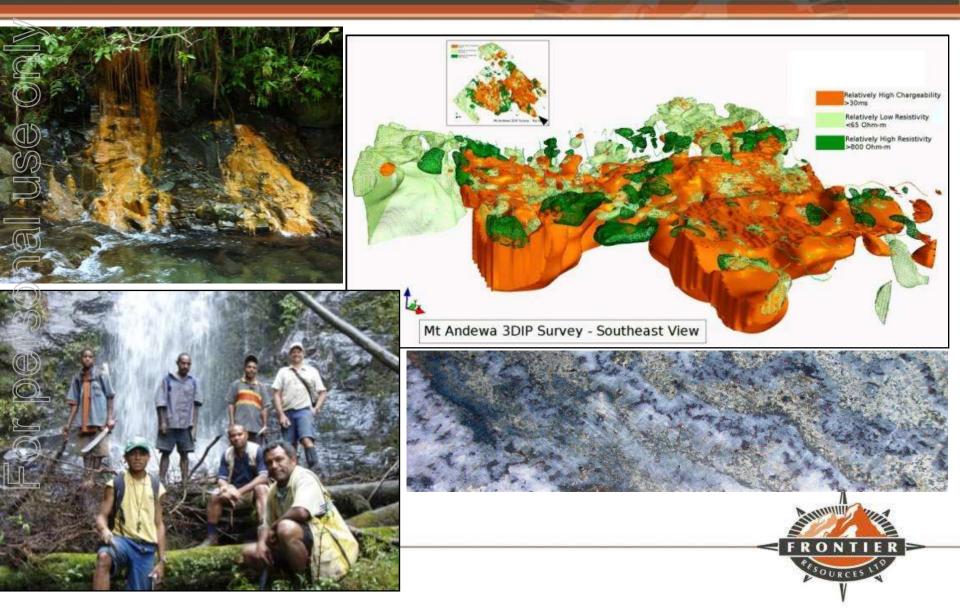
## **Exploring New Frontiers In Papua New Guinea**

June 2012



# Disclaimer

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Competency Statement - The information in this presentation that relates to Exploration Results and Mineral Resources that are based on information compiled by Peter McNeil, who is a Member of the Australian Institute of Geoscientists and is the Chairman and Managing Director of Frontier Resources Ltd.

Mr McNeil has sufficient experience which is relevant to the styles of mineralisation and types of deposits under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2004 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr McNeil consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

Please consult <u>www.frontierresources.com.au</u> for more detailed information.

# Introduction

Frontier Resources Ltd is an ASX listed company (FNT) that is focused on exploring for 'World Class' mineral deposits in Papua New Guinea (PNG).

Torque Mining Ltd is a majority owned subsidiary with FNT's Tasmanian exploration projects/gold resources, that plans to IPO on the ASX later in 2012.

Frontier has a large and carefully selected portfolio in PNG of 8 Exploration Licenses covering 5,550 sq. km and 3 EL Applications covering 5,280 sq. km.

**FNT's** strategy is to complete value adding exploration and demonstrate prospective mineralisation, then '<u>de-risk</u>', while retaining a project equity between 42% and 20%, by partnering with a 'Major' that funds the continuing exploration costs + feasibility studies, carries Frontier's deferred exploration costs and develops the deposits defined.

Ok Tedi Mining Ltd and Newcrest Mining Ltd have Earn-In requirements totalling about <u>\$80M</u>, in relation to 3 agreements with 7 ELs covering 5,283 sq km.

The 'Earn – In' partner strategy is working very well and FNT have retained possible 'short term' share price leverage with the 100% owned high grade gold 'Sudest Island' Project.



# **OK Tedi Mining Ltd : Highlands and Islands**

Ok Tedi Mining Ltd (OTML) is earning into 5 ELs covering 2,690 sq km. There are 2 Earn-In Agreements requiring exploration expenditure of USD\$12M per project for USD\$60M total (by May 2016 or March 2017), to earn between 58% (reducible\*) and **80.1% (non-reducible\*) direct equity, respectively.** \* The government of PNG can elect to purchase up to a 30% stake in any mining project in the country. If OTML Earns In, then Frontier can elect to be deferred carried to completion of a Feasibility Study, repayable from 50% of its mine profit. QTML has recently completed a major drilling program for porphyry copper and high grade gold mineralisation at Bulago, with 8 holes for 2,653.4m. Drilling is ongoing at the Likuruanga porphyry copper targets with 7 holes for 4,546.9m at the Esis prospect. Assays are being announced when received. A 3,000m drilling program is planned for the Leonard Schultz EL later in 2012

A 1,000 sq km aeromagnetic program is being undertaken now on the East New Britain EL.



Frontier's 21 sq km 3D-IP geophysical survey and subsequent exploration and drilling has demonstrated that the Andewa porphyry gold system is large and 'pregnant' with gold and copper.

The IP survey showed three intense chargeability anomalies that cover about 7 sq. km and indicate the presence of large sulphide systems from on-surface to more than 800m deep.

Newcrest can earn a 60% equity in the Andewa and encompassing Schrader EL by sole (funding A\$19.25M million in exploration before the end of 2015 or they can withdraw (after spending A\$2.5M.

Frontier can be deferred carried to completion of a Feasibility Study, repayable from 50% of mine profit (after Earn-In).

Newcrest may acquire an additional 12% equity in the project for a payment based on reserves and resources defined in the Feasibility & prior to the 'Decision to Mine'.

Frontier was reimbursed A\$1.915 million for actual exploration expenditure incurred since 1 January 2012, plus Frontier's agreed rate drilling and heavy equipment lease costs.

Frontier is the operator for Newcrest's initial 5,000m drilling program at Andewa and we will drill test the large anomalous areas initially with 5 x 1,000m holes.



### **Corporate Overview (ASX:FNT)**

/										-		
		Initial Public Offering (as TasGold Ltd)						April	2003			
		Shares on Issue (FNT)						301.5 r	million			
		Share Price (as at 11/6/12)						\$0.0	075			
		Market Capitalisation						21 m	illion			
		Shareholders - Ok Tedi Mining Ltd							L%			
		Shareholders - Newcrest Mining Ltd						2.3	8%			
		Cash at Bank						\$1.8 n	nillion			
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**Peter McNeil** B.Sc., M.Sc, MAICD - *Chairman & Managing Director*, Geologist 30 years exploration experience in PNG (incl Lihir), Tasmania, WA, USA and Canada. Drilled discovery holes in 1992/1993 at Sunrise Dam (Delta) and Nimary (Eagle Mining) that contain >14M oz gold total.

