

Memorandum To: Ian Faris
From: Phil Hawke

Date: 9 November 2010

Re: Result of an IP / Resistivity survey at near the Adelaide River Mine, George Project, Northern Territory.

Background

The abandoned Adelaide River uranium mine, located approximately 4 km south of the town of the same name, was worked during the 1950s to produce a total of 3860 tonnes of ore at 0.5% U₃O₈. Primary mineralisation contains uranium oxides, particularly pitchblende.

The Adelaide River Mineralisation is typically hosted within a greywacke unit of the Burrell Creek Formation of the Finnis River Group in the Late Proterozoic Pine Creek Orogen. This unit is generally overlain by a siltstone unit and underlain by a pebble conglomerate. Sulfidic (black?) shales have also been noted in the area.

While the Adelaide River mineralization is generally described as structurally controlled vein-style of uranium deposit; unconformity related mineralisation, particularly within the underlying pebble conglomerate, is also considered.

The main objective of the IP survey was to identify a direct (chargeability or resistivity) signature of the pitchblende mineralization to use as a targeting mechanism for future drilling programs. A total of three lines of data were originally proposed; one located within 100m of the known extent of the Adelaide River Mine (8532000mN) and two additional lines following the mapped position of the greywacke to the north at 400m line spacings (Figure 1).

Data Acquisition and Processing

The IP survey was conducted by a crew from GPX Surveys during September 2010. Data were collected using equipment manufactured by the Zonge Engineering and Research Organisation (ZERO), specifically;

- ZZT-40 geophysical transmitter
- GDD-16 receiver

The input current was transmitted using a standard 2-second on, 2-second off (0.25Hz) square waveform. Data were recorded in the instruments' "time-domain" mode, with voltage readings composited over twenty 80 millisecond windows commencing 240 milliseconds after current switch-off. A 25m dipole-dipole array was used.

Quality control and preliminary processing of the data was completed by GPX. Data from the GDD export file were stacked with excessively noisy readings removed before stacking. Filtered and compiled data were then exported into a Geosoft format (*.dat) file, retaining the original 20 chargeability windows.

Due to the rocky nature and poor soil development of the ground over the primary survey targets, contact resistances were high and the crew found it difficult to drive an acceptable current into the ground. Consequently the survey progressed much slower than expected, with only two 300m segments of the originally planned northern and middle sections completed before the program was terminated (after four days). The locations of the surveyed intervals relative to the original survey plan are shown in Figure 1.

