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Company Announcements Office

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# TECHNICAL REPORT – QUARTER ENDED 30th JUNE 2011

#### **ANDEWA**

- A 10,000m diamond core drilling program commenced July 1 at the Andewa gold copper mineralised system (figure 1), targeting 'World Class' gold and copper deposits.
  - A 7 square kilometre area of 3D induced polarisation anomalies (chargeability +/-resistivity +/-conductivity indicating very large sulphide systems from on-surface to more than 800m deep) and a 2.4 square kilometre area of gold geochemical anomalies (>0.05 g/t +/-molybdenum +/- copper +/- arsenic +/- antimony) were defined in 2010.
  - Exploratory diamond core drilling is <u>now testing</u> these excellent geophysical and geochemical soil and rock outcrop anomalies for World Class epithermal gold and/or porphyry gold-copper-molybdenum deposits.
  - → The first hole was completed yesterday at 398.8m, after drilling into a silicified /hematitic, E-W trending hydrothermal breccia associated with a major gold + copper in soil anomaly, across a major northerly trending structure, through a conductivity anomaly and into a chargeability anomaly. Core sampling, shipping, analysing and collation/ evaluation will probably take about 8 weeks.
  - → Hole 2 will commence forthwith (subject to helicopter availability), targeting the Ehgin geochemical and 3D-IP geophysical anomalies in the NE of the grid. This area is central to the longest and strongest tenor gold in soil anomalies defined to date and proximal to a major structural intersection.
- Infill grid-based soil sampling and hand trenching in geochemical and geophysical anomalies is ongoing to better define gold/copper drilling targets. Initial trench assay results are expected to be announced when sampling and mapping information is to hand and data collated.
- A bulldozer track is more than halfway to site and should be completed in less than a month. This will substantially reduce ongoing operational costs and also allow access for our new track mounted (large) drill rig and earth moving equipment.

#### **TASMANIA**

- Tungsten, molybdenum and tin are a major new focus for the Company, as there is excellent potential for World Class and major polymetallic and precious metal deposits in the Moina Project area (Stormont Deposit / Cethana EL / Narrawa Deposit / Dolcoath Granite).
  - → A major polymetallic mineralised district was demonstrated proximal to the Dolcoath Granite, with extensive (up to 6,000m long and often open ended) tungsten - tin molybdenum - copper - bismuth + gold - lead - zinc, yttrium - niobium soil anomalies.

- → There is virtually no historic drilling in these extensive soil zones (except at Narrawa).
- An application was lodged to acquire a 500m wide sliver of ground south of the Cethana EL boundary to consolidate the prospective area and enable Frontier to assess the soil anomalies' strike continuations to the SE.
- A very large 3D-IP program (approx 40 sq km) will be undertaken and ultimately completed late in Q4. Frontier then plan to drill test the geophysical/geochemical /geological targets in Q1 of 2012, including significantly deeper drilling for World Class Intrusive Related Gold (IRG) deposits.
- A 1,454m diamond drilling program was completed at the Elliott Bay Project in SW Tasmania.
  - The best intercept drilled to date was returned at the Wart Hill Deposit with 13.9m grading 1.11 g/t gold + 37g/t silver + 9.0% zinc + 4.5% lead + 0.3% copper.
  - → This intercept demonstrates the 45km long SMRV project area's ultimate prospectivity.
- The exploration equipment was redeployed from the SMRV to the Stormont Deposit (figure 7) where resource infill and expansion drilling commenced 12 July. Five holes were completed for 160.1m and the sixth hole was temporarily terminated at 21.4m, prior to a 3 week field break for the drill crew.
- Frontier's expansion and commodity diversification strategy was completed, consolidating and significantly enhancing the Company's tenement portfolio in this richly endowed state. More than 125 tungsten, tin, base-precious metal and rare earth element occurrences have been added to the total portfolio.
  - → The Stormont Gold Bismuth Deposit, Wanderer and Tonganah ELs were granted, the SMRV (Elliott Bay) was renewed and the remaining Applications were recommended to the Minister for granting.
  - The Tasmanian tenement portfolio is highly prospective for a diverse suite of metals, exploration is being carefully targeted and the probability of discovery is high.

#### **OK TEDI MINING LTD JOINT VENTURES**

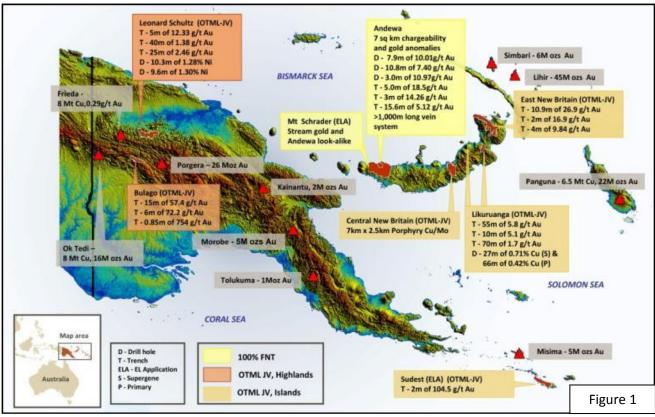
- Joint Venture partner OTML has moved to 'Advanced Stage Exploration' on the Bulago, Leonard Schultz and Likuruanga ELs.
  - → 13,000m of diamond core drilling is planned by the JV for the coming year in 3 of the 5
    OTML JV Exploration Licences, commencing late August. The commencement has been
    delayed due to weather conditions and lack of aircraft availability.
  - The Central and East New Britain EL applications were granted and aeromagnetics /radiometrics should be completed towards the end of 2011.
  - → JV terms require OTML to expend US\$12 million over 6 years (from May 2010) to earn 58% of EL 1595, then carry Frontier to completion of a Bankable Feasibility Study, with pro-rata (carried) repayments from 50% of future FNT metal sales. Under certain circumstances, OTML and the PNG National Government can purchase up to 80.1% equity in the project, leaving Frontier with 19.9% equity.

## **GENERAL**

- Frontier own two diamond drill rigs which are used to help cost effectively define precious and base metal mineralisation on the Company's PNG and Tasmanian exploration properties.
- Four additional drilling rigs have been purchased (recently shipped ex China) to conduct the deeper drill testing for the Andewa exploration program, along with 2 excavators, 2 bulldozers and various supporting machinery /vehicles.

#### **DETAILS**

Figure 1 shows the locations of all Frontiers licenses in Papua New Guinea and selected exploration results.



#### **Andewa (EL 1345)**

The Andewa Project is owned 100% by Frontier. The Company completed a major 21 sq km geophysical, geochemical and geological exploration program at the Andewa gold and copper Project on the island of New Britain in Papua New Guinea in December, 2010.

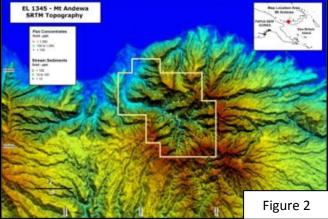
Three exceptionally extensive, voluminous and intense, three dimensional Induced Polarisation (3D-IP) chargeability anomalies compellingly demonstrate the presence of very large on-surface to more than 800m deep sulphide systems.

The Andewa Valley has no permanent settlements (figure 2 shows an SRTM topographic image of the Andewa EL and surrounds) with landowners living outside the 'crater' on/ near the coast.

Rocks within the 9km wide crater show significant hydrothermal alteration, with seven high-level gold prospects demonstrated within a major structural zone.

Exploration has previously concentrated only on the peripheral Komsen gold Prospect. Frontier had previously undertaken no exploration in the Ehgin and Ekhos areas, that are now high priority.

The first hole (figure 3 - see small brown blob near centre of the photo) is drilling into a silicified /oxidised /hematitic, E-W trending hydrothermal breccia associated with a major gold + copper in soil anomaly (red /yellow dots) on the 9800E line,

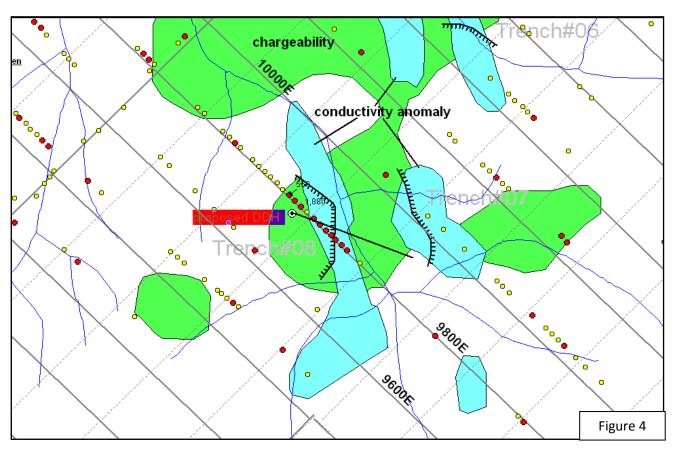




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across a major northerly trending structure, through a conductivity anomaly (Figure 4 - light blue) and into a chargeability anomaly (green).

The hole is near the eastern end of the Komsen structure where previous Frontier drilling returned mineralisation to 7.9m of 10.01g/t gold up to 320m below surface.



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

Five ELs in PNG are subject to 2 joint ventures with partner OTML 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 then has a deferred carry to completion of a Bankable Feasibility Study on each tenement.
- . 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 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 not simply economic, with employment, education and health services all facilitated by the mine.

OTML have indicated they intend to move to 'Advanced Stage Exploration' on the Bulago, Leonard Schultz and Likuruanga ELs and a 13,000m drilling program with 4 rigs is scheduled to commence in late August. This drilling has been delayed due to weather and mobilisation issues.

# Likuruanga (EL1351)

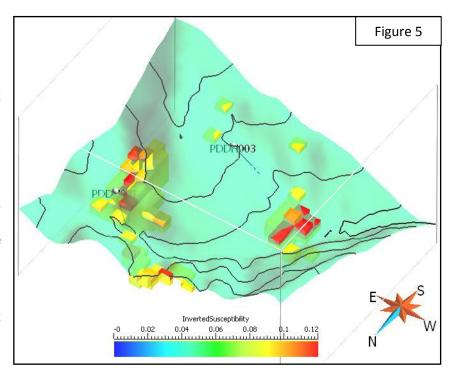
Two drill rigs are expected to be loaded onto the barge for mobilisation to the Esis Prospect on 10-11 August, with a helicopter aircraft organised to fly both rigs to drill sites.

