews confirming feasibility of the integrated storage facility; and,
- The estimated development capital expenditure is unchanged from the feasibility study.

EITI: Accountability of revenue is vital, says official

May 5, 2017 The National Business

ACCOUNTABILITY and translation of revenues from the extractive industry to achieving PNG's economic growth are critical, according to an official. Loia Vaira (pictured), acting first assistant secretary Foreign Aid Division of the Department of National Planning and Monitoring, was addressing officials during the signing of meeting minutes of a detailed design plan for technical cooperation between the PNG Extractive Industries Transparency Initiative Secretariat and the Japan International Cooperation Agency on Tuesday. Vaira said this technical cooperation would assist the PNG EITI build and enhance its capacity. "This is clearly outlined in the (strategy of) Responsible Sustained Development," she said.

"Untimely, we should be building on an economy that provides the elements of wellbeing of our citizen as a manner that is self-perpetuating. "PNG's medium-term development plan identifies key priority sectors. "And importantly it shows the need to pay more attention on the responsible management and use of our natural resources also seen as our strategic assets. "Given the impact of the extractive sector on Papua New Guinea's economy, it is important that the accountability and sustainability of revenues from the extractive industry and the translation of these revenues to achieving Papua New Guinea's development agenda and overall economic is critical." Vaira said Papua New Guinea's global commitment under the EITI was an important step forward and valuable tool for oversight and reform.

Robot explorers glean marine data for Cook Islands

Dateline Pacific, Radio New Zealand, 4 May 2017

Darting luminous dots, waving fronds and crawling sea creatures loom into sharp focus. Scientists are huddled around a big screen at NIWA's offices in Wellington, New Zealand, watching as a remotely operated vehicle or ROV, glides and hovers over fragile corals, honing in on life in the ocean depths just north of the Cook Islands. The scientific agency is working with scientists on the US research ship Okeanos Explorer which is using robots to explore unknown parts of the Pacific. Scientists from around the world are also tuning in and today they include several from Russia, Japan and Canada.



NIWA scientists in Wellington tune into a live feed from the ocean floor north of the Cook Islands as part of an exploratory mission by the NOAA ship Okeanos Explorer, May 2017 Photo: RNZI/Sally Round

NIWA principal scientist Malcolm Clark said Wednesday's dive, 260 kilometres north of the Cook Islands, revealed dense forests of coral. He said the exploration was valuable for future management of the Cook Island's marine park, Marae Moana. "Getting information like this enables us to put the biodiversity in a much more regional context, to find out what is unique, what's quite common, where boundaries occur, where species can't cross from one area to another." The scientists were able to direct the team on board the Okeanos Explorer to collect samples using the robotic claw of one of the remotely operated vehicles.



A manganese-crust rock sample being grabbed from the Te Tukunga o Fakahotu dive site, just north of the Manihiki Plateau, near the Cook Islands. Photo: NOAA Office of Ocean Exploration and Research, Mountains in the Deep: Exploring the Central Pacific Basin.

Dr Clark said the data and samples would be sent back to the islands' authorities and would help with sustainability around fishing and seabed mining. "The sort of information we're collecting with these dives gives us a good indication of what is down there at the depths they might be interested in but it gives us a good idea of what the wider environmental impacts could be of any human disturbance, any mining activity on the deep sea floor," said Dr Clark.



One of the Remote Operated Vehicles (ROV) exploring deep seas of the Pacific Ocean during the NOAA ship Okeanos Explorer's 2017 mission Photo: NOAA Office of Ocean Exploration and Research, Mountains in the Deep: Exploring the Central Pacific Basin.

Dr Clark said the scientists were amazed at the dense coral forests near the Cooks compared to some of the relatively barren areas they'd seen on other dives. He said it was the first time NIWA had been involved in such exploration right from the initial proposal, through to the dive planning, decisions on what to collect and joint supervision of the dive in real time. "It is amazing sitting at your desk, asking a ship 4000 miles north of New Zealand off the Cook Islands to pick up a rock, or pick up a coral or a sponge," he said. The Okeanos Explorer is on its way north to its next dive site near Jarvis Island



Del Bohnenstiehl (L) and Kasey Cantwell (R) talk to scientists in Wellington during a Pacific mission of the NOAA ship Okeanos Explorer Photo: RNZI/Sally Round

Bougainville Copper moving to reopen controversial Panguna mine with Government backing Eric Tlozek, ABC News, 4 May 2017



