

## **Appendix 2**

### **Report from Striker Resources**



**Hartz Range Mines Pty Ltd**  
**Branch Creek Project**  
*Calvert Hills SE5308*

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**Review of Data**

Report Number: 05-019  
22<sup>nd</sup> June 2005  
Tom Reddicliffe

## BRANCH CREEK PROJECT

### 1. INTRODUCTION

Hartz Range Mines Pty Ltd operates three Exploration Licences in the Wollongorang area of the Northern Territory (Figure 1). Historic sampling data and geophysical data have been provided to Striker Resources NL for review with a view of joint venturing the tenements to Striker. The following report expresses Striker's assessment of the data and recommendations.

### 2. PREVIOUS EXPLORATION

Rio Tinto Exploration Pty Ltd, formerly CRA Exploration, explored the Branch Creek area for diamonds during the period 1993-98. This resulted in the recovery of 4 macro diamonds, 38 micro diamonds, 1 picro-ilmenite and 789 chromite. All of the macro diamonds and most of the micro diamonds and picro-ilmenite occur in a zone about 25km east-west and 5km wide north-south, in the middle to upper reaches of Branch Creek. Rio Tinto reported that most of the chromites had non-kimberlitic chemistry.

De Beers continued the exploration in this area in the period 2000-2003, with the collection of 326 stream, 15 loam, 6 geochemical, 5 bulk and 1 rock sample. An airborne magnetic survey comprising 8,103 line kilometers was also flown. After the recovery of interpreted low interest chromite and 1 microdiamond De Beers withdrew from the joint venture.

### 3. REVIEW OF DATA BY STRIKER RESOURCES

Striker is currently undertaking a review of the data with particular emphasis on the chemistry of the chromite and their spatial distribution relative to the reported micro diamonds. In addition the chromite is compared with the chemistry of chromite derived from known kimberlite rocks in the Northern Territory and the Kimberley's.

#### **3.1 De Beers mineral chemistry data**

At first glance a significant proportion of the chromite report elevated  $\text{Cr}_2\text{O}_3$  wt% ( $\text{Cr \#} > 75$ ), where  $\text{Cr \#} = 100 \times \text{molar}(\text{Cr}/(\text{Cr} + \text{Al}))$ . While the elevated  $\text{Cr}_2\text{O}_3$  wt% is considered a positive feature indicating a possible kimberlite source and derivation from within the diamond stability field,

these grains also have noticeably low TiO<sub>2</sub> wt%. Chromites derived from kimberlite magmas typically have elevated TiO<sub>2</sub> wt% particularly associated with their rims.

The typical field for chromite sourced from North Australian kimberlites and Northern Territory kimberlites has been plotted onto a Ti (ppm) versus Cr # diagram which shows fields for different mafic suites (Figure 2). The Branch Creek chromite has been subdivided into catchment populations for ease of assessment (Figure 3), with these subpopulations then plotted onto the Ti (ppm) versus Cr # plot (Figure 4). Noticeably absent is the high Ti, high Cr # trend which is typical for North Australian kimberlites. The chromites report to three main populations these being a strong boninitic group; an alkali suite and a third group derived from higher MgO wt% tholeiitic rocks. There is some intermingling of these three populations, which is likely due to the drainages intercepting more than one source area. In particular the drainage from the alkaline chromite area also runs through the tholeiitic chromite area. Although the definitive kimberlite derived chromite population is absent, the observed chromite populations often report as part of the kimberlite population due to the entrainment of mantle sub-crustal rocks when the kimberlite makes its way to the surface.

