ANNUAL REPORT

EXPLORATION LICENCE 2193

COX PENINSULA

DISTRIBUTION :

Department of Mines and Energy

Darwin Office

Perth Office

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GREENEX

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CONTENTS

1) INTRODUCTION

2) LOCATION, CLIMATE AND TOPOGRAPHY

3) LICENCE DETAILS

4) REGIONAL EXPLORATION CONTEXT

5) WORK COMPLETED 1986

   5.1 Creeping Croc Prospect

6) 1986 EXPENDITURE ESTIMATES

7) 1987 PROGRAMME

FIGURES

1) Finniss River Pegmatite Belt

2) Locality Plan EL 2193

3) Regional Locality Map

4) Creeping Croc Prospect - geology and sample results

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1) INTRODUCTION

This report documents the work carried out on Exploration Licence 2193 during the period 27th March 1986 to 26th March 1987. It is submitted to the Northern Territory Department of Mines and Energy to document exploration activity and in support of a renewal of the exploration licence.

The exploration was carried out by Greenex, a subsidiary of Greenbushes Ltd and its joint venture partner, Barbara Mining Corporation, a subsidiary of Bayer A.G. of West Germany. The joint venture is known as the Bynoe Joint Venture.

2) LOCATION, CLIMATE AND TOPOGRAPHY

The tin, tantalum and niobium resources of the Cox Peninsula south west of Darwin (Figure 1) covers an area of 55 km x 9 km. The three square kilometres within EL 2193 is part of a larger area being investigated by the joint venture partners.

The areas climate is tropical, monsoonal with 2 seasons, the wet extending from October to April and the dry, May to September. Annual rainfall is 1,600 mm with approx. 97% falling in the wet season. The humidity varies from 50% to 80% in the wet and 45% to 70% in the dry.

The land system comprises 3 main land forms :

2.1 the upland plains consist of gently undulating plains with gravel ridges often associated with quartz veining or ironstone lateritic crust.

2.2 the alluvial flats are 200 m to 300 m wide and several kilometres long. The accumulation of organic material in the drainage means they are commonly known as black soil plains.

2.3 the lower slopes separate the upland plains from the alluvial flats. In most cases the slopes are scree covered and outcrop is poor.

3) LICENCE DETAILS

Exploration Licence 2193 was approved by the Secretary on the 27th March 1981 and on the fifth anniversary of the licence tenure the area was reduced from three to one graticular block (Figure 2).

The Bynoe Joint Venture undertook an exploration expenditure of $8,000 for the sixth year of the tenement.

4) REGIONAL EXPLORATION CONTEXT

Exploration Licence 2193 is one of a number of licences held by the Joint Venture Partners in the Finniss River Pegmatite Belt. The exploration plan has been to prove ore reserves for a number of pegmatites and associated alluvial deposits centred on a suitable plant site and water storage area. The satellite mining operations would supply ore to the central plant, which on completion of mining in one area would be moved progressively to other locations.

The joint venture has transported a pilot gravity concentration plant with a nominal 30 to 40 cubic metre per hour capacity of the project area and processed approximately 80,000 tonnes of ore during 1985 - 86.

Individual pegmatites are evaluated by mapping surface outcrops or old workings and planning backhoe trenches at 25 m intervals across the strike of the pegmatite. Pegmatite intersections are channel sampled at two metre intervals and a concentrate produced for assay at the Bynoe Joint Venture plantsite. Encouraging grades or potentially large volume pegmatites which hold the possibility of concealed mineralised zones, are followed up by shallow auger drilling to depths of 25 m.

5) WORK COMPLETED 1986

Ground reconnaissance continued over the remaining area of EL 2193. Several outcropping quartz veins were consteaned in addition to the Creeping Croc Prospect, one of two known pegmatites within the EL, the other being Flooded Prospect.

The quartz veins investigated were not associated with pegmatites and no further work is anticipated.

5.1 Creeping Croc Prospect :

The initial mapping and sampling results are shown in Figure 4. The pegmatite is depleted in tin and has an average tantalite grade of approximately 0.070 kg/tonne. The pegmatite is probably more intensive than mapping suggests as a small pit exposing pegmatite is located on the southern bank of the drainage along strike from the mapped area.

