Open File Envelope No. 6844

EL 1383, EL 1449 AND EL 1525

MOUNT FINKE

PROGRESS REPORTS TO LICENCE EXPIRY FOR THE PERIOD 2/3/1987 TO 28/9/1989

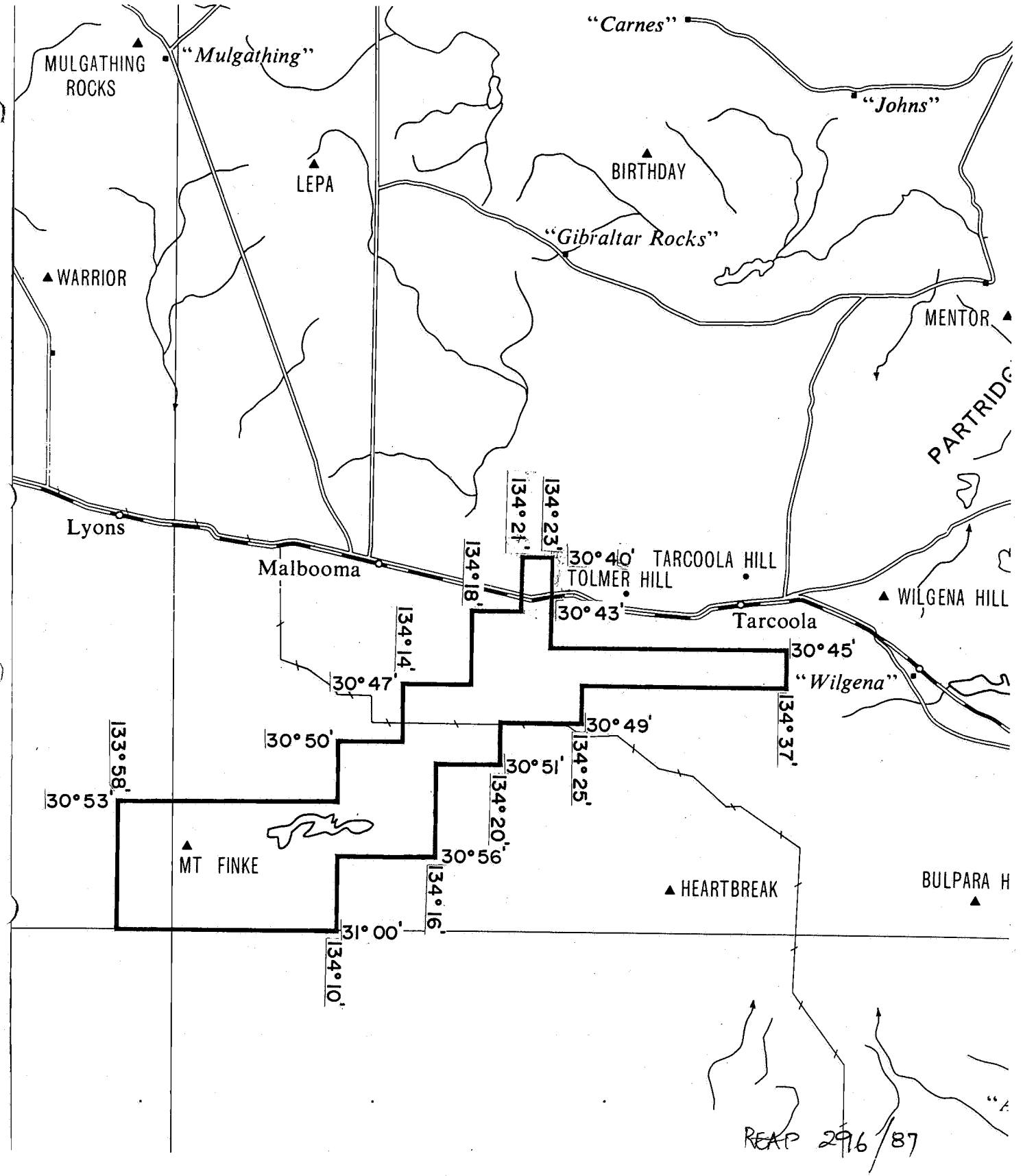
Submitted by
Tarcoola Gold Ltd
1989

Enquiries: Customer Services Branch
Minerals and Energy Resources
7th Floor
101 Grenfell Street, Adelaide 5000

Telephone: (08) 8463 3000
Facsimile: (08) 8204 1880

Government of South Australia
Primary Industries and Resources SA

SCHEDULE A



SCALE 1:500,000

KILOMETRES 10 0 10 20 30 40 50 KILOMETRES

EXPIRED

APPLICANT: INSIGHT MINING PTY. LTD.

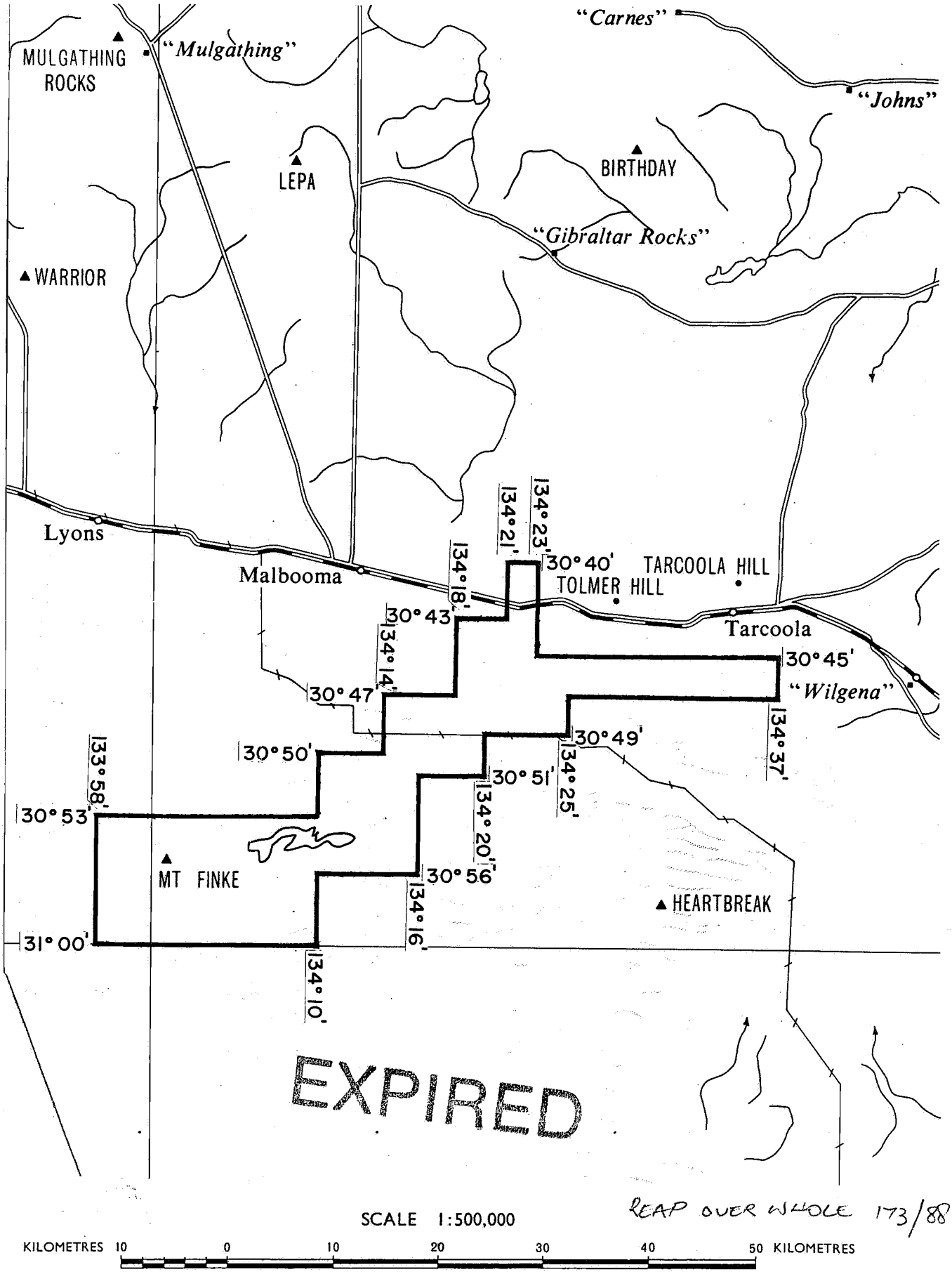
DM: 234/86 AREA: 607 square kilometres (approx.)

1:250 000 PLANS: TARCOOLA

LOCALITY: MT FINKE AREA – Immediately SW of Tarcoola

DATE GRANTED: 2-3-87 DATE EXPIRED: 1-9-87 EL No: 1383

SCHEDULE A



REAP OVER WHOLE 173/88

APPLICANT: TARCOOLA GOLD LTD

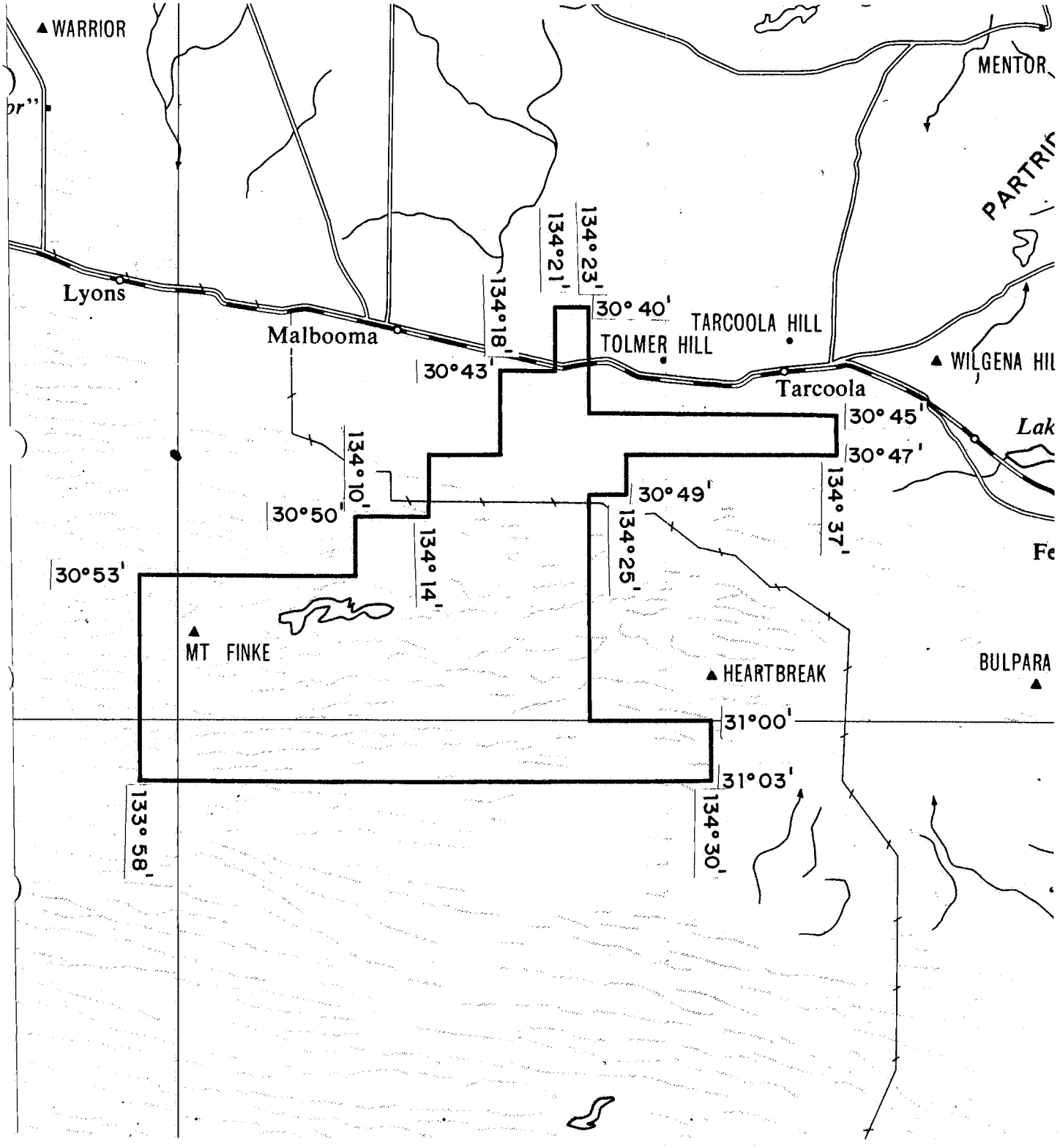
DM: 296/87 AREA: 607 square kilometres (approx.)

1:250000 PLANS: TARCOOLA

LOCALITY: MT FINKE AREA - Immediately SW of Tarcoola

DATE GRANTED: 27-11-87 DATE EXPIRED: 26-5-88 EL No: 1449

SCHEDULE A ✓



EXPIRED

SCALE 1:500,000

KILOMETRES 10 0 10 20 30 40 50 KILOMETRES

APPLICANT: TARCOOLA GOLD LTD.

DM: 173/88 AREA: 1161 square kilometres (approx.)

1:250000 PLANS: CHILDARA, TARCOOLA

LOCALITY: MT. FINKE AREA - Approx. 25 KM SOUTHWEST of TARCOOLA

DATE GRANTED: 29.9.88 DATE EXPIRED: 28.9.89 EL No: 1525

CONTENTS ENVELOPE 6844

TENEMENT: EL 1383; EL 1449; EL 1525; Mount Finke.

TENEMENT HOLDER: Tarcoola Gold Ltd; Insight Mining Pty. Ltd.

REPORT:	Tonkin, D G 1987. First quarterly report on EL 1383 Mount Finke, South Australia, for period ending 1 June 1987.	Pgs 3-17
APPENDIX 1:	Bunny, M R (Earth Resources Australia Pty Ltd), 1987 Independent geologists' report.	Pgs 18-22
APPENDIX 2:	Lau, G, 1987. Report on preliminary photogeological study.	Pgs 23-26
APPENDIX 3:	Screen fire assays by Comlabs (- Job no. 861900).	Pgs 27-30
APPENDIX 4:	Trace element analysis by Comlabs (- Job no. 862319).	Pgs 31-36
PLANS:	Fig. 1: Locality map, EL 1383, Mount Finke area.	Pg. 10
	Plate 1: Preliminary photogeological map of the Mount Finke area - scale: 1:50000 (coloured map).	6844-1
REPORT:	Ivey, P A, Tonkin D G, 1987. Final report on E.L. number 1383 Mount Finke, South Australia, for period ending 1 September, 1987.	Pgs 37-56
APPENDIX 1:	Bunny, M R, (Earth Resources Australia Pty Ltd). Independent geologists' report.	Pgs 57-61
APPENDIX 2:	Lau, G, Report on preliminary photogeological study.	Pgs 62-65
APPENDIX 3:	Screen fire assays by Comlabs (- Job no. 861900).	Pgs 66-69
APPENDIX 4:	Trace element analysis by Comlabs (- Job no. 862319).	Pgs 70-75
APPENDIX 5:	Gold and indicator element assays by Comlabs (- Job no. 872052).	Pgs 76-81

APPENDIX 6:	Gold and indicator elements assays by Comlabs (- Job no. 872053).	Pgs 82-87
PLANS:	Fig. 1: Locality map EL 1383, Mount Finke.	Pg. 44
	Fig. 2: Track location map, EL 1383, Mount Finke area.	Pg. 45
	Fig. 3: Sampling programme location map (MFK Series).	Pg. 48
	Fig. 4: Sampling programme location map (DB, LMF, Lake Series).	Pg. 49
	Plate 1: Preliminary photogeological map of the Mount Finke area scale: 1:50000.	6844-2
	Plate 2: Geophysical interpretation of regional aeromagnetic map of the Mount Finke area scale: 1:100000.	6844-3
REPORT:	Circosta, G, 1988. First quarterly report on EL 1449, Mount Finke, South Australia, for period ending 26 February, 1988.	Pgs 88-99
APPENDIX 1:	Pontifex and Associates Pty Ltd 1987, Mineralogical report no. 5163.	Pgs 100-103
PLANS:	Locality map, EL 1449, Mount Finke area.	Pg. 96
REPORT:	McLean, R N, 1988. Summary of exploration conducted to July 1988 incorporating second quarterly report for period ended 26 May, 1988, for EL 1449.	Pgs 104-114
APPENDIX 1:	Reconnaissance sampling geochemistry.	Pgs 115-131
APPENDIX 2:	Ground magnetic and RAB-hole locations Mount Finke South.	Pgs 132-135
APPENDIX 3:	Follow-up sampling geochemistry.	Pgs 136-143
PLANS:	Fig. 1: Mount Finke - Location map.	Pg. 108
	Fig. 2: Outcrop geology and reconnaissance sampling locations. Scale: 1:50000.	6844-4
	Fig. 3: Regional aeromagnetic contour map. Scale: 1:50000.	6844-5
	Fig. 4: Base plan location of detailed magnetic surveys and RAB drilling. Scale: 1:50000.	6844-6
	Fig. 5: Aeromagnetic contour map. Mount Finke area. Scale: 1:25000.	6844-7
	Fig. 6: Ground magnetic contours. Pinding Rocks region. Scale: 1:10000.	6844-8

PLANS:	Fig. 7: Detailed sampling. Lakes area. Scale: 1:10000.	6844-9
REPORT:	Gum, J, 1988. Interim report on EL application previously third quarterly report on EL 1449, Mount Finke, South Australia for period ending 27 August, 1988.	Pgs 144-159
APPENDIX 1:	Gold assays by Classic Comlabs. (Job no's. 8AD2051 and 8AD2693).	Pgs 160-164
PLANS:	Fig. 1: Locality map, EL 1449, Mount Finke area.	Pg. 150
	Fig. 2: Location of sample sites.	Pg. 154
	Plate 1: Aeromagnetic contour map of Mount Finke area, EL 1449. Scale: 1:50000.	6844-10
REPORT:	Gum, J, 1988. First quarterly report on EL 1525, Mount Finke for period September 29th to December 28th, 1988.	Pgs 165-166
REPORT:	McLean, R.N., 1988. Second quarterly report on EL 1525, Mount Finke, for the period ending 28 March, 1989.	Pgs 167-168
REPORT:	Tarcoola Gold Ltd, 1989. Mount Finke Project - Final report.	Pgs 169-179
APPENDIX 1:	Reconnaissance sampling geochemistry.	Pgs 180-196
APPENDIX 2:	Ground magnetics and RAB - Mount Finke South.	Pgs 197-200
APPENDIX 3:	Follow-up sampling geochemistry.	Pgs 201-208
PLANS:	Plan 1: Location map.	Pg. 173
	Plan 2: Outcrop geology and reconnaissance sampling locations. Scale: 1:50000.	6844-11
	Plan 3: Regional aeromagnetic contour map. Scale: 1:50000.	6844-12
	Plan 4: Base plan. Location of detailed magnetic surveys and RAB drilling. Scale: 1:50000.	6844-13
	Plan 5: Aeromagnetic contours. Mount Finke area. Scale: 1:25000.	6844-14
	Plan 6: Ground magnetic contours. Pinding Rocks region. Scale: 1:10000.	6844-15
	Plan 7: Detailed sampling: Lakes area Scale: 1:10000.	6844-16

ENV. 6844

EL 1449

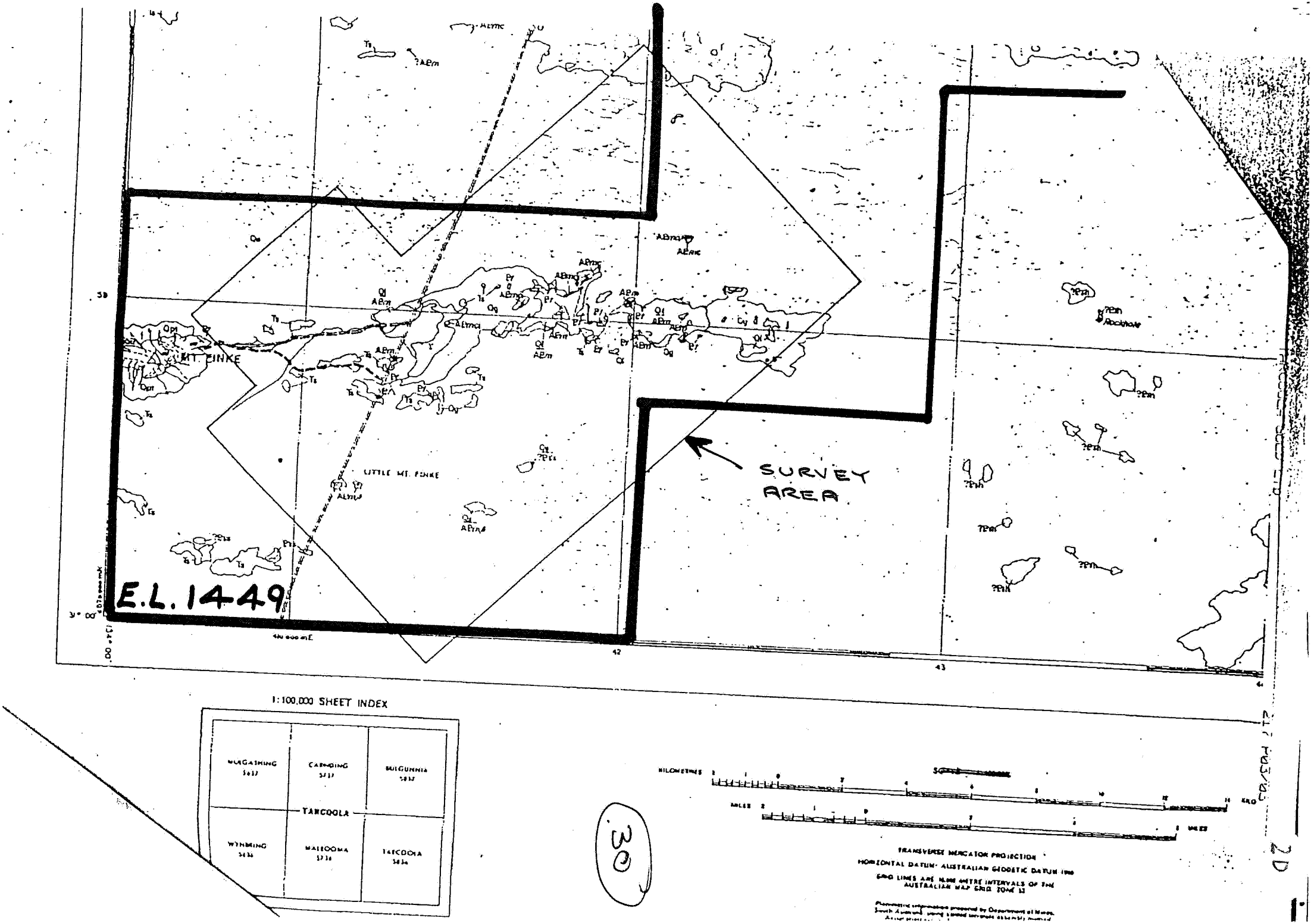
Data from an aerial magnetic-radiometric survey flown by Aerodata Holdings Ltd in June/July 1988 are held as follows:

1) A located data tape (magnetic and radiometric data) is held by Geophysics Section, SADME (Tape No. 88 SA 01).

2) Transparencies of flight path, stacked magnetic profiles and magnetic contours together with paper prints of total count, uranium, thorium and potassium contours are held in transparency cylinder TC 6844/1. (All plans are at 1:25 000 scale with 2 sheets for each component)

3) Eighteen (18) 35 mm slides of image processed data from the magnetic survey are ~~included in this envelope~~. held in the SADME slide & photo collection.

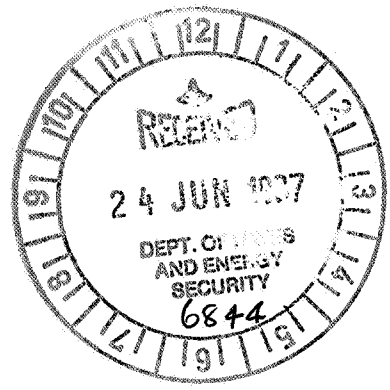
14 November 1988


MT. FINKE
LITTLE MT. FINKE
SURVEY AREA
E.L. 1449
42
43
1:100,000 SHEET INDEX
MURGATHING
CARNDING
MULGUNNIA
TARCOOLA
WYNNING
MALEOOMA
TARCOOLA
KILOMETRES
MILES
TRANSVERSE MERCATOR PROJECTION
HORIZONTAL DATUM: AUSTRALIAN GEODETIC DATUM 1966
GRID LINES ARE NUMBERED AT KILOMETRE INTERVALS OF THE AUSTRALIAN MAP GRID ZONE 52

I

TARCOOLA GOLD LIMITED

FIRST QUARTERLY REPORT ON EXPLORATION LICENCE NO. 1383 MOUNT FINKE, SOUTH AUSTRALIA FOR PERIOD ENDING 1 JUNE 1987



Adelaide
June 1987

D.G. Tonkin
Consulting Geologist

COPY NO. :

DISTRIBUTION

	COPY
TARCOOLA GOLD	ORIGINAL
S.A. DEPARTMENT OF MINES & ENERGY	1

TARCOOLA GOLD LTD.

1st Fl., 68 North Terrace, Kent Town, South Australia 5067
Postal Address: P.O. Box 2010 Kent Town, South Australia 5071
Telex: AA88765 (Att. AD998) Facsimile: (08) 363 1920
Telephone: National (08) 363 1663 International + 618 363 1663

EL 1383

MT FINKE SOUTH

Statement of Expenditure Incurred up to 2nd July 1987

Geological & Geophysical costs	$19,881.41
Drilling Costs	-
Logistics	-
Depreciation	-
Administration (5%) ? 16% of total.	$3,807.05
	$23,688.46

KEYWORDS

MOUNT FINKE

E.L. 1383

TARCOOLA SH 53-10

MALBOOMA 5736

TARCOOLA 5836

GOLD ASSAYS

GEOCHEMICAL ANALYSIS

PHOTOGEOLOGY

AEROMAGNETIC IMAGE PROCESSING

CONTENTS

		PAGE NO.
1.	SUMMARY	1
2.	INTRODUCTION	2
3.	GEOLOGICAL ASSESSMENT	3
4.	GEOCHEMICAL RECONNAISSANCE	4
5.	AEROMAGNETIC INTERPRETATION	5
6.	PHOTOGEOLOGY	6
7.	FORWARD PROGRAM	7

APPENDICES

I INDEPENDENT GEOLOGISTS' REPORT, BY M.R. BUNNY, EARTH RESOURCES AUSTRALIA PTY. LIMITED, PAGES 18 TO 21.

II REPORT ON PRELIMINARY PHOTOGEOLOGICAL STUDY, BY G. LAU.

III SCREEN FIRE ASSAYS BY COMLABS - JOB NO. 861900

IV TRACE ELEMENT ANALYSES BY COMLABS - JOB NO. 862319

LIST OF ILLUSTRATIONS

OPPOSITE PAGE NO.

FIGURES

1. LOCALITY MAP, E.L. 1383, MOUNT FINKE AREA 2

TABLES

1. GOLD ASSAYS MOUNT FINKE E.L. 1383 4

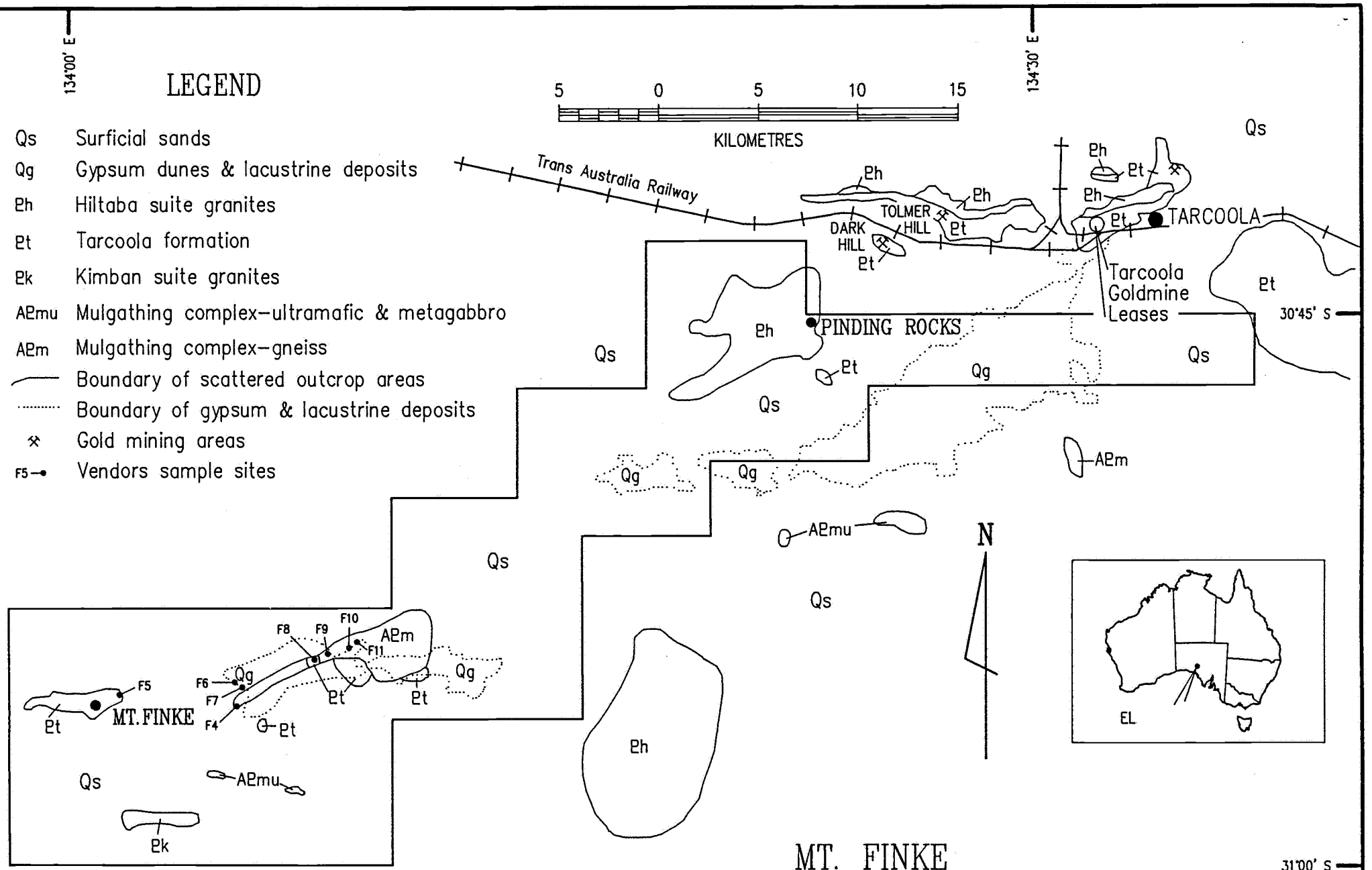
PLANS (IN POCKET)

PLATE 1 PRELIMINARY PHOTOGEOLOGICAL MAP OF THE MT FINKE AREA - 1:50,000 SCALE

1. SUMMARY

Earth Resources Australia Pty Ltd, consulting geologists, reviewed previous mineral exploration and mining in the Mount Finke area and proposed an exploration program for gold.

Twenty-four reconnaissance rock samles collected from eleven locations were assayed for gold and trace elements. Six of these samples returned gold assays above the limit of detection of 0.01 g/t Au. There were also anomalously high values for some trace element analyses, including arsenic and antimony.



MT. FINKE
EL 1383

Figure 1

GEOLOGICAL SKETCH OF THE MOUNT FINKE AREA, TARCOOLA 1:250 000 SHEET, SOUTH AUSTRALIA

PLATE 1

Draft sketch prepared for Tarcoola Gold Limited, Adelaide, by Australian Photogeological Consultants, Canberra. 7 May, 1987.

Based on geological interpretation of 4 airphotos: Tarcoola 1:250 000, SVY 2424, Frames 175, 177, 179, 181, 10/4/1979, Department of Lands, South Australia. Colour prints. No field checking.

6844-1

Rpt PE 1.6.87

This map is probably unsuitable for microfiche.

2. INTRODUCTION

This is the first quarterly report to the South Australian Department of Mines and Energy for Exploration Licence No. 1383, Mount Finke area, being for the period 2 March 1987 to 1 June 1987.

The Mount Finke licence covers an area of about 589 square kilometres extending south-west from Tarcoola (Figure 1). The Licence was granted to Insight Mining Pty Ltd, now known as Tarcoola Gold Limited, on 2 March 1987, to search for gold and other metals.

Archaean basement rocks of the Mulgathing Complex consist of gneissic metasediments, including banded iron formation, intruded by Glenloth Granite and amphibolite. These are overlain by acidic phases of the Proterozoic Gawler Range Volcanics, with inter-fingering sediments of the Tarcoola Formation. All the above rocks are are intruded by Proterozoic granites of the Hiltaba Suite.

3. GEOLOGICAL ASSESSMENT

Earth Resources Australia Pty Ltd made a geological assessment of the area. Their report, which is included as an Appendix to this report, originally formed part of the Independent Geologists' Report in the Tarcoola Gold Limited prospectus.

The Independent Geologists' Report contains a history of the mining and previous exploration, a description of the known geology and the target mineralization, and a proposed exploration program. The principal exploration targets for gold were seen as:

1) Intrusive contacts of Hiltaba Granite with the Tarcoola Formation, being prospective for mineralisation of the Tarcoola gold mines type.

2) Sheared zones in Archean rocks, particularly in the Glenloth Granite and banded iron formations.

SAMPLE NO.	Au ppm	ROCK TYPE	LOCATION
F1	<0.01	Qtz/shale float;Tarcoola Beds	Mt Finke
F2	<0.01	Glenloth Granite;sheared?	E of Mt Finke
F2Q	<0.01	Qtz-veined granite	Mt Finke
F3	<0.01	Granite or sst-alt'd,weath'd	
F4S1	0.03	Kaol.?,alt'd shale;Tarcoola B.	
F4S2	<0.01	Fe-rich mic.shale,arenite-alt?	
F4RFE	<0.01	Fe-rich grit over shale c'tact	
F4P	1.47	Purple,haem.shale+arenite;TB	
F5G	<0.01	Sandstone/grit	Base of Mt Finke
F5Q	<0.01	Qtz-veined grit;Tarcoola Beds	
F6Q	<0.01	Qtz float;Tarcoola Beds?	Base of Mt Finke
F6FE	<0.01	Gossan cap?	Shore of lake
F7	0.09	Fe-rich cap or BIF	
F8	0.25	Fe-rich weathered s'st? TB?	S shore of western lake
F9	<0.01	BIF or gossan; Archean	
F9R	<0.01	Schist, Fe-rich; Archean	
F9R2	<0.01	Fe-rich schist; Archean	
F10Q	<0.01	Qtz,breccia,in gneiss; Archean	
F10Q2	<0.01	Qtz,breccia,in gneiss; Archean	
F10Q3	<0.01	Qtz reef; Archean	
F10Q4	<0.01	Qtz reef; Archean	
F11Q1	0.04	Qtz.breccia&reef in BIF/gneiss	
F11Q2	<0.01	Qtz.breccia&reef in BIF/gneiss	
F11Q3	0.06	Qtz.breccia&reef in BIF/gneiss	

Laboratory: COMLABS. Scheme: FAS1. Job No.: 861742

TABLE 1: GOLD ASSAYS, MT FINKE EL 1383

4. GEOCHEMICAL RECONNAISSANCE

Tarcoola Gold collected twenty-four surface rock chip samples from eleven locations (Figure 1). Six samples (F4S1, F4P, F7, F8, F11Q1 & F11Q2) returned gold assays that were above the limit of detection of 0.01 g/t (Table 1). The highest assays, 1.47 g/t and 0.25 g/t, were obtained from ferruginous sandstone and shale of the Tarcoola Formation overlying altered granite and Archean basement rocks.

Gold assays for four samples were checked by Screen Fire Assay (see Appendix III). These assays confirmed the presence of gold in three samples and revealed the presence of gold in one sample (F11Q2) that previously gave an assay below the detection limit.

All twenty-four samples were subsequently analysed for a suite of twelve trace elements, namely Cu, Pb, Zn, Bi, Ag, Mo, As, Ba, Sb, Sn, Te and Tl (see Appendix IV). Anomalously high levels of Cu, Pb, Zn, As or Sb were recorded in six samples (F4P, F7, F8, F9, F9R2 & F11Q2).

5. AEROMAGNETIC INTERPRETATION

Digitised and reprocessed aeromagnetic data for the region, recently made available by the Bureau of Mineral Resources and SADME, was manipulated by Image Processing Services Pty Ltd, in Brisbane. The most effective enhancements of the data included local stretch and vertical shade.

Far more detail is immediately apparent on the reprocessed data, compared with the original published surveys. Therefore a geophysical consultant has been engaged to make an interpretation of reprocessed aeromagnetic data.

6. PHOTOGEOLOGY

G. Lau, of Australian Photogeological Consultants, made a preliminary study of the region around Mt Finke, using Lands Department RC9 photography.

The photo geologist concluded that photo interpretation had little to offer in this area at this stage of exploration. However, the study revealed an interesting NNE trending lineament bisecting two areas of anomalous geochemistry; it also suggests some areas of outcrop are more extensive than mapped.

A 1:50,000 scale version of the photo geology map is included in this report (Plate 1). The photo geology report is contained in Appendix II.

7. FORWARD PROGRAM

The target mineralization is expected to be largely structurally controlled and probably concealed beneath superficial cover. Therefore geophysical interpretation of the aeromagnetic data will be completed, to assist in identification of possible mineralised centres.

Field programs are to include reconnaissance geological mapping and geochemical sampling, followed by detailed sampling over defined target areas.

APPENDIX I

INDEPENDENT GEOLOGISTS' REPORT, BY M.R. BUNNY, EARTH RESOURCES AUSTRALIA PTY. LIMITED, PAGES 18 TO 21.

4. ELA 234/86 MT FINKE-PINDING ROCKS South Australia

INTRODUCTION

Tarcoola Gold N.L. is the sole applicant for Exploration Licence Application (ELA) 234/86 which covers an area of 589 square kilometres extending south-west from Tarcoola. Much of the area is sandridge country with limited areas of scattered basement outcrop. The only areas of substantial outcrop occur at Mt. Finke and Pinding Rocks. Figure ... shows the boundaries of the application area, their location with respect to the Tarcoola Leases and summarised outcrop geology.

HISTORY AND PREVIOUS EXPLORATION

The area appears to have received little attention from early prospectors undoubtedly because of the wide expanse of arid sandhill country. Surveyor of Mines Brown, in 1900, reported prospecting pits on quartz veins in shales at Mt. Finke and referred to a similarity with the Tarcoola Gold Mine.

Archean Explorations Pty. Limited carried out reconnaissance sampling over the area in 1971 and defined an area containing anomalous base metals, silver and bismuth from an area immediately south of Pinding Rocks. Apart from the granitic boulders of Pinding Rocks, outcrop is restricted to small areas of granite, granite porphyry, basic intrusives and greisenized granite. Areas of quartzite float represent probable Tarcoola Formation. Mineralization occurs in areas of gossanous quartz-veined greisenized granite with silver values up to 21 ounces per tonne (653 g/t) obtained. Follow up soil geochemistry and geophysics indicated an anomalous

zone 2.5 kilometres in length. No gold was detected, however assays were semi-quantitative with a detection limit of 3 g/t and are not considered reliable.

These anomalies were confirmed by Langsford (1972) and Aberfoyle Exploration Pty Ltd in 1981. Aberfoyle also analysed for gold and obtained values up to 0.3 ppm, but follow up RAB drilling failed to substantiate this.

Aberfoyle's original interest in the area was for sedimentary hosted uranium. A drilling programme was undertaken over several palaeo-drainage channels in the Hiern's Well area. Samples were analysed for uranium, gold and tin. Whilst low order uranium anomalies were defined it is significant that an average gold value of 0.067 g/t was obtained from sixty three samples (maximum value 0.548 g/t). This implies a gold source within the area and enhances the prospectivity of ELA 235/86.

Basement rock intersections from the uranium programme and drilling of geophysical anomalies and stratigraphic holes indicate the area to be underlain by Mulgathing Complex gneisses, leached and altered volcanics of the Gawler Range Volcanics, Tarcoola Formation sediments and Hiltaba Suite granites and diorites. Aberfoyle reported anomalous values for base metals, silver, fluorine and rare earth elements from the basement rocks. They concluded that the area has potential for copper, rare earth elements and base metals and further exploration concentrating on fracture zones, was recommended but apparently did not proceed.

Sampling by the Company is restricted to twenty-four samples from eleven locations (see Figure 5). Six samples returned gold assays above the detection limit (0.01 g/t) with the

best values of 1.47 g/t and 0.25 g/t being obtained from ferruginous shale and sandstone of the Tarcoola Formation overlying altered granite and Archean basement.

GEOLOGY AND MINERAL POTENTIAL

Basement rocks in ELA 235/86 are of Archean and Proterozoic age. Gneisses of metasedimentary origin including banded iron formation, with intrusive Glenloth Granite and amphibolites form the Archean Mulgathing Complex. These are overlain by Proterozoic Gawler Range Volcanics with interfingering Tarcoola Formation sediments and are intruded by granites of the Hiltaba Suite. This basement is overlain by various thicknesses of Cainozoic cover. Available aeromagnetic data indicates a linear zone running west-southwest through the length of the application area. This may represent a faulted margin to the Tarcoola Beds depositional basin and as such may be prospective for polymetallic mineralization.

Several geological environments within the area have potential for gold mineralization.

(1) Intrusive contacts of Hiltaba Suite granitoids with the Tarcoola Formation are a prime target for mineralization of the Tarcoola gold mine type. Gold has been worked in similar situations at Tolmer Hill, Dark Hill and Kychering to the north of the ELA. Both Mt Finke and Pinding Rocks show evidence of this style of mineralization.

(2) Secondary targets for gold mineralization are sheared Archean Glenloth Granites and banded iron formations.

In addition to gold mineralization, the occurrence of altered and leached volcanics in association with basal arkosic and conglomeratic units of the Tarcoola Formation provides a favourable environment for base metal mineralization. This would be enhanced along major fracture systems which could provide conduits for mobilizing fluids.

PROPOSED EXPLORATION

Initial exploration as proposed by the Company is for ground examination and sampling of all known outcrop areas, and reprocessing and reinterpretation of available aeromagnetic data with a view to defining shear and fracture zones. Follow-up work will comprise close-spaced airborne magnetic surveys over selected areas and possibly other geophysical methods, together with RAB and reverse circulation drilling.

The total budget for stage 1 exploration is $47,000 with an allocation of $150,000 for follow up drilling and geophysics in stage 2.

APPENDIX II

REPORT ON PRELIMINARY PHOTOGEOLOGICAL STUDY, BY G. LAU

AUSTRALIAN PHOTOGEOLOGICAL CONSULTANTS

Principal **J. G. (Tim) Wilson**

Specialising in photogeology and remote sensing for exploration
48 Jacka Crescent, Campbell, A.C.T. 2601, Australia
Postal Address: P.O. Box 43, Campbell, A.C.T. 2601, Australia
Telegraphic: "Imaginterp" Canberra. Telephone: (062) 47 6647

Your ref:

Our ref: JGW/aw/APC795

25th May, 1987.

Mr. D. Tonkin,
Tarcoola Gold Ltd.,
G.P.O. Box 1309,
ADELAIDE,
S.A. 5001.