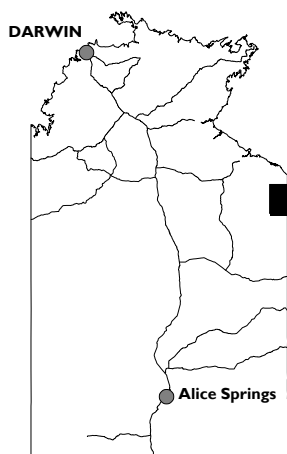
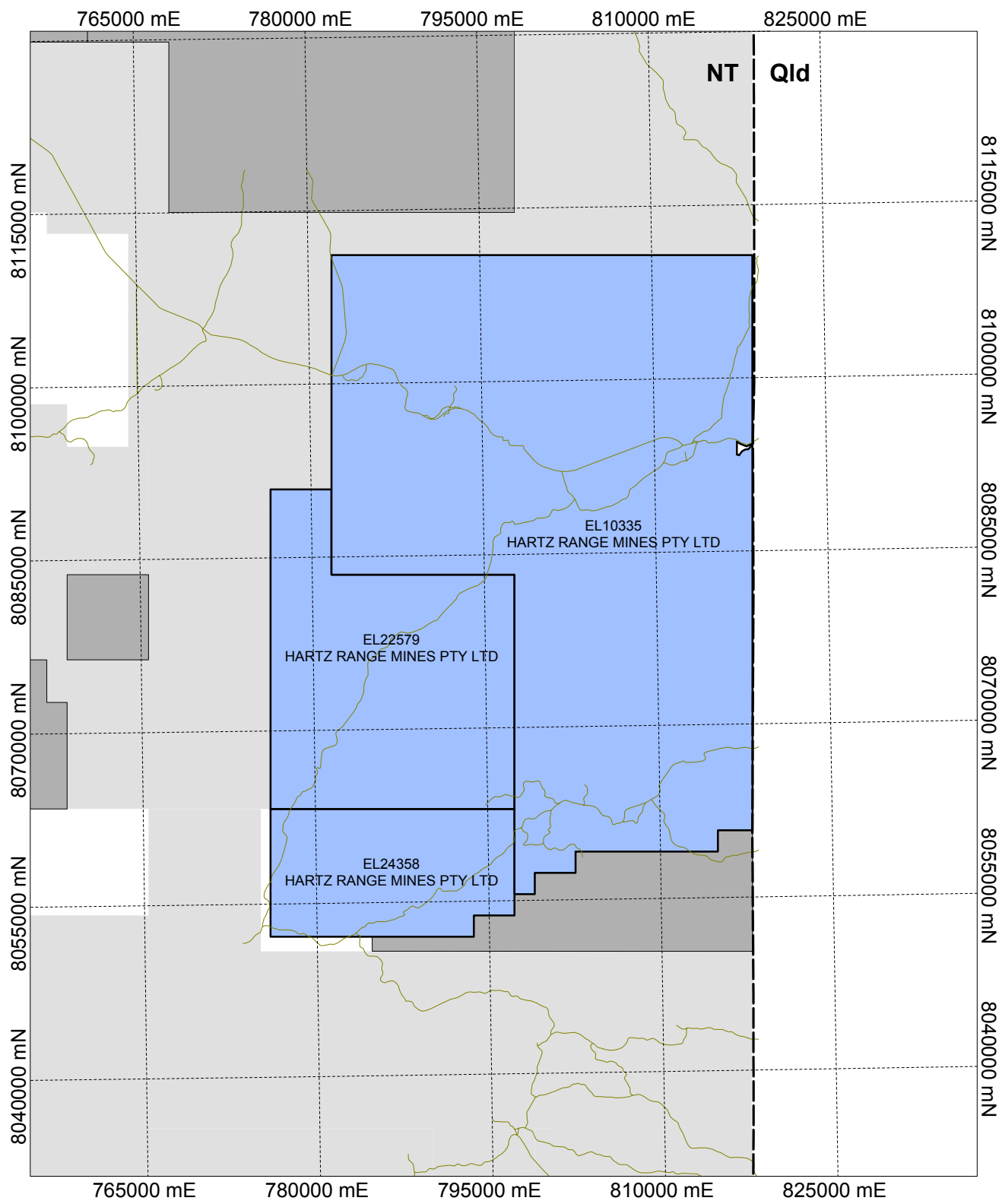
On looking at the geographic distribution of these three populations (Figure 5) it is observed that the boninitic and tholeiitic populations are in the north of the tenement area but would appear to be derived from separate source rocks. The alkali suite population lies to the south of the tenement area. The geology map for the area indicates that there are mafic rocks, namely the Settlement Creek Volcanics that are spatially associated with the boninitic type chromite which suggests that this is their likely source. The alkaline suite to the south is spatially associated with the Siegal Volcanics and again suggests this is their likely source. The tholeiitic chromite population is in an area of sediments however dolerite dyke swarms are reported to the south of this area, hence similar local occurrences could be the potential source.

