



MINING AND EXPLORATION BULLETIN
2016



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2015

The Mining and Exploration Bulletin is an official publication the Mineral Resources Authority (MRA) of Papua New Guinea.

The Bulletin is a bi-annual publication that is intended to give information the performance and development of mineral exploration and mining projects in the country.

It also contains updates on government policies and activities relating to the sector.

Published by:

The Mineral Resources Authority
Mining Haus, Poreporena Freeway
PO Box 1906
PORT MORESBY 121
National Capital District
Papua New Guinea

Phone: +675 321 3511
Facsimile: +675 321 5711
Email: info@mra.gov.pg
URL: www.mra.gov.pg

EDITORIAL

Publisher / Managing Director
 Philip Samar

Executive Editor
 Arnold Lakamanga

Editor
 Messery Gubag
 Artwork, Layout & Design
 Messery Gubag

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EXECUTIVE SUMMARY

2016 mining activities in terms of production to date are showing improvement compared to 2014 & 2015, despite the continued closure of Ok Tedi until March, and a 10 week closure of the Basamuk nickel and cobalt refinery. Whilst the lower mineral commodity prices for copper and nickel continue to impact on the country's export revenue, gold and silver have reached recent record prices as a result of world geo-political and economic uncertainty.

Gold remains our key mineral, contributing 75% of our export mineral revenue. Production at the Lihir mine in New Ireland province is expected to exceed 900,000 ounces of gold in 2016 and will be within the top 5 globally for both reserves and production. New or re-opened mines to come on stream over the next 12 months include Crater Mountain, Kainantu and Tolukuma, which combined could contribute another 130,000 ounces of gold annually.

Data from our Flexicadastre tenement management system indicates a levelling off in exploration tenement applications, but an increase in mining tenements aided by the lodgement of the SML and other associated tenements for the Frieda River gold and copper project.

The MRA is committed to facilitate the regulatory approvals being sought for the Frieda project and has commenced this process within government and with the project stakeholders.

The MRA through its geological survey division continues to make available new geological information through its numerous field mapping exercises covering parts of Oro, East & West Sepik, Central and Morobe provinces. The

exciting discoveries of coal in the East and West Sepik provinces will open up opportunities for companies to apply for exploration licenses over these coal areas. In addition, we are continuing work on our regional geochemical studies covering the New Guinea Irelands region. The studies will produce baseline mineral occurrences data for potential explorers.



Philip Samar, Managing Director

Despite the trying times in exploration, a good number of tenement holders have uncovered exciting discoveries. Harmony Gold Ltd's Kili Teke prospect in the Hela province, produced excellent results from its maiden drilling program in 2015, and early results from their 2016 drill programs continue to be encouraging. Highlands Pacific and Anglo American, who are drilling the star mountains area, in the West Sepik province, also registered exciting drill results. Similarly, Ok Tedi Mining Limited at its Townsville prospect, adjoining the current mine tenement. Each is displaying characteristics of large porphyry systems. Diversified exploration company, Mayur Resources Ltd have completed pre-feasibility studies of their Orokolo Bay iron sands project and are now embarking on their definitive feasibility studies. Katana Limited is ready to lodge its mining lease application for its iron sands resource and two significant proven nickel resources in Oro province are under retention awaiting the recovery of the nickel price.

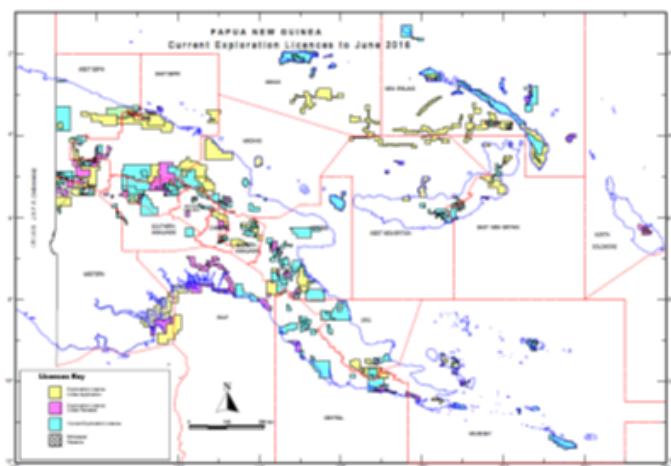
In summary, business in the minerals sector is slow, but still attractive for those still exploring and mining, and for new investors. There is still more to be discovered in this country if one is prepared to invest in the mineral prospect of PNG.

Enjoy the publication and trust that you will find information useful for your purposes.

PHILIP SAMAR

Managing Director

Mineral Resources Authority



Mineral Sector Profile Update 2015-2016

In a regional context, PNG is still an attractive province for investment in the mining industry. According to Frazer Institute (the Canadian research analysis & ranking organisation) PNG features well as an investment destination in the Australia Oceania (including Indonesia, Philippines, Malaysia & New Zealand). However business is slow in the sector due to the global industry recession.

The experiences of declining mineral commodity prices will continue into the near future, as seen from the SNL copper and gold prices, figures 2a & 2b. SNL reported that the metal prices dipped in 2009 but recovered and rise to a high in 2012, then started the longer term decline to its current price causing investors to become

increasingly wary of the junior sector. Throughout 2013-15, markets were even less willing to support junior companies, and producers pulled back on capital and exploration spending in order to strengthen margins (SNL industry monitor, May 2016).

At the height of the activities from 2009-2012 in Papua New Guinea, the junior companies were the primary movers of the industry. The pull back of capital and exploration spending impacted on the operations of these juniors. The comparative tenement maps, figures 3a & 3b, of 2011 and 2016 confirms the impact it had on exploration in PNG; from almost 90 % coverage to almost only 20 % coverage.

As of December 2015 the total number of tenements registered as active, renewals and new applications is 242, a decline of 8 % from December 2014. Similar monthly trend is being experienced in 2016.

The few who are continuing are mostly backed by larger mining companies and corporations, i.e. Harmony Gold, Newmont, and Newcrest; or backed by companies with diverse business portfolios Zijin, GRAM. These companies have persevered in exploration and obtaining great results. One of the newest projects gaining momentous coverage on its resource discoveries is Kili Teke (circled in figure 5), in Hela province; held by Harmony Gold. SNL ranked Kili Teke in fourth placing as one of the world's projects with best drill results, 2015-16. Kili Teke is featured in this issue.

Another junior project worth the rap is the Star Mountains project jointly owned by Highlands Pacific and Newmont, with drill results registering;

596m @ 0.61% Cu & 0.85g/t Au from 24 m down hole,

22m @ 1.42% Cu & 0.57 g/t Au from 146m down hole,

68m @ 0.97% Cu & 0.37 g/t Au from 280m down hole

42 • Frazer Institute Annual Survey of Mining Companies 2015

Figure 10: Investment Attractiveness Index—Australia and Oceania



Figure 1: Where PNG sits in Investment Attractiveness (Source: Frazer Institute report, 2015)

Copper Price

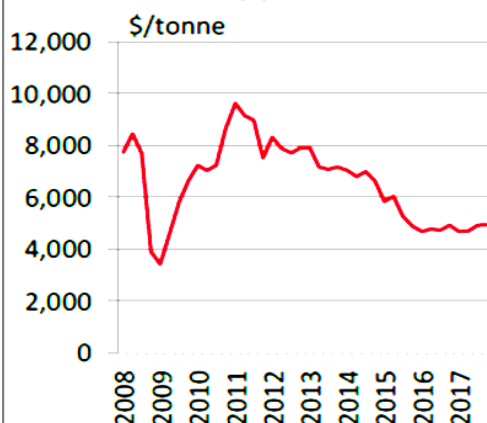
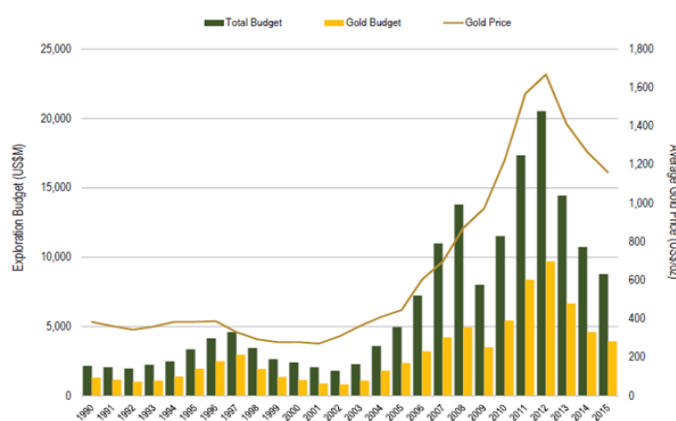


Figure 2a: Copper price 2008-2017

(Source: SNL Metals & Mining, Monthly Industry Monitor, May 2016)

Figure 1: Annual Nonferrous Budgets, Gold Budgets and Average Gold Prices, 1990-2015



Data source: SNL Metals & Mining's Corporate Exploration Strategies.

Figure 2b: Gold price 1990-2015

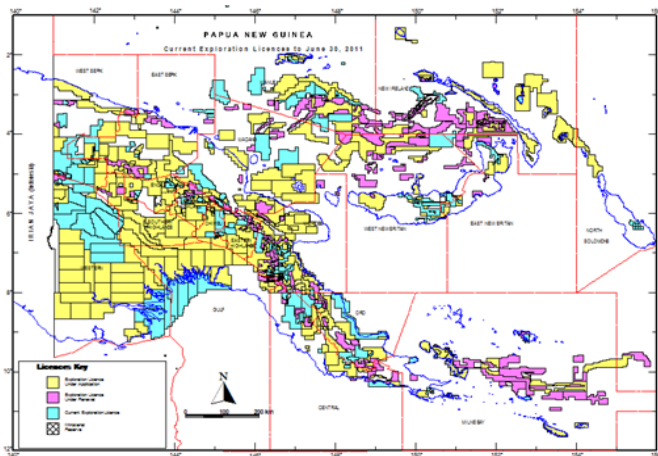


Figure 3a: Tenements over PNG I June 2011

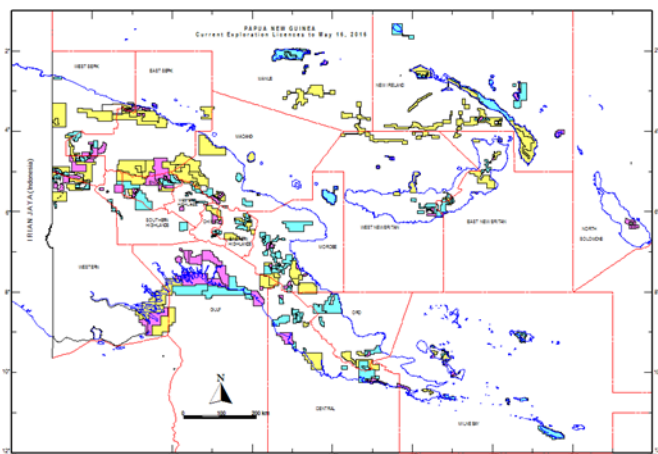


Figure 3b: Tenements over PNG in May 2016

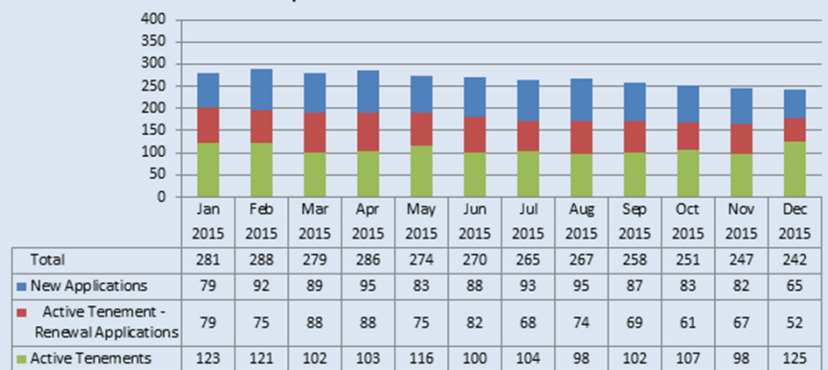
Of the advanced projects, Frieda River and Wafi Golpu, both copper-gold projects, have delivered their feasibility studies to the national government of Papua New Guinea. Mayur Resources iron sands and coal projects near Kerema in the Gulf province are progressing steadily with plans to use its clean coal to provide power.

The geological & exploration initiatives of the Geological Survey of Mineral Resources Authority (MRA) started in 2014-16 are continuing into 2016 programs;

Geological mapping programs on Wasu and Yule sheets are continuing. The Biarui sheet is completed.

Mineral exploration on coal in the Sepik provinces and Rare Earths potential studies of PNG is continuing. Mineral potential reports of Central & Oro provinces are completed and delivered to respective provincial governments.

Exploration License Status For 2015



Note: Figure does not include overdue New and Renewal Applications (Applications lodged before 2011), Applications put on Hold and Conversions.

Figure 4: Number of exploration licences 2015

© S&P Global Market Intelligence 2016

Best Drill Results Overall, April 2016: Base/Other Metals

Project	Reported by	Location	Stage	Interval (m)	Primary Metal Grade	Other Significant Metals/Grades
Cascabel	Cornestone Capital Res	Ecuador	Target Outline	1,145.6	0.63% Cu	0.78 g/t Au
Timok	Reservoir Minerals	Serbia	Reserves Development	119.3	6.05% Cu	6.80 g/t Au
Wellgreen	Wellgreen Platinum	Canada	Reserves Development	547.8	0.31% Ni	0.20% Cu, 0.017% Co, 0.39 g/t Pt, 0.34 g/t Pd
Kill Teke	Harmony Gold Mining	PNG	Reserves Development	530.0	0.59% Cu	0.43 g/t Au, 0.019% Mo
Rice Island	Wolfden Resources	Canada	Target Outline	52.1	1.62% Ni	0.86% Cu, 0.090% Co
Bisha	Nevsun Resources	Eritrea	Production	44.0	9.13% Zn	1.97% Cu, 0.36 g/t Au, 32.0 g/t Ag
San Matias	Cordoba Minerals	Colombia	Target Outline	111.0	1.01% Cu	0.38 g/t Au
Marimaca	Coro Mining	Chile	Exploration	200.0	0.71% Cu	
Parkin	Wallbridge Mining	Canada	Reserves Development	24.3	1.22% Ni	1.50% Cu, 0.81 g/t Pt, 0.96 g/t Pd, 0.38 g/t Au
Yerington/MacArthur	Quaterra Resources	USA	Reserves Development	452.1	0.26% Cu	

Figure 5: SNL's; world's best drill results 2015-2016

Regional geochemical sampling of the country is continuing. Currently the program is in the New Guinea Islands region of PNG.

Other earth sciences related activities which people don't get to read about is the MRA geological survey's community services activities investigations in Geotech and hydro-geology disciplines; on ground water supply and mini hydro power projects. Studies are either completed or ongoing in the following;

The major mines, i.e. Ok Tedi, Porgera and Lihir have been consistent with their productions, table 2. Ok Tedi that was on care & maintenances resumed production in the first quarter of 2016. Ramu nickel mine was subjected to closure due to a fatality in March 2016, in its Basamuk refinery.

There are mix performances in the smaller mines with;

Hidden Valley increased annual production to over 160,000 ounces in 2015;

Mt Crater which started productions in 2015 has in-

creased production with an improved production processes;

Woodlark is still in the financing stages;

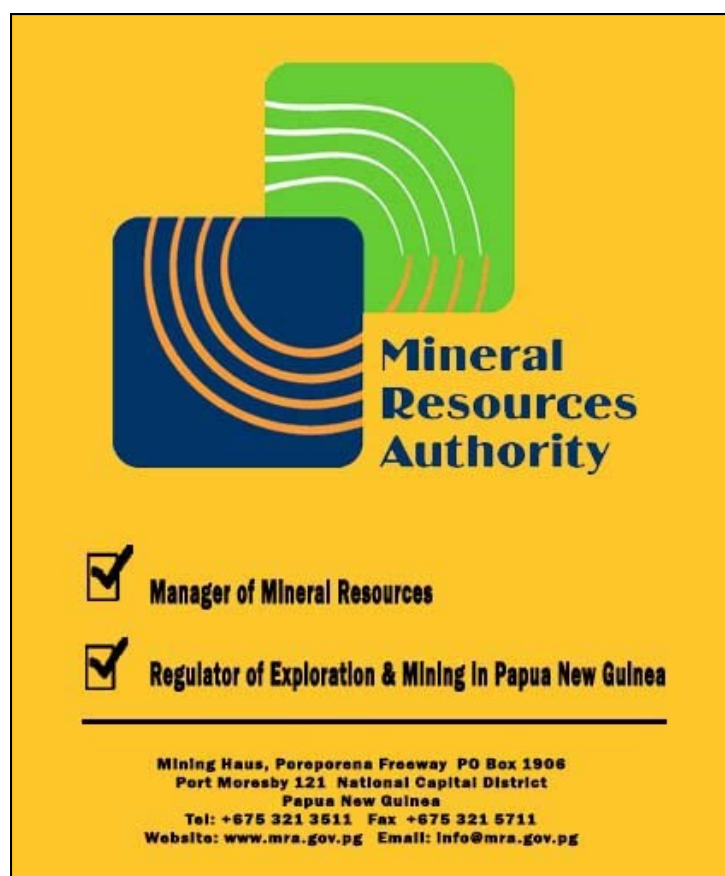
Solwara 1 project's sea floor mining tools are completed and wet tested in Oman;

Sinivit is on care & maintenance;

Tolukuma has changed ownerships;

Kainantu which was on care and maintenance since..... has new ownership who have fast tracked the project to feasibility.

There is an increase of gold production by 6 % in 2015 from 2014, due to the increases in Lihir, Porgera, Hidden Valley, Simberi, and the alluvial mines. Copper production decreased by approximately 28% in 2015, compared to the same period in 2014. Ok Tedi the only copper producer also registered a decline in its gold production by approximately 17, 438.04 ounces in 2015. Nickel production increased by almost 19% and cobalt by 16 %, from 2014.



No.	Mines	Gold (ozs)	Silver (ozs)	Copper (t)
1	Porgera	411,767	79,517	
3	Ok Tedi	264,812	654,742	75, 907
4	Tolukuma	7,215	13850	
5	Sinivit	-	-	-
6	Simberi	53,084	10,585	
7	Lihir	755,847	-	
8	Hidden Valley	206,705	1,951,675	
9	Ramu	17, 685 tonnes (Ni)	1798 t (Co)	(Cr)
Total production:		1699430 (Au Oz)	2710369 (Ag Oz)	

Table 1: Mine Production: January-December 2015

Mining Exploration Update

The health of the mining industry can be ascertained from a variety of data collected by the Mineral Resources Authority (MRA) as the entity responsible for mining regulation in Papua New Guinea.

Revenue generated from the export of minerals is a key indicator, and we believe calendar year 2015 represented a low point in the current depressed mineral commodity cycle, with total revenue dropping to K7.192 billion. This may be contrasted to 2016 forecasts, based on actual export data to July 2016, of in excess of K8.2 billion. Several factors account for this turnaround, mainly higher gold prices (gold accounts for 85% of mining revenue and has remained above \$US1300 an ounce for the whole of 2016), higher production from the Lihir mine, and the resumption of gold and copper exports from the Ok Tedi mine from March this year.

