Open File Envelope No. 10,138

EL 3047

ARKAROOLA

FIRST ANNUAL AND FINAL REPORT TO LICENCE SURRENDER FOR THE PERIOD 2/12/2002 TO 2/2/2004

Submitted by
Tantalum Australia Operations Pty Ltd
2003

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Government of South Australia
Primary Industries and Resources SA

TANTALUM

AUSTRALIA OPERATIONS PTY LTD

10th December, 2003

Director,
Mineral Resources Group,
Primary Industries and Resources SA,
GPO Box 1671,
Adelaide SA 5001.

To whom it may concern,

Please find enclosed annual report for Arkaroola Tantalum Prospect (E 3047)

Regards,

Dale Brittliffe
Project Geologist

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ACN 095 033 597 ABN 31 095 033 597

The Director

Mineral Resources Group

Primary Industries and Resources SA

GPO Box 1671

Adelaide SA 5001

Arkaroola Project

Tenements:

EL 3047

Annual Technical Report 2003

For the period ending 31 December 2003

Company:	Tantalum Australia Operations Pty Ltd
Manager	Tantalum Australia Operations Pty Ltd
Ref. No.:	TA/Exploration/ArkaroolaReports/AR_2003.doc
ACN	095 033 597
Author:	D. Brittliffe
Date:	8 December 2003
Due Date	31 December 2003

Summary of Activities

Table 1 Summary of exploration completed this reporting period		
Tenement #	**Work completed**	**Details**
EL 3047	Rockchip sampling	24 reconnaissance samples of pegmatite and apogranite outcrop
	Assays	24 rockchip assays

Table of Contents

List of Tables and Figures

Verification Listing

Exploration Work Type	File Name	Format
Report preparation	EL3047_200312_01.pdf	pdf
Rock Chip Sampling	EL3047_200312_02_SG1.txt	Text (Tab delimited)

INTRODUCTION

LOCATION AND ACCESS

EL 3047 is located in the Northern Flinders Ranges on Umberatana Station about 75km east of Copley. The tenement straddles the northern extent of the Gammon Ranges National Park and is some 10km west of the Arkaroola Outback Village.
Access from Copley is by all weather unsealed road to Arkaroola station and thereafter rough station tracks.