The micro diamonds and macro diamonds reported by CRA are enigmatic in that they are exclusively spatially associated with the tholeiitic chromite population which in isolation, as they appear to be, are not sourced from a kimberlite. The high diamond counts associated with some of the individual samples is also highly unusual, as drainage samples rarely report more than 1 or 2 micro diamonds unless on top of the pipe. Which one expects is not the case as De Beers were unable to report any diamonds from their barrage samples.

#### 4. CONCLUSION

The fortuitous occurrence of chromite bearing rocks in close spatial proximity has created a pseudo mantle signature somewhat akin to that produced from kimberlite sourced chromite. However the characteristic high Ti (ppm), high Cr # population typical of NT kimberlites and in fact kimberlites in general is absent. This along with the fact that the three identified populations can be spatially differentiated strongly suggests we are not dealing with a common kimberlite source. The diamonds on face value contradict this assessment; hence further work should be focused not primarily on finding a kimberlite but on ascertaining the validity of the original CRA diamond results. If the diamonds prove to be spurious then the assessment of the chromite genesis will stand.


Further work can be done on the chromite with respect to trace element analysis which can provide additional information on differentiating kimberlitic and non-kimberlitic chromite. Rio Tinto has been approached with a view to obtaining chromite samples to undertake this test work. De Beers were unable to provide chromite from their samples.



