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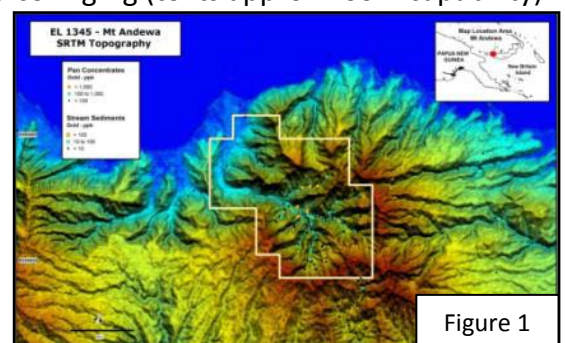
ASX Limited  
Company Announcements Office  
Announcement

7th February 2010

## Andewa 3D-IP Chargeability Anomalies Doubled in Total Area to Approx. 7km<sup>2</sup>

Frontier Resources Ltd is very pleased to announce that results from the remaining third of the 21 km<sup>2</sup>, grid-based, three-dimensional induced-polarity geophysical survey at the Andewa gold and copper Project in Papua New Guinea have doubled the total chargeability anomaly area (>30ms) to about seven square kilometres. The anomalies are open in several directions.

- A very large sulphide mineralised system has been demonstrated by compelling 3D-IP chargeability anomalies from surface to >800m total depth, in three major, but discrete zones.
- The newly defined Ekhos chargeability anomaly is 3.3 km<sup>2</sup> in area (at 150m below sea level), which is larger than the previously announced Core Chargeability Zone (CCZ) (3.0 km<sup>2</sup>) and the Ber anomaly (approx. 0.5 km<sup>2</sup>).
- Ekhos has developed into the largest and closest to surface 3D-IP chargeability anomaly at Andewa, with much of it very intense (>45ms).
- Each chargeability anomaly is surrounded by a sub-circular, high-resistivity anomaly that appears to merge near and/or off the edge of the grid, to become one ~ 6km diameter anomaly in the centre of the Mt Andewa caldera, representing probable silicification around the intrusions.
- There are strong correlations between known surficial gold and copper and the 3D-IP chargeability anomaly at Ekhos, however, most of that region has never been explored.
- The CCZ and Ekhos chargeability anomalies are connected by an east-west trending zone and the Ekhos and Ber anomalies are located at higher elevations above sea level (than the CCZ).
- Deep drilling will be undertaken with Frontier's diamond coring rig (to its approx.400m capability) as soon as possible (April) to test the chargeability, soil/rock, gold/arsenic/copper anomalies. A contract rig may be utilised for deeper drill testing (to ~700m).
- A geophysical consultant is evaluating the data and is defining conductive zones representing probable semi-massive sulphide type mineralisation, which will be initially drill targeted.
- Most soil and rock chip assays have now been received (about 5,000 samples). Results are being collated/plotted, evaluated and will be released as soon as possible, likely in late February.
- Field technicians have been mobilised to site to undertake infill grid-based sampling to better define the gold and copper mineralised soil zones.
- Landowners are being briefed onsite tomorrow by the Chairman/MD regarding the significance of these results, future work plans and followed by a celebratory 'MuMu and SingSing' (Feast and Party).



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### DETAILS

Three exceptionally extensive, voluminous and intense, 3D-IP (three dimensional Induced Polarisation) chargeability anomalies have demonstrated the presence of very large on-surface to more than 800m deep sulphide systems at the Andewa gold and copper Project on the island of New Britain in Papua New Guinea. Please refer to figures 1, 2, 3, 4a-b, 5a-e, 6a-c and 7a-h for detailed plans and cross sections.

The Andewa Valley is uninhabited (figure 2) with landowners living outside the 'caldera' on the coast.

Seven 'historic' high-level gold prospects or anomalous areas occur within a central 7 km by 2.5 km structural zone (figure 3). Exploration has previously concentrated on only the Komsen gold Prospect. Frontier has previously undertaken no exploration in the Ekhos 'district'.

The generalised shapes of the anomalies can be seen in figures 4a and b showing a pseudo 3D image (schematic) of the chargeability and resistivity zones (viewed from the southeast to the northwest and vice versa, respectively). The IP and soil geochemistry section lines are also shown with topography represented by dotted lines. The small inset plan is a vertical representation illustrating the viewing direction.

The orange sections are strongly chargeable zones (> 30ms), the light green regions represent relatively low resistivity (<65 ohm-m) and the darker green zones represent relatively high resistivity (>500 ohm-m). All of these zones are interesting for various reasons.

The >30ms chargeability anomaly is approx. 4.5km wide in figure 4a (looking from the SE to the NW).

The total area now known to have anomalous chargeability (>30ms) has doubled to approximately seven square kilometers. This consists of three very large, spatially related and intense chargeability anomalies, being the Core Chargeability Zone (CCZ), Ber Zone and the newly defined Ekhos Zone.

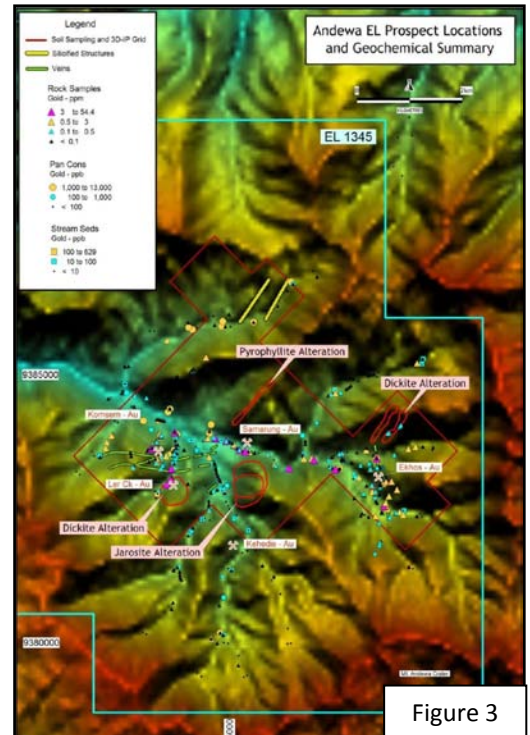


Figure 3

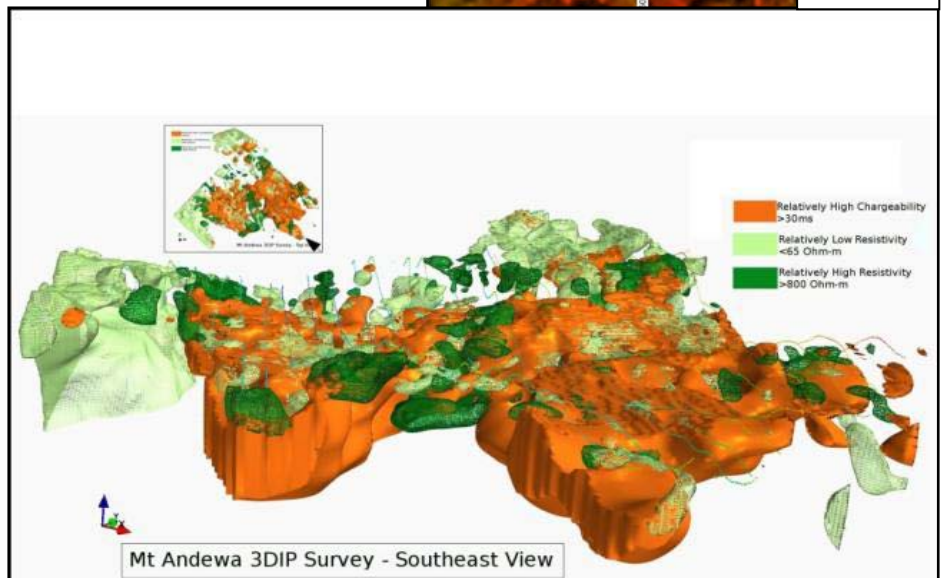


Figure 4a

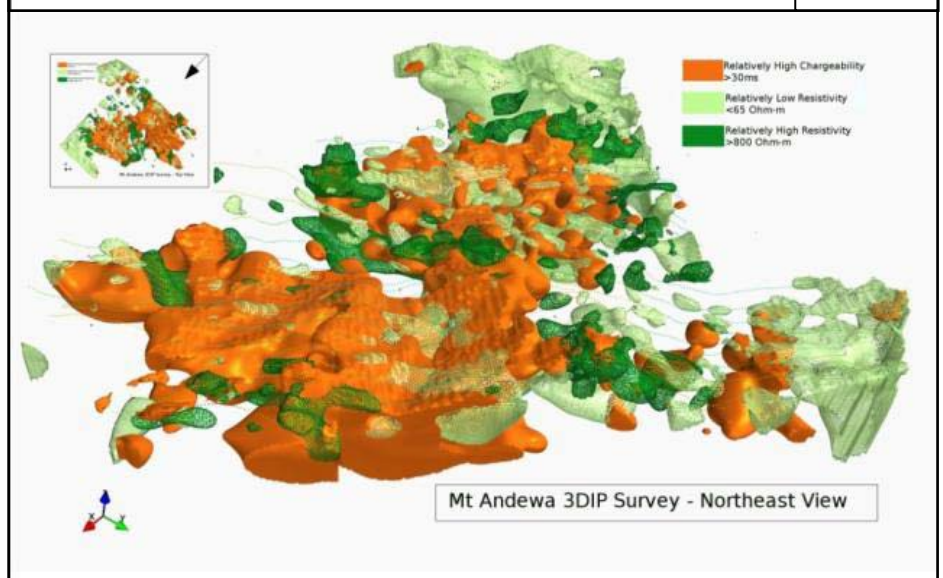


Figure 4b

The total anomalous chargeability area is approximately 5,400m long (E-W) and 3,000m wide (N-S). The chargeability anomaly is NOT closed off to the NE of Ekhos, though it appears it could be closed off to the south (at depth). The CCZ chargeability anomaly is NOT closed off to its south on surface or at depth, however, its very intense core (>45ms) does appear to be adequately resolved.

