



Astro Diamond Mines NL
ACN 007 090 904

EXPLORATION LICENCE 23383

BARROW CREEK PROJECT

ANNUAL EXPLORATION REPORT

FOR THE PERIOD

22 APRIL 2007 TO 21 APRIL 2008

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 2007 to 21 April 2008
DUE DATE:	21 May 2008
AUTHOR:	G McGoldrick
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, Uranium
KEYWORDS:	Diamonds, Uranium, target areas, programmes



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1:250 000, A3, Landscape



1 SUMMARY OF EXPLORATION ACTIVITIES

Exploration carried out over the EL23383 during the reporting period included further data reviews and compilation of openfile data. In addition a mine management plan was drafted and approved (Authorisation No. 0376-01). The plan covers drilling of 87 RC drill holes and traverses.

2 TENEMENT STATUS

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

TENEMENT	DATE OF GRANT	STATUS	AREA (km ²)
EL23383	22/04/03	Live	490.3

3 LOCATION AND ACCESS

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. ([figure 2](#))

4 GEOLOGY

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. ([figure 3](#))

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 tenements dominantly cover Paleozoic basin sediments overlapping and in fault contact with Late Proterozoic sediments in the south. The Paleozoic sediments represented are the Cambrian Tomahawk beds followed by the Devonian Dulcie sandstone. (figure 3)

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 orthoconglomerate and calcareous silty quartz sandstone.

A regional northwest oriented fault is thought to be present within the tenement, and appears to coincide with the axis of the basin. This may also be an extension of the Taylor Fault mapped on the 1:250,000 geology map to the northwest and would appear to therefore be a significant structure.

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.

Elkedra Diamonds hold tenements immediately east of the Barrow Creek Project area and have confirmed the occurrence of indicator minerals reported in the open file reports, as well as locating a microdiamond.

5 EXPLORATION

5.1 SUMMARY

There was no field work conducted during this reporting period. Work was focused on review of both data and observations collected in previous years. In conjunction with this a further review of historical Open File Data, regional geology and geophysics was conducted to inform and design targeted exploration for the future.

5.2 PREVIOUS WORK

In previous years CRA Exploration Pty carried out regional loam and stream and loam sampling in the area of EL 23383 where they recovered a number of chromite grains. Although they recovered additional chromite in follow up sampling, they considered them to not be kimberlitic. The chromite locations occur adjacent to the



structure parallel to the basin axis mentioned above.

During the 2005-2006 reporting year open file exploration data were obtained from the NT Geological Survey. Topographic and geological maps at a scale of 1:250,000 were acquired in raster format as a base for plotting the data. Stacked magnetic profiles of the first vertical derivative of the residual magnetics were processed from the located data and imported into Mapinfo. Images of total magnetic intensity and vertical derivatives were supplied by the NTGS. The images have assisted in structural interpretation and assessment for gold or base metal mineralisation.

A helicopter supported field visit was conducted during the 2005-2006 reporting year. Thirteen rock chip samples were collected at various points of possible interest. Two of these were destroyed during transport. The remainder were analysed for a 38 element fusion ICP-MS. There were no clearly anomalous results.

A single loam sample of approximately 3 kilograms of -2mm material was collected in the vicinity of prior chromite anomalies. Examination of the sample for diamond indicator minerals returned a negative result.

A sample of calcrete (BCRK 009) was collected from the physiographic feature as well. The results of the geochemistry indicate a possible mildly mafic source.

5.3 GEOLOGICAL AND GEOPHYSICAL DATA REVIEW

Multi-client airborne magnetic data was acquired and analysed. This data was used in conjunction with a full review of Open File Exploration Research to assist in generating an appropriate exploration strategy. In particular a synthesis of the open file geochemistry with the geophysical data has occurred in order to best delineate targets.