Another key indicator is mineral tenement activity and our figures for 2016 indicate the total number of tenements (all types – exploration licences, alluvial and mining leases and supporting tenements, such as leases for mining purposes and easements) increasing for January to August 2016 from 507 to 543 (a 7% increase). This can be contrasted to total tenement applications in 2015 at 128 compared to a forecast of 170+ this year, which would represent a 32.8% increase. This is consistent with new and renewal applications and overall active tenements all being up on the previous year. This is indicative of a slow lift off the bottom of the cycle, although the situation will always be subject to some volatility, caused by external international events that have influences outside PNG's control.

In the exploration space active licences have increased for the period January to August 2016 from 125 to 134 (again a 7% increase), which is consistent with the renewals increasing from 54 to 68. Again the message from this data is that the decline in exploration has stopped and there are incremental increases in activity, which indicate more positive signs for the sector. It should be noted that these historic figures are heavily

influenced by one company, Nautilus, which released over 50 offshore exploration licence areas during the period from 2014.

The final key indicator is exploration expenditure, which has shown a significant drop from 2013 (K595.7m) to maintain a reasonably steady state of expenditure of around K350m for the past 3 years. The downturn in mineral commodities hit in 2012, hence the immediate reaction the following year as explorers reassessed their tenement commitments, staff levels and work programs with funding sources becoming scarce. Much of the current expenditure is confined to a small number of advanced tenements, such as Frieda River, Wafi-Golpu, Star Mountains, Townsville and Kili Teke.

However, at the end of the day interest in the prospectivity of PNG, which is consistently recognised in the top 5 of global rankings, remains high. This is borne out by the registration of Special Mining Lease (SML) applications for two world ranked (top 10) resource prospects at Frieda River and Wafi-Golpu, within the last 3 months, as well as entry to PNG by world class miners such as Anglo American and Rio Tinto. The two SML applications is a unique prospect in the history of mine development in PNG, as to date one major project a decade has been the norm. Total capital expenditure for these projects is anticipated to exceed K21m over a 5 year period commencing from grant of the SML's, and final investment decisions by the project proponents.

On current mineral prices these two projects alone could add approximately K7 billion per annum in export revenue by the mid-2020's, almost equivalent to current total export revenue.

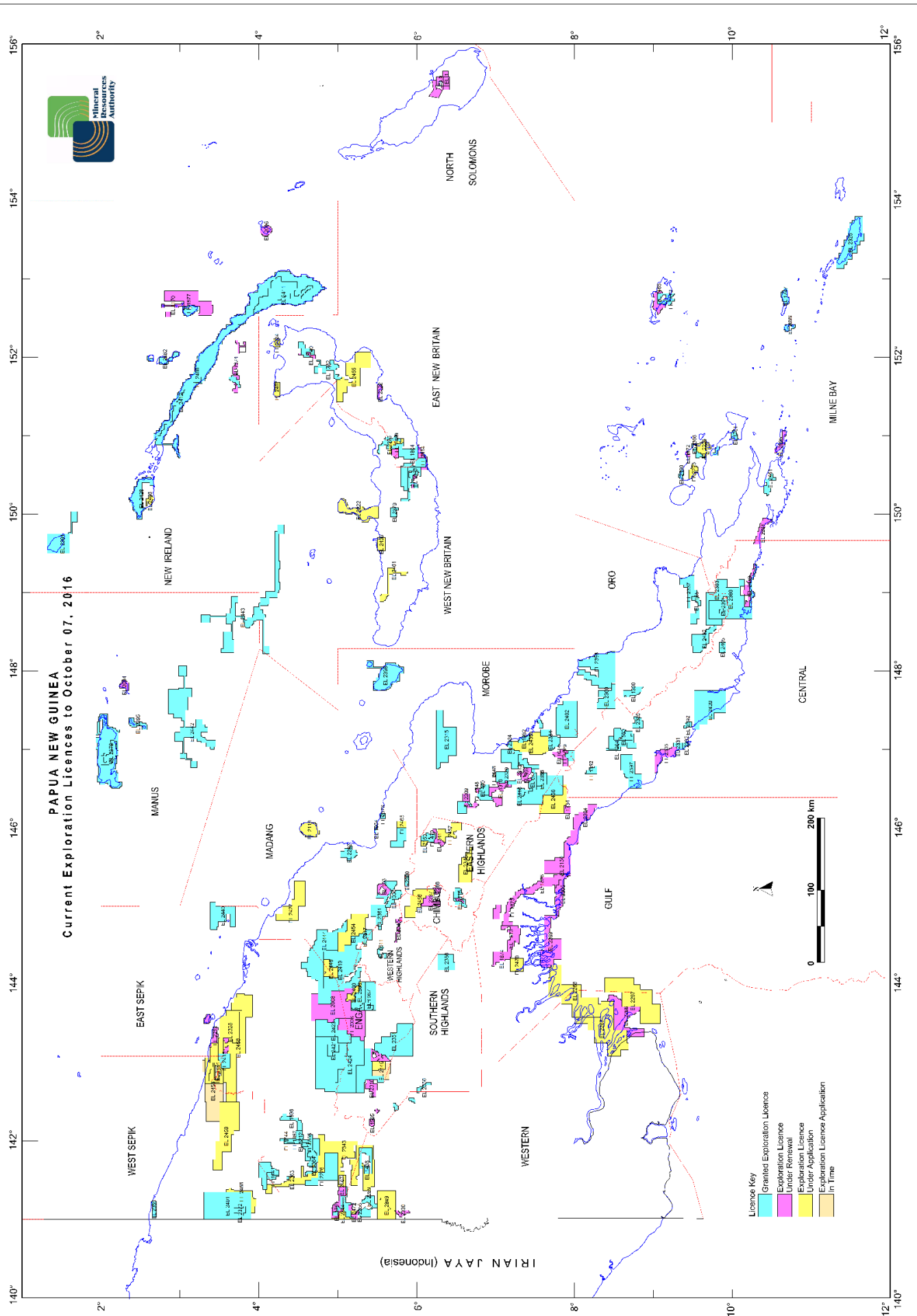


Manager of Mineral Resources



Regulator of Exploration & Mining in Papua New Guinea

**Mining Haus, Poreporena Freeway PO Box 1906
Port Moresby 121 National Capital District
Papua New Guinea
Tel: +675 321 3511 Fax +675 321 5711
Website: www.mra.gov.pg Email: info@mra.gov.pg**



The Sepik Coal Basin Investigation

Integral to the Mineral Resources Authority's (MRA) mineral diversification strategy, coal being a fossilised fuel mineral has recently picked up moment since 2015. There were reconnaissance surveys being undertaken by MRA geologists in Madang Province, Eastern Highlands Province and East and East and West Sepik Provinces between 2014 and 2015. The particular interest and focus is on the North New Guinea Basin comprising the Sepik Basin.

The North New Guinea Basin has an undiscovered potential for coal development. However, there is limited coal exploration in the North New Guinea basin including the Sepik Coal Basin. The area has been explored for hydrocarbons since the 1920s. The Sepik Coal Basin is approximately 300 kilometres long and 80 kilometres wide and parallels the Lumi Trough.

Sepik Coal Basin investigation was undertaken from 04th to the 17th of December 2015 covering both the Sepik Provinces. The aim of the project was to identify coal occurrences, collect samples and ascertain areas prospective for coal development.

The coal seams observed were between 0.5m to 1m thick in out-crop exposures, which were dominantly of lignite to black coal ranks and rarely peat within the Late Miocene to Pliocene sedimentary sequence of Wewak Beds, Wuro Beds and the Nopan Sandstone. The coal seams were primarily observed in sandstone-mudstone-sandstone conglomerate interbeds and lenses of reworked coal were also observed at Ori Village in the Sandaun Province (Fig.1.). The bedding planes of the units generally trend north-south with varying dip directions, either to the east or west.

Coal seam beds up to 1.0m in thickness occur within grey fine grain siltstone and mudstone units of the Pliocene Wewak Beds along the Hawain River bank at Kongeri Village in the East Sepik Province. The coal seams dip between 10° to 15° to the south-southwest and are laterally horizontal with parallel trends to the south-east overlying the siltstone/shale units (Fig.2.). Similarly, coal seams occur within these light grey siltstone unit within Maprik and the Wosera-Gawi areas. It was impossible to measure the thickness of the seam because the

coal beds were low lying and not completely obscured in most areas.



Fig.2. 1m thick coal seam interbedded with grey siltstone and minor mudstone

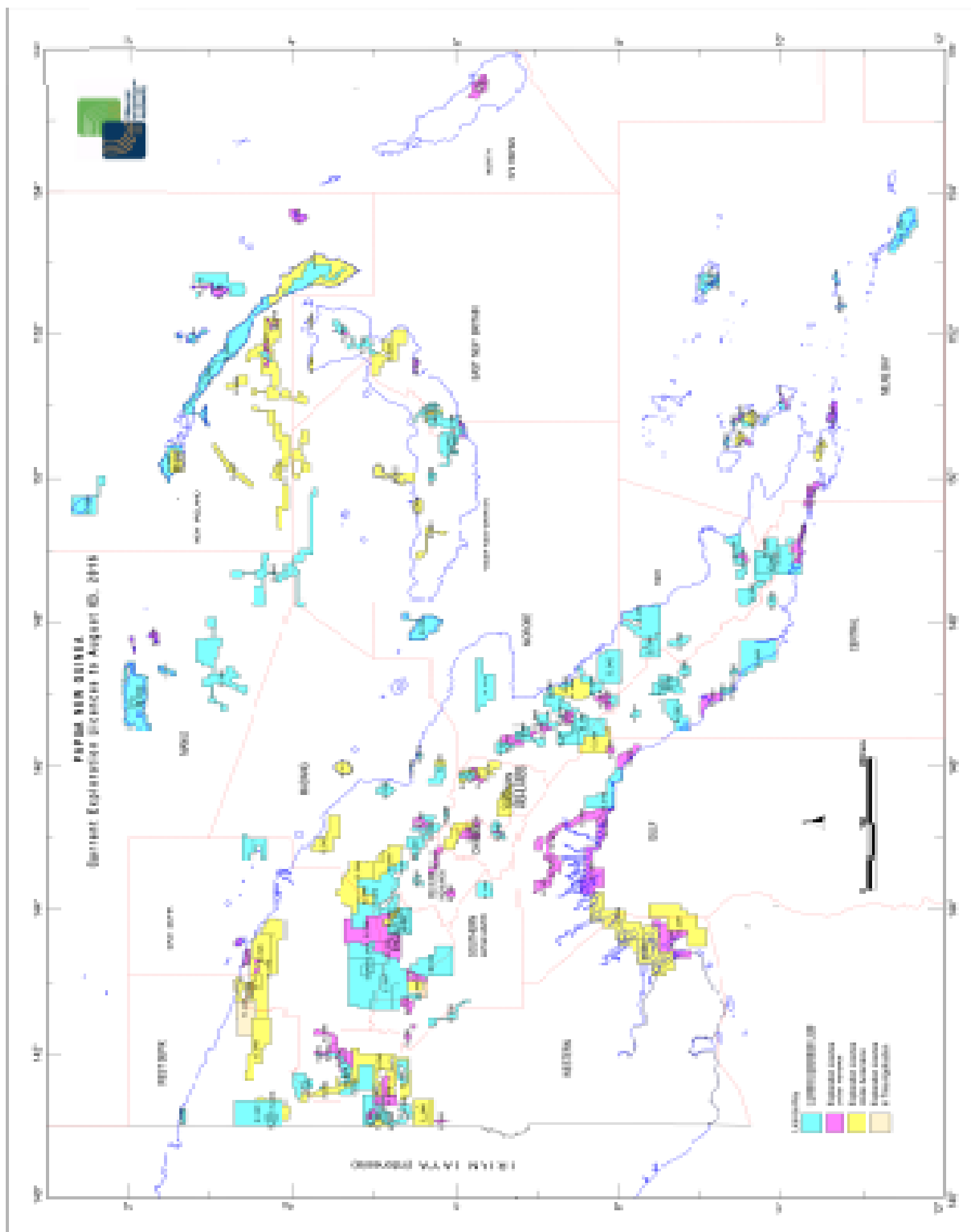
The Sepik Coal Basin area is dominated by narrow east trending mountain ranges, the Torricelli and Prince Alexander Mountains, which are largely composed of Cretaceous and Lower Tertiary intrusives and metamorphic rocks. These rocks constitute the basement to an unconformably overlying Neogene sedimentary sequence.

Five (5) coal samples were sent for an analysis in Australia and the results were very encouraging and drive the interest for further studies in the basin to promote the coal deposit. The results yield ash content of about 4-8% and energy content of 4500 to 5000 kcal/kg and low mineral matter content of 2.2%.

The above analytical results indicate the Sepik Coal Basin has a potential to host economically viable coal resources given its geological and structurally complex setting. In order to discover this potential, it requires extensive exploration work and drilling program to firm up the coal resources and the probability of intersecting coal bed methane is also high.



Fig.1. Coal lenses within the sedimentary unit



OK TEDI COPPER GOLD MINE		
LOCATION	Mount Fubilan	Western Province
OWNERSHIP	PNG Sustainable Development Program	PNG Government
	100%	
Operator	OK Tedi Mining Limited (OTML)	
STATUS	EL 581 (254km ²)	SML 2 (2079 ha)
YEAR GRANTED	1985	28.05.81
EXPIRY DATE	03.11.03	03.11.09 (under renewal)

Ok Tedi Mining Limited (OTML) is a State-owned company that operates an open-pit copper, gold and silver mine located in the Star Mountains of Western Province, Papua New Guinea (PNG). The company holds a large portfolio of exploration leases in the vicinity of its Mt Fubilan mining operations and is actively undertaking near mine exploration.

In September 2013, The State of Papua New Guinea (the State) increased its direct ownership in the company to 87.8%.

The Ok Tedi mine is an open-cut operation in which about 78,000 tonnes of ore and 80,000 tonnes of overburden (waste rock) are mined each day from a pit covering about 2.6 square kilometres.

OPERATIONS

Ok Tedi has reopened in March after suspending operations in August 2015.

The re-opening came after statutory safety approval from the Mineral Resources Authority was granted, following the closure of the mine due to drought conditions, which impacted hydro power and transport of supplies and copper concentrate on the Fly River.

Ok Tedi has also made a further 15% reduction in direct jobs by outsourcing some work.

PRODUCTION

Since Ok Tedi mine returned to production at the end of



March, the operation is serving as a valuable source of liquidity to the local foreign currency market.

Before the crippling drought in Papua New Guinea forced a seven month closure of the copper gold silver mine in Western Province, it contributed about K121 million (\$US40 million) in foreign exchange every month.

Since returning to operation, both the mill and mine have performed reliably and this has allowed the completion of a number of export shipments.

COMMUNITY AFFAIRS

More than K40 million has been paid out to the Community Mining Continuation Agreement (CMCA) communities under the extension agreements, according to OTML.

The CMCA regions include North Ok Tedi, Highway (Tutuwe), Lower Ok Tedi, Middle Fly, Suki Fly Gogo, Manawete, Kiwaba and Dudi. They have set up trusts to control the use of the funds allocated for development, invest-

ments, and women and children.

According to the company by the end of this year, over K80 million will have been paid out to the CMCA communities and mine villages under the various compensation and benefit sharing agreements between the communities, landowners and the company.. This includes K15 million paid out in April 2016 under the Ok Tedi Restated Eight Supplementary Agreement General Compensation to the communities." Ok Tedi Mining Limited community relations manager Kuam Sanewai said apart from funds going into the trusts, a large portion was paid in cash to more than 18,000 family accounts covering 127,000 people. Sanewai said the cash payments were made last week and families were now enjoying their funds.

A severe El Nino weather pattern, or "big dry", occurred in the second half of 2015. From August 2015 the re-

sultant lack of rain in the Fly River catchment area halted the movement of the barges that resupply the operation with fuel and mine consumables. In normal weather the barges also move the concentrates to a silo vessel in the Gulf of Papua from where they are shipped to international markets. All production was suspended for seven months, eventually resuming in early March of 2016. The first export vessel for 2016 loaded and sailed out of Port Moresby, PNG on the 25th of March.

LIHIR GOLD			
LOCATION	Lihir Gold Mine	New Ireland Province	
OWNERSHIP	Newcrest Mining Limited	Mineral Resources Lihir	Institutions & Public
	16.3 %	6.8%	76.9%
OPERATOR	Newcrest Mining		
STATUS	EL 458 (254 KM ²)	SML 6 (1739 ha)	
YEAR GRANTED	1983	17.03.95	
EXPIRY DATE	31.03.04	17.03.35	

The Lihir Gold Mine is one of the world's largest. By capitalization, it is the third largest gold producer.

It presently has an employee population of 2,180. Ninety percent are PNG Nationals. Local Lihirian comprise 33 percent of that figure. Female workers make up 13 percent of the total workforce.

The Lihir deposit was discovered in 1982 by a joint venture; Kenecott Exploration and Niugini Mining. It has an expected mine life of 40 years with exploration for new deposits still ongoing.

Lihir is an epithermal low-sulphidation ore body in an extinct volcanic crater. The Lihir mine has three open pit mines; Minifie, Kapit and Lientez. Minifie was the first pit to be mined in 1997 when production at the mine started.

Lihir is estimated to have a total mineral resource of 150 million ounces of gold. This includes the estimated ore reserves. Lihir has produced over 10 million ounces of gold since production began in 1997.

PRODUCTION

Newcrest's June report stated that their gold production in the June quarter was 10% higher primarily as a result of higher grade, increased autoclave throughput and improved recoveries. Higher grade was due to mine grade performance delivering higher grades than block models anticipated and slightly higher grade from stockpiles. Improved autoclave throughput resulted in less material being sent via flotation which positively impacted recoveries.



So far, Lihir has achieved a record 12.1mt throughput for the full year. The target remains to achieve a sustainable grinding mill throughput rate of 13mtpa by the end of December 2016.

COMMUNITY AFFAIRS

PORGERA GOLD MINE		
LOCATION	Porgera Valley	Enga Province
OWNERSHIP	Barrick Gold Corporation	Mineral Resources Enga
	95 %	5% Enga Provincial government and landowners
OPERATOR	Barrick	
STATUS	EL 454 (196 km ²)	SML 4 (2227 ha)
YEAR GRANTED	1980	12.05.1989
EXPIRY DATE	24.08.2004	12.05.2019

The Porgera mine is located in the Enga Province at an altitude of 2,000-2,700 meters above sea level. Located in a geographically challenging place, the company has managed to meet its daily operational challenges to be placed in a position where it has been a major contributor to Papua New Guinea's economy apart from the Ok Tedi and Lihir mines.

Both an open pit and underground mining methods are employed. The mine has an employment population of 2,755. From this figure, about 93 percent are nationals, majority coming from the Porgera area where the mine is situated.

Porgera has a preferential system of employment, giving priority to the locals from the area.

Since its first gold pour on August 5, 1990, it contributed about 12 percent to the country's gross domestic product (GDP).

OWNERSHIP

Since its first ownership by Placer Dome and Rio Tinto, the mine has had a number of owners and joint venture arrangements from Placer Dome Highlands Gold to Aurion Gold to Emperor Gold and Barrick.