The Ekhos chargeability anomaly is 3.3 km<sup>2</sup> in area, which is larger than the previously announced CCZ (3.0 km<sup>2</sup>) and Ber areas (~0.5 km<sup>2</sup>) (at 150m below sea level). Ekhos has developed into the largest and closest to surface 3D-IP chargeability anomaly at Andewa, with much of it very intense at >45ms. 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 one approximately 6km diameter resistivity anomaly in the centre of the Mt Andewa caldera/ volcano, with 'holes' in it where the strong chargeability anomalies exist (figures 6a-c).

The resistivity and chargeability anomalies are generally mutually exclusive, but Ekhos has demonstrated coincident zones that are interesting drilling targets and the CCZ also has some at greater depth.

Resistivity likely reflects major hydrothermal fluid movement that resulted in silicification or quartz veining in ring, radial and other types of fractures associated with a major mineralised porphyry intrusion. The margins and more intense central sectors of the resistivity anomalies are also valid drill targets and will be compared to the soil geochemistry and assessed.

The Ekhos chargeability anomaly is very large, sub-equant and 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 - refer to plans in figures 5a-e and 6a-c plus specifically cross sections 7e, f, g & h). As a comparison, the CCZ is approximately 2,900m long ((NW to SE) and a maximum of 2,100m wide, averaging approximately 1,000m wide.

**Ekhos clearly demonstrates a very large, voluminous, cohesive and extensive sulphide system commencing on surface and becoming consistently very intense (>50ms) with depth.**

The Ekhos chargeability anomaly is pseudo saucer to cup shaped progressing SW to NE, in relation to both intensity and size, and it appears to depth limited to approximately 700m below surface. **The CCZ in comparison is NOT depth limited and continues past the approximate 800m maximum modelled depth.**

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 base metals such as 1m of 19.0 g/t gold + 119.0g/t silver + 10.3% zinc + 0.22% copper, 2m of 5.43 g/t gold + 95 g/t silver + 11.1% zinc + 2.3% lead + 0.12% copper and 0.5m of 2.55 g/t gold + 36 g/t silver + 0.48% zinc + 0.19% copper.

The CCZ is located between the Komsen and Ekhos Prospects, where float rock samples assayed to 54.4 g/t gold + 990 g/t silver and outcrop rock samples assayed to 7.10 g/t gold. It is also marginal to the Samarung Prospect which had a historic float rock sample grading 37.2 g/t gold + 1.58% copper + 0.5 ppm platinum + 44 ppm palladium and numerous narrow auriferous veins and structures.

Mineralised and altered porphyry float rock has been noted in 2 locations and hypothesised in an Aster satellite evaluation, including a jarosite equivalent alteration zone, surrounded by a pyrophyllite clay alteration halo and a 1.1km diameter circular feature showing alunite equivalent clay alteration. Alunite can also be associated with High-Sulphidation epithermal gold systems, which can occur genetically related to porphyry mineralisation (at higher relative levels) and are also a valid target.

Chairman and Managing Director Peter McNeil M.Sc. commented:

*Results from the last third of the three dimensional Induced Polarisation geophysical survey have dramatically enhanced the economic potential for precious and base metals at the Andewa Project. Frontier has demonstrated the presence of three enormous IP chargeability anomalies that likely reflect sulphide mineralisation within a major gold and copper mineralised system.*

*The soil and rock samples from the 2010 exploration program have now been received and are being compiled for release as soon as possible. Interrogation of the geochemical and geophysical data sets*



*is producing, high quality drilling targets in multiple prospect areas. Frontier has been remarkably successful with this exploration program defining chargeability anomalies over about 1/3 of the total 21 km<sup>2</sup> grid area.*

*An extensive drilling campaign will commence as soon as possible (likely in April) to test these enormous and incredibly impressive IP chargeability, conductivity and resistivity anomalies.*

*Frontier's previous surface and drilling programs have proven gold mineralisation at the Komsen Prospect from surface to a maximum depth of 320m below surface in a limited program, proving excellent lateral and vertical continuity in the structure, with drill results to 7.9m of 10.01g/t gold.*

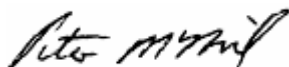
Some basic geological and geophysical discussion is warranted regarding what these geophysical results could mean. Please refer to the brief discussion below.

- ◆ The strong chargeability anomalies are in themselves valid and compelling drilling targets, as are their shoulders (or the transition zones between high and low intensity), for both precious and base metal deposits. The intensely chargeable zones likely reflect areas with much higher sulphide concentrations.
- ◆ A "sulphide system" means disseminated or wide-spread, electrically conductive sulphide minerals are present. It is not known what type or quantity of sulphides are causing the chargeability response, but it is almost certainly pyrite and/or base metal sulphides (not graphite).
- ◆ The strength of the chargeability anomaly is directly proportional to the total volume and type of sulphides that are present (ie. generally more sulphides = stronger chargeability anomaly). In a loose sense, the rocks become 'chargeable with electricity'. If there are no sulphides (or graphite) the rocks cannot become 'charged' and are in effect 'normal'.
- ◆ Pyrite is iron sulphide. It is the most common form of sulphide, but generally has no economic value. Base metal sulphides (primarily of copper +/- zinc and lead) and precious metals (gold and silver) are economically significant and are the exploration targets at Andewa.
- ◆ Conductivity anomalies probably represent semi-massive sulphides (because they 'conduct' electricity).
- ◆ The definition of a 'World Class Deposit' varies but is now generally considered to be about 4 million contained ounces of gold or copper equivalent.
- ◆ Gold and base metals have various three dimensional spatial relationships with pyrite/sulphides in different types of mineral deposits in these environments, depending on the precise physical and chemical conditions under which they formed.
- ◆ Higher grade zones of copper mineralisation sometimes contains lower total sulphides (less pyrite, but more base metal sulphides) and thus actually have lower total chargeability. As such, economically significant base metal sulphide zones could also occur adjacent to (not within) the highest chargeability anomalies. This means that the shoulders of the chargeability anomalies are also valid drilling targets.
- ◆ It is possible that the copper and gold grades of the sulphide mineralisation will increase with depth and that the chargeability anomalies at / near surface represent structurally related mineralisation peripheral to major porphyry copper - gold mineralisation.
- ◆ Care should be exercised in the interpretation /significance of these anomalies. Drilling will provide a 'definitive' test of the multitude of geophysical, geochemical and structural targets.

The 3D-IP geophysical survey has been a remarkable success and has demonstrated there is excellent depth potential for possible gold and copper mineralisation associated with the intense sulphide systems /chargeability /conductivity and resistivity anomalies.

For information relating to Frontier Resources please visit our website at [www.frontierresources.com.au](http://www.frontierresources.com.au) or feel free contact me upon my return from Papua New Guinea.

**FRONTIER RESOURCES LTD**



P.A. McNeil, M.Sc.

