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FINNISS RANGE PROJECT

NORTHERN TERRITORY

ANNUAL REPORT

* CORPORATE DEVELOPMENTS PTY. LTD.
24 HARROW ROAD, SOMERTON PARK, S.A. 5044
(LICENCEE)

* G.M. CHRISP (OPERATOR/MANAGER)

* PROJECT AREA INCLUDES -
EL 6805, EL 6217, EL 4906
EL 4954, EL 5469

* BYNOE 1:100000 AREA -SHEET 5072

* PERIOD INVOLVES 3.10.89 to 3.10.90

* C.J. COHEN, CONSULTING GEOLOGIST,
G.P.O. BOX 1657,
BRISBANE, QLD. 4001. (AUTHOR)

28TH SEPTEMBER, 1990

(REPORT DATE)

Distribution:

Northern Territory [illegible]

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Heillbronn Geothermics publication

Published Paper - Geothermics

(reprint from Quarry, The Magazine for the Institute of Quarrying, Vol.8, No.3, April, 1989).

SUMMARY

The Finniss Range Tantalite Project is located 65 kilometres south of Darwin in the Finniss Range area. During the last 10 years the area has been explored by a number of parties broadly as follows:

1. 1980-2 - Wigg & Benger - small eluvial sluicing operation at Saffums no.1.
2. 1983-5 - Talmina Trading p/l - constructed dams, camp, & 80 tph 'alluvial'treatment plant on MCN 1052 & conducted bulk testing operations at Saffums1,2,3,Sandras, & Martins.
3. 1988-9 - Brevcorp p/l - constructed a hardrock treatment plant dams & camp on MCN's 3216,7,8 & conducted further bulk bulk testing operations on Saffums,Turners,Martins, Sandras etc.

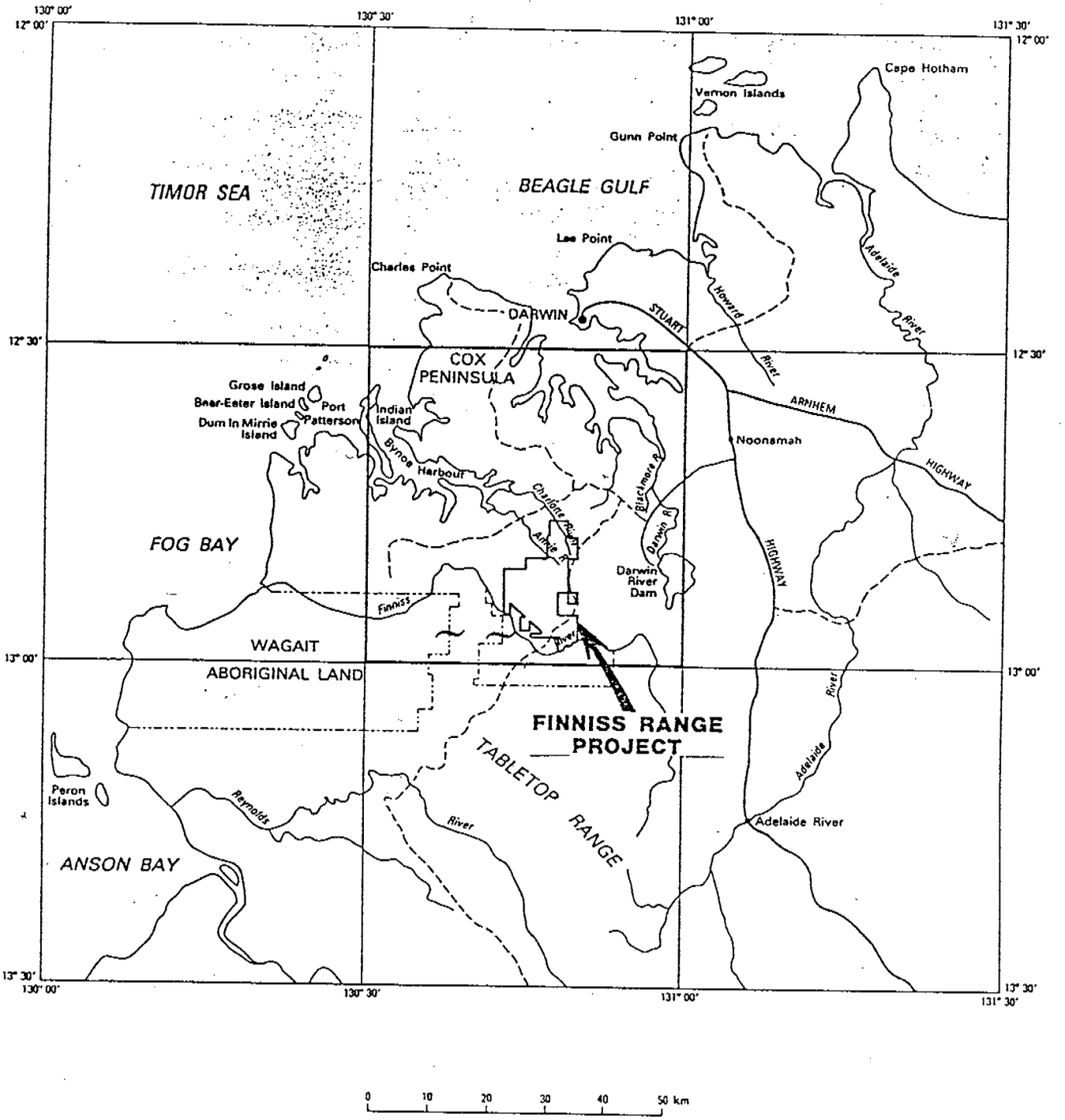
Corporate Developments has now agreed to repurchase the tenements & equipment but this has not yet been finalised.However,this report has been prepared on the project area By Corporate as purchaser & agent for the Receiver.

Work by Christopher Cohen & Assoc. contained in this report has been undertaken in an endeavor to ascertain the full extent of possible mineralisation in the project area.

At the same time Corporate has John Crago employed on site undertaking testing work on eluvial type deposits with a view to attempting to correlate results stated in previous reports by others on the project area, & in an attempt to prove up sufficient tonnage to commence a smaller scale mining operation than other holders of the tenements envisaged. This operation would be expanded following further regional assessment, & should assist with funding the main exploration programme.

Results of the work by John Crago are not yet available for reporting; these will be included in next years report.

Corporate's aim is to commence a mining operation within the next 12 months.



FINNISS RANGE PROJECT	COMPILED: N.T. Geol. Surv. DRAWN: N.T. Geol. Surv. DATE: SCALE: Graphic DRAWING No:	LOCATION MAP	FIG 1

SCHEDULE OF TENEMENTS

TENEMENT NO.	DATE GRANTED	AREA BLOCKS	KM^2	TERM	CURRENT COMMITMENT
EL 6805	1.6.90	15	39.8	6	$13,500
EL 6217	24.10.88	10	33.3	5	$10,000
EL 4906	7.4.88	12	38.7	6	$10,000
EL 4954	20.7.86	3	10.0	6	$ 5,000
EL 5469	24.2.88	15	39.8	6	$12.000

TABLE 2

STATUS OF TENEMENTS

TENEMENT NO.	EXPIRY DATE	NEXT REDUCTION	PAST EXPENDITURE
EL 6805	31.5.96	31.5.92	NIL
EL 6217	23.10.93	23.10.90	$11,000
EL 4906	6.4.94	6.4.90	$13,200
EL 4954	19.7.92	19.7.89	$ 3,300
EL 5469	23.2.94	23.2.90	$16,500