In August last year (2015), Barrick Gold Corporation announced the formation of a strategic joint venture with Zijin Mining Group Co. Ltd., including the sale of a 50 percent interest in Barrick (Niugini) Limited (BNL), for a total



cash consideration of US\$298 million.

BNL is the 95 percent owner and manager of the Porgera Joint Venture gold mine in Papua New Guinea. The remaining five percent participating interest is held by Mineral Resources Enga Limited and is divided between the Enga Provincial Government (2.5%) and local landowners (2.5%).

As a first step, Zijin will acquire 50 percent of Barrick which owns 95 percent of Porgera Joint Venture gold mine in Papua New Guinea. Under the new structure, Barrick and Zijin will jointly control BNL.

PRODUCTION

Barrick's gold production in 2015 was 436,000 ounces. Barrick's share of proven and probable mineral reserves as of December 31, 2015, was 1.97 million ounces of gold³ (14.5 million tonnes, grading 4.24 grams per tonne).

In 2016, Barrick's share of gold production is expected to be 230,000-260,000 ounces at all-in sustaining costs of \$850-\$960 per ounce.

COMMUNITY AFFAIRS

HIDDEN VALLEY GOLD MINE		
LOCATION	Hidden Valley	Morobe Province
OWNERSHIP	Harmony Gold	Newcrest Mining Ltd
	50%	50%
OPERATOR	Morobe Mining Joint Venture	
STATUS		
YEAR GRANTED		
EXPIRY DATE		

The Morobe Mining Joint Venture (MMJV) project is a jointly funded and operated project by Australia's Newcrest and South Africa's Harmony Gold mining companies.

Since its official commissioning and opening in September 2010, the mine has claimed its position as one of Papua New Guinea's major gold producers like Lihir and Porgera.

The project operates two open pit mines in Morobe Province; Hidden Valley and Hamata. Hidden Valley is located in a place long associated with gold mining in the country since the 1930s.

Both Hidden Valley and Hamata are estimated to contain about 5.6 million ounces of gold, 102 million ounces of silver and over 9 million tonnes of copper.

MMJV has a workforce of 2000, including contractors, mainly accommodated in a mining camp in Hidden Valley. More than 90% of the workforce is Papua New Guinean, with over 50 per cent drawn from the local community.

Of this, 14 per cent of the employee population is female. The company also places a strong focus on training and development of local employees.

The Hidden Valley mine supports a program to encourage local landowner business opportunities and a range of community development projects in infrastructure, water supply, health and education designed to deliver sustainable benefits to local communities.



OPERATIONS

With an expected lifespan of 14 years, the Hidden Valley project is expected to produce more than 200 - 250,000 ounces of gold and 2.5 - 3 million ounces of silver.

Ore is transported by truck to the Hamata and Hidden Valley crusher stations. Crushed ore is transported by an overland conventional conveyor over a distance of 4.5 kilometers to the primary stockpile and processing plant. Two jaw crushers are used in series to prepare the ore for transport and feed to the SAG mill. The overland conveyor is a vital link between the mine and processing plant enabling the transportation of ore from Hidden Valley to be fed straight to the SAG mill.

The processing plant utilises conventional gravity and Carbon In Leach circuits for gold and a Merrill Crowe circuit for silver.

Tailings from the processing plant are treated and stored in a purpose built Tailings Storage Facility (TSF). Hidden Valley is the first major mine in Papua New Guinea to build a TSF. All

Hidden Valley, Papua New Guinea

Highlights ⁽¹³⁾	Metric	June 2016 Qtr	March 2016 Qtr	Dec 2015 Qtr	Sept 2015 Qtr	FY16	FY15
TRIFR	mmhrs	0.8	1.8	2.4	4.9	2.5	2.1
Production - gold	oz	15,277	28,977	17,190	11,123	72,566	94,601
- silver	t	272,503	588,775	322,257	147,775	1,331,310	892,838
Sales - gold	oz	17,596	30,427	15,867	11,331	75,221	98,103
All-In Sustaining Cost	\$/oz	1,562	542	1,589	2,222	1,255	1,424
All-In Sustaining Cost margin	\$/oz	(307)	639	(489)	(1,096)	(89)	(203)

(13) The figures shown represent Newcrest's 50%

mine tailings, the residues of the gold recovery process, are permanently stored in this facility.

PRODUCTION

Gold production for the June quarter was lower due to a combination of lower grade and lower mill throughput. The lower grade was a result of increased material from low grade stockpiles and the prior quarter benefitting from presentation of high grade ore from Stage 4. Lower grade also adversely impacted recoveries for the quarter.

The Hidden Valley Joint Venture partners continue to review all strategic options in relation to the future of Hidden Valley. Pre-stripping for the Stage 5 area of the Kaveroi pit, which has a lead time to first ore of approximately 18 months, remains on hold with the focus of the operation moving to processing stockpiles and a reduced level of mining in the Hamata pit. It is expected that processing of the existing low grade stockpiles can potentially continue for approximately 12 months.

SIMBERI GOLD PROJECT

LOCATION	Simberi Island	New Ireland Province
OWNERSHIP	St. Barbara	100%
STATUS	EL 609 (228KM ²)	MI 136 (26KM ²)
YEAR GRANTED	1985	03.12.1996
EXPIRY DATE	05.06.2005	13.12.2008
PRODUCTION START	13.02.2008	

Simberi is the northern most island in the Tabar Group of islands in the New Ireland Province, about 900km away from Port Moresby, the nation's capital.

The island, 10km long and 8km wide is home to 1500 people. The Tabar Group of islands is located along the 'Pacific Rim of Fire'.

Seven gold deposits have been defined in mining lease 136 (ML 136), which covers the central and eastern portion of Simberi Island, and other prospects have been identified.

OWNERSHIP

The Mine is currently owned and operated by St. Barbara, an Australian company. St Barbara was established in 1969, and is one of Australia's larger and more profitable gold producers, developers and explorers listed on the Australian Stock Exchange (ASX).

The previous owner, Allied Gold took over ownership in 2004 from Nord Resources. In 1982, Kennecott, Nord Resources and Niugini Mining formed a joint venture, Tabar JV to explore for gold on Simberi. In 1993 Nord acquired all the interests and undertook exploration and in 1996 commissioned a feasibility study which led to the grant of a Mining Lease (ML 126) in December 1996. As gold prices fell in 1997 the project was put on hold.

Allied Gold became involved in 2004 and reinstituted a feasibility study and by 2006 mine and mill construction commenced.

RESOURCES

In 2009, Allied Gold the former owner/operator of the mine reported that the total resources are 4.7 million ounces (Moz) gold, being oxide gold resources of 1.4 Moz and sulphide gold resources of 3.3 Moz together with 10.2 Moz silver.

OPERATIONS

In November 2007 mining operations began at the Samat East deposit and the first ore was processed in February 2008. On September 7, 2012, St Barbara gained control of the Allied Gold Mining PLC group and the Pacific Operations of Simberi in Papua New Guinea, and Gold Ridge in the Solomon Islands.

Ore is delivered to the processing facilities on the eastern coast near Pigiput Bay by a 2,665 m long aerial conveyor that can deliver 600 tonnes of ore per hour. The process plant is a conventional carbon-in-leach (CIL) gold process plant capable of treating 2.2 million tonnes of ore per year.

The project is a conventional open pit operation with a new SAG mill, existing ball mill and standard carbon-in-leach circuit. Following optimization, gold production is expected to be 100,000 ounces per year.



Current mining occurs on the eastern half of the island covered by a 2,560 hectare Mining Lease (ML136). Ore at Simberi is sourced from a number of open pits. The Sorowar Pit is currently the largest defined oxide pit.

Current mining plans of the oxide cap suggest a strip ratio of 1:1. Ore from the pits is delivered to the ROM pad (Sorowar feeder) where it is crushed and conveyed down an innovative and energy-efficient 2.7 km rope conveyor that transports the ore to a stockpile in front of the process plant.

Mine tailings are disposed of in the form of a slurry that has been pre-diluted with seawater using a deep sea tailings pipeline.

The pipeline is 528 m long with the discharge point at a depth of 130 m. The tailings flow down a steep submarine slope and are deposited at a depth of more than 3 kilometers.

Production Summary	3rd Quarter 2016	4th Quarter 2016	Year 2016
Total Ore and waste mined kt	2,348	2,527	9,899
Ore mine kt	723	856	3,372
Grade g/t	1.35	1.15	1.26
Ore milled kt	743	881	3,315
Grade g/t	1.3	1.17	1.26
Recovery %	79	81	82
Gold Production Oz	25,433	26,935	110,286

PRODUCTION

Gold production up to June 2016 (FY 16) was 110,286 ounces. Production for the previous year was 79,568 ounces.

According to the company, a new record was also made where the company was able to move ore and waste of 1.3 million metric tonnes. This improvement was due to a full quarter using additional mining equipment that was purchased which arrived on site in March. Overall, it was an improvement of 57 percent in comparison to 2015.

COMMUNITY AFFAIRS

Royalties paid in Papua New Guinea are 2.25% of gold revenues earned from the Simberi mine. The increase in royalty expenses in 2016 was attributable to increased gold revenue from Leonora and Simberi.



☑ Managers of Mineral Resources

☑ Regulators of Exploration and Mining in Papua New Guinea

Website: www.mra.gov.pg
Email: info@mra.gov.pg

RAMU NICKEL MINE			
LOCATION	Krumbukari	Madang Province	
OWNERSHIP	China Metallurgical Group Corporation (MCC)	100 %	
OPERATOR	Ramu NiCo Management Limited		
STATUS	SML 8 (54.4km ²)		
YEAR GRANTED			
EXPIRY DATE	26.07.40		

The US\$2.1bn Ramu nickel project near Madang, on the north coast of PNG, is one of the largest and most ambitious mining and processing projects to have been successfully brought into production in PNG during the past decade. It is also China's largest outside investment project.

Construction was completed by 2012 and the plant has since been progressively brought into production.

The Kurumbukari nickel and cobalt laterite mine is connected by a 135km pipeline from the Kurumbukari plateau, to the Basamuk process plant which is 75km east of the provincial capital of Madang, along the Rai Coast of the Vitiaz Basin.

The Ramu mine and Basamuk process plant is a joint venture between Highlands (8.56%), the PNG Government and Landowners (6.44%) and MCC Ramu Nico Ltd (85%). MCC holds a 61% interest in MCC Ramu Nico Ltd, with the remaining 39% held by a number of other Chinese entities.

OPERATIONS

Mining and Beneficiation Plant: The Kurumbukari nickel deposit is a low strip ratio, free digging open pit mine. Face shovels and backhoe configured excavators mine the average 12 metre thick ore-body and load into trucks for delivery to the beneficiation plant. The plant removes the chromite and creates a correctly sized and consistent slurry feed for over-land pipeline transport to the Basamuk process plant.

Slurry Pipeline: A 135km slurry pipeline runs from the Kurumbukari mine/beneficiation plant to the Basamuk refinery, with a drop in elevation of about 680m. The majority of the pipeline has been buried



and has road access for ease of checking and maintenance.

Basamuk Process Plant: The Basamuk process plant incorporates three High Pressure Acid Leach (HPAL) trains (autoclaves) and is designed to produce 78,000 tonnes (dry) of mixed hydroxide product containing 31,150 tonnes of nickel and 3,300 tonnes of cobalt per annum. The plant has a two train acid making facility as well as a limestone processing plant for making the key reagents used in the making of the mixed hydroxide product.

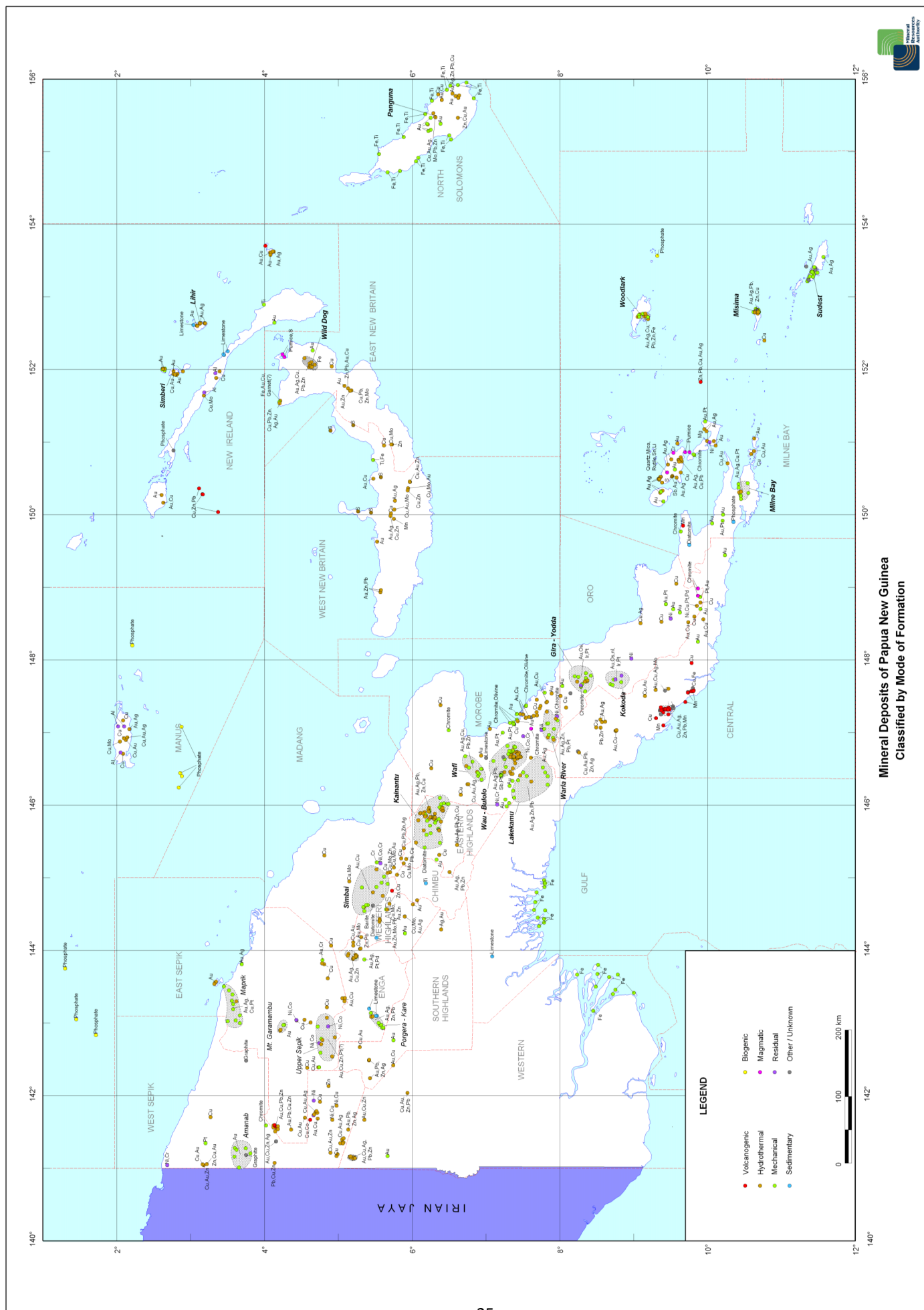
Exports and Sales: Since production started in 2012 mixed nickel cobalt hydroxide intermediate product has been exported to China where contracts are in place to receive the product. Up until the end of 2014 a total of 36,440 t of nickel and 3,521 t of cobalt in an intermediate form has been sold.

Environment and Deep Sea Tailings: Based on advice from international experts received during the study and permitting stages it was decided to dispose of the tailings from the operation into the 1500 metre deep sea canyons as this represented the most appropriate and safe method of disposal. Reasons for this decision include the fact that the area has among the highest rainfalls in the region and land based tailing storage could be disturbed in a highly active volcanic and high-rainfall region while impinging on agriculture and landholder customary land.

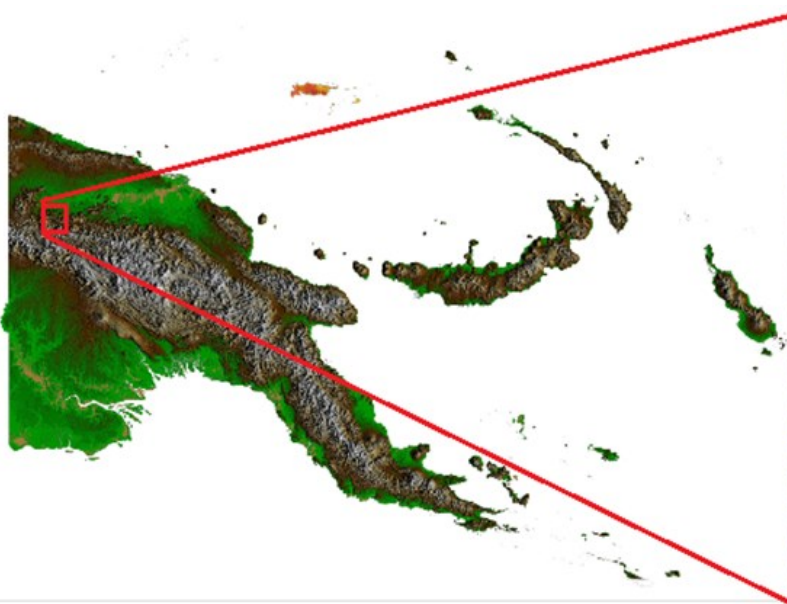
	2015 Sept Qtr	2015 Dec Qtr	2016 Mar Qtr	2016 June Qtr
Ore Processed (dry kt)	753	656	725	88
MHP Produced (dry t)	17,763	16,024	17,848	2,439
Contained Ni (t)	7,106	6,320	7,074	951
Contained Co (t)	704	626	694	93
MHP shipped (dry t)	13,795	14,579	17,467	12,684
Contained Ni (t)	5,489	5,696	6,786	4,968
Contained Co (t)	543	539	664	489

PRODUCTION

Operations were suspended from April 12 following the failure of a high pressure steam pipeline that resulted in the tragic fatality of one employee and the injury of two others. ☐ Full investigation conducted by external party and formal inquiry conducted by the PNG Mineral Resources Authority Mines Inspectorate. ☐ Remedial work subsequently carried out and production resumed in early July. ☐ Sales and shipments of stockpiled nickel/cobalt concentrate (MHP) continued during the quarter.



Name:	Frieda River
Location:	Frieda River Area, East & West Sepik Provinces
Operator:	PanAust
Ownership:	Frieda River Ltd 80 %; Highlands Pacific Ltd 20 % :
Status:	Application for Special Mining Lease (SML)



Located in the north-west of Papua New Guinea, the Frieda River Project is one of Asia Pacific's largest undeveloped copper/ gold resources. The project recently, in 2014 changed hands from Xstrata to PanAust, a medium tier miner in Australasia, with a mine in Cambodia, which was taken over in 2015 by GRAM (Guangdong Rising Asset Management).

The project is owned by the Frieda River Ltd, 80 % and Highland Pacific Ltd, 20%. Frieda River Ltd is a subsidiary of GRAM; with project managers still known as PanAust Ltd. Prior to the grant of the SML, the state of Papua New Guinea has a right to take up 30 % equity in the project.

