CONTENTS ENVELOPE 4928

TENEMENT: E.L. 1042 - Kooralla Station.

TENEMENT HOLDER: Aberfoyle Exploration Pty. Ltd.

ABERFOYLE EXPLORATION PTY. LTD.

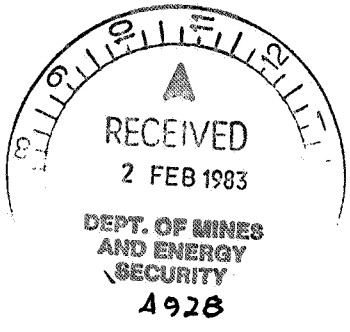
EXPLORATION LICENCE No. 1042

KOORALLA

Report for the First Quarter
ending
4 January 1983

Adelaide
January 1983

Report by: I.B. Freytag



CONTENTS

Plate No.	Title	Scale
KRL3	Exploration Licence 1042, KOORALLA - Summary Map	1:100,000

1. INTRODUCTION

The Kooralla Exploration Licence has been secured to investigate several magnetic highs south of the Charleston Granite.

Most of the licence area is thought to be underlain by Tertiary sediments which presumably thicken eastwards towards the coast. Pre-Tertiary bedrock is likely to be mainly Lower Proterozoic Hutchison Group metasediments.

The principal target is the Kooralla Magnetic Ridge, which runs NNE from near Franklin Harbour for about 25 kilometres before it abuts the Charleston Granite boss. This line of elevated magnetic intensity has been interpreted as the southward extension, under cover, of the Middleback Range jaspilite sequence, and the aim of the programme is to investigate these rocks for massive base metal sulphide potential.

The validity of this objective depends solely on the correct geological interpretation of the Kooralla magnetic ridge.

Active exploration has not yet started, but a geophysical survey will commence during the forthcoming quarter.

2. TENEMENT DETAILS

Exploration Licence No. 1042 was granted to Aberfoyle on 4 October 1982 for an intial period of 12 months.

The licence covers some 468 square kilometres of partially developed sand and dune country, east of the Lincoln Highway between Franklin Harbour and Sheoak Hill (Fig.1).

The nearest town and supply centre is Cowell.

3. PREVIOUS MINERAL EXPLORATION

The area has received little attention in the past.

Being underlain by Tertiary sediments, a number of scout holes have been drilled for coal, and more recently, an iron ore search carried out by Dampier Mining included six regional ground magnetometer traverses across the Kooralla trend, and one completed drill hole (see Fig.1). This was a vertical percussion hole on the Kooralla magnetic anomaly, which entered highly weathered (?)pegmatitic rock at 82 metres, and was abandoned in (partly) quartz mica schist at 102 metres, because of severe caving.

4. WORK THIS QUARTER

There has been no field activity. Past work was reviewed and base maps have been prepared.

A title search has been made of landowners in the Pondooma area where a ground magnetometer survey is scheduled for next quarter. Notices of Entry have been despatched.

5. FUTURE PROGRAMME

An area east of Pondooma has been selected for initial magnetic work, where some disturbance and dislocation of the Kooralla aeromagnetic trend is evident (Fig.1).

This area will be gridded with E-W lines at 500 metre intervals, and these will be read at 50 metre station spacing.

The data are to be modelled and interpreted for the selection of drill sites.

Report Prepared by:

I.B. Freytag
District Manager

Dist: Dept. of Mines (1)
Concept (1)
Hawthorn (1)
Adelaide (1)

EXPLORATION LICENCE 1042

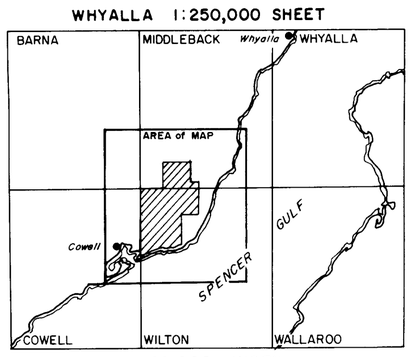
KOORALLA

Statement of Expenditure for the Quarter ending 4 January 1983

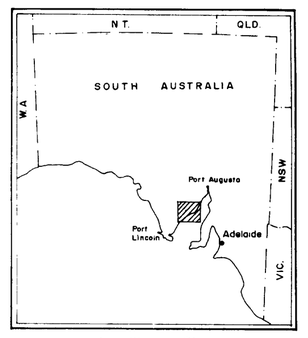
GEOLOGY			
	Salaries	197	
	Materials	149	346
GEOPHYSICS			
	Salaries	412	
	Accommodation	45	
	Equipment use	50	507
TENURE			
	Materials	12	
	Tenement costs	702	714
OTHER SERVICES			
	Salaries	23	23
ADMINISTRATION			239
			$ 1,829

T.N.

WHYALLA 1:250,000 SHEET



1:100,000 INDEX



Locality Plan

137°00'

Vermin Proof Fence

'Pine Hill'

Pine Hill

Little Pine Hill

CHARLESTON GRANITE

GRANITE HILL

Lincoln Highway

Sheoak Hill

'Midgee Midgee'

Ruin

Plank Point

F

'Warrayappa'

'Hannaman'

'Mount Ghearthy'

33°30'

22000N

PONDOOMA MAGNETIC SURVEY

20000N

KRT-1

17000 N

15000 E

'Minbrie'

Mt Abrook

'Minbrie Springs'

'Pondooma'

'Ulbana'

'Utera'

'Uteradale'

'Bungalow'

'Hidaway'

'Rentaw'

Dampier PDH EEP6, EEP5

'Glensea'

'Koorata'

'Single Pine'

Hall

MITCHELLVILLE

'Fairfield'

'Seaview'

Company Corner

KOORALLA MAGNETIC RIDGE

Ruin

'Shoal Point'

SPENCER GULF

'Bright Lands'

Cowell

FRANKLIN HARBOUR

LUCKY BAY

137°00'

Note: Magnetic data taken from WHYALLA 1:250,000 sheet and WILTON 1:100,000 sheet

Km 0 1 2 3 4 5 6 7 8 9 10 Km

4928-1

FIGURE 1

Aberfoyle Exploration Pty Ltd

Geology:	SOUTH AUSTRALIA	Location code: 153/8
Drawn: JB	EXPLORATION LICENCE 1042	Date: January 1983
Traced:	KOORALLA	Scale: 1:100,000
Checked:	SUMMARY PLAN	Plate No KRL-3
Revised by: Date:		

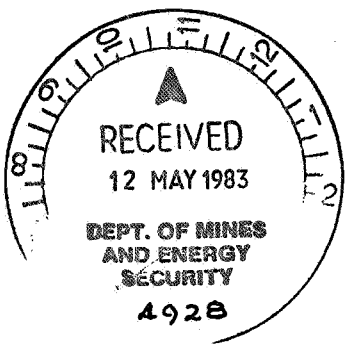
ABERFOYLE EXPLORATION PTY. LTD.

Exploration Licence No.1042

KOORALLA

Report for the 2nd Quarter ending

4th April, 1983



Adelaide
4 May 1983

Report by: M.G. Teakle
Geologist
Aberfoyle Exploration Pty. Ltd.

CONTENTS

FIGURES

1. INTRODUCTION

Exploration Licence 1042, Kooralla, was secured by Aberfoyle to investigate a trend of aeromagnetic anomalies south of the Charleston Granite.

The principal target is the Kooralla Magnetic Ridge, which runs north north east from near Franklin Harbour for about 25 kilometres before it abuts the Charleston Granite boss (Figure 1). This line of elevated magnetic intensity has been interpreted as the southward extension, under cover, of the mixed chemical and clastic metasediments of the Middleback Subgroup.

Dislocations or disruptions to the Kooralla Magnetic Ridge are evident south of the Charleston Granite, particularly in the Pondooma area. This area was selected for further investigation as a possible locus for massive base metal sulphide mineralization. Structural complexity, with possible facies variation within the Middleback Range jaspilite sequence, is envisaged as the likely cause for the disruption of the magnetic trend in this area.

Work in the first Quarter was restricted to literature review and gaining landowner consent to access, as reported by Freytag (1983). This, the second quarterly progress report, describes the first stage of a ground magnetic survey carried out to further define the initial target area.

2. PREVIOUS MINERAL EXPLORATION

Past exploration is summarized below:

1976-1978 Broken Hill Proprietary Ltd.
E.L. 266 was obtained to explore for high grade iron ore in areas of strong aeromagnetic anomalies delineated by B.M.R. surveys. Two separate areas were flown for aeromagnetics and aeroradiometrics, followed by ground surveys. A number of percussion holes were subsequently drilled. Two vertical

percussion drillholes, designated EEP5 and EEP6, were sited on the Kooralla Magnetic Ridge, but failed to reach the source of the magnetic anomaly due to drilling difficulties. However, EEP6 intersected highly weathered (?)pegmatitic rock at 82 metres, and was abandoned in quartz-muscovite-biotite schist at 102 metres.

1978-1980 C.R.A. Exploration

E.L. 397 was secured to explore for sandstone-type uranium deposits in Tertiary palaeodrainage channels incised into the Precambrian basement.
Exploration comprised reconnaissance resistivity and gravity surveys, followed by the drilling of 42 rotary holes, totalling 5,178 metres, mainly in the Pondooma area. The drilling gave generally discouraging results, although it enabled compilation of a depth-to-basement map in the Pondooma area. This map will assist in designing drillholes in Aberfoyle's forthcoming programme.

1980-1982 B.H.P. Minerals (formerly Dampier Mining)

E.L. 766 was obtained to explore for lignite and oil shale in Tertiary sediments.
Exploration consisted of ground magnetic and gravity surveys, and a 21-hole rotary drilling programme mainly confined to the Mullaquana and Midgee-Plank Point areas (Figure 1). This programme has little bearing on exploration in E.L. 1042.

3. GEOLOGY

The licence area is underlain by Tertiary sediments comprising conglomerates, fossiliferous limestones, gravels and clayey and carbonaceous lignite-bearing sands.

These generally unconsolidated sediments are believed to be underlain by lower Proterozoic Hutchison Group rocks. The Kooralla Magnetic Ridge is interpreted to be an expression of the continuation, under cover, of the Middleback Subgroup of the Hutchison Group. North of the Charleston Granite, the Middleback Subgroup in the Middleback Ranges consists of jaspilites at surface, grading downwards to magnetite quartzites and quartz-magnetite-amphibole gneisses, in a sequence of pelitic schists, chert breccias, metaquartzite, locally pyritic dolomitic marble, pyritic shales and plagioclase hornblende amphibolite sills, and (?)dykes (Parker et al, 1981; Parker, 1981).