Reopening the Panguna mine could give the Bougainville Government a much-desired source of revenue claims the ABG. (AAP Image: Ilya Gridneff, file)

The company which used to the run the controversial Panguna copper mine on the island of Bougainville is now trying to reopen it with the support of the island's Government. It has been almost three decades since Panguna was abandoned, after anger about the mine led to the outbreak of an armed insurgency known as the "Bougainville crisis". Now the Bougainville Government believes it needs the mine to reopen, so the region can have a source of revenue that could enable it to become independent from Papua New Guinea. The bid by the Bougainville Copper Limited (BCL) to reopen its Panguna mine is stronger than one might expect, given the mine led to an armed insurgency and its abandonment left central Bougainville with many environmental problems. But this time it will be quite different and the landowners will be brought along on the journey. BCL secretary Mark Hitchcock said restarting the mine would allow the company to address some of the environmental and social problems it left behind. "We did have to leave in a hurry and things were not closed down the way that a normal mine would close," Mr Hitchcock said.



The controversial Panguna mine was one of the richest copper mines in the world. (ABC News, file photo)

"When we go back, we'll be conducting our baseline studies to see what the situation is and we will, as the mine progresses, progressively work on some of those environmental issues. "But with the people, the mine will only work if we involve them all the way along." BCL was owned by Rio Tinto, but the mining giant gave its shareholding to the PNG Government and to the Autonomous Bougainville Government, the entity created as part of the Bougainville Peace Agreement to end the crisis. The PNG Government said it would then give its shareholding to unspecified landowners in Bougainville, creating uncertainty about who the company must deal with and leaving the Bougainville Government without a controlling stake. Mr Hitchcock said that has created another problem to be resolved. "The ABG and the landowners are a little bit concerned about who the actual owners are, after Prime Minister O'Neill said that he was going to gift them to the people of Bougainville and the landowner," he said. "So that's one of the issues we need to sort out. "

The PNG and Bougainville Governments have just agreed to create a Joint Steering Committee to resolve this and other issues. BCL executive chairman Rob Burns said that was a major step forward. "So we've got commitment in that respect that all parties are going to work together and it's terrific news for BCL," Mr Burns said. BCL was stripped of its mining tenements and left with just an exploration licence, but it still has all the resource data for the site. Other companies have expressed an interest in mining Panguna, but the Bougainville Government is giving preference to BCL because it owns part of the company. Raymond Masono, Bougainville's Deputy President and Mining Minister, said "BCL is not longer the devil that we know". "We actually own this devil as a major shareholder in the company," he said. "Also, BCL under the Bougainville Mining Act has the first right of refusal to Panguna."

BCL return expected to face opposition

The main reason the Autonomous Bougainville Government is supporting a resumption of mining is revenue. There will be a referendum in 2019 on whether the region should become fully independent of Papua New Guinea, and the Bougainville Government believes a mine is the best way to guarantee income for a new country. "We believe that Panguna can bankroll Bougainville's autonomy and independence if the people so decide in the 2019 referendum," Mr Masono said.

The Bougainville Government, headed by President John Momis, believes most landowners support reopening the mine. The Bougainville Government says most landowners support the resumption of mining, but other residents may be less convinced. A United Nations Development Program report in 2014 found there was no evidence of majority support for reopening the mine amongst the general population. There are also some organised groups who oppose BCL's return. Mr Burns said the company was aware of "active detractors". "We believe that they're a very minor group and the most vocal of that group have competing interests in our Panguna mineral rights and they aren't truly representative of landowners," he said. The push to reopen Panguna is part of a broader move by the Bougainville Government to lift its moratorium on mining in general. BCL's attempt will surely be watched by companies and investors to see how well the damage of the Bougainville crisis has healed.

Apple's Commitment to a No-Mining Future Makes Experimental Seabed Mining Unnecessary

Via PNG Mine Watch, 3 May 2017

Scientists and civil society organisations from around the world welcome Apple's 2017 Environment Responsibility Report announcing the communication technology giant's goal to "stop mining the earth altogether"[1]. They call on other companies to match this commitment. Apple's goal is at odds with the excitement generated in some circles over proposals to mine the deep sea, and in par-

ticular by the world's first deep sea mine (DSM) to be granted an operating licence in Papua New Guinea[2]. The announcement by Apple recognises the strong groundswell building for a circular economy that has eco-design, re-use, repairing, and recycling at its core. This will require other companies to also develop innovative business models and in particular mining companies to move beyond the current crude approach to sourcing minerals.