In the second quarter of 2016, PanAust delivered the final feasibility studies to the government of PNG and lodged an application for a special mining lease, at the Mineral Resources Authority (MRA) office in Port Moresby.

LOCATION

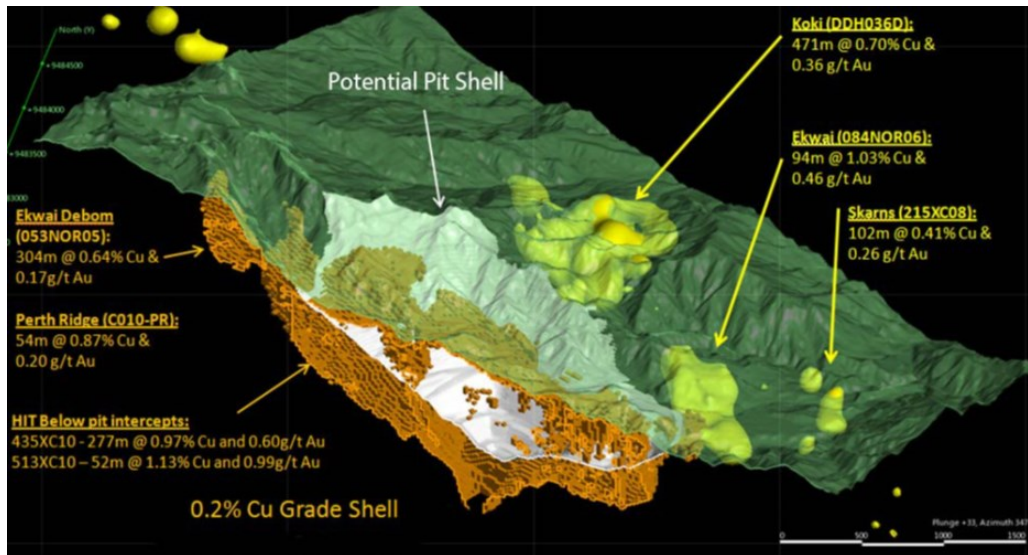
The Frieda prospects are located in the West Sepik Province; however activities and infrastructures for extraction mineral resources and export will be concentrated in the

East Sepik Province, enabling equal participation of two Sepik Provincial governments. The project is 200 km from the coastline and 70 km from the Sepik River which is navigable by ships and barges.

GEOLOGY

The Frieda River prospect is located between the Frieda and Lagaip fault zones, two major structural features of the New Guinea Mobile Belt in the West Sepik District, Papua New Guinea. The prospect can be subdivided into three spatially and geologically different areas: Frieda Complex, Mianmin area, and Nena Diorite area. The Frieda Complex is the remnant volcanic edifice of an island stratovolcano interstratified in the mid-Miocene Wogamush Formation. Intrusive and volcanic units in the complex are texturally similar andesitic hornblende-plagioclase porphyries and are probably comagmatic. Pyritic replacement copper-gold and porphyry copper deposits are associated with early and late phases, respectively, of extensive district-scale advanced argillic alteration along the central axis of the Frieda Complex.

The Nena Diorite, a composite, holocrystalline, intermediate to mafic body, intrudes Upper Cretaceous- to Eocene-



Courtesy of PanAust 2014.

age basement rocks. It is located north of, and separated from the Frieda Complex by, the Frieda Fault. Igneous activity in the Frieda River prospect extended over an interval of at least 4 million years. On the basis of field relations and K-Ar ages, this igneous activity is subdivided into early intrusion and at later alteration events. K-Ar ages on alunite appear to be too young to be those of formation of this mineral, and the oldest (13.0 + or - 0.4 m.y.) is interpreted as a minimum age for the Nena pyritic replacement copper-gold deposit.

RESOURCES

The Frieda copper project is PNG's largest undeveloped copper-gold project and one of the top 10 undeveloped open pit copper mines in the world. The resources contained in its current final feasibility studies are contained in HITEK (Horse Ivaal-Trukai-Ekwai-Koki).

It has 2.7 billion tonnes (Bt) of resources @ 0.42 % copper and 0.23g/t gold; containing 12Mt of copper, 19Moz of gold and 49Moz of silver. Its annual production when in operation and producing is expected at 175,000 tonnes of copper and 250,000 ounces of gold.

At the time PanAust announced its final feasibility studies in May 2016, the company was completing its geological and mineralisation drilling in Ekwai & Koki. The result will assist to understand more the geology and most likely improve on the resources.

MINE DEVELOPMENT

With the completed feasibility studies, PanAust will develop a mine in several stages, with a large open pit mine

over the mine's initial mine life of seventeen (17) years. The open pit mine will feed a process plant taking in ore at forty million tonnes per annum (40 Mtpa).

Producing 175,000 tonnes of copper and 250,000 ounces of gold annually over the mine life at C cash cost of USD\$ 0.69/lb for copper is very competitive by global mining standards.

Since the project is remotely located the first stages of mine development will include infrastructure development in the area, including roads and an airstrip capable of taking a Dash 8 aircraft. Power supply is by way of intermediate fuel oil (IFO) on modular generating sets; with plans for hydroelectric systems and as the project progressed over its fifth year of operations.

COMMUNITY AFFAIRS

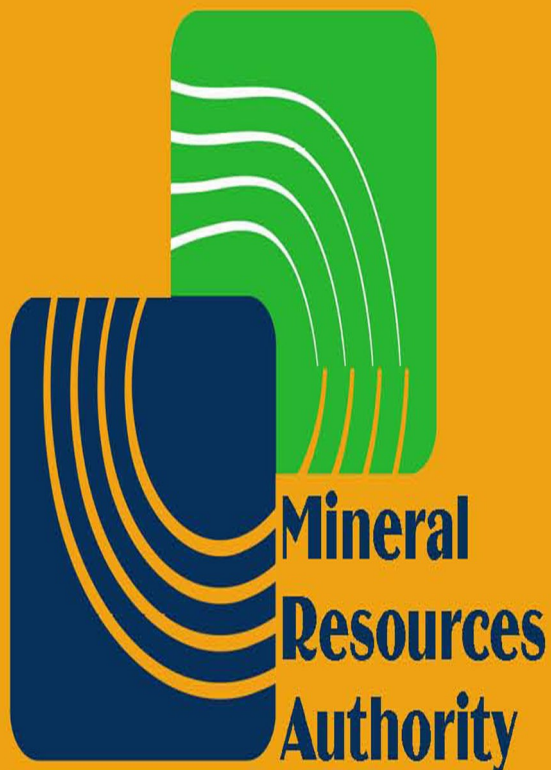
High on the agenda of the company in mine development and during its operations is the environment and its communities in the various zoning groups which the company will zone after close liaison with various stakeholder groups.

People of East and West Sepik provinces stand to benefit greatly from this project. The development of mining infrastructures and supporting services will bring accessibility and services to this remote part of the country; and other benefits as per benefit sharing agreements that will be drafted, as the project progress into constructions and operations.

The two provincial governments will also have revenue flowing into their coffers for their budgets.

Area	Scope
Mineral Resources	Horse-Ivaal-Trukai, Ekwai and Koki porphyry copper-gold deposits
Mining method	Large-scale conventional open-pit, truck and shovel operation
Total material mined	1,170 million tonnes (700Mt mill feed; 470Mt waste)
Mining rate	Peak total material movement 85Mtpa
Mill throughput	Average 41Mtpa (5,000tph)
Concentrate	Average 670,000dmt per annum; peak 860,000dmt
Metal production	Average steady state (after initial ramp-up) 175kt copper, 250koz gold
Integrated storage facility	Subaqueous deposition; embankment height up to 171m; 875Mm ³ storage (1,210Mt)
Power supply	IFO/hydroelectric power; peak 140MW; hydroelectric generation up to 102MW
Site access road	110km unsealed road from Sepik River port to concentrator
Peak workforce numbers	Construction: 3,720; Operations, Year 1-9: 3,025 and Year 10-17: 1,960
Project life	6 years implementation (4 years construction) 17 years operation

Table 1: Summary of feasibility study project physicals (courtesy of Frieda River Ltd, 2016)



✓ **Menesa bilong ol mineral risos**

✓ **Wasman bilong wok exploresen na maining long Papua Niugini**

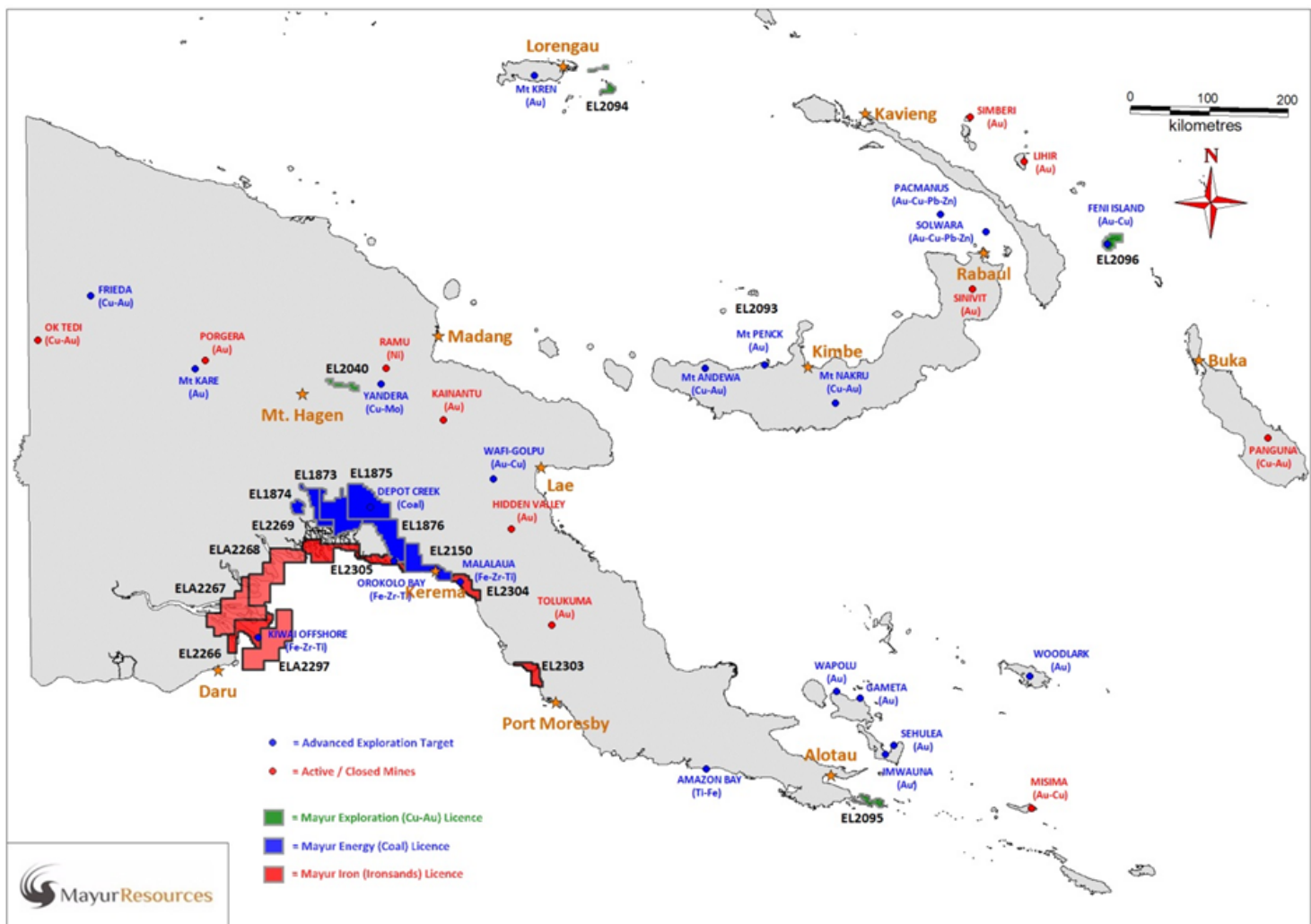
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MAYUR RESOURCES – “ADVANCING NEW OPPORTUNITIES FOR PNG’S MINING AND ENERGY SECTORS”

Contents

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Map showing Mayur's tenement holding across PNG by commodity type

Introduction

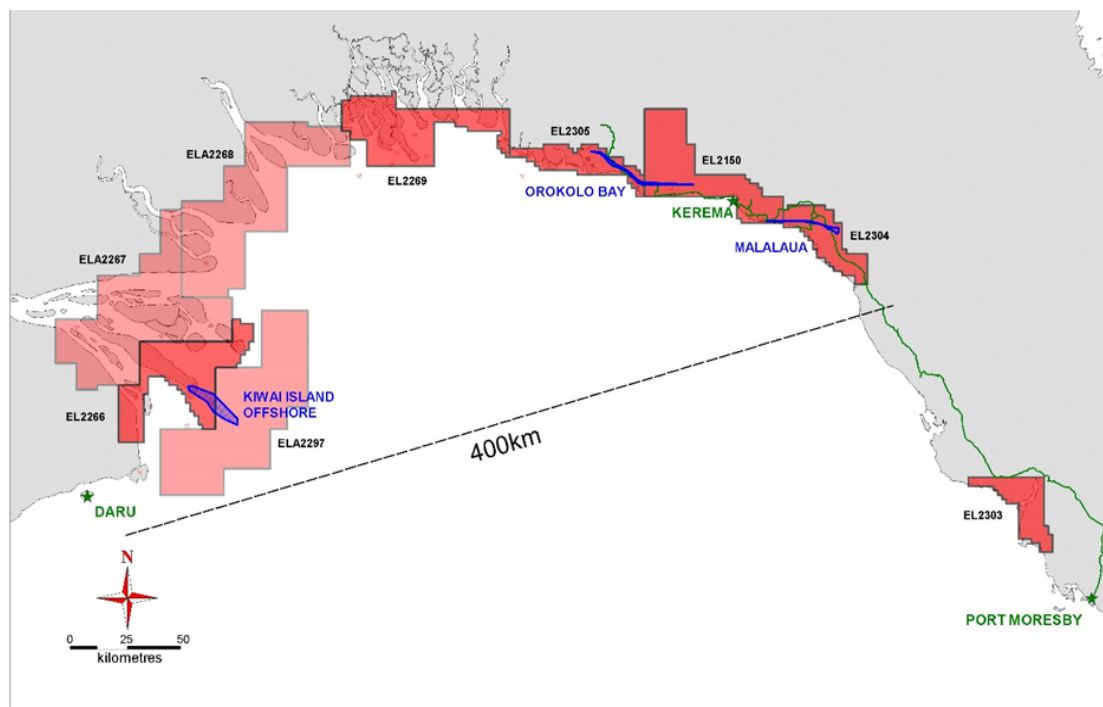
Mayur Resources is a privately owned company that is progressing a unique exciting mineral commodity and integrated power development strategy in Papua New Guinea. Mayur is helping PNG to diversify its mining and power generation sectors via the development of a large mineral sands portfolio (including limestone) and vertically integrated power generation platform. The new mineral commodities will help to add resilience and diversity to PNG's min-

ing sector and the provision of a new low cost source of electricity that that will be vital to enable PNG to unlock its manufacturing potential, improve access to electricity for its population and provide a reliable energy back bone for economic growth. Mayur's resource base of limestone, iron and coal all at surface on the gulf coast next to each other also provide a globally unique opportunity to vertically integrate to create PNG's own quick lime and clinker industries as well as be one of the lowest cost steelmakers in the

world (with access to raw materials (iron and coal), cheap labour and dual low cost energy.

Mineral sands

Overview

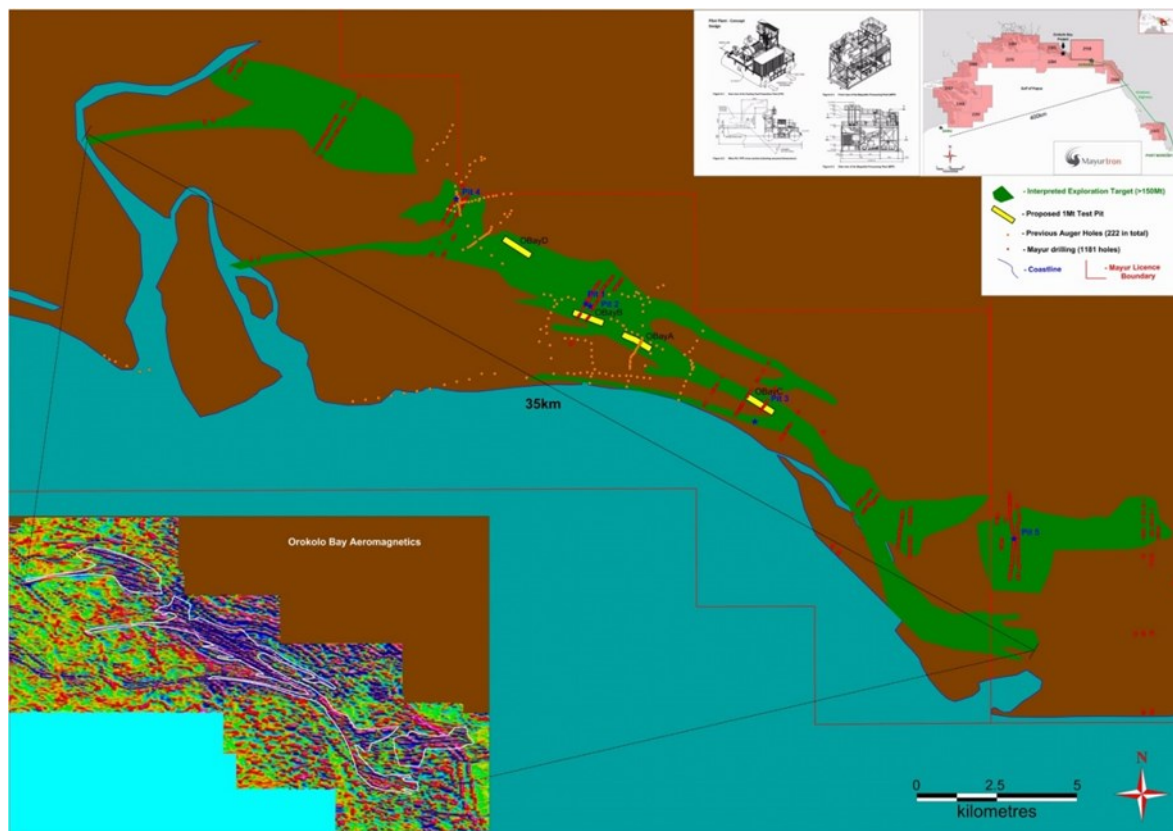


Mayur's portfolio of mineral sands exploration licences lie within the Gulf and Western Provinces of PNG from Port Moresby in the east to Daru in the west. This portfolio is contiguous and extends over 400 km along the coastline (covering an area close to 13,000 km²) in what is arguably the largest mineral sands exploration precinct in the world.

The portfolio encompasses the huge delta and lowland regions of Western and Gulf Province including the Fly River Delta region, and associated islands, in the west; the Deception Bay region in the central area of the Gulf, and the Kerema region to the east that encompasses Orokolo Bay, Malalaua and Hisiu north of Port Moresby.