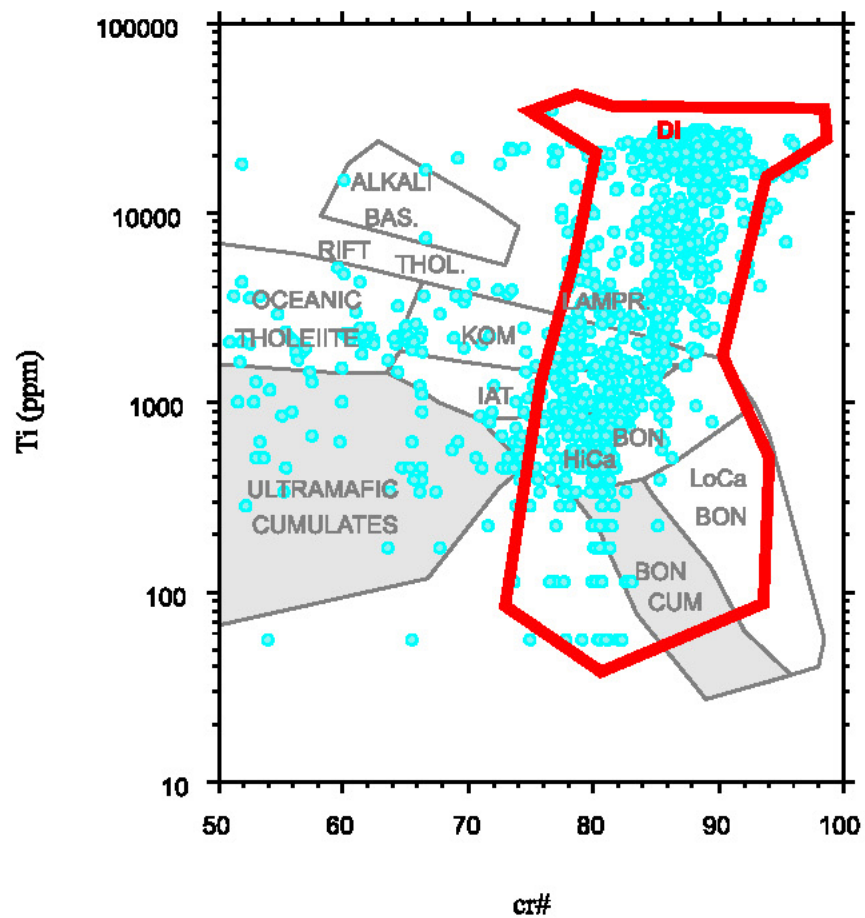
**Map Area**

#### Legend

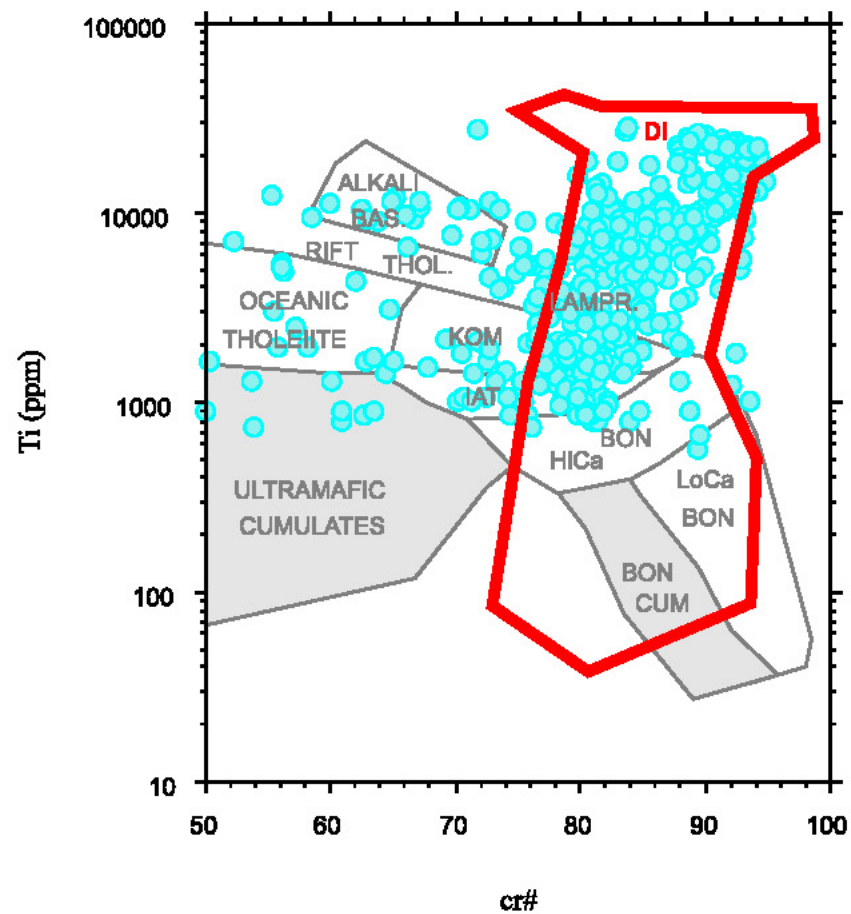
- Hartz Range Tenements
- Granted EL
- Application EL
- Access Road
- Qld/NT Border

|   |  |
|---|--|
| Striker Resources NL  |  |
|   | <b>FIGURE ONE</b><br><br><b>Hartz Range<br/>Location Map</b> |
| Date: 23/6/2005   |  |
| Author:   |  |
| Office:   |  |
| Drawing:  |  |
| Scale: 1:500000   |  |
| Projection: MGA Zone 53 (GDA94)   |  |
| <div><div>051020</div><div></div><div>kilometres</div></div> |  |