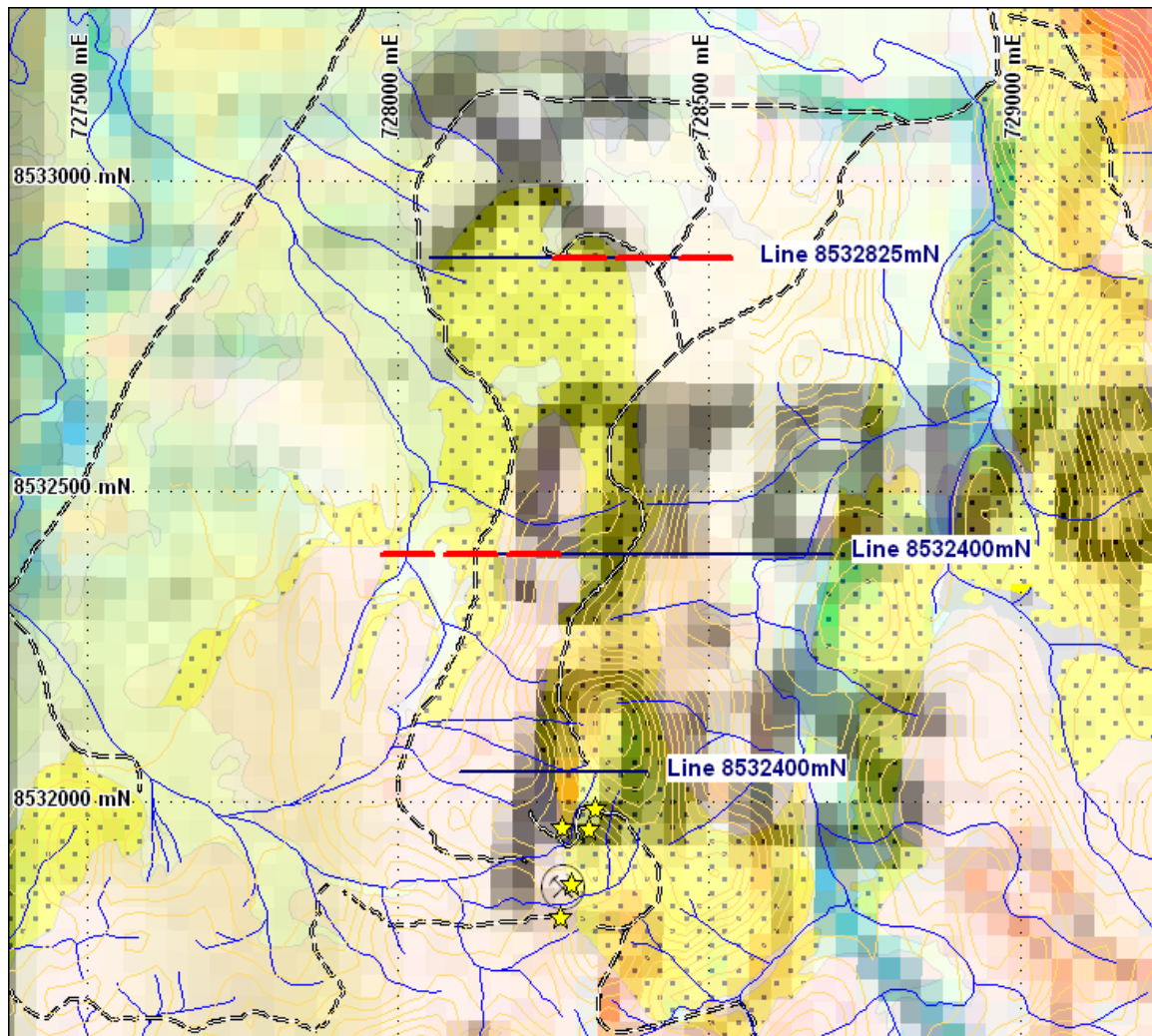


Figure 1: Locations of proposed (blue) and completed (red) IP survey near the Adelaide River Mine. Yellow stars denote shaft locations from historic mining activity.

Pseudo-sections of the final processed IP and resistivity data are included as Appendix 1. The apparent chargeability parameter plotted in these pseudo-sections is the Newmont Standard (Mx) which is defined here to be the integrated normalised voltage over the time window between 590 and 1450 msec after switch-off of the applied current.

Due to the large variations in both resistivity and chargeability between the two lines, each section is plotted with a colour scale common to both as well as a colour scale normalized for each line.

Inversion modeling of the IP / resistivity data has not been completed at this time.

Results

Interpretation of the IP and resistivity data was completed off of the pseudosection plots. A summary of the interpretation is shown in Figure 2.

