DE BEERS AUSTRALIA EXPLORATION LIMITED

FOELSCHE PROJECT

FINAL & ANNUAL REPORT - EL 9898

26 SEPTEMBER 2002 TO 21 JULY 2003
LODGED OCTOBER 2003

DE BEERS
A DIAMOND IS FOREVER

PROJECT: FOELSCHE PROJECT

TITLE: FINAL & ANNUAL REPORT
EXPLORATION LICENCE 9898

EDITED: MSM/BMA

AUTHOR/S: M I Millikan

APPROVED: MSM

DATE: October 2003

PLACE: Perth

1:250,000 Sheet Name/s & No/s: Robinson River (SE53-04)

Text Pages No: 7 **Table Nos:** 3 **Maps 4** 4 **Appendices** 2

KEYWORDS: NT, McArthur Basin, Foelsche Project, stream sediment sampling, aerial magnetic surveying, diamond, anomalies.

ABSTRACT:

Exploration licence 9898 is located within the Garawa Aboriginal Land Trust over the Robinson River 1:250,000 map sheet and was lodged to cover a magnetic anomaly (ROR006), selected from the 1996 NTGS Robinson River Survey. The highly rated magnetic anomaly was observed to be saucer shaped and depressional when cross-checked with Landsat TM.

Exploration conducted during the reporting period involved the flying and interpretation of a remote sensing hyperspectral survey over the licence and the check sampling of prioritised spectral anomalies. Magnetic anomaly, ROR006 was also field inspected and sampled. In June 2003, a detailed airborne magnetic survey was flown over the licence area at 100m flight line spacing. Interpretation of this survey did not generate any new targets of interest.

None of the anomalies sampled were found to contain indicator minerals released by kimberlites. Little encouragement has been received that the tenement contains an economic deposit of diamonds and, as such, has been surrendered.

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1. INTRODUCTION

Exploration licence 9898 is located within the Garawa Aboriginal Land Trust (see Map 1) over the Robinson River 1:250,000 map sheet and was lodged to cover a magnetic anomaly (ROR006), selected from the 1996 NTGS Robinson River Survey. The highly rated magnetic anomaly was observed to be saucer shaped and depressional when cross-checked with Landsat Thematic Mapper (TM). The exploration licence was granted on the 26th of September 2002.

Exploration conducted by De Beers Australia Exploration Limited (DBAE) during the first year of tenure involved the flying and interpretation of a remote sensing hyperspectral survey over the licence and the check sampling of prioritised spectral anomalies, details summarised on the index Map 2. Magnetic anomaly, ROR006 was also field inspected and sampled. In June 2003, a detailed airborne magnetic survey was flown over the licence area at 100m flight line spacing. Interpretation of this survey did not generate any new targets of interest.

None of the anomalies sampled were found to contain indicator minerals released by kimberlites. Full results for the exploration undertaken during the first year of tenure are available and give little encouragement for further exploration; DBAE has surrendered the tenement.

2. TENURE

Exploration licence application 9898 was lodged on the 27th May 1997. The licence application was located within the Garawa Aboriginal Land Trust and as such access was negotiated with Traditional Owners and the Northern Land Council (NLC) prior to grant.
The initial consultation meeting for the consent to grant the licence was held with Traditional Owners at Robinson River on 12th of October 1999. The meeting went well with the Traditional Owners, principally in favour of the exploration agreement. However, since it was the Groups first exploration agreement they wanted time to consider the proposal and the work program.

Traditional Owners, at the follow-up consultation meeting held for ELA9898 at Robinson River on the 13 September 2001 gave approval for the grant of the licence. The licence was granted in September 2002 following the ratification of an exploration agreement with the NLC. Following unsuccessful exploration the licence was surrendered in July 2003. Table 1 summarises the tenement details.

TABLE 1: TENURE DETAILS

LICENCE	HOLDER	APPL'N DATE	GRANT DATE	SURRENDER DATE	BLOCKS (AREA)
EL9898	DBAE	19/12/2000	26/09/2002	21/07/2003	27 (89 km^2)

3. DESCRIPTION OF PROJECT AREA

3.1 Infrastructure

Exploration licence 9898 covers an area of 89 km^2 and is located over the Robinson River 1:250,000 mapsheet. The licence lies some 30km west of the old Robinson River station homestead, which is now the Garawa Aboriginal Community. A main access track, linking the community with Borroloola transects the licence area. Another subordinate old station track is located along the western margin of the licence.

3.2 Physiography

The licence is located within the Gulf Fall Physiographic unit of Yates, 1972. The licence area is dominated by low hills that are drained by moderately well developed westerly flowing streams. These drainages in turn flow into the major Foelsche River, which drains north into the Gulf of Carpentaria.

3.3 Geology

Exploration licence 9898 is located within the Palaeoproterozoic McArthur Basin. The McArthur Basin is a succession of essentially un-metamorphosed sedimentary and lesser volcanic rocks, deposited largely in shallow marginal marine and lacustrine settings.

The project area is almost completely covered by the Lower Proterozoic Karns Dolomite, a sedimentary unit of the McArthur Group. This unit consists of dolomites and algal cherts (Yates, 1972). Quaternary alluvium and colluvium overlies this sedimentary unit along the Foelsche River and along the eastern margin of the licence.

