

ASX Limited Company Announcements Office Announcement

2nd June 2011

# Andewa Project Update

Frontier Resources Ltd is pleased to announce an update on exploration activities at its Andewa gold – copper project (EL 1345) in West New Britain Province of Papua New Guinea (Figure 1).

- Exploration activities re-commenced at Andewa in early February, 2011, with the establishment of a camp to support the programs (Figure 2).
- A grid controlled soil sampling program in 2010 was very successful and delineated extensive gold (Figure 3) and polymetallic anomalies. Results from the concurrent 3D induced polarisation (IP) survey showed several very large areas of coincident deep seated and near surface chargeability, resistivity and conductivity anomalies (Figure 4).
- The geochemical and geophysical data sets were used to design the next phase of exploration including targeting hand trenching (Figures 4, 6a/b and 8), infill soil sampling (Figure 5) and more geological / structural mapping and creek sampling.
- 932m of hand trenching and more than 18 linear kilometres of soil sampling have been completed in 2011 and the programs are continuing.
- The 10,000m drilling program is now scheduled to commence mid June, subject to barge mobilisation (Figures 7 and 9). The program has been delayed due to customs clearance of required drill rods and consumables.
  - Frontier owns and operates its own drilling and earthmoving equipment to minimise costs and maximise exploration output.
    - An excellent value new and used capital equipment purchasing program has been completed to ultimately allow the drilling program to proceed as planned and ultimately with ground support.
    - Four additional diamond drilling rigs are under construction and are expected to be completed and delivered to PNG by early September.
    - Frontier will have the capability to drill to a maximum of about 1,700m depth, (if warranted) with the track mounted CS1800 (Figure 10), to 1,100m with the track mounted but also heli-flyable CS1300 and to 400m with our other small rigs.
    - Earth moving and support equipment capacity has been significantly enhanced to cater to the logistics of the program.

## DETAILS

The hand trenches were designed to test interpreted coincident sub surface conductivity and chargeability anomalies demonstrated by the 3D-IP, plus outcropping gold and other base metal mineralisation defined by the soil sampling program. Six trenches have been cleared to a minimum depth of 1.5m and 409 continuous chip channel samples were collected for 932m total. The nominal sampling interval is 3m reducing to 1m in more intensely mineralised sections of the trench.

Six infill soil lines were completed (714 samples) between existing anomalous gold and polymetallic soil geochemistry on a 25 m downline interval, for 18,175 line metres.

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PHONE +61 (8) 9295 0388 FAX +61 (8) 9295 3480 EMAIL info@frontierresources.com.au WEBSITE www.frontierresources.com.au Structural mapping and rock chip sampling has continued on some of the creeks not covered in last year's program. This program involved selective sampling of structures and mineralised horizons to determine possible structural controls on the mineralisation at Andewa.

Recent excavations of a contour trail around the small hill containing a gold-copper -molybdenum soil anomaly on line 12400E show areas of abundant quartz –limonite –sulphide (dominantly pyrite with trace chalcopyrite) stockworking within argillised intrusives (Figure 6a,b). The veins are either steeply dipping or flat lying.

Soil line 9800E runs through a hill consisting of strongly silicified and oxidised reddish brown, approximately east -west trending hematitic hydrothermal breccia. Silicified and argillised angular rock fragments are found within a clast-supported matrix with open spaces and cavities. It is located at the far eastern end of the Komsen Prospect.

A drill pad has been prepared (Figure 9 - the hole will be drilling to left) to test the geological, gold in soil, chargeability and conductivity anomalies on this line (refer to Figure 7).

- Figure 1. SRTM (Shuttle Radar Topography Mission) topographic image showing the location of the Andewa Exploration Licence and the surrounding Mt Schrader Exploration Licence Application in West New Britain Province.
- Figure 2. The Andewa Camp at the junction of the Komsen and the Tarkau Rivers (looking ESE).
- Figure 3. Individual gold in soil assays at the Andewa Project plotted on a 1:100,000 topographic plan with 40m contours intervals and 1,000m x 1,000m squares. The economically significant areas however are greater than 0.05 g/t gold (50 ppb) and particularly greater than 0.10 g/t gold (100ppb). There is locally good correlation between higher tenor soil assays and specific geomorphic situations.
- Figure 4. Location of completed and proposed trenches relative to conductivity anomalies (blue) and intense chargeability anomalies (green). Yellow dots represent soil sample assays 100ppb.
- Figure 5. Image showing infill soil sampling lines (blue) that have been cut and sampled. Yellow dots show the identified prospect areas within the crater.
- Figure 6a,b Quartz-limonite-sulphide stockworking exposed in Ehgini contour trail within the soil anomaly, (perspective and close -up views).
- Figure 7. Line 9800E with trench #08 and proposed drill hole.
- Figure 8. Hydrothermal breccia with haematite from Trench #08 in soil sample anomaly and to be targeted by drill hole 1.
- Figure 9. Proposed drill pad one from the air and looking to the south.