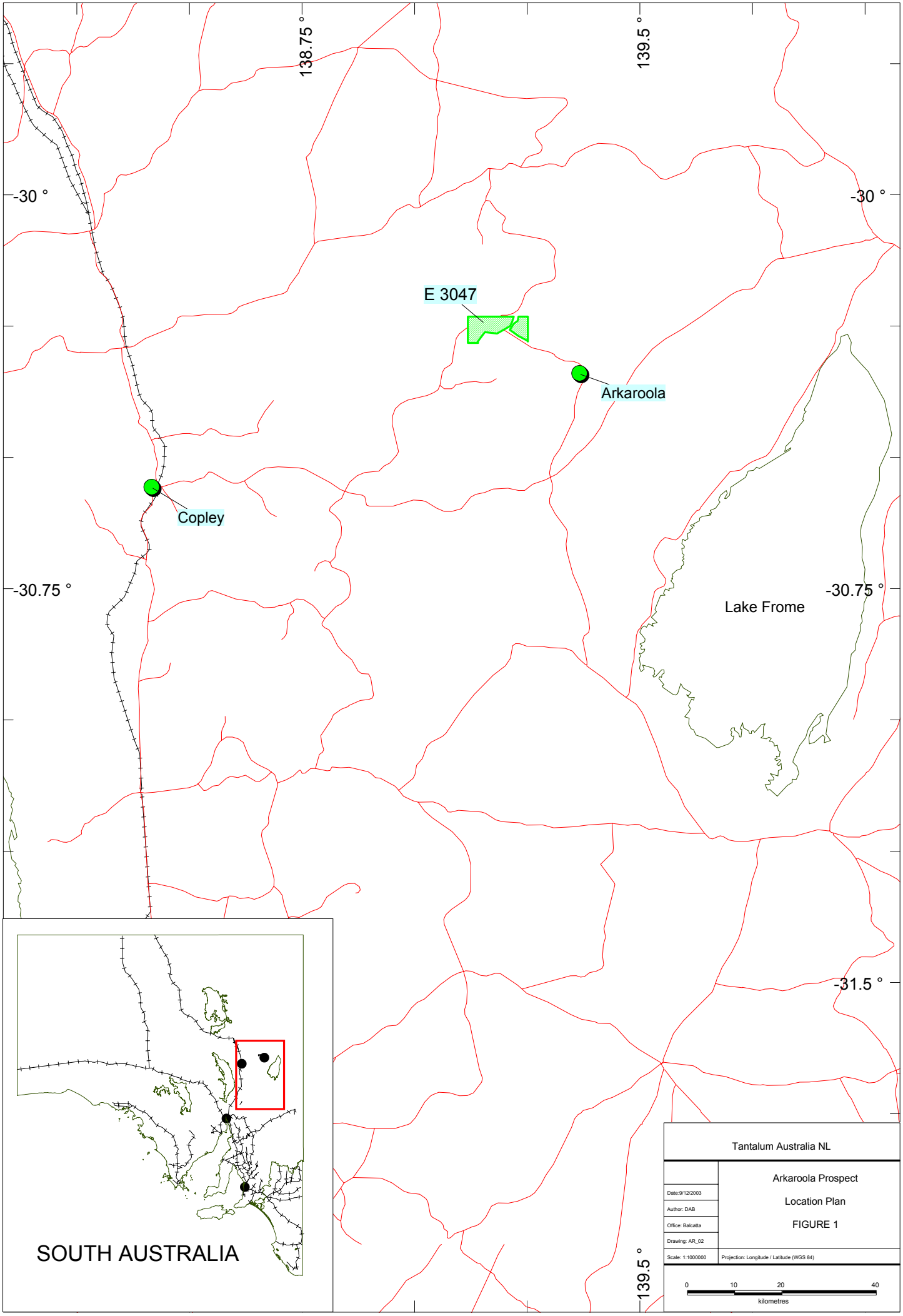
TENURE

Table 2 Tenement details

HOLDER	TENEMENT	AREA	DATE GRANTED	ANNIVERSARY DATE	EXPIRY DATE
Tantalum Australia Operations Pty Ltd & R. M. Thomson & R. O. Thomson	EL 3047	18ha	18.01.00	2 12 03	17.01.04

December 2002 Tantalum Australia Operations Pty Ltd entered into a Joint Venture agreement with Mr Roger Thompson through which TAO could acquire an 80% interest in the project by agreeing to the cost of reimbursement of past expenditures, fulfilling the government expenditure convenants and taking the project to a feasibility stage. This was regarded as an ideal opportunity to explore for rare metals in a virtually untested terrain but comprising geology that has renowned production.

The Joint Venture party was notified of TAO's intention to terminate the agreement on the 24th October 2003.


138.75 °
139.5 °
-30 °
-30 °
E 3047
Arkaroola
Copley
-30.75 °
-30.75 °
Lake Frome
-31.5 °
139.5 °
SOUTH AUSTRALIA
Tantalum Australia NL
Arkaroola Prospect
Location Plan
FIGURE 1
Date:9/12/2003
Author: DAB
Office: Balcatta
Drawing: AR_02
Scale: 1:1000000
Projection: Longitude / Latitude (WGS 84)
0
10
20
40
kilometres

GEOLOGY

Regional Geology

The project area is located on the Copley 1:250 000 Sheet (SH/54-9) in the northern Flinders Ranges and consists of largely Proterozoic sediments and younger intrusives overlying Precambrian basement. Folded Adelaidean metasediments dominate the geology over the area and a strong Paleozoic folding strikes generally east-west. Younger intrusives and diapiric lithologies often occur in the anticlinal cores.

Local Geology

The geology of the project area covered by E3047 is characterized by folded lower to mid Adelaidean sediments located in the hinge and the northern flank of the Yankaninna anticline. Amongst these units exist brecciated and highly altered lithologies loosely termed ‘diapirs’. The project area includes some 8km of diapiric outcrop including the ‘Giant Head’ and ‘North Well’ diapirs (Figure2). The Giant Head diapir is an elongate unit 6km in length and up to 500m wide and is oriented parallel to the enclosing mid-Adelaidean Tapley Formation of the Umberatana Group sediments. The North Well diapir is less regular in shape, up to 3k long and has been formed at the hinge zone of the anticline within the calc-silicate hornfels, siltstones of the Wywyana Formation.

