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EL 1685

ANABAMA HILL

PROGRESS AND FINAL REPORTS TO LICENCE EXPIRY FOR THE PERIOD 12/11/90 TO 11/11/91

Submitted by
Newmont Australia Ltd and Newcrest Mining Ltd
1991

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

PRIMARY INDUSTRIES AND RESOURCES SA

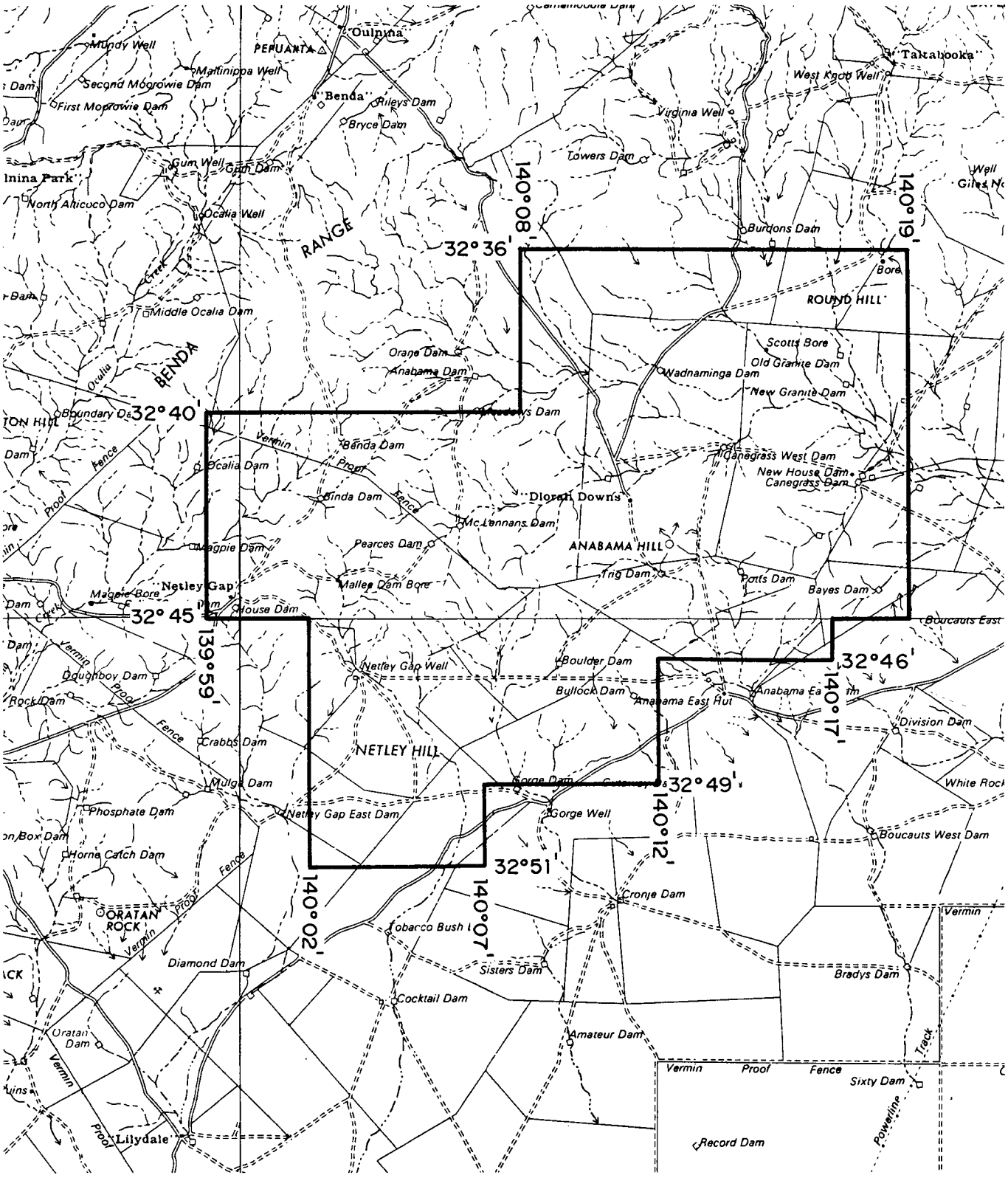
ENVELOPE 8348

TENEMENT: EL 1685, Anabama

TENEMENT HOLDER: Newmont Australia Ltd
Newcrest Mining Ltd

CONTENTS

SCHEDULE A



EXPIRED

SCALE 1:250,000

KILOMETRES 5 0 5 10 15 20 25 KILOMETRES

APPLICANT: NEWMONT AUSTRALIA LIMITED

DME 174/90 AREA: 574 square kilometres (approx.)

1:250000 PLANS: OLARY

LOCALITY: ANABAMA HILL AREA - approx. 50 km south of Olary

DATE GRANTED: 12·11·90 DATE EXPIRED: 11·11·90 EL No: 1685

END OF CONTENTS

NEWMONT AUSTRALIA LIMITED

Exploration Licence 1685
"Anabama"
First Quarterly Report for the Period
12 November, 1990 to 11 February, 1991

C.K. Switzer
Geologist
11 March, 1991

Distribution:

Newmont Australia Limited, Brisbane (2)
Newmont Australia Limited, Melbourne (1)
South Australian Department of Mines and Energy, (1 bound, 1 unbound).

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SUMMARY

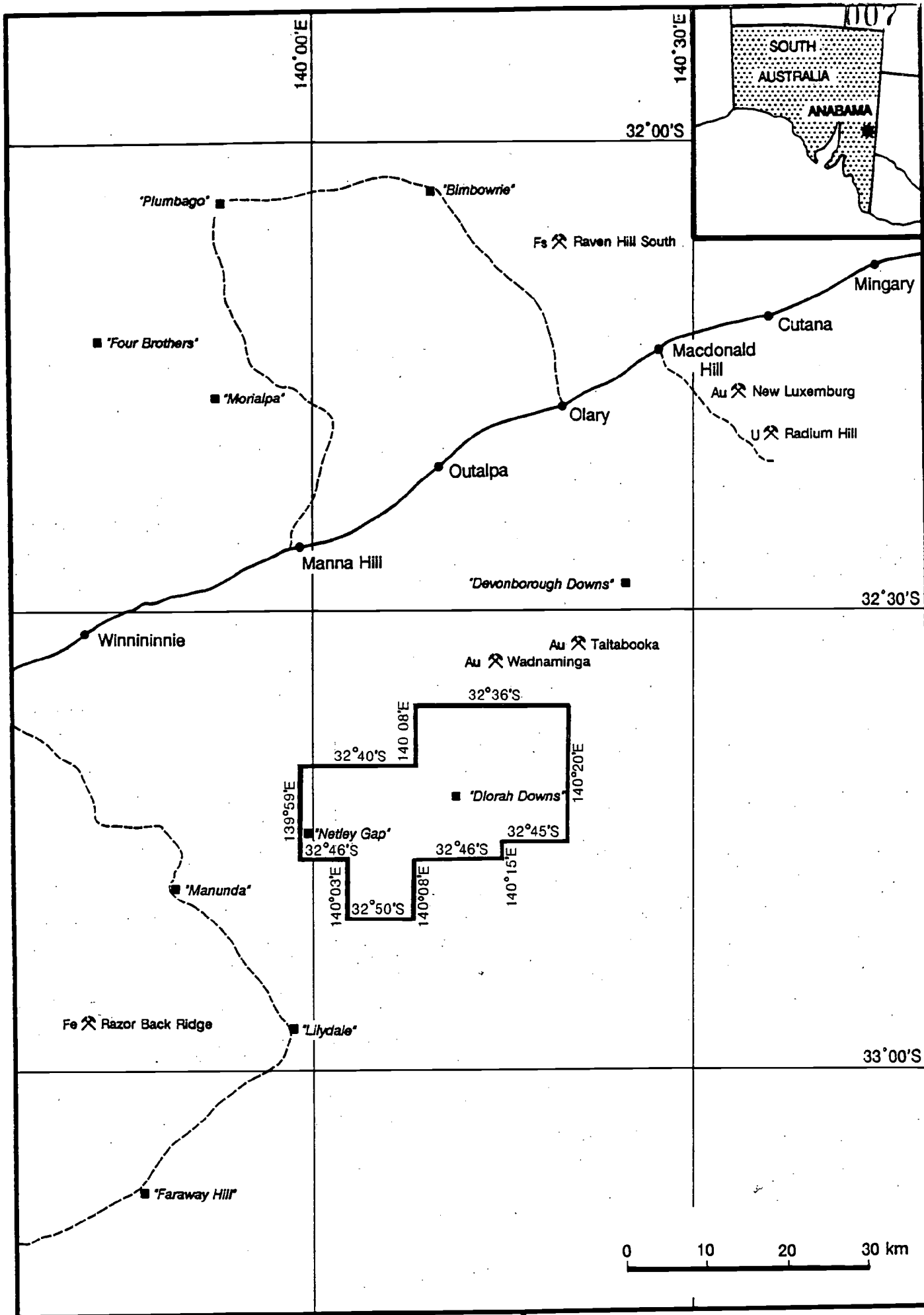
Exploration Licence 1685 "Anabama" was applied for by Newmont Australia Limited as it was considered to have a favourable structural, stratigraphic and intrusive setting for the possible development of a wide range of Au mineralisation styles. Research showed that although the area had been explored by numerous companies, work had been concentrated on known greisen systems and small Au workings. Acquisition of detailed low level aeromagnetics was purchased and reprocessed using Newmont processing facilities.

Work completed for the first quarter has included the purchasing of aerial photographs along with the commissioning of a detailed air photo survey, commissioning of a landowner study, purchasing and reprocessing of low level detailed aeromagnetic data flown by BHP in 1984 and a preliminary field visit to confirm the regional geology of the region.

1. INTRODUCTION

Exploration Licence 1685 "Anabama" was granted to Newmont Australia Limited on the 12 November 1990 for a period of one (1) year. The area became of interest to Newmont Australia Limited as it was located marginal to the large Anabama Shear Zone/Darling River Lineament, displayed evidence for high level multiphase intrusive activity, contained receptive stratigraphy as well as small local known goldfields in the region. The location of E.L. 1685 is shown in Figure 1.

Since granting work completed on Anabama has included the purchasing of aerial photographs and commissioning of a detailed air photo survey, commissioning of a landowner survey, purchasing and reprocessing of low level detailed aeromagnetic data and a preliminary field visit to the region.



NORTH	**Newmont Australia Limited**	**ANABAMA - EL 1685**
	COMPILED MFC	SCALE 1:600,000
	DRAWN MFC	DRAWING No. SO38-1
	DATE JULY 1990	FIGURE No. 1
		LOCATION MAP

2. REGIONAL GEOLOGY

The Anabama Exploration Licence occupies an area covering folded and faulted rocks of the Burra and Umberatana Groups. Minor diapiric bodies of Callana Group are also observed in the region. Intruding this sequence are the granitic bodies of the Anabama Granite.

The Burra Group consists of green-grey calcareous siltstones with minor carbonaceous and cherty interbeds. Minor arkosic sandstones and dolomites have also been observed. The Umberatana Group consists essentially of olive-green siltstone with interbedded sandstone, conglomerate and diamictite, dark grey banded siltstone and ferruginous siltstone and massive greywacke tillite with minor siltstone, dolomite, quartzite, and tillitic iron formation facies,

Greisen bearing granitoids of the Anabama Granite intrude the area along with numerous polyphase basic to acidic dykes.

Structurally, the area has been mildly deformed during the Delamarian Orogony with typical basin and dome folding in the sediments. Large north-east trending shear zones appear to have had a major control on the emplacement of the granitoids and related greisen systems.

3. WORK COMPLETED

Forty two (42) 1:80,000 colour air photos were purchased covering the exploration licence as shown in Figure 2. Upon receipt of the air photos a photogeological study was initiated using Australian Photogeological Consultants. The aim of this study was to define and interpret the structure of the region with the hope of targeting zones of alteration and previously unmapped intrusives. Preliminary photogeological interpretation can be summarised below.

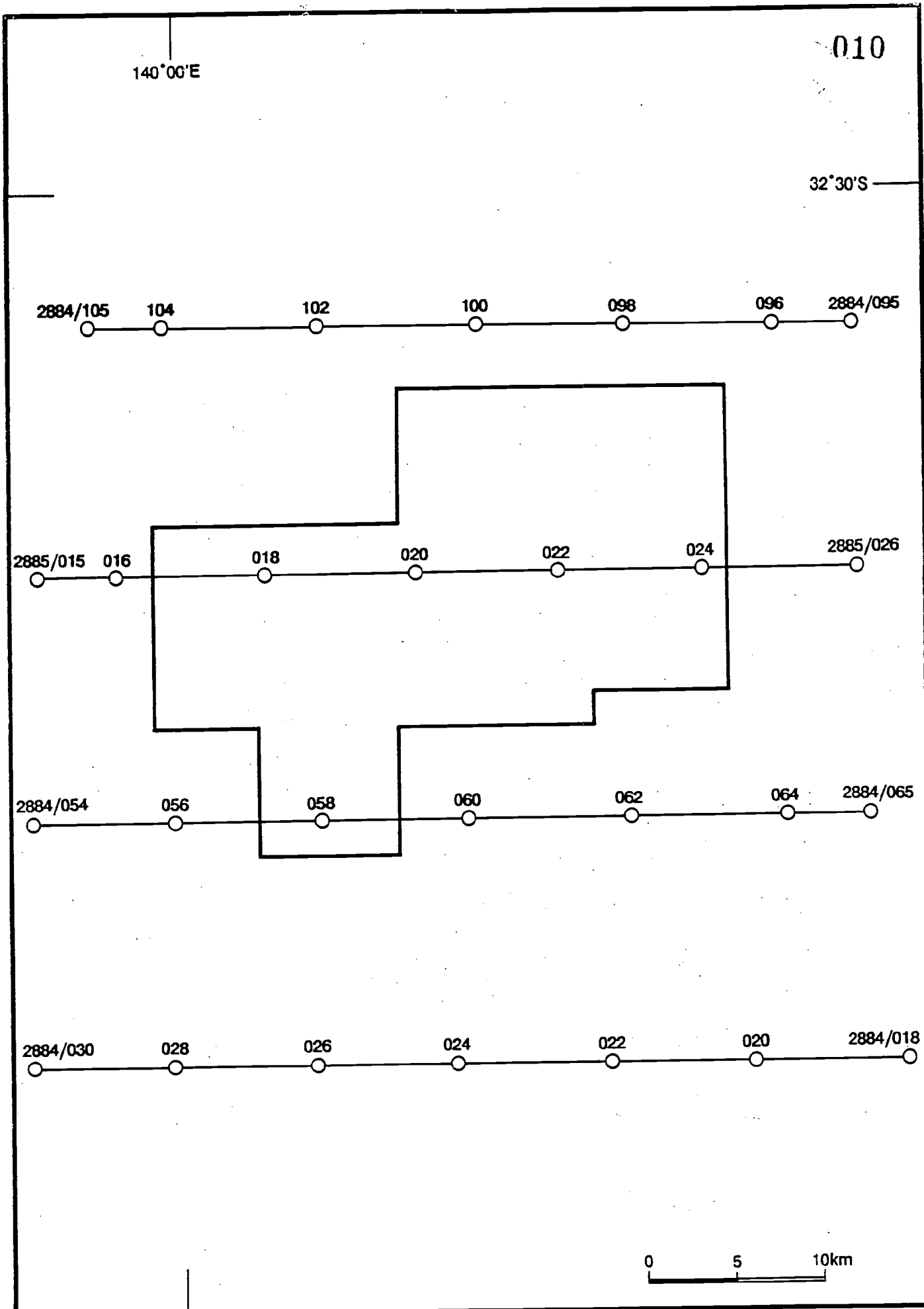
i) little can be added to the detailed stratigraphy
ii) extensive new structural information including the existence of large bedding sub-parallel thrusts, subsequent sinistral wrenching and later rotational folds.

A detailed report will be submitted regarding the above work once the study is completed.

A landowner study was also commissioned with the aim of identifying all landowners within the licenced area. A total of five landowners were identified.

Regional low level aeromagnetics was purchased and reprocessed using Newmont processing facilities. A contour plot is shown in Plate 1.

A brief field trip was also conducted to the area to liaise with landowners and forward plan for the current program which commenced on the 10 February 1991.



NORTH	Newmont Australia Limited		ANABAMA - EL 1685 AERIAL PHOTO COVERAGE
	COMPILED CKS	SCALE as shown	
	DRAWN BS	DRAWING No. S038-2	
	DATE Oct. 1990	FIGURE No. 2	

140° 15'

6400000 N

6395000 N

6390000 N

6385000 N

6380000 N

6375000 N

32° 45'

410000 E

415000 E

420000 E

425000 E

430000 E

435000 E

440000 E

445000 E

EL 1685

58250

58400

58300

58200

N

0 2000 4000 6000 M

SCALE 1: 100000

8348-1

PLAN 2

NEWMONT AUSTRALIA LIMITED.

GEOPHYSICAL DIVISION.

ANABAMA - EL 1685

AEROMAGNETICS

March 1991 S038-3 ALButt

4.0 FUTURE WORK

Work planned for the 1991 budgeted field season will include

i) completion of the photogeological study
ii) image interpretation of the regional aeromagnetics
iii) regional BLEG stream sediment and rock chip sampling program
iv) compilation and ranking of data.

The regional appraisal of the area commenced on the 10 February 1991 and will be reported in the next quarterly report.

5.0 REFERENCES

Preiss, W.V. 1987: The Adelaide Geosyncline: Late Proterozoic stratigraphy, sedimentation, palaeontology and tectonics. Bull. Geol.Surv.S.Aust.p 53.

