

# PROTO



RESOURCES & INVESTMENTS LTD

## STOCK EXCHANGE ANNOUNCEMENT

May 18, 2010

### Cutting-Edge Geophysics Planned on New Licenses in the Northern Territory

#### ASX Release: PRW

*Proto Resources & Investments Ltd has been granted two new exploration licenses in the Northern Territory with four still at the application stage. Located in the same geological region as its existing Lindeman's Bore project, these areas present the new frontier in Proto's pursuit of Ni-Cu-PGE mineralisation along prospective fault structures that might have acted as vents and feeders to the Antrim Plateau Volcanics.*

#### Executive Summary

- Two new applications granted providing new ground across 1,411 km<sup>2</sup>. The area covers portions of the Neave and Blackfellow Creek Faults which may have acted as conduits for basaltic magma during extrusion of the Antrim Plateau Volcanics.
- Historical data shows copper mineral occurrences along or close to the Blackfellow Creek Fault structure at Waterloo and these copper occurrences may be due to structural remobilization of copper from within the Antrim Plateau Volcanics.
- Proto has planned a combined GT1a gravity and Z Axis Tipper Electromagnetic system ("ZTEM") airborne electromagnetic survey for Waterloo to provide deep demarcation of the prospective fault structure along the Blackfellow Creek Fault. Proto has put a proposal for collaborative funding for this survey forward under the Northern Territory government's *Bringing Forward Discovery* funding initiative.

#### Two New Applications Granted

The Directors of Proto Resources & Investments Ltd ("Proto", "the Company") are pleased to announce the grant of two new exploration licenses in the Northern Territory. The two granted licenses (EL27413 and EL27420) and pending exploration licence applications (EL27414, EL27416, EL27617 and EL27618) in the region around Lindeman's Bore are a continuation of Proto's strong belief in the potential of the area to

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host Norilsk-style Ni-Cu-PGE mineralisation. The two granted licenses cover 1,411 km<sup>2</sup> of the total application area of 6,100 km<sup>2</sup>. Of the granted licenses, one covers an area located northwest of the Lindeman's Bore Project area near Waterloo (EL27420) while the other occurs in the Wave Hill area south of Lindeman's Bore (EL27413).

The new tenements cover faults that potentially acted as conduits for basaltic magma during extrusion of the Antrim Plateau basalts. In particular, the areas cover portions of the Neave Fault and Blackfellow Creek Faults (see Figure 1) and also an interpreted volcanic vent at the Wave Hill Project, which may have acted as conduits for basaltic magma.

The Antrim Plateau Volcanics make up part of the Kalkarindji Volcanic Group Continental Flood Basalt Province which occurs over an extensive area of greater than 300,000 km<sup>2</sup> reaching from northern Western Australia, across the NT and into Queensland. The Antrim Plateau Volcanics consist of numerous basalt flows intercalated with thin sedimentary layers which include sandstone and chert. The Antrim Plateau Volcanics can be in excess of 300m thick in places and contains massive flows of fine to coarse grained vesicular to amygdaloidal basalt. Proto's plans for the NT build on an earlier exploration program at Lindeman's Bore (EL25307) near Kalkarindji. Previous drilling in drill-hole LBD-1 provided new geological insight by intersecting the Inverway Metamorphics and identified mineralisation of 24m @ 4.92g/t Ag from 32m including 4m @ 16.15g/t Ag, 5m @ 0.13g/t Au from 380m and 6m @ 0.03% Co & 0.05% Cu. A second hole, LBD-2, further identified the presence of gold and palladium including 7m @ 1.1g/t Au and palladium grading between 0.009 to 0.453g/t from a down hole depth of 424m to 431m.

The location of Antrim basalt vents are difficult to establish. Based on vent locations in other continental flood basalt provinces these vents could be widely scattered. Proto has allowed for this in its exploration approach, which targets possible vents and feeders in this broad system.

