

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

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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:**

Radio New Zealand: <http://www.radionz.co.nz/international>

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

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

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**Extractive Sector**

*The mining sector started off the year with a snag, as government passed amendments to the Mineral Resources Authority Act, in what could have been described as a hushed process, as the industry players cried foul over the nature at which the amendments were made.*

Post-Courier, December 31, 2018

**Mining**

The mining sector started off the year with a snag, as government passed amendments to the Mineral Resources Authority Act, in what could have been described as a hushed process, as the industry players cried foul over the nature at which the amendments were made. Government argued that needed to reduced industry representation on the board of the mineral resource regulator, with three successive government pushing through the amendment in what was described by officials as a confidential process that finally revealed itself when the final drafts were put through for the amendments to be put before Parliament and subsequently passed. Amendments to Mining Act 1992 also was the next order of business for the Minister for Mining Johnson Tuke, which also brought in a

whole host of criticism from the industry as Government sought to reviews its 26 year old mining laws.

Set to be brought to the floor of parliament in November this year, this plan has been mooted in the place of compromise to bring in an independent review to the proposed amendments set to move the planned amendments to 2019. A determined Minister Tuke has maintained the review will take place and a mean of government policy to ensure the country and its people gain maximum benefits of resources, against a backdrop of concerns from the industry on what its states are gray areas that will create disincentives for an industry that contributes immensely to the economy both to the national purse and social responsibility programs in project impact areas. The minister for mining also went on a mission to consolidate the country's major mines in a whirlwind tour of major and upcoming prospects, demanding concrete dates for final investment decisions amidst pressure to prepare the country's next lot of mining projects as new revenue streams became the focus of the O'Neill-Abel Government.

Recognition for Alluvial mining sector in the country also featured prominently in 2018 with major conventions in Esa'ala district, Milne Bay province and the Alluvial Mining Convention and Trade Show in Lae, Morobe province. Alluvial mining reservation locals only and its contribution to the national economy to the tune of K400 million have pushed the need for more training in safer mining techniques through the establishment of Alluvial mining training centers in other regions across the country apart from Morobe's center in Wau. Highlight to the year in the Mining sector was the signing between the National Government and Joint Venture partners of the Wafi-Golpu project earmarked in the Morobe province. The parties signed a Memorandum of Understanding with the Wafi-Golpu Joint Venture to take forward the Wafi-Golpu Project. The MOU is an affirmation of the parties' intent to proceed with the Project, subject to finalisation of the permitting process and Newcrest and Harmony Board approvals for the K9.1 billion project. Lihir continued its charge as the largest producing mine in the country, with revenues for 2018 set to be ahead of its record export level in 2017 of K3.6billion.

### **Petroleum**

The Petroleum sector faced some criticism, in light of lower than expected results for the multibillion industry in the extractive sector. Major issues arose following a spate of reports arising from commentators both in and outside of the country regarding the lack effective outcomes in the country's first major LNG project PNG LNG. Despite this the company maintained it had delivered many benefits in the country to date with job creations and foreign inflows throughout the construction phase of the project which brought in one of the highest growth rates the country ever experienced. All, however, continue to be overshadowed with continuous delays in landowner payments to landowners of the resource, pipeline, and plant site areas.

Progress has taken place towards the backend of the year with pipeline segment landowners and production plant groups all beginning to see the benefits of funds starting to flow through following the creating of LO company board compositions, a process that continues to lag behind for principle resource landowner groups that continue to face legal wrangles and clan vetting exercises hampered by such actions. The major story to the year was an unfortunate one as the entire industry took its biggest hit when a 7.5 magnitude earthquake hit the Highlands region, in the heart of gas and oil producing regions of the Southern Highlands and Hela provinces on February 26. With lives lost from the quake the biggest tragedy- gas and oil production from major plants operating the PNG LNG project, alongside major oil operations of Oil Search Limited all ground to a halt. It is worth noting that even major mines operating in the region were affected as well by the natural disaster.

Major local oil and gas company Oil Search was at the forefront of rescue operations alongside partner ExxonMobil PNG during the aftermath of the earthquake in the region. Oil Search efforts

during the ordeal has been recognized both within the local industry in the inaugural PNG Chamber of Mines and Petroleum Outstanding Humanitarian Initiative Award, and on a global scale with the recent 2018 Platts Global Energy Award for Corporate Social Responsibility. Signing off the year, on a high note, for the Petroleum Sector was the signing of a Memorandum of Understanding between the State and PNG's second LNG project, Papua LNG's development partners led by Total alongside ExxonMobil PNG and Oil Search Limited. The signing was done at the backdrop of APEC Leaders week and the opening day of the CEOs Summit held in Port Moresby and set a timeframe for the final gas agreements to be completed by the end of March 2019.

### **Cook Islands govt consulting on new seabed mining bill**

*The Cook Islands government says it plans to start seabed mining exploration next year, as it looks to shore up support for new laws.*

Radio New Zealand, 29 December 2018



Polymetallic nodules like this one could be mined in Cook Island waters Photo: 123RF

The government's Seabed Minerals Authority last week publicly released a draft copy of the Seabed Minerals Bill after facing pressure from opposition MPs to do so. The Finance Minister Mark Brown is touring the country to consult locals on the bill, which will enable non-commercial seabed mining. *Radio Cook Islands* reported the government wants to have local personnel on board all exploration vessels. So far, five offshore companies have expressed interest. If passed, the bill would replace the Minerals Act 2009. It was drafted with assistance from the New Zealand Parliamentary Counsel's Office, with advice from the Commonwealth Secretariat and Pacific Community. The government is [accepting feedback](#) from the public on the bill until February 6.

### **ExxonMobil invests K2.3m to rebuild health centres**

December 28, 2018, The National Business

ExxonMobil PNG is investing K2.3 million to rebuild and equip three health centres in the PNG LNG project areas in Hela. The operator of the PNG LNG project said in a statement that this was part of its on-going support to invest in infrastructure improvements and support earthquake-affected communities. It said restoration of local health facilities had gained momentum in recent weeks with work on three sub-health centres underway. "The Mananda and Para sub health centres are managed by the Evangelical Church of PNG (ECPNG) while the Juni sub-health centre is staffed and operated by National Department of Health through the Hela health authority," Exx-

onMobil said. “An assessment conducted by Hela provincial health authority and ECPNG identified the critical needs for health care facilities in the province following the earthquake.



“The existing Mananda and Para sub-health centres are currently being repaired and an additional staff house is being built for the Para sub-health centre. “At Juni, a new sub-health centre encompassing five wards is being built on the site of the old clinic. “Located within the Komo-Magarima district, it will service a population of 5000 people. “The Juni sub-health centre is a level 2 health facility per the PNG national health services standard, but was unable to meet the health service delivery requirement with the old building and equipment. “With the new building design, it will expand its services to provide ante-natal and post-natal care, inpatients’ wards, emergency and dispensary rooms, a drug storeroom, health promotions, utility and procedure rooms, volunteer counselling and testing of HIV/AIDS, with modern sanitation and shower facilities and hot water system.

“Local tradesmen were contracted to repair and rebuild the local health centres, ensuring the infrastructure improvements and earthquake restoration work also generated income for local families.” ExxonMobil PNG executive director of production, Dinesh Sivasambo, said there was still much work to be done for communities to recover. He said the company was pleased to continue support to its neighbours most impacted by the earthquake in Hela. “It is vital that basic health services are restored in the communities,” Sivasambo said. “Healthy populations mean people participate more actively in the social and economic growth of their communities.” ExxonMobil PNG, in partnership with other organisations, is also continuing to provide support for the restoration of education services, community food gardens and assisting the Government to build roads and bridges for Hela and Southern Highlands, provinces that were destroyed during the disaster.

### **University students campaign against Frieda mine project**

December 28, 2018, The National National

A GROUP of students wants see the Sepik River left alone and mining banned on the proposed Frieda project. The 18-member University of PNG Sepik River (Avisat) students do not want to see the mining of copper and gold scheduled to start in the new year. They said they would be detrimental to the Sepik River. They carried out a two-week awareness campaign covering 23 villages in the Ambunti-Dreikikir district. President of the group Dipson Ban said the students – 16 males and two females from Sepik River, Yangoru, Kubalia and Wewak Islands – raised their concern in the campaign called “Say no to Frieda mine to protect, preserve and sustain the Sepik River and the

Sepik way of life” Ban said most communities visited supported the students and did not want the river polluted.

According to Ban, some communities informed the student group of the mining company sending community affairs officers recently with information on the project. “I want to credit the locals for standing against Frieda. “Frieda mine will not sustain, protect and preserve their good way of living. It is only here to take, destroy and run away, leaving the people to live with the consequences of the environmental destruction,” Ban said. “We do not want to see another Fly River or Java River in Sepik as both Fly River in Western and Java River in the Autonomous Region of Bougainville have been destroyed by waste disposals from such mining activities. “What we are doing is for the best interest of Sepik people.”

### **Cepa ends inspection for Ramu NiCo mine**

December 27, 2018, The National Business

THE 2018 annual environmental regulatory compliance inspection by the Conservation and Environment Protection Authority (Cepa) for the Ramu nickel/cobalt project in Madang was completed last Friday. The inspection covered Ramu NiCo project’s Basamuk processing site, the 135km slurry pipeline and the Kurumbukari mine. Ramu NiCo (MCC) mine said in a statement that the objective of the Cepa annual inspection was to check the operational compliance of the mine to the environment permit conditions and the fulfilment of the approved operational environmental management programme (OEMP). The inspection was conducted by Cepa manager mining Robert Sine from December 19-21. Sine clarified that as part of the reporting requirement under the environment permit (EP), MCC submitted regular monitoring reports to Cepa on a timely basis. Some of these reports submitted to Cepa in 2018 included:

- Quarterly environmental performance report;
- monthly tailings characterisation reports;
- biannual stream chemistry report;
- fresh water fauna survey report; and,
- Marine survey report, which covers deep-sea and near-shore marine environment.

Sine said an incident report was also submitted to Cepa regarding a slurry pipeline leakage mid this year. The problem had been rectified accordingly. According to Cepa, MCC had come a long way from its early days to improve its environmental compliance level significantly. That is attributed to the huge financial investment and man-hours spent at the Basamuk processing site and the Kurumbukari mine to improve its operations to be compliant to its permit conditions. Sine praised MCC, citing a recent example during a deep sea marine survey which was conducted in September 2018, where the company spent in the excess of K2.4 million.

He said the timely submission of monitoring reports showed that actual monitoring work had been conducted, samples analysed and reports submitted to Cepa as required. Sine said the last major audit by Cepa was conducted in 2015 by an independent consultant. Corrective actions have been implemented over three years and were completed successfully last month. Sine said the next major environment audit was planned for next year. Major environment audits by Cepa are conducted every three years. Cepa concluded after the inspection that MCC had complied to its environmental regulatory requirements in its reporting. A major operational audit will be conducted by Cepa in the middle of next year.

## South Taranaki iwi Ngāti Ruanui angry at spying by Thompson & Clark during Trans-Tasman Resources mining application

Laurie Stowell, New Zealand Herald, 27 December, 2018



Anti seabed mining protesters were spied on by agents acting for the Ministry of Business, Innovation and Employment

Revelations that the Government used private investigators to spy on protesters opposing Trans-Tasman Resources' (TTR) seabed mining application have provoked outrage. And one of the groups targeted, South Taranaki iwi Ngāti Ruanui, is calling for a review of New Zealand Petroleum and Minerals, the government body that manages oil, gas and minerals and issues permits for exploration. A bombshell report last week, following an inquiry by the State Services Commission, laid bare Government monitoring of groups seen as "security threats", often through the use of private investigation firm Thompson & Clark. The security company was given the profiles and newsletters of groups opposing oil and gas exploration and ironsand mining, such as that sought by TTR - and Ngāti Ruanui was one of the main opponents.

"The report says we were monitored and the only other word for that is spying," Te Rūnanga o Ngāti Ruanui chief executive Debbie Ngarewa-Packer said. The iwi is making an Official Information Act request for more information and may make a formal complaint, referring to the spying as "corrupt practices". Ngarewa-Packer said the iwi was "outraged but unsurprised" to discover the Government had used private investigators to spy on them. The 150-page State Services Commission report shows "issue-motivated groups" such as the Ngāti Ruanui iwi were treated as security threats by several government departments. It says the Ministry of Business, Innovation and Employment (MBIE), which is responsible for NZ Petroleum and Minerals, breached its code of conduct by failing to maintain an appropriate level of objectivity and impartiality. "MBIE's management of its regulatory responsibilities in the petroleum and minerals area ... showed evidence of poor regulatory practice."

The inquiry uncovered system-wide failings across the public service, including a pattern of behaviour where public servants developed inappropriately close relationships with Thompson & Clark. The monitoring started during Helen Clark's Labour Government, with one instance in 2002, but Ngarewa-Packer said it ramped up during the last National-led Government when Simon Bridges was Energy and Resources Minister. In 2015 he put up the "largest ever" block offer for oil and gas exploration. New Zealand Petroleum and Minerals was making "a huge effort" to bring business into the country. Asking for opposing groups to be "monitored" called into question every decision it has made during that period, Ngarewa-Packer said. "It makes the Crown Minerals process look corrupt."



Ngāti Ruanui chief executive Debbie Ngarewa-Packer

She said MBIE's poor regulatory practice and bias toward iwi and stakeholders meant the ironsands exploration process "was undermined from the start". "What we suspected for years has sadly been confirmed - not only have we been fighting poor practising industry but we've also been fighting the officials charged with providing an impartial process. New Zealanders need to trust that those at the forefront of our democratic process will have a neutral view, instead of lobbying for private industry interests." The South Taranaki tribe was one of a number of groups opposing the ironsand mining application by TTR. During the mining proposal hearings, its people felt their concerns were ignored and officials were biased.

"We feel like we are up against not just TTR, but the officials as well." It seemed paranoid at the time, but Ngarewa-Packer now believes that treatment was part of a prevailing behaviour and culture. She called for a full review of NZ Petroleum and Minerals and full disclosure. "Taxpayers and iwi need assurance the Government can be trusted." State Services Commissioner Peter Hughes said last week that new standards would strengthen transparency and consistency across government agencies. "Any decision to use surveillance requires careful judgment," Hughes said. "It must be lawful, it must be proportionate, and it must be ethical. "It is never acceptable for an agency to undertake targeted surveillance of a person just because they are lawfully exercising their democratic rights - including their right to freedom of expression, association and right to protest. "That is an affront to democracy."

### **Seabed mining project in PNG gets \$500,000 loan**

Radio New Zealand, 27 December 2018

A troubled deep sea mining project in Papua New Guinea has been given a loan of nearly \$US500,000. Nautilus Minerals plans to mine the floor of the Bismarck Sea between New Ireland and New Britain. The Canadian company has faced opposition from environmental and community groups, and has been trying to dispel reports that its project is in financial trouble. In June, Nautilus Minerals entered a \$US34 million credit facility agreement for the project with lender Deep Sea Mining Finance. In a statement this month, Nautilus says it's received a loan of \$US455,000 from the deal. The PNG government owns a 15 percent stake in the company.

## After the loss of a ship, deep sea mining plans for PNG founder

David Hutt. Mongabay, 26 December 2018



Marine life in Papua New Guinea. Image by martinemo via Flickr (CC BY 2.0).

- *In 2011, Nautilus Minerals was granted a license to mine precious minerals from the seabed off the coast of Papua New Guinea, the first project in the world to gain deep-sea mining rights.*
- *Nautilus said the project would be less destructive than land-based mining, but met with protests due to the potential impact on the complex deep-sea ecosystems as well as coastal communities.*
- *A year ago, Nautilus failed to make a payment on a specialized ship being built for the project. Now the ship has been sold to another company, making it unlikely Nautilus will be able to fulfill its mining ambitions.*

An ambitious plan to mine precious minerals from the ocean floor off the coast of Papua New Guinea looks to have run aground due to the developer's financial problems. In 2011, the government of Papua New Guinea granted Canada-based Nautilus Minerals a 20-year mining license covering roughly 500,000 square kilometers (193,000 square miles) of the Bismarck Sea, off the country's eastern coast. The Solwara 1 project was the first in the world to be granted rights for deep-sea mining, whereby enormous machines would dig into the ocean floor, harvesting zinc, copper and gold, and other commodities essential to building electrical equipment. The Papua New Guinea government took on a 15 percent equity stake in the venture with Nautilus, but repeatedly delayed payments as its politicians and citizens protested against the environmental impact of the project, as well as the substantial cost to taxpayers.

In the meantime, Nautilus suffered numerous additional setbacks, including a shortage of investors, a declining credit line, and the decision by multinational mining firm Anglo American to divest from the company. Now, the company has lost a ship essential to its deep-sea mining plans. Nautilus chartered Emirati shipping operator MAC Goliath (MAC) to oversee construction of a production support vessel (PSV) designed to collect the extracted materials via pumps from the seabed. This vessel is essential to the entire operation. The ship was being built at the shipyard of Fujian Mawei Shipbuilding in southern China. In December 2017, MAC missed a payment to the Chinese



builder, which Nautilus was also unable to cover. At that point, the vessel was about 70 percent complete.

Late last month, news broke that because of financial woes and missed payments, the shipbuilding company had found a new company to take over the vessel's construction contract: an Indian firm that is also planning to engage in deep-sea mining explorations on behalf of the Indian government. Fujian Mawei Shipbuilding announced that the vessel had indeed been sold to the Indian firm, MDL Energy, although Nautilus reportedly thought negotiations were still ongoing. There are reports that Nautilus is attempting to seek new investment so it can reclaim the vessel, but the Chinese shipbuilder maintains that the ship has already been sold. Mongabay attempted to contact representatives of Nautilus, but emails and telephone calls went unanswered. Nautilus's interim CEO, John McCoach, told the *Economist* recently that specifics of the story, as mentioned above, were "not accurate from our perspective."



Residents of New Ireland province, which lies in the northeast of Papua New Guinea, feared Nautilus' deep sea mining project could have impacts on coastal marine life. Image courtesy of Google Maps.

It's not clear how Nautilus will proceed from here, though it appears almost impossible that it will be able to build another tailor-made vessel from scratch, given the firm's current financial situation. On Dec. 14, the company announced it had received a new loan worth \$455,000; the unpaid installment on the PSV exceeded \$18 million. "Given Nautilus' dire financial circumstances, it is fair to say the game is over," Helen Rosenbaum, of the Deep Sea Mining Campaign, the author of a major report critical of the project, recently told local media. "The people of the Bismarck Sea of Papua New Guinea have hopefully been spared an environmental disaster." "It will be good news for my people if Nautilus goes bankrupt, instead of bankrupting our sea. We will fight this project to the very end," Jonathan Mesulam, from the Alliance of Solwara Warriors, a community-based organization that opposes the project, said in a press release.

The Solwara 1 project planned to harvest mineral deposits found near seabed hot springs, or hydrothermal vents. Doing so, opponents said, could have had grave effects on rare deep-sea ecosystems. Nautilus commissioned several environmental impact studies before it was granted the mining license in 2011. "The overall conclusion is that Solwara 1 has the potential for far fewer social and environmental impacts than the existing terrestrial mines examined," reads one report it commissioned, written by U.S.-based consultancy Earth Economics. Opponents of the project dismissed these studies as unsatisfactory and misleading, warning that since the Solwara 1 project was the first of its kind and would rely on as-yet-untested technology, it was too soon to say that it would definitely be safer than onshore mining. Moreover, they said the project would almost certainly destroy thousands of hydrothermal vents, each of which is host to complex ecosystems — and possibly species not yet identified by scientists.

Others critics warned that because the proposed extraction site lies only about 30 kilometers (18 miles) from the mainland, it could affect coastal ecosystems and, by extension, the livelihoods of fishing communities on Papua New Guinea. While the likely demise of Solwara 1 is considered a victory by environmentalists and some residents of Papua New Guinea, the financial problems facing Nautilus are far from advantageous for the poor Pacific nation. Arnold Amet, a former attorney general, said in a recent press release that because his country had purchased a 15 percent stake in the venture, it would also be responsible for 15 percent of payments to creditors if Nautilus went bankrupt. "I have been warning our Government publicly and privately about the financial mess they will find themselves in when this experimental company fails," he said.

It's not clear whether Papua New Guinea will manage to escape this financial burden. Opponents of the project say the government should now annul the concession and cancel all of Nautilus's permits. But this may not be the end of the region's underwater mining saga. DeepGreen, a new deep-sea mining venture founded by Gerard Barron, an Australian entrepreneur who was also the first financial backer of Nautilus (he sold his shares in 2007), is reportedly exploring mining possibilities off the shores of Nauru, a nearby Pacific island. Unlike Nautilus, DeepGreen aims to mine materials from the ocean shore by simply hoovering it up, rather than digging into volcanic rock, ostensibly a less environmentally harmful method of extraction. If Nautilus is unable to fulfill its concession in PNG, then it is possible DeepGreen will fill Nautilus' shoes as the pioneer of deep sea mining in the South Pacific.

### **Proposed sea tailing of mine waste opposed**

December 24, 2018, The National National

COASTAL Morobe communities disagree with the proposed tailing dumping from the Wafi-Golpu mine into Huon Gulf sea, claiming it as a pollution to the marine ecosystem from which their lives depend on. Morobe Coastal Solwara Association (MCSA) vice-president Kipu Anonga questioned how sure was the Mineral Resource Authority, Conservation and Environment Protection Authority (Cepa) and investors to pipe the waste into the sea. "If the wastes will be treated, how accurate will it be given the 30-plus years of mining life for the wastes to accumulate on the seabed to affect the marine ecological systems for better or worse?" Anonga said. "Is mining waste dumping into the sea not a pollution to marine biological ecosystems?" Anonga said only one consultation meeting was conducted at Wagang village without fair representatives from the marine districts of Labuta (Nawaeb), Yabem-Mape (Finschhafen), Sialum, Wasu and Siassi Island (Tewae-Siassi), and Salamaua and Morobe posts (Huon Gulf).

He said coastal communities were given limited time to comment over the environment impact statement (EIS) because villagers found it difficult to understand the scientifically written EIS document within limited time to consult marine biologists, environment specialist and lawyers for advice. "Where is justice for a fair consultation from all concerned stakeholders for better solutions?" he said. Deputy Morobe Governor Judas Nalau said proper assessment for environment and marine biological systems impact was conducted and coastal villagers educated to understand the adverse impacts during the mining life. "We cannot rush decisions for the value of the minerals to irreplaceable breathe of human lives," he said.

### **Trans-Tasman Resources given leave to appeal quashing of seabed mining consent**

New Zealand Herald, 24 December, 2018

Trans-Tasman Resources has been given leave to appeal the overturning of its seabed mining consent. Leave was granted by the Court of Appeal last week, following an application by the mining

company in September. TTR is seeking to mine ironsand in the South Taranaki Bight, and it applied to the Environmental Protection Agency to take 50 million tonnes of ironsand a year from the sea-floor between 22 kilometres and 36km off Patea to export to Asia. The agency gave its consent in 2017, but opposition groups of environmentalists and iwi appealed that decision to the High Court which quashed the consents in August this year. This week TTR said its appeal would be based on the view that the agency followed a legally correct approach in granting the consent to TTR, including conditions specifically designed to protect the marine environment and existing interests, particularly iwi.

### **Governor's Stance Against Marine Waste Dumping Applauded**

Benny Geteng, Post Courier, December 21, 2018

The Morobe Coastal Solwara Association has applauded the stand by Morobe Governor Ginson Saonu against dumping of mine tailings into the sea. President Kamong Mazzewin said although Wafi-Golpu Mine Project brings exciting opportunities in benefits for the province and country, it must not be forgotten that someone has to pay the price. "Governor Saonu's statement made a huge difference for our children's future. Five maritime districts of Morobe will pay the price of waste tailings effect," he said. Mr Mazeewin said he can't remember whether there is a record of consultation by the developer MMJV among all the five districts in the province from Morobe south coast, Huon Salamaua, Huon Labu Wampar, Lae coastal villages, Nawaeb Labuta, Yabim, Finschhafen Urban and Tewae- Siassi.

"There has been one consultation meeting by developer held at Sipaia Wagang village and this does not represent all coastal villages in the five districts," he said. Mr Mazzewin, an engineer by profession, said the proposed method to be used in pumping the solid tailings into the sea may not be the best option. He said while the solid tailings can easily settle, the finer tailing particles that might not be easily pumped down into the deep could easily float or resurface onto the upper body of water that are easily affected by the disturbing shifting currents around Huon Gulf. "There has to be a way to dump waste tailing, maybe by building land tailing dam as suggested by Governor Saonu," he said. "I call on the Governor to make a time to immediately hold a forum to have an open and honest talk to the five coastal districts of Morobe as soon as possible." He said arrangements will be coordinated by the Morobe Coastal Solwara Association executives and the office of the Governor of Morobe.

"A further call is extended to all Morobe coastal elites around Morobe, PNG and overseas to garner support to the cause," he said. Governor Saonu has raised concerns about the environmental effects of the proposed dumping of Wafi-Golpu mine tailings into the Huon Gulf. He supported coastal villagers of Morobe from the northern part who will be directly affected by the massive outflow of tailings from Wafi- Golpu Mining Project and said that WGJV must consider other alternatives from the current proposed idea. WGJV maintains that the risks of tailings affecting the food chain for fish are extremely low and the conclusion is that Deep Sea Tailings Placement (DSTP) is not predicted to affect the coastal environment, productive surface waters, community health and fisheries.

### **Investment in mine expected to be K9bil**

December 21, 2018, The National

INITIAL capital investment for the Wafi-Golpu mine development is expected to be about K9.1 billion (US\$2.8bil), with a total capital estimated expenditure of K17.4 billion (US\$5.4bil) over the estimated 28-year life of the mine. If developed, the Wafi-Golpu mine will be the largest, deepest and

most-complex underground mine in the country. Wafi-Golpu JV general manager, social performance and external affairs, Grant Batterham, said the construction of the mine would commence after the granting of a special mining lease (SML). Receipt of all other required Government approvals, and first ore production would be expected around five years from that decision.

That was subject to board approvals by Wafi-Golpu JV participants, their respective parent companies, Harmony Gold Mining Company Ltd of South Africa and Newcrest Mining Ltd of Australia. "This is significant injection into the PNG economy," Batterham said. "The Wafi-Golpu project would create economic benefits across the country, including around 2500 direct jobs during construction, about 850 ongoing operations jobs and further indirect jobs created in the region. "The project will also contribute at local, provincial and national levels through the payment of royalties and taxes through social development investment programmes designed across the life of the mine."

### **Concern over PNG plans for mining at Frieda River**

Radio New Zealand, 21 December 2018

A planned new gold and copper mine in East Sepik is opposed by communities right along the length of the Papua New Guinea's Sepik River, an environmental activist says.



Frieda River heading north to join the Sepik River. Photo: Facebook - SEPIK Capital, PNG - Wewak Urban Local Level Government

The Frieda Mine, on the Frieda River - a tributary of the Sepik River - contains one of the largest undeveloped copper-gold deposits in the world. It is thought to contain 13 million tonnes of copper and 20 million ounces of gold. A spokesman for community environment group Project Sepik, Emmanuel Peni, said there was widespread opposition to the mine's development. "From Iniok Village, which is where the barges and ships stop at on the Frieda River, right down to the mouth of the Sepik and all other thinking Papua New Guineans, and Sepik, people from all over Sepik, are against the mine," he said. People are concerned about the possible contamination and destruction of the environment along the Frieda and then the Sepik Rivers, Mr Peni said.

## **Kutubu Oil landowners to get 20pc ‘Christmas gift’ royalties**

By JEFFREY ELAPA, December 21, 2018, The National Business

FOR the first time since the commencement of Kutubu oil production in 1991, Southern Highlands government has announced a 20 per cent Christmas gift of royalties from the project to Kutubu landowners. Governor William Powi announced yesterday that 20 per cent of the provincial government’s 70 per cent royalty from Kutubu oil would be given to the landowners as a special Christmas gift. The provincial government receives about K16 million annually from royalties, depending on oil prices. Powi said this was after a lengthy consultation process and dialogue with landowners, who currently receive 30 per cent royalty from the Kutubu project. The transfer of 20 per cent from the provincial government means that both Kutubu landowners and the Southern Highlands government will receive 50 per cent respectively.

“This is a special Christmas present to the people of Kutubu, who have waited for this announcement for a long time since the Kutubu project came on stream in 1991,” Powi said. “I, on behalf of the provincial government, announce this as a Christmas gift to the people of Kutubu who have supported the people of PNG in terms of revenues from the Kutubu oil and now the gas project, in the Southern Highlands province.” Powi also announced the allocation of projects in the five electorates of the Southern Highlands. He said due to late receipt of the province’s development funds from Waigani, his government had made a major announcement to allocate funding straight to the five districts with the K26 million LNG development levy it received recently. The breakdown is:

- Ialibu-Pangia district K4.5 million: K1 million for Western Pacific University, K1 million for Ialibu Secondary School infrastructure, K1.5 million for Pangia Agro Innovative project, and K500,000 for Tindua-Kware road;
- Imbongu: K500,000 each to the district administration support and coffee rehabilitation project support, and K400,000 for Giluwe beef project;
- Mendi-Munihu K4 million: K1 million for Mendi police housing, K1 million for Mendi town roads, K500,000 for Nene Road, K500,000 for DDA support and K1 million for Bush Karinz Road;
- Kagua-Erave K2 million: K500,000 for Kagua Secondary school infrastructure, K500,000 Kagua Market and K1 million for Muli-Yate Road; and
- Nipa-Kutubu: K4 million for Kutubu township, K400,000 for Pesi-Timte Road, K500,000 for Tengel-Upa road and K1 million for health centre completion.