APPENDIX 1

EXPENDITURE DETAILS

Exploration Licence 1685
"Anabama"
First Quarterly Report for the Period
12 November 1990 to 11 February 1991

APPENDIX 1

EXPENDITURE DETAILS

Exploration Licence 1685 "Anabama"

Expenditure Statement for the Period 12 November 1990 to 11 February 1991

EXPENDITURE TYPE	$
Salaries	2,709
Overheads	2,032
Travel and Accommodation	332
Freight	95
Administration	324
Surveying (Air Photography)	5,547
Supplies	396
TOTAL	$11,435

NEWCREST MINING LIMITED

Exploration Licence 1685
"Anabama"
Second Quarterly Report for the Period
12 February 1991 to 11 May 1991

Grant D. McEwen
May 1991

Distribution:

Newcrest Mining Limited, Brisbane (2)
Newcrest Mining Limited, Melbourne (1)
South Australian Department of Mines and Energy (1 bound, 1 unbound)

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		Scale
1	Photogeological Interpretation (Job No. 443N)	1:75,000
2	Regional Stream Sediment Sample Locations and Results (S038-3)	1:50,000
3	Follow-up Stream Sediment and Rock Chip Sample Locations and Results	1:50,000
4	Rock Chip Sample Locations and Results (S038-5)	1:50,000
5	Soil Sample Locations and Results (S038-4)	1:50,000

SUMMARY

Exploration Licence 1685 "Anabama" was granted to Newmont Australia Limited for a term of one year as from 12 November 1990. Newmont changed its company name to Newcrest Mining Limited after merging with BHP Gold Mines Limited, completed in February 1991.

Reconnaissance stream sediment and rock chip sampling has outlined an area of low-level Au/base metal anomalism in the western portion of the tenement area which requires further field investigation.

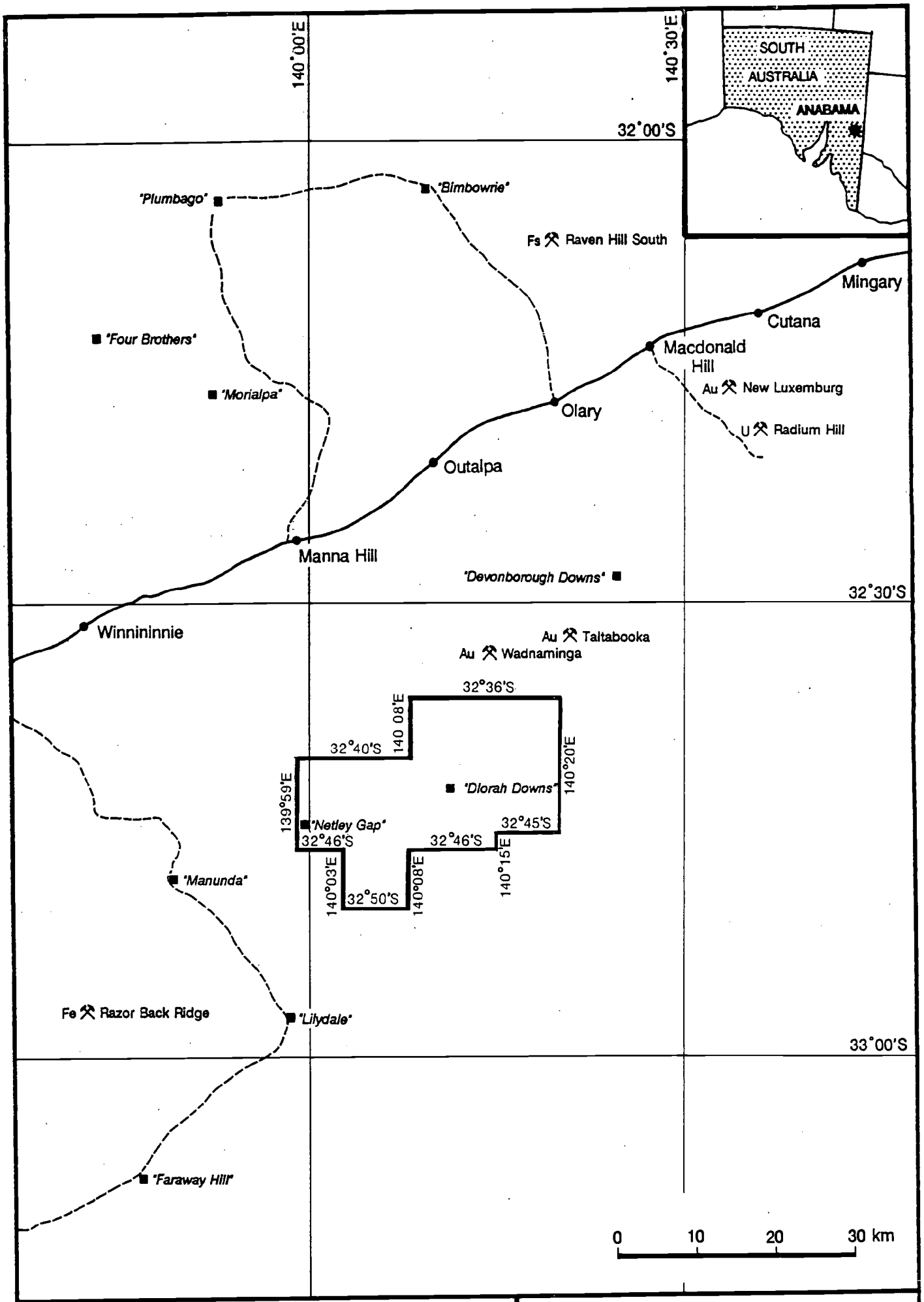
Elsewhere, geochemical testing of a soil covered magnetic target returned elevated Au values to 11 ppb. This may relate to high background values in the overlying transported/residual soils only. Auger/RAB drill testing of this feature and other magnetic and structural targets may be warranted.

1. INTRODUCTION

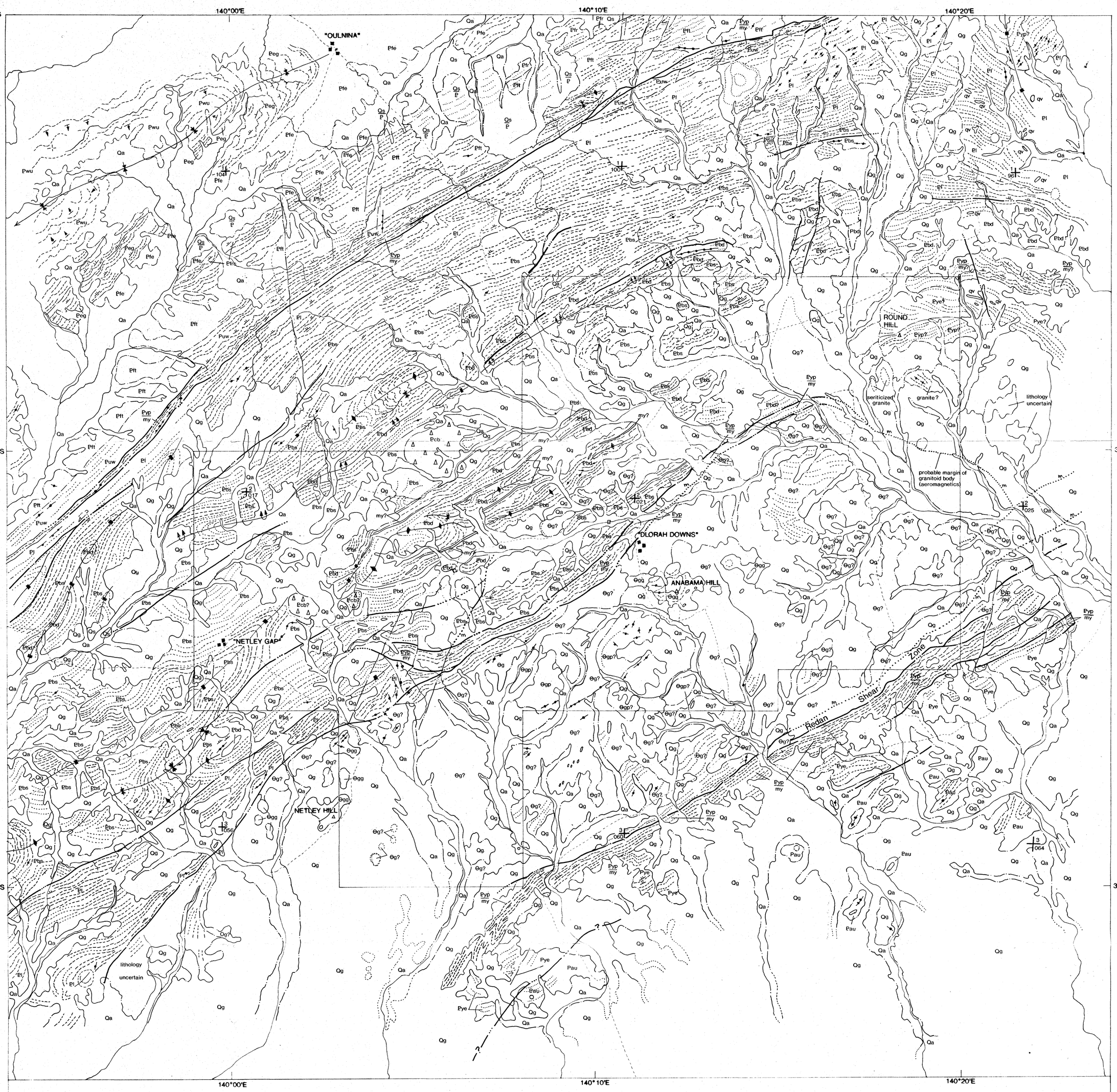
Exploration Licence (EL) 1685 "Anabama" was granted to Newmont Australia Limited on 12 November 1990 for a period of one year. Following a merger with BHP Gold Mines Limited, completed in February 1991, Newmont changed its company name to Newcrest Mining Limited, effective from 19 April 1991. The location of EL 1685 is shown in Figure 1.

Exploration work completed during this reporting period comprised completion of the regional photogeological study, reconnaissance stream sediment and rock chip sampling and soil sampling across a magnetic target.

Expenditure for this period is given in Appendix I.



NEWCREST MINING LIMITED		ANABAMA - EL 1685
COMPILED MFC	SCALE 1:600,000	LOCATION MAP
DRAWN MFC	DRAWING No. SO38-1	
NORTH	DATE JULY 1990	FIGURE No. 1



PHOTOGEOLOGICAL MAP OF E.L.1685 (ANABAMA) AND SURROUNDING AREA

FOR

NEWMONT AUSTRALIA LIMITED

SCALE 1:75 000

kilometres 3 0 3 6 9 kilometres

Photogeological characteristics

Qa	Broad alluvial flats; abundant pale-tone material
Qs	Planation surface with N-flowing creeks; local development of colluvial soils
Qg	Gravels and sands forming slightly raised pediments
	Sharp crested, paled-toned ridges and hills
Θgg	Topographically prominent hills
Θgp	Very pale-toned colluvial soils
Θg?	"Granitic" colluvial soils (difficult to discriminate from Qg)
Pcb	Topographically flat areas supporting thick saltbush vegetation
Pwu	Smooth, unvegetated, dark-toned low hills
Peg	Prominent pale-toned cuestas
Pfe	Dark-toned area of extremely low relief
Pfr/Pfrc	Basal sandstone forms prominent hogback ridges, otherwise poorly exposed
Pft	Low relief with banded appearance due to selective vegetation
Puw	Up to 6 narrow, resistant marker bands
Pye	Low topography, dark tone
Pyp / my	Very prominent 'banded' ridges
Pl	Strongly banded appearance; alternating pale strike ridges and lowland belts with thick saltbush
Pbs	Low relief, alternate dark/light bands
Pbd	Isoclinally folded narrow pale-toned strike ridges
Pau	Poorly exposed

Stratigraphy

Modern alluvium		QUATERNARY
Calcrete, cemented gravels?		
Pleistocene reddish alluvial clays, sand and gravel	POORAKA FORMATION	
Quartz veins (qv); porphyry (po)		
Quartz- muscovite greisen	ANABAMA GRANITE	ORDOVICIAN
Separate granite phase?		
Coarse-grained biotite granite, porphyry, microgranite		
Crush breccia, (siliceous, ferruginous, calcareous)		
Greenish flaggy siltstone; fine-grained sandstone	ULUPA SILTSTONE	UMBERATANA GROUP
Medium to coarse-grained feldspathic quartzite	GRAMPUS QUARTZITE	
Green-grey shale, fine-grained sandstone	ENORAMA SHALE	
Grey, locally sandy siltstone; basal sandstone/quartzite (Pfrc)	TARCOWIE SILTSTONE / COX SANDSTONE	
Finely laminated siltstone, dolomite, fine-grained sandstone	TAPLEY HILL FORMATION	
Siltstone, dolomite, quartzite	WILYERPA FORMATION	
Grey siltstone, limestone, quartzite, martitic sandstone	BENDA SILTSTONE	
Cataclastic rocks? including deformed and silicified amphibolites and iron formation	'PUALCO TILLITE'; MYLONITES	
Flaggy siltstone, dolomite, quartzite	MINTARO SHALE	BURRA GROUP
Dark siltstone and dolomite	SADDLEWORTH FORMATION	
Carbonate-bearing sandstone, quartzite	CRADOCK QUARTZITE / AUBURN DOLOMITE	
Tuff, rhyolite, dacite, trachyte	BOUCAULT VOLCANICS	

Structural and topographic symbols

- Bedding/foliation trends
- Strike and dip of beds (very shallow, shallow, moderate, steep, vertical)
- Fracture and joint traces
- Interpreted fault
- Aeromagnetic lineament
- Syncline, anticline
- Overturned syncline, anticline
- Undifferentiated fold axis
- 3/056 Photocentre
- △ NETLEY HILL Trig point
- Geological boundary (clear, inferred)
- Boundary of E.L.1685
- "OULNINA" Homestead

NOTES: (1) Photogeological map prepared from 1:93 000 scale natural colour aerial photographs (SA Lands Dept, 1982)
(2) Photogeological data compiled to 1:75 000 scale enlargement of the YUNTA (6832) and ANABAMA (6932) topo sheets.
(3) Photogeological data briefly field checked (7-8/3/91)

Job No.433N.March 1991

AUSTRALIAN PHOTOGEOLOGICAL CONSULTANTS
48 Jacka Crescent, Campbell, A.C.T. 2601, Australia
Postal Address: P.O. Box 43, Campbell, A.C.T. 2601, Australia

EL 1685 - Anabama

Photogeological Interpretation

8348-2 PLAN No. 1

140°00'E

140°08'E

140°20'E

32°36'S

32°45'S

32°50'S

ABS071 <0.05/<0.02/<0.1/22

ABS068 4.5/<0.02/25/22

ABS067 1.60/0.02/1.6/9

ABS069 1.15/<0.02/2.3/15

ABS009 1.05/<0.02/1.88/18

ABS070 0.45/<0.02/4.1/5

ABS001 0.40/<0.02/2.18/40

ABS008 0.60/<0.02/1.85/8

• ROUND HILL

Scotts Bore

Old Granite Dam

New Granite Dam

0.60/<0.02/2.0/9 ABS076

0.40/0.02/2.0/4 ABS077

1.70/<0.02/2.15/11 ABS024

0.55/<0.02/4.22/7 ABS025

ABS020 1.35/0.02/3.55/10

ABS021 0.90/0.02/1.85/6

ABS022 3.2/<0.02/2.18/13

Benda Dam

ABS023 0.40/<0.02/2.08/12

ABS078 0.30/<0.02/2.2/8

1.65/0.04/1.55/17 ABS013

ABS019 5.5/<0.02/1.55/4

0.20/<0.02/1.05/9 ABS007

0.10/<0.02/2.18/15 ABS029

0.10/<0.02/2.20/10 ABS030

ABS006 0.35/<0.02/2.88/4

ABS016 1.10/0.02/2.30/6

ABS017 0.95/0.02/2.25/5

ABS018 1.10/<0.02/6.82/7

ABS005 0.65/<0.02/4.08/10

ABS012 6.0/0.02/1.45/19

ABS014 0.40/<0.02/4.02/5

ABS015 0.60/<0.02/1.92/24

ABS072 <0.05/<0.02/<0.1/2

Binda Dam

ABS028 0.30/<0.02/1.70/3

ABS027 0.10/<0.02/1.70/12

ABS026 0.10/<0.02/2.10/11

Dlorah Downs

0.45/<0.02/2.0/4 ABS073

ABS036 0.05/<0.02/2.08/19

ABS034 0.30/<0.02/1.30/6

ABS033 0.95/<0.02/2.00/5

ABS032 <0.05/<0.02/1.65/3

ABS031 0.20/<0.02/2.28/6

NA

ABS011 0.85/<0.02/1.02/8

ABS010 1.45/<0.02/2.92/26

ABS035 0.10/<0.02/1.90/7

<0.05/<0.02/0.8/<2 ABS075

ABS274 <0.05/<0.02/1.1/<2

ANABAMA HILL

1.15/<0.02/3.20/12 ABS042

ABS045 1.25/<0.02/3.25/9

ABS043 1.40/0.02/2.05/8

ABS044 0.20/<0.02/1.65/<2

ABS039 2.6/<0.02/1.95/12

ABS040 0.20/<0.02/1.80/7

ABS002 <0.05/<0.02/2.70/<2

ABS004 0.05/<0.02/2.68/3

0.55/<0.02/2.05/8 ABS041

Mallee Dam Bore

Neatley Gap

ABS038 90/<0.02/1.50/4

ABS047 0.25/<0.02/1.9/<2

ABS003 <0.05/<0.02/1.50/6

ABS037 0.55/<0.02/2.02/15

ABS052 0.15/<0.02/1.7/5

ABS048 0.15/<0.02/1.9/2

ABS053 0.05/<0.02/1.6/<2

ABS062 0.45/<0.02/1.7/6

ABS063 0.45/<0.02/3.6/5

ABS049 0.10/<0.02/1.9/<2

ABS050 0.05/<0.02/1.2/<2

ABS054 0.05/<0.02/1.1/5

ABS066 0.20/<0.02/2.6/14

ABS061 0.15/<0.02/1.7/4

ABS055 0.10/<0.02/2.4/4

ABS046 0.35/0.02/4.6/5

ABS051 <0.05/<0.02/1.5/3

0.35/<0.02/2.3/4 ABS057

ABS060 0.30/<0.02/2.2/3

ABS056 <0.05/<0.02/1.1/<2

ABS065 0.10/<0.02/3.1/22

ABS059 0.30/<0.02/1.1/4

ABS058 7.0/<0.02/2.0/5

ABS064 0.20/<0.02/2.4/15

For follow-up sampling, see Plan No.3

NETLEY HILL

LEGEND

ABS001 — *Stream sediment sample no.*

0.40/<0.02/2.18/40 — *Assay results for Au/Ag/Cu/As in ppb/ppm/ppm/ppm*

0 2 4 6km

8348-3

NORTH	**Newcrest Mining Limited**		
	COMPILED CKS	SCALE 1:50,000	ANABAMA EL 1685
	DRAWN BS	DRAWING No. S038-3	BLEG STREAM SEDIMENT SAMPLING
	DATE April 91	PLAN No. 2	

A3

2. REGIONAL GEOLOGY

The Anabama Exploration Licence occupies an area covering folded and faulted rocks of the Burra and Umberatana Groups. Minor diapiric bodies of Callana Group have also been observed in the region. Intruding this sequence are the granitic bodies of the Anabama Granite.