4. EXPLORATION IN THE SECOND QUARTER

During the Quarter, a grid was established over an area east of Pondooma (Figure 1) and a ground magnetic survey was carried out by technician C.R. Willmer.

1. Gridding

55 line kilometres of grid was established using compass and chain with pegs at 100 metre spacings. The baseline for the grid was designated 15000E and has an azimuth of 354^{o} Magnetic (Figure 2).

2. Ground Magnetics

50.6 line kilometres of ground magnetics were read on the east-west grid lines at 25 metre stations. An Austral PPM3 proton precession magnetometer was utilized and readings were corrected to a common base station at 20000N 15000E.

Ground magnetic profiles are shown on Figures 3 and 4.

5. RESULTS AND FUTURE PROGRAMME

The disturbance of the Kooralla aeromagnetic trend near Pondooma has been defined in some detail by the ground magnetic survey. This area of interest lies between 12500E and 14500E along grid lines 19000N, 19500N, 20000N and 20500N.

In order to obtain more information in this area, detailed ground magnetometer fill-in traverses on lines 18750N, 19250N, 19750N and 20250N are now proposed (see Figure 2). The data are then to be modelled and interpreted for the selection of drill sites during the next quarter.

6. REFERENCES

Freytag, I.B. (1983) E.L. 1042, Kooralla: Report for the First Quarter ending 4 January 1983. Aberfoyle Explor.unpub.rept.

Parker, A.J. (1981) WHYALLA 1:250,000 Provisional Geological Map; Sheet SI53-8. Dept. Mines and Energy, Sth. Aust.

Parker, A.J., Fanning, C.M. & Flint, R.B. (1981) Archaean to Middle Proterozoic Geology of the Southern Gawler Craton, South Australia. Excursion Guide. Geol.Surv.Sth.Aust.

Dist:
Mines Dept (1)
Concept (1)
Hawthorn (1)
Adelaide (1)
MGT (1)

Signed: M.G. Teakle

M.G. Teakle
Geologist

Issued by: I.B. Freytag

I.B. Freytag
District Manager

GLREP PERIOD: 3 CONSOLIDATED COST REPORT 9MAY83 12:42 PAGE 1
ABERFOYLE EXPLORATION PTY LTD - CAMBERWELL 55 KOORALLA EL 1042

ACCOUNT	PAYMENTS THIS QUARTER	PAYMENTS YTD
KOORALLA EL 1042		
GEOLOGY		
... SALARIES	954.00	954.00
... WAGES	96.00	96.00
... CONTRACTORS	0.00	0.00
... MATERIALS	43.00	43.00
... TRAVELLING	84.50	84.50
... FUEL	71.70	71.70
... VEHICLE COSTS	75.00	75.00
GEOLOGY	1324.20	1324.20
SURVEY		
... SALARIES	0.00	0.00
... WAGES	0.00	0.00
... MATERIALS	0.00	0.00
... TRAVELLING	0.00	0.00
... FUEL	0.00	0.00
... VEHICLE COSTS	0.00	0.00
SURVEY	0.00	0.00
GEOPHYSICS		
... SALARIES	222.00	222.00
... TRAVELLING	0.00	0.00
... FUEL	0.00	0.00
... VEHICLE COSTS	0.00	0.00
GEOPHYSICS	222.00	222.00
DIAMOND DRILLING		
... SALARIES	0.00	0.00
... CONTRACTORS	0.00	0.00
... MATERIALS	0.00	0.00
... TRAVELLING	0.00	0.00
... FUEL	0.00	0.00
... VEHICLE COSTS	0.00	0.00
DIAMOND DRILLING	0.00	0.00

GLREP PERIOD: 3 CONSOLIDATED COST REPORT 9MAY83 12:42 PAGE 2
ABERFOYLE EXPLORATION PTY LTD -- CAMBERWELL
55 KOORALLA EL 1042

ACCOUNT	PAYMENTS THIS QUARTER	PAYMENTS YTD
ASSAYS		
... CONTRACTORS	0.00	0.00
ASSAYS	0.00	0.00
TENURE		
... WAGES	38.00	38.00
... TENEMENT COSTS	4.00	4.00
TENURE	42.00	42.00
OTHER SERVICES		
... COMMUNICATIONS	0.00	0.00
OTHER SERVICES	0.00	0.00
... IRECT COSTS	1588.20	1588.20
INDIRECT COSTS		
... ADMINISTRATION	238.23	238.23
INDIRECT COSTS	238.23	238.23
KOORALLA EL 1042	1826.43	1826.43

N.B. COSTS FOR THE PROGRAMME DESCRIBED IN THIS REPORT, i.e. GRIDDING AND GROUND MAGNETOMETER SURVEY, WILL BE INCLUDED IN THE NEXT QUARTER"S REPORT.

TO WYALLA

HIGHWAY

LINCOLN

TO COWELL

ruins

22,000 N

21,500 N

21,000 N

20,500N

20250 N

20,000 N

19750 N

19,500 N

19250 N

19,000 N

18750N

18,500 N

18,000 N

17,500 N

17,000 N

11000 E

12,000 E

13,000 E

14,000 E

BASELINE 15,000E, BEARING 354° M

16,000E

17,000 E

18,000E

TN

GN

MN

dff
MN - GN
6°56

AREA OF MAP

E.L. 1042

Highway

Road

Track

Fence

Grid line

Proposed fill in lines for Ground Mag. Survey 19750N

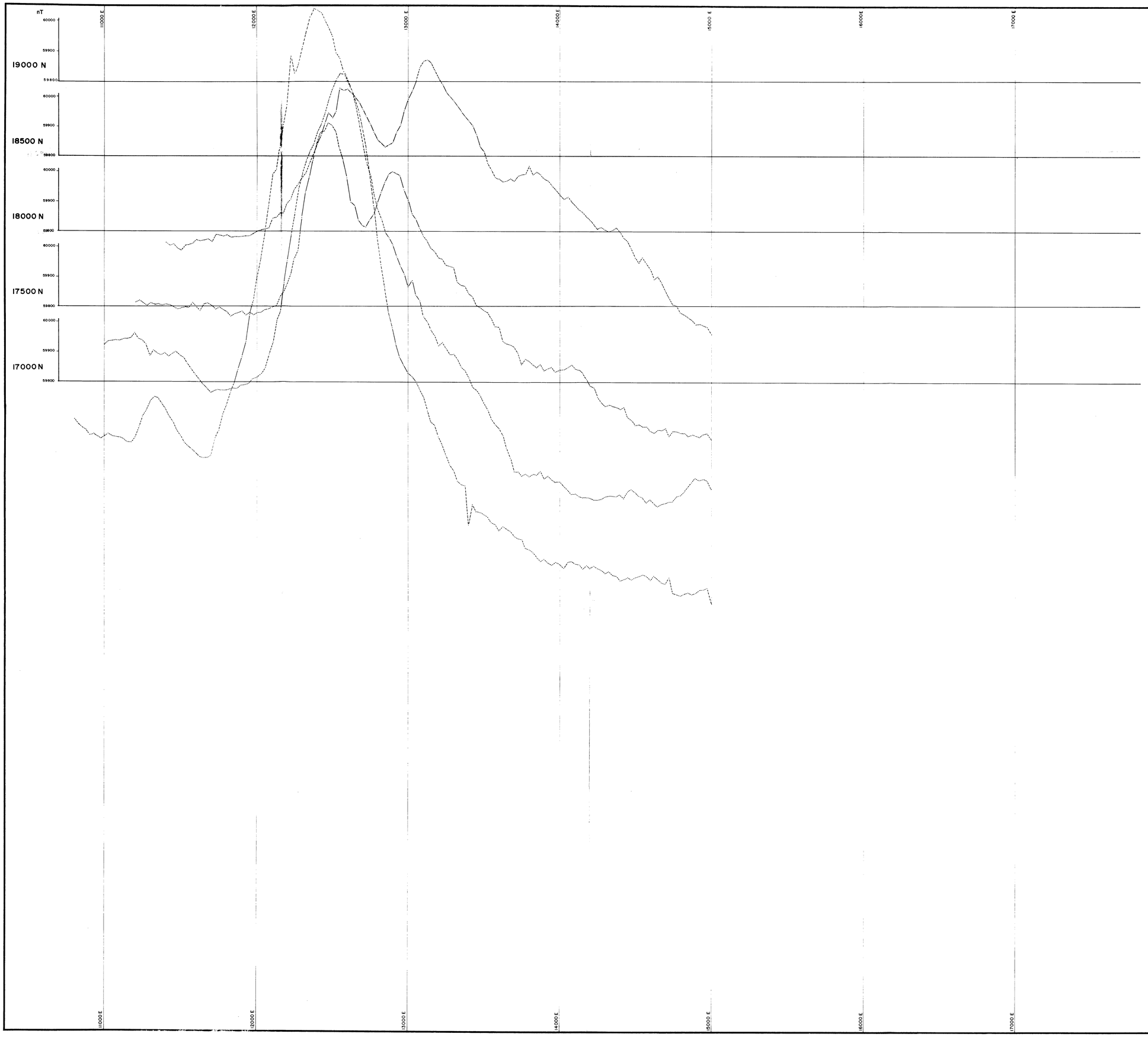
0 500 1000
METRES

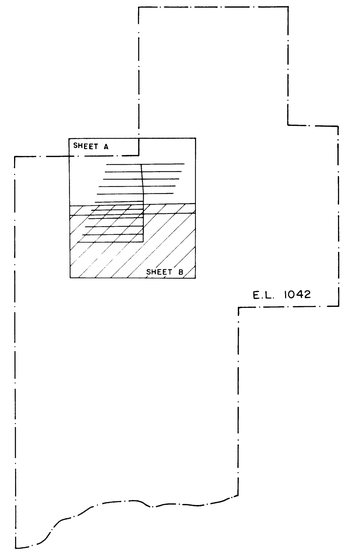
FIGURE 2

Aberfoyle Exploration Pty Ltd

Geology:	SOUTH AUSTRALIA	Location code: 153/8
Drawn: CRW JB	KOORALLA — E.L. 1042	Date: May 1983
Traced: JB	PONDOOMA GRID	Scale: 1:10,000
Checked: MGT		Plate No KRL - 4
Revised by: Date:		