### ***Historical Results and Interpreted Faults at Waterloo***

Recent work has identified the Waterloo Project tenements as Proto's first target. The Waterloo Project is located in the NT approximately 350km Southwest of Katherine, NT and 75km Southeast of Kununurra, WA (Figure 1). The Waterloo Project area is largely covered by basalts of the Cambrian-aged Antrim Plateau Volcanics with lesser occurrences of sediments of the Proterozoic Limbunya, Wattie, Bullita, Auvergne and Duerdin Groups mapped (Figure 2).

The Blackfellow Creek Fault runs northeast through the area as it is believed to be a long lived structure that may possibly have acted as a vent for Cambrian aged basalt magmatism or may have intrusions along it. Historical data shows copper mineral occurrences along or close to this structure and these copper occurrences may be due to structural remobilization of copper from within the Antrim Plateau Volcanics. The exploration concept is that the Blackfellow Creek Fault might have acted as a vent and feeder to the Antrim Plateau. To support this project, Proto has completed both desktop assessment of past exploration and made a recent field mapping trip on which rock-chip samples were collected for analysis. Assay results are awaited.

The Waterloo Project area has been the subject of various exploration programs since the 1960's through to the present day. The majority of this exploration has been for diamonds due to the area's close proximity to the Argyle Diamond Mine (located 75 km west of the project area in Western Australia) and the Bow River diamond mining area (located 40 km west of the project area also in Western Australia). Table 1 below shows which companies have explored the Waterloo area for which commodity targets.



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Historic exploration work completed by Metals Exploration NL and Freeport Australia Inc between 1968 and 1970 should assist with Proto's exploration activities as stream sediment samples were taken across the western part of the Waterloo project area identifying several areas of anomalous copper. In addition, work completed by Australian Kimberley Diamonds in 1997 identified a circular feature in Blackfellow Creek along an eastern extension of the Blackfellow Creek Fault. Sampling indicated this was unlikely to be a kimberlite but did contain large amounts of magnetite unlike the Antrim Plateau basalt flows. Australian Kimberley Diamonds hypothesized that this circular feature may represent a volcanic vent or the location of an intrusion at depth. This is promising as an external feature consistent with Proto's geological model. A second field trip is planned to assess this feature.

### ***Geophysics at Waterloo***

Proto has identified a priority geophysics program on the new license at Waterloo. This involves airborne geophysics to demarcate the structure of the Blackfellow Creek Fault which runs across tenement EL27420 and application ELA27416 at Waterloo. The Antrim Plateau Basalts are widespread in this area, as shown in Figure 1 where they are shaded in green. It is in the vents and feeders to these basalts that the geological concept suggests that there may be potential for the "Norilsk-style" Ni-Cu-PGE target. The proposed airborne electromagnetic and gravity program will provide useful data for evaluating the potential of the Blackfellow Creek Fault structure to have acted in this capacity. Proto has put a proposal for collaborative funding for this survey forward under the Northern Territory government's *Bringing Forward Discovery* funding initiative.

The priority airborne survey will seek to define the fault structures over application area EL27416 associated with the Blackfellow Creek Fault (Figure 3). The combined GT1a gravity and ZTEM electromagnetic survey at a line spacing of 500m on Line Direction of 000-180 for a total Line-kms of 1,164kms (approx 686km<sup>2</sup>). Pending results on the first program, a follow-up survey would do an additional 380 line-kms (approx 192km<sup>2</sup>) to cover the northern extension of the Blackfellow Creek Fault onto EL27420.

ZTEM is a new innovative airborne electromagnetic system which uses the natural or passive fields of the Earth as the source of transmitted energy. Due to the manner in which they propagate, these natural fields are planar and horizontal. Geotech Ltd reports that their proprietary receiver design uses the advantages of modern digital electronics and signal processing to deliver superior exploration depth of up to 2,000 metres from numerical simulation and excellent resistivity discrimination and detection of weak anomalies due to the nature of the natural EM fields.

The Company looks forward to providing further updates in due course.