Mineral sands tenements in the Gulf of Papua

Orokolo Bay Project



Orokolo Bay is Mayur's flagship mineral sands project that is located near the mouth of the Purari River (PNG's third largest river) around 60km west of Kerema, the Gulf Provincial capital. A fully revised Pre-Feasibility-Study was completed in mid-2016 subsequent to the release of an expanded JORC Resource following an extensive drilling, sampling and metallurgical programme.

Geology & Resources

Resource drilling of the Orokolo Bay project commenced in early 2015 and continued until October 2015 during which time 1,183 holes were drilled, this generated over 8,200 samples at an average hole depth of 3.5m.

Drilling and resource schematic for Orokolo Bay project

The strike length of the re-



Auger drilling at Orokolo Bay.

source is roughly 30km, between the Purari River in the West to the Bluff in the east. The Orokolo Bay Resource consists of multi product valuable heavy mineral located approximately 2-5km inland from the current shoreline. The project comprises a series of SE-NW trending preserved strandlines of Holocene to Recent Age, mostly under very thin soil cover. The width of the mineralised zones varies between 20 to 100m, while the depth varies from 0.5-4.5m.

A detailed aeromagnetic survey was flown by Mayur in 2014. This was followed up by an extensive ground magnetic programme, whereby survey lines were walked at around 200m line intervals. The ground magnetic data was then interpreted to inform the drilling programme. Drilling involved the use of manual auger rigs capa-

ble of drilling to around 8-10 m. A JORC Resource was declared in 2016 that included 173Mt @ 9.2% Fe (6.6Mt magnetite at 57% Fe), 107,000t of Zircon and 86 Mt of industrial sand.

Mineral Processing

Preliminary mineralogical development work conducted during 2014 defined the most appropriate processing pathway for the ore. This was followed up by a 12 tonne bulk sample in late 2015 from several pits across the deposit. The individual bulk samples were blended and used to conduct detailed pilot scale flowsheet development resulting in the production of final products for quality assessment.

The Orokolo Bay Resource also contains a number of valuable non-magnetic accessory minerals other than magnetite. Due to this, the defined circuit begins with gravity separation to recover heavy mineral, extraction of the magnetite from heavy mineral using wet

drum magnets and then upgrading of the non-magnetic heavy mineral component to produce additional products enriched in zircon, rutile, ilmenite, hematite and other commercially valuable minerals. This very simple gravity-magnet process uses only water and absolutely no chemicals. The spirals and wet drum magnets are all relatively simple 'off-the-shelf' process equipment that can be purchased in Australia or China.

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Bulk sample heavy mineral on spiral separator magnet



Extracting magnetite from heavy mineral using drum

drum magnets and then upgrading of the non-magnetic heavy mineral component to produce additional products enriched in zircon, rutile, ilmenite, hematite and other commercially valuable minerals. This very simple gravity-magnet process uses only water and absolutely no chemicals. The spirals and wet drum magnets are all relatively simple 'off-the-shelf' process equipment that can be purchased in Australia or China.

A magnetite product with 57% - 59% iron and low silica, low alumina impurities was easily produced. Recoveries were above 99% indicating the clean separations achievable with Orokolo Bay ores.

The majority of other iron sands resources around the world generally need grinding to attain the level of iron grade and recovery achieved by Mayur at Orokolo Bay.

The following table shows the specification ranges of the magnetite concentrates that have been produced from the test work on the Gulf of Papua ores.

%Fe	%SiO ₂	%Al ₂ O ₃	%TiO ₂	%V ₂ O ₅	%P
57-59	1.8	2.01	10-12	0.48	0.05

Grade range of Orokolo Bay magnetite concentrates

A 'premium grade' zircon was also produced with over 66% ZrO₂, low iron, low titanium and is well within the range of many of the zircon concentrates being sold on international markets.

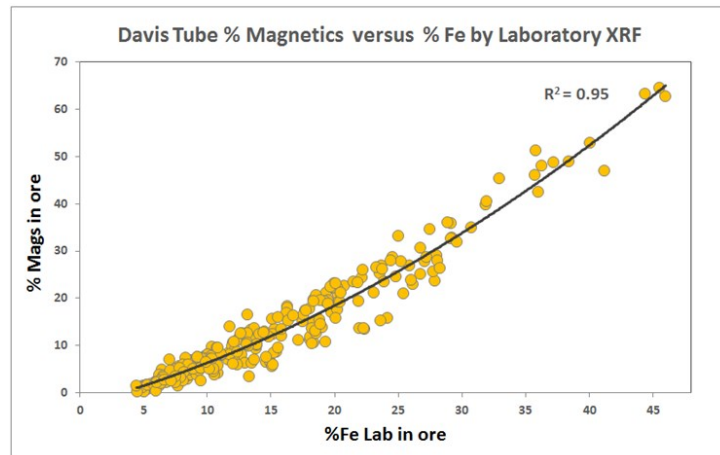
%TiO ₂	%Fe ₂ O ₃	%SiO ₂	%Al ₂ O ₃	%ZrO ₂ +HfO ₂	U ppm	Th ppm
0.11	0.08	32.5	0.14	66.2	390	318

Premium Zircon – final product produced from Orokolo Bay ores

Mayur used only high quality well regarded metallurgical laboratories such as the internationally respected Robbins Technology

Group and Bureau Veritas assaying laboratory for all development works.

Also completed by Siecap (one of Mayur's consultants) was a com-

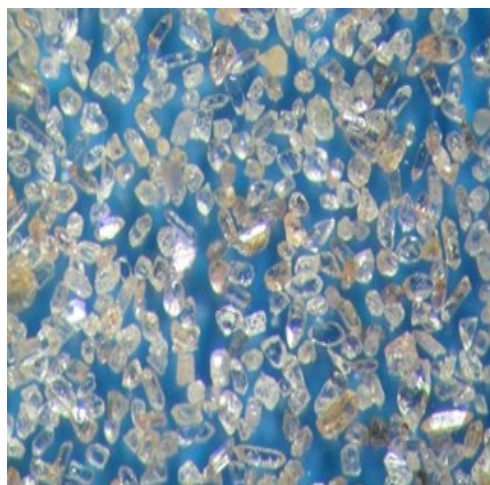


Davis Tube tests to verify the strong relationship at Orokolo Bay between %Fe in ore and % magnetic by Davis Tube Davis Tube magnetics yield relationship

prehensive and innovative program of assay Research & Development that resulted in the design of a unique XRF based assay method that was used for the analysis of over 8200 exploration samples. The method used the uniquely robust relationship shown in the chart below between the iron content of Orokolo Bay iron sands and the more typically used Davis Tube method of analysis.

Mining

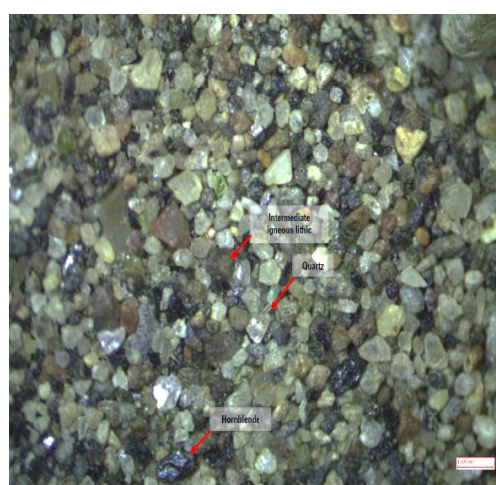
The Pre-Feasibility Study involved a detailed review of potential mining techniques as the resource is at surface (effectively zero strip ratio). This included assessing options ranging from conventional dredging with floating processing plant through to dry mining using conventional hydraulic excavator units with semi mobile



Zircon concentrate at a grade of 66.2% ZrO₂



Magnetite concentrate with 57-59% Fe



Construction sands

land based processing plants and various combinations of all of these.

Ultimately a method incorporating a hydraulic Excavator feeding a small floating feed/screening hopper with ore pumped to a semi mobile land based processing plant provided the best technical solution to the range of mining conditions found across Orokolo Bay. The excavator would mine ore at 375 tonnes per hour which is fed into the floating screening plant, water added and the slurry pumped ashore to a skid mounted processing plant that is moved along the mine path every 3-4 months.

This approach would initially start with two mining and processing units and is intended to allow for future scalability. As the ore does not require grinding, the process circuitry is also much simpler. A typical processing plant is comprised of wet drum magnets, spirals, slurry pumps and screens. As ore has minimal slimes (small size particles), thickeners are not needed and chemicals are not re-

quired in any of the processes and are therefore environmental risks are significantly reduced compared to other mining methods.

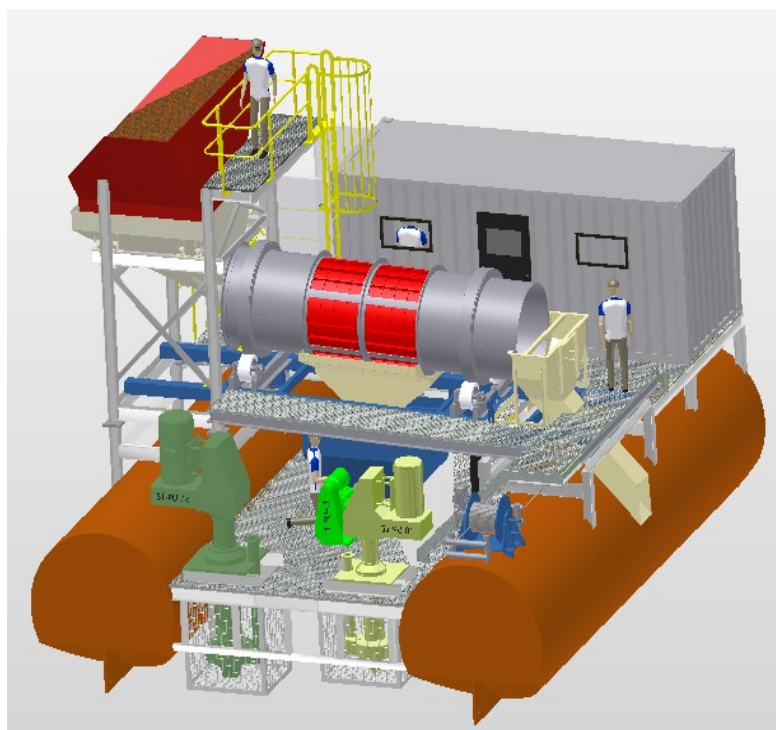
Demonstration Mining Plant

Mayur has also secured approval to operate a demonstration plant at Orokolo Bay. This would operate at nominally 100 tonnes per hour and provide valuable mining and processing data for the design of the full scale operation and represent the first mining operation in the Gulf region.

Products & Markets

The project would produce various products including Industrial sands, DMS, titano-magnetite, zircon / heavy mineral concentrate.

The magnetite is in demand as a feedstock from blast furnace

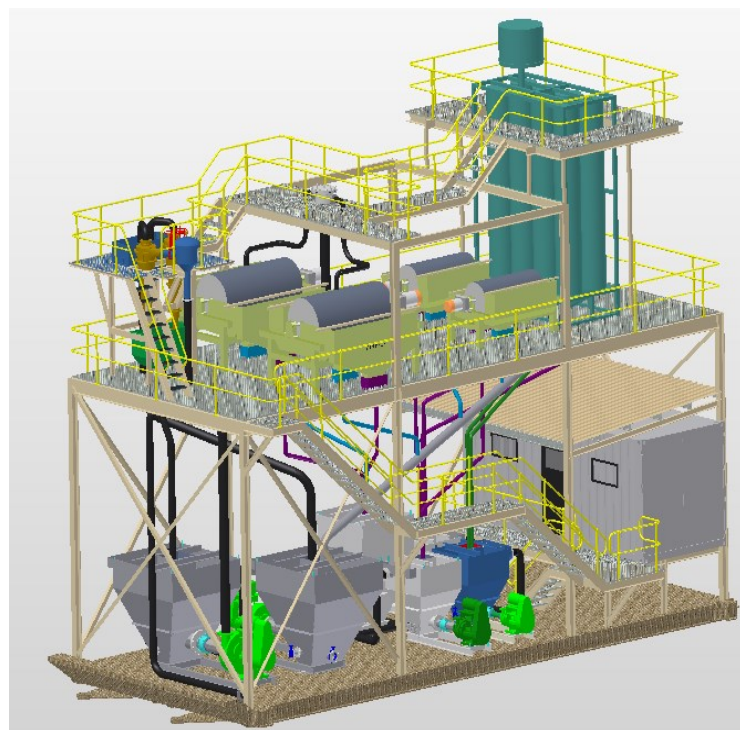


Floating feed hopper & screening module

quired in any of the processes and are therefore environmental risks are significantly reduced compared to other mining methods.

Once extracted the magnetite concentrate can be simply stockpiled to allow excess water to drain away, the product is then loaded onto transshipping barges by conveyor or truck/front end loader and transported to ocean going vessels waiting offshore for on-ward transport to customers.

The associated CAPEX for the above is around USD16m given its relative simplicity the capital intensity is extremely low. Likewise, the OPEX is around US\$9/t FOB or US\$23/t CFR for the combined



Skid mounted processing module

based steel operations in China, Korea and Japan where it can be used as a lower cost source of iron to supplement the traditional iron. The titanium component is used to provide protection to the blast furnace lining and thus iron sands are often used as a supplementary feedstock.

Ironsands are now also being used in the process of producing 'Pig-Iron' via a well-known technology called Direct Reduction Iron (DRI) and down-stream Electric Arc Furnace (EAF) that enables the production of refined steel products such as slab, plate and coil, whilst at the same time extracting credits for other valuable by

products such as Vanadium and Titanium.

Another bi product from the operation would be construction sands. Mayur has conducted test work on the sand component of the Orokolo Bay resource and confirmed suitability for use in commercial industry. The construction sands could be used in PNG or alternatively exported to Australian markets where there is an opportunity given the future increase in demand for fine grain high silica industrial sand from construction activities (residential and civils projects) and coupled with forecast future supply constraints.

The Orokolo bay magnetite has also been tested for use as Dense Media Separation (DMS) in coal washing plants. Mayur is in the process of conducting further marketing studies, but test work confirms suitability of the ore after grinding to the requisite sizing. The market for this product would be the coal mines located in Queensland and New South Wales in Australia. Given the multi product nature of the Orokolo bay project, it would also be possible to be highly competitive on price with the current suppliers in the market.

Economics

The financial modelling in the PFS has generated an NPV of US\$126m (on a real ungeared, post-tax basis). This is based on the production of 1 Mtpa of construction sands, 100 ktpa of magnetite for DMS, 400 ktpa of titanomagnetite for the steel industry and around 4500 tpa of zircon / valuable heavy mineral concentrate. Project payback is under a year and the IRR is 133%.

The next steps for the Project is to complete further drilling as part of the Definitive Feasibility Study.

Other targets in portfolio

Other works continue to be undertaken over a number of additional targets across the portfolio areas that have been specifically identified following geomorphology and topographic interpretation – these include the roadhouse, Malala and Kiwai Island.

Vertically Integrated Power Generation

In addition to mineral resources, Mayur has also established a power generation platform with the objective of developing new affordable and sustainable power solution for PNG.

Mayur is pioneering the development of an environmentally sustainable power generation facilities (“**Enviro Energy Parks**”) that will involve the use of a combination of fuel sources to address PNG’s chronic power shortages, the challenges of affordability and reliability. Also provided for the first time in PNG will be commercial scale co-generation to support the fisheries and agriculture industries that uses waste steam and recirculates this back as energy which further avoids emissions being created. Also fly ash is

then reused in the cement making industry. The EEP has been based on similar facilities operating in Finland and Denmark that are now regarded as very sustainable, cost effective platforms using renewable and traditional fuels together with a capture and use of by-products.

The first EEP will be a 50MW sized facility located in Lae at the Western Tidal basin owned by PNG Ports and being developed into a major industrial hub for the nation and the region. This will be critical to advancing Lae’s position as PNG’s industrial hub, and the gateway to the Highlands, and around 60% to 70% of all PNG’s trade passes through Lae. There is currently a large reliance on liquid fuel for power generation in Lae, that is not only expensive and inefficient but also very environmentally unfriendly.

The Lae EEP will combine the use of traditional fuels and renewables with the use of advanced power generation technology (including Circulating Fluidised Bed Combustion (CFBC) boilers) that will drastically minimise current emissions and importantly result in a net improvement to the current air quality in Lae in terms of Carbon dioxide reduction and Sulphur and Nitrogen oxide emissions. These performance criteria form part of the development conditions for the EEP, where Mayur has agreed to the strictest emissions limits set in PNG setting a new benchmark for other energy providers to follow and is based upon operations in Finland, Denmark and other European countries.

At 50MW, the Lae EEP is relatively small, however it will be an important first step in PNG’s journey to achieving a stable energy mix adopted by the world’s developed countries whereby coal, gas, hydro, renewables co-exist to provide a reliable energy platform.

The Lae EEP will provide a catalyst for opportunities in Lae both directly (in terms of construction and operations) and indirectly in terms of providing commerce and industry access to affordable and reliable power supply they require for continued growth.

Fifty percent (50%) of the total workforce will be women when the EEP is fully operational. This will also be supported by Lae UNITECH, with whom Mayur has entered a sustainable renewable energy institute joint venture with to maximise renewable fuel use. Mr Darren Lockyer Head of Business Affairs attended the execution of the joint venture on the UNITECH campus in early 2016. In this way hundreds of new direct jobs, and thousands of indirect jobs will be created for the people of Lae.

Name	Star Mountains Project
Location	West Sepik Province
Ownership	51 % Anglo-American & 49 % Highlands Pacific
Operator	Highlands Pacific
Exploration Licenses	EL 1312, 1392, 1781 & 2001
Total Area	515 km ²

The Star Mountains exploration tenements cover 515 sqkms and are located within the prospective New Guinean Orogenic Belt, which hosts the Grasberg, Ok Tedi, Porgera and Hidden Valley mines, as well as the Frieda deposit.

Highlands Pacific Ltd is undertaking a comprehensive mineral exploration program with its joint venture partner Anglo American in the Star Mountains region of West Sepik Province.

In February 2015, Highlands and Anglo American executed a Joint Venture Agreement to undertake exploration of the Star Mountains project. The Joint Venture and Farm-in agreements consist of the following:

- US\$10 million initial payment – Anglo American has paid Highlands US\$10 million in two tranches of US\$5 million each. The first payment of US\$5 million was paid on execution of the agreement in February 2015, with the second payment paid in February 2016.
- Phase 1 – Anglo American will initially acquire a 51% interest in the Joint Venture, with 15% vesting upon a farm-in spend of US\$25 million over four years and 36% vesting upon the declaration of a 43-101/JORC compliant inferred resource of 3 million tonnes of contained copper equivalent within 5 years of execution of the agreement.
- Phase 2 – Anglo American can move to an 80% interest in the Joint Venture by completing a Bankable Feasibility Study within 15 years of the execution of the Farm-in and Joint Venture Agreements.
- Development Free Carry – Anglo American will provide Highlands with up to US\$150 million in project development funding as a deferred free

carry following the completion of the BFS. Anglo American will recover this US\$150 million from a portion of Highland's share of project cash-flows once in production.

- Management – Highlands will manage the project however Anglo American will have the right to take over management when they have spent US\$25 million in project expenditure.