4928-2





MAGNETOMETER :- AUSTRAL PPM 3 Proton Precession.
Readings taken at 25m stations and corrected to common base (20000N/15000E) approximately every 2 hours

4928-3

FIGURE 3

Aberfoyle Exploration Pty Ltd

Geology:	SOUTH AUSTRALIA	Location code: I 53/8
Drawn: CRW	KOORALLA E.L. 1042	Date: April 1983
Traced: JB	GROUND MAGNETIC PROFILES	Scale: V 1cm = 50nT, H 1:10,000
Checked: MGT	PONDOOMA GRID	Plate N° KRL 58
Revised by: Date:		

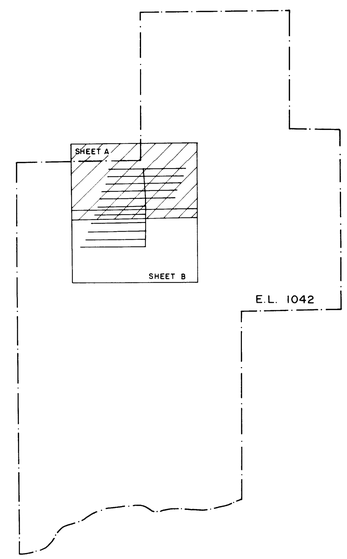
nT

11000 E 12000 E 13000 E 14000 E 15000 E 16000 E 17000 E

22000 N
21500 N
21000 N
20500 N
20000 N
19500 N
19000 N
18500 N
18000 N

60800
60600
60400
60200
60000
59800
59900

G 354° M.
MN



MAGNETOMETER:– AUSTRAL PPM 3 Proton Precession.
Readings taken at 25m stations and corrected to common base (20000N/15000E) approximately every 2 hours.

FIGURE 4

4928-4

Aberfoyle Exploration Pty Ltd

Geology:	SOUTH AUSTRALIA	Location code: I 53/8
Drawn: CRW	KOORALLA E.L. 1042	Date: April 1983
Traced: JB	GROUND MAGNETIC PROFILES	Scale: V 1cm = 50nT, H 1:10,000
Checked: MGT	PONDOOMA GRID	Plate No KRL 5A
Revised by: Date:		

ABERFOYLE EXPLORATION PTY. LTD.

Exploration Licence No. 1042

KOORALLA

Report for the Third Quarter ending

4th July, 1983

Adelaide
19 July 1983

Report by: M.G. Teakle
Geologist
Aberfoyle Exploration Pty. Ltd.

CONTENTS

FIGURES

1. INTRODUCTION

During the first two quarters, work on Exploration Licence 1042 has involved a ground magnetics survey in the Pondooma area, which was designed to investigate a zone of disruption shown in the Kooralla aeromagnetic trend (Figure 1). Details of this work are contained in reports by Freytag (1983) and Teakle (1983).

This third quarterly report describes fill in ground magnetic traverses on the Pondooma grid, necessary for further detailing of the magnetics data, and a regional ground magnetic traverse undertaken to assist in the siting of an exploratory diamond drill hole.

2. EXPLORATION IN THE THIRD QUARTER

(1) Fill-in Ground Magnetic Traverses

13.2 line kilometres of ground magnetics were read at 25 metre stations on five intermediate grid lines : 18750N, 19250N, 19750N, 20250N and 20750N (see Figure 3).

The survey was carried out by Aberfoyle Technician C.R. Willmer in May 1983, using an Austral PPM3 proton precession magnetometer. The ground magnetic profiles are shown in Figure 2. Ground magnetic contours for the whole of the Pondooma grid are shown in Figure 3.

Preliminary interpretation of the data suggests that the area of disruption to the Kooralla magnetic trend is a zone of some complexity, with multiple magnetic sources at varying depths. Within this zone, a northeasterly trending magnetic ridge running from around 19500N 13000E to around 21000N 14000E was selected for investigation (Figure 3) because of its relatively simple form. It is believed that this ridge may represent the equivalent of an iron oxide-rich member of the lower Middleback jaspilite, or perhaps a sulphide-rich facies potentially more favourable for base metal mineralisation. This concept is to be tested.

(2) Regional Ground Magnetic Profile, KRT-1

This 5.9 kilometre traverse was carried out to facilitate a more detailed interpretation of the northeasterly trending magnetic ridge, described above. It was read perpendicular to the northeasterly trend, at an azimuth of 305° Magnetic (Figure 3), also using the Austral PPM3 proton precession magnetometer. Stations were at 50 metre intervals relative to a base station at 21000N 13500E on the grid.

The KRT-1 ground magnetic profile is shown in Figure 4. Modelling of the data by Aberfoyle geophysicist E.T. Eadie indicates that the main peak on the traverse, coinciding with the northeasterly trending magnetic ridge is due to a relatively thin (<50 metres) source 150 and 200 metres below surface, centred at about 2800 metres on the profile (see inset, Figure 4). The dip of the source is near vertical, probably slightly to the northwest.

3. FUTURE PROGRAMME

During the next quarter, it is proposed to drill an angled diamond drillhole to test this magnetic source and its enclosing rocks.

The proposed collar, shown in Figure 3, will be angled at 60° with an azimuth of 125°. It is programmed for a length of 350 to 400 metres. Approximately 120 metres of Tertiary sediment above the target is anticipated.

4. REFERENCES

Freytag, I.B. (1983) E.L. 1042, Kooralla: Report for the First Quarter, ending 4 January 1983. Aberfoyle Exploration unpub.report.

Teakle, M.G. (1983) E.L. 1042, Kooralla: Report for the Second Quarter, ending 4 April 1983. Aberfoyle Exploration unpub.report.

Report by: M. G. Teakle

M.G. Teakle
Geologist

Issued by: I.B. Freytag

I.B. Freytag
District Manager

Dist: Department of Mines and Energy (1)
Concept (1)
Hawthorn (1)
Adelaide (1)
MGT (1)