EXPENDITURE OVER PERIOD 3.10.89 TO 3.10.90

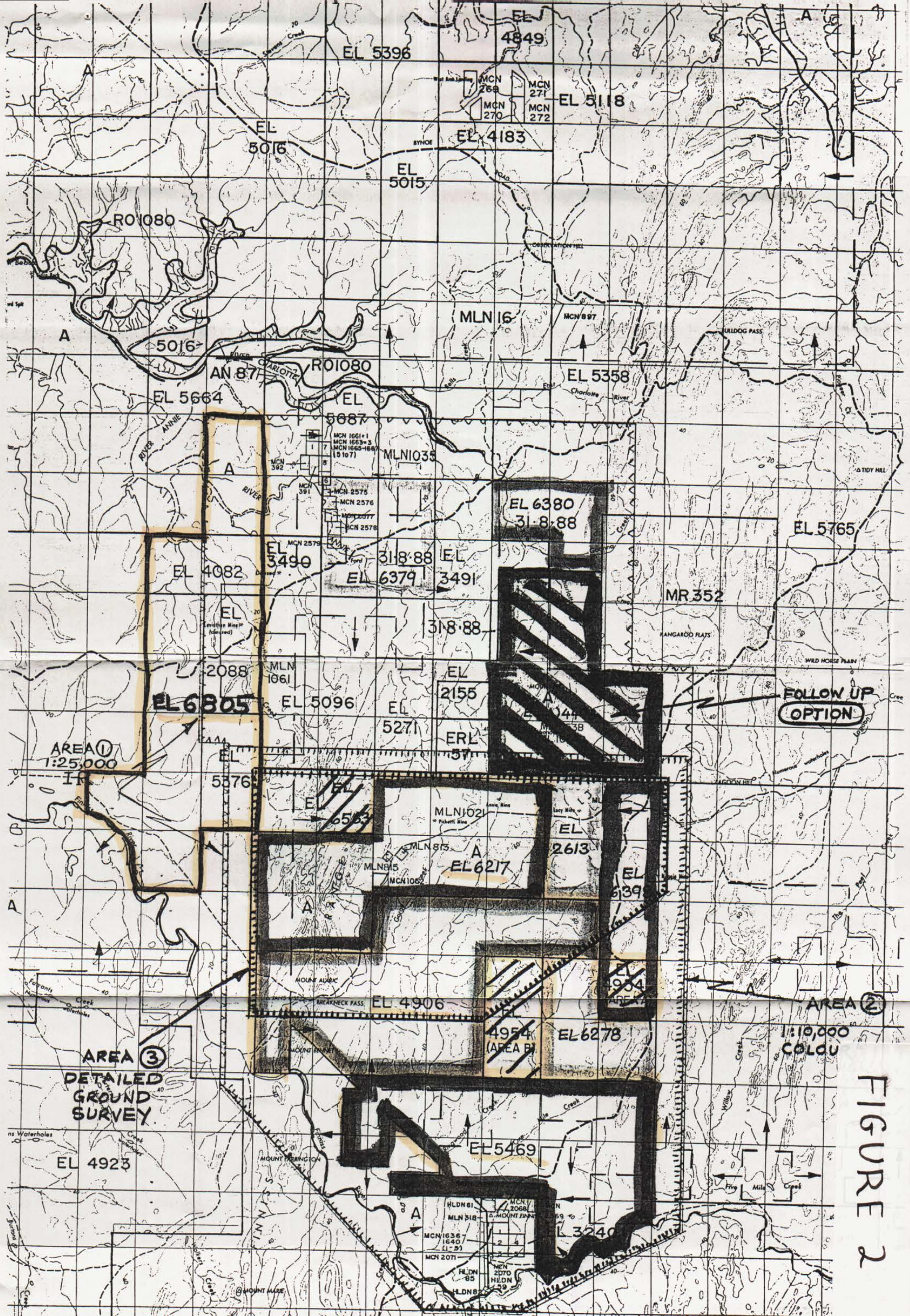

EL 4849
EL 5396
A
MCN 269
MCN 271
MCN 270
MCN 272
EL 5118
EL 5016
EL 4183
EL 5015
RO1080
Observation Hill
MLN 16
MCN 897
Bulldog Pass
5016
RO1080
AN 87
EL 5358
East Charlotte River
EL 5664
EL 5687
MCN 1661=1
MCN 1663=3
MCN 1665-1667 (5 to 7)
MLN1035
MCN 392
MCN 391
MCN 2575
MCN 2576
MCN 2577
MCN 2578
MCN 2579
Tidy Hill
EL 6380 31·8·88
EL 5765
EL 3490
31·8·88
EL 6379
EL 3491
EL 4082
MR 352
Kangaroo Flats
31·8·88
Wild Horse Plain
EL 2088
Leviathan Mine (disused)
MLN 1061
EL 2155
FOLLOW UP OPTION
EL 6805
EL 5096
EL 5271
ERL 57
AREA ① 1:25,000
EL 5376
EL 6563
MLN1021
Pickett's Mine
Annie Mine
Lucy Mine
Lagoon Hill
Numerous waterholes
EL 2613
MLN 813
MLN815
MCN1062
EL 6217
EL 6398
Mount Alaric
Breakneck Pass
EL 4906
EL 4954 AREA A
AREA ②
1:10,000 COLOU
EL 4954 (AREA B)
EL 6278
Mount Bennet
AREA ③ DETAILED GROUND SURVEY
EL 4923
Mount Farrington
EL 5469
Five Mile Creek
Willow Creek
HLDN 61
MCN 2068
Mount Finnis
MCN 2069
MLN 318
MCN 1636-1640 (1-5)
MCN 2071
EL 3240
HLDN 85
MCN 2070
HLDN 59
HLDN 82
Mount Marie