Dear David,

Geoff Lau's map and report are a pretty fair reflection of a competent photogeological reconnaissance and I hope you concur. One barely "gets ones eye in" in two days, and without any supporting information the task is always made more difficult. Hopefully you will get a few ideas to follow that may have taken longer to generate otherwise.

There are 2 mistakes in the typing (my assessment, I haven't been able to speak with Geoff) (i) in para. 3, substitute sinistral for dextral (ii) in para. 6 substitute sulphate for sulphide.

Good luck in your exploration.

Yours sincerely,

Tim Wilson

J.G. WILSON.

51 Investigator Street,
Red Hill, ACT 2603.
9 May, 1987.

Mr K. Moriarty,
Tarcoola Gold Limited,
GPO Box 1309,
Adelaide, SA 5001.

Dear Mr Moriarty,

This letter describes my brief photointerpretation of Malbooma in the northern part of the Tarcoola 1:250 000 sheet area, and Mount Finke in the southern part. The 1:87 000 scale airphotos and the Tarcoola 1:250 000 geological sheet which you supplied are enclosed, together with the annotated photo overlays, and one film print and one hand-coloured paper print of the photoscale geological sketch of each area. The letter and maps should be regarded as provisional. They will be checked and confirmed by Tim when he returns to Canberra next week.

2. MOUNT FINKE AREA

Gabbroic Mulgathing Complex AEmβ forms distinctive, rounded dark brown outcrops, with dark greenish tones due presumably to vegetation cover (lichen or low shrubs?). These outcrops occur mostly on topographic highs beneath the dunefield, and other highs may indicate shallow AEmβ subcrop. The banded iron formation AEmci mapped in the playas has an identical appearance. The Christie Gneiss AEmc cannot be reliably distinguished on the airphotos from greyish (sulphide-rich?) Q1 deposits, and has not been mapped. The western playa has a markedly linear boundary on its eastern side, defining a north-northeast-trending photolineament. Most of the Mulgathing Complex outcrops occur on the eastern side of this lineament. It may reflect structure in the shallowly-subcropping Complex, or it might mark a fault on which eastern upthrow has exposed the Complex.

The EγK gneissic granite outcrops have variably-patterned, brown to slightly greenish-brown tone, and seem to form clayey areas in swales.

Daly (1985) mapped Tarcoola Formation Etf at Mount Finke and around the playa margins. On the airphotos the playa outcrops show only as small ?samphire-vegetated islands and cannot be reliably identified as outcrop. Mount Finke appears very similar to Proterozoic and early Palaeozoic sandstone and siltstone outcrops in the Amadeus Basin, where only the axial portions of tightly-folded synclines are preserved.

Other low, rounded, light grey-toned outcrops scattered throughout the dunefield swales correspond to Ts and Tsi_2 mapped by Daly (1985). Some of these outcrops appear to be bedded and jointed, and their identity might be worth field-checking.

Many short (1-2 km) north-trending photolineaments are shown by alignments of vegetation or of vegetation-free lines. Some of these have been annotated, particularly on photo 181, but I am doubtful about their significance. Old firescars on the north-central portion of photo 181 have sharp margins, and these lineaments may be firescars relics. Also of uncertain origin are the ?foliation trends visible well away from mapped outcrop. Similar trends are known to reflect bedding or cleavage in other desert areas, but in this area their general parallelism with the dune

system might simply indicate vegetation zoning, or some other relationship with the dune-swale morphology.

I feel that photointerpreataion has little to offer in this area and at this stage of your exploration programme. When you are able to focus on some units of particular interest, perhaps with some geophysical interpretation and some more information from ground mapping, photointerpretation may be able to collaborate and possibly extend your subsurface interpretation in areas of shallow subcrop.

Yours faithfuly,

Geoff Lau

(G.C.Lau)
for Australian Photogeological Consultants.

Reference:

Daly, S.J., 1985: Tarcoola 1:250 000 geological atlas series sheet SH53-10. Geological Survey of South Australia.

APPENDIX III

SCREEN FIRE ASSAYS BY COMLABS - JOB NO. 861900

601.1d

0028

COMLABS SERVICES PTY. LTD.

305 South Road, Mile End South, South Australia 5031 Telephone (08) 43 5722 Telex LABCOM AA89323 Facsimile No. (08) 234 0321

NATA REGISTERED No. 1526

COM 861900

OUR REF.:

YOUR REF.:

Mr. K. Moriarty,
Insight Mining Pty Ltd,
G.P.O. Box 1309,
ADELAIDE. S.A. 5001,

4.12.86

Dear Kevin,

RE: JOB COM 861900

Enclosed are the assays for the samples delivered to our laboratory on the 21st October, 1986.

Yours sincerely,
COMLABS SERVICES PTY LTD

per :

Report Length : 1 Pages

COMLABS SERVICES PTY. LTD.

ANALYTICAL REPORT

JOB COM861900

Results in ppm

SAMPLE	Au1	Au2	Wt1	Au3	Wt2
F4P	1.52	1.55	165	1.50	153
F8	0.05	0.05	224	0.04	180
F11Q2	0.08	0.10	750	0.03	194
F11Q3	0.05	0.06	270	0.03	186

Method of Analysis :

Au1	:	Screen Fire Assay
Au2	:	FAS1 on -200# Fraction
Wt1	:	Weight of -200# Fraction
Au3	:	FAS1 on +200# Fraction
Wt2	:	Weight of +200# Fraction

COMLABS SERVICES PTY. LTD.

ANALYTICAL REPORT

0030

JOB COM861900

Results in ppm

SAMPLE	Cu	Pb	Zn	Ag	As	Sb	W
F4P	85	10	10	<1	380	12	<10

Method of Analysis : Cu Pb Zn : AAS1
Ag : AAS3
As Sb W : XRF1

APPENDIX IV

TRACE ELEMENT ANALYSES BY COMLABS - JOB NO. 862319

60116
0032

COMLABS SERVICES PTY. LTD.

305 South Road, Mile End South, South Australia 5031 Telephone (08) 43 5722 Telex LABCOM AA89323 Facsimile No. (08) 234 0321

NATA REGISTERED No. 1526

OUR REF.: COM862319

YOUR REF.: Additional Assay

Kevin C. Moriarty
Insight Mining Pty Ltd
GPO Box 1309
Adelaide

SA 5001

January 7, 1987

Dear Kevin

RE: JOB COM862319

Enclosed are the additional assays reqeusted on our Job Com 862319.

Yours Sincerely,
COMLABS SERVICES PTY LTD

per :

Report Length 4 pages

COMLABS SERVICES PTY. LTD.

ANALYTICAL REPORT

JOB COM862319

O/N : Additional Assay

SAMPLE	Cu	Pb	Zn	Bi	Ag	Mo
F1	8	10	4	6	1	12
F2	6	10	3	6	<1	6
F2Q	8	12	4	6	<1	10
F3	6	12	6	8	<1	6
F4S1	7	16	6	6	<1	8
F4S2	7	12	3	6	<1	6
F4RE	8	14	5	4	<1	20
F4P	85	18	14	6	1	14
F5G	7	10	<2	4	<1	10
F5Q	10	10	2	8	<1	10
F6Q	6	10	2	6	1	10
F6FE	14	14	20	4	1	8
F7	7	18	8	4	1	6
F8	30	28	120	4	1	4
UNITS	ppm	ppm	ppm	ppm	ppm	ppm
SCHEME	AAS1	AAS1	AAS1	AAS1	AAS3	AAS3

COMLABS SERVICES PTY. LTD.

ANALYTICAL REPORT

JOB COM862319

O/N : Additional Assay

SAMPLE	Cu	Pb	Zn	Bi	Ag	Mo
F9	70	155	110	4	<1	6
F9R	24	20	26	6	<1	4
F9R2	80	42	22	6	1	6
F10Q	12	16	8	<4	1	8
F10Q2	9	12	7	4	<1	4
F10Q3	12	10	6	4	<1	16
F10Q4	22	6	7	6	1	4
F11Q1	8	8	7	6	<1	4
F11Q2	16	28	6	8	<1	<4
F11Q3	14	8	12	8	<1	8
UNITS	ppm	ppm	ppm	ppm	ppm	ppm
SCHEME	AAS1	AAS1	AAS1	AAS1	AAS3	AAS3

COMLABS SERVICES PTY. LTD.

ANALYTICAL REPORT JOB COM862319

O/N : Additional Assay

SAMPLE	As	Ba	Sb	Sn	Te	Tl
F1	4	370	10	6	<10	<10
F2	6	640	<4	<4	<10	<10
F2Q	5	730	10	4	<10	<10
F3	4	65	<4	4	<10	<10
F4S1	14	120	4	8	<10	<10
F4S2	28	220	<4	6	<10	<10
F4RE	18	210	<4	<4	<10	<10
F4P	400	35	<4	<4	<10	<10
F5G	6	35	8	6	<10	<10
F5Q	6	270	4	<4	<10	<10
F6Q	7	120	4	<4	<10	<10
F6FE	16	530	<4	<4	<10	<10
F7	65	2950	<4	<4	<10	10
F8	170	75	22	<4	<10	10
UNITS	ppm	ppm	ppm	ppm	ppm	ppm
SCHEME	XRF1	XRF1	XRF1	XRF1	XRF1	XRF1

COMLABS SERVICES PTY. LTD.

ANALYTICAL REPORT

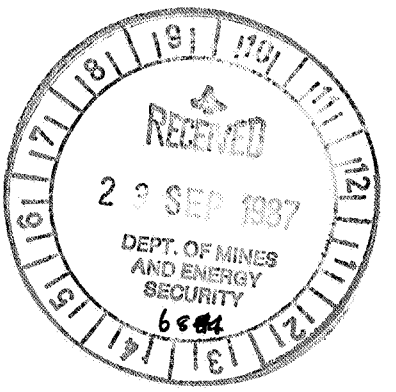
JOB COM862319

O/N : Additional Assay

SAMPLE	As	Ba	Sb	Sn	Te	Tl
F9	200	165	125	<4	<10	<10
F9R	40	210	16	<4	<10	10
F9R2	370	530	44	<4	<10	<10
F10Q	18	25	<4	<4	<10	<10
F10Q2	20	30	4	<4	<10	<10
F10Q3	36	50	10	<4	<10	<10
F10Q4	70	10	6	<4	<10	<10
F11Q1	28	25	4	4	<10	<10
F11Q2	450	30	10	<4	<10	<10
F11Q3	26	30	<4	<4	<10	<10
UNITS	ppm	ppm	ppm	ppm	ppm	ppm
SCHEME	XRF1	XRF1	XRF1	XRF1	XRF1	XRF1

TARCOOLA GOLD LIMITED

FINAL REPORT ON EXPLORATION LICENCE NO. 1383 MOUNT FINKE, SOUTH AUSTRALIA FOR PERIOD ENDING 1 SEPTEMBER 1987



Adelaide
September 1987

Paula A. Ivey
Geologist

and

D.G. Tonkin
Consulting Geologist

COPY NO. .

DISTRIBUTION

	COPY
TARCOOLA GOLD	ORIGINAL
S.A. DEPARTMENT OF MINES & ENERGY	1

KEYWORDS

MOUNT FINKE

E.L. 1383

TARCOOLA SH 53 -10

MALBOOMA 5736

TARCOOLA 5836

GOLD ASSAYS

GEOCHEMICAL ANALYSIS

PHOTOGEOLOGY

AEROMAGNETIC IMAGE PROCESSING

GEOPHYSICAL INTERPRETATION

SAMPLING PROGRAM

INDICATOR ELEMENT ASSAYS

EL 1383

MT FINKE

Statement of Expenditure June 2 to 1st September 1987

Geological & Geophysical costs	$1,787.60
Drilling Costs	$4,295.00
Logistics	$5,377.82
Depreciation	----
Administration (5%)	$ 573.02
	$12,033.44

Expenditure over 6 month term of E.L. 1383
March 2nd to September 1st 1987

1st quarter	$23,688.46
	$12,033.44
	$35,721.90

CONTENTS PAGE NO.

1.	SUMMARY	1
2.	INTRODUCTION	2
3.	GEOLOGICAL ASSESSMENT	3
4.	GEOCHEMICAL RECONNAISSANCE	4
5.	GEOPHYSICAL INTERPRETATION OF AEROMAGNETIC DATA	5
6.	PHOTOGEOLOGY	6
7.	FORWARD PROGRAM	7

APPENDICES

1	INDEPENDENT GEOLOGISTS' REPORT, BY M.R. BUNNY, EARTH RESOURCES AUSTRALIA PTY LTD, PAGES 18 TO 21.
11	REPORT ON PRELIMINARY PHOTOGEOLOGICAL STUDY, BY G.LAU.
111	SCREEN FIRE ASSAYS BY COMLABS - JOB NO. 861900
IV	TRACE ELEMENT ANALYSES BY COMLABS - JOB NO. 862319
V	GOLD AND INDICATOR ELEMENT ASSAYS BY COMLABS - JOB NO. 872052
V1	GOLD AND INDICATOR ELEMENT ASSAYS BY COMLABS - JOB NO. 872053

LIST OF ILLUSTRATIONS

FIGURES	OPPOSITE PAGE NO.
1. LOCALITY MAP, E.L. 1383, MOUNT FINKE AREA	2
2. TRACK LOCATION MAP, E.L. 1383, MOUNT FINKE AREA	2
3. SAMPLING PROGRAM LOCATION MAP (MFK SERIES)	4
4. SAMPLING PROGRAM LOCATION MAP (DB, LMF, LAKE SERIES)	4

TABLES

1. GOLD ASSAYS MOUNT FINKE E.L. 1383	4
2. GOLD AND INDICATOR ELEMENT ASSAYS, MT. FINKE E.L. 1383 SAMPLING PROGRAM(DB, LMF, LAKE SERIES)	4
3. GOLD ASSAYS MT. FINKE E.L. 1383, SAMPLING PROGRAM (MFK SERIES)	4

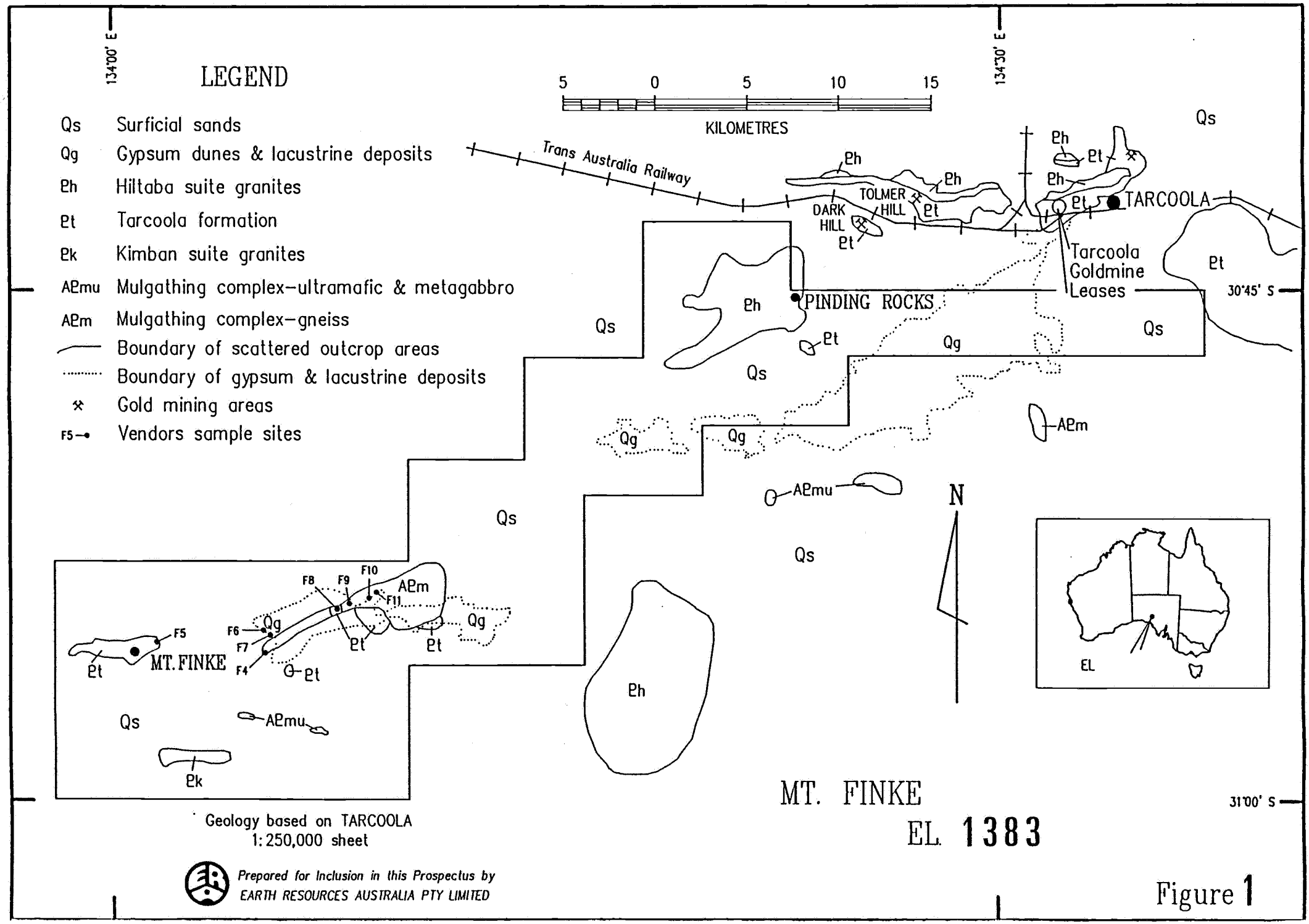
PLANS (IN POCKET)

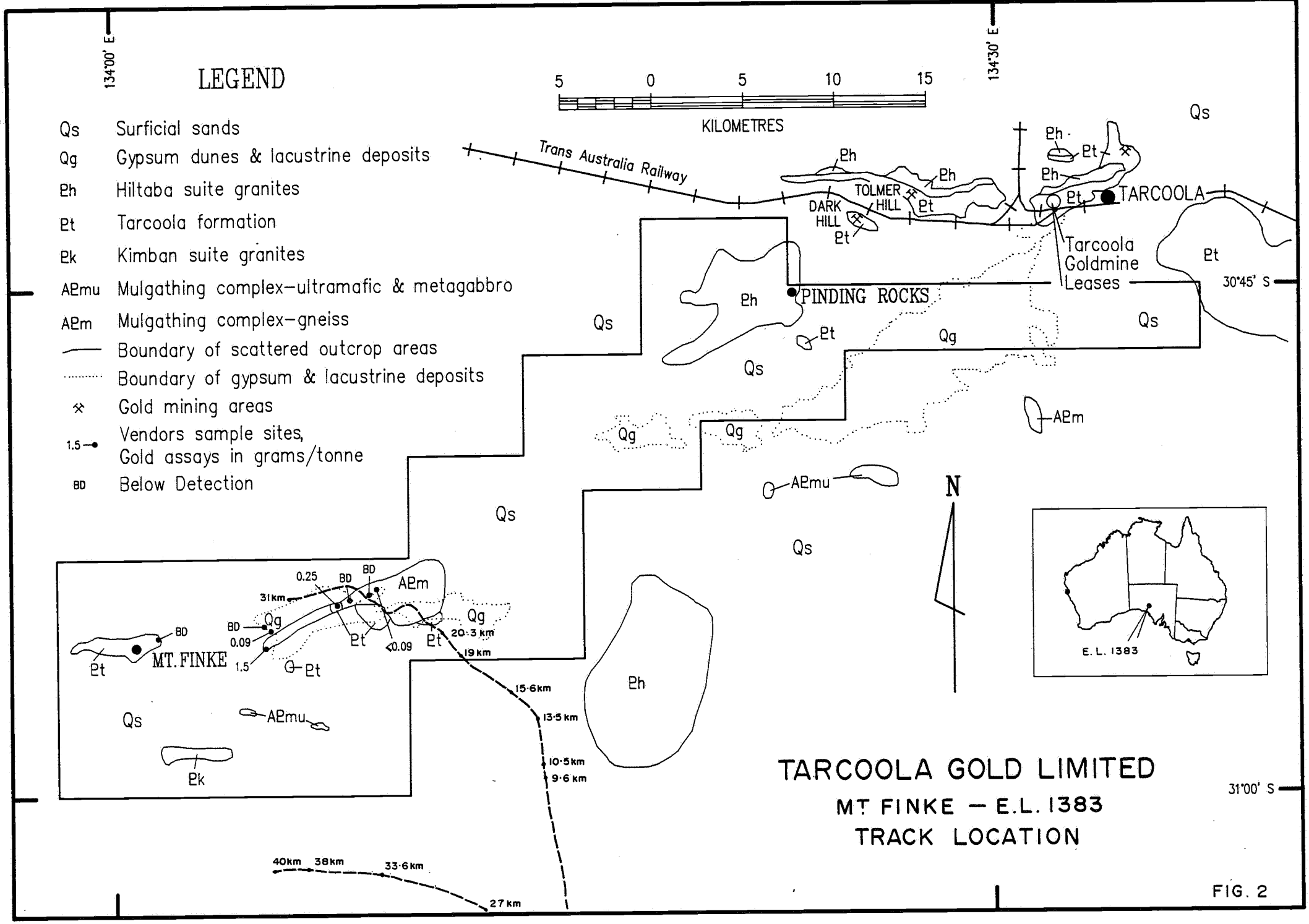
PLATE 1	PRELIMINARY PHOTOGEOLOGICAL MAP OF THE MT FINKE AREA 1 : 50,000 SCALE
PLATE 2	GEOPHYSICAL INTERPRETATION OF REGIONAL AEROMAGNETIC MAP OF THE MT FINKE AREA 1 : 100,000 SCALE

1. SUMMARY

Earth Resources Australia Pty Ltd, consulting geologists, reviewed previous mineral exploration and mining in the Mount Finke area and proposed an exploration program for gold.

Eighty-five reconnaissance rock samples collected from twenty-seven locations were assayed for gold and trace elements. Fourteen of these samples returned gold assays above the limit of detection of 0.01 g/t Au. There were also anomalously high values for some trace element analyses, including arsenic and antimony.


LEGEND
Qs Surficial sands
Qg Gypsum dunes & lacustrine deposits
Eh Hiltaba suite granites
Et Tarcoola formation
Ek Kimban suite granites
AEmu Mulgathing complex–ultramafic & metagabbro
AEm Mulgathing complex–gneiss
Boundary of scattered outcrop areas
Boundary of gypsum & lacustrine deposits
Gold mining areas
F5 Vendors sample sites
134°00' E
134°30' E
5 0 5 10 15
KILOMETRES
Trans Australia Railway
TOLMER HILL
DARK HILL
TARCOOLA
Tarcoola Goldmine Leases
PINDING ROCKS
30°45' S
31°00' S
MT. FINKE
EL
N
F4
F5
F6
F7
F8
F9
F10
F11
Geology based on TARCOOLA 1:250,000 sheet
Prepared for Inclusion in this Prospectus by EARTH RESOURCES AUSTRALIA PTY LIMITED
MT. FINKE
EL. 1383
Figure 1


LEGEND
Qs Surficial sands
Qg Gypsum dunes & lacustrine deposits
Eh Hiltaba suite granites
Et Tarcoola formation
Ek Kimban suite granites
AEmu Mulgathing complex–ultramafic & metagabbro
AEm Mulgathing complex–gneiss
Boundary of scattered outcrop areas
Boundary of gypsum & lacustrine deposits
Gold mining areas
1.5 Vendors sample sites, Gold assays in grams/tonne
BD Below Detection
134°00' E
134°30' E
5 0 5 10 15
KILOMETRES
Trans Australia Railway
TOLMER HILL
DARK HILL
TARCOOLA
Tarcoola Goldmine Leases
PINDING ROCKS
30°45' S
31°00' S
MT. FINKE
0.25
31km
20·3 km
19 km
15·6km
13·5 km
10·5km
9·6 km
40km
38km
33·6km
27 km
N
E.L. 1383
TARCOOLA GOLD LIMITED
MT FINKE — E.L. 1383
TRACK LOCATION
FIG. 2

2. INTRODUCTION

This is the final report to the South Australian Department of Mines and Energy for Exploration Licence No. 1383, Mount Finke area, being for the period 2 March 1987 to 1 September 1987.

The Mount Finke licence covers an area of abour 589 square kilometres extending south-west from Tarcoola (Figure 1). The Licence was granted to Insight Mining Pty Ltd, now known as Tarcoola Gold Limited, on 2 March 1987, to search for gold and other metals.

Archaean basement rocks of the Mulgathing Complex consist of gneissic metasediments, including banded iron formation, intruded by Glenloth Granite and amphibolite. These are overlain by acidic phases of the Proterozoic Gawler Range Volcanics, with interfingering sediments of the Tarcoola Formation. All the above rocks are intruded by Proterozoic granites of the Hiltaba Suite.

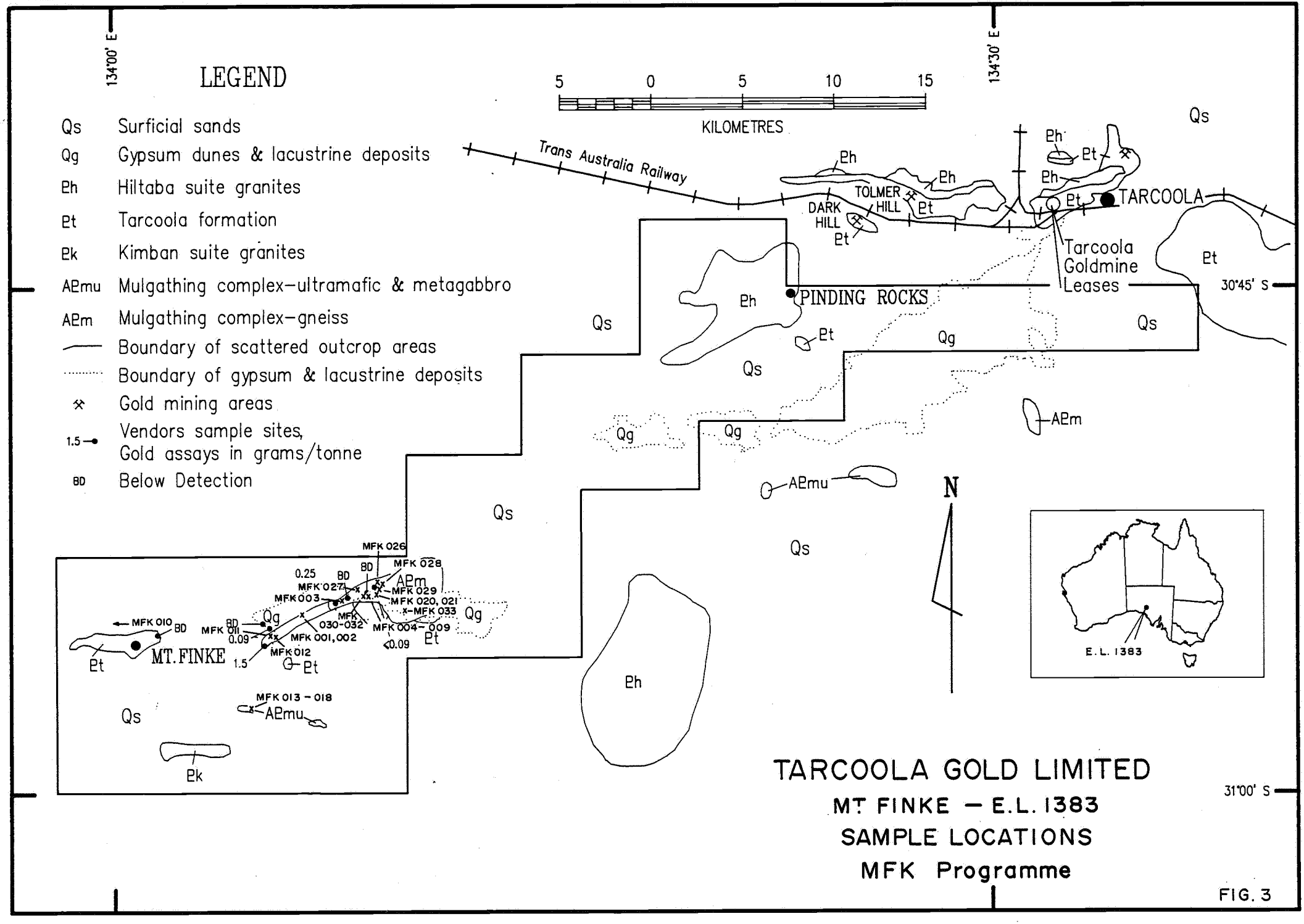
3. GEOLOGICAL ASSESSMENT

Earth Resources Australia Pty Ltd made a geological assessment of the area. Their report, which is included as an Appendix to this report, originally formed part of the Independent Geologists' Report in the Tarcoola Gold Limited prospectus

The Independent Geologists' Report contains a history of the mining and previous exploration, a description of the known geology and the target mineralization, and a proposed exploration program. The principal exploration targets for gold are seen as :

1) Intrusive contacts of Hiltaba Granite with the Tarcoola Formation, being prospective for mineralisation of the Tarcoola gold mines type.

2) Sheared zones in Archean rocks, particularly in the Glenloth Granite and banded iron formations.



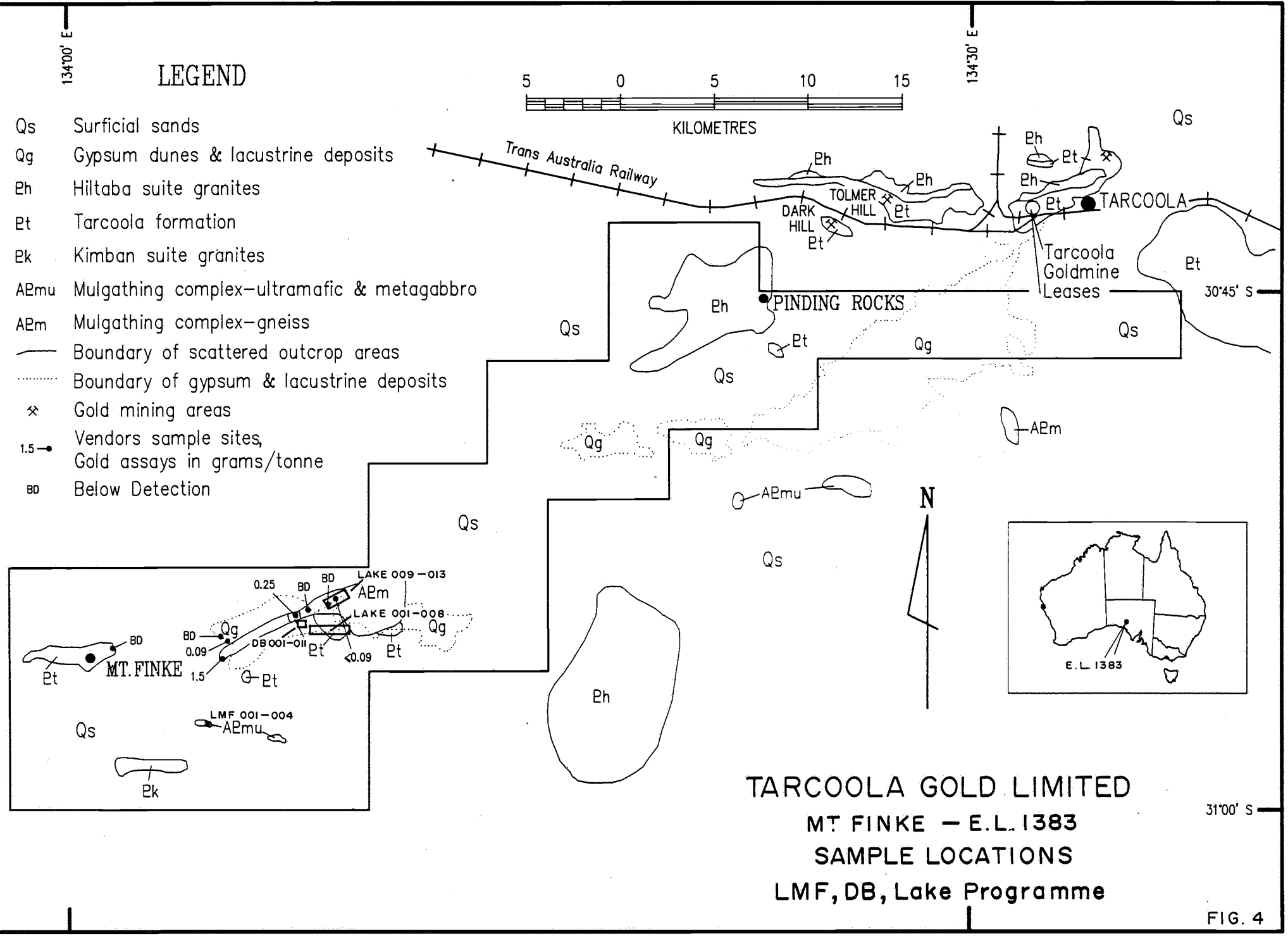
TARCOOLA GOLD LIMITED

MT FINKE — E.L. 1383

SAMPLE LOCATIONS

MFK Programme

FIG. 3


LEGEND
Qs Surficial sands
Qg Gypsum dunes & lacustrine deposits
Eh Hiltaba suite granites
Et Tarcoola formation
Ek Kimban suite granites
AEmu Mulgathing complex–ultramafic & metagabbro
AEm Mulgathing complex–gneiss
Boundary of scattered outcrop areas
Boundary of gypsum & lacustrine deposits
Gold mining areas
1.5 Vendors sample sites, Gold assays in grams/tonne
BD Below Detection
134°00' E
134°30' E
5 0 5 10 15
KILOMETRES
Trans Australia Railway
TOLMER HILL
DARK HILL
TARCOOLA
Tarcoola Goldmine Leases
PINDING ROCKS
30°45' S
31°00' S
MT. FINKE
LAKE 009–013
LAKE 001–008
DB 001–011
LMF 001–004
0.25
0.09
1.5
<0.09
N
E.L. 1383
TARCOOLA GOLD LIMITED
MT FINKE – E.L. 1383
SAMPLE LOCATIONS
LMF, DB, Lake Programme
FIG. 4

SAMPLE NO.	Au ppm	ROCK TYPE	LOCATION
F1	<0.01	Qtz/shale float;Tarcoola Beds	Mt Finke
F2	<0.01	Glenloth Granite;sheared?	E of Mt Finke
F2Q	<0.01	Qtz-veined granite	Mt Finke
F3	<0.01	Granite or sst-alt'd,weath'd	
F4S1	0.03	Kaol.?,alt'd shale;Tarcoola B.	
F4S2	<0.01	Fe-rich mic.shale,arenite-alt?	
F4RFE	<0.01	Fe-rich grit over shale c'tact	
F4P	1.47	Purple,haem.shale+arenite;TB	
F5G	<0.01	Sandstone/grit	
F5Q	<0.01	Qtz-veined grit;Tarcoola Beds	Base of Mt Finke
F6Q	<0.01	Qtz float;Tarcoola Beds?	
F6FE	<0.01	Gossan cap?	Base of Mt Finke
F7	0.09	Fe-rich cap or BIF	Shore of lake
F8	0.25	Fe-rich weathered s'st? TB?	
F9	<0.01	BIF or gossan; Archean	S shore of western lake
F9R	<0.01	Schist, Fe-rich; Archean	
F9R2	<0.01	Fe-rich schist; Archean	
F10Q	<0.01	Qtz,breccia,in gneiss; Archean	
F10Q2	<0.01	Qtz,breccia,in gneiss; Archean	
F10Q3	<0.01	Qtz reef; Archean	
F10Q4	<0.01	Qtz reef; Archean	
F11Q1	0.04	Qtz.breccia&reef in BIF/gneiss	
F11Q2	<0.01	Qtz.breccia&reef in BIF/gneiss	
F11Q3	0.06	Qtz.breccia&reef in BIF/gneiss	

Laboratory: COMLABS. Scheme: FAS1. Job No.: 861742

TABLE 1: GOLD ASSAYS, MT FINKE EL 1383

SAMPLE NO.	Au ppm	Sb	As	Mo	W	Rock Type	Location
LMF 1	.35	4	10	12	<10	Qtz-feldspar porphyry	Base of Little Mt Finke
LMF 2	<0.01	8	10	<2	<10	White VQ (vein quartz)	"
LMF 3	<0.01	8	<2	7	<10	White VQ	"
LMF 4	<0.01	6	4	6	<10	White VQ	
Lake 1	<0.01	10	8	12	<10	Blue-grey ferruginous V.Q.	South Shore of Western Lake
Lake 2	<0.01	12	36	9	<10	BIF with intruded quartz veinlets	"
Lake 3	<0.01	6	10	6	<10	BIF (8mC5)	"
Lake 4	0.02	4	4	12	15	VQ	"
Lake 5	<0.01	10	14	30	<10	White VQ	"
Lake 6	<0.01	6	24	8	<10	BIF and quartzite	"
Lake 7	0.02	22	40	8	<10	BIF and quartzite	"
Lake 8	<0.01	22	95	<2	<10	Lateritised BIF and sedimentaries	"
Lake 9	<0.01	510	230	14	<10	Lateritised BIF and Sedimentaries	N.E. Shore of Western Lake
Lake 10	0.03	22	16	12	<10	Ferruginous VQ with pyrite boxwork	"
Lake11	<0.01	12	16	18	<10	"	"
Lake 12	<0.01	4	20	20	10	"	"
Lake 13	<0.01	6	6	22	10	White VQ	"
DB1	<0.01	8	7	12	55	Granite outcrop within streambed	S.W.corner of Western Lake
DB2	LNR	LNR	LNR	LNR	LNR	"	"
DB3	<0.01	6	9	5	15	"	"
DB4	<0.01	6	48	10	<10	"	"
DB5	<0.01	4	38	7	15	"	"
DB6	<0.01	<4	3	2	<10	"	
DB7	<0.01	<4	55	9	25	Shales	
DB8	<0.01	4	10	14	<10	"	
DB9	<0.01	8	12	5	<10	"	"
DB10	<0.01	8	18	7	<10	"	"
DB11	<0.01	10	3	<2	<10	"	"

Lab - Comlabs Scheme: FAS 1 Job No. 872052
Table 2 _ Gold Assays Mt. Finke E.L. 1383

Sample No.	Au(ppm)	Rock Type	Location
MFK 001	<0.01	BIF	N.E. Corner of Western Lake
MFK 002	<0.01	Qtz-Fe vein	N.E,. Corner of Western Lake
MFK 003	<0.01	BIF	Western Side of Eastern Lake
MFK 004	0.10	Qtz-Fe vein	North Central Shore of Eastern Lake
MFK 005	0.03	"	"
MFK 006	<0.01	"	"
MFK 007	<0.01	"	"
MFK 008	<0.01	"	"
MFK 009	.28	"	"
MFK 010	<0.01	Meta-quartzite	West of Mt. Finke
MFK 011	<0.01	Qtz. rich granite	S.E. Corner of Western Lake
MFK 012	<0.01	Qtz-feld-tourmaline vein	"
MFK 013	<0.01	altered deformed granite	Base of Little Mt.Finke
MFK 014	<0.01	Greenstone	"
MFK 015	<0.01	Qtz-feld vein	"
MFK 016	0.51	Qtz-feld vein	"
MFK 017	<0.01	Greenstone	"
MFK 018	<0.01	Greenstone	"
MFK 020	<0.01	Tarcoola beds. Metaquarzite	North Central Shore of Eastern Lake
MFK 021	<0.01	Cherty-Fe enriched beds	"
MFK 022	<0.01	Cherty-Fe rich unit	"
MFK 023	<0.01	Host grey/black shales	"
MFK 024	0.01	Cherty horizon/pyritic	"
MFK 025	0.01	Cherty-fe horizon	"
MFK 026	<0.01	Cherty-banded-fe rock	N.E. Shore of Eastern Lake
MFK 027	<0.01	Fe formation	N.W. Shore of Eastern Lake
MFK 028	<0.01	Fe-ochrous black shale	N.E. Shore of Eastern Lake
MFK 029	<0.01	Grey to black shale	N.E. Shore of Eastern Lake
MFK 030	<0.01	Black carbonaceous shale	N.W. Central Shore of Eastern Lake
MFK 031	<0.01	Grey shale	"
MFK 032	<0.01	Weathered/altered shale	"
MFK 033	<0.01	White qtz. veins	S.W. Shore of Far-Eastern Lake

Lab : Comlabs
Table 3

Scheme : FAS1 Job No. 872053
Gold Assays EL 1383

4. GEOCHEMICAL RECONNAISSANCE

Tarcoola Gold collected eighty-five surface rock chip samples from twenty-seven locations during three separate sampling programs (Fig 1,3,4). Fourteen samples (F4S1, F4P, F7, F8, F11Q1, F11Q2, LMF1, Lake 4, Lake 7, Lake 10,MFK004, MFK005, MFK009,and FK016) returned gold assays that were above the limit of detection of 0.01 g/t (Tables 1 - 3). Two of the highest assays, 1.47 g/t and 0.25 g/t, were obtained from ferruginous sandstone and shale of the Tarcoola Formation overlying altered granite and Archean basement rocks. Significantly high values were also obtained from samples MFK016 (0.51 g/t) and LMF1 (0.35 g/t). These samples were taken from the same area at the base of Little Mt. Finke during two separate sampling programs. The rock type is a quartz-feldspar porphyry found within a sequence of basaltic tuffs and lavas.

All twenty-four samples from the first sampling program were analaysed for a suite of twelve trace elements, namely Cu, Pb, Zn, Bi, Ag, Mo, As, Ba Sb, Sn,Te, and Tl (see Appendix 1V). Anomalously high levels on Cu, Pb, Zn, As or Sb were recorded in six samples (F4P, F7, F8, F9, F9R2 and F11Q2). Gold assays for four samples were checked by Screen Fire Assay (see Appendix 111). These assays confirmed the prescence of gold in three samples and revealed the prescence of gold in one smaple (F11Q2) that previously gave an assay below the detection limit.

All samples from the second and third sampling programs were analyzed for gold and for four pathfinder trace elements, namely Sb, As, Mo and W (see Appendix V and V1). Four samples from the second program revealed high gold assays. Anomalously high levels of Sb, As, MO and W were found in a number of the samples - most notably 'Lake 9'. Lake 9, a lateritised B1F taken from the south shore of the western lake, showed values of Sb : 510, As : 230, MO : 14, and W : <10 (ppm). Although there was no significant associated Au, these represent high pathfinder values. The DB samples were taken from granite and shale outcrops within a dry stream bed on the south-west corner of the western lake.
From the third sampling program four samples showed high gold assay values. Most notably was MFK009 (0.28 g/t) and MFK016 (0.51 g/t), . Anomalously high levels of trace elements were found in samples MFK025 (Sb : 110, As : 125,MO : 14 and W : <10) and MFK027 (Sb : 780, As : 290, Mo : 16, W : 40)

5. AEROMAGNETIC INTERPRETATION

Digitised and reprocessed aeromagnetic data for the region, recently made available by the Bureau of Mineral Resources and SADME, was manipulated by Image Processing Services Pty Ltd., in Brisbane. The most effective enhancements of the data included local stretch and vertical shade. Far more detail is immediately apparent on the reprocessed data, compared with the original published surveys, Therefore a geophysical consultant was engaged to make an interpretation of the reprocessed aeromagnetic data.