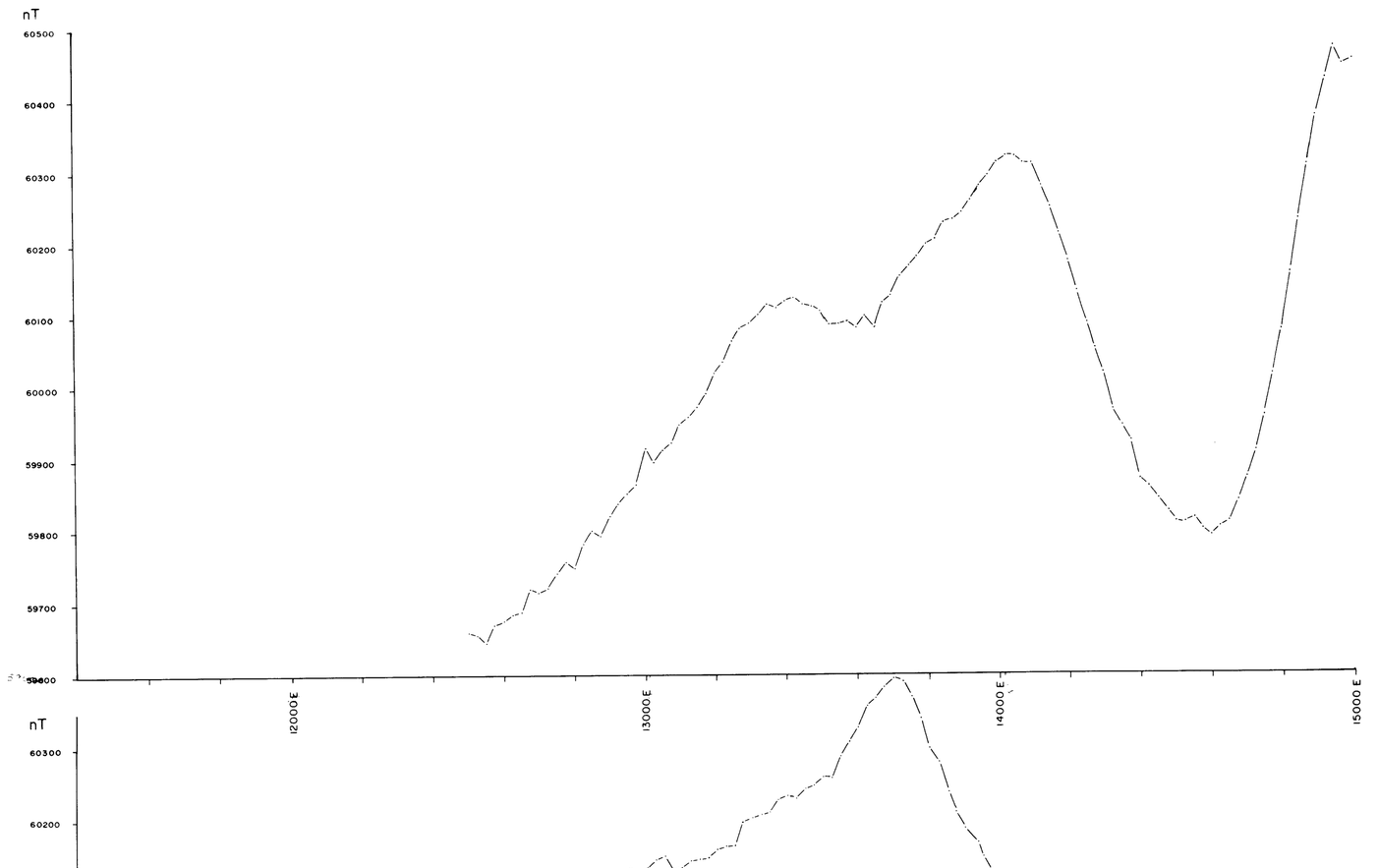
ABERFOYLE EXPLORATION PTY LTD - CAMBERWELL 55 KOORALLA EL 1042

022

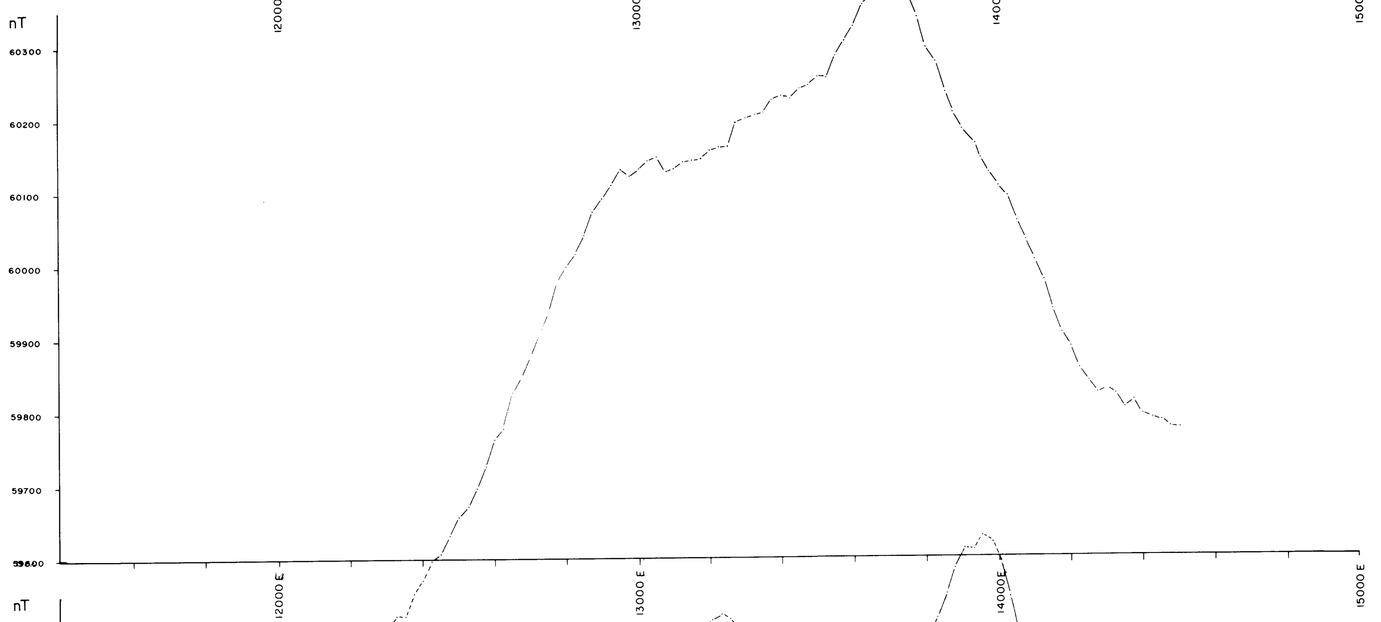
ACCOUNT	PAYMENTS 3RD QUARTER	PAYMENTS YTD
KOORALLA EL 1042		
GEOLOGY		
... SALARIES	2009.00	2963.00
... WAGES	83.00	179.00
... CONTRACTORS	0.00	0.00
... MATERIALS	24.00	67.00
... TRAVELLING	13.50	98.00
... FUEL	0.00	71.70
... DISTRICT ACCOMMODATION	41.70	41.70
... VEHICLE COSTS	0.00	75.00
GEOLOGY	2171.20	3495.40
SURVEY		
... SALARIES	1344.00	1344.00
... WAGES	536.00	536.00
... MATERIALS	568.90	568.90
... TRAVELLING	287.73	287.73
... FUEL	184.62	184.62
... DISTRICT ACCOMMODATION	148.85	148.85
... VEHICLE COSTS	224.00	224.00
SURVEY	3294.10	3294.10
GEOPHYSICS		
... SALARIES	1278.00	1500.00
... WAGES	380.00	380.00
... CONTRACTORS	76.00	76.00
... MATERIALS	200.00	200.00
... TRAVELLING	287.72	287.72
... FUEL	169.03	169.03
... COMMUNICATIONS	55.00	55.00
... HIRING COSTS	273.00	273.00
... VEHICLE COSTS	168.00	168.00
GEOPHYSICS	2886.75	3108.75
DIAMOND DRILLING		
... SALARIES	0.00	0.00

ACCOUNT	PAYMENTS 3RD QUARTER	PAYMENTS YTD	E
... CONTRACTORS	0.00	0.00	
... MATERIALS	0.00	0.00	
... TRAVELLING	0.00	0.00	
... FUEL	0.00	0.00	
... VEHICLE COSTS	0.00	0.00	
DIAMOND DRILLING	0.00	0.00	
ASSAYS			
... CONTRACTORS	0.00	0.00	
ASSAYS	0.00	0.00	
TENURE			
... WAGES	0.00	38.00	
... TENEMENT COSTS	0.00	4.00	
TENURE	0.00	42.00	
OTHER SERVICES			
... COMMUNICATIONS	125.00	125.00	
... VEHICLE COSTS	25.00	25.00	
OTHER SERVICES	150.00	150.00	
... IRECT COSTS	8502.05	10090.25	
INDIRECT COSTS			
... ADMINISTRATION	1275.29	1513.52	
INDIRECT COSTS	1275.29	1513.52	
KOORALLA EL 1042	9777.34	11603.77	