Fine grained sodic granitoid (apogranite) apophyses and associated pegmatites intrude these units and are often round or elliptical in plan view with the long axis parallel to the local strike direction. These granitic intrusions are numerous and appear to host the rare metal mineralisation seen in the area. Spectacular stands of this material are seen at ‘The Needles’, ‘Giant Head’ and ‘Sitting Bull’ and are the result of a marked contrast in susceptibility to weathering between the diapir and the intrusive unit. Plate 1 and 2 show to good effect the relief difference between the Giant Head apogranites and the surrounding diapir material.

Generally, the granitic plugs have undergone metasomatic enrichment in boron, sodium, lithium, chlorine and/or rare metals. The Tourmaline Hill apogranites for example display an abundance of tourmaline; the main form is common black tourmaline, though the semi precious rubellite form has also been reported from the area.

320000 mE

330000 mE

E3047

E3047

Umberatana

Tourmaline Hill

Giant Head
Diapir

North Well
Diapir

The Needles

6650000 mN

6650000 mN

Giant Head

Yankaninna Anticline

To Arkaroola

Gammon Range
National Park

To Copley

Old Illinawortina

320000 mE

GEOLOGICAL LEGEND

Compiled by BVLR

- Adelaidean Sediments (Callanna - Burra Groups)
- Adelaidean Sediments (Umberatana Group)
- Ordivician Granitoids
- Carpentarian metamorphic and felsic igneous rocks (Mt Painter Block)
- Diapir

Tantalum Australia NL

Arkaroola Prospect

Simplified Geological Plan

FIGURE 2

Date: 9/12/2003	
Author: DAB	
Office: Balcatta	
Drawing: 11/2003	
Scale: 1:50000	Projection: MGA Zone 54 (GDA 94)

0 0.5 1 2

kilometres

EXPLORATION

Previous Exploration

Several explorers have worked the area now covered by E3047. Historically, the metasomatised, sheared diapiric material has been the focus of exploration efforts, the apogranite intrusions generally discounted as non-prospective by previous workers.

Bridge minerals explored the Giant Head area for copper in the 1975.

During the early 1980s the area covered by the modern day tenement was explored by CRAE and then Greenbushes Tin Ltd for niobium, tantalum, tungsten, gold and to a limited degree beryl. CRAE conducted extensive RAB drilling over the diapir exposure. Rockchip and stream sediment sampling was also undertaken.

The late 1980s saw a brief evaluation by Aberfoyle for beryl.

For ten years following 1989, Lynch Mining controlled the ground, conducting geochemical surveys, further drilling and detailed mapping programs. Target commodities included beryl, tantalum, niobium, caesium, lithium and vermiculite.

Exploration within Reporting Period

Rockchip Sampling

A series of 24 rock chip samples were taken from apogranite outcropping from Giant Head, Tourmaline Hill and The Needles localities. The locations of these samples are tabulated below and shown in Figure 3. Rockchip data are also attached as Appendix 1 in *AR_2003_SG1.txt*. Plate 3 shows rockchip sampling in progress at Giant Head.

Table 3 Rockchip sampling summary

SAMP No.	EAST(MGA)	NORTH(MGA)
ARR002	320553.1	6649687
ARR003	320545.1	6649665
ARR004	320549.1	6649634
ARR005	320571.1	6649634
ARR006	320657.1	6649646
ARR007	320517.1	6649992
ARR008	320475.1	6650040
ARR009	320584.1	6650059
ARR010	320589.1	6650080
ARR011	321523.1	6650194
ARR012	321528.1	6650204

ARR013	321763.1	6650398
ARR014	324646.1	6653043
ARR015	324525.1	6653060
ARR016	324408.1	6652953
ARR017	324370.1	6652932
ARR018	328388.1	6651703
ARR019	328500.1	6651668
ARR020	328949.1	6651897
ARR021	328753.1	6651315
ARR022	328757.1	6651319
ARR023	328788.1	6651380
ARR024	329481.1	6651493
ARR025	329688.1	6651394

Assays

A total of 24 samples was assayed for Ta_2O_5, Nb_2O_5 and Sn by SGS Australia Pty Ltd. Assays rockchip samples are included in Appendix 2.