Professor Richard Steiner of Oasis Earth stated: “One of the default arguments of DSM proponents is that the world economy will need the Rare Earth Elements and other minerals from the deep ocean for a growing demand for communications technologies. Apple’s announcement shows this is will not be the case. The days of digging holes for raw materials, using them once or twice, discarding them into landfills, and then digging more holes for more raw materials to waste – are clearly numbered!”



Christina Tony, from the Bismarck Ramu Group in Papua New Guinea said: “Our coastal communities in the Bismarck Sea are subject to the world’s first deep sea mining experiment – driven by Nautilus Inc. and investors such as Anglo American. Why are these companies happy to sacrifice our people’s health, livelihoods, culture, and marine environment. This primitive and violent approach to mining belongs with the dinosaurs. Apple is showing us a sophisticated vision of a sustainable future.” Dr. Helen Rosenbaum, Deep Sea Mining campaign stated: “Deep Sea Mining is risky business as both the environmental impacts and the returns are complete unknowns. Nautilus’ Annual Information Form, lodged with Canadian securities, emphasizes the experimental nature of the Solwara 1 project.

In addition, report after report[3] demonstrates the world’s oceans are already on the brink of peril. With our Pacific partners we call for a complete ban on Deep Sea Mining and for mining companies and electronics manufacturers to instead turn their mind to developing closed loop economies.” Dr. Catherine Coumans of MiningWatch Canada says: “Some mining for virgin minerals on land may still be required in the short term to meet demand not satisfied by recycling, urban mining and reducing consumption[4]. But these alternatives provide win-win solutions for society, the environment and the economy. The right choice is really a “no-brainer” and we welcome Apple’s foresight in leading the way. There is absolutely no need for deep sea mining [5].”

NOTES

[1] [No Mining Required](#); [No more mining says Apple](#); and [Apple will stop relying on mining for minerals ‘one day’](#).

[2] See reports: Out of our Depth: Mining the Ocean Floor in Papua New Guinea (November 2011) <http://www.deepseaminingoutofourdepth.org/wp-content/uploads/Out-Of-Our-Depth-low-res.pdf> ; Physical Oceanographic Assessment of the Nautilus Environmental Impact Statement for the Solwara 1 Project – An Independent Review (November 2012) <http://www.deepseaminingoutofourdepth.org/wp-content/uploads/EIS-Review-FINAL-low-res.pdf> ; Accountability Zero: A Critique of Nautilus Minerals Environmental and Social Benchmarking

Analysis of the Solwara 1 project (September 2015)

http://www.deepseaminingoutofourdepth.org/wp-content/uploads/accountabilityZERO_web.pdf

[3] Reports include: World Wildlife Fund (WWF) *Reviving the Ocean Economy* (2015) ; *The Living Planet* (2016); International Union for Conservation of Nature (IUCN) *State of the Ocean* (2013) ; *Explaining Ocean Warming* (2016); and the *United Nation's World Ocean Assessment 2016* which is a global inventory of the state of the marine environment and problems threatening to degrade the oceans. Recent research from the [MIDAS consortium](#) indicates a concrete risk that deep sea mining would lead to serious irreversible harm.

[4] For example, California based [Blue Oak Resources](#) estimates that every year mining companies spend roughly \$12 billion for virgin ore deposits. While tons of cell phones and other electronics are thrown out every year, each ton contains 70 times the amount of gold and silver found in virgin ore. For copper the number is even higher, with the equivalent of roughly one-third of global mining production thrown out in e-waste globally every year; [‘Urban mining’: UBC engineers say e-waste richer than ore pulled from the ground](#); [Can ‘urban mining’ solve the world’s e-waste problem?](#)

[5] For example, http://www.savethehighseas.org/publicdocs/DSM-RE-Resource-Report_UTS_July2016.pdf

Momis: Bougainville cannot be held back by one group

Radio New Zealand, 3 May 2017

The government in the autonomous Papua New Guinea region of Bougainville says it will consider a petition from a landowning group opposed to Bougainville Copper Ltd returning to the long closed Panguna mine. The Osikiang Special Mining Lease landowners handed a petition with about 500 signatures to President John Momis’s office last Friday. They said, as the owners of the site of Panguna, they would never allow BCL to return, because the company had not done anything about the destruction it had caused. Mr Momis said they would consider the petition but one group cannot hold up Bougainville’s economic development.