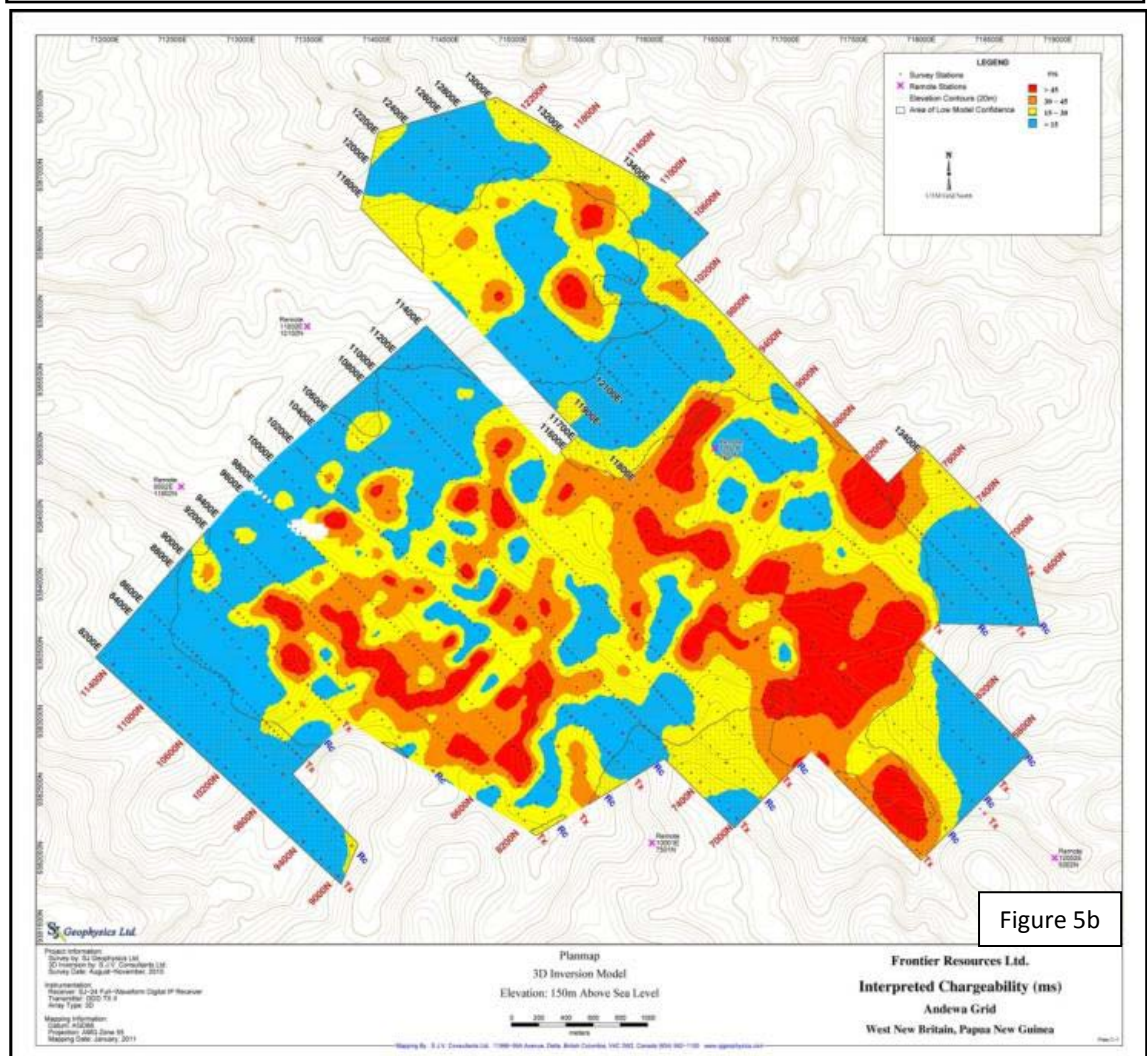
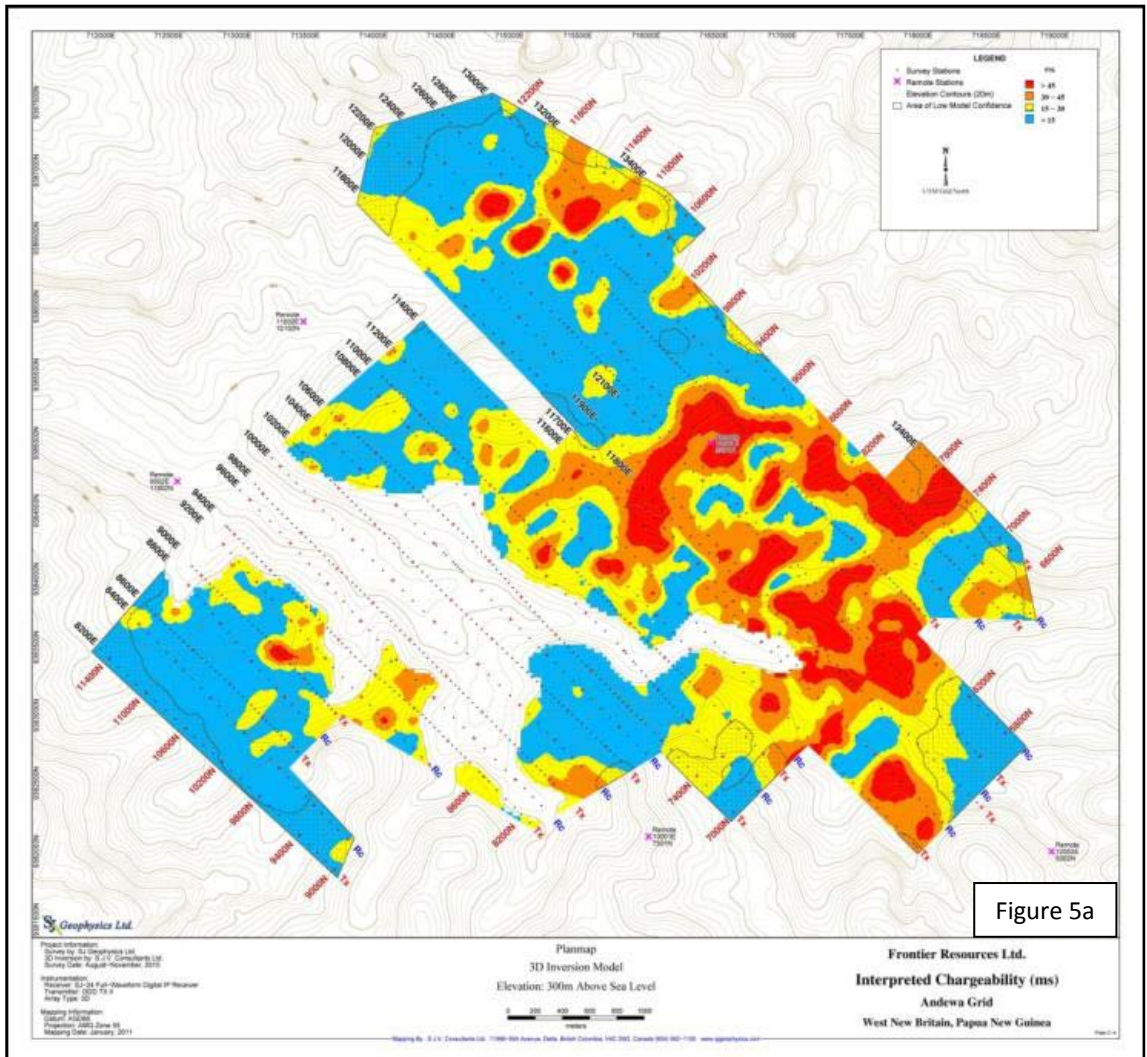
CHAIRMAN / MANAGING DIRECTOR

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.

