



# SANDFIRE RESOURCES NL

ABN 55 105 154 185

**ACTIVITY REPORT**

**QUARTERLY REPORT FOR THE PERIOD ENDED 30<sup>th</sup> June 2007**

## **HIGHLIGHTS**

- **DOOLGUNNA GOLD PROJECT, WA**
  - **An extensive RAB, vacuum and aircore drilling program to sample bedrock is in progress. Based on results to date, multiple new areas of anomalous gold geochemistry have been located.**
- **URANDY GOLD PROJECT, WA**
  - **Soil and bedrock geochemical programs have located new areas of anomalous gold geochemistry. Follow up investigations have returned highly anomalous gold in rock chips.**
- **BORROLOOLA LEAD-ZINC PROJECT, NT**
  - **The airborne electromagnetic survey has been completed and the target selection process has commenced. IP surveys have confirmed extensions to the Copper Mine Creek fault mineralisation and identified new drill targets at Apollo.**

**ASX CODE: SFR  
SFRCA**

**OFFICE AT:**  
1 VENTNOR AVENUE  
WEST PERTH 6005  
WESTERN AUSTRALIA

**T: +61 8 9226 5833  
F: +61 8 9226 5844  
E: [admin@sandfire.com.au](mailto:admin@sandfire.com.au)  
[www.sandfire.com.au](http://www.sandfire.com.au)**

**CORRESPONDENCE:**  
PO BOX 1495  
WEST PERTH 6872  
WESTERN AUSTRALIA



---

## OVERVIEW

During the June Quarter, Sandfire Resource continued intensive exploration activities across its portfolio of quality projects in Western Australia and the Northern Territory including (fig.1):

- Extensive geochemical sampling programs for gold using vacuum drilling, RAB drilling and soil sampling at Doolgunna, north of Meekatharra;
- Vacuum drilling and soil sampling programs for gold at Urandy inland from Onslow;
- RAB drilling at Mt Boggola south of Paraburdoo to test an airborne electromagnetic (AEM) anomaly defined by the 2006 Hoistem survey;
- RAB drilling to test lead and zinc anomalies at Yannarie inland from Carnarvon;
- Acquisition of approximately 4,000 km of new AEM survey data in the Borrooloola district north west of the world class McArthur River Mine;
- Induced polarisation (IP) surveys completed at the Apollo Prospect and over the extensions to the Copper Mine Creek fault mineralisation at the Gordons prospect, within the Borrooloola project.

### *Doolgunna Gold Project, Western Australia (Sandfire 100%)*

Surface geochemistry consisting of rock chip and soil sampling has been used effectively to locate the three gold prospects at Old Highway (best previous drill intercept of 48m @ 5.9g/t), East Shed Well (best previous drill intercept of 14m @ 10.4g/t) and Cow Hole Bore (best previous drill intercept of 4m @ 7.43g/t).

However, large areas of the project area at Doolgunna are overlain by transported cover and these techniques are not generally applicable. For this reason the Company is undertaking an extensive bedrock drilling program.

As part of this program, a total of 912 RAB holes (9,682m) and 825 shallow vacuum holes (2194m) were drilled to sample the regolith material and the top of the bedrock during the quarter. In addition, 464 soil samples were also collected in areas of residual soils. The first phase of this program should be completed by the end of July.

Based on the assay results received to date, multiple new areas with anomalous gold assays have been located representing potentially new exploration targets (fig 2). Follow up of these results will be undertaken systematically over the next few months.

In addition to the bedrock work, programs of deeper RAB and RC drilling will be undertaken in the next few months. The RAB drilling will test existing geochemical anomalies. The RC drilling has been designed to continue testing the known prospects



---

at Old Highway and East Shed Well and to form part of the drilling required to estimate an initial gold resource at these prospects.

### ***Borroloola Lead-Zinc Project, Northern Territory (Sandfire 100%)***

Sandfire has an extensive tenement holding in the Borroloola district of the Northern Territory (fig. 3). The area covers a large part of the southern McArthur Basin, host to the world class McArthur River (HYC) Zn-Pb-Ag deposit.

As announced previously, open file AEM data were reprocessed using the latest data inversion programs enabling the Company to define areas of interest. During the quarter, the Company entered into a contract with Fugro Airborne Surveys to collect approximately 4000 km of new TEMPEST AEM data over a large area west of Borroloola. This survey was designed to detect conductive rock units which may host sulphide mineralisation of the style of the McArthur River deposit. The data collection phase of this survey was completed in June 2007.