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*The information in this report that relates to Exploration Results is based on information compiled by Andrew Jones, who is a Member of the Australasian Institute of Mining & Metallurgy. Mr Jones is a full-time employee of TasEx Geological Services Pty Ltd and has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2004 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Jones consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.*

**Table 1 – Previous Exploration Activity at Waterloo**

Date	Company	Target	Activities
2002 - 2005	Gravity Diamonds Ltd/ Rio Tinto Exploration Pty Ltd	Diamonds	Data review and surface sampling
1995 - 1999	Exploration Technology Services	Diamonds	Air photo interpretation, magnetics
1997 - 1999	Stockdale Prospecting	Diamonds	Stream sediment sampling
1997	Australian Kimberley Diamonds	Diamonds	Air photo interpretation, field visits, sampling. Circular feature on Blackfellow Creek identified.
1994 - 1995	Rescan NL	Diamonds, Au, Base metals	Strain mapping
1989 - 1990	Kakadu Resources Ltd	Silica, Au	Bulk sampling for silica. BLEG for Au.
1988	Murchison Mining Corporation NL	Au, Base metals	Stream sediment sampling
1980 - 1982	Aberfoyle Exploration Pty Ltd	Diamonds	Gravel sampling
1979 - 1982	Ashton Mining Ltd	Diamonds	Gravel sampling
1968 - 1970	Metals Exploration NL/Freeport Australia Inc	Copper	Stream sediment sampling, geological mapping, IP, EM