LOCATION

The tenements, which include Nong River EL1312, Mt Scorpion EL1781, Munbil EL2001 and Tifalmin EL1392, are approximately 20km north east of the Ok Tedi mine and 25kms from the support town of Tabubil, in the West Sepik Province of PNG.

GEOLOGY OVERVIEW

The Tifalmin porphyry copper district is located in the Star Mountains, approximately 35 km northeast of the Ok Tedi mine. The district is a cluster of temporally and geo-

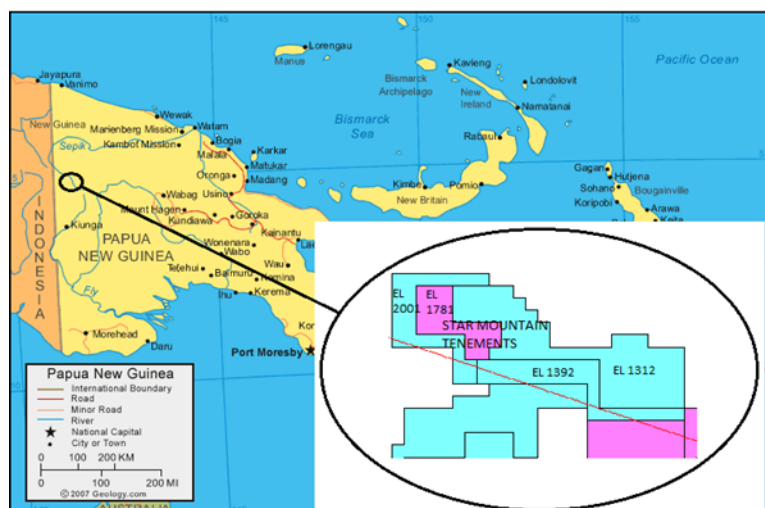


Figure 1: Star Mountain Tenements.

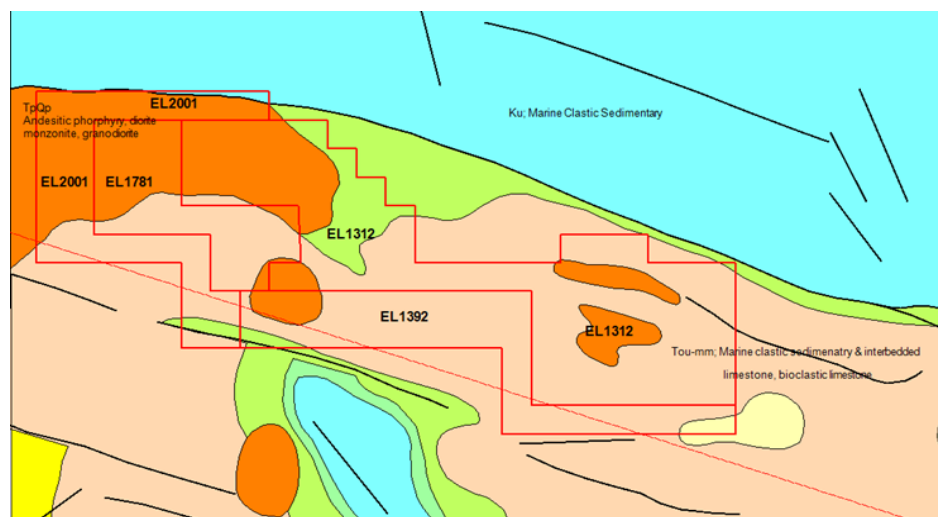


Figure 2: Regional Geology

chemically related porphyry copper prospects and their associated skarns. It covers an area of roughly 60 square kilometres and comprises at least three intrusions (Olgal, Futik and Kum Kom) where drilling has demonstrated the presence of porphyry copper mineralisation, and another four intrusions (Rattatat, Unfin, Bumtin and Pad 48) where porphyry copper mineralisation is strongly suggested by surface investigations and geochemical or geophysical signatures.

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Copper and gold mineralisation was first discovered in the area in the 1960s as part of the regional exploration program by Kennecott that located Ok Tedi. The mineralisation is associated with poly-phase porphyritic diorites, quartz diorites and tonalites that intrude the Upper Eocene to Middle Miocene Darai limestone and underlying Cretaceous to Eocene Feing Group. In addition to porphyry-type mineralisation, variable amounts of calc-silicate and/or magnetite skarn occur near the contact of most of the intrusions.

Mineralisation in the Olgal and Futik porphyries occurs as chalcopyrite replacement of mafic minerals and in a stock-

work of micro-veinlets. Mineralisation mostly occurs in the intrusions but is also observed in hornfelsed siltstones and sandstones of the Feing Group on the southern margin of the Olgal intrusive body. At Olgal, secondary magnetite is commonly associated with the highest copper and gold grades. Structurally, the area is dominated by syn- to post-mineralisation thrusting from the north, with at least one of the deposits (Olgal) truncated at depth by a thrust fault.

EXPLORATION

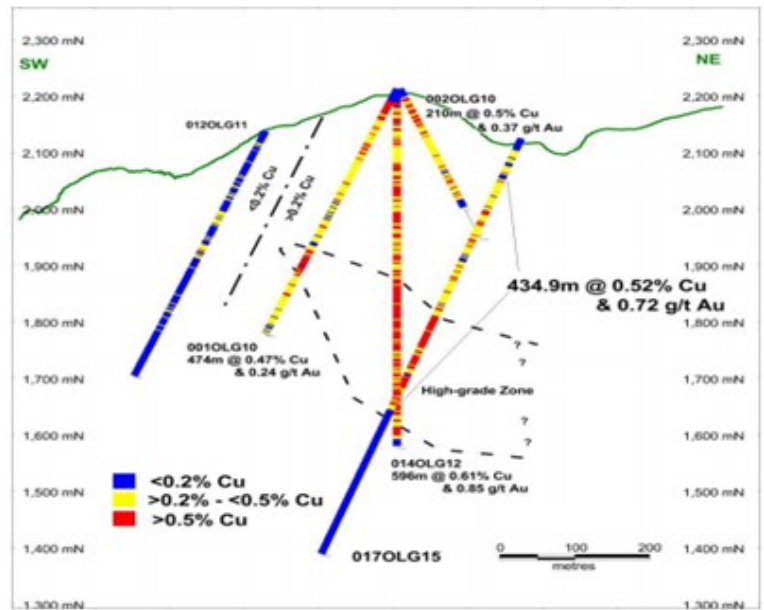
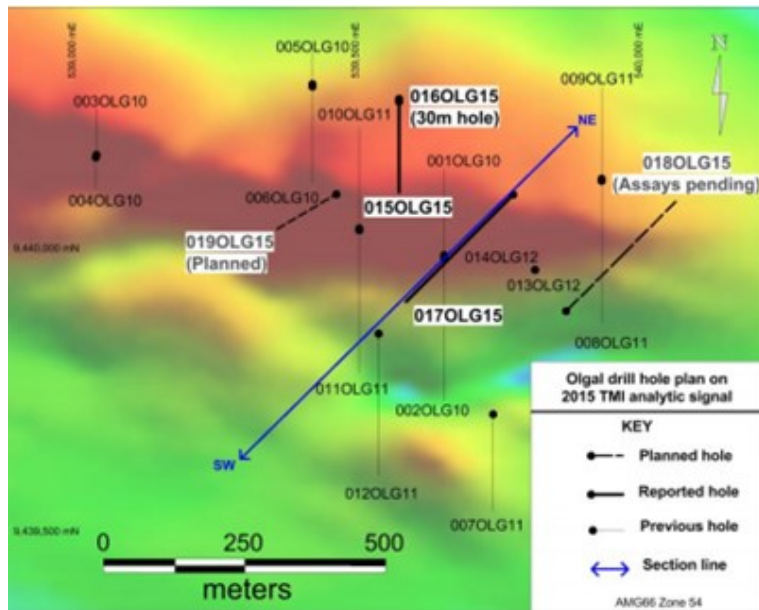
The area has only been drilled twice in the last 50 years. The first drilling was conducted by the giant Kennecott Company in 1971 around the time the Mt Fubilan deposit was discovered, and subsequently named after a local river, the Ok Tedi - Ok being the local word for river.

Production from Ok Tedi commenced in 1984, and little more exploration was carried out at the Star Mountains prospects until Highlands undertook a drilling campaign for three years from 2010. Some 28 diamond drill holes were drilled over six prospects which produced some impressive intersections confirming copper gold porphyry mineralisation.

2015 DRILL CAMPAIGN

During 2015, Anglo American and Highlands conducted a major exploration drilling campaign involving nine drill holes for a total of 5387 metres of drilling. Assay results were released progressively during the year, which confirmed the presence of extensive copper/gold mineralisation. Copper and gold mineralisation was first discovered in the area in the 1960s as part of the regional exploration program by Kennecott that located Ok Tedi. The mineralisation is associated with poly-phase porphyritic diorites, quartz diorites and tonalites that intrude the Upper Eocene to Middle Miocene Darai limestone and underlying Cretaceous to Eocene Feing Group. In addition to porphyry-type mineralisation, variable amounts of calc-silicate and/or magnetite skarn occur near the contact of most of the intrusions.

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**Tenement Listing
October 2016**

GRANTED EXPLORATION LICENCE - OCTOBER 2016									
Tenement Type	LeaseNo	Location	Parties	Jurisdic	Status	ApplDate	GrantDate	ExpiryDate	
EL	EL 58	Frieda River	Frieda River Limited (80%), Highlands Frieda Limited (20%)	Mining Act 1992	Active	10-08-67	20-03-68	14-11-17	
EL	EL 440	Wafi	Newcrest PNG 2 Limited (50%), Wafi Mining Limited (50%)	Mining Act 1992	Active	29-03-78	11-03-80	10-03-18	
EL	EL 470	Kainantu	K92 Mining Limited (100%)	Mining Act 1992	Active	05-08-80	05-07-82	04-02-17	
EL	EL 485	Londolovit	Lihir Gold Limited (100%)	Mining Act 1992	Active	02-02-83	19-06-83	31-03-18	
EL	EL 580	Tolukuma	Tolukuma Gold Mines Limited (100%)	Mining Act 1992	Active	16-08-84	07-03-85	03-04-17	
EL	EL 609	Mapua	Nord Australex Nominees (PNG) Limited (100%)	Mining Act 1992	Active	04-03-85	06-05-85	05-05-17	
EL	EL 677	Waria River	Newcrest PNG 3 Limited (50%), Morobe Exploration Limited (50%)	Mining Act 1992	Active	22-07-86	27-10-86	17-02-17	
EL	EL 683	Ivuni River	Tolukuma Gold Mines Limited (100%)	Mining Act 1992	Active	21-07-86	27-10-86	03-04-17	
EL	EL 693	Kainantu	K92 Mining Limited (100%)	Mining Act 1992	Active	15-09-86	29-12-86	04-02-17	
EL	EL 894	Mt Cameron	Tolukuma Gold Mines Limited (100%)	Mining Act 1992	Active	22-12-88	04-04-89	03-04-17	
EL	EL 1103	Zilani	Newcrest PNG 3 Limited (50%), Morobe Exploration Limited (50%)	Mining Act 1992	Active	30-11-93	13-12-99	12-12-17	
EL	EL 1105	Wafi Mt	Newcrest PNG 2 Limited (50%), Wafi Mining Limited (50%)	Mining Act 1992	Active	07-01-94	26-01-95	25-01-17	
EL	EL 1165	Safia Embessa & Obea	Niugini Nickel Limited (100%)	Mining Act 1992	Active	31-10-95	01-03-96	28-02-18	
EL	EL 1172	Kulumadau	Woodlark Mining Limited (100%)	Mining Act 1992	Active	23-02-96	28-11-97	27-11-17	
EL	EL 1196	Namatana'i	Nautilus Minerals Niugini Limited (100%)	Mining Act 1992	Active	13-11-96	28-11-97	27-11-17	
EL	EL 1212	Frieda	Frieda River Limited (80%), Highlands Frieda Limited (20%)	Mining Act 1992	Active	20-02-97	30-05-97	29-05-17	
EL	EL 1264	Gunim	Tolukuma Gold Mines Limited (100%)	Mining Act 1992	Active	06-08-98	30-04-99	29-04-17	
EL	EL 1279	Kulumadau	Woodlark Mining Limited (100%)	Mining Act 1992	Active	09-03-99	26-08-99	25-08-17	
EL	EL 1335	Bundi	Yandera Mining Company Limited (100%)	Mining Act 1992	Active	08-08-03	20-11-03	19-11-17	
EL	EL 1352	Kunimaipa	Eda Minerals Limited (100%)	Mining Act 1992	Active	12-01-04	19-10-04	18-10-16	
EL	EL 1390	Kokoda	Oro Nickel Limited (100%)	Mining Act 1992	Active	15-12-04	10-06-05	09-06-17	
EL	EL 1392	Tifalmin	Highlands Pacific Resources Limited (100%)	Mining Act 1992	Active	02-02-05	10-06-05	09-06-17	
EL	EL 1396	Abau	Titan Metals Limited (90%), TVI Pacific Inc (10%)	Mining Act 1992	Active	08-04-05	20-12-05	19-12-17	
EL	EL 1438	Bolobip Station	Niuminco (ND) Limited (100%)	Mining Act 1992	Active	12-07-06	18-09-07	17-09-17	
EL	EL 1441	Hotmin & Ama	Niuminco (ND) Limited (100%)	Mining Act 1992	Active	12-07-06	18-09-07	17-09-17	
EL	EL 1462	Kimbe	Sagittarius Mining Limited (100%)	Mining Act 1992	Active	08-09-06	18-09-07	17-09-17	
EL	EL 1611	Mangiki	Regional Resources (PNG) Limited (100%)	Mining Act 1992	Active	04-10-07	28-11-08	27-11-16	
EL	EL 1661	Tolukuma	Tolukuma Gold Mines Limited (100%)	Mining Act 1992	Active	19-05-08	11-05-09	10-05-17	
EL	EL 1677	Kauwol	Ok Tedi Mining Limited (100%)	Mining Act 1992	Active	18-08-08	25-03-09	24-03-17	
EL	EL 1704	Obura	Newcrest PNG Exploration Limited (100%)	Mining Act 1992	Active	23-12-08	25-11-09	24-11-17	
EL	EL 1705	Obura	Newcrest PNG Exploration Limited (100%)	Mining Act 1992	Active	23-12-08	25-11-09	24-11-17	
EL	EL 1744	Iniok	Frieda River Limited (80%), Highlands Frieda Limited (20%)	Mining Act 1992	Active	13-08-09	21-06-10	20-06-18	

EL	EL 1745	Magleri	Frieda River Limited (80%), Highlands Frieda Limited (20%)	Mining Act 1992	Active	13-08-09	21-06-10	20-06-18
EL	EL 1746	Magleri	Frieda River Limited (100%)	Mining Act 1992	Active	13-08-09	21-06-10	20-06-18
EL	EL 1747	Misima Island	Gallipoli Exploration (PNG) Limited (100%)	Mining Act 1992	Active	19-08-09	21-03-11	20-03-17
EL	EL 1761	Esalala	Highlands Pacific Resources Limited (100%)	Mining Act 1992	Active	02-11-09	12-03-12	11-03-18
EL	EL 1781	Munbil	Highlands Pacific Resources Limited (100%)	Mining Act 1992	Active	16-02-10	12-03-12	11-03-18
EL	EL 1782	Powell	Copper Quest PNG Limited (100%)	Mining Act 1992	Active	22-02-10	25-09-13	24-09-17
EL	EL 1804	Ania	Artes Mining Limited (100%)	Mining Act 1992	Active	26-03-10	11-09-15	10-09-17
EL	EL 1854	Lila Village	Yandera Mining Company Limited (100%)	Mining Act 1992	Active	18-06-10	29-07-11	28-07-17
EL	EL 1895	Wabia	Frieda River Limited (80%), Highlands Frieda Limited (20%)	Mining Act 1992	Active	29-09-10	15-05-12	14-05-18
EL	EL 1896	Kubkaatin	Frieda River Limited (80%), Highlands Frieda Limited (20%)	Mining Act 1992	Active	29-09-10	15-05-12	14-05-18
EL	EL 1956	Ok Isai	Frieda River Limited (80%), Highlands Frieda Limited (20%)	Mining Act 1992	Active	11-03-11	15-05-12	14-05-18
EL	EL 1957	Paupae	Frieda River Limited (80%), Highlands Frieda Limited (20%)	Mining Act 1992	Active	11-03-11	15-05-12	14-05-18
EL	EL 1966	Wabag 1	Viva No. 20 Limited (100%)	Mining Act 1992	Active	04-04-11	27-06-13	26-06-17
EL	EL 1967	Wabag 2	Viva No. 20 Limited (100%)	Mining Act 1992	Active	04-04-11	28-11-13	27-11-17
EL	EL 1968	Wabag 3	Viva No. 20 Limited (100%)	Mining Act 1992	Active	04-04-11	28-11-13	27-11-17
EL	EL 1982	Buso	Katana Iron Limited (100%)	Mining Act 1992	Active	09-05-11	31-10-11	30-10-17
EL	EL 2007	Wabag	Pristine No. 18 Limited (100%)	Mining Act 1992	Active	09-06-11	19-01-15	18-01-17
EL	EL 2010	Wabag	Pristine No. 18 Limited (100%)	Mining Act 1992	Active	09-06-11	16-12-15	15-12-17
EL	EL 2180	Wapolu	Crater Gold Mining Limited (100%)	Mining Act 1992	Active	04-05-12	27-06-13	26-06-17
EL	EL 2203	Crater Mountain	Anomaly Limited (100%)	Mining Act 1992	Active	25-05-12	11-09-15	10-09-17
EL	EL 2249	Gwasa	Anomaly Limited (90%), Terenure Limited (8%), Celtic Minerals Limited (2%)	Mining Act 1992	Active	20-08-12	11-11-13	10-11-17
EL	EL 2256	Tabubil	Ok Tedi Mining Limited (100%)	Mining Act 1992	Active	12-10-12	20-05-13	19-05-17
EL	EL 2276	Tabubil	Ok Tedi Mining Limited (100%)	Mining Act 1992	Active	08-01-13	10-09-13	09-09-17
EL	EL 2282	Halopa	Pento Resources PNG Limited (100%)	Mining Act 1992	Active	05-04-13	19-12-14	18-12-16
EL	EL 2289	Tabubil	Ok Tedi Mining Limited (100%)	Mining Act 1992	Active	29-04-13	19-11-13	18-11-17
EL	EL 2302	Bulolo	Canterbury Resources (PNG) Limited (100%)	Mining Act 1992	Active	19-08-13	25-02-14	24-02-18
EL	EL 2306	Kompiani Station	Khor ENG Hock & Sons (PNG) Limited (100%)	Mining Act 1992	Active	14-10-13	14-12-15	13-12-17
EL	EL 2314	Bulolo	Canterbury Resources (PNG) Limited (100%)	Mining Act 1992	Active	26-02-14	02-11-15	01-11-17
EL	EL 2315	Boana	Sarawaget Minerals Limited (100%)	Mining Act 1992	Active	13-03-14	12-06-15	11-06-17
EL	EL 2318	Haia Village	Anomaly Limited (100%)	Mining Act 1992	Active	07-04-14	11-09-15	10-09-17
EL	EL 2321	Kau Creek	Pacific Niugini Minerals (PNG) Limited (100%)	Mining Act 1992	Active	05-05-14	16-02-15	15-02-17
EL	EL 2322	Ulpuna	Sagittarius Mining Limited (100%)	Mining Act 1992	Active	19-05-14	11-09-15	10-09-17
EL	EL 2324	Tambu Bay	Komomoa Energy Resources PNG Limited (100%)	Mining Act 1992	Active	29-05-14	22-05-15	21-05-17
EL	EL 2325	Rambusa-Sudest Island	Aus PNG Mining Limited (100%)	Mining Act 1992	Active	04-06-14	19-12-14	18-12-16