4. DBAE DIAMOND EXPLORATION

4.1 NTGS Robinson River Airborne Magnetic Survey & Anomaly Investigations

The NTGS released airborne magnetic data for the Robinson River 1:250,000 map sheet in March 1997. The magnetic data set is a compilation of survey data acquired at various line spacings and survey altitudes. The general flight line spacing was 500m, although smaller surveys were conducted at 200m line spacing. The survey specifications were:

Flight line spacing:	500m
Sensor Height:	100m
Line Direction:	N-S
Navigation:	RTDGPS
Year Flown:	1996
Contractor:	Kevron

Hard copy of the survey was originally obtained, and magnetic anomalies were selected. All selected anomalies were cross-checked with Landsat TM and one magnetic anomaly, ROR006 was identified to have a saucer shaped topographic expression and was consequently upgraded. A fracture was also identified near ROR006 with another Landsat TM anomaly (RON981547) highlighted seven kilometres to the southeast of the ROR006 magnetic anomaly along the fracture. Digital data was acquired in 2000.

Diamond exploration for EL9898 was conducted from Borroloola. Prior to exploration commencing a meeting was held at the NLC's Borroloola office with local Garawa traditional owners (TO's) and NLC project officer Kerry Jan. The meeting with the traditional owners was organised to demonstrate the typical exploration procedures undertaken by DBAE and for the TO's to select two traditional guides for the two separate areas to be sampled. An "exploration for diamonds" poster presentation was given and the two areas to be sampled discussed in detail. Four guides, two for each area organised for the proceeding day's sampling activities.

Magnetic anomaly ROR006

Magnetic anomaly ROR006 (693933mE/8171979mN; MGA94 Zone 53) was field inspected and sampled with the collection of a heavy mineral loam sample, rock samples and geochemical samples. The anomaly from the air the anomaly is positioned in a slight hollow, in rather open woodlands.

Loam sample BG6801 consisted of 5 bags of deflation screened –2mm, collected around termite mounds and random positions over the feature. Seven duplicate geochemical samples (BG6901-6907) were also collected over the anomaly on a north-south traverse. The geochemical samples were forwarded to Genanlysis for partial leach digests, and analysed for the following suite of elements: Ba, Ca, Ce, Co, Cr, Dy, Er, Gd, K, La, Mg, Nb, Nd, Ni, Y and Yb. No anomalous responses were received.

The observed float over the anomaly consisted dominantly of siliceous dolomites and dolarenites, thought to be part of the McArthur Group Karns Dolomite. Three bags of rock (float) was collected over the anomaly and assigned sample number BG6802. The collected rock was crushed for indicator minerals, just in case some of the highly silicified pieces of rock contain kimberlite. No indicator minerals were recovered in the loam sample or the rock sample. The cause of the magnetic anomaly is believed to be an accumulation of iron-rich gravels into a limestone sinkhole or possibly a meteorite impact.

Heavy mineral sample details are summarised in Table 2 and geochemical details are compiled in Table 3. Sample locations are displayed on Map 3.

TABLE 2: SAMPLING DETAILS

SAMPLE	LON_X	LAT_Y	DATUM	MAPSHEET	SAMPLETYPE	STATUS	DIAMOND	GARNET	ILMENITE	CHROMITE
BG6801	136.817175	-16.526232	GDA94	E5304	LOAM	NEGATIVE	0	0	0	0
BG6802	136.817175	-16.526232	GDA94	E5304	ROCK	NEGATIVE	0	0	0	0
BG6803	136.821606	-16.521136	GDA94	E5304	LOAM	NEGATIVE	0	0	0	0
BG6804	136.819428	-16.513583	GDA94	E5304	STREAM	NEGATIVE	0	0	0	0
BG6805	136.873679	-16.582897	GDA94	E5304	STREAM	NEGATIVE	0	0	0	0

Note : Samples examined in the -0.5+0.3mm fraction only

TABLE 3 : GEOCHEMICAL RESULTS

ELEMENTS				Ba	Ce	Co	Cr	Cu	Fe	La	Li
UNITS				ppm	ppb	ppb	ppm	ppm	ppm	ppb	ppb
DETECTION				0.002	0.02	1	0.1	0.01	0.1	0.02	0.4
METHOD				TL1/MS	TL1/MS	TL1/MS	TL1/OES	TL1/MS	TL1/OES	TL1/MS	TL1/MS
SAMPLE	LONGITUDE	LATITUDE	DATUM								
BG6901	136.817202	-16.528947	GDA94	0.072	727.63	51	0.2	1	237.9	242.89	208.7
BG6902	136.817191	-16.528040	GDA94	0.188	827.56	90	0.5	1.36	566.3	493.5	344.9
BG6903	136.817181	-16.526688	GDA94	0.189	1480.27	83	0.4	1.43	420.1	320.16	302.2
BG6904	136.817175	-16.526232	GDA94	0.276	548.91	97	0.6	0.98	649.7	289.07	724.9
BG6905	136.817170	-16.525782	GDA94	0.213	751.57	75	0.4	1.43	459	433.79	327.2
BG6906	136.817159	-16.524430	GDA94	0.223	698.86	88	0.2	0.68	287	353.19	302.2
BG6907	136.817148	-16.523523	GDA94	0.232	840.65	95	0.4	0.96	422.1	303.21	362.7