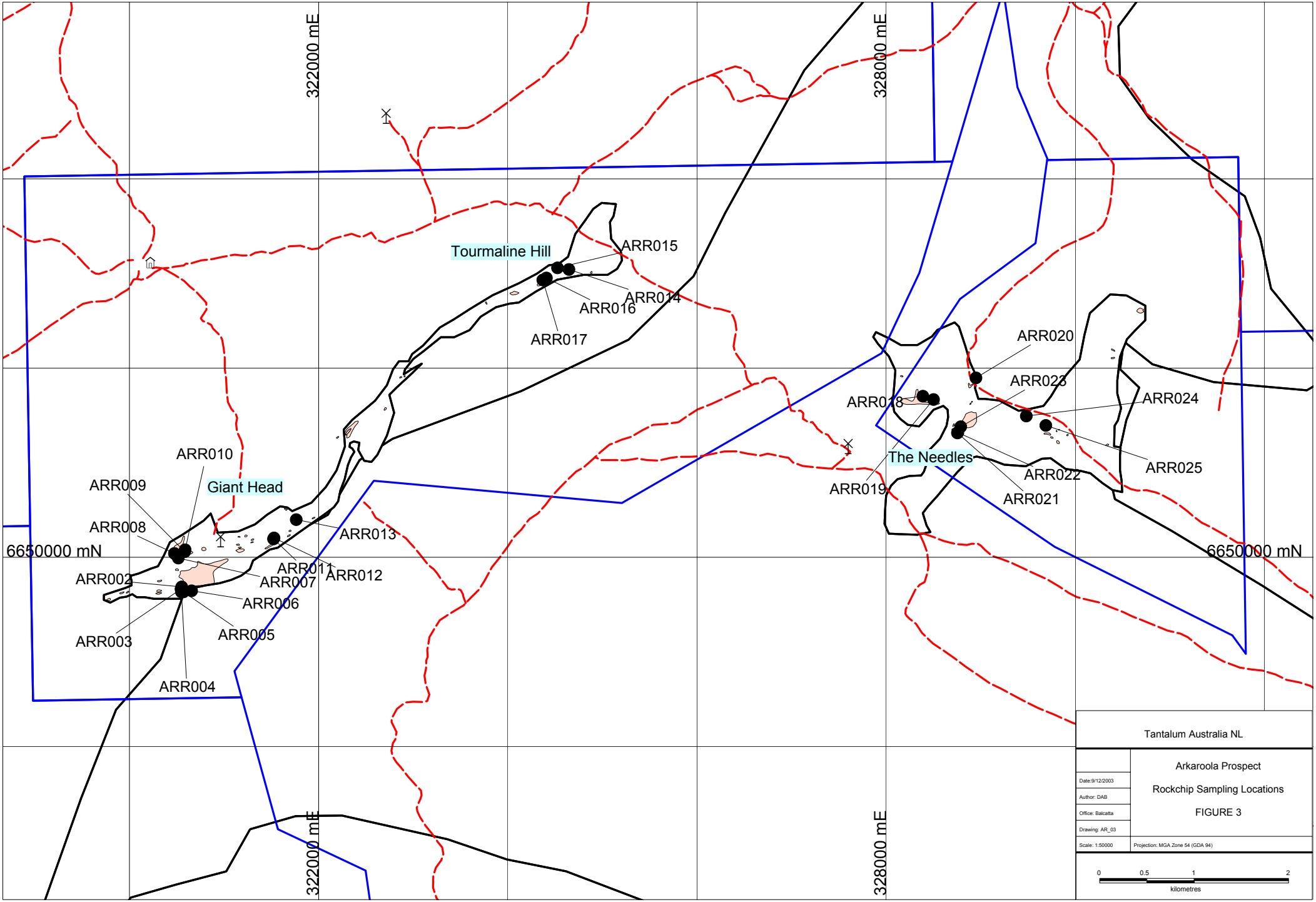
RESULTS

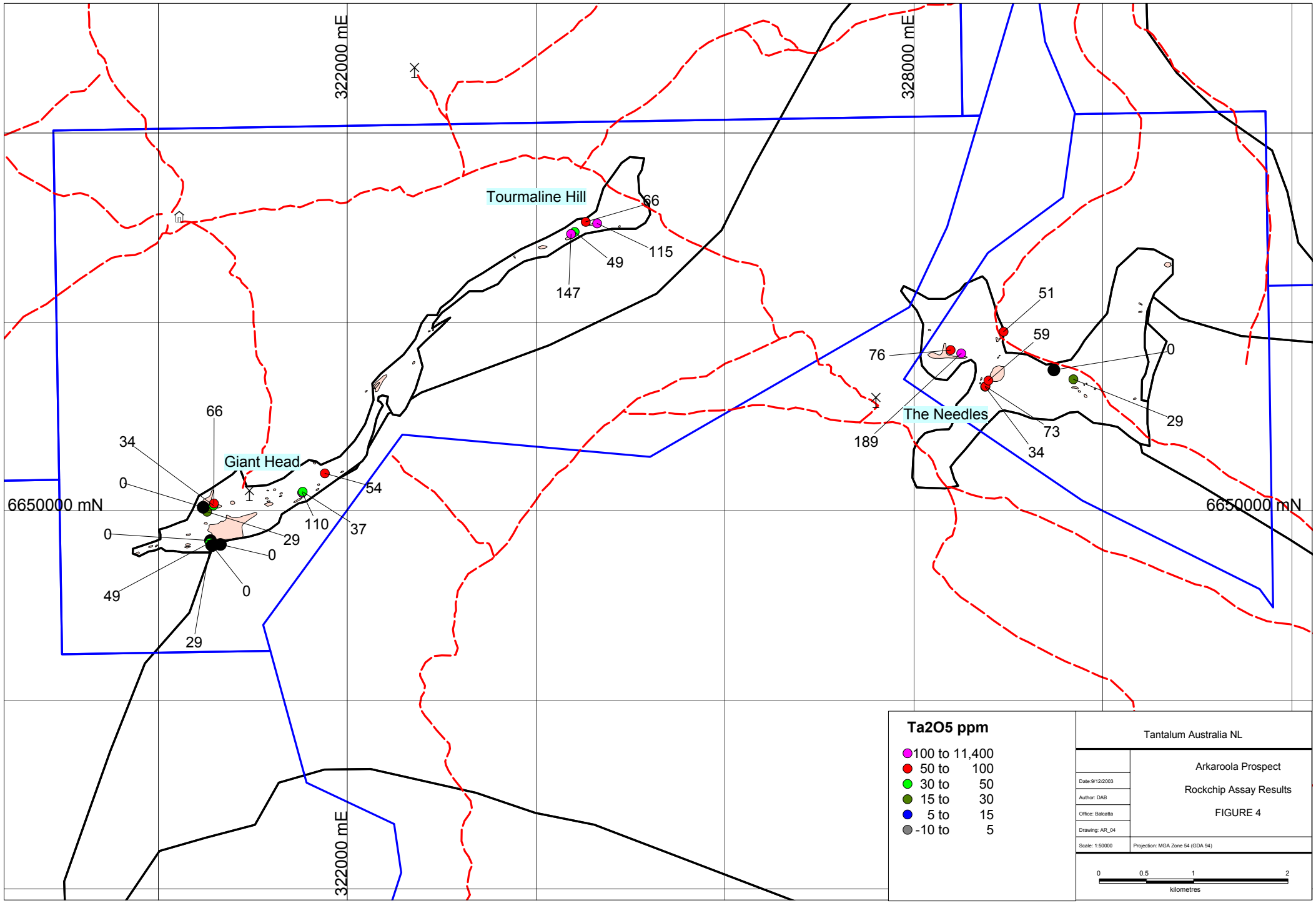
Rockchip sampling produced few high results. Significant results from the program are tabulated below. The results have been plotted and attached in Figure 4.