Powi said K11 million was allocated for Southern Highlands government general administration.

## **No physical planning for Wafi-Golpu area: LOs**

BY BENNY GETENG, Post-Courier, December 20, 2018

There has never been a physical planning done in the Wafi-Golpu area and according to landowners the land is still customary land. In a signed petition by Wafi-Golpu mine area landowners, the landowners said the land was not acquired from landowners and there is no physical planning done to date. The landowners said the land is still customary land and belongs to the customary landowners. “To date there has been no commercial lease agreement for the land that is being occupied by the developers and the landowners,” they said. “The landowners have been deprived of road maintenance and infrastructure contracts, transport and logistic contracts.” They said the helipads are being used on land that has no commercial agreement with the landowners. “This is a commercial gold mine. How do we justify the deprivation of commercial development to the indigenous people who own the land?” they said.

The landowners in a petition served to the developer, Wafi-Golpu Joint Venture, the Member for Bulolo, the Prime Minister, Mineral Resource Authority and the Mining Ministry, gave a seven day ultimatum for a response. “The people gathered at Gingen village at Wafi and expressed their frustrations over the MOU signing which has not been discussed with them as the landowners from Wafi exploration site, the pipeline corridor and the wharf,” they said. “The petition is served with most issues that have been overlooked and have not been made clear. The MOU signed in Port Moresby is not of the Morobe provincial government and its people and the respective impacted zones of interest the developer is interested in, such as the mine exploration site at Wafi, the pipeline corridor, and the wharf and tailings.” The signed petition came from tribes of Gurako, Yanta and Lerom-Babuaf.

## **Morobe Govt Pass Resolution to Reject MoU for Wafi Golpu Mine**

Julie Badui Owa, EMTV News, 19 December 2018



The Members of Tutumang in Morobe Province passed a resolution to reject the memorandum of understanding (MoU) of Wafi Golpu Mine signed by the PNG Government and the Mine Developers last Tuesday. More than eight recommendations were passed during the Tutumang meeting in Lae yesterday by 34 Provincial Assembly Members of Morobe. The resolution was passed after the Member for Huon Gulf, Ross Seymour, and President for Wampar LLG, Michael Poane, presented the 7-days petition for Wafi Golpu Mine Area Landowners. The 7-days petition was served to the Developers, Bulolo MP, Sam Basil, Prime Minister Peter O’Neil, MRA and the Department of Mining. This came after the landowners gathered at Gingen Village over the weekend at Wafi, expressing their frustrations over the memorandum of agreement that was signed.

The landowners from the Wafi exploration site in Bulolo – the pipeline corridor in Huon Gulf and the Wharf in Lae District, said they have not participated in the signing of the MoU. The Wafi Golpu project is an underground gold and copper mine in Morobe Province. It is a 17.4 billion kina project – the developers of the project are Newcrest, Australia and Harmony in South Africa. The project is expected to produce 4.5-million tonnes of copper and 7.4-million ounces of gold over a 28-year mine life. 34 members of Morobe Provincial Assembly including Morobe Governor, Ginson Saonu, the six MPs and the LLG Presidents agreed to draft a new MOU to submit to the Government and the Wafi Golpu Joint Venture for consideration.

## Under-MINING Morobe: Wafi Golpu and the struggle for Morobe sovereignty

Martyn Namorong, December 19, 2018



I have a strong affinity for Morobe province. Although I am not from the province, my surname - Namorong- is Morobeian. I won't bore you with the long tumbuna stori but it has something to do with a young Lutheran pastor from Tapen in the Rai Coast climbing the "hundred mountains" of the Finisterre Range and working with the people of Teptep in the 1970s. The first time I entered the debates on the extractive sector in Morobe, was in 2012, when communities along the Watut and Markham rivers reported fish and eels dying after what they believed to have been related to a cyanide spill from the Hidden Valley mine (Same miners now involved in Wafi-Golpu).

Last year, with assistance from generous development partners, I ran a workshop in Lae bringing together government officials and community leaders from mining communities associated with the Hidden Valley and Wafi Golpu projects. My interest as well as that of the funders was to educate and empower sub-national leaders on PNG's extractive sector. An overview of PNG's mining regulatory framework was presented by the Mineral Resources Authority. I have since had the privilege of meeting and listening to landowner and provincial government representatives. One such meeting ironically happened at the 8th floor conference room of Treasury building, where landowner representatives were lobbying for the Open Book Financial Modelling of the Wafi-Golpu project.

### **Katim na skelim Pik**

One of the hot topic discussions of any resource project is benefit sharing with local stakeholders, colloquially referred to as "katim pik". For a faction of Wafi-Golpu landowners, having access to the Open Book Financial Modelling is critical to them in informing their decision making regarding the project. What the Open Book Model does is it mathematically models the "size and weight of the pig" so to speak and then predicts the financial implications of "cutting the pig" in a certain way.

Say for instance, it predicts how much profit or loss the project will make depending on an upper and lower limit of the World Market price of copper. During the Wafi Golpu Memorandum of Agreement (MOA) discussions held in the middle of this year, Treasury Officials told local Morobe parties that they had access to the Open Book Model. Landowners and Morobe Provincial Government officials have since been pursuing that model from Treasury.

Now under PNG Mining and Petroleum laws, the Development Contract for a resource project is negotiated by the National Government and the company wanting to exploit the resource. The Provincial Government, Local Level Government and Landowners only come into the picture after the Development Contract is signed. Their participation is only at the Development Forum stage where benefit sharing agreements are signed between the National Government and sub-national parties. This procedure exposes a fundamental flaw - landowners and provincial governments are not party to discussions on how the pig is cut. So what happens in PNG is that by law the government and a foreign corporation cut the pig and then the government redistributes its share with the sub-national stakeholders. If government officials negotiate poorly as they have notoriously done previously, provincial governments and local governments including landowners are given the "pig skin" instead of "meat".

### **Free Prior Informed Consent and Contract Transparency on Wafi-Golpu**

Morobeans, under the international principle of Free Prior Informed Consent (FPIC) that is aimed at protecting the rights of vulnerable indigenous communities, have a right to information that will help them make informed decisions about the Wafi-Golpu project. Access to critical financial modelling information is important even if PNG law doesn't cater for their interests at this stage of project negotiations. National authorities have historically failed in their fiduciary duty to protect the interests of local authorities and landowners. The Morobeans therefore have every right to be sceptical about whether Waigani will protect their interests during negotiations of the Wafi-Golpu Development Contract. Contract transparency following the principles of the Extractive Industries Transparency (EITI) that the government of PNG has signed up to are therefore crucial in building understanding and trust between all stakeholders and not undermining the interests of the people of Morobe during negotiations of the Development Contract.

### **Morobeans aren't naïve**

Morobeans have had their first mining experience from Bulolo and Wau Gold fields. Today they live with the Hidden Valley mine for better or for worse. They know the same dodgy characters from Hidden Valley are now plying their dirty trade at Wafi-Golpu. Perhaps for me, the most poignant moment was at the Sydney Mining and Petroleum Investment Conference, seeing highly educated Morobeans urging their governor not to sign the MOA with Wafi-Golpu project partners when rumours were spreading at the conference venue that the Mining Minister and Prime Minister were keen of getting the Governor to sign. Hats off to the Morobe Governor and Landowners of Wafi-Golpu. I hope that your actions will lead to improvements to how PNG's natural resource contracts are negotiated and that PNG has broader contract transparency consistent with the EITI global standard.

### **Porgera Justice Foundation urges the government to be honest in mining laws**

Jack Lapauve Jnr, EMTV News, December 18, 2018

The chairman of the Papua New Guinea Justice Foundation has urged the government to serve the interest of resource owners. Among environment damages and other issues, Chairman Jonathan Paraia believes people in the mining town have suffered enough. A hefty sum to the tune of billions has been claimed as compensation for damages done, given the reason that developer Barrick has breached initial agreements signed in 1989. For years the PNG Justice Foundation has spoken on



behalf of the people affected by activities of the Porgera Mine. Speaking in Port Moresby, the Chairman says the national Government as the regulator and middle man has denied serving the interest of resource owners. “Landowners as we speak, they are suffering. Continuously mining 24 hours and foraging the environment and people are continuously suffering. They are drinking bad dirty poison water”, Chairman Jonathan Paraia said.



According to Chairman Paraia, Canadian company Barrick Gold Corporation has breached initial mining agreements. Two months ago, the mining warden hearing was held at Paiam town. A majority of clans situated in the heart of the mining operation were against the Government and Mining Resource Authority not to renew the license of developer Barrick. Meanwhile, at the recent Mining Conference in Sydney, Minister responsible, Johnson Tuke, acknowledged the compensation claim submitted by concerned landowners. Chairman Paraia says the Government must consider the plea made by resource owners. “Our claim is based on actual facts and in actual breaches of agreement. It’s not a makeup story like any other landowners in Papua New Guinea. Those are based on facts and law. There are more evidence to come.” The arbitration will be held early next year, to iron out issues for the Porgera Mine. For the Justice Foundation, they want to see fair consideration by the State and developer Barrick. “They should take responsibility and look at meeting all the claims we are putting in”.

### **The ecological costs of Canadian mining**

Julian Vigo, *The Ecologist*, 18th December 2018

Canadian mining companies are destroying the earth and disregarding human rights. The commercial space company, Moon Express, has announced that it was setting up Moon Express Canada in order “to leverage Canadian space science and technology in the exploration of the Moon and its resources”. What surprised me about this revelation was that Moon Express Canada is apparently planning to mine the moon with its partner companies on board. Micro and nano space technology company Canadensys Aerospace Corporation, geological imaging company Gedex, LiDAR systems developer Teledyne Optech, and mining technologies and robotics company Deltion Innovations, which has been outspoken about making Canada a leader in space mining.

### **Rights violation**

As I read the reports, I shook my head wondering how Canadian mining companies have been permitted to amass so much damage to the earth and human rights, much less now being enlisted to destroy the moon. Canada is no stranger to ecological destruction in its mining practices, within the country and also in Latin America. The Mexican Network of Mining Affected People (REMA in

Spanish) has been outspoken in recent years over the problems of Canadian mining on indigenous lands.

It has also criticised the use of the Canadian diplomatic corps to negotiate deals between Canadian mining companies and local leaders who violate the rights of the people to property, safe environment, open consultations with public consent, lawfulness and legal security. One company which has effected enormous damage on Mexican land is Goldcorp, which has broken national laws in purchasing collectively owned property in Carrizalillo, Guerrero and in Mazapil, Zacatecas. The encroachment of Canadian mining companies in Mexico today shows them operating 65 percent of the mining projects around the country, amounting to 850 mining projects at various stages of development from exploration through to construction and extraction.



### **Manipulate and abuse**

These mining projects have resulted in serious health issues, environmental contamination and destruction, the criminalisation of social protest, as well as the use of threats, harassment, smear campaigns, surveillance, arbitrary detentions and the assassination of political leaders and activists who speak out against these mines. Mariano Abarca was murdered after he opposed a Canadian mine in Chiapas where he was detained in 2009. In 2014 in Guerrero, Mexico, 43 students from the Raúl Isidro Burgos Rural Teacher Training College in Ayotzinapa, disappeared with no trace of their whereabouts, except for the remains of 19-year-old Alexander Mora Venancio.

Many believe that the recent and nearby inauguration of Torex Gold's El Limón-Guajes gold mine in Cocula, Guerrero is related to these students' disappearance and murder, given that a mine manager had already been murdered, workers kidnapped, and communities protesting over broken promises, contaminated water, and health problems. Similarly the Honduran leader, Beta Cáceres, was murdered in her home on 3 March 2016 after recent protests against the construction of the Agua Zarca hydroelectric dam in Río Blanco and various schemes to grab land from the people against which Cáceres was fully mobilised. It is common to find these companies levelling criminal charges at the protestors - including sabotage, terrorism, rebellion, conspiracy, and incitement to commit crime.

### **Open-pit mine**

Because of the money these companies attract to the local economy, their power within the community is tremendous - and this includes their ability to manipulate and abuse the local laws and collaborate with organised criminals. In addition to human rights violation, there is grave ecological and biological damage produced by these Canadian mining companies. For instance, there is strong

evidence of serious health impacts in Carrizalillo, Guerrero which was presented at the International People's Health Tribunal in 2012 in connection with Goldcorp's Los Filos mine, one of the largest gold mines in the world. These impacts included, but were not limited to, a high incidence of eye, skin, respiratory, and gastrointestinal problems, as well as a significant increase in premature births and malformations in newborns - and that's just the shortlist. Mining within Canada is no less controversial. It was recently announced that Gahcho Kué, an open-pit mine, is expected to produce between 6.6 million and 6.9 million carats of diamonds in 2019, and each year thereafter through the end of 2021.

### **Disastrous effects**

Gahcho Kué is one of the world's largest new diamond mines which opened in September 2016 on a remote mine site on the Canadian tundra just on the edge of the Arctic Circle, and is jointly operated by De Beers and Mountain Province Diamonds.

While diamond mining is not Canada's primary industry, Canada is the fifth largest diamond producer in the world and the ecological damage produced by diamond mining are well known. Uranium levels in nearby Kennady Lake are expected to increase by a factor of 11,000 during the mine's operation due to acid mine drainage which causes damage to the ecosystem. Other common problems associated with diamond mining include erosion, formation of sinkholes, loss of biodiversity, and the contamination of soil, groundwater, and surface water by chemicals from mining processes. Badly executed diamond mining has caused serious problems ranging from soil erosion, deforestation, and the forced migration of local populations. There are also many cases of diamond miners having re-routed rivers and constructed dams to expose riverbeds for mining, all with disastrous effects on fish and wildlife.

### **Consuming less**

Just over the last few weeks, we have seen Canadian mining companies continue their expansion into Western Australia, India, [Papua New Guinea](#), the Republic of Guinea, and into Yukon and Nunavut. While there seems to be little that individuals can do to stop these powerful companies, we need to address that the common denominator between mining and humans is our consumption. With this knowledge in mind, it is imperative that we push back against mining, conduct a mental inventory of what we purchase and consume, and that we ask ourselves which objects which do we absolutely need to live *and which items can we live without*. In the absence of an ecological revolution, the future of our planet depends on our ability to consume less.

### **Landowner faction stoness office for missing out on royalty payment**

By DOROTHY MARK, December 17, 2018, The National National

A faction of a clan that missed out on the recent Ramu nickel royalty distribution stoned the company's glass house headquarters in Madang on Friday. Members of the Giuye Nogoï Yowor Omowo clan stormed into Ramu Nickel headquarters and threw stones at the three-storey glass building. They broke the glass door at the main entrance and damaged the conference and tea rooms. At the carpark, they broke the wind screens of several company vehicles. Joe Koroma, of Guiye Nogoï Yowo Omowo clan, of Kurumbukari special mining lease block one, was supposed to have claimed a share of the royalty for the Baura family. He stormed Ramu Nickel headquarter and demanded their payment last month after waiting for four months. Koroma did it again on Friday. He said a Land Titles' Commission hearing held between 2011 and 2013 declared that the dividend of a 5 per cent share of the royalty was to be paid to a man and his wife. Both had died.

He said the LTC decision said the 5 per cent dividend was to be distributed between three families. According to Koroma, the Mineral Resources Authority went ahead and paid two families while the

share of Koroma and his family was held back. He said some of their clan members had taken the LTC decision to the National Court. Koroma said it was not fair that the other two families received their share while their share was withheld. Ramu Nickel vice-president Wang Bowen said the company did its part and paid out the royalty and it was now up to MRA and Government authorities to facilitate the distribution to clans. “We want to help you and work with you,” he said. “We have done our part in paying out the royalty already.”

### **Wafi-Golpu not good for province: Ginson**

December 17, 2018, The National Main Stories

Morobe Governor Ginson Saonu, pictured, says alternatives to mining such as tourism and agriculture will be developed in the province. He told The National that Morobe had a thriving agricultural sector and an undeveloped tourism industry which had huge potential. Explaining why he had refused to sign a memorandum of understanding with the Wafi-Golpu Joint Venture last week, the governor declared that Morobe did not recognise it as it was not for the good of the province. “When I stood for election in 2017, I spoke about ‘kisim bek Morobe (taking back Morobe)’,” he said. “Kisim bek Morobe means that anything that is wrong in Morobe, or anything that the people need, we will work hard for them. “I want to make sure that people of Morobe gain enough. “My position is for the people of Morobe, not for Ginson Saonu, not for any political party’s interest, not for anybody who wants to bribe me.” Meanwhile, Saonu has expressed concern about the proposed dumping of Wafi-Golpu mine tailings into the Huon Gulf.

He supported coastal villagers of Morobe, from Morobe Post along the border with Northern to the Siassi Islands bordering West New Britain, who stand to be affected by a massive outflow of tailings. The villagers depend on the sea for the livelihood, he said. The Huon Gulf is also one of the few habitats in the world for leatherback turtle nesting. Saonu is well aware of the fragile environment of the gulf and urged the Wafi-Golpu Joint Venture to look at other alternatives, “We have to listen to the people,” Saonu told The National. “People are not like before, when they had no knowledge, no idea, no education to read what’s happening in other parts of the world where there is environmental damage and so forth. Everybody is knowledgeable about what’s happening in other mines around the world, and even in Papua New Guinea like Ok Tedi, Bougainville and others. “They are mindful of the environment.”

Saonu said the Evangelical Lutheran Church of Papua New Guinea had made itself clear that it wanted a tailings dam and not a pipe leading into the sea. “If the people and the church want a tailings dam, it has to be a tailings dam – not put a pipe through to the sea and damage the environment,” he said. The mine is to dump its tailings into the waters of the Huon Gulf, according to an updated feasibility study report released earlier this year. The report said three types of tailings management options had been considered during various studies undertaken since 2012: Various terrestrial tailings storage facilities, dry-stacking and deep-sea tailings placement (DSTP). However, it ruled out various tailings storage facilities and dry-stacking, and opted for deep-sea tailings placement.

“Deep-sea tailings placement studies have been conducted as part of the 2017-18 work programme,” the report said. “Oceanographic and environmental studies in the Western Huon Gulf to date have confirmed that area to be a highly-suitable environment for deep-sea tailings placement. “It hosts a deep canyon leading to a very deep oceanic basin with no evidence of upwelling of deeper waters to the surface. “The tailings are expected to mix and co-deposit with a significant, naturally occurring loading of riverine sediments from the Markham, Busu and other rivers that also are conveyed via the Markham Canyon to the deep sea.” PNG has three existing active deep-sea tail-

ings placement operations (Lihir, Simberi, and Ramu Nickel), one permitted (Woodlark) and one closed (Misima).

### **Wafi-Golpu agreement significant for national economy, chamber says**

Post-Courier, December 17, 2018

The PNG Chamber of Mines and Petroleum says the signing of the memorandum of understanding (MOU) between the government and the joint venture partners of the Wafi-Golpu project, Newcrest Mining Ltd and Harmony Gold, is a significant step forward for the project and the country. The government and the joint venture partners signed the MOU last Tuesday in Port Moresby. Chamber executive director Dr Albert Mellam, while congratulating the parties, said the project is important to Papua New Guinea, particularly at a time when major mining projects like the Ok Tedi mine and Porgera gold mine are at mature stages. Dr Mellam said the decision by the government and the project partners to reach an understanding on a way forward to bring the copper-gold project to development was commendable.

In a statement released by Newcrest Mining, it stated that “as a result of entering into the MOU, the WGJV was completing approval processes to start a substantial work program, including establishment of underground access for further drilling of the Golpu deposit and the construction of a bridge over the Markham River, which is an integral feature of the proposed new Northern Access road from the Highlands Highway to the mine site”. It stated that the MOU was also an indication of the parties’ intent to proceed with the Wafi-Golpu Project, subject to finalisation of the permitting process and Newcrest and Harmony board approvals. Dr Mellam said that like all other resource projects, the Wafi-Golpu project would inject significant revenue into the country’s economy and provide substantial socio-economic benefits to the project impact communities, including the local landowners, the host province of Morobe, and the country.

“The resource industry has underpinned the growth of the PNG economy for decades, providing considerable social and economic benefits that have flowed to the government and the people of PNG,” he said. “The expansion of existing projects like the PNG LNG, and the development of new ventures such as the WGJV, we are optimistic these projects will provide the country further economic growth.” The project, a 50-50 joint venture between Newcrest Mining and Harmony Gold, will have an initial capital investment expected to be US\$2.8 billion (K9.37bn), with total capital expenditure expected to be around US\$5.4bn (K18.1bn) over the estimated 28-year life of the mine. The MOU re-affirms the intention of the parties to complete the permitting process and achieve granting of a special mining lease by the end of June.

### **Nautilus Minerals Inc gets additional loan**

Post-Courier, December 17, 2018

Nautilus Minerals Inc announced last Friday that the company has received a loan from Deep Sea Mining Finance Ltd in the principal amount of US\$455,000 under the previously announced loan agreement between the Company, two of its subsidiaries and the lender which provides for a secured structured credit facility of up to US\$34 million. Pursuant to the loan agreement, the company has issued to the lender an additional 1,954,467 warrants of the company in connection with the US\$455,000 loan. Each such warrant entitles the lender to purchase one common share of the company at a price of C\$0.17 for a period of five years from the date of issuance of the warrant. To date the company has issued a total of 73,024,050 share purchase warrants to the lender in connection with loans totaling US\$17,000,000. Pursuant to the loan agreement, share purchase warrants are issued on the basis of one warrant for each US\$0.2328 of principal amount of loan advanced.

The loans bear interest at 8 per cent per annum, payable bi-annually in arrears. All loans have a maturity date of January 8, 2019. As previously disclosed, the company and the lender are in discussions regarding an extension of the maturity date (see the company's news release dated December 2, 2018). There can be no assurances that the company will be able to obtain such an extension. Any transactions will be subject to all necessary stock exchange, third party and government approvals, as well as compliance with all other regulatory requirements. The company will provide further updates as circumstances warrant. The loans are being provided to fund the company's working capital requirements while the company seeks, with the assistance of its financial advisors, the remaining project financing to complete the development of the Solwara 1 Project. As previously disclosed, the lender is a private company owned 50 per cent by each of: (i) USM Finance Ltd., a wholly owned subsidiary of USM Holdings Ltd, an affiliate of Metalloinvest Holding Limited; and (ii) Mawarid Offshore Mining Ltd., a wholly-owned subsidiary of MB Holding Company LLC.

As the lender is indirectly controlled by affiliates of the company's two largest shareholders, the lender is a "related party" of the company and the loan transaction constitutes a "related party transaction" of the company under MI 61-101 Protection of Minority Security Holders in Special Transactions ("MI 61-101"). The transactions comprising the loans and the share purchase warrants are exempt from the formal valuation and minority shareholder approval requirements of MI 61-101. The company did not file a material change report more than 21 days before the expected closing of this transaction, as the details of the transaction were not finalised until immediately prior to the closing and the Company wished to close the transaction as soon as practicable for business reasons. The issuance by the company of the maximum number of warrants under the loan agreement, and the C\$0.17 exercise price of such warrants, received the requisite disinterested shareholder approvals at the company's annual general meeting held on June 25, 2018 as required by the Toronto Stock Exchange.

### **Australian mining interests in north Bougainville**

Jubilee Australia, 15 December 2018



While the Panguna mine – one of the largest operating copper-gold mines in the world until the Bougainville crisis forced its closure in 1989 – might grab the attention of many people, there is more going on in Bougainville in relation to mining than just Panguna. As at the beginning of 2018, four exploration licences have been issued to Australian, Canadian and Filipino mining companies. Australian company Kalia Holdings holds some of these licences and is exploring for copper and gold in the Mt Tore region in North Bougainville.

We are concerned that affected communities have not given their free, prior and informed consent for Kalia Holdings' activities. In particular we are concerned at reports that women have been sidelined, and that the people who are making decisions supposedly on behalf of landowners do not always have customary rights to the land in question. Much of Bougainville is a matrilineal society and land entitlements pass through women to their children. Women are custodians of the land and as such must be involved in all decision-making as it relates to land and to mining.

### **Treasurer says Wafi-Golpu signing good for investment**

By HELEN TARAHA, December 13, 2018, The National Main Stories

THE Government is optimistic that the signing this week of a memorandum of understanding between the Government and the developers of the Wafi-Golpu mine will enable early investment flows. Treasurer and Deputy Prime Minister Charles Abel, pictured, said the Wafi-Golpu and Papua LNG projects were the two most important for the country. "There are some good critical timelines that will enable some early investment flows so that it is a give and take around taxation and a better take to the State as well," he said. "There are some good critical timelines so that construction on early work can begin on Wafi-Golpu and Papua LNG. (It will) stimulate revenue, foreign exchange flows and create employment," he said. Abel said it was part of the Government's attempt to deliver projects in a timely manner. He said the signing on Tuesday was a non-binding document which "tries to bring some focus and clarity on the timeline".

"If the negotiations turn out unfavourable, then we have other important stakeholders like landowners and provincial governments which play an important role," he said. "The Government's role is to facilitate the process as much as possible so benefits can be released quickly. "The two projects are very important in the economic profile going forward. "It's not that we want to rely on extractive industries but we need some of these projects in the meantime and we need to utilise the benefits from those projects to continue our drive in the non-renewable sector. "Our non-resource revenue streams are growing to the resources so we are becoming less dependent on these sectors. But in the foreseeable future we still need the investment flows and jobs and the revenue from these sectors to drive our development."

### **US\$13B Porgera Arbitration To Go Ahead, Says Tuke**

*"The dispute is a domestic issue involving the people of Porgera suing the government of PNG for breaches of contract, breach of the duty of care owed to the landowners of Porgera for damages including injury, loss and harm caused by the operation of the Porgera gold mine by Barrick Niugini Limited for over 29 years since it has commenced operation in Porgera in 1989."*

Yombi Kep, Post Courier, December 13, 2018

A US\$13.28 billion arbitration notice served by a landowner group to the Department of Mining and the Department of Justice and Attorney General (DJAG) has been given the green light by the department responsible. According to an interview with the Minister for Mining, the department has agreed to the arbitration notice served by the Porgera Gold Mine Landowners and the Justice Foundation for Porgera. "The matter is registered with our office and we will just go through the international arbitration process," said Johnson Tuke. Mr Tuke said that arbitration is an international matter, and they will allow the arbitration process to go forward with it. However, he said that a time and location is yet to be decided on by all the parties involved in the process.

The Department of Mining and the Department of Justice and Attorney General were served 13 arbitration documents requesting for arbitration on Friday November 30, 2018. The service of a notice of arbitration or request for arbitration is the first formal step in arbitration. The parties are general-

ly free to agree on how the arbitration proceedings are to commence before an Arbitrator under the United Nations system of Arbitration known as UNCITRAL. Speaking on behalf of the landowners Barrister at Law and Counsel of the PNG Bar, Andrew Kostopoulos said that the landowners of the Special Mining lease which expires on May 12, 2019, are suing the government of PNG for US\$13.28 billion.



“The dispute is a domestic issue involving the people of Porgera suing the government of PNG for breaches of contract, breach of the duty of care owed to the landowners of Porgera for damages including injury, loss and harm caused by the operation of the Porgera gold mine by Barrick Niugini Limited for over 29 years since it has commenced operation in Porgera in 1989.” Chairman of Justice Foundation of Porgera Limited Jonathan Paraia said they have been working on the arbitration documents for the last seven years. “We are requesting for arbitration. All the facts, complaints and issues that needs to be resolved are contained in the arbitration documents,” said Mr Paraia. “The ball is now in their court, they have to decide on how the arbitration will proceed.”

### **Self-professed LOs a problem, Tuke says**

Post-Courier, December 13, 2018

Mushrooming landowner groups have become a major problem in resource impact areas in PNG. This is according to Mining Minister Johnson Tuke (pictured), who yesterday criticised them for instigating unnecessary fear, anxiety and distrust among genuine landowners. I condemn the misinformation they are feeding the people through the media in their quest to create disharmony and distrust in the mining industry and the Government of Papua New Guinea,” he said. Tuke said this in reference to demands made in the media by interest groups from the Basamuk refinery area in Madang Province. Mr Tuke met with the executives of the Basamuk Landowners Association this week to clarify matters evolving from the Basamuk situation. “On that note, I have this week met with their association executives at my office and they have refuted all claims made by these so-called interest groups or spokespersons who are supposedly representing them,” he said. “They were never part of the four initial Ramu NiCo landowner representative associations of which Basamuk Landowners Association is a party to, and the true representative of the people of Basamuk refinery and limestone areas.”