### List of Figures

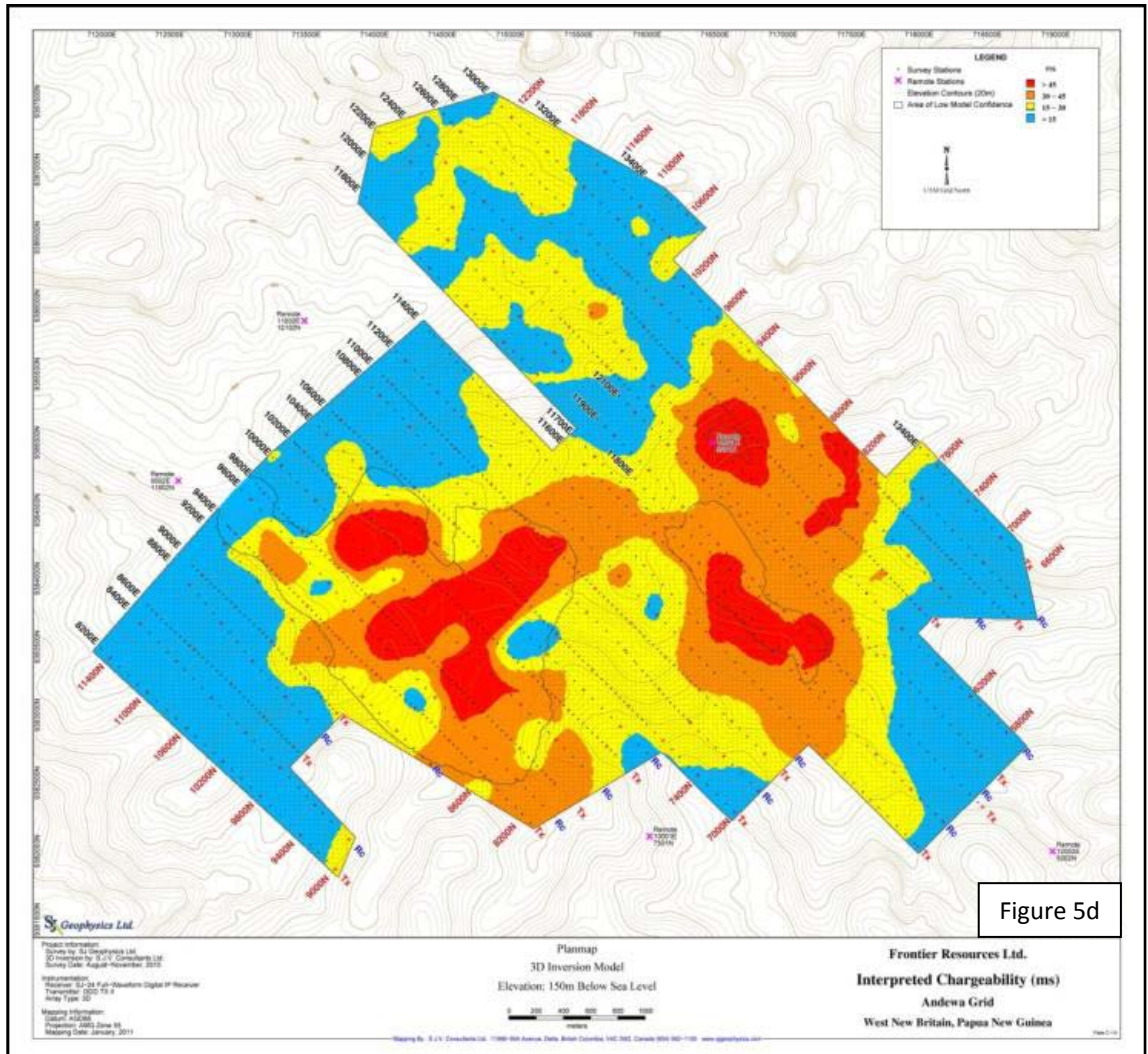
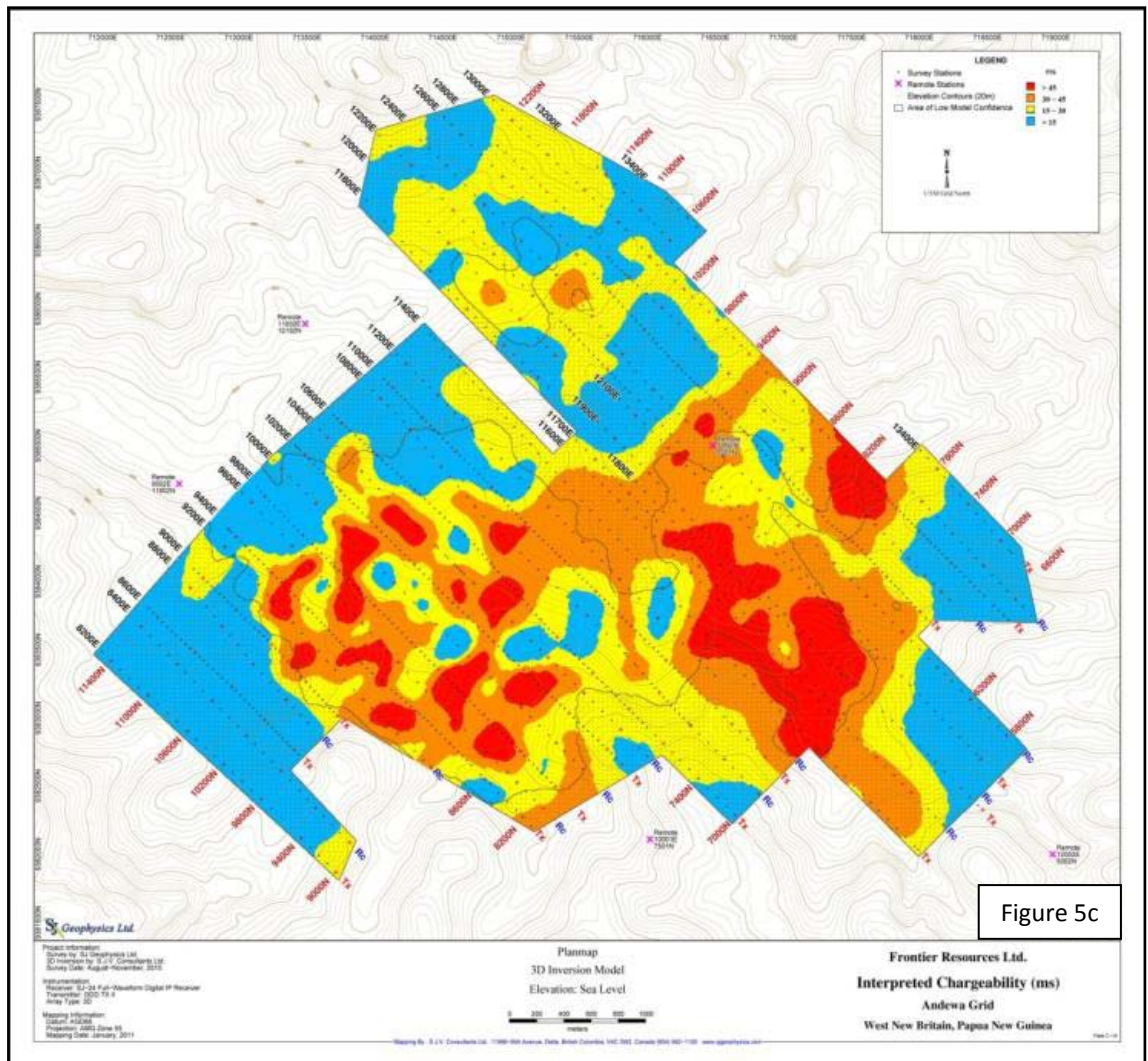
- Figure 1. An SRTM topographic image of the Andewa EL and surrounds.
- Figure 2. The Andewa Valley, from the Ekhos chargeability anomaly along the structural zone and across the CCZ to the WNW. The Komsen gold zone is near the shadow line in the central background of the photo.
- Figure 3. Plan shows the Andewa Prospect locations, the Komsen structures, drainage geochemistry and the initially proposed 3D -IP grid. Please use this grid as a scale and reference shape when evaluating the IP plans and sections. The 'gap' in the central-outer northeast edge of the grid has now been mostly surveyed in.
- Figure 4a-b. Pseudo 3D representations of chargeability and resistivity anomalies viewed from the southeast to the northwest and vice versa, respectively (also showing the IP and soil geochemistry section lines). A small inset plan view illustrates the viewing direction.
- The orange sections represent strongly chargeable zones of interest (> 30ms). The light green regions represent relatively low resistivity (<65 ohm-m) and the darker green zones represent relatively high resistivity (>500 ohm-m).
- The >30ms chargeability anomaly is approx. 4.5km wide in the representation looking from the SE to the NW.
- Figure 5 a-e. Interpreted chargeability plans at 300m and 150m above sea level, at sea level and at 150m and 300m below sea level, respectively. The scale bar is 1,000m long in 200m segments. Line spacing is about 200m. The grid is almost 5.5 km across from the SW to the NE.
- Blue regions of the plans are <15ms and are not anomalous. The yellow areas are from 15 to 30ms and represent low level anomalism.
- The chosen threshold for significant chargeability anomalies is 30ms and as such, the orange zones are strongly anomalous (30 to 45ms) and the red zones are intensely chargeable (>45 ms).
- Note that the projection utilised in plans for the last release (11/2010) was depth below topography and the current figures show depth below or above sea level (ie a horizontal plane, not a surface relative to topography). Both projections have different uses. The plans have also been simplified to only show 4 colours (not anomalous, weakly anomalous, strongly anomalous and intensely anomalous).
- Figures 6a-c. Interpreted resistivity plans at 300m above sea level, at sea level and at 300m below sea level. The scale bar is 1,000m long (in 200m segments). Line spacing is about 200m.
- The blue regions on the plans are not anomalous (<200 ohm-m) and the yellow areas represent low level anomalism (200 to 350 ohm-m).
- The chosen threshold for a resistivity anomaly is >350 ohm-m, so the orange zones are moderately anomalous (350 to 500 ohm-m) and the red zones are strongly resistive (>500 ohm-m).
- Figures 7a-h. Interpreted resistivity (upper) and chargeability (lower) cross sections for 9400E, 9800E, 10200E, 10600E, 11200E, 12000E, 12400E and 12800E, respectively (legends are as noted above for the plans).
- The vertical and horizontal scales are 1:1. The vertical scale is from 500m below sea level to 800m above sea level. The total field of view between the vertical relative level (RL) posts is ~7,700m.
- Note that the cross section sequence progresses from the Komsen side through the CCZ to the Ekhos /Ber side (from the SW to NE), looking to the NE.
- The upper right part of the figure shows the location of that section line relative to the entire grid.
- The previously announced CCZ cross sections are represented by the 9400E-10600E lines and the 'new' Ekhos sections are represented by the 11200E-12800E lines.