“Well they keep changing their position. One time they want the mine to go ahead and another time they – but we will accept their petition and then see it in the totality of things because, you know, we can’t be held back by just one group of people, although they are the owners of the mine site currently.” The Osikiang Landowners have a separate commitment with an Australian mining conglomerate, RTG, to develop Panguna. Bougainville Copper Ltd, or BCL, is now controlled by the Bougainville and Papua New Guinea governments, after its multi national owner worked [sic] away, handing its shares to the two governments. President Momis has said whether Panguna ever re-opens is up in the air, but his government has now opened up mining explorations in other parts of Bougainville

Police condemn activist’s report

May 3, 2017 The National

POLICE have called anti-deep-sea mining campaigner Helen Rosenbaum’s attack on Nautilus Minerals’ Solwara 1 project as irresponsible and an attempt to incite violence. Speaking on Radio New Zealand this week, New Zealand-based Rosenbaum, of Deep Sea Mining Campaign, said the people of New Ireland and Duke of York Islands were prepared to take up arms if the seabed mining project went ahead. Canadian company Nautilus Minerals was given an environmental permit by the Papua New Guinea government in 2009 to develop the Solwara 1 project but work is still yet to begin. Rosenbaum said people in New Ireland and the Duke of York Islands were feeling so desperate. “They know they can get access to explosives, it’s incredibly easy to get access to arms in a

country like Papua New Guinea through the police, through the army,” she said.

“Local people are feeling so desperate they are saying that they would even take up arms against the project. Many of them work at mining companies, or have worked at mining companies in the past. “They have access to explosives and they know it’s incredibly easy and it’s only a matter of money to get arms in a country like PNG through the police or the army. “They have the experience of Bougainville, many of them worked at the Bougainville mine prior to the civil war in Bougainville what was caused by impacts of the civil war – for them making this threat is no idle threat. “Many people in the Duke of York Islands and the New Ireland have married into Bougainville. “They understand what it means to have conflict and they are not saying this loosely.”

Acting executive officer to Police Commissioner Chief Superintendent Dominic Kakas said in a statement that while the efforts of activists such as Rosenbaum are appreciated, grandstanding and making wild and reckless allegations do not help her cause. “In fact it does more damage to her cause and to the credibility of the country, the Royal Papua New Guinea Constabulary and the PNG Defence Force,” he said. He said despite what Rosenbaum thinks, it is not “incredibly easy” to access arms in PNG either through the police or the Defence Force. And instead of taking up arms, people in PNG are prepared to talk things over rather than resorting to violence. “So instead of making such wild and unfounded allegations and inciting violence, Rosenbaum should promote her cause more responsibly.”

Revenue project needs funding: EITI

May 3, 2017 The National Business

By JACKLYN SIRIAS

THE PNG Extractive Industry Transparency Initiative has called for the cooperation of donors and stakeholders in the implementation of the resource-related revenue management project. PNG EITI national secretariat head Lucas Alkan said during a signing ceremony yesterday the project conducted by the Japanese International Cooperation Agency would provide mechanisms to improve capacity building especially for extractive industries in terms of revenue management. He said Jica’s initiative aimed at supporting the EITI reporting process through technical cooperation stemmed from the recommendations of the 2013 and 2014 reports they had released. “The initial discussion came on board when we released the 2013 report last year. The second report was for 2014 which we released about a month ago,” Alkan said. “In the reports, they have a lot of information on the gaps, challenges and recommendations we needed for work to improve.” He said Jica was focusing on strengthening reporting by making sure they collected quality information and report in the correct EITI format. He said donors needed to be harmonised to do what they were best at and have comparative advantage in the particular areas they can deliver effectively.

EITI: Extractive industry still lacks data

BY MELISHA YAFOI, Post-Courier, May 3, 2017

THERE is limited employment data for people working in the extractive industries in Papua New Guinea. This is according to the Papua New Guinea Extractive Industries Transparency Initiative (PNG EITI) Report 2014 released in February 2017. The report identified there is lack of data to showing how many nationals and expatriates are being employed either on full time or on a part time basis. The report points out that a survey done by the Bank of Papua New Guinea (BPNG) that employment in the extractive sector went up to by 131.8 basis points since 2002. This was indicative of strong growth in employment in that sector compared with others, however, it did not give a comparison of actual employment numbers.