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For additional information relating to Frontier Resources please visit our website at <u>www.frontierresources.com.au</u> or feel free contact me.

### **FRONTIER RESOURCES LTD**

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P.A.McNeil, M.Sc. CHAIRMAN / MANAGING DIRECTOR

The information in this report that relates to Exploration Results and Mineral Resources is based on information compiled by, or compiled under the supervision of Peter A. McNeil - Member of the Aust. Inst. of Geoscientists. Peter McNeil is the Managing Director of Frontier Resources, who consults to the Company. Peter McNeil has sufficient experience which is relevant to the type of mineralisation and type of deposit under consideration to qualify as Competent Person as defined in the 2004 Edition of the Australasian Code of Reporting Exploration Results, Mineral Resources and Ore Resources. Peter McNeil consents to the inclusion in the report of the matters based on the information in the form and context in which it appears.

### ABOUT FRONTIER RESOURCES LTD

FRONTIER IS FOCUSED ON EXPLORING FOR AND DEVELOPING MINERAL DEPOSITS IN THE HIGHLY MINERALISED PACIFIC 'RIM OF FIRE' IN PAPUA NEW GUINEA AND THE HIGHLY PROSPECTIVE DOLCOATH GRANITE AND MT READ VOLCANICS OF TASMANIA, AUSTRALIA

- Frontier is an innovative and socially responsible ASX listed junior mineral explorer whose shares also trade on the Frankfurt, Berlin and Munich Stock Exchanges.
- Directors have more than 150 years combined experience in PNG and Australia to serve the interests of the company, its shareholders and stakeholders.



- Frontier operates with a general policy of *drilling* our quality projects using our purpose built and self manufactured, cost effective, environmentally friendly, man-portable diamond core rigs.
- The Company has a 100% interest in six Exploration Licences (approx. 2,807 km<sup>2</sup>) and two Exploration Licence Applications (approx. 2,933km<sup>2</sup>) in PNG. Five ELs (approx. 2,690km<sup>2</sup>) are subject to two Joint Ventures with PNG copper-gold producer Ok Tedi Mining Ltd.
- Frontier also has four Exploration Licences and one Retention Licence (348 km<sup>2</sup>) + 3 EL Applications in Tasmania.
- The tenement portfolio offers excellent mineral deposit potential. Primary targets are World Class copper-gold-molybdenum porphyry, high grade gold epithermal, intrusive related gold (IRG), gold–base metal & tungsten skarns + polymetallic VMS (zinc-lead-silver-gold) deposits.
- The projects <u>all</u> have high-grade exploration results in rock, trenches and/or drill hole and are in the same or similar geological terranes as existing World Class and/or major mines.