ELEMENTS	Mg	Nb	Nd	Ni	P	Ta	Ti	V	Y	Zn	Zr
UNITS	ppm	ppb	ppb	ppm	ppm	ppb	ppm	ppm	ppb	ppb	ppb
DETECTION	0.1	0.04	0.02	0.01	1	0.01	0.1	0.1	0.04	1	0.2
METHOD	TL1/OES	TL1/MS	TL1/MS	TL1/MS	TL1/OES	TL1/MS	TL1/OES	TL1/OES	TL1/MS	TL1/AAS	TL1/MS
SAMPLE											
BG6901	56.3	2.96	385.81	0.18	7	0.2	3.7	0.7	342.97	92	211.8
BG6902	92.9	6.96	778.99	0.33	9	0.42	9.2	1.2	876.38	153	448.9
BG6903	85.8	4.93	541.22	0.41	11	0.32	6.6	0.9	585.09	134	323.5
BG6904	135.3	10.49	418.44	0.34	9	0.73	8.6	1.2	445.4	227	612.6
BG6905	67.3	6.89	641.08	0.37	9	0.48	8.6	0.9	850.59	171	432.1
BG6906	35.2	8.31	440.84	0.31	7	0.67	5.9	0.5	827.96	226	467.4
BG6907	44.2	8.4	392.02	0.33	10	0.76	8.2	1	442.05	209	559.5

4.2 Remote Sensing Surveys 4.2 Anomaly Investigations

The DBAE owned airborne hyperspectral scanner (AMS), referred to as the HYMAP Mark 1, was flown over EL9898. The tenement is amenable to the use of the AMS, with a high degree of exposed bedrock geology. Since the aircraft used for the survey flies at a height of 2,400 metres, this survey can be undertaken with no impact on ground activities.

The main objective of the hyperspectral survey was to directly detect isolated areas (anomalies) which potentially may be caused by ultrabasics namely kimberlite. The data acquired over the project area was processed and interpreted prior to the commencement of field activities. The anomalies

considered of interest were field inspected and some sampled by the collection of loam and stream samples.

Hyperspectral anomaly F3402_0 1

Spectral anomaly F3402_01 (694411mE/8172539mN; MGA94 Zone 53) was selected from the hyperspectral survey but interpretation suggested that the response was probably caused by dry vegetation and leaf litter. Field inspection of the anomaly found a shallow sheetwash area recently burnt out with new wet season regrowth. Bioturbated material around a crab hole was collected in a single calico bag (BG6803). The sample was measured with the PIMA to check its spectral response; considered not to be of interest.

Hyperspectral anomaly F3402_02

Spectral anomaly F3402_02 (694024mE/8172028mN; MGA94 Zone 53) was selected near magnetic anomaly ROR006 as it displayed a smectite clay response. The anomaly was covered by samples collected for ROR006; which was negative.

Hyperspectral anomaly F3402_03

Spectral anomaly F3402_03 (694328mE/8173340mN; MGA94 Zone 53) was selected north of ROR006 and like F3402_02 was selected because of smectite clays. A stream sample BG6804 (694186mE/8173377mN; MGA94 Zone 53), was collected just downstream of the anomaly. Limestone float and pisolites were observed over the anomaly. A small concentration of gravel was sampled. Again no indicator minerals were recovered.

A Landsat TM anomaly (RON981547) highlighted seven kilometres to the southeast of the ROR006 magnetic anomaly along a fracture was also field inspected and sampled.

Landsat TM anomaly RON981547

Little evidence for Landsat Thematic Mapper (TM) anomaly RON981547 (699939mE/8165636mN; MGA94 Zone 53) could be observed from the air or on the ground, and as such a downstream sample BG6805 (699907mE/8165653mN; MGA94 Zone 53) was collected. The drainage is structurally controlled and sandstone and dolomite float was observed scattered throughout the drainage. A 50L stream sample was collected and screened at −2mm. The treatment and examination of this sample did not recovered kimberlitic indicator minerals.

Heavy mineral sample details are summarised in Table 2 and geochemical details are compiled in Table 3. Sample locations are displayed on Map 3.

4.3 Detailed Magnetic Survey

The most common geophysical technique used in diamond exploration is to fly an airborne magnetic survey, which maps the perturbations of the earth's magnetic field induced by the local geology. Kimberlites can usually be recognised from such surveys if their magnetic susceptibility contrasts with that of the country rocks.

The regional government magnetic data over the licence area, though considered to be of good quality is not ideal for the direct detection of kimberlites. As such a detailed airborne magnetic survey was flown over the tenement. The Foelsche Survey was flown in June 2003 by geophysical contractors UTS Geophysics. The survey was flown at 100m flight line spacing in a north-south direction and a 25m flying height. A total of 977 line kilometres were acquired. The interpretation of this detailed magnetic data did not generate any new targets and the originally high interest magnetic anomaly ROR006 was downgraded and no recommended for further work. A geophysical TMI Map of the survey is displayed as Map 4.