“Estimates of actual numbers employed vary considerably,” the report says. The report based its statistics using various findings from organisations such as the Central Bank, UNDP and Census. In those separate findings, BPNG reported also that the extractive industries contributed around seven percent of total employment which was also supported by UNDP suggesting that the sector provides no more than 10 percent of the formal employment in the mining and quarrying sector at 9,011 which represents 2.5 percent of formal employment. The report then compared this with another recent study which pointed out direct employment in the sector at 14,000 and indirect at 45,800 including employment of locally owned businesses.

“The extractive industries have been important to the growth of formal sector employment over the last decade with the establishment of Ramu Nickel mine, LNG and mining activities on Simberi Island in New Ireland.” However, mining employment in has since fallen below previous levels of employment in the industry,” the report outlined. The PNE EITI report boldly pointed out that even though large mines employ over 2000 staff, most of them are being employed during the construction phase but numbers is expected to decrease dramatically when production begins. “As a result up to 80,000 small scale miners work in the informal alluvial sector.”

Sex assault survivors silenced at Barrick shareholders meeting

NOW News, May 2, 2017



Evelyn Guape (left) and Joycelyn Mandi are among more than 100 women victims of sexual violence at Toronto-based Barrick Gold's mine in Papua New Guinea. (Allan Lissner/MISN)

As allegations of sexual violence continue to shadow Toronto-based Barrick Gold's mining operations in Papua New Guinea, two women among those victimized by the violence were in Toronto to address shareholders at the company's annual general meeting last week. But Evelyn Guape and Joycelyn Mandi were never given the opportunity to speak. Barrick senior vice-president of communications, Andy Lloyd, is chalking that up to a “misunderstanding”. Namely, a problem with papers filed by activists to allow the women to speak as proxies at the AGM. The Mining Injustice Solidarity Network says the necessary paperwork was filed on time. After some confusion in which security attempted to move the women to the back of the meeting room, a representative from MiningWatch Canada ended up reading Guape's and Mandi's statements to Barrick shareholders.

The women are among 119 women and girls who accepted compensation from Barrick (some \$10,000 each) as part of a 2012 redress package brokered by the Harvard and New York University legal clinics, MiningWatch Canada, Amnesty International, ProtestBarrick and Human Rights Watch. That, following allegations of widespread rape by security and police at Barrick's Porgera mine. Eleven other women who refused the compensation package and threatened to sue the company received out-of-court settlements. Since then, women who accepted the original package say they have yet to receive any money from the company or, in some cases, even to be contacted. They've organized to demand fairer treatment and for Barrick to release them from a waiver they signed as a condition of their compensation.

Newcrest begins exploration on Tatau island

The National, May 2, 2017

THE Newcrest Mining Limited is conducting exploration on Tatau Island in New Ireland for copper and gold deposits. In its recently released quarterly report, it said exploration had begun on Tatau Island as part of Newcrest's option and farm-in agreement with St Barbara Limited to look for copper-gold porphyry-related deposits. Tatau is an island in the Tabar Group to the east of New Ireland and about a mile south of Simberi Island. According to Newcrest, target generation exploration is presently being conducted over several priority porphyry target areas to define future drill targets. In a recent interview, New Ireland Provincial Government Mining, Lands and Commerce director Brian Hosea told The National that the provincial government was in consultation with Mineral Resources Authority regarding the project.

"We are in consultation with MRA. That is still on the drawing board," Hosea said. "We need to have things in place like briefing the Governor (to see) where we want to go. We also need to have all agreements signed – landowner agreements, memorandum of agreements, integrated benefit packages to do with the project." The province has Newcrest's Lihir gold mining project and St Barbara's Simberi operation. Nautilus Minerals is also developing the first seabed mining project in the province. Hosea had previously said NIPG had been working closely with local landowners as the province will now play host to three mining projects. He said the provincial government is aware of the importance of local participation in the mining projects.

Anti-deep sea mining campaigner comments irresponsible says PNG Police

Dominic D. Kakas, Chief Superintendent Director Media Unit via PNG Mine Watch 2 May 2017



ROYAL PAPUA NEW GUINEA CONSTABULARY

Media Statement

Tuesday 05th May 2017

Anti-deep sea mining campaigner Helen Rosenbaum's statement this week on Radio New Zealand that locals in Papua New Guinea were prepared to take up arms if a seabed mining project in PNG goes ahead is not only irresponsible but can be taken as an attempt to incite violence. Ms Rosenbaum from the Deep Sea Mining Campaign was referring to Canadian company Nautilus Minerals which was given an Environmental Permit by the PNG government in 2009, to develop the Solwara 1 Project. Ms Rosenbaum said locals in New Ireland Province and the Duke of York Islands were feeling so desperate that they would consider taking up arms against the project.

