

ELKEDRA DIAMONDS NL

Altjawarra Craton Diamond Project

Partial Relinquishment Report for period ending July 16, 2003

For EL 22537 (Dulcie)

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Keywords: Northern Territory, Altjawarra Craton, Diamond, Stream Sediment Sampling, Chromite, Indicator Mineral, Geochemistry, Magnetics, Drilling, Elkedra Survey.

Map Sheets:

1: 250,000: Huckitta (SF53-11)

1:100,000: Arapunga (6053)

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Appendix 3	Ground Magnetics Digital Data	SurrDulcie_GndmagAnom

Appendix 4	Photo feature Anomalies	SurrDulcie_PhotoAnom
Appendix-5	Down Hole Drilling Data	SurrDulcie_Drilling
Appendix 6	Geochemistry Data	SurrDulcie_SSGeochemistry
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1 INTRODUCTION

Exploration License EL 22537 is located on the Huckitta (SF53-11) 1:250,000 sheet in central Northern Territory. This report details all work carried out on the relinquished portion of the tenement up to July 16, 2003 by Elkedra Diamond NL.

2 CONCLUSION

Stream sediment sampling led to the recovery of chromite indicate minerals. The source of the indicators is interpreted to occur outside the tenement boundary.

Processing and interpretation of the Elkedra Aeromagnetic Survey released by the NTGS identified 7 magnetic targets for drill testing. None of the targets intersected kimberlite or volcanic rocks.

No further work is warranted in the area reqlinguished.

3 GEOLOGICAL SETTING

3.1 Regional Geology

The Altjawarra diamond project is located on the North Australian Craton, which represents an amalgamated terrain that was consolidated around 1,800 Ma. From a diamond exploration perspective, the significance of the North Australian Craton is that it hosts all of Australia's diamond mines to date including the recently discovered diamondiferous Merlin kimberlites located on the eastern portion of the North Australian Craton. Of particular importance is the age of the Merlin pipes, which have been dated as Devonian (~380 Ma). Elkedra Diamonds are targeting this same kimberlite event, or younger, in the southern Georgina Basin located south of the Merlin field.

The project area incorporates several kilometers of Cambro-Ordovician platform sediments of the southern Georgina Basin, which wholly veneer a basement continental block referred to as the Altjawarra Block. The southern Georgina basin and the underlying Altjawarra Block in particular, are associated with a zone of anomalously thick lithosphere extending to at least 200km depth as recognized from recent seismic tomography studies (Kennett, 1997; Van der Hilst *et al.*, 1998; Debayle and Kennett, 2000). The geophysical data highlight the area as highly prospective for the emplacement of diamond-bearing kimberlites.

3.2 Tenement Geology

The tenement is underlain predominately by sediments of Devonian that define the NW-SE trending Dulcie Syncline, which marks one of the main depocentres of the Georgina Basin. The syncline comprises a succession of lower to middle Devonian carbonate and clastic sedimentary rocks.

4 PREVIOUS EXPLORATION

Previous exploration in the area has predominantly been related to the exploration for base metals, though some reconnaissance diamond exploration work has also been undertaken by CRAE in the late 1980's.

Reconnaissance stream sediment sampling by CRAE led to the recovery of numerous chromites as well as microdiamonds on the Dulcie tenement. Although several indicator mineral drainage

560000 mE

580000 mE

TENEMENT STATUS

SCALE 1:250,000



7560000 mN

7540000 mN

7520000 mN

7560000 mN

7540000 mN

7520000 mN

**DULCIE
22537**

RETAINED AREA

RELINQUISHED AREA

560000 mE

580000 mE

anomalies were identified, no further work was completed to identify the source of the drainage anomalies. The location of the chromite and diamond positive sites identified from the open file report data were used as a starting point for initial confirmation sampling by Elkedra.

5 EXPLORATION COMPLETED

Exploration activities undertaken include:

- 1) Reverse circulation drilling
- 2) Heavy mineral indicator sampling
- 3) Ground magnetic surveys
- 4) Mineral chemistry analysis
- 5) Photo-geology interpretation.