FIGURE 2

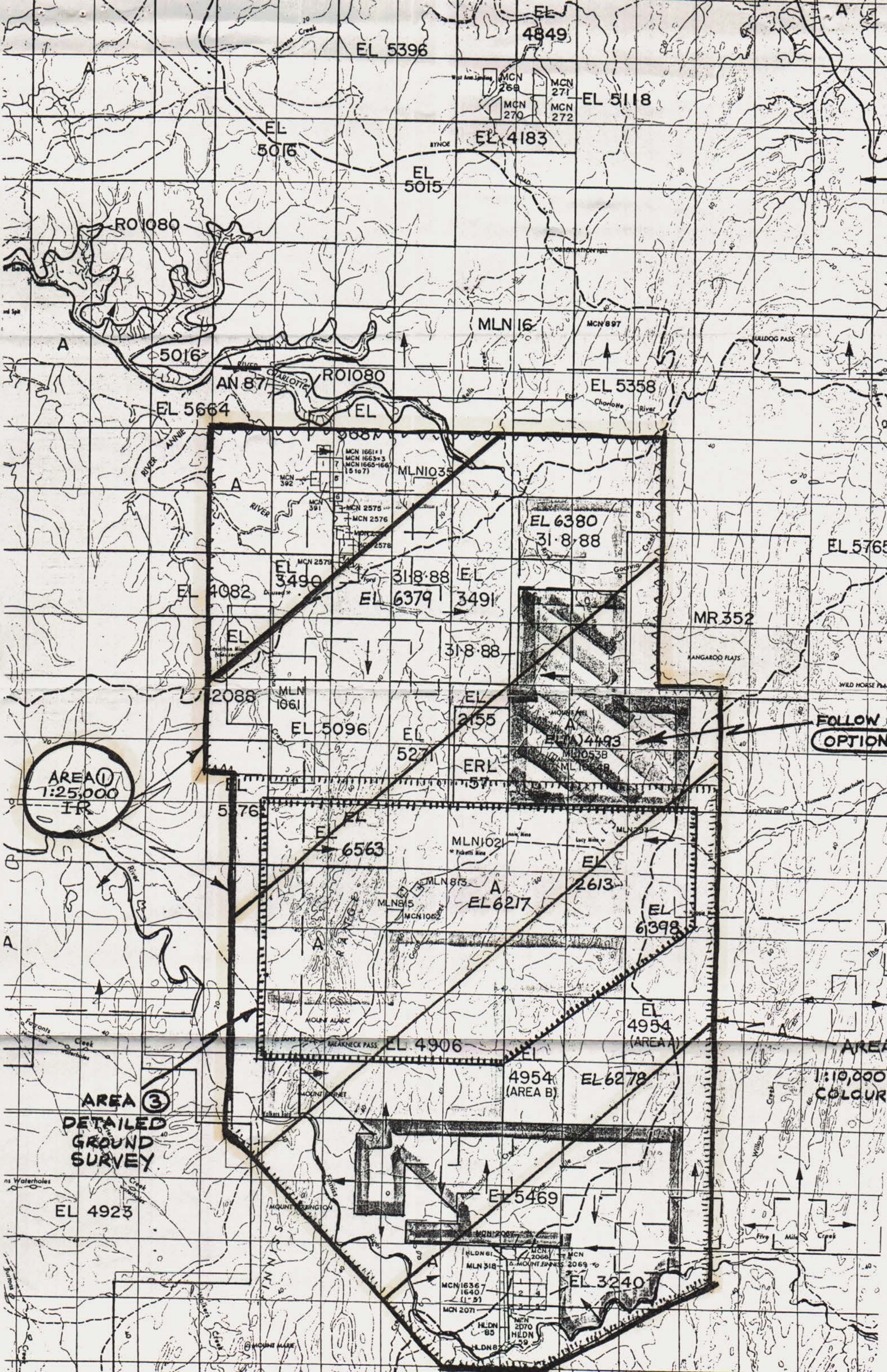

EL 4849
EL 5396
MCN 269
MCN 271
MCN 270
MCN 272
EL 5118
EL 5016
EL 4183
EL 5015
RO1080
5016
AN 87
RO1080
River Charlotte
MLN 16
MCN 897
EL 5358
East Charlotte River
Bulldog Pass
Observation Hill
EL 5664
EL 3687
River Annie
MCN 1661=1
MCN 1663=3
MCN 1665-1667 (5 to 7)
MLN1035
MCN 392
MCN 391
MCN 2575
MCN 2576
MCN 2578
MCN 2579
Tidy Hill
EL 6380
31·8·88
EL 5765
EL 3490
EL 4082
31·8·88
EL 6379
EL 3491
31·8·88
MR 352
Kangaroo Flats
Wild Horse Plain
EL 2088
MLN 1061
EL 5096
EL 5271
EL 2155
ERL 57
Mount Peel
A
EL(A)4493
ML1053B
ML1054B
FOLLOW UP OPTION
AREA ① 1:25,000 IR
EL 5376
EL 6563
MLN1021
Lucy Mine
MLN813
MLN815
MCN1062
EL 2613
EL6217
EL 6398
Lagoon Hill
Numerous waterholes
Mount Alaric
Breakneck Pass
EL 4906
EL 4954 (AREA A)
EL 4954 (AREA B)
EL6278
AREA ② 1:10,000 COLOUR
AREA ③ DETAILED GROUND SURVEY
EL 4923
Mount Ennis
EL 5469
Five Mile Creek
Willow Creek
MCN 2067
HLDN 61
MLN 318
MCN 2068
MCN 2069
Mount Ennis
MCN 1636-1640 (1-5)
MCN 2071
HLDN 85
MCN 2070
HLDN 59
HLDN 87
EL 3240
Mount Marie
Walkers Creek

FIGURE 3

TABLE 3

FINNISS RANGE - STRUCTURAL GEOLOGY

STRUCTURAL ANALYSIS

STRUCTURAL GROUP	STATISTICS MAXIMA	DENSITY	RANGE DIP	DIPAZMUTH
*A1	76°/126	5%	54°-90°	112 - 137
			77°-90°	309-334
+A2	73°/097	5%	46°-90°	078-108
A3	80°/280	5%	66°-87°	268-284
*A4	52°/299	2%	53°-58°	294-305
A5	88°/155	3%	77°-90°	150-160
*B1	11°/269	3%	05°-18°	252-284
B2	24°/062	1%	08°-34°	062-091
B3	26°/147	1%	21°-35°	115-180
B4	42°/238	1%	28°-56°	232-253
B5	39°/278	1%	-	-
B6	32°/011	1%	26°-35°	356-027
C1	87°/184	6%	75°-90°	180-186
			81°-90°	010-033
*LOBE	-	1%	72°-88°	166-172
			63°-81°	347-352
*C2	80°/208	4%	54°-82°	196-215
C3	81°/235	3%	76°-90°	232-247
C4	52°/182	3%	46°-53°	172-186
D1	68°/051	2%	-	045-054

MINERALIZED STRUCTURE

PEGMATITE BOUNDARY CONTACTS

1. INTRODUCTION

The Finniss Range Tantalite Project currently comprises the following Tenements:

Tenement	No.Blocks	Expiry	Registered Holder
EL 5469	8	23/2/94	Corporate Developments P/L
EL 4954	2	19/7/92	"
EL 4906	6	6/4/94	"
EL 6217	10	23/10/93	"
EL 4493	8	-	"
MCN 1052		25/2/91	"
MCN 3216,7,8		8/7/91	Brevcorp Pty. Ltd.
MLN (A)1089		-	"
EL 6805	15	1/6/90	J. Benger

The tenements (with the exception of EL 6805) currently have project-based reporting status. An Application has been made to transfer EL 6805 to Corporate Developments Pty Ltd, and to include this area in the project area. (This report has been prepared on the basis of EL 6805 being part of the Finniss Range project area).

Corporate Developments is exploring the tenements with the aim of commencing a mining and processing operation primarily to recover tin and tantalum concentrates; recovery of secondary minerals is also being assessed.

2. Location & Access

The project area is located east of the Finniss Range on the Darwin 1:250,000 sheet approximately 65 kilometres south of Darwin. Access is gained via the Stuart Highway, Cox Peninsular road, Wangi Road and for 10 km along a gravel road into the project area. This gravel road was formerly an all weather road but recent transport of the Brevcorp plant and equipment has caused damage to the pavement itself and surrounds where machinery became bogged and gravel was won.

This location map (Figure 1) shown the location of the tenements and access. Access within the tenements comprises gravel tracks (some constructed by Brevcorp) connecting the various pegmatites and processing plant sites.

3. Geological Setting

The project area is located within a belt of sediments belonging to Burrell Creek Formation of lower Proterozoic Age which runs in a general north to north-north-east direction through the centre of the Bynoe 1:100,000 sheet.

The majority of sequence consists of finely laminated siltstone interbedded with more massive beds of sandy greywacke siltstone, graphitic shale and minor quartz pebble and lithic/conglomerate. West of the licnece area and the Finniss range the Burrell Creek sediments have been intruded by the Two Sisters Granite.

The siltstones which have been metamorphosed to muscovite phyllite and quartz mica schist have a well developed slatey cleavage where-as the more competant sandy units display a characteristic refracted sandstone cleavage. This majorfoliation is regional in extent and is related to the predominant NNE fold direction. In high strain zones a crenulation cleavage has developed as a result of granite intrusion and/or introduction of pegmatite.

The pegmatites are present as discrete steeply dipping intrusives which strike generally in a NNE direction parallel to the regional foliation. An estimated 30 kilometer of strike length pegmatite has been identified by air photo interpretation and exploration to date. The pegmatites are suspected to be related to the nearby Two Sisters Granite but their origin and relationship to granitic rocks in the area has not been established. Some of the outcropping pegmatites show significant heavy mineral content at surface and visible tantalite mineralization, although patchy.