North Kimberley Kimberlites  
Spinel Data



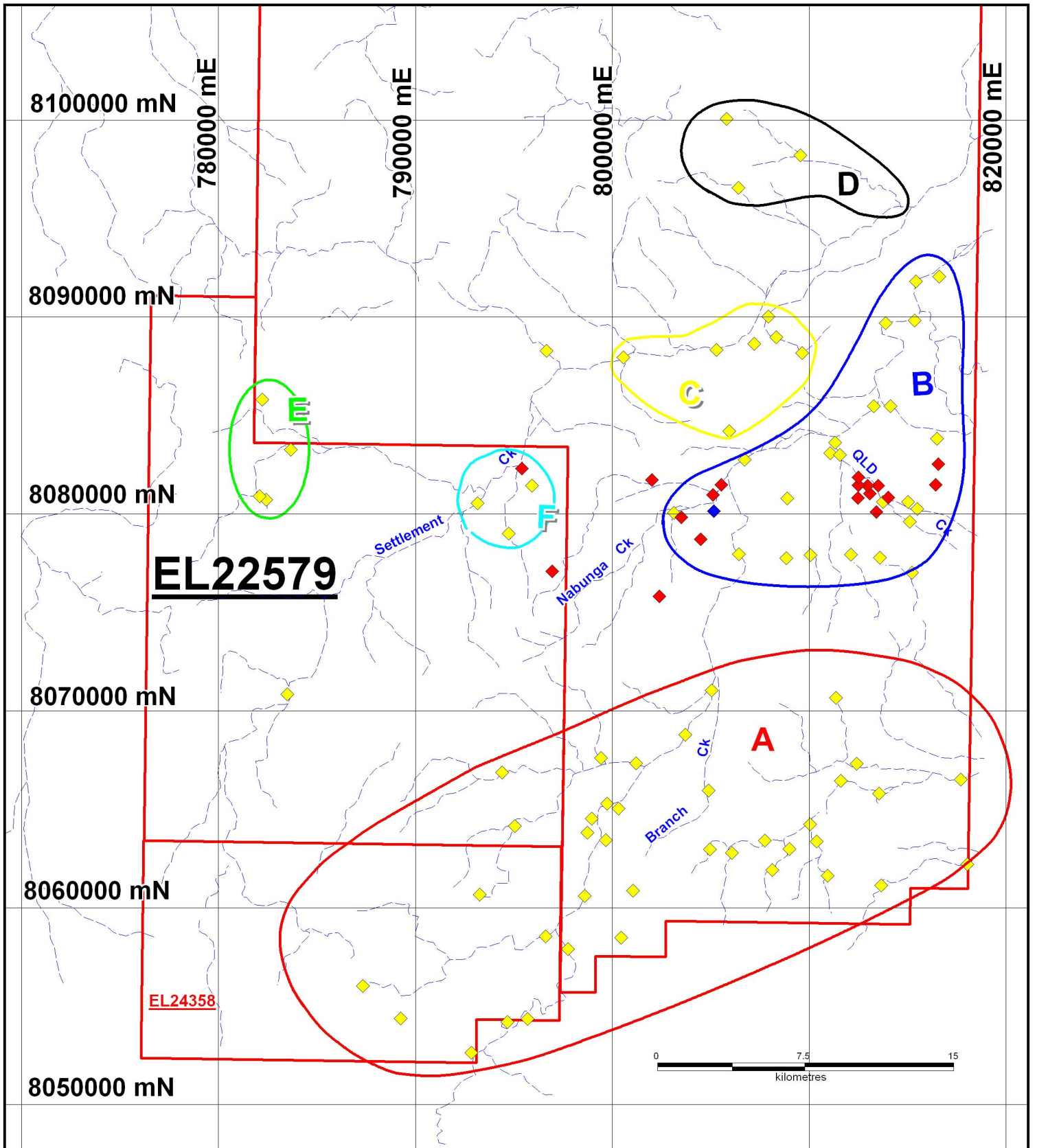
Northern Territory Kimberlites  
Spinel Data



