



Astro Diamond Mines NL
ACN 007 090 904

EXPLORATION LICENCE 23383

BARROW CREEK PROJECT

ANNUAL EXPLORATION REPORT

FOR THE PERIOD

22 APRIL 2004 TO 21 APRIL 2005

BY

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Astro Diamond Mines NL, Melbourne

TENEMENT REPORT INDEX

OPERATOR: Astro Diamond Mines NL

PROJECT: Barrow Creek

TENEMENTS: Exploration Licence 23383

JOINT REPORT PERIOD: 22 April 2004 to 21 April 2005

DUE DATE: 21 May 2005

AUTHOR: L Bowyer & K Washburn

STATE: Northern Territory

LATITUDE: S21° 22' – S21° 37'

LONGITUDE: E134° 15' – E134° 50'

MGA (easting): 425600 - 482700

MGA (northing): 7611700 - 7635500

1:250,000 SHEET: SF53-06 Barrow Creek

1:100,000 SHEET: 5754 Home of Bullion, 5755 Taylor, 5854 Lurapulla, 5855 Murray Downs

MINERAL FIELD:

COMMODITY: Diamonds

KEYWORDS: Diamonds, data review, target areas

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 1:500,000, A4, Landscape
2. GEOLOGICAL MAP
 1:500,000, A4, Landscape



1 SUMMARY OF EXPLORATION ACTIVITIES

Exploration carried out over the EL23383 during the reporting period included GIS compilations, further data reviews and compilation of openfile data.

2 TENEMENT STATUS

Astro Diamond Mines NL applied for EL23383 on 2nd of October 2001, the tenement was granted on 22nd of April 2003 covering an area of 490.3 km².

3 LOCATION AND ACCESS

[Figure 1](#)

Exploration Licence 23383 covers the Barrow Creek 1:250,000 map sheets. Access to the area is via the Sandover Highway, which turns off the Stuart Highway 80 km north of Alice Springs, and runs to the south of EL23383.

4 GEOLOGY

[Figure 2](#)

The oldest units in the area are comprised of metamorphic and igneous rocks of the Arunta Inlier of Early-Middle Proterozoic age. Late Proterozoic sediments are essentially flat-lying except near faults where they may be upturned.

The southwestern extremities of the Late Proterozoic to Paleozoic Georgina Basin are exposed in the eastern portion of the Barrow Creek 1: 250,000 geological map. The basin is one of several sedimentary basins that developed over older Proterozoic basement in central Australia.

Block faulting along major northwest trending faults in the basement controlled the deposition of the basin in this area. Paleocurrent directions in the basal units indicate consistent flow from the west and northwest.

Deposition of the Dulcie Sandstone followed in the Devonian. The fault influence has persisted with northwest trending contacts and axes of shallow folds. The youngest sediments are restricted to silcretes, ferricretes, and colluvium of Cainozoic age.

4.1 LOCAL GEOLOGY

The tenement covers Paleozoic basin sediments. The Paleozoic sediments represented are the Cambrian Tomahawk beds overlain by Dulcie sandstone.

The Tomahawk beds consist of medium to coarse grained, cross-bedded quartzarenite with thin interbeds of micaceous siltstone, shale and minor quartz-rich dolostone in the north. There is increasing dolostone and limestone in the south of the Dulcie



Range. These outcrops consist of medium to thick beds of limestone or dolostone, commonly with poorly sorted quartz sand, accessory glauconite and traces of tourmaline.

The Dulcie Sandstone consists of prominently cross-bedded, medium to very thick-bedded quartz arenite, with rare beds of ortho-conglomerate and calcareous silty quartz sandstone.

The rocks in the central portion of the tenement are positioned along a northwest-southeast trend which is considered to be a structural corridor. The corridor is coincident with a regional feature termed the "trans-Tanami lineament". Old workings are located on this trend to the southeast in EL application 23384. These were noted recently on the topographic map (eg SF 53-06).

Significant portions of the northern part of the tenements are covered by aeolian sand plains and dunes, also trending to the northwest. Numerous discreet round outcrops and subcrops are preserved above the sand along these trends.

4.2 DISCUSSION ON ECONOMIC POTENTIAL

The old workings marked on the topographic sheet to the south are curious. It is not known what was mined, however they are too remote to have been road metal pits. They are covered by a tenement yet to be granted, but are located along what appears to be a regional structure which has been active during the deposition of both Cambrian and Devonian sediments. Intense magnetic highs at depth are also noted along this structure to the south. This structure trends into the granted tenement EL23383, and may be of significance with regard to the occurrence of metals.

Prior regional diamond indicator sampling to the northwest along this trend has recovered a number of chromites within EL23383. This is also of interest as there are mapped "potholes" along the same structural trend. These features, Qp on the Barrow Creek 1:250,000 Geological sheet, are described as playa lakes. They are quite small though and are more the size of an ultramafic pipe.

Lamprophyre pipes are well known throughout the Barrow Creek to Tanami region and can be identified on regional magnetics as discreet highs. The regional data over the area of positive chromite results have no magnetic response at all.