Location :
The Creeping Croc Prospect is located south of the Two Sisters prospect on the western bank of a tidal stream which drains south west into the Charlotte River. Access is via the main track south bearing left at Vickmans to the Two Sisters prospect where a bulldozed track leads south to a stream crossing.

Topography :
The prospect lies on the lower slopes immediately west of the drainage. Old workings on the eastern bank indicate that the pegmatite may be continuous beneath the drainage. Metasediments outcrop on the side of a ridge 50 m west of the drainage.

History :
Old workings are unrecorded and production insignificant.

1986 Work :
The area was mapped at a scale of 1:500 and 68 m of trenching completed.

General Geology :
Costeaning across old workings and quartz outcrop revealed a single pegmatite having a maximum width of 8 m and a probable strike length of 50 m. The pegmatite remains open-ended. Contact measurements are inconclusive showing both west and easterly dips. The hostrock ferruginous metapelites and shales have a bedding/foliation trending north or north-northeast with dips either vertical or dipping steeply west. The pegmatite appears to intrude parallel to the foliation. Lithologies are kaolin-quartz-muscovite, partly indurated on the western wall of the southern exposure.

Cassiterite and Tantalite Mineralisation :
Four samples were collected from kaolin-quartz-muscovite pegmatite, grades appear to be consistent throughout with general depletion in cassiterite. The average grade is 0.001/0.070 kg/tonne SnO_2/Ta_2O_5, giving a SnO_2/Ta_2O_5 ratio of 0.014.

Follow-up trenching and auger drilling is required to produce a reserve estimate.

6) 1986 EXPENDITURE ESTIMATES

Item	Estimated Expenditure ($)
Accomodation & Messing	500
Geological	500
Communications	250
Tenement Administration	450
Trenching	900
Vehicles	300
Fuel, Oil, Maintenance, Tyres	200
Sample Analyses	50
Sample Preparation	20
Travel (Perth - Darwin)	1,000
Staff Amenities	400
Drafting	100
Field and Office Supplies	200
Wages - Field Assistants	200
Project Management	1,200
Administration Overheads Perth	2,000
	$8,270

7) 1987 PROGRAMME

The 1987 programme should follow-up previous trenching of the Creeping Croc Prospect with the aim of establishing a reserve estimate. Potential for locating outcropping pegmatites elsewhere in the licence area is low as all elevated country is covered by extensive laterite caprock. Further work on Flooded Prospect will be difficult as it is located below the high water mark.