Legend

Diamond Indicator Field

FIGURE TWO



### Legend

- ◆ De Beers Chromite Positive Samples
- ◆ De Beers Diamond Positive Sample
- ◆ CRAE Diamond Positive Sample

HARTZ RANGE MINES PTY LTD

### Branch Creek Catchment Population

Map Datum MGA Zone53 (GDA94)

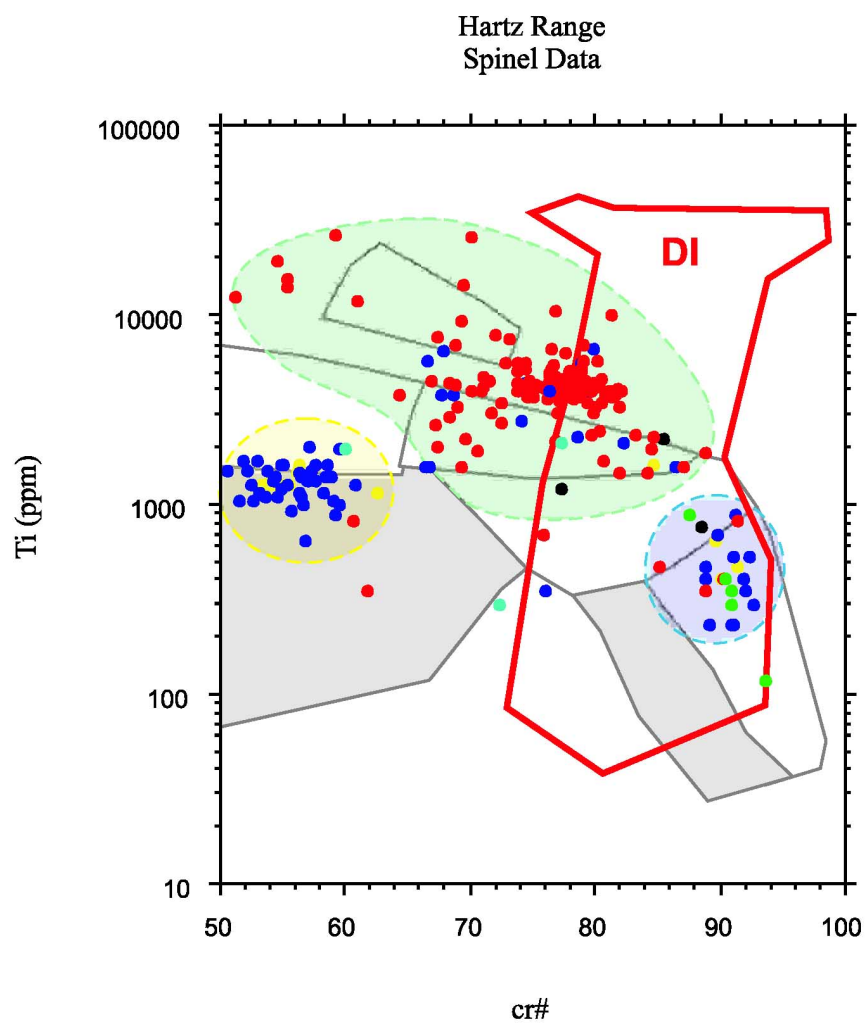
Plan No. HR6

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Graham Reveleigh & Associates  
PO Box 92E  
41 Cavendish Street, Earlville Qld 4870  
ph: 07 4033 1805, fax: 07 4033 6415  
e-mail: mining@gras.net.au

**GR&A**  
Mining And  
Exploration Consultants





Legend

- Diamond Indicator Field
- Alkali Group
- Bonninitic Group
- Tholeiitic Group

Catchment Populations

- A
- B
- C
- D
- E
- F

FIGURE FOUR