5 EXPLORATION

5.1 DATA REVIEW

As noted in the previous annual report (Washburn 2004) open file geophysical data had been acquired and processed to produce stacked magnetic profiles. This work produced several pinpoint anomalies for follow-up.

Assessment of the regional geophysics has shown that there is very probably a regionally significant structure which could control the location of metal deposits, or also the position of potentially diamondiferous pipes.



5.2 TARGET GENERATION

The proposed northwest structure through the central portion of EL 23383 will be the focus for exploration during the next field season. There is an alignment of potential pipe-like features in the form of small playa lakes with previously recovered chromites in the vicinity. There are also old workings noted on topographic maps to the south which may also have an influence within the present tenement.

5.3 PROPOSED EXPLORATION

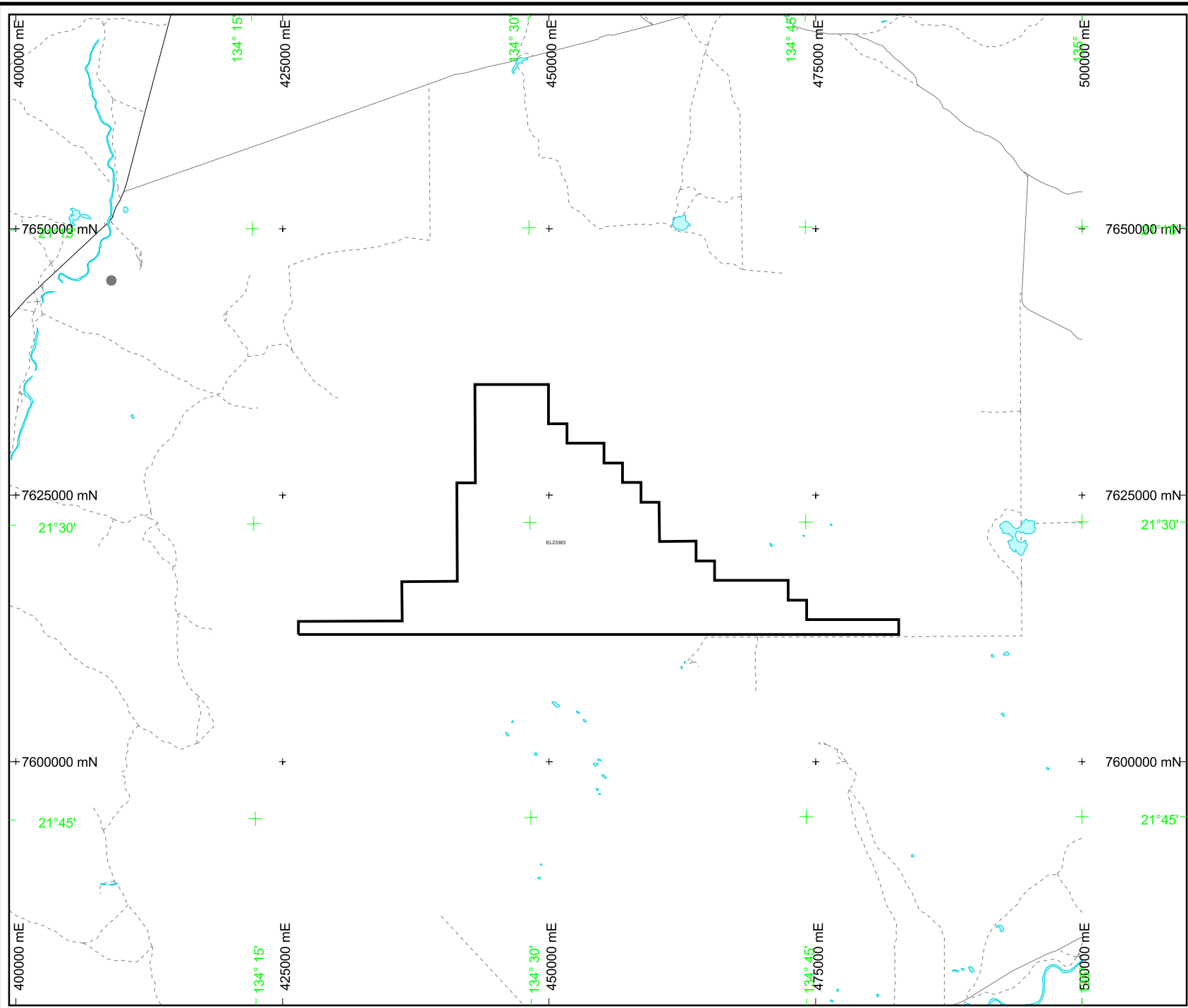
Radiometric data packages will be acquired and enhanced in order to help pick further targets. The presence of high levels of potassium may indicate hydrothermal alteration. The presence of uranium may be of interest also.

The exploration program will necessarily be helicopter supported as there is no mapped access in these areas. Initial reconnaissance will entail rock chip sampling for rare earth geochemistry at various points of interest. Stream sediment or loam samples will be collected to try to reproduce the recovery of chromites for microprobe analysis.