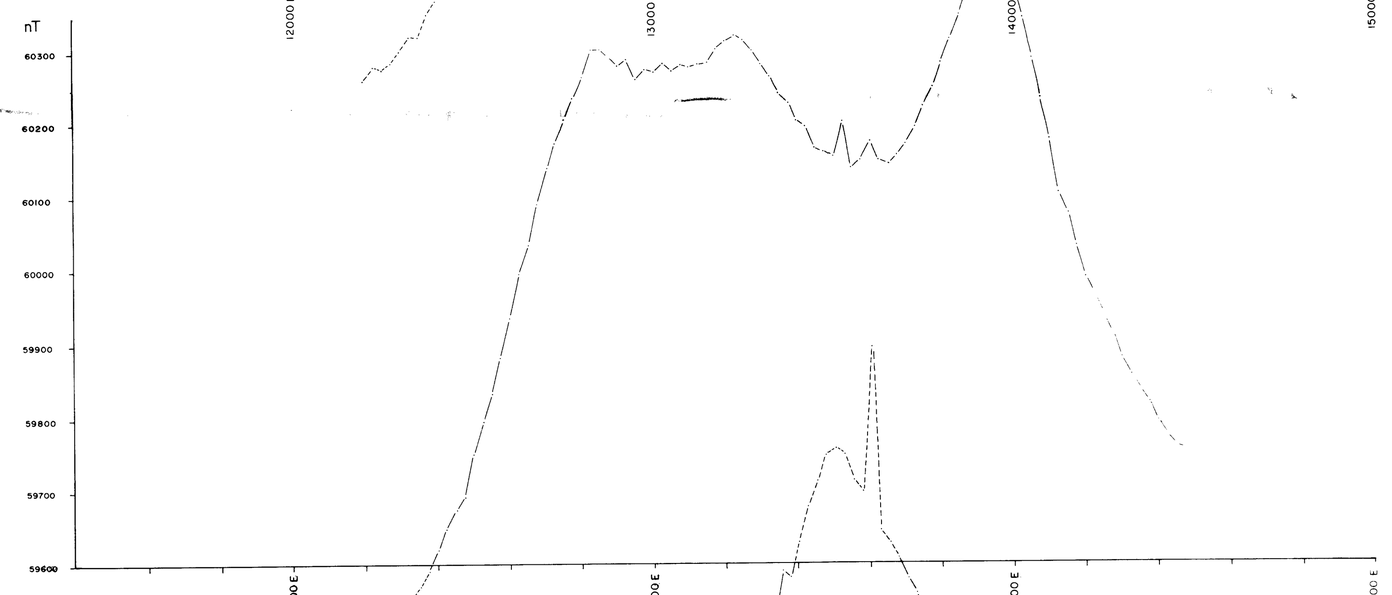
20750 N



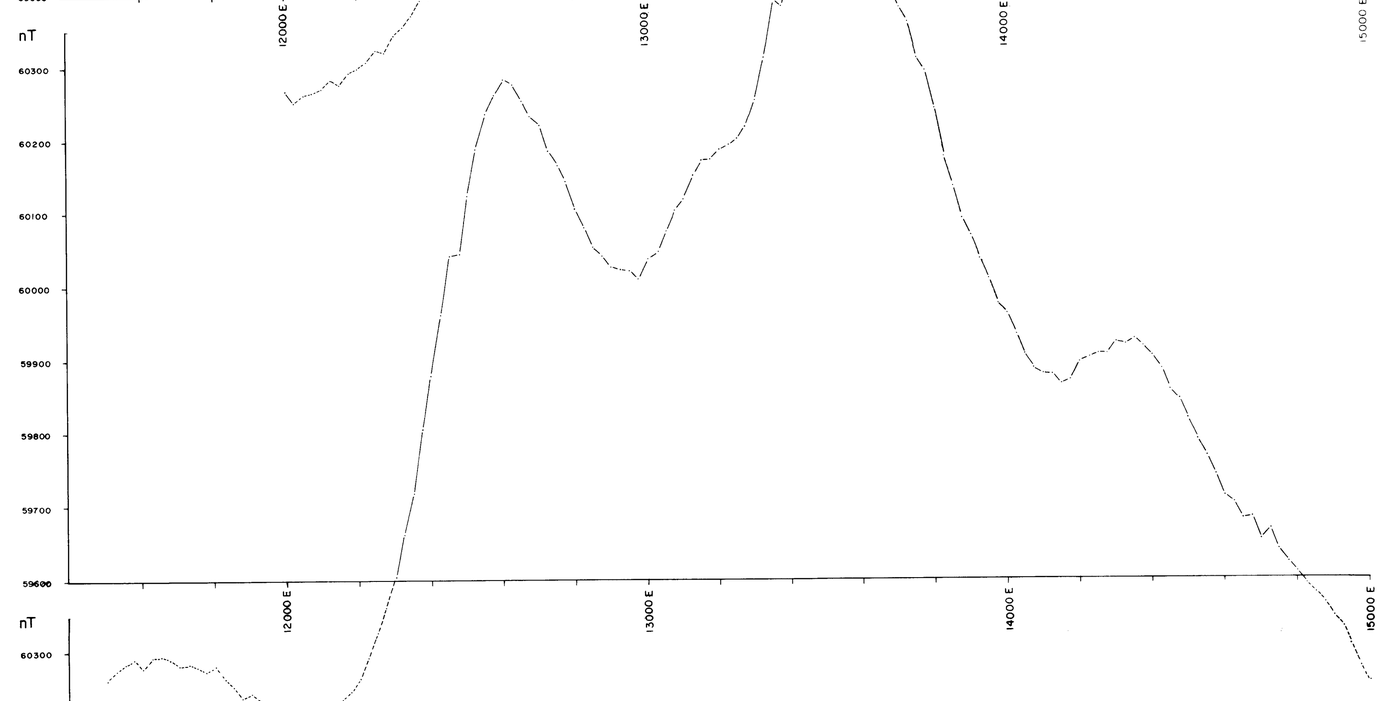
20250 N



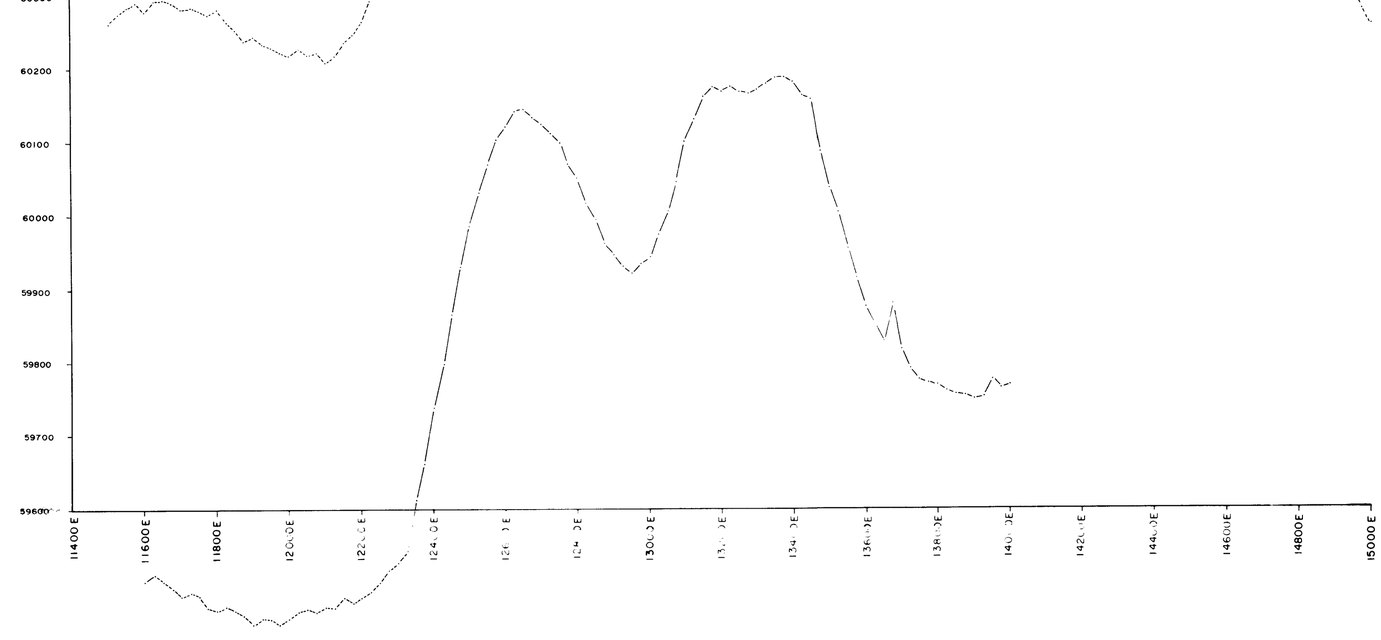
19750 N



19250 N



18750 N



PONDOOMA GRID

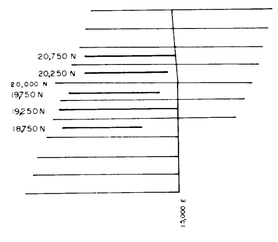


FIGURE 2

Aberfoyle Exploration Pty Ltd		
Geology:	SOUTH AUSTRALIA	Location code: I 53/8
Drawn: CRW	KOORALLA E.L. 1042	Date: JULY 1983
Traced: JB	PONDOOMA GRID	Scale: V 1cm = 50nT H 1:10,000
Checked:	GROUND MAGNETIC PROFILES	Plate Nº
Revised by: Date:	(FILL - IN LINES)	KRL - 5C

4928-5

TO WHYALLA

HIGHWAY

TO ORELL

LINCOLN

ruins

LINE KRT-1

22,000 N
21,500 N
21,000 N
20,750 N
20,500 N
20,250 N
20,000 N
19,750 N
19,500 N
19,250 N
19,000 N
18,750N
18,500 N
18,000 N
17,500 N
17,000 N

DDH PONDOOMA №1

4500m

BASELINE 15,000E; BEARING 354° M

11,000 E
12,000 E
13,000 E
14,000 E
16,000E
17,000E
18,000E

TN
GN
MN

dff MN - TN 6°56

AREA OF MAP

E.L. 1042

Highway
Road
Track
Fence
Grid line

Contour Interval 100 nT

0 500 1000
METRES

4928-6

FIGURE 3

Aberfoyle Exploration Pty Ltd

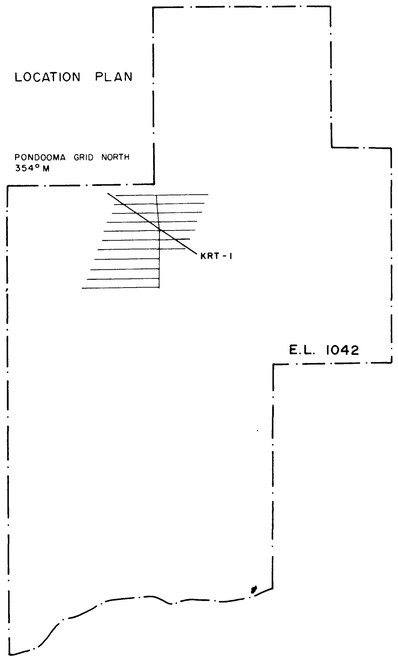
Geology:
Drawn: CRW JB
Traced: JB
Checked: MGT

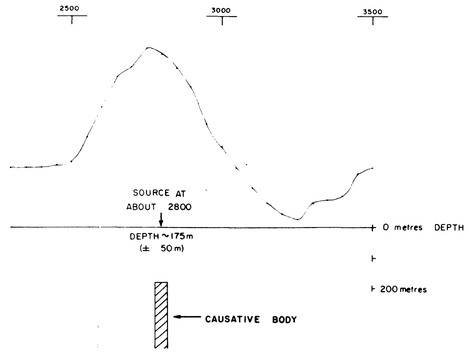
SOUTH AUSTRALIA
KOORALLA — E.L. 1042

PONDOOMA GRID
GROUND MAGNETIC CONTOUR PLAN

Location code: 153/8
Date: May 1983
Scale: 1:10,000
Plate №

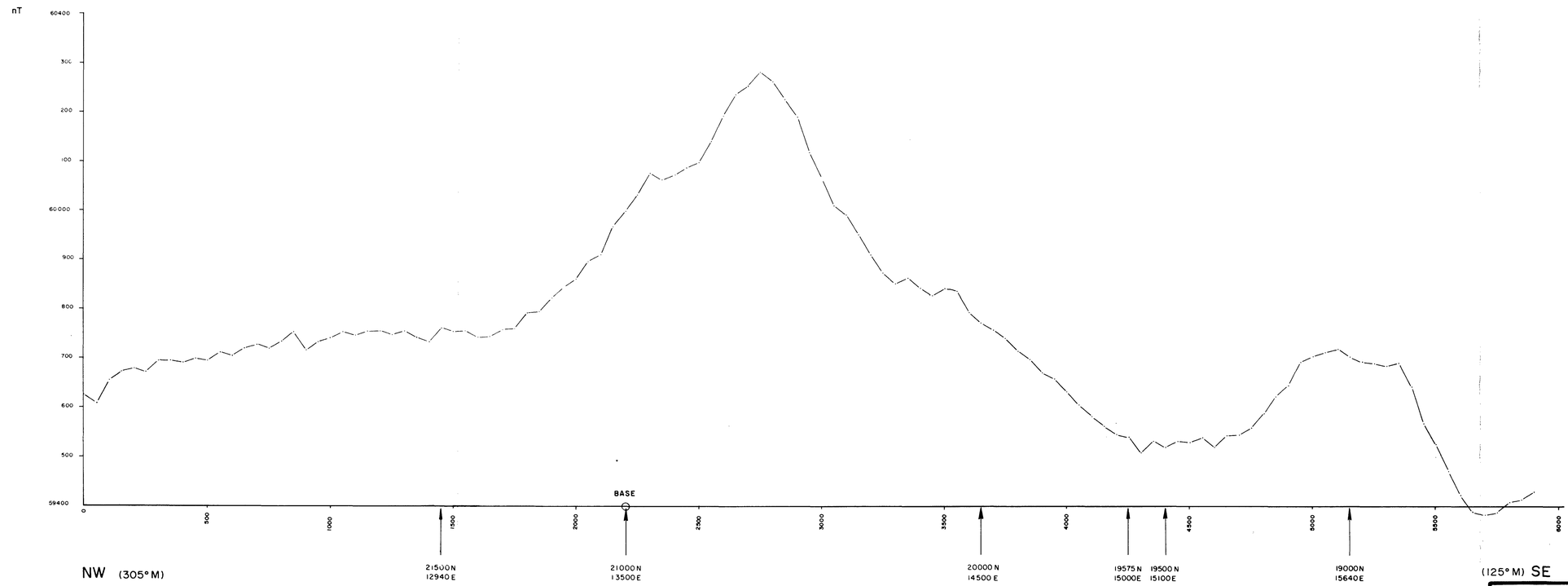
LOCATION PLAN





RESIDUAL MAGNETICS AND INTERPRETATION KRT-1 PROFILE

Interpretation by E.T. Eadie



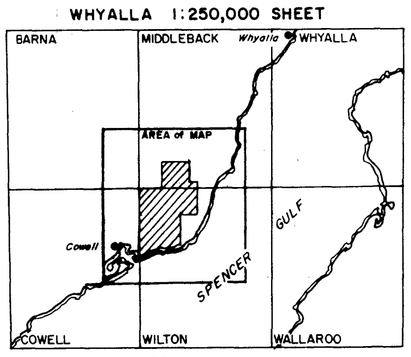
4928-7

FIGURE 4

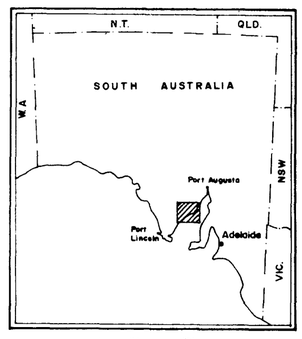
Aberfoyle Exploration Pty Ltd		
Geology:	SOUTH AUSTRALIA	Location code: 153/8
Drawn: CRW, ETE	KOORALLA - E.L. 1042	Date: JULY 1983
Traced: JB	PONDOOMA GRID	Scale: V 1cm = 50nT, H 1:10,000
Checked:	GROUND MAGNETIC PROFILE	Plate N°
Revised by: Date:	LINE KRT - 1	KRL 7

T.N.

