

FINAL REPORT for
EXPLORATION LICENCE 327

FEBRUARY 2002

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DE BEERS

A DIAMOND IS FOREVER

PROJECT: Arnhem Land

TITLE: Final Report for Exploration
Licence 327

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1:250,000 Sheet Name/s & No/s: SD5302 Milingimbi, SD5306 Mount
Marumba

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EL327.

ABSTRACT: De Beers Australia Exploration Limited has
conducted exploration for diamonds over EL327 up
to the surrender date. The objective of the
exploration was to locate potentially diamond
bearing, ultrabasic intrusive rocks. Diamond
exploration involved heavy mineral sampling,
aerial magnetic and radiometric surveying,
assessment of aerial magnetic data, and ground
investigation. A total of 67 samples were
collected. An assessment of results suggested
that samples collected do not derive from a
diamond host rock, and DBAE surrender its
interest from the tenement.

COPY TO: NTDME, NLC, Cameco Australia Pty Ltd, IC

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TABLE OF CONTENTS

1.	INTRODUCTION
2.	TENEMENT
3.	WORK UNDERTAKEN
3.1	Heavy Mineral Sampling
3.2	Airborne Geophysics
4.	SAMPLE TREATMENT AND EXAMINATION
5.	RESULTS
6.	CONCLUSION
7.	REFERENCES

LIST OF TABLES

Table 1	TENEMENT DETAILS
Table 2	SAMPLE STATUS AND RESULTS
Table 3	GEOPHYSICAL ANOMALY SUMMARY
Table 4	GEOCHEMICAL SAMPLE RESULTS

LIST OF MAPS

Map 1	LOCATION MAP
Map 2	EXPLORATION INDEX MAP
Map 3	SAMPLE LOCATION MAP
Map 4	TOTAL MAGNETIC INTENSITY CONTOUR MAP

1. INTRODUCTION

This final report covers diamond exploration conducted on exploration licence (EL) 327 by De Beers Australia Exploration Limited (DBAE) up to the surrender date. Fieldwork involved heavy mineral stream sampling, deflation loam sampling, and geochemical soil sampling. Technical studies included the interpretation of heavy mineral results and the evaluation of airborne geophysical data.

2. TENEMENT

An application for EL327 was made on 09/12/1971 and was granted to DBAE on 14/05/1998. The tenement originally covered 238 blocks (766km²), however under statutory requirements to surrender 50% of the tenement area, the tenement was reduced to 118 blocks (395km²). The tenement was subsequently transferred to Cameco Australia Pty Ltd in December 2001. EL327 lies approximately 280km northeast of Katherine, on the Milingimbi and Mount Marumba 1:250000 mapsheets.

Table 1 lists the tenement details and Map 1 displays the location of the tenement.

3. WORK UNDERTAKEN

3.1 Heavy Mineral Sampling

Heavy mineral sampling within tenement EL327 consisted of the collection of 58 stream sediment samples, 1 barrage stream sample, 1 deflation loam sample, and 7 geochemical soil samples. Stream sediment samples consisted of 100 litres of excavated material generally screened to -2mm. The barrage sample comprised 300 litres of excavated material screened to -2mm. Loam samples consisted of 50 litres of surface material also screened to \square 2mm.

Sample details are shown in Table 2 and locations are shown on Maps 2 - 3.

3.2 Airborne Geophysical Surveying

In August 1999, Cameco Australia contracted UTS Geophysics to fly a low level airborne magnetic and radiometric survey. The survey covered the tenement area, covering 1195km² at 200m FLS (6505 line km) in a N-S direction. Interpretation of the data identified 4 anomalies (CMO001, CMO003, CMO005, CMO007) with intrusive type magnetic signatures. However, only one anomaly (CMO001) was assigned a high priority rating and was selected for detailed airborne follow up (DAF) surveying. UTS

Geophysics carried out the detailed survey using the UTS Fletcher system in 1999. The survey was flown at a 50m FLS in a N-S direction, on a one kilometer grid centered on the anomaly. One deflation loam sample and 7 MMI geochemical samples were collected to test the anomaly. Ground investigation revealed a sandstone unit corresponding with the anomaly.

Sampling and geophysical anomaly details are displayed in Tables 2 - 4. Sample locations, and geophysical survey data and anomalies are shown on Maps 2 - 4.