He said the landowners of the refinery site were good people and their grievances would be dealt with following due processes. "I will only deal with Basamuk Landowners Association, the legally recognised entity of the people, instead of running to the media to create unnecessary havoc on an important project that others have worked so hard to establish," he said. Papua New Guinea and China have agreed to expand the Ramu NiCo Management (MCC) operated mine with an investment of over US\$1.5 billion (K5 billion) which will create more jobs, increase production and reduce operation costs. The landowners of the Ramu NiCo project received their royalties of K25 million from the National Government and this was deemed positive news for the landowners. The government has encouraged the landowners to invest their money in businesses that will make good economic returns on their investment. "Basamuk landowners are no exception and therefore, I commend the new executives of their association headed by Sande Suang for giving their commitment to work with the government," Mr Tuke said.

### **PNG government rethinking China mining deal after opposition**

*Papua New Guinea's mining minister says the government is looking at changing parts of a mining deal struck with China.*

Radio New Zealand, 13 December 2018



Photo: 123RF

In November, China and PNG signed a \$US148 million memorandum of understanding to extend the Ramu nickel mine's refinery in Madang's Basamuk Bay. But more than 1,000 locals are now threatening to shut down the Basamuk refinery if their demands aren't met. They want funding for a local highway extension and other local benefits from the Chinese developer, the Metallurgical Corporation of China. The minister, Johnson Tuke, met with landowners on Tuesday and said he's now raising their concerns with the company. "There are some terms and conditions of the MoA might change and the treasury department are waiting on certain terms and conditions of the physical responsibilities too." The petitioners have given the government until 19 December to respond to their demands.

### **Kalia about to hit its straps in Bougainville**

Matt Birney, The West Australian, 12 December 2018

Kalia Limited has been busy doing the geological ground work to systematically unlock the mineral riches on Bougainville Island from early next year. It has now completed a highly anticipated geo-

physical survey over the Mt Tore JV tenements and commenced data interpretation for the exploration of its porphyry copper-gold assets. The JV area is located at the northern end of Bougainville in Papua New Guinea. The geophysical survey produced nearly 11,000-line kilometres of data over both of the company's large exploration licences, which has now been forwarded to Fathom Geophysics for interpretation. Fathom specialise in exploration beneath cover in epithermal terranes that are prevalent in PNG and the latest exploration activity represents one of the first serious exploration pushes on the mineral rich island for some time, after mining was effectively shut down when the civil war took hold three decades ago.

Kalia Managing Director Terry Larkan said: "The team in Bougainville were very excited to report that, after checking the data quality from the day's flying, the data collection was complete. The historic value of completing this program will not be lost on those familiar with Bougainville; it was certainly not lost on our geology team ...". Mr Larkan said the company was excited to see what secrets would be revealed once the data is processed by Fathom this month. Results will be released in January after company geologists have fully analysed and interpreted the processed data. "In the interim we will continue with the fieldwork at the target areas identified using the results from the previous survey that covered only 20% of the (combined) EL03 and EL04 (areas)", Mr Larkan added. The company has a 75% managing interest in the Tore Joint Venture Limited or "TJV" exploration licences on Bougainville.

The prospectivity of Bougainville is well known with the mothballed Panguna Mine, still retaining an amazing 1.8 billion tonne JORC-compliant mineral resource at 0.3% copper and 0.34g/t gold, serving as an indicator of the island's mineral endowment. A moratorium on all mining activity has effectively been in place since the Australian Government, which held PNG as a territory at the time, issued exclusive rights to the predecessor entities of what is now Bougainville Copper Limited in the 1960s. This became a blanket moratorium when mining operations stopped at Panguna in 1989 due to the ongoing Bougainville crisis. Post the crisis, the Autonomous Bougainville Government or the "ABG" was formed through the UN sponsored peace process of 2004. The Peace Agreement gave the ABG authority for the minerals on the island.

The ABG instituted a complete moratorium on mining activity except for the abandoned Panguna Mine where they converted the Special Mining Licence into an Exploration Licence over that gigantic ore deposit. The two Kalia-held exploration licences cover an area of just over 1,700 square kilometres and were the first tenements issued to a non-Bougainvillean entity after the lifting of the moratorium on mining activity by the ABG in May last year. The company is presently the only listed entity actually working with licences issued under the Mining Act 2015 on Bougainville. The Mining Act 2015 puts the actual mineral rights into the hands of the traditional landowners and requires licence holders to facilitate the formal organisation of the landowners and to negotiate access to the minerals with those same groups – a hurdle that Kalia has already managed to traverse. Kalia appears to have integrated into the local communities well and its 75/25 JV with local landholders will be held up as the new mining model on Bougainville if Kalia can get its project to fly. Kalia geologists have provided the TJV with a full technical review of an historical geophysical survey that covered about 40% of its easternmost exploration licence, but none of the westernmost licence.

The TJV has now completed a wider airborne geophysical survey using a helicopter to collect the data, with equipment far more advanced than that used in the original 1989 survey. The results of this \$1 million investment will be available in January next year and will better define the known target areas and are expected to identify additional targets within regions of the licence area not previously surveyed. Some small-scale reconnaissance exploration mapping and surface sampling has been undertaken by Kalia over the exposed geology and assay results have largely corroborated the historical results. The limited work has supported the historical conclusion that there is gold and

copper mineralisation in epithermal settings in the exploration licences. Field checking has also identified two new areas that were not identified in the historical data and these will require additional work to advance them towards being potential future drilling targets.

Rock chip sampling at the Baiano prospect has defined a 1000m x 400m wide elevated copper anomalism. At the Teoveane prospect, potassic alteration on a volcanic intrusive rock was sampled and rock chip sample assays from the outcrop returned a very encouraging result of 6.37 g/t gold and 0.45% copper. In addition, field exploration extended up a side stream to the north of this first outcrop where 1.1km away, another similar altered volcanic outcrop was sampled, generating a gold grade of 0.94g/t and copper grade of 0.06%. These two areas at the Teoveane prospect are in addition to the four potential copper-gold porphyry systems and at least one intact epithermal target, identified through historical investigations. The mineralisation noted at the historical targets is yet to be verified by field work, however ground access has now been granted to some of these targets and access is expected to others shortly.

With a solid foundation now established in the community and the landowner base, Kalia, through the TJV, is poised to start delivering regular assay results from exploration field work now. This includes the potential announcement of additional targets from interpretation of the detailed geophysical data, which will hopefully progress rapidly to define drill targets that will unlock the mineral potential of Bougainville that has been hidden away for so long. Kalia is building up a plethora of new geological data on Bougainville that could throw up a treasure trove of exploratory targets over its large land holding on the island. That this mineral rich province has been off the radar for nearly three decades makes the company's activities quite exciting and something of a frontier exploration play, where anything could be unearthed.

### **Nautilus deep sea mining plans in doubt over vessel conflict**

Ewen Hosie, Australian Mining, December 12, 2018



Nautilus Minerals' production support vessel (PSV) has been acquired by Indian company MDL Energy in a blow to Nautilus' deep-sea mining plans. The in-construction PSV is a cornerstone of the Canadian company's plans for its Solwara 1 deep sea mining project in Papua New Guinea. The Solwara 1 project is an underwater mining project using heavy vehicles called seafloor production tools (SPTs) for sulphide extraction (primarily gold, silver and copper) from the Bismarck Sea, offshore Papua New Guinea. The PSV is primarily designed to support Nautilus' mining operations by collecting the extracted materials at the water's surface via pumps running up from the seabed. In July 2018, the owner of the Chinese shipyard where the PSV is being built [announced](#) that it had rescinded its shipbuilding contract with Nautilus-contracted Marine Assets Corporation (MAC) due to the latter defaulting on its payments, throwing the vessel's future into doubt.

On November 27, MDL subsidiary Ocean Energy Ventures (OEV) then released a public statement detailing its acquisition of the PSV alongside partner Quippo Oil and Gas. OEV redubbed the vessel as the Amaya Explorer and stated that its discussions regarding the charter of the ship to Nautilus were terminated on October 5. OEV alleges that it instructed Nautilus to remove its equipment from the vessel in order for OEV to repurpose it. “We are delighted to have concluded the contract for the purchase of Fujian Mawei hull MW301-1,” said MDL chief executive officer Kulpreet Sahni. “The vessel hull fits well with our future plans and we are excited about this first step on a new journey for us.” Nautilus responded on December 2 explaining that it was discussing a loan extension facility with Deep Sea Mining Finance to enable the acquisition of the vessel but that there could be “no assurances that such discussions will be successful”.

Environmental campaign groups critical of the Solwara 1 project, such as Sydney-based Deep Sea Mining Campaign and Ottawa-based Mining Watch Canada, have subsequently responded to the news of Nautilus’ difficulties as a win for the Bismarck Sea and local communities in PNG. “Nautilus’ Production Support Vessel was the centre piece of their model of operation,” said Deep Sea Mining Campaign coordinator Helen Rosenbaum. “Without the PSV it’s difficult to see Nautilus ever developing its Solwara 1 project. Given Nautilus’ dire financial circumstances it is fair to say the game is over.” Nautilus has vociferously [defended](#) previous criticisms of the project’s environmental viability.

### **Game Over. Canadian Mining Company’s Papua New Guinea Deep Sea Mining Experiment Fails.** MiningWatch Canada, December 11, 2018



Nautilus Minerals’ aspirations to be the world’s first deep sea mining company sink to the bottom of the ocean on news that the project support vessel critical to the development of the company’s deep sea mining project in Papua New Guinea has been purchased for repurposing by Indian company MDL Energy. Dr. Helen Rosenbaum of the Deep Sea Mining Campaign said: “Nautilus’ Production Support Vessel was the centrepiece of their model of operation. Without the support vessel it’s difficult to see Nautilus ever developing its Solwara 1 project. Given Nautilus’ dire financial circumstances it is fair to say the game is over. There seems little chance of them re-paying their bridging loans when these become due in less than a month. The Solwara 1 experiment can be deemed a failure, and the people of the Bismarck Sea of Papua New Guinea have hopefully been spared an environmental disaster.”[1]

Dr. Catherine Coumans of MiningWatch Canada stated, “If Nautilus sinks, the amazing hydrothermal vents targeted for mining with their unique and diverse life forms will be given a reprieve, as will the marine ecosystems and fisheries of the Bismarck Sea. Local communities have been fighting hard to preserve their way of life and their livelihoods for their children and children’s children.” Jonathan Mesulam from the Alliance of Solwara Warriors, added, “My village is located in New Ireland province, only 25 km from the proposed Solwara 1 project. It will be good news for my people if Nautilus goes bankrupt – instead of bankrupting our sea. We will fight this project to the very end.”

Mesulam continued, “The Alliance of Solwara Warriors launched a legal case in PNG’s courts over a year ago.[2] We are concerned that the Papua New Guinean Government has attempted to have our legal case dismissed. We are now talking to our legal team about filing substantive court proceedings against Nautilus and the State to stop the project. One way or another we will chase Nautilus and Solwara 1 from PNG’s waters!” Sir Arnold Amet, former Papua New Guinean Attorney General, declared, “I have been warning our Government publicly and privately about the financial mess they will find themselves in when this experimental company fails.[3] The PNG Government invested heavily to purchase 15% of Nautilus and this will now translate into 15% of its bankruptcy and any debts the company owes. Our nation cannot afford this. The Government should now terminate the contract with Nautilus and cancel all permits for the Solwara 1 operation.”

## Notes

[1] Canadian company Nautilus Minerals Inc. has been desperately seeking funds for its flagship Solwara 1 deep sea mining project. Commercial operation has been delayed year after year since it received its licence to mine the floor of the Bismarck sea in 2011. In a last-ditch bid to finance Solwara 1, Nautilus’s two largest shareholders, Russian mining company Metalloinvest and Omani conglomerate MB Holdings, have formed a new company whose sole job is to secure funding for the Solwara 1 project. However, their attempts have failed. See [Nautilus signs funding mandate with major shareholders](#), Nautilus Minerals press release, 11 October 2017.

[2] [Legal action launched over the Nautilus Solwara 1 Experimental Seabed Mine](#), media release, Alliance of Solwara Warriors and Centre for Environmental Law and Community Rights (CEL-CoR), 8 December 2017; [Troubled Papua New Guinea deep-sea mine faces environmental challenge](#), The Guardian, 12 December 2017; [World-first mining case launched in PNG](#), Lawyers Weekly, 14 December 2017.

[3] [Nautilus Solwara 1 on the verge of bankruptcy as APEC Summit heads to Papua New Guinea](#), media release, 12 November 2018; [Former Attorney General of Papua New Guinea: The writing is on the wall for Solwara 1 – PNG should withdraw its investment before it’s too late](#), media release, 17 January 2018; <http://www.deepseaminingoutofourdepth.org/the-writing-is-on-the-wall-for-solwara-1-png-should-withdraw/>; [Former PNG AG attacks deep sea mining project](#), Radio New Zealand International, 24 October 2017.

## **Bougainville gets caught in China’s Pacific power game with West**

*Bougainville's huge copper reserves and independence vote draw global interest*

Fumi Matsumoto, Nikkei Asian Review, December 11, 2018

A small island has found itself caught in the escalating battle for influence in the South Pacific. On both economic and diplomatic fronts, Papua New Guinea's autonomous region of Bougainville has become a key piece in the game between Beijing, on one side, and the U.S. and its allies on the other. With Bougainville holding one of the world's largest untapped deposits of copper, Chinese and Western companies are weighing the prospects for reopening its Panguna copper mine -- closed since a vicious civil war broke out in 1989. The island is also set to hold an independence referendum on June 15, potentially creating a new country that could vote in international forums such as

the United Nations. John Momis, president of the Autonomous Bougainville Government, told the *Nikkei Asian Review* that Chinese businesspeople raised the matter of investing in the mine on a visit to PNG ahead of last month's Asia-Pacific Economic Cooperation summit in the capital, Port Moresby.

Momis said he told them that, "Panguna is not an easy issue, and as far as ABG's concerned we have decided to put it on the back burner until the referendum." The peace agreement signed by the PNG government and island leaders in 2001 created the ABG and set the stage for the referendum. Chinese involvement with the mine would give Beijing a direct role in the economic future of a newly independent nation as it seeks to secure resources and expand its strategic network. It would also boost China's sway in its power game against the U.S. and regional rivals such as Australia. But given its potential resources, the government in Port Moresby would be loath to lose the island, especially the Panguna mine. And while the referendum is not binding, blocking a secession backed by most of the local population might be a recipe for renewed unrest in the volatile country.

Diplomatic sources said 99% of residents will support independence; Ted Wolfers, a professor at Australia's University of Wollongong, said the consensus is an "overwhelming majority" will vote that way. But he also suggested PNG would not let the island go easily. "PNG's government might talk the autonomous government into settling for greater autonomy that falls short of independence," Takehiro Kurosaki, a junior associate professor at Japan's Tokai University said. The island, and particularly the mine, have a tangled present shadowed by a brutal past. The decade-long civil war that killed more than 20,000 people -- about 10% of Bougainville's population -- was triggered by resentment over pollution and revenue distribution from mining. Bougainville was also a battlefield when Japan invaded the island during World War II in an attempt to cut off a sea-lane between the U.S. and Australia.

PNG desperately needs foreign currency. In September, the government issued its first dollar bonds and managed to raise \$500 million -- crucial funds as the country attempts to manage \$2.5 billion in foreign debt, almost \$590 million of which is owed to China, according to Reuters. "Beijing's trade and investment in the region is focused mostly on Papua New Guinea, the region's largest economy and home to rich gold and nickel mines, liquefied natural gas, and timber forests," the U.S.-China Economic and Security Review Commission said in a report in June. The report notes that state-owned China Metallurgical Group manages development of a \$1.4 billion nickel and cobalt mine in PNG, with funding from the Export-Import Bank of China. This, the report says, is "China's largest single investment in the region and its biggest foreign greenfield mining project." About 40 Chinese companies operate in PNG, according to China's state-run Xinhua News Agency.

Indeed, Beijing offered PNG about \$60 million worth of aid to host the recent APEC forum, according to a diplomatic source. This included road repairs and a supply of bulletproof vehicles. China currently has eight South Pacific countries in its corner, including PNG, while Taiwan has the recognition of six, such as the Solomon Islands. Chinese President Xi Jinping has made little secret of his desire to deepen Taiwan's isolation; there is talk of the Solomons, where China has also opened up its checkbook, switching allegiances. China's outreach to the South Pacific has spurred Western allies to, belatedly, push back. In the run-up to the APEC meeting, Australia and New Zealand -- long the main benefactors for South Pacific nations -- joined the U.S. and Japan in announcing a plan to build up PNG's electricity infrastructure. U.S. Vice President Mike Pence, in his speech at the APEC summit, announced a plan for U.S. cooperation in bolstering a naval base on Papua New Guinea's Manus Island. In remarks clearly directed at China, Pence referred to recent naval exercises with India and Japan, and said: "We will work with these nations to protect sovereignty and maritime rights of the Pacific islands as well."

For now, the island states find themselves in the enviable position of being courted by China, the U.S. and its allies all at once. PNG has accepted a Chinese proposal to build an internet network using loans from the Chinese Ex-Im Bank and technological support from Huawei Technologies. PNG picked the Chinese proposal over one from the U.S. and Australia. A similar story is being told across the South Pacific. Vanuatu signed an agreement with China to take part in Beijing's Belt and Road infrastructure initiative. In return, China agreed to a moratorium on nearly \$3 million worth of debt, according to a local newspaper. In April, reports surfaced that China was planning to build a military base in Vanuatu. Alarmed by this, the U.S. and Australia swiftly moved to start talks with the island state on a bilateral security treaty. The increased attention from partners, both old and new, means that Pacific nations "now have more leverage," said Jonathan Pryke from the Lowy Institute, an Australian think tank.

The issues of the mine and referendum puts Bougainville firmly in the spotlight. While the situation on the island is replete with risks, Panguna's reserves are very attractive to China, the world's largest copper consumer. The deserted mine contains more than 1 billion tons of ore, according to a study from 2009 -- more than the 675 million tons extracted over the 18 years it was open. These deposits look even more valuable given global concerns over copper supplies, due to emerging market demand, depletion of known resources, rising mining costs and limited new discoveries. A number of companies are circling. A Lowy report said there has also been corporate interest in the mine from Australia, the U.S., Canada and Brazil. Whoever wins out will be able to cement a foothold in the region, but it will come at a financial cost. Professor Wolfers said interested parties would have to consider the startup costs of reopening the mine, which he sees reaching as much as \$8 billion. Bougainville's President Momis said the island's government was taking a cautious stance on the investment interest. "We don't believe anybody who comes and talks about these issues until we see things in concrete and on paper," he said.

### **PNG landowner group dismisses miner's claim**

*A landowner group at the site of Papua New Guinea's Porgera mine has dismissed claims by the miner that it is not representative.*

Radio New Zealand, 11 December 2018



Photo: Supplied

The Justice Foundation for Porgera last week launched a huge \$US13.28 billion dollar suit against the PNG government over the failure of the miner, Barrick Nuigini, to meet the conditions laid out in the mining agreement. The company has responded, saying it has provided hundred of millions

of kina to the people of Porgera over the 29 years of the lease. The foundation does not speak for the majority of landowners who support the continued operation of the mine, the company said. But a lawyer for the foundation, Andrew Kostopolous, said that was wrong. "I have met all the chiefs or the landowner agents," Mr Kostopolous confirmed. "We have had them verified, we have had them sign off and these are the people that are landowners," he said. "We have 18 out of the 24 and they represent their particular area in the Special Mining Lease that has been granted to Barrick."

### **Seabed mining project in PNG appears dead in the water**

*Environmentalists are celebrating signs that a deep sea mining project in Papua New Guinea appears to be dead in the water.*

Radio New Zealand, 11 December 2018

Canadian company Nautilus was given approval by PNG's government to mine the seafloor of the Bismarck Sea between the islands of New Ireland and New Britain. However its Solwara 1 project faced deep opposition among local community groups, due to concerns over potential environmental impacts of the world's first seabed mining project. Before mining ever took place, Nautilus' project support vessel has been purchased for repurposing by Indian company MDL Energy. Dr Helen Rosenbaum of the Deep Sea Mining Campaign said that without the vessel it was difficult to see Nautilus ever developing Solwara 1. She said that given Nautilus' dire financial circumstances it was fair to say the game is over for the project. "There seems little chance of them re-paying their bridging loans when these become due in less than a month. "The people of the Bismarck Sea of Papua New Guinea have hopefully been spared an environmental disaster." Dr Catherine Coumans of Mining Watch Canada stated that "if Nautilus sinks, the amazing hydrothermal vents targeted for mining with their unique and diverse life forms will be given a reprieve." As will the marine ecosystems and fisheries of the Bismarck Sea," she said.



New Britain coast, Papua New Guinea. Photo: Alex Smith

The news was also welcomed by Jonathan Mesulam from the Alliance of Solwara Warriors, whose New Ireland village is located 25 kilometres from the proposed mining area. "It will be good news for my people if Nautilus goes bankrupt, instead of bankrupting our sea," he said, adding that the community would "fight this project to the very end". The Alliance of Solwara launched a legal case against the project in PNG's courts last year. "We are concerned that the Papua New Guinean Government has attempted to have our legal case dismissed," Mr Mesulam said. "We are now talking to our legal team about filing substantive court proceedings against Nautilus and the State to

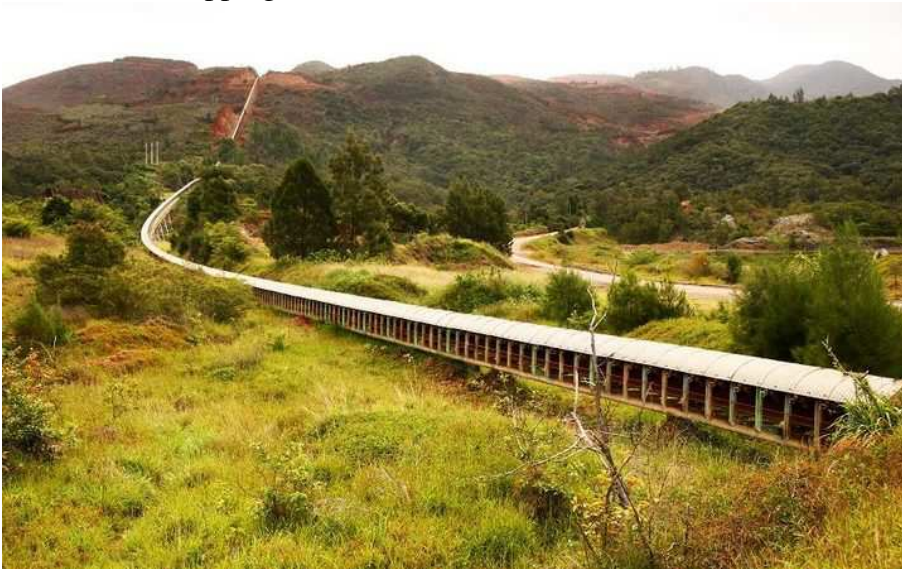


stop the project. Supportive of the project from the outset, having granted Nautilus its licence in 2011, the PNG government purchased 15 percent of Nautilus.

### **More fires at New Caledonia's Kouaoua mine**

Radio New Zealand, 11 December 2018

There have been more arson attacks at the New Caledonian mining site at Kouaoua. Local media reports say a fire overnight Monday burnt a stretch of the conveyor belt which feeds nickel ore to the coast for shipping to the SLN smelter in Noumea.



The conveyor belt at the Kouaoua mine. Photo: SLN

The reports say there were two more fires last week despite the deployment of about 20 police to the area. Late last month, six people were charged over arson attacks which have numbered about 20 this year. The Kouaoua site, which provides more than a third of SLN's ore, was closed for nearly three months this year as a result of two blockades set up by a local group opposed to expanded mining. The French High Commission said Kouaoua residents and SLN employees were legitimately exasperated in the face of actions which nothing could justify.

### **Cooks opposition in the dark over seabed mining**

*The Cook Islands opposition MP Selina Napa has asked the government to reveal what changes are being planned for the Seabed Mining Act.*

Radio New Zealand, 10 December 2018

Ms Napa said reported statements that the changes would be made public when they are tabled in Parliament "isn't good enough". Requests to the Seabed Minerals Authority to see what the law changes are have been met with refusal as the draft is currently with the Crown Law Office, she said. "We wanted to know what they are up to before it even reached Crown Law," she said, adding that "the lack of transparency does nothing to instil confidence that the law changes the government is planning are in the best interests of the Cook Islands people, the country and environment." The Titikaveka MP said an expert team from the Commonwealth Secretariat was engaged by the then Democratic government in 2007 to draft the act and the Cook Islands did not have the expertise to change it without posing a threat to the environment. "It really worries me that they are tinkering around with this ground breaking, hugely important legislation that was drafted by experts in law of the sea and the blue economy. "I don't think we have the expertise to be making any kind of changes that will affect the Seabed Mining Act in any way."



Selina Napa. Photo: Supplied



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.

It is also very concerning that mining companies with an interest in obtaining exploratory licenses in the Cook Islands exclusive economic zone could be helping the government develop a plan towards achieving this activity, Ms Napa said. "We've already stuffed up the purse seining agreement with the European Union. We came away with nothing in our favour, those negotiations had just the former secretary of Marine Resources and one lawyer from Crown Law going toe to toe with a team of the biggest guns from the EU. So we ended up second best, got locked into an unfavourable agreement and today we are selling our fish for a pittance," she said.

"Personally, I prefer to leave whatever is on our seabed undisturbed, let it be. But since the government is hell bent on pursuing the exploitation of our seabed minerals, everyone in their right mind wants this to be done with the outmost caution and ensure that the best, most robust team does all of the negotiating on our behalf. This responsibility can't be left to just our heads of agencies and lawyers with little or no relevant experience. "The current team which seems to be meeting with interested mining companies really don't have the required expertise to negotiate the best deal and protect the interests of our country." The government plans to open tenders for five-year, deep sea mining exploration licences at the beginning of next year.

## **Solomons PM signs pledge to ban logging, mining**

*The Solomon Islands Prime Minister Rick Hou has signed a pledge to ban logging, mining and other commercial activities at and above the 400 metre contour line.*

Radio New Zealand, 10 December 2018



Rick Hou the Prime Minister of Solomon Islands.. Photo: RNZ/Pacific Koroi Hawkins

The Solomons Business Magazine reports the pledge is a demonstration of the government's commitment to protect the well-being of customary communities, sacred places and pristine ecosystems. A trust will be created to provide long term funding for customary guardianship and the development of other commercial opportunities for landowning communities. These could include tourism and the use of medicinal plants.

## **Court denies bid to hold K52mil**

December 10, 2018, The National

THE Waigani National Court has refused an interim restraining order sought by the Hulia local-level government in Hela to stop a payment of K52 million in development levies for Hela and Southern Highlands. The amount from the PNG LNG project was released by the State to the two provincial governments this year. However, the Hulia LLG council, an LLG from the impacted project area, claimed that the payment to the two provincial governments were illegal. The order taken out by Hulia LLG president Erick Yawas, through lawyer Paul Othas, claimed that the money that was paid to the two provinces was in breach of the umbrella benefit-sharing agreement (UBSA) and also the Oil and Gas Act and sought interim orders to restrain the payment and accessibility of the funds.

The provinces were to receive K26 million each as development levy for all the local level governments that were affected by the LNG project. It was argued that during the signing of UBSA in 2009 at Kokopo, Hela was not a province and under Clause 24.2 of the umbrella benefit-sharing agreement, there had to be a deed of amendment to the UBSA when Hela became a province, but that was not done and there was no deed of amendment in place for Hela. The court ruled that there was no-compliance by Yawas (plaintiff) in regard to the Public Money Management and Regulatory Act Section 10. Therefore it refused to grant orders and dismissed the plaintiff's notice of motion sought. He also ordered that the parties bear their own costs.

## **Frieda River project takes on development of Sepik region**

*The Frieda-River gold and copper project will take on a completely different approach by developing a large part of the Sepik region with high impact projects tied into the development of the resources according to its latest feasibility study.*

Post-Courier, December 10, 2018

The Frieda-River gold and copper project will take on a completely different approach by developing a large part of the Sepik region with high impact projects tied into the development of the resources according to its latest feasibility study. Highlands Pacific Limited reported receipt of a feasibility study for the Frieda River copper-gold project in PNG from project manager PanAust Limited, a wholly-owned subsidiary of Guangdong Rising Assets Management Co Ltd (GRAM). Highlands holds a 20 per cent interest in the Frieda River joint venture, with PanAust holding 80 per cent. The feasibility study follows a consultative process, field work program and extensive review of PanAust's previous development plan which was outlined in its May 2016 feasibility study, which was subsequently updated in an addendum in March 2017.

The 2018 feasibility study adopts a fundamentally different approach to the project, considering the Frieda River copper-gold project within a broader regional development context and requiring extensive third party or government investment in regional infrastructure as a prerequisite. The revised approach presents changes to prior studies in a number of ways including that it generates revised production metrics and overall project economics based on the same copper price assumption as the previous study but a slightly lower gold price. Under a single ownership structure, the combined project including the Frieda River mine and process plant, together with the hydro-electric facility, but excluding road, transport and regional power transmission infrastructure, has a total pre-production capital cost of US\$6 billion and generates a post-tax internal rate of return of 11 per cent in real terms, with a seven-year implementation schedule.