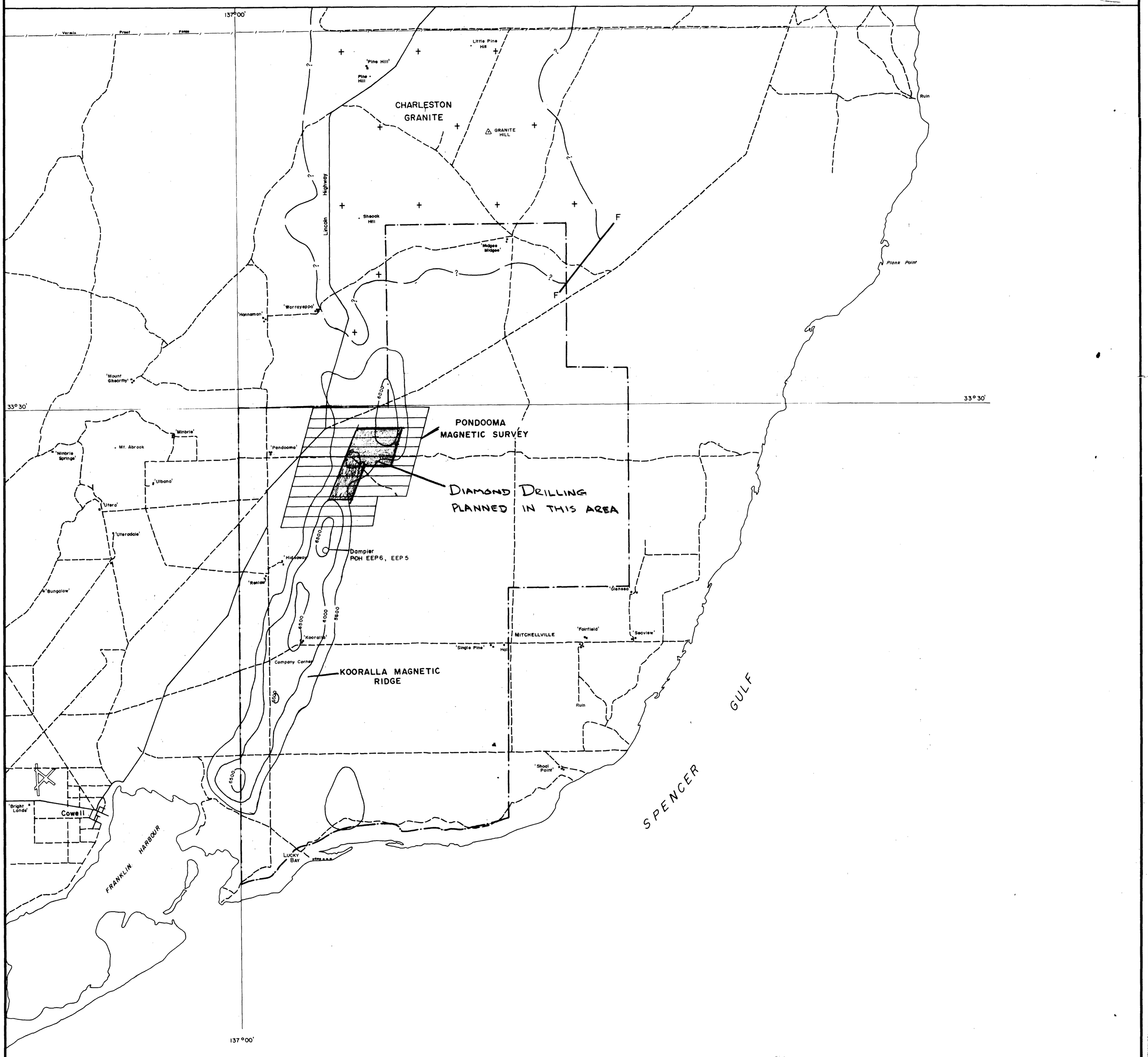
WHYALLA 1:250,000 SHEET



1:100,000 INDEX



Locality Plan



Note: Magnetic data taken from WHYALLA 1:250,000 sheet and WILTON 1:100,000 sheet

Km 0 1 2 3 4 5 6 7 8 9 10 Km

4928-8

Aberfoyle Exploration Pty Ltd		
Geology:	SOUTH AUSTRALIA	Location code: 153/8
Drawn: JB	EXPLORATION LICENCE 1042	Date: January 1983
Traced:	KOORALLA	Scale: 1:100,000
Checked:	SUMMARY PLAN	Plate No KRL-3
Revised by: Date:	PROPOSED DRILLING - JUNE, 1983	

ABERFOYLE EXPLORATION PTY.LTD.

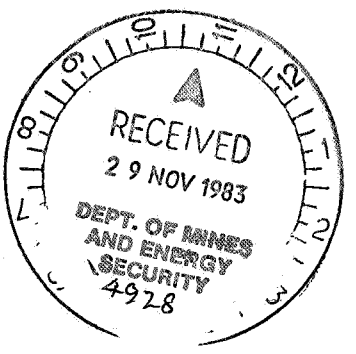
Exploration Licence No.1042

KOORALLA

Report for the Fourth Quarter
ending
4 October, 1983

Adelaide
21 November 1983

Report by: M.G. Teakle
Geologist
Aberfoyle Exploration



CONTENTS

1. INTRODUCTION

Exploration in E.L. 1042, Kooralla, in the last three quarters has been directed at a zone of disturbed magnetic response on the Kooralla magnetic trend.

Work has included the establishment of a grid in the Pondooma area, a ground magnetic survey and fill-in traverses. An additional 5 km ground magnetic traverse was carried out to assist in the siting of an exploratory diamond drillhole (see Teakle, 1983a,b).

This fourth quarterly report describes diamond drilling on the Pondooma grid.

2. EXPLORATION IN THE FOURTH QUARTER

Interpretation of the ground magnetic data suggests that the area of disruption to the Kooralla magnetic trend is a zone of some complexity. Within this zone, a northeasterly trending magnetic ridge running from around 19500N 13000E to around 21000N 14000E was selected for modelling because of its relatively simple form (see Figure 1).

Interpretation of the data indicated that this ridge was due to a relatively thin (50 metres) source with a depth to top of between 150 and 200 metres below surface centred at about 2800 metres on the profile (Figure 2), and with a probable steep northwesterly dip (see inset, Figure 2).

It was envisaged that this ridge might represent the equivalent of an iron oxide-rich member of the Lower Middleback jaspilite, but perhaps as a sulphide-rich facies potentially more favourable for base metal mineralisation.

It was decided to test this source with the specific aim of defining the stratigraphic sequence and locating rock types or mineralisation related to the iron formation sequence, which might support the presence of a favourable stratiform base metals environment.

Diamond Drilling

An angled diamond core hole (see Figure 1 for location) was drilled in order to obtain stratigraphic section through the source of the magnetic ridge and its enclosing rocks.

Drilling details are summarized below:

Hole designation:	DDH PD1
Drilling commenced:	14 July 1983
Drilling completed:	29 July 1983
Collar co-ordinates:	20700N 13800E (Pondooma grid references)
azimuth :	125° (Mag)
angle :	-60°
Total length:	361.5 metres

Survey Data

Depth	Angle	Azimuth (°Mag)	
45.0	-62.5	-	
72.0	-62.0	-	
114.0	-63.75	-	
140.0	-64.0	-	
165.0	-63.0	-	
176.0	-63.0	-	End of precollar
218.0	-63.3	134	
249.5	-63.0	135	
277.1	-61.9	123	
301.0	-60.5	126	
325.5	-59.25	121	
343.2	-58.25	118	
361.5	-57.7	128	

NOTE: No azimuth data from precollar as surveys were taken inside rods. Azimuth data from 218.0m to end of hole probably unreliable due to high magnetic susceptibility of rocks.

Hole size:	Surface	to	176.0 m	: 12 cm rotary precollar
	176.0	to	249.6	: NQ coring
	249.6	to	361.5	: BQ coring
Drilling Contractor:			Longyear Australia Pty. Ltd.	
Crew:			B. Flanagan (Driller) G. Walters (Helper)	
Rig:			Longyear 44, skid-mounted	

Results

The precollar was rotary drilled with mud and intersected 176 metres of poorly consolidated Tertiary sands, grits and clays. The bottom six to ten metres of this section is notably rich in fine grained pyrite.

Coring encountered generally hard, solid rock in which recovery was nominally 100%. A diamond drill log is appended.

Figure 3 is a cross-section through DDH PD1 demonstrating that the hole intersected intercalated quartzofeldspathic granitic and augen gneisses and quartz-rich amphibolitic schists. A pronounced layering throughout these rocks varies from near parallel to 45 degrees to the core axis. A number of reversals of attitude of the layering suggests, at least, that minor flexuring is present.

A number of generally thin (<2 metres) medium grained aplitic intrusives, occasionally porphyritic in K-feldspar, cut the above sequence discordantly.

Quartz and calcite veining is locally common.

Small amounts (<1 to 5%) of fine grained pyrite, trace chalcopyrite(?) and rarely pyrrhotite occur as fine disseminations and blebs concordant with layering.

The source of the magnetic ridge is believed to be in a concentration of iron-rich minerals, probably principally ilmenite, magnetite, and iron-rich amphiboles with subordinate hematite, in the schist and gneiss sequence.

The rocks intersected in DDH PD1 are believed to be part of the Lincoln Complex, a term used for an early to middle Proterozoic sequence of granitic gneisses, migmatites and granulite augen gneisses, with some Archaean basement rocks believed to have been reworked during Kimban tectonism, and including basic and late stage granitic intrusives (Thomson, 1980; Rutland et al, 1981).

There is no evidence that Middleback iron-formation equivalents are present in the hole.

3. FUTURE PROGRAMME

During the next quarter, it is proposed to conduct multi-element geochemical and petrographic work on the PD1 drill core. Magnetic susceptibility tests of the drill core are proposed in order to facilitate interpretation of the magnetic data on the Pondooma grid.

Some consideration is now being given to an experimental ground EM survey over the magnetic high south of DDH PD1 (centred about 19250N, 13600E - see Figure 1).

Rocks in this position may be stratigraphically higher than those intersected in PD1, and a well defined conductor here would warrant an additional exploratory drill hole.