4.4 Sample Treatment, Examination & Results

The stream and loam samples collected over the tenement were delivered to the De Beers Australia Exploration Limited (DBAE) Perth treatment facility in Bassendean, for primary treatment. Secondary treatment and examination was conducted at the DBAE Melbourne Laboratory. Samples were treated at –1mm and examined at –0.5 + 0.3mm for kimberlitic indicator minerals. Full results are available and no indicator minerals were recovered. No further work has been recommended.

Heavy mineral sample results are summarised in Table 2 and geochemical results are compiled in Table 3.

4.5 Costs of Exploration

ITEM	AMOUNT
ABORIGINAL LIAISION	$24,241
FIELD EXPENSES	$2,080
MELBOURNE LABORATORY	$10,931
TENEMENT MANAGEMENT	$1,363
SPECIALIST SERVICES (geophysics etc)	$16,317
TRANSPORT AND TRAVEL	$2,397
SALARIES & WAGES	$8,033
Total	**$65,362**

5. SUMMARY

Diamond exploration undertaken by De Beers Australia Exploration Limited (DBAE) during the first year of tenure of exploration licence 9898 involved the flying and interpretation of a remote sensing hyperspectral survey over the licence and the check sampling of prioritised spectral anomalies. Magnetic anomaly, ROR006 was also field inspected and sampled. In June 2003, a detailed airborne magnetic survey was flown over the licence area at 100m flight line spacing. Interpretation of this survey did not generate any new targets of interest.

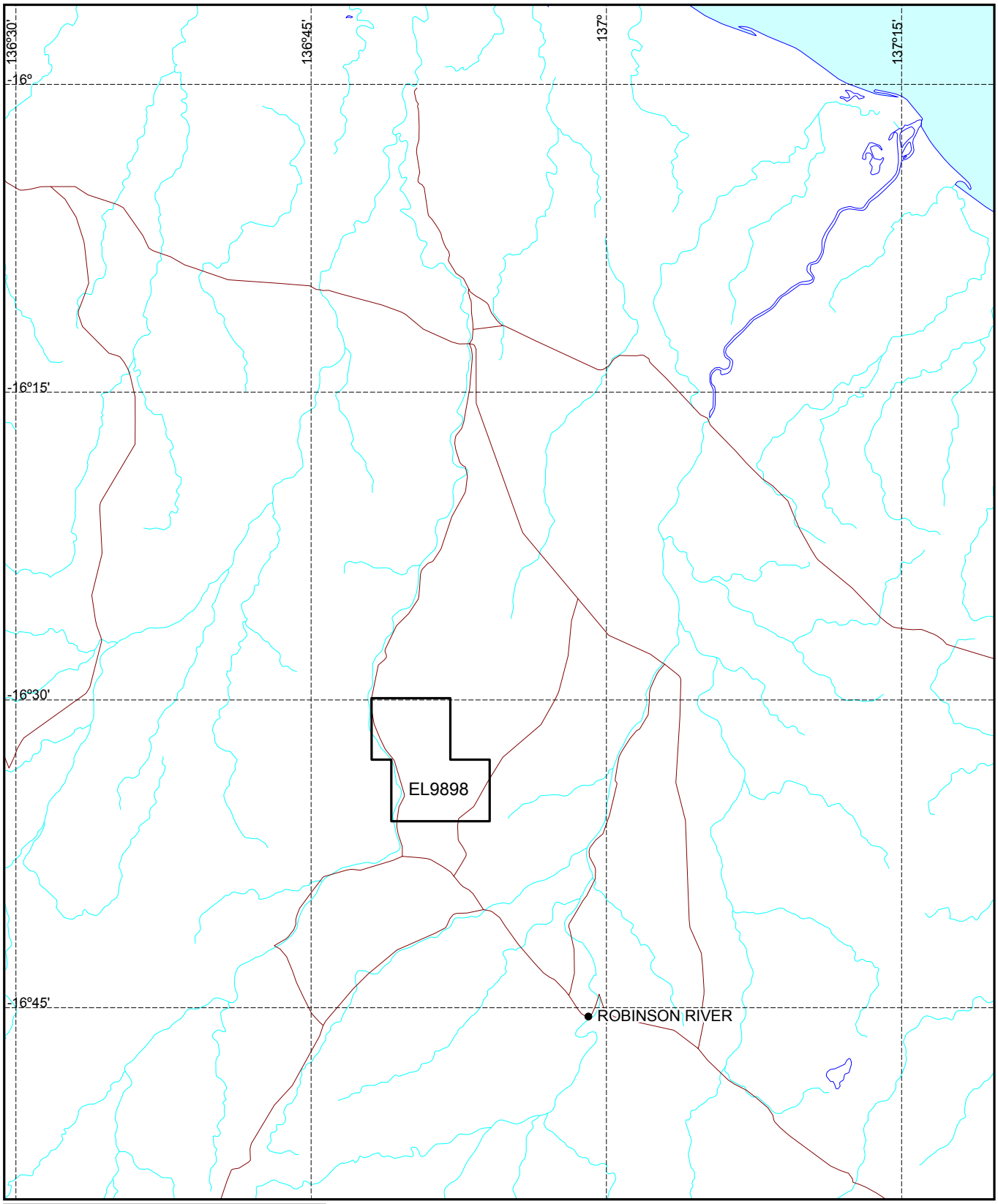
None of the anomalies sampled were found to contain indicator minerals released by kimberlites. Full results for the exploration undertaken during the first year of tenure are available and give little encouragement for further exploration, as such DBAE surrendered the tenement on 21 July 2003. All rehabilitation required has been undertaken and completed.