The total cost of the road, airfield and port upgrades is estimated at US\$739 million (K2426.9 million), to be funded by government and/or public-private partnerships. It requires a 340km slurry pipeline to be built linking the process plant at the mine site with the port of Vanimo. The pipeline will cost US\$351 million (K1159 million) and will be operated by a third party on commercial terms. Like the previous development proposal, the 2018 plan requires the construction of a hydro-electric power station integrated with a tailings and waste rock storage facility (an integrated storage facility [ISF]). The development plan assumes the sale of excess power from the proposed hydro-electric facility to third parties via a transmission network to be constructed at a capital cost of up to US\$418 million (K1363.2 million) inclusive of a rural electrification network along the road corridor.

The entire project requires increased total capital investment of more than US\$7 billion (K22.8 billion) encompassing the cost of the mine development, process plant, ISF and hydro-electric power plant, road construction and airport upgrades and power transmission network. Highlands Pacific managing director Craig Lennon said the feasibility study represented a further step towards unlocking the value of the giant Frieda River project. "A great deal of work has gone into the preparation of this visionary and ambitious development concept, aimed at overcoming some of the many logistical challenges associated with construction of a project of this scale in one of the more remote regions of PNG," he said. "The project, as currently proposed by PanAust, faces significant hurdles, not least of which is the substantial capital cost, but also the need to identify government and other third parties to develop and fund the roads and other regional infrastructure required as a prerequisite to construction of the project."

## **Ramu Nickel clarifies mine expansion deal**

December 10, 2018, The National Business

People's concerns about benefit-sharing and spin-offs will be carefully considered before Ramu Nickel's expansion programme begins, says an official. Ramu Nickel community affairs manager Albert Tobe said this after Kurumbukari (KBK) landowners of Ramu Nickel mine in Madang told the company to list the possible business spin-off potential or they will shut the operation. The villagers gathered at Kinimati village, West Kurumbukari, and aired their views to the management. The landowners demanded to be told why they were not informed about the signing of the expansion programme of the mine and other benefits. Tobe said that the agreement was signed in Port Moresby during the Apec summit to speed up the process, however, there were more requirements to be met and consider before the actual expansion programme began. The chairman of KBK Landowners' Association, Toby Bare, said that in the past, youths would take the lead to address benefit-sharing issues, but that often resulted in fights which required police intervention.

Now, he was dealing with the matter himself to avoid violence. "I will shut the water supply to the mine myself if the company does not come good with our request," Bare said. He said he had petitioned the company two weeks ago on behalf of the landowners in Kurumbukari, Basamuk and Inland and Coastal Pipeline. Bare demanded to be told why the landowners were not informed about the signing of the expansion programme of the mine, including other benefits. The chairman of the Raibus Group, Steven Saudm said landowners of the Kurumbukari mine wanted to experience benefit-sharing like the landowners of Porgera, OK Tedi and other mines. He said that it has been 13 years since the mine began operation and the landowners still do not have good schools, aid posts and electricity.

## **Provincial budget support 2019 a concern: Sir Julius**

Post-Courier, December 9, 2018

New Ireland Governor Sir Julius Chan has expressed concerns about the inability by the National Government to meet its commitments to the provinces and lower levels of government. He said, year in year out, provinces are promised funding in the national budget, and every year the funding fails to come. "We have not received full DSIP or PSIP funds for several years, we do not receive the funding we are promised in the budget for healthcare or for Tuition Fee Free Education," Sir Julius said. "Our functional grants have been cut to zero. That makes it impossible to do real, effective planning. "How can you plan when you do not know what funding is going to be available?" Sir Julius, who is the chairman of the provincial executive council, was also critical of the failure of National Government to honour its commitments under the mining and oil and gas MoAs. "We have an MoA with the State for the Lihir Gold Mine, and the State is supposed to pay New Ireland about K14 million per year in special support grant and infrastructure development grant," he said.

"That is a pittance of what the State gets from the mine, but for the past twenty years we have not received what we should have. "Just in the last five years we have been underpaid by over K50 million, and the 2019 Budget only includes K2.5 million in SSG and IDG when it should include nearly K15 million. "We have had to go to court several times to get what is due to us, and we are now in court again just to get the little money that under the legally signed Lihir MOA is rightfully due us." Sir Julius said that "when a province actually shows that it is responsible, when it shows it uses the resources available efficiently, it gets punished". "New Ireland was able to provide free education, old age and disabled pensions and many other programs because we made sure that at least 70 per cent of our internal revenue went to development activities and only 30 per cent or less was spent on recurrent costs, including administration."

## **PNG miner details its contribution to Porgera community**

*Barrick Niugini, the operators of the huge Porgera gold mine in Papua New Guinea, is keen to point out that it makes, and has made, a substantial contribution to the country.*

Radio New Zealand, 7 December 2018



The Porgera gold mine Photo: wikicommons / Richard Farbellini

This comes after a group called the Justice Foundation for Porgera announced it was launching a \$US13.28 billion dollar suit against the PNG government. It said it was suing the government but it would expect the company to eventually cover any compensation order. It alleged environmental and social damage caused by the mine over the past 29 years but the company said it had paid hundreds of millions of kina in compensation as part of its contract. It said it had also paid billions in taxes and more than half a billion in royalties over the 29 years.

The company said it had developed and maintained a wide range of community infrastructure and facilities, spending more than \$US125 million on health, education, power and sanitation facilities. Barrick is now seeking a renewal of its lease and says the Porgera community supports the continued operation of the mine, including the Porgera Landowners Association, which it said is the recognised representative body of the mining lease landowners.

## **Negligence to cost taxpayers K200 million**

*PNG taxpayers will fork out K200 million to gasfield landowners in a summary judgment granted by the National Court because State lawyers failed to turn up to defend the case.*

BY ISAAC NICHOLAS, Post-Courier, December 7, 2018

PNG taxpayers will fork out K200 million to gasfield landowners in a summary judgment granted by the National Court because State lawyers failed to turn up to defend the case. Minister for Justice and Attorney-General Davis Steven said yesterday there was “negligence” by the Solicitor General, State Solicitor and several senior lawyers who opted to fly to Sydney, Australia, to attend the three-day Mining and Petroleum Conference which started on Monday. “As we speak we have huge claims that are outstanding, there are a lot of judgment debts that are outstanding and time periods for filing of appeals are running. “Only last night I was dealing with a matter in which the State is exposed to under a summary judgment of almost K200 million which was allowed to occur because the Solicitor General’s lawyers did not turn up in court.”

Mr Steven said another international litigation against PNG Sustainable Development Program may face similar fate if State lawyers continue to neglect their duties. He said that on Wednesday night the department received a letter from solicitors in Singapore where the State has one international litigation there. “It’s a letter that states that we are few days away from our time limits in filing a case in Victoria, Australia, because our lawyer in Singapore recognise the need for us to file in Australia. “Now the issues are raised and relevant officers are in Sydney. How do I protect the state interest when the people concerned are not here?” On the K200 million summary judgment, Mr Steven said it was a claim by Mineral Resource Development Company (MRDC) and Petroleum Resources Gobe against the State. He said MRDC, which manages the benefits of the landowners, claimed that the State was not paying outstanding money owed to the landowners and they had gone to the National Court. “The Solicitor General’s lawyers failed to defend the case so there is no court and summary judgment granting the total amount that they were seeking K200 million,” he said. “Only now we have evidence coming from Finance Department saying we have been paying but everyone slept over this. The lawyers slept over it, relevant agencies like Finance slept over this until a judgment order was granted.

“That’s the first error, they failed to defend the State. The State’s interest is exposed, K200 million is a lot of money, it’s almost what we pay district services improvement program every year. “And then, after judgment has been given we did not appeal, the 40 day appeal period was allowed to lapse by the Solicitor General. “I’m here and no one briefed me about it and then after our appeal period had lapsed they bring an application for Supreme Court review under section 155. “I realised that we have simply been negligent, so I asked where the Solicitor General was and am told that they are attending the Mining and Petroleum Conference. “Meanwhile if this leave application is refused, taxpayers will pay. While the Solicitor General and her staff with one or two lawyers who are down there (Sydney). “It’s disappointing that they are on Facebook showing that they are attending the conference and I am wondering how many are going to court to defend the court cases which we are losing miserably and in big numbers...this whole thing is disappointing.”

### **Vale to invest \$US500m in New Caledonian nickel operation**

Radio New Zealand, 6 December 2018

The Brazilian mining company Vale is to invest \$US500 million in its nickel operation in New Caledonia. The decision comes amid expectations that nickel prices will recover as demand for the metal increases to build batteries for electric vehicles.



Vale nickel plant Photo: AFP PHOTO / FRED PAYET

Vale's CEO chief executive officer Fabio Schvartsman told *Reuters* that earlier the company was considering a partnership to maintain the Goro plant which had been running at a loss. Last year, Vale was reportedly also considering mothballing the plant while holding discussions with possible Chinese investors. It had ruled out investing more money, fuelling fears of massive job losses in New Caledonia's southern province. Vale's new investment is to fund the so-called Lucy project which is a system to store residue from its nickel production.

### **Deep trouble: A high-profile deep-sea mining company is struggling**

*Nautilus has multiple problems, including the loss of an expensive ship*

The Economist, 6 December 2018



AFTER LISTING on the Toronto stock exchange in 2006 Nautilus Minerals became the public face of a daring new industry: deep-sea mining. It planned to pursue riches on the ocean floor, mining metals such as gold, zinc and copper, desired for lustre, alloys and electronics. Robotic machines (pictured) would cut, grind and gather volcanic rock at a site called Solwara 1, located 1,600 metres beneath the surface of the Bismarck Sea near Papua New Guinea (PNG). The resultant rocky slurry would be pumped up to a support vessel, then shipped to a site at which the metals could be extracted. Investors were convinced; Nautilus's shares doubled from their initial price of C\$2 (\$1.80) in a few months. Today a Nautilus share is worth just a few Canadian cents. Three problems have changed sentiment. First, the firm has had substantial contractual trouble with the government of PNG, in whose territorial waters Solwara sits. The two sides wrangled for years over payments that the government owed for its equity stake in the project. The government eventually stumped up, but the row slowed progress.

Second, the idea of using Nautilus's vast machines to carve and crush underwater volcanoes does not sit well with environmental groups in PNG and around the world. That may have unnerved investors. Third, uncertainty after the financial crisis of 2008-09 made it harder for Nautilus to fund its untested venture. That has left only two big shareholders: MB Holding, an Omani conglomerate, and Metalloinvest, a Russian steel and mining firm. Timetables have slipped as a result. The firm states only that mining at Solwara 1 will now be delayed "past" the third quarter of 2019, with no start date offered. Its finances are making a descent. Some \$350m is required to get mining going. Nautilus has drawn down half of a \$34m credit line that MB Holding and Metalloinvest gave it in January in exchange for the rights to purchase more shares (an arrangement which coincided with the departure of some senior managers and Nautilus's chairman). The firm is due to start repaying these loans in January but, as of September 30th, only had \$200,000 of cash.



To add to these problems, Nautilus appears to have lost the specialised support vessel that it had planned to use. It had chartered a new ship through MAC Goliath, an Emirati shipowner and operator. The vessel was nearing completion at the docks of Fujian Mawei Shipbuilding in Fuzhou in southern China in December 2017 when MAC Goliath defaulted on a payment. Nautilus was given the option to step in and make the missing payment, but was unable to do so. In July the Chinese shipyard found a new firm to take over the contract, MDL Energy, an Indian shipowner that is planning to engage in deep-sea mining explorations for India's government. Kulpreet Sahni, MDL's chief executive, confirms that his firm now owns the ship. On December 2nd Nautilus stated that it was "in negotiations with various parties" about ownership of the vessel; its shares surged in response. But Mr Sahni says his firm terminated negotiations about Nautilus's continued use of the ship months ago. On December 3rd Mr Sahni wrote to Nautilus's boss, John McCoach, warning that the firm's statement was detrimental to MDL Energy, and to Nautilus's own minority investors, and that it might contact the Toronto Stock Exchange or take legal steps if the matter was not clarified. (In an emailed statement to *The Economist*, Mr McCoach declined to comment on the specifics of this story but said that some of it was "not accurate from our perspective".) If the vessel is gone, that would be a huge blow for Nautilus, for it had been custom-built for the firm's particular mining methods. It will be near-impossible to replace, especially given Nautilus's beleaguered finances.

But Nautilus's travails have offered lessons to the rest of the deep-sea mining fraternity. Gerard Barron, Nautilus's first financial backer (who sold out of the company years ago), has hired some of Nautilus's ex-employees for DeepGreen, a new deep-sea mining venture which focuses on harvesting metallic nodules that are scattered across the sea floor in the deep ocean. These contain metals such as cobalt and nickel needed for the batteries and wind turbines that power the clean economy. Having watched Nautilus's progress, he reckons that hoovering up nodules will be easier than grinding volcanic rock, and that their uses lend such activities a more environmentally-friendly sheen. Other firms have made a similar bet. Although the water in the Clarion-Clipperton Zone, a patch of Pacific sea floor in which such firms will operate, is some three times deeper than that at Solwara, the location is out on the high seas. That means it is subject to a clearer set of rules for mining and exploration, which is overseen by the United Nations, thereby reducing the scope for wrangling with national governments. Nautilus holds a concession there, too. But if the firm does not secure a fresh infusion of cash, its machines may never venture further than a dock in PNG.

### **Nautilus announces talks underway for JV in Solwara 1**

*Nautilus is currently negotiating the terms of an agreement with arm's length third parties that would involve the creation of a new joint venture company (the "Vessel JV") to be owned by the third parties and Nautilus' subsidiary, Nautilus Minerals Niugini Limited ("NMN").*

Post-Courier, December 6, 2018

Nautilus is currently negotiating the terms of an agreement with arm's length third parties that would involve the creation of a new joint venture company (the "Vessel JV") to be owned by the third parties and Nautilus' subsidiary, Nautilus Minerals Niugini Limited ("NMN"). This was released in a Toronto Stock Exchange (TSX) corporate update released on December 2 from Nautilus Minerals. The company stated the purpose of the Vessel JV would be to fund the acquisition of the Production Support Vessel ("PSV") that Nautilus had previously arranged to be procured through MAC Goliath Pte Ltd ("MAC") and the integration costs of installing the mining equipment on the PSV. Vessel JV would own and operate the fully integrated PSV. The Vessel JV would charter the PSV to the existing Solwara 1 joint venture between NMN and the Independent State of Papua New Guinea's nominee, Eda Kopa (Solwara) Limited.

"As previously disclosed, Nautilus has been notified by the owner of the shipyard, Fujian Mawei Shipbuilding Ltd (the "Shipyard"), where the PSV is being built, that the Shipyard has rescinded the

shipbuilding contract between the Shipyard and MAC, the contractor engaged by Nautilus to procure the PSV on behalf of Nautilus. “The Shipyard has continued to install components of the Company’s seafloor production equipment on the PSV, with the latest being the installation of an operating console in mid-November. “The Company is currently in negotiations with various parties to enable the acquisition of the PSV to facilitate the proposed Vessel JV. There can be no assurances that such discussions will be successful,” it reiterated. Nautilus is also currently in discussions with Deep Sea Mining Finance Ltd. (the “Lender”) to extend the maturity date of the existing secured loan facility provided by the Lender, which is currently due on January 8, 2019, in order to allow sufficient time for the Company to progress the transactions discussed above.

It stated any transactions will be subject to all necessary stock exchange, third party and government approvals, as well as compliance with all other regulatory requirements. While the statement was released, across the globe in Sydney, on December 3 at the 15th PNG Mining and Petroleum Investment Conference, PNG Minister for Mining Johnson Tuke stated during his address to the meet that the project, granted its lease in 2011, continues to delay its production date due to financing constraints. “I am advised that financial concerns remain unresolved with shareholders contributing small amounts to continue to meet commitments and the CEO recently resigned suddenly,” Mr Tuke said. He said the project has a sunset condition which would be reviewed if the production date in that condition is not achieved. “From my perspective if our nation is not getting what was promised from a developer, irrespective of the excuses, it is preferable to look at the alternatives and consider other options, especially when reasonable opportunity has been provided to achieve targets which are themselves set by the developer, yet are still not met.”

### **A high-profile deep-sea mining company is struggling**

The Economist, December 5 2018



Nautilus has multiple problems, including the loss of an expensive ship

AFTER LISTING on the Toronto stock exchange in 2006 Nautilus Minerals became the public face of a daring new industry: deep-sea mining. It planned to pursue riches on the ocean floor, mining metals such as gold, zinc and copper, desired respectively for lustre, alloys and electronics. Robotic machines would cut, grind and gather volcanic rock at a site called Solwara 1, located 1,600 metres beneath the surface of the Bismarck Sea near Papua New Guinea (PNG). The resultant rocky slurry would be pumped up to a support vessel, then shipped to a site at which the metals could be extracted. Investors were convinced; Nautilus’s shares doubled from their initial price of C\$2 (\$1.80) in a few months. Today a Nautilus share is worth just a few Canadian cents. Three problems have changed sentiment. First, the firm has had substantial contractual trouble with the government of PNG, in whose territorial waters Solwara sits. The two sides wrangled for years over payments that

the government owed for its equity stake in the project. The government eventually stumped up, but the row slowed progress.

Second, the idea of using Nautilus's vast machines to carve and crush underwater volcanoes does not sit well with environmental groups in PNG and around the world. That may have unnerved investors. Third, uncertainty after the financial crisis of 2008-09 made it harder for Nautilus to fund its untested venture. That has left only two big shareholders: MB Holding, an Omani conglomerate, and Metalloinvest, a Russian steel and mining firm. Timetables have slipped badly as a result. The firm states only that mining at Solwara 1 will now be delayed "past" the third quarter of 2019, with no start date offered. Meanwhile, the firm's finances are making a descent. Some \$350m is required to get mining going. Nautilus has drawn down half of a \$34m credit line that MB Holding and Metalloinvest extended to it in January in exchange for the rights to purchase more shares (an arrangement which coincided with the departure of some senior managers and Nautilus's chairperson). The company is due to start repaying these loans in January but, as of September 30th, only had \$200,000 of cash.

To add to these problems, Nautilus appears to have lost the specialised support vessel that it had planned to use. It had chartered a new ship through MAC Goliath, an Emirati shipowner and operator. The vessel was nearing completion at the docks of Fujian Mawei Shipbuilding in Fuzhou in southern China in December 2017 when MAC Goliath defaulted on a payment. Nautilus was given the option to step in and make the missing payment, but was unable to do so. In July the Chinese shipyard found a new firm to take over the contract, MDL Energy, an Indian shipowner that is planning to engage in deep-sea mining explorations for India's government. Kulpreet Sahni, MDL's chief executive, confirms that his firm now owns the ship.

On December 2nd Nautilus stated that it was "in negotiations with various parties" about ownership of the vessel; its shares surged in response. But Mr Sahni says his firm terminated negotiations about Nautilus's continued use of the ship months ago. On December 3rd Mr Sahni wrote to Nautilus's boss, John McCoach, warning that the firm's statement was detrimental to MDL Energy, and to Nautilus's own minority investors, and that it might contact the Toronto Stock Exchange or take legal steps if the matter was not clarified. (In an emailed statement to *The Economist*, Mr McCoach declined to comment on the specifics of this story but said that some of it was "not accurate from our perspective".)

If the vessel is gone, that would be a huge blow for Nautilus, for it had been custom-built for the firm's particular mining methods. It will be near-impossible to replace, especially given Nautilus's beleaguered finances. But Nautilus's travails have offered lessons to the rest of the deep-sea mining industry. Gerard Barron, Nautilus's first financial backer (who sold out of the company years ago), has hired some of Nautilus's ex-employees for DeepGreen, a new deep-sea mining venture which focuses on harvesting metallic nodules that are scattered across the sea floor in the deep ocean. These contain metals such as cobalt and nickel needed for the batteries and wind turbines that power the clean economy. Having watched Nautilus's progress, he reckons that hoovering up nodules will be easier than grinding volcanic rock, and that their uses lend such activities a more environmentally friendly sheen. Other firms have made a similar bet.

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## **K5 billion generated from PNG LNG**

*K5 Billion in revenue has been generated from the PNG LNG project to date, according to ExxonMobil PNG Managing director Andrew Barry.*

Post-Courier, December 5, 2018

K5 Billion in revenue has been generated from the PNG LNG project to date, according to ExxonMobil PNG Managing director Andrew Barry. Mr Barry made the comments during his address to the 15 Chamber of Mines and Petroleum Conference in Sydney on Monday. “Since startup nearly five years ago, more than 5 billion kina in revenue has been generated by the project and delivered to the PNG government and landowners through royalties, development levies, taxes and dividends. “The revenue stream is highly dependent on commodity prices. It is also dependent on our production performance which some is in our control and some not so much, as I will explain later. “As we entered 2018 we were extremely excited about the year ahead, commodity prices had recovered from the lows of 2015, 16 and 17 and, importantly, court injunctions that were holding up landowner identification processes by government were lifted and we were optimistic about the progress being made.” He said the flows came to a halt this year when the earthquake that struck the Highlands hit in February. “In addition to the tragic cost of life and destruction to the communities, it shut down our facilities for nearly eight weeks resulting in more than K500 million in revenue that was not delivered to the government and landowners,” Mr Barry said.

“It also critically held up the landowner identification process which has since continued to move ahead. “We are hoping that in the not too distant future all the identification work is complete and royalties will begin to flow in the pipeline and upstream areas.” He, however, expressed his pleasure in seeing how the benefits are flowing down to the communities at the LNG plant site and pipeline segments progressing with account openings. “To see how investments are being made in important infrastructure such as schools and health demonstrate that the process is a good one, it works,” he said. “I especially would like to congratulate Augustine Mano and all of MRDC for their leadership in making this happen.” “It has also been great to see the progress upstream in the latter part of this year with accounts being opened along the pipeline, directors elected and good progress being made in the important PDLs around the gas processing plant.”

## **Introduction Of Mining Bill Pushed To Next Year**

Post Courier, December 5, 2018



Minister for Mining Johnson Tuke  
visiting the Wafi-Golpu mine in Morobe.

Mining Minister Johnson Tuke

Mining Minister Johnson Tuke told the Mining and Petroleum Conference in Sydney that proposed amendments to the Mining Act (1992) will be made next year. He said this despite previous indication of last month being the sitting that would introduce the proposed amendments. Citing concerns from the industry and the need for independent review from within government circles, he said the amendment would still take place nonetheless citing an over 9 years consultative period. “One of the principle priority for my ministry was to ensure the proposed mining bill is introduced in parliament in the November session in accordance with the NEC decision No 8 of 2018,” he said. “The ministry had put together a working team comprising the Department of Mineral Policy and Geohazards Management, the Mineral Resources Authority, the Department of Treasury and the Office of the State Solicitor and the First Legislative Council under the oversight of the Chief Secretary to Government to prepare the mining bill for introduction in parliament, however, certain considerations have pushed the introduction of the mining bill to 2019.

“Let me say at this juncture that the mining bill and the new policies are necessary for the effective regulation of the mining industry in PNG. “The review of the mining act was done by Papua New Guineans on both sides of the table who are well experienced in their respective fields of employment. “The nine years of review, which three, specifically with the mining industry is testament to the scrutiny the review has undertaken.” He also assured the industry and potential investors that the policy and legislative changes proposed by government intend to establish a foundation for growth and prosperity for the country in the years to come. “The aspiration to protect the rights and interests of our investors is of paramount interest to the government,” Mr Tuke said. “By the same token, the aspiration to ensure the rightful benefits are due to our people is also of paramount interest to the government. “Finding the balance that best serves our collective interests and aspirations is what we have to do collectively in a responsible manner. “While the industry has the duty to serve its respective boards, we as the leaders of the country also have the responsibility ultimately to serve our people.”

### **PNG seeks greater share of oil and gas resources**

*Papua New Guinea wants a greater share of benefits from major oil and gas companies operating in the country.*

Radio New Zealand, 5 December 2018



Exxon Mobil PNG's LNG plant near Port Moresby Photo: (C)2014 {Richard Dellman/AdvantagePNG}, all rights reserved

Prime Minister Peter O'Neill made the comments while opening the 15th PNG Mining and Petroleum Conference in Sydney on Monday. The *Post Courier* reported Mr O'Neill saying that PNG needed a fairer share of the benefits from the development of such resources. He said the resource sector also had the opportunity to deal with landowner concerns in remote communities. The Prime Minister said the communities wanted to be included and must be part of decisions about investment and development.

### **PNG landowners 'refugees in their own land'**

*The leader of a Papua New Guinea landowners' group says a Canadian mining giant has made his people "refugees in their own land".*

Radio New Zealand, 5 December 2018



Demonstration against Barrick Niugini at the Porgera mine Photo: Supplied

Jonathan Paraia is the spokesperson for the Justice Foundation of Porgera which is suing the government for more than \$US13 billion. The group alleged the government had breached a contract by failing to ensure the Porgera gold miner Barrick Gold looked after landowners. Mr Paraia said as a result the landowners' livelihoods had gone and their environment had been destroyed. "Taking the land away permanently and making our landowners refugees on our own land. They are becoming nomad and there is no future for our future generations. So now we have to take the action. We have established Justice Foundation to fight for justice."

### **Bougainville's tinderbox threatens to reignite**

Alan Boyd, Asia Times, December 4, 2018

An independence referendum and unresolved issues over the rich Panguna copper mine threaten to tilt Papua New Guinea's tumultuous autonomous island back to civil war. Foreign mining companies are jostling for exploration rights on the Papua New Guinea island of Bougainville ahead of a crucial independence vote next year that some fear could revive tensions that sparked a civil war that killed 20,000 in the 1980's. The island will need mining royalties to maintain a viable economy if the referendum backs independence, but unresolved issues over the Panguna copper mine are still a sensitive point with traditional landowners. Villagers shut the pit down in 1989, triggering the previous lethal conflict. The referendum is the culmination of the Bougainville Peace Agreement, which formally ended the decade-long bloody civil war. It will take place as the US and Australia

aim to work closely with Papua New Guinea to develop its Lombrum Naval Base to counterbalance China's growing maritime influence in the region.



Bougainville Revolutionary Army fighters look down on the Panguna mine in 1996

In January, the Autonomous Bougainville Government (ABG) said that an indefinite moratorium had been imposed on work at Panguna, which was the world's biggest open-cut copper mine when it was being operated by Bougainville Copper Limited (BCL), a unit of Anglo-Australian mining giant Rio Tinto. Rio exited in 2016, transferring its 53.8% shareholding to the ABG and the Papua New Guinea government, but there has been speculation the mine could reopen. Papua New Guinea's government gave its shareholding to traditional landowners in the Panguna area. "If we went ahead now, you could be causing a total explosion of the situation again," ABG president John Momis said after the moratorium was declared. "As far as the people are concerned and as the government, we cannot allow foreign companies to be causing division and using a very emotional situation [on] the ground to cause another war."

In 1972, there were suggestions of colonialism and commercial exploitation over a decision to grant a mining license to Rio Tinto after minimal consultation with local villagers. Bougainville was then being ruled by Australia under a United Nations mandate that ended with Papua New Guinea's achievement of independence in 1974. The Panguna mine effectively underwrote that process: at one point copper from the mine was contributing 45% of Papua New Guinea's annual export earnings and generating more than US\$740 million from tax income and dividends. But little of this money reached tribal groups; instead, they complained that trailings from the mine were killing their fish and poisoning farmland. In 1989, the Nasioi people broke into the site and shut the mine down.

When Papua New Guinea sent riot police and troops to the island, villagers formed the Bougainville Revolutionary Army, a rag-tag separatist group that plunged the region into a decade-long civil war that left most of its infrastructure in ruins. A fragile peace was achieved in the late 1990s under monitoring groups led by Australia and New Zealand, but the wounds remain raw. Several tribes maintain "no-go" areas to keep foreign firms out, and the remnants of the BRA, known as the Me'ekamui group, only disarmed this October. Bougainville, which has closer ethnic links to the Solomon Islands than Papua New Guinea, was granted a limited form of autonomy under a formal 2001 peace treaty.

The referendum, tentatively scheduled for June 15 next year, will decide whether the island should become completely independent. However, it will not happen unless the ANG can find some way to bridge the gap between developers and traditional landowners who fear a repeat of the Panguna fallout. Rio Tinto left behind an environmental mess of sludge and rusting equipment that some

analysts estimate could cost US\$1 billion to put right. The firm contends that it has already complied with regulatory requirements. Momis knows that without mining, Bougainville will stay part of Papua New Guinea, as the island managed to cover only 14% of its total expenditure of US\$50 million last year from domestic sources — mostly sales of farm products. It is expected to need a budget three times bigger if it votes for independence.



Autonomous Bougainville Government President John Momis. Photo: Youtube



Resistance fighters from the Bougainville Revolutionary Army (BRA) in a file photo. Photo: AFP/Torsten Blackwood

Leaving the door ajar, Momis has said that the moratorium only covers mining at Panguna, which is inaccessible in any case because of a “no-go” order. A new mining law passed in 2014 clarified the regulatory situation and has attracted interest from firms in Australia, China, Canada and elsewhere. But there is a catch: the law gave traditional landowners control over minerals on their land and the right to participate in any development decisions that might affect their interests. So the fate of Bougainville’s separatist movement now rests with those who started it in the 1980s.