The Burra Group consists of green-grey calcareous siltstones with minor carbonaceous and cherty interbeds. Minor arkosic sandstones and dolomites have also been observed.

The Umberatana Group consists essentially of olive-green siltstone with interbedded sandstone, conglomerate and diamictite, dark grey banded siltstone and ferruginous siltstone and massive greywacke tillite with minor siltstone, dolomite, quartzite and tillitic iron formation facies.

Greisen bearing granitoids of the Anabama Granite intrude the area along with numerous polyphase basic to acidic dykes.

Structurally, the area has been mildly deformed during the Delamarian Orogeny with typical basin and dome folding in the sediments. Large north-east trending shear zones appear to have had a major control on the emplacement of the granitoids and related greisen systems.

3. WORK COMPLETED

3.1 Photogeological Study

The photogeological interpretation commenced by Australian Photogeological Consultants (Canberra) during the first quarterly reporting period, has now been completed. The most significant finding of this study relates to a series of ENE trending belts of mylonitised iron formation, the evolution of which bears similarities to the BIF hosted Starra Au/Cu deposits, located in Northern Queensland. A copy of the final report for this work appears in Appendix II.

3.2 Stream Sediment Sampling

Seventy eight (78) stream sediment samples were collected as part of a first stage reconnaissance coverage of the tenement area. Approximately 2.5 kg were collected from each sample site, sieved to -1 mm in the field and analysed for Au, Ag, Cu (BLEG) and As (XRF) by Classic Laboratories, Adelaide.

Stream sediment sample locations and results are shown on Plan 2, while laboratory certificates of analysis are included in Appendix III.

Nineteen (19) samples returned + 1.0 ppb Au assay results, with a highest value of 90 ppb (ABS 038). Most of these samples were collected from the Mallee Dam Bore/Benda Dam area, located in the far western portion of the tenement, although values to 1.6 ppb Au (ABS 067) were also returned from samples collected close to the northern tenement boundary.

Sixteen (16) follow-up stream sediment samples were collected to further test anomalous drainages located from the initial reconnaissance work. Samples were analysed for Au, Cu and Ag (BLEG) at Classic Laboratories, Adelaide.

Sample locations and results are shown on Plan 3, while certificates of analysis are included in Appendix III.

Sample numbers ABS 038A-L were collected from the same drainage as ABS 038, which returned a 90 ppb Au BLEG result, while sample numbers ABS 039A-D were collected from the same drainage as ABS 039 (2.6 ppb Au). Only four of these follow-up samples returned + 1.0 ppb Au results, with a best of 4.0 ppb from ABS 039C. While these results have downgraded the original anomaly within the Mallee Dam Bore area, further work is required here, at the Benda Dam anomaly and at the northern anomaly in an attempt to locate a source for mineralisation.

All other elements analysed failed to return any significant results.

3.3 Rock Chip Sampling

Forty four (44) rock chip samples were collected in conjunction with the first pass stream sediment sampling. All samples were analysed by Classic Laboratories, Adelaide, for Au (Fire), Ag, Pb, Zn, Cu (AAS) and As (XRF).

Rock chip sample locations and results are shown on Plan 4 and certificates of analysis are included in Appendix IV.

All samples returned very low Au assays. However, elevated Cu, Pb and Zn values (best of 1,740 ppm Cu, 135 ppm Pb and 250 ppm Zn) were returned from samples collected within the Mallee Dam Bore/Benda Dam Au anomalous drainage areas. A single elevated As result was returned from ABS 039.

Six (6) rock chip samples were also collected in conjunction with the follow-up stream sediment sampling programme and analysed by Classic Laboratories, Adelaide, for Au (Fire), Cu, Pb, Zn, As (AAS), As, Bi and Sb (XRF).

Sample locations and results are shown on Plan 3 and certificates of analysis are included in Appendix IV.

Only one anomalous value was returned from this sampling, a value of 195 ppm Zn from sample number ABR 039A.

3.4 Soil Sampling

Twenty four (24) soil samples were collected from two, 1 km spaced lines located in the north-eastern portion of the tenement, between Round Hill and Scotts Bore. 2.5 kg samples were collected at 100 m intervals, sieved to -1 mm in the field and analysed for Au, Ag and Cu (BLEG) by Classic Laboratories, Adelaide.

Sample locations and results are shown on Plan 5 and certificates of analysis given in Appendix V.

The sample lines were placed over a soil covered magnetic "high" located from regional low level aeromagnetic data reprocessed by Newcrest. Outcrop is minimal within the northern part of the tenement, which is covered by a thick layer of dominantly transported material.

Most of the samples returned +1.0 ppb Au results, with a best of 11 ppb. However, this may reflect background Au values from the transported overburden only and is not an accurate measurement of the underlying bedrock. Future sampling within this area should be completed using an auger or RAB percussion drilling rig, to enable accurate testing beneath soil covered stratigraphy.

4. CONCLUSIONS AND RECOMMENDATIONS

- Stream sediment sampling has located a wide zone of Au anomalism within the western portion of the tenement.

- Follow-up stream sediment sampling downgraded higher Au results returned from the initial programme, but confirmed that a +1.0 ppb zone of Au anomalism occurs within the Mallee Dam Bore/Benda Dam area.

- Rock chip sampling failed to delineate any Au anomalism, but returned elevated Cu, Pb, Zn and As values from the Mallee Dam Bore/Benda Dam region.

- Soil sampling across a buried magnetic feature returned elevated Au values that may relate to background levels within the transported overburden.

Further work is warranted to investigate the following:

- Locate the source of low-level stream sediment Au anomalism and rock chip base metal anomalism within the Mallee Dam Bore/Benda Dam area.

- Follow up weak stream sediment Au anomalies in the northern tenement area.

- Detailed aeromagnetic interpretation to target alteration zones and structural intersections beneath transported soil cover. Selected areas to be tested using auger or RAB percussion drilling.

5. REFERENCES

Preiss, W.V., 1987: The Adelaide Geosyncline: Late Proterozoic Stratigraphy, Sedimentation, Palaeontology and Tectonics. Bull. Geol. Surv. of South Australia, p 53.

Switzer, C.K, 1991: Exploration Licence 1685 "Anabama", First Quarterly Report for the Period 12 November 1990 to 11 February 1991. Newmont Australia Limited.

APPENDIX I

Expenditure Statement for the Period 12 February 1991 to 11 May 1991

Exploration Licence 1685 "Anabama"

Expenditure Statement for the Period 12 February 1991 to 11 May 1991

EXPENDITURE TYPE	$
Salaries	6,221
Wages	3,782
Overheads	6,772
Office Rentals and Rates	21
Travel and Accommodation	2,847
Vehicles	151
Assaying	3,616
Supplies	981
Exploration Office	5,632
Field Living	273
Airial Photography	8,333
TOTAL	$38,629

APPENDIX II

Photogeological Investigation

PHOTOGEOLOGICAL INVESTIGATION OF THE ANABAMA AREA (EL 1685), SOUTH AUSTRALIA

Undertaken for:

NEWMONT AUSTRALIA LIMITED

March, 1991

Australian Photogeological Consultants
48 Jacka Crescent,
CAMPBELL ACT 2601

Job 433N

ABSTRACT

A photogeological study of EL 1685 and surrounding areas has confirmed the stratigraphic subdivision depicted by published geological maps of the region. Significant new structural information has however accrued from the study which has a bearing upon the mineral potential of the area. Photogeological interpretation of Delamerian structures, supported by a brief field visit, suggests the presence of ENE trending, S verging, overturned folds and mylonitised shear zones (possible thrusts) in the S part of the Wadnaminga Anticlinorium. Intensity and southerly vergence of these structures apparently increases from N to S. It is considered likely that an early phase of ENE trending structures predated major sinistral/normal movements on the Anabama-Redan Fault Zone in the S of the study area as well as emplacement of the 460ma Anabama Granite. This early transport may have caused mylonitisation along ferruginous horizons near the base of the Umberatana Group; remobilisation of these structures may have occurred during later wrench movements and during granite emplacement. The general tectonostratigraphic setting of the Anabama area suggests applicability of the Starra model of Au/Cu mineralisation.

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1. INTRODUCTION

A photogeological study of EL 1685 and its environs was undertaken on behalf of Newmont Australia Limited during late 1990 and early 1991. The study was based upon 1:93,000 scale natural colour aerial photography acquired by the South Australian Lands Department in 1982 (see Appendix for details). Ancillary data consulted during the study included the 1:250,000 scale Olary Geological Sheet (Forbes, 1989) and a 1:75,000 scale Total Magnetic Intensity contour map covering the S part of the area, supplied by Newmont.

Preliminary annotation of nine 1:93,000 scale prints covering the study area was carried out in December 1990. Due to the very small scale of the photography, annotation was carried out exclusively using 6x magnified stereoscopy. Annotated transparent overlays were mosaicked and enlarged into a rough 1:75,000 scale compilation which was provided to Newmont for initial field evaluation at the end of 1990. A two-day field traverse through the study area was carried out by C. Nash of Australian Photogeological Consultants and C. Switzer and G. McEwen of Newmont on 7-8th March, 1991, following which the photogeological data were reassessed and reannotated.

The photogeological map which accompanies this report represents the major outcome of the study. The base for compilation was made by enlarging the preliminary topographic sheets covering the area (6832-Yunta and 6932-Anabama) to 1:75,000 scale. Major topographic features were traced from the enlargement to form a base map upon which photogeological information could be compiled from annotated overlays, enlarged to 1:75,000 scale by Xerox manipulation.

2. REGIONAL GEOLOGY

The study area includes four major tectonostratigraphic units as defined by regional mapping (Forbes, 1989; Morris, 1981). From N to S these include (a) the Yunta Syncline which is a broad, upright structure containing gently-dipping sedimentary rocks of the Umberatana Group; (b) the Wadnaminga Anticlinorium which contains tightly folded rocks of the Burra Group; (c) the elongate ENE-WSW trending Ordovician Anabama Granite, and (d) the Anabama-Redan Fault

Zone, which is a broad zone of sinistral wrenching and normal faulting

Known mineralisation in the area is dominated by the large Anabama pyritic greisen located within the Anabama Granite (Morris, 1981), in which zones of strong hydrothermal alteration have overprinted the host granite to form a semi-circular, dome-shaped shell 2.5 km in diameter. The Anabama greisen has been subjected to detailed exploration by ASARCO and by SADME; this exploration has revealed the presence of subeconomic "porphyry" style Cu/Mo mineralisation. Elsewhere in the study area, Au mineralisation occurs in the NE part of the Wadnaminga Anticlinorium (Wadnaminga Goldfield); no details concerning the nature of these occurrences are available to the writer however.

3. STRATIGRAPHY

3.1 YUNTA SYNCLINE

This structure is an upright, open syncline containing sedimentary rocks of the Umberatana and lowermost Wilpena Groups. From top to bottom the stratigraphic sequence and its photogeological characteristics are as follows:

3.1.1 Ulupa Siltstone (Pwu)

Greenish flaggy siltstone and fine-grained sandstone of the Ulupa Siltstone form the uppermost stratigraphic unit in the study area, exposed in hills to the W of "Oulnina". Seen on aerial photographs these rocks appear as smooth, unvegetated, dark-toned low hills.

3.1.2 Grampus Quartzite (Peq)

Medium to coarse-grained feldspathic quartzites form prominent bluffs to the W of "Oulnina" The Grampus Quartzite forms a prominent pale-toned marker on aerial photographs.

3.1.3 Enorama Shale (Pfe)

Green-grey shales and fine-grained sandstones occupy a belt of topographically low country S of "Oulnina". On aerial photographs this unit forms a dark-toned zone of virtually no relief. Owing to poor exposure no internal structure can be deciphered within the Enorama Shale.

3.1.4 Tarcowie Silstone (Pfr), Cox Sandstone (Pfrc)

The Tarcowie Sandstone consists of grey, locally sandy siltstones. A locally developed basal sandstone/quartzite member (Cox Sandstone) is developed SW of "Oulnina". Seen on aerial photographs the Cox Sandstone forms 2-3 well-defined N-dipping hogback strike ridges; to the E the Tarcowie Siltstone is a poorly exposed unit with a single narrow basal sandstone marker.

3.1.5 Tapley Hill Formation (Pft)

The Tapley Hill Formation consists of finely laminated siltstone, dolomite and fine-grained sandstone. Seen on aerial photographs the unit forms a dark-toned belt of low relief supporting a strong, selective saltbush vegetation.

3.1.6 Wilyerpa Formation (Puw)

This unit is best developed S of "Oulnina" and consists of dolomite, siltstone and quartzite. On airphotos the unit is recognisable by virtue of its pale tone and the presence of up to 6 narrow, resistant, quartzite? bands.

3.2 YUDNAMUTANA SUBGROUP AND ASSOCIATED MYLONITES

Rocks of the Yudnamutana Subgroup (Pualco Tillite, Benda Silstone) occur in three ENE trending belts which traverse the study area. These all have a characteristic photogeological appearance, in which the 'Pualco Tillite' invariably forms strongly banded, N-dipping strike ridges. In field exposures the rocks exhibit cataclastic features and consist of isoclinally folded, interlayered quartzofeldspathic, amphibolitic and ferruginous layers. Later? silicification has locally imparted a toughness to the rocks and may explain their topographic prominence. Local development of small quartzitic clasts (eg 7.5 km ESE of "Netley Gap") may indicate that the rocks are tillites,

although it is difficult to decide whether these are primary or cataclastic textures.

Perhaps the most interesting feature of the rocks is their structural discordance to other stratigraphic units. This is most strikingly displayed in the N part of photo 1/100 (see accompanying map), where unit Pyp/my clearly 'oversteps' adjacent stratigraphic boundaries. These observations suggest that the prominent ridges formed by the unit are at least partly mylonitic in nature.

3.3 WADNAMINGA ANTICLINORIUM

The Wadnaminga Anticlinorium is bounded to the N and S by parallel zones of mylonitised? Pualco Tillite; lithologies within the structure belong to the Burra Group (Cradock Quarzite/Auburn Dolomite, Saddleworth Formation, Mintaro Shale), and include diapiric? bodies of crush breccia.

3.3.1 Cradock Quartzite/Auburn Dolomite (Pbd)

Isoclinally folded, pale-toned hogback ridges of carbonate-rich sandstone occur as two separate anticlines within the Wadnaminga Anticlinorium. A field traverse through the southernmost anticline (6km W of "Dlorah Downs") shows that the internal structure is complex, with tight mesoscale folding and possible ENE shear zones.

The stratigraphic correlation of these rocks is uncertain; the writer has followed the Geological Survey of South Australia (Forbes, 1989) in assigning them to the lowermost part of the Burra Group.

3.3.2 Saddleworth Formation (Pbs)

The Saddleworth Formation consists of dark siltstone and dolomite; a section through this poorly exposed unit was observed along the track leading SE from "Netley Gap". On airphotos the Saddleworth Formation is characterised by low relief but displays a strong dark/light banding which presumably reflects lithological variation.

3.3.3 Mintaro Shale (Pl)

The Mintaro Shale is the uppermost stratigraphic unit within the Wadnaminga Anticlinorium and comprises a sequence of flaggy siltstone, dolomite, quartzite and schist. The sequence is best developed along the N margin of the

Wadnaminga Anticlinorium; on airphotos it has a banded appearance caused by alternation of pale-toned, quite prominent ridges and low-lying soft bands supporting thick saltbush vegetation.

3.3.4 Crush Breccias (Pcb)

Three sub-circular areas of low country and anomalous thick saltbush vegetation occur within the Wadnaminga Anticlinorium. Two of these correspond to crush breccia zones of possible diapiric origin which are shown on the Olary 1:250,000 scale geological sheet. These occurrences were not visited in the field.

3.4 ANABAMA GRANITE (Og)

The Anabama Granite forms an elongate ENE trending body 9km in width which is bounded to the N and S by mylonitised? equivalents of the Pualco Tillite. The granite has undergone deep weathering since Tertiary times and is now almost completely covered by Quaternary regolith (Morris, 1981), with the exception of resistant greisens and late stage small porphyry and quartz bodies. On airphotos it appears to be possible to differentiate between 'granitic' colluvial soils developed upon the granite and Quaternary outwash (Qg), although this differentiation is understandably subjective. It is also possible to differentiate sub-circular areas of very pale-toned granitic colluvium (Ogp) which may represent a separate phase of the granite.

Rising from the weathered plain of the Anabama Granite are several prominent inselbergs forming Anabama Hill, Netley Hill and surrounding smaller rises. These are formed largely of resistant greisenised granite with small quartz and porphyry intrusions, and are described in detail by Morris (1981).

The Anabama Granite appears to be surrounded by a thermal aureole. Prominent cordierite porphyroblasts were noted at several localities adjacent to the granite and as far away as Round Hill. These porphyroblasts appear to be post-tectonic and are probably superimposed upon the strong mylonitic? fabric of the Pualco Tillite.

3.5 ANABAMA-REDAN FAULT ZONE

The region to the S of the Anabama Granite is characterised by several ENE structural 'panels' which are probably separated by large faults or shears. This region forms part of the Anabama-Redan Fault Zone, described by earlier writers as a major sinistral shear (Preiss, 1987), and which forms a prominent feature upon geophysical data (McIntyre and Wyatt, 1978). Juxtaposition of the early Adelaidean Boucault Volcanics against the Yudnamutana Subgroup in the S part of the study area may possibly suggest normal as well as strike-slip faulting.

Owing to poor outcrop little additional information concerning this part of the study area may be gleaned from aerial photographs.

3.6 QUATERNARY

Three types of regolith have been defined during the course of the photogeological study. In the N part of the study area, remnants of a planation surface which cuts across softer formations of the Yunta Syncline have been observed. Resistant hogback ridges rise above the surface, which is locally mantled by variable thicknesses of regolith, marked by the symbol 'Qs' on the accompanying photogeological map. A system of N-flowing drainages was developed upon the surface; these are presently being captured by S-flowing drainages as the planation surface is progressively destroyed from the S.