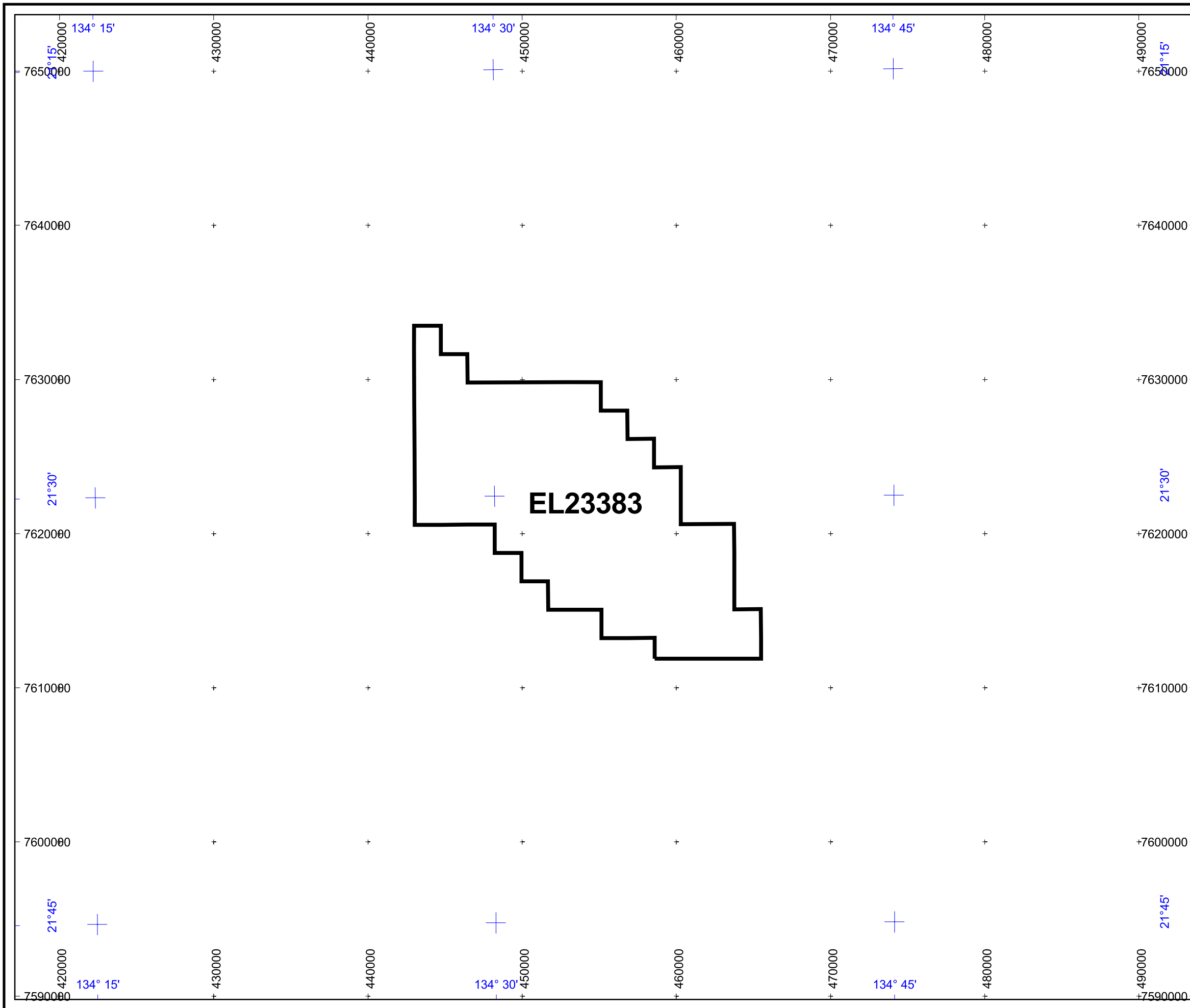
5.4 CONCLUSIONS

Exploration in this tenement is being developed as part of the larger Barrow Creeek project. The review of previous work, Open File data and regional geology and geophysics will be used to delineate potential targets. It is our aim to follow up these with a program of soil sampling and RC drilling traverses.