The geophysical interpretation of the aeromagnetic data was carried out by Mr Peter Woyzbun, Consulting Geophysicist. Enclosed as Plate 2 is the relevant section of the regional aeromagnetic map with the resultant geophysical interpretation overlay. Responses indicating BIF's (sharp, high in amplitude and elongated magnetic responses) were encountered in the E.L. 1383 area. Greenstone belts were also found to exist in the Mt. Finke region. Within the E.L. 1383 area thorough interpretation of the data was <u>not</u> possible due to the fact that the regional survey covering this area was not sufficient.

6. PHOTOGEOLOGY

G. Lau, of Australian Photogeological Consutants, made a preliminary study of the region around Mt Finke, using Lands Department RC9 photography.

The photo geologist concluded that photo interpretation had little to offer in this area at this stage of exploration. However, the study revealed an interesting NNE trending lineament bisecting two areas of anomalous geochemistry; it also suggests some areas of outcrop are more extensive than mapped.

A 1 : 50,000 scale version of the photo geology map is included in this report (Plate 1). The photo geology report is contained in Appendix 11.

7. FORWARD PROGRAM

The target mineralization is expected to be largely structurally controlled and probably concealed beneath superficial cover. Geophysical interpretation of the aeromagnetic data has been completed and has identified areas of possible mineralised centres.

Field programs included reconnaissance geological mapping and geochemical sampling, followed by detailed sampling over defined target areas.

A track was constructed in the Mt Finke and Tolmer areas in order to facilitate movement of personnel and machinery within this area during future drilling programs.

APPENDIX 1

INDEPENDENT GEOLOGISTS' REPORT, BY M.R. BUNNY,
EARTH RESOURCES AUSTRALIA PTY. LTD., PAGES 18 TO 21

4. ELA 234/86 MT FINKE-PINDING ROCKS South Australia

INTRODUCTION

Tarcoola Gold N.L. is the sole applicant for Exploration Licence Application (ELA) 234/86 which covers an area of 589 square kilometres extending south-west from Tarcoola. Much of the area is sandridge country with limited areas of scattered basement outcrop. The only areas of substantial outcrop occur at Mt. Finke and Pinding Rocks. Figure ... shows the boundaries of the application area, their location with respect to the Tarcoola Leases and summarised outcrop geology.

HISTORY AND PREVIOUS EXPLORATION

The area appears to have received little attention from early prospectors undoubtedly because of the wide expanse of arid sandhill country. Surveyor of Mines Brown, in 1900, reported prospecting pits on quartz veins in shales at Mt. Finke and referred to a similarity with the Tarcoola Gold Mine.

Archean Explorations Pty. Limited carried out reconnaissance sampling over the area in 1971 and defined an area containing anomalous base metals, silver and bismuth from an area immediately south of Pinding Rocks. Apart from the granitic boulders of Pinding Rocks, outcrop is restricted to small areas of granite, granite porphyry, basic intrusives and greisenized granite. Areas of quartzite float represent probable Tarcoola Formation. Mineralization occurs in areas of gossanous quartz-veined greisenized granite with silver values up to 21 ounces per tonne (653 g/t) obtained. Follow up soil geochemistry and geophysics indicated an anomalous

zone 2.5 kilometres in length. No gold was detected, however assays were semi-quantitative with a detection limit of 3 g/t and are not considered reliable.

These anomalies were confirmed by Langsford (1972) and Aberfoyle Exploration Pty Ltd in 1981. Aberfoyle also analysed for gold and obtained values up to 0.3 ppm, but follow up RAB drilling failed to substantiate this.

Aberfoyle's original interest in the area was for sedimentary hosted uranium. A drilling programme was undertaken over several palaeo-drainage channels in the Hiern's Well area. Samples were analysed for uranium, gold and tin. Whilst low order uranium anomalies were defined it is significant that an average gold value of 0.067 g/t was obtained from sixty three samples (maximum value 0.548 g/t). This implies a gold source within the area and enhances the prospectivity of ELA 235/86.

Basement rock intersections from the uranium programme and drilling of geophysical anomalies and stratigraphic holes indicate the area to be underlain by Mulgathing Complex gneisses, leached and altered volcanics of the Gawler Range Volcanics, Tarcoola Formation sediments and Hiltaba Suite granites and diorites. Aberfoyle reported anomalous values for base metals, silver, fluorine and rare earth elements from the basement rocks. They concluded that the area has potential for copper, rare earth elements and base metals and further exploration concentrating on fracture zones, was recommended but apparently did not proceed..

Sampling by the Company is restricted to twenty-four samples from eleven locations (see Figure 5). Six samples returned gold assays above the detection limit (0.01 g/t) with the

best values of 1.47 g/t and 0.25 g/t being obtained from ferruginous shale and sandstone of the Tarcoola Formation overlying altered granite and Archean basement.

GEOLOGY AND MINERAL POTENTIAL

Basement rocks in ELA 235/86 are of Archean and Proterozoic age. Gneisses of metasedimentary origin including banded iron formation, with intrusive Glenloth Granite and amphibolites form the Archean Mulgathing Complex. These are overlain by Proterozoic Gawler Range Volcanics with interfingering Tarcoola Formation sediments and are intruded by granites of the Hiltaba Suite. This basement is overlain by various thicknesses of Cainozoic cover. Available aeromagnetic data indicates a linear zone running west-southwest through the length of the application area. This may represent a faulted margin to the Tarcoola Beds depositional basin and as such may be prospective for polymetallic mineralization.

Several geological environments within the area have potential for gold mineralization.

(1) Intrusive contacts of Hiltaba Suite granitoids with the Tarcoola Formation are a prime target for mineralization of the Tarcoola gold mine type. Gold has been worked in similar situations at Tolmer Hill, Dark Hill and Kychering to the north of the ELA. Both Mt Finke and Pinding Rocks show evidence of this style of mineralization.

(2) Secondary targets for gold mineralization are sheared Archean Glenloth Granites and banded iron formations.

In addition to gold mineralization, the occurrence of altered and leached volcanics in association with basal arkosic and conglomeratic units of the Tarcoola Formation provides a favourable environment for base metal mineralization. This would be enhanced along major fracture systems which could provide conduits for mobilizing fluids.

PROPOSED EXPLORATION

Initial exploration as proposed by the Company is for ground examination and sampling of all known outcrop areas, and reprocessing and reinterpretation of available aeromagnetic data with a view to defining shear and fracture zones. Follow-up work will comprise close-spaced airborne magnetic surveys over selected areas and possibly other geophysical methods, together with RAB and reverse circulation drilling.

The total budget for stage 1 exploration is $47,000 with an allocation of $150,000 for follow up drilling and geophysics in stage 2.

APPENDIX 11

REPORT ON PRELIMINARY PHOTOGEOLOGICAL STUDY, BY G. LAU

AUSTRALIAN PHOTOGEOLOGICAL CONSULTANTS

Principal J. G. (Tim) Wilson

Specialising in photogeology and remote sensing for exploration
48 Jacka Crescent, Campbell, A.C.T. 2601, Australia
Postal Address: P.O. Box 43, Campbell, A.C.T. 2601, Australia
Telegraphic: "Imaginterp" Canberra. Telephone: (062) 47 6647

Your ref:

Our ref: JGW/aw/APC795

25th May, 1987.

Mr. D. Tonkin,
Tarcoola Gold Ltd.,
G.P.O. Box 1309,
ADELAIDE,
S.A. 5001.

Dear David,

Geoff Lau's map and report are a pretty fair reflection of a competent photogeological reconnaissance and I hope you concur. One barely "gets ones eye in" in two days, and without any supporting information the task is always made more difficult. Hopefully you will get a few ideas to follow that may have taken longer to generate otherwise.

There are 2 mistakes in the typing (my assessment, I haven't been able to speak with Geoff) (i) in para. 3, substitute sinistral for dextral (ii) in para. 6 substitute sulphate for sulphide.

Good luck in your exploration.

Yours sincerely,

Tim Wilson

J.G. WILSON.

51 Investigator Street,
Red Hill, ACT 2603.
9 May, 1987.

Mr K. Moriarty,
Tarcoola Gold Limited,
GPO Box 1309,
Adelaide, SA 5001.

Dear Mr Moriarty,

This letter describes my brief photointerpretation of Malbooma in the northern part of the Tarcoola 1:250 000 sheet area, and Mount Finke in the southern part. The 1:87 000 scale airphotos and the Tarcoola 1:250 000 geological sheet which you supplied are enclosed, together with the annotated photo overlays, and one film print and one hand-coloured paper print of the photoscale geological sketch of each area. The letter and maps should be regarded as provisional. They will be checked and confirmed by Tim when he returns to Canberra next week.

2. MOUNT FINKE AREA

Gabbroic Mulgathing Complex AEmß forms distinctive, rounded dark brown outcrops, with dark greenish tones due presumably to vegetation cover (lichen or low shrubs?). These outcrops occur mostly on topographic highs beneath the dunefield, and other highs may indicate shallow AEmß subcrop. The banded iron formation AEmci mapped in the playas has an identical appearance. The Christie Gneiss AEmc cannot be reliably distinguished on the airphotos from greyish (sulphide-rich?) Ql deposits, and has not been mapped. The western playa has a markedly linear boundary on its eastern side, defining a north-northeast-trending photolineament. Most of the Mulgathing Complex outcrops occur on the eastern side of this lineament. It may reflect structure in the shallowly-subcropping Complex, or it might mark a fault on which eastern upthrow has exposed the Complex.

sulphate

The Eγk gneissic granite outcrops have variably-patterned, brown to slightly greenish-brown tone, and seem to form clayey areas in swales.

Daly (1985) mapped Tarcoola Formation Etf at Mount Finke and around the playa margins. On the airphotos the playa outcrops show only as small ?samphire-vegetated islands and cannot be reliably identified as outcrop. Mount Finke appears very similar to Proterozoic and early Palaeozoic sandstone and siltstone outcrops in the Amadeus Basin, where only the axial portions of tightly-folded synclines are preserved.

Other low, rounded, light grey-toned outcrops scattered throughout the dunefield swales correspond to Ts and Tsi_2 mapped by Daly (1985). Some of these outcrops appear to be bedded and jointed, and their identity might be worth field-checking.

Many short (1-2 km) north-trending photolineaments are shown by alignments of vegetation or of vegetation-free lines. Some of these have been annotated, particularly on photo 181, but I am doubtful about their significance. Old firescars on the north-central portion of photo 181 have sharp margins, and these lineaments may be firescars relics. Also of uncertain origin are the ?foliation trends visible well away from mapped outcrop. Similar trends are known to reflect bedding or cleavage in other desert areas, but in this area their general parallelism with the dune

system might simply indicate vegetation zoning, or some other relationship with the dune-swale morphology.

I feel that photointerpreataion has little to offer in this area and at this stage of your exploration programme. When you are able to focus on some units of particular interest, perhaps with some geophysical interpretation and some more information from ground mapping, photointerpretation may be able to collaborate and possibly extend your subsurface interpretation in areas of shallow subcrop.

Yours faithfuly,

Geoff Lau

(G.C.Lau)
for Australian Photogeological Consultants.

Reference:

Daly, S.J., 1985: Tarcoola 1:250 000 geological atlas series sheet SH53-10. Geological Survey of South Australia.

APPENDIX 111

SCREEN FIRE ASSAYS BY COMLABS - JOB NO. 861900

601.1 a

0067

COMLABS SERVICES PTY. LTD.

305 South Road, Mile End South, South Australia 5031 Telephone (08) 43 5722 Telex LABCOM AA89323 Facsimile No. (08) 234 0321

NATA REGISTERED No. 1526

OUR REF.: COM 861900

YOUR REF.:

Mr. K. Moriarty,
Insight Mining Pty Ltd,
G.P.O. Box 1309,
ADELAIDE. S.A. 5001,

4.12.86

Dear Kevin,

RE: JOB COM 861900

Enclosed are the assays for the samples delivered to our laboratory on the 21st October, 1986.

Yours sincerely,
COMLABS SERVICES PTY LTD

per :

Report Length : 1 Pages

COMLABS SERVICES PTY. LTD.

0068

ANALYTICAL REPORT

JOB COM861900

Results in ppm

SAMPLE	Au1	Au2	Wt1	Au3	Wt2
F4P	1.52	1.55	165	1.50	153
F8	0.05	0.05	224	0.04	180
F11Q2	0.08	0.10	750	0.03	194
F11Q3	0.05	0.06	270	0.03	186

Method of Analysis :

Au1	:	Screen Fire Assay
Au2	:	FAS1 on -200# Fraction
Wt1	:	Weight of -200# Fraction
Au3	:	FAS1 on +200# Fraction
Wt2	:	Weight of +200# Fraction

.../ 2

COMLABS SERVICES PTY. LTD.

ANALYTICAL REPORT

0069

JOB COM861900

Results in ppm

SAMPLE	Cu	Pb	Zn	Ag	As	Sb	W
F4P	85	10	10	<1	380	12	<10

Method of Analysis : Cu Pb Zn : AAS1
Ag : AAS3
As Sb W : XRF1

APPENDIX 1V

TRACE ELEMENT ANALYSES BY COMLABS - JOB NO. 862319

COMLABS SERVICES PTY. LTD.

305 South Road, Mile End South, South Australia 5031 Telephone (08) 43 5722 Telex LABCOM AA89323 Facsimile No. (08) 234 0321

NATA REGISTERED No. 1526

OUR REF.: COM862319

YOUR REF.: Additional Assay

Kevin C. Moriarty
Insight Mining Pty Ltd
GPO Box 1309
Adelaide

SA 5001

January 7, 1987

Dear Kevin

RE: JOB COM862319

Enclosed are the additional assays reqeusted on our Job Com 862319.

Yours Sincerely,
COMLABS SERVICES PTY LTD

per :

Report Length 4 pages

COMLABS SERVICES PTY. LTD.

ANALYTICAL REPORT

JOB COM862319

O/N : Additional Assay

SAMPLE	Cu	Pb	Zn	Bi	Ag	Mo
F1	8	10	4	6	1	12
F2	6	10	3	6	<1	6
F2Q	8	12	4	6	<1	10
F3	6	12	6	8	<1	6
F4S1	7	16	6	6	<1	8
F4S2	7	12	3	6	<1	6
F4RE	8	14	5	4	<1	20
F4P	85	18	14	6	1	14
F5G	7	10	<2	4	<1	10
F5Q	10	10	2	8	<1	10
F6Q	6	10	2	6	1	10
F6FE	14	14	20	4	1	8
F7	7	18	8	4	1	6
F8	30	28	120	4	1	4
UNITS	ppm	ppm	ppm	ppm	ppm	ppm
SCHEME	AAS1	AAS1	AAS1	AAS1	AAS3	AAS3

COMLABS SERVICES PTY. LTD.

ANALYTICAL REPORT

JOB COM862319

O/N : Additional Assay

SAMPLE	Cu	Pb	Zn	Bi	Ag	Mo
F9	70	155	110	4	<1	6
F9R	24	20	26	6	<1	4
F9R2	80	42	22	6	1	6
F10Q	12	16	8	<4	1	8
F10Q2	9	12	7	4	<1	4
F10Q3	12	10	6	4	<1	16
F10Q4	22	6	7	6	1	4
F11Q1	8	8	7	6	<1	4
F11Q2	16	28	6	8	<1	<4
F11Q3	14	8	12	8	<1	8
UNITS	ppm	ppm	ppm	ppm	ppm	ppm
SCHEME	AAS1	AAS1	AAS1	AAS1	AAS3	AAS3

COMLABS SERVICES PTY. LTD.

ANALYTICAL REPORT

JOB COM862319
O/N : Additional Assay

SAMPLE	As	Ba	Sb	Sn	Te	Tl
F1	4	370	10	6	<10	<10
F2	6	640	<4	<4	<10	<10
F2Q	5	730	10	4	<10	<10
F3	4	65	<4	4	<10	<10
F4S1	14	120	4	8	<10	<10
F4S2	28	220	<4	6	<10	<10
F4RE	18	210	<4	<4	<10	<10
F4P	400	35	<4	<4	<10	<10
F5G	6	35	8	6	<10	<10
F5Q	6	270	4	<4	<10	<10
F6Q	7	120	4	<4	<10	<10
F6FE	16	530	<4	<4	<10	<10
F7	65	2950	<4	<4	<10	10
F8	170	75	22	<4	<10	10
UNITS	ppm	ppm	ppm	ppm	ppm	ppm
SCHEME	XRF1	XRF1	XRF1	XRF1	XRF1	XRF1

COMLABS SERVICES PTY. LTD.

ANALYTICAL REPORT

JOB COM862319

O/N : Additional Assay

SAMPLE	As	Ba	Sb	Sn	Te	Tl
F9	200	165	125	<4	<10	<10
F9R	40	210	16	<4	<10	10
F9R2	370	530	44	<4	<10	<10
F10Q	18	25	<4	<4	<10	<10
F10Q2	20	30	4	<4	<10	<10
F10Q3	36	50	10	<4	<10	<10
F10Q4	70	10	6	<4	<10	<10
F11Q1	28	25	4	4	<10	<10
F11Q2	450	30	10	<4	<10	<10
F11Q3	26	30	<4	<4	<10	<10
UNITS	ppm	ppm	ppm	ppm	ppm	ppm
SCHEME	XRF1	XRF1	XRF1	XRF1	XRF1	XRF1

APPENDIX V

GOLD AND INDICATOR ELEMENT ASSAYS BY COMLABS - JOB NO. 872052

COMLABS SERVICES PTY. LTD.

305 South Road, Mile End South, South Australia 5031 Telephone (08) 43 5722 Telex LABCOM AA89323 Facsimile No. (08) 234 0321

NATA REGISTERED No. 1526

OUR REF.: COM872052

YOUR REF.: 1008

Mr. T. Rovira,
Tarcoola Gold Ltd.
68 North Terrace

KENT TOWN
SA 5067

August 28, 1987

Dear Tony,

RE: JOB COM872052

Enclosed are the assays for the samples delivered to our laboratory on August 20, 1987

Yours Sincerely,
COMLABS SERVICES PTY LTD

per :

PR Bowey

c.c.: Tarcoola / Kent Town No. of copies : 1

Report Length 5 pages

COMLABS SERVICES PTY. LTD.

ANALYTICAL REPORT

JOB COM872052
O/N : 1008 0078

	SAMPLE	Au	Au Dp1	Au Dp2	Au Dp3
Little Mt. Finke	LMF 1	0.35	-	-	
	LMF 2	<0.01	-	-	
	LMF 3	<0.01	-	-	-
	LMF 4	<0.01	-	-	-
Mt. Finke Lakes	LAKE 1	<0.01	-	-	
	LAKE 2	<0.01	-	-	-
	LAKE 3	<0.01	-	-	
	LAKE 4	0.02	-	-	
	LAKE 5	<0.01	-	-	-
	LAKE 6	<0.01	-	-	
	LAKE 7	0.02	-	-	-
	LAKE 8	<0.01	-	-	-
	LAKE 9	<0.01	-	-	-
	LAKE 10	0.03	-	-	-
	LAKE 11	<0.01	-	-	-
	LAKE 12	<0.01	-	-	-
	LAKE 13	<0.01	-	-	-
	UNITS	ppm	ppm	ppm	ppm
	SCHEME	FAS1	FAS1	FAS1	FAS1

COMLABS SERVICES PTY. LTD.

ANALYTICAL REPORT

JOB COM872052
O/N : 1008

Mt. Finke

SAMPLE	Au	Au Dp1	Au Dp2	Au Dp3
DB 1	<0.01	-	-	-
DB 2	LNR	-	-	-
DB 3	<0.01	-	-	-
DB 4	<0.01	-	-	-
DB 5	<0.01	-	-	-
DB 6	<0.01	-	-	-
DB 7	<0.01	-	-	-
DB 8	<0.01	-	-	-
DB 9	<0.01	-	-	-
DB 10	<0.01	-	-	-
DB 11	<0.01	-	-	-
UNITS	ppm	ppm	ppm	ppm
SCHEME	FAS1	FAS1	FAS1	FAS1

ANALYTICAL REPORT

JOB COM872052
O/N : 1008

SAMPLE	Sb	As	Mo	W
LMF 1	4	10	12	<10
LMF 2	8	10	<2	<10
LMF 3	8	<2	7	<10
LMF 4	6	4	6	<10
LAKE 1	10	8	12	<10
LAKE 2	12	36	9	<10
LAKE 3	6	10	6	<10
LAKE 4	4	4	12	15
LAKE 5	10	14	30	<10
LAKE 6	6	24	8	<10
LAKE 7	22	40	8	<10
LAKE 8	22	95	<2	<10
LAKE 9	510	230	14	<10
LAKE 10	22	16	12	<10
LAKE 11	12	16	18	<10
LAKE 12	4	20	20	10
LAKE 13	6	6	22	10
UNITS	ppm	ppm	ppm	ppm
SCHEME	XRF1	XRF1	XRF1	XRF1

COMLABS SERVICES PTY. LTD.

ANALYTICAL REPORT

JOB COM872052
O/N : 1008

SAMPLE	Sb	As	Mo	W
DB 1	8	7	12	55
DB 2	LNR	LNR	LNR	LNR
DB 3	6	9	5	15
DB 4	6	48	10	<10
DB 5	4	38	7	15
DB 6	<4	3	2	<10
DB 7	<4	55	9	25
DB 8	4	10	14	<10
DB 9	8	12	5	<10
DB 10	8	18	7	<10
DB 11	10	3	<2	<10
UNITS	ppm	ppm	ppm	ppm
SCHEME	XRF1	XRF1	XRF1	XRF1

APPENDIX V1

GOLD AND INDICATOR ELEMENTS ASSAYS BY COMLABS
JOB NO. 872053

COMLABS SERVICES PTY. LTD.

305 South Road, Mile End South, South Australia 5031 Telephone (08) 43 5722 Telex LABCOM AA89323 Facsimile No. (08) 234 0321

NATA REGISTERED No. 1526

OUR REF: COM872053

YOUR REF: 1104

Mr. G. Circosta,
Tarcoola Gold Ltd.
68 North Terrace

KENT TOWN
SA 5067

August 28, 1987

Dear Genesio,

RE: JOB COM872053

Enclosed are the assays for the samples delivered to our laboratory on August 20, 1987

Yours Sincerely,
COMLABS SERVICES PTY LTD

per :

c.c.: Mr. D. Buckholf No. of copies : 1

Report Length 2 pages

New File – [illegible] . 204.3 .

COMLABS SERVICES PTY. LTD.

0084

ANALYTICAL REPORT

JOB COM872053
O/N : 1104

SAMPLE	Au
MFK 001	<0.01
MFK 002	<0.01
MFK 003	<0.01
MFK 004	0.10
MFK 005	0.03
MFK 006	<0.01
MFK 007	<0.01
MFK 008	<0.01
MFK 009	0.28
MFK 010	<0.01
MFK 011	<0.01
MFK 012	<0.01
MFK 013	<0.01
MFK 014	<0.01
MFK 015	<0.01
MFK 016	0.51
MFK 017	<0.01
MFK 018	<0.01
MFK 020	<0.01
MFK 021	<0.01
MFK 022	<0.01
MFK 023	<0.01
MFK 024	0.01
MFK 025	0.01
MFK 026	<0.01
UNITS	ppm
SCHEME	FAS1

0085

ANALYTICAL REPORT

JOB COM872053
O/N : 1104

SAMPLE	Au
MFK 027	<0.01
MFK 028	<0.01
MFK 029	<0.01
MFK 030	<0.01
MFK 031	<0.01
MFK 032	<0.01
MFK 033	<0.01
UNITS	ppm
SCHEME	FAS1

COMLABS SERVICES PTY. LTD.

0086

ANALYTICAL REPORT

JOB COM872053
O/N : 1104

SAMPLE	Au	Sb	As	Mo	W
MFK 001	<0.01	<4	7	7	35
MFK 002	<0.01	4	6	18	15
MFK 003	<0.01	4	18	8	10
MFK 004	0.10	20	65	22	10
MFK 005	0.03	50	65	16	<10
MFK 006	<0.01	30	14	20	<10
MFK 007	<0.01	22	100	16	<10
MFK 008	<0.01	4	70	14	10
MFK 009	0.28	20	100	6	<10
MFK 010	<0.01	6	2	12	<10
MFK 011	<0.01	6	<2	6	<10
MFK 012	<0.01	<4	<2	7	<10
MFK 013	<0.01	4	10	4	<10
MFK 014	<0.01	6	5	2	<10
MFK 015	<0.01	<4	7	7	10
MFK 016	0.51	8	8	10	<10
MFK 017	<0.01	16	6	<2	<10
MFK 018	<0.01	6	8	<2	<10
MFK 020	<0.01	6	7	16	<10
MFK 021	<0.01	6	12	9	<10
MFK 022	<0.01	4	14	12	20
MFK 023	<0.01	12	28	9	<10
MFK 024	0.01	6	30	6	<10
MFK 025	0.01	110	125	14	<10
MFK 026	<0.01	10	18	8	<10
UNITS	ppm	ppm	ppm	ppm	ppm
SCHEME	FAS1	XRF1	XRF1	XRF1	XRF1

0087

ANALYTICAL REPORT

JOB COM872053
O/N : 1104

SAMPLE	Au	Sb	As	Mo	W
MFK 027	<0.01	780	290	16	40
MFK 028	<0.01	16	38	4	<10
MFK 029	<0.01	18	14	4	15
MFK 030	<0.01	12	180	7	<10
MFK 031	<0.01	4	16	7	<10
MFK 032	<0.01	10	10	<2	<10
MFK 033	<0.01	6	<2	6	<10
UNITS	ppm	ppm	ppm	ppm	ppm
SCHEME	FAS1	XRF1	XRF1	XRF1	XRF1

REFERENCE

(Refer to Tarcoola 1:250 000 geological atlas series sheet SI 53-10, 1985, for details.)

Quaternary
- Qs — Aeolian sand
- Qg — Gypsum dunes
- Ql1, Ql2 — Lacustrine clay
- Qpt — Sandy colluvium

Tertiary
- Silicified sand

Middle Proterozoic
- Ptf — Tarcoola Formation
- Pgk — Gneissic granite

Archaean
- ABmp — Mulgathing Complex

Geological boundary, position accurate
Geological boundary, position approximate
Geological boundary, inferred
Photointerpreted strike and dip of bedding, 30°–90°
Trace of bedding
Fault
Joint or fracture trace
Trend of uncertain origin
Vehicle track
Drainage
Airphoto centre

SCALE 1:50000 approx.

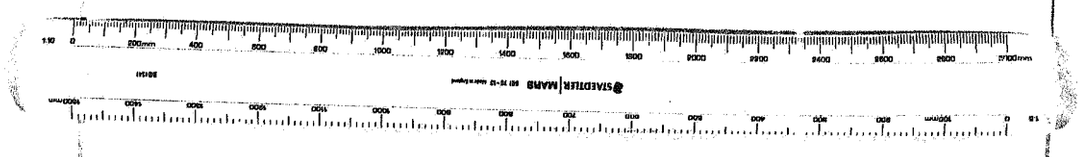
0 5 km

GEOLOGICAL SKETCH OF THE MOUNT FINKE AREA, TARCOOLA 1:250 000 SHEET, SOUTH AUSTRALIA

PLATE 1

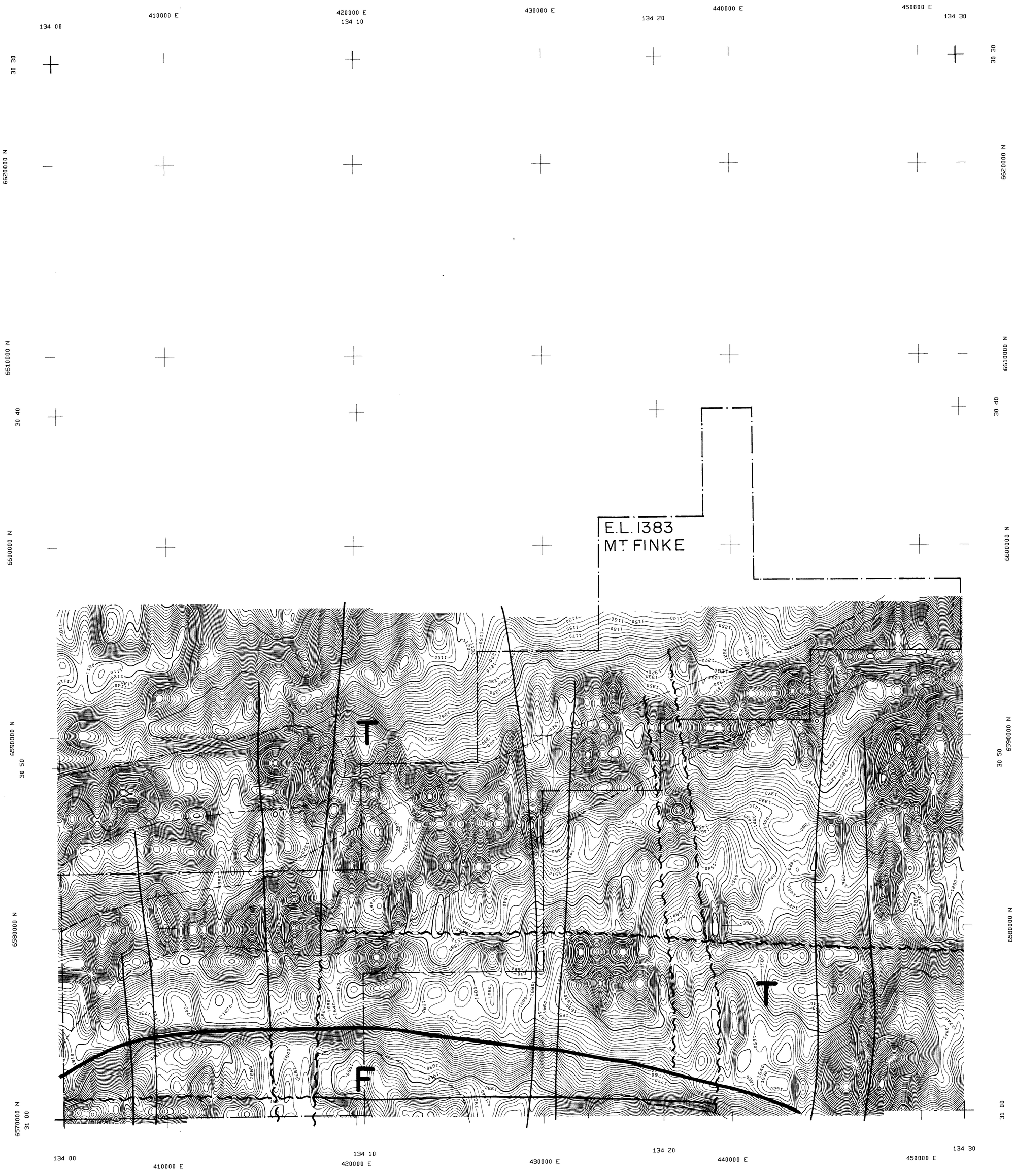
Draft sketch prepared for Tarcoola Gold Limited, Adelaide, by Australian Photogeological Consultants, Canberra. 7 May, 1987.

Based on geological interpretation of 4 airphotos: Tarcoola 1:250 000, SVY 2424, Frames 175, 177, 179, 181, 10/4/1979, Department of Lands, South Australia. Colour prints. No field checking.



6844-2

MALBOOMA



TARCOOLA GOLD LIMITED

PITT RESEARCH PTY.LTD.

Suite 4, 250 Pacific Highway, Crows Nest, 2065, Australia.

DATA PROCESSING AND MAPPING

Processed by: Pitt Research Pty Ltd.
Contour maps compiled from data acquired by the Bureau of Mineral Resources.

Contour interval : 10 nT
Grid size : 250m/250m

- GEOPHYSICAL ZONE BOUNDARY
- GEOLOGICAL BOUNDARY
- MAGNETIC DISCONTINUITY
- FAULT
- —H— MAGNETIC HIGH TREND
- —L— MAGNETIC LOW TREND

TOTAL MAGNETIC INTENSITY CONTOURS

2000 0 2000 4000 6000 8000 10000 Metres

SCALE: 1:100,000

GEOPHYSICAL INTERPRETATION

P. WOYZBUN, 1987

MULGATHING 5637	CARNDING 5737	BULGUNNIA 5837
WYNBRING 5636	MALBOOMA 5736	TARCOOLA 5836

SHEET 5736 MALBOOMA

PLAN 2

6844-3

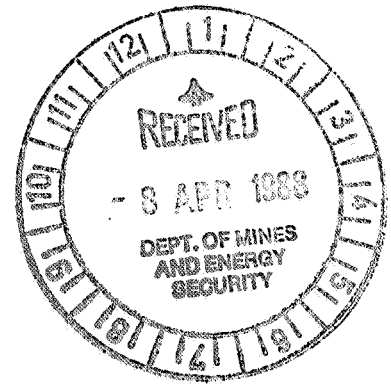
TARCOOLA GOLD LIMITED

FIRST QUARTERLY REPORT ON EXPLORATION

LICENCE NUMBER 1449, MOUNT FINKE

SOUTH AUSTRALIA FOR PERIOD

ENDING 26 FEBRUARY, 1988



Adelaide
February, 1988

Genesio Circosta
Geologist

DISTRIBUTION

	COPY
S.A. DEPARTMENT OF MINES AND ENERGY	ORIGINAL
TARCOOLA GOLD LIMITED	1

KEYWORDS

Mount Finke

EL 1383

EL 1449

Tarcoola SH 53-10

Areial Surveys

Ground Magnetics

Geological Mapping

Petrology

EL 1449

MOUNT FINKE

Statement of Expenditure November 27, 1987 to February 26, 1988

Geological & Geophysical Costs	6,028.86
Drilling Costs	-
Logistics	2,994.06
Depreciation	-
Administration	451.15
	$ 9,474.07

CONTENTS

1.	Summary	1
2.	Introduction	2
3.	Petrology	3
4.	Aerial Photography	4
5.	Forward Program	5

APPENDIX

1. Mineralogical Report No. 5163 by Pontifex and Associates.

LIST OF ILLUSTRATIONS

FIGURES		FOLLOWS PAGE NO.
1.	Locality Map EL 1449, Mount Finke Area	1

1. SUMMARY

No field work was undertaken in the Mount Finke Area (Figure 1) during this reporting period as climatic conditions over the summer months are unsuitable to the harsh arid terain the area encompasses.

Planning of future work, which is due for commencement in the coming quarter, has taken place and will involve the

a) pegging of grids over the areas to the east of Mount Finke and north and south of Pinding Rocks
b) mapping of these grid areas
c) ground magnetics over these grids, and
d) systematic sampling of these areas.

A detailed 1:10,000 scale aerial survey is to flown in mid to late March. This will aid us in our future work program.

2. INTRODUCTION

This is the first quarterly report for Exploration Licence No. 1449 (formerly EL 1383), Mount Finke area for the period ending November 27th, 1987 to January 26th, 1988.

The Mount Finke Licence covers an area of about 589 square kilometres extending south-west from Tarcoola (Figure 1) much of the area is sand dune country with limited areas of scattered basement outcrop. The main area of outcrop being the Mt. Finke and Pinding Rock areas.

The licence was originally granted to Insight Mining Pty. Ltd., now known as Tarcoola Gold Limited on March 2nd, 1987 as EL 1383. Upon expiration of EL 1383 the licence was granted for a further six month period commencing 27 November, 1987.

Archeaen Basement rocks of the Mulgathing Complex consist of gnessic metasediments including Banded Iron Formation are intruded by the Glenloth Granite and amphibolitic dykes. Greenstones of Archaean age also outcrop in the EL at Little Mount Finke. Sediments of the Tarcoola Formation outcrop at Mount Finke and Pinding Rocks and are intruded by the Hiltaba Granite.

Several geological environments within the area have potential for gold mineralisation :

1) Intrusive contacts of Hiltaba Suite granitoids with the Tarcoola Formation are a prime target for mineralisation of the Tarcoola Gold Mine type. Gold has been worked in similar geological environments at Tolmer Hill, Dark Hill and Kychering to the north of the EL.

2) Secondary targets for gold mineralisation are sheared Archaean Glenloth Granites and banded iron formations.

LEGEND

Qs	Surficial sands
Qg	Gypsum dunes & lacustrine deposits
Ph	Hiltaba suite granites
Pt	Tarcoola formation
Pk	Kimban suite granites
APmu	Mulgathing complex–ultramafic & metagabbro
APm	Mulgathing complex–gneiss
——	Boundary of scattered outcrop areas
.....	Boundary of gypsum & lacustrine deposits
⚒	Gold mining areas
F5 —●	Vendors sample sites

134°00' E

134°30' E

5 - 0 5 10 15

KILOMETRES

Trans Australia Railway

TOLMER HILL

DARK HILL

TARCOOLA

Tarcoola Goldmine Leases

PINDING ROCKS

30°45' S

31°00' S

MT. FINKE

N

E.L. 1449

Geology based on TARCOOLA 1:250,000 sheet

MT. FINKE
E.L. 1449

Figure 1.

9600

3. PETROLOGY

A sample of bleached/leached rock from the lakes to the east of Mount Finke was collected for Petrological Description. The description by Pontifex and Associates appears as Appendix 1. The sample is described as a microfossil-rich, porous, opaline rock. Age appears to be Tertiary to Cretaceous.

4. AERIAL PHOTOGRAPHY

Detailed aerial photography will be flown over the entire lease by the Department of Lands in mid to late March. This survey will produce 1:10,000 scale, colour photographs which will be used in the coming exploration program.

5. FORWARD PROGRAM

Future work in the Mount Finke area will involve :

(a) photointerpretation of the new 1:10,000 scale photography that will be flown next month

(b) setting up of grids in the

(i) lake area to the east of Mount Finke
(ii) little Mount Finke area
(iii) Pinding Rock area in the north of the lease

(c) mapping, sampling and ground magnetics in each of these areas.

(d) drilling of targets once data is accessed.

A P P E N D I X 1

MINERALOGICAL REPORT NO. 5163

BY PONTIFEX AND ASSOCIATES

PROPRIORITY LIMITED.

APPENDIX

To: Kevin M.

Pontifex & Associates Pty. Ltd.

0101

TEL. 332 6744
A.H. 31 3816

26 KENSINGTON ROAD, ROSE PARK
SOUTH AUSTRALIA

P.O. BOX 91, NORWOOD
SOUTH AUSTRALIA 5067

MINERALOGICAL REPORT NO. 5163

22nd December 1987

TO:	Mr. Don Buchholz Tarcoola Gold Ltd., 68 North Terrace KENT TOWN SA 5067
YOUR REFERENCE:	Order No. 732
MATERIAL:	Rock sample, submitted by Genesio Circosta
IDENTIFICATION:	F4
WORK REQUESTED:	Thin section preparation and description.
SAMPLES & SECTIONS:	Returned to you with this report.

PONTIFEX & ASSOCIATES PTY. LTD.

F4 massive cristobalite-trydimite (opal) rock, incorporating minor detrital fine quartz, rarer muscovite, also micro-fossils most of which have been leached out during weathering to produce a significant porosity.

This is a very light weight, pale buff-cream, massive, microporous rock in hand specimen, with minor fine quartz grains and rare very small mica flakes just recognisable, within a massive homogeneous, extremely fine matrix.

In thin section, angular quartz grains of silt to fine sandsize are seen to be randomly disposed to form 5-7% of the whole rock, and rarer equally small flakes of detrital muscovite about 2%.

Micro fossils form 15-20% of the whole rock. Most of these have a spicule to shard-like form, average size about 0.03 mm x 0.3 mm in size, with a maximum of 0.06 mm x 0.7 mm; overall they have a vaguely bedded distribution, with a weak common alignment.

Most of these spicule and shard-like forms are now void, with the original material apparently having been leached out, thus creating the rock porosity. Conceivably they were calcareous (or possibly siliceous). Some of these individuals however have been replaced by the matrix.

Rare (<1%) spheroidal microfossils, 0.15 mm diameter, with a partial fibrous-radiating internal fabric some with a central nucleus, may be foraminifera, and/or fossil spore or pollen grains. These appear to have been silicified.

The whole rock matrix, which forms at least 70% of the bulk of the rock, is seen optically as a fairly homogeneous, turbid, brownish ?cryptocrystalline or amorphous material, essentially isotrophic seen through crossed nicols. This material could not be identified optically thus it was subjected to XRD analysis (by commercial arrangement, CSIRO, Division of Soils, Adelaide).

F4 (contd)

The results identified the matrix as essentially opalline-silica of admixed cristobalite-tridymite, characteristic of the type of supergene silica seen in silcretes, and/or supergene silicified horizons in some Cretaceous and Tertiary cover rocks in central/northern, South Australia, (noteably in weathered Cretaceous below the opal-fields).

EL 1449

0104

TARCOOLA GOLD LIMITED

MT FINKE PROJECT

Incorporating
2nd Quarterly Report
Period Ended 26 May 1988

SUMMARY OF EXPLORATION CONDUCTED TO JULY 1988

R N MCLEAN
JULY 1988

G62

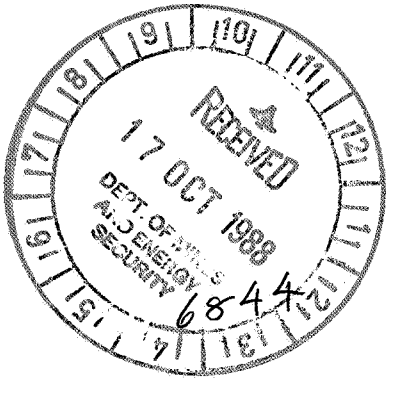


TABLE OF CONTENTS

1.0 SUMMARY

2.0 INTRODUCTION

3.0 HISTORY AND PREVIOUS EXPLORATION

4.0 GEOLOGY AND MINERALIZATION POTENTIAL

5.0 WORK CONDUCTED BY TARCOOLA GOLD LIMITED

- 5.1 RECONNAISSANCE SAMPLING
- 5.2 AIR PHOTO INTERPRETATION
- 5.3 REGIONAL AEROMAGNETIC INTERPRETATION
- 5.4 GROUND MAGNETIC SURVEY - MT FINKE SOUTH
- 5.5 RECONNAISSANCE RAB DRILLING
- 5.6 AEROMAGNETIC SURVEY - MT FINKE
- 5.7 GROUND MAGNETIC SURVEY - PINDING ROCKS
- 5.8 FOLLOW-UP GEOCHEMICAL SAMPLING - LAKES PROSPECT

6.0 CONCLUSIONS AND RECOMMENDATIONS

APPENDIX 1 RECONNAISSANCE SAMPLING GEOCHEMISTRY

APPENDIX 2 GROUNG MAGNETICS AND RAB - MT FINKE SOUTH

APPENDIX 3 FOLLOW-UP SAMPLING GEOCHEMISTRY

G62

LIST OF FIGURES

1. LOCATION MAP

2. OUTCROP GEOLOGY AND RECONNAISSANCE SAMPLING LOCATIONS

3. REGIONAL AEROMAGNETIC CONTOURS

4. BASE PLAN

5. AEROMAGNETIC CONTOURS: MT FINKE AREA

6. GROUND MAGNETIC CONTOURS: PINDING ROCKS REGION

7. DETAILED SAMPLING: LAKES AREA

1.0 SUMMARY

The Mt Finke EL incorporates a large area of sand dunes overlying what is interpreted to be Archaean basement. The basement includes both greenstones and Banded Iron Formation and has been subjected to granulite facies metamorphism.

Reconnaissance sampling has returned gold values up to 1.47 g/t Au from areas with no evidence of past prospecting or production. In addition a small gold nugget was found in the bed of a lake to the east of Mt Finke.