The first rig will drill a new hole on old BHP MD23 site to 600m depth (or further if still in mineralisation), commencing around 19-20 August. The second rig will drill on previous site MD24, with the end of hole depth adjusted relative to lithology and mineralisation.

**Bulago (EL 1595)** 

Extended poor weather conditions and major mobilisation issues seriously hampered progress during the second quarter, however, two drill rigs arrive at Kiunga today, with subsequent mobilisation by helicopter to Bulago as rapidly as conditions allow.

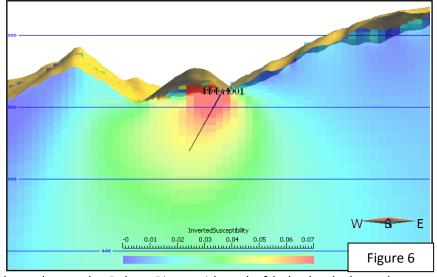
The first drillhole will target a geochemical and magnetic anomaly in the north-east of the main intrusive. It is at the junction of interpreted faults, representing a possible location for mineralised fluid flow and weakly mineralised breccias are observed on surface at the collar location. The drillhole is located close to the peak amplitude of inverted susceptibility in the



aeromagnetic model suggesting mineralisation could be skarn related.

Figure 5 shows proposed hole DDH001 (on the left) targeting a magnetic susceptibility high. Another pocket high susceptibility, 670m to the west will good follow mineralisation is intersected in the first hole. Contours are 100m intervals. Figure 6 shows a section through proposed DDH001 looking north showing inverted susceptibility. The horizontal scale lines are at 500m intervals.

The second drillhole will target a mineralised intrusive with potassic



alteration mapped along a structural trend near the Bulago River, with end of hole depth dependent on alteration intensity and mineralisation encountered.

# Leonard Schultz (EL 1597)

A trenching and sampling program will be undertaken forthwith at the Wasi – Kru, aiming at extending and closing off Frontier's previous work.

The field team should mobilise 22/8/2011 and proceed with detailed mapping and magnetic susceptibility ground truthing relating to the aeromagnetic modelling.

## Central and East New Britain (EL 1592 and EL 1598)

The two Exploration Licenses were granted on 21 March 2011, OTML has undertaken site visits to both areas and established contacts in several villages. All landowners indicated they wanted to cooperate and are waiting for exploration teams.

Extensive visits to EL 1592 are planned for August to assess prospects and logistics and planning is underway for an aeromagnetic survey near the end of 2011.

#### **TASMANIA**

Exploration on Frontier's Tasmanian Exploration and Retention Licences (figure 7) is targeting known high-grade (plus potentially bulk mineable) tungsten - tin - molybdenum, zinc -lead- silver -gold and gold deposits. Frontier are exploring a 45km total strike length of the highly prospective Mt Read Volcanics in SW Tasmania

for World Class Rosebery and Eskay Creek type Volcanic Hosted Massive Sulphide Deposits (zinc - lead- silver -gold ) (EL 20/96 and EL 33/2010). The Moina Project in the central north covers the highly mineralised Dolcoath Granite, parts of its E-W spine and of the number of skarn and vein deposits including silver, tin, tungsten, molybdenum, gold + silver + zinc + lead, zinc+ gold, fluorspar and gold + bismuth.

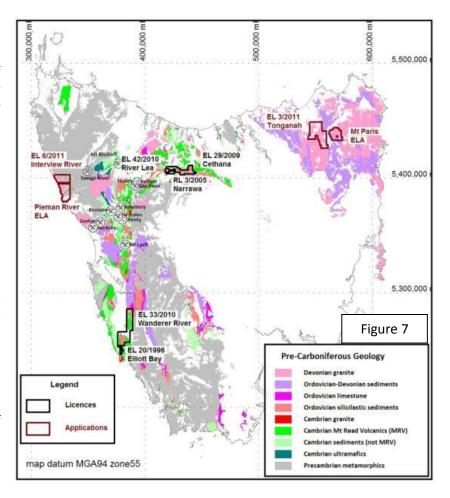
#### **Moina Project**

Major project and district potential was demonstrated unequivocally, with strong and widespread zones of tungsten, tin, molybdenum, copper and bismuth defined from a major soil sampling program, along with significant gold, lead, zinc, arsenic, yttrium and niobium soil anomalies.

#### **Summary**

A four sq.km soil sampling program was completed in central-northern Tasmania proximal to the I-Type Dolcoath Granite, which is host to a rich diversity of mineralisation including gold and gold polymetallic skarns, tungsten molybdenum tin, fluorspar and intrusion-related gold.

Soil samples at the Moina Project have very effectively demonstrated strong and widespread zones of tungsten, tin, molybdenum, copper, gold and bismuth, along with significant zinc, lead, arsenic, yttrium and niobium anomalies.



The multi-metal anomalous soil geochemistry occurs in a 6,000m long inverted and flattened 'U' shape around the northern margin of the highly prospective and mineralising Dolcoath Granite. The strike extent of the soil anomalies is generally open at each end of the 'U', indicating that the mineralised zone is likely to be larger / longer to the SW and SE. There is virtually no historic drilling in these extensive soil zones (except at the Narrawa Deposit).

An application has been lodged to acquire a 500m wide sliver of open ground south of the boundary to consolidate the prospective area and enable Frontier to assess the anomalies' strike continuations.

The soil assays show strong and distinct complex shaped, separate to partly coincident to totally overlapping zones of highly anomalous metals, with specific elemental associations that likely represent discrete mineralising episodes. Drilling at Frontier's Narrawa Deposit (within the gridded area) has documented a distinct gold - silver- lead - zinc association, while soil assays herein also show a quasi- concentrically zoned tungsten - molybdenum - tin - copper association.

Gold was demonstrated in two main zones over a total NW to WNW strike length of 5,000m. A highly prospective gold and multi-metal anomaly was discovered on the eastern side of the granite, variably up to and/or apparently extending across the southern EL boundary. This gold and base metal anomaly is a new target with a different geochemical 'signature' to Narrawa.

Bismuth is often associated with gold in these systems and the bismuth soil anomaly is strong in the NW and NE of the granite in a 1,400m long x up to 500m wide zone and in an additional narrow 2,000m long zone that trends to the SE.

The tungsten anomalism is widely distributed, 'U' shaped and is more than 5,000m long (at over 50ppm),

with 3 stronger zones to 1,700m long (at over 100 ppm). Frontier has inadvertently drilled high grade tungsten mineralisation at Narrawa such as 1m grading 1.98%  $WO_3$  (within 14m of 0.20%  $WO_3$ ), where the tungsten soil geochemistry is actually very weak relative to the strong and cohesive tungsten soil zones located further south and east.

Tin shows a similar pattern to tungsten at the same cut-offs, but is displaced slightly further concentrically from the granite contact and it is more extensive in the SE of the grid. Tin is also moderately anomalous in a NW trending zone that hosts the Narrawa Deposit.

The molybdenum anomaly is 4,000m long and very cohesive / strong around the northern margin of the granite. Copper is also strong and widely distributed in the SE to central sector of the grid and also in the NW trending structure. Bismuth occurs in the NW and NE sectors of the granite itself in a 1,400m long x up to 500m wide zone, plus an additional narrow but 2,000m long zone that trends to the SE. Niobium and yttrium soil anomalies indicate that the granite is fractionated and a highly fertile mineralising environment.

Six historic silver workings are located 1,000m northeast to east of the gridded area are now being incorporated into the grid and evaluated.

Resource infill and expansion drilling will commence at the Moina Project (Stormont and Narrawa Deposits) in a few days, to improve confidence levels relating to the deposits to potentially later allow them to be 'totally' classified as Indicated.

To further advance this <u>multitude</u> of large scale, base and precious metal anomalies, <u>a very large scale 3D-IP</u> program of approx. 40 sq km will commence in a few weeks with grid line cutting. The IP survey should be completed later in the fourth quarter and the ground geophysical and geochemical data sets will then be evaluated in conjunction with existing heli-borne electromagnetic / aeromagnetic and geological data to systematically define drilling targets for World Class intrusive related and skarn hosted precious and base metal deposits.

In early 2012 a 'regional' diamond drilling program will test the 3D-IP geophysical, multi-element geochemical and geological targets defined from the data compilation and evaluation.

#### **DETAILS**

The Moina Project consists of RL 3/2005 (Narrawa), EL 42/2010 (Stormont) and EL 29/2009 (Cethana) (Figures 7, 8 and 9). It covers the highly mineralised Dolcoath Granite and the northern part of its WSW trending sub-surface spine plus a several skarn and vein deposits. Trending from east to west and proximal to distal (relative to the granite) mineralisation includes silver, tin, tungsten, molybdenum, gold+ silver + zinc + lead, zinc+ gold, fluorspar (excised RL not FNT's) and gold + bismuth.

Frontier historically targeted near surface gold - bismuth and gold - silver - lead -zinc skarn deposits, however deeper tungsten - tin - molybdenum and World Class intrusive related gold deposits are also now being targeted in this highly mineralised district.

There are at least 70 historic workings (shafts, adits and small open pits) within the immediate area and the primary commodities mined were dominantly tungsten with some tin and gold (many workings are unspecified).

Frontier's Narrawa Deposit is a stratabound/ stratiform skarn within 4 steeply dipping on/near surface lodes, which could be mined by open pit mining methods. It is located in the middle of the 'old 'soil grid. The deposit contains an Indicated and Inferred resource with 14,125 ounces of gold, plus 131,300 ounces of silver plus 2,765 tonnes of lead plus 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 and 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.

Located about 6km to the west of Narrawa, Stormont is an on-surface skarn hosted deposit which could be easily mined by open pit mining methods. The Inferred Resource is 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).

A Conceptual Mining Study evaluating mining the on-surface Stormont and Narrawa Deposits showed a satisfactory theoretical cash flow that improves significantly with increased metal prices, grades and/or tonnages of mineralisation (refer ASX release dated 12/8/2009). Metal prices utilised in the CMS were US\$940/oz gold, US\$0.7144/lb zinc, US\$0.7738/lb lead, US\$13.70/oz silver (3/7/2009) and since then the metal prices have all appreciated significantly.

Figure 8 shows the historic aeromagnetic data as a first vertical derivative image over the Moina Project area. The Stormont EL is located off the plan to the west. The excluded Moina Fluorite / Hugo Skarn Deposits Retention Licence is partly visible and the Narrawa RL (3km²) is shown within the large Cethana EL (109km²). The 'block' size is 1km x 1km. The Dolcoath Granite is the green to blue rimmed circular aeromagnetic low to the SE of the Narrawa RL.