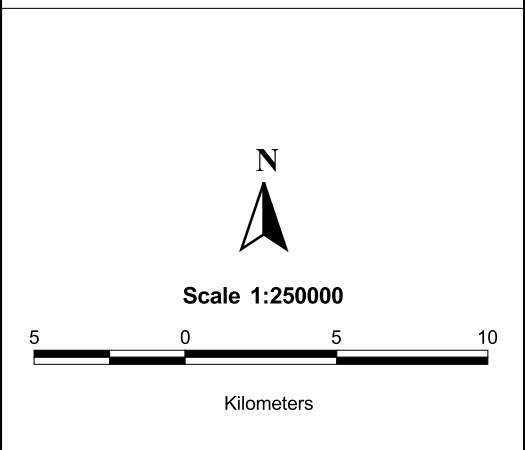
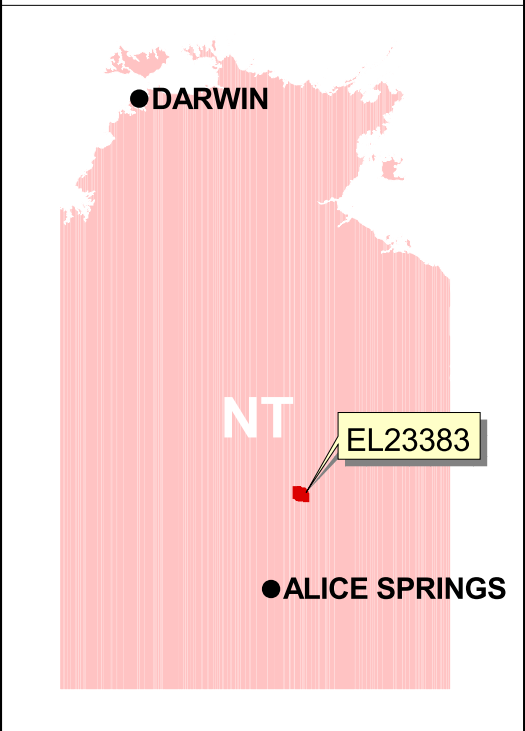
6 BIBLIOGRAPHY

Wright J.H., 2000: Kimberlite Diamond Prospectivity in Australia based on Compilations and Interpretation. ASTRO MINING N.L. Unpublished report March 2000.



LEGEND

 Tenement Boundary



Astro Diamond Mines NL

BARROW CREEK

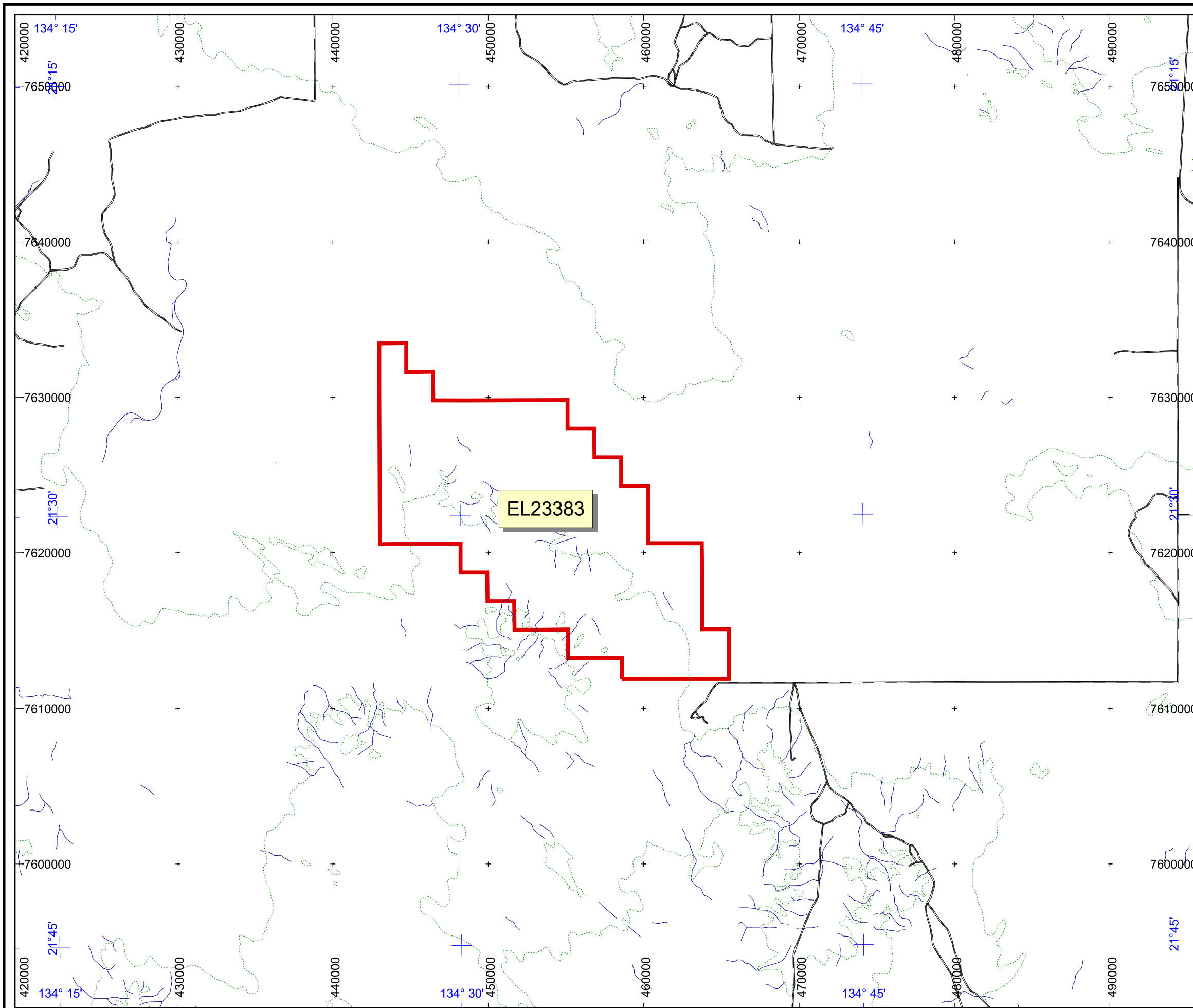
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EL23383