2.0 INTRODUCTION

The Mt Finke Exploration Licence is located approximately 600 kilometres north west of Adelaide and covers an area of 1161 square kilometres extending south west from Tarcoola (see figure 1). Much of the area is sand dune country with isolated area of outcrop, predominantly at Mt Finke and Pinding Rocks.

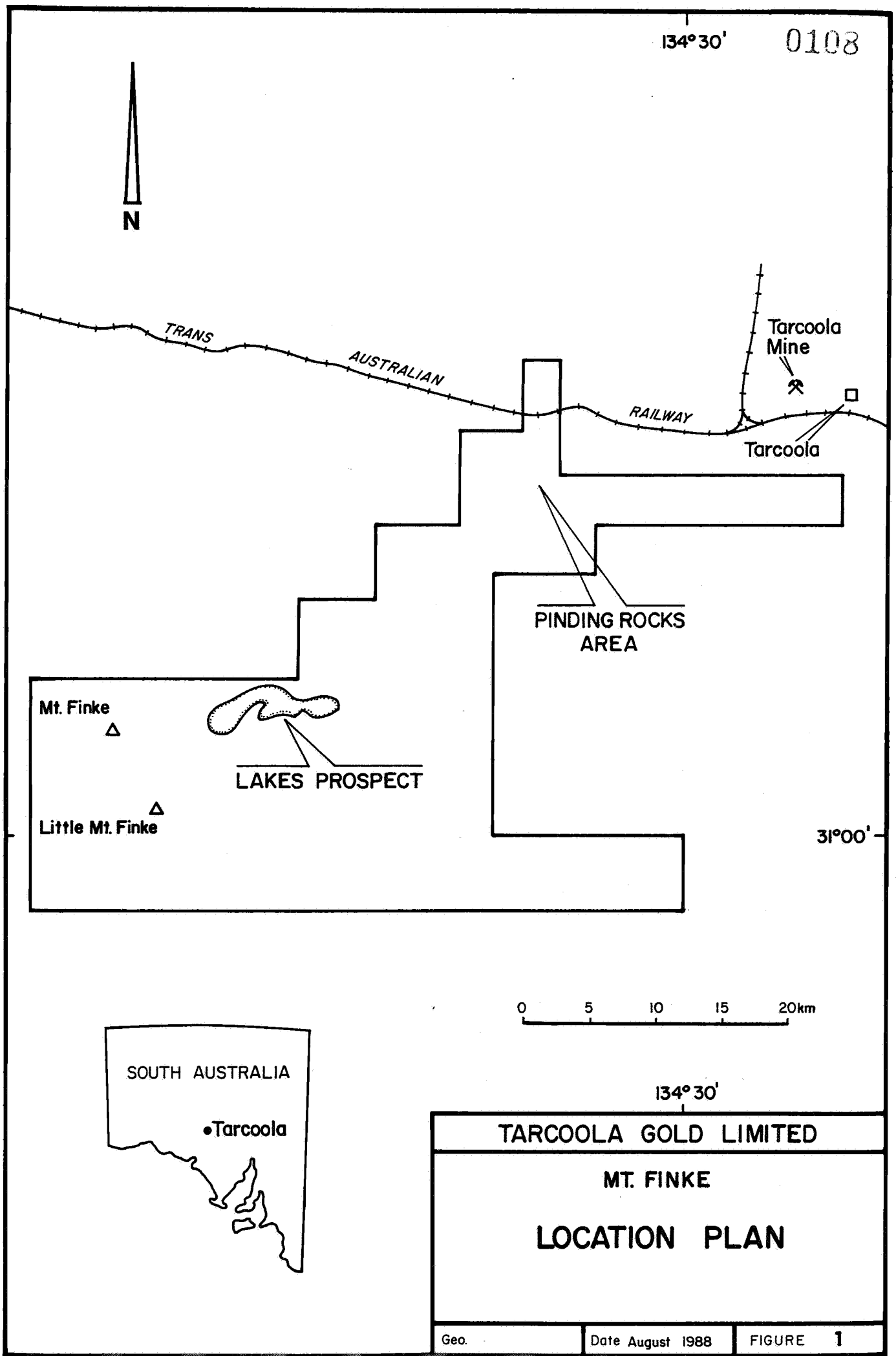
Previously Tarcoola gold had two contiguous tenements (EL's 1383 and 1414) in this area, but recently the best areas from each EL have been combined under one licence.

3.0 HISTORY AND PREVIOUS EXPLORATION

The area appears to have recieved little attention from early prospectors, no doubt because of the wide expanse of arid sandhill country. In 1900, Surveyor of Mines Brown, reported prospecting pits on quartz veins in shales at Mt Finke and referred to a similarity to the Tarcoola Gold Mine.

Archean Exploration PL carried out reconnaissance sampling over the area in 1971 and defined an area containing anomalous base metals, silver and bismuth immediately south of Pinding Rocks. Apart from the granitic boulders of Pinding Rocks, outcrop is restricted to small areas of granite, porphyry, basic intrusives and greissenized granite. Areas of quartzite float represent probable Tarcoola Formation. Mineralization occurs in areas of gossanous quartz-veined greissenized granite with silver values up to 21 ounces per tonne (653 g/t) obtained. Follow-up soil geochemistry and geophysics indicated an anomalous zone 2.5 kilometres in length. No gold was detected, however assays were semi-quantitative with a detection limit of 3 g/t, so are not considered reliable.

These anomalies were confirmed by Langsford (1972) and Aberfoyle Exploration Pty Ltd in 1981. Aberfoyle also analysed for gold and obtained values up to 0.3 ppm, but follow up RAB drilling failed to substantiate this.



TARCOOLA GOLD LIMITED

MT. FINKE

LOCATION PLAN

Geo.	Date August 1988	FIGURE 1

BULGA WELL
TARCOOLA-ALICE SPRINGS RAILWAY
TARCOOLA MINE
Tarcoola Town
TRANS AUSTRALIAN RAILWAY
PINDING WEST TANK
CLAYSONS WELL & TANK
SANDY TANK
Pinding Rocks
PINDING EAST TANK
Anomalous Ag, Bi, Zn (Aberfoyle)
HIERNS WELL
Vermin Proof Fence
Deception Hill
Mt Finke
Little Mt Finke
Gold nugget found here
LEGEND
QUATERNARY
Qha Alluvium
Qs Sands
Qg Gypsum dunes
Ql Saline and gypsiferous paleosols
Qpt Clayey paleosols
TERTIARY
Ts Quartz sand
PROTEROZOIC
Ɛγs Symons granite
Ɛγh Hiltaba granite
Ɛft Fabian quartzite member
ARCHAEAN
MULGATHING COMPLEX
AƐmc Christie gneiss
AƐmci Banded iron formation
AƐm Undifferentiated MULGATHING COMPLEX
Geological boundary
Track
Railroad
Tenement boundary
Well or tank
MFK 21 x Sample location and number
N
0 1 2 3 4 5 km
Scale 1 : 50,000

6844-4

TARCOOLA GOLD LIMITED

MT FINKE PROJECT

OUTCROP GEOLOGY AND RECONNAISSANCE SAMPLING LOCATIONS

Geologist: R. McL	Date: August 1988	PLAN 2

400 000 E 134°00'E 410 000 E 420 000 E 134°10'E 430 000 E 134°20'E 440 000 E 450 000 E 134°30'

6600 000N

6590 000N

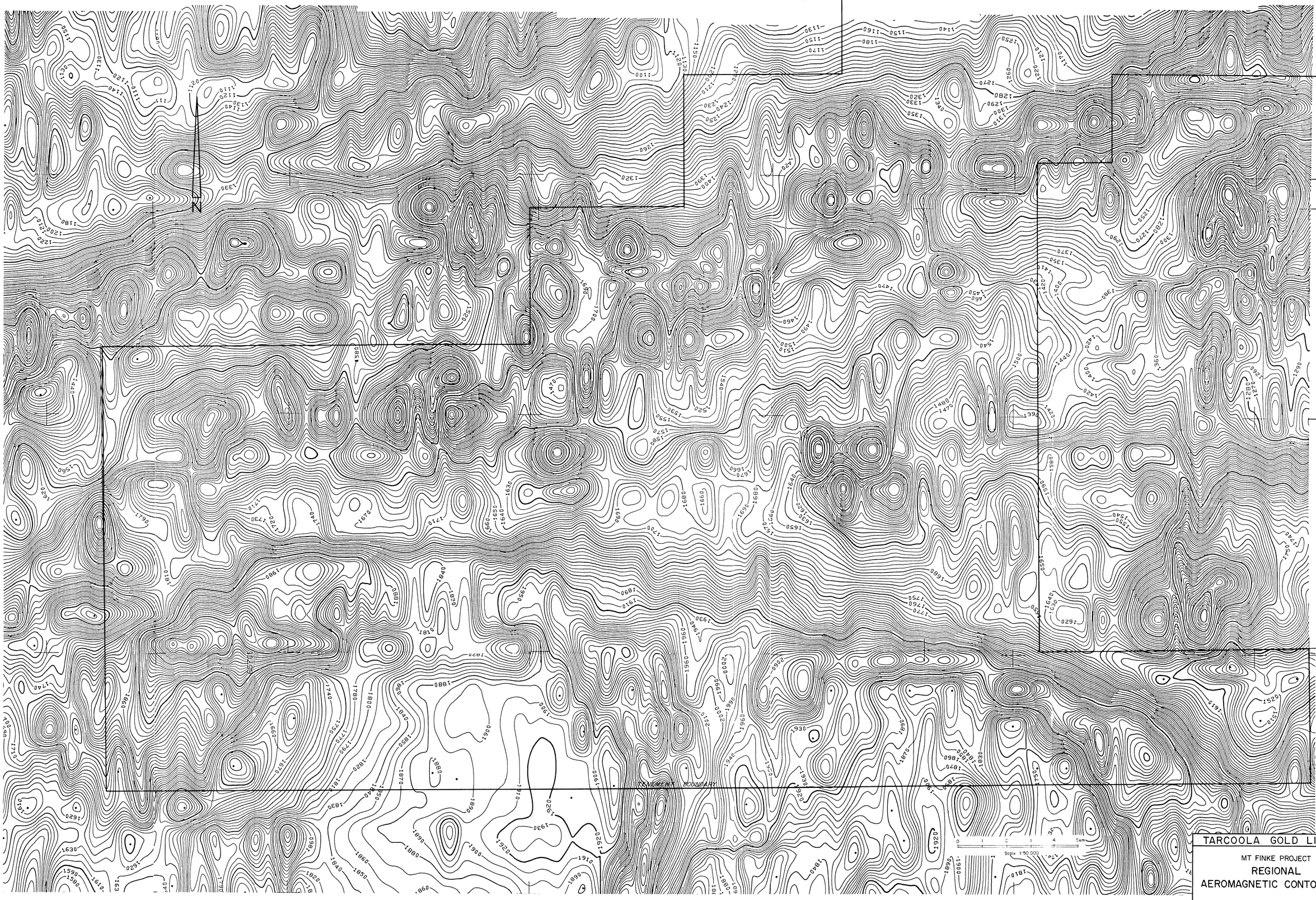
30° 50'

6580 000 N

31°00'S

6570 000N

6560 000 N



TARCOOLA GOLD LIMITED

MT FINKE PROJECT

REGIONAL AEROMAGNETIC CONTOUR MAP

Geologist. R. McL.	Date August 1988	PLAN. 3

6844-5

TARCOOLA MINE

Tarcoola Town

1 25 000
AEROMAGNETIC CONTOUR
MAP LOCATION

1 10 000
PINDING ROCKS
GROUND MAGNETIC
CONTOUR MAP LOCATION

MFS 1

MFS 2

MAGNETIC

HIGH

Fence of RAB holes drilled across magnetic high approximately 1km south of tenement

N

6844-6

TARCOOLA GOLD LIMITED

MT FINKE PROJECT

BASE PLAN
LOCATION OF DETAILED MAGNETIC
SURVEYS & RAB DRILLING

Geologist R McL	Date August 1988	PLAN 4

MT. FINKE
AIRBORNE GEOPHYSICAL SURVEY

TARCOOLA GOLD LTD.

Surveyed and compiled by AERODATA HOLDINGS LIMITED
JUNE – JULY 1988
Job No. 1137

AERODATA

MAGNETIC CONTOUR MAP

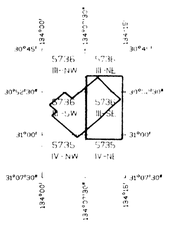
DATA PROCESSING

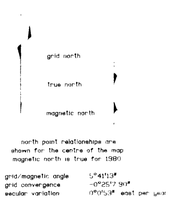
REGIONAL FIELD	IGRF MODEL 1985 REMOVED
GRID CELL SIZE	70 metres
CONTOUR INTERVAL	10 nanoTeslas
PARALLAX CORRECTION	3.00 fiducials
BASE VALUE ADDED	58000 nanoTeslas

SURVEY SPECIFICATIONS

AIRCRAFT
ZK-RDH SE-SNR 206 STATIONAIR II
MAGNETOMETER
SPLIT BEAM CESIUM SCINTREX V-201
RESOLUTION 0.04 nanoTesla
CYCLE RATE 0.3 seconds
SAMPLE INTERVAL 14 metres
SPECTROMETER
256 CHANNEL EXPLORANIUM GR800A
VOLUME 16.78 litres
CYCLE RATE 1.2 seconds
SAMPLE INTERVAL 60 metres
DATA ACQUISITION
CHANNEL WATHABE ML 6700 CHART RECORDER
HEWLETT PACKARD 9825 COMPUTER
AERODATA DIGITAL ACQUISITION SYSTEM
FLIGHT LINE SPACING
TRAVERSE LINES 200 metres
TIE LINES 2000 metres
FLIGHT LINE DIRECTION
TRAVERSE LINES 135 – 315 degrees
TIE LINES 045 – 225 degrees
SURVEY HEIGHT
80 metres – MEAN TERRAIN CLEARANCE
NAVIGATION
Using SYLEDIS UHF positioning system

SHEET LAYOUT





north point relationships are shown for the centre of the map magnetic north is true for 1988

grid/magnetic angle	5°41'03"
grid convergence	-0°25'27"
secular variation	0°05'08" east per year

Scale 1:25 000
500 0 500 1000 1500 2000 2500 metres
AUSTRALIAN MAP GRID

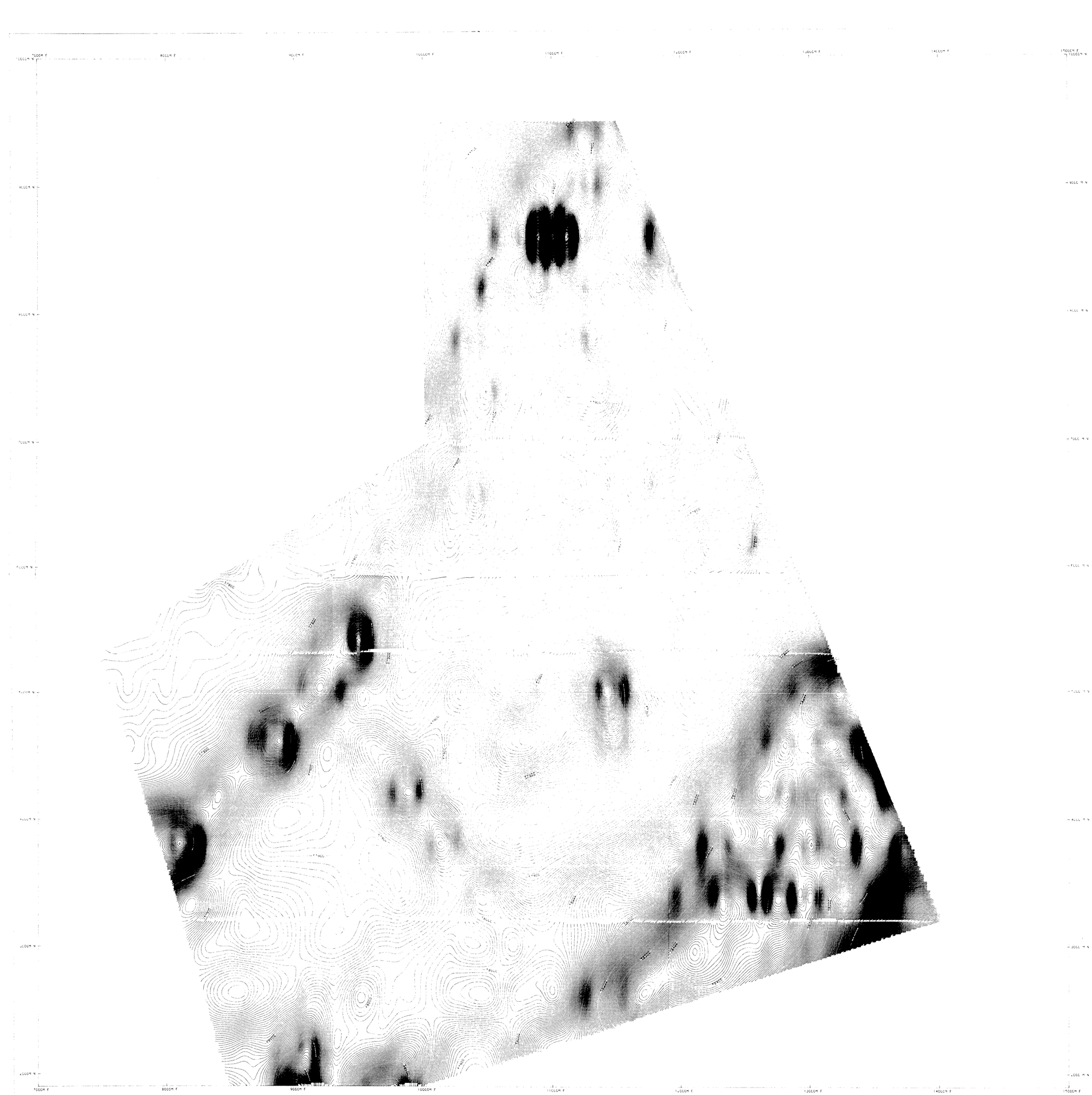
6844-7
– 14 Same

TARCOOLA GOLD LIMITED

MT FINKE PROJECT

MAGNETIC CONTOURS
MT FINKE AREA

Geologist. R.McL	Date August 1988	PLAN 5



CONTOUR INTERVAL OF 5 GAMMAS

SURVEY BY SEARCH EXPLORATION PTY LTD

PROCESSED BY TECHNICAL COMPUTER SYSTEMS PTY LTD

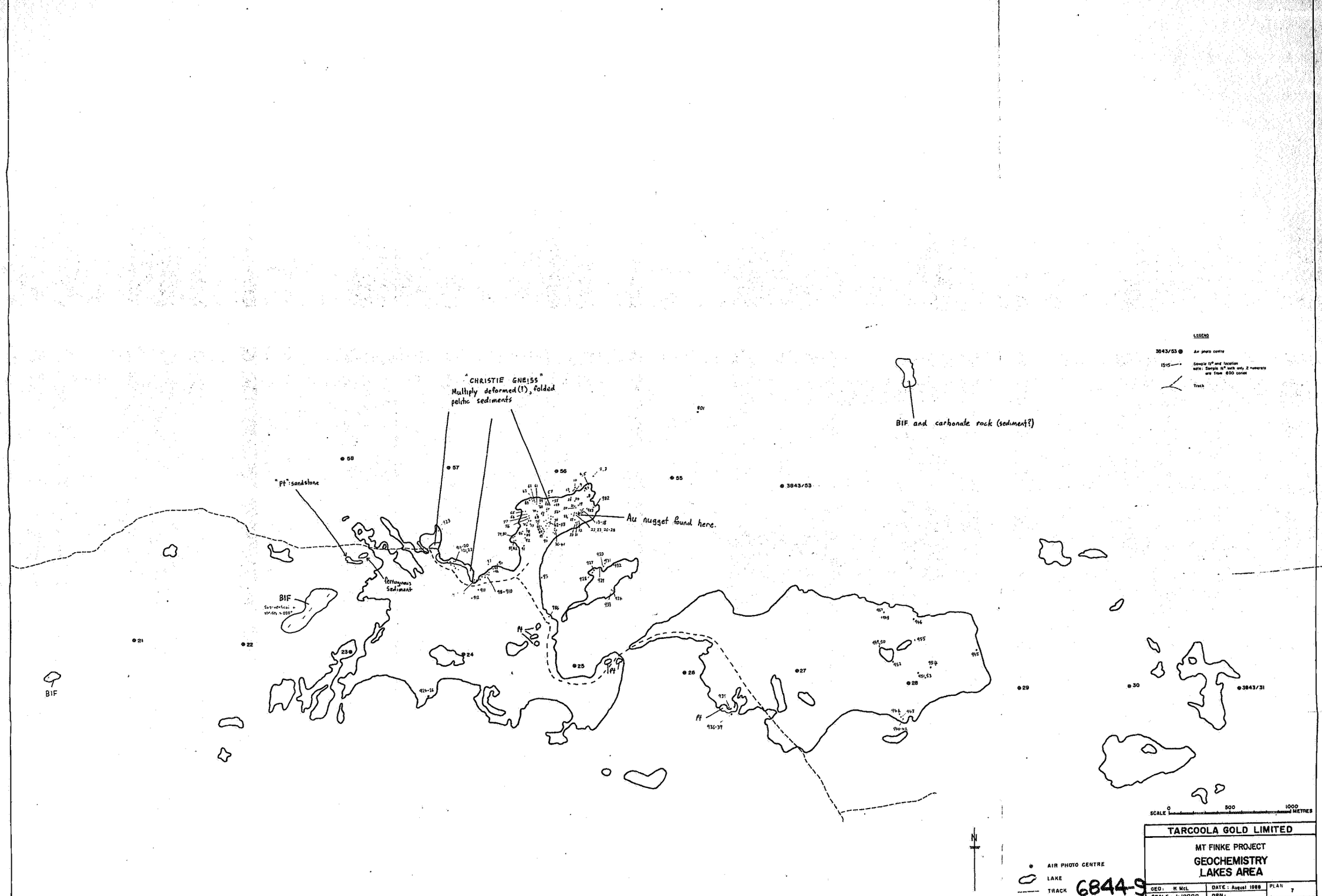
6844-8

TARCOOLA GOLD LIMITED

MT FINKE PROJECT

GROUND MAGNETIC CONTOURS : PINDING ROCKS REGION

Geo.	Date: August 1988	PLAN 6


"CHRISTIE GNEISS"
Multiply deformed (?), folded pelitic sediments
BIF and carbonate rock (sediment?)
"Pf" sandstone
Au nugget found here.
Ferruginous Sediment
BIF
BIF
Pf
Pf
3843/53
3843/31
LEGEND
3843/53 Air photo centre
15-45 Sample N° and location note: Sample N° with only 2 numerals are from 600 series
Track
AIR PHOTO CENTRE
LAKE
TRACK
SCALE 0 500 1000 METRES
N
TARCOOLA GOLD LIMITED
MT FINKE PROJECT
GEOCHEMISTRY
LAKES AREA
GEO: N McL
DATE: August 1988
PLAN 7
SCALE: 1:10000
DRN:
6844-9

Aberfoyle's original interest in the area was for sedimentary hosted uranium. A drilling programme was undertaken over several paleo-drainage channels in the Hiern's Well area. Samples were analysed for uranium, gold and tin. Whilst, low order uranium anomalies were defined it is significant that an average gold value of 0.067 g/t was obtained from sixty three samples (maximum value 0.548 g/t). This implies a gold source within the area and enhances the prospectivity of the EL.

Basement rock intersections from the uranium programme and drilling of geophysical anomalies and stratigraphic holes indicate the area to be underlain by Mulgathing Complex gneisses, leached and altered volcanics of the Gawler Range Volcanics, Tarcoola Formation sediments and Hiltaba Suite granites and diorites. Aberfoyle reported anomalous values for base metals, silver, flourine and rare earth elements from the basement rocks. They concluded that the area has potential for copper, rare earth elements and base metals. Further exploration concentrating on fracture zones, was recommended, but apparently did not proceed.

4.0 GEOLOGY AND MINERALIZATION POTENTIAL

Basement rocks within the EL are of Archean and Proterozoic age. Gneisses of metasedimentary origin including banded iron formation, with intrusive Glenloth Granite and amphibolites form the Archean Mulgathing Complex. These are overlain by Proterozoic Gawler Range Volcanics with interfingering Tarcoola Formation sediments and younger Jurassic sediments. Nearly all rocks are overlain by various thicknesses of Cainozoic cover. Regional aeromagnetic data indicates a linear zone running west-southwest through the length of the tenement area. This may represent a faulted margin to the Tarcoola Beds depositional basin, and as such may be prospective for polymetallic mineralization.

Several geological environments within the area have potential for gold mineralization.

(i) Intrusive contacts of Hiltaba Suite granitoids with the Tarcoola Formation are a prime target for mineralization of the Tarcoola Gold Mine type. Gold has been worked in similar situations at Tolmer Hill, Dark Hill and Kychering. Both Mt Finke and Pinding Rocks show evidence of this style of mineralization.

(2) Mulgathing Complex basement. Recent reports by the SA Department of Mines and Energy (Daly, DME 143/85) suggest that the Mulgathing Complex is Archean in age and thus is possibly contemporaneous with rocks of the Yilgarn Block of Western Australia. If this is the case, all rocks of the Mulgathing Complex have potential to host Archean-style gold mineralization.

As well as gold mineralization, the occurrences of altered and leached volcanics in association with basal arkosic and conglomerate units of the Tarcoola Formation provides a favourable environment for base metal mineralization. This would be enhanced along major fracture systems which could provide conduits for mineralizing fluids.

5.0 WORK CONDUCTED BY TARCOOLA GOLD

5.1 RECONNAISSANCE SAMPLING

Tarcoola Gold collected eighty-nine surface rock chip samples from twenty seven locations during three separate sampling programmes (see plan 2). During the first programme 24 samples were collected and analysed for a suite of elements (see Appendix 1). Two of the highest assays, 1.47 g/t and 0.25 g/t, were obtained from ferruginous sandstone and shale overlying altered granite and Archean basement rocks. All twenty four samples were analysed for a suite of twelve trace elements, namely Cu, Pb, Zn, Bi, Ag, Mo, As, Ba, Sb, Sn, Te, and Ti. Anomalously high levels on Cu, Pb, Zn, As, Ba or Sb were recorded in a number of samples. Gold assays for four samples were checked by Screen Fire Assay. These assays confirmed the presence of gold in three samples and revealed the presence of gold in one sample (F11Q2) that previously gave an assay below the detection limit.

All samples from the second and third sampling programmes were analysed for gold and for four pathfinder trace elements, namely Sb, As, Mo and W. One sample from the second programme revealed highly anomalous gold. This sample was from a quartz-feldspar porphyry intruding mafic and ultramafic rocks of the Mulgathing Complex. Anomalously high levels of Sb, As, Mo and W were found in a number of the samples - most notably "Lake 9". This sample, a laterized BIF taken from the south shore of the western lake, returned values of Sb:510, As:230, Mo:14 and W:<10 (ppm). Although there was no significant associated Au, these represent high pathfinder values. The DB samples were taken from granite and shale outcrops within a dry stream bed on the south-west corner of the western lake.

From the third sampling programme three samples showed anomalous gold assay values. Most notable was MFK 016 (0.51 g/t) and MFK 009 (0.28 g/t Au), both of which were collected from Mulgathing Complex basement. Anomalously high levels of trace elements were found in samples MFK 025 (Sb:110, As:125, MO:14 and W:<10) and MFK 027 (Sb:780, As:290, Mo:16, W:40). Samples MFK 034-37 were collected in the Pinding Rocks area. Two of these show strongly anomalous gold values but unfortunately the data pertaining to rock type and location has been misplaced.

5.2 AIRPHOTO INTERPRETATION

Mr G C Lau of Australian Photogeological Consultants was engaged to conduct an airphoto interpretation of the Mt Finke area using coloured aerial photographs. His conclusions are outlined below:-

Gabbroic Mulgathing Complex forms distinctive, rounded dark brown outcrops, with dark greenish tones due presumably to vegetation cover (lichen or low shrubs?). These outcrops occur mostly on topographic highs beneath the dune field and other highs may indicate shallow subcrop. The banded iron formation mapped in the playas has an identical appearance. The Christie Gneiss cannot be reliable distinguished on the airphtos from greyish (sulphate-rich?) quarternary deposits and has not been mapped. The western playa has a markedly linear boundary on its eastern side, defining a NNE trending lineament. Most of the Mulgathing Complex outcrops occur on the eastern side of this lineament. It may reflect structure in the shallowly-subcropping Complex, or it might mark a fault on which eastern upthrow has exposed the complex.

The gneissic granite outcrops have variable-patterned, brown to slightly greenish-brown tone, and seem to form clayey areas in swales.

Daly (1985) mapped Tarcoola Formation at Mt Finke and around the playa margins. On the airphotos the playa outcrops show only as small samphire-vegetated islands and cannot be reliably identified as outcrop. Mt Finke appears very similar to Proterozoic and early Palaeozoic sandstone and siltstone outcrops in the Amadeus Basis, where only the axial portions of tightly-folded synclines are preserved.

Other low, rounded, light grey-toned outcrops scattered throughout the dune field swales correspond to the Tertiary units mapped by Daly (1985). Some of these outcrops appear to be bedded and jointed and their identity might be worth field-checking.

Many short (1-2 km) north trending photolineaments are shown by alignments of vegetation or of vegetation-free lines. Some of these have been annotated, particularly on photo 181, but I am doubtful about their significance. Old fire scars on the north-central portion of photo 181 have sharp margins, and these lineaments may be fire scars relics. Also of uncertain origin are the foliation trends visible well away from mapped outcrop. Similar trends are known to reflect bedding or cleavage in other desert areas, but in this area their general parallelism with the dune system might simply indicate vegetation zoning, or some other relationship with the dune-swale morphology.

Tarcoola have recently flown the area with 1:10,000 scale coloured photography. An interpretation using this photography has not yet been undertaken.

5.3 AEROMAGNETIC INTERPRETATION

Digitised and reprocessed aeromagnetic data for the region recently made available by the Bureau of Mineral Resources and SADME was manipulated by Image Processing Services Pty Ltd in Brisbane. The most effective enhancements of the data include local stretch and vertical shade. Far more detail is immediately apparent on the reprocessed data, compared with the original published surveys. A geophysical consultant was engaged to make an interpretation of the reprocessed aeromagnetic data.

The geophysical interpretation of the aeromagnetic data was carried out by Mr Peter Woyzbun, Consulting Geophysicist. Enclosed as figure 3 is the relevant section of the regional aeromagnetic map. Responses indicating BIFs (sharp, high in amplitude and elongated magnetic responses) were encountered in the Mt Finke area. Greenstone belts were also found to exist in the Mt Finke region.

This interpretation included the South Mt Finke-Tolmer area. His work delineated granite intrusions, presumably the Hiltaba Granite Suite, which are bounded on the eastern side by contact aureoles. These aureoles are marked by zones of high magnetism which were also interpreted as greenstone belts.

5.4 GROUND MAGNETIC SURVEY - MT FINKE SOUTH

Ground magnetometer surveys were undertaken along the northern and southern access tracks south of Mt Finke to investigate the highly magnetic units between the interpreted granitic intrusions. This work located the anomalies in the areas indicated by aeromagnetics.

5.5 RECONNAISSANCE RAB DRILLING (Drilled on EL 1444 in 1987).

Reconnaissance RAB drilling was carried out over targets outlined by the ground magnetic survey. There were 49 holes drilled for a total of 1055 metres at an average depth of 21.5 metres (see Appendix 2 for locations). The depth of weathering was extremely variable over the area drilled, with areas of shallow bedrock being interspaced with areas of deep kaolinitic weathering. The hole profiles are divided into 3 segments (Cover sequence, weathering sequence and fresh bedrock) to facilitate interpretation. The bedrock in all holes consisted of granites of the Hiltaba Granite Suite with no volcanics or basement gneisses intersected.

The granite contains dominantly pink to white feldspars, biotite, and clear to smokey quartz grains. Coarse mica was observed in holes MFS01 and MFS02. Several of the samples contained magnetite which possibly explains the magnetic highs.

Samples from all 49 holes were submitted to Comlabs for gold analysis. Of these, 10 holes returned values above the detection limit of 0.01 ppm, the highest being 0.04 ppm.

RAB chip samples from holes MFS 9, 28 and 31 were submitted for petrographic analysis by Pontifex Associates Pty Ltd to be checked for magnetic content. Magnetite (about 0.2 mm size grains) formed <1% of the total samples represented in MFS 9 and 31. Im MFS 28 magnetite grain(0.3 mm in size) composed 1% of the entire sample .

5.6 AEROMAGNETIC SURVEY - MR FINKE

Tarcoola commissioned Aerodata to fly an airborne magnetic survey over the Mt Finke and Lakes area within the EL. The location of this survey is shown in Plan 4 and the contoured magnetic data in Plan 5.

The survey was conducted to gain a better understanding of the structures in the Lakes area where a number of anomalous gold values where located by sampling and where a gold nugget was found.

The data will shortly be digitally processed and interpreted.

5.7 GROUND MAGNETIC SURVEY - PINDING ROCKS

A ground magnetic survey was undertaken in the Pinding Rocks region. The survey location in shown in Plan 4 and the contoured magnetic data in Plan 6.

The survey located a number of magnetic anomalies in the region where Aberfoyle previously located significantly anomalous geochemistry.

5.8 FOLLOW-UP GEOCHEMICAL SAMPLING - LAKES PROJECT

A grid was surveyed over the Lakes prospect. During this work one of the gridding contractors found a small nugget on the lake floor. The nugget, reported to be 2 - 5 grams and containing abundant quartz grains, was found at the location shown on map 7. An intensive rock chip and stream sediment sampling programme was subsequently instigated in the Lakes area.

The sample sites are shown in Map 7 and the analysis in Appendix 3. Of 181 samples taken only two returned greater than 0.10 g/t Au neither of which was taken adjacent to the nugget locality. Sample 906 (0.16 g/t Au) was taken from the central northern part of the Lake shore, and sample 944 was taken from the most eastern lake.

This programme in conjuction with the description of the nugget suggests the nugget has been transported some distance.

The nugget was found in a section of the lake which provides the best basement outcrop in the entire EL. Christie gneiss is exposed over an area of approximately 200m x 50m on the lake floor. The "gneiss" consists of multiply deformed pelitic sediments which are folded by relatively open upright folds with hinge lines plunging at approximately 30 - 40° towards 240° Bedding strikes between 030° and 080° whereas bedding in the BIF further to the west strikes at 030°. Cleavage in the greenstones at Little Mt Finke varies from 090 to 070° in strike.

The basement is uncomfortably overlain by massive quartz sandstones exhibiting unusual wind erosion features. The sandstones were previously consigned to the Fabians Member of the Proterozoic Tarcoola Formation. Tarcoola geologists collected a sediment which under microscope examination revealed Jurassic fossils. Thus there is at least one and possibly two uncomfortable units overlying the basements in the Lakes area.

6.0 CONCLUSIONS AND RECOMMENDATIONS

Exploration to date indicates that the Mt Finke EL is a very prospective grass roots prospect. If the basement is Archean in age, there are large tracts of greenstone which have never been explored for gold. The presence of a gold nugget and values up to 1.47 g/t in rock chips confirms this prospectivity.

Exploration by Tarcoola Gold Limited has concentrated on geophysical exploration to delineate the extent of greenstone belts within the basement and to outline targets within the greenstones.

The next stage of exploration must involve geochemical investigation of the concealed basement. It is unlikely that any type of surface sampling in the transported sand dunes would be successful. It is recommended that a small light weight RAB rig be used to drill between sand dunes where the depth to the basement should be relatively shallow.

TARCOOLA : 1st Recon

APPENDIX I

SAMPLE NO.	Au ppm		ROCK TYPE	LOCATION
F1		<0.01	Qtz/shale float;Tarcoola Beds	Mt Finke
F2		<0.01	Glenloth Granite;sheared?	E of Mt Finke
F2Q		<0.01	Qtz-veined granite	Mt Finke
F3		<0.01	Granite or sst-alt'd,weath'd	
F4S1		0.03	Kaol.?,alt'd shale;Tarcoola B.	
F4S2		<0.01	Fe-rich mic.shale,arenite-alt?	
F4RFE		<0.01	Fe-rich grit over shale c'tact	
F4P	1.47	1.47	Purple,haem.shale+arenite;TB	
F5G		<0.01	Sandstone/grit	
F5Q		<0.01	Qtz-veined grit;Tarcoola Beds	Base of Mt Finke
F6Q		<0.01	Qtz float;Tarcoola Beds?	
F6FE		<0.01	Gossan cap?	Base of Mt Finke
F7		0.09	Fe-rich cap or BIF	Shore of lake
F8	0.25	0.25	Fe-rich weathered s'st? TB?	
F9		<0.01	BIF or gossan; Archean	S shore of western lake
F9R		<0.01	Schist, Fe-rich; Archean	
F9R2		<0.01	Fe-rich schist; Archean	
F10Q		<0.01	Qtz,breccia,in gneiss; Archean	
F10Q2		<0.01	Qtz,breccia,in gneiss; Archean	
F10Q3		<0.01	Qtz reef; Archean	
F10Q4		<0.01	Qtz reef; Archean	
F11Q1		0.04	Qtz.breccia&reef in BIF/gneiss	
F11Q2		<0.01	Qtz.breccia&reef in BIF/gneiss	
F11Q3		0.06	Qtz.breccia&reef in BIF/gneiss	

Laboratory: COMLABS. Scheme: FAS1. Job No.: 861742

TABLE 1: GOLD ASSAYS, MT FINKE EL 1383

COMLABS SERVICES PTY. LTD.

ANALYTICAL REPORT

JOB COM862319

O/N : Additional Assay

0116

SAMPLE	Cu	Pb	Zn	Bi	Ag	Mo
F1	8	10	4	6	1	12
F2	6	10	3	6	<1	6
F2Q	8	12	4	6	<1	10
F3	6	12	6	8	<1	6
F4S1	7	16	6	6	<1	8
F4S2	7	12	3	6	<1	6
F4RE	8	14	5	4	<1	20
F4P	85	18	14	6	1	14
F5G	7	10	<2	4	<1	10
F5Q	10	10	2	8	<1	10
F6Q	6	10	2	6	1	10
F6FE	14	14	20	4	1	8
F7	7	18	8	4	1	6
F8	30	28	120	4	1	4
UNITS	ppm	ppm	ppm	ppm	ppm	ppm
SCHEME	AAS1	AAS1	AAS1	AAS1	AAS3	AAS3

COMLABS SERVICES PTY. LTD.

ANALYTICAL REPORT

JOB COM862319

O/N : Additional Assay

SAMPLE	As	Ba	Sb	Sn	Te	Tl
F1	4	370	10	6	<10	<10
F2	6	640	<4	<4	<10	<10
F2Q	5	730	10	4	<10	<10
F3	4	65	<4	4	<10	<10
F4S1	14	120	4	8	<10	<10
F4S2	28	220	<4	6	<10	<10
F4RE	18	210	<4	<4	<10	<10
F4P	400	35	<4	<4	<10	<10
F5G	6	35	8	6	<10	<10
F5Q	6	270	4	<4	<10	<10
F6Q	7	120	4	<4	<10	<10
F6FE	16	530	<4	<4	<10	<10
F7	65	2950	<4	<4	<10	10
F8	170	75	22	<4	<10	10
UNITS	ppm	ppm	ppm	ppm	ppm	ppm
SCHEME	XRF1	XRF1	XRF1	XRF1	XRF1	XRF1

ANALYTICAL REPORT JOB COM8623~~19~~ 0118

O/N : Additional Assay

SAMPLE	Cu	Pb	Zn	Bi	Ag	Mo
F9	70	155	110	4	<1	6
F9R	24	20	26	6	<1	4
F9R2	80	42	22	6	1	6
F10Q	12	16	8	<4	1	8
F10Q2	9	12	7	4	<1	4
F10Q3	12	10	6	4	<1	16
F10Q4	22	6	7	6	1	4
F11Q1	8	8	7	6	<1	4
F11Q2	16	28	6	8	<1	<4
F11Q3	14	8	12	8	<1	8
UNITS	ppm	ppm	ppm	ppm	ppm	ppm
SCHEME	AAS1	AAS1	AAS1	AAS1	AAS3	AAS3

ANALYTICAL REPORT

JOB COM862319

O/N : Additional Assay

0119

SAMPLE	As	Ba	Sb	Sn	Te	Tl
F9	200	165	125	<4	<10	<10
F9R	40	210	16	<4	<10	10
F9R2	370	530	44	<4	<10	<10
F10Q	18	25	<4	<4	<10	<10
F10Q2	20	30	4	<4	<10	<10
F10Q3	36	50	10	<4	<10	<10
F10Q4	70	10	6	<4	<10	<10
F11Q1	28	25	4	4	<10	<10
F11Q2	450	30	10	<4	<10	<10
F11Q3	26	30	<4	<4	<10	<10
UNITS	ppm	ppm	ppm	ppm	ppm	ppm
SCHEME	XRF1	XRF1	XRF1	XRF1	XRF1	XRF1

ANALYTICAL REPORT

0120

JOB COM861900

Results in ppm

SAMPLE	Au1	Au2	Wt1	Au3	Wt2
F4P	1.52	1.55	165	1.50	153
F8	0.05	0.05	224	0.04	180
F11Q2	0.08	0.10	750	0.03	194
F11Q3	0.05	0.06	270	0.03	186

Method of Analysis :

Au1	:	Screen Fire Assay
Au2	:	FAS1 on -200# Fraction
Wt1	:	Weight of -200# Fraction
Au3	:	FAS1 on +200# Fraction
Wt2	:	Weight of +200# Fraction

.../ 2

COMLABS SERVICES PTY. LTD.

ANALYTICAL REPORT

0121

JOB COM861900

Results in ppm

SAMPLE	Cu	Pb	Zn	Ag	As	Sb	W
F4P	85	10	10	<1	380	12	<10

Method of Analysis :

Cu Pb Zn	:	AAS1
Ag	:	AAS3
As Sb W	:	XRF1

SAMPLE NO.	Au ppm	Sb	As	Mo	W	Rock Type	Location
LMF 1	.35	4	10	12	<10	Qtz-feldspar porphyry	Base of Little Mt Finke
LMF 2	<0.01	8	10	2	<10	White VQ (vein quartz)	"
LMF 3	<0.01	8	<2	7	<10	White VQ	"
LMF 4	<0.01	6	4	6	<10	White VQ	
Lake 1	<0.01	10	8	12	<10	Blue-grey ferruginous V.Q.	South Shore of Western Lake
Lake 2	<0.01	12	36	9	<10	BIF with intruded quartz veinlets	"
Lake 3	<0.01	6	10	6	<10	BIF (8mC5)	"
Lake 4	0.02	4	4	12	15	VQ	"
Lake 5	<0.01	10	14	30	<10	White VQ	"
Lake 6	<0.01	6	24	8	<10	BIF and quartzite	"
Lake 7	0.02	22	40	8	<10	BIF and quartzite	"
Lake 8	<0.01	22	95	2	<10	Lateritised BIF and sedimentaries	"
Lake 9	<0.01	510	230	14	<10	Lateritised BIF and Sedimentaries	N.E. Shore of Western Lake
Lake 10	0.03	22	16	12	<10	Ferruginous VQ with pyrite boxwork	"
Lake11	<0.01	12	16	18	<10	"	"
Lake 12	<0.01	4	20	20	10	"	"
Lake 13	<0.01	6	6	22	10	White VQ	"
DB1	<0.01	8	7	12	55	Granite outcrop within streambed	S.W.corner of Western Lake
DB2	LNR	LNR	LNR	LNR	LNR	"	"
DB3	<0.01	6	9	5	15	"	"
DB4	<0.01	6	48	10	<10	"	"
DB5	<0.01	4	38	7	15	"	"
DB6	<0.01	<4	3	2	<10	"	
DB7	<0.01	<4	55	9	25	Shales	
DB8	<0.01	4	10	14	<10	"	
DB9	<0.01	8	12	5	<10	"	"
DB10	<0.01	8	18	7	<10	"	"
DB11	<0.01	10	3	2	<10	"	"

Lab - Comlabs Scheme: FAS 1 Job No. 872052

Table 2 – Gold Assays Mt. Finke E.L. 1383

Sb - As reflects sediments

Mo - W granite

0122

COMLABS SERVICES PTY. LTD.