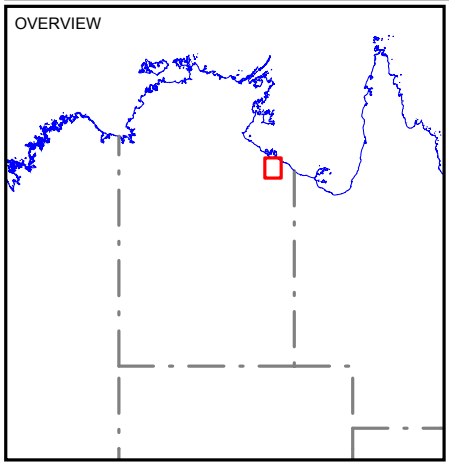
Michael Millikan
Project Geologist

6. REFERENCES

Yates, K R, 1972, **1:250,000 Geological Series-Explanatory Notes: Robinson River, Northern Territory**. BMR, Canberra

MAPS 1-4





0 1:500,000 20KM

MAP 1

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EL9898

LOCATION MAP

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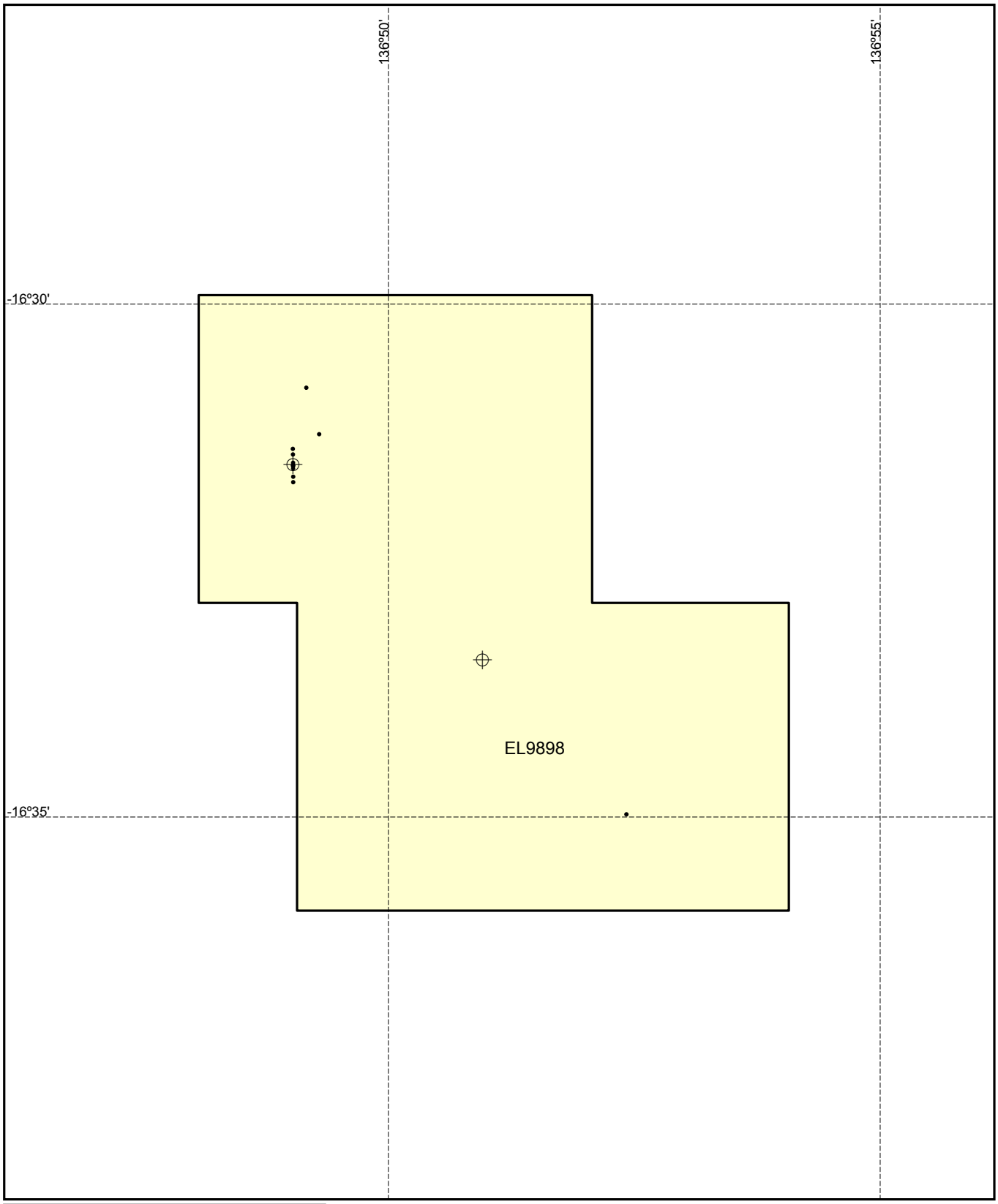