She was quoted as saying, "They know they can get access to explosives, it's incredibly easy to get access to arms in a country like Papua New Guinea through the police, through the army". Whilst the efforts of activists such as Ms Rosenbaum are appreciated, grandstanding and making wild and reckless allegations do not help her cause. In fact it does more damage to her cause and also to the credibility of the country, the Royal Papua New Guinea Constabulary and the PNG Defence Force. Despite what Ms Rosenbaum thinks, it is not "incredibly easy" to access arms in PNG either through the police or the Defence Force. And instead of taking up arms people in PNG are prepared to talk things over rather than resorting to violence. So instead of making such wild and unfounded allegations and inciting violence Ms Rosenbaum should promote her cause more responsibly.

Temotu member questions mining as Solomons development option

Radio New Zealand, 1 May 2017



Dump truck at a bauxite quarry. Photo: Copyright: babar760 / 123RF Stock Photo

There is strong opposition in the local community to the activities of Australian company Pacific Bauxite Ltd which last year won a license to prospect for bauxite at Nende. However the Temotu provincial executive under new premier David Maina recently awarded the company a business license, promising it would foster economic development. An assembly backbencher, Simon Barclay, said the new executive lacked a policy to properly manage mining. "And you know, when you're talking about such development, mining is one of the developments that I think would be the last thing to think about here. The landmass here is too small to do such operations," said Simon Barclay. Mr Barclay said adequate community consultation was not conducted before Pacific Bauxite Ltd was awarded the license.

Historic decision as Bougainville lifts mining moratorium

Anthony Kaybing, PNG Attitude, 1 May 2017



THE Autonomous Bougainville Government has made an historic decision by lifting the mining and exploration moratorium in the province. ABG president John Momis made the announcement on Friday after the Bougainville Executive Council carefully considered the implications of developing the capacity of the government to manage exploration applications and the needs of the people of Bougainville. The decision allows for applications in the areas of Tore, Isina and Jaba, places which have large ore deposits, and does not include Panguna. Since the development of the Panguna mine more than 40 years ago the rest of Bougainville was been covered by a moratorium on further exploration. In 2006 the ABG requested the PNG government to provide it with powers over mining, oil and gas, with an agreement being signed in 2008. It took another seven years for the process to conclude and the ABG enacted its own Mining Act in 2015 paving the way for it to regulate its own mining sector. “The Bougainville Constitution and the Bougainville Mining Act 2015 clearly define the people as the owners of all the minerals found on all the land in Bougainville,” President Momis said.

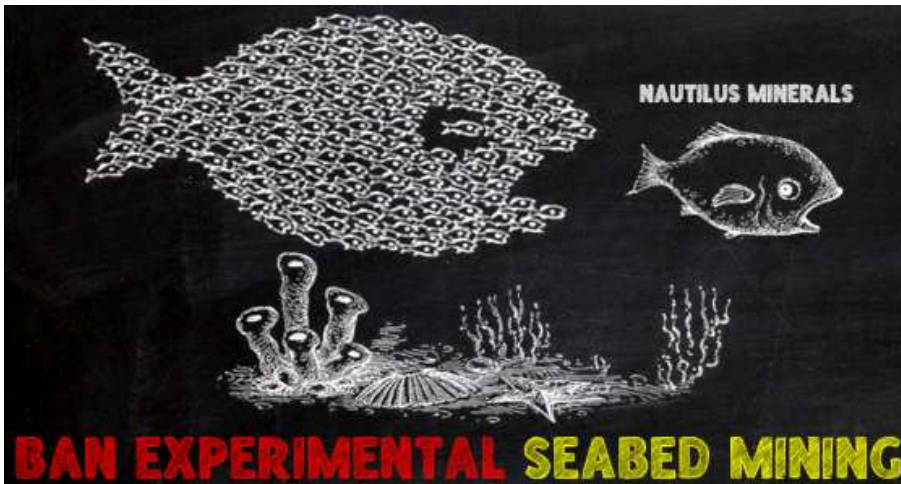
“It is important that the people’s consent must be given before any mine is developed under the Mining Act,” Dr Momis said. He added that the Bougainville Mining Act gives the ABG the opportunity to preserve and reserve certain areas in Bougainville from mineral exploration and mining. The Bougainville Executive Council has the final authority to grant mining licenses and it will scrutinise applicants thoroughly to ensure only genuine investors are granted licenses. “We have learnt our lessons from the Panguna experience and now we have the opportunity to do a better job,” Dr Momis said. “On behalf of the people of Bougainville I invite and welcome applications from prospective applicants to invest in our mining sector. “Bougainville is open for business and I look forward to the development of long term economic partnerships to allow Bougainville to fulfil the economic potential she rightly deserves.” The Bougainville Mining Registrar will start accepting applications from 10am Bougainville Standard Time on Tuesday 9 May.