EL	EL 2329	Bulolo	Niugini Gold Mining Limited (100%)	Mining Act 1992	Active	24-06-14	27-04-15	26-04-17
EL	EL 2331	Port Moresby, Metago	New Britain Lime & Cement Limited (100%)	Mining Act 1992	Active	16-07-14	02-11-15	01-11-17
EL	EL 2332	Port Moresby, Boera	New Britain Lime & Cement Limited (100%)	Mining Act 1992	Active	16-07-14	16-12-15	15-12-17
EL	EL 2334	Ubaigubi	Anomaly Limited (100%)	Mining Act 1992	Active	21-07-14	22-05-15	21-05-17
EL	EL 2335	Maimafu	Anomaly Limited (100%)	Mining Act 1992	Active	21-07-14	22-05-15	21-05-17
EL	EL 2337	Embessa and Wanigela	Niugini Nickel Limited (100%)	Mining Act 1992	Active	24-07-14	02-11-15	01-11-17
EL	EL 2341	Bitoi	Terra Resources Limited (100%)	Mining Act 1992	Active	22-08-14	24-12-14	23-12-16
EL	EL 2351	Kandep	ESDA PETROMINING LIMITED (100%)	Mining Act 1992	Active	07-11-14	17-12-15	16-12-17
EL	EL 2353	Ainbul	Sagittarius Mining Limited (100%)	Mining Act 1992	Active	19-01-15	11-09-15	10-09-17
EL	EL 2355	Wau	Hamdei Mines Limited (100%)	Mining Act 1992	Active	02-02-15	28-05-16	27-05-18
EL	EL 2356	Muller Range	Frontier Copper (PNG) Limited (100%)	Mining Act 1992	Active	03-02-15	31-12-15	30-12-17
EL	EL 2357	Dumpu	MB Transport Limited (100%)	Mining Act 1992	Active	09-02-15	11-11-15	10-11-17
EL	EL 2359	Vanimo and Wutung Govt Stns	Oenake Nickel Limited (100%)	Mining Act 1992	Active	13-02-15	17-12-15	16-12-17
EL	EL 2360	Ioma Patrol	Luxembourg Investments Limited (100%)	Mining Act 1992	Active	13-02-15	18-12-15	17-12-17
EL	EL 2361	Bundi Patrol	Luxembourg Investments Limited (100%)	Mining Act 1992	Active	13-02-15	18-12-15	17-12-17
EL	EL 2362	Bolobip & Fagobip Villages	Niuminco (ND) Limited (100%)	Mining Act 1992	Active	17-02-15	02-11-15	01-11-17
EL	EL 2365	Ama & Idam	Niuminco (ND) Limited (100%)	Mining Act 1992	Active	17-02-15	16-12-15	15-12-17
EL	EL 2366	Subutuya	Solway Group Mining (PNG) Limited (100%)	Mining Act 1992	Active	18-02-15	17-12-15	16-12-17
EL	EL 2367	Sebutuya	Solway Group Mining (PNG) Limited (100%)	Mining Act 1992	Active	18-02-15	31-12-15	30-12-17
EL	EL 2368	Asaro Station	Giopa Holdings Limited (100%)	Mining Act 1992	Active	19-02-15	03-07-15	02-07-17
EL	EL 2371	Wau	New Leaf Development Limited (100%)	Mining Act 1992	Active	03-03-15	17-12-15	16-12-17
EL	EL 2372	Green River Station	Telemu No.92 Limited (100%)	Mining Act 1992	Active	05-03-15	11-07-16	10-07-18
EL	EL 2375	Ala River	Frontrunner Exploration PNG Ltd (100%)	Mining Act 1992	Active	16-03-15	14-12-15	13-12-17
EL	EL 2376	Basamuk	MCC Ramu NiCo Limited (85%), Ramu Nickel Limited (8.56%), Mineral Resources Ramu Limited (3.94%), Mineral Resources Madang Limited (2.5%)	Mining Act 1992	Active	31-03-15	26-05-16	25-05-18
EL	EL 2378	Lorengau	Finny Limited (100%)	Mining Act 1992	Active	09-04-15	18-12-15	17-12-17
EL	EL 2379	Simuku and Ismin	Copper Quest PNG Limited (100%)	Mining Act 1992	Active	09-04-15	11-09-15	10-09-17
EL	EL 2380	Amazon Bay	Boomine Investment and Development Company Limited (100%)	Mining Act 1992	Active	09-05-15	17-12-15	16-12-17
EL	EL 2382	Safia	Benshill Corporation Limited (100%)	Mining Act 1992	Active	21-05-15	11-07-16	10-07-18
EL	EL 2383	Safia Station	Benshill Corporation Limited (100%)	Mining Act 1992	Active	21-05-15	11-07-16	10-07-18
EL	EL 2384	Gerepo	Solway Group Mining (PNG) Limited (100%)	Mining Act 1992	Active	28-05-15	11-07-16	10-07-18
EL	EL 2385	Ononge/Sigufe	Tolukuma Gold Mines Limited (100%)	Mining Act 1992	Active	02-06-15	26-05-16	25-05-18
EL	EL 2386	Kuabini	Harmony Gold (PNG) Exploration Limited (100%)	Mining Act 1992	Active	03-06-15	31-12-15	30-12-17
EL	EL 2390	Lorengau	Finny Limited (100%)	Mining Act 1992	Active	26-06-15	17-12-15	16-12-17
EL	EL 2391	Doma Village	Papuan Minerals Limited (100%)	Mining Act 1992	Active	01-07-15	17-12-15	16-12-17
EL	EL 2392	Port Moresby	Dansar Mining Limited (100%)	Mining Act 1992	Active	20-07-15	17-12-15	16-12-17

EL	EL 2393	Ioma	Cheroh Mining PNG Limited (100%)	Mining Act 1992	Active	28-07-15	17-12-15	16-12-17
EL	EL 2394	Mussau Island	Cheroh Mining PNG Limited (100%)	Mining Act 1992	Active	28-07-15	17-12-15	16-12-17
EL	EL 2395	Lou Island	Cheroh Mining PNG Limited (100%)	Mining Act 1992	Active	28-07-15	17-12-15	16-12-17
EL	EL 2396	Manus	Cheroh Mining PNG Limited (100%)	Mining Act 1992	Active	28-07-15	09-03-16	08-03-18
EL	EL 2397	Kubuna	Cheroh Mining PNG Limited (100%)	Mining Act 1992	Active	28-07-15	17-12-15	16-12-17
EL	EL 2398	Siassi Island	Cheroh Mining PNG Limited (100%)	Mining Act 1992	Active	28-07-15	17-12-15	16-12-17
EL	EL 2399	Panaeati Island	Cheroh Mining PNG Limited (100%)	Mining Act 1992	Active	28-07-15	17-12-15	16-12-17
EL	EL 2400	Namatanai	Cheroh Mining PNG Limited (100%)	Mining Act 1992	Active	28-07-15	17-12-15	16-12-17
EL	EL 2401	Amanab	EL Dorado Mining and Energy Limited (100%)	Mining Act 1992	Active	04-08-15	28-05-16	27-05-18
EL	EL 2402	Gairaina Station	Morobe Minerals & Metals Company Limited (100%)	Mining Act 1992	Active	02-09-15	26-05-16	25-05-18
EL	EL 2403	Mt Lawson	Morobe Minerals & Metals Company Limited (100%)	Mining Act 1992	Active	02-09-15	26-05-16	25-05-18
EL	EL 2405	Kupiano	Kavra Maah Limited (100%)	Mining Act 1992	Active	21-09-15	09-03-16	08-03-18
EL	EL 2408	Sikut Government Station	Ballygowan Limited (100%)	Mining Act 1992	Active	01-10-15	28-05-16	27-05-18
EL	EL 2411	Namatanai	Cheroh Mining PNG Limited (100%)	Mining Act 1992	Active	08-10-15	26-05-16	25-05-18
EL	EL 2412	Kavieng	Cheroh Mining PNG Limited (100%)	Mining Act 1992	Active	08-10-15	26-05-16	25-05-18
EL	EL 2413	Leron Plains	Rio Tinto Exploration (PNG) Limited (100%)	Mining Act 1992	Active	09-10-15	09-03-16	08-03-18
EL	EL 2415	Maprik	West Coast Mining Limited (100%)	Mining Act 1992	Active	14-10-15	06-09-16	05-09-18
EL	EL 2416	Upper Yandera	Cheroh Mining PNG Limited (100%)	Mining Act 1992	Active	14-10-15	26-05-16	25-05-18
EL	EL 2417	Simbai	Golden Dook International Limited (100%)	Mining Act 1992	Active	05-11-15	11-07-16	10-07-18
EL	EL 2418	Bulolo	Canterbury Resources (PNG) Limited (100%)	Mining Act 1992	Active	09-11-15	11-07-16	10-07-18
EL	EL 2419	Tamo	EL Dorado Mining and Energy Limited (100%)	Mining Act 1992	Active	30-11-15	28-05-16	27-05-18
EL	EL 2420	Kwikila	Property New Group Limited (100%)	Mining Act 1992	Active	01-12-15	26-05-16	25-05-18
EL	EL 2421	Amboin	Afrocan Resources Gold (PNG) Limited (100%)	Mining Act 1992	Active	03-12-15	28-05-16	27-05-18
EL	EL 2422	Amboin East Sepik	Afrocan Resources Gold (PNG) Limited (100%)	Mining Act 1992	Active	07-12-15	26-05-16	25-05-18
EL	EL 2423	Amboin East Sepik	Afrocan Resources Gold (PNG) Limited (100%)	Mining Act 1992	Active	10-12-15	28-05-16	27-05-18
EL	EL 2424	Pyaona Airstrip	Afrocan Resources Gold (PNG) Limited (100%)	Mining Act 1992	Active	10-12-15	26-05-16	25-05-18
EL	EL 2426	Keman	GMN 6768 (PNG) Limited (100%)	Mining Act 1992	Active	10-12-15	28-05-16	27-05-18
EL	EL 2428	Kavieng	Cheroh Mining PNG Limited (100%)	Mining Act 1992	Active	15-12-15	26-05-16	25-05-18
EL	EL 2430	Meriamanda	GMN 6768 (PNG) Limited (100%)	Mining Act 1992	Active	04-01-16	28-05-16	27-05-18
EL	EL 2432	Sinua	Footprint Resources Pty Ltd (100%)	Mining Act 1992	Active	18-01-16	11-07-16	10-07-18
EL	EL 2433	Namatanai	Cheroh Mining PNG Limited (100%)	Mining Act 1992	Active	26-01-16	06-09-16	05-09-18
EL	EL 2440	Blup Blup Island	Nautilus Minerals Niugini 4 Limited (100%)	Mining Act 1992	Active	18-02-16	11-07-16	10-07-18
EL	EL 2442	Lorengau	Nautilus Minerals Niugini 2 Limited (100%)	Mining Act 1992	Active	18-02-16	11-07-16	10-07-18
EL	EL 2443	Lorengau	Nautilus Minerals Niugini 2 Limited (100%)	Mining Act 1992	Active	18-02-16	11-07-16	10-07-18
EL	EL 2444	Tamo	EL Dorado Mining and Energy Limited (100%)	Mining Act 1992	Active	18-03-16	06-09-16	05-09-18
EL	EL 2451	Alotau	Apollo Mineral Resources Limited (100%)	Mining Act 1993	Active	19-04-16	06-09-16	05-09-18

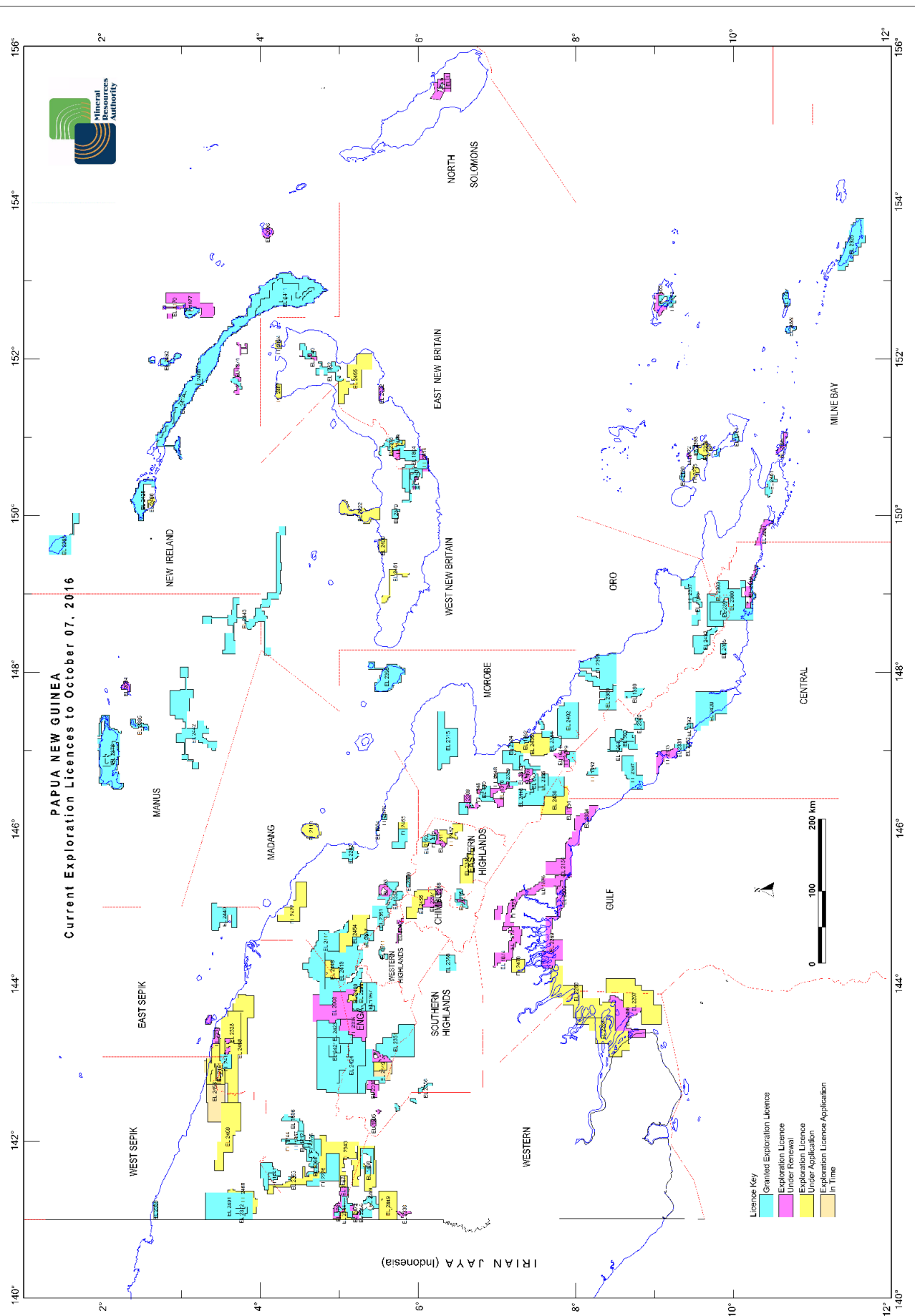
RENEWAL EXPLORATION LICENCE - OCTOBER 2016

Tenement Type	LeaseNo	Location	Parties	Jurisdic	Status	ApplDate	GrantDate	ExpiryDate
EL	EL 1	Kieta	CRA Minerals (PNG) Limited (100%)	Mining Act 1992	Pending Renewal	21-12-64	02-04-65	01-03-15 20150301
EL	EL 2	Kieta	CRA Minerals (PNG) Limited (100%)	Mining Act 1992	Pending Renewal	21-12-64	02-04-65	01-04-15 20150401
EL	EL 3	Kieta	CRA Minerals (PNG) Limited (100%)	Mining Act 1992	Pending Renewal	21-12-64	02-04-65	01-04-15 20150401
EL	EL 4	Kieta	CRA Minerals (PNG) Limited (100%)	Mining Act 1992	Pending Renewal	21-12-64	02-04-65	01-04-15 20150401
EL	EL 5	Kieta	CRA Minerals (PNG) Limited (100%)	Mining Act 1992	Pending Renewal	21-12-64	02-04-65	01-04-15 20150401
EL	EL 6	Kieta	CRA Minerals (PNG) Limited (100%)	Mining Act 1992	Pending Renewal	21-12-64	02-04-65	01-04-15 20150401
EL	EL 7	Kieta	CRA Minerals (PNG) Limited (100%)	Mining Act 1992	Pending Renewal	29-11-65	04-02-67	03-02-15 20150203
EL	EL 193	Ramu	MCC Ramu NiCo Limited (85%), Ramu Nickel Limited (9%), Mineral Resources Ramu Limited (4%), Mineral Resources Madang Limited (2%)	Mining Act 1992	Pending Renewal	25-03-70	18-12-70	26-02-16 20160226
EL	EL 454	Porgera	Barrick (Niugini) Limited (100%)	Mining Act 1992	Pending Renewal	08-02-80	31-03-80	24-08-16 20160310
EL	EL 497	Wau	Morobe Exploration Limited (50%), Newcrest PNG 3 Limited (50%)	Mining Act 1992	Pending Renewal	16-02-83	01-03-84	25-08-16 20160824
EL	EL 858	McNicoll Range	Barrick (Niugini) Limited (100%)	Mining Act 1992	Pending Renewal	17-02-88	25-05-88	24-08-16 20160331
EL	EL 1043	Hoskins	Copper Quest PNG Limited (100%)	Mining Act 1992	Pending Renewal	03-08-92	08-12-92	07-12-16 20160824
EL	EL 1115	Mt Crater	Anomaly Limited (100%)	Mining Act 1992	Pending Renewal	01-02-94	26-09-94	25-09-16 20160105
EL	EL 1140	Riet Village	Niugini Gold Limited (90%), Goldmines of Niugini Holdings Limited (10%)	Mining Act 1992	Pending Renewal	12-12-94	11-05-95	10-05-13 20160425
EL	EL 1170	Mahur Island	Lihir Gold Limited (100%)	Mining Act 1992	Pending Renewal	19-02-96	21-06-96	20-06-98 20130510
EL	EL 1312	Nong River	Highlands Pacific Resources Limited (100%)	Mining Act 1992	Pending Renewal	24-01-01	20-09-02	19-09-16 20160228
EL	EL 1316	Mumeng	Newcrest PNG 3 Limited (50%), Morobe Exploration Limited (50%)	Mining Act 1992	Pending Renewal	29-06-01	20-09-02	19-09-16 19980620
EL	EL 1341	Yonki	K92 Mining Limited (100%)	Mining Act 1992	Pending Renewal	09-12-03	21-06-04	20-06-16 20131127
EL	EL 1369	Tsile Tsile	Newcrest PNG Exploration Limited (100%)	Mining Act 1992	Pending Renewal	25-05-04	23-11-04	22-11-16 20130430
EL	EL 1374	Namatanai	Nautilus Minerals Niugini Limited (100%)	Mining Act 1992	Pending Renewal	16-06-04	10-09-04	09-09-16 20151119
EL	EL 1465	Kulumadai	Woodlark Mining Limited (100%)	Mining Act 1992	Pending Renewal	28-09-06	22-12-08	21-12-16 20131219
EL	EL 1595	Bulago River	Frontier Gold (PNG) Limited (100%)	Mining Act 1992	Pending Renewal	09-08-07	07-07-08	06-07-16 20151219
EL	EL 1614	Garaina	Pacific Niugini Minerals (PNG) Limited (100%)	Mining Act 1992	Pending Renewal	05-10-07	07-07-08	06-07-16 20150917
EL	EL 1629	Garaina	Morobe Consolidated Goldfields Limited (50%), Newcrest PNG 1 Limited (50%)	Mining Act 1992	Pending Renewal	07-12-07	03-11-08	02-11-16 20160706
EL	EL 1734	Moveave	Hells Gate Exploration Limited (100%)	Mining Act 1992	Pending Renewal	19-06-09	15-05-12	14-05-14 20160706
EL	EL 1748	Mumeng	Newcrest PNG Exploration Limited (100%)	Mining Act 1992	Pending Renewal	20-08-09	27-09-12	26-09-16 20160218
EL	EL 1857	Yangoru	Alexander Mining Limited (100%)	Mining Act 1992	Pending Renewal	28-07-10	23-01-12	22-01-16 20151124
EL	EL 1873	Kabarau	Waterford Limited (100%)	Mining Act 1992	Pending Renewal	16-08-10	15-05-12	14-05-16 20151124