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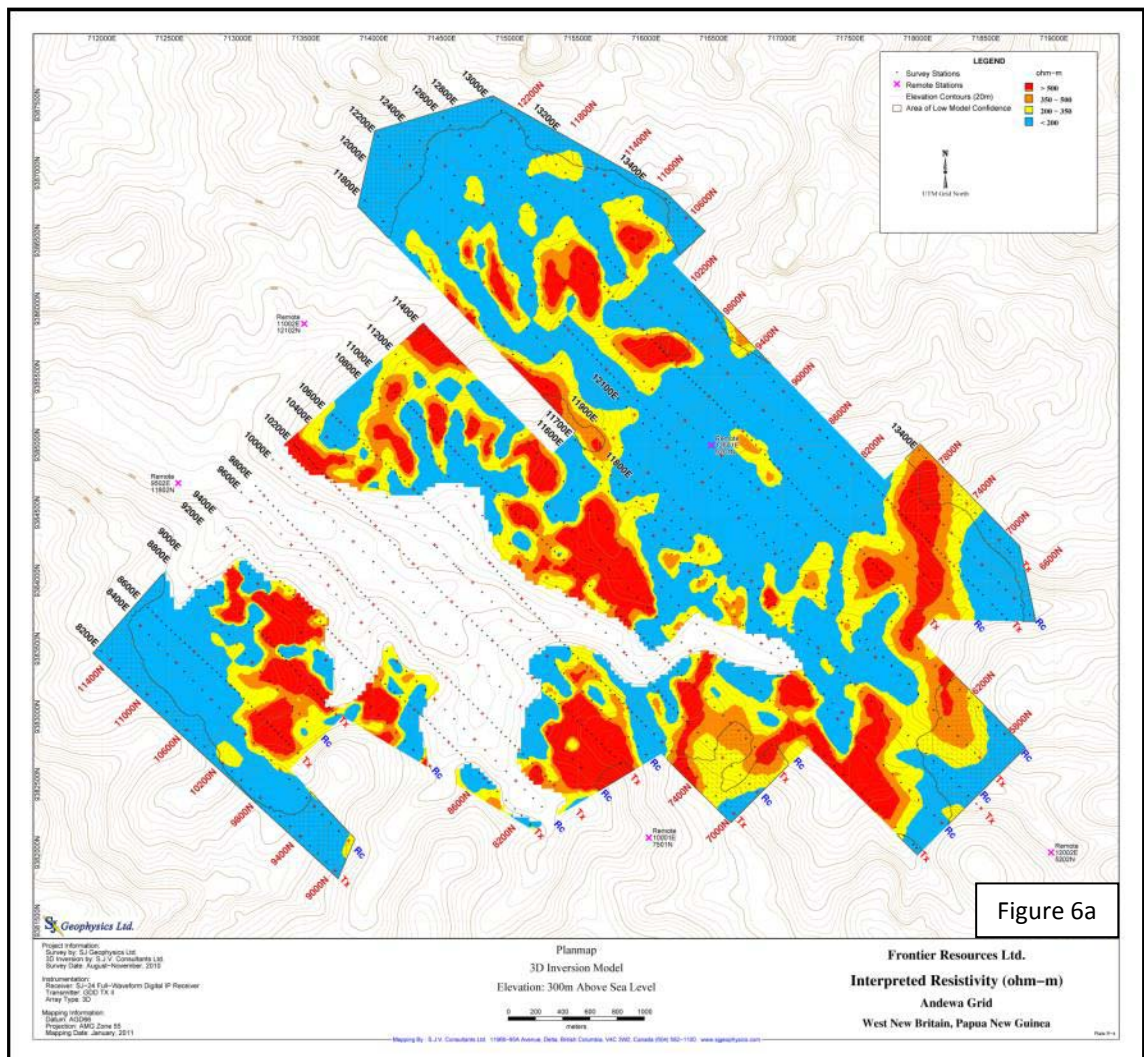
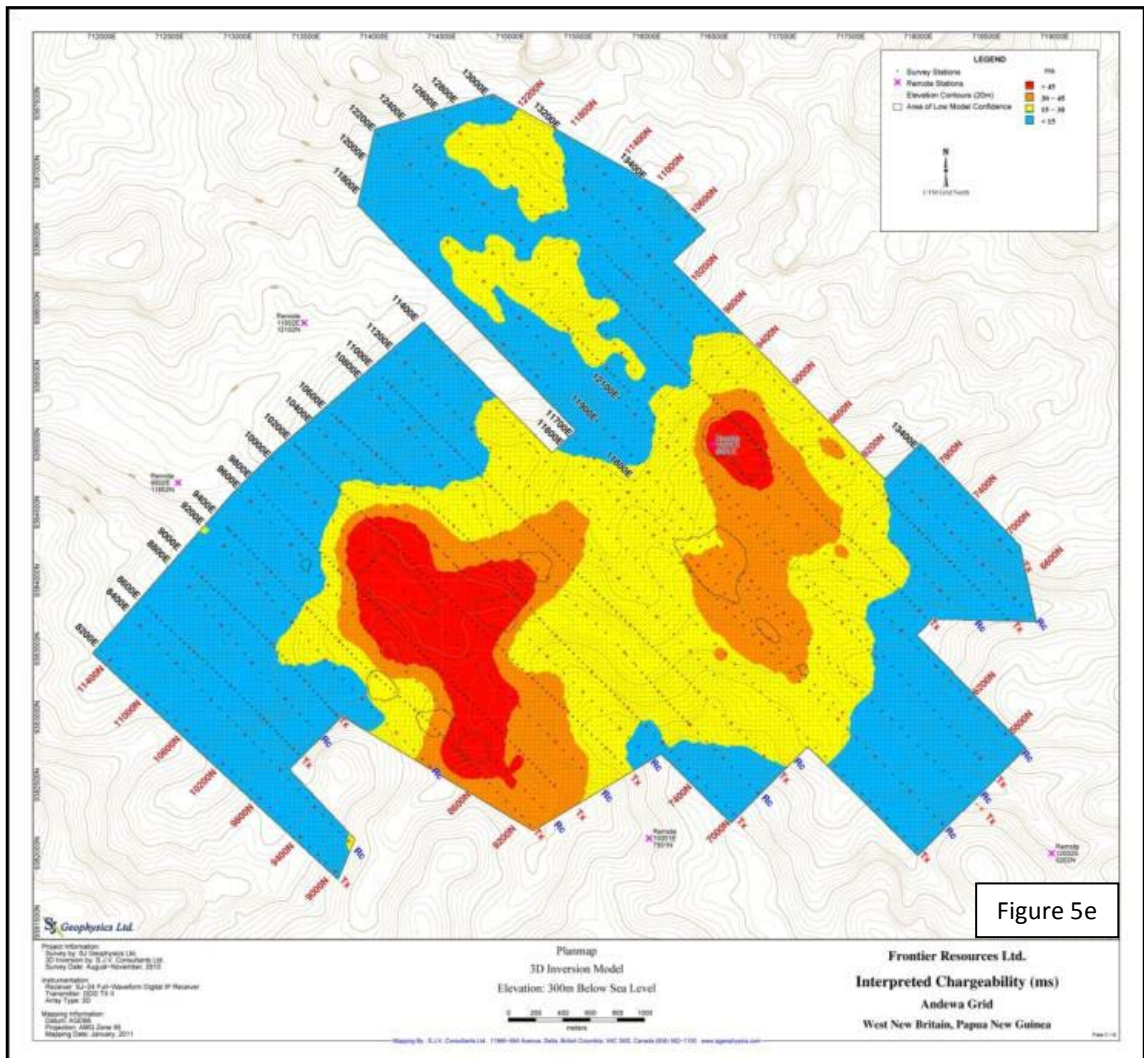


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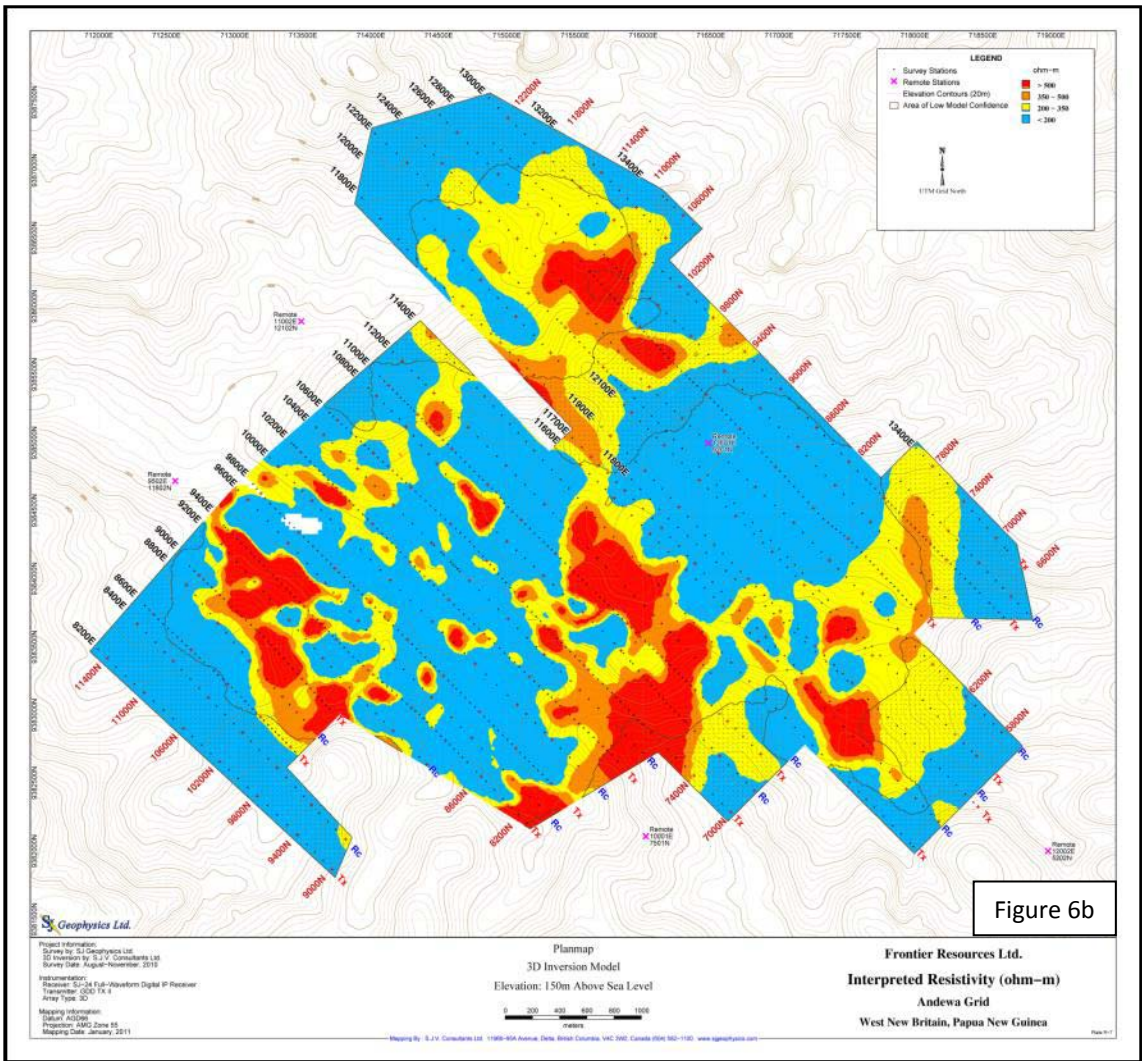