The three contiguous tenements have excellent potential for a range of metals as demonstrated by the soil anomalies presented herein for part of this area. The highly mineralised Dolcoath Granite has a tabular like shape extending west-southwest and is responsible for a number of skarn and vein /skarn styles of gold, tungsten, tin, lead, zinc, silver and fluorine mineralisation.

An extensive and detailed soil geochemical program was recently completed at the Cethana and Narrawa tenements over a 4km<sup>2</sup> area (at 100m x 50m centres), encompassing and including the Narrawa Deposit and its soil grid. Multi-element analyses were undertaken using in-house (not a commercial laboratory) x-ray fluorescence (XRF) assaying equipment. Frontier believe this data to be accurate and it has been extensively checked and evaluated. There are minor 'levelling' discrepancies between the new and old data sets (as always). Gold was analysed commercially by 40 gram fire assay.

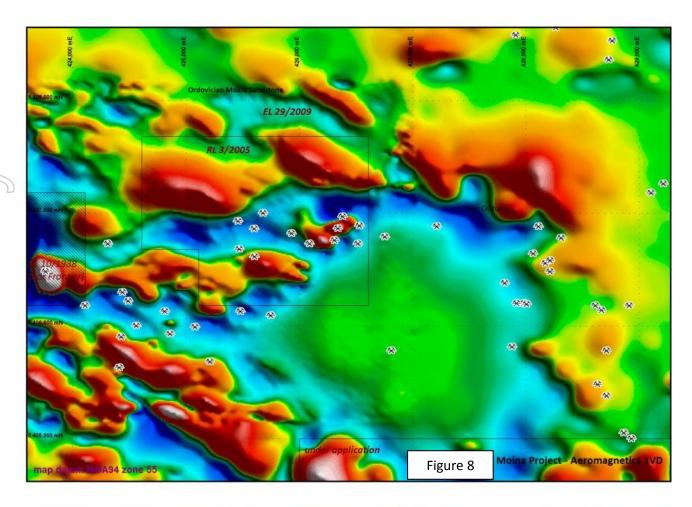
Figure 9 shows the Cethana area soil sampling conducted by Frontier on a Mineral Resources Tasmania geological plan, showing the area sampled in dots (100m x 50m spacings), with the historic Narrawa grid at an oblique orientation. It is the same size as Figure 8, so the geology and soil geochemistry results can be compared to the aeromagnetics. There are at least 70 historic workings (shafts, adits and small open pits) within this targeted area testifying to its highly prospective and mineralised status. The grid is 1km square.

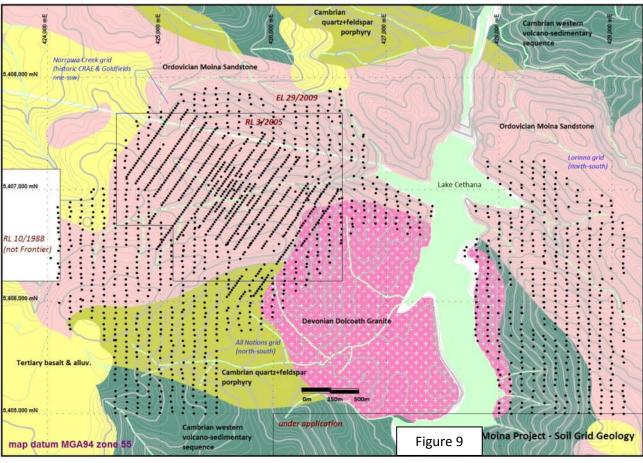
The total relative size or ranking of the soil anomalies appears to be: tungsten = tin over molybdenum = copper over bismuth = gold = zinc = lead = arsenic over yttrium = niobium over antimony over thallium over silver. The soil plans have been schematically contoured at various levels, including a low tenor envelope to demonstrate the location of the entire mineralised zone and a high grade envelope to show the areas of strong mineralisation (refer to figures 10 - 18, depicting contours of tungsten, tin, molybdenum, copper, gold, bismuth, arsenic, lead, yttrium, niobium and zinc).

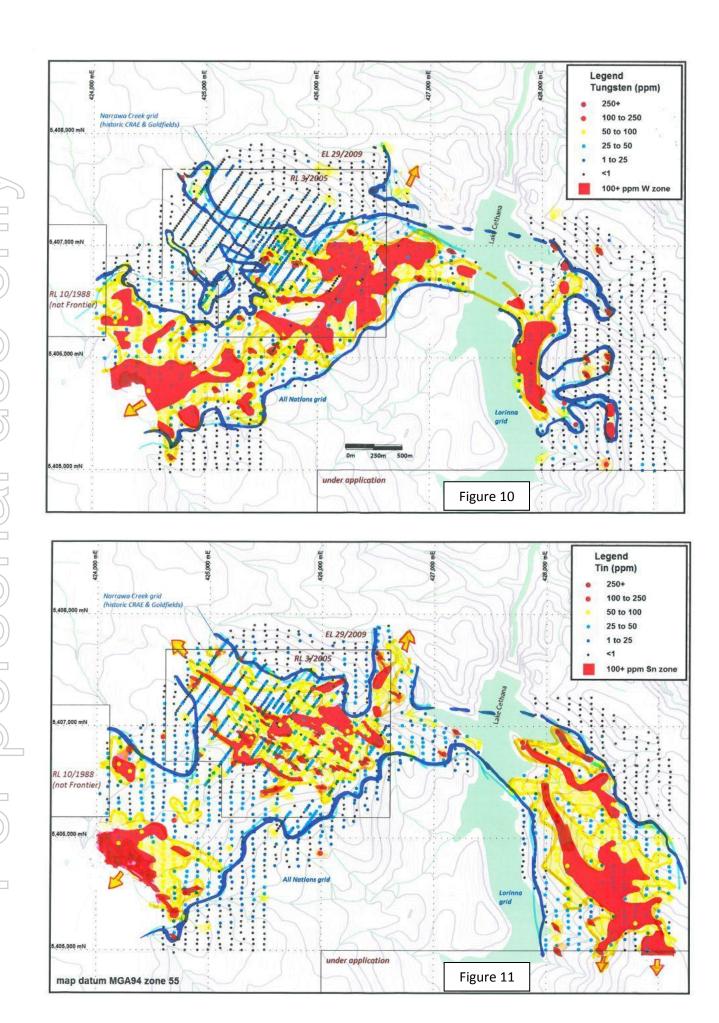
Contours of the soil sample assays demonstrate distinct metal zonations proximal to the Dolcoath granite to various depths above the contact and/or distance from it. The anomalies are also variably associated with lithologic and/or structural contacts between the sedimentary, porphyry and volcanic sequences.

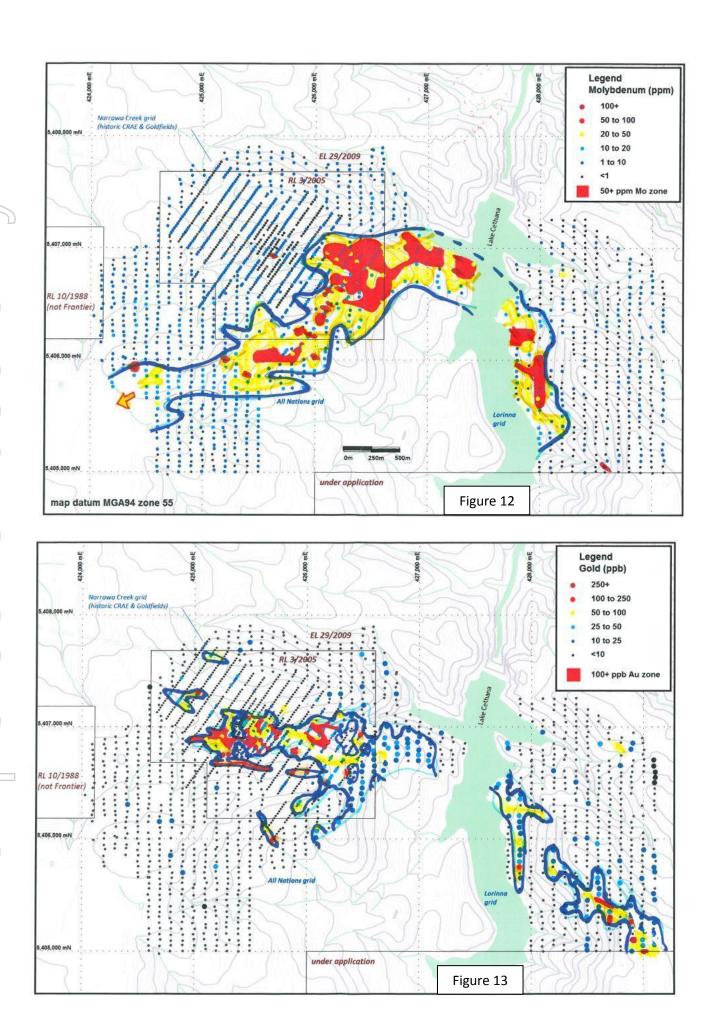
Gold was demonstrated over a total strike length of 5,000m, in two main areas with a WNW orientation. The more extensive western gold anomaly is up to 1,800m long x 350m wide and corresponds to the Narrawa district. Gold correlates moderately with lead and weakly with zinc, copper and tin; it has a no correlation with bismuth, molybdenum or antimony. The SE sector of the overall gold anomaly is a completely new target for Frontier to explore; it has a different geochemical 'signature' to the Narrawa Deposit/area and correlates strongly with lead, bismuth and arsenic and weakly with silver, antimony, zinc and thallium in soils.