4. SAMPLE TREATMENT AND EXAMINATION

Primary sample treatment was conducted in DBAEL's Perth Treatment Plant and concentrates were forwarded to DBAEL's Melbourne laboratory for secondary treatment and examination. Samples were treated to -1mm and the size fraction examined was -0.5+0.3mm. Usually, the first 50 grains were selected to determine the prospectivity of the sample.

Sample details are summarised in Table 2.

5. RESULTS

Results are available for all samples collected. A total of 8 samples were positive for kimberlitic type indicator minerals. Some 60 chrome spinel grains were recovered in the positive samples. Detailed assessment of these grains suggested that they derive from non-kimberlite source rocks. The MMI geochemical sample results collected over the magnetic anomaly do not appear consistent with that expected over a kimberlite type rock.

Sample status and results are located in Table 2, and sample locations are shown on Maps 2 - 3.

6. CONCLUSION

De Beers Australia Exploration Limited has conducted exploration for diamonds over EL327 up to the surrender date. The objective of the exploration was to locate potentially diamond bearing, ultrabasic intrusive rocks. Diamond exploration involved heavy mineral sampling, aerial magnetic and radiometric surveying, assessment of aerial magnetic data, and ground investigation. A total of 67 samples were collected. An assessment of results suggested that samples collected do not derive from a diamond host rock, and DBAE surrender its interest from the tenement.

7. REFERENCES

MILLIKAN, M.I., 2001, *Exploration Licences 327 & 3340; Combined Partial Relinquishment Report*, Report to NTDME.

MILLIKAN, M.I., 2001, *Exploration Licences 327, 328, 329, 3340 & 9969; Combined Annual Report for the Period Ending 13 May 2001*, Report to NTDME.

MILLIKAN, M.I., 2000, *Exploration Licences 327, 328, 329, 3340 & 9969; Annual Report for the Period Ending 13 May 2000*, Report to NTDME.

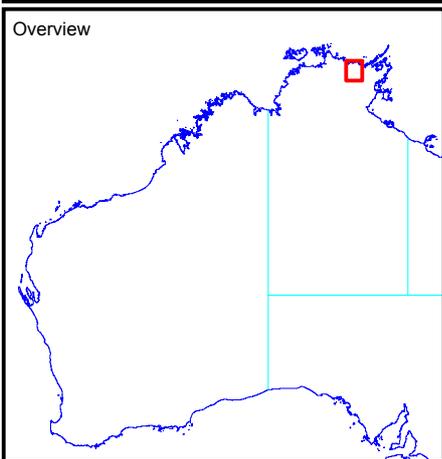
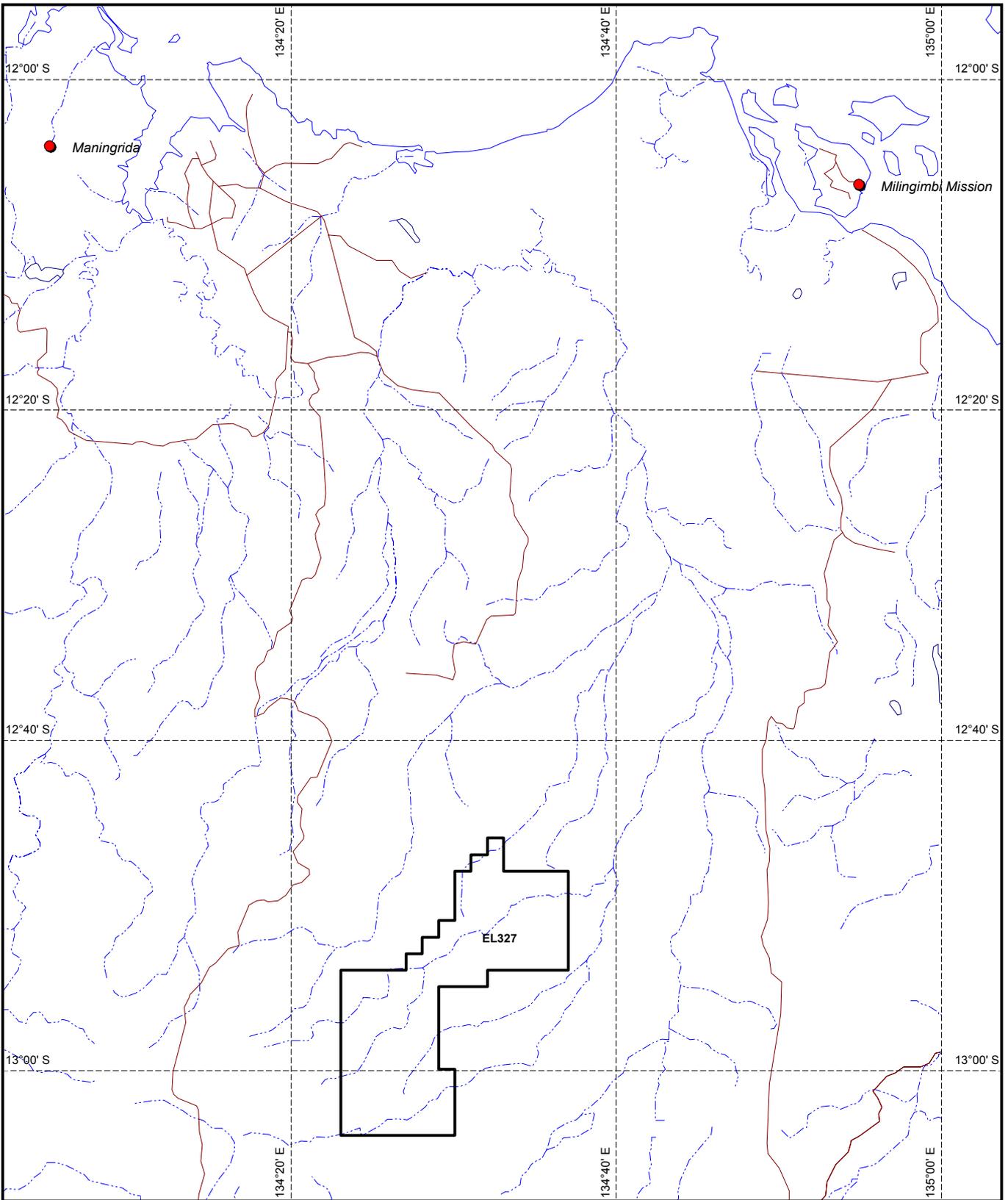
MILLIKAN, M.I., 1999, *Exploration Licences 327, 328, 329, 3340 & 9969; Annual Report for the Period Ending 13 May 1999*, Report to NTDME.