Host rock sediments crop out as persistant low undulating ridges with the pegmatites represented especially on the ridge tops as quartz mica aggregates or milky quartz rubble. Recrystallization of the contact rocks has made them more resistant to erosion and as a consequence pegmatite contact zones are readily indentifiable. Trenching has shown that pegmatite bodies are not limited to ridge tops but are also located under the alluvial flats. The pegmatites vary greatly in size but are mainly discrete tabular bodies up to about 10 metres thick which may swell and thin along strike or branch into thin apophyses less than a meter across. More lenticular or bulging types similar to the Saffums No.1 pegmatite thicken to 35 meters at surface. Mapping has shown that the surface representation of the various pegmatites may extend for more that 200 meters. In general, the steeply dipping contacts which strike NNE are semi-concordant with the bedding and the regional axial plane foliation. Mapped field relation suggests that the form of intrusion is controlled by the more competent arenite members of the Burrell Creek Formation and regional fold structures.

The pegmatites everywhere associated with quartz mica chiastolote schist. The chiastolote is present as small knotted aggregates or as larger interlocking rods to 10cm in length especially in the contact zones. Other forms of wall rock alteration include development of tourmaline needles, aligned with the long axis parallel to the contact, in areas where pegmatite has intruded grey to black shales.

4. EXPLORATION HISTORY

The Finniss Range Tantalite Project is located 65 kilometres south of Darwin in the Finniss Range area. During the last 10 years the area has been explored by a number of parties broadly as follows:

1. 1980 - 2 - Wigg & Benger - small eluvial sluicing operation at Saffums no. 1.
2. 1983-5 - Talmina Trading Pty. Ltd. - contructed dams, camp and an 80 tph 'alluvial' treatment plant on MCN 1052 and conducted bulk testing operations at Saffums 1,2,3, Sandras, Martins.
3. 1988-9 - Brevcorp Pty. Ltd. - constructed a hard rock treatment plant dams and a camp on MCN's 3216,3217 & 3218 and conducted further bulk testing operations on Saffums, Turners, Martins, Sandras etc.

Corporate Developments Pty. Ltd. and associates of its Directors advanced over $1\frac{1}{2}$ m to Talmina Trading Pty. Ltd.; these funds were predominantly used on site for the construction of plant, extensive costeaning and bulk testing etc. In late 1985, due to the collapse of the tin and tantalite prices, Talmina Trading was placed in liquidation.

In 1986 Corporate Developments purchased the plant and tenements from the Liquidator of Talmina. In 1987, by an agreement with Monier, regional exploration was conducted on the tenements; however, Monier withdrew after defaulting on the agreement. In 1988, by agreement with Don Hoult, $\$\frac{1}{2}$m was to be spent on the tenements. In 1989, this Agreement was assigned to Brevcorp Pty. Ltd. (a company associated with Don Hoult) and we are advised Brevcorp spent some $\$2\frac{1}{2}$m on site. This expenditure comprised construction of tailings dams, main supply dams, substantial demountable accommocation, a processing plant incorporating crushing circuit vibrating screens, jigs etc. and earthworks and bulk testing and sampling of pegmatites, eluvials and alluvials.

5. PROJECT TENEMENTS

5.1 STATUS

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Corporate Developments is exploring the tenements with the aim of commencing a mining and processing operation primarily to recover tin and tantalum concentrates; recovery of secondary minerals is also being assessed.

5.2 Work Done

This report describes the structural interpretation and on site work using aerial photography flown for the purpose, as contained in Sections 7 to 11 inclusive of this report and shown in figures 3 to 7 inclusive.

Additional work was also carried out on site by G. Chrisp, J. Crago and G. Henderson on sampling and assessment of areas, and work on the plant, etc. The compilation of results of this work are not available at the date of this report and will be included in the next annual report.

In addition, all data available on previous work done was reviewed, and work by John Crago in part is aimed at checking results contained in these previous reports.

6.0 EXPLORATION EXPENDITURE (3.10.89 - 3.10.90)

Acquisition and Processing of Infra Red Photos	$30,000
Digitized Base Mapping	7,500
Salaries	4,300
Travel/Accommodation	2,000
Sundries	200
Total Expenditure	$44,000

The above exploration expenditure only relates to the costs associated with and incurred by, Heilbronn Geothermics Pty. Ltd. and Christopher Cohen and Associates Pty. Ltd. Additional expenditure by Corprate amounts to $18,500 (including reporting). It is demonstrated from visiting the site and follow up enquiries that additional exploration expenditure has been incurred to that stated above. Whilst this additional exploration expenditure is substive it is not possible to qualtify. No attempt has been made to quantify the additional works within the scope of this report.

Total Expenditure has been proportionally allocated to each EL on the basis of its tenement size (refer Table 2).

7.0 RESOURCE POTENTIAL

Talmina Trading Pty. Ltd. engaged a group of consultants (Terence Willsteed and Associates, 1984, Dr. Ross Fardon, 1984, and Greg Kater and Associates, 1984), for the purpose of evaluating the economic potential of the Finniss Range Project.
The resource potential has been outlined in previous literature (reference Waller-Teluk, A.J., 1988)-

Pegmatite Lodes - 5 to 11 million tonnes to 20m depth at cut off grade of 0.4 kg./ ton of concentrate.

Eluvial Deposits - 4 million cubic metres at cut off grade of 0.4 kg/ c.m of concentrate.

Alluvial Deposits - 50 million cubic metres at cut-off grade of 0.15 kg/c.m. of concentrate

Estimates on the first two categories derive from Dr. Ross Fardon, and are based on widespread tranching over 20 km strike length of an overall estimated total of 80 km length of pegmatite zones. Some trenches have exposed over 20 m width of pegmatite whilst others show widths from 2 to 6 metres. Alluvial resources are largely speculative.

Measured: 149,000 tonnes @ 1.48 kg/t tantalite concentrate
Indicated: 905,000 tonnes @ 1.30 kg/t tantalite concentrate

These reserves are based on detailed trenching and sampling as well as trial mining of the Saffums No.1 and the 2 1/4 km "Turners-Martins-Sandra" pegmatite line. This zone is still open ended, with detailed trenching indicated widths of 15 to 37 metres, and tantalite concentrate values ranging from 0.5 kg/ tonne (no visible tantalite) to 75 kg/ tonne (visible tantalite common). The measured category includes those reserves where there is a high degree of confidence in average grade and accurate measure of size; including stockpiles. Indicated reserves are defined by a good accuracy in measurement of real size, projected to 10 metres depth, and where estimation of average grades is based of detailed trenching.

Whilst the Project aArea has been evaluated to various degrees for the principal commodities Ta, Nb and Sn respectively, other valuable elements such as Li (Amblygonite) Ti (Rutile, Ilmenite) and Au have not been sought. High grade lithium concentrations were previously mined (Picketts), whereas gold, unit recently was not considered to be a significant constituent in a pegmatitic environment.

Gold in a pegmatitic association; particularly in sulphidic phases, occurs throughout the Pine Creek Geosyncline. Recently a grab sample of wall rock from Saffum's No.2 pegmatite returned 11.4 g/t Au, a result warranting further investigation.

It is apparent on the basis of the above data, a major economic resource of Ta, Nb and Sn is present within the Project Area, with significant potential for other elements. Several field visits to the area were directed towards confirming the potential of the pegmatite lodes, as well as appraising the possibility for significant alluvial deposits.

Brevcorp established a treatment plant on site in 1989 to sample the pegmatite lodes and determine grades. Whilst no official reports exist on the results of the programme, a reconstruction has been made (reference Cohen, C.J. 1990) in an attempt to substantiate the resource potential. Measurement of excavations in which treated material same from Turners and Martins (Loc.B), Sandras (Loc. C) and Saffums No.1 (Loc.E) - all processed at Location F (refer Figure 5) resulted in a total of 4,450 tonnes being treated, over a 3 to 4 month period. Confirmation of the yeilds from the concentrates produced were made by Nagrom & Co. The resulted were:

CONCENTRATES 19.192 tonnes, i.e. 4.313×10^{-3} % which contained-

TIN 6.851 tonnes i.e. 35.7 % metal in concentrates, and

TANTALITE 2.542 tonnes i.e. 13.25 % metal in concentrates.