In areas where the planation surface has been stripped away, Quaternary regolith includes active alluvium in modern drainage channels (Qa) and widespread Pleistocene gravels, sands and clays adjacent to outcrops (Qg). The latter form low, pale-toned areas characterised by abundant siliceous float, and are correlated with the Pleistocene Pooraka Formation.

4. STRUCTURAL GEOLOGY

From a macroscopic structural point of view, the study area is characterised by ENE trending Delamerian structures which

range from upright in the N to S-verging in the S, and which terminate against the Anabama-Redan Fault Zone. The degree of deformation also increases markedly from N to S; while the Yunta Syncline is a broad, open structure the Wadnaminga Anticlinorium is a partly overturned complex array of isoclinal folds and probable shear zones. This deformation appears to reach a peak along the margins of the Anabama Granite where strong evidence exists for mylonitisation along favoured lithologic horizons (iron formations in the Pualco Tillite). These mylonites appear to dip to the N; geophysical evidence also suggests that the Anabama Granite is a N-dipping slab (Newmont, pers. comm.)

The above constraints have been considered in the drawing up of structural sections through the study area, as depicted in the accompanying diagram (Figure 1). The sections are modified from one which accompanies the 1:250,000 Olary sheet (Forbes, 1989).

From the upper figure it seems likely that an early deformation phase involving N-S compression led to the development of the main ENE trending structures. The section clearly shows the increasing southerly vergence of the structures toward the S, culminating in a large thrust-related shear which later became the site of emplacement of the Anabama Granite.

A subsequent episode of strike-slip deformation (lower figure) is likely to have been responsible for the Anabama-Redan sinistral shear. It is likely that parallel structures to the N were also formed at this time. The emplacement of the Anabama Granite could have been controlled by this wrenching, which may have opened up a space for intrusion analagous to a 'pull-apart' structure.

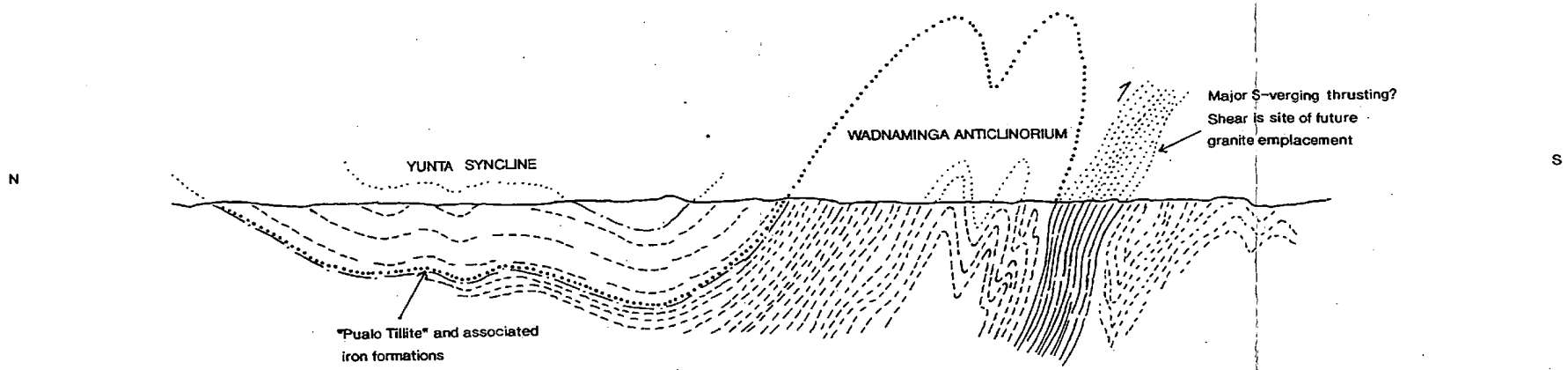
The above scenario is difficult to reconcile with current ideas regarding the tectonic evolution of the Adelaidean province, in which it is generally accepted that local deposition of the Burra Group took place in NW-NNW trending grabens located around the SW margin of the Curnamona craton (Preiss, 1987), which coincided with present synclinal corridors. During the early part of the Delamerian orogeny it is thought that deformation mainly took place along NNW trends; (similarly oriented structures verge W in the Broken Hill area), and that the prominent ENE fold patterns were superimposed during the latter part of the Delamerian Orogeny.

It might however be suspected that movements along the MacDonald Fault to the E of the study area are indicative of SW-verging thrusting rather than normal faults as shown on published maps. This would certainly fit in well with the known sinistral motion on the Anabama-Redan structure, and would suggest that the NNW trends are late rather than early

STRUCTURAL EVOLUTION OF THE ANABAMA AREA

Scale 1:250 000

1. EARLY S-VERGING STRUCTURES



2. WRENCHING ON ANABAMA-REDAN FAULT ZONE AND EMPLACEMENT OF ANABAMA GRANITE

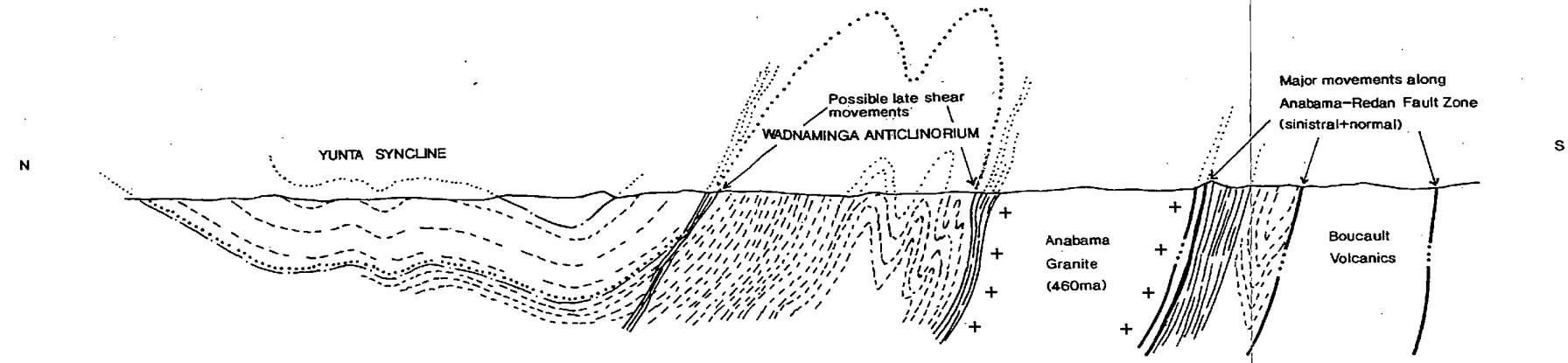


Figure 1

Delamerian structures. The true early Delamerian structures are more likely to have been parallel to the aulacogen (ie ENE), and to have involved S-vergent deformation directed toward the margins of the aulacogen.

5. DISCUSSION

From an exploration viewpoint, the most significant finding of the present study relates to the ENE trending belts of mylonitised? iron formation described in the foregoing sections. The inferred development of these belts appears to provide several parallels with the evolution of the BIF hosted Starra Au/Cu deposits in Queensland, which have been summarised by Davidson et al., (1988) as follows:

D1: Regional thrusting with consequent development of a 500m wide mylonite extending W into the syn- or pre-orogenic Gin Creek Granite. Intrusion was accompanied by the development of a high-grade contact metamorphic aureole.

D2: Regional, shallow-plunging, N-trending isoclinal folding, coincident with peak metamorphism and predated by widespread amphibolite intrusion.

D3: Medium-scale sinistral steeply plunging folds generated by strike-slip reactivation on the D1 mylonitic surface, with retrogressive metamorphism.

D4: E-W thrusting and further reactivation of D1 surface

The foregoing appears to offer several parallels with the Anabama region, particularly with regard to the importance of reactivation of an early mylonitic zone. It is therefore suggested that the inferred mylonite zones represent important targets for Starra-type Au-Cu mineralisation.

REFERENCES CITED

DAVIDSON, G., et al., 1988. The BIF hosted Starra and Trough Tank Au-Cu mineralisation-a new stratiform association from the Proterozoic Eastern Succession of Mt Isa, Australia. *In: Proc. Bicentennial Gold 88, Geol. Soc. Aust. Abs. Ser., 22, 85-90.*

FORBES, B.G., 1989. Olary Sheet SI54-2, 1:250,000 Geological Series. *Geol. Surv. S. Aust.*

McINTYRE, J.I., and WYATT, B.W., 1978. Contributions to the regional geology of the Broken Hill area from geophysical data. *BMR J. Aust. geol. geophys., 3, 265-280.*

MORRIS, B.S., 1981. Porphyry style Cu-Mo mineralisation at Anabama Hill. *S. Aust. Mineral. Resour. Rev., 150, 5-24.*

PREISS, W.V., ed., 1987. The Adelaide Geosyncline: late Proterozoic stratigraphy, sedimentation, palaeontology, tectonics. *Geol. Surv. S. Aust., Bull., 53.*

APPENDIX: LIST OF AERIAL PHOTOGRAPHS

1:93,000 scale natural colour aerial photographs acquired by the S.A Lands Department in August, 1982 (80% overlap)

Neg No.	Run No.	Photo Nos.	No Prints.
SVY 2884	1	095-105	3
SVY 2884	2	016-026	3
SVY 2884	3	056-065	3
			9

APPENDIX III

Stream Sediment Sample Analytical Results

CLASSIC LABORATORIES LTD
Incorporated in WA; a wholly owned subsidiary of Amdel Ltd
Osman Place, Thebarton, South Australia 5031
Telephone: (08) 43 5722 Facsimile: (08) 234 0321

Mr Cameron Switzer
Newmont Australia Limited
2nd Floor, 339 Coronation Drive
MILTON
QLD 4064

FINAL ANALYSIS REPORT

Your Order No: B 2781 Our Job Number : 1AD0555

Samples received : 25-FEB-1991 Results reported : 05-MAR-1991
No. of samples : 101
Report comprises a cover sheet and pages 1 to 4

This report relates specifically to the samples tested in so far as that the samples as supplied are truly representative of the sample source.

Note:
If you have any enquiries please contact Miss Anne Reed quoting the above job number.

Approved Signatory:

John Waters
Technical Manager - Adelaide

RECEIVED
12 MAR 1991

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

Distribution Codes:
CC - Carbon Copy
EM - Electronic Media
MM - Magnetic Media

"RELIABLE ANALYSES AT COMPETITIVE COST"

CLASSIC LABORATORIES LTD

Job: 1AD0555
O/N: 2781

ANALYTICAL REPORT

Sample	Au	Ag	Cu	As
ABS 001	0.40	<0.02	2.18	40
ABS 002	<0.05	<0.02	2.70	<2
ABS 003	<0.05	<0.02	1.50	6
ABS 004	0.05	<0.02	2.68	3
ABS 005	0.65	<0.02	4.08	10
ABS 006	0.35	<0.02	2.88	4
ABS 007	0.20	<0.02	1.05	9
ABS 008	0.60	<0.02	1.85	8
ABS 009	1.05	<0.02	1.88	18
ABS 010	1.45	<0.02	2.92	26
ABS 011	0.85	<0.02	1.02	8
ABS 012	6.0	0.02	1.45	19
ABS 013	1.65	0.04	1.55	17
ABS 014	0.40	<0.02	4.02	5
ABS 015	0.60	<0.02	1.92	24
ABS 016	1.10	0.02	2.30	6
ABS 017	0.95	0.02	2.25	5
ABS 018	1.10	<0.02	6.82	7
ABS 019	5.5	<0.02	1.55	4
ABS 020	1.35	0.02	3.55	10
ABS 021	0.90	0.02	1.85	6
ABS 022	3.2	<0.02	2.18	13
ABS 023	0.40	<0.02	2.08	12
ABS 024	1.70	<0.02	2.15	11
ABS 025	0.55	<0.02	4.22	7
ABS 026	0.30	<0.02	1.70	3
ABS 027	0.10	<0.02	1.70	12
ABS 028	0.10	<0.02	2.10	11
ABS 029	0.10	<0.02	2.18	15
ABS 030	0.10	<0.02	2.20	10
ABS 031	0.20	<0.02	2.28	6
ABS 032	<0.05	<0.02	1.65	3
ABS 033	0.95	<0.02	2.00	5
ABS 034	0.30	<0.02	1.30	6
ABS 035	0.10	<0.02	1.90	7
ABS 036	0.05	<0.02	2.08	19
ABS 037	0.55	<0.02	2.02	15
ABS 038	90	<0.02	1.50	4
ABS 039	2.6	<0.02	1.95	12
ABS 040	0.20	<0.02	1.80	7
ABS 041	0.55	<0.02	2.05	8
ABS 042	1.15	<0.02	3.20	12
ABS 043	1.40	0.02	2.05	9
ABS 044	0.20	<0.02	1.65	<2
ABS 045	1.25	<0.02	3.25	9
Units	ppb	ppm	ppm	ppm
DL	0.05	0.02	0.10	2
Scheme	BLEG2	BLEG1C	BLEG1C	XRF1

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Job: 1AD0555
O/N: 2781

ANALYTICAL REPORT

Sample	Au	Ag	Cu	As
ABS 046	0.35	0.02	4.6	5
ABS 047	0.25	<0.02	1.9	<2
ABS 048	0.15	<0.02	1.9	2
ABS 049	0.10	<0.02	1.9	<2
ABS 050	0.05	<0.02	1.2	<2
ABS 051	<0.05	<0.02	1.5	3
ABS 052	0.15	<0.02	1.7	5
ABS 053	0.05	<0.02	1.6	<2
ABS 054	0.05	<0.02	1.1	5
ABS 055	0.10	<0.02	2.4	4
ABS 056	<0.05	<0.02	1.1	<2
ABS 057	0.35	<0.02	2.3	4
ABS 058	7.0	<0.02	2.0	5
ABS 059	0.30	<0.02	1.1	4
ABS 060	0.30	<0.02	2.2	3
ABS 061	0.15	<0.02	1.7	4
ABS 062	0.45	<0.02	1.7	6
ABS 063	0.45	<0.02	3.6	5
ABS 064	0.20	<0.02	2.4	15
ABS 065	0.10	<0.02	3.1	22
ABS 066	0.20	<0.02	2.6	14
ABS 067	1.60	0.02	1.6	9
ABS 068	4.5	<0.02	2.5	22
ABS 069	1.15	<0.02	2.3	15
ABS 070	0.45	<0.02	4.1	5
ABS 071	<0.05	<0.02	<0.1	22
ABS 072	<0.05	<0.02	<0.1	2
ABS 073	0.45	<0.02	2.0	4
ABS 074	<0.05	<0.02	1.1	<2
ABS 075	<0.05	<0.02	0.8	<2
ABS 076	0.60	<0.02	2.0	9
ABS 077	0.40	0.02	2.0	4
ABS 078	0.30	<0.02	2.2	8
Units	ppb	ppm	ppm	ppm
DL	0.05	0.02	0.1	2
Scheme	BLEG2	BLEG1C	BLEG1C	XRF1

CLASSIC LABORATORIES LTD
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Mr Roger Langmead
Newmont Australia Limited
2nd Floor, 339 Coronation Drive
MILTON
QLD 4064

FINAL ANALYSIS REPORT

Your Order No: B 1081 Our Job Number : 1AD0930

Samples received : 02-APR-1991 Results reported : 18-APR-1991
No. of samples : 22
Report comprises a cover sheet and pages 1 to 3

This report relates specifically to the samples tested in so far as that the samples as supplied are truly representative of the sample source.

Note:
If you have any enquiries please contact Miss Anne Reed quoting the above job number.

Approved Signatory:

John Waters
Technical Manager - Adelaide

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

Distribution Codes:
CC - Carbon Copy
EM - Electronic Media
MM - Magnetic Media

"RELIABLE ANALYSES AT COMPETITIVE COST"

CLASSIC LABORATORIES LTD

Job: 1AD0930
O/N: B 1081

ANALYTICAL REPORT

Sample	Au	Cu	Ag
ABS 038A	0.10	1.42	<0.02
ABS 038B	0.10	1.32	<0.02
ABS 038C	0.40	3.88	<0.02
ABS 038D	0.30	2.45	<0.02
ABS 038E	0.15	1.45	<0.02
ABS 038F	0.15	1.55	<0.02
ABS 038G	0.55	3.02	<0.02
ABS 038H	0.10	1.82	<0.02
ABS 038I	0.20	2.45	<0.02
ABS 038J	0.10	1.98	<0.02
ABS 038K	1.95	4.58	<0.02
ABS 038L	0.55	4.25	<0.02
ABS 039A	0.20	1.88	<0.02
ABS 039B	1.65	2.40	<0.02
ABS 039C	4.0	2.60	<0.02
ABS 039D	0.35	2.52	<0.02
Units	ppb	ppm	ppm
DL	0.05	0.10	0.02
Scheme	BLEG2	BLEG1C	BLEG1C

APPENDIX IV

Rock Chip Sample Analytical Results

CLASSIC LABORATORIES LTD
Incorporated in WA; a wholly owned subsidiary of Amdel Ltd
Osman Place, Thebarton, South Australia 5031
Telephone: (08) 43 5722 Facsimile: (08) 234 0321

Mr Cameron Switzer
Newmont Australia Limited
2nd Floor, 339 Coronation Drive
MILTON
QLD 4064

FINAL ANALYSIS REPORT

Your Order No: B 2781 Our Job Number : 1AD0555

Samples received : 25-FEB-1991 Results reported : 05-MAR-1991
No. of samples : 101
Report comprises a cover sheet and pages 1 to 4

This report relates specifically to the samples tested in so far as that the samples as supplied are truly representative of the sample source.

Note:
If you have any enquiries please contact Miss Anne Reed quoting the above job number.