Table 4 Summary of significant intercepts

Sample No	Ta_2O_5 ppm	Nb_2O_5 ppm	Sn ppm
ARR017	147	94	70
ARR019	189	97	120

The results above have an average Ta:Nb ratio of 1.76. The results failed to achieve the levels returned by earlier surveys by previous explorers.


322000 mE
328000 mE
6650000 mN
Tourmaline Hill
ARR015
ARR014
ARR016
ARR017
Giant Head
ARR010
ARR009
ARR008
ARR013
ARR011
ARR012
ARR007
ARR002
ARR006
ARR003
ARR005
ARR004
The Needles
ARR020
ARR023
ARR024
ARR018
ARR025
ARR022
ARR019
ARR021
Tantalum Australia NL
Arkaroola Prospect
Rockchip Sampling Locations
FIGURE 3
Date:9/12/2003
Author: DAB
Office: Balcatta
Drawing: AR_03
Scale: 1:50000
Projection: MGA Zone 54 (GDA 94)
0
0.5
1
2
kilometres


322000 mE
328000 mE
322000 mE
6650000 mN
6650000 mN
Tourmaline Hill
66
115
49
147
Giant Head
66
34
0
54
110
37
29
0
0
49
0
29
The Needles
51
59
76
0
29
73
34
189
Ta2O5 ppm
100 to 11,400
50 to 100
30 to 50
15 to 30
5 to 15
-10 to 5
Tantalum Australia NL
Arkaroola Prospect
Rockchip Assay Results
FIGURE 4
Date:9/12/2003
Author: DAB
Office: Balcatta
Drawing: AR_04
Scale: 1:50000
Projection: MGA Zone 54 (GDA 94)
0
0.5
1
2
kilometres

APPENDICES

Appendix I Plates

Appendix II Data Files

Rockchip file.....EL3047_200312_02_SG1.txt

Assay File.....SGS Assay Report Sheet

Appendix III Analytical Methods

Appendix I

Plates

Plate 1 Photo showing Giant Head on left of middle ground. Hills in the background represent Adelaidean country rock. Olive green foliage running through photograph denotes the location of diapiric material, as the scraggly local eucalypts favour this substrate.

Plate 2 Giant Head (circled) looking SW. Foreground material is of the Umberatana group, while hills in the background represent older sediments of the Callanna-Burra groups. The low, elongate diapir is obscured by low hills to the left of the photograph.

Plate 3 Rockchip sampling at Giant Head. Outcrop or in this case subcrop was channel sampled across the entire exposure to ensure a representative assay result.

Appendix II

Data Files

1. .....Rockchip file

2. .....Assay Sheet

H0100	Tenement_name	E3047
H0101	Tenement_holder	Tantalum Australia NL
H0102	Project_name	Arkaroola Prospect
H0103	250K_map_sheet_number	SH 54-9
H0200	Start_date_of_data_acquisition	31/12/2002
H0201	End_date_of_data_acquisition	31/12/2003
H0202	Data_format	SG1
H0203	Number_of_data_records	24
H0204	Date_of_metadata_update	08-Dec-03
H0500	Feature_located	Sample point
H0501	Geodetic_datum	AGD 84
H0502	Vertical_datum	AHD
H0503	Projection	AMG
H0504	Projection_zone	54
H0505	Surveying_instrument	dGPS
H0506	*Surveying_company*	*in house*
H0600	Sample_code	Sample_type Sample_description
H0601	ARR	Rockchip 3kg representative channel sample taken from across outcrop
H0700	Sample_preparation_code	Sample_preparation_details
H0701	Job No WM073764	Where necessary, the sample has been dried, jaw crushed, split and pulverized in a Chromium Steel Mill
H0800	Assay_code	Assay_description Assay_company Assay_Date
H0801	XRF	X-Ray Flourescence SGS Australia 20/10/2003
H0900	Remarks	