That is, 4.31 kgs/tonne of concentrate was yeilded, which is 10 times higher, in value, than the cut off grade adopted in the Fardeon resource potential figures.

The prime exploration targets in project area are undisputedly the pegmatite intrusives (or lodes) and the associated eluvial deposits. Several of the major "pegmatite lines" (e.g. Turners-Martins-Sandra extends 2.25 km) include large pits and workings and when subjected to assessment "their alignment and distribution remains open to interpretation until accurate geological mapping is instituted"- quote Wallen-Teluk, page 13, referenced.

Most exploration activity has tried to resolve the size and distribution of the pegmatite intrusives; whilst unanimously agreeing that these intrusives take both the lenticular and pipe like (dykes) forms - no reasonable result has been obtained. To a large extent the buried nature of the pegmatites (e.g. Saffum's No. 1 to Saffums's No.2 area) has to date, made detection and interpretation restrictive. It is for this reason that Geothermics appears to be the only effective and efficient method to apply to the project area - to resolve the size and distribution of pegmatites.

Some areas, such as the Chinaman and Annie mine are known to be tin predominant, whereas the Turners-Martins-Sandra line are tantalum enriched whilst the Saffums pegmatite is niobium rich. The mineralogical associations and elemental zoning in the project area has been the subject of extensive past studies (microscopic and Microprobe Studies of Columbite Cons. by G. Friedrich, 1982 and three reports by G. Friedrich and D. Jutz, 1984). Compositionally the pegmatites vary from area to area though commonly zoned within dividual lenses.

"Structural and well as metamorphism of lithologically favourable host units (sericitic - graphitic schists) may be the key to determining the degree of superposed hydrothermal alteration and related mineralisation within many of the pegmatites. The correlation between the larger bulbous type pegmatites and intensity of alteration, suggests structural dilation is the predominant nechanism for allowing access to hydrothermal mineralising fluids" - quote Wallen-Teluk page 17, referenced.

8.0 I.R. PHOTO ACQUISITION - GEOTHERMICS

1. PHOTOGRAPHY

An area of 30 km north-south by 15 km east-west, i.e. approximately 450 square kilometres, which completely covers the project area and its extensions, has been flown on 24.8.89 (reference Australain Aerial Mapping Pty. Ltd. Jon No. 21471). The acquisition was vertical aerial photography at 1:25,000 scale - colour infra-red film (reference AAM 1893 CIR)

Figure 4 illustrates the flight paths/runs and frame centre locations.

RUN	Frame No.
1	016-028
2	002-015
3	038-049
4	050-062

TOTAL FRAMES: 52 Frames

Each frame covers a ground area of approximately 5 Km by 4 Km at this scale. Coverage has been designed on 60% overlap/frame and 25% sidelap/frame spacings over the survey area.

8.2 GEOTHERMICS

Each frame has been colour balanced in both Cyan and Magenta prints according to the patented Geothermics process in anticipation for a detailed Geothermics survey to proceed over the project area. Literature is contained in the Attachments on Geothermics. This technology has a proven track record in detecting, locating and measuring surface and sub-surface geological structures. The results of such a Geothermics Survey over the project area would be invaluable, and economical as an exploration tool (in the opinion of the Author).

8.3 BASE MAPPING

In addition to the above photo acquisition, a digitized base map has been completed (partially) over the survey area.

This base map is compiled to a scale of 1:25,000 and covers the survey area in two A0 sized sheets. Topographic features and roads/ tracks are delineated - contour intervals of 5 metres have been plotted.

8.4 D.M.E. PRESENTATION

A presentation was made in early May, 1990, of the photo acquisition and base mapping by the Author to Messrs. Masut Ahmad and Tony Paesch of the N.T. Dept. Mines & Energy, Darwin.

9.0 FIELD SURVEY - STRUCTURAL GEOLOGY

1. AIMS AND OBJECTIVES

A reconnaissance field survey was undertaken over the project area in May, 1990 (reference Cohen, C.J. 1990).
The purpose of this field survey was to ascertain what were the strategic and significant geological features and targets in the project area; what was involved in delining, delineating and verifying their potential. Specifically, this field survey was designed to obtain a view of the structural geology prevailing, its control on the significant geological features and orientation for the Geothermics Survey.

2. MAPPING LOCATIONS

Geological Mapping and Structural Measurements were made at ten specific locations over the project area - refer to Figure 5.
*Location A - Conglomerates (Eastern Sector)- measurement of 3 predominant structures (major faults, joint and vein set at 10mm spacings).
- 697, 750 m E; 8,579,000 m N
* Location B - Turners Pegmatite and adjacent Eluvial Pit - measurement 3 predominant structures (major vertical quartz veins, conjugate vein set at 10mm spacings and joints)
- 694,000 M E; 8.577,500 M N

*Locatiom C. Sandras Pegmatite - measurement of 3 predominant structures (major horizontal quartz veins with 300mm thickness, fractures and cross fractures, and joints).
- 693,100 ME; 8,576,750 M N

* Location D. Chiastobte Hill and past trenches to east - measurement of 3 predominant structures (major vertical quartz veins with 300 mm thickness, fractures and crossfractures, and joints) and detecting 2 structural features (shear zone and cross faulting).
- 691,500 ME; 8,577,350 M N

* Location E. Saffums NO.1 Pegmatite and adjacent Eluvial Pit - measurement and detection of country rock strike with parallel quartz veining.
- 690,000 ME; 8,577,250 M N

* Location F. Hilltop east of Saffums No.1 (old plant site with adjacent tailing and water storage dams) predominantly interbedded shales, siltstones and sandstones - measurement of 3 predominant structures (faults, veins and joints) and detection of shear zones.
- 690,500 ME; 8,577,000 M N

* Location G. Saffums No.2 pegmatite and past trenches to west, graphite- measurement of 3 predominant structures (faults, veins and joints) and detection of graphite filled shear zones (mineralized)
- 690,350 M E; 8,578,300 M N

* Location H. Bilato Pegmatite Pit - measurement of 3 predominant structures (faults, veins and joints) and detection of cross faulting.
- 691, 100 ME; 8,578,500 M N

* Location I. Schauns Old Mine Digs - measurement of 3 predominant structures (faults, veins and joints) and detection of shear zones and mineralized veining.
- 695,250 ME; 8,581,000 M N

FIGURE 4

Location J. Mt. Finniss Mine - measurement of 3 predominant structures (faults and fractures, veins and joints) and detection of mineralized cross-faulting and pegmatite dykes of 5 metre widths.
- 693,750 ME; 8,567,000 M N

9.3 RESULTS

Resulting from this structural geology field survey is a statistical analysis of the measurements made. This involved the stereoplotting of 100 structural poles, refer Figure 6, on to a Lambert Equal- Area Streonet projection, refer Figure 7. The structures observed and measured were then grouped statistically, refer Table 3 - the structural analysis.

9.4 QUALIFICATIONS

All measurements are in local magnetics - no adjustments, or corrections have been made. Positioning of locations are expressed in AMG zone 52 grid, and have been scaled referenced.

10.0STRUCTURAL ANALYSIS

The survey area was sampled structurally at ten selected location and over 100 measurements and descriptions were taken. Whilst this sampling is sufficient for the purpose of a reconnaisance field survey - it is recommended that fifty selected locations and over 500 measurements be obtained during the Geothermics Survey field work.

10.1 DEFINITION OF GROUPS

The Structural analysis (Figures 6 and 7, and Table 3) has defined all the groups of structures occuring over the project area - there is no reason to suspect that the reconnaissance field survey has not uncovered any other structural groups.

In all 16 Structural groups exists 11 major structures and 5 minor structures. Direct field evidence has confirmed that at least 5 structural groups are mineralized.
The pegmatite intrusions have been controlled by the A2 structural group regionally, with pegmatite dykes existing locally, associated with the A1 structural group.