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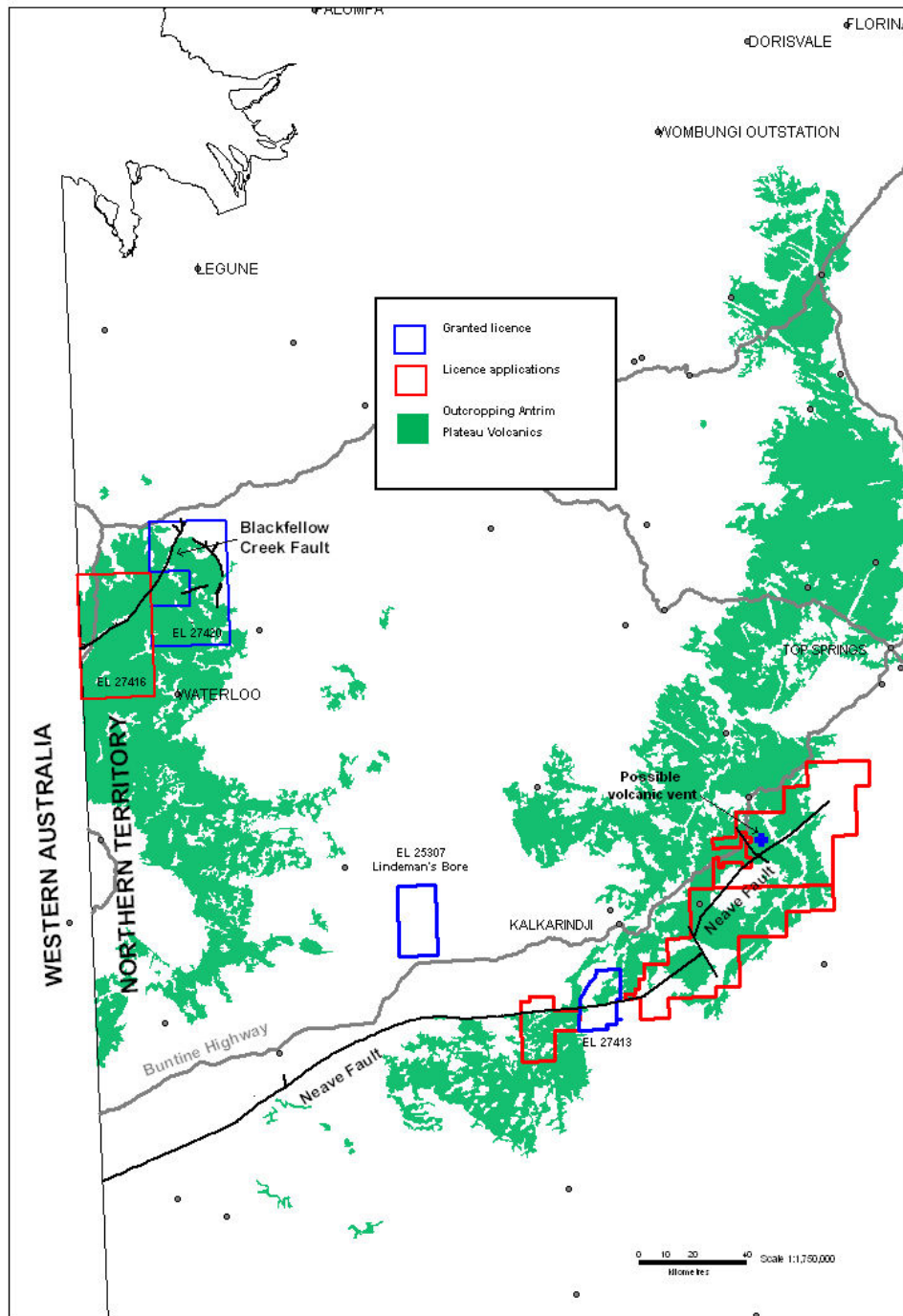
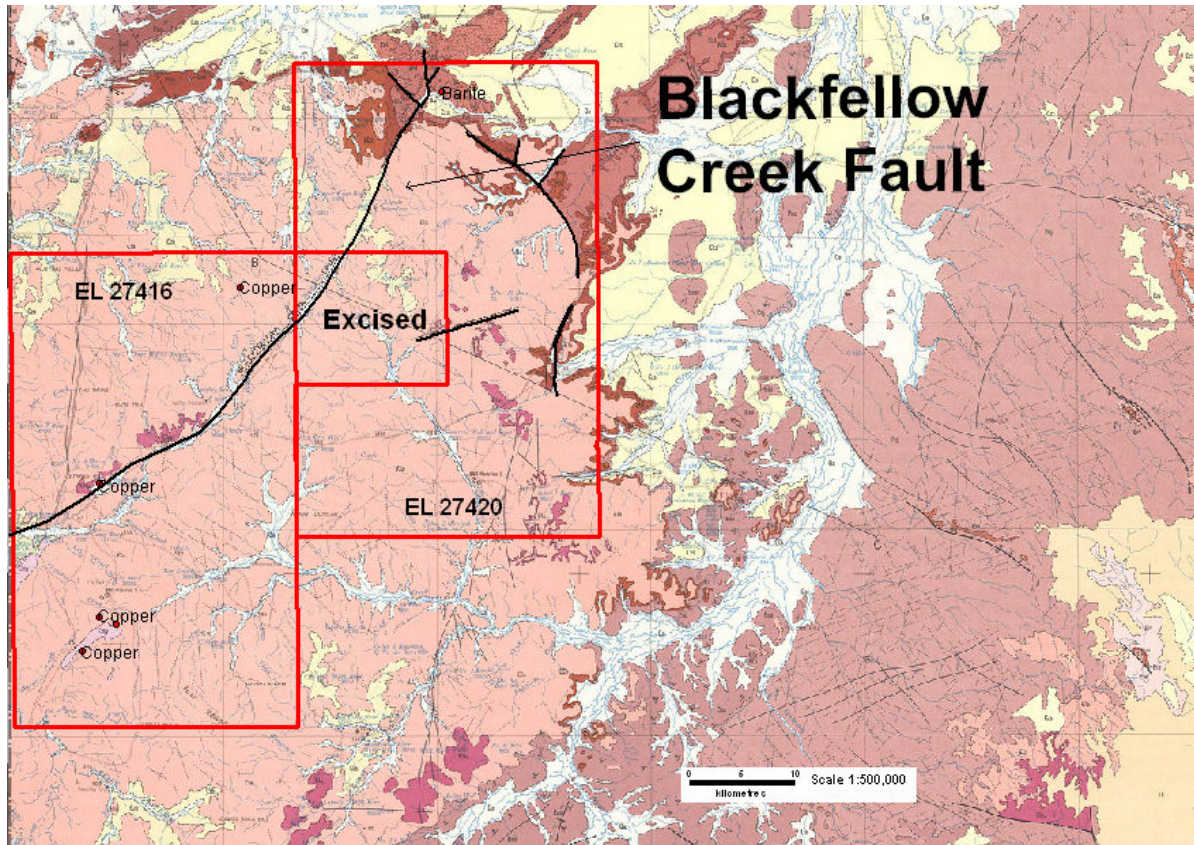


