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STOCKDALE PROSPECTING LIMITED

**KATHERINE PROJECT
EXPLORATION LICENCE 5925**

**W.R. HARMSWORTH
NOVEMBER 1989**

CR89/785



**STOCKDALE
PROSPECTING
LIMITED**

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PROJECT: Katherine

TITLE: Stockdale Prospecting Limited
Exploration Licence 5925: Katherine
Final Report to 25th August 1989

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SUMMARY

EXPLORATION LICENCE : 5925

DATE GRANTED : 26th August, 1988

DATE RELINQUISHED : 25th August, 1989

AREA : 100 sq km (31 blocks)

OCCUPANT : Stockdale Prospecting Limited

OPERATOR : Stockdale Prospecting Limited

COMMODITIES SOUGHT : Diamonds

EXPLORATION : Follow up stream sampling was carried out over EL 5925 at a density of about 1 sample / 4 sq km. Of the 21 samples collected 2 contained chromite. The two positive sites are located in tributaries on the Katherine River's floodplain. The chromites are similar to those found in the bed of the Katherine River; no primary source to these latter grains has ever been identified.

Based on the conclusion that the grains are related to an 'external' source, no further work within EL 5925 is required.

1. INTRODUCTION

Exploration Licence 5925 covers an area of about 100 sq km centred 25 kilometres south west of Katherine (Map 1).

This report summarises work carried out by Stockdale Prospecting Limited within the tenement in the period 26th August 1988 to 25th August 1989. During this time 21 stream samples were collected.

No potentially diamondiferous rocks were located by this work and the exploration licence was relinquished on 25th August 1989.

2. LEGAL

Exploration Licence 5925 was granted to Stockdale Prospecting Limited on 26th August 1988 for a term of six years.

The licence was relinquished on 25th August 1989.

3. ACCESS

Access to the licence area is via the Florina Road west of Katherine. Sampling was carried out by vehicle making use of the many roads and tracks covering the area.

4. PHYSIOGRAPHY, CLIMATE AND VEGETATION

The area covered by the exploration licence is part of the Daly River Basin. Within the basin low hills and undulating plains are developed on the flat-lying limestones, siltstones and sandstones (Mulder and Whitehead, 1988). The drainage is braided and flows southwest into the Katherine River. Most of the streams sampled had cut steep banks into the alluvial cover.

The climate is monsoonal, with a short wet season from late November to late March and a long dry season for the remainder of the year. The annual rainfall in the area ranges between 750 mm and 1000 mm. (BMR, 1962)

The vegetation in the area is dominantly open grassy woodland. Much of the vegetation has been cleared for the purpose of small scale farming.

5. GEOLOGY

Calcareous and arenitic rocks of the Middle Cambrian Daly River Group outcrop in the licence area. These rocks are fairly soft and friable and are weathered to the extent that a lot of the area is covered by alluvium. The Daly River Group disconformably overlies the basin's basal unit, the Antrim Plateau Volcanics and is unconformably overlain by the Cretaceous Mulluman Beds. The Mulluman Beds contain lacustrine sandstones and siltstones.

6. ABORIGINAL AND LANDHOLDER LIAISON

Prior to any work being carried out aboriginal sacred site maps were examined. No direct liaison was conducted since it is believed that the Dagoman Tribe, the original inhabitants of the area, is virtually extinct. There are certainly no descendants in possession of the knowledge that would allow them to speak for the country.

The Exploration Licence area covers a rural subdivision and therefore has sample points falling within a number of small holdings. All landholders were consulted and informed of SPL's intentions prior to sampling.

7. FIELDWORK

7.1 Previous work

Previous work has been carried out in the area by BHP, CRA and SPL prior to SPL's application for the licence. BHP recovered 3 kimberlitic chromites and CRA 4 non-kimberlitic chromites. All positive results came from samples close to the Katherine River.

In 1979 CRA sampled and found positives in tributaries which are part of the Katherine River floodplain. Their follow up sampling further up the tributaries was negative while samples further along the Katherine River floodplain yielded even better positive results. It was concluded that the grains were from an 'exotic source' upstream along the Katherine, possibly the 'Maud Dolerite!'

BHP began sampling the area in 1983. They recovered 3 kimberlitic chromites from a tributary which was also part of the river's floodplain. No other samples were taken in the upper reaches of the tributary.

In 1986 SPL recovered 110 medium (-1.0 / +0.5 mm) and 24 fine (-0.5 / 0.3 mm) chromites from a 660 L sample of -4.75 mm material. This sample was taken from a tributary in the path of the river's floodplain.

7.2 SPL's Work

Work on EL 5925 involved follow up sampling of the positive tributaries to explore the possibility that the chromites are from a local source and not solely related to the Katherine River floodplain.

21 stream sediment samples (Map 2) were collected by vehicle over the period of one week. 100 L of material was excavated for each sample. The material was either wetwashed at -1.0 + 0.3 mm, dry screened at -4.75 mm, or taken directly as raw material. A sample density of 1 per 4 square kilometers was obtained.