10.2 DESCRIPTIONS OF GROUPS

The following describes each structural group at the selected locations -

A1 GROUP (76°/126)- MINERALIZED

Loc. A *joints cut by A2 faults,
*conjugate to C1 veins.

Loc. B quartz veins in 10mm sets,
*conjugate to C1 lobe,
*associated with C3 joints,
- all cut by C1 quartz veins.

Loc. C * not present ?

Loc. D *Major quartz filled (300mm) veins,
*confines shear zones,
*associated with B2 joints
and B4 fractures and C2 joints
and D1 joint and A5 cross fractures
(all within shear zone); and C2 mineralized veins
(old mining activity)
- all cut by C4 faults

Loc. E *pegmatite dykes cut by A2 faults.

Loc. F *quartz veins and shear zones as quartz veins cuts -
C1 lobe B1 and C2 joints associated with A2 quartz veins and A3 joints.
as shear zone cuts - A1, B5 and C1 joints.
*no evidence that A2 cuts A1 but it is highly likely (anticline?)

Loc. G. *joints and fractures (shears)
*associated with A2 and A3 faults that all cut B2 graphic filled layer in a shear zone and B4 quartz veins
*conjugate to C3 fractures (shears)
*associated with C1 joints and D1 quartz muscovite veins.

Loc. H. *Major fault cuts all others, fractures and major joints.
*conjugate to A3 fractures and B4 major joints.
*cuts A2 pegmatite contact
*C3 cuts A1 as fractures
*associated with the following joints and fractures - A1, A2, A4, A5, B6, C1, C1 lobe.

Loc. I. *major mineralized vein/reef (1000 wide- old mining activity) which transforms along strike to a C1 lobe vein also mineralized, cuts all others,
*associated with A3, A5, and C2 joints, with A3 also (a cross cutting shear).

Loc. J. *pegmatite dyke (5000 wide - mineralized)and major faults (large vertical displacement with tourmlaine present) cuts all others,
*cuts A4 mineralized cross fault
*associated with - A2 faults and veins, A3 long continuous joints and veins, B1 horizontal joints, B3 faults and fractures and joints, B6 fractures, C1 joints, C2 fractures, C4 joints.

A2 GROUP (73°/ 097)-

Loc. A. *major fault cuts A1 joints and C1 vein sets

Loc. B. *not present?

Loc. C. *major joints
*associated with B1 major quartz veins.

Lod. D. *not present?

Loc. E. *major faults cuts A1 pegmatite dykes
*this group controls the strike and contact of the pegmatite intrusions (extensively mined)

Loc. F. *quartz veins
Loc. G. *shears and joints
*associated with B2 graphite filled layer (reported as being having carried Gold)
*cuts B2 layer
Loc. H. *pegmatite contact and fractures
*also quartz veins (50 wide) which are cut by A4 faults
Loc. I. * not present?
Loc. J. *Major fualts, veins, joints

A3 GROUP (80%/ 280) -
Loc. A. *not present?
Loc. B. *not present?
Loc. C. *not present?
Loc. D. *not present?
Loc. E. *not present?
Loc. F. *not present?
Loc. G. *joints
Loc. H. *conjugate joints to A1 joints
*cut by A1 faults
Loc. I. *cross cutting faults and shears
*cut by A1 and C1 lobe veins
*associated with C2 and A5 joints.
Loc. J. *long continuous joints and veins
*joints in pegmatite intrusive.

A4 GROUP (52°/299) - MINERALIZED
Loc. A. *not present?
Loc. B. "
Loc. C. "
Loc. D. "
Loc. E. "
Loc. F. "
Loc. G. "
Loc. H. *quartz veins that cut A2 veins

A2 veins
*cut by C1 fractures as a reversed fault
*associated within the pegmatite intrusive.

Loc. I. *not present?

Loc. J. *mineralized cross fault within pegmatite intrusive.

A5 GROUP (88°/155) -

Loc. A. *not present?

Loc. B. * "

Loc. C. "

Loc. D. *cross fractures with shear zone (A1 confined)
*associated with D1 joints (as conjugates)

Loc. E. *not present?

Loc. F. * "

Loc. G. "

Loc. H. *major fractures
*associated with A1 major joints.

Loc. I. *joints
*associated with C2 joints and A3 shears.
* cut by C1 lobe and A1 massive mineralized veins (reefs)

Loc. J. *not present?

B1 GROUP (11°/269) MINERALIZED

Loc. A. *not present?

Loc. B. *not present?

Loc. C. *major quartz veins (300 wide)
mineralized (past mining)
*associated within these veins are A2 joints and C1 cross fractures.

Loc. D. *not present?

Loc. E. *not present?

Loc. F. *joints
*associated with C1 lobe, C2 joints - all cut by A1 quartz veins

Loc. G. *not present?
Loc. H. * "
Loc. I. "
Loc. J. *horizontal joints

B2 GROUP (24°/062) -
Locs. A to C. * not present?
Loc. D. *joints in major quartz veins (A1) also shear zone
*associated with C2 joints (as conjugates) and B4 fractures.
Loc. E. & F. * not present?
Loc. G. *joints in graphite layer confined by A1 faults
also shear zone
8 associated with A2 joints (possible conjugates?)
Locs. H. to J. * not present?

B3 GROUP (26°/147)
Locs. A. to I. * not present
Loc. J. *joints in pegmatite intrusive
*fault in
*long continuous fracture outside of pegmatite intrusive.

B4 GROUP (42°/238) -
Locs. A to C. *not present?
Loc. D. *fractures in major quartz veins (A1) also shear zone
*associated with B2 joints
Locs. E. & F. not present?
Loc. G. *quartz vein (100 wide) cut by A1, A2, A3 faults/shears
Loc. H. *conjugate joint to A1 joint
*also a major joint associated with A1 joint and A5
fractures.
Loc. I & J. *not present?

B5 GROUP (39°/278) -

Locs. A. to E. *not present?

Loc. F. *joint associated in a shear zone confined by A1 fault with C1 joint (as conjuugate)

Locs. G. to J. *not present?

B6 GROUP (32°/011) -

Locs. A. to G. *not present?

Locs. H. *joints in pegmatite intrusive associated with A2 pegmatite contact and C1, A1, A3 fractures and B4, C1 lobe joints

Loc. I. *not present?

Loc. J. *fracturers in pegmatite intrusive associated with A2, A3 veins and joints, B3, C4 joints, and C2 fractures .

C1 GROUP (87/184) -

Loc. A. *veins in 10mm sets, associated with A1 joints (as conjugates) and cut by A2 major fault.

Loc. B. *major quartz vein that cuts C1 lobe and A1 veins and C3 joints.

Loc. C. *fractures in major quartz vein and associated with A2 joints (as conjugates)

Loc. D. & E.*not present?

Loc. F. *conjugate joint with Br joints and confined in shear zones by A1 faults.

Loc. G. *joints associated A1, A2, and C3 structures.

Loc. H. *cross fracture cut by A1 and C2 fracture within pegmatite intrusive.

*cuts A4 quartz veins in reversed faulting situation.

Loc. I. *not present?

Loc. J. *joints

C1 LOBE GROUP - MINERALIZED

Loc. A. *Not present?
Loc. B. *Conjugate veins to A1 vein set associated with C3 joints and confined by C1 major quartz veining
Loc. C. to E. *not present?
Loc. F. *joints associated with B1 and C2 joints and confined by A1 quartz veining
Loc. G. *not present?
Loc. H. *joints in pegmatite intrusive and associated with A1, A2, A3, B4, B6 and C1 structures
Loc. I. *Major mineralized vein/reef (1000 wide-old mining activity) which transforms along strike to a A1 vein, also mineralized, cuts all others
*associated with A3, A5 and C2 joints, with A3 also (a cross cutting shear.
Loc. J. *not present?