Comp. **Astro Diamond Mines NL** Date : **22/05/08**

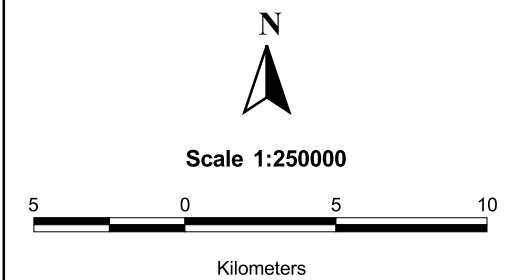
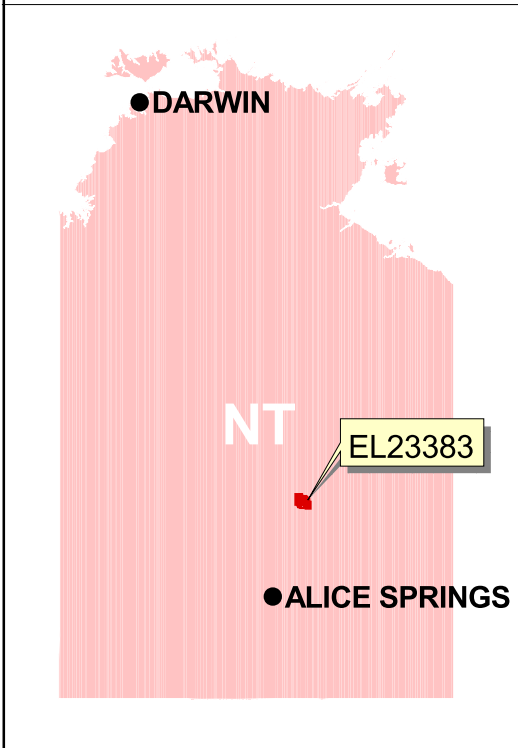
APR : **barrow_creek_08gm** Loc. : **Melbourne**

Plot : Figure : **1**



LEGEND

-  Tenement Boundary
-  Drainage
-  Topographic Contours - 50m intervals
-  Roads/Tracks