Warren Staude B.Sc., M.Sc - Non Executive Director, Geologist (Mineral Economics) >40 years experience in funds management, mining and exploration.

Graham Fish B.Sc., M.Ed. - Non Executive Director, Geologist >40 years experience in management and geological administration.

**David H Swain** B.Sc, M.Sc. - Non Executive Director, Mining Engineer >40 years experience in mining, including Bougainville Copper Mine.

**Stephenson** MBA. - *Chief Financial Officer & Joint Company Secretary,* Certified Management Accountant >20 years accounting and Company Secretarial experience.

Julia Beckett - Joint Company Secretary.



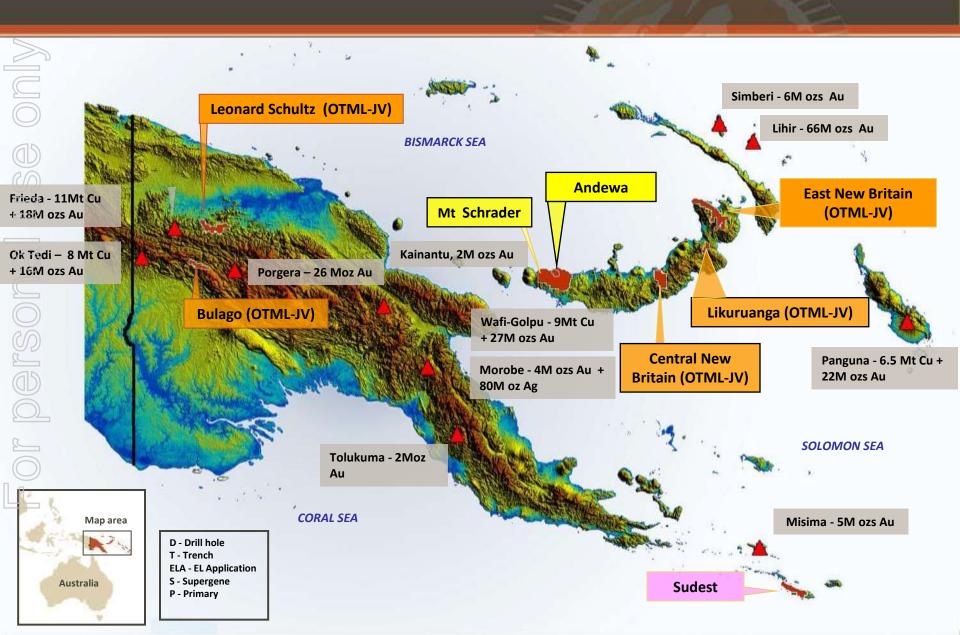
## **PNG Attributes and Gold & Copper Mines**



The Ramu lateritic nickel mine is under construction (220 Mt of 0.98% Ni + 0.1% Co)

SOURCE

### **Frontier PNG License Locations and Mines**



### Sudest Island EL – Blue Sky Potential



## Sudest Island EL – Blue Sky Potential

• The 267 sq km EL was recently granted and is 100% owned by Frontier. The area has never been systematically explored or drilled, yet it contains the first known goldfield and mine in PNG (discovered in 1888).

The 45km long EL is located on the same mineralisation trend as the now closed Misima (~5M oz) epithermal gold Mine and has highly anomalous gold in drainages that strongly warrant substantial exploration.

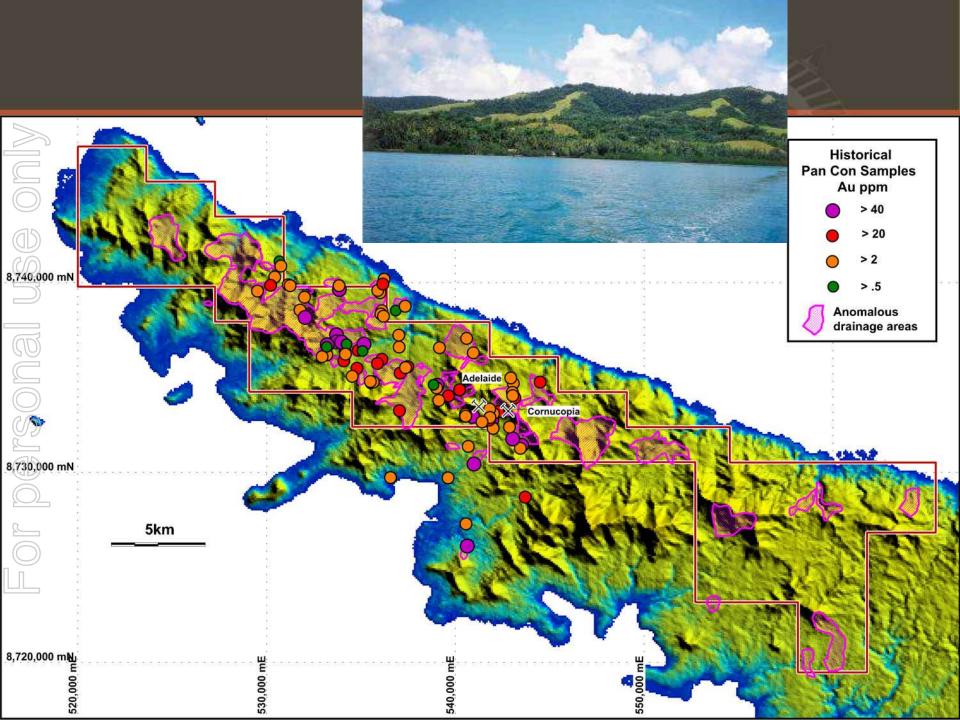
Frontier's first program was completed a week ago; two soil grids were sampled, historic trenches were resampled and additional trenches were excavated. Visible gold was located with an assay of 256 g/t.