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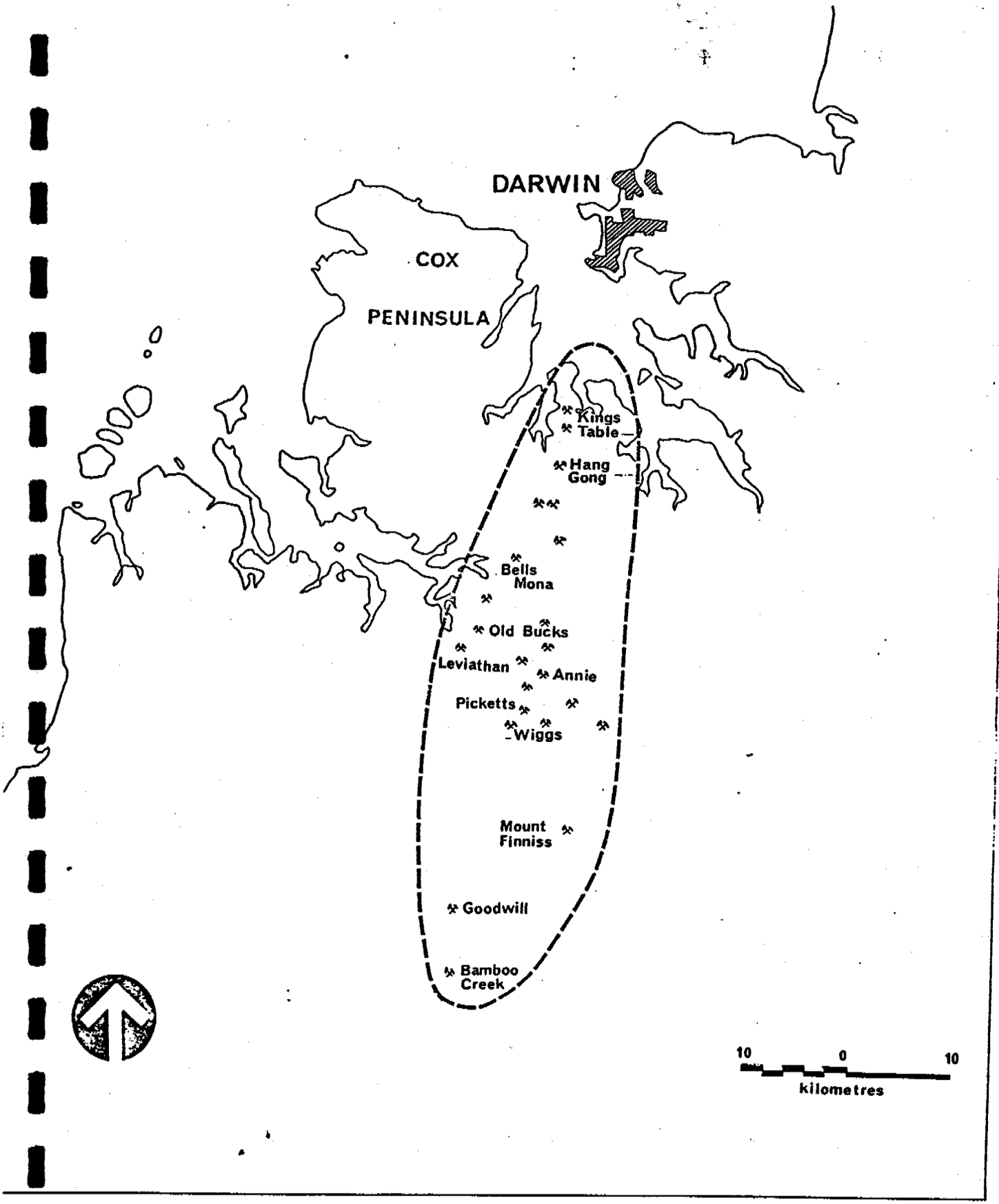