Jerko Zuvela
Geologist

TABLE 1

TENEMENT DETAILS

TENEMENT	STATUS	APPLIED	GRANTED	TRANSFERRED	HOLDER	AREA (km2)
EL327	SURRENDERED	09-12-71	14-05-98	07-12-01	CAMECO	395



MAP 1

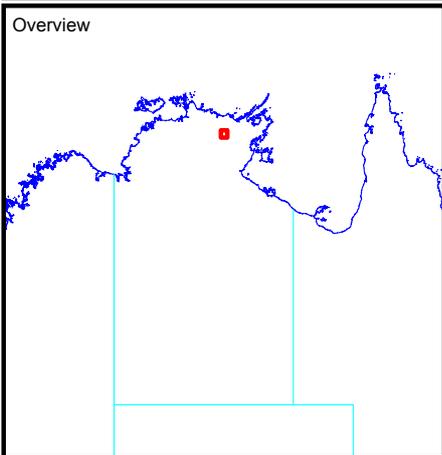
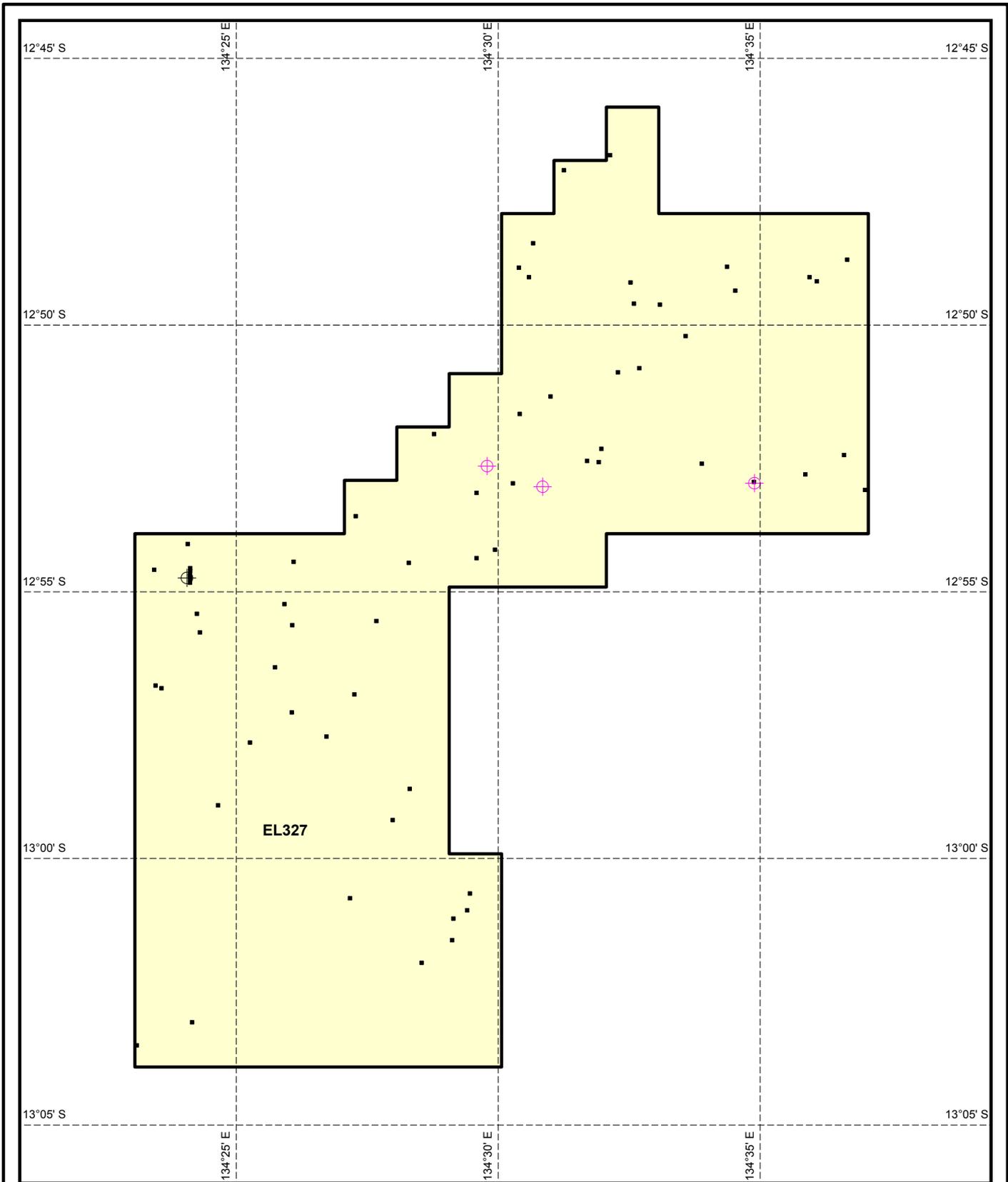
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FINAL REPORT

EL 327

LOCATION MAP

ntmdf/2002/arnhem/el327/LOC.WOR



-  Area of Airborne Magnetic Survey
-  Heavy Mineral Sample
-  Magnetic Anomaly (Airborne Magnetics)
-  Magnetic Anomaly (Detailed Airmag Followup)