Figure 6b

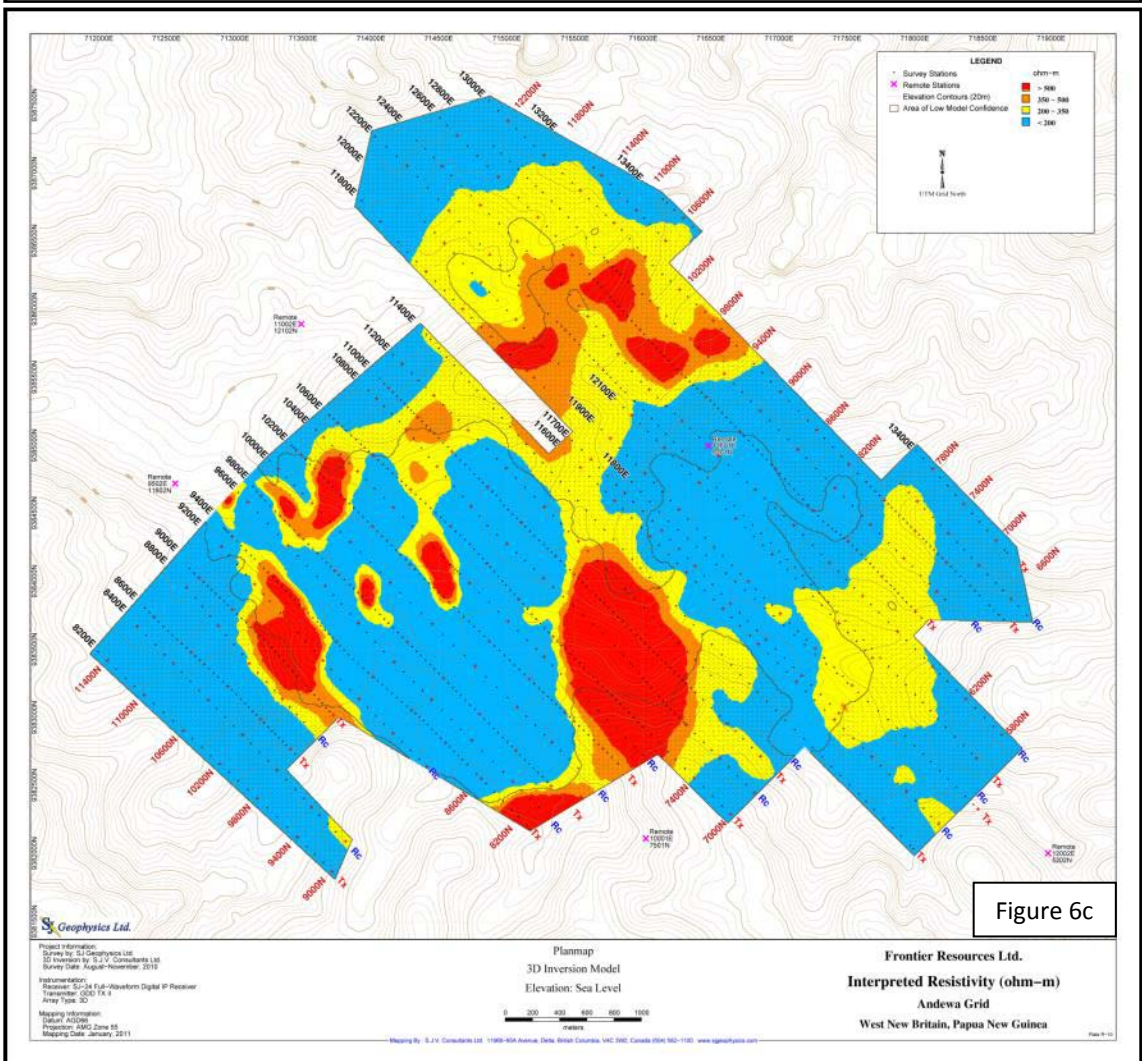
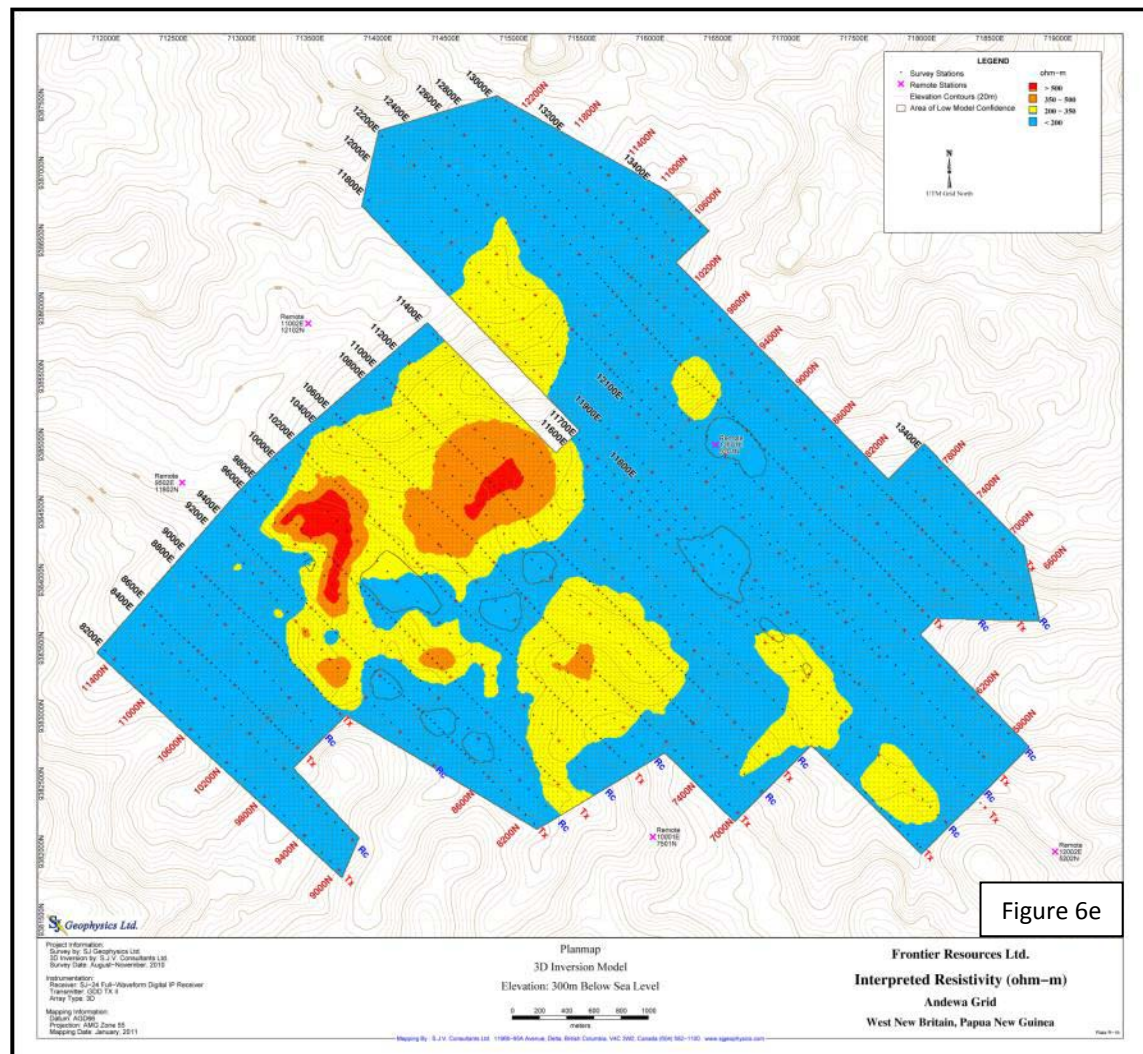
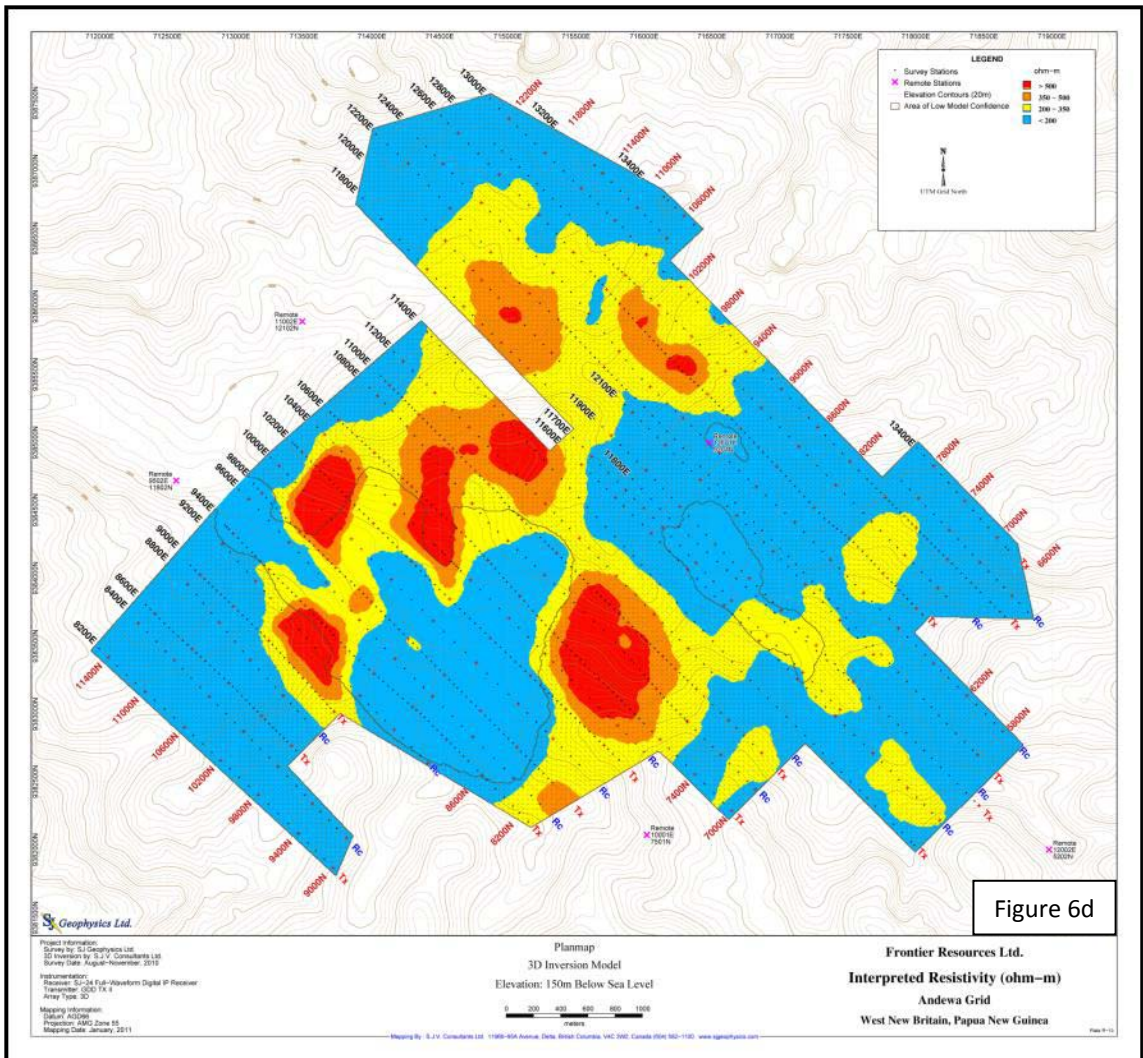
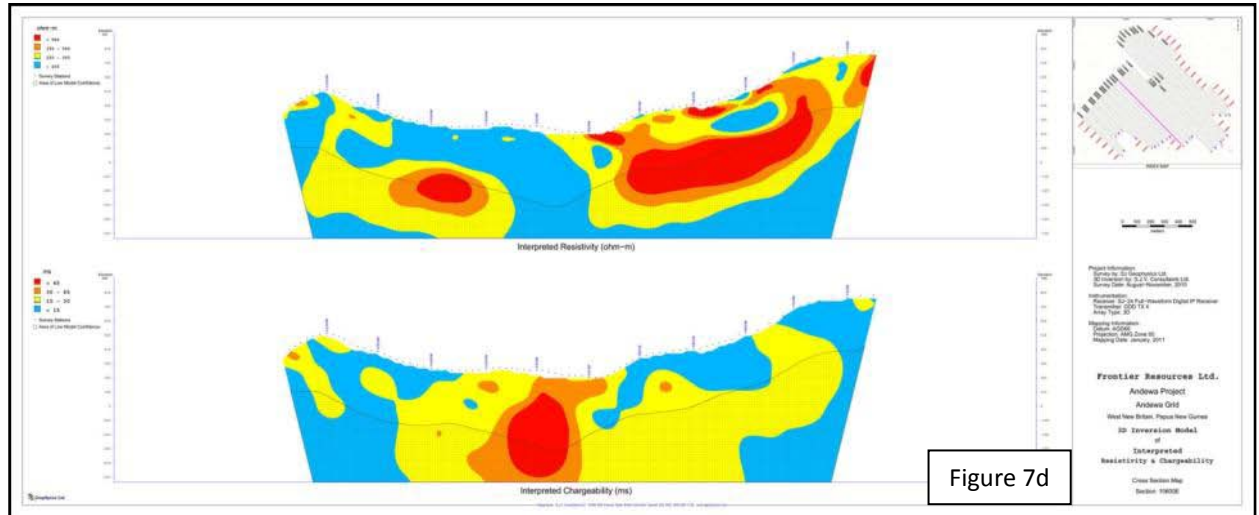
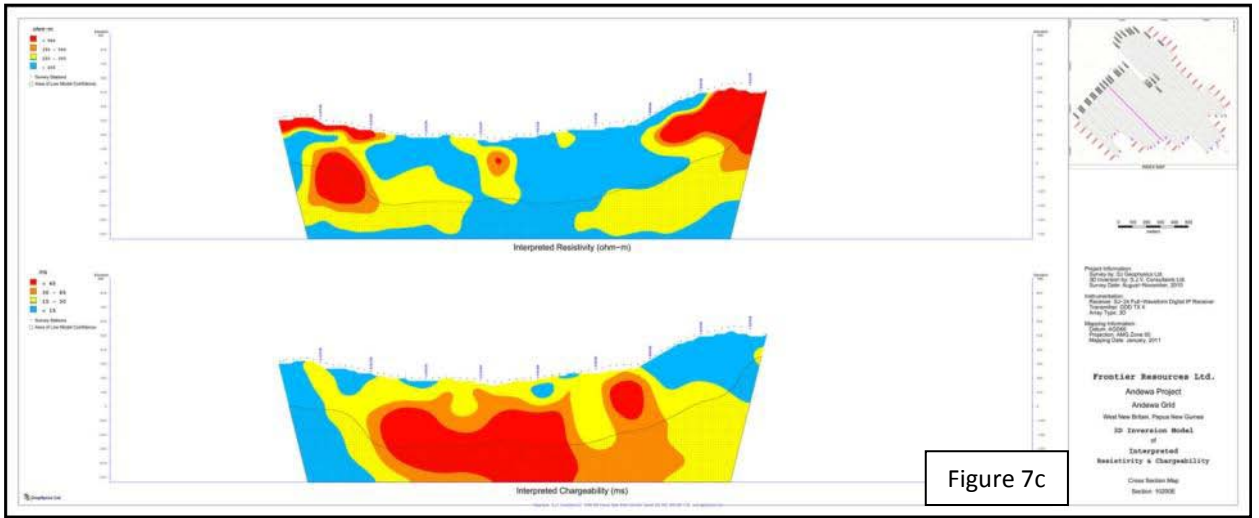
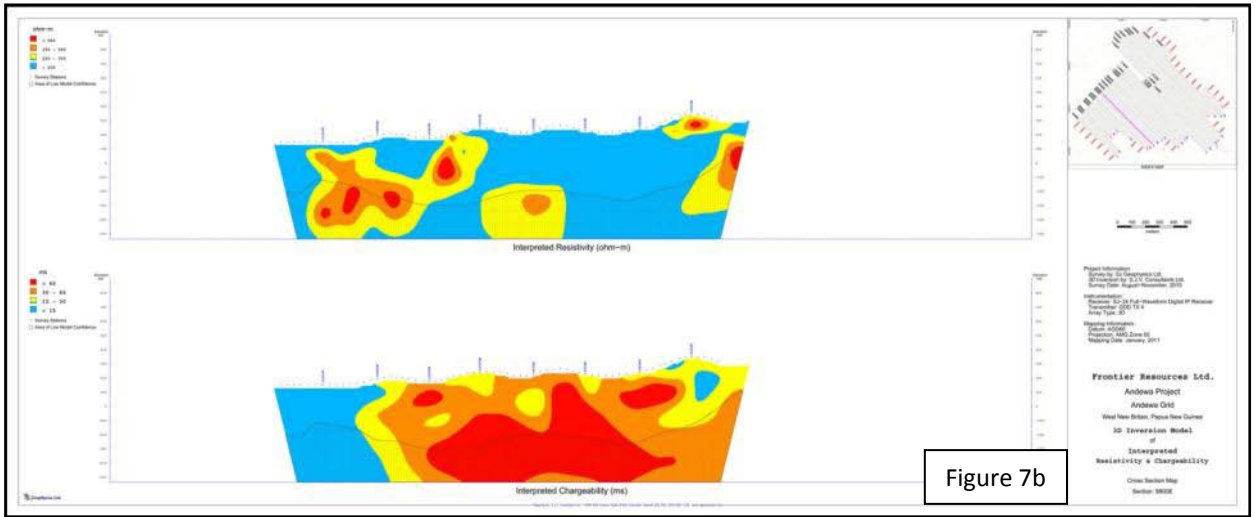
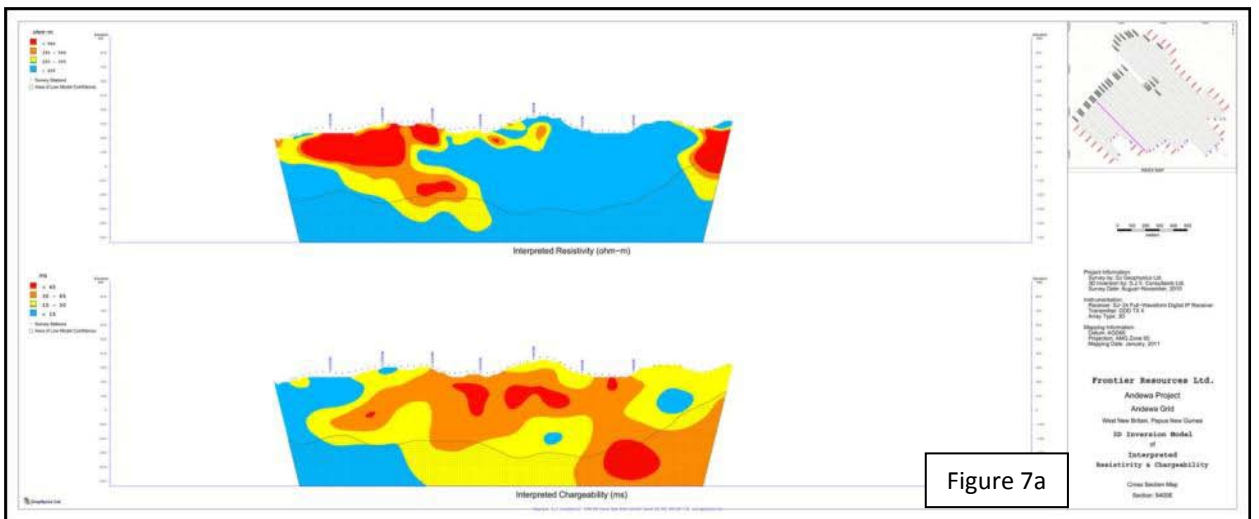