5.1 Drilling

A total of 7 vertical RC holes (ERC0001 - ERC0007) were drilled in May 2002 for a total of 442 m. The drill spoils were submitted to Ultratrace for analysis and selected samples were submitted to Diatech for Heavy Mineral analysis concentrate (HMC).

Results

No obvious Kimberlite or volcanic rock sources were intersected. HMC and microdiamond analysis were negative.

5.2 Heavy Mineral Indicator Sampling

A total of 6 stream sediment samples were collected for heavy mineral processing for diamond indicator minerals. A microdiamond was recovered from a small termite mound sample (AR01WT007) over aeromagnetic anomaly CWN-017. Drilling indicated that the surface material consisted of transported overburden indicating that the source of the diamond is elsewhere.

Chromite indicators were recovered from 2 samples (AR00WT001, AR01WT008). The source of these indicators is interpreted to occur outside the tenement boundary.

5.3 Magnetics

The release of the Elkedra aeromagnetic survey flown by Tesla Airborne for the NTGS has proved critical in this early stage of exploration and forms the basis of all geophysical work undertaken in the tenement. A total of 17 anomalies were identified from the aeromagnetic data with ground magnetic surveys over selected higher priority anomalies.

5.4 Ground Magnetics

The ground magnetic survey was done using a GEM System GSM-19W V6 Magnetometer equipped with a GPS for collection of data in real-time walk-mag mode. The digital data is dumped into Toshiba notebook computers in the field and is processed and grided using the windows version of Chris.dbf. Digital data is also e-mailed via satellite connection facilities to the company's consultant geophysicist, Dr. Duncan Cowan of Cowan Geodata Services for further processing and review.