ANALYTICAL REPORT

JOB COM872052
O/N : 1008

0123

	SAMPLE	Au	Au Dp1	Au Dp2	Au Dp3
Little Mt. Finke	LMF 1	0.35	-	-	
	LMF 2	<0.01	-	-	
	LMF 3	<0.01	-	-	-
	LMF 4	<0.01	-	-	-
Mt. Finke Lakes	LAKE 1	<0.01	-	-	
	LAKE 2	<0.01	-	-	-
	LAKE 3	<0.01	-	-	
	LAKE 4	0.02	-	-	
	LAKE 5	<0.01	-	-	
	LAKE 6	<0.01	-	-	
	LAKE 7	0.02	-	-	-
	LAKE 8	<0.01	-	-	-
	LAKE 9	<0.01	-	-	-
	LAKE 10	0.03	-	-	
	LAKE 11	<0.01	-	-	-
	LAKE 12	<0.01	-	-	-
	LAKE 13	<0.01	-	-	-
	UNITS	ppm	ppm	ppm	ppm
	SCHEME	FAS1	FAS1	FAS1	FAS1

COMLABS SERVICES PTY. LTD.

ANALYTICAL REPORT

JOB COM872052
O/N : 1008

0124

Mt. Finke

SAMPLE	Au	Au Dp1	Au Dp2	Au Dp3
DB 1	<0.01	-	-	-
DB 2	LNR	-	-	-
DB 3	<0.01	-	-	-
DB 4	<0.01	-	-	-
DB 5	<0.01	-	-	-
DB 6	<0.01	-	-	-
DB 7	<0.01	-	-	-
DB 8	<0.01	-	-	-
DB 9	<0.01	-	-	-
DB 10	<0.01	-	-	-
DB 11	<0.01	-	-	-
UNITS	ppm	ppm	ppm	ppm
SCHEME	FAS1	FAS1	FAS1	FAS1

COMLABS SERVICES PTY. LTD.

ANALYTICAL REPORT

JOB COM872052
O/N : 1008

0125

SAMPLE	Sb	As	Mo	W
LMF 1	4	10	12	<10
LMF 2	8	10	<2	<10
LMF 3	8	<2	7	<10
LMF 4	6	4	6	<10
LAKE 1	10	8	12	<10
LAKE 2	12	36	9	<10
LAKE 3	6	10	6	<10
LAKE 4	4	4	12	15
LAKE 5	10	14	30	<10
LAKE 6	6	24	8	<10
LAKE 7	22	40	8	<10
LAKE 8	22	95	<2	<10
LAKE 9	510	230	14	<10
LAKE 10	22	16	12	<10
LAKE 11	12	16	18	<10
LAKE 12	4	20	20	10
LAKE 13	6	6	22	10
UNITS	ppm	ppm	ppm	ppm
SCHEME	XRF1	XRF1	XRF1	XRF1

ANALYTICAL REPORT

JOB COM872052
O/N : 1008

0126

SAMPLE	Sb	As	Mo	W
DB 1	8	7	12	55
DB 2	LNR	LNR	LNR	LNR
DB 3	6	9	5	15
DB 4	6	48	10	<10
DB 5	4	38	7	15
DB 6	<4	3	2	<10
DB 7	<4	55	9	25
DB 8	4	10	14	<10
DB 9	8	12	5	<10
DB 10	8	18	7	<10
DB 11	10	3	<2	<10
UNITS	ppm	ppm	ppm	ppm
SCHEME	XRF1	XRF1	XRF1	XRF1

Sample No.	Au(ppm)	Rock Type	Location
MFK 001	<0.01	BIF	N.E. Corner of Western Lake
MFK 002	<0.01	Qtz-Fe vein	N.E,. Corner of Western Lake
MFK 003	<0.01	BIF	Western Side of Eastern Lake
MFK 004	0.10	Qtz-Fe vein	North Central Shore of Eastern Lake
MFK 005	0.03	"	"
MFK 006	<0.01	"	"
MFK 007	<0.01	"	"
MFK 008	<0.01	"	"
MFK 009	.28	"	"
MFK 010	<0.01	Meta-quartzite	West of Mt. Finke
MFK 011	<0.01	Qtz. rich granite	S.E. Corner of Western Lake
MFK 012	<0.01	Qtz-feld-tourmaline vein	"
MFK 013	<0.01	altered deformed granite	Base of Little Mt.Finke
MFK 014	<0.01	Greenstone	"
MFK 015	<0.01	Qtz-feld vein	"
MFK 016	0.51	Qtz-feld vein	"
MFK 017	<0.01	Greenstone	"
MFK 018	<0.01	Greenstone	"
MFK 020	<0.01	Tarcoola beds. Metaquarzite	North Central Shore of Eastern Lake
MFK 021	<0.01	Cherty-Fe enriched beds	"
MFK 022	<0.01	Cherty-Fe rich unit	"
MFK 023	<0.01	Host grey/black shales	"
MFK 024	0.01	Cherty horizon/pyritic	"
MFK 025	0.01	Cherty-fe horizon	"
MFK 026	<0.01	Cherty-banded-fe rock	N.E. Shore of Eastern Lake
MFK 027	<0.01	Fe formation	N.W. Shore of Eastern Lake
MFK 028	<0.01	Fe-ochrous black shale	N.E. Shore of Eastern Lake
MFK 029	<0.01	Grey to black shale	N.E. Shore of Eastern Lake
MFK 030	<0.01	Black carbonaceous shale	N.W. Central Shore of Eastern Lake
MFK 031	<0.01	Grey shale	"
MFK 032	<0.01	Weathered/altered shale	"
MFK 033	<0.01	White qtz. veins	S.W. Shore of Far-Eastern Lake

Lab : Comlabs
Table 3

Scheme : FAS1 Job No. 872053
Gold Assays EL 1383

COMLABS SERVICES PTY. LTD.

0128

ANALYTICAL REPORT

JOB COM872053
O/N : 1104

SAMPLE	Au
MFK 001	<0.01
MFK 002	<0.01
MFK 003	<0.01
MFK 004	0.10
MFK 005	0.03
MFK 006	<0.01
MFK 007	<0.01
MFK 008	<0.01
MFK 009	0.28
MFK 010	<0.01
MFK 011	<0.01
MFK 012	<0.01
MFK 013	<0.01
MFK 014	<0.01
MFK 015	<0.01
MFK 016	0.51
MFK 017	<0.01
MFK 018	<0.01
MFK 020	<0.01
MFK 021	<0.01
MFK 022	<0.01
MFK 023	<0.01
MFK 024	0.01
MFK 025	0.01
MFK 026	<0.01
UNITS	ppm
SCHEME	FAS1

COMLABS SERVICES PTY. LTD.

ANALYTICAL REPORT

JOB COM872053
O/N : 1104

SAMPLE	Au
MFK 027	<0.01
MFK 028	<0.01
MFK 029	<0.01
MFK 030	<0.01
MFK 031	<0.01
MFK 032	<0.01
MFK 033	<0.01
UNITS	ppm
SCHEME	FAS1

COMLABS SERVICES PTY. LTD.

ANALYTICAL REPORT

JOB COM872053
O/N : 1104

SAMPLE	Au	Sb	As	Mo	W
MFK 001	<0.01	<4	7	7	35
MFK 002	<0.01	4	6	18	15
MFK 003	<0.01	4	18	8	10
MFK 004	0.10	20	65	22	10
MFK 005	0.03	50	65	16	<10
MFK 006	<0.01	30	14	20	<10
MFK 007	<0.01	22	100	16	<10
MFK 008	<0.01	4	70	14	10
MFK 009	0.28	20	100	6	<10
MFK 010	<0.01	6	2	12	<10
MFK 011	<0.01	6	<2	6	<10
MFK 012	<0.01	<4	<2	7	<10
MFK 013	<0.01	4	10	4	<10
MFK 014	<0.01	6	5	2	<10
MFK 015	<0.01	<4	7	7	10
MFK 016	0.51	8	8	10	<10
MFK 017	<0.01	16	6	<2	<10
MFK 018	<0.01	6	8	<2	<10
MFK 020	<0.01	6	7	16	<10
MFK 021	<0.01	6	12	9	<10
MFK 022	<0.01	4	14	12	20
MFK 023	<0.01	12	28	9	<10
MFK 024	0.01	6	30	6	<10
MFK 025	0.01	110	125	14	<10
MFK 026	<0.01	10	18	8	<10
UNITS	ppm	ppm	ppm	ppm	ppm
SCHEME	FAS1	XRF1	XRF1	XRF1	XRF1

0131

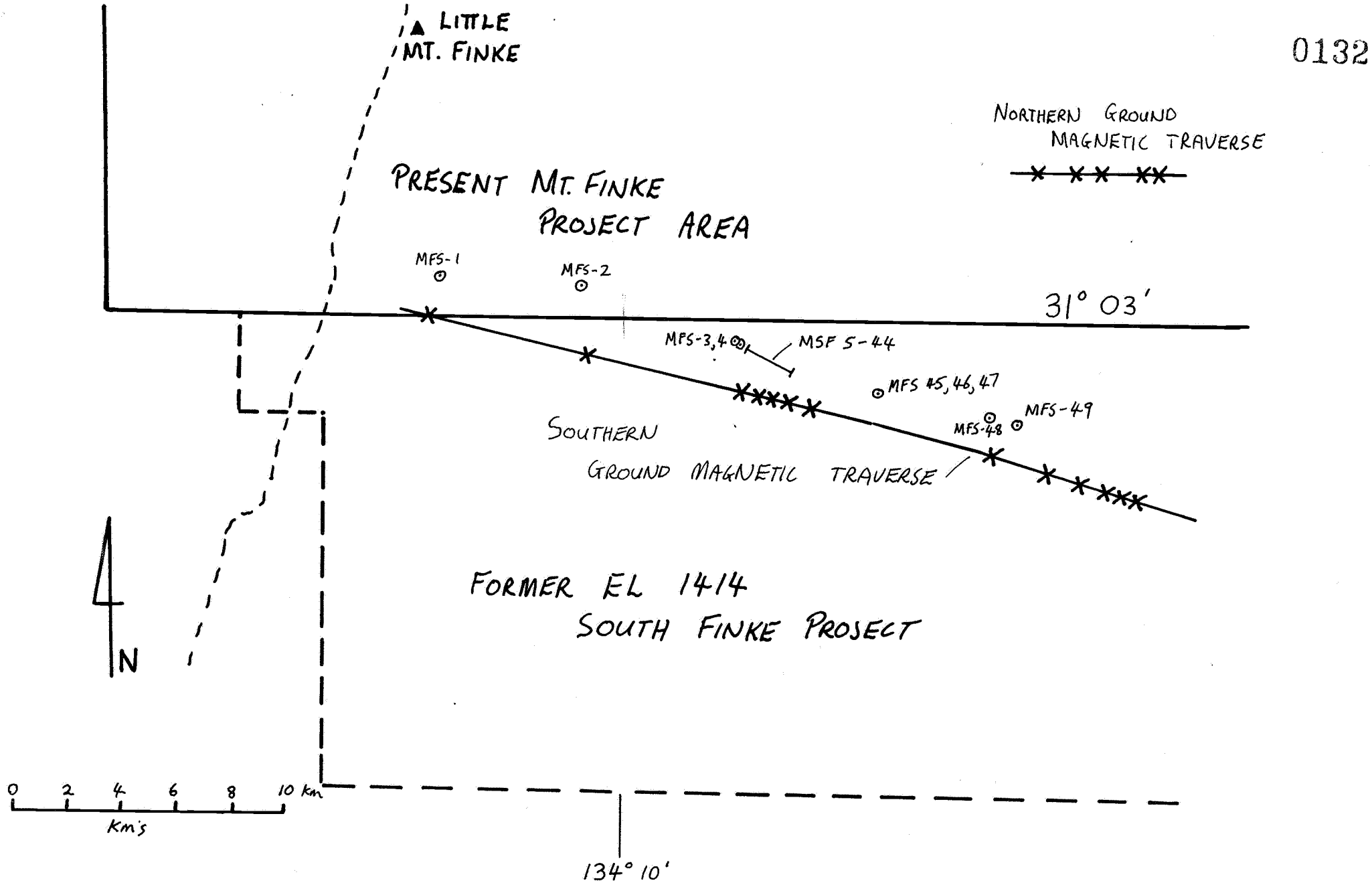
ANALYTICAL REPORT

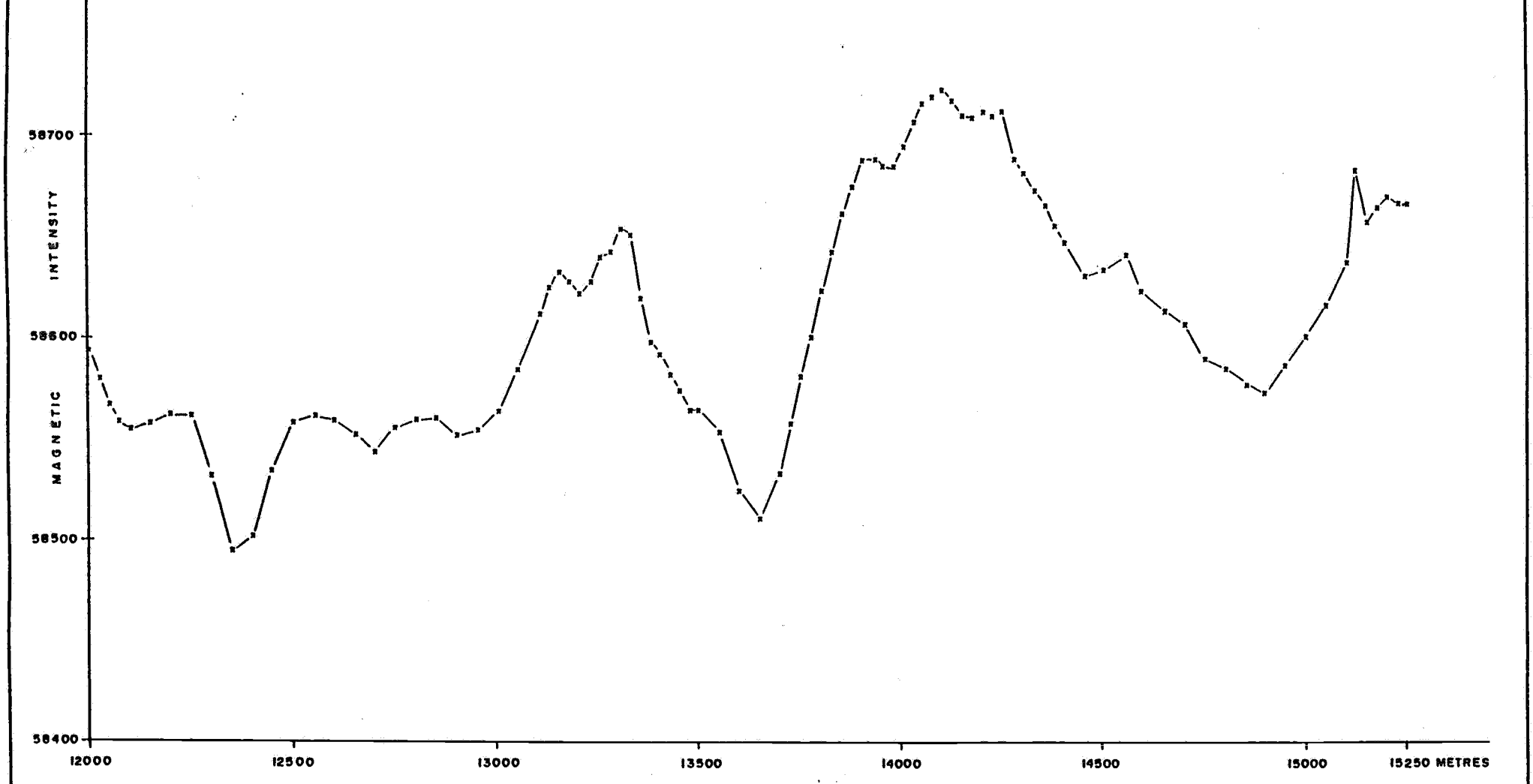
JOB COM872053
O/N : 1104

SAMPLE	Au	Sb	As	Mo	W
MFK 027	<0.01	780	290	16	40
MFK 028	<0.01	16	38	4	<10
MFK 029	<0.01	18	14	4	15
MFK 030	<0.01	12	180	7	<10
MFK 031	<0.01	4	16	7	<10
MFK 032	<0.01	10	10	<2	<10
MFK 033	<0.01	6	<2	6	<10
UNITS	ppm	ppm	ppm	ppm	ppm
SCHEME	FAS1	XRF1	XRF1	XRF1	XRF1

APPENDIX 2

SOUTH FINKE PROJECT : GROUND MAGNETIC & RAB HOLE LOCATIONS



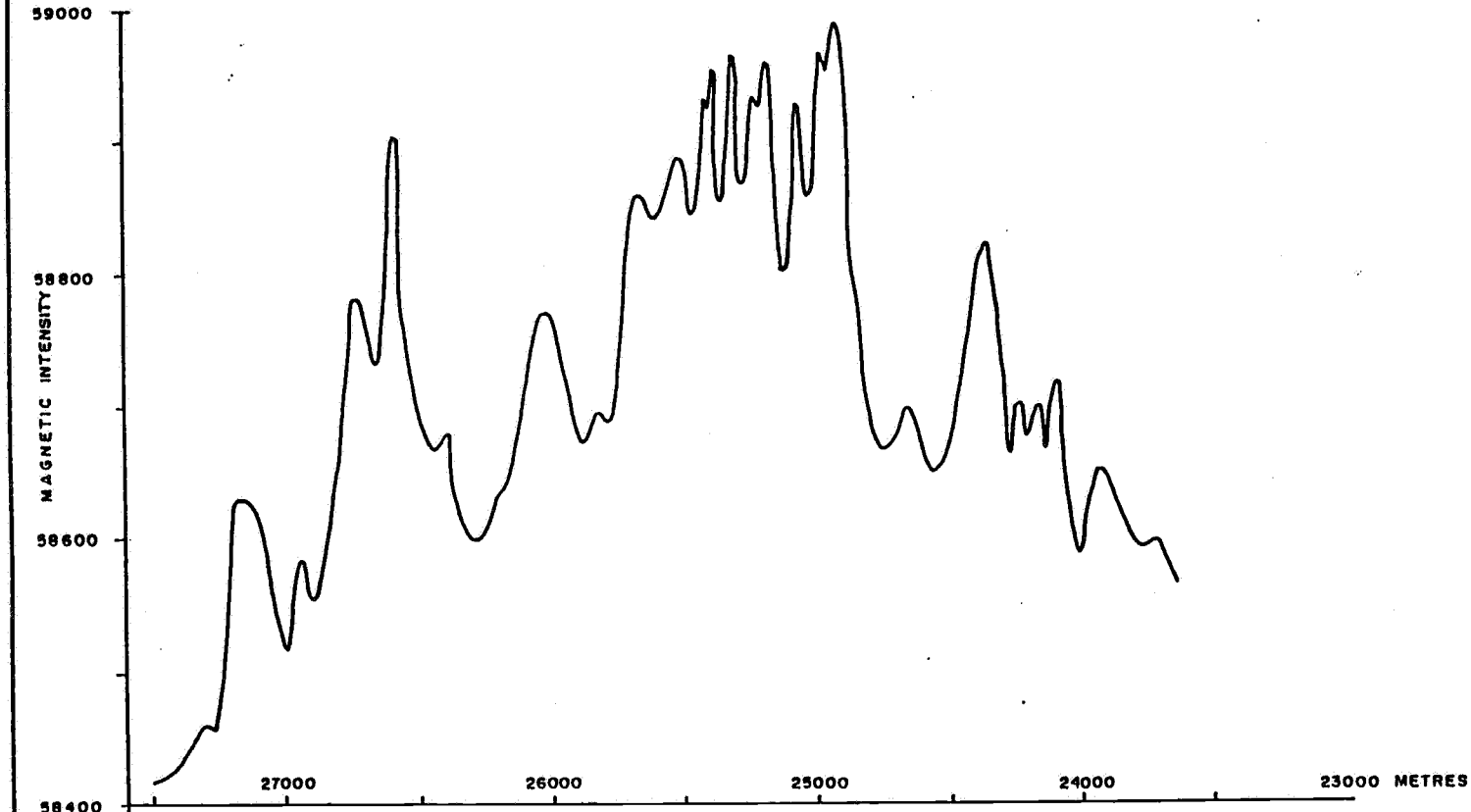


0133

TARCOOLA GOLD LIMITED

E.L.1414 — SOUTH FINKE
MAGNETIC INTENSITY DIAGRAM
NORTHERN LINE
12000 – 15250 metres

Author : P. IVY	DATE : Nov. 1987	FIG : 7

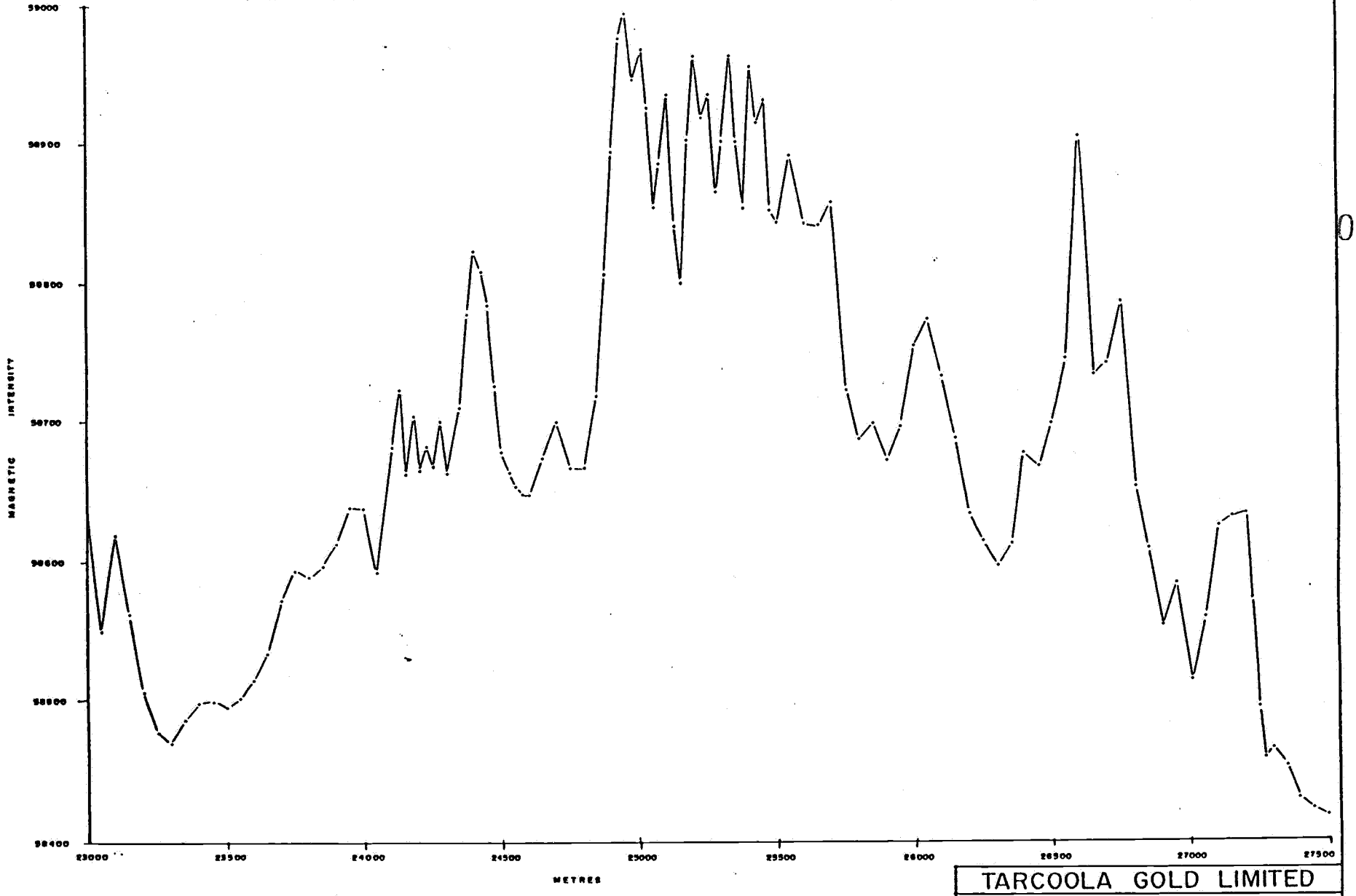


TARCOOLA GOLD LIMITED

E.L. 1414 — SOUTH FINKE

RELATIONSHIP OF BEDROCK DEPTH TO GROUND MAGNETICS

Author : P. IVY	DATE : Nov. 1987	FIG : 5



TARCOOLA GOLD LIMITED

E.L.1414 — SOUTH FINKE
MAGNETIC INTENSITY DIAGRAM
SOUTHERN LINE
23000–27500 metres

Author : P. IVY	DATE : Nov 1987	FIG : 6

CLASSIC COMLABS LTD
Analytical Laboratories (INC. IN W.A.)

APPENDIX 3

0136

Job: 8AD1830
O/N: 1146

ANALYTICAL REPORT

SAMPLE	Au Avg	Au Dp1	Au Dp2	Au Dp3
373801	0.03	--	--	--
373802	0.01	--	--	--
373803	0.01	--	--	--
373804	0.03	--	--	--
373805	0.02	--	--	--
373806	<0.01	<0.01	<0.01	--
373807	<0.01	--	--	--
373808	0.02	--	--	--
373809	0.03	--	--	--
373810	0.02	--	--	--
373811	0.02	--	--	--
373812	0.02	--	--	--
373813	<0.01	--	--	--
373814	<0.01	<0.01	<0.01	--
373815	0.02	--	--	--
373816	0.01	--	--	--
373817	0.01	--	--	--
373818	0.03	--	--	--
373819	0.01	--	--	--
373820	0.01	--	--	--
373821	0.03	--	--	--
373822	<0.01	0.01	<0.01	--
373823	0.03	--	--	--
373824	0.02	--	--	--
373825	0.03	--	--	--
UNITS	ppm	ppm	ppm	ppm
SCHEME	FA1	FA1	FA1	FA1

CLASSIC COMLABS LTD
Analytical Laboratories (INC. IN W.A.)

0137

Job: 8AD1830
O/N: 1146

ANALYTICAL REPORT

SAMPLE	Au Avg	Au Dp1	Au Dp2	Au Dp3
373826	0.01	--	--	--
373827	0.01	--	--	--
373828	<0.01	--	--	--
373829	<0.01	--	--	--
373830	<0.01	<0.01	<0.01	--
373831	<0.01	--	--	--
373832	<0.01	--	--	--
373833	<0.01	--	--	--
373834	<0.01	--	--	--
373835	<0.01	--	--	--
373836	<0.01	<0.01	<0.01	--
373837	<0.01	--	--	--
373838	<0.01	--	--	--
373839	<0.01	--	--	--
373840	<0.01	--	--	--
373841	<0.01	--	--	--
373842	<0.01	--	--	--
373843	<0.01	--	--	--
373844	<0.01	<0.01	<0.01	--
373845	<0.01	--	--	--
373846	<0.01	--	--	--
373847	<0.01	--	--	--
373848	<0.01	--	--	--
373849	<0.01	--	--	--
373850	<0.01	--	--	--
UNITS	ppm	ppm	ppm	ppm
SCHEME	FA1	FA1	FA1	FA1

CLASSIC COMLABS LTD
Analytical Laboratories (INC. IN W.A.)

Job: 8AD1830
O/N: 1146

0138

ANALYTICAL REPORT

SAMPLE	Au Avg	Au Dp1	Au Dp2	Au Dp3
373851	<0.01	<0.01	<0.01	--
373852	<0.01	--	--	--
373853	<0.01	--	--	--
373854	<0.01	--	--	--
373855	<0.01	--	--	--
373856	<0.01	--	--	--
373857	<0.01	--	--	--
373858	<0.01	--	--	--
373859	0.01	--	--	--
373860	<0.01	--	--	--
373861	<0.01	<0.01	<0.01	--
373862	<0.01	--	--	--
373863	0.06	--	--	--
373864	<0.01	--	--	--
373865	<0.01	--	--	--
373866	<0.01	--	--	--
373867	0.01	--	--	--
373868	<0.01	--	--	--
373869	<0.01	--	--	--
373870	0.02	--	--	--
UNITS	ppm	ppm	ppm	ppm
SCHEME	FA1	FA1	FA1	FA1

CLASSIC COMLABS LTD
Analytical Laboratories (INC. IN W.A.)

Job: 8AD2098
O/N: 1152

0139

ANALYTICAL REPORT

SAMPLE	Au Avg	Au Dp1	Au Dp2	Au Dp3
373871	<0.01	<0.01	<0.01	--
373872	<0.01	--	--	--
373873	<0.01	--	--	--
373874	0.02	0.03	0.01	--
373875	0.01	--	--	--
373876	<0.01	--	--	--
373877	0.02	--	--	--
373878	<0.01	--	--	--
373879	<0.01	--	--	--
373880	<0.01	--	--	--
373881	<0.01	--	--	--
373882	0.01	--	--	--
373883	0.01	--	--	--
373884	0.01	--	--	--
373885	<0.01	--	--	--
373886	<0.01	--	--	--
373887	0.02	0.03	0.01	--
373888	<0.01	--	--	--
373889	<0.01	--	--	--
373890	<0.01	--	--	--
373891	<0.01	<0.01	<0.01	--
373892	0.01	--	--	--
373893	0.01	--	--	--
373894	<0.01	--	--	--
373895	<0.01	--	--	--
UNITS	ppm	ppm	ppm	ppm
SCHEME	FA1	FA1	FA1	FA1

CLASSIC COMLABS LTD
Analytical Laboratories (INC. IN W.A.)

Job: 8AD2098
O/N: 1152

0140

ANALYTICAL REPORT

SAMPLE	Au Avg	Au Dp1	Au Dp2	Au Dp3
373896	0.01	--	--	--
373897	<0.01	--	--	--
373898	0.03	--	--	--
373899	0.01	--	--	--
373900	<0.01	--	--	--
373901	0.02	--	--	--
373902	0.01	--	--	--
373903	0.02	--	--	--
373904	0.01	--	--	--
373905	0.05	--	--	--
373906	0.16	0.17	0.15	--
373907	0.07	0.06	0.07	--
373908	<0.01	--	--	--
373909	<0.01	--	--	--
373910	<0.01	--	--	--
373911	<0.01	0.01	<0.01	--
373912	<0.01	--	--	--
373913	0.01	--	--	--
373914	<0.01	--	--	--
373915	<0.01	--	--	--
373916	0.01	0.01	0.01	--
373917	0.01	--	--	--
373918	<0.01	--	--	--
373919	<0.01	--	--	--
373920	<0.01	--	--	--
UNITS	ppm	ppm	ppm	ppm
SCHEME	FA1	FA1	FA1	FA1

Job: 8AD2098
O/N: 1152

0141

ANALYTICAL REPORT

SAMPLE	Au Avg	Au Dp1	Au Dp2	Au Dp3
373921	<0.01	--	--	--
373922	0.01	--	--	--
373923	<0.01	--	--	--
373924	<0.01	--	--	--
373925	0.01	--	--	--
373926	<0.01	--	--	--
373927	<0.01	--	--	--
373928	0.01	--	--	--
373929	<0.01	--	--	--
373930	<0.01	--	--	--
373931	<0.01	<0.01	<0.01	--
373932	<0.01	0.01	<0.01	--
373933	<0.01	--	--	--
373934	<0.01	--	--	--
373935	<0.01	--	--	--
373936	<0.01	--	--	--
373937	<0.01	--	--	--
373938	0.01	--	--	--
373939	0.01	--	--	--
373940	<0.01	--	--	--
373941	<0.01	--	--	--
373942	<0.01	--	--	--
373943	<0.01	--	--	--
373944	0.68	0.82	0.54	--
373945	<0.01	--	--	--
UNITS	ppm	ppm	ppm	ppm
SCHEME	FA1	FA1	FA1	FA1

CLASSIC COMLABS LTD
Analytical Laboratories (INC. IN W.A.)

Job: 8AD2098
O/N: 1152

ANALYTICAL REPORT

SAMPLE	Au Avg	Au Dp1	Au Dp2	Au Dp3
373946	<0.01	--	--	--
373947	<0.01	--	--	--
373948	0.01	--	--	--
373949	0.01	--	--	--
373950	<0.01	--	--	--
373951	<0.01	<0.01	<0.01	--
373952	<0.01	--	--	--
373953	<0.01	--	--	--
373954	<0.01	--	--	--
373955	<0.01	--	--	--
373956	<0.01	--	--	--
373957	<0.01	--	--	--
373958	0.01	--	--	--
373959	<0.01	--	--	--
373960	<0.01	--	--	--
373961	<0.01	--	--	--
373962	<0.01	--	--	--
373963	<0.01	--	--	--
373964	<0.01	--	--	--
373965	0.01	--	--	--
373966	<0.01	--	--	--
373967	<0.01	--	--	--
373968	0.01	0.01	0.01	--
373969	<0.01	--	--	--
373970	<0.01	--	--	--
UNITS	ppm	ppm	ppm	ppm
SCHEME	FA1	FA1	FA1	FA1

CLASSIC COMLABS LTD
Analytical Laboratories (INC. IN W.A.)

Job: 8AD2098
O/N: 1152

0143

ANALYTICAL REPORT

SAMPLE	Au Avg	Au Dp1	Au Dp2	Au Dp3
373971	<0.01	<0.01	<0.01	--
373972	<0.01	--	--	--
373973	<0.01	--	--	--
373974	<0.01	--	--	--
373975	<0.01	--	--	--
373976	<0.01	<0.01	<0.01	--
373977	<0.01	--	--	--
373978	<0.01	--	--	--
373979	<0.01	--	--	--
373980	<0.01	0.01	<0.01	--
373981	0.01	--	--	--
UNITS	ppm	ppm	ppm	ppm
SCHEME	FA1	FA1	FA1	FA1

TARCOOLA GOLD LIMITED

INTERIM REPORT ON
EL Application previously

~~THIRD QUARTERLY REPORT ON~~
EXPLORATION LICENCE NO. 1449
MT. FINKE, SOUTH AUSTRALIA
FOR PERIOD ENDING 27 AUGUST 1988

Adelaide
August 1988

Justin Gum
Geologist

6844

COPY NO: 1

DISTRIBUTION

	COPY
S.A. DEPARTMENT OF MINES & ENERGY	ORIGINIAL
TARCOOLA GOLD LTD	1

KEYWORDS

MT. FINKE

EL 1449

GOLD ASSAYS

SAMPLING PROGRAM

AEROMAGNETIC SURVEY

EL 1449
MT. FINKE
Statement of Expenditure Incurred from May 28th to August 27th 1988

Geological & Geophysical cost	$29,696.21
Drilling Costs	-
Logistics	$2,957.80
Depreciation	-
Administration (5%)	$1,778.80
Total	$34,432.81

CONTENTS

		PAGE NO.
1.	SUMMARY	1
2.	INTRODUCTION	2
3.	FIELD INVESTIGATION	4
4.	AEROMAGNETIC SURVEY	6
5.	FORWARD PROGRAM	8

APPENDIX

1. GOLD ASSAYS BY CLASSIC COMLABS.
   JOB NUMBERS 8AD2051 and 8AD2693.

LIST OF ILLUSTRATIONS

	FIGURES	OPPOSITE PAGE NO.
1.	LOCALITY MAP, E.L. 1449, MT. FINKE AREA	1
2.	LOCATION OF SAMPLE SITES	4

PLANS - (IN POCKET)

PLATE 1

AEROMAGNETIC CONTOUR MAP OF MT. FINKE AREA
E.L. 1449 1:50,000 scale.

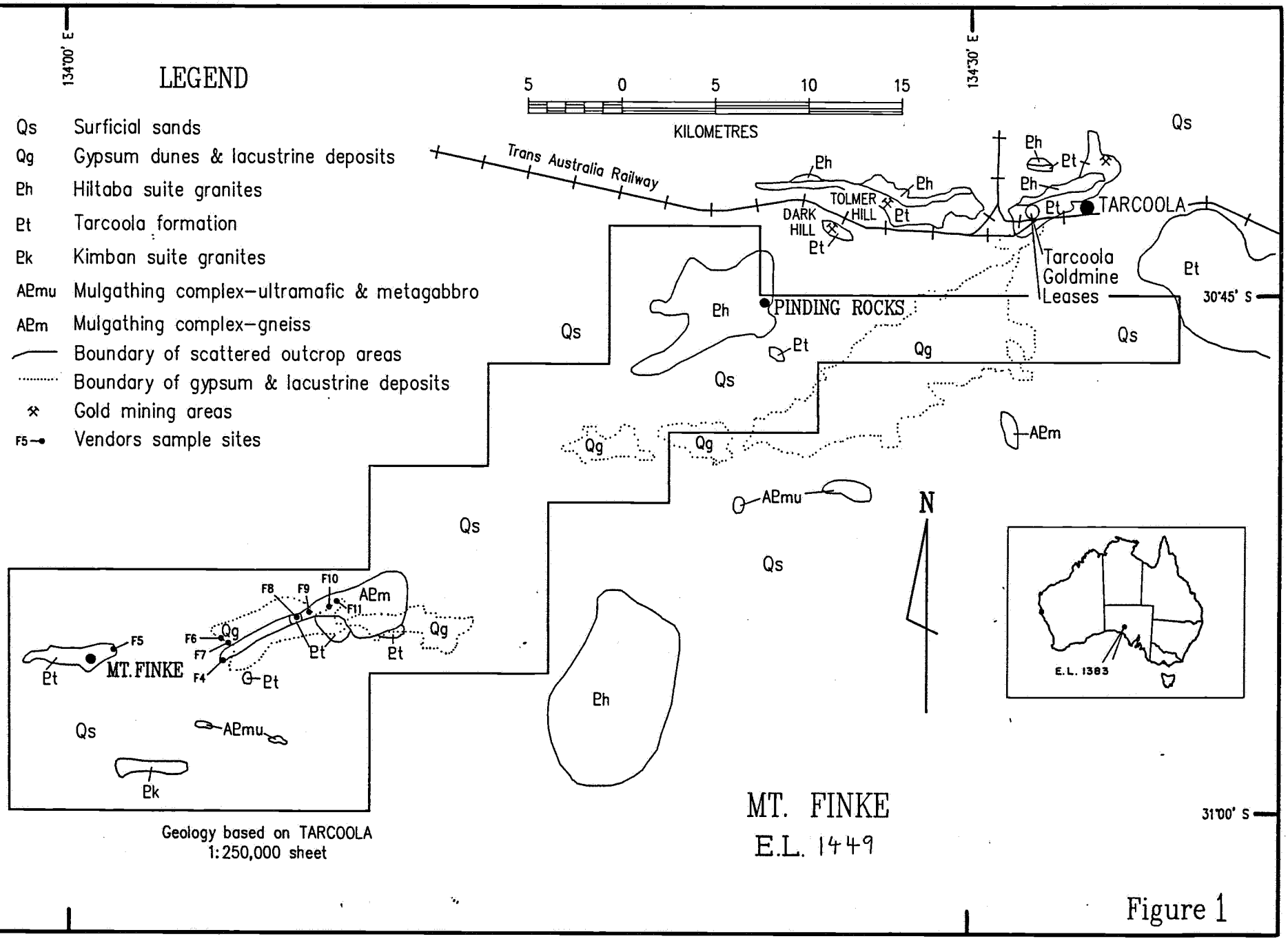

LEGEND
Qs Surficial sands
Qg Gypsum dunes & lacustrine deposits
Ph Hiltaba suite granites
Pt Tarcoola formation
Pk Kimban suite granites
APmu Mulgathing complex–ultramafic & metagabbro
APm Mulgathing complex–gneiss
Boundary of scattered outcrop areas
Boundary of gypsum & lacustrine deposits
Gold mining areas
F5 Vendors sample sites
134°00' E
134°30' E
5 0 5 10 15
KILOMETRES
Trans Australia Railway
TOLMER HILL
DARK HILL
TARCOOLA
Tarcoola Goldmine Leases
PINDING ROCKS
30°45' S
31°00' S
MT. FINKE
F4
F5
F6
F7
F8
F9
F10
F11
E.L. 1383
N
MT. FINKE
E.L. 1449
Geology based on TARCOOLA
1:250,000 sheet

Figure 1

1. SUMMARY

During this quarter, field work was carried out within EL 1449 in an attempt to locate the source of the gold nugget found during the surveying of the ground magnetic grid.

A further field trip covered most of the greenstones in the area to determine their prospectivity.

Arrival of the processed aeromagnetic data enabled interpretation of these maps and planning of further field work to begin.

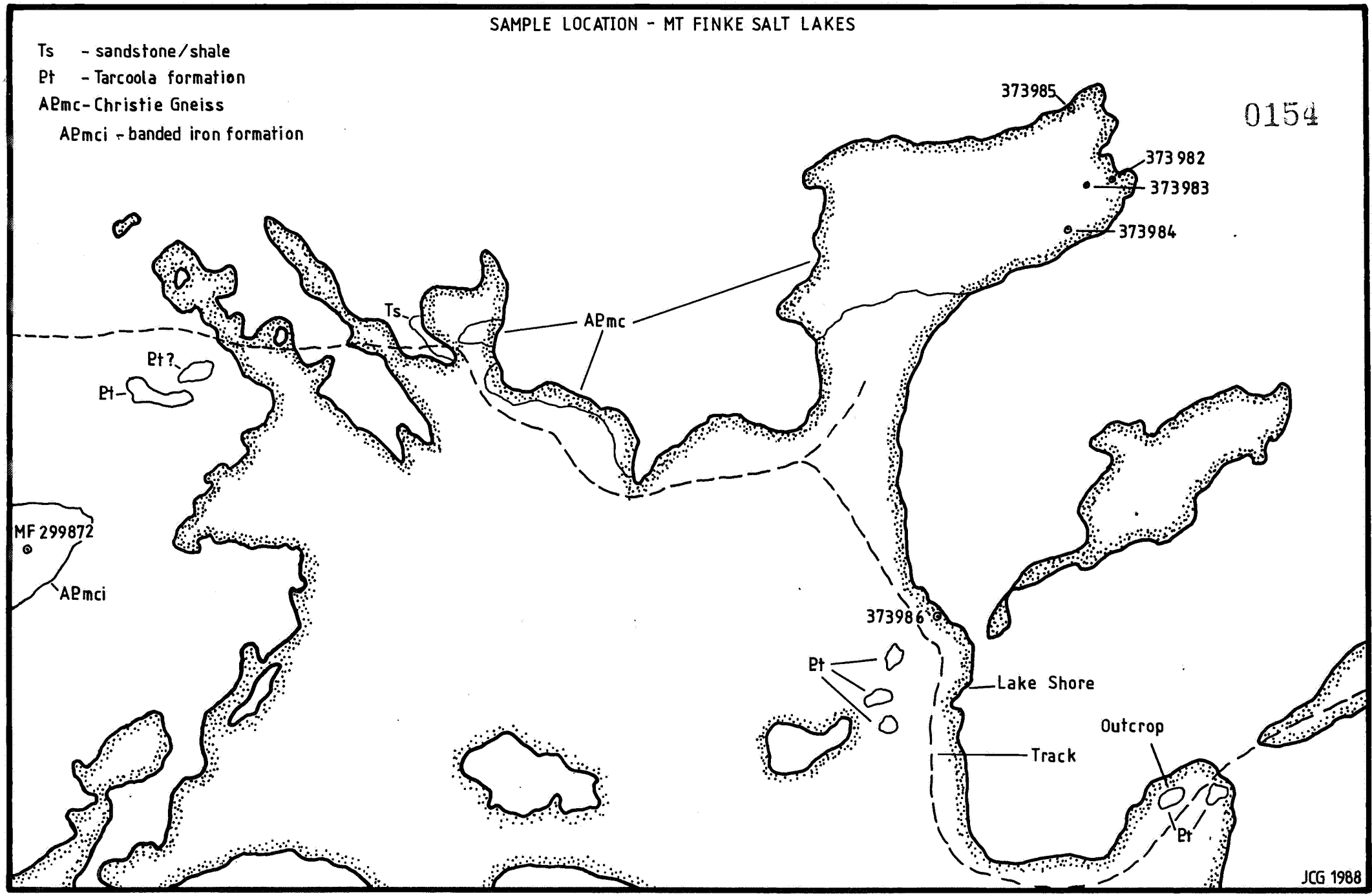
2. INTRODUCTION

This is the third quarterly report to the South Australian Department of Mines and Energy for Exploration Licence No. 1449, Mt. Finke area, being for the period May 28th to August 27th 1988.