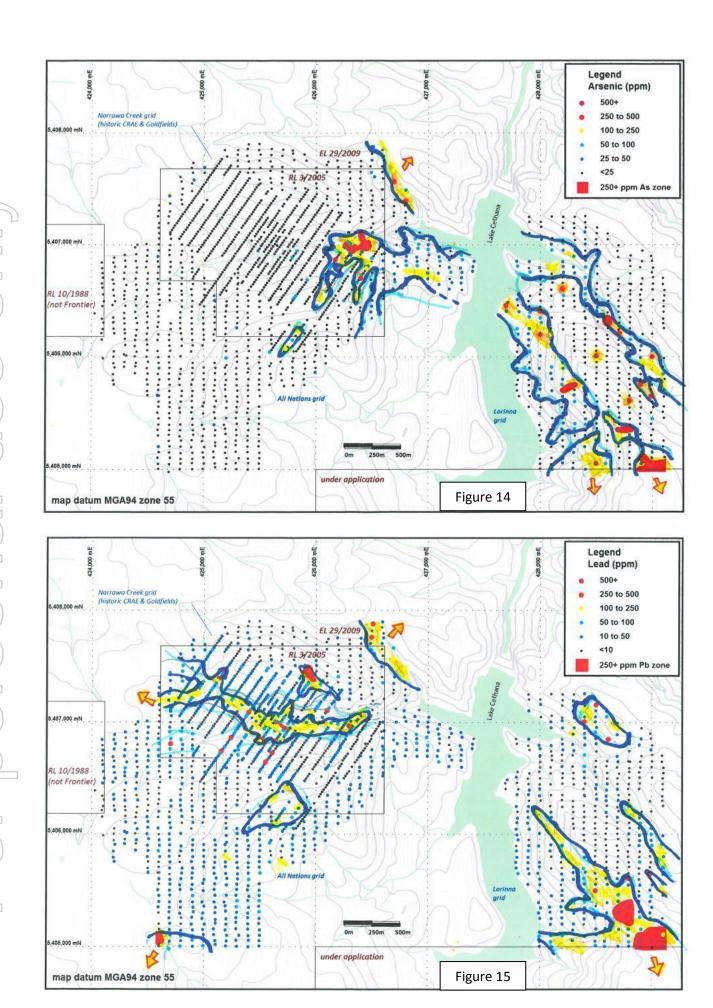
Tungsten soil assays have demonstrated a large area of anomalism over a more than 5,000m strike length, at over 50ppm, with 3 major zones to 1,700m long at over 100 ppm, from one end of the 'U' to the other. Tin shows a very similar pattern to tungsten at the same cut-offs, but is displaced slightly further from the granite contact and is more extensive to the SE. Tin is also moderately anomalous in a NW trending zone or structure that hosts the Narrawa Deposit. The molybdenum anomaly is 4,000m long, cohesive and strong around the northern margin of the granite and is slightly more prevalent than bismuth. Copper is strong and widely distributed in the SE to central sector and also the NW trending structure noted above. This is interesting because it is only weakly anomalous at Narrawa, suggesting it is more intimately associated with the tungsten -tin mineralisation. Copper is only weakly anomalous in the SW sector of the 'U'.

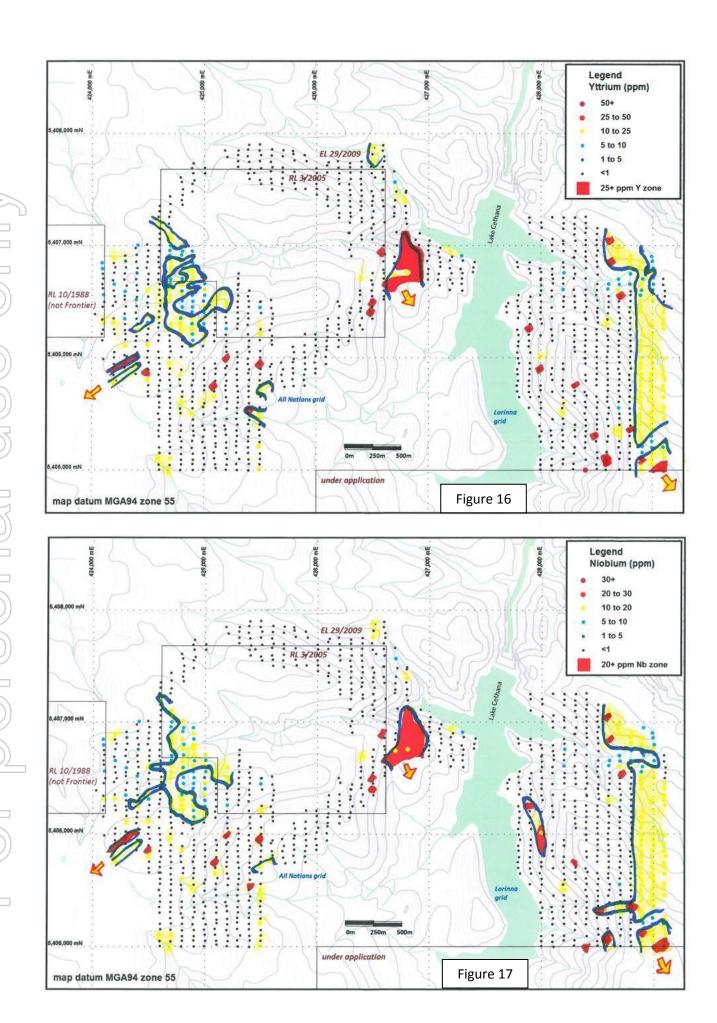


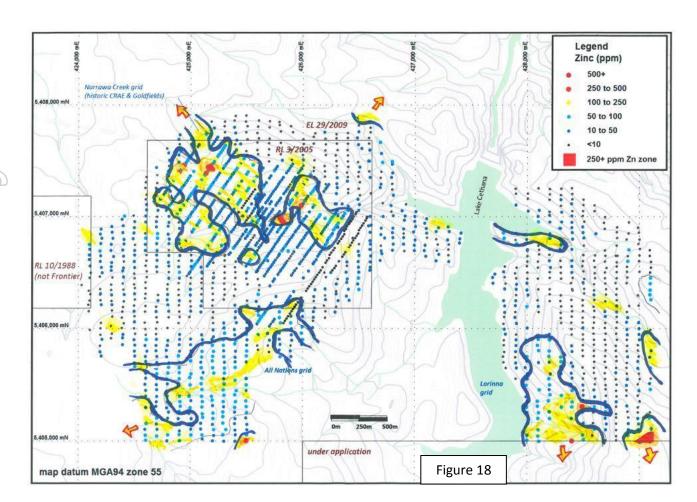












Bismuth occurs in the NW and NE sectors of the granite itself in a 1,400m long x up to 500m wide, NE trending zone, plus an additional narrow 2,000m long zone trending to the SE. The main zone is completely open to the south into the granite. Bismuth is regularly associated with gold in environments such as this (proximal to the Dolcoath Granite), as seen at the Stormont gold - bismuth Deposit. Soil zones with cohesive and coincident gold-bismuth, gold - lead, gold -bismuth - lead are excellent trenching and drilling targets.

Yttrium and niobium (rare earth elements) anomalies are spatially restricted and are strongest in the central north sector of the granite; they are cohesive 'blobs' that are about 500m long and open to the south toward the core of the granite. The significance of these anomalies is unclear and is being further evaluated.

Historical drilling around the Narrawa Deposit by Frontier and others has been for gold and generally restricted to shallow depths. Drilling has demonstrated significant values for many different metals in the Narrawa region as detailed below by the better drill incepts demonstrated to date:

- ► Gold 1.2m grading 25.3 g/t gold + 50 g/t silver +5.9% lead + 4.4 % zinc (NC06 from 15.05m)
- Silver-lead-zinc 1m grading 460g/t silver + 2.53 g/t gold + 18.7 % lead + 15.0% zinc (NC22 from 55m)
- Tungsten 1m grading 1.98% WO₃, within 14m of 0.20% WO₃ (NC048 from 21m) also 0.5m grading 1.26% tungsten + 0.119% molybdenum (DD82G1 from 116.5m
- → Bismuth 1.2m grading 0.275% bismuth + 0.864% tungsten + 12 g/t silver (ND2 from 52.9m)
- → Molybdenum 0.8m grading 0.48% molybdenum (DD82G1 from 116.5m) also 125m grading 116ppm molybdenum (ND03 from 3m) also 12m grading 116 ppm molybdenum (ND01 from 104m)
- → Tin 1.3m grading 0.104% tin (NC13 from 50.4m)
- Copper 0.7m grading 0.41% copper (NC28 from 41.7m)

These examples are indicative for high grade only and is an incomplete data set, as many holes were shallow and not analysed for tungsten, tin, molybdenum, bismuth and silver. There are also substantial intercepts of lower tenor, but much wider gold -silver- lead -zinc mineralisation. Tungsten is a primary target and is discussed below in more detail, as there is historical information available.

The wide distribution and strong tenor of tungsten soil geochemistry noted is very encouraging as historic drilling has already documented structurally controlled near surface, higher grade tungsten within significant widths of lower grade, but potentially bulk mineable mineralisation. For example, Frontier's historic hole NC048 near the NW end of the Narrawa Deposit returned 1m grading 1.98% WO $_3$  (within 14m of 0.20% WO $_3$ ). Hole NC53 (the last one drilled) returned 0.65m grading 1.04% WO $_3$ , within 10.5m grading 0.23% WO $_3$  and the known +800m strike length between these holes remains undrilled.

Frontier's historic hole NC53 targeted the 330º strike / 40º to 50º SW dipping Squib Mine underground lode at 15m beneath the reported bottom level of the workings. However a significant puggy fault was intersected around 32m and the hole was terminated shortly thereafter when the barrel and three rods snapped off down hole in a cavity. The cavity likely represents the underground workings /lode, which apparently extend to greater depth than is historically reported. Veins / structures, locally with trace visible wolfram, are encountered sporadically from near surface with locally up to 10% quartz over a metre, and with the thickest veins up to 15cm. These differ slightly from intense greisen-silica veins, commonly bearing Wolfram blades (to 16mm & 3% locally), which superficially appear like quartz veins, but represent focused silica replacement. Greisen is best developed on the granite margins.

Six historic holes drilled for gold also returned potentially economic grades of tungsten, with up to 0.5m of 1.26% WO<sub>3</sub> plus 0.12% molybdenum. Five channel samples also returned anomalous tungsten with up to 1.5m grading 0.70% WO<sub>3</sub> and also 3m grading 1.17 g/t gold + 0.1% WO<sub>3</sub>.

The best tungsten potential in soil appears to be proximal to the Squib Mine area, which historically was the richest and largest tungsten producer in the area and extending both to the SW and SE from it. The Squib mined high grade wolfram (tungsten - molybdenum - bismuth +/- tin and gold) bearing quartz veins and historically produced around 34.5 tonnes of tungsten (about half of Australia's current annual production). Dump samples have analysed up to 5% WO<sub>3</sub> and a sample from a lode in a drive returned 3.19% WO<sub>3</sub>. Note that calculations for Ferrotungsten herein assume all concentrate is FeW, equating to 76.7% tungsten, whereas commercial concentrate typically contains 70 to 75% tungstic oxide (WO<sub>3</sub>) or 55 to 63% tungsten. Historic drill hole DD82DG3 (collared approximately 200m to the east of the Squib Open Cut), drilled away from the strongest tungsten in soils, targeting Black's Lode and Black's Lower Workings. This apparently poorly targeted hole drilled beneath only modest tungsten in soils, but returned a 174m wide, low grade intersection with tungsten (WO<sub>3</sub>) to 0.16%, bismuth to 0.55% and molybdenum to 340ppm.