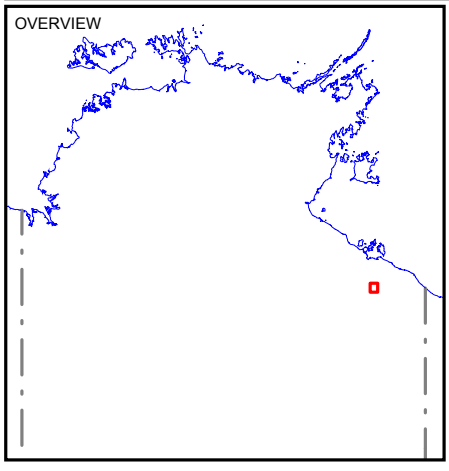

Area of Airborne Magnetic Survey

Heavy Mineral Sample

Magnetic Anomaly (Airborne Magnetics)

Magnetic Anomaly (Detailed Airmag Followup)

0 1:100,000 4KM

MAP 2

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EL9898

EXPLORATION INDEX MAP

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695000 mE

700000 mE

8175000 mN

8170000 mN

8165000 mN

F3402_03

BG6804

F3402_01

BG6803

F3402_02

ROR006

BG6907

BG6906

BG6905

BG6903

BG6801-02 & BG6904

BG6902

BG6901

FOL001

EL9898

BG6805

OVERVIEW

GEOSLOAM
BG6901-6907
Total 7

LOAM
BG6801
BG6803
Total 2

ROCK
BG6802
Total 1

STREAM
BG6804-6805
Total 2

SAMPLE LEGEND

- Stream
- Loam
- Rock
- Drill
- Bulk
- Geophysics Anomaly
- Remote Sensing Anomaly

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	FINAL REPORT **EL9898** **SAMPLE LOCATION MAP**
Date:1/10/2003	
Author: GGM	
Office: Perth	
Drawing: MAP 3	
Scale: 1:50000	Projection: Longitude / Latitude (Australia GDA94)

0 1.5 3

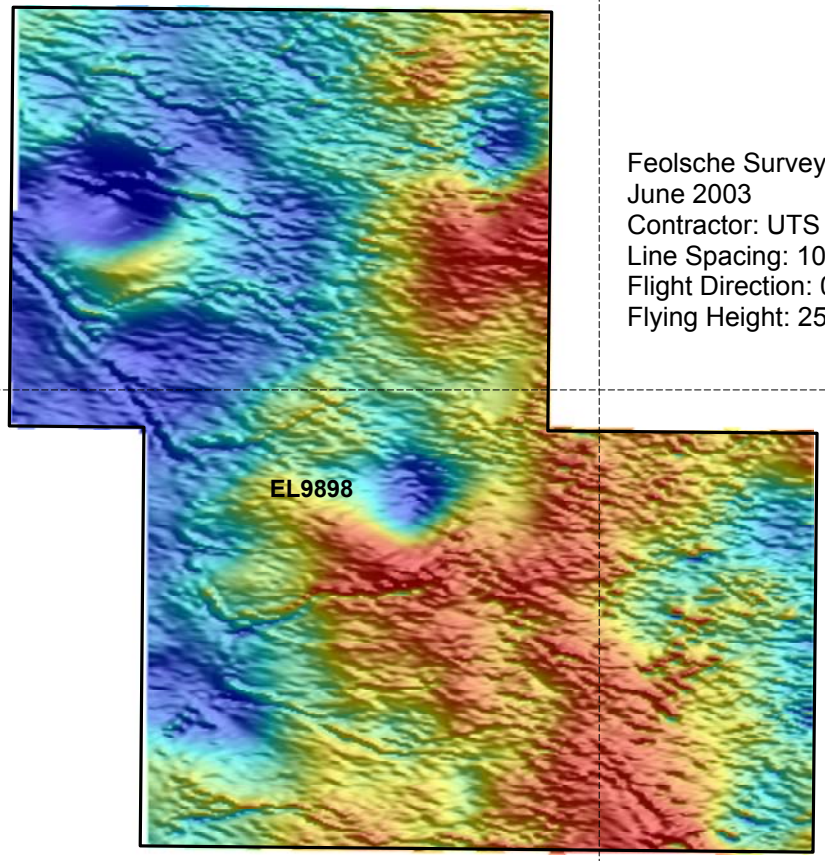
kilometres

690000 mE

700000 mE

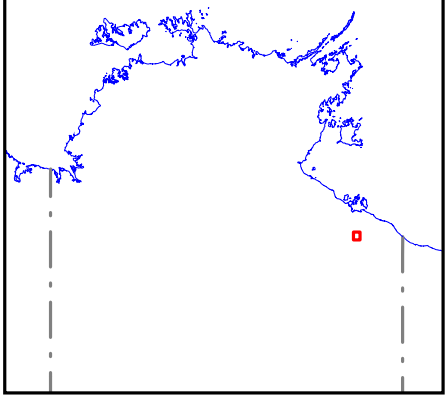
8170000 mN

8160000 mN



Feolsche Survey
June 2003
Contractor: UTS Geophysics
Line Spacing: 100m
Flight Direction: 0-180
Flying Height: 25m