H1000	SAMPNO	AMG_E		AMG_N		MGA_E		MGA_N		Ta2O5		Ta2O5_RP		Nb2O5		Nb2O5_RP		Sn		Sn_RPT		*Job_number*
H1001		*metres*		*metres*		*metres*		*metres*		*ppm*		*ppm*		*ppm*		*ppm*		*ppm*		*ppm*		
H1002										XRF		XRF		XRF		XRF		XRF		XRF		
H1003											20		20		20		20		20		20	
H1004			1		1		1		1		20		20		10		10		10		10	
D	ARR002		320431		6649508		320553		6649687		<20				<20				62			*WM073765*
D	ARR003		320423		6649486		320545		6649665		49				97				88			*WM073766*
D	ARR004		320427		6649455		320549		6649634		29				<20				48			*WM073767*
D	ARR005		320449		6649455		320571		6649634		<20				<20				86			*WM073768*
D	ARR006		320535		6649467		320657		6649646		<20				77				90			*WM073769*
D	ARR007		320395		6649813		320517		6649992		29				34				105			*WM073770*
D	ARR008		320353		6649861		320475		6650040		<20				37				24			*WM073771*
D	ARR009		320462		6649880		320584		6650059		34				74				58			*WM073772*
D	ARR010		320467		6649901		320589		6650080		66				83				54			*WM073773*
D	ARR011		321401		6650015		321523		6650194		110				89				100			*WM073774*
D	ARR012		321406		6650025		321528		6650204		37				49				70			*WM073775*
D	ARR013		321641		6650219		321763		6650398		54				37				78			*WM073776*
D	ARR014		324524		6652864		324646		6653043		115				150				76			*WM073777*
D	ARR015		324403		6652881		324525		6653060		66				103				34			*WM073778*
D	ARR016		324286		6652774		324408		6652953		49				60				26			*WM073779*
D	ARR017		324248		6652753		324370		6652932		147				94				70			*WM073780*
D	ARR018		328266		6651524		328388		6651703		76				77				<20			*WM073781*
D	ARR019		328378		6651489		328500		6651668		189				97				120			*WM073782*
D	ARR020		328827		6651718		328949		6651897		51				89				54			*WM073783*
D	ARR021		328631		6651136		328753		6651315		34				89				40			*WM073784*
D	ARR022		328635		6651140		328757		6651319		73				150				40			*WM073785*
D	ARR023		328666		6651201		328788		6651380		59				100				<20			*WM073786*
D	ARR024		329359		6651314		329481		6651493		<20				40				<20			*WM073787*
D	ARR025		329566		6651215		329688		6651394		29				94				34			*WM073788*

EOF

ATTENTION: Dale Brittliffe; Tantalum Australia Pty Ltd

Date: 20/10/2003

NUMBER OF SAMPLES = 25 ORDER # 10114

SAMPLE PREP CODE = S033 SGS Ref: WM073764

ELEMENTS	Ta	Nb	Sn
UNITS	ppm	ppm	ppm
LLD	20	20	20
CODE	X409	X409	X409
ARR001	140	66	98
ARR002	<20	<20	62
ARR003	40	68	88
ARR004	24	<20	48
ARR005	<20	<20	86
ARR006	<20	54	90
ARR007	24	24	105
ARR008	<20	26	24
ARR009	28	52	58
ARR010	54	58	54
ARR011	90	62	100
ARR012	30	34	70
ARR013	44	26	78
ARR014	94	105	76
ARR015	54	72	34
ARR016	40	42	26
ARR017	120	66	70
ARR018	62	54	<20
ARR019	155	68	120
ARR020	42	62	54
ARR021	28	62	40
ARR022	60	105	40
ARR023	48	70	<20
ARR024	<20	28	<20
ARR025	24	66	34

Appendix III

Analytical procedures

Analytical procedures

SGS Australasia Pty Ltd

Prep code *SP1*

Where necessary, the sample has been dried, jaw crushed, split and pulverized in a Chromium Steel Mill.

Method of analysis *XRF-2*

Low diffusion method for trace elements by XRF(Ta_2O_5, Nb_2O_5, SnO_2). Precision of analysis is ± 10% at 10X LLD.

Description of method

An FM1 flux is used on 1g of sample. This is fused at 1100° C for 25 minutes, then press quenched on a graphite disc. This is presented to the XRF Spectrometer (Phillips 1480 X-ray Spectrometer- calibrated and checked using internal samples). Assay values are then calculated and a report is issued to the client using the C_Class system of laboratory reporting.