The Mount Finke Licence covers an area of about 589 square kilometers extending south-west from Tarcoola (Figure 1). Much of the area is sand dune country with limited areas of scattered basement outcrop. The main areas of outcrop being the Mt. Finke and Pinding Rock areas.

The licence was originally granted to Insight Mining Pty. Ltd., now known as Tarcoola Gold Ltd on March 2nd, 1987 as EL 1383. Upon expiration of EL 1383 the licence was granted for a further six month period commencing November, 1987. Instead of extending this licence, it was allowed to drop so that it may be included with parts of El 1414 and EL 1447 in a new exploration licence, the details of which are yet to be finalized.

Archaean basement rocks of the Mulgathing Complex consist of gneissic metasediments including banded iron formations and constitute the major rock types in the area. These are intruded by the Archean Glenloth Granite and a set of amphibolitic dykes. They are also intruded during the Early Proterozoic by the Symons Granite and by the Hiltaba Granite during the late Proterozoic. Greenstones of Archaean age also outcrop in the EL at little Mt Finke. Sediments of the Tarcoola Formation outcrop at Mount Finke itself ang at Pinding Rocks.


SAMPLE LOCATION - MT FINKE SALT LAKES
Ts - sandstone/shale
Pt - Tarcoola formation
APmc - Christie Gneiss
APmci - banded iron formation
0154
373985
373982
373983
373984
Ts
APmc
Pt?
Pt
MF 299872
APmci
373986
Pt
Lake Shore
Outcrop
Track
Pt
JCG 1988
154

3. FIELD INVESTIGATIONS

During this quarter, two field trips were undertaken to the Mount Finke and surrounding salt lakes region.

The aim of the first trip was to try and locate the origin of the gold nugget found during the surveying of the ground magnetic grid. Previous sampling of the outcrops in the area had failed to locate any possible source. The nugget itself was an aggregate of gold-cemented sand. The orange, frosted grains of sand in the nugget were identical to those in the sediment around where the nugget was found. Thus several stream sediment samples were taken from the runoff areas about the lake (See Figure 2).

The assays of these samples showed very low or no grade (See Appendix 1), suggesting that the gold may have come from under the sand dunes but it is highly unlikely.

The second field trip to this area was planned to inspect the prospectivity of the greenstones in the region. Unfortunately we were unable to reach some of the outcrops due to the impassable nature of the sand dunes in the area.

The aeromagnetic survey described below had determined a possible long narrow band of greenstones, however most of this area is covered by the sand dunes. The greenstones that were investigated and sampled did not return encouraging results (See Appendix 1).

4. AEROMAGNETIC SURVEY

The aeromagnetic survey which was flown for Tarcoola Gold Ltd by Aerodata, has given us a much clearer picture of the rock relationships around the Mt Finke and salt lakes region. The data was also processed by Image Processing Services, Brisbane, to provide several shaded and otherwise refined slides. They also fitted the detailed data into the regional data we had previously processed with IPS. This enabled us to determine the relationships described below.

The magnetic contour map is dominated by the banded iron formations within the metasediments of the Mulgathing Complex. These form an en echelon pattern running southwest to northeast. They appear to be cut by three major faults, two of which run northwest to southeast. The other runs almost perpendicular to the other faults (See Plan 1).

A second series of weakly magnetic units runs parallel to the Banded Iron Formations. These are also cut by the faults mentioned above.

At the bottom of the map, we find a thin band of greenstones wedged between two belts of granite. They have only a slight magnetic signiture. They run at a shallow angle to the Banded Iron Formations. Below the greenstones we find a very clear

transition into the characteristic granite pattern of the Symons Granite.

It is difficult to say where the Symons granite above the greenstones ends and the Mulgathing Complex begins. An added complication is the presence of the Glenloth granite in this area. The Glenloth granite is part of the Mulgathing Complex and is seen to outcrop between the greenstones and the Banded Iron Formations. The interpreted boundry could fall along any one of several magnetic trends.

The surveyed area may also cover granites above the Mulgathing Complex but the pattern is not typical of granite terrain and more coverage of the surrounding areas would be what is required to resolve this question. No outcrop in this area exsists to confirm or deny this interpretation.

The faults mentioned above are only the most major of the lineaments seen in the surveyed region. Other faults may be responsible for the disected nature of the Banded Iron Formations. They may also have displaced these units so that the magnetic highs seen elsewhere within the Mulgathing Complex and the Symons Granite are in fact Banded Iron Formations.

Further work suggested by this data is outlined below.

5. FORWARD PROGRAM

From the previus work outlined in the above report of activities, several areas of further study have become apparent. They are however in country that is most difficult to explore.

Most exploration that could easily be accomplished has been done. Further work will entail Rotary Air Blast drilling on sites delineated mainly by the aeromagnetic survey.

A detailed stream sediment survey of the channels in the area could also be undertaken to outline areas of geochemical anomaly to be targeted for RAB drilling. Streams are quite rare in the area so the effectiveness of this type of program is in doubt.

Before the RAB drilling program is undertaken, it would be preferable if more information could be discoverd about the greenstone band passing through the area. The most conveneiant way that this could be undertaken is by the mapping and sampling of greenstone outcrops.. As most outcrops are not readily accessable, a helicopter survey would be the best possible method to use. The stream sampling program could also be conducted in conjunction with this program..

These programs are currently being planned and work on them will continue in the future.

APPENDIX 1

GOLD ASSAYS BY COMLABS
JOB NO COM 8AD2051
JOB NO COM 8AD2693

CLASSIC COMLABS LTD
Analytical Laboratories (INC. IN W.A.)

305 South Road, Mile End South, South Australia, 5031
Telephone: (08) 43 5722 Fax: (08) 234 0321 Telex: LABCOM AA89323

RECEIVED
20 JUN 1988
FILE: .....

Mr. Genesio Circosta
Tarcoola Gold Ltd.
C/- Tarcoola Post Office
Tarcoola
SA 5710 Australia

JOB NUMBER: 8AD2051

Your Reference: 1157

Date Received: 15-JUN-1988 Turnaround 2 days
Date Relayed: 17-JUN-1988
Date Reported: 17-JUN-1988

Number of Samples: 5

Report Analyte Codes
N.A. - Not Analysed.
L.N.R. - Listed But Not Received.
I.S. - Insufficent Sample for Analysis.

Report Comprising: Cover Sheet
Pages 1 to 1

Comments:

Report Dist'n: Carbon Copies(CC),Electronic Media(EM),Magnetic Media(MM)

Type	Recipient	Location	Date	Copies
CC	Mr. Genesio Circosta	Kent Town	17-JUN-88	2

Approved Signature:

for

Harry Fishman
Managing Director.
CLASSIC COMLABS LTD
(Please address any enquiries to Mr. Trevor Francis)

This report relates specifically to the sample(s) tested in so far as that the sample(s) is truly representative of the sample source as supplied.

CLASSIC COMLABS LTD

Analytical Laboratories (INC. IN W.A.)

Job: 8AD2051
O/N: 1157

ANALYTICAL REPORT

SAMPLE	Au Avg	Au Dp1	Au Dp2	Au Dp3
373982	<0.01	<0.01	<0.01	--
373983	<0.01	--	--	--
373984	0.07	--	--	--
373985	0.03	--	--	--
373986	<0.01	--	--	--
UNITS	ppm	ppm	ppm	ppm
SCHEME	FA1	FA1	FA1	FA1

[redacted] CLASSIC COMLABS LTD
Analytical Laboratories (INC. IN W.A.)
305 South Road, Mile End South, South Australia, 5031
Telephone: (08) 43 5722 Fax: (08) 234 0321 Telex: LABCOM AA89323

RECEIVED
19 AUG 1988
FILE: 1..21..

Mr. Justin Gum
Tarcoola Gold Ltd.
68 North Terrace
KENT TOWN
SA 5067 Australia

JOB NUMBER: 8AD2693

Your Reference: 1192

Date Received: 15-AUG-1988 Turnaround 2 days
Date Relayed: 17-AUG-1988
Date Reported: 17-AUG-1988

Number of Samples: 3

Report Analyte Codes
N.A. - Not Analysed.
L.N.R. - Listed But Not Received.
I.S. - Insufficent Sample for Analysis.

Report Comprising: Cover Sheet
Pages 1 to 1

Comments:

Report Dist'n: Carbon Copies(CC),Electronic Media(EM),Magnetic Media(MM)

Type	Recipient	Location	Date	Copies
CC	Mr. Justin Gum	Kent Town	17-AUG-1988	1

Approved Signature:

for Harry Fishman

Harry Fishman
Managing Director.
CLASSIC COMLABS LTD
(Please address any enquiries to Mr. Trevor Francis)

This report relates specifically to the sample(s) tested in so far as that the sample(s) is truly representative of the sample source as supplied.

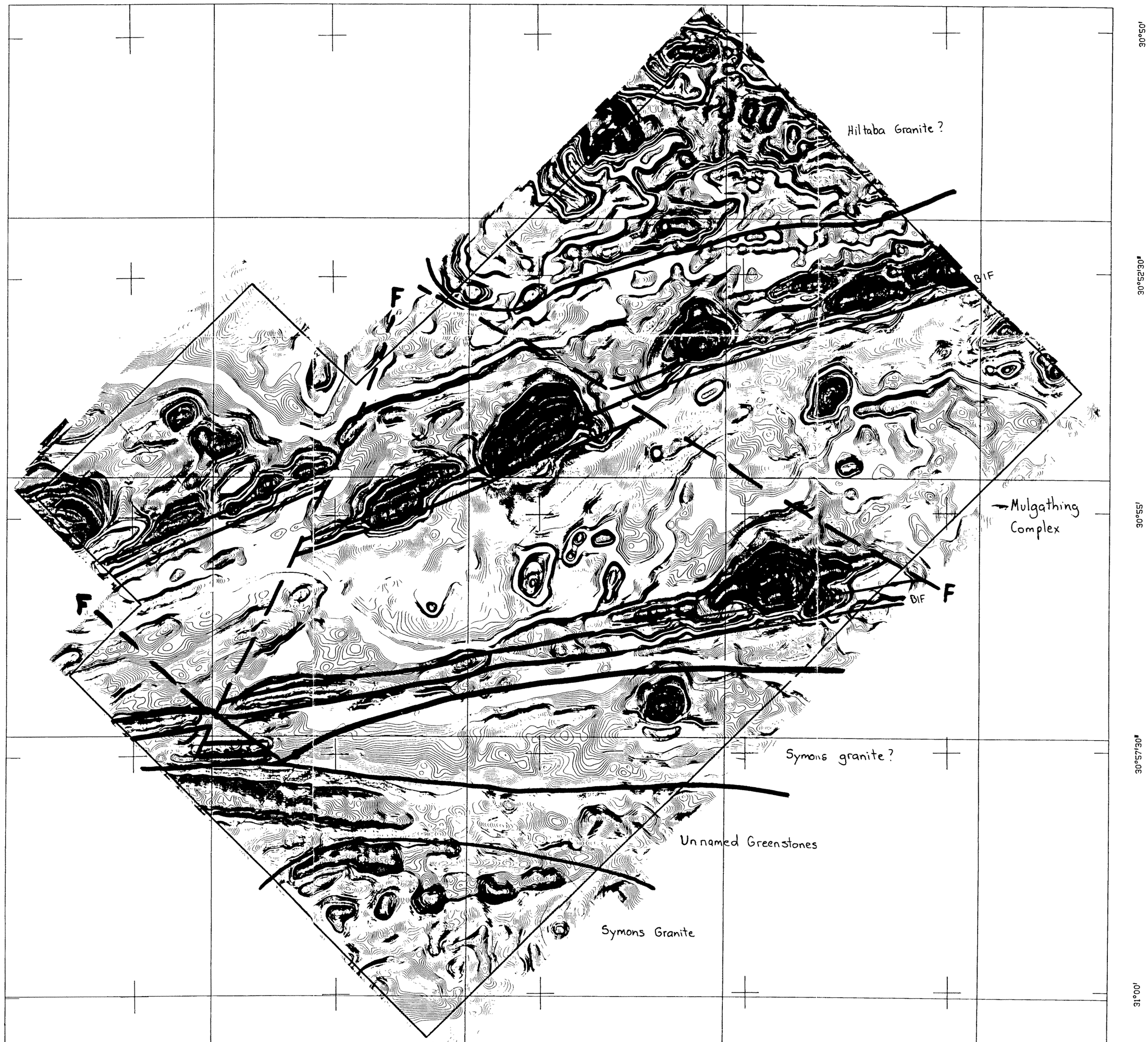
CLASSIC COMLABS LTD
Analytical Laboratories (INC. IN W.A.)

Job: 8AD2693
O/N: 1192

ANALYTICAL REPORT

SAMPLE	Au Avg	Au Dp1	Au Dp2	Au Dp3
MF 299871	<0.01	<0.01	<0.01	--
MF 299872	<0.01	--	--	--
MF 299873	<0.01	0.01	<0.01	--
UNITS	ppm	ppm	ppm	ppm
SCHEME	FA1	FA1	FA1	FA1

134°02'30"
134°05'
134°07'30"
134°10'
134°12'30"
30°50'
30°52'30"
30°55'
30°57'30"
31°00'
6585000
6580000
6575000
6570000
410000
415000
420000
425000



PLAN 1

MT. FINKE
AIRBORNE GEOPHYSICAL SURVEY

TARCOOLA GOLD LTD.

Surveyed and compiled by AERODATA HOLDINGS LIMITED
JUNE – JULY 1988
Job No. 1137

AERODATA

MAGNETIC CONTOUR MAP

DATA PROCESSING

REGIONAL FIELD	IGRF MODEL 1985 REMOVED
GRID CELL SIZE	70 metres
CONTOUR INTERVAL	5 nanoTeslas
PARALLAX CORRECTION	3.00 fiducials
BASE VALUE ADDED	58000 nanoTeslas

SURVEY SPECIFICATIONS

AIRCRAFT
VH-ADH CESSNA 206 STATIONAIR II

MAGNETOMETER

SPLIT BEAM CESIUM SCINTREX V201	
RESOLUTION	0.04 nanoTesla
CYCLE RATE	0.3 seconds
SAMPLE INTERVAL	15 metres

SPECTROMETER

256 CHANNEL EXPLORANIUM GR800B	
VOLUME	16.78 litres
CYCLE RATE	1.2 seconds
SAMPLE INTERVAL	60 metres

DATA ACQUISITION
8 CHANNEL WATANABE MC 6700 CHART RECORDER
HEWLETT PACKARD 9825 COMPUTER
AERODATA DIGITAL ACQUISITION SYSTEM

FLIGHT LINE SPACING

TRAVERSE LINES	200 metres
TIE LINES	2000 metres

FLIGHT LINE DIRECTION

TRAVERSE LINES	135 - 315 degrees
TIE LINES	045 - 225 degrees

SURVEY HEIGHT
60 metres - MEAN TERRAIN CLEARANCE

NAVIGATION
Using SYLEDIS UHF positioning system

COLOUR LEGEND

5870 >	< 58960
5880 >	< 59020
5880 >	< 59120
5895 >	>= 59120

grid north
true north
magnetic north

north point relationships are shown for the centre of the map. magnetic north is true for 1980.

grid/magnetic angle	5°41'41"
grid convergence	-0°26'52.04"
secular variation	0°0'52" east per year

6844-10

Scale 1:50 000

1 0 1 2 3 4 5 km

AUSTRALIAN MAP GRID

TARCOOLA GOLD LTD.

1st Fl., 68 North Terrace, Kent Town, South Australia 5067
Postal Address: P.O. Box 2010 Kent Town, South Australia 5071
Telex: AA88765 (Att. AD998) Facsimile: (08) 363 1920
Telephone: National (08) 363 1663 International + 618 363 1663

File ref:P.40.40

16 December 1988

Director-General
Department of Mines & Energy
PO Box 151
EASTWOOD SA 5063

Dear Sir,

FIRST QUARTERLY REPORT ON EL 1525, MT. FINKE
FOR PERIOD SEPTEMBER 29TH TO DECEMBER 28TH, 1988

During this period no field work was undertaken in the area of the lease due to commitments within other exploration and mining leases.

Tarcoola Gold Ltd is in the process of negotiating joint ventures with several companies who would like to conduct exploration in the area.

The highly prospective nature of the area is of great interest both to Tarcoola Gold and the companies with whom we are presently negotiating.

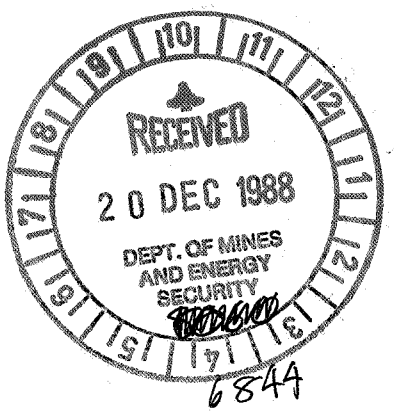
It is hoped that an extensive exploration program will be conducted in the near future.

Expenditure for the period totalled $10,336.66 and is detailed on the attached Statement of Expenditure.

Yours faithfully,

JUSTIN GUM
GEOLOGIST

jg:jg
FINK2.1Q



EL 1525

MT FINKE

Statement of Expenditure Incurred
from September 29th to December 28th 1988

Geological and geophysical	$9,728.15
Drilling	-
Logistics	$608.51
Depreciation	-
Administration	-
Total	$10,336.66
Cumulative total to 28th December 1988	$10,336.66

TARCOOLA GOLD LTD.

1st Fl., 44 Ventnor Avenue, West Perth, Western Australia 6005
Postal Address: P.O. Box 913, West Perth, Western Australia 6005
Telex: AA96941 Facsimile: (09) 481 3330
Telephone: (09) 481 3322

17 May 1989

Director General
Department of Mines and Energy
PO Box 151
EASTWOOD SA 5063

Dear Sir

Re SECOND QUARTERLY REPORT ON EL 1525, MT FINKE,
FOR THE PERIOD ENDING 28 MARCH, 1989

During the past period no field work was done as the company underwent staff changes and relocated to Perth.

A comprehensive re-assessment of all exploration data has been completed and the data from ground magnetic surveys and an aerial magnetic survey over the Lakes and Mt Finke areas is currently being re-processed. Field exploration work is planned to investigate targets outlined by this work.

Expenditure for the period totalled $13,984 and is detailed in the attached statement of expenditure.

Yours faithfully
TARCOOLA GOLD LIMITED

MR R N McLEAN
Exploration Manager

T028/1
Enc

EL 1525

MT FINKE PROJECT

STATEMENT OF EXPENDITURE INCURRED FROM
29 DECEMBER 1988 TO 28 MARCH 1989

	$
Consultancy Fees	12,446
Drilling	-
Geochemistry	-
Geophysics	-
Logistics	-
Field Expenses	-
Administration	1,538
TOTAL	13,984
CUMULATIVE TOTAL TO 28 MARCH 1989	$24,320

II

0169

TARCOOLA GOLD LIMITED

MT FINKE PROJECT

FINAL REPORT

OCTOBER 1989

MA07

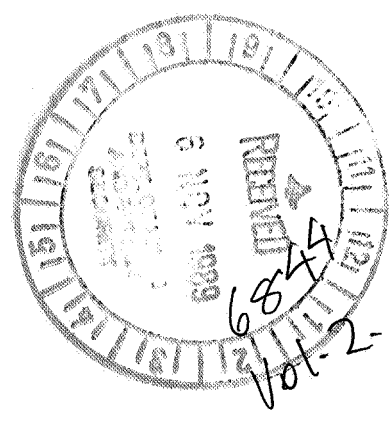


TABLE OF CONTENTS

1.0 SUMMARY

2.0 INTRODUCTION

3.0 HISTORY AND PREVIOUS EXPLORATION

4.0 GEOLOGY AND MINERALIZATION POTENTIAL

5.0 WORK CONDUCTED BY TARCOOLA GOLD LIMITED

- 5.1 RECONNAISSANCE SAMPLING
- 5.2 AIR PHOTO INTERPRETATION
- 5.3 REGIONAL AEROMAGNETIC INTERPRETATION
- 5.4 GROUND MAGNETIC SURVEY - MT FINKE SOUTH
- 5.5 RECONNAISSANCE RAB DRILLING
- 5.6 AEROMAGNETIC SURVEY - MT FINKE
- 5.7 GROUND MAGNETIC SURVEY - PINDING ROCKS
- 5.8 FOLLOW-UP GEOCHEMICAL SAMPLING - LAKES PROSPECT

APPENDIX 1 RECONNAISSANCE SAMPLING GEOCHEMISTRY

APPENDIX 2 GROUNG MAGNETICS AND RAB - MT FINKE SOUTH

APPENDIX 3 FOLLOW-UP SAMPLING GEOCHEMISTRY

LIST OF FIGURES

1. LOCATION MAP

2. OUTCROP GEOLOGY AND RECONNAISSANCE SAMPLING LOCATIONS

3. REGIONAL AEROMAGNETIC CONTOURS

4. BASE PLAN

5. AEROMAGNETIC CONTOURS: MT FINKE AREA

6. GROUND MAGNETIC CONTOURS: PINDING ROCKS REGION

7. DETAILED SAMPLING: LAKES AREA

1.0 SUMMARY

The Mt Finke EL incorporates a large area of sand dunes overlying what is interpreted to be Archaean basement. The basement includes both greenstones and Banded Iron Formation and has been subjected to granulite facies metamorphism.

Reconnaissance sampling has returned gold values up to 1.47 g/t Au from areas with no evidence of past prospecting or production. In addition a small gold nugget was found in the bed of a lake to the east of Mt Finke.

2.0 INTRODUCTION

The Mt Finke Exploration Licence is located approximately 600 kilometres north west of Adelaide and covers an area of 1161 square kilometres extending south west from Tarcoola (see figure 1). Much of the area is sand dune country with isolated area of outcrop, predominantly at Mt Finke and Pinding Rocks.

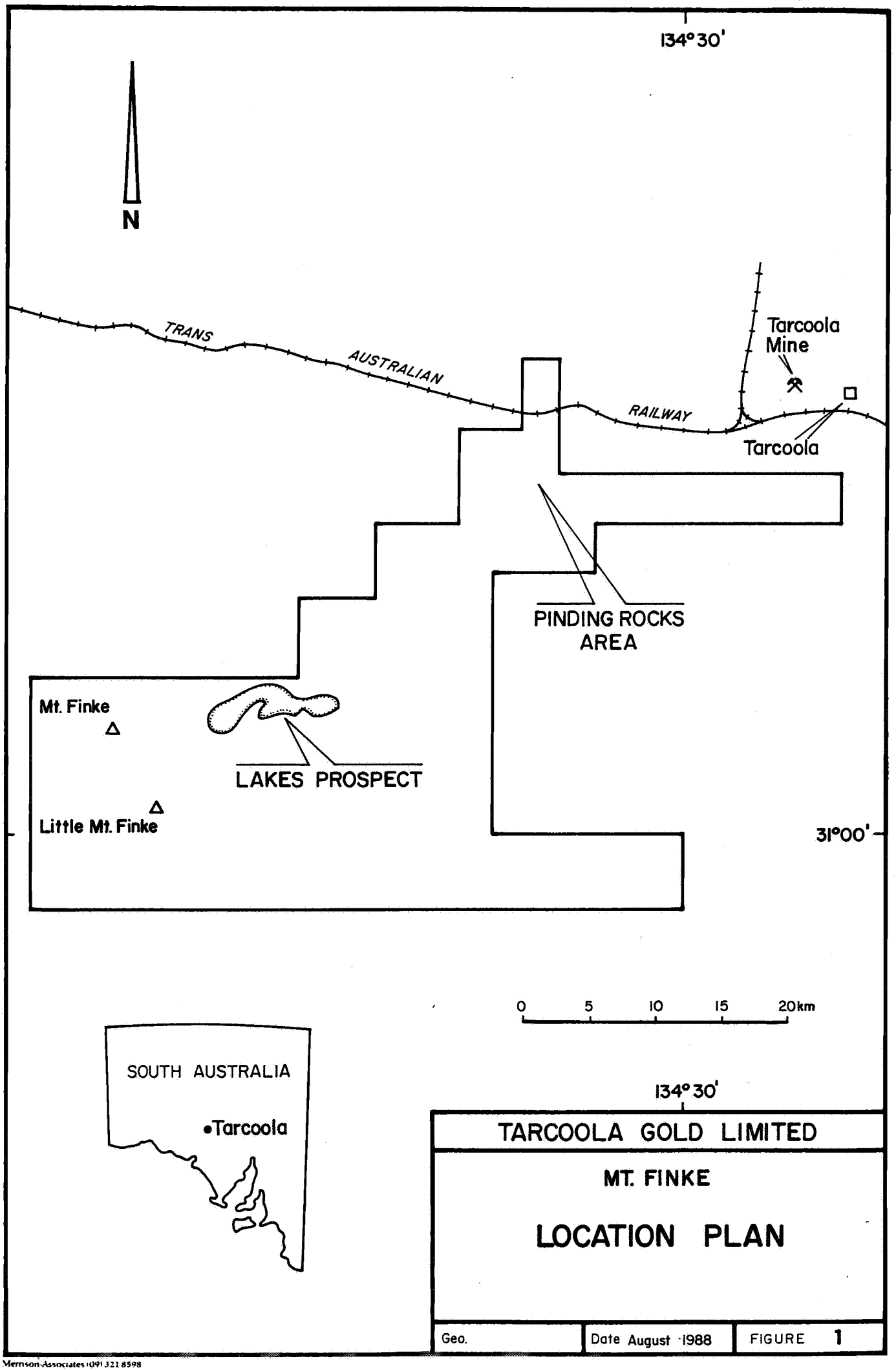
Previously Tarcoola Gold had two contiguous tenements (EL's 1383 and 1414) in this area, but recently the best areas from each EL have been combined under one licence.

3.0 HISTORY AND PREVIOUS EXPLORATION

The area appears to have recieved little attention from early prospectors, no doubt because of the wide expanse of arid sandhill country. In 1900, Surveyor of Mines Brown, reported prospecting pits on quartz veins in shales at Mt Finke and referred to a similarity to the Tarcoola Gold Mine.

Archean Exploration PL carried out reconnaissance sampling over the area in 1971 and defined an area containing anomalous base metals, silver and bismuth immediately south of Pinding Rocks. Apart from the granitic boulders of Pinding Rocks, outcrop is restricted to small areas of granite, porphyry, basic intrusives and greissenized granite. Areas of quartzite float represent probable Tarcoola Formation. Mineralization occurs in areas of gossanous quartz-veined greissenized granite with silver values up to 21 ounces per tonne (653 g/t) obtained. Follow-up soil geochemistry and geophysics indicated an anomalous zone 2.5 kilometres in length. No gold was detected, however assays were semi-quantitative with a detection limit of 3 g/t, so are not considered reliable.

These anomalies were confirmed by Langsford (1972) and Aberfoyle Exploration Pty Ltd in 1981. Aberfoyle also analysed for gold and obtained values up to 0.3 ppm, but follow up RAB drilling failed to substantiate this.



TARCOOLA GOLD LIMITED

MT. FINKE

LOCATION PLAN

Geo.	Date August 1988	FIGURE 1


TARCOOLA MINE
Tarcoola Town
TRANS AUSTRALIAN RAILWAY
Pinding Rocks
SANDY TANK
Anomalous Ag, Bi, Zn (Abertoyle)
LEGEND
QUATERNARY
Qha Alluvium
Qs Sands
Qg Gypsum dunes
Qt Saline and gypsiferous paleosols
Qpt Clayey paleosols
TERTIARY
Ts Quartz sand
PROTEROZOIC
Symons granite
Hiltaba granite
Fabian quartzite member
ARCHAEAN
MULGATHING COMPLEX
Christie gneiss
Banded iron formation
Undifferentiated MULGATHING COMPLEX
Geological boundary
Track
Railroad
Fence
Tenement boundary
Well or tank
Sample location and number
N
Scale 1: 50,000
6844-11
TARCOOLA GOLD LIMITED
MT FINKE PROJECT
OUTCROP GEOLOGY AND RECONNAISSANCE SAMPLING LOCATIONS
Geologist R.McL.
Date August 1988
PLAN 2

400 000 E | 134°00'E | 410 000 E | 420 000 E | 134°10'E | 430 000 E | 134°20'E | 440 000 E | 450 000 E | 134°30'

6600 000N

6590 000N

30° 50'

6580 000 N

31° 00'S
6570 000N

6560 000 N

TENEMENT BOUNDARY

Scale 1:50 000

TARCOOLA GOLD LIMITED

MT FINKE PROJECT

REGIONAL
AEROMAGNETIC CONTOUR MAP

6844-12

Geologist. R.McL.	Date August 1988	PLAN. 3

BULGA WELL

TARCOOLA-ALICE SPRINGS RAILWAY

TARCOOLA MINE

Tarcoola Town

TRANS AUSTRALIAN RAILWAY

Quarry

PINDING WEST TANK

CLAYSONS WELL & TANK

SANDY TANK

Pinding Rocks

PINDING EAST TANK

KIERNS WELL

Vermin Proof Fence

Hut

Deception Hill

1 : 25 000
AEROMAGNETIC CONTOUR
MAP LOCATION

1 : 10 000
PINDING ROCKS
GROUND MAGNETIC
CONTOUR MAP LOCATION

Survey

Mt Finke

Little Mt Finke

133°58'

MAGNETIC

HIGH

Fence of RAB Holes drilled across magnetic high approximately 1km south of tenement.

MFS 1

MFS 2

N

0 1 2 3 4 5km
Scale 1 : 50,000

6844-13

TARCOOLA GOLD LIMITED

MT FINKE PROJECT

BASE PLAN
LOCATION OF DETAILED MAGNETIC SURVEYS & RAB DRILLING

Geologist: R.McL.	Date: August 1988	PLAN 4

SURVEY SPECIFICATIONS

MT. FINKE
AIRBORNE GEOPHYSICAL SURVEY

TARCOOLA GOLD LTD

MAGNETIC CONTOUR MAP

6844-14

TARCOOLA GOLD LIMITED

MT FINKE PROJECT

MAGNETIC CONTOURS
MT FINKE AREA

Geologist N McL | Date August 1988 | PLAN No. 5

CONTOUR INTERVAL OF 5 GAMMAS

SURVEY BY SEARCH EXPLORATION PTY LTD

PROCESSED BY TECHNICAL COMPUTER SYSTEMS PTY LTD

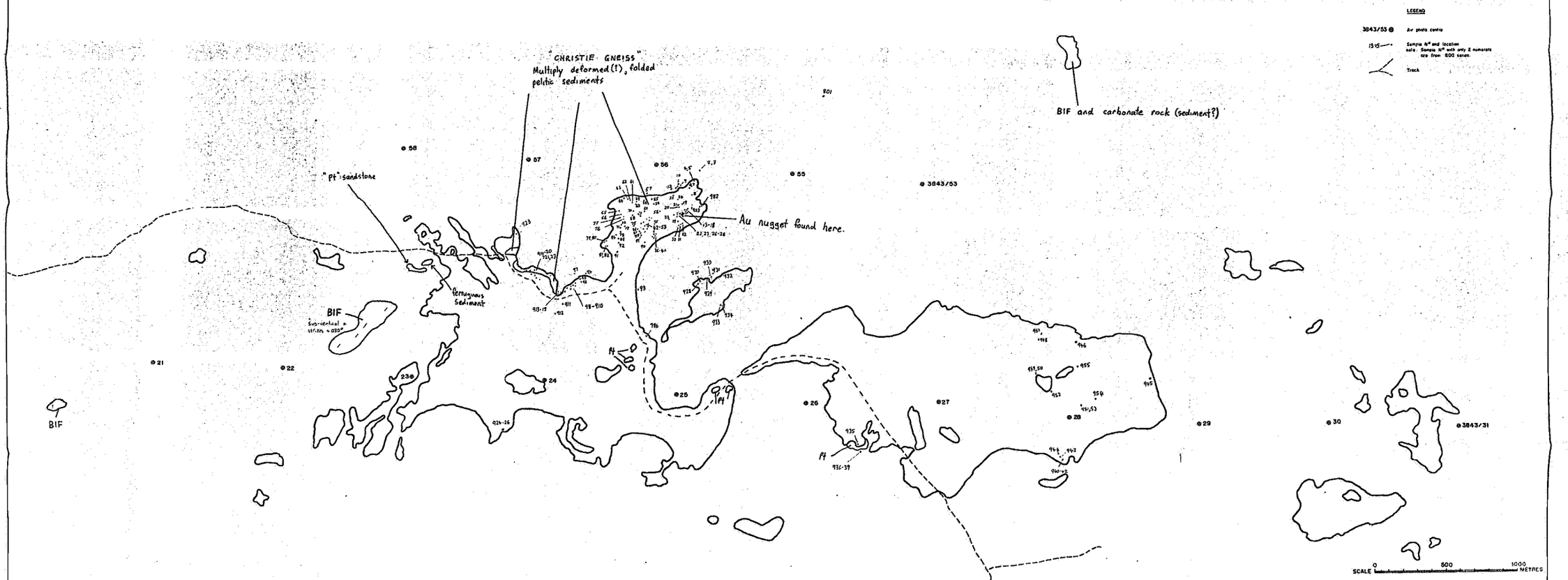
6844-15

TARCOOLA GOLD LIMITED

MT FINKE PROJECT

GROUND MAGNETIC CONTOURS : PINDING ROCKS REGION

Geo. | Date: August 1988 | PLAN 6



TARCOOLA GOLD LIMITED		
MT FINKE PROJECT		
GEOCHEMISTRY LAKES AREA		
GEO: R. McL	DATE: August 1986	PLAN 7
SCALE: 1:10000	DRN:	

6844-16

Aberfoyle's original interest in the area was for sedimentary hosted uranium. A drilling programme was undertaken over several paleo-drainage channels in the Hiern's Well area. Samples were analysed for uranium, gold and tin. Whilst, low order uranium anomalies were defined it is significant that an average gold value of 0.067 g/t was obtained from sixty three samples (maximum value 0.548 g/t). This implies a gold source within the area and enhances the prospectivity of the EL.

Basement rock intersections from the uranium programme and drilling of geophysical anomalies and stratigraphic holes indicate the area to be underlain by Mulgathing Complex gneisses, leached and altered volcanics of the Gawler Range Volcanics, Tarcoola Formation sediments and Hiltaba Suite granites and diorites. Aberfoyle reported anomalous values for base metals, silver, flourine and rare earth elements from the basement rocks. They concluded that the area has potential for copper, rare earth elements and base metals. Further exploration concentrating on fracture zones, was recommended, but apparently did not proceed.

4.0 GEOLOGY AND MINERALIZATION POTENTIAL

Basement rocks within the EL are of Archean and Proterozoic age. Gneisses of metasedimentary origin including banded iron formation, with intrusive Glenloth Granite and amphibolites form the Archean Mulgathing Complex. These are overlain by Proterozoic Gawler Range Volcanics with interfingering Tarcoola Formation sediments and younger Jurassic sediments. Nearly all rocks are overlain by various thicknesses of Cainozoic cover. Regional aeromagnetic data indicates a linear zone running west-southwest through the length of the tenement area. This may represent a faulted margin to the Tarcoola Beds depositional basin, and as such may be prospective for polymetallic mineralization.

Several geological environments within the area have potential for gold mineralization.

(i) Intrusive contacts of Hiltaba Suite granitoids with the Tarcoola Formation are a prime target for mineralization of the Tarcoola Gold Mine type. Gold has been worked in similar situations at Tolmer Hill, Dark Hill and Kychering. Both Mt Finke and Pinding Rocks show evidence of this style of mineralization.

(2) Mulgathing Complex basement. Recent reports by the SA Department of Mines and Energy (Daly, DME 143/85) suggest that the Mulgathing Complex is Archean in age and thus is possibly contemporaneous with rocks of the Yilgarn Block of Western Australia. If this is the case, all rocks of the Mulgathing Complex have potential to host Archean-style gold mineralization.

As well as gold mineralization, the occurrences of altered and leached volcanics in association with basal arkosic and conglomerate units of the Tarcoola Formation provides a favourable environment for base metal mineralization. This would be enhanced along major fracture systems which could provide conduits for mineralizing fluids.

5.0 WORK CONDUCTED BY TARCOOLA GOLD

5.1 RECONNAISSANCE SAMPLING

Tarcoola Gold collected eighty-nine surface rock chip samples from twenty seven locations during three separate sampling programmes (see plan 2). During the first programme 24 samples were collected and analysed for a suite of elements (see Appendix 1). Two of the highest assays, 1.47 g/t and 0.25 g/t, were obtained from ferruginous sandstone and shale overlying altered granite and Archean basement rocks. All twenty four samples were analysed for a suite of twelve trace elements, namely Cu, Pb, Zn, Bi, Ag, Mo, As, Ba, Sb, Sn, Te, and Ti. Anomalously high levels on Cu, Pb, Zn, As, Ba or Sb were recorded in a number of samples. Gold assays for four samples were checked by Screen Fire Assay. These assays confirmed the presence of gold in three samples and revealed the presence of gold in one sample (F11Q2) that previously gave an assay below the detection limit.

All samples from the second and third sampling programmes were analysed for gold and for four pathfinder trace elements, namely Sb, As, Mo and W. One sample from the second programme revealed highly anomalous gold. This sample was from a quartz-feldspar porphyry intruding mafic and ultramafic rocks of the Mulgathing Complex. Anomalously high levels of Sb, As, Mo and W were found in a number of the samples - most notably "Lake 9". This sample, a laterized BIF taken from the south shore of the western lake, returned values of Sb:510, As:230, Mo:14 and W:<10 (ppm). Although there was no significant associated Au, these represent high pathfinder values. The DB samples were taken from granite and shale outcrops within a dry stream bed on the south-west corner of the western lake.

From the third sampling programme three samples showed anomalous gold assay values. Most notable was MFK 016 (0.51 g/t) and MFK 009 (0.28 g/t Au), both of which were collected from Mulgathing Complex basement. Anomalously high levels of trace elements were found in samples MFK 025 (Sb:110, As:125, MO:14 and W:<10) and MFK 027 (Sb:780, As:290, Mo:16, W:40). Samples MFK 034-37 were collected in the Pinding Rocks area. Two of these show strongly anomalous gold values but unfortunately the data pertaining to rock type and location has been misplaced.

5.2 AIRPHOTO INTERPRETATION

Mr G C Lau of Australian Photogeological Consultants was engaged to conduct an airphoto interpretation of the Mt Finke area using coloured aerial photographs. His conclusions are outlined below:-

Gabbroic Mulgathing Complex forms distinctive, rounded dark brown outcrops, with dark greenish tones due presumably to vegetation cover (lichen or low shrubs?). These outcrops occur mostly on topographic highs beneath the dune field and other highs may indicate shallow subcrop. The banded iron formation mapped in the playas has an identical appearance. The Christie Gneiss cannot be reliably distinguished on the airphtos from greyish (sulphate-rich?) quarternary deposits and has not been mapped. The western playa has a markedly linear boundary on its eastern side, defining a NNE trending lineament. Most of the Mulgathing Complex outcrops occur on the eastern side of this lineament. It may reflect structure in the shallowly-subcropping Complex, or it might mark a fault on which eastern upthrow has exposed the complex.

The gneissic granite outcrops have variable-patterned, brown to slightly greenish-brown tone, and seem to form clayey areas in swales.

Daly (1985) mapped Tarcoola Formation at Mt Finke and around the playa margins. On the airphotos the playa outcrops show only as small samphire-vegetated islands and cannot be reliably identified as outcrop. Mt Finke appears very similar to Proterozoic and early Palaeozoic sandstone and siltstone outcrops in the Amadeus Basis, where only the axial portions of tightly-folded synclines are preserved.

Other low, rounded, light grey-toned outcrops scattered throughout the dune field swales correspond to the Tertiary units mapped by Daly (1985). Some of these outcrops appear to be bedded and jointed and their identity might be worth field-checking.

Many short (1-2 km) north trending photolineaments are shown by alignments of vegetation or of vegetation-free lines. Some of these have been annotated, particularly on photo 181, but I am doubtful about their significance. Old fire scars on the north-central portion of photo 181 have sharp margins, and these lineaments may be fire scars relics. Also of uncertain origin are the foliation trends visible well away from mapped outcrop. Similar trends are known to reflect bedding or cleavage in other desert areas, but in this area their general parallelism with the dune system might simply indicate vegetation zoning, or some other relationship with the dune-swale morphology.

Tarcoola have recently flown the area with 1:10,000 scale coloured photography. An interpretation using this photography has not yet been undertaken.

5.3 AEROMAGNETIC INTERPRETATION

Digitised and reprocessed aeromagnetic data for the region recently made available by the Bureau of Mineral Resources and SADME was manipulated by Image Processing Services Pty Ltd in Brisbane. The most effective enhancements of the data include local stretch and vertical shade. Far more detail is immediately apparent on the reprocessed data, compared with the original published surveys. A geophysical consultant was engaged to make an interpretation of the reprocessed aeromagnetic data.

The geophysical interpretation of the aeromagnetic data was carried out by Mr Peter Woyzbun, Consulting Geophysicist. Enclosed as figure 3 is the relevant section of the regional aeromagnetic map. Responses indicating BIFs (sharp, high in amplitude and elongated magnetic responses) were encountered in the Mt Finke area. Greenstone belts were also found to exist in the Mt Finke region.

This interpretation included the South Mt Finke-Tolmer area. His work delineated granite intrusions, presumably the Hiltaba Granite Suite, which are bounded on the eastern side by contact aureoles. These aureoles are marked by zones of high magnetism which were also interpreted as greenstone belts.