C2 GROUP (80°/208) - MINERALIZED

Loc. A. to C, *not present?
Loc. D. *joint in a shear zone of quartz veining confined by A1 and associated with B2 joints and B4 fractures
*mineralized vein/reef (past mining activity) cut by C4 cross fault
Loc. E. *not present?
Loc. F. *joints confined by quartz veins (A1) and associated wit C1 lobe and B1 joints.
Loc. G. *Not present?
Loc. H. *joints cut by C3 fault and associated with A1 fractures (as conjugates)
Loc. I. *joints confined by C1 lobe and A1 vein/reefs and associated with A5 joints and A3 fractures.
Loc. J. *fractures in pegmatite intrusive associated with A2, A3 veins, and joints and B3, C4 joints.

C3 GROUP (81°/235)

Loc. A. *not present?
Loc. B. *joints confined by C1 major quartz vein and associated with C1 lobe and A1 veins.
Locs. C. to F. * not present?
Loc. G. *conjugate shear with A1 in pegmatite intrusive and associated with A2 fractures and C1 joints.
Loc. H. *joints in pegmatite intrusive and cuts A1 fractures and C2 joints
Locs. I. & J. not present?

C4 GROUP (52°/182)

Locs. A. to C. *not present?
Loc. D. *cross fault cuts C2 veins/reefs.
Locs. E. to I. *not present?
Loc. J. * joints in pegmatite
intrusive, associated with C2 fractures and A2 joints and veins and B3 joints and B6 fractures.

D1 GROUP (68°/051)

Locs. A. to C. *Not present?
Loc. D. *joints in A1 shear zone confined by A1 quartz vein and associated with A5 cross fractures.
Loc. E. & F. *not present?
Loc. G. *quartz and muscovite veins
associated with B4 quartz veins
Loc. H. to J. *not present?

10.3 SEQUENCING OF GROUPS

The structural geology in the survey area has been complicated by intense folding in a confined setting. The super-position and sequencing of structural groups can be resolved by stress analysis. No attempt has been made in this survey to resolve the sequencing. It would be more appropriate to complete this segment at the time of conducting the Geothermics survey.

It is apparent from the structural analysis that two or more tectonic forces have influenced the geology. For example, the A1 group contains veins that have been dislocated by subsequent major regional A1 faults, some being pegmatite dykes.

There is no doubt that the A2 group, as faults, have controlled the location and alignment of the numerous pegmatite intrusives in the region. However, pre-existing A2 veins are also present as barren quartz. Subsequent to the A2 group controlling the placements of the various pegmatite intrusives, the A1 group faults created pegmatite dykes within and adjacent to the pegmatite intrusives.

Until the structural sequencing is resolved the mineralized relationship of the C1 lobe group, B1 group and C2 group cannot be appreciated.

The tectonics influencing the geology appear to be the control on rhw sequencing and in stages the placement of mineralized hosts (pegmatites) and subsequent reposition of mineralization by quartz injection via open, or tension structures. Each stage will and does have different behaviour patterns on the pre-existing structures- what was open in one stage, will be closed in the next stage, etc.

10.4 CONCLUSIONS

The structural geology in the survey area is resolvable. The sequencing of structures and the effects of stress on those structures will define the mineralization in the survey area. When this resolution is completed, then specific exploration targets can be identified, delineated and located.

11.0 EXPLORATION PROGRAMME

The first priority in the project area is to resolve the size and distribution of the various pegmatite intrusives. The second priority (after structural resolution) would be to resolve the mineralogical and elemental zoning associated with the pegmatite intrusives. The third priority (after mineralogical resolution) would be to resolve the mining and treatment aspects for exploration of the pegmatite intrusives - this can only result after the selection of short, medium and long term exploration targets as a consequence of their grade, recovery and yeild assessment.

Given the above priorities, the following exploration programme is proposed as a staged development.

STAGE 1

Geothermics survey of the Finniss Range area at 1:25,000 -

1. Locate and measure the structural geology; and
2. Delineate the various pegmatite intrusions and map their size and distribution, and
3. Field survey - 50 locations/500 measurements; and
4. Complete structural analysis and resolve sequencing by stress analysis, and
5. Define exploration targets and report.

Detailed survey of the Saffums area and the Turners - Martins - Sandra line at 1:5,000 (Geothermics) and any other exploration target resulting from the regional Geothermics survey (previously detailed).

STAGE 2

Evaluation of exploration targets defined from Stage 1 - orientated to determine elemental content and mineralogical composition of each target to 10 - 20 metres depth -

1. Sampling by auger drilling and/or, trenching etc. to obtain lateral and vertical representations; and

2. Petrographic examinations and assaying of samples; and

3. Correlate results to the structural controls and report.

STAGE 3

Resource Evaluation of exploration targets after pre-selecting - short, medium and long term potentials -

1. Costeaning and bulk sampling; and

2. On-site pilot plant testing, and

3. Metallurgical and process engineering assessment of sampling and testing results and report.

In the case of the Saffums area Stage 3 would be redundant, in the existing treatment plant was re-commissioned. In this case, stage 2 would be expanded to include bulk sampling to supply the existing treatment plant for testing.

Detailed actioning and budgeting of the proposed exploration programme is in progress.

12. CONCLUSIONS

The project area contains an extensive suit of granitic pegmatites which intrude sediments of the Lower Proterozoic Burrell Creek Formation. Although an astounding amount has been spent of the project area to date, the results available are inconclusive, and a decision of the economic viability of mining cannot yet be made.

The project area required the collating and assessment of all available data and further on site testing to evaluate the commercial feasibility of a mining operation.

Work being undertaken on the tenements is aimed at:

1. Proving up readily mineable resources sufficient to allow a mining operation to commence on the tenements within 12 months.

2. Assessing the accuracy of previous reports and work done by previous tenement holders.

3. Assessing the overall project scope by using geothermics technology to produce structural plans of the area, in an effort to determine the likelyhood of further undiscovered mineral deposits.