Figure 6c









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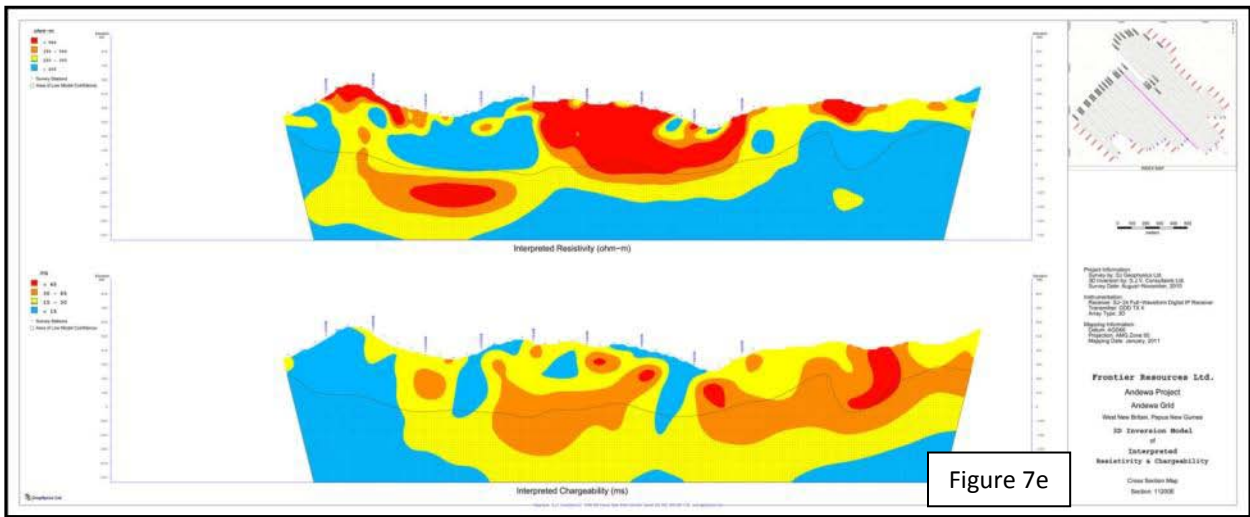