Approved Signatory:

John Waters
Technical Manager - Adelaide

RECEIVED
12 MAR 1991

Report Codes:
N.A. - Not Analysed.
L.N.R. - Listed But Not Received.
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Distribution Codes:
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EM - Electronic Media
MM - Magnetic Media

"RELIABLE ANALYSES AT COMPETITIVE COST"

CLASSIC LABORATORIES LTD

Job: 1AD0555
O/N: 2781

ANALYTICAL REPORT

Sample	Ag	Pb	Zn	Cu	As	Au
ABR 010	<1	22	19	13	6	<0.01
ABR 011	<1	20	19	55	3	<0.01
ABR 012	2	38	40	40	28	0.01
ABR 013	1	25	220	350	10	0.01
ABR 014	<1	8	8	16	<2	<0.01
ABR 015	<1	6	3	12	<2	<0.01
ABR 016	<1	8	<2	6	<2	<0.01
ABR 017	<1	6	4	11	<2	<0.01
ABR 018	<1	8	<2	8	4	0.01
ABR 019	<1	28	30	15	2	<0.01
ABR 020	<1	64	17	70	11	<0.01
ABR 021	<1	6	4	10	<2	<0.01
ABR 022	<1	36	86	76	12	<0.01
ABR 023	<1	26	60	75	12	<0.01
ABR 024	1	14	6	28	52	<0.01
ABR 025	<1	22	17	9	<2	<0.01
ABR 026	<1	30	32	35	7	<0.01
ABR 027	<1	15	68	290	11	<0.01
Units	ppm	ppm	ppm	ppm	ppm	ppm
DL	1	4	2	2	2	0.01
Scheme	AAS2	AAS2	AAS2	AAS2	XRF1	FA1

CLASSIC LABORATORIES LTD
Incorporated in WA; a wholly owned subsidiary of Amdel Ltd
Osman Place, Thebarton, South Australia 5031
Telephone: (08) 43 5722 Facsimile: (08) 234 0321

Mr Cameron Switzer
Newmont Australia Limited
2nd Floor, 339 Coronation Drive
MILTON
QLD 4064

FINAL ANALYSIS REPORT

Your Order No: 16860 Our Job Number : 1AD0616

Samples received : 05-MAR-1991 Results reported : 13-MAR-1991
No. of samples : 56
Report comprises a cover sheet and pages 1 to 3

This report relates specifically to the samples tested in so far as that the samples as supplied are truly representative of the sample source.

Sub splits of the following samples were analysed by fire assay to confirm anomolous Au results indicated by cyanide leach. These assays yielded values in the range 15 to 25 ppb, supporting the original results. Samples checked: ABG 005, ABG 015, ABG 017, ABG 020.

Note:
If you have any enquiries please contact Miss Anne Reed quoting the above job number.

Approved Signatory:

John Waters
Technical Manager - Adelaide

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

Distribution Codes:
CC - Carbon Copy
EM - Electronic Media
MM - Magnetic Media

"RELIABLE ANALYSES AT COMPETITIVE COST"

CLASSIC LABORATORIES LTD

Job: 1AD0616
O/N: 16860

ANALYTICAL REPORT

Sample	Au Avg	Au	Au Rp1	Au SS1	As
ABR 028	<0.01	<0.01	--	<0.01	5
ABR 029	<0.01	<0.01	--	--	4
ABR 030	<0.01	<0.01	--	--	<2
ABR 031	<0.01	<0.01	--	--	3
ABR 032	<0.01	<0.01	--	--	3
ABR 033	<0.01	<0.01	--	--	<2
ABR 034	<0.01	<0.01	--	--	<2
ABR 035	<0.01	<0.01	--	--	4
ABR 036	<0.01	<0.01	--	--	4
ABR 037	<0.01	<0.01	--	--	46
ABR 038	<0.01	<0.01	--	--	3
ABR 039	<0.01	<0.01	--	--	350
ABR 040	<0.01	<0.01	--	--	<2
ABR 041	<0.01	<0.01	--	--	28
ABR 042	<0.01	<0.01	--	--	3
ABR 043	<0.01	<0.01	--	--	5
ABR 044	<0.01	<0.01	--	--	<2
ABR 045	<0.01	<0.01	--	--	<2
ABR 046	<0.01	<0.01	--	--	7
ABR 047	<0.01	<0.01	--	--	5
ABR 048	<0.01	<0.01	--	<0.01	<2
ABR 049	<0.01	<0.01	--	--	3
ABR 050	<0.01	<0.01	--	--	<2
ABR 051	<0.01	<0.01	--	--	<2
ABR 052	<0.01	<0.01	--	--	3
ABR 053	<0.01	<0.01	--	--	<2
BGR 010	<0.01	<0.01	--	--	3
BGR 011	<0.01	<0.01	--	--	<2
BGR 012	<0.01	<0.01	--	--	3
BGR 013	<0.01	<0.01	--	--	2
BGR 014	<0.01	<0.01	--	--	3
BGR 015	<0.01	<0.01	--	--	<2
Units	ppm	ppm	ppm	ppm	ppm
DL	0.01	0.01	0.01	0.01	2
Scheme	FA1	FA1	FA1	FA1	XRF1

CLASSIC LABORATORIES LTD

Job: 1AD0616
O/N: 16860

ANALYTICAL REPORT

Sample	5 Cu	3 Pb	4 Zn	2 Ag
ABR 028	1740	28	13	<1
ABR 029	580	10	7	<1
ABR 030	34	<4	6	<1
ABR 031	11	<4	6	<1
ABR 032	13	<4	14	<1
ABR 033	5	5	2	<1
ABR 034	2	5	2	<1
ABR 035	7	5	<2	<1
ABR 036	17	<4	40	<1
ABR 037	18	8	2	<1
ABR 038	10	<4	<2	<1
ABR 039	145	8	105	<1
ABR 040	28	135	250	<1
ABR 041	34	4	165	<1
ABR 042	120	6	5	2
ABR 043	17	5	2	<1
ABR 044	28	<4	2	<1
ABR 045	25	<4	<2	<1
ABR 046	17	6	<2	<1
ABR 047	56	5	2	<1
ABR 048	54	4	<2	<1
ABR 049	32	<4	<2	<1
ABR 050	90	<4	2	<1
ABR 051	17	<4	3	<1
ABR 052	110	14	6	<1
ABR 053	40	5	5	<1
BGR 010	14	10	13	<1
BGR 011	40	4	25	<1
BGR 012	10	8	28	<1
BGR 013	13	6	20	<1
BGR 014	12	10	22	<1
BGR 015	11	12	4	<1
Units	ppm	ppm	ppm	ppm
DL	2	4	2	1
Scheme	AAS2	AAS2	AAS2	AAS2

CLASSIC LABORATORIES LTD
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Osman Place, Thebarton, South Australia 5031
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Mr Roger Langmead
Newmont Australia Limited
2nd Floor, 339 Coronation Drive
MILTON
QLD 4064

FINAL ANALYSIS REPORT

Your Order No: B 1081 Our Job Number : 1AD0930

Samples received : 02-APR-1991 Results reported : 18-APR-1991
No. of samples : 22
Report comprises a cover sheet and pages 1 to 3

This report relates specifically to the samples tested in so far as that the samples as supplied are truly representative of the sample source.

Note:
If you have any enquiries please contact Miss Anne Reed quoting the above job number.

Approved Signatory:

John Waters
Technical Manager - Adelaide

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

Distribution Codes:
CC - Carbon Copy
EM - Electronic Media
MM - Magnetic Media

"RELIABLE ANALYSES AT COMPETITIVE COST"

Job: 1AD0930
O/N: B 1081

ANALYTICAL REPORT

Sample	Cu	Pb	Zn	Ag	As	Bi	Sb
ABR 038F	25	28	36	<1	<1	5	<2
ABR 038G	15	20	15	<1	5	6	<2
ABR 038I	20	34	22	<1	4	<2	<2
ABR 038J	15	10	10	<1	2	6	<2
ABR 039A	22	20	195	<1	3	<2	<2
ABR 039C	10	12	13	<1	5	<2	<2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
DL	2	4	2	1	1	2	2
Scheme	AAS2	AAS2	AAS2	AAS2	XRF1L	XRF1L	XRF1L

Job: 1AD0930
O/N: B 1081

ANALYTICAL REPORT

Sample	Au Avg	Au	Au Rp1	Au SS1
ABR 038F	<0.01	<0.01	--	<0.01
ABR 038G	<0.01	<0.01	--	--
ABR 038I	<0.01	<0.01	--	--
ABR 038J	<0.01	<0.01	--	--
ABR 039A	<0.01	<0.01	--	--
ABR 039C	<0.01	<0.01	--	--
Units	ppm	ppm	ppm	ppm
DL	0.01	0.01	0.01	0.01
Scheme	FA1	FA1	FA1	FA1

APPENDIX V

Soil Sample Analytical Results

CLASSIC LABORATORIES LTD
Incorporated in WA; a wholly owned subsidiary of Amdel Ltd
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Telephone: (08) 43 5722 Facsimile: (08) 234 0321

Mr Cameron Switzer
Newmont Australia Limited
2nd Floor, 339 Coronation Drive
MILTON
QLD 4064

FINAL ANALYSIS REPORT

Your Order No: 16860 Our Job Number : 1AD0616

Samples received : 05-MAR-1991 Results reported : 13-MAR-1991
No. of samples : 56
Report comprises a cover sheet and pages 1 to 3

This report relates specifically to the samples tested in so far as that the samples as supplied are truly representative of the sample source.

Sub splits of the following samples were analysed by fire assay to confirm anomolous Au results indicated by cyanide leach. These assays yielded values in the range 15 to 25 ppb, supporting the original results. Samples checked: ABG 005, ABG 015, ABG 017, ABG 020.

Note:
If you have any enquiries please contact Miss Anne Reed quoting the above job number.

Approved Signatory:

John Waters
Technical Manager - Adelaide

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

Distribution Codes:
CC - Carbon Copy
EM - Electronic Media
MM - Magnetic Media

"RELIABLE ANALYSES AT COMPETITIVE COST"

CLASSIC LABORATORIES LTD

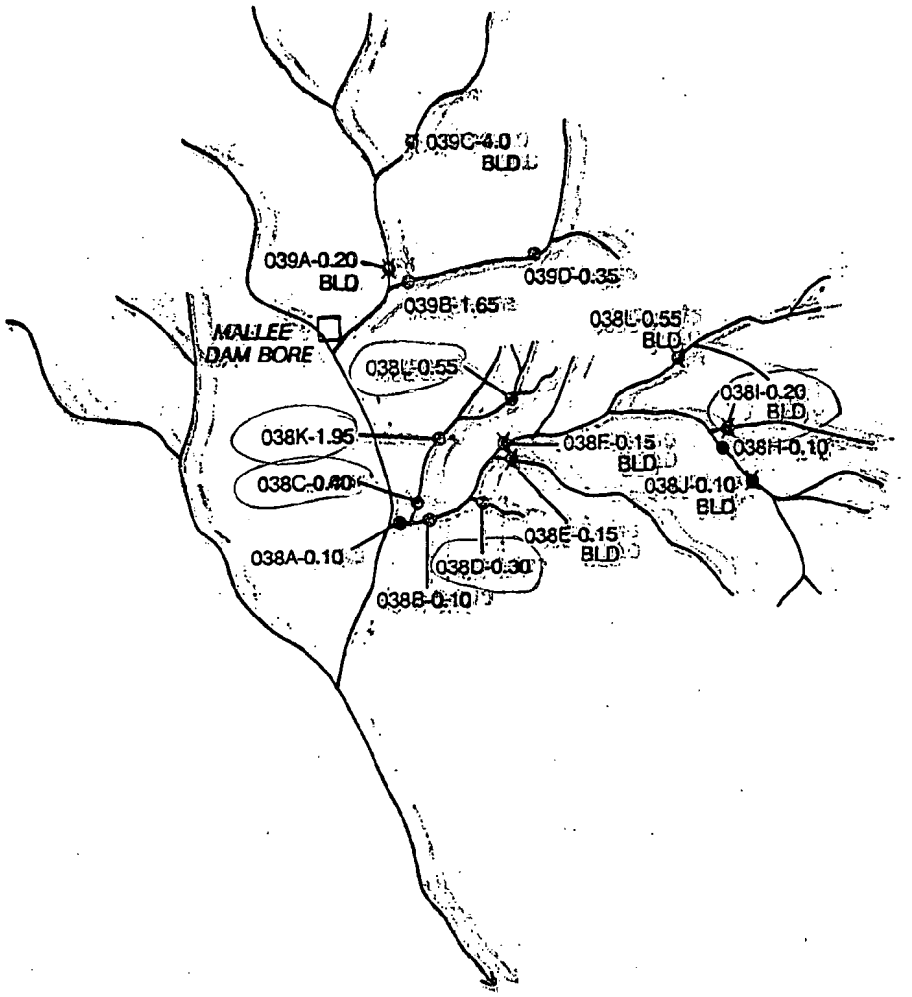
Job: 1AD0616
O/N: 16860

ANALYTICAL REPORT

Bleg Soil

Sample	Au	Ag	Cu
ABG 001	1.00	0.02	0.85
ABG 002	0.65	<0.02	1.00
ABG 003	1.65	<0.02	1.02
ABG 004	1.05	<0.02	0.96
ABG 005	4.0	0.02	1.14
ABG 006	1.50	<0.02	0.92
ABG 007	0.60	<0.02	0.70
ABG 008	0.40	<0.02	1.04
ABG 009	1.45	<0.02	1.68
ABG 010	0.80	<0.02	1.12
ABG 011	1.15	<0.02	1.80
ABG 012	0.85	<0.02	0.94
ABG 013	1.05	<0.02	1.25
ABG 014	1.65	<0.02	1.40
ABG 015	11	0.02	1.65
ABG 016	4.3	<0.02	1.78
ABG 017	6.5	<0.02	1.44
ABG 018	1.60	<0.02	1.18
ABG 019	1.80	<0.02	3.12
ABG 020	5.5	0.02	1.60
ABG 021	1.60	<0.02	1.40
ABG 022	1.50	<0.02	1.84
ABG 023	1.60	<0.02	1.90
ABG 024	1.15	0.02	1.40
Units	ppb	ppm	ppm
DL	0.05	0.02	0.10
Scheme	BLEG2	BLEG1C	BLEG1C

140°03'E



32°45'S

● ABS 038A-0.10 - BLEG Sample Location - Au (in ppb)

⊠ ABR 038A-BLD - Rock Chip Sample Location - Au (in ppm)
BLD - Below Level of Detection

0 1 2 km

See Plan No. 5 for Location.

NORTH

NEWCREST MINING LIMITED

COMPILED: RPL	SCALE: 1:50,000
DRAWN: MFC	DRAWING No. SO38-7
DATE: JUNE 1993	PLAN No. 3

EL 1685 - ANABAMA

Follow-Up Stream Sediment & Rock Chip Sample Locations & Results

140°00'E

140°08'E

140°20'E

32°36'S

32°45'S

32°50'S

• ROUND HILL

ABR050 <0.01/<1/4/2/90/<2

ABR047 <0.01/<1/5/2/56/5
ABR048 <0.01/<1/4/<2/54/<2
ABR049 <0.01/<1/<4/<2/32/3

Scotts Bore

Old Granite Dam

ABR046 <0.01/<1/6/<2/17/7

New Granite Dam

ABR024 <0.01/1/14/6/28/52
ABR025 <0.01/<1/22/17/9/<2
ABR026 <0.01/<1/30/32/35/7
ABR027 <0.01/<1/15/68/250/11

ABR042 <0.01/2/6/5/120/3
ABR043 <0.01/<1/5/2/17/5
ABR044 <0.01/<1/<4/2/28/<2
ABR045 <0.01/<1/<4/<2/25/<2

Benda Dam

ABR011 <0.01/<1/20/19/55/3

ABR012 0.01/2/38/40/40/28
ABR013 0.01/1/25/220/350/10

Binda Dam

Dlorah Downs

NA

ABR010 <0.01/<1/22/19/13/6

ABR040 <0.01/<1/135/250/28/<2
ABR041 <0.01/<1/4/165/34/28

<0.01/<1/8/105/145/350 ABR039

ABR037 <0.01/<1/8/2/18/46
ABR038 <0.01/<1/<4/<2/10/3

<0.01/<1/<4/40/17/4 ABR036

<0.01/<1/5/<2/7/4 ABR035

ABR030 <0.01/<1/<4/6/34/<2
ABR031 <0.01/<1/<4/6/11/3
ABR032 <0.01/<1/<4/14/13/3

ABR017 <0.01/<1/6/4/11/<2
ABR018 0.01/<1/8/<2/8/4

ABR033 <0.01/<1/5/2/5/<2
ABR034 <0.01/<1/5/2/2/<2

Mallee Dam Bore

ABR015 <0.01/<1/6/3/12/<2
ABR016 <0.01/<1/8/<2/6/<2

ABR014 <0.01/<1/8/8/16/<2

Neatley Gap

ANABAMA HILL

ABR052 <0.01/<1/14/6/110/3
ABR053 <0.01/<1/5/5/40/<2

ABR051 <0.01/<1/<4/3/17/<2

ABR028 <0.01/<1/28/13/1740/5
ABR029 <0.01/<1/10/7/580/4

ABR023 <0.01/<1/26/60/75/12

ABR019 <0.01/<1/28/30/15/2
ABR020 <0.01/<1/64/17/70/11

ABR021 <0.01/<1/6/4/10/<2
ABR022 <0.01/<1/36/86/76/12

For follow-up sampling, see Plan No.3

NETLEY HILL

0 2 4 6km

LEGEND

x ABR010 — *Rock chip sample no.*

<0.01/<1/22/19/13/6 — *Assay results for Au/Ag/Pb/Zn/Cu/As all in ppm*

NORTH

Newcrest Mining Limited			
COMPILED	CKS	SCALE	1:50,000
DRAWN	BS	DRAWING No.	S038-5-
DATE	April 91	PLAN No.	4

ANABAMA EL 1685

ROCK CHIP SAMPLING

8348-4

A3

140°00'E

140°08'E

140°20'E

32°36'S

32°45'S

32°50'S

• ROUND HILL

ABG013 1.05/<0.02/1.25
ABG014 1.65/<0.02/1.40
ABG015 11.00/0.02/1.85
ABG016 4.3/<0.02/1.78
ABG017 6.5/<0.02/1.44
ABG018 1.60/<0.02/1.18
ABG019 1.80/<0.02/1.12
ABG020 5.5/0.02/1.60
ABG021 1.60/<0.02/1.40
ABG022 1.50/<0.02/1.84
ABG023 1.60/<0.02/1.90

Scotts Bore

ABG024

ABG013

ABG001

ABG012

ABG001 1.00/0.02/0.85
ABG002 0.65/<0.02/1.00
ABG003 1.65/<0.02/1.02
ABG004 1.05/<0.02/0.96
ABG005 4.0/0.02/1.14
ABG006 1.50/<0.02/0.82
ABG007 0.60/<0.02/0.70
ABG008 0.40/<0.02/1.04
ABG009 1.45/<0.02/1.68
ABG010 0.80/<0.02/1.12
ABG011 1.15/<0.02/1.80
ABG012 0.85/<0.02/0.94

Benda Dam

Binda Dam

Dlorah Downs

NA

ANABAMA HILL

Mallee Dam Bore

Neatley Gap

NETLEY HILL

0 0 2 4 6km

LEGEND

ABG001 BLEG soil sample no.