Landowners that do deals with mining companies will have to face the wrath of neighboring tribes that could bear the consequences of mining. There are strong risks that tensions could boil over even before the referendum. The wild card in this game of chance is Papua New Guinea, which is not obliged to allow Bougainville to break away even if there is a “yes” vote. Indeed, it may prefer to keep a tight rein on its renegade region, especially if predictions of a vast untapped treasure of copper, gold and other minerals are realized.



## **Porgera landowners sue PNG Govt for billions**

*A landowners group in Papua New Guinea's highlands region is suing the national government for \$US13.28 billion over a breach of contract.*

Radio New Zealand, 4 December 2018



Porgera mine. Photo: wikicommons / Richard Farbellini

The Justice Foundation for Porgera and other landowners whose land is inside the boundaries of the Porgera gold mine are behind the suit. They claim that Barrick Nuigini, a subsidiary of Canadian mining giant Barrick Gold, has destroyed their environment and livelihoods, and has not kept to the commitments made in the contract signed in 1989. The Foundation's Jonathan Paraia said the amount of money they are seeking is justified. "That is based on the contract for Porgera Mine signed between the state and Porgera landowners, but the state has got its own agreement with the Candian mining company, Barrick. So we expect the government to call on the company to take responsibility for the claim because the company is the one that is causing the problems and destroying the people's livelihoods," Jonathan Paraia. He said the initial stage of such a suit is arbitration but if that fails to reach a resolution the matter will be referred to court. The Justice Foundation for Porgera has separately asked the courts to restrain the government from renewing the Porgera licence, which expires next May, until the issues surrounding the suit are sorted out.

## **Production date delay plagues mine developer**

December 4, 2018 The National

Mining Minister Johnson Tuke says delays towards achieving a production date for Solwara 1 offshore mine continue to plague the developer. A lease for the project which was granted seven years ago (2011) continues with the development of its leading edge mining equipment. Speaking at the Papua New Guinea Mining and Petroleum Conference in Sydney yesterday, Tuke said: "I am advised that financial concerns remain unresolved with shareholders contributing small amounts to continue to meet commitments. "The chief executive officer (of the developer) recently resigned suddenly.

“The mine has a sunset condition and this will be critically reviewed if the production date in that condition is not achieved. “From my perspective, if our nation is not getting what was promised from a developer, irrespective of the excuses, it is preferable to look at the alternatives and consider other options. “This is especially when reasonable opportunity has been provided to achieve targets which are themselves set by the developer, yet are still not met.” The minister said because our resources in Papua New Guinea are well known, and in demand, experience suggests there is often a better-performing, more-reliable, funded alternative.

### **Peter O’Neill: Government to Ensure Better Deal for Communities**

Meriba Tulo, EMTV, 4 December 2018



Negotiating a better deal for Papua New Guinea will be the mantra for the National Government as it looks to finalizing some major projects within the Extractive Industries in the months ahead. Prime Minister Peter O’Neill made these comments when speaking to EMTV News on Day one of the 2018 PNG Mining & Petroleum Investment Conference. Addressing the opening session of the PNG Mining & Petroleum Investment Conference, Prime Minister Peter O’Neill elaborated on the efforts by his government in pushing for better deals for upcoming projects within the mining and gas space. His comments on the back of concerns regarding the perceived unfair distribution of wealth from existing projects operating in PNG.

According to Mr O’Neill, the lessons from current projects will not be repeated, with the National Government aiming to ensure that the country receives a better deal, financially, but more importantly, socially, through respective project agreements. A major aspect of upcoming projects that the government is keen to complete, is the all-important landowner and clan-vetting exercise, especially within the gas sector – which according to the Prime Minister was rushed during the country’s first LNG project. The Prime Minister’s comments come at a time when the government is trying to finalise project agreements for the Papua LNG, and Wafi -Golpu Projects respectively. A MoU between the State and Project developers was signed during the recent APEC Economic Leaders Week in Port Moresby, and according to the Prime Minister, an agreement a similar agreement is expected to be signed for the Wafi -Golpu Project at the conclusion of the Sydney Conference.

## Alluvial mining sector to generate K400mil

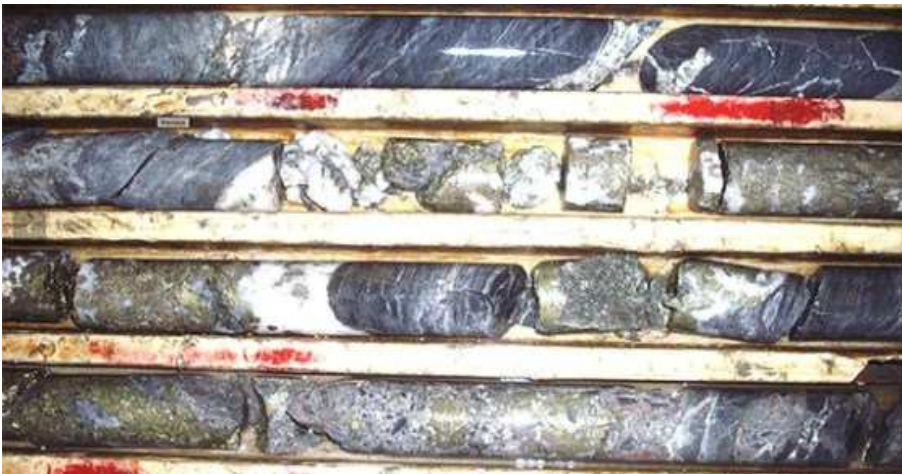
December 4, 2018 The National

The country's alluvial mining sector is expected to generate more than K400 million in export revenue this year, Mining Minister Johnson Tuke says. He said this forecast was expected on the production of over 100,000 ounces of gold. "This would be a record and an increase of 12 per cent on 2017 revenue for the sector," Tuke told delegates at the conference yesterday. He said alluvial mining was reserved for landowners and citizens. "At the recent PNG Alluvial Mining Convention held in Lae, I pledged to pursue funding for further regional extension of that concept in a staged rollout by the Mineral Resources Authority of more training facilities over the next three to five years," Tuke said.

"This strategy will ensure training opportunities and expert advice is available to a wider group of alluvial miners and investors. "Initially Kainantu, Alotau and New Ireland will be targeted for this initiative. "As the minister responsible for mining, I am always proud to state that the mineral sector remains the backbone of the economy of our country. The mining sector in 2017 achieved record export revenue of K11.535 billion, representing 18.63 per cent of total Papua New Guinea gross domestic product," the minister said. "Within that revenue, total gold represented 69.82 per cent of export revenue, copper 18 per cent and nickel was the big mover at 7.5 per cent."

## Kainantu profitable and will have long mine life, says K92 CEO

David James, Business Advantage, 4 December 2018



A core from Kainantu's Kora deposit Source: K92 Mining

Canadian miner K92 has found new ore and is ramping up its operations at its Kainantu mine in Papua New Guinea's Eastern Highlands Province. In this exclusive interview, Chief Executive John Lewins tells *Business Advantage PNG* that the company is now profitable and has an anticipated mine life of over 15 years. New ore discoveries are at the heart of Kainantu's current health. When the mine was bought by K92 from Barrick Gold in 2015, John Lewins says the focus was initially on restarting mining operations on the Irumafimpa ore body. The expectation in the previous owners' original design was that this would yield about 20 grams of gold per tonne, but it was closer to 8.5 grams. 'It was still pretty good but, when you are expecting 20, it is not so good,' he tells *Business Advantage PNG*. 'It was recognised that this ore body was also relatively difficult mining, in terms of narrow veins, clay and other technical issues. 'It was therefore the intent of K92 to bring the previously unmined Kora ore body into production.'

### **Kora and Kora North**

In mid-2017, K92 drilled the first diamond drill hole from underground, looking for an extension. Attention then turned to the Kora ore body, closer to the existing underground workings, which proved to be more prospective—and ultimately profitable. Lewins says the initial discovery hole had yields of 11.7 grams of gold per tonne, 25 grams per tonne of silver and 1.2 per cent copper. ‘We developed out to this extension area, designated “Kora North” and mined a bulk sample which was treated through the existing process plant in October 2018, achieving recoveries of 92 per cent copper and gold from that sample. ‘So, we switched our mining to basically focus on Kora and in January of this year we were 100 per cent Kora. ‘At the end of January, we declared commercial production and made a profit. The first quarter for us was profitable, the second quarter was profitable, and the third quarter is not out yet but it is definitely positive cash flow. ‘So, for the year we will make money.’

### **Costs**

Lewins says K92’s cash costs are ‘running at around’ US\$560 an ounce (the current gold price is US\$1213 an ounce). ‘All in sustaining costs, bearing in mind that we are developing a brand new mine effectively underground below US\$800 an ounce. ‘We are giving (production) guidance this year of 42,000-46,000 oz. We will make that.’ Lewins says the original Kora deposit contained an estimated resource of at least 1.65 million ounces of gold, and an additional Kora North is expected to be over one million ounces. ‘We are looking at a 15-to-20 year life for an expanded operation, treating 400,000 tonnes per annum and producing over 100,000 ounces per annum. And (production of) 400,000 ounces per annum, not the current 200,000 per annum.

‘We are planning an expansion that will cost about US\$15 million to double throughput,’ says Lewins. ‘We are continuing to drill the Kora and Kora North deposits from underground, with a target of doubling the resource. All of this has been underground drilling. ‘We have a third rig coming in to extend the drilling.’ Lewins says the company will conduct a preliminary economic assessment by the third quarter of next year, and expects to have an estimated total resource of five million ounces (including Irumafimpa). K92 is also planning further exploration of the Kora ore body outside the existing mine lease.

### **Share price**

Lewins says K92’s share price has doubled in the past year. ‘A company like ourselves, having five million ounces at relatively high grades at 12 grams per tonne—and in production in a market where quality assets are in short supply—is an attractive investment. ‘From a shareholder perspective that is positive. We have started delivering.’ K92’s share register is 45 per cent institutional investors and 40-45 per cent retail investors, mainly out of Canada. Lewins acknowledges PNG is a challenging environment. ‘We are in a better position than most. We have got grid power, for instance. ‘We have got a sealed road, a highway which runs from the port of Lae to about 8 kilometres from the site. ‘We have a government airstrip right next to the road as well. We have good infrastructure.’

### **Up in smoke?**

One challenge is entirely unforeseen, however. ‘Something that is totally out of left field is the legalisation of marijuana,’ says Lewins. ‘This has created a massive marijuana boom in Canada. ‘Hundreds of millions of dollars are going into investment in marijuana and that money is coming out of the mining sector. ‘If you look at the TSX and the ASX (Australian Securities Exchange) over the last 18 months; for the first time in living memory, the ASX has actually been outperforming the TSX in terms of the junior mining sector.’

## **PNG LNG expansion obliged to reserve gas for domestic market**

Angela Macdonald-Smith, Australian Financial Review, December 3, 2018



The Hides gas field is set to supply more gas for PNG's LNG expansion. Richard Dellman/AdvantagePNG

Papua New Guinea Prime Minister Peter O'Neill has revealed that 10 per cent of the gas in the next phase of LNG expansion in the nation will be reserved for domestic use, while the tax structure from the \$US12 billion project will be engineered to ensure a flow of revenues for the government even when commodity prices sink to their lowest point in the cycle. The news on some of the key terms around the LNG project puts some meat behind the memorandum of understanding between the government and the Total-led Papua LNG venture announced during the APEC summit in Port Moresby last month.

But as signalled by that announcement, the timetable for the project has slipped, with the partners now only set to start initial engineering and design work on the expansion in the June quarter of 2019 after the delayed "gas agreement" setting out fiscal terms and other conditions is finalised in March. Jean-Marc Moiray, the new managing director of the PNG operations of Total SA, which is leading the Papua LNG project, told a conference in Sydney the French energy giant hopes now to give a final go-ahead for the project "before the end of 2020", and for production start-up by the end of 2024.

The schedule represents a delay from that previously outlined by project partner Oil Search, which was targeting a final investment decision in 2019 and start-up in 2023. Oil Search managing director Peter Botten had voiced hopes that the "gas agreement" with the government would be announced during the high-profile APEC summit. But the complexity of the negotiations and stretched government resources are understood to have contributed to the delay. Mr Botten told the PNG Mining & Petroleum Investment Conference in Sydney on Monday that he still expects Papua LNG to capture the market opportunity seen opening for global LNG demand in 2023-24 but underlined the importance of the timing staying on track. "Everyone can see [the market window in 2023-24] and the competition is starting to ramp up," confirmed Andrew Barry, managing director of ExxonMobil PNG, which is a major partner in the expansion.

"PNG has got to get at the front of the line," Mr Barry said, to capture both the market opportunity and to avoid cost escalation arising from increased demand on contractors. As agreed in February, the expansion will involve three 2.7 million tonnes-a-year LNG trains that together will roughly double existing capacity in PNG from the Exxon-led PNG LNG venture. Two trains will process

gas from the Total-led Papua LNG venture that owns the Elk and Antelope fields, with the third to be supplied by fields in the Highlands region within the PNG LNG project plus the P'nyang field further to the west. Alongside the obligation to supply the domestic market, the LNG expansion project will have to allow third-party access to its pipelines to avoid stranded gas fields held by other companies, said PNG minister for petroleum Fabian Pok. National content obligations will also be imposed to ensure business opportunities for local companies.



Oil Search MD Peter Botten had hoped that the "gas agreement" with the government would be announced during the APEC summit. But the complexity of the negotiations and stretched government resources are understood to have contributed to the delay. Louie Douvis

Dr Pok said the PNG government had learned lessons from mistakes made with the initial PNG LNG project and would ensure conditions around the expansion would guarantee revenues for the government even during a price slump and would support local development, including using gas for power generation and to develop local industries. Still, industry sources say that the actual volume of gas kept for use within PNG will be much less than 10 per cent given the small local market and the time it will take to grow. The deal with the government is understood to allow gas unable to find a commercial market within PNG to still be exported as LNG. Several projects using gas for electricity generation are in the works, including a 58-megawatt plant near Port Moresby by NiuPower, owned by Oil Search and Kumul Petroleum, due to start up in March. ExxonMobil PNG also signed a deal at the conference with PNG Power to study the viability of a 5 MW power plant in Hela Province in the Highlands. Only 12-13 per cent of PNG's population has access to electricity despite the successful LNG export industry.

### **PM: Project licence expected**

By GYNNIE KERO, December 3, 2018, The National

THE development licence for the multi-billion kina Wafi-Golpu joint venture project in Morobe is expected to be signed early next year, according to Prime Minister Peter O'Neill. He will open the 15th PNG Mining and Petroleum investment conference in Sydney today. He told The National yesterday on his way to Sydney that basic terms on the Wafi Golpu project were expected to come up for discussion. "We should have a basic agreement, basic terms, for the Wafi-Golpu project before we sign the development licence early next year," he said. The Wafi-Golpu project is a 50:50 joint venture between Australia's Newcrest and South Africa's Harmony Gold. The project site is located in the Huon Gulf district, about 65km south-west of Lae. The project has been touted as the largest, deepest and most complex underground mine in PNG, with a mine life of 28 years.

Subject to board approvals by the joint venture participants, construction will begin after the granting of a special mining licence and the receipt of all required Government approvals. The first ore production is expected about five years after that. The initial capital investment is expected to be about K9.1 billion (US\$2.8 billion). The total capital expenditure is expected to be around K17.4 billion (US\$5.4 billion) over the life of the mine. The project is expected to create economic benefits to the country, including around 2,500 jobs during construction, about 850 ongoing operation jobs and further indirect jobs created in Morobe. The project will also contribute to the development of local economies through the payment of royalties and taxes, and through a social development investment programme during the life of the mine.

## **Commercialising gas resources in PNG**

Post-Courier, December 3, 2018

Papua New Guinea has built a reputation for reliable LNG delivery to markets and offers competitive advantages to further investment and development. Oil Search Managing Director, Peter Botten, spoke openly on PNG gas commercialisation pathways and delivering optimal value to stakeholders during his address to delegates at the PNG Mining and Petroleum Investment conference in Sydney yesterday. He said development characterised by cooperation and efficient use of capital could deliver highly competitive outcomes. “PNG has established an excellent reputation for financing, delivery and operation of a world class LNG project and the country can more than double LNG production over the next five years,” he said. “Successful future developments must provide a value balance between investors, the State and communities’ growing social challenges. New partnerships between developers, government and communities are necessary to address these challenges.

“PNG offers competitive advantages such as globally competitive production costs, high heating value gas, proximity to Asian markets and top tier operators being augmented with local in-country experience.” Mr Botten went on to outline Oil Search’s gas strategy, saying there is a strong investment case and compelling economic reasons for further exploration in PNG with the company having a strong infrastructure footprint that requires future investment. “A 2015 study concluded that 30tcf still remains to be found in the Western, Eastern and Deepwater areas in PNG with more than 100tcf of gross mean un-risked gas in our current exploration portfolio,” he said. “Exploration in PNG offers future production and capability growth capability for us with future growth potential, competitive returns and our ongoing drilling and seismic activities. “This is supported by others who agree that PNG remains a prospective area for exploration.” Mr Botten said while PNG LNG has been an outstanding success putting the country on the LNG map and building international financing and investment sentiment, that new partnerships and new ways of working were also necessary.

“Lessons on project structure, benefits distribution, taxation balance and full stakeholder involvement have been learnt and reflected in the recent MOU for Papua LNG,” he said. “A dynamic environment remains and new ways of addressing social challenges are needed. Government, the private sector and other stakeholders must develop new partnerships to leverage respective skills and address social sensitivities. “Although a lot has been done in the last 12 months, we must improve efficiency and transparency of benefits sharing, partner with governments to deliver important infrastructure, and facilitate local participation in new industries such as power, refining and downstream developments. “It’s also important that we facilitate sustainable non-project activities and skills training in areas like agriculture and trades.” Mr Botten encouraged PNG to meet its development timing objectives or miss out. “The world LNG supply competition is very strong, and PNG has substantial discovered gas resources and material further exploration upside,” he said. “We need to refocus efforts on addressing important social inclusion issues: new partnerships with govern-

ments, development partners and communities; new programs; and new ways to engage communities to focus on young people.”

### **Total estimated mineral reserves set over K1 trillion**

Post-Courier, December 3, 2018

Total calculated expressed as contained minerals reserves in the country has been set at around K1 trillion. That was from Minister for Mining Johnson Tuke during his remarks at the 15th PNG Mining and Petroleum Conference opening day in Sydney Australia yesterday. He said despite usual commodity fluctuations beyond the country’s control, the future looks very encouraging for the mineral sector moving towards the next decade. “The Mineral Resources Authority has calculated the mineral reserve and resource (expressed as contained metal) within the current operating or approved mines, and also within the advanced exploration licence areas. “These estimates are only released if a measured or indicated resource has been certified under an internationally recognised standard such as the australasian joint ore reserves committee (‘the jorc committee’). He said from the data, and using current commodity pricing, the major mineral resource and values potentially exist within PNG for exploitation of key minerals over the decades to come include:

- Gold – 71.99 million ounces –K259 billion buying at US\$1,200 per ounce
- Copper –1.6326 million tonnes – K30 billion at US\$6,200 per tonne
- Nickel – 1 million tonnes –K40.5 billion at US\$13,500 per tonne

He added that advanced exploration including the Wafi-Golpu and Frieda River deposits put the numbers at:

- Gold – 38.1216 million ounces – K137 billion
- Copper – 21.2932 million tonnes – K396 billion
- Nickel – 2.8550 million tonnes – K115 billion

“This provides a staggering figure of K977.5 billion (or over K1 trillion if cobalt resources of K63 billion are included) for potential future mineral export revenue over the next 30-40 years. “Royalty on this sum would be potentially K19.55 billion at the current rate of 2 per cent,” the minister added.

### **PNG resource extraction law at stake**

*“The truth is that our country is at a crisis point. If we do not correct some very serious faults and failures in how we approach the extraction of resources such as minerals, gas and oil we will not only continue to fail to deliver progress to our people, we will put the very survival of our country at peril.”* Editorial, The Sunday Bulletin, 2 December 2018

THIS week Papua New Guinea’s expanding resources industry will be showcased at a three-day PNG Mining and Petroleum Investment Conference. Widely regarded as the nation’s premier international conference, will be held from 3 to 5 December 2018 at Sydney’s Hilton Hotel in Australia. We understand that speakers will include the PNG Prime Minister, Peter O’Neill, along with a number of government ministers who will provide delegates with insights into the government’s policies in areas such as energy and environmental protection. The PNG Chamber of Mines & Petroleum in its media release hinted that an important project that will be featured during the conference is the country’s upcoming Papua LNG project, of which a Memorandum of Understanding on this project was signed by the project’s joint venture partners Oil Search, Total and ExxonMobil and the PNG Government during the summit.



The Wafi-Golpu project, a 50-50 joint venture project owned by Australian-owned Newcrest Mining, and South African mining giant Harmony Gold which early works is expected to start in a few years will be a main draw-card for conference delegates. While the current focus is showcasing our vast mining and petroleum potential to prospecting investors, there is a real need to correct PNG's mining laws. The review of mining legislation (The Mining Act 1992) is long overdue in Papua New Guinea. There have been some attempts made in recent times but nothing is forthcoming. How serious Government is about this review? It seems to have been carried out with very little urgency. We have seen very little in the way of radical suggestions for changes in the way mining is done in Papua New Guinea.

For the truth is that our country is at a crisis point. If we do not correct some very serious faults and failures in how we approach the extraction of resources such as minerals, gas and oil we will not only continue to fail to deliver progress to our people, we will put the very survival of our country at peril. We need a new vision for resource extraction. We need to make some hard decisions, not just make little changes around the edges. For example, we need to decide that the people own the resources. Not the government. Not outsiders. It's the people. And we need to ensure that there is an equitable distribution of the benefits – not only to landowners, the affected areas, provinces and government, but to the entire nation. This is what our country cries for today, and this is what we must provide.

But to develop a strategy of sustainable prosperity, we must first understand the mistakes we have made in the past and continue to make. Someone must tell this story or we will never correct our mistakes. The Mining Act 1992. That Act declares: 'All minerals existing on, in or below the surface of any land in Papua New Guinea, including any minerals contained in any water lying on any land in Papua New Guinea, are the property of the State'. The Oil and Gas Act 1998 makes a similar declaration in respect of oil and gas reserves throughout PNG. The State has unilaterally wrested ownership of all wealth on or below the ground from the people who owned those resources for 40,000 years. What we need now is for the government to change the much talked about Mining Act 1992 so that our resource owners get a fair share of the resource wealth that's derived from their land.

## **Nautilus Provides Corporate Update**

Press Release Number 2018 – 38

*Vancouver, British Columbia, December 2, 2018* - Nautilus Minerals Inc. (the "Company" or "Nautilus") provides the following corporate update.

Nautilus is currently negotiating the terms of an agreement with arm's length third parties that would involve the creation of a new joint venture company (the "Vessel JV") to be owned by the third parties and Nautilus' subsidiary, Nautilus Minerals Niugini Limited ("NMN"). The purpose of the Vessel JV would be to fund the acquisition of the Production Support Vessel ("PSV") that Nautilus had previously arranged to be procured through MAC Goliath Pte Ltd ("MAC") and the integration costs of installing the mining equipment on the PSV. The Vessel JV would own and operate the fully integrated PSV. The Vessel JV would charter the PSV to the existing Solwara 1 joint venture between NMN and the Independent State of Papua New Guinea's nominee, Eda Kopa (Solwara) Limited.

As previously disclosed, Nautilus has been notified by the owner of the shipyard, Fujian Mawei Shipbuilding Ltd (the "Shipyard"), where the PSV is being built, that the Shipyard has rescinded the shipbuilding contract between the Shipyard and MAC, the contractor engaged by Nautilus to procure the PSV on behalf of Nautilus. The Shipyard has continued to install components of the Company's seafloor production equipment on the PSV, with the latest being the installation of an operating console in mid-November. The Company is currently in negotiations with various parties to en-

able the acquisition of the PSV to facilitate the proposed Vessel JV. There can be no assurances that such discussions will be successful.

Nautilus is also currently in discussions with Deep Sea Mining Finance Ltd. (the "Lender") to extend the maturity date of the existing secured loan facility provided by the Lender, which is currently due on January 8, 2019, in order to allow sufficient time for the Company to progress the transactions discussed above. There can be no assurances that the Company will be able to successfully negotiate definitive agreements in relation to, and complete, any of the transactions discussed above. Any transactions will be subject to all necessary stock exchange, third party and government approvals, as well as compliance with all other regulatory requirements. The Company will provide further updates as circumstances warrant.

### **Wafi-Golpu could be first to incorporate EITI provisions**

BY MATTHEW VARI, Post-Courier, November 30, 2018

The Wafi-Golpu Mine is set to be the very first gold project to incorporate the Extractive Industries Transparency Initiative provisions included in the agreements for the Wafi-Golpu Joint Venture projects set for the Morobe province. PNG EITI National Secretariat head Lukas Alkan said this early this month when commenting on the push by government and the PNG EITI secretariat to ensure the initiative is rooted in current and future project prospects to ensure effective transparency on revenues in the extractive sector. "Some of these projects are new projects where the forums are being conducted like Wafi-Golpu and the Frieda River. "The transparency mechanism has been, we are trying to build into those agreements. We started off with Wafi-Golpu project. "The MoA negotiation that is ongoing there is a provisions there for EITI for reporting purposes in terms of disclosing project agreements," Mr Alkan said.

He said the secretariat was also looking at the reviews being conducted with Pogera and the other mines. "We also look at ensuring that transparency mechanisms are built into those revised agreements. "This is the first time that we are trying to tie in the EITI mechanism into a project that is yet to start. He said, on the same token, project agreements that have already been signed, the secretariat continues to have difficulties getting disclosure. "The need for work on certain legislations and the requirements that prevent bodies such as EITI from having access will need to be done in order to have access," Mr Alkan said. A learning curve the secretariat will ensure the country maintain transparency with the country's new major projects earmarked within the next decade. "This time around we have been proactive to ensure that when the new project is coming on-stream we are making sure that EITI mechanisms are built into those MoAs or agreements so that triggers the disclosure of the agreements when they are signed," he said.

### **Govt will support coal power plant, says Basil**

Peter Esila, The National, November 29, 2018

THE Government will support any type of energy-producing sources developed in the country, including coal, says Minister for Energy Sam Basil. Basil, one of the major proponents of the coal project in Lae together with Lae MP John Rosso, said this on FM 100 talkback radio yesterday in reference to that project. Bulolo MP Basil and Ross have already encountered fierce resistance to the project in light of environmental implications. This includes biomass energy project landowners in the Markham Valley of Morobe. "We will continue to support all the different power-producing companies using different methods that are coming into PNG to operate, coal being one of them," Basil said. "The important thing that we must also look at is that when we start putting new power plants in districts and provinces, I'd like to look more into the landowners, the local level govern-

ment, districts, towns and the provinces.

“What kind of benefits will we have in return for those people who may have their land and resources available for those projects to take stage? “We should now be looking at more benefits rolling back into the host districts and provinces, and landowners.” Basil is aware of resistance to him and Rosso. “I would like to test new ideas, new ways of doing things because PNG has been neglected for awhile,” he said. “Our neighbours Indonesia and Australia are heavily dependent – more than 50 per cent – on coal. “We should be asking ourselves: How can we progress PNG forward? I think that one of the answers is having access to energy.



“We have a lot of raw resources to burn, to produce products for us, decapitating international prices by having access to our own energy here like gas, coal and others. “It is one of the things that we should be promoting,” Of solar energy, Basil said: “We are looking for solar places. “For example, we are asking the DDA (district development authority) of Markham and other districts that have ample land, good sunlight, to make land available. “Register with the Energy Department so that when people come and look around for putting up solar plants, we have got land there. “We can also identify potential sites for geothermal.” Basil said that the National Energy Bill, which would allow for energy investments, was in its final stages.

### **Australia partners with Santos to build resource sectors**

Post Courier, November 29, 2018

The Australian Government and Santos Limited are pleased to announce a new partnership to build the technical and management capability in Papua New Guinea’s natural resource sector. The partnership includes a new scholarship to be awarded to a Papua New Guinean working in the resources sector, to commence post-graduate studies in Australia in 2019. Australian High Commissioner Bruce Davis said the award is a great example of the public and private sectors collaborating to support national growth. “This kind of partnership between the government, the private sector, and education institutions shows public-private sector cooperation can support stronger national industries to bring about development and economic growth, and share the benefits of this growth more widely,” he said. Kevin Gallagher, Santos managing director and chief executive officer, said Santos is pleased to partner with the Australian Government in investing in the people of PNG to build added capability in its oil and gas sector.

“Santos is passionate about investing in the communities where it operates and there is no better way to do that than through education,” Mr Gallagher said. “Having a highly skilled local workforce is great for Santos, but just as importantly, it will build a better future for families and communities throughout PNG and contribute to the economic and social development of Australia’s nearest neighbour and friend,” he said. The resource sector is an important industry in PNG, making significant contributions to national growth and economic development and Santos, an Australian company with a long history of working in PNG, is a major investor in the resources sector with a 13.5 per cent interest in the PNG LNG project. Nearly 2600 employees and contractors are engaged in PNG LNG production operations, with approximately 82 per cent Papua New Guinean and 22 per cent women.