FIGURE 5

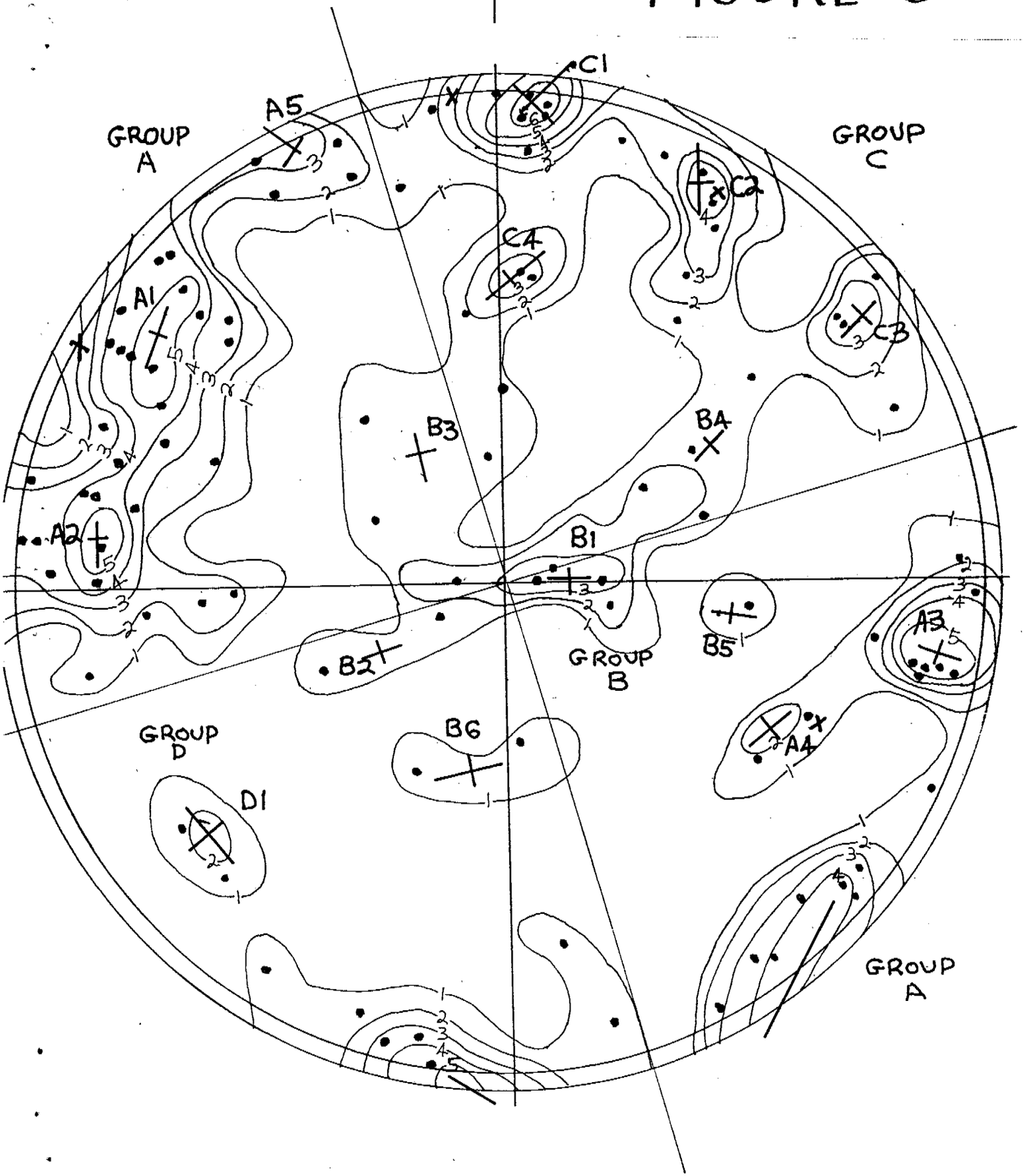
SECTION D–E–F

CAINOZOIC UNITS OMITTED

FINNISS RANGE – STRUCTURAL GEOLOGY

PLOT OF POLES (•)
LAMBERT NET

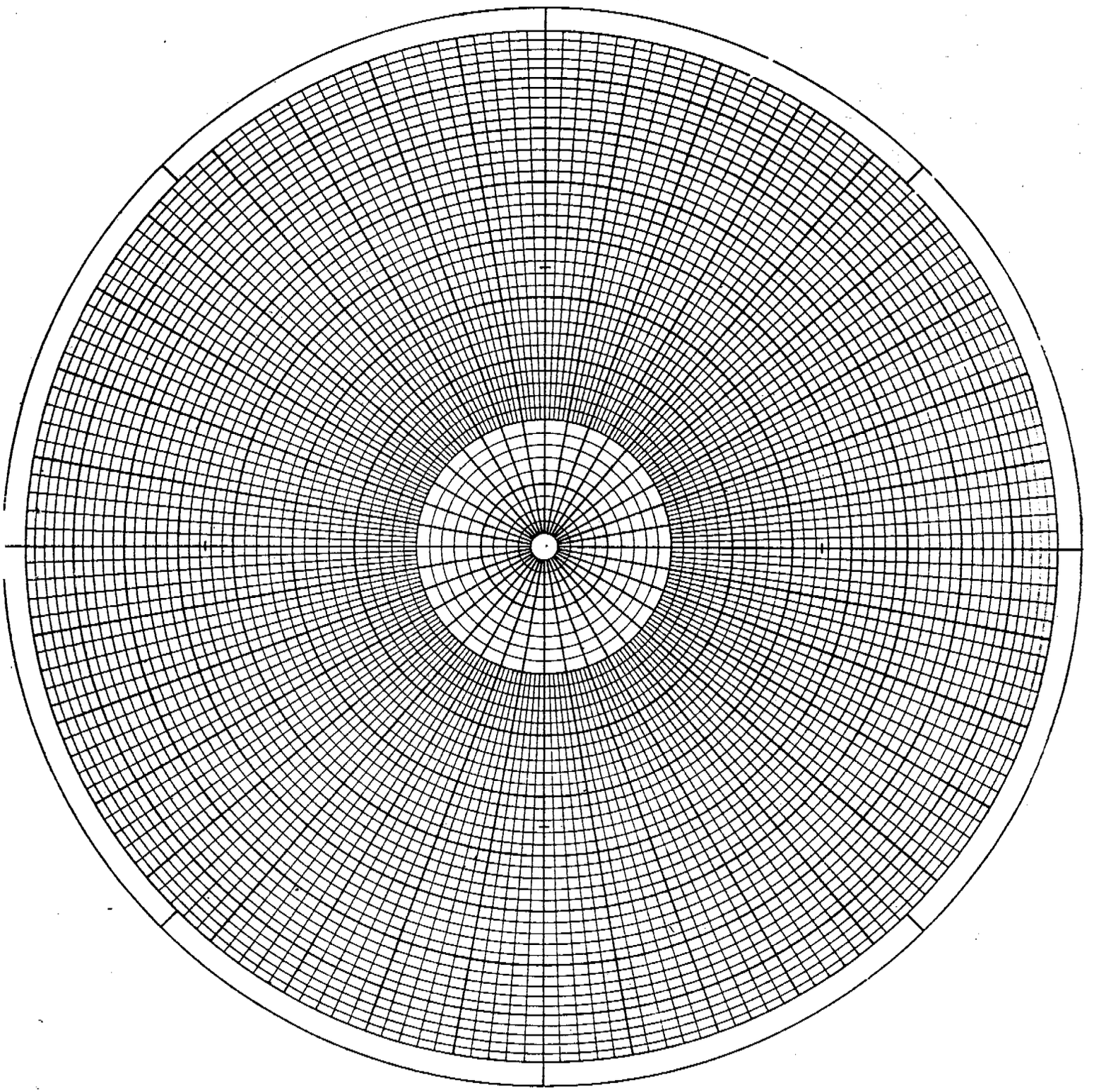
FIGURE 6



CONTOURS ARE PERCENT OF ONE(1) PERCENT OF AREA – I.E.
1%, 2%, 3%, 4%, 5%, 6% OF 1% OF AREA.

FIGURE 7

LAMBERT EQUAL-AREA PROJECTION



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RESUME

PERSONAL DETAILS

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Age	:	38 years

QUALIFICATIONS

Bachelor of Applied Science (Geology) (CCAE)
Diploma in Technology (RMIT)
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PROFESSIONAL MEMBERSHIP

Fellow, Institute of Quarrying (London)
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PREVIOUS EXPERIENCE

Before commencing his Consulting Geological Engineering firm of Christopher Cohen and Associates Pty Ltd, in 1982, Mr Cohen had gained extensive experience in Australia and the South Pacific Island in the Mining and Civil Engineering Industry. Mr Cohen has been involved with a variety of contracting projects and mining/quarrying operations since 1969.

Since commencement of his consulting business Mr Cohen has specialised in Structural and Engineering Geology. This experience has provided the necessary trailing and demonstration of his world wide patented invention of Geothermics - a remote sensing technology and a method of detecting structures.

Mr Cohen has been involved in:

(a) Exploration - industrial minerals, base and precious metals, oil and gas, water and coal.
(b) Mine Design - quarries, open-cut and underground operations.
(c) Project Evaluations - marketing, capital and operating costings, discounted cash flows.
(d) Resource Surveys - construction materials, monumental stone, base and precious metals.
(e) Remote Sensing Surveys - satellite and aerial on national, regional and local scales.
(f) Slope Stability and Rock Fragmentation - on road construction and mining projects.
(g) Scientific Investigators - detection of data with cameras, sensors and scanners utilising electro-magnetics.

CURRENT POSITION

Mr Cohen is the Director/Manager of Heilbronn Geothermics Pty Ltd and is responsible for all aspects of this firms Remote Sensing Consultancy. Mr Cohen is also Principal Director of Christopher Cohen and Associates Pty Ltd, Consulting Geological Engineers.