The spatial distribution of mineralisation style reflects proximity to the granite source. The Squib Open Cut mined greisen bearing pegmatitic veins and numerous narrow quartz veins within granite. The mined termination of the wolfram bearing underground East quartz Vein was noted to split into numerous thinner veins (i.e. the veins are wider /better defined distal to the granite).

The ore bodies at the Squib Open Cut contain wolframite with lesser amounts of molybdenite, cassiterite and bismuthinite. At the open cut workings, the lode consists of 15 x 2 to 10cm veins of quartz over wolframite over bismuthinite over molybdenite. The operation of the main level developed a molybdenite vein ¼ to ½ an inch (6 to 12mm) thick (McIntosh Reid, 1919). The richest ores (and with the greater proportion of molybdenite) are observed to occur in veins intruding the Moina Sandstone, however most of the workings are in the granite.

Greisen style mineralisation likely extends along the granite spine, plunging to the west and east. Higher tonnage, lower grade zones may be focused immediately within the granite and are reported from quartz porphyry margins.

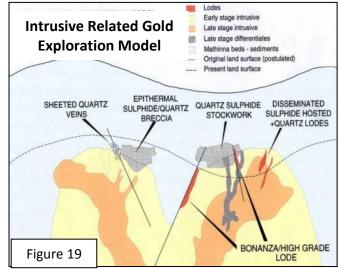
It is also noted by government geologist McIntosh Reid that free gold occurs in the pegmatitic veins of the Squib workings. The veins are the typical greisen consisting of quartz - wolframite - molybdenite - cassiterite - bismuthinite veins, with minor accessory minerals such as topaz, fluorite and beryl. This occurrence of free gold provides a distinct link between the granite and gold.

The most appreciable amount of molybdenite was found in the Squib Mine East Drive (underground) where the vein was 25cm wide. Appreciable molybdenite is also found in the end of West Drive in the main level. Molybdenite and bismuthinite contents are also said to be much greater in the "Number 2 lode" or "western vein" where mineralisation is 20-30cm wide (McIntosh Reid, 1919).

McIntosh Reid (1919) also described a possible genesis that is ordered from earliest to latest: cassiterite - molybdenite - wolframite - wolframite/quartz/bismuthinite (gold?), quartz, chalcopyrite, pyrite, sphalerite, arsenopyrite. This reflects tin - molybdenum - tungsten - bismuth - gold - copper - zinc - arsenic, which is similar to the sequence demonstrated by the overall tenor of the soil anomalies/ geochemistry reported herein.

# River Lea -Stormont Deposit (EL 42/2010)

Frontier's intention is to explore the Moina Project area and Dolcoath Granite at greater depths for World Class Intrusive related multi-metal mineral deposits , subsequent to completion and interpretation of a major IP survey (that will be conducted over the next six months). The Moina Project surrounds an excluded (competitor's) 2 km² area that contains the worlds' largest unmined fluorspar (fluorite) deposit, demonstrating that 'World Class' Deposits are associated with the Dolcoath Granite. Figure 19 shows an Intrusive related gold exploration model.



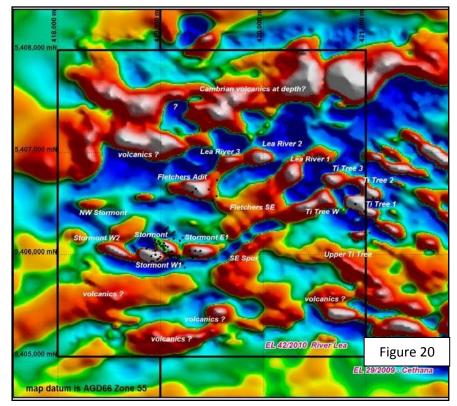
The Company will be concurrently working to

convert the local Stormont area into a mining lease as part of a strategy to develop a larger stand alone

mining operation in the region (initially /potentially utilising the known modest satellite orebodies such as Stormont and Narrawa Deposit processed in a centralised mill).

Figure 20 shows the River Lea EL (9 km²) and the Stormont Deposit, plus 23 prospective aeromagnetic anomalies (some of which correspond to the known 5 gold – bismuth occurrences) on a 2nd vertical derivative aeromagnetic image. It also shows the Stormont resource (light green ellipse), drill collars and numerous aeromagnetic highs having limited or no drilling.

River Lea is located and is part of the contiguous 'Moina' tenement portfolio of 121 square kilometres that is centred on the



highly fertile Dolcoath Granite and enclosing rocks. Some of the licence area was held previously by Frontier as RL 4/2005 - Stormont and contains a JORC compliant gold + silver + bismuth Inferred Resource of 112,500 tonnes grading 3.94g/t gold, 3.41g/t silver and 0.27% bismuth (at a cut-off grade of 1g/t gold) for 14,250 ounces of gold, 12,335 ounces of silver and 30.6 tonnes of bismuth (figure 21).

Stormont is a skarn-style stratiform deposit located in the core and on the limbs of a shallowly southeasterly plunging syncline (at its northwestern end). The deposit is located on or very near surface and ranges in stratigraphic thickness between 10m and 15m.

A consistently mineralised resource is modelled in the 150m long, NW part of the central syncline, referred to as the high grade zone. Stormont is genetically associated with the highly fertile Dolcoath Granite that recently demonstrated very large (to 6km long) multi- metal soil anomalies near the Company's Narrawa

Deposit (located about 6.5km to the east).

The orebody lies in the hinge zone of a northwest trending 2nd generation open synclinal fold superimposed on an earlier more east-west trending broader open synclinal fold. Similar 2nd generation folds with Transition Beds in their hinge zones occur in a number of locations in EL 42/2010 - River Lea as well as Frontier's adjacent tenement EL 29/2009 - Cethana.

Preliminary metallurgical testwork on three samples consisting of gravity separation and leaching of the gravity separation products, has shown overall gold recoveries ranging from 80-85%, with the highest recovery at the finest grind.

The gravity tailings leaching curves indicate that the gold is present in two phases, being a non-refractory fast leaching phase (with 80-90% of the leachable gold recovered in the first two hours of the test) and a slow leaching component (with the remaining gold recovered in the following 48 hours). The results indicate that this slow leaching component is still leaching at 48 hours and thus overall recoveries can be improved with additional testwork.

A Conceptual Mining Study relating to possible mining and processing of the gold and base metal mineralisation at the Narrawa and Stormont Deposits has demonstrated the potential for a positive theoretical cash flow. Metals prices utilised in the CMS on 3/7/2009 were US\$940/oz gold, US\$0.71.44/lb zinc, US\$0.7738/lb lead, US\$13.70/oz silver; since then, the gold price has appreciated more than 50%, silver more than 300% and zinc and lead prices are also strong.

Feasibility studies will continue in due course with:

- Additional metallurgical testwork to maximise metal recoveries and minimise possible operating costs
- Additional metallurgical testwork to maximise metal recoveries and minimise operating costs; and
- Resource, Environmental and other evaluations undertaken in conjunction with the nearby Narrawa polymetallic Deposit to allow for their probable joint development.

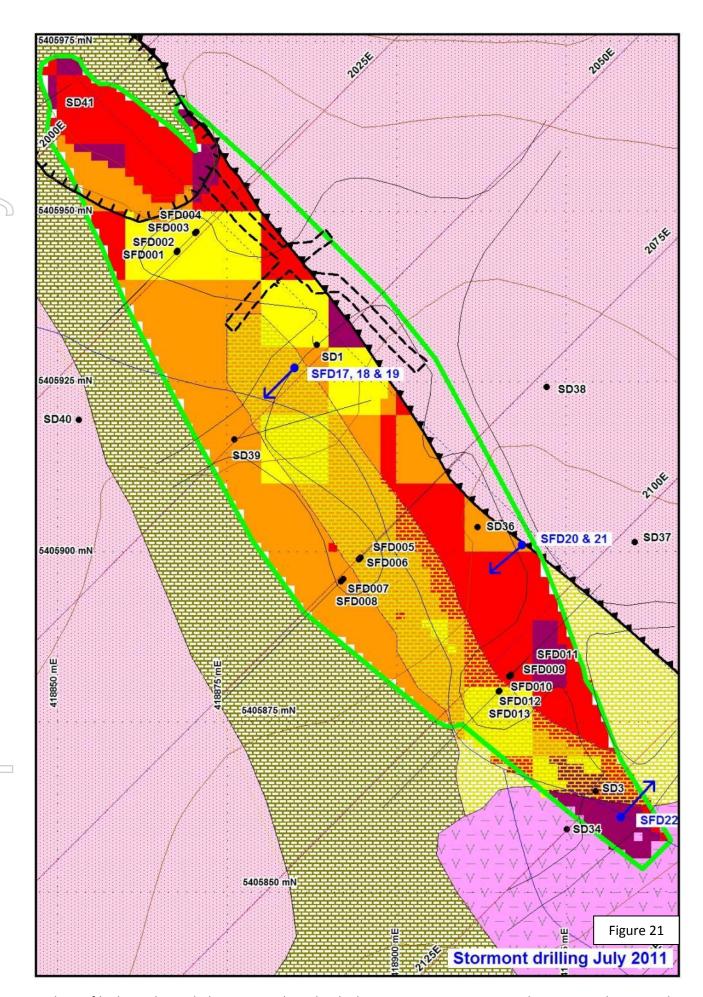
The exploration equipment from the SMRV Project was redeployed to the Stormont Deposit in central-northern Tasmania where resource infill and expansion drilling commenced 12 July. Five holes were completed for 160.1m and the sixth hole was temporarily terminated at 21.4m, prior to a 3 week field break for the drill crew.

Figure 21 is a plan of the Stormont gold + silver + bismuth resource area showing the location of recent and historic drill hole collars, colour coded Inferred Resource block model, surface geology and significant assays..

The drilling program in the Stormont 'District' has four objectives:

- 1. Additional expansion drilling to increase the total resources and thus further improve the overall project economics;
- 2. Infill drilling to improve the classification or confidence of the resources associated with each deposit, so reserves can be estimated, fiscal outcomes published and development capital ultimately be raised;
- 3. Definition of additional on or near surface satellite gold bismuth deposits to increase the total resources and improve the overall project economics.
- 4. Obtain samples for continued metallurgical testwork to maximise recoveries and allow developmental planning.