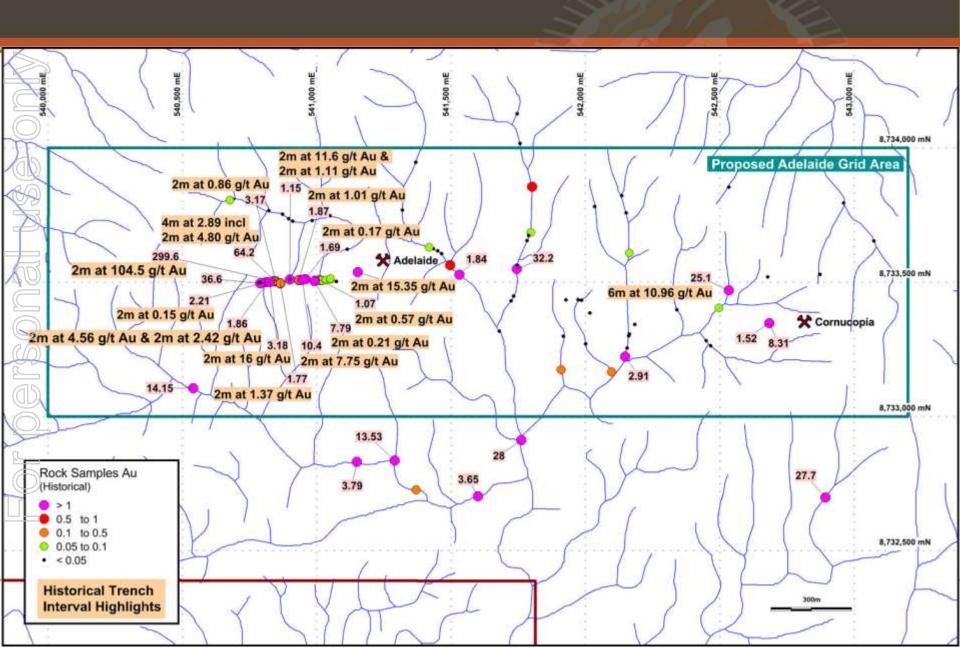
There are high grade gold quartz veins in altered intrusives, with up to 2m of 104.5g/t Au in trench, 151.2g/t Au in outcrop and 260.0g/t Au in float rock.

Less than 10% of the strike length of the mineralised zone in drainages has ever been <u>cursorily</u> evaluated by ridge and spur soil geochemistry or trenching.

Good logistics and possible development potential, with a low population density primarily residing near the coast.







### New Britain Tenement Locations (including OTML and Newcrest Earn-In Areas)



## Andewa Gold Project

Andewa has excellent mineralisation potential that Frontier is unlocking; it is part of an (Earn –In Agreement just finalised with Newcrest Mining Ltd.

The geophysical and geochemical anomalies are being targeted by five 1,000m long diamond drill holes in the Phase 1 program, that commenced earlier this week. The core samples that had been held back will now be analysed.

#### Background

A three dimensional (3D) Induced Polarisation geophysical program in 2010/11 demonstrated <u>3 very</u> <u>large chargeability anomalies over 7 sq. km</u> in total area, along with significant resistivity and conductivity anomalies.

Precious + base metals are present and they are being targeted within this <u>large system</u>. Recent outcrops discovered include 15.0m of 15.48 g/t gold + 21.9 g/t silver The soil samples documented a 9 sq. km area with gold, arsenic and copper soil anomalies.

Erontier have completed the only historic drilling at Andewa. The Komsen Prospect had 22 holes completed in 2008 for 2,353.9m and gold in drill results in the structure include 7.9m of 10.01g/t, 10.8m of 7.4g/t and 3m of 10.97g/t, also 1m of 19.0 g/t gold + 119.0g/t silver+ 10.3% zinc.

One hole has confirmed the continuity of gold at Komsen to 320m below surface over a strike length of 180m. Higher grade gold in trench results include 5.0m

of 18.5g/t, 3.7m of 12.6g/t, 3m of 14.3g/t and 21.65m of 4.4g/t.



# Andewa Gold Project

Frontier commenced a 10,000m diamond drilling program last July 1 at the Andewa gold - copper mineralised system and thirteen holes have been completed for about 5,886m.

Drill hole ADH001 intersected **93.2m grading 0.78 g/t gold + 0.30% copper**, including <u>48.5m grading</u> <u>1.02 g/t gold + 0.38% copper</u>. The entire interval in ADH001 is mineralised from surface and includes **190.1m grading 0.55 g/t gold + 0.24% copper**. Peak assays include 2.46 g/t gold, 0.79% copper and 50 ppm moly.

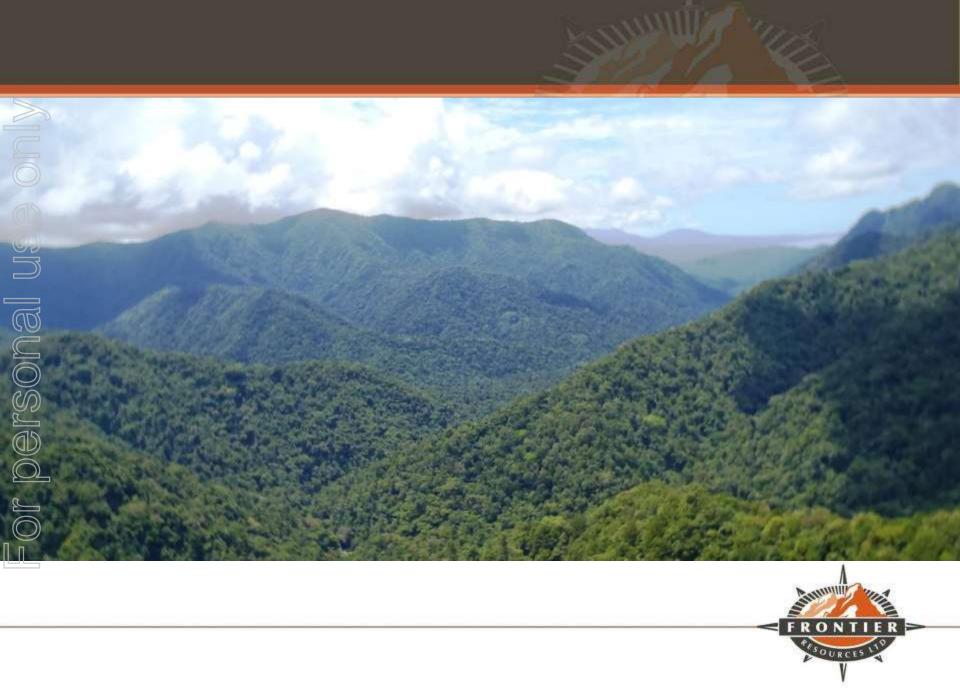
Hole ADH002 has five higher grade intercepts that equal 46% of the mineralised length from 5.1m to 252.0m downhole and cumulates to **114m averaging 0.74 g/t gold + 0.20% copper** (ignoring the below cutoff grade internal zones less than 0.1 g/t gold + 0.1% copper).