1.00/0.02/0.85 Assay results for Au/Ag/Cu in ppb/ppm/ppm

NORTH

Newcrest Mining Limited			
COMPILED	CKS	SCALE	1:50,000
DRAWN	BS	DRAWING No.	S038-4
DATE	April 91	PLAN No.	5

ANABAMA EL 1685

BLEG SOIL SAMPLING

8348-5

A3

NEWCREST MINING LIMITED

Exploration Licence 1685
"Anabama"
Third Quarterly Report for the Period
12 May 1991 to 11 August 1991

Grant D. McEwen
September 1991

Distribution:

Newcrest Mining Limited, Brisbane (2)
Newcrest Mining Limited, Melbourne (1)
South Australian Department of Mines and Energy (1 bound, 1 unbound)

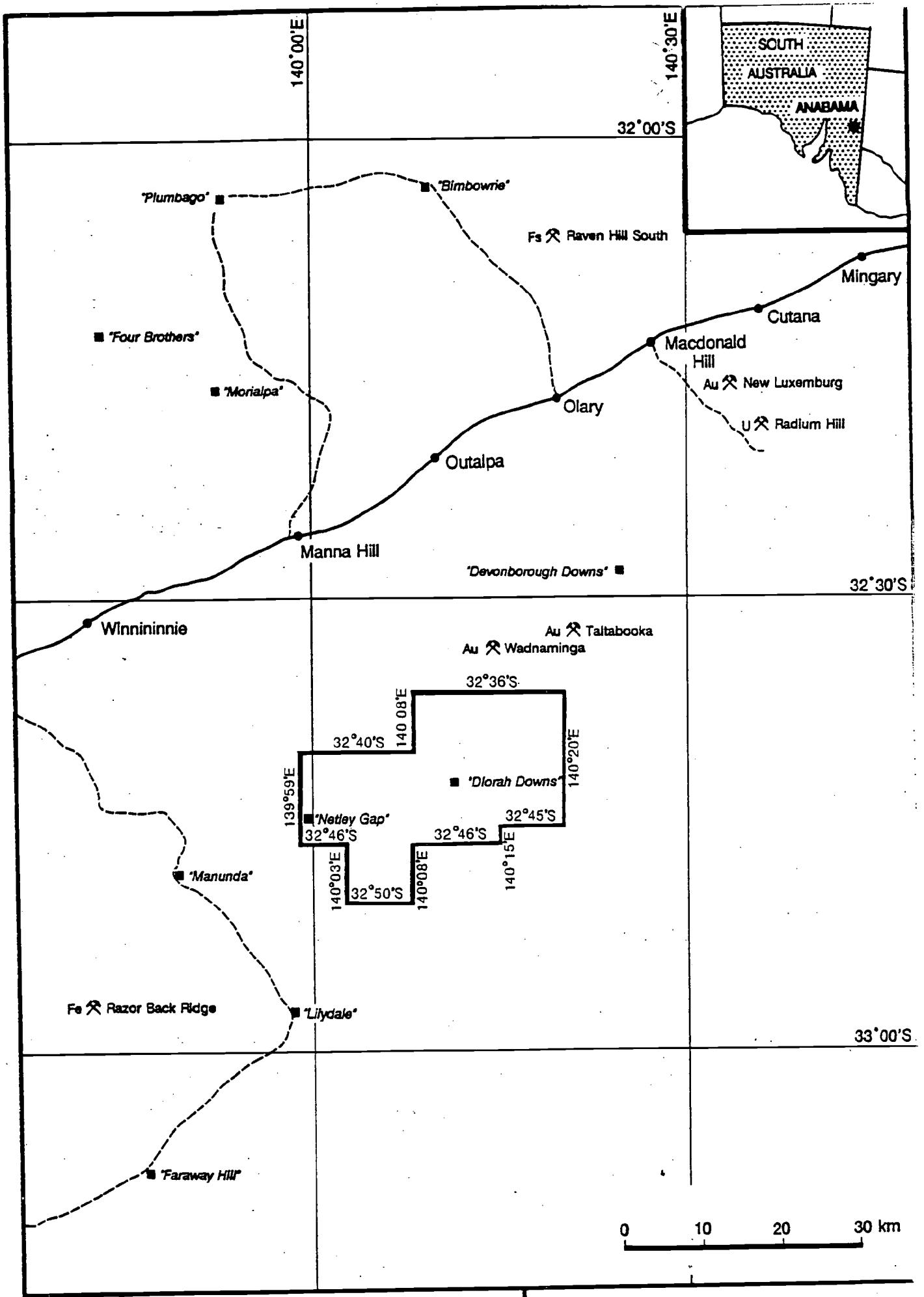
TABLE OF CONTENTS

SUMMARY

Exploration Licence 1685 "Anabama" was granted to Newmont Australia Limited for a term of one year as from 12 November 1990. Newmont changed its company name to Newcrest Mining Limited after merging with BHP Gold Mines Limited, completed in February 1991.

Limited follow-up investigation of stream sediment and photogeological anomalies located in the Mallee Dam Bore area of the western portion of the tenement has failed to locate any evidence for significant gold/base metal mineralisation.

Follow-up field investigation of a further two weak gold/base metal anomalous areas has yet to be completed.



NEWCREST MINING LIMITED		ANABAMA - EL 1685
COMPILED MFC	SCALE 1:600,000	LOCATION MAP
DRAWN MFC	DRAWING No. SO38-1	
NORTH	DATE JULY 1990	FIGURE No. 1

1. INTRODUCTION

Exploration Licence (EL) 1685 "Anabama" was granted to Newmont Australia Limited on 12 November 1990 for a period of one year. Following a merger with BHP Gold Mines Limited, completed in February 1991, Newmont changed its name to Newcrest Mining Limited, effective from 19 April 1991. The location of EL 1685 is shown in Figure 1.

Exploration work completed during this, the third quarterly reporting period, comprised geological field investigation of photogeological anomalies along with limited rock chip sampling.

Expenditure for the three month period was $8,344, a breakdown of which is given in Appendix I.

2. REGIONAL GEOLOGY

The Anabama Exploration Licence occupies an area covering folded and faulted rocks of the Burra Group and Umberatana Group. Minor diapiric bodies of Callana Group have also been observed in the region. Intruding this sequence are the granitic bodies of the Anabama Granite.

The Burra Group consists of green-grey calcareous siltstones with minor carbonaceous and cherty interbeds. Minor arkosic sandstones and dolomites have also been observed.

The Umberatana Group consists essentially of olive green siltstone with interbedded sandstone, conglomerate and diamictite, dark grey banded siltstone and ferruginous siltstone and massive greywacke tillite with minor siltstone, dolomite, quartzite and tillitic iron formation facies.

Greisen bearing granitoids of the Anabama Granite intrude the area along with numerous polyphase basic to acidic dykes.

Structurally, the area has been mildly deformed during the Delamarian Orogeny with typical basin and dome folding in the sediments. Large north-east trending shear zones appear to have had a major control on the emplacement of the granitoids and related greisen systems.

3. WORK COMPLETED

A review of the photogeological study completed by Australian Photogeological Consultants (APC), indicates that two small sub-circular areas of low country occur directly to the north of the Mallee Dam Bore stream sediment gold anomalous zone (see previous Quarterly Report). APC interpreted these as being crush breccia zones of possible diapiric origin, although the occurrences were not visually confirmed in the field (Plate 1).

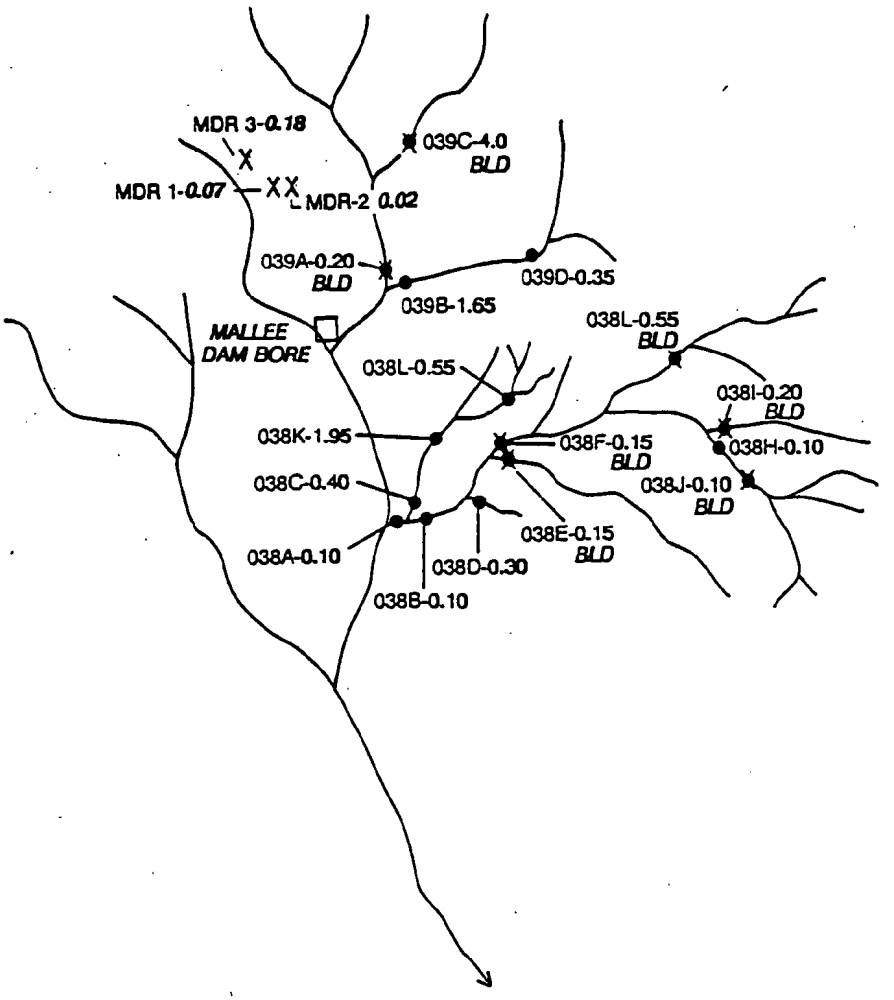
During this reporting period Newcrest geologists located both of the occurrences described in the APC report. However, they appear to be related more to regional structures than intrusive bodies.

Three rock chip samples were collected from the area traversed, north of the Mallee Dam Bore. All samples were analysed for Au (Fire), As, Sb, Bi (XRF), Cu, Pb, Zn and Ag (AAS) by Classic Laboratories, Adelaide. Sample ledgers and certificates of analysis are included in Appendix II and locations are shown on Figure 2.

Samples MDR-1 and MDR-2 were of silicified limestone/dolomite (jasperoid), located off the southern margin of the photogeological anomalies. Sample number MRD-3 was an iron-rich skarniferous rock collected from a shallow prospecting pit located adjacent to samples 1 and 2. Weakly anomalous results for Au (0.18 ppm) and Zn (720 ppm) were returned from sample number MDR-3 only.

All stream sediment and photogeological anomalies within the Mallee Dam Bore area have now been followed up, with no further encouraging results being returned.

140°03'E



32°45'S

● ABS 038A-0.10 BLEG Sample Location - Au (in ppb)

X ABR 038A- *BLD* Rock Chip Sample Location - Au (in ppm)
MDR 3 BLD - Below Level of Detection

0 1 2 km

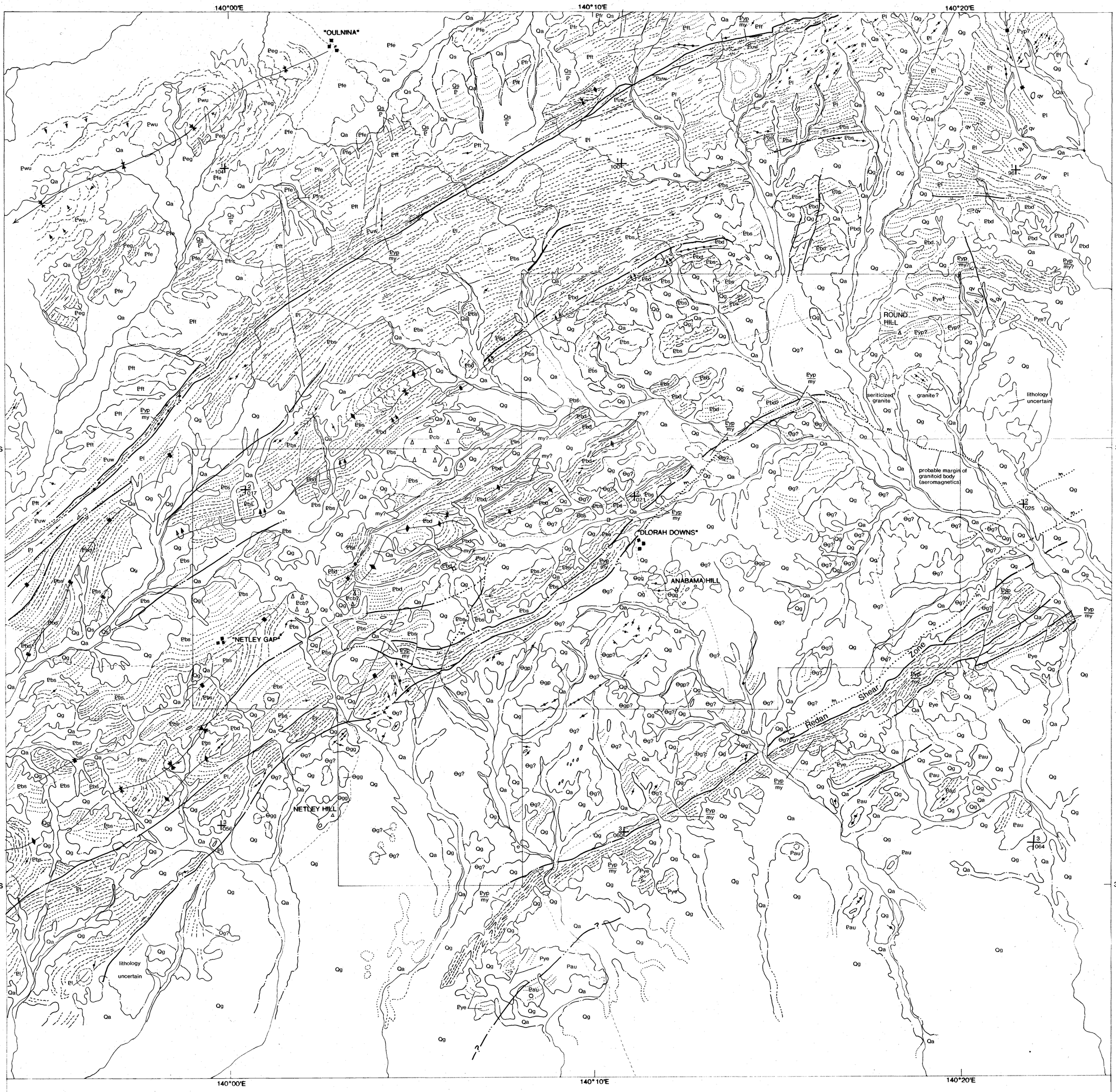
See Plan No. 5 for Location.

NORTH

NEWCREST MINING LIMITED	
COMPILED RPL	SCALE 1:50,000
DRAWN MFC	DRAWING No. SO38-7
DATE SEPTEMBER 1991	FIGURE 2

EL 1685 - ANABAMA

Follow-Up Stream Sediment & Rock Chip Sample Locations & Results



PHOTOGEOLOGICAL MAP OF E.L.1685 (ANABAMA) AND SURROUNDING AREA

FOR

NEWMONT AUSTRALIA LIMITED

SCALE 1:75 000

kilometres 3 0 3 6 9 kilometres

Photogeological characteristics

Qa	Broad alluvial flats; abundant pale-tone material
Qs	Planation surface with N-flowing creeks; local development of colluvial soils
Qg	Gravels and sands forming slightly raised pediments
	Sharp crested, paled-toned ridges and hills
Θgg	Topographically prominent hills
Θgp	Very pale-toned colluvial soils
Θg?	"Granitic" colluvial soils (difficult to discriminate from Qg)
Pcb	Topographically flat areas supporting thick saltbush vegetation
Pwu	Smooth, unvegetated, dark-toned low hills
Peg	Prominent pale-toned cuestas
Pfe	Dark-toned area of extremely low relief
Pfr/Pfrc	Basal sandstone forms prominent hogback ridges, otherwise poorly exposed
Pft	Low relief with banded appearance due to selective vegetation
Puw	Up to 6 narrow, resistant marker bands
Pye	Low topography, dark tone
Pyp / my	Very prominent 'banded' ridges
Pl	Strongly banded appearance; alternating pale strike ridges and lowland belts with thick saltbush
Pbs	Low relief, alternate dark/light bands
Pbd	Isoclinally folded narrow pale-toned strike ridges
Pau	Poorly exposed

Stratigraphy

Modern alluvium		QUATERNARY
Calcrete, cemented gravels?		
Pleistocene reddish alluvial clays, sand and gravel	POORAKA FORMATION	
Quartz veins (qv); porphyry (po)		
Quartz- muscovite greisen	ANABAMA GRANITE	ORDOVICIAN
Separate granite phase?		
Coarse-grained biotite granite, porphyry, microgranite		
Crush breccia, (siliceous, ferruginous, calcareous)		
Greenish flaggy siltstone; fine-grained sandstone	ULUPA SILTSTONE	UMBERATANA GROUP
Medium to coarse-grained feldspathic quartzite	GRAMPUS QUARTZITE	
Green-grey shale, fine-grained sandstone	ENORAMA SHALE	
Grey, locally sandy siltstone; basal sandstone/quartzite (Pfrc)	TARCOWIE SILTSTONE / COX SANDSTONE	
Finely laminated siltstone, dolomite, fine-grained sandstone	TAPLEY HILL FORMATION	
Siltstone, dolomite, quartzite	WILYERPA FORMATION	
Grey siltstone, limestone, quartzite, martitic sandstone	BENDA SILTSTONE	
Cataclastic rocks? including deformed and silicified amphibolites and iron formation	'PUALCO TILLITE'; MYLONITES	
Flaggy siltstone, dolomite, quartzite	MINTARO SHALE	BURRA GROUP
Dark siltstone and dolomite	SADDLEWORTH FORMATION	
Carbonate-bearing sandstone, quartzite	CRADOCK QUARTZITE / AUBURN DOLOMITE	
Tuff, rhyolite, dacite, trachyte	BOUCAULT VOLCANICS	

Structural and topographic symbols

- Bedding/foliation trends
- Strike and dip of beds (very shallow, shallow, moderate, steep, vertical)
- Fracture and joint traces
- Interpreted fault
- Aeromagnetic lineament
- Syncline, anticline
- Overturned syncline, anticline
- Undifferentiated fold axis
- 3/056 Photocentre
- △ NETLEY HILL Trig point
- Geological boundary (clear, inferred)
- Boundary of E.L.1685
- "OULNINA" Homestead

NOTES: (1) Photogeological map prepared from 1:93 000 scale natural colour aerial photographs (SA Lands Dept, 1982)
(2) Photogeological data compiled to 1:75 000 scale enlargement of the YUNTA (6832) and ANABAMA (6932) topo sheets.
(3) Photogeological data briefly field checked (7-8/3/91)

Job No.433N,March 1991
AUSTRALIAN PHOTOGEOLOGICAL CONSULTANTS
48 Jacka Crescent, Campbell, A.C.T. 2601 Australia
Postal Address: P.O. Box 43, Campbell, A.C.T. 2601 Australia

EL 1685 - Anabama

Photogeological Interpretation

8348-2 PLAN No. 1

4. RECOMMENDATIONS

Although exploration to date has failed to delineate any significant zones of mineralisation, further work may be warranted to investigate low order anomalies in the following areas:

- Follow-up weak stream sediment gold anomalies located in the northern tenement area.
- Rock chip sampling within the vicinity of Round Hill, where previous exploration has located several outcropping areas of quartz veining and sericite alteration along the margins of the Anabama Granite.