4. REFERENCES

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Teakle, M.G. (1983b) E.L. 1042, Kooralla, Report for the 3rd Quarter, ending 4 July 1983. Aberfoyle Exploration unpub. rept.

Thomson, B.P. (1980) Geological Map of South Australia Scale 1:1,000,000. Geol.Surv.Sth, Aust.

Signed: M.G. Teakle

M.G. Teakle
Geologist

Issued by:

I.B. Freytag
District Manager

Dist: S.A. Department of Mines and Energy (1)
Concept (1)
Hawthorn (1)
Adelaide (1)
MGT (1)

ACCOUNT	PAYMENTS THIS QUARTER	PAYMENTS YTD
KOORALLA EL 1042		
GEOLOGY		
... SALARIES	3993.00	6956.00
... WAGES	0.00	179.00
... MATERIALS	0.00	67.00
... TRAVELLING	258.30	356.30
... FUEL	57.67	129.37
... DISTRICT ACCOMMODATION	15.00	56.70
... VEHICLE COSTS	364.00	439.00
GEOLOGY	4687.97	8183.37
SURVEY		
... SALARIES	0.00	1344.00
... WAGES	0.00	536.00
... MATERIALS	0.00	568.90
... TRAVELLING	0.00	287.73
... FUEL	0.00	184.62
... DISTRICT ACCOMMODATION	0.00	148.85
... VEHICLE COSTS	0.00	224.00
SURVEY	0.00	3294.10
GEOPHYSICS		
... SALARIES	710.00	2210.00
... WAGES	0.00	380.00
... CONTRACTORS	0.00	76.00
... MATERIALS	75.00	275.00
... TRAVELLING	242.02	529.74
... FUEL	25.95	194.98
... COMMUNICATIONS	45.00	100.00
... HIRING COSTS	105.00	378.00
... VEHICLE COSTS	0.00	168.00
GEOPHYSICS	1202.97	4311.72
DIAMOND DRILLING		
... SALARIES	92.00	92.00
... CONTRACTORS	18816.00	18816.00

GLREP PERIOD: 10 CONSOLIDATED COST REPORT 24NOV83 15:33 PAGE
ABERFOYLE EXPLORATION PTY LTD - CAMBERWELL 55 KOORALLA EL 1042

ACCOUNT	PAYMENTS THIS QUARTER	PAYMENTS YTD
... MATERIALS	1174.81	1174.81
... TRAVELLING	171.30	171.30
... FUEL	272.50	272.50
... HIRING COSTS	100.00	100.00
... DISTRICT ACCOMMODATION	796.64	796.64
... FREIGHT	77.88	77.88
... VEHICLE COSTS	588.00	588.00
DIAMOND DRILLING	22089.13	22089.13
TENURE		
... WAGES	0.00	38.00
... TENEMENT COSTS	0.00	4.00
TENURE	0.00	42.00
OTHER SERVICES		
... COMMUNICATIONS	138.47	263.47
... VEHICLE COSTS	0.00	25.00
OTHER SERVICES	138.47	288.47
... IRECT COSTS	28118.54	38208.79
INDIRECT COSTS		
... ADMINISTRATION	4217.75	5731.27
INDIRECT COSTS	4217.75	5731.27
KOORALLA EL 1042	32336.29	43940.06

APPENDIX

Diamond Drill Log.

Hole:	PD1
Location:	Pondooma Grid, Kooralla, Exploration Licence 1042
Logged by:	M.G. Teakle
Objective:	To test the source of a prominent linear magnetic ridge and its enclosing rocks.

Feature — Bedding, Layering, Fragment (size & shape) — Shearing, Fault, Vein — c carbonate, q quartz

Logged by MGT. 035

Mineralization : Trace <1-5% ; Common 5-15% ; Abundant 15-60% ; Massive > 60%

CORE RECD	DEPTH m	GEOLOGY	VISUAL LOG	DEPTH m	MINERALIZATION
	Reduced scale	Surface to 176.0m – 12cm open hole pre collar			Fg pyrite in cuttings over last 6 m.
		176.0			
2.60		NQ core Interbedded dk. green biot-amphibole schist & pink qtz-fspar-amph. granite gneiss (qtz ~40%; Kspar ~30% plag. ~10% mafics ~20%) 177.15 – 177.3 puggy schist (chloritic?) 50°			
		179.54			
3.04	180	Red-pink m-cg qtz-fspar-biot ± amph? granitic gneiss occasional epidote-qtz veins < 5mm thick perpendicular to layering		180	limonitic qtz vein Py trace fg dissem
3.00		40°			
0.5	185			185	Py trace fg dissem
		185.43 185.73 mafic % increases to ~40%			
2.48		185.73 – 10cm qtz vein brx gneiss & i/bedded schist.			Py, trace fg; cpy? trace in qtz vein limonitic at 186.2 m
		186.4 lt. grey porph. aplitic dyke; sharp discord. contact 187.0			
0.4		Pink-black intercalated gneiss & schist (fspar qtz biot & biot-amphibole-chlorite?)			limonitic patches
		40°			
2.62					Py trace-1 vfg dissem
		189.67			
	190	189.85 dk brown siliceous aplite dyke contact 40° 190.32 10cm gneiss; then aplite, as above		190	
0.93		Predominantly pink & grey f-cg fspar-qtz-biot augen gneiss) occasional schistose (musc.-bearing?) magnetic amphibolitic intercalations 15cm irreg qtz patch 190.0			
2.10		40°			Py trace fg dissem in mafics
	195			195	

Feature — Bedding, Layering, Fragment (size & shape), Shearing, Fault, Vein (c carbonate, q quartz)

Mineralization — Trace <1-5%; Common 5-15%; Abundant 15-60%; Massive >60%

CORE RECD	DEPTH m	GEOLOGY	θ	VISUAL LOG	TRACE	COMMON	ABUNDANT	MASSIVE	DEPTH m	MINERALIZATION
3.03		as above;								Py trace fg dissem.
2.92			40°							Py, Cpy trace vfg dissem with biot-amphibole
	200								200	
		200.36 Green-black qtz-amphibole-biot (± chlor) schist; occasional < 1 cm qtzofeldspathic intercalations; magnetic								
3.10										Py, Cpy trace vfg dissem.
		202.7 Pink & grey f-mg qtz fspar biot gneiss; strong foliation, sericitized fspar; epidote lined joints								
		203.9 Grey-black qtz fspar amphibolite schist								
2.85		204.4								Py, cpy(?) trace-1% vfg dissem paralleling foliation.
	205	Pink & grey qtz fspar biot gneiss (f-cg) occasional biot-rich schistose intercalations sporadic weak sericite alteration of fspar.							205	
3.11										Py trace vfg disseminations
2.95	210								210	
		212.22 Finely i/calated amphibolite & gneiss								Py trace-1% vfg dissem
		212.77								
2.76		Grey & pink qtz-amphibole-biot schist. Occ. qtzofeldspathic i/calations. Pyggy core								Py trace
	215								215	Py trace-1% vfg dissem bands
2.52		216.02								
		10-30 cm intercalations of pink cg gneisses & amphibolitic schists								
2.94										
		219.7								
	220								220	

Feature — Bedding, Layering, Fragment (size & shape); Shearing, Fault, Vein (c carbonate, q quartz)

Mineralization — Trace <1-5%, Common 5-15%, Abundant 15-60%, Massive >60%

CORE RECD	DEPTH m	GEOLOGY	VISUAL LOG	TRACE	COMMON	ABUNDANT	MASSIVE	DEPTH m	MINERALIZATION
1.7		grey & pink qtz-fspar-biot-amph. schist-gneiss fspar, groundmass rimmed by pink Fe-rich silica? Occasionally coarser grained augen gneiss intercalations.							
2.0		222.6 green-black qtz-chlor-amph schists 223.3 green black schist as above							Cpy (?) trace fg dissem.
3.0	225	qtz veins paralleling core axis	q					225	Py, cpy trace vfg dissem.
		225.46 green black qtz-amphibole schist 226.1 <2 cm qtzofrpathic bands							
		Brown mg fspar porph., weakly fol. gneiss. 226.7							
2.92		Black & red qtz amphib. fpar schist 226.86 Pink → brown augen & biot rich gneiss occasional graphic qtz-fspar textures with diminished gneissosity.							Py trace - 1% fg dissem.
		229.5							
3.04	230	White-brown mg fspar-rich gneiss; biot ~ 5% irreg. qtz veins & patches throughout	q					230	Py, cpy trace fg dissem.
		pug	puggy						
		233.21							
3.01		Pink & black fspar-biot-qtz augen gneiss							
	235							235	
		236.22							
3.10		Green-black amphibole-biot-qtz schist occasional 1-2 cm qtzofeldspathic bands	40° c						Py-cpy trace - 1% vfg dissem. paralleling foliation.
		puggy 239.23							
2.95	240	Intercalated black green amphibolitic schists & red & pink augen gneisses						240	
		Brown mg fspar-qtz biot gneiss 241.7							
		242.36							
3.0		Greenish-black amphibole-chlor-biot schist; occ thin gneissic bands	40° c puggy						Py trace
		pink cg gneiss	c						
		244.57							
	245							245	

Feature — Bedding, Layering, Fragment (size & shape) — Shearing, Fault (F), Vein (c carbonate, q quartz)

Mineralization 036 — Trace <1-5%, Common 5-15%, Abundant 15-60%, Massive >60%

CORE RECD	DEPTH m	GEOLOGY	VISUAL LOG	DEPTH m	MINERALIZATION
3.0	250	Pink fspar-qtz-musc-biot-pyx(?) gneiss, variably siliceous (jasperoidal?) variably hematitic, extremely magnetic. patchy epidote alteration. Black amph. schist 247.1	TRACE	250	Py trace
2.03		249.6 BQ CORE			
0.97		250.8			
3.0		251.15 Grey, poorly fol. qtz fspar biot gneiss. Red & greenish-black qtz fspar biot-pyx-amph. schist → gneiss occ. magnetite-rich bands 10°, 30°			Py trace, occ hematite
2.91	255	254.8 255.2 Grey-red qtz fspar biot gneiss. Green-black amphib. schist 255.97 Red fspar augen gneiss 20° 256.65 badly broken core		255	Py trace-1% fg disseminations
2.20		Green-brown & pink i/calated amphibolitic schists & fspar-qtz gneisses. Occ. calcite veins, hem.-rich bands. pvggy, wthd. 15° 258.8			
2.6	260	Grey-red f-mg fspar-qtz leucogneiss occ. schistose bands, hem-magnetite bands 0-10°		260	hematitic-magnetitic bands.
1.04		262.7			
2.3		Pink & grey-black f-cg qtz fspar biot amph? magnetite? augen gneiss 0°			
0.7	265			265	
2.94		266.88 grey fg qtz biot gneiss 20° black amph. schist 267.7 40°			Cpy trace disem vfg
	270			270	