Locals threaten armed campaign against PNG seabed mine

Radio New Zealand, 1 May 2017

Locals are prepared to take up arms if a seabed mining project in Papua New Guinea goes ahead, according to a anti-deep sea mining campaigner. A campaigner against deep sea mining says locals have threatened to take up arms if a seabed mining project in Papua New Guinea goes ahead. Canadian company Nautilus Minerals was given an Environmental Permit by the PNG government in 2009, to develop the the Solwara 1 Project, but work is still to begin. Helen Rosenbaum from the

Deep Sea Mining Campaign said locals in New Ireland province and the Duke of York Islands were feeling so desperate that they would consider taking up arms against the project. "They know they can get access to explosives, it's incredibly easy to get access to arms in a country like Papua New Guinea through the police, through the army," she said. Ms Rosenbaum said the mining project would be the first of its kind and would set a dangerous precedent in the Pacific.



Credit: Alliance of Solwara Warriors

HELEN ROSEBAUM: Well there's quite different layers of risk. There's of course environmental which is well documented by our own reports which are direct risks to the hydro-thermal vents that are being mined and the unique eco systems that are there. There's also the risks that will result from the mining process and the plumes that are generated that are likely to contain metals and other toxics and the risk of those things getting into the food chain - the marine food web effecting marine species and of course effecting the communities that rely on those marine species for their substance and their quite thriving local economy. There's also economic financial risk to the company which we've been outlining to Anglo American and other investors, their economic returns for Sowera 1 are totally unknown and Nautilus are clear about this in documentation that this is a huge experiment from all perspectives. They're clear they don't know what the environmental impacts are going to be.

Last year I visited the Duke of York islands, New Ireland province and communities and provincial government in East New Britain as well. People are very concerned about the impacts. They're already facing impacts from climate change, they're already losing land on their islands due to sea level rise. They're facing increasing frequency of storm event so their already feeling quite threatened, so this is the last straw for them. On top of all of that they were saying now we have to deal with this, they were already facing a very uncertain future and because of losing land to sea level rises they're feeling like their future is going to depend more on the marine environment for their nutrition and their livelihoods and they're wondering how they're going to exist and how are their children going to exist.

TG: What ways have they told you they might respond?

HR: Well, they are working with local groups over there to support them, to use political power means. It is PNG elections time in June and July this year. We're looking at how they can hold candidates accountable for their policy platforms and ask them that hard questions about their positions on Sowera 1 project, but a lot of people are feeling quite desperate and because of the high level of corruption and not feeling that in PNG that a candidate says something that that sounds good to them on Nautilus they won't change their minds later on. And one can see this happening all the time with Sir Julius Chan who is the governor of New Ireland province and he just flip-flops. Sowera 1 is in the water of New Ireland and last year he was voicing serious concerns about the Sowera 1 project and wondering whether it should go ahead, but this week a press release came out saying he has resigned to the Sowera 1 and he's going to make the most of it. Goodness knows

what's going on behind the scenes in terms of money changing hands. Local people are feeling so desperate they are saying that they would even take up arms against the project. Many of them work at mining companies, or have worked at mining companies in the past. They have access to explosives and they know it's incredibly easy and it's only a matter of money to get arms in a country like PNG through the police or through the army. And they have the experience of Bougainville, many of them worked at the Bougainville mine prior to the civil war in Bougainville what was caused by impacts of the civil war - for them making this threat is no idle threat. Many people in the Duke of York Islands and the New Ireland province have married into Bougainville. They understand what it means to have conflict, and they are not saying this loosely.