### **Governor Orders Probe Into Ramu Nickel Mine**

Gorethy Kenneth, Post Courier, November 28, 2018



MADANG Governor Peter Yama has commissioned a team of environmental experts to immediately conduct an environment damage assessment on the Ramu nickel mine. Mr Yama announced this yesterday after raising serious concerns on how the Conservation and Environment Protection Authority (CEPA) has handled the environmental damages surrounding the Ramu Nickel Project in Madang. “It would be irresponsible for me as governor for Madang not to outline to my people the provincial government’s stand on the current and future operations of the US\$2.1 billion Ramu Nickel project,” he said. At the end of 2012, the company completed full construction and started full operations, and was now operating at its peak. Mr Yama had noted the landowners of Ramu Nickel project’s concern over:

- The environmental impact, Ramu Nickel project is having on their lives; and
- The lack of infrastructure, and social inclusion in the sustainability of their lives.

“These issues are serious and the state of the environment is currently unknown, I am aware that Conservation and Environment Protection Authority has not been monitoring the discharge of deep-sea tailings for a couple of years, posing a major threat to our marine environment. “As such I have immediately commissioned a team of environmental experts including marine biologists to conduct an environmental damage assessment to better place me to seek redress.”

## **Transfer of ownership for Chinese-built offshore newbuild**

Offshore staff - <https://www.offshore-mag.com/articles/2018/11/transfer-of-ownership-for-chinese-built-offshore-newbuild.html> 27 November 2018

SINGAPORE – Ocean Energy Ventures (OEV) and Quippo Oil and Gas have acquired the Fujian Mawei newbuild hull MW301-1. The vessel, under construction in Shanghai, was originally ordered by Marine Assets Corp. against a five-year charter contract with Nautilus Minerals, but this has since been terminated. It will be re-named Amaya Explorer. OEV is a subsidiary of MDL Energy, an offshore shipping investment group with the capability to design, build, and deliver vessels for offshore operators.

## **Chamber survey indicates fly-in-fly-out benefits**

Post-Courier, November 27, 2018

A questionnaire by the PNG Chamber of Mines and Petroleum has unearthed a range of benefits that the Fly-in/Fly-Out (FIFO) operating model delivers to PNG workers, their families, and the broader community. Distributed to mining projects with PNG employees engaged under FIFO arrangements, the questionnaire revealed inspiring stories and long-term benefits for employees from across PNG. Thousands of workers within PNG’s mining industry are employed on a FIFO basis, complementing the staff drawn from local communities and host provinces. Respondents cited a number of benefits of the employment arrangement including:

- Quality time to spend with their partners, children and extended families
- Time to take part in community obligations, volunteer at their children’s schools and participate in church and community activities
- Time to focus on achieving personal goals, including home improvements and starting part-time businesses
- Opportunities to travel
- Sufficient time to switch off completely and relax away from the pressures of work

Dr Albert Mellam, Executive Director of the PNG Chamber of Mines and Petroleum, said the responses also highlighted the financial benefits that FIFO delivers, enabling workers to secure better opportunities for their families, including education and health. FIFO workers will typically work on a roster such as 15 days at work, then 13 days off; or 21 days on site, followed by 14 days off. Many PNG mine workers have been participating in a FIFO arrangement for 10 years or more, and express great satisfaction with the FIFO system. “Our research shows that FIFO workers are in many instances able to achieve life goals in their home communities which would not have been possible in a traditional working arrangement,” said Dr Mellam.

“Importantly, the FIFO employment model provides the best balance of shared benefits to communities right across PNG.” Senior Engineer Joseph Palei of Porgera Joint Venture says as a FIFO worker he is able to spend more time with his family in Lae and use his days off to relax away from the worksite. Highly-regarded independent mining expert Richard Jackson recently presented at a chamber workshop, in which he explained that building a project township for a mine does not necessarily deliver a better outcome for the local community. “Even from a landowners’ viewpoint, building a project town has some disadvantages. Many of the economic benefits derived from such a township will not accrue to local people unless a great deal of effort is put into planning for them,” he said. “Most resource projects are located in what were previously remote areas whose relative lack of access to the outside world placed very severe restrictions on their potential for trade and economic development. “In many cases, despite the construction of roads, airports and other physical forms of communications and despite the arrival of telecommunications, once the project

ceases to operate, the basic fact of geography re-asserts itself. They remain remote and at a disadvantage for economic development.”

### **Arrests in New Caledonia over mine attacks**

Loop Pacific, November 26, 2018



Police in New Caledonia have arrested three men in connection with the arson attacks on the SLN nickel company's site in Kouaoua. Two of them have been charged, with one of them admitting to setting two fires to the conveyor belt which feeds ore to the coast for shipping to the SLN smelter in Noumea. The third suspect has been transferred to prison after he had been given a jail term of 18 months in June. The arrests came only days after 15 trucks were destroyed in Kouaoua. Earlier police had removed a blockade of the mining site which has been the scene of protracted disputes this year with a group opposed to expanded mining. There have been a total of 15 fires this year damaging the conveyor belt.

### **10 deaths in PNG tribal violence**

Radio New Zealand, 27 November 2018

Ten people have been killed in tribal violence in Papua New Guinea's Enga province. RNZ Pacific's PNG correspondent, Melvin Levongo, said fighting erupted between Kandep and Paiela tribes near the Porgera gold mine site. This led to warring factions setting up roadblocks to ambush their enemies, Mr Levongo said. Seven men died at a road block and another three people were killed in retaliation for the deaths, he said. Police were able to provide security in the provincial capital Wabag and at the Porgera Mine site but were outnumbered in the conflict zones.

### **Deep sea mining is bad: Activist**

Roselyn Erehe, The Sunday Bulletin, 25th November 2018

DEEP sea mining is a risk to the people's way of life and a threat to the environment says activist Lucielle Paru. The deep sea mining which covers 16 marine-time provinces in Papua New Guinea does not have laws governing the seas, said Paru. "We don't have any laws governing our seas and how they should be managed," Deep Sea Mining Campaign- Papua Land Rights Council and activist, Paru said. There is a high possibility of the deep sea mining running through New Guinea Islands - Manus, East New Britain, and New Ireland; the Momase region - East and West Sepik, Morobe and Madang province; and the Southern region- Oro and Milne Bay provinces. She raised

her concern on the issue of Deep Sea Mining in relation to Papua New Guineans not taking the issue too seriously by letting the government and foreigners mine their land at the helm of the recently concluded Asia Pacific Economic Cooperation (APEC) Leaders' Summit.

“That is a very big issue in terms of how the sea should be mined and how to govern the ocean, and whose territory it is,” Paru said. She called on the people to not only see the benefits of mining but to also see the disadvantages of mining operations in the country. She said, “The world may be looking at technology and the world maybe looking at mining but how much does that actually benefits us? And we are actually destroying what belongs to us.” “Why are we allowing other countries to come into our country and destroying what makes us proud”. Paru will be the first Papua New Guinean to represent the country and bring the ‘deep sea mining’ issue to the United Nations (UN) attention during the UN conference in Geneva- Switzerland from the 26th – 28th November, this year. Her aim is to ask the UN to ban the deep sea mining in PNG and hopefully in the Pacific as well. Issues she'll be raising at the UN meeting are:

- Mining Territory Claims
- Environment and Climate change, especially when Papua New Guineans are depending on sustainable living, like fishing.

And basically how all these issues are linked to deep sea mining and how the people of PNG will be affected if its operations take place in PNG and in the Pacific Ocean.

### **Cooks' deep sea mining exploration will lead to impact assessment**

*By offering tenders for deep sea exploration the environmental risks of extracting minerals from the seabed will be able to be assessed, the Cook Islands government says.*

Radio New Zealand, 23 November 2018



A manganese-crusted 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.

The government plans to open tenders for five-year, deep sea mining exploration licences at the beginning of next year. And while there have been concerns raised about the environmental impact of deep sea mining, the Deputy Prime Minister, Mark Brown, said the exploration phase would have a very low impact. "There's a lot of measuring, scoping, mapping and samples that will be taken," Mr Brown said. "But it'll enable us to be more informed if we do move towards the steps harvesting of our nodules," he said. "We will have much better baseline information on the need in terms of put-

ting in place an environmental impact assessment. Those sorts of things will be required." Exploring the possibility of deep sea mining is about finding ways for the Cooks to diversify its economy and move away from its strong reliance on tourism, Mr Brown said.

### **Ramu: Landowners want mine to shut down**

November 23, 2018, The National Business

LANDOWNERS of the Ramu Nickel mine in Madang have petitioned the government to shut down mine operations following the signing of a K5 billion extension programme last week. Landowner association chairmen representing landowners of project impacted areas in Bundi, Usino and Raicoast petitioned the Government through Mining Minister Johnson Tuke to shut down mining operations within seven days. Their reasons were that Ramu Nickel management and Government did not take into the account interest of landowners before they signed the agreement for mine expansion. They said they did not know the content of the agreement. The copy of the petition was presented to Ramu Nickel yesterday.

Kurumbukari Landowners' Association chairman Toby Bare said signing of the K5 billion mine expansion took them by surprise. Bare said there were a lots of issues that needed to be raised and captured in the agreement before signing. The landowners raised several issues related to unfair distribution of spin-offs, rising social problems, and equal participation in project development in the petition. The petition also included concerns about delay in the mine's memorandum-of-agreement review. Bare said landowners felt they were marginalised on their own land. Raibus Group of Companies chairman Steven Saud said the K5 billion expansion was like "erecting another mine within the mine". He said over the last 13 years since the company started operations, landowners had learnt a lot. Saud said there were certain things the company and Government should have done to meet expectations of landowners but had failed to do so.

Ramu Nickel management yesterday said the MOU signing done on Nov 16 in Port Moresby was "a high level understanding to demonstrate commitments by both PNG and Chinese governments to support the company's expansion plan". "It is obvious that there is gross misunderstanding among ourselves that led to landowners issuing such threats, and making baseless allegations against the company," the management said in a statement. "However, we are committed to engaging with landowners in a mature and responsible manner and respond to each allegation levelled against the company." The management said the MOA review for the mine would take place once all stakeholders prepared their position papers. The MoA review would be due on December 13.

### **Forum focuses on percentage split between Hela, SHP**

By JEFFREY ELAPA, November 23, 2018, The National Business

Department of Petroleum will announce details of a mini-forum to discuss PNG LNG project development levy percentage split between Hela and Southern Highlands, Secretary Kespuy Puiye says. He said that the percentage split between Hela and Southern Highlands governments was an important issue that needed to be addressed. A clause in the PNG LNG Umbrella Benefit Sharing Agreement (UBSA) in Kokopo in 2009 stipulated that a mini-forum should be conducted in September 2009 for affected provincial and local level governments to agree on their share.

Puiye said this in response to the call by president of Komo LLG, Thomas Potape, for Minister for Petroleum and Energy Dr Fabian Pok and Puiye to take leadership and secure funding to organise a forum. Potape said the impacted LLGs were Komo, Hayapuka, North and South Koroba, Hulia, Mt Bosave and Kutubu. Then there are Hela and Southern Highlands governments. Potape said his ap-



peal was a genuine call as stipulated under the Oil and gas Act and the UBSA of 2009 in Kokopo. Potape said the separation of Hela and Southern Highlands was for better and equal benefit-sharing.

## **LNG landowners stopped when trying to damage office**

The National, November 23, 2018



Hides Gas Conditioning Plant in Papua New Guinea. Photographer: Richard Dellman via Exxon Mobil Corp.

POLICE managed to stop landowners from damaging the Petroleum Department office in Port Moresby on Wednesday, according to the National Capital District/Central police commander Assistant Commissioner Donald Yamasombi. “A fight between two landowner groups at Konedobu at about midday was believed to be over the frustration of the delay to their royalty payments,” Yamasombi said. “Police were called in and they dispersed the crowd and some arrests were made. They have been detained at the Badili police station”. Meanwhile, acting Badili police station commander Chief Sergeant Paul Angua said 32 landowners were arrest and detained without being charged for two days. “Although it is alleged to be breaching their human rights, we cannot release them unless the complainant, who is a Petroleum Department officer, writes to us to release them.” However, Hides Petroleum Development Licence 7 umbrella chairman Erick Hawai said 32 landowners were detained at Badili.

“The issue got out of hand and the department staff injured and properties were damaged when a Hides project coordinator allegedly provoked the landowners,” Hawai said He said hurtful words were uttered which angered the landowners and service providers resulting in a rampage. “There were exchanges of stones, sticks, irons bars and fists, most of the landowners were injured and taken to the accident and emergency ward at the Port Moresby General Hospital”. Hawai is appealing to Petroleum Minister Dr Fabian Pok and the acting Department Secretary Kepsey Puiye to intervene and settle the issue. “This must be done within this month before more problems will emerge here n at Hides PDL 7 Project site in Hela,” Hawai said. Angry landowners from PDL 1-6 entered the main gate in two truckloads and started throwing stones on the building, sources said.

## **No power deal to use coal, says Blacklock**

By HELEN TARAHA, November 23, 2018, The National

PNG Power Limited acting managing director Carolyn Blacklock says the company does not have

any power purchase agreements that involves coal. She told The National that a proposal for a purchase agreement using coal-fired electricity supplies was “unsolicited”. “This is not something we went to market for competitive bidding,” Blacklock said. The Mayur Resources Enviro Energy Park project to be built in Lae has received support from Morobe and Gulf provincial governments, and the endorsement of the Conservation and Environment Protection Agency. Mayur had agreed to a K125 million funding package for Morobe over 25 years. But it is awaiting the green light from PNG Power. Energy Minister Sam Basil recently wrote to PNG Power chairman Peter Nupiri stating that Mayur’s response to a solicited request from Blacklock should be presented to the board for consideration. He requested PNG Power to give Mayur, “being a genuine investor”, a fair chance by taking his response to the board. But Blacklock said “we are not scared about the fuel source”. “Coal is not something that PNG Power worries necessarily about doing.

“If we have to do coal or gas or hydro, we do it on a basis that it is built around PNG Power’s plan which says we need this much generation at this time in this location. “We don’t go into market to do that. So why should PNG that has all these beautiful water running through its rivers, is sitting on an ocean of gas, rush down the path of dealing with salesmen from other countries who want us to buy a coal-fired power station? “They don’t have a balance sheet and they have never worked in PNG. I’m not Papua New Guinean but I’ve seen enough of this nonsense. We need to be building power stations based on true planned demand not on what somebody else thinks is our demand. “We’ve got to get this right otherwise we end up with other power projects with other power projects that are costing us too much money or are not in the right place or too much power.”

### **Timor-Leste buys Shell's stake in Greater Sunrise oil and gas in controversial plan to build hub** By Pacific affairs reporter Stephen Dziedzic, ABC News, 22 November 2018



Photo: Timor-Leste is highly reliant on oil and gas, with current revenues slated to run out within five years. (Supplied: Woodside Energy)

Timor-Leste has bought Shell's stake in the rich Greater Sunrise oil and gas fields as it presses ahead with its contentious plan to pipe the natural resources to its south coast for processing.

#### **Key points:**

- Timor is spending millions to take control of oil and gas resources
- It plans to build a pipeline to its coast, a new refinery, and an airport
- Experts say project is doomed to fail

It's another twist in a long saga as Timor-Leste, Australia, and energy companies tussle over how to exploit the reserves which are key to the small nation's economic future. Timor-Leste has pursued its vision for a pipeline and a domestic LNG industry for years, arguing the plan is crucial to its national development. But Australia remains deeply sceptical, and officials worry the small nation is plunging finite resources into a doomed project which is technically and financially unfeasible. "It'll never happen. Not even the Chinese will bankroll it," one Australian Government source told the ABC. "They're rapidly running out of money and plunging what they have into this mad dream. It's a worry." In a statement to the ABC, spokesperson from the Department of Foreign Affairs (DFAT) said: "the Australian Government understands that the development of Greater Sunrise is crucial to Timor-Leste's development and prosperity." "Australia wants to see Greater Sunrise developed in a way that maximises benefits and opportunities for the people of Timor-Leste." Shell's 26 per cent share of Greater Sunrise will cost Dili \$413 million.

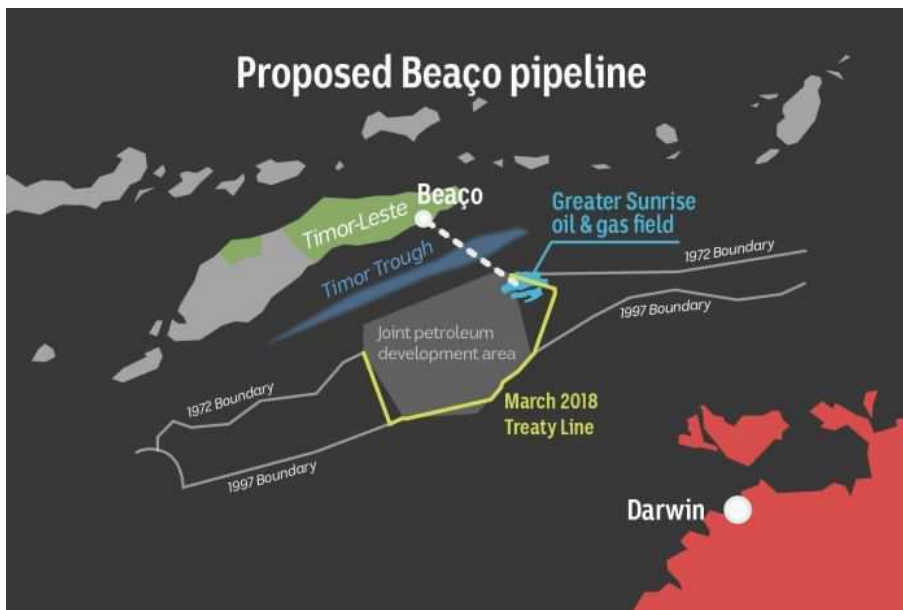


Photo: Timor-Leste's leaders want to boost the country's economy by building an LNG plant and refinery in Beço. (ABC: Jarrod Fankhauser)

Last month, it [announced it would purchase the 30 per cent stake in the consortium held by US company ConocoPhillips](#) for \$484 million. If both transactions get the green light, Dili will gain a majority share of Greater Sunrise. Timor-Leste is going on the buying spree because it's been unable to convince the energy giants which hold the rights to Greater Sunrise to sign on to its plan. It hopes to use its majority stake to press the Greater Sunrise consortium's lead partner, Woodside, to either sign up to its plan or sell up its share. Dili has asked Australian businessman James Rhee to help mediate negotiations, and to search for other sources of finance for the project.

### 'The interests of small nations'

Shell's Zoe Yujnovich said the company's decision to sell would allow Timor-Leste to follow its aspirations.

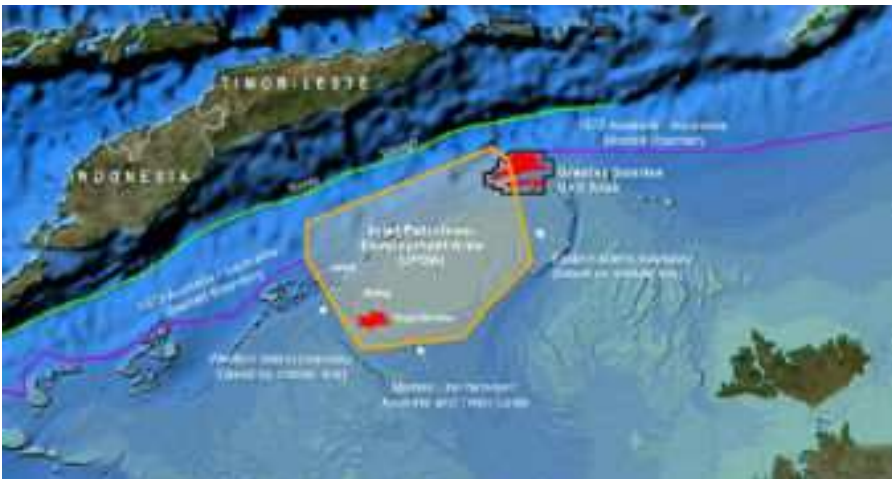
"We respect the Timor-Leste Government's determination to develop the Sunrise fields through an onshore LNG facility on its south coast," she said in a press release. "Although we formed different views about the optimal development scenario, we understand the priorities of the Timor-Leste Government and wish it well in pursuing its aspirations to develop this important resource for the nation. Timor-Leste's former leader, Xanana Gusmao, who has been leading negotiations for his country, praised Shell's decision to sell. "Shell's attitude throughout the negotiations shows that it is ready to consider not only its commercial interests but also the interests of small nations," he said.

### Only one actor with the cash for such a project

Bec Strating from La Trobe University said both Timor-Leste and Shell were being disingenuous.



Photo: Feelings ran high in Dili during negotiations with Australia over control of the oil and gas reserves in the Timor Sea. (AAP/EPA: Antonio Dasiparu)



"The rhetoric from the Timorese Government and Shell that this buyout is helping small-state development is incredibly misleading," she said. "In reality, oil corporations are being paid hundreds of millions of dollars by a developing state to abandon what is widely regarded in the industry as an unattractive development prospect." Dr Strating said big questions still hovered over the whole enterprise, and there was growing anxiety over the situation in Canberra. The vast majority of Timor-Leste's budget revenues come from oil and gas reserves which are due to run dry within five years. "The remaining challenge for Timor-Leste is how it will get the billions of dollars required to fund the pipeline and its onshore processing facilities," Dr Starting said. "There appears to be only one actor with the funds to bankroll this kind of project, and that's China."

### A Small Scale Miner sees Alluvial Mining as PNG's Future

Vasinatta Yama, EMTV News, 22 November 2018

A small scale miner and local businessman, Joe Tomerop says Papua New Guinea will have a bright future, if the government sees the importance of alluvial mining. Tomerop, who has been in

the business for five years, says small scale mining can rescue a country's economy and foreign exchange. However, Tomerop says he still needs a license to operate as a first time local investor in this sector. Tomerop is building his own machines and plant to fulfil the Mineral Resource Authority's requirement for investors to have their own equipment before applying for license. So far, he has spent over K800, 000 to locally build his own plant, as well as trying to acquire a license from the Mineral Resources Authority. Tomerop's village in the Kompiam electorate in Enga Province is situated on the beltline of resources such as gold and copper. Tomerop says he wants to be one of the first Papua New Guineans to own a small scale mine, instead of working for expatriates.

Joe Tomerop has been in business for over 30 years, and has only just started investing in small scale alluvial mining. In 2016, EMTV's Resource PNG Program featured a story about an alluvial mining conference and tradeshow hosted by the Mineral Resource Authority in Goroka. The theme was "Mechanised Alluvial Mining" from which Tomerop also attended. Tomerop was not pleased that MRA did not tradeshow any mechanised equipment to small scale miners to learn from. This has forced him to build his own equipment to be able to get a license. A landowner group from Tomerop's village has always wanted to mine gold illegally, but they said alluvial mining has the potential to bring in millions of kina. They are urging MRA to be fair in issuing licenses to expatriates as well as the locals.

### **PNG landowners to challenge mine venture in court**

*Papua New Guinea's Supreme Court has ruled that a challenge against the Porgera gold mine in Enga province can proceed.*

Radio New Zealand, 22 november 2018



Porgera mine. Photo: wikicommons / Richard Farbellini

A group of landowners is challenging the validity of a mining lease for the Porgera Joint Venture's open pit and underground operations. The venture is 95 percent owned by Canadian company Barrick, and its Special Mining Lease is up for renewal next May. Last week the national court issued a restraining order preventing the government and Barrick from progressing the renewal of the lease until next April because of the failure to consult with landowners as required by law.

The Justice Foundation for Porgera Limited lodged the challenge two years ago. Its chairman Jonathan Paraia said the joint venture's lease could not be renewed until the mining company addressed past grievances. These included rapes of local women and girls by security guards at the mine, and displacement of local communities. Mr Paraia said the mine had turned lo-

cal people into refugees on their own land because as subsistence people they need land in order to grow food to survive.



A protest against Barrick Gold. Photo: Facebook/ Kelly Taila

### **Trucks damaged in New Caledonia mine attack**

*Reports from New Caledonia say there has been a major arson attack at the SLN nickel company's mining site in Kouaoua.*

Radio New Zealand, 22 November 2018



The SLN plant in Noumea. Photo: RNZ / Johnny Blades

According to local media reports about 15 trucks have been damaged overnight. A fire was also set to the conveyor belt system - the 15th this year. The head of SLN's parent company Eramet has described the latest development as a guerrilla action. This comes just over a week after a court in Noumea authorised the expulsion of a group of local men who had set up a barricade at the site three weeks ago. The mining site had already been closed for more than two months from early August but an agreement had been reached in late October for operations to resume. The belt system feeds nickel ore to the coast for shipping to the SLN smelter in Noumea, with the Kouaoua mine providing about 40 percent of SLN's ore.



Photo: RNZ Pacific/ Walter Zweifel

The earlier blockade is estimated to have incurred SLN losses of almost \$US20 million.

### *Letter to the editor*

#### **Mineral ownership is the sticking point**

Post-Courier, 21 November 2018

Under our customary laws we own the land, forests, rivers, lakes and everything in or on it. We own such natural properties through our clans or tribes, regardless of whether we had any uses for these natural resources or not. Moreover, customary laws and natural property rights are enshrined in our constitution. Therefore indigenous peoples are afforded ownership rights to minerals on their customary lands through their customary laws. But the Mining Act was developed in the colonial era to give legitimate powers to our colonisers to access our mineral resources, and it has seen little change to its tenets since Independence 43 years ago. The Mining Act is a draconian law that extinguishes our natural property rights to minerals under our customary laws as soon as an SML is declared over our customary lands.

The PNG Constitution affords us natural property rights to minerals and other natural resources on our customary lands. However, the Mining Act takes away our rights to minerals, so there is some contradiction in this area as to which law is the superior one. We, the customary landowners, are alienated from our minerals by an SML. Then the real aliens, the state and developer, invite us to the negotiating table and tell us to eat whatever they serve to us, which is not right. Calls by Sir Mekere Morauta and Sir Julius Chan for ownership rights of minerals to be reviewed must be heeded. This is to ensure Papua New Guineans significantly benefit from mining rather than feed on bones. This is the sticking point. **Enough Of Bones**

#### **Call for Cooks' seabed mining licences to require risk research**

*The Cook Islands government must focus as much on the potential environmental risks of seabed mining as it does on the economic benefits, an environmental organisation says.*

Radio New Zealand, 21 November 2018

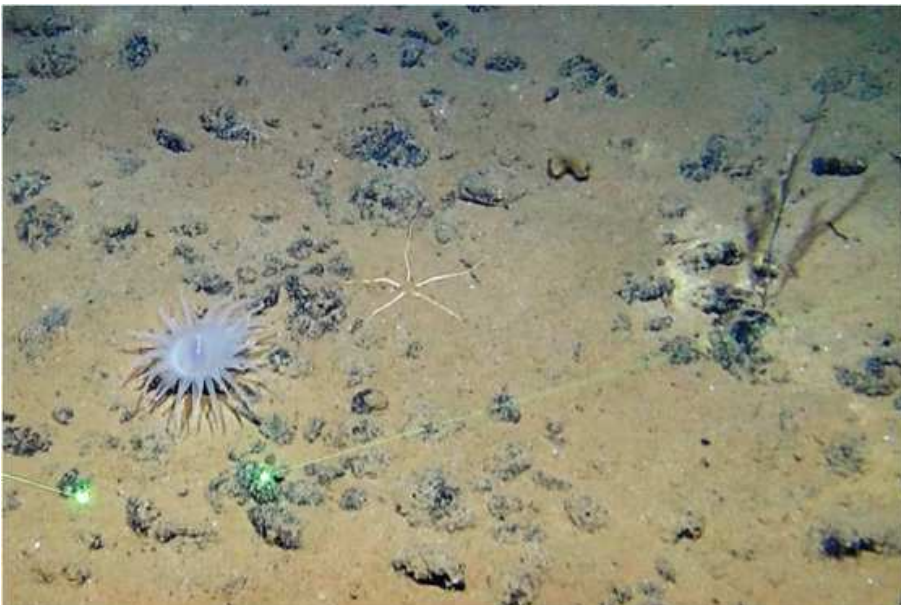
In recent weeks, the government has been holding public meetings to hear feedback on its plan to open tenders for five-year, deep sea mining exploration licences at the beginning of next year. Kel-

vin Passfield of the Te Ipukarea Society said little was known about the biodiversity in the exploration area. Environmental research should be included in exploration operations, Mr Passmore said. "We would like to see at least an equal emphasis on the biodiversity and the potential environmental impacts on that biodiversity," he said. "So we would like to see any exploration licence having a condition that there must be a partner in that exploration programme of a research institution." The *Cook Islands News* reported that Deputy Pm Mark Brown as saying the government was only concerned with exploration at this point.