There is good scope to increase the resource with additional drilling in the SE of the central syncline, the untested western sector of the western syncline and proximal to the eastern thrust. Significant high grade gold+/-bismuth intersections have been demonstrated over the entire 300m known length of the central syncline, with drillholes returning up to 4m of 12.7 g/t gold, that are not included in the resource estimation.



Analysis of high resolution heli-magnetic data clearly demonstrates a strong spatial association between the Stormont Deposit and aeromagnetic highs and has revealed the presence of numerous lookalike magnetic highs containing little or no drilling. The mineralised skarn assemblage includes magnetite and so has a

positive magnetic response.

Targets are generally shallow and quickly tested. Resources identified will likely be amenable to open cut mining, as at Stormont. The potential for other high grade gold skarns in the licence (as well as Frontier's adjacent EL29/2009 - Cethana) is high.

There is strong potential to upgrade the gold grade associated with the Stormont Inferred Resource by 7 or 8% just by redressing probable errors in previous assaying results by new check and umpire re-assaying (i.e. 26 assays of an independent NATA certified gold standard included in 4 discrete batches of samples of core from the Stormont Drilling consistently assayed 10.5% lower than the specified grade). Check and Umpire reassaying of Frontier's drillhole sample pulps will be conducted immediately.

# SMRV Project (EL 20/96 and EL 33/2010) Summary

A 1,454m diamond drilling program was completed at the Elliott Bay Project, Wart Hill precious and base metal massive sulphide Deposit in SW Tasmania in May and the equipment demobilised.

Exploration confirmed Wart Hill's excellent width and grade potential (Figure 22), with the best intercept ever drilled in hole WD025 of 13.9m grading 1.11 g/t gold + 37g/t silver + 9.0% zinc + 4.5% lead + 0.3% copper (from 157.1m). This intercept also demonstrates the 45km long SMRV Project's high prospectivity.

Three base metal massive sulphide lenses were intersected consisting of:

- 0.75m grading 1.04g/t gold + 48g/t silver + 28.6% zinc + 14.6% lead + 0.87% copper, from 157.1m plus
- 0.75m grading 4.9g/t gold + 75g/t silver + 27.4% zinc + 12.8% lead + 1.39% copper, from 159.85m plus
- 7.1m grading 1.48g/t gold + 58g/t silver + 11.18% zinc + 5.58% lead + 0.35% copper, from 163.9m.
- Peak gold and silver assays were 8.11 g/t and 215 g/t respectively, over 0.55m.
- 20/1996 epiclastic 4.0m @ 0.2% Cu. 10.2% Pb. 17.9% Zn. 132g/t Ag & 0.6g/t Au WD025: 13.9m @ 0.311% Cu, 4.47% Pb, 8.97% Zn, 37g/t Ag & 1.11g/t Au 51,500 mN Lens B: 3.0m @ 0.2% Cu, 13.9% Pb, 21.9% Zn 680g/t Ag & 0.8g/t Au felsic mass flows shales Rhyolite sandst nes & volcan clastic conglomerates Tyndall Group Main (Upper) Exhalite Horizon Wart Hill Rhyolite 5,250,500 mN elsic mass flows & sediments Figure 22 Map Datum is AGD66 Zone 55

Drillholes have been cased with PVC and will be surveyed by DHEM in the next programme.

Tasmania's Mt Read Volcanics host a number of world class orebodies (Mt Lyell, Hellyer and Rosebery) and WD025's intersection of thick, high grade gold rich base metal ore attests to the potential for a Rosebery size/style orebody at Wart Hill.

• There is high grade gold and silver in the lower part of main intersection, with 1.45m grading 6.34g/t gold plus 134g/t silver.

- Hole WD023 (in the 'lower' mineralised horizon) intersected 0.4m of 0.4% lead + 0.76% zinc, from 49.3m to 49.7m and also 0.5m of 2.47% zinc + 1.1% lead, from 80.9m to 81.4m.
- Preliminary geological re-logging of core suggests that deeper drilling (WD022) may not have intersected the target horizon, increasing the mineralisation potential at depth.

#### **Details**

Assay results have been received for the 3 drillholes from the latter part of the 2011 program at the Elliott Bay EL (Southern Mt Read Volcanics Project). Results of earlier drilling, DHEM and Short Wave Infra-Red spectral mapping of hydrothermal alteration were detailed in releases on 4<sup>th</sup> January and 31<sup>st</sup> March, 2011.

The three holes (WD023, WD025 and WD026, for 458.2m) were drilled in and around the Wart Hill base metal massive sulphide deposit to add further detail, aid in the estimation of a resource and provide samples for metallurgical testwork.

The Wart Hill base metal massive sulphide deposit was discovered in the early 1980's by Geopeko. The deposit crops out on the surface as Lens A and Lens B. Lens A was 4.0m grading 0.6 g/t gold + 132 g/t silver + 17.9% zinc + 10.2% lead + 0.16% copper and Lens B was 3.0m grading 0.8g/t gold + 680g/t silver + 21.9% zinc + 13.9% lead + 0.2% copper.

Figure 22 is a plan of the Wart Hill high grade polymetallic precious metal-rich massive sulphide deposit, Elliott Bay, western Tasmania, showing location of WD025 intersection.

Previous intersections of the Wart Hill base metal massive sulphide deposit have included:

WD001: 6.1m grading 0.43g/t gold + 77.3g/t silver + 7.43% zinc + 4.48% lead + 0.06% copper

WD002: 7.9m grading 0.29g/t gold + 57.3g/t silver + 5.82% zinc + 3.02% lead + 0.09% copper

WD009: 6.6m grading 1.81g/t gold + 55.6g/t silver + 6.16% zinc + 3.33% lead + 0.22% copper

WD010: 2.3m grading 0.4g/t gold + 161.8g/t silver + 9.81% zinc + 5.11% lead + 0.12% copper

WD012: 1.9m grading 0.97g/t gold + 47g/t silver + 7.34% zinc + 3.64% lead + 0.24% copper

WD018: 0.5m grading 0.51g/t gold + 210g/t silver + 16% zinc + 5.8% lead + 0.07% copper

WH8: 0.8m grading 0.63g/t gold + 123g/t silver + 24.7% zinc + 10.4% lead + 0.26% copper

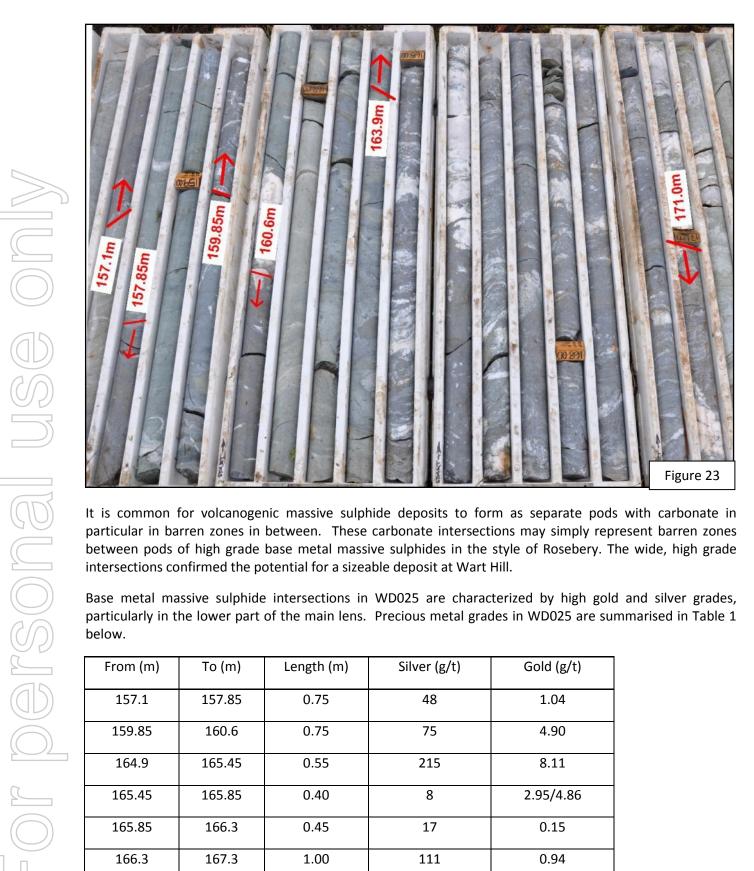
WH10: 5m grading 1.35g/t gold + 31.5g/t silver + 6.04% zinc + 2.97% lead + 0.26% copper

Hole WD025 was designed to confirm the continuity of widths and grades intersected in previous drillholes WH10 and WD009. The hole passed through altered volcaniclastics until 157.1m and then intersected 3 lenses of base metal massive to 171.0m, as below.

- 157.1m to 157.85m: 0.75m grading 1.04g/t gold + 48g/t silver + 28.6% zinc + 14.6% lead + 0.87% copper
- 159.85m to 160.6m: 0.75m grading 4.9g/t gold + 75g/t silver + 27.4% zinc + 12.8% lead + 1.39% copper
- 163.9m to 171.0m: 7.1m grading 1.48g/t gold + 58g/t silver + 11.18% zinc + 5.58% lead + 0.35% copper

Figure 23 shows the high-grade base metal massive sulphides intercept noted in hole WD025 drillcore. The upper two intersections are quite discrete with sharp upper and lower contacts. The host rocks are pumice rich mass flows with occasional clasts (pebbles) recognizable. Whilst it is a possibility that the two upper intersections are of clasts it is equally likely that the intersections are of in-situ lenses. These two intersections are of particularly high grade. The lower, thick intersection consists of pale brown sphalerite (ZnS) and silver–grey fine grained galena PbS with lesser chalcopyrite (CuFeS2) in a gangue of calcite and quartz (silica). In places quartz+/-calcite forms vein-like masses.

A number of barren/low grade intersections in earlier drilling programmes consist of carbonate and/or silica, in particular deeper intersections in WH12A and SDH1. Their presence as gangue to WD025's intersection supports the interpretation that these carbonate+/-silica (chert) are of the mineralised horizon.