Based on preliminary results from the new data, the expression of anomalies inferred from the reprocessing of open file data are more coherent and in some cases more extensive than previously recognised. Final data are due for delivery in late July early August after which targets will be finalised in preparation for drilling.

An IP survey has been completed along the Copper Mine Creek fault to the east of the drilling conducted at Gordons prospect in 2006. This survey has confirmed the continuation of the chargeability anomaly (and possibly sulphide mineralisation) 5km to the east in a structurally complex area. Drilling targets are being selected.

An access track was cut into the Apollo prospect where an IP survey consisting of four lines of pole-dipole was completed. Anomalous chargeability readings were measured on all lines with larger responses on the northern sections of the lines where there is extensive transported cover. The IP responses are stronger than along the Copper Mine Creek fault possibly indicating higher concentration of sulphides. Drilling targets are being selected.

Drilling of the IP and AEM targets will depend on drill rig availability; however, at this point, drilling is planned for October.

The Company is currently in discussions with a possible Chinese joint venture partner for the Borroloola project. The successful conclusion of these discussions is subject to due diligence and various financial commitments.

### ***Urandy Gold Project, Western Australia (Sandfire 100%)***

Based on field work completed in 2006, two areas, being in the southwest and northwest of the project area respectively, were identified as requiring further work. Large parts of these areas are covered by a thin layer of transported material and are therefore not amenable to surface geochemistry.



During the Quarter, a vacuum drilling program was completed in the areas with transported cover and surface sampling was completed in areas with residual soils. A total of 1,591 surface soil and bedrock samples were submitted for analysis.

A large number of anomalous gold values were returned from this program (fig. 4). Approximately 200 samples returned assays greater than 4ppb (0.004g/t) with the highest value of being 87ppb (0.087g/t). The sample lines are very wide spaced and at this time it is not clear if or how the anomalies correlate from line to line.

Several of the new anomalies were field checked. Eleven rock chip samples were collected with all but two samples returning detectable gold. Three samples returned gold values >100ppb (0.1g/t) with the highest value being 663ppb (0.663g/t).

A follow up vacuum drilling program to infill between the wide spaced lines is planned to commence in early August.

#### ***Yannarie Copper-Lead-Zinc Project, Western Australia (Sandfire 100%)***

Previous soil sampling at the Two Peaks prospect delineated a zone measuring approximately 1500m long which is anomalous in lead/zinc (fig. 5). A further 228 soil samples were collected on intermediate lines which confirmed the continuity of the anomaly.

Twenty-six angled RAB holes were drilled (758m) and 187 samples submitted for analysis. Results show anomalous values between 0.2% and 0.46% lead and between 0.2% and 0.32% zinc occurring in the weathered zone. The primary bedrock source has not yet been identified.

Anomalous scintillometer readings were measured over an area of calcrete in the south part of E09/1111. Analysis of three soil/rock samples returned between 250 and 540 ppm (250 and 540 g/t) uranium.

Field mapping is planned for July to follow up the RAB drilling and to further investigate the extent of the uranium mineralisation.

#### ***Mt Boggola Copper-Gold Project, Western Australia (Sandfire 100%)***

The assay results for the soil samples collected over the AEM anomaly located by the 2006 Hoistem survey outlined a coherent lead, copper and antimony anomaly. In early June an access track was prepared and two RAB holes were drilled (218m total) to intersect the AEM anomaly. The drill holes intersected a pyritic, carbonaceous siltstone unit which returned weakly anomalous copper, lead and zinc values (< 1,000ppm).

To follow up previous anomalous drainage results, thirty-three stream sediments and three rock samples were taken during helicopter assisted program on 7<sup>th</sup> and 8<sup>th</sup> June. Stream sediment assays are being collated with the existing data for assessment.



### *Corporate*

The contribution to the Company and to the broader community made by the late Mr Graeme Hutton is hereby acknowledged.

The Company welcomes the appointment of Mr John Hutton to the Board.

The Company has resolved to defer the call on the contributing shares to a date to be set.