### PAPUA NEW GUINEA

- THE 100% OWNED MT ANDEWA EL IN PNG HAS EXCELLENT GOLD AND COPPER MINERALISATION POTENTIAL
- Frontier's exploration team is in the field conducting infill soil sampling and preparing for an extensive and deep drilling program scheduled for mid June 2011 with our own drilling rig.
- Frontier undertook a major Three Dimensional Induced Polarisation (3D-IP) geophysical program over a 21 sq km grid at the Andewa gold and copper Project on the island of New Britain in Papua New Guinea in 2010 and collected about 5,000 soil and rock samples.
- The 3D-IP survey was a remarkable success that showed three exceptionally voluminous and intense, chargeability anomalies indicating the presence of very large sulphide systems from on-surface to more than 800m deep.
- The total chargeability anomaly (>30ms) area is approximately seven square kilometres, consisting of two very large, spatially related and intense chargeability anomalies (plus one smaller anomaly) called the Core Chargeability (CCZ), Ekhos and Ber Zones. The Ekhos chargeability anomaly is 3.3 Km<sup>2</sup> in area, the CCZ is 3.0 km<sup>2</sup> and Ber is approximately 0.5 km<sup>2</sup> (at 150m below sea level).
- The total anomalous chargeability area is approximately 5,400m long (E-W) and 3,000m wide (N-S). The Ekhos chargeability anomaly is approximately 3,850m long x 1,750m wide. It averages about 1,000m wide and has a higher grade chargeability core zone that is approximately 2,400m long and 1,000m wide (at >30ms and 400m below topography). The CCZ is approximately 2,900m long (NW to SE) and a maximum of 2,100m wide, averaging 1,000m wide.
- Ekhos is the largest and closest to surface 3D-IP chargeability anomaly at Andewa, with much of it very intense at >45ms; it is open to the south and east but appears defined in general at depth. The CCZ chargeability anomaly is open to the south AND at depth, however, it's very intense core (>45ms) appears to be adequately resolved. The CCZ also has large anomalous areas at >45ms chargeability that extend to depths greater than the 800m modelled maximum.
- Each major chargeability anomaly is surrounded by a sub-circular high-resistivity anomaly that appears to merge near the edge and off the grid, to become 1 x 6km diameter pseudo donut shaped resistivity anomaly in the centre of the Mt Andewa crater, with 'holes' present where the strong chargeability anomalies exist.
- Frontier has previously drilled gold mineralisation at Komsen on the western margin of the CCZ from surface to a maximum depth of 320m below surface in a limited program, with drill intercepts containing significant gold and base metals such as 2m of 5.43 g/t gold + 95 g/t silver + 11.1% zinc + 2.3% lead + 0.12% copper and 7.9m of 10.01g/t gold.

#### **OK TEDI MINING LTD JOINT VENTURE**

# HIGHLY PROSPECTIVE TENEMENTS AND FRONTIER'S EXPLORATION SUCCESS IN PNG CULMINATED IN AN EXCELLENT STRATEGIC ALLIANCE - JOINT VENTURE WITH WORLD CLASS COPPER PRODUCER OK TEDI MINING LTD (OTML)

- ✤ 13,000m of JV drilling is planned in the coming year, commencing late June.
- Five ELs are subject to 2 joint ventures that require a total earn-in of US\$60 million over 6 years, consisting of US\$12 million for each of the 5 projects.
- Frontier is then deferred carried to completion of a Bankable Feasibility Study on each tenement, repayable from 50% of future cash flow.
- The Company will retain a 42% interest (dilutable) in the Bulago and Leonard Schultz ELs and a 19.9% interest (non-dilutable) in the Likuruanga, Central and East New Britain ELs, to the completion of a Bankable Feasibility Study.
- The JVs cover a total area of 2,690 km<sup>2</sup>.
- OTML have completed large and detailed aeromagnetic and radiometric programs at Bulago, Leonard Schultz and Likuruanga to discriminate and rank targets for follow up exploration.
- The Central and East New Britain licences were granted earlier in 2011 and aeromagnetic programs will be flown as soon as possible.
- OTML is a major producer of copper concentrate from the Ok Tedi mine (that started operations in 1984) and has become the single largest business contributor to the economy of PNG. In 2009, OTML's export earnings were K4 billion, representing 33% of PNG's total export earnings. The contributions of the mine to PNG are wide reaching improving opportunities for employment, education and health services.

PNG exploration results from the JV projects have included:

- The Bulago JV has 10 zones of high-grade gold in outcrop channel samples at the Suguma and Funutu Prospects from continuous chip outcrop channel samples. Trench intercepts included 27m of 66.8 g/t gold, 4m of 135.6 g/t gold, 9m of 64.0 g/t gold, 16m of 36.5 g/t gold, 18m of 40.3 g/t gold, 7.5m of 67.0 g/t gold and 9m of 24.0 g/t gold.
- The Kru and nearby Wasi Prospects in the Leonard Schultz JV have excellent gold outcrop trench channel sample assay results including 16m of 18.60 g/t gold contained within 76m of 5.35 g/t gold. Additional significant assay results included 22m of 2.71 g/t and 36m of 1.15 g/t (within 384.3m of 0.67 g/t gold) in outcrop trench.
- Likuruanga JV Esis Prospect has 27m of supergene mineralisation grading 0.71% copper (from 33m depth), plus 66m of primary grading 0.42% copper (from 86.6m to end of hole), with the last 7.6m of the hole grading 0.49% copper. The Bukuam porphyry copper-gold-molybdenum soil anomaly is >4.8km long and has not yet been drilled.