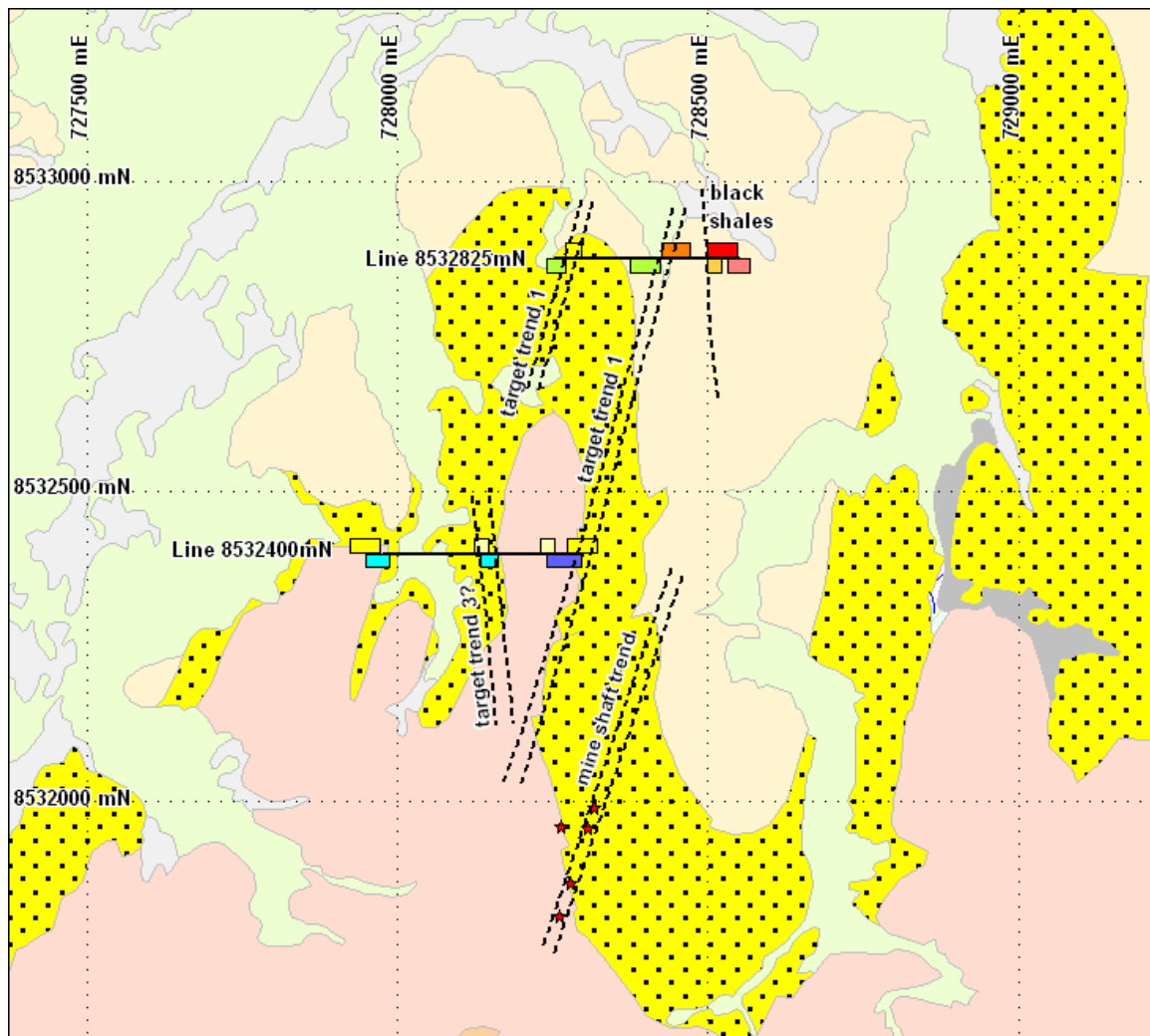


Figure 2: Interpretation summary of IP chargeability (above line) and resistivity (below line) features. For chargeability, hotter colours indicate a stronger IP response. For the resistivity, cool colours imply anomalies more resistive than background while hot colours are more conductive.

Pseudosection plots of IP chargeability and resistivity data (with a common colour scale) are presented in Figure 3.

For each section, interpreted IP chargeability and resistivity features are shown by coloured boxes located above and below the line locating the pseudosection:

- Chargeability boxes are coloured by anomaly strength, with yellow indicating weak anomalies (3-6 msec), orange medium and red the strongest anomalies (>25 msec).
- Resistivity anomalies are assigned a cool colour (green, blue) to indicate the anomaly is more resistive than background and a hot colour (orange, red) to indicate it is less resistive (more conductive) than background. The intensity of the colour indicates the relative change (amplitude) of the anomaly from background.

The most dominant feature in the survey area is the very high chargeability and conductivity anomaly at the eastern end of the northern line (8532825mN). This feature is located in a stratigraphic horizon expected to contain black shales, as these have been intersected by previous drilling in the area. This feature is the primary reason why different colour scales were required to identify subtle features on each of the sections. It is expected that this stratigraphic horizon would be a good target for EM, however it is not considered to be particularly prospective for the style of uranium mineralisation which occurs at the Adelaide River deposit.

More subtle weak chargeability, higher resistivity anomalies are noted elsewhere on the line 8532825mN; between 728260 to 728280mE and 728410 to 728450mE. The chargeability and resistivity anomalies appear slightly offset from one another.

Similar anomalies occur between 728270 to 728290mE, 728130 to 728150 and at the westernmost end of line 8532400mN.

Unfortunately a number of anomalies identified from the data are located at the ends of lines and are not been properly closed off. Consequently, their extent has been inferred from the data that is available.

These anomalies may represent a direct signature of vein style uranium mineralisation with the chargeability responding to uranium oxides \pm minor sulfides while the higher resistivity due to impermeable quartz veining in the shear-hosted lode.

All of these target responses appear to be located either near the base or top of the conglomerate unit which hosts the Adelaide River deposit, suggesting a reasonable stratigraphic control on the mineralisation. Anomalies between the two lines can be lined up along trend lines (Target trends 1 and 2) which parallel the trend of the Adelaide River mineralisation (as indicated by shaft locations).

It is suggested that these trends represent parallel trends to that which hosts the Adelaide River deposit.