EL	EL 1874	Kare	Waterford Limited (100%)	Mining Act 1992	Pending Renewal	16-08-10	15-05-12	14-05-16	20140218
EL	EL 1875	Wabo	Waterford Limited (100%)	Mining Act 1992	Pending Renewal	16-08-10	15-05-12	14-05-16	20140514
EL	EL 1876	Kare	Waterford Limited (100%)	Mining Act 1992	Pending Renewal	16-08-10	15-05-12	14-05-16	20160620
EL	EL 1877	Lihir South	Bismarck Mining Corporation (PNG) Limited (100%)	Mining Act 1992	Pending Renewal	17-08-10	08-10-12	07-10-16	20160620
EL	EL 1972	Gameta	Anomaly Limited (100%)	Mining Act 1992	Pending Renewal	18-04-11	20-12-12	19-12-16	20160620
EL	EL 2001	Benstead	Highlands Pacific Resources Limited (100%)	Mining Act 1992	Pending Renewal	06-06-11	20-12-12	19-12-16	20160311
EL	EL 2006	Wabag	Pristine No. 18 Limited (100%)	Mining Act 1992	Pending Renewal	09-06-11	25-09-13	24-09-15	20160311
EL	EL 2008	Wabag	Pristine No. 18 Limited (100%)	Mining Act 1992	Pending Renewal	09-06-11	27-10-14	26-10-16	20150728
EL	EL 2013	Garawaria	Pacific Niugini Minerals (PNG) Limited (100%)	Mining Act 1992	Pending Renewal	14-06-11	12-03-12	11-03-16	20160122
EL	EL 2014	Makmak	Copper Quest PNG Limited (100%)	Mining Act 1992	Pending Renewal	17-06-11	15-05-12	14-05-16	20160514
EL	EL 2040	Mt Hagen	Mayur Exploration PNG Limited (100%)	Mining Act 1992	Pending Renewal	30-06-11	27-09-12	26-09-16	20160514
EL	EL 2051	Mt Nambom	Aries Mining Limited (100%)	Mining Act 1992	Pending Renewal	22-07-11	27-09-12	26-09-16	20160514
EL	EL 2094	Cenkau	Mayur Exploration PNG Limited (100%)	Mining Act 1992	Pending Renewal	13-09-11	27-09-12	26-09-16	20140514
EL	EL 2095	Sideia	Mayur Exploration PNG Limited (100%)	Mining Act 1992	Pending Renewal	13-09-11	27-09-12	26-09-16	20160514
EL	EL 2096	Warambif	Mayur Exploration PNG Limited (100%)	Mining Act 1992	Pending Renewal	13-09-11	05-08-14	04-08-16	20160514
EL	EL 2122	Pomio	Unichamp Jaquinet Limited (100%)	Mining Act 1992	Pending Renewal	07-11-11	09-05-12	08-05-16	20151110
EL	EL 2149	Amazon Bay	Titan Metals Limited (100%)	Mining Act 1992	Pending Renewal	20-12-11	25-09-13	24-09-15	20160514
EL	EL 2150	Gulf South	Mayur Exploration PNG Limited (100%)	Mining Act 1992	Pending Renewal	20-12-11	18-12-12	17-12-16	20160514
EL	EL 2156	Tabubil	Ok Tedi Mining Limited (100%)	Mining Act 1992	Pending Renewal	16-02-12	20-12-12	19-12-16	20151127
EL	EL 2212	Dagua	Alexander Mining Limited (100%)	Mining Act 1992	Pending Renewal	31-05-12	02-02-14	01-02-16	20151127
EL	EL 2266	Kiwai Island	Mayur Iron PNG Limited (100%)	Mining Act 1992	Pending Renewal	23-11-12	14-05-14	13-05-16	20151030
EL	EL 2269	Baimuru	Mayur Iron PNG Limited (100%)	Mining Act 1992	Pending Renewal	23-11-12	14-05-14	13-05-16	20150924
EL	EL 2272	Wowonga	Copper Quest PNG Limited (100%)	Mining Act 1992	Pending Renewal	03-12-12	25-02-14	24-02-16	20161026
EL	EL 2281	Maruta	Titan Mines Limited (100%)	Mining Act 1992	Pending Renewal	13-03-13	03-02-14	02-02-16	20160311
EL	EL 2287	Chuave	Simbu Limestone Development Corporation Limited (100%)	Mining Act 1992	Pending Renewal	26-04-13	25-02-14	24-02-16	20160514
EL	EL 2288	Chuave	Simbu Limestone Development Corporation Limited (100%)	Mining Act 1992	Pending Renewal	26-04-13	25-02-14	24-02-16	20141217
EL	EL 2303	Pinu Village	Mayur Iron PNG Limited (100%)	Mining Act 1992	Pending Renewal	22-08-13	14-05-14	13-05-16	20140926
EL	EL 2304	Terapo	Mayur Iron PNG Limited (100%)	Mining Act 1992	Pending Renewal	22-08-13	14-05-14	13-05-16	20160804
EL	EL 2305	Ihu	Mayur Iron PNG Limited (100%)	Mining Act 1992	Pending Renewal	22-08-13	14-05-14	13-05-16	20160508
EL	EL 2309	Tsile Tsile	Rio Tinto Exploration (PNG) Limited (100%)	Mining Act 1992	Pending Renewal	23-10-13	10-09-14	09-09-16	20151110
EL	EL 2310	Hauwindi	Harmony Gold (PNG) Exploration Limited (100%)	Mining Act 1993	Pending Renewal	25-10-13	24-05-14	23-05-16	
EL	EL 2313	Wau	Newcrest PNG 3 Limited (50%), Morobe Exploration Limited (50%)	Mining Act 1994	Pending Renewal	12-12-13	24-12-14	23-12-16	
EL	EL 2330	Ningerum	Apollo Mineral Resources Limited (100%)	Mining Act 1995	Pending Renewal	30-06-14	27-10-14	26-10-16	

EXPLORATION LICENCE APPLICATION - OCTOBER 2016						
Tenement Type	LeaseNo	Location	Parties	Jurisdic	Status	AppDate
EL	EL 2113	Karkar Island	RG Pacific Limited (100%)	Mining Act 1992	Application	24-10-11
EL	EL 2124	Rabaul	RG Pacific Limited (100%)	Mining Act 1992	Application	08-11-11
EL	EL 2153	Keba Creek	Heritage Manda Gold Limited (100%)	Mining Act 1992	Application	05-01-12
EL	EL 2222	Talasea	Kuth Energy (PNG) Limited (100%)	Mining Act 1992	Application	15-06-12
EL	EL 2225	Iamalele	Kuth Energy (PNG) Limited (100%)	Mining Act 1992	Application	21-06-12
EL	EL 2226	Salamo	Kuth Energy (PNG) Limited (100%)	Mining Act 1992	Application	21-06-12
EL	EL 2267	Segero	Mayur Iron PNG Limited (100%)	Mining Act 1992	Application	23-11-12
EL	EL 2268	Dibiri	Mayur Iron PNG Limited (100%)	Mining Act 1992	Application	23-11-12
EL	EL 2297	Daru	Mayur Iron PNG Limited (100%)	Mining Act 1992	Application	13-05-13
EL	EL 2320	Mt Daum	Kawari Pacific Limited (100%)	Mining Act 1992	Application	28-04-14
EL	EL 2328	Yangoru and Kubalia	West Coast Mining Limited (100%)	Mining Act 1992	Application	11-06-14
EL	EL 2343	Telefomin	Min Metals Limited (100%)	Mining Act 1992	Application	15-09-14
EL	EL 2344	Busulmin	Min Metals Limited (100%)	Mining Act 1992	Application	15-09-14
EL	EL 2346	Okapa	Min Metals Limited (100%)	Mining Act 1992	Application	15-09-14
EL	EL 2349	Hukim/Ningertum	Aus PNG Mining Limited (100%)	Mining Act 1992	Application	15-10-14
EL	EL 2363	Hotmin & Idam	Niuminco (ND) Limited (100%)	Mining Act 1992	Application	17-02-15
EL	EL 2364	Hotmin, Wameimin & Siklaiaia	Niuminco (ND) Limited (100%)	Mining Act 1992	Application	17-02-15
EL	EL 2406	Kimbe	GMG Global Mining Group Limited (100%)	Mining Act 1992	Application	30-09-15
EL	EL 2407	Takis Village	Ballygowan Limited (100%)	Mining Act 1992	Application	01-10-15
EL	EL 2409	Roku/Ulpuna	Sagittarius Mining Limited (100%)	Mining Act 1992	Application	02-10-15
EL	EL 2427	Madang	Kair Engineering Limited (100%)	Mining Act 1992	Application	14-12-15
EL	EL 2429	Mt Kare	GMG Global Mining Group Limited (100%)	Mining Act 1992	Application	18-12-15
EL	EL 2431	Tamo	EL Dorado Mining and Energy Limited (100%)	Mining Act 1992	Application	05-01-16
EL	EL 2435	Lake Trist	Morobe Minerals & Metals Company Limited (100%)	Mining Act 1992	Application	17-02-16
EL	EL 2436	Hides Creek	Morobe Minerals & Metals Company Limited (100%)	Mining Act 1992	Application	17-02-16
EL	EL 2445	Mt Kare	New Britain Lime & Cement Limited (100%)	Mining Act 1993	Application - In Time	25-01-16
EL	EL 2446	Mt Kare	ACM Contract Mining (PNG) Limited (100%)	Mining Act 1994	Application - In Time	23-02-16
EL	EL 2447	Mt Kare	Summit Development Limited (100%)	Mining Act 1995	Application - In Time	01-03-16
EL	EL 2448	Bulolo	Niwasa Limited (100%)	Mining Act 1996	Application - In Time	29-03-16
EL	EL 2449	Tamo	Dansar Mining Limited (100%)	Mining Act 1997	Application - In Time	01-04-16
EL	EL 2450	Mt Kare	PNG Resources Corporation Limited (100%)	Mining Act 1998	Application - In Time	14-04-16
EL	EL 2453	Prince Alexander Range	Algo Metals Limited (100%)	Mining Act 1999	Application - In Time	22-04-16

EL	EL 2454	Aiome Government Station	Golden Dook International Limited (100%)	Mining Act 1992	Application	29-04-16
EL	EL 2455	Wide Bay	Raffcu Resources Limited (100%)	Mining Act 1992	Application	02-05-16
EL	EL 2456	Kundiawa	Gold Rising Resources (PNG) Limited (100%)	Mining Act 1992	Application	06-05-16
EL	EL 2457	Kainantu Government Station	Gold Rising Resources (PNG) Limited (100%)	Mining Act 1992	Application	06-05-16
EL	EL 2458	Maprik	Gold Rising Resources (PNG) Limited (100%)	Mining Act 1992	Application	06-05-16
EL	EL 2459	Lumi, Ori and Sengi	Gold Rising Resources (PNG) Limited (100%)	Mining Act 1992	Application	06-05-16
EL	EL 2460	Kompiani	Property New Group Limited (100%)	Mining Act 1992	Application	14-06-16
EL	EL 2461	Mt Andewa	Baldoye Limited (100%)	Mining Act 1993	Application	17-06-16
EL	EL 2462	Mapua	Nord Australex Nominees (PNG) Limited (100%)	Mining Act 1994	Application	22-06-16
EL	EL 2463	Mt Daum	Algo Metals Limited (100%)	Mining Act 1995	Application	28-06-16
EL	EL 2464	Mt Daum	Kawari Pacific Limited (100%)	Mining Act 1996	Application - In Time	28-06-16
EL	EL 2465	Dumpu	MB Explorations Limited (100%)	Mining Act 1996	Application	28-06-16
EL	EL 2466	Metewoi	Rio Tinto Exploration (PNG) Limited (100%)	Mining Act 1997	Application	29-06-16
EL	EL 2467	Mount Abemh	Highlands Pacific Resources Limited (100%)	Mining Act 1998	Application	27-07-16
EL	EL 2468	Green River	EL Dorado Mining and Energy Limited (100%)	Mining Act 2000	Application	27-07-16
EL	EL 2469	Mt Daum	Algo Metals Limited (100%)	Mining Act 1992	Application	04-08-16
EL	EL 2470	Kopi	Pacific Sterling Limited (100%)	Mining Act 1992	Application	11-08-16
EL	EL 2471	Mt Kare	South PGR Ltd (100%)	Mining Act 1993	Application - In Time	25-08-16
EL	EL 2472	Tabubil	Ok Tedi Mining Limited (100%)	Mining Act 1992	Application	14-09-16
EL	EL 2473	Mt Kare	Golden Heart Mining Corp Limited (100%)	Mining Act 1993	Application - In Time	29-09-16



PNG MINERAL INFORMATION - MAPS & PUBLICATIONS

GEOLOGY

· PNG 1: 1million geological map comprising four (4) sheets (NW, NE, SE, SW). It provides the			K80.00
· PNG 1: 2,500 000 geological map of PNG			K60.00
PNG 1:250 000 Geological Series Maps with Explanatory Notes, 1st Edition			
LOCATION #	SHEET #	SHEET NAME	K60.00
01, 02	SA 54-15, SA 54-11	Aitape-Vanimbo	
03	SB 54-3	Mianmin	
04	SB 54-7	Blucher Range (Ok Tedi)	
10	SA 54.16	Wewak	
11	SB 54-4	Ambunti	
13	SA 54-12	Kutubu	
16, 23	SC 54-8, SC 55-5	Daru-Maer	
18	SA 55-13	Sepik	
19	SB 55-1	Bogia	
20	SB 55-5	Ramu	
21	SB 55-9	Karimui	
22	SB 55-13	Kikori (no explanatory notes)	
24, 25	SA 55-10, SA 55-11	Admiralty Islands	
26	SB 55-2	Karkar	
27	SB 55-6	Madang	
28	SB 55-10	Markham	
29	SB 55-14	Wau	
30	SC 55-2	Yule	
33	SB 55-11	Huon-Sag Sag	
34	SB 55-15	Salamaua (preliminary only)	
31, 36, 37	SC 55-6, 7, 11	Port Moresby-Kalo-Aroa	
38, 39	SC 55-8,4	Tufi-Cape Nelson	
40	SC 55-12	Abau	
42	SC 56-5	Fergusson	
43	SC 56-9	Samarai	
44	SC 55-3	Buna (Preliminary)	
44, 73	SC 56-6,2	Murua-Madau (preliminary only)	
49, 50	SB 55-8,12	Cape Raoult (Andewa)-Arawa	
51, 52	SB 56-5,9	Talasea-Gasmata	
53	SB 56-2	Gazelle	
54	SB 56-6	Pomio	
56	SA 56-9	Kavieng	
61, 62	SB 56-8, 12	Bougainville Is, N & S (Buka-Kieta)	

PNG 1:100 000 Geological Series Maps			
SHEET #	SHEET NAME	GSPNG REPORT #	PRICE
7178	Ok Tedi	GSPNG Rpt 79/3 (3 Volumes)	K60.00
7787	Jimi	GSPNG Rpt 76/4	K30.00
7788	Rain		
7887	Aiome		
7886	Minj	GSPNG Rpt 85/7	K30.00
7984	Crater	GSPNG Rpt 76/13	K30.00
8293-8393	Manus Island	-	K30.00
7288	Stolle	Memoir 12	K70.00
7388	Walawsi		
7188	Yapsie		
7189	Idam		
7289	May		
8381	Albert Edward	GSPNG Rpt 91/7 (Waria)	K30.00
8382	Garaina		
8481	Ioma		
8482	Morobe		
9887	Buka	Memoir 16	K70.00
9886-9986	Kunua-Wakunai		
9885-9985-105	Laruma-BaganaKieta		
9984-1084	Motupena-Buin		
9092	Kavieng		
9191	Maragu		
9192	Fangalawa		
9291	Konos		
9390	Namatanai		
9391	Karu	GSPNG Rpt 86/12	K110.00
9489	Konogaiang		
9490	Dolomakas		
9488	St George		
9588	Siar		
9589	Mimias		
PNG 1:50 000 Geological Series Maps			
1:50 000	Port Moresby with GSPNG report No. 81/16		K30.00
1:50 000	Kainantu with GSPNG report No. 82/23		K40.00
1:50 000	Geology of Iawarere Area, Central Province with GSPNG report No. 88/30		K30.00

1:50 000	Geology of Wau with GSPNG report No. 86/16	K60.00
MINERAL RESOURCE MAPS		
PNG 1: 2,500 000 alluvial gold sites in PNG		K35.00
PNG 1: 2,500 000 mineral deposits of PNG, classified by mode of formation		K35.00
PNG Current Exploration License (EL) map		K35.00
PNG Projects map		K35.00
MINING LEGISLATION		
Mining Act 1992 & Regulation		K35.00
Mining (Safety) Regulation 1935		K55.00
MRA Act 2005		K35.00
GEOLOGY & MINERAL POTENTIAL		
The Geology & Mineral Potential of PNG <i>A Williamson & G. Hancock</i>		K35.00
GSPNG MEMOIRS		
Memoir 1 (1972) Port Moresby Urban Geology		K15.00
Memoir 2 (1973) Madang 1970 Earthquake Advisory Committee on Seismology & Earthquake Engineering		K15.00
Memoir 3 (1976) Geology of the Huon Peninsula		K15.00
Memoir 4 (1973) Earth Science Abstracts 1972-73		K15.00
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