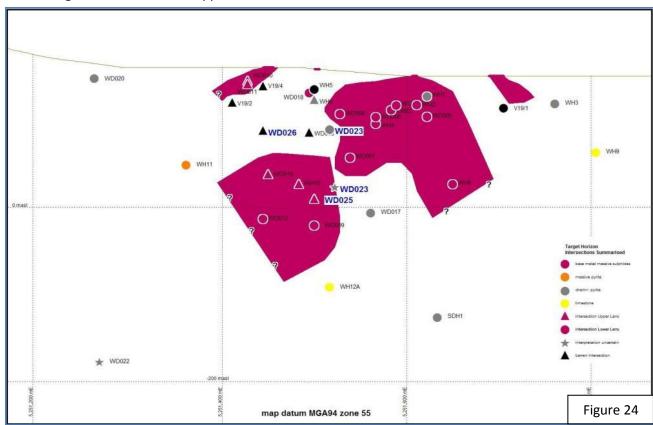


It is common for volcanogenic massive sulphide deposits to form as separate pods with carbonate in particular in barren zones in between. These carbonate intersections may simply represent barren zones between pods of high grade base metal massive sulphides in the style of Rosebery. The wide, high grade intersections confirmed the potential for a sizeable deposit at Wart Hill.

Base metal massive sulphide intersections in WD025 are characterized by high gold and silver grades, particularly in the lower part of the main lens. Precious metal grades in WD025 are summarised in Table 1 below.

			T .	
From (m)	To (m)	Length (m)	Silver (g/t)	Gold (g/t)
157.1	157.85	0.75	48	1.04
159.85	160.6	0.75	75	4.90
164.9	165.45	0.55	215	8.11
165.45	165.85	0.40	8	2.95/4.86
165.85	166.3	0.45	17	0.15
166.3	167.3	1.00	111	0.94
167.3	168	0.70	117	1.64
168	169	1.00	96	0.73
169	169.6	0.60	139	0.79
169.6	170.25	0.65	143	0.56
170.25	171	0.75	95/96	0.26

The long section (figure 24) shows a gap in drilling in the southern part of the grid between 115m and 60m above sea level. Holes WD023 and WD026 were targeted to test this apparently low grade zone with both holes designed to test both the upper and lower horizons.

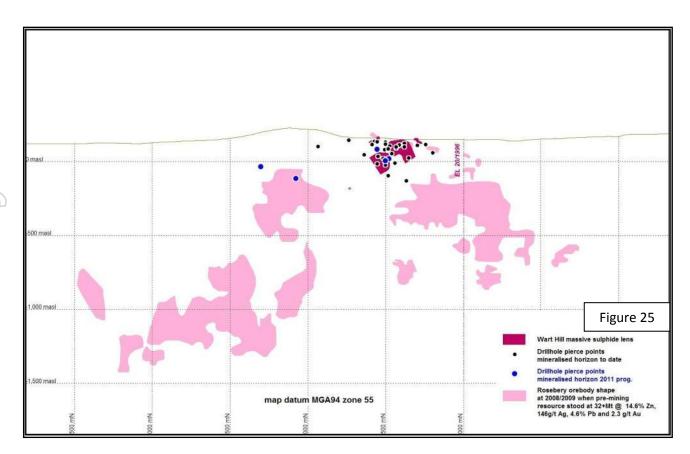


WD023 intersected a zone of base metal stringer veins and disseminations between 49.3m and 49.7m assaying 0.4m grading 0.06g/t gold + 4g/t silver + 0.76% zinc + 0.42% lead + 0.03% copper, as well as a unit of bedded chert from 80.9m to 81.4m assaying 0.5m grading 0.07g/t gold + 13g/t silver + 2.47% zinc + 1.09% lead + 0.07% copper. The zone between 49.3m and 49.7m is interpreted as the lower horizon. A zone of finer grained sediments between 124m and 127m is considered to represent the upper horizon (assays are awaited but not expected to be significant).

Figure 24 shows a Long section looking west. Piercement points of drill intercepts in the Wart Hill base metal massive sulphide lens are shown as various symbols. Figure 25 shows a Long section of the Wart Hill "holy host" horizon showing piercement points of drilling and the Wart Hill precious metal rich base-metal massive sulphide lenses, superimposed on a reversed (north is south) long section of the Rosebery deposit showing the poddy nature of this World Class orebody.

In hole WD026 the lower horizon is unclear though there is a major fault intersected at 49m and so the horizon may have been removed. The upper horizon is represented by bedded chert between 78.15m and 78.75m. Table 2 shows drill hole collar positions for all 2011 drilling (1,454m total) at Wart Hill.

	Easting	Northing	RL	Azimuth		
Hole ID	(AGD66)	(AGD66)	(m.a.s.l.)	(AMG)	Dip	Total Depth
WWD004	379400	5250905	175	90	-60	328.0
SWD004 (extn.)	379250	5250710	161.5	90	-60	387.4
WD023	379386	5251515	140	90	-65	148.0
WD024	379653	5251404	163	97	-50	280.4
WD025	379324	5251486	149.3	86	-60	194.8
WD026	379405	5251450	156	92	-60	115.4



The Wart Hill Prospect is one of only a very few locations in Tasmania where smaller VHMS bodies have yet to be shown that they are part of a much bigger mineralised system. Tasmania's Mt Read Volcanics often host such World Class orebodies.

Future work on the Wart Hill Prospect will include;

- → The estimation of an Inferred (modest) Resource.
- ◆ Focussed SWIR and trace element footwall alteration vectoring to map the mineralisation trend
- Conducting downhole EM in WD023, WD025 and WD026 next field season
- Re-assaying chert sections of drillholes for Henty-style gold
- → Undertaking additional drilling at depth to the south and north to locate massive sulphide mineralisation.

Frontier's expansion and commodity diversification strategy in Tasmania was completed during the quarter, consolidating and significantly enhancing the Company's tenement portfolio with a diverse suite of metals in this richly mineralised state.

- The Stormont Gold Bismuth Deposit, Wanderer and Tonganah ELs were granted, the SMRV (Elliott Bay) was renewed and the remaining Applications were recommended to the Minister for granting.
- Tungsten, molybdenum and tin are a major new focus for the Company, as there is excellent potential for World Class and major deposits in the Moina Project area (Stormont Deposit / Cethana EL / Narrawa Deposit / Dolcoath Granite).
- → More than 125 tungsten, tin, base-precious metal and rare earth element occurrences were added to the total portfolio.
- Exploration is being carefully targeted and the probability of discovery is high.

The Wanderer River area (EL 33/2010) covers 210 km<sup>2</sup> and 25 massive sulphide gold – silver – zinc - lead occurrences. The 20 kilometre strike length is the most under explored section of the highly prospective Mount Read Volcanics in Tasmania, with only 8 short holes completed (663.1m total in the mid 1990's and supervised by Frontier's Managing Director).

A high resolution heli-borne electro-magnetic (EM) geophysical survey will be flown over the entire area as soon as practical (about October 2011).

- → EM is one of very few exploration methods that has 'direct VHMS deposit detection capability' and the Wanderer River area has never been covered by a new generation heli-borne survey.
- The World class Hellyer polymetallic Deposit in the northern Mt Read Volcanics can be regarded as analogous to the Wanderer River and it was identified using a less powerful electromagnetic survey and discovered by moderate depth drilling.
- The potential for locating high value/tonne VHMS and/or gold deposits is excellent.

The Interview River area (ELA 6/2011) covers 91 km<sup>2</sup> and has 11 historic workings.

- Four high-grade tungsten workings are related to a 3.5km long N S linear trend.
- ♦ One silver and five copper workings are located within a different 1 km² area.
- An additional ELA has also been applied for on Interviews' southern margin, to obtain all the prospective granite in the region and 5 more prospect areas.

The Mt Paris ERA covers 100 km² and hosts about 60 known Devonian tin greisens, particularly in the Mt Paris, Rattler Hill and Ruby Flat tin fields.

The Tonganah area (ELA 3/2011) covers 236 km<sup>2</sup> and two rare earth element (REE) occurrences.

#### **DETAILS**

## Wanderer River - EL 33/2010

The Wanderer River tenement (216km²) is the most under explored section of highly prospective Mount Read Volcanics in Tasmania; effectively no drilling has been completed and the potential for locating high value/tonne VHMS and/or gold deposits is excellent.

The EL covers a 20 kilometre strike length of the Mt Read Volcanics and the "holy host" stratigraphic horizon where the Wart Hill base metal sulphide lenses and other VHMS deposits occur (Lens A is 4.0m of 17.9% zinc + 132g/t silver + 10.2% lead + 0.60g/t gold and Lens B is 3.0m of 21.9% zinc + 680g/t silver + 13.9% lead + 0.80 g/t gold).

Zones of favourable hydrothermal alteration of VHMS style occur within rocks in the immediate vicinity of this "holy host horizon" in a number of places within the licence.

Exploration targets are volcanic hosted massive sulphide (VHMS) and structural gold deposits such as:

- Rosebery Deposit (pre-mining resource of 32 million tonnes grading 14.6% zinc + 146g/t silver + 4.5% lead + 0.6% copper + 2.3g/t gold).
- → Hellyer Deposit (pre-mining resource of 16.9 million tonnes grading 13.8% zinc + 167 g/t silver + 7.2% lead + 2.5g/t gold).

In contrast with the more intensely explored Mt Read Volcanics north of the Gordon River, the southern portion has had relatively limited exploration. The entire Wanderer River area has only had 8 relatively shallow drillholes and has not been surveyed by higher resolution, deeper seeking and more powerful electromagnetic viz. VTEM.

Frontier has recognized and seized the opportunity to use <u>new generation</u> electromagnetics to survey outcrops of highly prospective Mt Read Volcanics and locate buried base and precious metals in massive sulphide bodies if present.

Exploration completed over the prospective volcanics in EL 33/2010 has defined a number of areas of base metal and gold soil anomalies, favourable hydrothermal alteration and a number of alluvial gold in stream anomalies (refer to Table 1).

Access is by barge to Birch's Inlet then quad bile, four wheel drive or tracked vehicle to site, helicopter from Strahan or Strathgordon or light fixed wing aircraft to the Moores Valley airstrip. The area was previously held by Frontier but was never worked and was then relinquished during the GFC due to funding requirements. It is owned 90% by Frontier, reflecting the previous tenement's ownership arrangements.

Figure 26 shows EL 33/2010 – Wanderer River (blue outline) and EL 20/1996 – Elliott Bay – Wart Hill (black outline) showing principal prospects on an aeromagnetic 1st vertical derivative image.