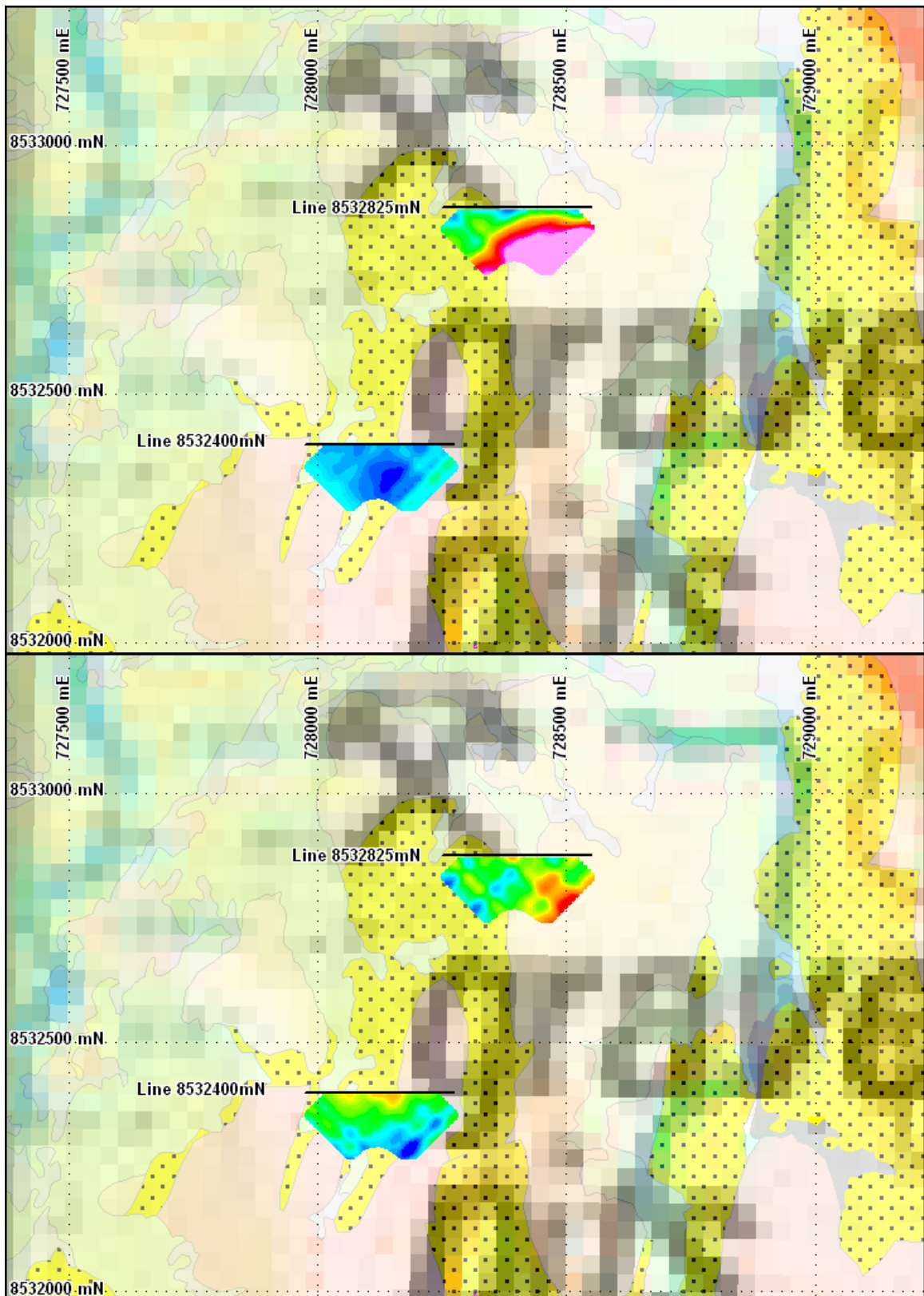


Figure 3: Pseudosection plots of IP chargeability (top) and resistivity (bottom), presented with a common colour scale.

Conclusions and Recommendations

Two 300m lines of dipole-dipole IP data have been collected in a prospective corridor located to the north of the Adelaide River deposit to identify potential targets for concealed uranium mineralisation. Unfortunately, due to difficult ground conditions resulting in a much lower rate of production than expected, the survey was smaller than proposed and a number of anomalies that have been identified at the ends of lines remain open.

The most dominant feature identified in the survey, located at the eastern end of the northern line (8532825mN) agrees with the expected position of a black shale unit identified by previous drilling in the area. This feature is not expected to present a lithological target for Adelaide River style mineralisation.

A series of weak chargeability and higher resistivity anomalies have been identified within the conglomerate unit which is host to the historic Adelaide River Mine. These anomalies carry a response expected for this style of mineralisation with the subtle chargeability due to uranium oxides and minor sulphides, with the resistivity anomaly due to quartz veins.

Some of these anomalies can be lined up in a similar (structural) trend to that which appears to control the Adelaide River lode.

Drill testing of the subtle IP anomalies is recommended to determine whether these targets have successfully targeted concealed shear-hosted uranium mineralisation. It is expected that the source of the anomalies (which may represent a zone of small veins bearing uranium oxides intruding the host stratigraphy) are subvertical so it is recommended that angled drilling be used.