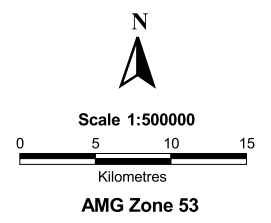
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Washburn, C.A., 2004: EL23383 Annual Exploration Report. ASTRO MINING N.L. Unpublished report August 2004.

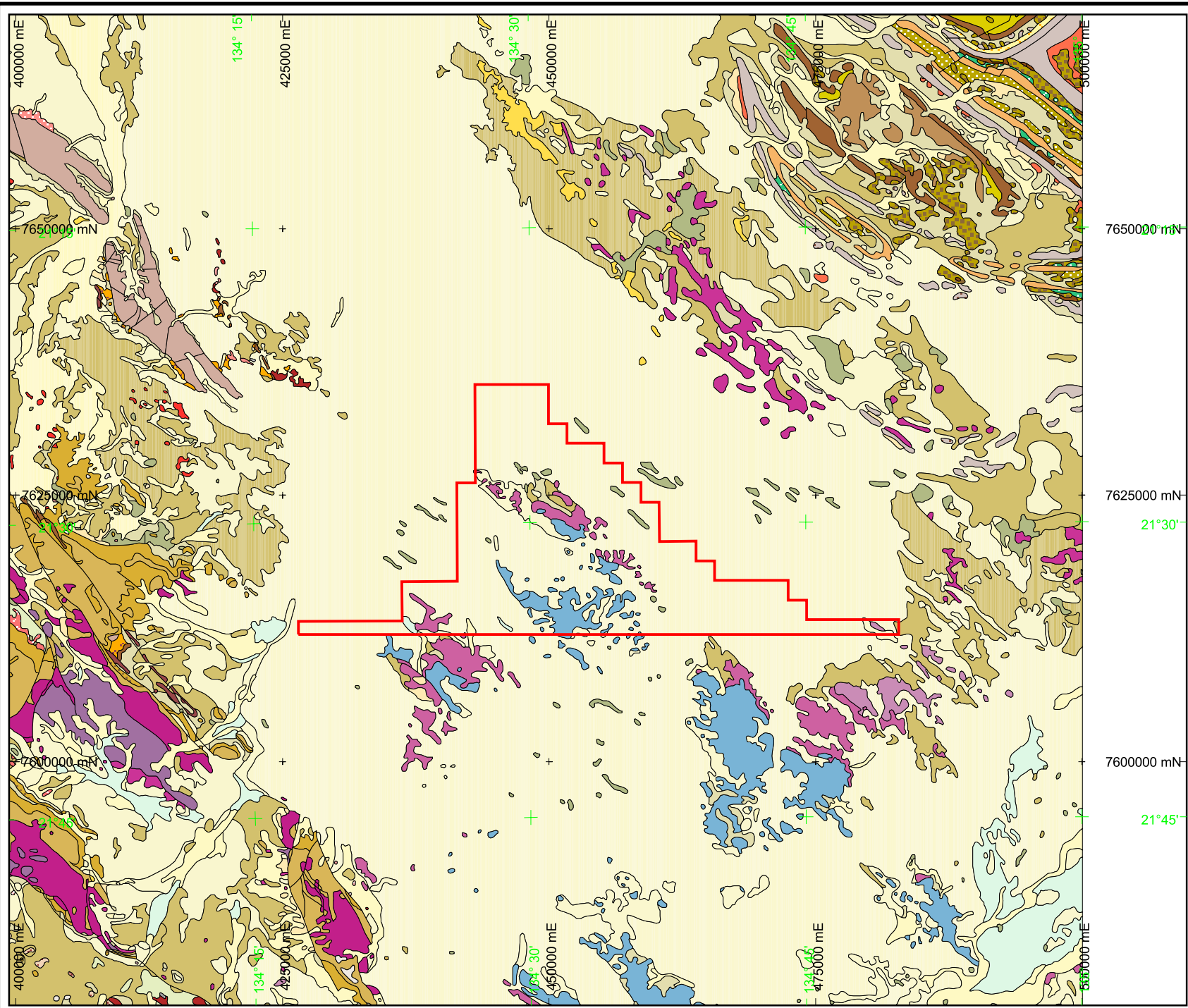


- LEGEND**
- Tenement Boundary
 - Waterbody
 - Drainage
 - Minor Road
 - Principal Road
 - Track
 - Homestead
 - Mountain-peak-hill
 - Populated place

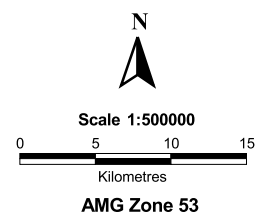


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NORTHERN TERRITORY	
EL23383	
Location Plan	
Comp. :	L Bowyer Date : 12/12/05
APR :	el23383.a05 Loc. : Melbourne
Plot :	Plotname Figure : 1



LEGEND
 Tenement Boundary



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NORTHERN TERRITORY
EL23383
Geology Plan

Comp. : **L Bowyer** Date : **12/12/05**
 APR : **eI23383.a05** Loc. : **Melbourne**
 Plot : **Plotname** Figure : **2**