7.3 Sample Results

Two of the 21 samples were positive. BC 4847 yielded 3 fine chromites and BC 4848 1 fine chromite (Map 2). These two samples were taken closest to the Katherine River, ie within 100 m from it. The four grains appear similar to chromites found in the Katherine River.

8. CONCLUSION

Follow up stream sediment sampling was carried out over EL 5925 at a density of about 1 sample per 4 sq km. 21 samples were collected, of which 2 were positive. These positive samples came from tributaries within 100 m of the Katherine River and yielded 4 chromites similar to those found in the Katherine River. As all detailed follow up samples beyond the influence of the Katherine have proved to be negative a local source to the chromites is not favoured and consequently the area is considered to hold no promise for further diamond exploration.

9. PERSONNEL

The week long stream sampling programme involved the following personnel :

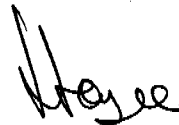
Designation	Man Days
Geologist	7
Field Hands	21
Cook	7



W.R. HARMSWORTH
PROJECT GEOLOGIST

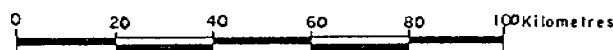
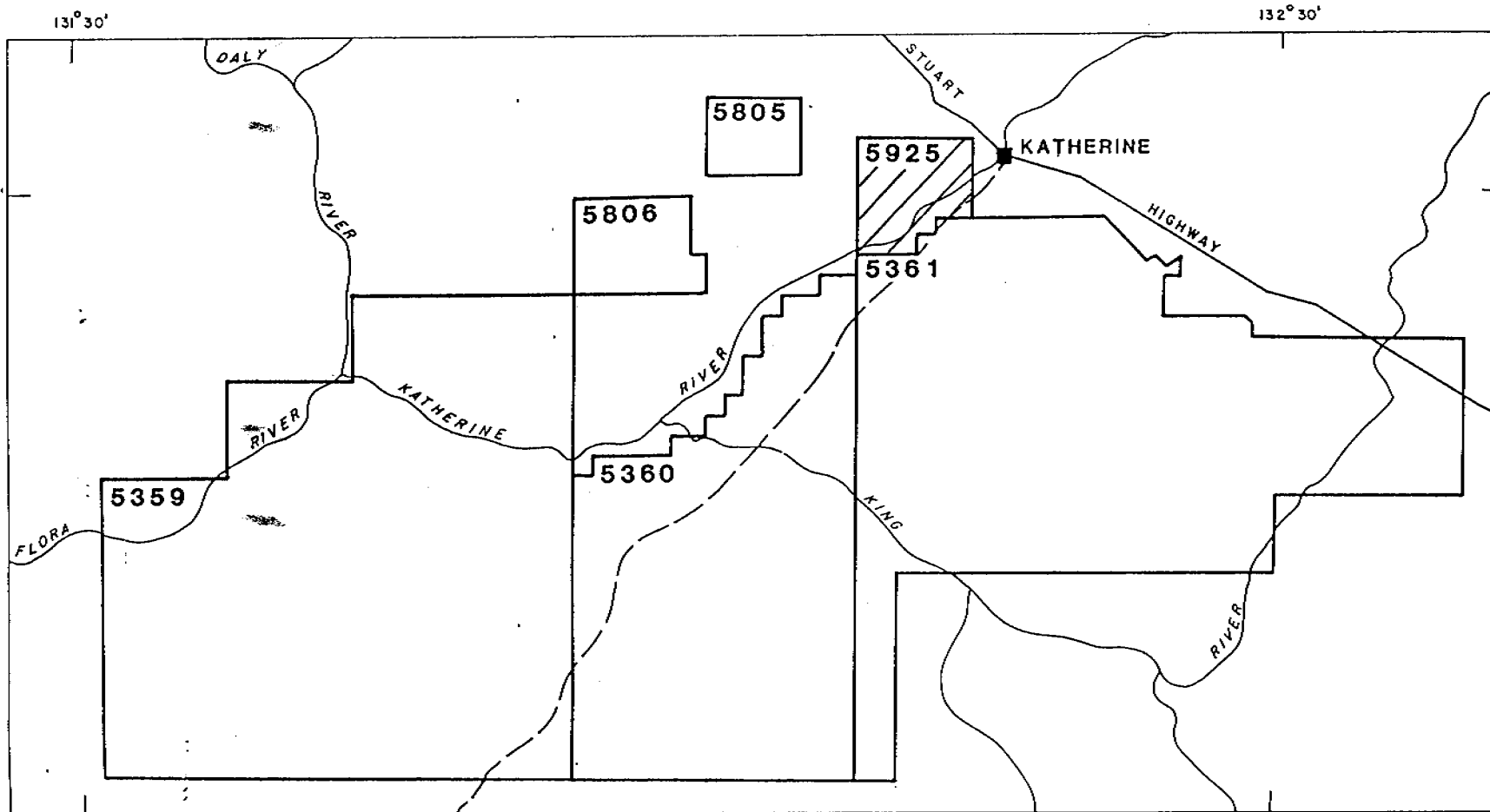
DARWIN N.T.