Greg Steemson  
Managing Director  
31<sup>st</sup> July 2007

The information in this report that relates to Exploration Results is based on information compiled by Greg Steemson who is a Fellow of the Australian Institute of Geoscientists. Greg Steemson has sufficient experience which is 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. Greg Steemson consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

### *Corporate Information*

#### **Directors and Executive Management**

B Coppin: *Non-Exec Chairman*  
G H Steemson: *Managing Director*  
J Hutton: *Non-executive Director*  
R Lewis: *Company Secretary*

#### **Issued Capital**

As at the date of this report the issued capital of the Company is comprised of:

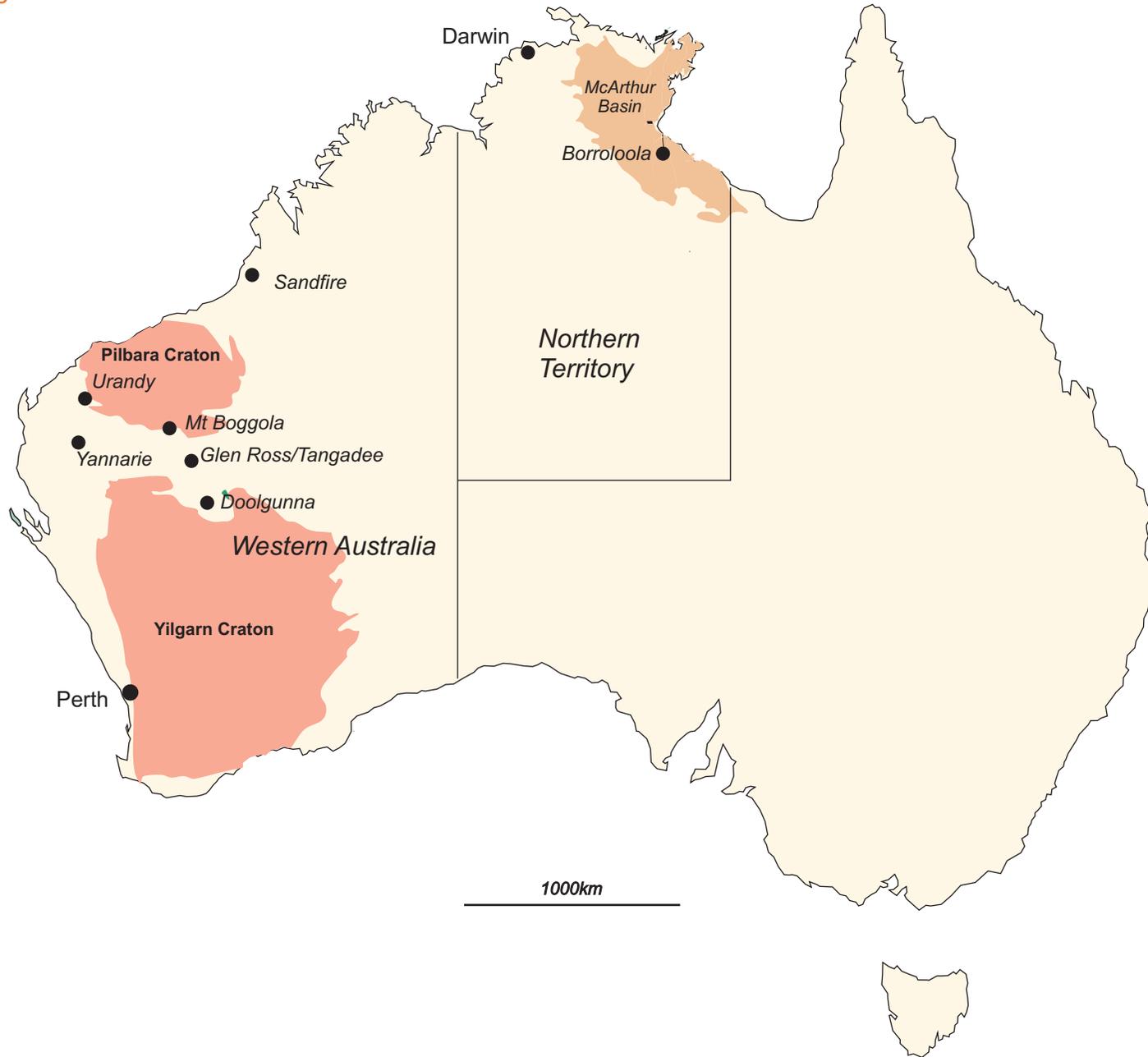
- 65,059,626 fp shares
- 11,102,652 contributing shares with \$0.15 to pay
- 2.392m 31/12/08 \$0.25 opts
- 0.525m 30/9/08 \$0.20 opts
- 3.0m 30/9/11 \$0.50 opts

#### **Shareholder Enquiries**

Matters related to shares held, change of address, tax file numbers and the like should be directed to the Company's Registry: Security Transfer Registrars Pty Ltd  
Phone – 08 9315 2333

Investors interested in receiving copies of ASX announcements can register such interest on the Company's website [www.sandfire.com.au](http://www.sandfire.com.au).