OVERVIEW



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MAP 4

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EL9898

GEOPHYSICS TMI MAP

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APPENDIX 1

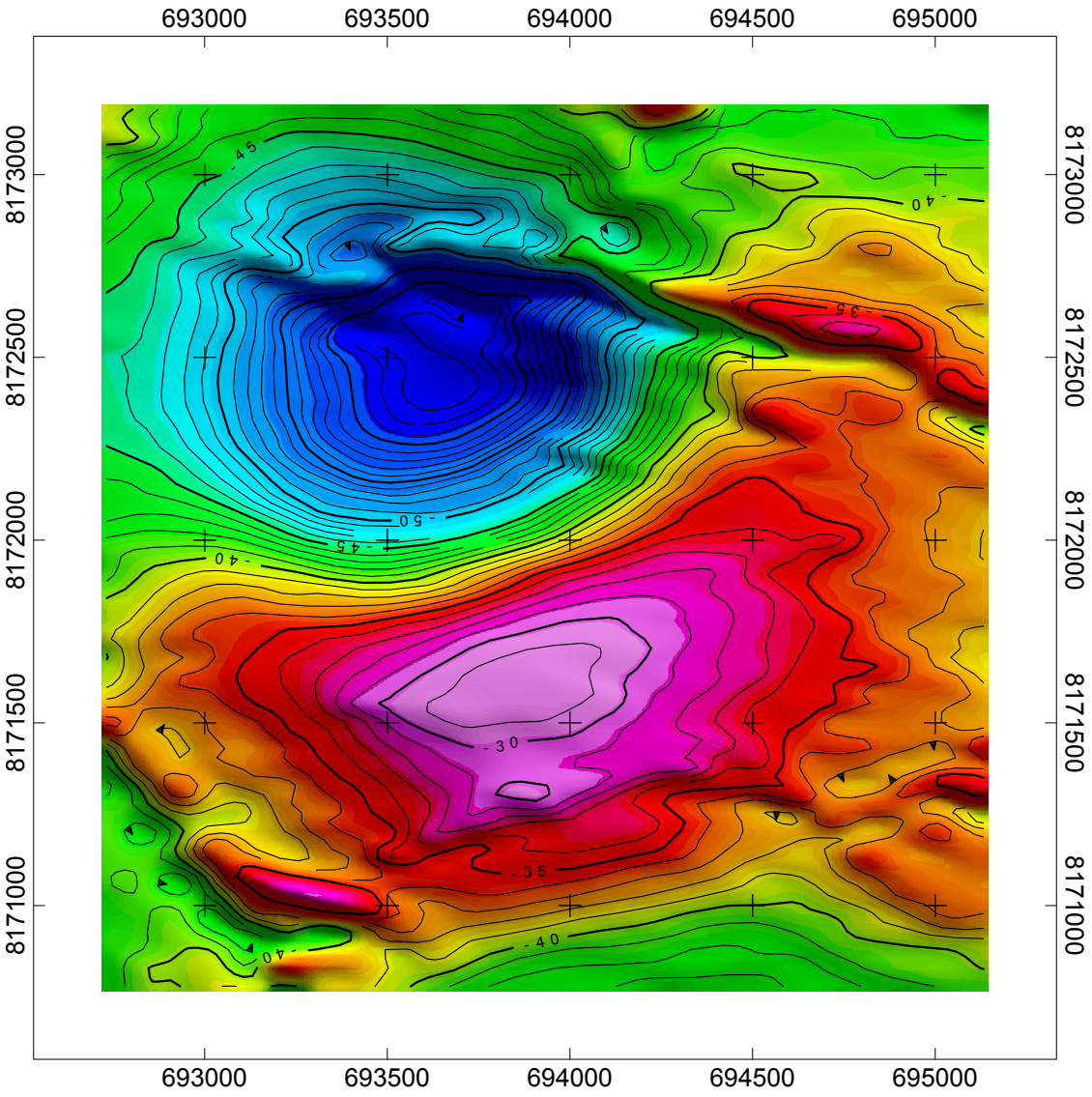
SAMPLE RESULTS SUMMARY

SAMPLE	LON_X	LAT_Y	PROJ	MAP SHEET	SAMPLE TYPE	STATUS	TENEM'T	DIAM'D	GARNET	ILMENITE	CHROMITE
BG6801	136.817175	-16.526232	GDA94	E5304	LOAM	NEGATIVE	EL9898	0	0	0	0
BG6802	136.817175	-16.526232	GDA94	E5304	ROCK	NEGATIVE	EL9898	0	0	0	0
BG6803	136.821606	-16.521136	GDA94	E5304	LOAM	NEGATIVE	EL9898	0	0	0	0
BG6804	136.819428	-16.513583	GDA94	E5304	STREAM	NEGATIVE	EL9898	0	0	0	0
BG6805	136.873679	-16.582897	GDA94	E5304	STREAM	NEGATIVE	EL9898	0	0	0	0
BG6901	136.817202	-16.528947	GDA94	E5304	GEOS LOAM	ANALYSED	EL9898	0	0	0	0
BG6902	136.817191	-16.528040	GDA94	E5304	GEOS LOAM	ANALYSED	EL9898	0	0	0	0
BG6903	136.817181	-16.526688	GDA94	E5304	GEOS LOAM	ANALYSED	EL9898	0	0	0	0
BG6904	136.817175	-16.526232	GDA94	E5304	GEOS LOAM	ANALYSED	EL9898	0	0	0	0
BG6905	136.817170	-16.525782	GDA94	E5304	GEOS LOAM	ANALYSED	EL9898	0	0	0	0
BG6906	136.817159	-16.524430	GDA94	E5304	GEOS LOAM	ANALYSED	EL9898	0	0	0	0
BG6907	136.817148	-16.523523	GDA94	E5304	GEOS LOAM	ANALYSED	EL9898	0	0	0	0