5.4 GROUND MAGNETIC SURVEY - MT FINKE SOUTH

Ground magnetometer surveys were undertaken along the northern and southern access tracks south of Mt Finke to investigate the highly magnetic units between the interpreted granitic intrusions. This work located the anomalies in the areas indicated by aeromagnetics.

5.5 RECONNAISSANCE RAB DRILLING (EL 1414, Envelope 6921)

Reconnaissance RAB drilling was carried out over targets outlined by the ground magnetic survey. There were 49 holes drilled for a total of 1055 metres at an average depth of 21.5 metres (see Appendix 2 for locations). The depth of weathering was extremely variable over the area drilled, with areas of shallow bedrock being interspaced with areas of deep kaolinitic weathering. The hole profiles are divided into 3 segments (Cover sequence, weathering sequence and fresh bedrock) to facilitate interpretation. The bedrock in all holes consisted of granites of the Hiltaba Granite Suite with no volcanics or basement gneisses intersected.

The granite contains dominantly pink to white feldspars, biotite, and clear to smokey quartz grains. Coarse mica was observed in holes MFS01 and MFS02. Several of the samples contained magnetite which possibly explains the magnetic highs.

Samples from all 49 holes were submitted to Comlabs for gold analysis. Of these, 10 holes returned values above the detection limit of 0.01 ppm, the highest being 0.04 ppm.

RAB chip samples from holes MFS 9, 28 and 31 were submitted for petrographic analysis by Pontifex Associates Pty Ltd to be checked for magnetic content. Magnetite (about 0.2 mm size grains) formed <1% of the total samples represented in MFS 9 and 31. Im MFS 28 magnetite grain(0.3 mm in size) composed 1% of the entire sample .

5.6 AEROMAGNETIC SURVEY - MR FINKE

Tarcoola commissioned Aerodata to fly an airborne magnetic survey over the Mt Finke and Lakes area within the EL. The location of this survey is shown in Plan 4 and the contoured magnetic data in Plan 5.

The survey was conducted to gain a better understanding of the structures in the Lakes area where a number of anomalous gold values where located by sampling and where a gold nugget was found.

The data will shortly be digitally processed and interpreted.

5.7 GROUND MAGNETIC SURVEY - PINDING ROCKS

A ground magnetic survey was undertaken in the Pinding Rocks region. The survey location in shown in Plan 4 and the contoured magnetic data in Plan 6.

The survey located a number of magnetic anomalies in the region where Aberfoyle previously located significantly anomalous geochemistry.

5.8 FOLLOW-UP GEOCHEMICAL SAMPLING - LAKES PROJECT

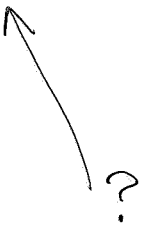
A grid was surveyed over the Lakes prospect. During this work one of the gridding contractors found a small nugget on the lake floor. The nugget, reported to be 2 - 5 grams and containing abundant quartz grains, was found at the location shown on map 7. An intensive rock chip and stream sediment sampling programme was subsequently instigated in the Lakes area.

The sample sites are shown in Map 7 and the analysis in Appendix 3. Of 181 samples taken only two returned greater than 0.10 g/t Au neither of which was taken adjacent to the nugget locality. Sample 906 (0.16 g/t Au) was taken from the central northern part of the Lake shore, and sample 944 was taken from the most eastern lake.

This programme in conjuction with the description of the nugget suggests the nugget has been transported some distance.

The nugget was found in a section of the lake which provides the best basement outcrop in the entire EL. Christie gneiss is exposed over an area of approximately 200m x 50m on the lake floor. The "gneiss" consists of multiply deformed pelitic sediments which are folded by relatively open upright folds with hinge lines plunging at approximately 30 - 40° towards 240° Bedding strikes between 030° and 080° whereas bedding in the BIF further to the west strikes at 030°. Cleavage in the greenstones at Little Mt Finke varies from 090 to 070° in strike.

The basement is uncomfortably overlain by massive quartz sandstones exhibiting unusual wind erosion features. The sandstones were previously consigned to the Fabians Member of the Proterozoic Tarcoola Formation. Tarcoola geologists collected a sediment which under microscope examination revealed Jurassic fossils. Thus there is at least one and possibly two uncomfortable units overlying the basements in the Lakes area.



TARCOOLA : 1st Recon

APPENDIX I

SAMPLE NO.	Au ppm	ROCK TYPE	LOCATION
F1	<0.01	Qtz/shale float;Tarcoola Beds	Mt Finke
F2	<0.01	Glenloth Granite;sheared?	E of Mt Finke
F2Q	<0.01	Qtz-veined granite	Mt Finke
F3	<0.01	Granite or sst-alt'd,weath'd	
F4S1	0.03	Kaol.?,alt'd shale;Tarcoola B.	
F4S2	<0.01	Fe-rich mic.shale,arenite-alt?	
F4RFE	<0.01	Fe-rich grit over shale c'tact	
F4P	1.47 1.47	Purple,haem.shale+arenite;TB	
F5G	<0.01	Sandstone/grit	
F5Q	<0.01	Qtz-veined grit;Tarcoola Beds	Base of Mt Finke
F6Q	<0.01	Qtz float;Tarcoola Beds?	
F6FE	<0.01	Gossan cap?	Base of Mt Finke
F7	0.09	Fe-rich cap or BIF	Shore of lake
F8	0.25 0.25	Fe-rich weathered s'st? TB?	
F9	<0.01	BIF or gossan; Archean	S shore of western lake
F9R	<0.01	Schist, Fe-rich; Archean	
F9R2	<0.01	Fe-rich schist; Archean	
F10Q	<0.01	Qtz,breccia,in gneiss; Archean	
F10Q2	<0.01	Qtz,breccia,in gneiss; Archean	
F10Q3	<0.01	Qtz reef; Archean	
F10Q4	<0.01	Qtz reef; Archean	
F11Q1	0.04	Qtz.breccia&reef in BIF/gneiss	
F11Q2	<0.01	Qtz.breccia&reef in BIF/gneiss	
F11Q3	0.06	Qtz.breccia&reef in BIF/gneiss	

Laboratory: COMLABS. Scheme: FAS1. Job No.: 861742

TABLE 1: GOLD ASSAYS, MT FINKE EL 1383

COMLABS SERVICES PTY. LTD.

ANALYTICAL REPORT

JOB COM862319

O/N : Additional Assay

0181

SAMPLE	Cu	Pb	Zn	Bi	Ag	Mo
F1	8	10	4	6	1	12
F2	6	10	3	6	<1	6
F2Q	8	12	4	6	<1	10
F3	6	12	6	8	<1	6
F4S1	7	16	6	6	<1	8
F4S2	7	12	3	6	<1	6
F4RE	8	14	5	4	<1	20
F4P	85	18	14	6	1	14
F5G	7	10	<2	4	<1	10
F5Q	10	10	2	8	<1	10
F6Q	6	10	2	6	1	10
F6FE	14	14	20	4	1	8
F7	7	18	8	4	1	6
F8	30	28	120	4	1	4
UNITS	ppm	ppm	ppm	ppm	ppm	ppm
SCHEME	AAS1	AAS1	AAS1	AAS1	AAS3	AAS3

COMLABS SERVICES PTY. LTD.

ANALYTICAL REPORT

JOB COM862319

O/N : Additional Assay

SAMPLE	As	Ba	Sb	Sn	Te	Tl
F1	4	370	10	6	<10	<10
F2	6	640	<4	<4	<10	<10
F2Q	5	730	10	4	<10	<10
F3	4	65	<4	4	<10	<10
F4S1	14	120	4	8	<10	<10
F4S2	28	220	<4	6	<10	<10
F4RE	18	210	<4	<4	<10	<10
F4P	400	35	<4	<4	<10	<10
F5G	6	35	8	6	<10	<10
F5Q	6	270	4	<4	<10	<10
F6Q	7	120	4	<4	<10	<10
F6FE	16	530	<4	<4	<10	<10
F7	65	2950	<4	<4	<10	10
F8	170	75	22	<4	<10	10
UNITS	ppm	ppm	ppm	ppm	ppm	ppm
SCHEME	XRF1	XRF1	XRF1	XRF1	XRF1	XRF1

COMLABS SERVICES PTY. LTD.

ANALYTICAL REPORT

JOB COM862319

O/N : Additional Assay

SAMPLE	Cu	Pb	Zn	Bi	Ag	Mo
F9	70	155	110	4	<1	6
F9R	24	20	26	6	<1	4
F9R2	80	42	22	6	1	6
F10Q	12	16	8	<4	1	8
F10Q2	9	12	7	4	<1	4
F10Q3	12	10	6	4	<1	16
F10Q4	22	6	7	6	1	4
F11Q1	8	8	7	6	<1	4
F11Q2	16	28	6	8	<1	<4
F11Q3	14	8	12	8	<1	8
UNITS	ppm	ppm	ppm	ppm	ppm	ppm
SCHEME	AAS1	AAS1	AAS1	AAS1	AAS3	AAS3

ANALYTICAL REPORT

JOB COM862319

O/N : Additional Assay

0184

SAMPLE	As	Ba	Sb	Sn	Te	Tl
F9	200	165	125	<4	<10	<10
F9R	40	210	16	<4	<10	10
F9R2	370	530	44	<4	<10	<10
F10Q	18	25	<4	<4	<10	<10
F10Q2	20	30	4	<4	<10	<10
F10Q3	36	50	10	<4	<10	<10
F10Q4	70	10	6	<4	<10	<10
F11Q1	28	25	4	4	<10	<10
F11Q2	450	30	10	<4	<10	<10
F11Q3	26	30	<4	<4	<10	<10
UNITS	ppm	ppm	ppm	ppm	ppm	ppm
SCHEME	XRF1	XRF1	XRF1	XRF1	XRF1	XRF1

0185

ANALYTICAL REPORT

JOB COM861900

Results in ppm

SAMPLE	Au1	Au2	Wt1	Au3	Wt2
F4P	1.52	1.55	165	1.50	153
F8	0.05	0.05	224	0.04	180
F11Q2	0.08	0.10	750	0.03	194
F11Q3	0.05	0.06	270	0.03	186

Method of Analysis :

Au1	:	Screen Fire Assay
Au2	:	FAS1 on -200# Fraction
Wt1	:	Weight of -200# Fraction
Au3	:	FAS1 on +200# Fraction
Wt2	:	Weight of +200# Fraction

.../ 2

COMLABS SERVICES PTY. LTD.

ANALYTICAL REPORT

0186

JOB COM861900

Results in ppm

SAMPLE	Cu	Pb	Zn	Ag	As	Sb	W
F4P	85	10	10	<1	380	12	<10

Method of Analysis : Cu Pb Zn : AAS1
Ag : AAS3
As Sb W : XRF1

SAMPLE NO.	Au ppm	Sb	As	Mo	W	Rock Type	Location
LMF 1	.35	4	10	12	<10	Qtz-feldspar porphyry	Base of Little Mt Finke
LMF 2	<0.01	8	10	2	<10	White VQ (vein quartz)	"
LMF 3	<0.01	8	<2	7	<10	White VQ	"
LMF 4	<0.01	6	4	6	<10	White VQ	
Lake 1	<0.01	10	8	12	<10	Blue-grey ferruginous V.Q.	South Shore of Western Lake
Lake 2	<0.01	12	36	9	<10	BIF with intruded quartz veinlets	"
Lake 3	<0.01	6	10	6	<10	BIF (8mC5)	"
Lake 4	0.02	4	4	12	15	VQ	"
Lake 5	<0.01	10	14	30	<10	White VQ	"
Lake 6	<0.01	6	24	8	<10	BIF and quartzite	"
Lake 7	0.02	22	40	8	<10	BIF and quartzite	"
Lake 8	<0.01	22	95	2	<10	Lateritised BIF and sedimentaries	"
Lake 9	<0.01	510	230	14	<10	Lateritised BIF and Sedimentaries	N.E. Shore of Western Lake
Lake 10	0.03	22	16	12	<10	Ferruginous VQ with pyrite boxwork	"
Lake11	<0.01	12	16	18	<10	"	"
Lake 12	<0.01	4	20	20	10	"	"
Lake 13	<0.01	6	6	22	10	White VQ	"
DB1	<0.01	8	7	12	55	Granite outcrop within streambed	S.W.corner of Western Lake
DB2	LNR	LNR	LNR	LNR	LNR	"	"
DB3	<0.01	6	9	5	15	"	"
DB4	<0.01	6	48	10	<10	"	"
DB5	<0.01	4	38	7	15	"	"
DB6	<0.01	<4	3	2	<10	"	
DB7	<0.01	<4	55	9	25	Shales	
DB8	<0.01	4	10	14	<10	"	
DB9	<0.01	8	12	5	<10	"	"
DB10	<0.01	8	18	7	<10	"	"
DB11	<0.01	10	3	2	<10	"	"

Lab - Comlabs Scheme: FAS 1 Job No. 872052

Table 2 _ Gold Assays Mt. Finke E.L. 1383

Sb - As reflects sediments

Mo - W granite

0187

COMLABS SERVICES PTY. LTD.

ANALYTICAL REPORT

JOB COM872052
O/N : 1008

0188

	SAMPLE	Au	Au Dp1	Au Dp2	Au Dp3
Little Mt. Finke	LMF 1	0.35	-	-	
	LMF 2	<0.01	-	-	
	LMF 3	<0.01	-	-	-
	LMF 4	<0.01	-	-	-
Mt. Finke Lakes	LAKE 1	<0.01	-	-	
	LAKE 2	<0.01	-	-	-
	LAKE 3	<0.01	-	-	
	LAKE 4	0.02	-	-	
	LAKE 5	<0.01	-	-	
	LAKE 6	<0.01	-	-	
	LAKE 7	0.02	-	-	-
	LAKE 8	<0.01	-	-	-
	LAKE 9	<0.01	-	-	-
	LAKE 10	0.03	-	-	
	LAKE 11	<0.01	-	-	-
	LAKE 12	<0.01	-	-	-
	LAKE 13	<0.01	-	-	-
	UNITS	ppm	ppm	ppm	ppm
	SCHEME	FAS1	FAS1	FAS1	FAS1

COMLABS SERVICES PTY. LTD.

ANALYTICAL REPORT

JOB COM872052
O/N : 1008

0189

Mt. Finke

SAMPLE	Au	Au Dp1	Au Dp2	Au Dp3
DB 1	<0.01	-	-	-
DB 2	LNR	-	-	-
DB 3	<0.01	-	-	-
DB 4	<0.01	-	-	-
DB 5	<0.01	-	-	-
DB 6	<0.01	-	-	-
DB 7	<0.01	-	-	-
DB 8	<0.01	-	-	-
DB 9	<0.01	-	-	-
DB 10	<0.01	-	-	-
DB 11	<0.01	-	-	-
UNITS	ppm	ppm	ppm	ppm
SCHEME	FAS1	FAS1	FAS1	FAS1

ANALYTICAL REPORT

JOB COM872052
O/N : 1008

0190

SAMPLE	Sb	As	Mo	W
LME 1	4	10	12	<10
LME 2	8	10	<2	<10
LME 3	8	<2	7	<10
LME 4	6	4	6	<10
LAKE 1	10	8	12	<10
LAKE 2	12	36	9	<10
LAKE 3	6	10	6	<10
LAKE 4	4	4	12	15
LAKE 5	10	14	30	<10
LAKE 6	6	24	8	<10
LAKE 7	22	40	8	<10
LAKE 8	22	95	<2	<10
LAKE 9	510	230	14	<10
LAKE 10	22	16	12	<10
LAKE 11	12	16	18	<10
LAKE 12	4	20	20	10
LAKE 13	6	6	22	10
UNITS	ppm	ppm	ppm	ppm
SCHEME	XRF1	XRF1	XRF1	XRF1

ANALYTICAL REPORT

JOB COM872052
O/N : 1008

0191

SAMPLE	Sb	As	Mo	W
DB 1	8	7	12	55
DB 2	LNR	LNR	LNR	LNR
DB 3	6	9	5	15
DB 4	6	48	10	<10
DB 5	4	38	7	15
DB 6	<4	3	2	<10
DB 7	<4	55	9	25
DB 8	4	10	14	<10
DB 9	8	12	5	<10
DB 10	8	18	7	<10
DB 11	10	3	<2	<10
UNITS	ppm	ppm	ppm	ppm
SCHEME	XRF1	XRF1	XRF1	XRF1

Sample No.	Au(ppm)	Rock Type	Location
MFK 001	<0.01	BIF	N.E. Corner of Western Lake
MFK 002	<0.01	Qtz-Fe vein	N.E,. Corner of Western Lake
MFK 003	<0.01	BIF	Western Side of Eastern Lake
MFK 004	0.10	Qtz-Fe vein	North Central Shore of Eastern Lake
MFK 005	0.03	"	"
MFK 006	<0.01	"	"
MFK 007	<0.01	"	"
MFK 008	<0.01	"	"
MFK 009	.28	"	"
MFK 010	<0.01	Meta-quartzite	West of Mt. Finke
MFK 011	<0.01	Qtz. rich granite	S.E. Corner of Western Lake
MFK 012	<0.01	Qtz-feld-tourmaline vein	"
MFK 013	<0.01	altered deformed granite	Base of Little Mt.Finke
MFK 014	<0.01	Greenstone	"
MFK 015	<0.01	Qtz-feld vein	"
MFK 016	0.51	Qtz-feld vein	"
MFK 017	<0.01	Greenstone	"
MFK 018	<0.01	Greenstone	"
MFK 020	<0.01	Tarcoola beds. Metaquarzite	North Central Shore of Eastern Lake
MFK 021	<0.01	Cherty-Fe enriched beds	"
MFK 022	<0.01	Cherty-Fe rich unit	"
MFK 023	<0.01	Host grey/black shales	"
MFK 024	0.01	Cherty horizon/pyritic	"
MFK 025	0.01	Cherty-fe horizon	"
MFK 026	<0.01	Cherty-banded-fe rock	N.E. Shore of Eastern Lake
MFK 027	<0.01	Fe formation	N.W. Shore of Eastern Lake
MFK 028	<0.01	Fe-ochrous black shale	N.E. Shore of Eastern Lake
MFK 029	<0.01	Grey to black shale	N.E. Shore of Eastern Lake
MFK 030	<0.01	Black carbonaceous shale	N.W. Central Shore of Eastern Lake
MFK 031	<0.01	Grey shale	"
MFK 032	<0.01	Weathered/altered shale	"
MFK 033	<0.01	White qtz. veins	S.W. Shore of Far-Eastern Lake

Lab : Comlabs
Table 3

Scheme : FAS1 Job No. 872053
Gold Assays EL 1383

COMLABS SERVICES PTY. LTD.

0193

ANALYTICAL REPORT

JOB COM872053
O/N : 1104

SAMPLE	Au
MFK 001	<0.01
MFK 002	<0.01
MFK 003	<0.01
MFK 004	0.10
MFK 005	0.03
MFK 006	<0.01
MFK 007	<0.01
MFK 008	<0.01
MFK 009	0.28
MFK 010	<0.01
MFK 011	<0.01
MFK 012	<0.01
MFK 013	<0.01
MFK 014	<0.01
MFK 015	<0.01
MFK 016	0.51
MFK 017	<0.01
MFK 018	<0.01
MFK 020	<0.01
MFK 021	<0.01
MFK 022	<0.01
MFK 023	<0.01
MFK 024	0.01
MFK 025	0.01
MFK 026	<0.01
UNITS	ppm
SCHEME	FAS1

COMLABS SERVICES PTY. LTD.

ANALYTICAL REPORT

JOB COM872053
O/N : 1104

SAMPLE	Au
MFK 027	<0.01
MFK 028	<0.01
MFK 029	<0.01
MFK 030	<0.01
MFK 031	<0.01
MFK 032	<0.01
MFK 033	<0.01
UNITS	ppm
SCHEME	FAS1

COMLABS SERVICES PTY. LTD.

0195

ANALYTICAL REPORT

JOB COM872053
O/N : 1104

SAMPLE	Au	Sb	As	Mo	W
MFK 001	<0.01	<4	7	7	35
MFK 002	<0.01	4	6	18	15
MFK 003	<0.01	4	18	8	10
MFK 004	0.10	20	65	22	10
MFK 005	0.03	50	65	16	<10
MFK 006	<0.01	30	14	20	<10
MFK 007	<0.01	22	100	16	<10
MFK 008	<0.01	4	70	14	10
MFK 009	0.28	20	100	6	<10
MFK 010	<0.01	6	2	12	<10
MFK 011	<0.01	6	<2	6	<10
MFK 012	<0.01	<4	<2	7	<10
MFK 013	<0.01	4	10	4	<10
MFK 014	<0.01	6	5	2	<10
MFK 015	<0.01	<4	7	7	10
MFK 016	0.51	8	8	10	<10
MFK 017	<0.01	16	6	<2	<10
MFK 018	<0.01	6	8	<2	<10
MFK 020	<0.01	6	7	16	<10
MFK 021	<0.01	6	12	9	<10
MFK 022	<0.01	4	14	12	20
MFK 023	<0.01	12	28	9	<10
MFK 024	0.01	6	30	6	<10
MFK 025	0.01	110	125	14	<10
MFK 026	<0.01	10	18	8	<10
UNITS	ppm	ppm	ppm	ppm	ppm
SCHEME	FAS1	XRF1	XRF1	XRF1	XRF1

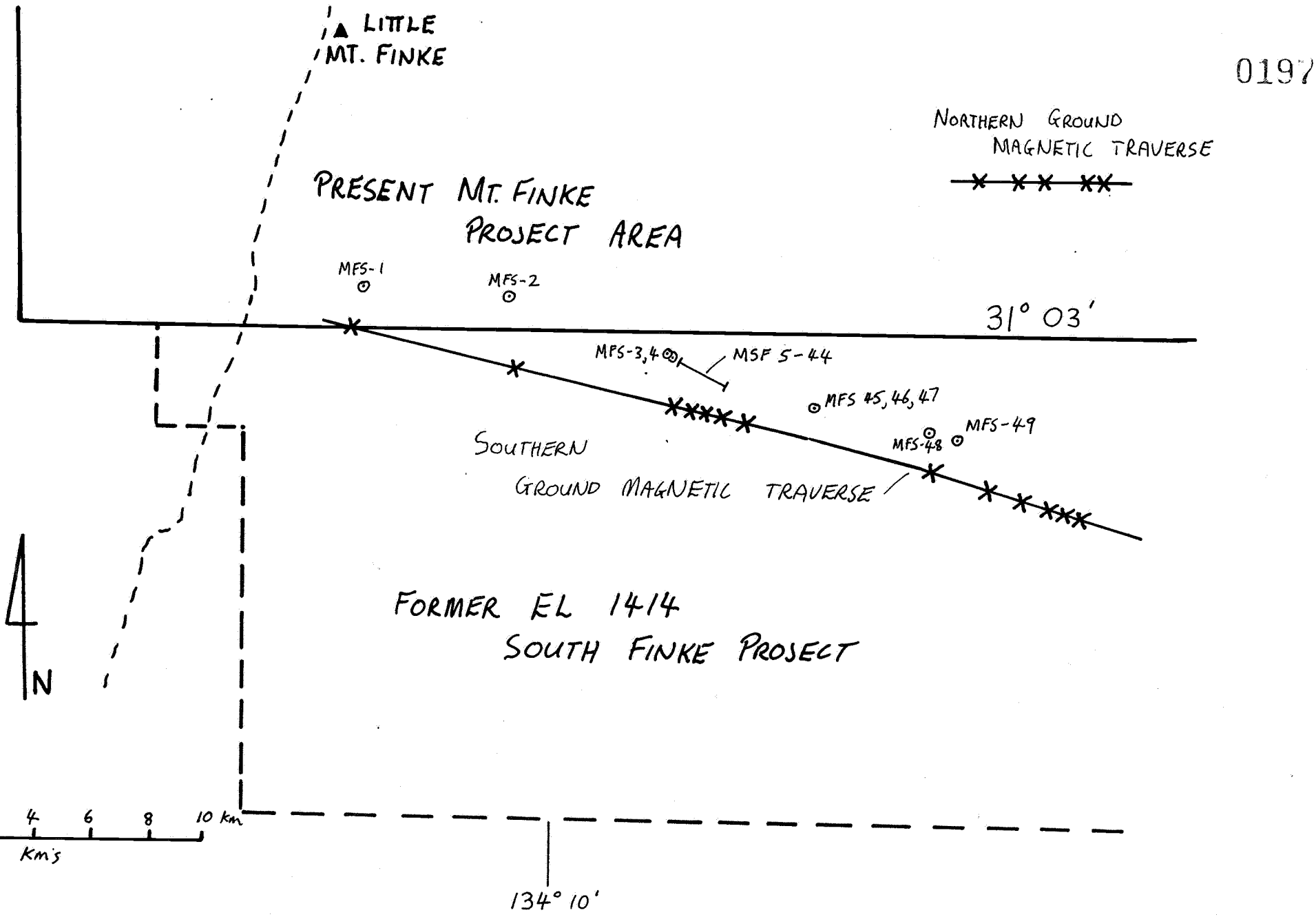
0196

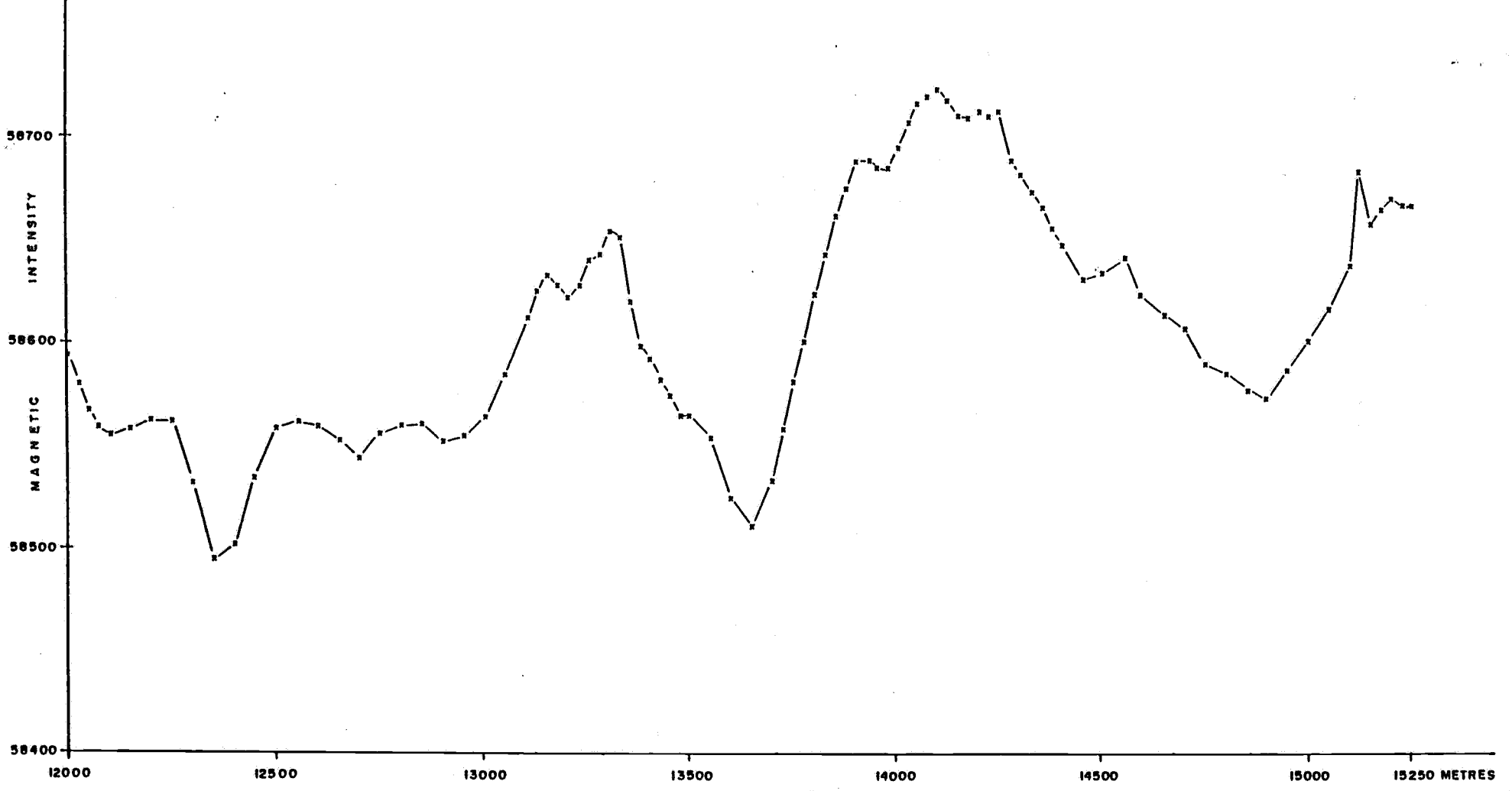
ANALYTICAL REPORT

JOB COM872053
O/N : 1104

SAMPLE	Au	Sb	As	Mo	W
MFK 027	<0.01	780	290	16	40
MFK 028	<0.01	16	38	4	<10
MFK 029	<0.01	18	14	4	15
MFK 030	<0.01	12	180	7	<10
MFK 031	<0.01	4	16	7	<10
MFK 032	<0.01	10	10	<2	<10
MFK 033	<0.01	6	<2	6	<10
UNITS	ppm	ppm	ppm	ppm	ppm
SCHEME	FAS1	XRF1	XRF1	XRF1	XRF1

SOUTH FINKE PROJECT : GROUND MAGNETIC & RAB HOLE LOCATIONS

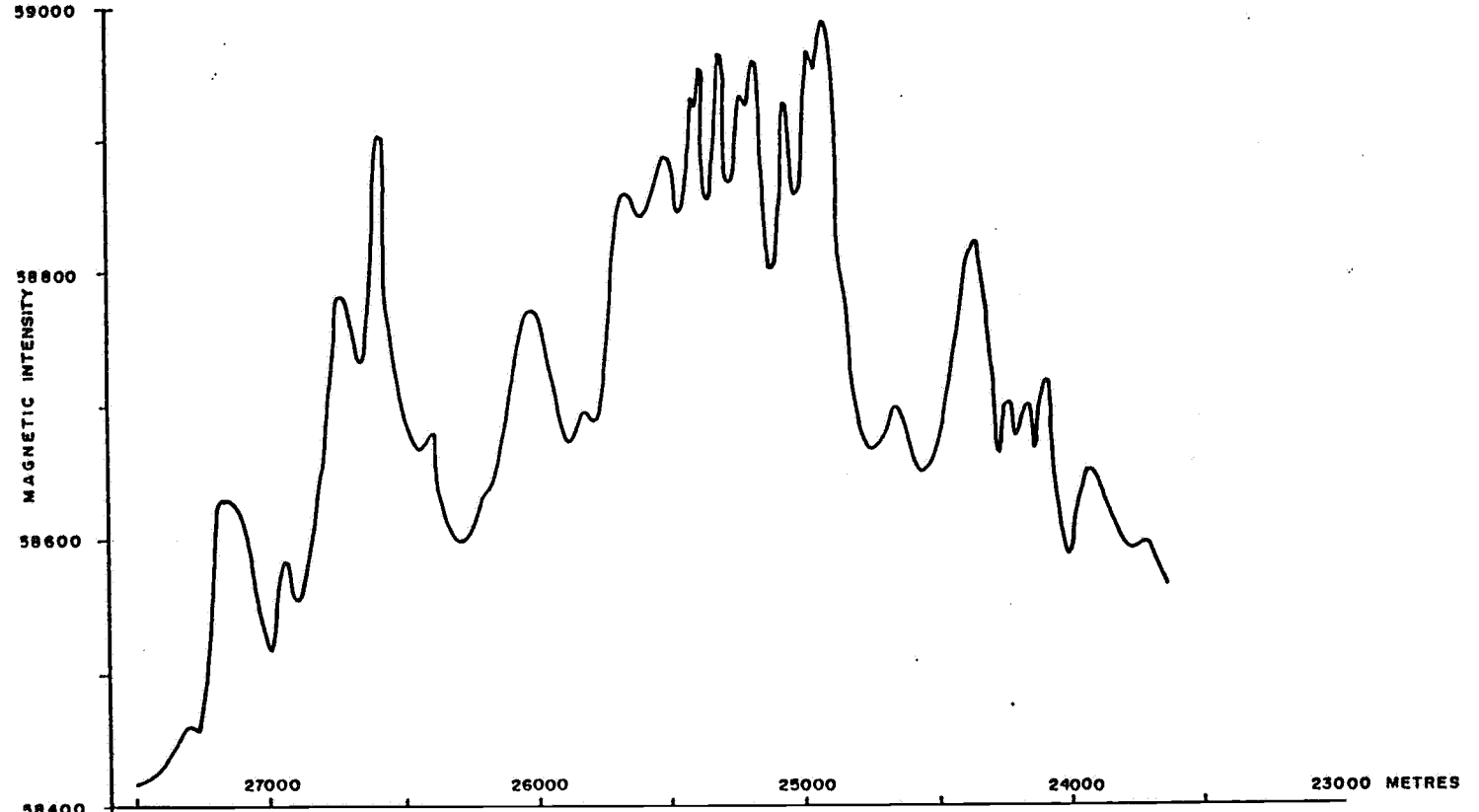


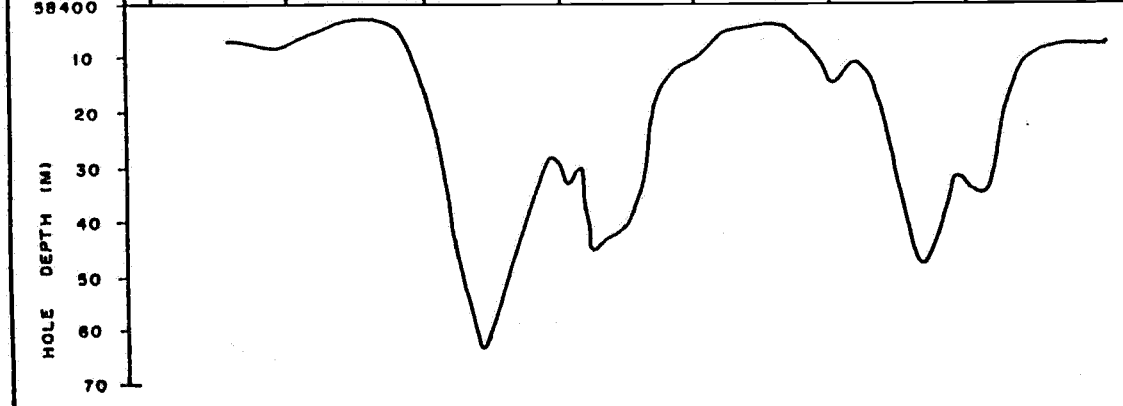


TARCOOLA GOLD LIMITED

E.L.1414 — SOUTH FINKE
MAGNETIC INTENSITY DIAGRAM
NORTHERN LINE
12000 – 15250 metres

Author : P. IVY	DATE : Nov. 1987	FIG : 7



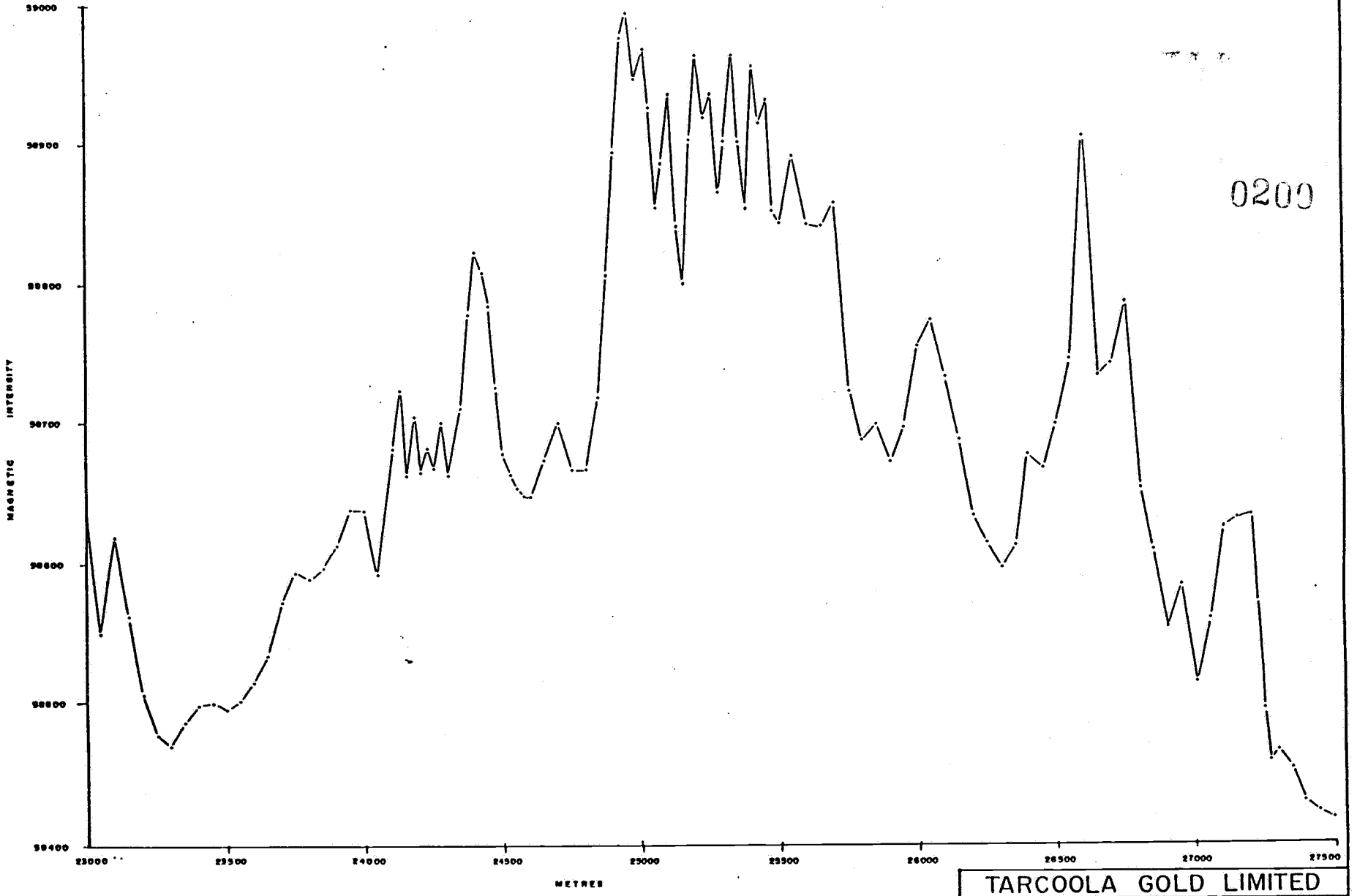


TARCOOLA GOLD LIMITED

E.L. 1414 — SOUTH FINKE

RELATIONSHIP OF BEDROCK DEPTH TO GROUND MAGNETICS

Author : P. IVY	DATE : Nov. 1987	FIG : 5



0200

TARCOOLA GOLD LIMITED

E.L.1414 – SOUTH FINKE
MAGNETIC INTENSITY DIAGRAM
SOUTHERN LINE
23000-27500 metres

Author : P. IVY	DATE . Nov 1987	FIG : 6

CLASSIC COMLABS LTD
Analytical Laboratories (INC. IN W.A.)

APPENDIX 3

Job: 8AD1830
O/N: 1146

ANALYTICAL REPORT

SAMPLE	Au Avg	Au Dp1	Au Dp2	Au Dp3
373801	0.03	--	--	--
373802	0.01	--	--	--
373803	0.01	--	--	--
373804	0.03	--	--	--
373805	0.02	--	--	--
373806	<0.01	<0.01	<0.01	--
373807	<0.01	--	--	--
373808	0.02	--	--	--
373809	0.03	--	--	--
373810	0.02	--	--	--
373811	0.02	--	--	--
373812	0.02	--	--	--
373813	<0.01	--	--	--
373814	<0.01	<0.01	<0.01	--
373815	0.02	--	--	--
373816	0.01	--	--	--
373817	0.01	--	--	--
373818	0.03	--	--	--
373819	0.01	--	--	--
373820	0.01	--	--	--
373821	0.03	--	--	--
373822	<0.01	0.01	<0.01	--
373823	0.03	--	--	--
373824	0.02	--	--	--
373825	0.03	--	--	--
UNITS	ppm	ppm	ppm	ppm
SCHEME	FA1	FA1	FA1	FA1

CLASSIC COMLABS LTD
Analytical Laboratories (INC. IN W.A.)

Job: 8AD1830
O/N: 1146

ANALYTICAL REPORT

SAMPLE	Au Avg	Au Dp1	Au Dp2	Au Dp3
373826	0.01	--	--	--
373827	0.01	--	--	--
373828	<0.01	--	--	--
373829	<0.01	--	--	--
373830	<0.01	<0.01	<0.01	--
373831	<0.01	--	--	--
373832	<0.01	--	--	--
373833	<0.01	--	--	--
373834	<0.01	--	--	--
373835	<0.01	--	--	--
373836	<0.01	<0.01	<0.01	--
373837	<0.01	--	--	--
373838	<0.01	--	--	--
373839	<0.01	--	--	--
373840	<0.01	--	--	--
373841	<0.01	--	--	--
373842	<0.01	--	--	--
373843	<0.01	--	--	--
373844	<0.01	<0.01	<0.01	--
373845	<0.01	--	--	--
373846	<0.01	--	--	--
373847	<0.01	--	--	--
373848	<0.01	--	--	--
373849	<0.01	--	--	--
373850	<0.01	--	--	--
UNITS	ppm	ppm	ppm	ppm
SCHEME	FA1	FA1	FA1	FA1

CLASSIC COMLABS LTD
Analytical Laboratories (INC. IN W.A.)

Job: 8AD1830
O/N: 1146

ANALYTICAL REPORT

SAMPLE	Au Avg	Au Dp1	Au Dp2	Au Dp3
373851	<0.01	<0.01	<0.01	--
373852	<0.01	--	--	--
373853	<0.01	--	--	--
373854	<0.01	--	--	--
373855	<0.01	--	--	--
373856	<0.01	--	--	--
373857	<0.01	--	--	--
373858	<0.01	--	--	--
373859	0.01	--	--	--
373860	<0.01	--	--	--
373861	<0.01	<0.01	<0.01	--
373862	<0.01	--	--	--
373863	0.06	--	--	--
373864	<0.01	--	--	--
373865	<0.01	--	--	--
373866	<0.01	--	--	--
373867	0.01	--	--	--
373868	<0.01	--	--	--
373869	<0.01	--	--	--
373870	0.02	--	--	--
UNITS	ppm	ppm	ppm	ppm
SCHEME	FA1	FA1	FA1	FA1

CLASSIC COMLABS LTD
Analytical Laboratories (INC. IN W.A.)

Job: 8AD2098
O/N: 1152

ANALYTICAL REPORT

SAMPLE	Au Avg	Au Dp1	Au Dp2	Au Dp3
373871	<0.01	<0.01	<0.01	--
373872	<0.01	--	--	--
373873	<0.01	--	--	--
373874	0.02	0.03	0.01	--
373875	0.01	--	--	--
373876	<0.01	--	--	--
373877	0.02	--	--	--
373878	<0.01	--	--	--
373879	<0.01	--	--	--
373880	<0.01	--	--	--
373881	<0.01	--	--	--
373882	0.01	--	--	--
373883	0.01	--	--	--
373884	0.01	--	--	--
373885	<0.01	--	--	--
373886	<0.01	--	--	--
373887	0.02	0.03	0.01	--
373888	<0.01	--	--	--
373889	<0.01	--	--	--
373890	<0.01	--	--	--
373891	<0.01	<0.01	<0.01	--
373892	0.01	--	--	--
373893	0.01	--	--	--
373894	<0.01	--	--	--
373895	<0.01	--	--	--
UNITS	ppm	ppm	ppm	ppm
SCHEME	FA1	FA1	FA1	FA1

CLASSIC COMLABS LTD
Analytical Laboratories (INC. IN W.A.)