MAP 2

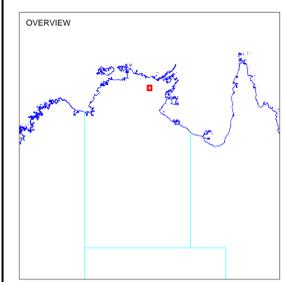
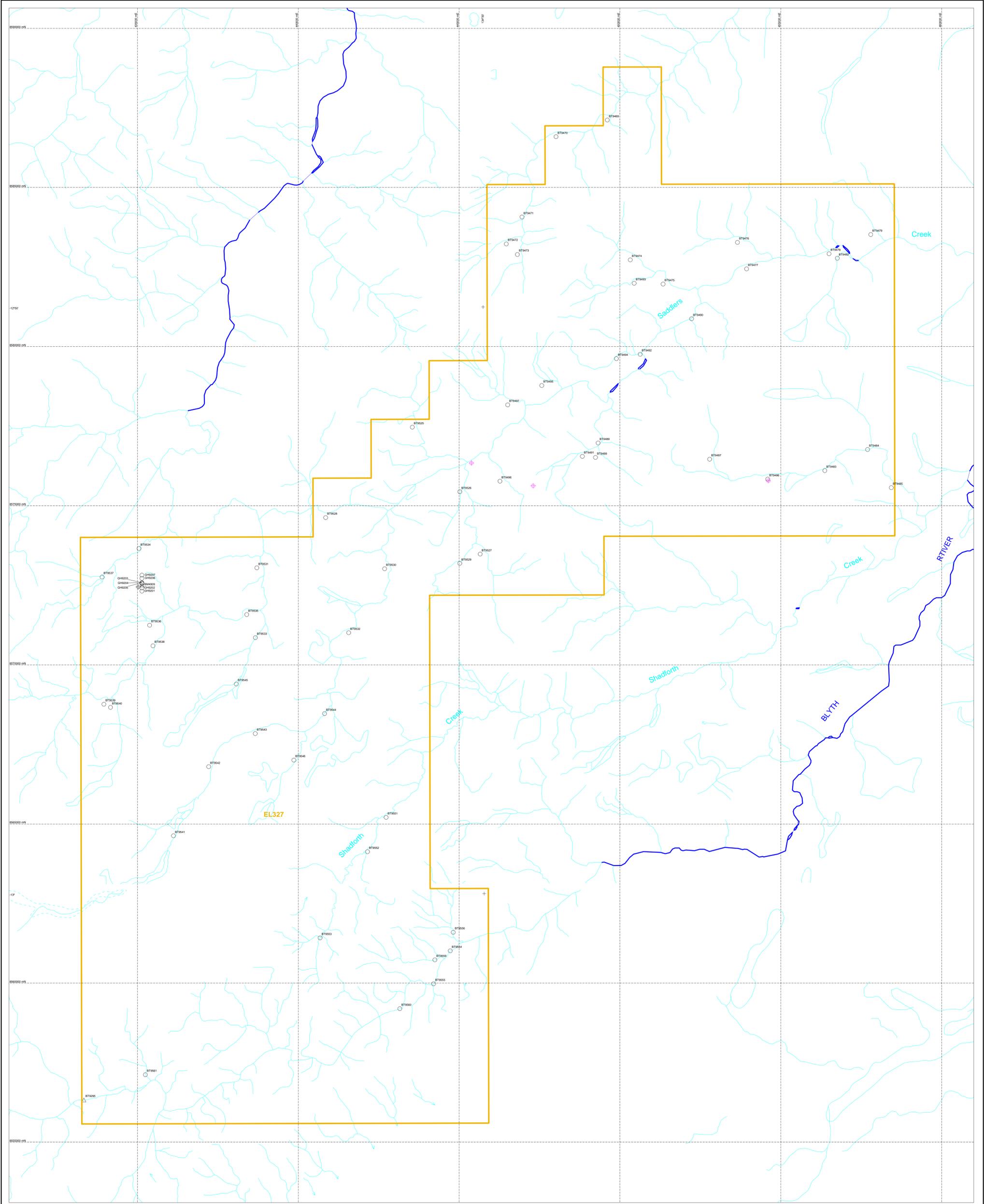
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FINAL REPORT