ADH 002 included **19m grading 1.86 g/t gold + 0.39% copper and t**he entire interval from surface to **372m is mineralised and grades 0.36 g/t gold + 0.10% copper**. Peak assays were 1m of 1.63% copper with 7.12 g/t gold and 1m of 219 ppm molybdenum.

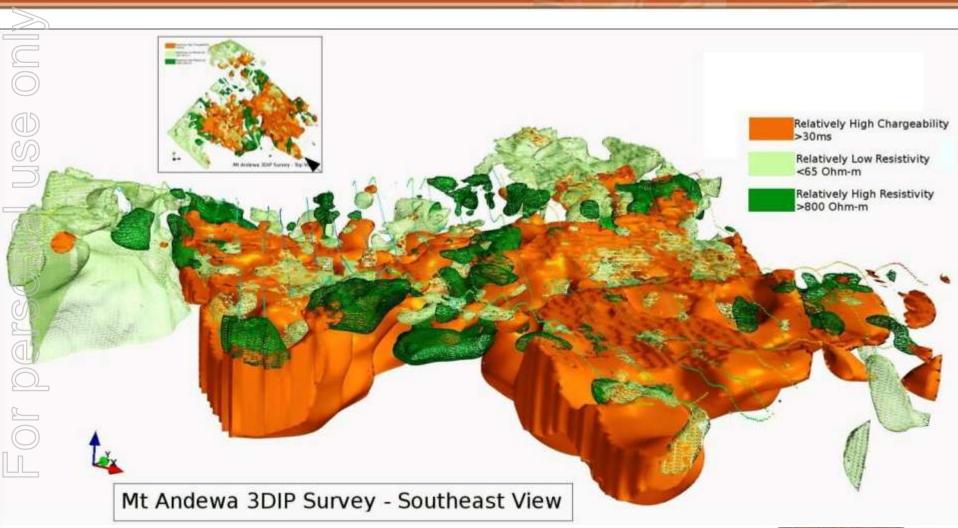
ADH002 is located 2.7 kilometres to the northeast of ADH001, but it is still within the same very large gold geochemical and 3D-IP geophysical anomalies, suggesting very large ultimate tonnage potential.

Five hand trenches completed near ADH002 all had gold >0.1 g/t with a weighted assay average of **470.5m grading 0.54 g/t gold.** This is comparable to the mineralisation noted in hole ADH002.