A detailed aeromagnetic interpretation of the soil covered northern portion of the tenement is still recommended to target possible covered alteration systems and favourable structural settings.

5. REFERENCES

Australian Photogeological Consultants, 1991: Photogeological Investigation of the Anabama Area (EL 1685), South Australia. Newcrest Mining Limited Internal Report.

McEwen, G.D., 1991: Exploration Licence 1685 "Anabama", Second Quarterly Report for the Period 12 February 1991 to 11 May 1991. Newcrest Mining Limited.

APPENDIX I

Expenditure Statement for the Period 12 May 1991 to 11 August 1991

Exploration Licence 1685 "Anabama"

Expenditure Statement for the Period 12 May 1991 to 11 August 1991

EXPENDITURE TYPE	$
Salaries	2,853
Wages	189
Overheads	2,232
Office Rentals and Rates	40
Travel and Accommodation	654
Motor Vehicles	186
Freight	441
Administration	43
Communications	8
Assaying	80
Supplies	67
Exploration Office Expenditure	1,505
Field Living	46
TOTAL	$8,344

APPENDIX II

Rock Chip Sample Ledgers and Certificates of Analysis

EL 1685 "ANABAMA"
Follow-up Rock Chip Sampling

SAMPLE NO	DATE	MAPREF-250	COMMENTS	AU-PPM	AS-PPM	CU-PPM	PB-PPM	ZN-PPM	AG-PPM
MDR-1	June 1991	Olary	Silicified Limestone/Dolomite (Jasperoid)	0.07	2	20	<4	56	<1
MDR-2	June 1991	Olary	Silicified Limestone/Dolomite (Jasperoid)	0.02	<1	45	<4	34	<1
MDR-3	June 1991	Olary	Shallow pit. Iron-rich Skarn?	0.18	6	38	<4	720	<1

CLASSIC LABORATORIES LTD
Incorporated in WA; a wholly owned subsidiary of Amdel Ltd
ACN 009-076-555
Osman Place, Thebarton, South Australia 5031
Telephone: (08) 43 5722 Facsimile: (08) 234 0321

Mr Roger Langmead
Newcrest Australia Ltd
2nd Floor, 339 Coronation Drive
MILTON
QLD 4064

FINAL ANALYSIS REPORT

Your Order No: B 3367 Our Job Number : 1AD1592

Samples received : 04-JUN-1991 Results reported : 14-JUN-1991
No. of samples : 13
Report comprises a cover sheet and pages 1 to 2

This report relates specifically to the samples tested in so far as that the samples as supplied are truly representative of the sample source.

Please note detection limit for Sample MGR 4 may be elevated due to mineralisation.

Note:
If you have any enquiries please contact Miss Anne Reed quoting the above job number.

Approved Signatory:

John Waters
Technical Manager - Adelaide

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

Distribution Codes:
CC - Carbon Copy
EM - Electronic Media
MM - Magnetic Media

"RELIABLE ANALYSES AT COMPETITIVE COST"

CLASSIC LABORATORIES LTD

Job: 1AD1592
O/N: B 3367

ANALYTICAL REPORT

Sample	Au Avg	Au	Au Rp1	Au SS1	As	Sb	Bi
MDR 1	0.07	0.08	0.07	--	2	2	<2
MDR 2	0.02	0.02	--	--	<1	<2	2
MDR 3	0.18	0.15	0.21	--	6	<2	<2
PDR 1	<0.01	<0.01	--	--	<1	<2	<2
PDR 2	0.01	0.01	--	--	2	<2	<2
PDR 3	0.01	0.01	--	--	18	2	<2
PDR 4	0.01	0.01	--	--	74	<2	<2
MGR 1	0.02	0.02	--	--	<1	<2	3
MGR 2	0.01	0.01	--	--	4	3	4
MGR 3	0.04	0.04	0.03	--	58	<2	7
MGR 4	<0.01	<0.01	--	--	96	<2	<2
MGR 5	<0.01	<0.01	--	--	2	<2	<2
MGR 6	0.01	0.01	--	--	4	2	<2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
DL	0.01	0.01	0.01	0.01	1	2	2
Scheme	FA1	FA1	FA1	FA1	XRF1L	XRF1L	XRF1L

CLASSIC LABORATORIES LTD

Job: 1AD1592
O/N: B 3367

ANALYTICAL REPORT

Sample	Cu	Pb	Zn	Ag
MDR 1	20	<4	56	<1
MDR 2	45	<4	34	<1
MDR 3	38	<4	720	<1
PDR 1	34	<4	28	<1
PDR 2	9	<4	22	<1
PDR 3	13	<4	710	<1
PDR 4	38	<4	32	<1
MGR 1	9	12	11	1
MGR 2	160	100	165	<1
MGR 3	100	150	1400	<1
MGR 4	14	12	44	<1
MGR 5	92	16	58	<1
MGR 6	160	150	1550	<1
Units	ppm	ppm	ppm	ppm
DL	2	4	2	1
Scheme	AAS2	AAS2	AAS2	AAS2

NEWCREST MINING LIMITED

Exploration Licence 1685 Anabama
Final and Surrender Report
for the Period
12 November 1990 to 11 November 1991

Grant D. McEwen
BRISBANE

December 1991

Distribution:
Newcrest Mining Ltd, Brisbane (1)
Newcrest Mining Ltd, Melbourne (1)
S.A. Department of Mines and Energy (1)

CONTENTS

SUMMARY

Exploration Licence 1685 Anabama was granted to Newmont Australia Limited for a term of one year as from 12 November 1990. Newmont changed its company name to Newcrest Mining Limited after merging with BHP Gold Limited, effective from February 1991.

Reconnaissance stream sediment sampling outlined an area of low-level gold/base metal anomalism in the western portion of the tenement. Follow-up field investigation of drainage and photogeological anomalies located in the Mallee Bore/Benda Dam area failed to upgrade the original sampling results and no evidence of significant alteration or mineralisation was located.

No further work has been completed and Newcrest applied for full relinquishment on 22 October 1991.

1. INTRODUCTION

Exploration Licence (EL) 1685 Anabama was granted to Newmont Australia Limited on 12 November 1990 for a period of one year. Following a merger with BHP Gold Limited, completed in February 1991, Newmont changed its name to Newcrest Mining Limited, effective from 19 April 1991. The tenement is located approximately 20 km southeast of Manna Hill, with access gained along numerous unsealed station tracks.

Exploration work completed by Newcrest Mining Limited during this tenure comprised:

- Landowner study.
- Photogeological interpretation.
- Purchasing and re-processing of low level aeromagnetic data.
- Regional reconnaissance stream sediment sampling and rock chip sampling.
- Limited grid-based soil sampling.
- Follow-up stream sediment and rock chip sampling.

No exploration work was completed during the fourth quarter, from 12 August to 11 November 1991.

Expenditure for the period 12 August to 11 November 1991 was $1,494. Total expenditure for the tenure period 12 November 1990 to 11 November 1991 was $59,902.

2. REGIONAL GEOLOGY

EL 1685 Anabama occupies an area covering folded and faulted rocks of the Burra Group and Umberatana Group. Minor diapiric bodies of Callana Group have also been observed in the region. Intruding this sequence are the granitic bodies of the Anabama Granite.

The Burra Group consists of green-grey calcareous siltstones with minor carbonaceous and cherty interbeds. Minor arkosic sandstones and dolomites have also been observed.

The Umberatana Group consists essentially of olive green siltstone with interbedded sandstone, conglomerate and diamictite, dark grey banded siltstone and ferruginous siltstone and massive greywacke tillite with minor siltstone, dolomite, quartzite and tillitic iron formation facies.

Greisen bearing granitoids of the Anabama Granite intrude the area along with numerous polyphase basic to acidic dykes.

Structurally, the area has been mildly deformed during the Delamarian Orogeny with typical basin and dome folding in the sediments. Large northeast trending shear zones appear to have had a major control on the emplacement of the granitoids and related greisen systems.

3. SUMMARY OF WORK COMPLETED

3.1 Photogeological Interpretation

Forty-two (42) 1:80,000 scale colour air photos were purchased covering the tenement area. Using these, a photogeological study was conducted by Australian Photogeological Consultants, Canberra. Interpretation of results outlined extensive new structural information, including the existence of large bedding-parallel thrusts, subsequent sinistral wrenching and later rotational folds. A detailed report covering the work completed was submitted as part of the Second Quarterly Report for this tenement and a copy of the photogeological interpretation is included as Plan 1 of this report.

3.2 Landowner Study

A landowner study covering the tenement area was completed by Adelaide-based company Maloney Field Services. A total of five landholders were identified and notified of Newcrest's intent to carry out exploration ground work within the area.

3.3 Geophysics

Regional low-level aeromagnetics data was purchased from the SADME open-file library in Adelaide and reprocessed using Newcrest computer image processing facilities in Brisbane. A plot of the magnetic contours is included as Plan 2.

3.4 Stream Sediment Sampling

Seventy-eight (78) stream sediment samples were collected to complete first-pass reconnaissance coverage of the tenement area. Nineteen of these samples returned +1.0 ppb gold results when analysed, with a highest value returned of 90 ppb Au. Sampling outlined two anomalous drainage areas, at Mallee Bore/ Benda Dam and along the northwestern tenement boundary. Sample locations and results are shown on Plan 3.

Sixteen (16) follow-up samples were collected within the Mallee Bore/Benda Dam area, the locations of which are shown on Plan. Four of these samples returned elevated gold results, with a highest recorded value of 4.0 ppb Au. All other elements analysed for failed to return any significant results. Sample locations and results are shown on Figure 2.

3.5 Rock Chip Sampling

Forty-four (44) rock chip samples were collected in conjunction with the regional stream sediment sampling work and were submitted for multi-element analyses using Fire Assay, AAS and XRF methods. Sample locations and results are shown on Plan 4.

Elevated copper, lead and zinc values (to 1,740 ppm, 135 ppm and 250 ppm respectively) were returned from samples collected within the Mallee Bore/Benda Dam area. Gold results were uniformly low.

Six (6) further rock chip samples were collected during field investigation of anomalous drainage areas, all of which failed to return any significant results. Sample locations and results are shown on Figure 2.

3.6 Soil Sampling

Two soil sampling lines were completed across a soil covered magnetic feature outlined from the reprocessed aeromagnetic data. A total of twenty-four (24) samples were collected at 100 m intervals along the 1 km spaced lines. Sample locations and results are shown on Plan 5.

Most samples returned values in the 1.0-2.0 ppb gold range, with a best of 11 ppb Au, but this is thought to reflect elevated background from the transported overburden prevalent within this portion of the tenement.

4. CONCLUSIONS AND RECOMMENDATIONS

Regional reconnaissance level exploration covering the tenement area has failed to produce significant gold/base metal results requiring further investigation. Subsequently, Newcrest has applied for full relinquishment, as of 22 October 1991.

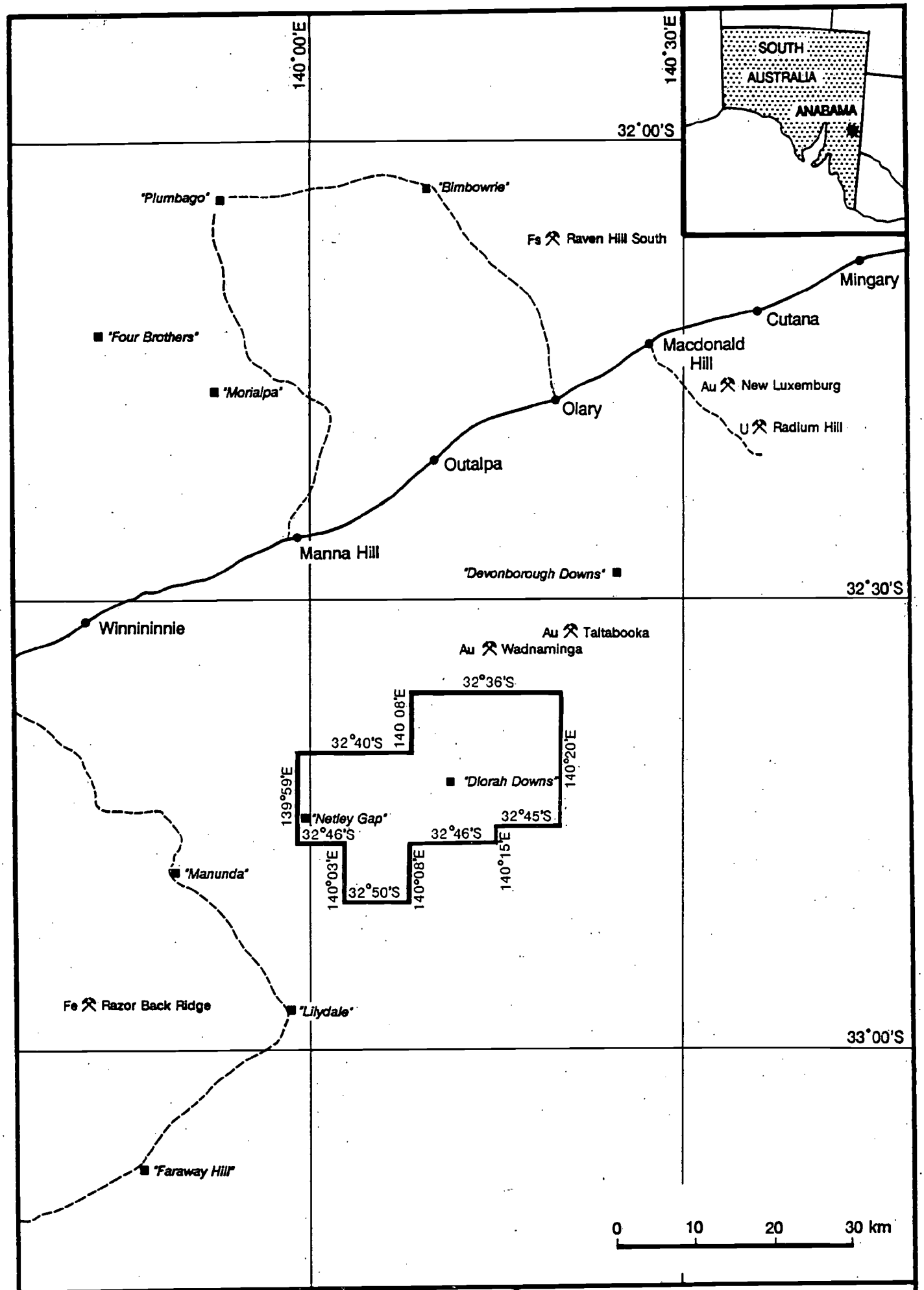
5. EXPENDITURE

Expenditure for period 12 August to 11 November 1991 on EL 1685 Anabama

Expenditure Type	$
Salaries	854
Overheads	640
Total	**$1,494**

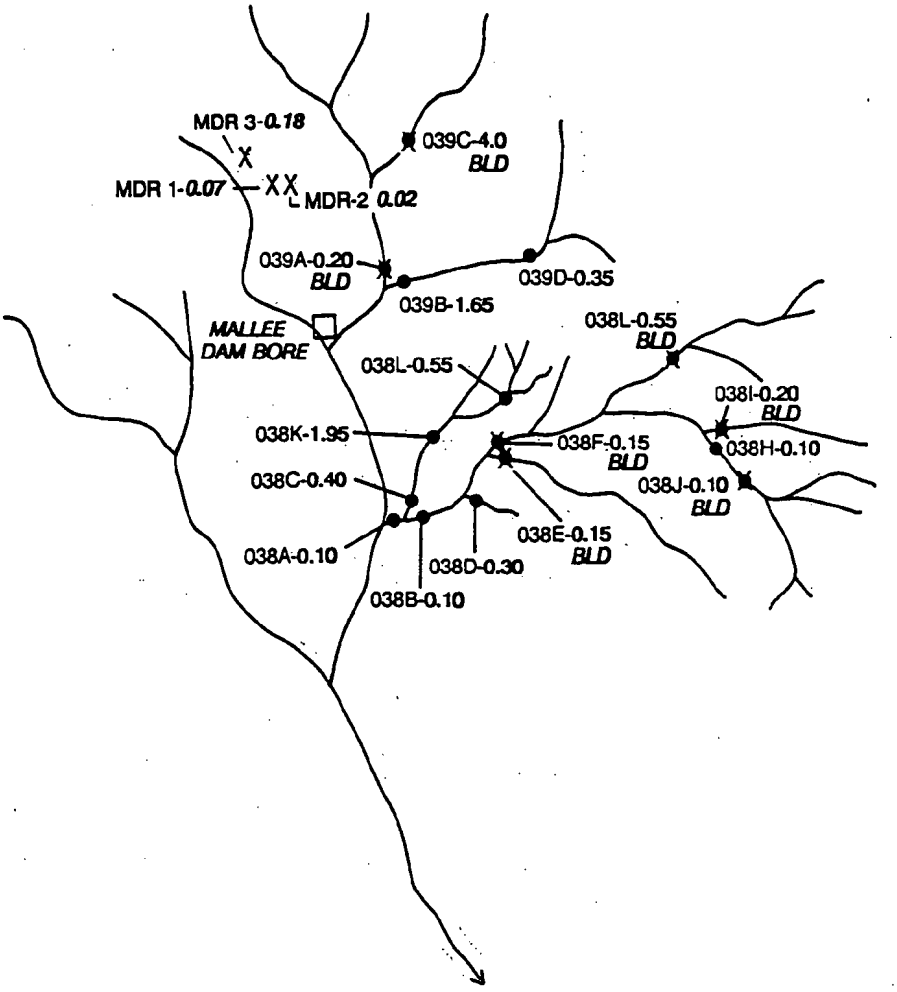
Expenditure Details for the Period 12 November 1990 to 11 November 1991 (life of tenement).