Figure 7e

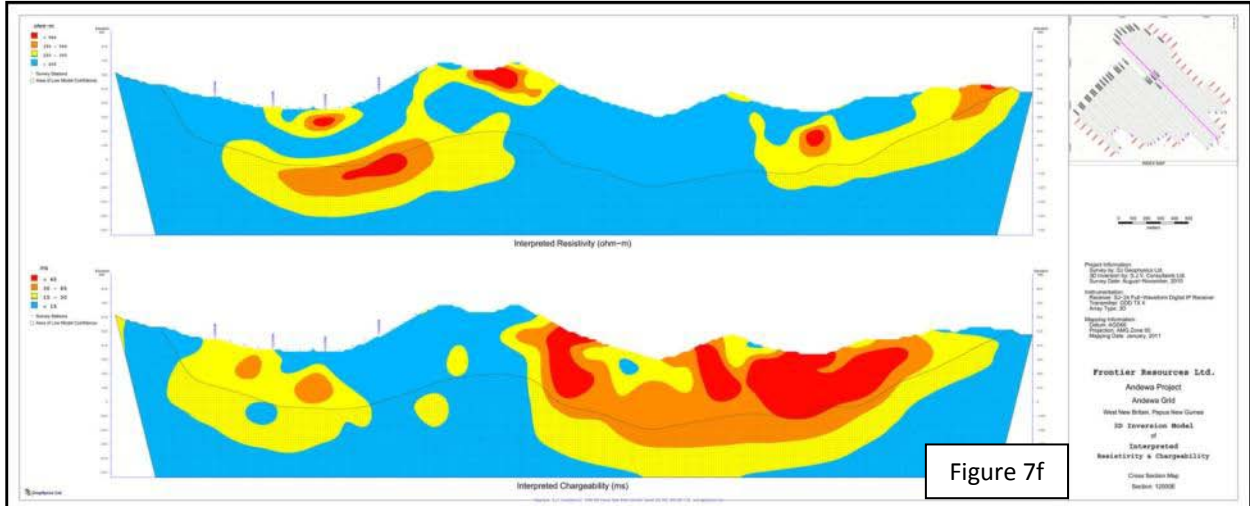


Figure 7f

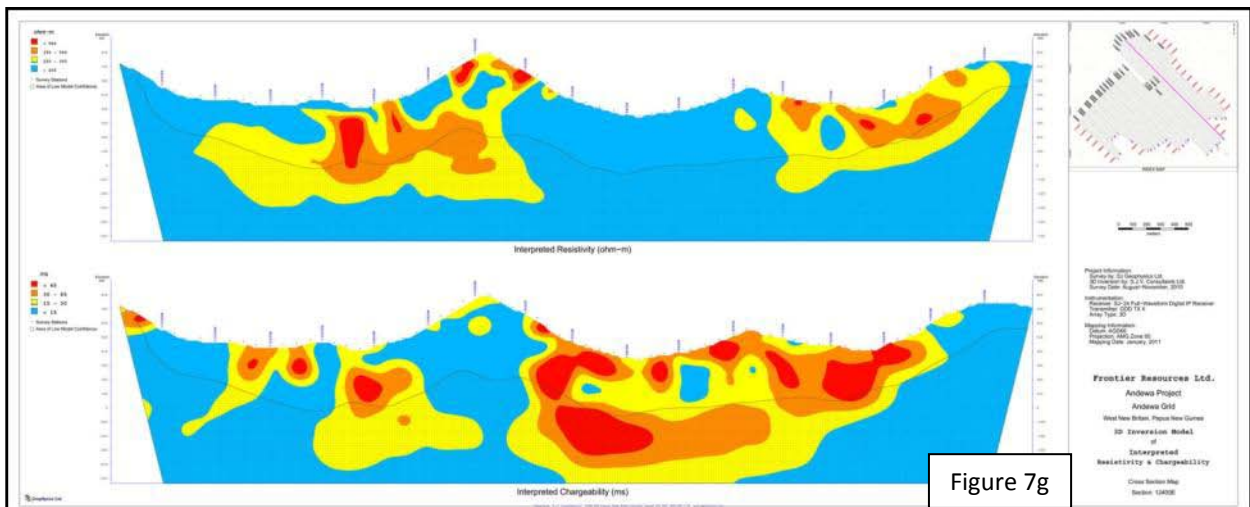


Figure 7g

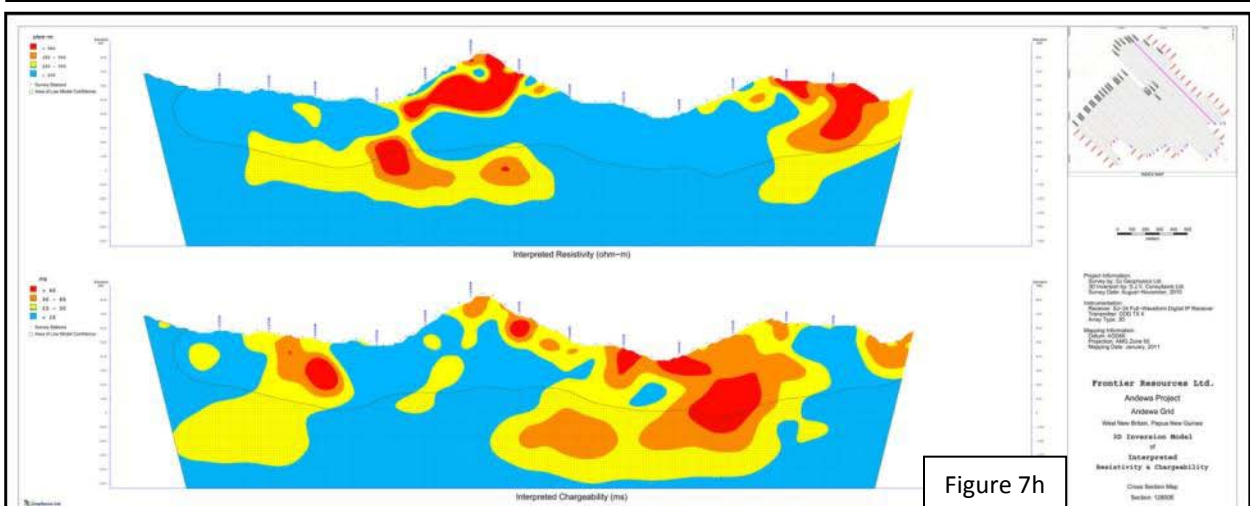


Figure 7h



## About Frontier Resources

- 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.
  - The Company has a 100% interest in 4 Exploration Licences (approx. 1,140 km<sup>2</sup>) and 3 Exploration Licence Applications (approx. 2,212km<sup>2</sup>) in PNG. 3 ELs and 2ELAs are subject to Joint Ventures with Ok Tedi Mining Ltd.
  - Frontier also has 2 Exploration Licences + 1 Retention Licence (123 km<sup>2</sup>), plus 3 EL Applications and 1 ERA in Tasmania.
  - The portfolio offers excellent mineral deposit potential, with primary targets being World Class copper-gold-molybdenum porphyry, high grade gold/silver epithermal, gold– base metal skarn, tungsten skarn and polymetallic VMS (zinc-lead-silver-gold) deposits.
  - The projects all 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.
- The 100% owned Mt Andewa EL in PNG has excellent gold and copper mineralisation potential, as discussed herein.
- Highly prospective tenements and Frontier's exploration success in PNG culminated in an excellent strategic alliance - Joint Venture (relating to 3 ELs and 2 EL Applications) with World Class copper producer Ok Tedi Mining Ltd (OTML) in May 2010.
  - The joint ventures stipulate 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.
  - The Company will retain a 42% interest (dilutable) in the Bulago and Leonard Schultz ELs to the completion of a Bankable Feasibility Studies and a 19.9% interest (non-dilutable) in the Likuruanga EL + Central and East New Britain EL Applications.
  - OTML's minimum exploration commitment before withdrawal is US\$0.5 million/project, totalling US\$2.5 million if the applications are granted.
  - The JVs cover a total area of 2,763 km<sup>2</sup>.
  - OTML have completed large aeromagnetic and radiometric programs at each EL in the Joint Venture to discriminate and rank targets for follow up exploration, including drilling in 2011.
  - 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.
  - Frontier have retained 100% of the Andewa EL and the Sudest ELA.
- PNG exploration results from the JV projects have included:
  - The Bulago JV with 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 Cethana Project (including the Narrawa and Stormont Deposits) encompass an east- west trending spine of the highly mineralised Dolcoath Granite that is responsible for a number of skarn and vein styles. Mineralisation progress from west to east and distal to proximal and includes working or deposits of gold + bismuth, fluorine (not FNT's), zinc + gold (not FNT's), gold+ silver + zinc + lead, tungsten +/-molybdenum, tin, more tungsten than silver.
  - Frontier are targeting tungsten and other metals in this highly mineralised district.
    - There are at least 55 historic workings (shafts, adits and small open pits) within this 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 can 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.
  - Frontier's detailed exploration and expenditure submission to Mineral Resources Tasmania for the Stormont Deposit - ERA 834 was successful (over other tenders).
    - ERA 834 contains 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 resource and upgrade it from Inferred to Indicated.
- The 9 km<sup>2</sup> ERA will consolidate Frontier's tenement portfolio in the Central-North of Tasmania and should be granted in due course.

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

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