Job: 8AD2098
O/N: 1152

ANALYTICAL REPORT

SAMPLE	Au Avg	Au Dp1	Au Dp2	Au Dp3
373896	0.01	--	--	--
373897	<0.01	--	--	--
373898	0.03	--	--	--
373899	0.01	--	--	--
373900	<0.01	--	--	--
373901	0.02	--	--	--
373902	0.01	--	--	--
373903	0.02	--	--	--
373904	0.01	--	--	--
373905	0.05	--	--	--
373906	0.16	0.17	0.15	--
373907	0.07	0.06	0.07	--
373908	<0.01	--	--	--
373909	<0.01	--	--	--
373910	<0.01	--	--	--
373911	<0.01	0.01	<0.01	--
373912	<0.01	--	--	--
373913	0.01	--	--	--
373914	<0.01	--	--	--
373915	<0.01	--	--	--
373916	0.01	0.01	0.01	--
373917	0.01	--	--	--
373918	<0.01	--	--	--
373919	<0.01	--	--	--
373920	<0.01	--	--	--
UNITS	ppm	ppm	ppm	ppm
SCHEME	FA1	FA1	FA1	FA1

CLASSIC COMLABS LTD
Analytical Laboratories (INC. IN W.A.)

Job: 8AD2098
O/N: 1152

ANALYTICAL REPORT

SAMPLE	Au Avg	Au Dp1	Au Dp2	Au Dp3
373921	<0.01	--	--	--
373922	0.01	--	--	--
373923	<0.01	--	--	--
373924	<0.01	--	--	--
373925	0.01	--	--	--
373926	<0.01	--	--	--
373927	<0.01	--	--	--
373928	0.01	--	--	--
373929	<0.01	--	--	--
373930	<0.01	--	--	--
373931	<0.01	<0.01	<0.01	--
373932	<0.01	0.01	<0.01	--
373933	<0.01	--	--	--
373934	<0.01	--	--	--
373935	<0.01	--	--	--
373936	<0.01	--	--	--
373937	<0.01	--	--	--
373938	0.01	--	--	--
373939	0.01	--	--	--
373940	<0.01	--	--	--
373941	<0.01	--	--	--
373942	<0.01	--	--	--
373943	<0.01	--	--	--
373944	0.68	0.82	0.54	--
373945	<0.01	--	--	--
UNITS	ppm	ppm	ppm	ppm
SCHEME	FA1	FA1	FA1	FA1

CLASSIC COMLABS LTD
Analytical Laboratories (INC. IN W.A.)

Job: 8AD2098
O/N: 1152

ANALYTICAL REPORT

SAMPLE	Au Avg	Au Dp1	Au Dp2	Au Dp3
373946	<0.01	--	--	--
373947	<0.01	--	--	--
373948	0.01	--	--	--
373949	0.01	--	--	--
373950	<0.01	--	--	--
373951	<0.01	<0.01	<0.01	--
373952	<0.01	--	--	--
373953	<0.01	--	--	--
373954	<0.01	--	--	--
373955	<0.01	--	--	--
373956	<0.01	--	--	--
373957	<0.01	--	--	--
373958	0.01	--	--	--
373959	<0.01	--	--	--
373960	<0.01	--	--	--
373961	<0.01	--	--	--
373962	<0.01	--	--	--
373963	<0.01	--	--	--
373964	<0.01	--	--	--
373965	0.01	--	--	--
373966	<0.01	--	--	--
373967	<0.01	--	--	--
373968	0.01	0.01	0.01	--
373969	<0.01	--	--	--
373970	<0.01	--	--	--
UNITS	ppm	ppm	ppm	ppm
SCHEME	FA1	FA1	FA1	FA1

CLASSIC COMLABS LTD
Analytical Laboratories (INC. IN W.A.)

Job: 8AD2098
O/N: 1152

ANALYTICAL REPORT

SAMPLE	Au Avg	Au Dp1	Au Dp2	Au Dp3
373971	<0.01	<0.01	<0.01	--
373972	<0.01	--	--	--
373973	<0.01	--	--	--
373974	<0.01	--	--	--
373975	<0.01	--	--	--
373976	<0.01	<0.01	<0.01	--
373977	<0.01	--	--	--
373978	<0.01	--	--	--
373979	<0.01	--	--	--
373980	<0.01	0.01	<0.01	--
373981	0.01	--	--	--
UNITS	ppm	ppm	ppm	ppm
SCHEME	FA1	FA1	FA1	FA1

Env. 6844 IPS

CARPENTARIA EXPLORATION COMPANY PTY. LTD. TRADING AS

Image Processing Services

SUITE 4 "ROCKTON"
40 BROOKES STREET
BOWEN HILLS, BRISBANE, Q. 4006
POSTAL ADDRESS: G.P.O. BOX 1042, BRISBANE, Q. 4001

TELEPHONE: (07) 228 1439
TELEX: 145466

PROCESSING OF MT. FINKE DETAILED MAGNETIC SURVEY

for

TARCOOLA GOLD LTD.

.....
R.N. WALKER
JULY, 1988.

RNW4

DISTRIBUTION

1. Mr. K. Moriarty,
   1st Floor, 68 North Terrace,
   KENT TOWN. S.A. 5067.

2. Mr. R. McLean,
   Newmex Exploration Ltd.,
   1st Floor, 44 Ventnor Avenue,
   WEST PERTH. W.A. 6005.

3. Image Processing Services - Brisbane

INTRODUCTION

Under instructions from Mr. K. Moriarty of Tarcoola Gold, an airborne magnetic grid over the Mt. Finke area on the Tarcoola 1:250 000 Sheet has been image processed.

PROCESSING

The geophysics file was received from Austirex as a 70 m grid with the following characteristics :

Top Left-Hand Corner	:	417276E 6591582N
Samples	:	217
Lines	:	260
Rotation	:	-45°

For the regional overview, this file was reduced to a pixel size of 100 m and rotated to AMG North, giving a file with the following characteristics :

Top Left-Hand Corner	:	404407E 6591582N
Samples	:	236
Lines	:	236
Rotation	:	0°

This file was histogram matched with the B.M.R. Tarcoola 1:250 000 magnetics data and placed within that file. Details of this file are as follow :

Top Left-Hand Corner	:	376000E 6606000N
Samples	:	1024
Lines	:	1024
Sample Size	:	100 metres

LIST OF SLIDES

Slide MF 1. Black/white magnetics Mt. Finke detailed survey.

Slide MF 2. Black/white AHE (Adaptive histogram equalize maximizes contrast in local areas) magnetics.

Slide MF 3. Black/white vertical derivative magnetics.

Slide MF 4. Rainbow pseudocoloured magnetics multiplied by vertical shade image.

Slide MF 5. Black/white shade image from North-East (top of screen), altitude 20 degrees.

Slide MF 6. Rainbow pseudocoloured magnetics multiplied by North-East azimuth shade image.

Slide MF 7. Black/white shade image from East (N.E. screen), altitude 20 degrees.

Slide MF 8. Rainbow pseudocoloured magnetics multiplied by East azimuth shade image.

Slide MF 9. Black/white shade image from South-East (right-hand side of screen), altitude 20 degrees.

Slide MF10. Rainbow pseudocoloured magnetics multiplied by South-East azimuth shade image.

Slide MF11. Black/white shade image from South, altitude 20 degrees.

Slide MF12. Rainbow pseudocoloured magnetics multiplied by South azimuth shade image.

REGIONAL SLIDES

Top Left-Hand Corner : 391000E 6601000N
Subsampled : 151 51 512 512 1 1

Slide MF13. Black/white magnetics.

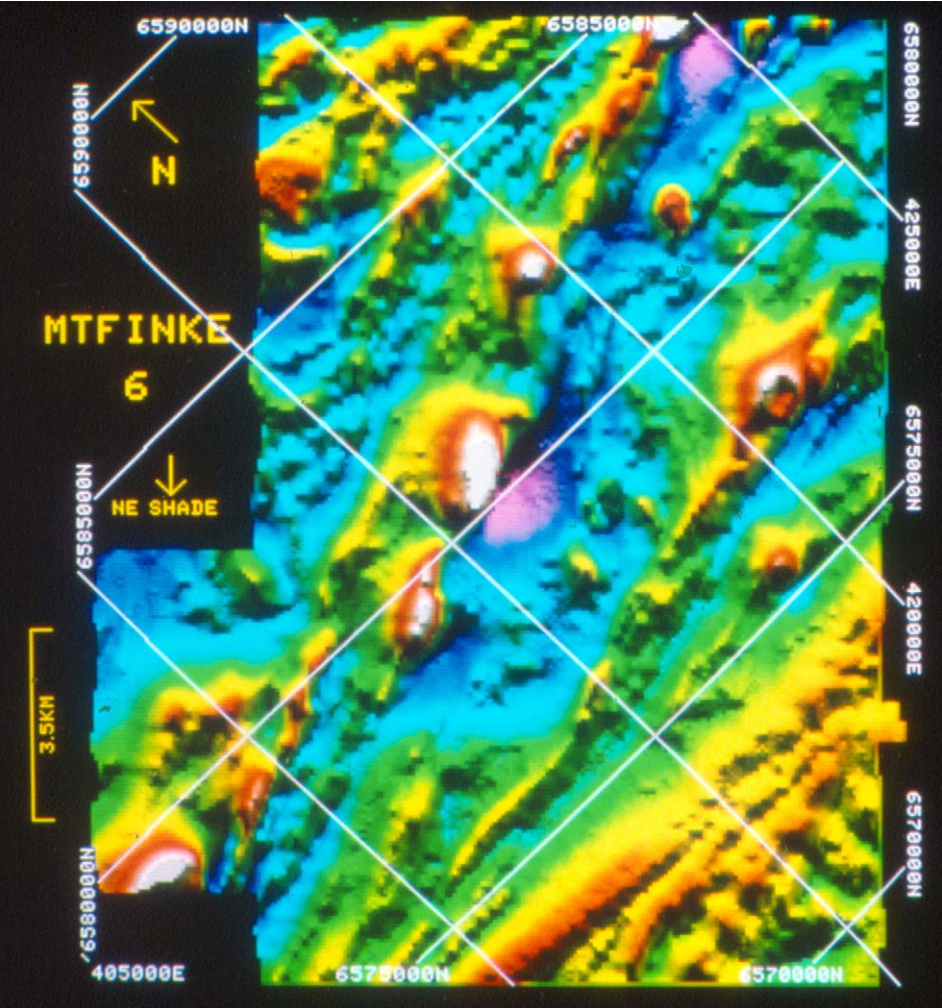
Slide MF14. Black/white AHE magnetics.

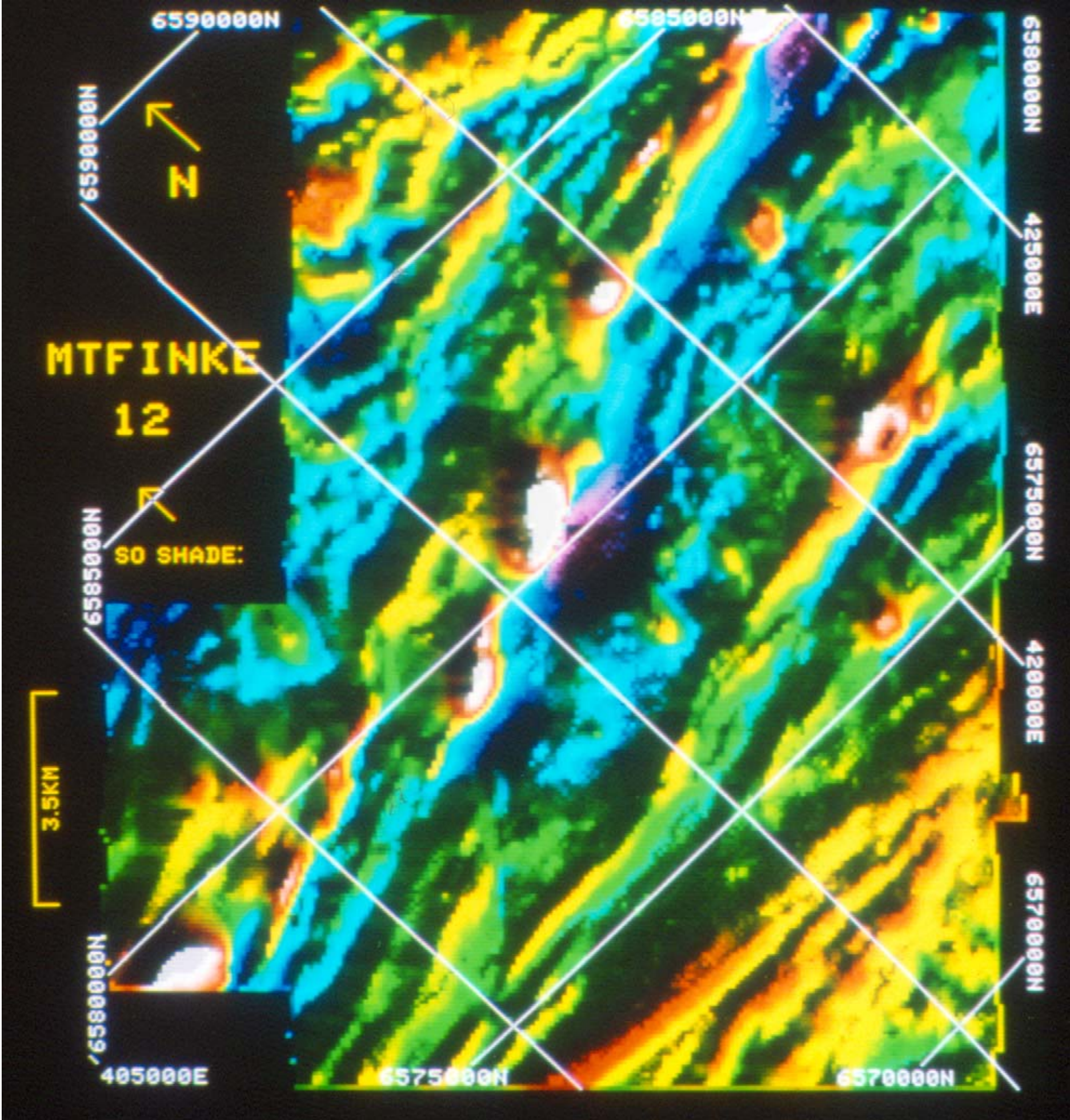
Slide MF15. Geological map.

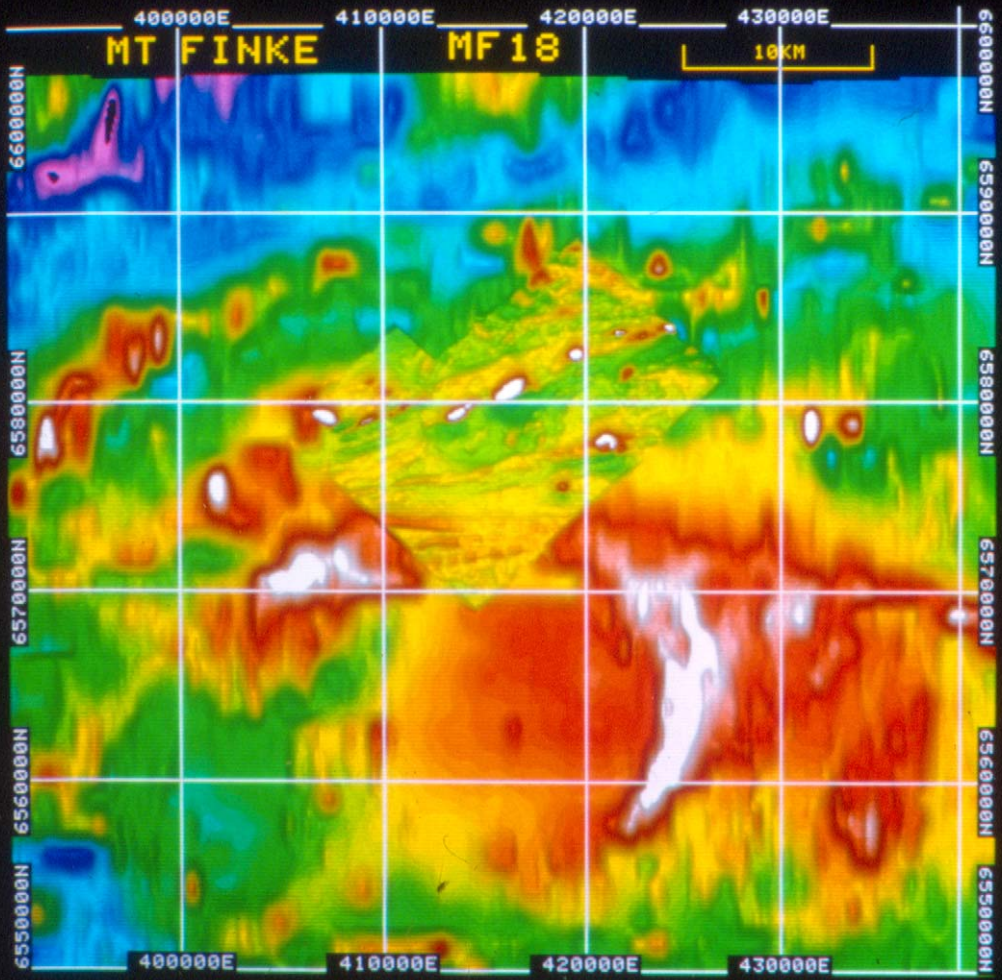
Slide MF16. Magnetics in red, map in green and blue.

Slide MF17. As above with more contrast.

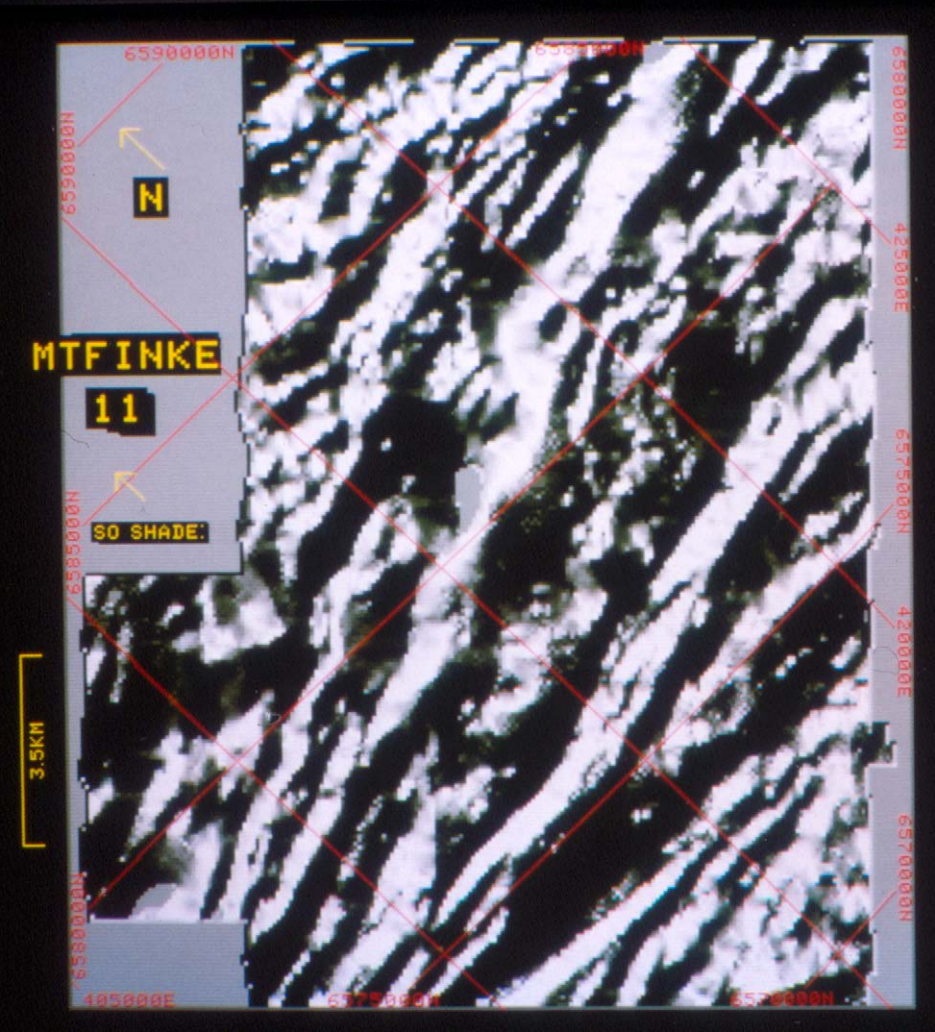
Slide MF18. Rainbow pseudocoloured magnetics multiplied by vertical shade image.

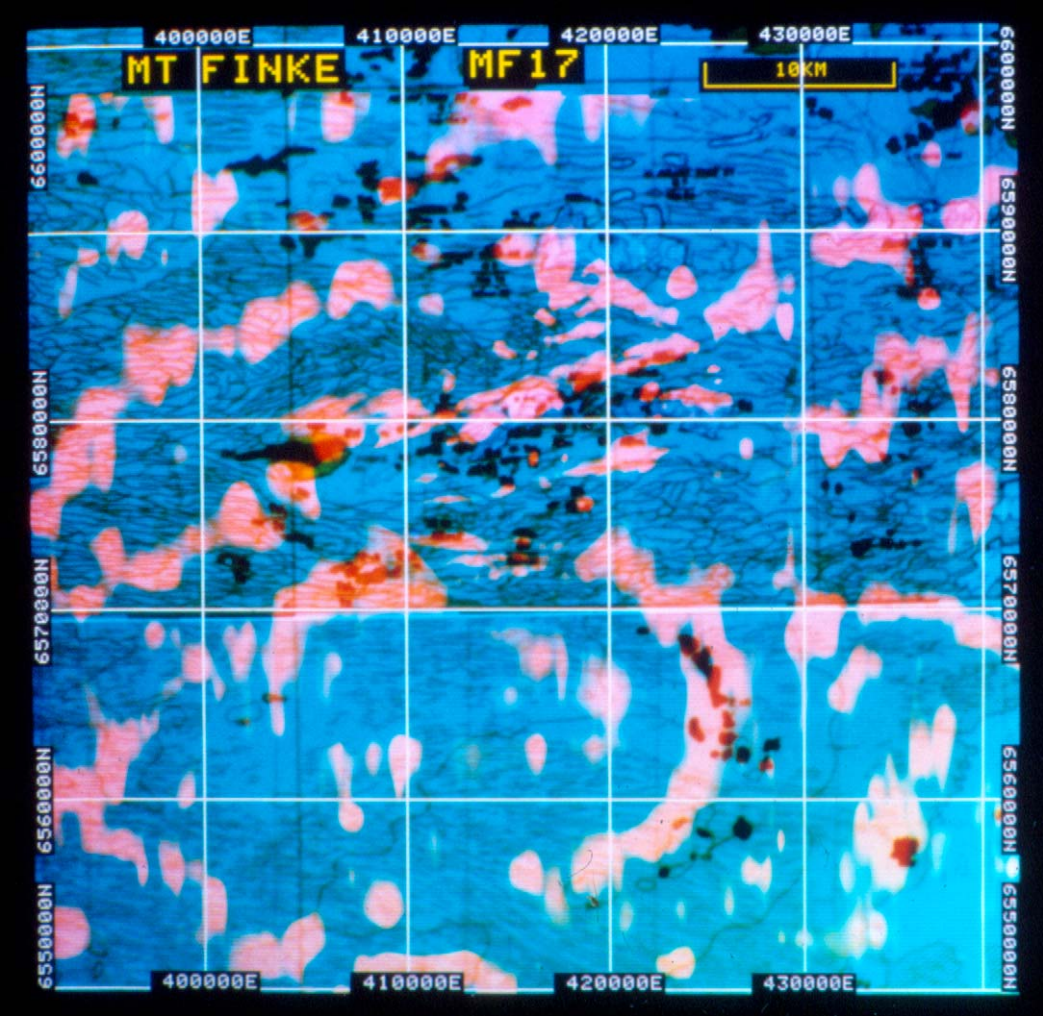

6590000N
6585000N
6580000N
N
MTFINKE
6
NE SHADE
425000E
6575000N
6585000N
420000E
3.5KM
6570000N
6580000N
405000E
6575000N
6570000N


6590000N
6585000N
6580000N
6590000N
N
MTFINKE
12
6585000N
SO SHADE:
4250000E
6575000N
4200000E
3.5KM
6570000N
6580000N
405000E
6575000N
6570000N


400000E
410000E
420000E
430000E
MT FINKE
MF18
10KM
6590000N
6580000N
6570000N
6560000N
6550000N

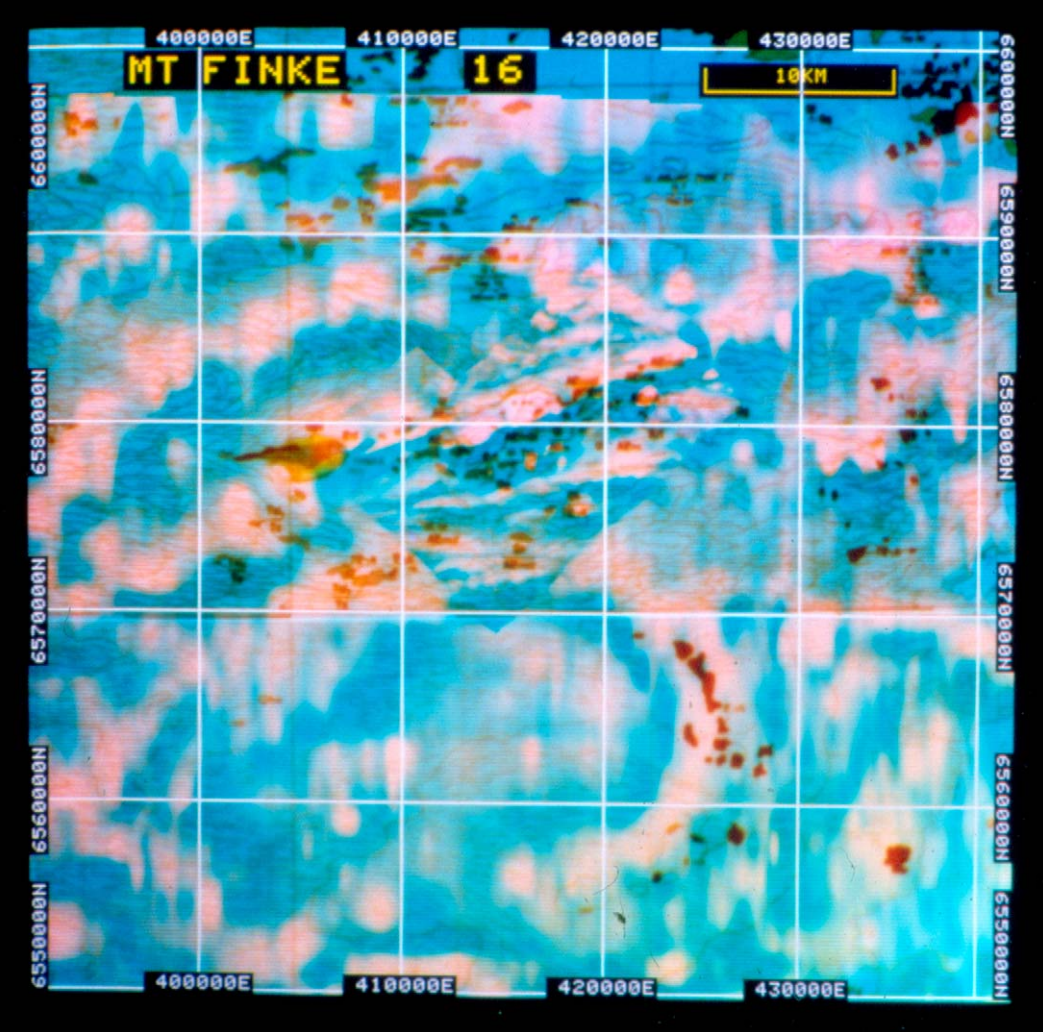

6590000N
N
MTFINKE
5
NE SHADE
6585000N
3.5KM
6580000N
405000E
4250000E
6575000N
4200000E
6570000N


6590000N
N
MTFINKE
11
SO SHADE:
6585000N
3.5KM
405000E
4250000E
4200000E
6570000N


MT FINKE
MF17
10KM
400000E
410000E
420000E
430000E
6600000N
6590000N
6580000N
6570000N
6560000N
6550000N

6590000N
6585000N
6580000N
6590000N
N
MTFINKE
4
6585000N
6580000N
3.5KM
405000E
6575000N
6570000N
425000E
6575000N
420000E
6570000N

6590000N
6585000N
6580000N
6590000N
N
MTFINKE
10
6585000N
SE SHADE
3.5KM
6580000N
405000E
6575000N
6570000N
425000E
6575000N
420000E
6570000N


MT FINKE 16
10KM
400000E
410000E
420000E
430000E
6600000N
6590000N
6580000N
6570000N
6560000N
6550000N

6590000N

6585000N

6590000N

N

MTFINKE

3

4250000E

6585000N

6575000N

4200000E

3.5KM

6580000N

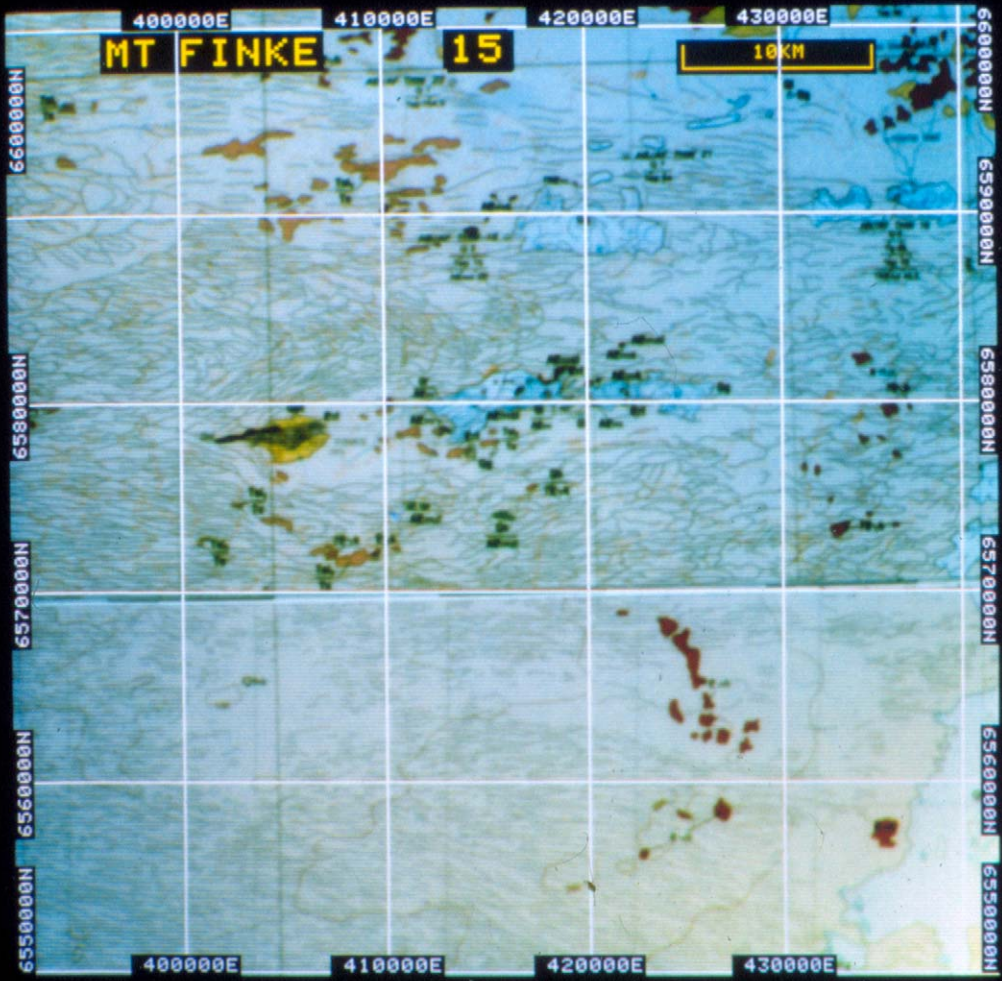
6570000N

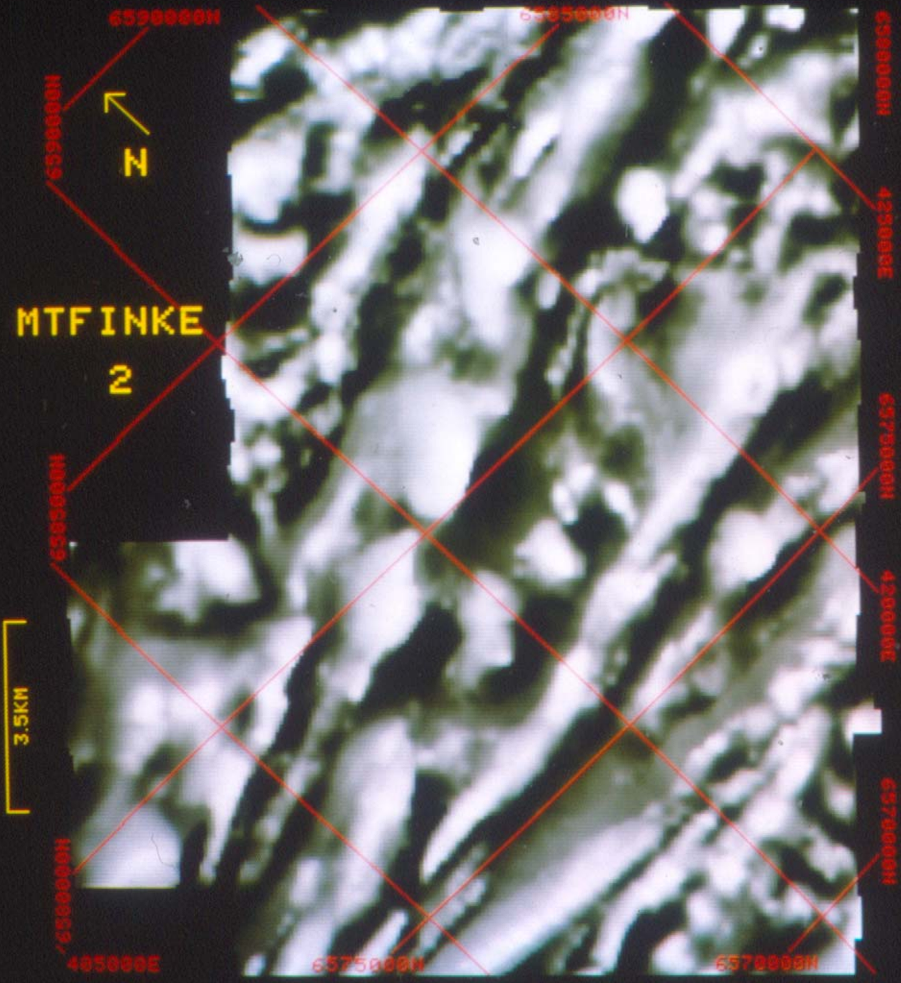
4050000E

6575000N

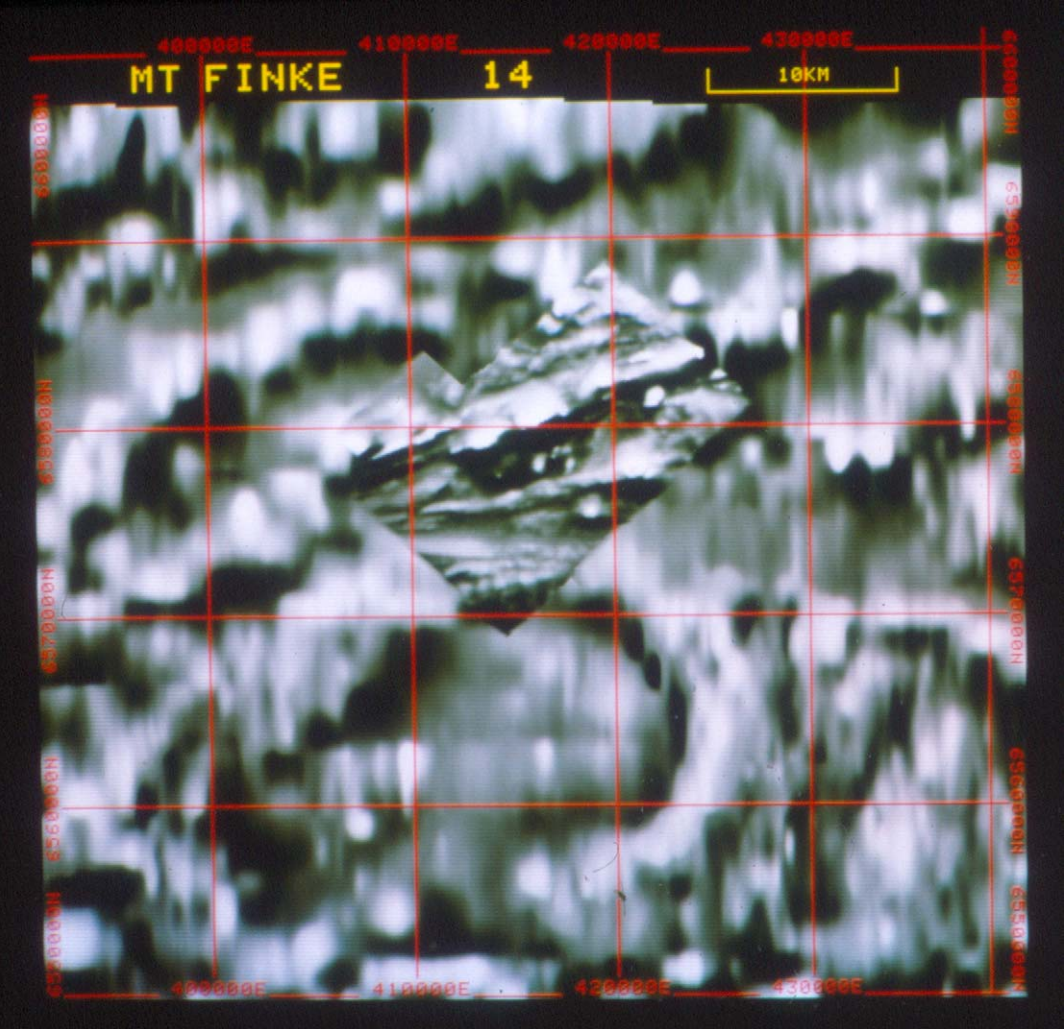
6570000N

6590000N
N
MTFINKE
9
SE SHADE
6585000N
3.5KM
6580000N
425000E
420000E
405000E


MT FINKE
15
10KM
400000E
410000E
420000E
430000E
6600000N
6590000N
6580000N
6570000N
6560000N
6550000N

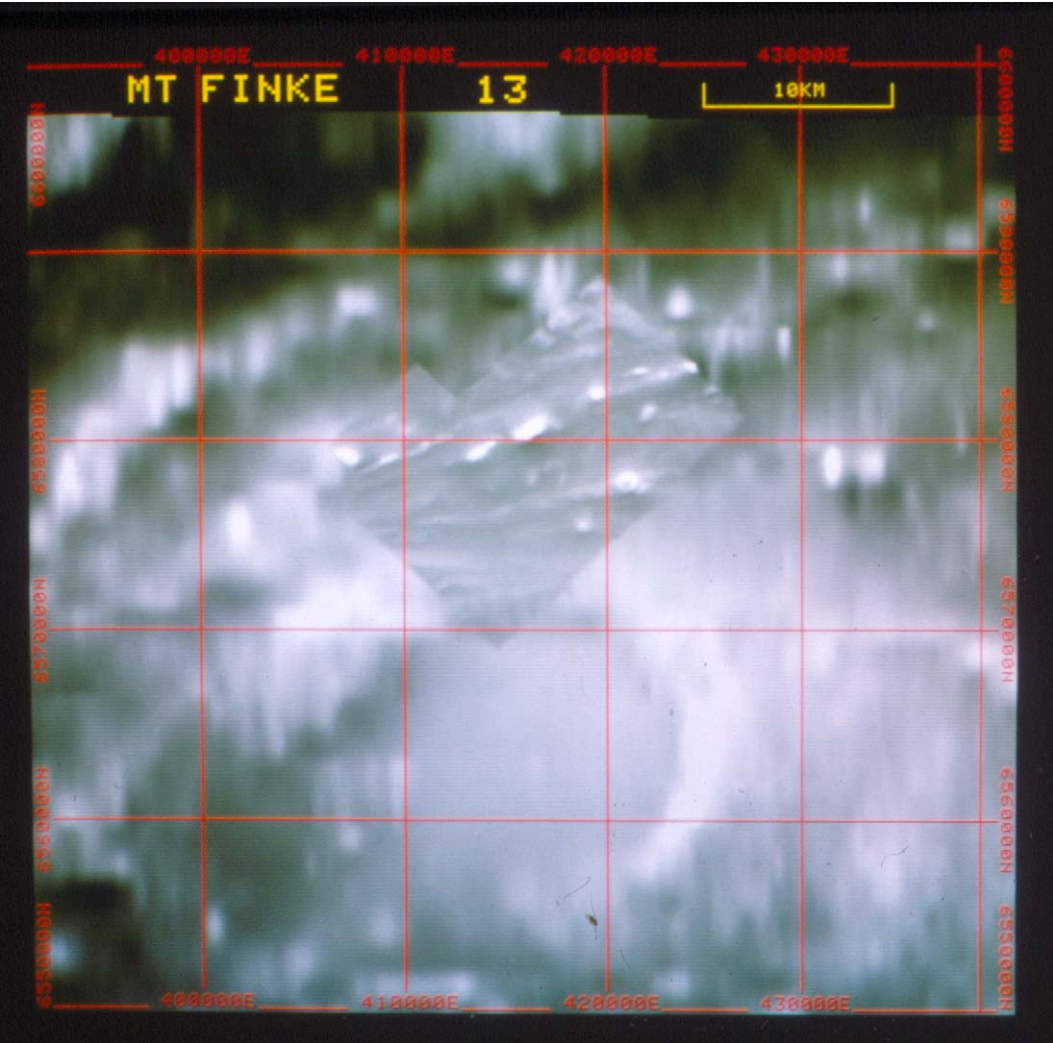

MTFINKE
2
N
3.5KM
6590000N
405000E
6575000N
6570000N
425000E
420000E

6590000N
6585000N
6580000N
6575000N
6570000N
405000E
415000E
420000E
425000E
N
MTFINKE
8
EA SHADE
3.5KM


MT FINKE
14
10KM
400000E
410000E
420000E
430000E
4580000N
4570000N
4560000N
4550000N

6590000N
6590000N
6585000N
6580000N
405000E
6575000N
6570000N
425000E
420000E
N
MTFINKE
1
3.5KM

6590000N
6590000N
N
MTFINKE
7
EA SHADE
6585000N
6580000N
4250000E
6575000N
4200000E
6570000N
3.5KM
6560000N
405000E
6575000N
6570000N


MT FINKE
13
10KM
400000E
410000E
420000E
430000E
6660000N
6650000N
6640000N
6630000N