THE FINNISS RIVER PEGMATITE BELT

Figure 1

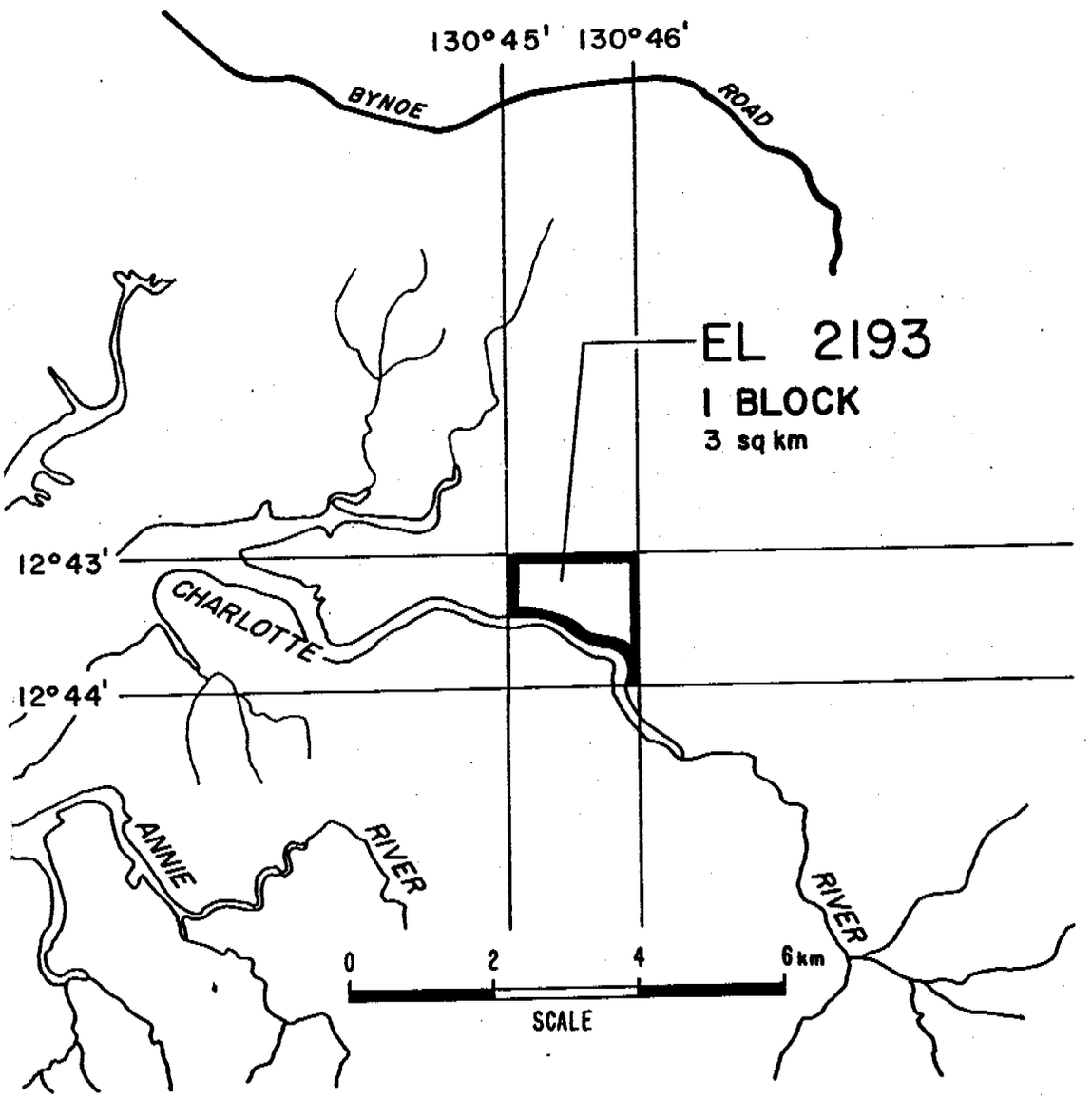
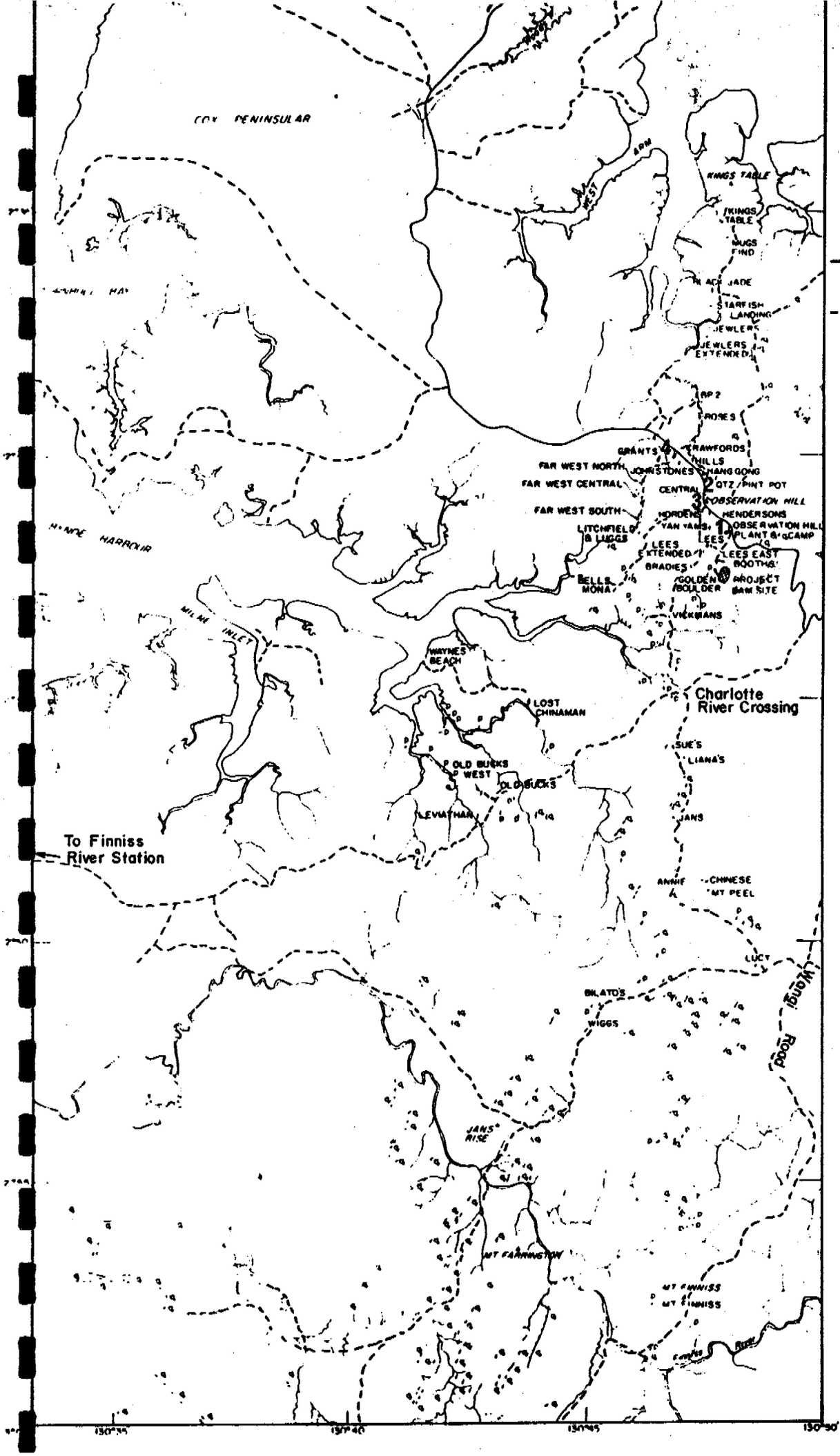