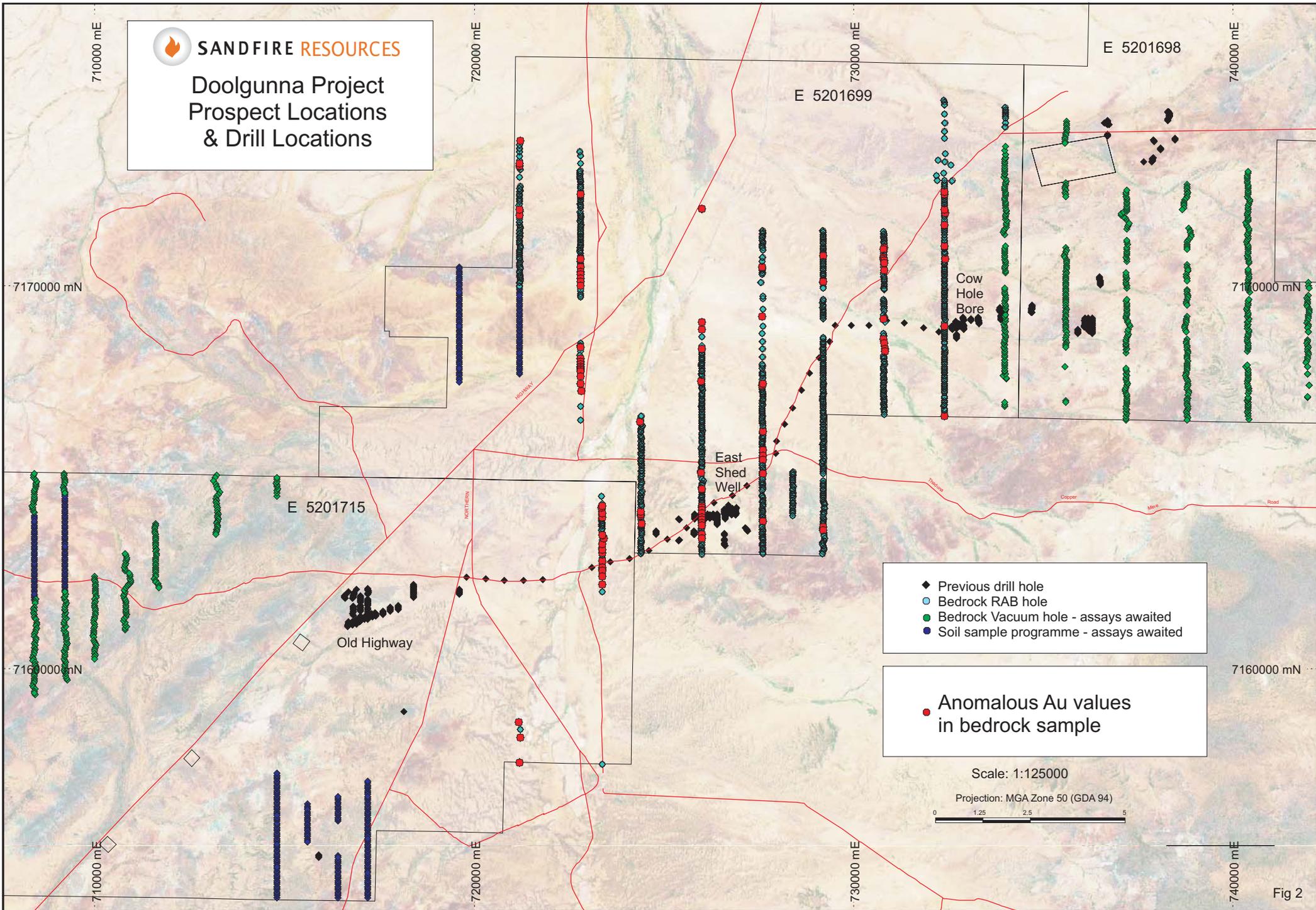
Project Locations





SANDFIRE RESOURCES

# Doolgunna Project Prospect Locations & Drill Locations



- ◆ Previous drill hole
- Bedrock RAB hole
- Bedrock Vacuum hole - assays awaited
- Soil sample programme - assays awaited