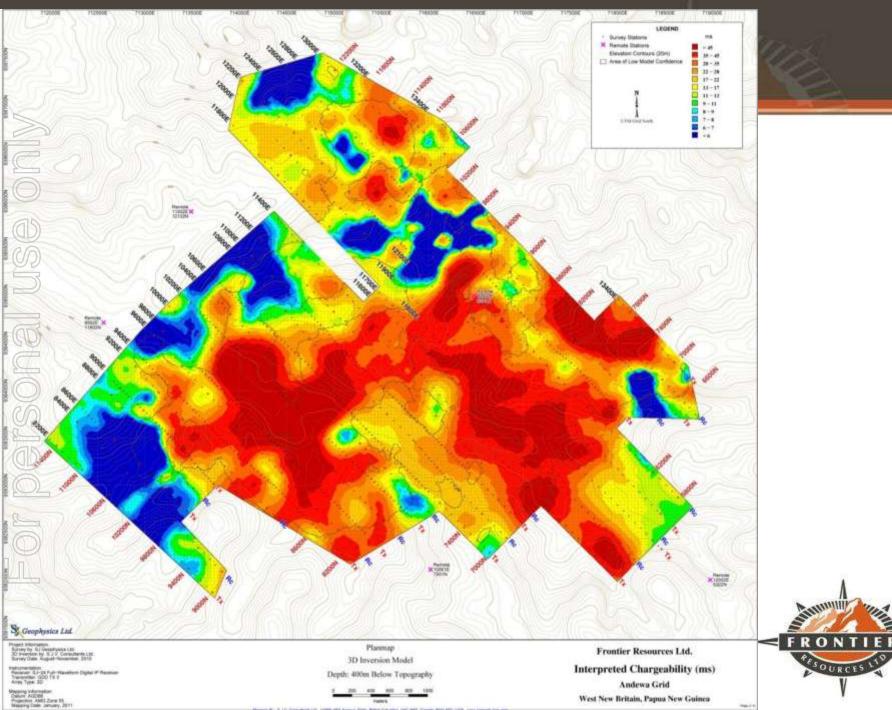


### **Andewa Gold Project**

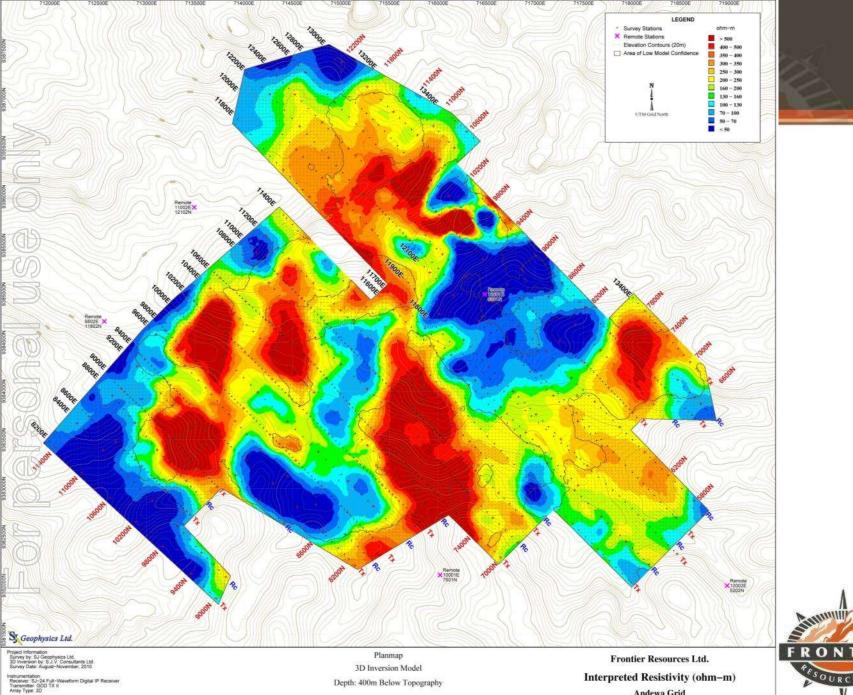


Resistivity Anomaly/ Field of view is approx. 4.5 km across





West New Britain, Papua New Guinea



400 600 800 1000 200

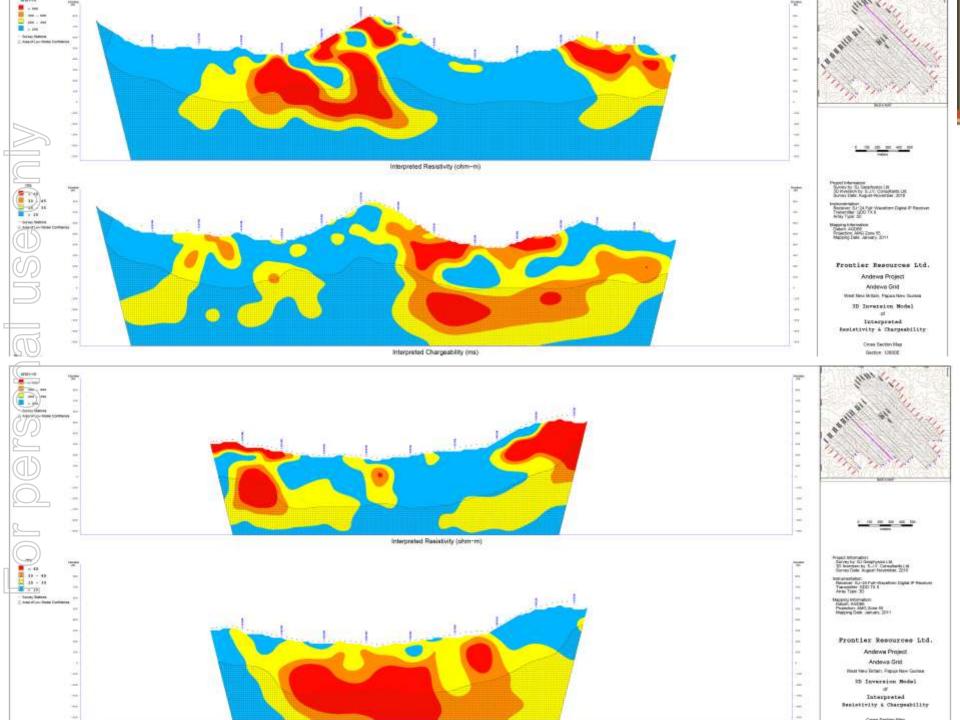
Mapping Information Datum: AGD66 Projection: AMG Zone 55 Mapping Date: January, 2011

Andewa Grid West New Britain, Papua New Guinea

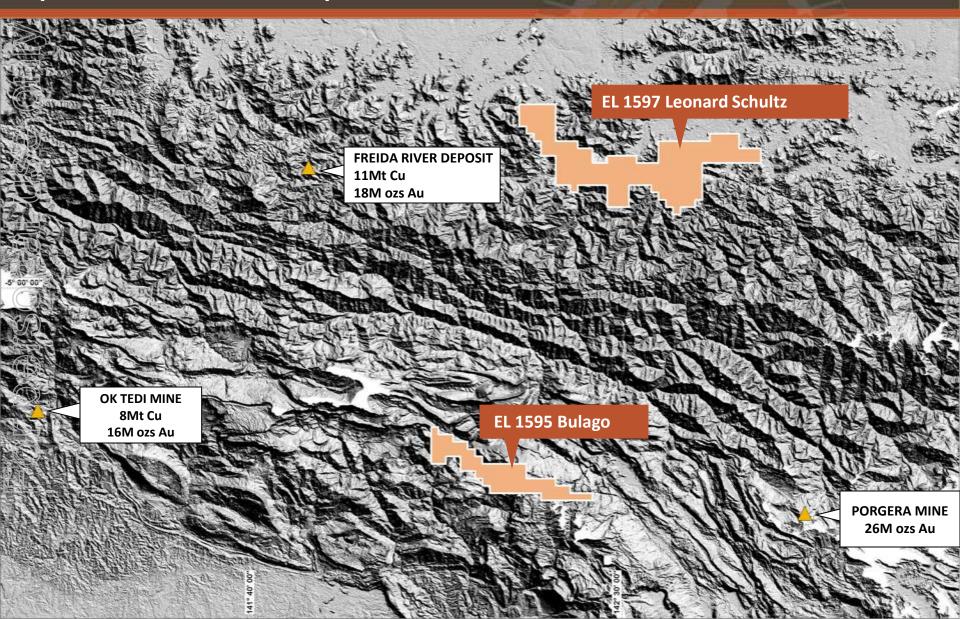


Full R-6

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#### Highlands Area Tenement Location Plan (OTML Joint Ventures)



# **About Ok Tedi Mining Limited**

**OTML is a major producer of copper concentrate from the Ok Tedi mine, in PNG's Western Province**. Headquarters are in Tabubil with the mine site on Mount Fubilan, 18 kilometres from the PNG/Indonesian border.

OTML operates milling facilities at the mine site and shipping facilities at the port of Kiunga on the Fly River, 750 kilometres upstream from the Gulf of Papua.

Operations commenced in 1984 and OTML has become the single largest business contributor to the economy of PNG, with 2009 export earnings of K4 billion (A\$1.7B), which is 33% of PNG's total export earnings.

OTML profit in 2009 was K1.6 billion (A\$640M).

**Contributions are not simply economic,** with employment in spin off business on-going, provision of education and training facilities and programs, establishment and on-going maintenance of infrastructure such as roads, airstrips, water and communications systems and health services.

Shareholders are PNG Sustainable Development Program Limited (PNGSDPL) (~62 per cent), and the Independent State of PNG (~38 per cent).

PNGSDPL accepted a transfer of BHP Billiton Limited's 52 per cent shareholding in OTML in 2002. Dividends paid to PNGSDPL are used to generate sustainable development projects for the benefit of the people of the Western Province and PNG.