FIGURE 2 : LOCALITY PLAN EL 2193



— LEGEND —

——— ALL WEATHER DIRT ROAD.

- - - - SEASONAL BUSH TRACK.

1 CAMP SITE TURN OFF.

2 OBSERVATION HILL TURN OFF.

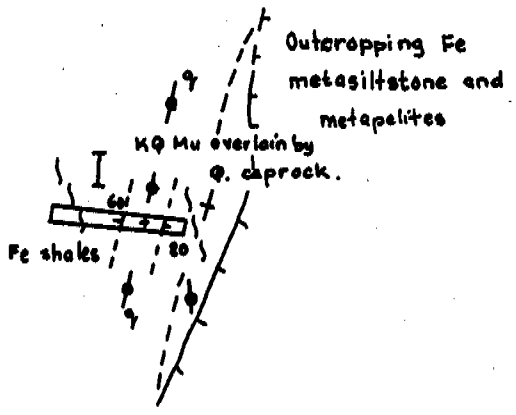
3 HANG GONG TURN OFF.

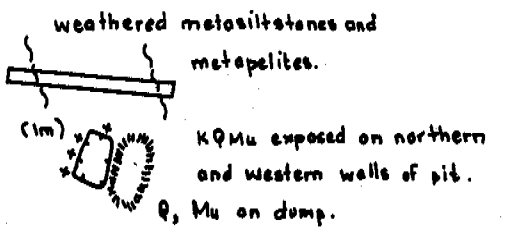
4 FAR WEST TURN OFF.

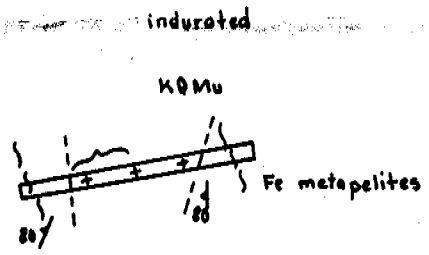
REGIONAL

LOCALITY MAI

FIGURE 3





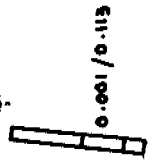


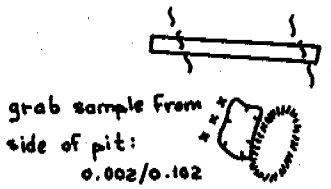
SCALE 1:500

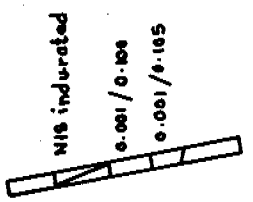
0 10 20 30 40 50 metres

BYNOE JOINT VENTURE
CREEPING CROC PROSPECT
GEOLOGY

FIGURE 4(a)







SCALE 1:500

0 10 20 30 40 50 metres

BYNOE JOINT VENTURE
CREEPING CROC PROSPECT
GEOLOGY

FIGURE 4(b)