● Anomalous Au values  
in bedrock sample

Scale: 1:125000  
Projection: MGA Zone 50 (GDA 94)

Fig 2



SANDFIRE RESOURCES

# Borroloola Project Tenement Status

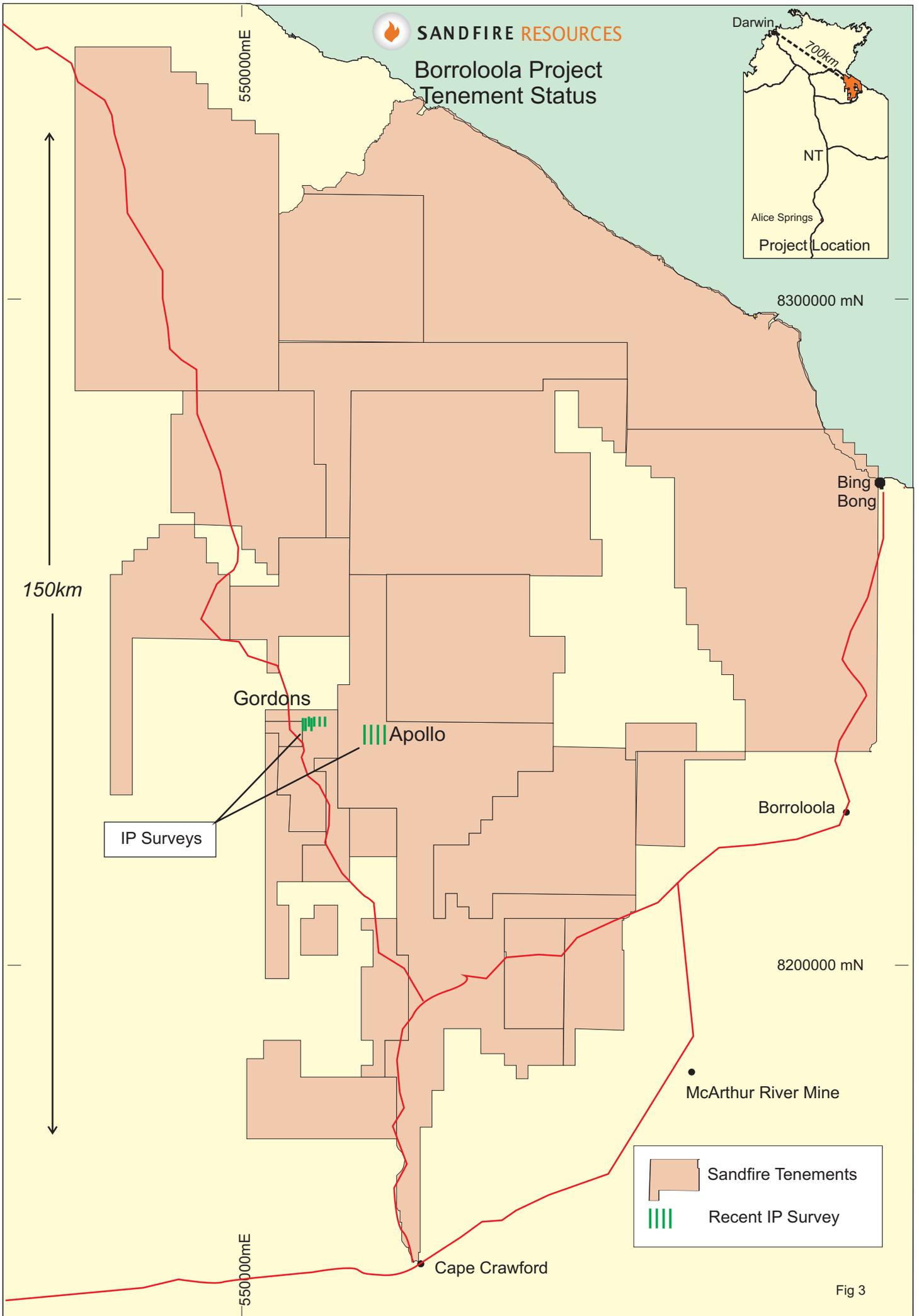


Fig 3



SANDFIRE RESOURCES

# Urandy Project Geochemical Sampling Au Anomalies

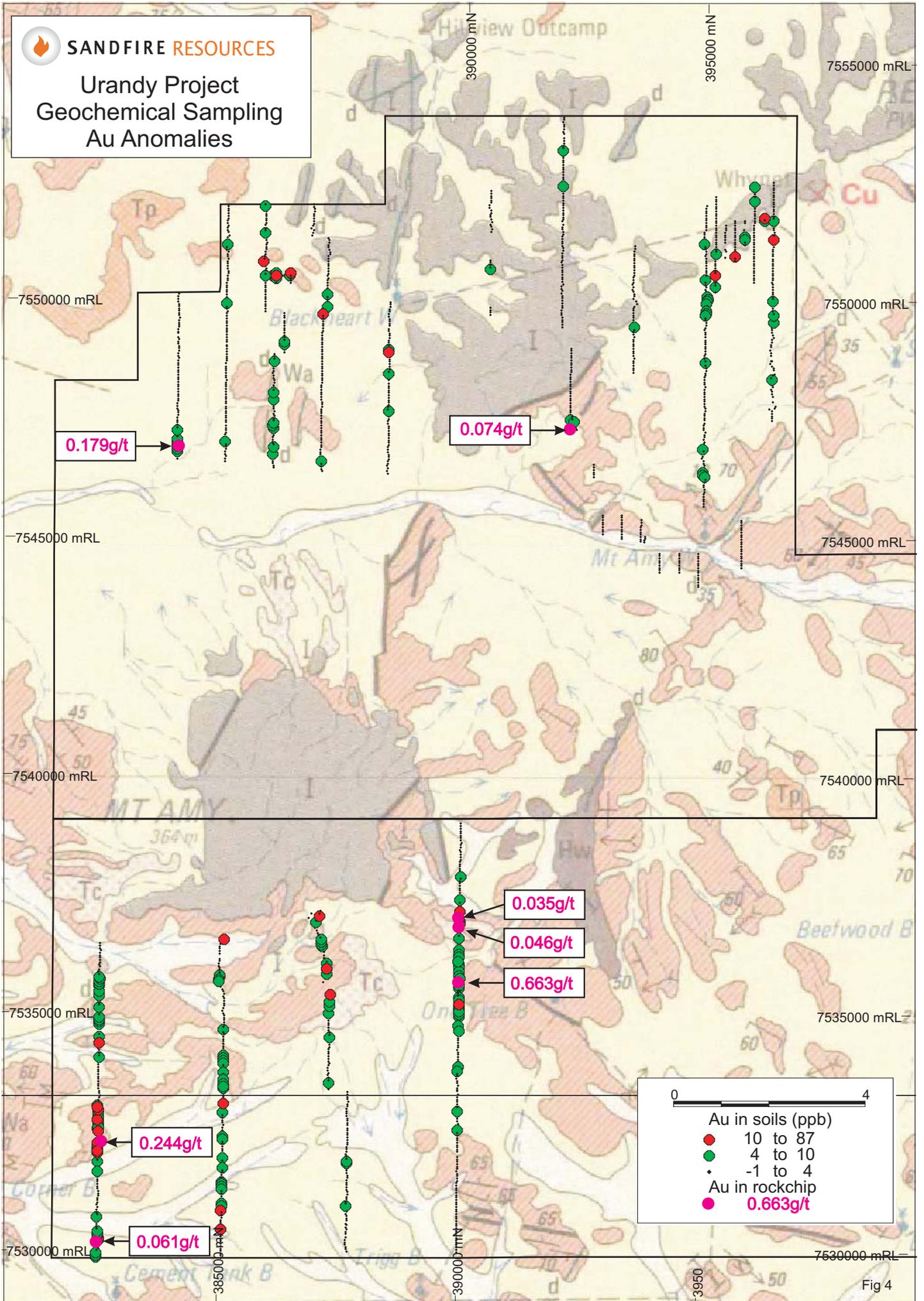
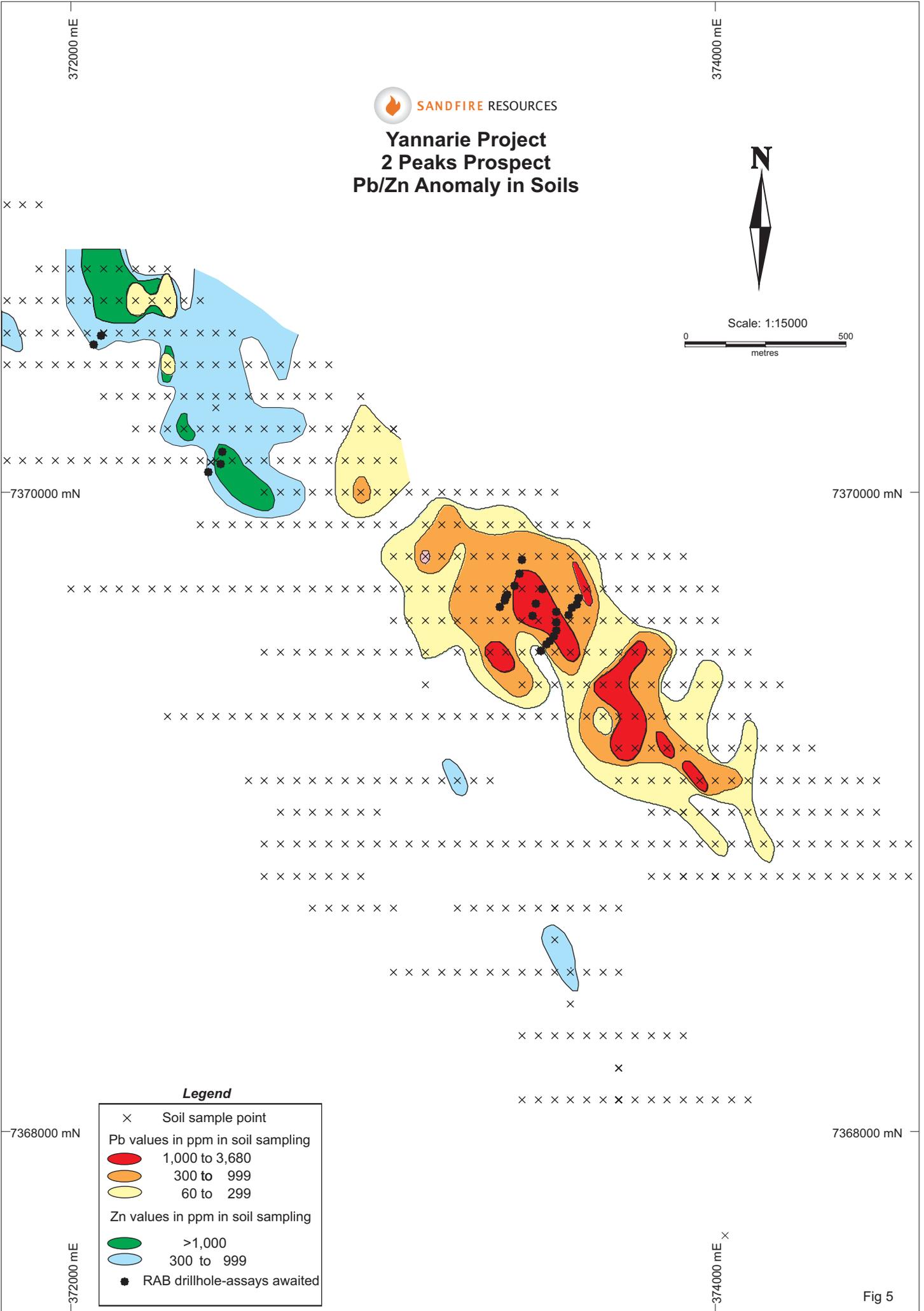
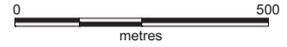


Fig 4

# Yannarie Project 2 Peaks Prospect Pb/Zn Anomaly in Soils



Scale: 1:15000



### Legend

|                                   |                              |
|-----------------------------------|------------------------------|
| x                                 | Soil sample point            |
| Pb values in ppm in soil sampling |                              |
|                                   | 1,000 to 3,680               |
|                                   | 300 to 999                   |
|                                   | 60 to 299                    |
| Zn values in ppm in soil sampling |                              |
|                                   | >1,000                       |
|                                   | 300 to 999                   |
|                                   | RAB drillhole-assays awaited |

Fig 5