Mineral-Rich Area of Papua New Guinea Lifts Decades-Old Ban on New Mining Reuters, Fortune International, May 1, 2017



Satellite imagery of the Panguna Mine located in the autonomous region of Bougainville on July 20, 2015. The Panguna mine has one of the world's largest copper reserves but has been closed since 1989 due to conflict. (USGS/NASA Landsat/Orbital Horizon Gallo Images/Getty Images)

A mineral-rich region of Papua New Guinea has lifted a 40-year-old ban on new mining and exploration, opening the way for iron ore and copper operations. The autonomous Bougainville region has a troubled history over resource development, with a bloody secessionist conflict erupting in the late 1980s stoked by dissatisfaction in how benefits from the Panguna copper mine were distributed. Global mining giant Rio Tinto Ltd said last year that it would relinquish ownership of Panguna, closed for around 25 years. The lifting of the ban allows for applications to mine in the iron ore rich areas of Tore, Isina and Jaba, but does not include Panguna, one of the largest copper mines in the world, Bougainville president John Momis said in a statement on Sunday. He added that scrapping the ban would ensure the area's economic development, with the government seeking applications from genuine investors. "I look forward to the development of long term economic partnerships to allow Bougainville to fulfill the economic potential she rightly deserves," Momis said. The moratorium on exploration and mining had been in place since 1971 - with the exception of Panguna - due to local concerns over revenue-sharing and the impact on the environment.

Freeport collects export permit after Pence visit

By Fergus Jensen and Bernadette Christina Munthe; REUTERS, 21 April 2017



Trucks are parked at the open-pit mine of PT Freeport's Grasberg copper and gold mine complex near Timika, in the eastern region of Papua, Indonesia on September 19, 2015 in this file photo taken by Antara Foto. REUTERS/Muhammad Adimaja/Antara Foto

JAKARTA. Freeport McMoRan Inc collected a permit to resume copper exports from Indonesia on Friday after a hiatus of more than three months, hours after a state visit by U.S. Vice President Mike Pence, who discussed the copper miner's dispute with Jakarta. Indonesia's trade ministry issued Freeport with a permit to export 1.1 million tonnes of copper concentrate up to February next year, although it was unclear how long shipments would last. Freeport is still at loggerheads with Indonesia over rights to its giant Grasberg mine in Papua, and tensions with workers threaten to disrupt its operations further. Indonesia halted Freeport's copper concentrate exports in January under new rules that require the Arizona-based company to adopt a special license, pay new taxes and royalties, divest a 51 percent stake in its operations and relinquish arbitration rights.

The dispute has cost the company and Indonesia hundreds of millions of dollars. Jakarta has said it would halt exports again if negotiations over sticking points were not resolved within six months. Freeport has also warned Jakarta, saying it had the right to commence arbitration by June 17 if no agreement was reached. Pence thanked Indonesian President Joko Widodo for the interim solution to the Freeport dispute on Friday but said more steps were still needed, a White House foreign policy adviser said. "We told them that there were more steps that needed to be taken," the adviser said, noting this was the only business issue Pence raised in his meeting with Widodo on Thursday.

ABSENTEEISM, FURLOUGHS

Tensions are rising around Grasberg after Freeport laid off thousands of workers there to stem losses from its dispute with the Indonesian government over mining rights. Freeport warned on Friday it would punish workers for absenteeism, a day after one of the main unions announced plans to strike over employment conditions. "Freeport Indonesia has experienced a high level of absenteeism over the last several days," Freeport spokesman Eric Kinneberg said. "Absenteeism is being tracked and disciplinary actions will be enforced under the terms of the Collective Labour Agreement," he said. Freeport had "demobilized" just over 10 percent of its workforce of 32,000 by last week, a number expected to grow until the dispute is fully resolved.

The Freeport workers' union said the company's efforts to reduce its workforce so far have had "extensive impacts on workers and their families". Workers are worried about the layoffs "because there are no limits or specific criteria on workers who will be furloughed," the union said. It demanded an end to the furlough policy and notified Freeport of plans to strike for 30 days from May 1.

"Efforts by the company to cut costs and reduce their numbers of workers, this is what has made them feel agitated," said Virgo Solossa, a Freeport workers' union member told Reuters, but said many other workers would not join the strike. Adding to tensions around Grasberg, several Freeport workers and police were injured in a clash in Papua on Thursday, when officers fired rubber bullets at demonstrators in Timika. Timika Police Chief Victor Machbon confirmed the details of the incident and said about 1,000 demonstrators attempting to free a union leader at a court hearing had not dispersed when tear gas was fired. According to the trade ministry, Freeport exported 1.17 million tonnes of copper concentrate to Japan, South Korea, China, India and the Philippines in 2016.