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DRILL HOLE LOCATIONS

SCALE 1:250,000



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7520000 mN

ERC0005

ERC0003

ERC0004

ERC0002

ERC0006

ERC0001

DULCIE 22537

ERC0007

RETAINED AREA

RELINQUISHED AREA

560000 mE

580000 mE

PLAN 1

560000 mE

580000 mE

SAMPLE POINT LOCATION

SCALE 1:250,000

7560000 mN



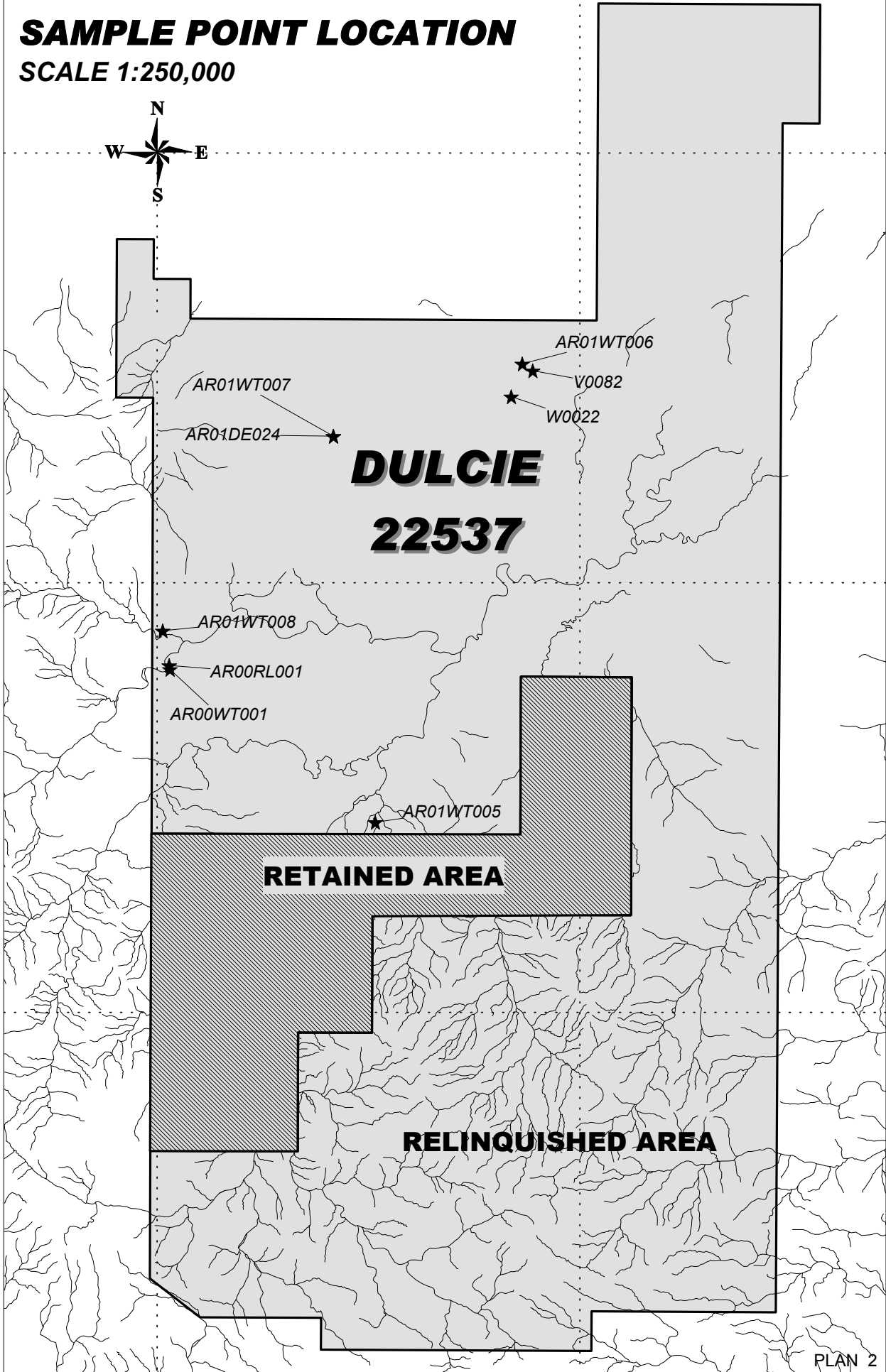
7540000 mN

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560000 mE

580000 mE

PLAN 2



560000 mE

580000 mE

AEROMAG ANOMALIES

SCALE 1:250,000



7560000 mN

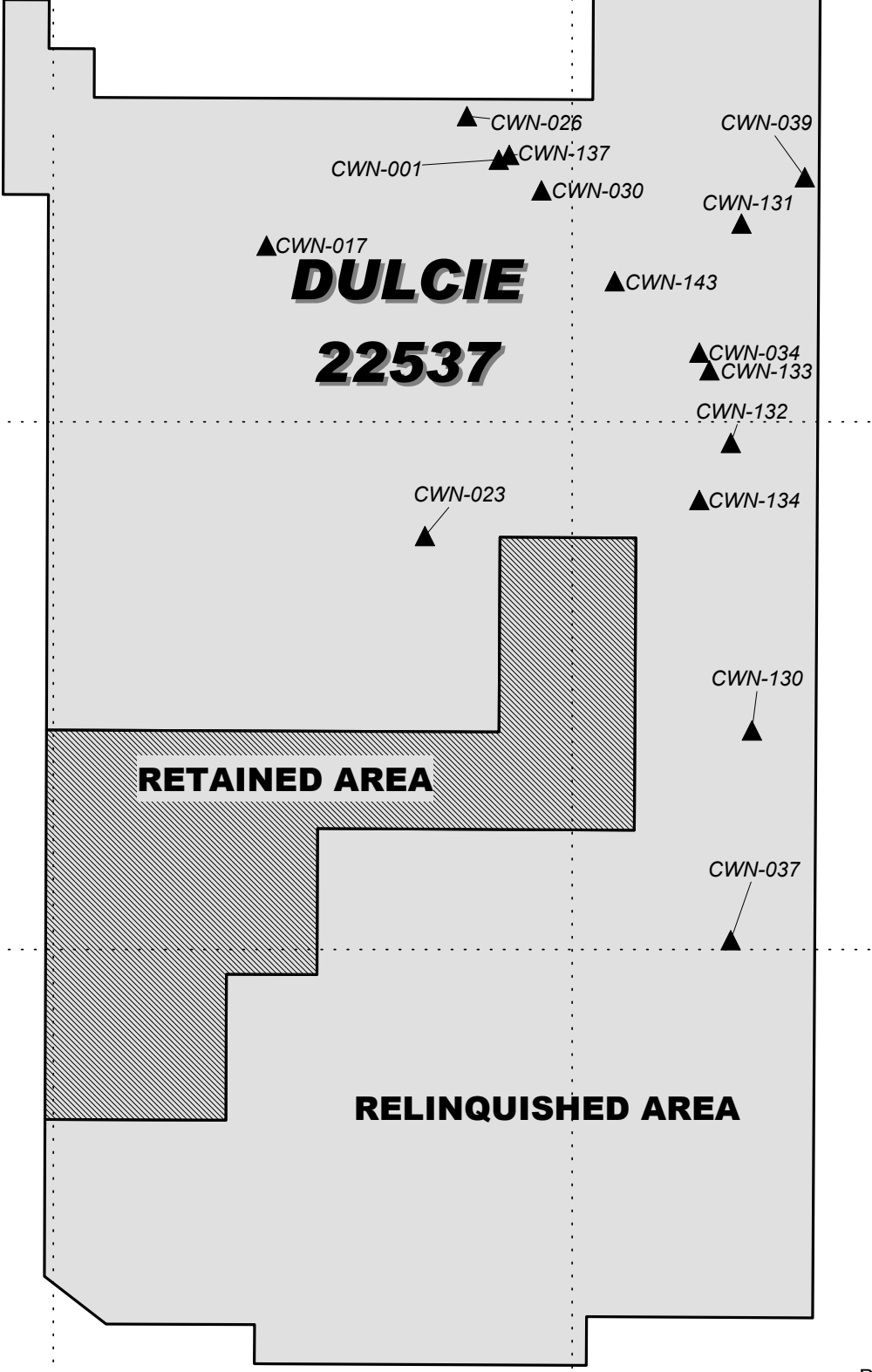
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DULCIE
22537