**OTML directly employs 2,000 people.** 95 per cent of employees are PNG nationals and 36 per cent are from the Western Province. In addition, businesses that work under contract to OTML are substantial employers in the region.

**OTML has strong mining operations and technical capability** as well as strong, community and government relations and environmental management skills developed over 30 years of operations in PNG.

Expansion of the exploration program into the regions outside of the immediate mine area through joint venture with junior exploration companies is a key strategy to provide opportunities for development of new mining operations.

SOURCES

OTML aims to engage in exploration programs that are well resourced, efficient, safe and completed in a timely manner so that mine development opportunities are presented as quickly as practical.

See www.oktedi.com

# Bulago – High Grade Gold and Porphyry Copper Project

#### **EL 1595** is part of the Ok Tedi Mining Ltd JV, whereby OTML can earn a 58% direct equity.





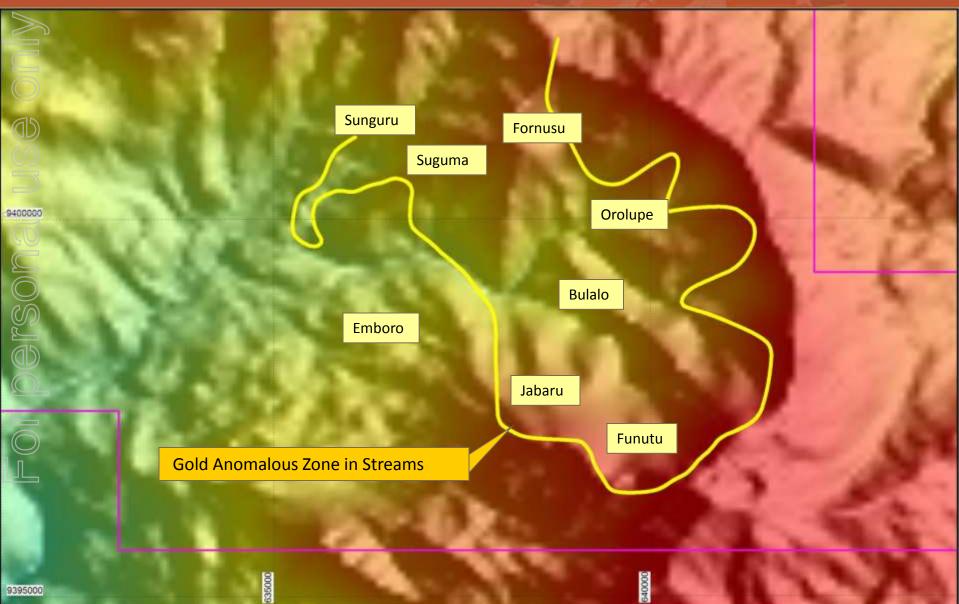
Frontier's exploration at the Suguma Prospect has demonstrated spectacular high grade gold trench assays and multiple very high-grade mineralised horizons have been defined including:

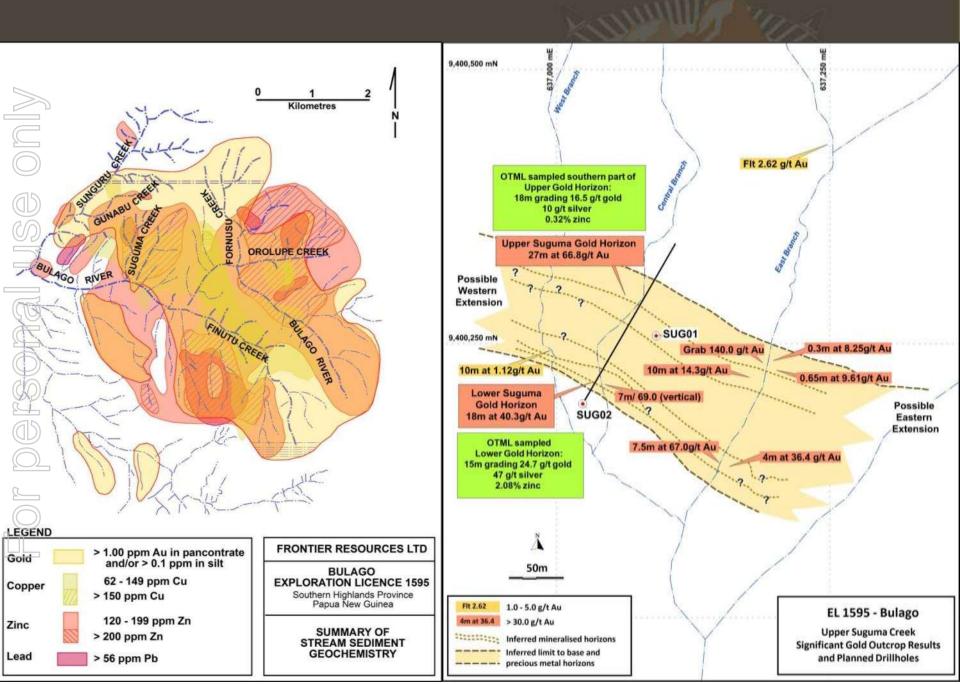
- 27m grading 66.8 g/t gold
- 18m grading 40.3 g/t gold
- 9m grading 64.0 g/t gold
- 7.5m grading 67.0 g/t gold
- 4m grading 135.6 g/t gold
- > 9m grading 24.0 g/t gold and others

OTML has recently completed a major drilling program for porphyry copper and high grade gold mineralisation at Bulago, with 8 holes for 2,653.4m.

Very high grade silver was encountered at Bulalo Prospect in a 1.5m wide vein grading 5.59 g/t gold + 2,555 g/t silver + 2.17% copper + 3.16% zinc.

### **Bulago Prospect Locations** (OTML JV)





# Bulago Project (OTML JV)

The Funutu Prospect is 4km SE of Suguma and also has very high grade precious and base metal intrusive / breccia rock samples (collected from outcrop by previous explorers), which have never been mapped, soil sampled, trenched or drilled.

**Results include to:** 

197 g/t gold + 363 g/t silver + 0.55% copper + 5.72% zinc + 5.5% lead, 108 g/t gold + 200 g/t silver + 0.38% copper + 4.8% zinc + 2.63% lead and 43 g/t gold +120 g/t silver + 0.49% copper + 1.7 % zinc + 0.86% lead.