Expenditure Type	$
Salaries	12,637
Wages	3,971
Overheads	11,676
Travel and Accommodation	3,833
Freight	536
Administration	367
Photo Interpretation	13,880
Supplies	1,444
Office Rentals and Rates	61
Vehicles	337
Assaying	3,696
Exploration Office	7,137
Field Living	319
Communications	8
Total	**$59,902**



NORTH	NEWCREST MINING LIMITED		ANABAMA - EL 1685
	COMPILED MFC	SCALE 1:600,000	LOCATION MAP
	DRAWN MFC	DRAWING No. SC38-1	
	DATE JULY 1990	FIGURE No. 1	

140°03'E



32°45'S

● ABS 038A-0.10 BLEG Sample Location - Au (in ppb)

X ABR 038A- *BLD* Rock Chip Sample Location - Au (in ppm)
MDR 3 BLD - Below Level of Detection

0 1 2 km

See Plan No. 5 for Location.

NORTH

NEWCREST MINING LIMITED

COMPILED RPL	SCALE 1:50,000
DRAWN MFC	DRAWING No. SO38-7
DATE SEPTEMBER 1991	FIGURE 2

EL 1685 - ANABAMA

Follow-Up Stream Sediment & Rock Chip Sample Locations & Results

140° 15'

6400000 N

6395000 N

6390000 N

6385000 N

6380000 N

6375000 N

32° 45'

410000 E

415000 E

420000 E

425000 E

430000 E

435000 E

440000 E

445000 E

EL 1685

58250

58400

58300

58200

N

0 2000 4000 6000 M

SCALE 1: 100000

8348-1

PLAN 2

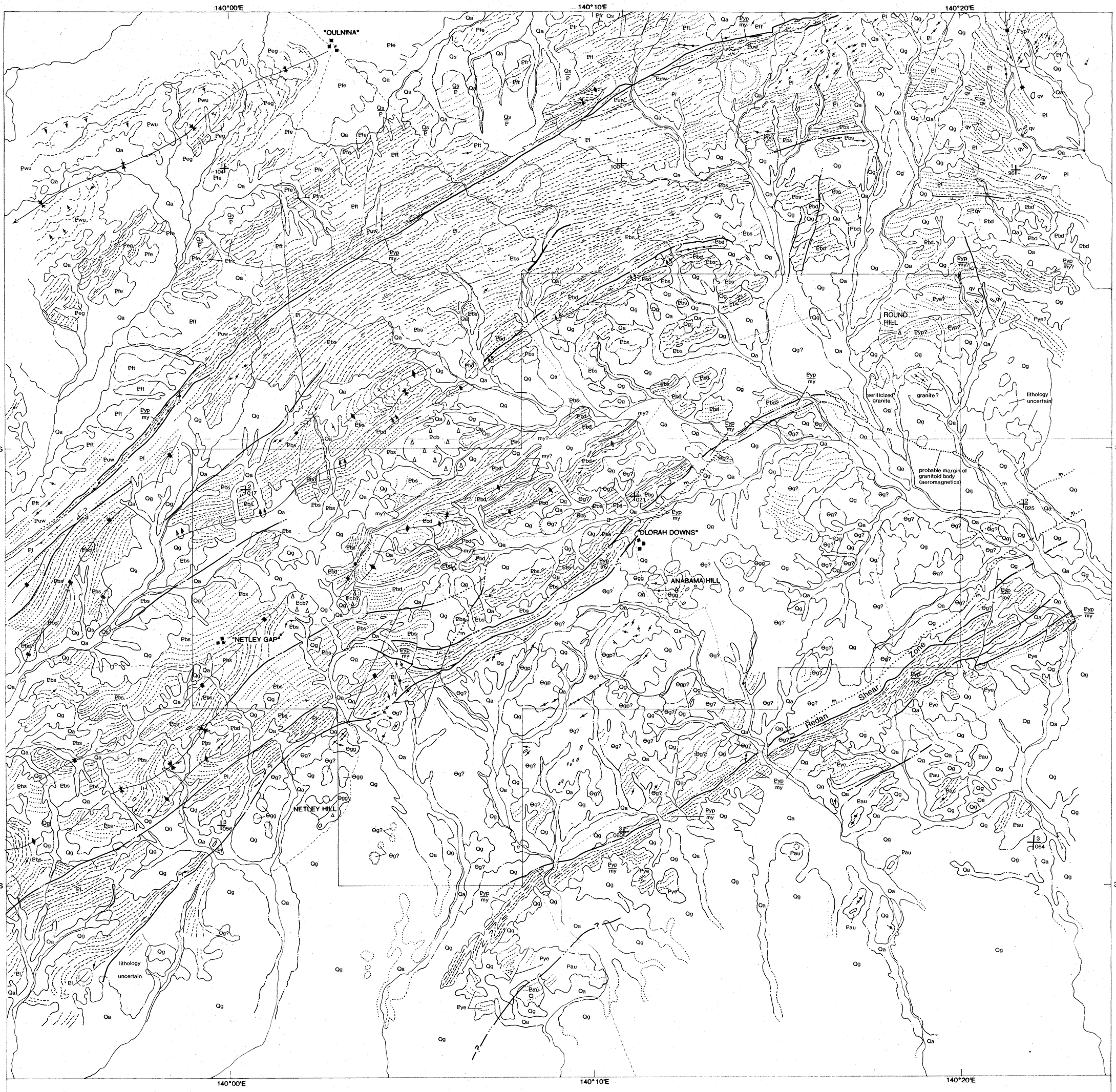
NEWMONT AUSTRALIA LIMITED.

GEOPHYSICAL DIVISION.

ANABAMA - EL 1685

AEROMAGNETICS

March 1991 S038-3 ALButt



PHOTOGEOLOGICAL MAP OF E.L.1685 (ANABAMA) AND SURROUNDING AREA

FOR

NEWMONT AUSTRALIA LIMITED

SCALE 1:75 000

kilometres 3 0 3 6 9 kilometres

Photogeological characteristics

Qa	Broad alluvial flats; abundant pale-tone material
Qs	Planation surface with N-flowing creeks; local development of colluvial soils
Qg	Gravels and sands forming slightly raised pediments
	Sharp crested, paled-toned ridges and hills
Θgg	Topographically prominent hills
Θgp	Very pale-toned colluvial soils
Θg?	"Granitic" colluvial soils (difficult to discriminate from Qg)
Pcb	Topographically flat areas supporting thick saltbush vegetation
Pwu	Smooth, unvegetated, dark-toned low hills
Peg	Prominent pale-toned cuestas
Pfe	Dark-toned area of extremely low relief
Pfr/Pfrc	Basal sandstone forms prominent hogback ridges, otherwise poorly exposed
Pft	Low relief with banded appearance due to selective vegetation
Puw	Up to 6 narrow, resistant marker bands
Pye	Low topography, dark tone
Pyp / my	Very prominent 'banded' ridges
Pl	Strongly banded appearance; alternating pale strike ridges and lowland belts with thick saltbush
Pbs	Low relief, alternate dark/light bands
Pbd	Isoclinally folded narrow pale-toned strike ridges
Pau	Poorly exposed

Stratigraphy

Modern alluvium		QUATERNARY
Calcrete, cemented gravels?		
Pleistocene reddish alluvial clays, sand and gravel	POORAKA FORMATION	
Quartz veins (qv); porphyry (po)		
Quartz- muscovite greisen	ANABAMA GRANITE	ORDOVICIAN
Separate granite phase?		
Coarse-grained biotite granite, porphyry, microgranite		
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Job No.433N,March 1991
AUSTRALIAN PHOTOGEOLOGICAL CONSULTANTS
48 Jacka Crescent, Campbell, A.C.T. 2601 Australia
Postal Address: P.O. Box 43, Campbell, A.C.T. 2601 Australia

EL 1685 - Anabama

Photogeological Interpretation

8348-2 PLAN No. 1

140°00'E

140°08'E

140°20'E

32°36'S

32°45'S

32°50'S

ABS071 <0.05/<0.02/<0.1/22

ABS068 4.5/<0.02/25/22

ABS067 1.60/0.02/1.6/9

ABS069 1.15/<0.02/2.3/15

ABS009 1.05/<0.02/1.88/18

ABS070 0.45/<0.02/4.1/5

ABS001 0.40/<0.02/2.18/40

ABS008 0.60/<0.02/1.85/8

• ROUND HILL

Scotts Bore

Old Granite Dam

0.60/<0.02/2.0/9 ABS076

New Granite Dam

0.40/0.02/2.0/4 ABS077

1.70/<0.02/2.15/11 ABS024

ABS020 1.35/0.02/3.55/10

ABS021 0.90/0.02/1.85/6

ABS022 3.2/<0.02/2.18/13

Benda Dam

ABS023 0.40/<0.02/2.06/12

0.55/<0.02/4.22/7 ABS025

ABS078 0.30/<0.02/2.2/8

1.65/0.04/1.55/17 ABS013

ABS019 5.5/<0.02/1.55/4

0.20/<0.02/1.05/9 ABS007

0.10/<0.02/2.18/15 ABS029

0.10/<0.02/2.20/10 ABS030

ABS006 0.35/<0.02/2.88/4

ABS016 1.10/0.02/2.30/6

ABS017 0.95/0.02/2.25/5

ABS005 0.65/<0.02/4.08/10

ABS012 6.0/0.02/1.45/19

ABS018 1.10/<0.02/6.82/7

ABS14 0.40/<0.02/4.02/5

ABS015 0.60/<0.02/1.92/24

ABS028 0.10/<0.02/2.10/11

ABS026 0.30/<0.02/1.70/3

ABS027 0.10/<0.02/1.70/12

Binda Dam

Dlorah Downs

ABS072 <0.05/<0.02/<0.1/2

0.45/<0.02/2.0/4 ABS073

ABS036 0.05/<0.02/2.08/19

ABS034 0.30/<0.02/1.30/6

ABS033 0.95/<0.02/2.00/5

ABS032 <0.05/<0.02/1.65/3

ABS031 0.20/<0.02/2.28/6

NA

ABS035 0.10/<0.02/1.90/7

<0.05/<0.02/0.8/<2 ABS075

ABS074 <0.05/<0.02/1.1/<2

ABS011 0.85/<0.02/1.02/8

ABS01C 1.45/<0.02/2.92/26

1.15/<0.02/3.20/12 ABS042

ABS045 1.25/<0.02/3.25/9

ABS043 1.40/0.02/2.05/9

AB6044 0.20/<0.02/1.65/<2

ANABAMA HILL

ABS004 0.05/<0.02/2.68/3

ABS039 2.6/<0.02/1.95/12

ABS040 0.20/<0.02/1.80/7

ABS002 <0.05/<0.02/2.70/<2

0.55/<0.02/2.05/8 ABS041

Mallee Dam Bore

Neatley Gap

ABS038 90/<0.02/1.50/4

ABS047 0.25/<0.02/1.9/<2

ABS003 <0.05/<0.02/1.50/6

ABS037 0.55/<0.02/2.02/15

ABS052 0.15/<0.02/1.7/5

ABS048 0.15/<0.02/1.9/2

ABS053 0.05/<0.02/1.6/<2

ABS062 0.45/<0.02/1.7/6

ABS063 0.45/<0.02/3.6/5

ABS054 0.05/<0.02/1.1/5

ABS049 0.10/<0.02/1.9/<2

ABS050 0.05/<0.02/1.2/<2

ABS066 0.20/<0.02/2.6/14

ABS061 0.15/<0.02/1.7/4

ABS055 0.10/<0.02/2.4/4

ABS046 0.35/0.02/4.6/5

ABS051 <0.05/<0.02/1.5/3

0.35/<0.02/2.3/4 ABS057

ABS060 0.30/<0.02/2.2/3

ABS056 <0.05/<0.02/1.1/<2

ABS059 0.30/<0.02/1.1/4

ABS058 7.0/<0.02/2.0/5

ABS065 0.10/<0.02/3.1/22

ABS064 0.20/<0.02/2.4/15

For follow-up sampling, see Plan No.3

NETLEY HILL

0 0 2 4 6km

LEGEND

ABS001 — *Stream sediment sample no.*

0.40/<0.02/2.18/40 — *Assay results for Au/Ag/Cu/As in ppb/ppm/ppm/ppm*

NORTH

Newcrest Mining Limited			
COMPILED	CKS	SCALE	1:50,000
DRAWN	BS	DRAWING No.	S038-3
DATE	April 91	PLAN No.	3

ANABAMA EL 1685

BLEG STREAM SEDIMENT SAMPLING

8348-6

A3

140°00'E

140°08'E

140°20'E

32°36'S

32°45'S

32°50'S

• ROUND HILL

ABR050 <0.01/<1/<4/2/50/<2

ABR047 <0.01/<1/5/2/56/5
ABR048 <0.01/<1/4/<2/54/<2
ABR049 <0.01/<1/<4/<2/32/3

Scotts Bore

Old Granite Dam

ABR046 <0.01/<1/6/<2/17/7

New Granite Dam

ABR024 <0.01/1/14/6/28/52
ABR025 <0.01/<1/22/17/9/<2
ABR026 <0.01/<1/30/32/35/7
ABR027 <0.01/<1/15/68/290/11

ABR042 <0.01/2/6/5/120/3
ABR043 <0.01/<1/5/2/17/5
ABR044 <0.01/<1/<4/2/28/<2
ABR045 <0.01/<1/<4/<2/25/<2

Benda Dam

ABR011 <0.01/<1/20/19/55/3

ABR012 0.01/2/38/40/40/28
ABR013 0.01/1/25/220/350/10

Binda Dam

Dlorah Downs

NA

ANABAMA HILL

ABR052 <0.01/<1/14/6/110/3
ABR053 <0.01/<1/5/5/40/<2

ABR051 <0.01/<1/<4/3/17/<2

ABR010 <0.01/<1/22/19/13/6

ABR040 <0.01/<1/135/250/28/<2
ABR041 <0.01/<1/4/165/34/28

<0.01/<1/8/105/145/350 ABR039

ABR037 <0.01/<1/8/2/18/46
ABR038 <0.01/<1/<4/<2/10/3

<0.01/<1/<4/40/17/4 ABR036

ABR030 <0.01/<1/<4/6/34/<2
ABR031 <0.01/<1/<4/6/11/3
ABR032 <0.01/<1/<4/14/13/3

<0.01/<1/5/<2/7/4 ABR035

ABR017 <0.01/<1/6/4/11/<2
ABR018 0.01/<1/8/<2/8/4

ABR033 <0.01/<1/5/2/5/<2
ABR034 <0.01/<1/5/2/2/<2

Mallee Dam Bore

ABR015 <0.01/<1/6/3/12/<2
ABR016 <0.01/<1/8/<2/6/<2

ABR014 <0.01/<1/8/8/16/<2

Neatleys Gap

ABR028 <0.01/<1/28/13/1740/5
ABR029 <0.01/<1/10/7/580/4

ABR023 <0.01/<1/26/60/75/12

ABR019 <0.01/<1/28/30/15/2
ABR020 <0.01/<1/64/17/70/11

ABR021 <0.01/<1/6/4/10/<2
ABR022 <0.01/<1/36/86/76/12

For follow-up sampling, see Plan No.3

NETLEY HILL

LEGEND

x ABR010 — *Rock chip sample no.*

<0.01/<1/22/19/13/6 — *Assay results for Au/Ag/Pb/Zn/Cu/As all in ppm*

0 2 4 6km

NORTH	**Newcrest Mining Limited**		
	COMPILED CKS	SCALE 1:50,000	
	DRAWN BS	DRAWING No. S038-5	
	DATE April 91	PLAN No. 4	

ANABAMA EL 1685

ROCK CHIP SAMPLING

8348-7

A3

140°00'E

140°08'E

140°20'E

32°36'S

32°45'S

32°50'S

• ROUND HILL

Scotts Bore

ABG024

ABG013

ABG001

ABG012

ABG013 1.05/<0.02/1.25
ABG014 1.65/<0.02/1.40
ABG015 11.00/0.02/1.65
ABG016 4.3/<0.02/1.78
ABG017 5.5/<0.02/1.44
ABG018 1.60/<0.02/1.18
ABG019 1.80/<0.02/3.12
ABG020 5.5/0.02/1.60
ABG021 1.60/<0.02/1.40
ABG022 1.50/<0.02/1.84
ABG023 1.60/<0.02/1.90

ABG001 1.00/0.02/0.85
ABG002 0.65/<0.02/1.00
ABG003 1.65/<0.02/1.02
ABG004 1.05/<0.02/0.96
ABG005 4.0/0.02/1.14
ABG006 1.50/<0.02/0.92
ABG007 0.60/<0.02/0.70
ABG008 0.40/<0.02/1.04
ABG009 1.45/<0.02/1.68
ABG010 0.80/<0.02/1.12
ABG011 1.15/<0.02/1.80
ABG012 0.85/<0.02/0.94

Benda Dam

Binda Dam

Mallee Dam Bore

Neatley Gap

NETLEY HILL

Dlorah Downs

NA

ANABAMA HILL

LEGEND

ABG001 BLEG soil sample no.

1.00/0.02/0.85 Assay results for Au/Ag/Cu in ppb/ppm/ppm

0 2 4 6km

NORTH

Newcrest Mining Limited	
COMPILED CKS	SCALE 1:50,000
DRAWN BS	DRAWING No. S038-4
DATE April 91	PLAN No. 5

ANABAMA EL 1685

BLEG SOIL SAMPLING

8348-8

A3