APPENDIX 2

MAGNETIC ANOMALY TMI CONTOUR PLOTS

ROR006



Scale 1:20000

250 0 250

metres

GDA94 / Map Grid of Australia zone 53

Survey Name : Foelsche
Contractor : UTS Geophysics
Line Spacing = 100 metres
Survey Height = 25 metres

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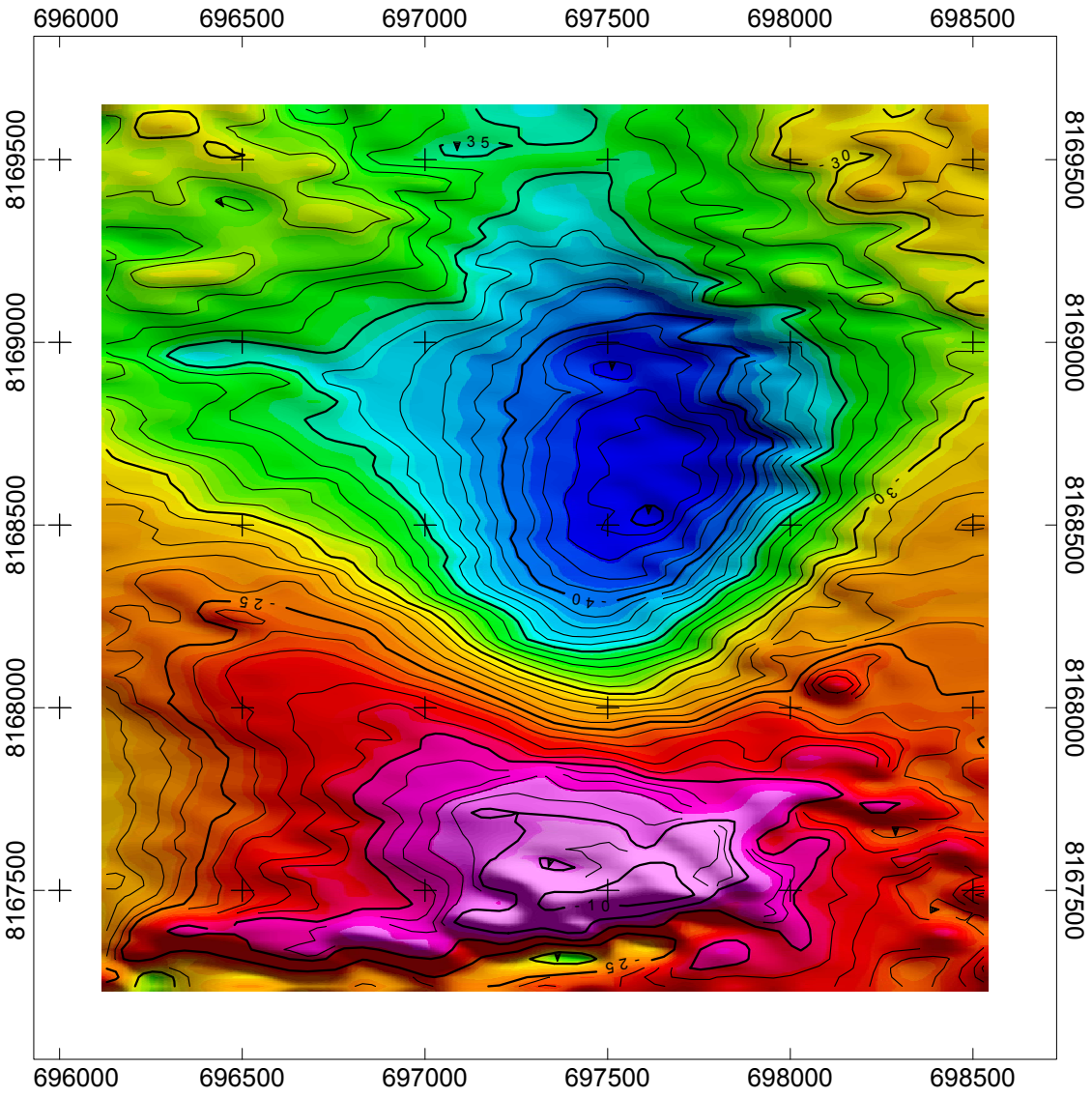
Airborne Geophysical Survey
ROR006
Total Magnetic Intensity

E5304 ROBINSON RIVER
E5304DD FOELSCHE
Map No: 6264-14

20 Oct 03

FOL001



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metres

GDA94 / Map Grid of Australia zone 53

Survey Name : Foelsche
Contractor : UTS Geophysics
Line Spacing = 100 metres
Survey Height = 25 metres

De Beers Australia Exploration Limited

Airborne Geophysical Survey
FOL001
Total Magnetic Intensity

E5304 ROBINSON RIVER
E5304DD FOELSCHE
Map No: 6264-14

20 Oct 03