The Fornusu Prospect has historic rock float samples to 1.17% copper + 12.6 % zinc + 0.412 g/t gold + 31 g/t silver and also 10.0 g/t gold only, suggesting the existence of 3 different styles of mineralisation.

The Orolupe Prospect has an outcrop grab sample of 0.75% copper + >1% zinc + 0.524 g/t gold + 51 g/t silver and rock assays such as 2m of 3.78 g/t gold + 6 g/t silver + 0.141% Copper.

There are several other highly areas that are highly prospective for intrusive and skarn related precious and base-metal mineralisation.

# Leonard Schultz – Gold - Copper – Molybdenum Project (OTML JV)

#### EL 1597 is part of the OTML JV, whereby OTML can earn a 58% direct equity.

The Kru Prospect consists of mesothermal base metal sulphide-gold veins and anomalous soils (to 51.1 g/t gold) over an area of approximately 2,500m x >100m, that is peripheral to the Wasi porphyry copper occurrence and has never been drilled.

Extensive hand trenching was completed at Kru and soil sampling at Wasi earlier in 2010. Frontier re-located, joined, deepened, extended and channel chip sampled the historically excavated hand trenches in the Siaporufe Zone.

Trench highlights include: <u>16m of 18.60 g/t gold</u> and including 4m of 52 g/t gold, 22m of 2.71 g/t, 36m of 1.15 g/t and 10m of 1.33 g/t gold.

The trenching wraps around a SE terminating ridgeline and gold assays demonstrate excellent continuity over an area of >200m x >200m.

- <sup>¬</sup>Mineralisation is open in all directions
- The noted vertical interval (RL) between gold mineralisation in creeks and trenches is about 80m, highlighting the high prospectivity of the system.

A 3,000m drilling program is scheduled to commence in later 2012.



# Leonard Schultz – Gold - Copper – Molybdenum Project

#### EL 1351 – Porphyry Copper, Gold and Zinc Skarns (OTML JV -- Bukuam Prospect)

El. 1351 is part of the OTML JV, whereby FNT is 19.9% (NON-DILUTABLE) deferred carried to completion of Bankable Feasibility Study.

#### EL 1351 EXPLORATION TARGETS :

**1.** Primary and supergene porphyry copper- gold- silvermolybdenum deposits at both the Esis and Bukuam Prospects.

2. High grade silver - zinc – gold skarns and higher grade shear hosted gold at the Bukuam Prospect.

Epithermal or intrusive related gold at the Kamarere Prospect (that is located between Esis and Bukuam).

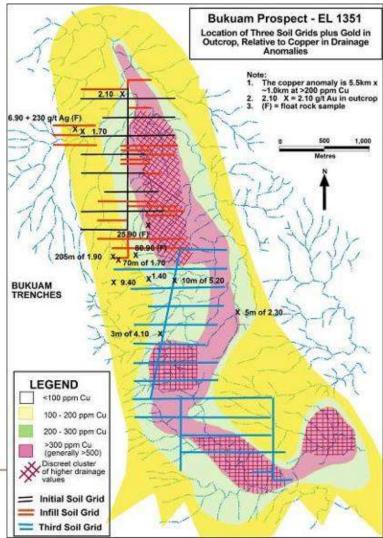
**NB:** The targets are speculative & may not be achieved.

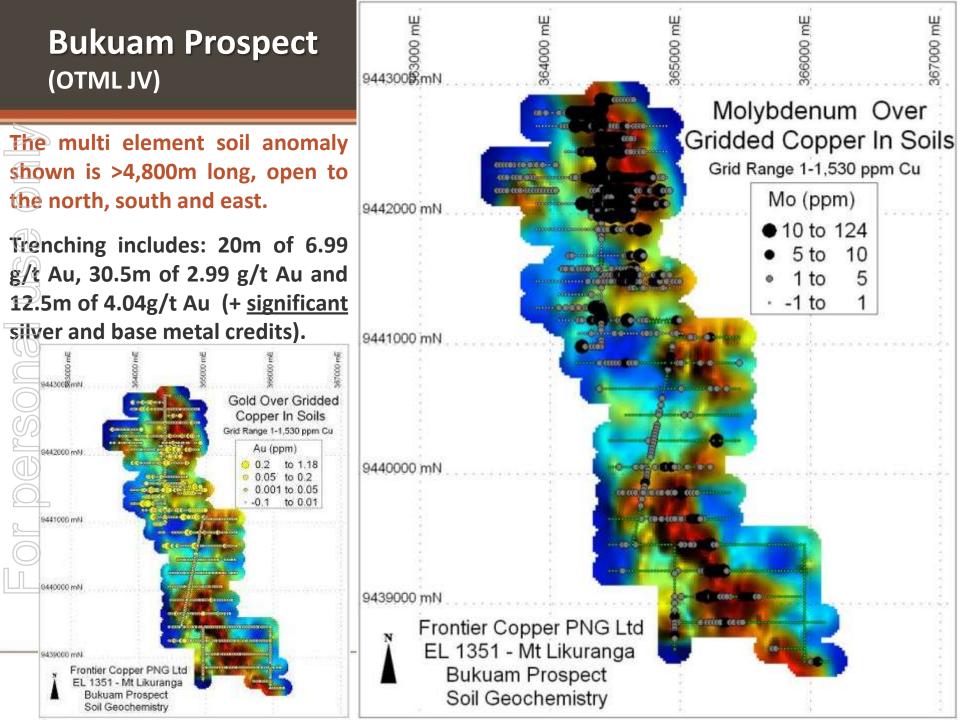
#### **Bukuam Prospect**

The copper in stream sediment anomaly is >5km long.

Grid based soil sampling (+ limited rock chip/channel) was undertaken and defined the extent of the mineralised system.

The geochemical programs were very successful and located a major coincident copper + molybdenum anomaly, with a strong gold zone in the central northern sector. Zinc anomalism in the central northern sector also indicates skarn mineralisation.





The Esis Prospect is a large mineralised (primary & secondary) porphyry copper system. The depth extent of the breccia hosted mineralisation has not been tested, but could be highly significant. A copper mineralised zone grading 0.4% was tracked in trenches/creeks for 1,400m (700m wide at >0.1% copper).