Astro Diamond Mines NL

BARROW CREEK

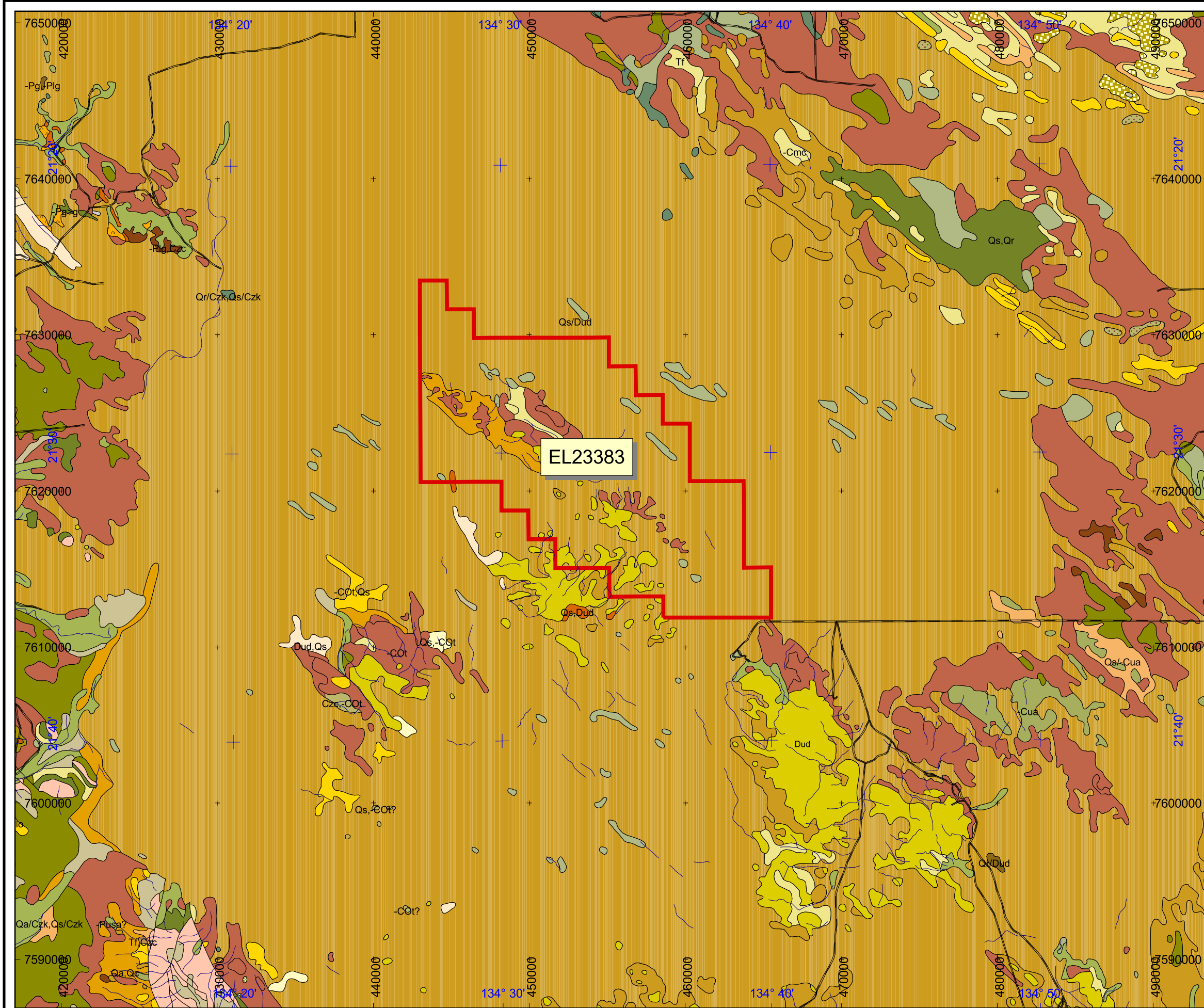
Topography

EL23383

Comp. **Astro Diamond Mines NL** Date : **22/05/08**

APR : **barrow_creek_08gm** Loc. : **Melbourne**

Plot : Figure : **2**



LEGEND

- Roads/Tracks
- Drainage
- Tenement Boundary

Geology

-Cot,Qs	Qr/Czk,Qs/Czk
-Cua	Qr/Dud
-Pg>g	Qs,-Cot
-Pga>1	Qs,Dud
-Pga>2	Qs/-Cot
-Pga>6	Qs/-Cua
Czc	Qs/Czk
Dud	Qs/Dud
Dud,Qs	

N

Scale 1:250000

Kilometers

Astro Diamond Mines NL

BARROW CREEK

Geology

EL23383

Comp. :Astro Diamond Mines NL Date : **22/05/08**

APR : **barrow_creek_08gm** Loc. : **Melbourne**

Plot : Figure : **3**