Kelvin Passfield of Te Ipukarea Society. Photo: RNZ/ Sally Round

### **Deep sea mining zone hosts CO<sub>2</sub>-consuming bacteria, scientists discover** phys.org, November 20, 2018



Scientists have discovered that bacteria in the deepest parts of the seafloor are absorbing carbon dioxide and could be turning themselves into an additional food source for other deep-sea life. Bacteria living 4000m below the ocean surface in the Clarion-Clipperton Fracture Zone (CCFZ) are consuming carbon dioxide and turning it into biomass, [a new study shows](#). Until now, scientists believed the main source of biomass on the seafloor was the organic matter that floated down towards



the depths: dead fish, plankton and other detritus. Prof. Andrew K. Sweetman from the Lyell Centre for Earth and Marine Science and Technology at Heriot-Watt University in Edinburgh said: “We have recently made two major findings. “In contrast to similar studies in the north Atlantic Ocean, we found that bacteria and not seafloor animals were the most important organisms consuming organic detritus that floats down towards the ocean floor. “We also discovered that benthic bacteria are taking up large amounts of carbon dioxide and assimilating it into their biomass through an unknown process. This was completely unexpected. “Their biomass then potentially becomes a food source for other animals in the deep sea, so actually what we’ve discovered is a potential alternative food source in the deepest parts of the ocean, where we thought there was none.

“If we upscale our results to the global ocean, our findings reveal that 200 million tonnes of CO<sub>2</sub> could be fixed into biomass each year by this process. “This equates to approximately 10% of the CO<sub>2</sub> that the oceans remove each year, so it’s possibly an important part of the deep-sea carbon cycle. “We found the same activity at multiple study sites separated by hundreds of kilometres, so we can reasonably assume this is happening on the seabed in the eastern CCFZ and possibly across the entire CCFZ.” The CCFZ is a prime area of interest for future seabed (polymetallic nodule) mining. Sixteen contractors from countries like the UK, Germany, France and Korea have claimed exploration rights in this region, and have begun conducting surveys to gather baseline data on biodiversity and genetic connectivity across their claim areas. Dr Sweetman is calling for the International Seabed Authority to ensure contractors in this area will implement carbon cycling monitoring as well as biodiversity and genetic studies.

Sweetman said: “If mining proceeds in the CCFZ, it will significantly disturb the seafloor environment. “Just four experiments similar to ours have been conducted in situ in the abyssal regions of the oceans; we need to know much more about abyssal seafloor biology and ecology before we even consider mining the region. “The full-scale mining proposed in the Clarion-Clipperton Fracture Zone could significantly impact benthic ecosystems for decades, perhaps even longer. “Now that we have shown that novel carbon cycling processes are happening on the seafloor in this region, which may be very significant in terms of the carbon cycle, authorities should insist that hopeful mining contractors study these processes in baseline surveys, impact assessments and monitoring, so that mining-related changes in this important ecosystem process can be identified and tracked.” The findings were published in the journal *Limnology and Oceanography*.

## **Vatukoula Gold Mines To Recruit 200 More Workers**

Charles Chambers, Fiji Sun, November 20, 2018



Vatukoula Gold Mines Limited.

Vatukoula Gold Mines Limited (“VGML”) is looking to recruit 200 more employees to fill the vacant positions for their underground operations. The mining company is working with Western provincial administrators based in Ba and Rakiraki on a village-based recruitment programme. The intent of the project is to encourage young men from rural areas of Fiji to take up employment as underground miners at Vatukoula Gold Mines while maintaining their links to their communities. These links will be maintained by means of:

- A roster which will enable two weeks off every six weeks.
- Transport will be facilitated to the employee’s community and return to Vatukoula on conclusion of their two week community break.
- As part of their application and selection process, each applicant will be encouraged and required to commit to a specific project in their home community e.g. building a residence, a farming venture, communal building project etc.

### **Criteria**

Young men who meet the criteria for employment will be offered free shared accommodation, inclusive of all services (electricity, water) and the services of a cook but contributing to the cost of their meals out of their wages. Land for planting of root and vegetable crops will be made available and the opportunity to lower their food purchase costs by supplying from their home villages and being compensated out of their food budget. VGML will also provide the services of a Community Relations Officer (“CRO”) as a mentor for all participants in the scheme. The present CRO is the former head teacher of the Vatukoula Primary School, Serupepele Koroitubuna.

### **Recruitment**

The CRO will liaise with relevant Government agencies to facilitate the employee’s project wherever possible and will also provide guidance in financial literacy and extracurricular activities designed to grow the employee’s life skills. To date the company has recruited 12 young men from the villages of Balevuto and Toge from rural Ba and Namauimada and Naboutolu in Ra. The new employees undergo four weeks of surface induction which involves safety, how to handle themselves in different situations and first aid to name a few. They are then taken underground for a further six months training under strict supervision. VGML Corporate Services manager Dini Laufenboeck said the feedback had been very encouraging but that the mines would strictly monitor conditions going forward.

### **K400m tax credit projects delivered in 20 years**

Post-Courier, November 20, 2018

Oil Search Limited has delivered a total of K400 million worth of infrastructure tax credit scheme projects. OSL managing director Peter Botten explained the core of the arrangement between major companies and the State to utilize effective delivery expertise in delivering key infrastructure throughout the country. He said this at the APEC CEOs Summit held over the weekend in Port Moresby when speaking on the inclusion of communities in the development agenda. “Under a tax credit scheme, where in lieu of paying project tax directly to the Government, we use those funds to carry out important infrastructure development programs,” he said. “These programs are chosen by the Government and communities are delivered using our operational expertise and supply chain, in a transparent and cost effective way, without waste or corruption. “Under this scheme Oil Search has delivered over 280 projects over the last 20 years, to a total value of around US\$400 million.

“Projects have included major infrastructure, such as APEC Haus, the National Football Stadium, Government office refurbishments and numerous regional road projects. “They have also involved school and hospital buildings, Government workers’ houses, numerous other medical and educa-

tional facilities and churches – projects seen by Government and communities as essential in their economic and social development.” He said the scheme leverages the capacity of the private sector through innovative partnerships with Government, Community and Stakeholders has resulted in definition and then delivery of agreed development objectives. “Business brings substantial capital, provides jobs and training, can influence society by empowering women or addressing health concerns such as TB, malaria and HIV that impact our PNG workforce,” he said. “Companies can promote changes in attitudes and behaviours to tens of thousands of staff under a company’s value system. “Increasingly the private sector is recognising that business will thrive if it can improve society, whilst generating a fair return.”

## **Letter to the Editor**

Cook Island News, November 19, 2018

The government is in raptures as they prepare for a bonanza of riches that they hope will flow from deep sea mining in our exclusive economic zone (EEZ). Before matters proceed to the point of no return, we the Iti Tangata need to ask whether mining will lead to riches or to our ruin. Should we allow our Government to jeopardise the main industry of our country that is the backbone of our national economy? Does anyone really think that paying guests will come to a destination that has been polluted from the byproduct of mining, if it were to go ahead? Word is that government is so keen, that they are in the process of trying to water down the Marae Moana Act in order to take away some of the protections in relation to environment impact assessments. Being so secretive about the proposed changes, which the public are not allowed to view until the Amendments have had a first reading in Parliament, does little to dispel that impression. Right now, our visitors pay good money to come to our tiny Ipukarea to experience the beauty of the environment on land, lagoon and ocean and to enjoy the holiday of their dreams before heading back to their own homes. They came here for the clean air, the green hills and flowers and immaculate gardens and the beautiful lagoons and friendly people to host them and while doing so, they generate more than \$200 million annually to our local economy.

Does anyone really think that paying guests will come to a destination that has been polluted from the byproduct of mining - if it were to go ahead? Of course not, they will go elsewhere. Actually, I am not necessarily a fan of tourism. That seems to have gone into overdrive in the past couple of years and seems to have created a certain level of environment and infrastructure issues of its own. These include periodic shortages of water supply in parts of the island, an inadequate septic system - and of course, our roads could do with a bit of an upgrade. However, those issues are being addressed albeit with mixed results thus far, but will fade into the background in comparison to the irreparable damage to our ocean environment and leisure industry that a high-risk industry such as mining would cause. Honestly, can the advocates of mining point to a place anywhere in the world where mining has not polluted the surrounding environment? Nope?

But there are plenty of instances about the adverse effects of mining. Papua New Guinea, one of our Pacific neighbours, has had its fair share of horror stories in relation to mining. There was, for instance, the notorious case of the OK-Tedi gold mine in PNG where the toxic by-product of the process of extracting the gold were released into the OK Tedi and Fly rivers and poisoned the water and killed all the fish. (By the way, the by-product is arsenic for those who are wondering). After a media campaign in Australia to expose the malpractice of the mining company and a court case against them for their misdeeds, the mining giant negotiated to pay a tiny fraction of the costs to remediate the environmental damage and eventually walked away from the mine. PNG was left to deal with the mess the mining company left behind. There are other case, but the point is that mining companies have very deep pockets to retain the highest paid legal minds from anywhere in the

world to defend their position, while our Government has the services of the Commissioner and Crown Law. In a battle between global giants vs idealistic local lawyers, it is not going to end well for us.

One last point: even if the nodules are worth zillions of dollars - which is uncertain - the Government will only receive a tiny percentage of the value via royalty payments. It is rather like our tuna fishing industry, where tuna is sold at \$20-30 per kilo, but that Marine Resources have signed away for a few cents per kilo. Enough said. The byproduct from deep sea mining of our nodules will be the huge amount of "plume" of the muck that constitutes the seafloor. Apparently the nodules will be either scooped up or vacuumed upward and then the seawater will be released back to the ocean. How to return vast quantities of dirty water to the ocean without causing an environmental disaster sounds like mission impossible to me. The upside is that the byproduct will not be arsenic, as with the OK Tedi case.

### **Newcrest pushes for sustainable mining**

November 19, 2018, The National Business

SUSTAINABLE mining is not only the right thing to do but it is also the safe and profitable for governments and communities where miners operate, according to Newcrest. The Australian miner operates in many countries including three Apec economies. In Papua New Guinea, it is the biggest gold producer and has been around for a decade with operations on Lihir Island in New Ireland. It is also a joint venture partner (50:50) in the new Wafi Golpu project in Morobe. During the Apec Chief Executive Officers' Summit on the Pacific Explorer in Port Moresby on Saturday, managing director and chief executive Sandeep Biswas said Newcrest has embedded sustainability as one of its key pillars. "I think all responsible mining operators can say that our operations generate economic and social benefits at our sites. "Our sites provide invaluable opportunities for employment, training and business development. "For example, last year, we spent K53 million on community infrastructure in New Ireland, including under the Government's tax credit scheme. In PNG, in parallel with the contributions which flow from our sites, Newcrest has a national social investment strategy for targeted investments across the country.

### **PNG gas industry part of the story for the 'Golden Gas Age'**

Post-Courier, November 18, 2018

EXXONMobil Senior Vice President Neil Chapman as indicated PNG's involvement in the natural gas industry will add to the story of 'Golden Gas Age' as more countries tap into the market. He said the status of the country in the industry growing, making mention of talks with the government about a three-train expansion. "This will involve several partners and will roughly double LNG capacity from PNG," Mr Chapman said. "I'm hopeful with support of the government we can come to an agreement on terms soon and together move forward on a new chapter in PNG's energy story. "There's no question about the appetite for LNG throughout Asia is strong. The market for increased production is out there." He said with LNG import terminals are being built throughout the region. Governments are facilitating the import and use of natural gas in their economies.

"All of this provides further confirmation of the 'Golden Age for gas' that was foreseen by the International Energy Agency, and is truly emerging today," he said. "It's particularly golden for this part of the world. "When the full story of the 21st century is written, historians will reflect on the origins of the Golden Age in this region. "They'll record stories of economic expansion, of new supercities rising, of millions of people trading poverty for prosperity. "And they'll recognise places

like Papua New Guinea – thanks to the enlightened vision of its leaders – as the engines that made such progress so possible.”

## **MOU Between PNG and China Metallurgical (Group) Corporation**

Post Courier, November 17, 2018



The Chinese have been ridiculed for the poor quality of some of their construction work for the Ramu mine

This MOU between PNG and China Metallurgical Cooperation continues since its inception in 2004 under the subsidiary development partner Ramu Nico Management Limited (MCC). The Ramu Nickel project under the MCC became solely responsible for all facets of the Project including financing, construction and operation. Having developed the Ramu Nickel Project into a world-class nickel and cobalt mining and refinery operation, MCC achieved successful operation of the project. In September 2016 when production nameplate capacity and design standard were achieved. The purpose of the MOU in this regard to the forge that continuity and expansion of the project through MCCs further investment in the Ramu Nickel project on behalf of the development partners and the extent to which MCC proposes to invest in the expansion project.

Further the MCC’s investment in the Expansion project will be a significant and concrete demonstration of the long-term commitment to and show string partnership China has with PNG and its continuous cooperation under the framework of “One Belt One Road” arrangement. The Expansion project is also encouraged through excellent investment environment of PNG and will promote economic development for the State and local communities, improve labor training and employment, taxation and expense, local procurement and business, health and welfare, public infrastructure and administration among other benefits. In concluding the signing will be done by Mining Minister Johnson Tuke of PNG and Mr Tang Fuping Chairman of China Metallurgical (Group) Cooperation on 16th November 2018

## Sand mining plan opposed in Palau

*A Japanese company's plan to dredge an unlimited amount of sand in northern Palau for the next 50 years poses serious threats to the environment and peoples' livelihoods, an NGO says.*

Radio New Zealand, 16 November 2018



The area that is marked for dredging in Palau Photo: Supplied

The Executive Director of environmental group Ebiil Society, Ann Singeo, said the venture between the Ngarchelong State Government and the Japanese RAM Corporation was agreed to last year before the public was consulted. The community is now awaiting a decision from the Environmental Quality Protection Board as to whether a permit for the mine will be granted. Ms Singeo said the venture gave just 35 percent of the profits to the state and nothing directly to the communities affected. "[RAM Corporation] is not even paying a lease or anything for the area they are going to be mining - it's free. Even the areas they're proposing to put plants on offices on on land - free. The water they're going to be using to rinse the material - free. They're basically getting this entire reef for free.

"Sixty-five percent [of profit] goes to the company, and 35 percent goes to the state. No royalty will be paid to the local community, no income tax, no lease payment. We get 35 percent - and that's if they sell the sand." Ms Singeo said local people had a special relationship with the ocean, which was home to numerous endangered species including dugongs, turtles and stingrays. "Palau is known for its underwater. The area they are proposing to mine is the second biggest reef area in Palau, but its also the most pristine one. The southern lagoon, which is the largest reef area in Palau, has had a lot of human activities and tourist impacts. "But up north, here in our community, it feels so pristine. And the community is still very closely connected to their environment, to their ocean. So they have personal relationships that gives it a feeling of its life and that it's not just an ocean to be exploited - it's so much more than that."

She added: "the area that's going to be mined ... it's bigger than the core central state of Palau - it's massive. Not only is it going to have devastating impacts to the ocean, but will completely change the lives of the people who live in this community." The former governor of Ngarchelong State, Brownly Salvador, is understood to have visited Japan to have signed the joint venture agreement on behalf of the state in August 2017. Ms Singeo said over the weekend, dozens of Ngarchelong State residents filled the community centre to voice their concerns over the proposal. Many were angered by the lack of communication and consultation on the project. The community would continue to fight against the proposal, Ms Singeo said. The new governor, Richard Ngiratrang, has told the community he will revisit the agreement signed between RAM Corporation and the state.

## Papua LNG group signs MOU with Papua New Guinea

Rick Wilkinson, Oil and Gas Journal, 16 November 2018



The Papua LNG joint venture partners led by Total SA have signed a memorandum of understanding with the government of Papua New Guinea for development of the Elk-Antelope gas-condensate fields, known as the Papua LNG Project. The scope of the agreement includes priority terms and conditions forming the basis for a gas agreement as well as a timeline for negotiation. The gas agreement is scheduled for finalization during first-quarter 2019. The MOU follows the Papua LNG and the ExxonMobil Corp.-led PNG-LNG joint venture parties reaching broad alignment earlier this year on the preferred downstream concept for the next phase of LNG development in Papua New Guinea. The plan involves the construction of three 2.7 million tonne/year capacity LNG trains on the existing PNG-LNG plant site at Caution Bay just west of Port Moresby. Two trains will be supplied with gas from the Elk-Antelope fields and the third train by gas from existing PNG-LNG fields and the yet-to-be developed P'nyang field in the Western Highlands. Together Elk-Antelope and P'nyang contain an estimated 11 tcf of undeveloped 2C gas resource.

The Papua LNG Project is based on the Elk-Antelope resources in petroleum retention license PRL15 in the Eastern Highlands. Total has 31.1% interest, ExxonMobil has 28.3% interest acquired when it bought InterOil Corp. earlier this year, and Oil Search Ltd. has 17.7%. These percentages are after the state of Papua New Guinea has backed into the project for 22.5%. Papua New Guinea Prime Minister Peter O'Neill labeled the MOU as "another historic moment for Papua New Guinea and the beginning of the development of the second LNG (Project) in our country." He said, "Today's memorandum paves the way for us to enter into a project gas agreement which will be negotiated between the parties over the next 3-4 months and to be concluded by Mar. 31, 2019." Peter Botten, managing director of Oil Search which, like ExxonMobil, is a participant in both joint ventures, said pre-FEED downstream studies on the three-train development concept are well under way. The scope of the engineering work includes design, process, and layout optimization of the expansion concept from the gas inlet to the LNG loading arm.

"Work taking place includes the brownfield tie-ins, compressor driver selection, LNG loading and shipping, condensate treatment, storage and loading, and execution planning," Botten said. "We expect this will underpin entry into the full FEED stage." Botten added that discussions between the government negotiating team and the P'nyang (PRL—3) joint venture are well advanced. "With an integrated FEED entry decision required to advance the three-train expansion at the PNG-LNG site, completion of the gas agreement between the government and the PRL-3 joint venture is expected to occur in a similar timeframe to the Papua LNG Project," he said. The recent MOU for Papua LNG was signed as a show piece for Papua New Guinea during the Asia Pacific Economic Confer-

ence (APEC) in Port Moresby in the presence of Papua New Guinea Prime Minister O'Neill and Total Chairman and CEO Patrick Pouyanne.

### **Total signs MoU with State to move Papua LNG agreement forward in 2019**

Post-Courier, November 16, 2018

TOTAL and the Independent State of Papua New Guinea signed a Memorandum of Understanding to Negotiate a Gas Agreement for the Papua LNG Project. Total and its partners ExxonMobil and Oil Search have signed a Memorandum of Understanding (MoU) with the independent State of Papua New Guinea to negotiate a gas agreement for the Papua LNG Project. The MoU was signed during the Asia Pacific Economic Conference (APEC) in Port Moresby, in presence of Peter O'Neill, Prime Minister of Papua New Guinea, and Patrick Pouyanné, Chairman and CEO of Total. The scope of the MoU includes priority terms and conditions to be agreed in the proposed gas agreement as well as a timeline for negotiation. The proposed gas agreement is expected to be finalised by Q1 2019.

Total is the operator of the Elk and Antelope onshore fields and is the largest shareholder in PRL-15 with a 31.1% interest, alongside partners ExxonMobil (28.3%) and Oil Search (17.7%), post the State back-in right of 22.5%. Total is also pursuing integration opportunities with the PNG LNG project in order to decrease costs and to maximize the value of the Elk and Antelope fields for the benefit of the country of Papua New Guinea and the PRL-15 shareholders. "The MoU signed by the State of PNG and the partners of the Papua LNG project is a promising milestone and another step in all the parties' commitment to the project", said Patrick Pouyanné, Chairman and CEO of Total. "Investing in LNG is a long term enterprise and our objective is to be able to make the project as competitive as possible.

Total being the second largest world private LNG player, we are fully committed to the success of the Papua LNG project, which benefits from a favorable geographical location close to Asian markets." Prime Minister Peter O'Neill thanked Total and its partners, saying the government remains committed to ensuring the project gets off the ground to benefit his people. "This is another historic moment for Papua New Guinea, this is the beginning of the development of our second LNG in our country. "Today's memorandum paves the way for us to enter into a project gas agreement which will be negotiated between the parties over the next three or four months and to be concluded by 31st of March 2019. "We look forward to working to develop the second LNG project in the coming months and welcome the support from all the project investors," Mr O'Neill said. The signing took place early this morning against the backdrop of APEC CEOs Summit opening today on the Cruise Ship Pacific Explorer.

### **PNG and Total sign LNG deal**

*Papua New Guinea has reached an agreement with French company Total on a planned second major LNG gas project in the country.*

Radio New Zealand, 16 November 2018

PNG's prime minister Peter O'Neill announced the agreement at a major business meeting in Port Moresby on the eve of this weekend's APEC leader summit in PNG's capital. A Memorandum of Understanding was signed between Mr O'Neill's government and Total along with its LNG project partners ExxonMobil and Oil Search. They agreed to set financial terms early next year for the project which would commercialise gas from PNG's Elk-Antelope fields that Total secured a licence for in 2014. The Papua LNG project would supply gas from Elk-Antelope for two new processing



units, called trains, at ExxonMobil's PNG LNG plant. The Total project is expected to double PNG's liquefied natural gas exports.



LNG Project site in Papua new Guinea's Hela Province. Photo: RNZ / Johnny Blades

### **From the Editor: An update on Solwara I**

By Andrew Thaler, DSM Observer, November 15, 2018

I reached out to Nautilus Minerals to get an update on their current progress. Despite Mawei Shipyard rescinding the ship building contract earlier this year, vessel construction continues and is approximately 83% complete. A representative from Nautilus estimates that initial production at Solwara I will be delayed past Q3 of 2019.

### **Major project agreements must be reviewed to benefit PNG**

*In the period leading up to and eventual start of the multi-billion kina PNG liquefied natural gas (LNG) project in 2014, there was much fanfare and grandstanding of the promise/premise that the project would single-handedly transform PNG.*

Post-Courier, November 15, 2018

In the period leading up to and eventual start of the multi-billion kina PNG liquefied natural gas (LNG) project in 2014, there was much fanfare and grandstanding of the promise/premise that the project would single-handedly transform PNG. In fact, the project has delivered some much-needed tangible developments in terms of major infrastructure, additional employment and spin-off business opportunities as well as foreign exchange revenue. However, there are still many unresolved issues that demand National Government's most swift and appropriate remedial action. On October 30 2018, it was reported (Post-Courier) complaints by Paguale Kekero resources landowners association from Southern Highlands Province over benefits from the PNG LNG project. The report referred to major clans with population of over 2000 people "left in the dark on LNG project benefits" – royalty and equity payments.

Their complaints followed a public statement on October 25 2018 by Mineral Resource Development Company (MRDC) Managing Director Augustine Mano of PNG LNG pipeline landowners receiving benefits. The concerns relate to Paguale Kekero resource owners not signing any agreement in the Umbrella Benefits Sharing Agreement under the Greenfield and future generations benefits. The Paguale Kekero landowners concerns are among numerous other claims and counter-

claims, be the genuine, not genuine or combination of both. So, the over-orchestrated myth of massive and immediate socio-economic transformation in the livelihood of resource owners, others in the project area and PNG as a whole is increasingly becoming a far-fetch tale. PNG-wide, similar sentiments have been expressed over resource ownership, equity participation and the sharing of wealth generated from mineral, oil and gas reserves. As more resource owners become aware of their missed opportunities, there is mounting support from indigenous people for greater benefit from what is taken out of their land and sea.

They are rightly doing so because if anyone, these people and their ancestors have been living on and off that land or sea for over 40,000 years from one generation to next. Whilst PNG authorities continue to grapple with this contentious issue, plans are afoot for the ownership of resources to be transferred from the State as is the norm currently to the resource owners. There has also been numerous calls for a comprehensive review of existing memorandum of agreements (MOAs) with project developers and provinces they are located. Some serious questions remain unanswered in the manner in which past governments proceeded to signing certain major project agreements. In fact, these are still burning issues that need government action by way of review of project agreements. In that way, many landowner related issues and concerns, equity participation, wealth sharing and tax revenue can be addressed and resolved amicably.

The government must take heed of these concerns and start reviewing major project agreements. The underlying objective must be to cater for increased local equity participation by way of buying shares in these big resource development projects. On May 14 2013, former Public Enterprises Minister Ben Micah while answering questions in Parliament alluded to the loss of millions of kina in tax revenue resulting from tax exemptions. Mr Micah's comments may not have attracted much attention, but what he said then is still relevant day and needs follow-up action. There is nothing wrong for the government to admit fault, but take appropriate remedial actions to correct any wrongs of the past in PNG's national interest and benefit. A government decision for comprehensive review of agreements the State had entered into with developers in major projects would be well-received and welcomed nationwide. There are numerous concerns and un-answered questions that need clarification for and on behalf of the majority PNG citizens.

Today, questions are still asked why the Ramu Nickel project agreement was signed in China. What input did relevant PNG State agencies, including Justice and Attorney General, Department of Finance, Commerce and Industry, Customs and Internal Revenue Commission and the Madang Provincial Government have in the Ramu Nickel project? In December 2013, some agreements were reached and the review of the Ramu Nickel agreement was concluded and signed by relevant stakeholders. That is exactly why reviews in all project agreements are necessary and should be done within the time frame specified in such MOAs. It must be mandatory and strictly adhered to by all parties. Failure by any of the parties to that MOA should be made to heavily compensate any breaches. There need to be a review of the current business model of the PNG LNG Project. The review must reveal how exactly PNG entities and individual citizens are benefiting from all segments of the PNG LNG Project.

As it is, PNG is mostly benefiting from only one segment of the project while foreign investors take away much of the profits generated from the other segments. This is because at the time of signing the project agreement the government then rejected outright the professional and technical advice in adopting the business plan. The LNG Project was and still is far important to the future economic health and well-being of PNG. It single-handedly underpins the future economic advancement of PNG. This was fully recognised by then government and the technical team was task to deliver the project within the ambit of this objective. The technical team was convinced that the business model for the LNG Project had to be structured in the way, so that PNG and landowners were drivers of the projects, rather than mere bystanders, if the above objective was to be realised. Under the busi-

ness plan recommended by the technical team, The National Government, provincial governments, local level governments, landowners and other PNG citizens were to have fully participated through share equity in all segments of the project.

This means, under the aborted business model, various PNG entities and groups would have invested and benefit in all segments from upstream, pipeline, processing facilities, shipping and marketing. Unfortunately, this one-in-a-life time investment opportunities for PNG citizens was denied when the government opted to adopting a totally different business model. There were serious concerns and perception among various stakeholders that the originally well-intended ideals of this project was hijacked. The Ministerial Committee on the LNG Project appointed by the National Executive Council totally ignored and ultimately rejected the business model recommended by the technical team. Under the current model, the State, provincial governments and landowners are to participate ONLY at the UPSTREAM, by exercising their 22.5 per cent rights under the Oil and Gas legislation. Other than that they have no participation or interests in other segments of the project, namely pipeline, processing facility, marketing and shipping.

Under the current business model, the State and the landowners are complete bystanders, with no tangible control and ownership in the project. This business model defeats original Government policy ambition as well as political and economic aspirations of PNG. If it is not too late and so there should be review into the business model of the PNG LNG Project to allow the National Government, provincial governments, local level governments, super funds, national owned businesses and individuals to buy shares in all segments of the project. The current business model must be re-structured to enable maximum participation of government, landowners, and provincial governments, in all segment of the LNG Project. Allow PNG and its citizens to retain the majority ownership of the complete PNG LNG project chain. The government should also review the substantial tax exemptions given to the PNG LNG project. This government is in the best possible position to carry out a thorough review of all tax and fiscal exemptions granted to the developers of the PNG LNG project. Among the concessions for review should include:

- 30 per cent Corporate Tax rate;
- Waiver of the 2 per cent Fiscal Stability premium;
- Foundation Volume pf 10.5tcf;
- State Carry;
- Excise and Import Duty Exceptions during construction phase;
- Special Tax Credits;
- Applicable Interest to State's back-in Costs; and
- Oil to Gas Tax rate Conversion.

The concessions could well have resulted in losses of hundreds of millions of kina in State revenue. The government is morally obliged and duty bound to direct for full review of all major projects so that shares are floated for PNG owned entities and individuals buy into the projects. Then only can PNG citizens boasting of benefiting from resources found in their land and sea. Otherwise so-called landowners and PNG people are fighting among ourselves for bones and crumbs.