#### TASMANIA

# EXPLORATION ON FRONTIER'S TASMANIAN EXPLORATION AND RETENTION LICENCES IS TARGETING KNOWN HIGH-GRADE (PLUS POTENTIALLY BULK MINEABLE) TUNGSTEN, GOLD AND BASE METAL DEPOSITS

The Moina Project consists of EL 42/2010 (Stormont), RL 3/2005 (Narrawa) and EL 29/2009 (Cethana). It covers the E-W spine of the highly mineralised Dolcoath Granite and a number of skarn and vein deposits [from east to west (proximal to distal) including silver, tin, tungsten, molybdenum, gold+ silver + zinc + lead, zinc+ gold, fluorspar (excised RL not FNT's) and gold + bismuth].

Frontier is specifically targeting tungsten and intrusive related gold deposits, along with other metals in this highly mineralised district.

- There are at least 70 historic workings (shafts, adits and small open pits) within the targeted area testifying to its highly prospective and mineralised status.
- The primary commodity mined in the district was tungsten in at least 23 workings, tin in 9 workings and gold in 7 workings (many are unspecified).
- Previous Frontier tungsten drill intersections included 1m grading 1.98% WO₃ near the NW end of the Narrawa Deposit, within a broad low grade geochemical halo that averaged 14m of 0.20% WO₃ (from 21m).

Narrawa is a stratabound/stratiform skarn Deposit hosted within 4 steeply dipping on/near surface lodes, which could be mined by open pit mining methods.

- The deposit contains an Indicated and Inferred resource with 14,125 ounces of gold, plus 131,300 ounces of silver, 2,765 tonnes of lead and 2,335 tonnes of zinc (at 0.5g/t gold cut-off grade), that is up to 220m long, 20m wide and 60m deep, within 209,330 tonnes of rock grading 2.10 g/t gold, 19.5 g/t silver, 1.32% lead and 1.12% zinc.
- The Indicated Resource consists of 162,755 tonnes grading 2.11 g/t gold, 20.5 g/t silver, 1.42% lead and 1.2% zinc.
- The Inferred Resource consists of 46,574 tonnes grading 2.07 g/t gold, 16 g/t silver, 0.98% lead and 0.81% zinc.
- The Stormont Deposit is a skarn hosted within on/near surface fold keels, which could be easily mined by open pit mining methods.
- The on-surface Stormont Deposit, with an Inferred Resource of 14,250 ounces of gold plus 304 tonnes bismuth, within 112,500 tonnes of mineralised rock grading 3.94 g/t gold plus 0.27% bismuth (1.0g/t gold cut-off grade).
- It is planned to increase the size of the Stormont resource and upgrade it from Inferred to Indicated. The 9 km<sup>2</sup> provides additional highly prospective ground for exploration.

A Conceptual Mining Study evaluating mining the on-surface Stormont and Narrawa Deposits showed a satisfactory theoretical cash flow from processing based on a capital expenditure estimated at A\$8 million (neglecting working capital and provision for contingencies).

- The theoretical cash flow improves significantly with increased metal prices, grades and/or tonnages of mineralisation.
- Metals prices utilised in the CMS were US\$940/oz gold, US\$0.71.44/lb zinc, US\$0.7738/lb lead, US\$13.70/oz silver. Since 3/7/2009, the gold price has appreciated more than 50%, silver more than 300% and zinc and lead prices are also strong.

#### WART HILL DEPOSIT, SMRV PROJECT, SW TASMANIA

Frontier is targeting a 45km total strike length of the highly prospective Mt Read Volcanics in SW Tasmania for World Class Rosebery and Eskay Creek type of Volcanic Hosted Massive Sulphide Deposits (EL 20/96 and EL 33/2010).

- A high-grade 'Rosebery' style VHMS base metal (zinc, lead, silver, gold) horizon has been tracked for 290m down a fold keel by Frontier's drilling. A 3D-IP survey was completed and it has provided useful targeting vectors. The faulted off southern extension and the 'sides' are good exploration targets and there is excellent regional potential to locate additional volcanic hosted massive sulphide and also high grade gold deposits.
- Trench results have included 3m of 21.9% zinc + 13.9% lead + 680g/t silver + 0.84g/t gold and 4m of 17.9% zinc + 10.2% lead + 138g/t silver + 0.60g/t gold.

Drill results have included 3.9m of 12.1% zinc + 7.3% lead +124 g/t silver +0.60 g/t gold, 1.1m of 23.6% zinc +10.4% lead+123 g/t silver +0.60 g/t gold and 5.7m of 7.5% zinc + 4.0% lead +77 g/t silver + 0.35 g/t gold.