Figure 27 shows EL 33/2010 – Wanderer River and EL 20/1996 – Elliott Bay showing principal prospects on a combined geological, aeromagnetic and radiometric interpretation with principal targeted Mt Read Volcanics in various greens with "Holy Host" horizon shown (maroon line).

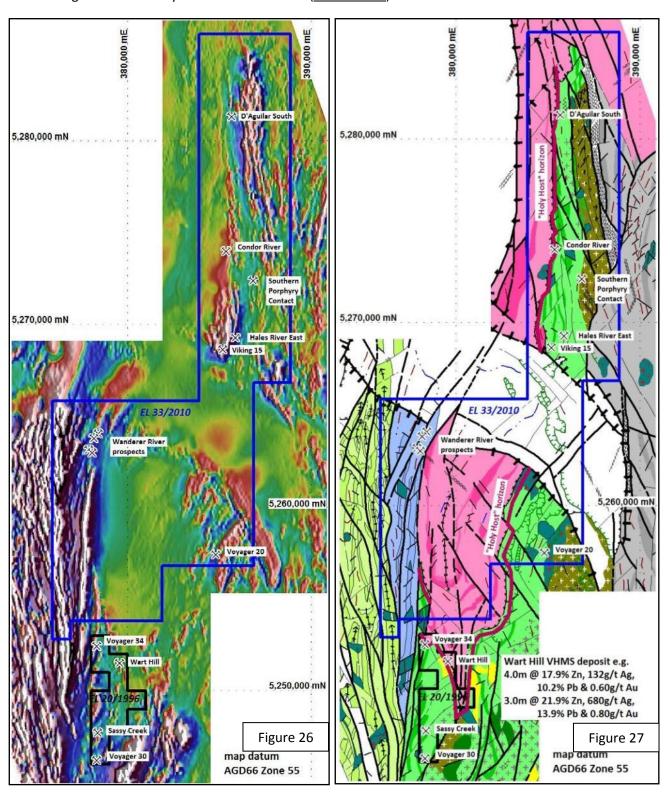
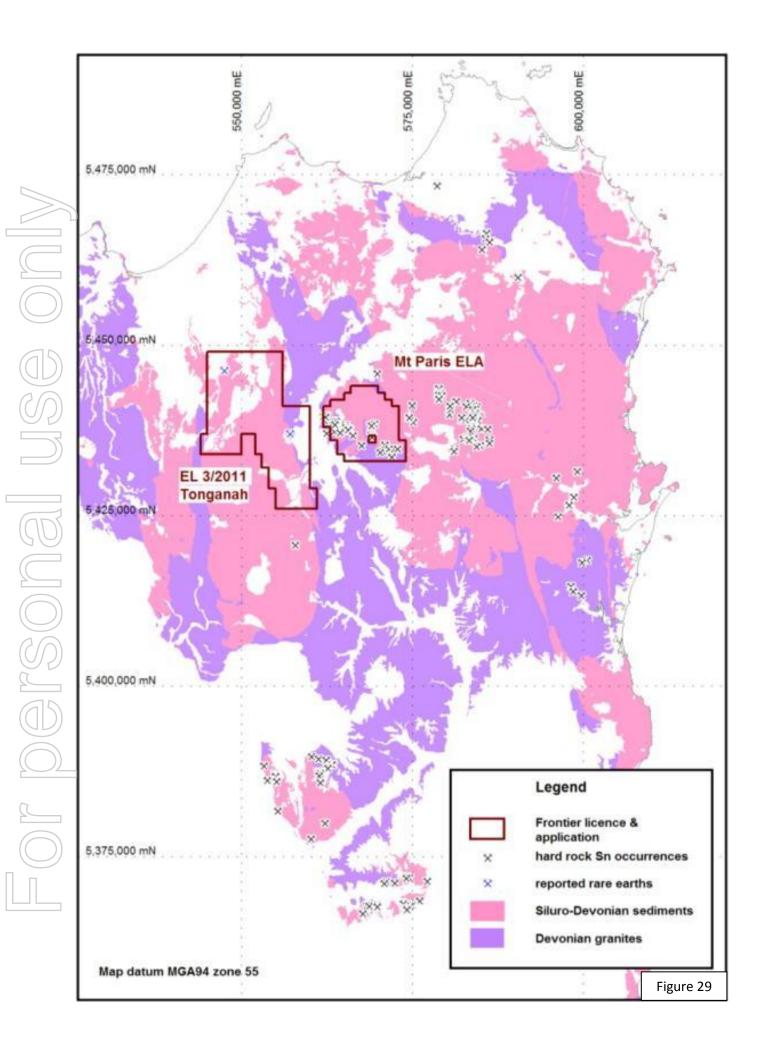


Figure 28 shows the Interview River ELA (6/2011) location and prospects (above).

Figure 29 shows the Mt Paris ERA covers 100 km<sup>2</sup> and hosts about 60 known Devonian tin greisens, particularly in the Mt Paris, Rattler Hill and Ruby Flat tin fields. In addition, the Tonganah ELA area shows the 2 known rare earth elements occurrences.

	Wanderer River Anomalous Zones				
Prospect	Comments				
Condor River	3km x 1km cohesive, coincident stream-sediments, soils, C horizon samples (to 560ppm Pb and 800 ppm Zn), I.P and airborne EM anomalies.				
Condor River West	3.5km x 0.3km zone with anomalous soils, C horizon samples (to 1190 ppm Pb, 870 ppm Zn), three airborne EM and 3-I.P. anomalies.				
Condor River East	1 km long zone with anomalous soils (to 260 ppm Pb), an airborne EM anomaly and roughly a coincident Dighem EM anomaly.				
Hales River West	2 km long zone with anomalous stream - sediments (to 240 ppm Pb), soils, C horizon samples (Pb to 860 ppm, Zn to 888 ppm) and 2 airborne EM anomalies.				
Hales River East	3.5 km long zone with anomalous stream-sediments and soils.				
Viking 14	Two E.M. anomalies and coincident? Dighem E.M. anomalies.				
Hales River North	Small zone defined by Pb and Zn anomalous soils.				
Hales River NW	Small zone defined by Pb anomalous soils.				
Viking 15	E.M. anomaly in pyritic lithic-crystal tuff.				
Sprent River West	1 km long zone of anomalous soils, erratic stream-sediments and one Dighem EM anomaly.				
Sprent River East	1.5 km long weak soil anomaly.				
Sprent River South	2 km long weak soil anomaly.				
Viking 3	Turair E.M. anomaly.				
Viking 4	Turair E.M. anomaly.				
D'Aguilar North	Anomalous stream-sediments, Zn rock-chip, Turair E.M. anomaly and 2 possible EM conductors				
D'Aguilar South	1.5 km2 area of extensive drainage anomalism.				
Mt Lee	Zone with 2 airborne EM anomalies, plus faulting and haematite mineralisation similar to 'The Blow - Mt. Lyell'.				
Thirkell North	Narrow 1 km long zone of anomalous soils with airborne E.M. VLF-EM and Dighem anomalies, pan-concentrate gold anomaly, I.P anomalies and weak stream geochemistry.				
Thirkell Hill South	2 km long strong airborne EM anomaly, Dighem anomaly and weak stream geochemistry.				
D'Aguilar East	Several airborne EM anomalies.				
Line 184N IP	Two weak IP responses flanking a magnetic feature.				

■ Mount Lyell Deposit (pre-mining resource of 311 million tonnes grading 0.97% copper + 0.31 g/t gold).



#### **CORPORATE**

During the June quarter, 10,800,000 employee options were issued at \$0.20 and 550,000 were exercised at \$0.03. Frontier currently have 249,235,238 shares on issue.

The following ASX announcements were released during the April 2011 quarter.

26th May 2011 Tasmanian Tenement Portfolio Expansion and Commodity Diversification Strategy Completed and the Stormont Gold – Bismuth Deposit and Wanderer ELs Granted.

7th June 2011	The Best	Drill Intercept	to Date a	at the	Wart Hill	Deposit in	SW Tasmania
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Demonstrates the 45km Long SMRV Project Area's Prospectivity, 13.9m grading 1.11

g/t gold + 37g/t silver + 9.0% zinc + 4.5% lead + 0.3% copper

1st July 2011 10,000m Andewa Diamond Core Drilling Program Commences, Initial Hole is to 400m

into a Strong, Coincident Gold + Copper, Conductivity + Chargeability Anomaly and

Across a Major Northerly Trending Structure

8th July 2011 Major Polymetallic Mineralised District Demonstrated Proximal to the Dolcoath

Granite, Extensive (6,000m Long ) Tungsten - Tin - Molybdenum - Copper - Bismuth + Gold - Lead - Zinc, Yttrium - Niobium Soil Anomalies Defined at the Moina Project

8th July 2011 Andewa Gold - Copper Project Diamond Core Drilling Underway

13th July 2011 Resource Expansion and Infill Drilling Underway at the Stormont Gold Deposit

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

**FRONTIER RESOURCES LTD** 

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 km²) and two Exploration Licence Applications (approx. 2,933km²) in PNG. Five ELs (approx. 2,690km²) 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 a 10,000m drilling program with our own rig, infill soil sampling and hand trenching.
- → 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 (over 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 Km² in area, the CCZ is 3.0 km² and Ber is approximately 0.5 km² (at 150m below sea level).
- → The total anomalous chargeability area is approximately 5,400m long (E-W) and 3,000 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 over 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 over 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 (over 45ms) appears to be adequately resolved. The CCZ also has large anomalous areas at over 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 quasi 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 on 3 ELs in the coming year, commencing late August.
- 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 km².
- → 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 over 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 - TIN - MOLYBDENUM, GOLD - SILVER - LEAD - ZINC AND INTRUSIVE RELATED GOLD DEPOSITS

The Moina Project consists of RL 3/2005 (Narrawa), EL 42/2010 (Stormont) and EL 29/2009 (Cethana). It covers the highly mineralised Dolcoath Granite, parts of its E-W spine and of the 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% WO<sub>3</sub> near the NW end of the Narrawa Deposit, within a broad low grade geochemical halo that averaged 14m of 0.20% WO<sub>3</sub> (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 km² 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 include 13.9m grading 1.11 g/t gold + 37g/t silver + 8.97% zinc + 4.47% lead + 0.31% copper, 3.9m of 0.60 g/t gold + 124 g/t silver + 12.1% zinc + 7.3% lead, 1.1m of 0.60 g/t gold + 123 g/t silver + 23.6% zinc + 10.4% lead and 5.7m of 0.35 g/t gold + 123 g/t silver + 12.1% zinc + 12.1% zinc + 12.1% lead.