### *Letter to the editor*

#### **Mining sector is unsustainable**

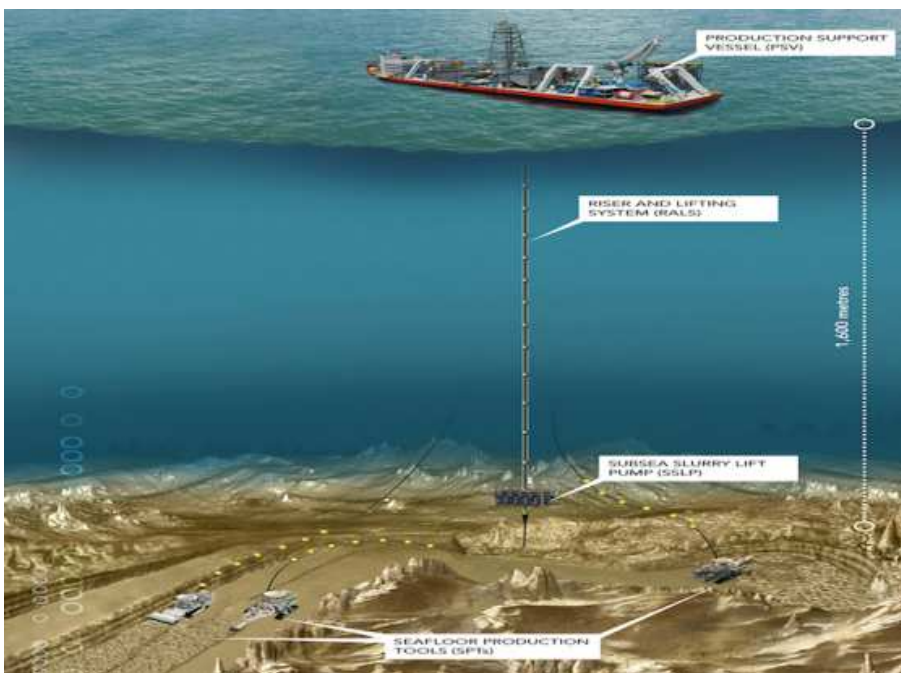
Post-Courier, 15 November 2018

I watched the APEC discussions on sustainable mining live on TV, and it is a fact that we lack sustainability in the mining sector. There were many good questions asked, but the answers given left a

lot to be desired and the panellists had to be on the side of the developers every time they answered the questions. Sustainability is a concept that is well established in the natural resource management sector and only those who have studied and practiced the subject would be in a better position to answer such questions. Lawyers, engineers and economists have no technical knowledge and experience in sustainable management of natural resources, therefore they can never give satisfactory answers to questions on sustainability. Minerals, gas and oils are unsustainable commodities.

No new gold, copper, gas or oil will grow out the earth in the same spot once everything has been mined or pumped out. But we can manage mining on a sustainable scale by developing a mine or oil field one at a time depending on our economic needs, population growth and other factors. But to open up eight mines and two oil fields in 43 years when our population is a meagre 8 million people and seeing no general improvements in the poverty level of the PNG people is unsustainable at its best. The concept of sustainability is simple and can be used to make mining in PNG sustainable if you know the subject well. Right now lawyers, engineers and economists are sectional heads in mining companies and their interest is to make profits for the company so sustainable mining is still far off. **Natural Resource Mangi**

### **PNG experimental seabed mining project another ‘failed investment’, says ex-minister** Pacific Media Centre, November 14, 2018



The proposed production method for Solwara 1 Project. Image Nautilus

The controversial Nautilus Solwara 1 deep sea mining project has been accused of being another Papua New Guinean government “failed investment” on the verge of bankruptcy, claim campaigners citing a former attorney-general. In a statement by the Deep Sea Mining Campaign, former PNG Attorney-General and Minister for Justice Sir Arnold Amet is quoted as saying: “Nautilus is propped up by US\$15 million in loans from its two major shareholders, it’s been forced to reduce its workforce and to terminate contracts for the construction of equipment.” “Even the production support vessel crucial to Nautilus operations has had to be shelved due to failure to pay the shipyard constructing it,” he said. “And Nautilus is now virtually worthless with its shares at a new record low of less than 10c each.”

Deep Sea Mining Campaign said Nautilus was still desperately seeking funds for its flagship Solwara 1 deep sea mining project, while its commercial operation had been delayed ever since it first received its licence to mine the floor of the Bismarck Sea in 2011. As a final attempt to save Solwara 1, Nautilus's two largest shareholders, Russian mining company Metalloinvest and Omani conglomerate MB Holdings, formed a new company to secure funding for the Solwara 1 project, but this rescue attempt has gone in vain. "Nautilus is due to repay the US\$15 million loans to Metalloinvest and MB Holdings on January 8. How will it achieve this? There's no likelihood of production starting until the end of 2019 or even later," said Sir Arnold.

### **Economic burden**

"I am really worried that the PNG government invested heavily to purchase 15 percent of a company that will be a burden to our economy. Our country's over-extended finances may have to contend with a 15 percent stake in Nautilus' bankruptcy," he said. Sir Arnold stated his position by urging the PNG government to terminate the contract with Nautilus so save the country's money. "Wiser investors such as Anglo American and Loews Corporation got rid of their shares early this year to reduce their exposure to risk. The PNG government should terminate its contract with Nautilus now before it sacrifices even more of our nation's funds," he said.

"In light of PNG hosting the APEC Summit at the end of this week it is important to highlight risky commercial ventures such as Nautilus Solwara 1 project that have used scarce public funds over environmental safeguards, regulatory frameworks and the livelihoods of our coastal peoples." Papua New Guinea is hosting the 2018 Asia Pacific Economic Cooperation (APEC) summit later this week, which is said to have been a huge financial load for the economically challenged country. While the PNG government prepares for the summit, the country is going through many health crises including re-emerging of eradicated disease such as polio, [violations of human rights](#) against the people of Paga Hill, and extravagant spending for 40 Maserati luxury sedans, reports Pauline Mago-King of *Asia Pacific Report*.

### **Amend resource ownership law: Group**

Post-Courier, November 13, 2018

The Resource Owners Federation of Papua New Guinea applauded the move made by former Primes Ministers, Sir Julius Chan and Sir Mekere Morauta in Parliament to change ownership laws in the country. In a statement, the federation said that it appreciates the admissions by Sir Mone Chan and Sir Mekere Morauta in September parliament sitting, that the ownership laws of the country are wrong and needed to be changed to restore ownership of mineral and petroleum resources by those who own the land beneath which the resources are found. "The Resource Owners Federation of Papua New Guinea is pleased to note that the leaders of the country are realising they have in the past been deceived into giving up their mineral and petroleum resources free of charge to foreign companies and their shareholders, without any direct or indirect benefit to the country and its citizens including and especially the resource owners," the federation said.

### **Nautilus Solwara 1 on the verge of bankruptcy as APEC Summit heads to Papua New Guinea** PNG Mine Watch, 13 November 2018

On 17-18 November, 21 heads of state will come to Port Moresby for the Asia-Pacific Economic Cooperation (APEC) summit. Set against a backdrop of debts and a declining economy the Nautilus Solwara 1 project speaks volume to another PNG Government failed investment that will be a further economic burden to the country. Sir Arnold Amet, former Papua New Guinean Attorney General and Minister for Justice Papua New Guinea, "Nautilus is propped up by USD 15 million in

loans from its two major shareholders, it's been forced to reduce its workforce and to terminate contracts for the construction of equipment." [1] "Even the production support vessel crucial to Nautilus operations has had to be shelved due to failure to pay the shipyard constructing it. [1] And Nautilus is now virtually worthless with its shares at a new record low of less than 10 cents each." [3]

Canadian company Nautilus is still desperately seeking funds for its flagship Solwara 1 deep sea mining project. Commercial operation has been delayed year after year since it received its licence to mine the floor of the Bismarck sea in 2011. In a last-ditch bid to finance Solwara 1, Nautilus's two largest shareholders, Russian mining company Metalloinvest and Omani conglomerate MB Holdings, have formed a new company whose sole job is to secure funding for the Solwara 1 project [4]. However, their attempts have failed. Sir Amet continued, "Nautilus is due to repay the USD 15 million loans to Metalloinvest and MB Holdings on 8 January. How will it achieve this? There's no likelihood of production starting until the end of 2019 or even later." "I'm really worried that the PNG Government invested heavily to purchase 15% of a company that will be a burden to our economy. Our country's over-extended finances may have to contend with a 15% stake in Nautilus' bankruptcy."

Sir Amet emphasised, "Wiser investors such as Anglo American and Loews Corporation got rid of their shares early this year to reduce their exposure to risk [5]. The PNG Government should terminate its contract with Nautilus now before it sacrifices even more of our nation's funds." "In light of PNG hosting the APEC Summit at the end of this week it is important to highlight risky commercial ventures such as Nautilus Solwara 1 project that have used scarce public funds over environmental safeguards, regulatory frameworks and the livelihoods of our coastal peoples."

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## Notes

[1] Management Discussion and Analysis of Financial Condition and Results of Operations, Nautilus Minerals, 10 August 2018

[http://www.nautilusminerals.com/irm/PDF/2056\\_0/MDAfortheperiodendedJune302018](http://www.nautilusminerals.com/irm/PDF/2056_0/MDAfortheperiodendedJune302018)

[2] 'Nautilus notified of rescission of shipbuilding contract', media release, Nautilus Minerals, 4 July 2018,

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## Ramu NiCo plants cocoa trees in mine rehabilitation

Post-Courier, November 13, 2018

Ramu NiCo Mine's environment section at Kurumbukari mine in Madang Province began planting cocoa seedlings in the mined out areas of the Kurumbukari plateau as part of its mine environment rehabilitation. More than 250 cocoa seedlings were delivered recently by the company's Sustainable Agriculture section of the Community Affairs Department to KBK Mine Environment Section of the company's HSE Department under the supervision of Allan Wahwah and Alex Kambual and planted at Mine Pit Two area. The aim is to explore the growth rates and adaptability of cocoa, eagle wood and sandal wood in the mined out areas at KBK Mine. Eagle wood and sandalwood are

yet to be transported from the Forest Research Institute in Lae to KBK Mine for rehabilitation. Mr Wahwah said that it may take a year or two to establish the assumptions and then recommendations would be proposed for mass planting. He said there are plans to raise KBK native seeds present in the KBK primary forest.

However, these will all be captured in a new memorandum of understanding (MoU) which he had developed and had already circulated within the company. Mr Wahwah, a former agriculturist from PNG CCI, who now works with Ramu NiCo (MCC) Community Affairs planned with Mr Kambual to come up with cocoa planting at the mined out areas as part of rehabilitation. He said more collaboration between Ramu NiCo Community Affairs Agriculture section and the HSE Environment team was needed to carry out rehabilitation using cash crop as part of the sustainable source of income for the local landowners of KBK in the future. He said CA Agriculture team would do an in-house training for the environment team at KBK on cocoa management practices.

### **Wafi-Golpu project expected in June 2019**

Cedric Patjole, Loop PNG, November 11, 2018

Newcrest Limited expect the awarding of the Special Mining Lease for the Wafi-Golpu Project in June next year. Speaking at the Company's Investor Conference, Executive General Manager, Craig Jetson, said the project has a wonderful ore body and is project of national significance to PNG. The Investor Conference was held in Sydney, Australia, on October 26th. Jetson said following the submission of the Environmental Impact Statement (EIS) in June this year, the company are working with the PNG Government to finalize the necessary agreements to be required to enable them to approve the Special Mining Lease (SML). "One thing for sure is that Wafi-Golpu is project of national significance to PNG, so there is a lot of excitement in PNG about this project, and they see it as a big part of the economic development of the nation," said Jetson.

"Right at the outset when we started working through the process of the permitting with the Government we established an agreed timeline that we'd work on towards getting those permits completed and that timeline see's us having the permits before June next year." He said they were fortunate to work with such a wonderful ore body and its perfectly suited to the technology they have been developing over the last 10 years. "The beauty of Wafi -Golpu is that we can take all those learning's from Cadia and apply them to a brand new ore body and really take the next generation of our cave-in technology forward. "So it's a pretty exciting time for us, we are in the process of obtaining our permits from the Papua New Guinea government, once we get those permits the project is ready to go. So the project has been extensively studied over a long period of time, and it is project ready." The Wafi -Golpu Project is a joint venture between subsidiaries of Newcrest Mining Limited and Harmony Gold Mining Company Limited.

### **LNG landowners urged to express grievances after Apec**

November 9, 2018, The National Main Stories

THE PNG LNG upstream landowners have been urged to wait to express their grievances to the Government after the Apec Leaders' Summit and not to threaten the project. Landowners from the Hides PDL 4 project from Komo-Margarima in Hela have threatened to disrupt the PNG LNG project during the summit in Port Moresby next week if the Government failed to address their concerns over outstanding commitments of the Government. The threat have also been issued by some disgruntled landowners who did not receive a payment of the K15 million paid by the State to the landowners last year. Former Hela Governor Francis Potape called on the landowners to wait until the Apec meeting was over so they could talk with the Government.

Potape said the Apec was an important event in the history of the country and there should not be any disturbances or disruptions of any kind that would portray a negative impression of the people and country. “This is historic so let’s respect the prime minister and allow him to complete hosting the Apec,” he said. “He has enough on his table to worry about and let’s not put more pressure on him when we can resolve our differences after the Apec meeting. “We must be thankful that at least the people and the leaders of Hides PDL 4 have received something from the Government since the project started. While some may not agree, at least the project benefitted many of our people and some of us have come out to be what we are now.

“The Government has been good and gave the Hides PDL 4 landowners K15 million recently, and when I was the minister for petroleum and energy in 2011, I made sure the people received K16 million. Therefore, I believe every leader in Hides has received some benefit. “My appeal to the landowners is not to do anything. Let’s play by the rule and negotiate with the State and go to the courts and seek justice if we feel there is some instances of injustice on our part. We must stop the trend of issuing threat to get something.” “The Government has enough on its hand with many criticisms everywhere, so let’s wait and let the Government deliver the important event first. Our issues will remain and we will retain the State and the LNG Project so we can address it later.”

### **Saonu raises concerns on mining lease**

Post-Courier, November 9, 2018

Morobe Governor Ginson Saonu has raised concerns on the pending signing of a special mining lease between the developer of the Wafi-Golpu mine in Morobe Province and the government during the APEC summit next week. He cited sources from social media who had released a report saying there was already a memorandum of agreement in place, established by the Mining Act. The issue was interrupted by a court case and the signing of the special mining lease is expected to take place in 2019. Mr Saonu directed his concerns to the Prime Minister Peter O’Neill during question time in Parliament. “Would you please confirm or deny, whether the government has agreed to sign a heads of agreement at the APEC Summit? Why was the Morobe provincial government and stakeholders not consulted?” Mr Saonu asked.

“If the proposed signing of the heads of agreement is true, will you inform all the stakeholders landowners, state entities and the people of Morobe on what the agreement is all about?” He went on to ask the prime minister if it was still necessary to continue and complete the due process and what would be the legal consequences of abandoning the process. In response Mr O’Neill said: “Mr Speaker our government has appointed a state negotiating team. Technical people from the Mining Department, Treasury, State Solicitors office and other government agencies are dealing directly with Wafi Golpu developers, particularly Newcrest and Harmony. “They continue to discuss the way forward in continuing to develop this mine. The negotiations are still in its early stages and there have been no briefings to cabinet or to the prime minister.

“I don’t see any mine development agreement being signed around APEC and certainly any agreement that needs to be signed will be in full consultation with Morobe provincial government and the people of Wau Bulolo particularly the landowners.” Mr O’Neill said any understanding reached with the developer was about the program going forward. “There would not be any legally binding agreement but for the benefits of investors and potential financiers of the project, the government and its developers wants to give a clear position about its intentions to develop the mine,” he said.



## **Nautilus and Barrick Gold guilty of double standards**

PNG Mine Watch, 8 November 2018



### **International Mining Companies have Colonial and Racist Double Standards**

A case study comparing the performance of Canadian mining companies in their home country to their performance overseas has found dramatic double standards. The [the study](#) has been published by the prestigious Peter Allard School of Law at the University of British Columbia. The report finds Canadian mining companies have been involved in major human rights violations in developing nations including slavery and forced labour, violence against unarmed protestors, sexual violence against women and gang rapes. Despite the international condemnation of these actions, Canada has failed regulate the behaviour of its companies in their overseas operations. The study provides a comparison of the regulatory regime for extractive companies operating in Canada versus that in Papua New Guinea.

The study shows how Canadian companies operating in Papua New Guinea, Nautilus Minerals and Barrick Gold, fail to maintain the same standards that apply in their home country. The double standards apply across the whole spectrum of their operations including environmental assessment and consultation, forced evictions and other human rights abuses, violence and access to the courts, access to information and respect for free prior informed consent. The report calls for mining companies to apply the same practices and standards across all countries where they operate and for accountability to be enforceable in their home nations.

### **US\$300 each a 'fair share' - really?**

Fiji Sun, 7 November 2018

Tis the season to be jolly. Yesterday marked the day that the right of landowners to a fair share of mineral royalties for the extraction of minerals under their land comes to fruition. Thanks to the Prime Minister Voreqe Bainimarama and his FijiFirst Government. It marks a milestone event not only for the landowners but also for the mining sector and also the Government of Fiji. The Minister for Industry, Trade, Tourism, Lands and Mineral Resources Faiyaz Koya yesterday disbursed the fair share of mineral royalties to landowners of Nasomo, where \$65,221 was distributed to 100 landowners. The landowners will receive \$652.21 each. Mr Koya said: "It is not a one off payment

but a series of payments depending on the amount of mineral being mined by Vatukoula Gold Mine as it operates and continues to mine below your land.



Minister for Lands and Mineral Resources, Faiyaz Koya (middle) handed out cheques to 100 Nasomo landowners under the right of landowners to a fair share of mineral royalties. It came at Vatukoula on November 6, 2018. Photo: Charles Chambers

### **Share of royalty**

“The share of the royalty is for the gold mining at Vatukoula Gold Mine by the Vatukoula Gold Mine Ltd (VGML). “I would also like to acknowledge the Vatukoula Gold Mine for paying the mining royalty initially to the Mineral Resources Department.” Mr Koya thanked the landowners of Nasomo that were involved in the consultation with staff of the Ministry of Lands and Minerals in particular the Turaga ni Koro, the Trustees for the Nasomo Landowners in working with staff of the Mineral Resources Department in sorting out issues and making this historical day possible. Mr Koya said: “This fair share payout to landowners is in recognition of their contribution to national development through the use of their land for the purpose of mining.

“This will also assist in socio-economic development and economic empowerment of indigenous landowning communities and boost local economic activity in rural areas, improve quality of life as per vision of the government for equitable benefit sharing. “I hope that these monies which the Government has shared with you today will be put to good use for the benefit of your families and community and harmonious existence with other stakeholders of the mining community. “This Government not only talks about caring for all landowners in Fiji, in this case for iTaukei landowners of Nasomo, but backs up its talk with actions such as this, indeed actions speak louder than Words on this historic and milestone occasion.”

### **Normal practise**

Section 30 of Fiji’s 2013 Constitution mentions that all minerals are owned by the state. It provides for the owners of any particular land (irrespective whether customary or freehold) or of any particular registered customary fishing rights to be entitled to receive a fair share of royalties or other money paid to the state in respect of the grant by the state of rights to mine minerals from the land or the seabed in the area of those fishing rights. “The normal practise is for the royalty to be retained by the state as the owners of minerals under Fiji’s Mining Act,” Mr Koya said. “However the current government had passed legislation in the May sitting of parliament giving effect to section 30 of the constitution thus allowing the sharing of royalty in this case with native landowners.

“This is the new way of benefit sharing in mineral development in our beloved country where mineral royalty is shared equitably amongst landowners for the betterment of all concerned. “This “fair share” law is the first of its kind in Fiji (and the region) and the landowners of Nasomo are the first landowners to receive this fair share of Mineral Royalty under the 2013 constitution. “This proves

Government's continues effort to care for landowners in the utilisation of their land and in this instant for the added benefit for the provision of land for mining whether directly on the surface or indirectly as in case."

### **Barrick agrees to be party to Porgera agreement**

Post-Courier, November 6, 2018

Operator of the Porgera Mine, Barrick Niugini Limited has agreed to be a party to the project's memorandum of agreement. The agreement was reached last month in Kokopo, where the parties met to progress the negotiation of the revised MoA. Barrick agreed to calls by landowners and the state to be a party, having been an observer only since 2006 when Barrick took over the project from the former operator, Placer Dome. The agreement by Barrick means that the company is now obliged to honour of commitments listed under the revised memorandum of agreement. Commitments include the resettlement exercise, training and development, and supply and procurement among others. Despite not being a party to the MoA since 2006, the company still delivered benefits including training and localization, and business spin offs under the Mining Development Contract (MDC).

The company also delivered two others benefits through the compensation agreement and tax credit scheme programs. Barrick Niugini Country Manager Dr Ila Temu said the company was looking forward to working with all stakeholders in delivering its part of the deal. Acting managing director of the Mineral Resources Authority Nathan Mosusu, commended Barrick Niugini for committing itself to the landowners of Porgera Mine and other stakeholders of the MoA. "Barrick is a major player in the industry and has always been an important contributor to PNG's economic wellbeing," he said. "The company's commitment to delivering benefits to our stakeholders especially our landowners is a plus for the country."

### **Fighting at LNG site poses threat to workers: Police**

The National, November 5, 2018

POLICE are concerned that bad blood between a group of Highlanders and locals at the liquefied natural gas site in Gulf over a sorcery-related killing is posing a threat to the company. Provincial police commander Inspector Silva Sika said the killing at an LNG site village had led to frequent rows and fighting, making it unsafe for the workers. The deceased was originally from Lufa in Eastern Highlands. "Police will be deployed again to the site to settle the situation and protect others from outside (the province) working there," Sika said. He said relatives of the deceased had attacked the suspect's brother at the Wabo sub-station village. Earlier they kidnapped four locals using guns and bush knives and destroyed gardens and crops. Police had settled the matter but trouble started again. Police said they had to make arrests but after few weeks tensions rose again between the groups.

"I have done peace and agreements between the groups but it suddenly started again," he said. The deceased was found floating in the river near the village close to the LNG site. At least one person out of 10 accused of sorcery has been killed and one-third were permanently injured, a joint study by three universities in three provinces revealed. The research recorded 357 sorcery accusation cases from Enga, Bougainville and Port Moresby between January 2016 and October 2017. There were 185 victims and at least 20 people killed, with a large number suffering permanent physical injuries. Australian National University Associate Professor Miranda Forsyth said the study was undertaken by the university, the PNG National Research Institute and Divine Word University supported by the Australian government through Pacific Women Shaping Pacific Development Programme.

Forsyth said of the cases identified in Enga, at least 37 per cent of the incidents resulted in killing through the use of torture, followed by seven per cent of cases in Bougainville and four per cent of cases in Port Moresby. She said that four per cent of cases in Enga resulted in tribal fighting. The study revealed that 63 per cent of the total in Enga resulted in major physical violence and so did 36 per cent in Bougainville and 31 per cent in Port Moresby,” Sixty-seven per cent of the cases in Enga resulted in the burning of the accused, seven per cent in Bougainville and eight per cent in Port Moresby. Other forms of accusation included forced imprisonment, damage of property, threats, minor physical violence and clothing removed. The PNG government developed a comprehensive sorcery and witchcraft accusation-related violence (SARV) national action plan in 2015 to address the problem of sorcery accusation-related violence. The Australian government is working in partnership with Papua New Guinea in all core areas through the Pacific Women Shaping Pacific Development Programme and justice services and stability for development programmes.

## Nautilus Minerals Sets New 1-Year Low

Act Now, 5 November 2018



In August we reported on a record twelve month low at 11c. Now Nautilus has sunk another 30% to 7.5c. Nautilus Minerals Inc. shares have hit a new 52-week low. The company closed at C\$0.075. This follows a previous 12-month low of 11 cents set in August this year. The new low is just the latest in a long series of bad-news stories for Nautilus Minerals and its crisis hit plans to mine the seafloor in Papua New Guinea.

## LNG clans open accounts

November 5, 2018, The National Business

Mineral Resources Development Company (MRDC) started an account-opening exercise on Friday for clans living along the corridors of the PNG LNG projects. Eight segments identified under ministerial determination are located along 290km of onshore pipeline in Hela, Southern Highlands, Gulf and Central. Per advice of the Department of Petroleum and Energy, MRDC is now in the process of rolling out its programme starting in segment 7, bordering Gulf and Southern Highlands. Segment 7 has the longest length of pipeline running through it, covering 37 clans who together hold a 44 per cent interest. This process will see that landowner royalty and equity payments from the PNG LNG Project. The exercise will be carried out with support of Department of Petroleum and Energy, ExxonMobil, Oil Search, Bank South Pacific and Electoral Commission. It will be rolled out in three phases over three weeks starting with an awareness programme. This will be fol-

lowed by bank account opening, and election of landowner directors to the company representing pipeline landowners, Gas Resources PNG LNG Pipeline Ltd, to follow in the third week.

Mineral Resources Development Company has conducted several alignment meetings with key stakeholders including, Department of Petroleum, Oil Search, ExxonMobil and Kumul Petroleum to understand the issues and to plan the account-opening exercise. “We have completed the assessment of issues and my officers are now on the ground in Kikori to commence this exercise,” managing director Augustine Mano, pictured, said. He said as per the Oil and Gas Act, any clans with disputes would be left out of this exercise. “All those clans who currently have court orders will not be part of the exercise,” Mano said, “We will skip those clans and move only to those segments that are ready.” Mano said there were two important parts to this exercise: Opening of bank accounts and election of directors to the board. “All beneficiaries will be part of this open and transparent process in their communities. “I urge all clan chairmen to align themselves within their segment this week before the second and third phase begins. This way there will be no further delays.”

### **Folgenreicher Tiefseebergbau: Das Gedächtnis des Meeres**

Von Horst Rademacher, Frankfurter Allgemeine Zeitung, aktualisiert am 29.09.2018



Manganknollen enthalten außer Mangan noch Kupfer, Kobalt, Nickel und zahlreiche andere Metalle. Bild: Bloomberg

Die Rohstoffvorkommen in der Tiefseeboden wecken Begehrlichkeiten. Doch das Schürfen am Meeresgrund könnte ungeahnte ökologische Folgen haben.

Welche langfristigen Folgen der mögliche Tiefseebergbau für die Umwelt auf dem Meeresgrund hat, war bisher weitgehend unbekannt. Eine Gruppe europäischer Forscher hat nun Ergebnisse einer Langzeituntersuchung aus dem Südostpazifik veröffentlicht, nach der ein bergmännischer Eingriff über lange Zeit schwere Wunden im Tiefseeleben hinterlässt. Mehr als ein Vierteljahrhundert später gab es in dem betroffenen Gebiet deutlich weniger kalkbildende Organismen und eine drastische Reduktion der filtrierenden Meeresfauna. Eine Rekultivierung, wie sie im Bergbau an Land, beispielsweise in den verschiedenen Braunkohlerevieren in Deutschland, betrieben wird, ist in der Tiefsee nahezu unmöglich.

Diese bislang einzigartige Langzeitstudie beruht auf einem Experiment Hamburger Meeresforscher, die im Jahre 1989 mit dem Forschungsschiff „Sonne“ den Südostpazifik im Peru-Becken südlich der Galápagosinseln kreuzten. Ziel dieser Forschungsfahrt war es damals, den Tiefseebergbau in einem in knapp 4200 Meter Wassertiefe gelegenen Meeresgebiet zu simulieren. In dieser Region ist der Meeresgrund voller Manganknollen, jenen bis zu Dezimeter großen, blumenkohlförmigen Brocken, die neben Mangan auch Kupfer, Kobalt, Nickel und zahlreiche andere Metalle enthalten. Damals gab es in vielen Ländern ernsthafte Überlegungen, diese nicht nur im Pazifik, sondern auch im Atlantischen und im Indischen Ozean vorkommenden Manganknollen großräumig abzubauen.

### Rekolonisierung deutlich zu langsam

Um solche bergmännischen Eingriffe zu simulieren, schleppte die „Sonne“ damals einen Tiefseepflug hinter sich her, der ein etwa elf Quadratkilometer großes rundes Areal auf dem Meeresboden systematisch umwühlte. Die Manganknollen wurden dabei untergepflügt und das Meeressediment und die darauf lebende Fauna und Flora großräumig zerstört. In vier Folgeexpeditionen wurde anschließend untersucht, ob und wie die Lebenswelt den umgepflügten Meeresboden rekolonisierte.



Manganknollen in der Clarion-Clipperton-Zone in mehr als 4000 Metern Wassertiefe. In wenigen Jahren könnten die ersten Staaten Abbaulizenzen für Manganknollen bei der Internationalen Meeresbodenbehörde ISA beantragen. : Bild: ROV-Team/Geomar

Weil aber das Interesse am Abbau von Manganknollen im Laufe der Zeit nachließ, wurden diese Untersuchungen nach sieben Jahren eingestellt. Im Sommer 2015 kehrte die „Sonne“ schließlich noch einmal in das Seegebiet zurück. Mit Hilfe des autonomen Forschungsunterseebootes nahmen Meeresforscher abermals den Bestand an Fauna und Flora auf dem nahezu drei Jahrzehnte vorher umgepflügten Meeresgrund auf. Dabei stellte sich heraus, dass die Rekolonisierung des Tiefseebodens erheblich langsamer verläuft als bisher angenommen. [Wie die Forschergruppe um Tanja Stratmann vom Königlich Niederländischen Meeresforschungsinstitut jetzt in der Zeitschrift „Biogeosciences“ schreibt](#), haben sich vor allem jene Lebewesen, die ihre Nahrung durch das Filtrieren von Meerwasser beziehen, kaum erholt. Sie sind im umgepflügten Areal etwa nur ein Fünftel so häufig anzutreffen wie im ungestörten Nachbargebiet. Auch bei den kalkbildenden Organismen hinterließ der bergmännische Eingriff tiefe Narben. Im Vergleich zu den Nachbarbereichen beträgt ihre Masse im umgepflügten Bereich nur wenig mehr als die Hälfte. Lediglich die vom Meeresboden fressende Fauna, wie zum Beispiel Seegurken oder die zu den Krebsen gehörenden Scherenasseln, hatte sich weitgehend erholt.