10TH NOVEMBER, 1989



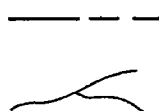
J. JOYCE
SENIOR DIVISIONAL GEOLOGIST

DARWIN N.T.



SCALE 1:620 500

LEGEND



ROAD

DRAINAGE



EL BOUNDARY

TOWN

MAP 1

STOCKDALE PROSPECTING LIMITED

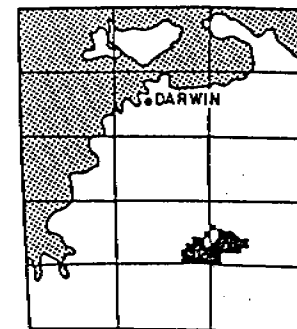
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FERGUSON RIVER D52-12
/ KATHERINE D53-9

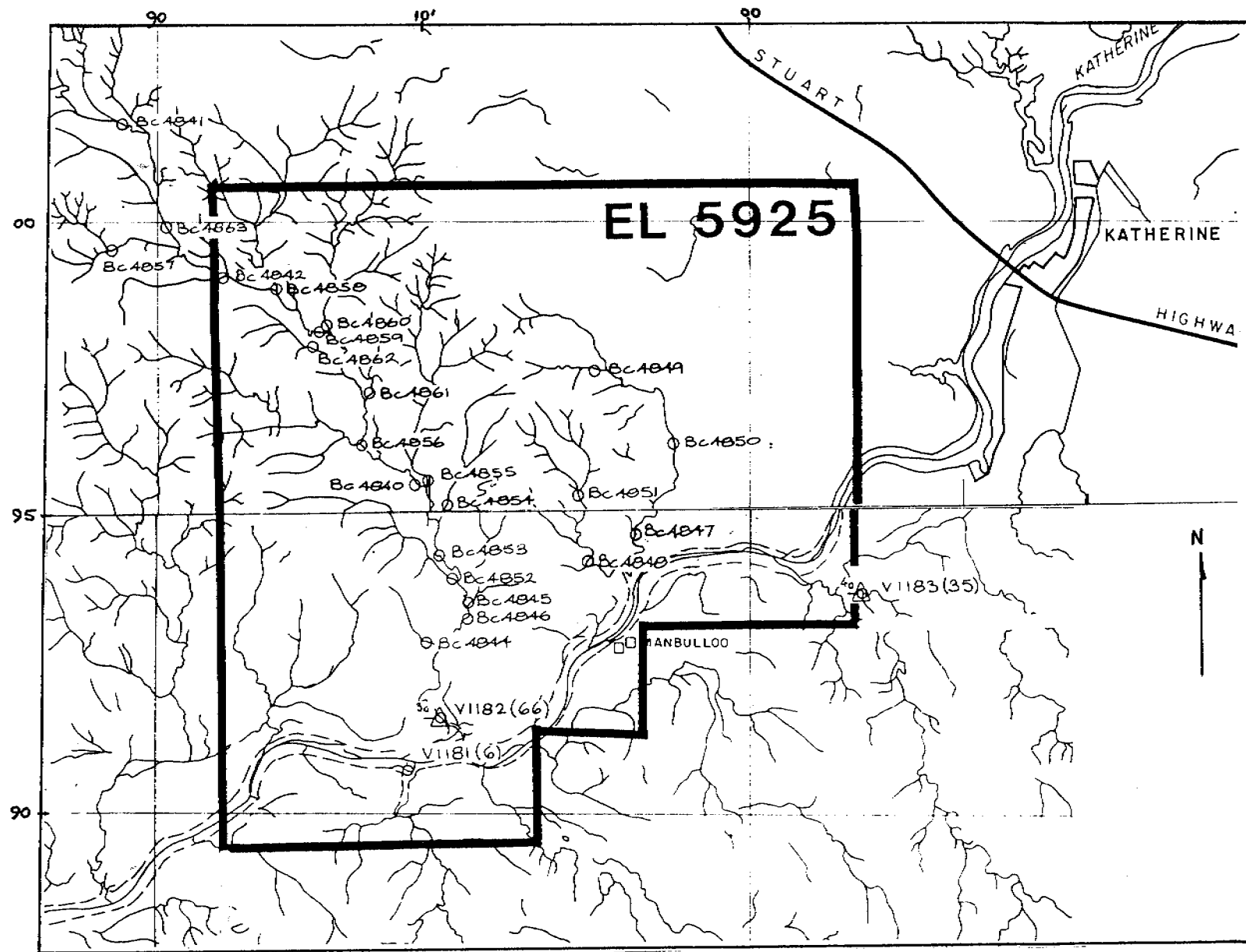
5359-5361, 5805, 5925

EL LOCATION MAP

Compiled	PDW
Drawn	KFM
Date	MAR '89
Scale	1:620 500
Revised	
	SEL3591

LOCATION MAP





MAP 2.
SAMPLE LOCATION MAP

TABLE 1: **EXPENDITURE SUMMARY**

Op. Staff Costs	7,510
Gen. Op Expenses	91
Transport and Travel	63
Contracts	405
Sample Treatment	4,447
Special Services	828
Overhead Costs	3,532
<u>TOTAL</u>	<u>\$ 16,877</u>

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