Figure 1 Location of the Granted Applications on the Neave and Blackfellow Creek Faults

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*Figure 2 Waterloo Regional Surface Geology with Historic Copper Mineral Occurrences shown as Red Dots*



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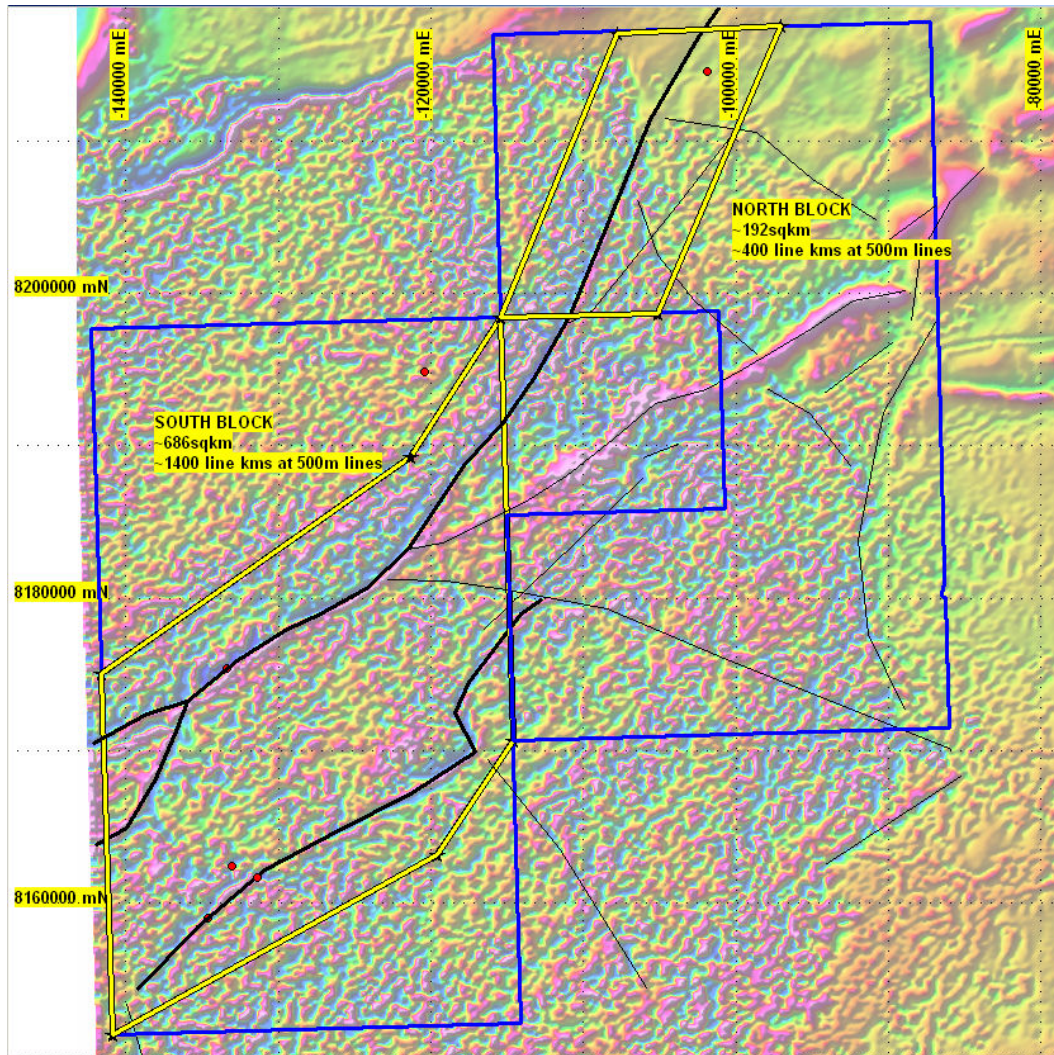


Figure 3 Proposed Geophysics Outlined in Yellow over NTGS 1VD Magnetics Showing Fault Structures