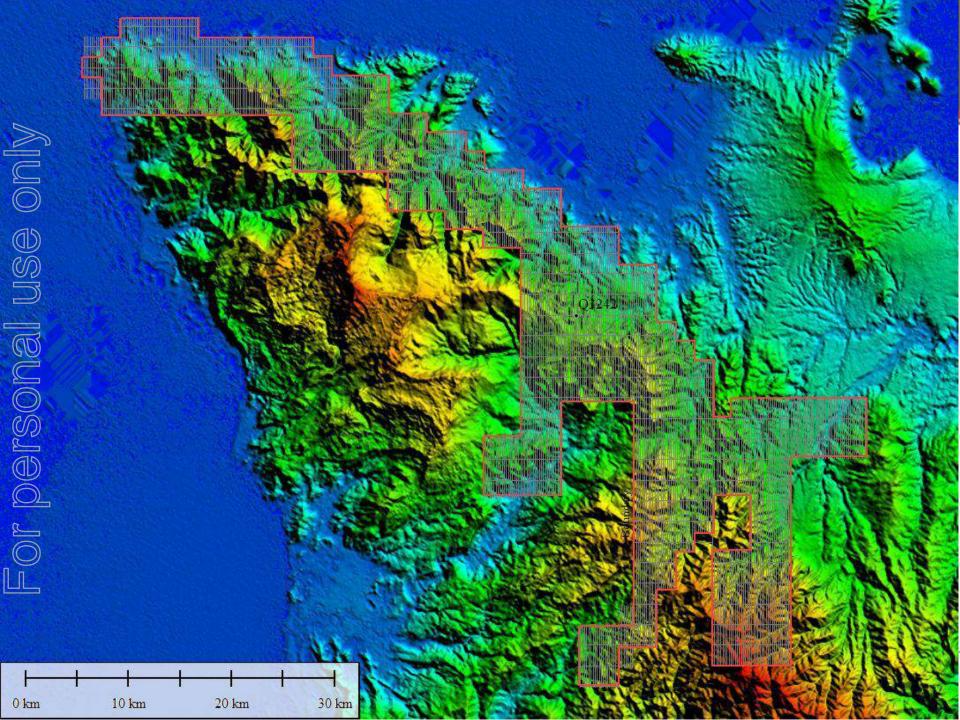
Historic drilling consisted of 15 very shallow 'Winkie' holes [DW7 (21.6m of 0.50% copper) and DW15 (30.3m of 0.41% copper)], plus 4 deeper diamond holes over an 'open' 1,000m strike.

Six of the shallow Winkie holes had weighted copper averages for entire length greater than 2% and terminated in mineralisation.

(Four diamond holes were drilled for ~152.6m each and best results were 27m of supergene grading 0.71% copper (from 33m), plus 66m of primary mineralisation grading 0.42% copper (from 86.6m to end of hole), incl. 7.6m grading 0.49% copper at the end of the hole.

7 holes have been completed for 4,546.9m The entire hole NBE001 was 697.6m of 0.26% copper, including 222m of 0.38% copper (from 12m), with massive chalcopyrite veins at the end of hole.





EL 1592 is subject to the OTML JV, whereby FNT is 19.9% (NON-DILUTABLE) deferred carried to completion of Bankable Feasibility Study.

#### **Doilene Prospect**

- A coastal prospect with limited bulldozer trenching incl. 10.9m of 26.9 g/t Au (incl. 0.4m of 136.4 g/t Au + 1.0m of 147.8 g/t Au), 2.0m of 16.90g/t Au, 4.0m of 9.84g/t Au and 3.5m of 5.14 g/t Au & 3.0m of 4.65 g/t Au.
  - Visible gold + anomalous pan con gold are associated with an altered intrusive dyke.
  - Limited previous soil sampling and never drilled.

#### Angbitki Creek Prospect

- Confirmed widespread and significant platinoids (Pt, Pd) and gold in two adjacent tributaries, with no follow-up in the 3 km<sup>2</sup> target area.
- There is no obvious ultramafic source for the platinoids.

An aeromagnetic survey has nearly been completed over the entire 1,003 sq km tenement.



#### Central New Britain (OTML JV)

**EL** 1598 is subject to the OTML JV, whereby FNT is 19.9% (NON-DILUTABLE) deferred carried to completion of Bankable Feasibility Study (repayable from 50% of future cash flow), with the earn in **SUSD\$12** million within 6 years.

#### **Wasilau / Yau Yau Prospect**

- 9,000 x 2,500m zone of anomalous copper and gold.
- Two deep (~305m) and 9 shallow holes (~75m each) have been completed which is an average of less than 1 hole per sq. km of mineralised system.
- There is a large associated area of advanced argillic alteration that could host highsulphidation epithermal gold mineralisation. Gold analyses are generally quite limited.

#### **Pelepuna Prospect**

- Porphyry copper- gold prospect about 14km S of Uasilau, that has never been drilled.
  - Zinc +/-gold skarns have had very limited drilling, with results to <u>16.7m of 6.9% zinc</u>.
  - Gold analyses are limited, but where sampled, significant gold anomalous areas in soils and rock chips warrant follow up.

An aeromagnetic survey was flown over the entire tenement in March and data should be delivered forthwith.



## Summary

#### Frontier have the ingredients for imminent success:

The tenement portfolio is large, diverse and highly prospective for World Class precious and base metal mineralised systems, including gold-silver and copper-gold-molybdenum.

The recent Sudest Island exploration should provide excellent vectors to 'hard rock' gold mineralisation. Frontier will also undertake additional grid based soil geochemistry and possibly a 3D-IP survey to define trenching and drilling targets for later in 2012.

Frontier is adequately funded and has ramped up exploration to systematically evaluate the 7 sq km of 3D-IP and gold geochemical anomalies at Andewa. Drilling has commenced under the Newcrest Earn-In, to systematically evaluate the large anomalies with an initial program of 5 x 1,000m deep diamond core drill holes.

 The ~\$80 million in Earn-In Agreements with Ok Tedi Mining Ltd and Newcrest Mining
Ltd are truly excellent for Frontier, as the 7 tenements covering 5,283 sq km have been 'derisked' and WHEN one or more World Class deposits are delineated, Frontier is deferred carried to completion of BFS with the carry repayable from 50% of future profit.

If you would like more information on Frontier, please contact me or visit our website at <u>www.frontierresources.com.au</u>.