RETAINED AREA

RELINQUISHED AREA

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A total of 6 ground magnetic surveys were undertaken totaling >37,500 line-meters.

Table 1: Summary of Ground Magnetic Surveys.

Anomaly or area	Total line Distance (m)
CWN-001 CWN-137 – EDN-001	13500
CWN-017	
CWN-026	7800
CWN-131	7800
CWN-143	7800
EDN-002	8400
TOTAL: 6 surveys	

6 MINERAL CHEMISTRY

Mineral chemical analytical work and grain identification was carried out by Dr. Wayne Taylor using a JEOL 6400 analytical SEM at the Centre for Microscopy and Microanalysis, University of Western Australia. High precision element analyses on recovered chromite grains were undertaken by Dr. Wayne Taylor using a Cameca SX-50 electron microprobe at the Electron Beam Laboratory, CSIRO Division of Exploration and Mining, ARRC, Bentley, WA. Some additional analyses were undertaken with a Cameca Camebax and a Cameca SX-100 electron microprobe at the Research School of Earth Sciences, Australian National University, Canberra.

6.1 Indicator Mineral Results

Individual chromite grains are classified based on internal textures as observed in polished grains under the microscope. Textural classification includes smooth, crack/mosaic, pitted/porous, lamellar, and lattice. The lamellar and lattice textured grains are characterized by the presence of two interfingering chromite types (exsolution domains) whereas all other grains are composed of one chromite type.

Mineral chemical results indicate that the grains are mantled-derived. However, no high Cr (>60 wt% Cr₂O₃) chromites were recovered.

7 GEOCHEMISTRY

Geochemical analysis were taken of down-hole drill spoils and stream sediment sample splits. None of the geochemical results indicate the presence of a kimberlite or related rock type in the relinquished area.

8 PHOTO-GEOLOGY INTERPRETATION

Dr. Nick Lockett of Nick Lockett & Associates undertook a photo and Landsat-7 interpretation at a scale of 1:50,000 of a large portion of a portion of the project area. One photo feature anomaly (LOC-035) is identified in the relinquished area. It is of low priority and no further work was warranted.

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PHOTO ANOMALIES

SCALE 1:250,000



7560000 mN

7540000 mN

7520000 mN

7560000 mN

7540000 mN

7520000 mN

DULCIE 22537

RETAINED AREA

RELINQUISHED AREA

◆ LOC-035

560000 mE

580000 mE

PLAN 4

9 REFERENCES

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