EL 327

EXPLORATION INDEX MAP

ntmdf/2002/arnhem/el327/index.WOR



BARRAGE
 BT9295
 Total 1

GEOSLOAM
 GH9201-9207
 Total 7

LOAM
 BH4909
 Total 1

STREAM
 BT9469-9479
 BT9482-9497
 BT9525-9546
 BT9551-9556
 BT9559-9561
 Total 58

LEGEND

△ BARRAGE

○ GEOSLOAM

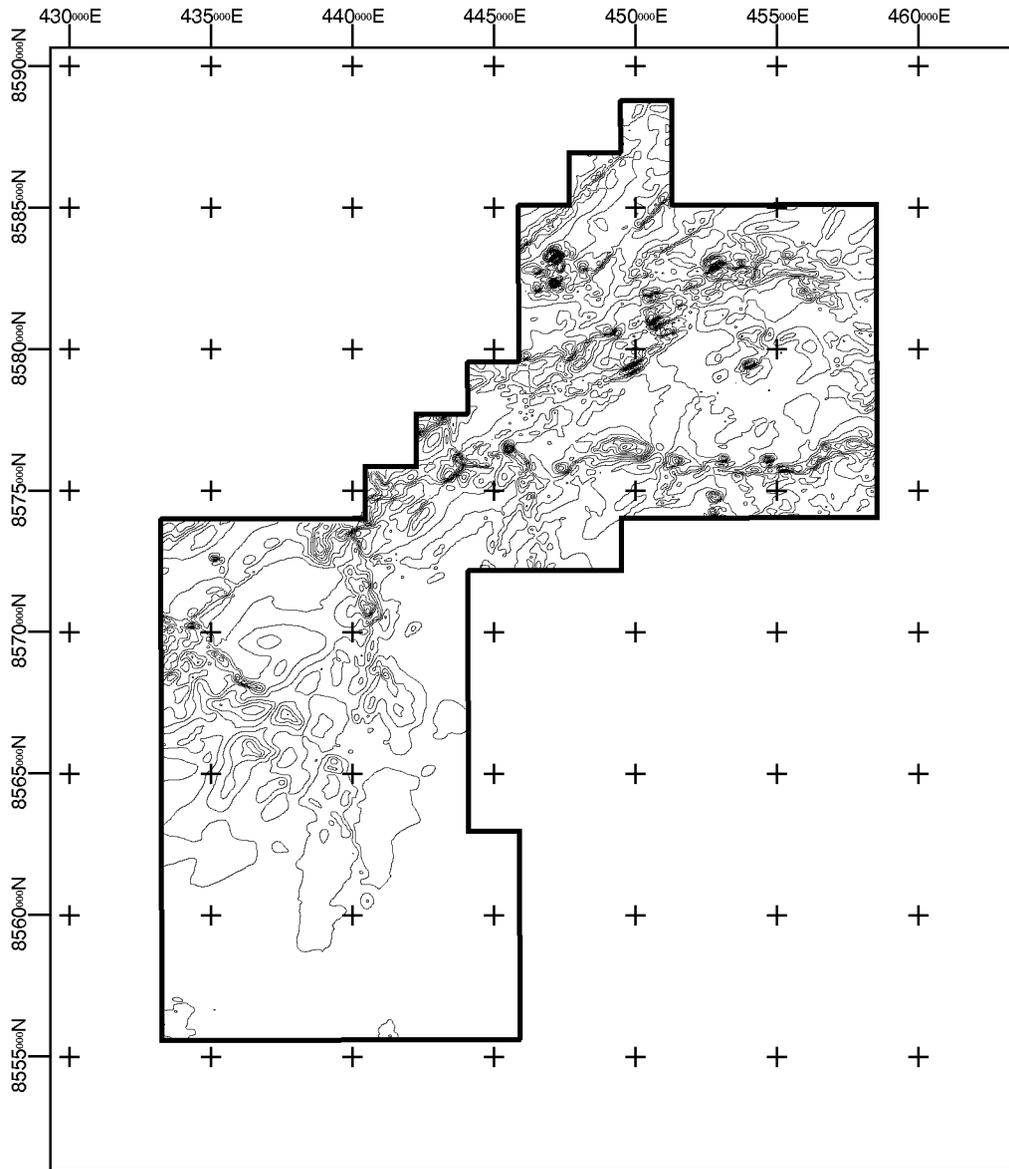
△ LOAM

○ STREAM

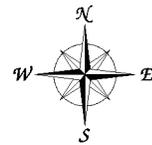
⊕ Magnetic Anomaly

⊕ Magnetic Anomaly (Detailed Airmag Followup)

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EL 327	
SAMPLE LOCATION MAP	
Date: 14/2/2002	Author: GGM
Office: Perth	Drawing: MAP 3
Scale: 1:50000	Projection: MGA Zone 53 (GDA 94)



Survey Name: Cameco Arnhem Land
 Client: Cameco
 Contractor: UTS Geophysical
 Flight Line Spacing: 200m
 Survey Height: 60m
 Flight Direction: 0-180



DE BEERS AUSTRALIA EXPLORATION LIMITED -		SCALE: 1: 250,000
Map Ref. GDA94 MGA53	FINAL REPORT EL 327 TOTAL MAGNETIC INTENSITY CONTOURS Contour Interval 50nT	Figure No.
Date 15/02/02		Plan No.
Author GGM		MAP 4
Revised		