Feature — Bedding, Layering, Fragment (size & shape); Shearing, Fault, Vein (c carbonate, q quartz)

Mineralization — Trace <1-5%; Common 5-15%; Abundant 15-60%; Massive >60%

CORE REC'D	DEPTH m	GEOLOGY	VISUAL LOG	TRACE	COMMON	ABUNDANT	MASSIVE	DEPTH m	MINERALIZATION
2.68		Grey to pink-grey m-cg fspar-qtz-biot gneiss, occasional fspar augen & magnetite (± qtz ± biot? ± amphibole) rich bands	30°						
3.04									
	275	275.2						275	Cpy trace vfg dissem. Py?
3.13		Green-black qtz-amphib. schist, occ. qtzofeldspathic bands	40°						
		276.98							
		Grey pink qtz fspar amphib. schist-gneiss (f-mg) patchy sericite, highly magnetic							Cpy trace fg dissem.
		278.36							
3.08		Green black schist							
		278.76							
		pink c.g. gneiss							
		278.96							
		Green black schist							
		279.36							
	280	Grey-pink f-mg qtz fspar biot amphibole gneiss, occ. fspar porphyroblastic to 1 cm	0° 10° fold axis 10°					280	Py trace vfg dissem paralleling foliation
3.12									
		283.35							
		Green-black qtz amphib. schist. Occasional qtzofeldspathic gneissic bands							
		284.27							
2.99	285	F-c.g. pink-grey fspar qtz biot amphibole gneiss. Patchy epidote, fspar augen.	20°					285	
		288.5 → 289.5 fg qtz amph. schist							
		291.76 → 292.11 c.g. graphic textured gneiss with coarse hornblende laths							
3.05			5-10°						
	290	292.44 6cm aplite dyke						290	
		292.48 0.5cm aplite dyke; contact sharp 65°							
3.0			25°						
		292.6							
3.0		Grey-pink-brown f-mg fspar-qtz-amphib. schist-gneiss, occ. fspar augen, amphibolitic schist bands							Py, cpy trace f-mg dissem. occasional limonitic patches.
	295							295	

Feature — Bedding, Layering, Fragment (size & shape), Shearing, Fault, Vein, F, c carbonate, q quartz

Mineralization — Trace 1-5%, Common 5-15%, Abundant 15-60%, Massive > 60%

38

CORE REC'D	DEPTH m	GEOLOGY	VISUAL LOG	TRACE	COMMON	ABUNDANT	MASSIVE	DEPTH m	MINERALIZATION
		→ 5cm aplite veins 60°							Cpy trace-1% fg parallel foliation.
3.0		296.98							
		Black fg amphib. schist 297.33	5°						
		4 cm aplite 80°							
		Pink & black f-mg qtz fspar amphib biot augen gneiss							cpy, py trace
		45° aplites							
2.98	300							300	
		aplite 70° aplite 45°							
		300.69							
		Green-black, non-magnetic amphib biot schist occ. fspathic bands, groundmass, porphyroblasts	q						Py, po trace-1% fg disrem.
		302.5 30°							
		Brown-grey aplite? 302.75							
2.95		12cm black schist, then pink-brown-black fg fspar qtz amphib. ± biot ± chlorite? augen gneiss							
	305							305	
3.0									Py trace
		306.38							
		Brown fg poorly fol. gneiss? Graphic intergrowth of qtz fspar & minor biot-hornblende 25°							
0.93		3cm granite vein 60°							
		308.34							
		Grey brown & pink fg fspar qtz amphib biot chlorite gneiss granite aplite veins							
1.97	310							310	
		311.45							
2.82		Green black fg qtz amphib chlorite schist occ. qtz-feldspathic bands 20° fold hinge 15°							
		313.17							
		Brown fg poorly fol. fspar qtz biot (amphib?) gneiss							
		313.9							
		Intercalated pink m-vcg augen gneisses & green-black amphibolitic-chlorite-biot schists	q						
3.35	315							315	Cpy trace in qtz vein
2.95			q						
		318.97	q						
	320							320	

Feature — Bedding, Layering, Fragment (size & shape), Shearing, Fault, Vein (F, c carbonate, q quartz)

Mineralization 039 — Trace <1-5%, Common 5-15%, Abundant 15-60%, Massive >60%

CORE REC'D	DEPTH m	GEOLOGY	θ	VISUAL LOG	TRACE	COMMON	ABUNDANT	MASSIVE	DEPTH m	MINERALIZATION
3.0		Pink m-vcg frpar qtz-biot-amphib augen gneiss K-frpar rubhedra → 5cm long, 2-3cm wide.	45°							
		322.16								
		Intercalated amphibolitic schists & cg granitic gneisses	50°	q						
		323.53								
3.0		Grey to black biot-amphibolite schist More feldspathic than usual								
	325	324.99							325	
		Pink-grey fg qtz frpar-amphib-biot schist-gneiss. Occarional augen frpar bands	30°							
3.0		327.93								
		Grey qtz frpar biot aplite intrusive. C.g. frpar rich chilled margins, weakly porph in K-spar to 1cm Last 2-3cm is c.g. with fine laths of prx or biot?								
		329.52								
2.92	330	f-cg frpar-qtz-biot-hornblende gneiss occ augen layers of K-rpar	25°						330	
		332.09								
3.0		Black qtz-biot-amphib schist. Patchy hematite, epidote. occarional frpar-qtz rich bands to 1cm.	20°							
		334.5								
3.13	335	Black f-mg frpar-qtz-biot-amphib schist-gneiss. Variable magnetite? content occarional hematitic patches, epidote layers becomes more felsic over last 3m							335	
2.79	340								340	
		340.57								
		Black f-mg qtz amphib chlorite (± frpar) schist	10°							
2.76		fg gneiss 341.85		q						
		342.52								
		Fg frpar qtz biot gneiss	15°	q						
2.30		344.42								
	345								345	

Feature — Bedding, Layering, Fragment (size & shape), Shearing, Fault, Vein (c carbonate, q quartz)

Mineralization — Trace <1-5%, Common 5-15%, Abundant 15-60%, Massive >60%

040

CORE REC'D	DEPTH m	GEOLOGY	VISUAL LOG	DEPTH m	MINERALIZATION
		Green-black fg qtz amph biot fspar schist, quartzofeldspathic bands			
3.19					
3.15	350	Pink m-cg gneiss 350.9		350	
		351.2			
		F-cg grey & pink fspar qtz biot-amphib gneiss, highly variable mafic content 40°			
		From 354.7 → 355.4 Texture becomes more hypid. granular (weakly porph. in K-spar)			
3.14		broken core / puggy			
0.7	355	355.4		355	
		Black fg qtz biot (fspar) schist 20°			
		356.6 hinge			
2.8		357.1 Pink m-cg biot gneiss			
		· 16 cm schist, then biot gneiss as above. 20°			
		358.01			
		Black qtz amphibole biot (±chlor?) schist 40°			Py, cpy 5-10% f-mg dissem along layering
		occ gneissic bands			
		358.9			
		359.2 Pink-vcg biot gneiss · granitic texture			
3.0	360	Black & pink fspar qtz amphib-biot schist → gneiss 10°		360	Py, cpy? ~ 5% fg dissem, extremely limonitic
		361.5			
		END OF HOLE			

DDH PD1

20700N
13800E
(BRG 125° M, DIP -60°)

ASSUMED SURFACE — 0 M

3m HW surface casing

-50

12cm open hole precollar

-100

Poorly consolidated, interbedded Tertiary sands, clays, grits

-150

HQ casing

175 0 m HQ
NQ

f.g pyrite in cuttings

Intercalated amp schist & granitic gneiss

Granitic gneiss

Intercal. granitic/augen gneisses & amp-bio-chl schists

amp schist
gneiss
schist

f-cg q-fsp bio gneiss

finely intercalated f-cg augen bio gneisses & amp schist

pug

mg augen & bio-rich gneisses

pink fsp-q-bio augen gneiss

green q-amp-bio-schist

Intercal. green-black amp schist & pink augen gneisses

pink fsp-q- musc bio pyroxene(?) gneiss

Intercal green-black q-amp-bio-chl(?) schists & pink fsp-q-bio-amp gneisses

red grey f-mg fsp-q leucogneiss

pink & grey f-cg q-fsp-bio-amp (?)augen gneiss

pink & grey m-cg fsp-q bio gneiss Occ. fsp augen, amp bands

Intercal f-cg q-fsp-bio-amp gneisses occ. porphyroblastic in Kspar & green black q-amp schists

f-cg pink & grey q-fsp-bio-amp gneiss occ. fsp augen, amp layers, cg graphic fsp q hornblende textured gneiss

Intercal schists & gneiss

pink & black f-mg augen gneiss

green black amp-bio q schist, occ fspic bands, porphyroblasts

grey-pink fg fsp-q-bio-amp-chl gneiss

green black fg q-amp-chl schist

Intercal pink m-cg granitic & augen gneisses & green-black amp-chl-bio schists

grey q-fsp-bio-pyroxene? aplite intrusive, weakly porphyritic in Kspar

f-cg fsp-q-bio-hornblende gneiss, occ. augen

black q-bio-amp schist, occ qtzofsp layers

black f-mg fsp-q-bio-amp schist-gneiss

black amp schist

fg fsp-q-bio-gneiss

green black fg q-amp-bio (fsp) schist

finely intercal grey & pink f-cg fsp-q-bio-amp gneisses & q-amp-chl schists

249 6 m NQ
BQ

361·5 m
E. O. H

SUSCEPTIBILITY

- 50 M
- 100 M
- 150 M
- 200 M
- 250 M
- 300 M
- 350 M

KEY

q	quartz vein
c	carbonate
	casing
	lithological boundary
40°	layering & layering to core axis angle (θ)
	aplite dyke

SOUTH AUSTRALIA

Port Augusta
Port Lincoln
Adelaide

Locality Plan

PONDOOMA GRID
E.L. 1042

PONDOOMA GRID & POSITION DDH PD1

BASELINE 15000 E BRG 354° M

22000 N
21500 N
21000 N
20500 N
20000 N
19500 N
19000 N
18500 N
18000 N
17500 N
17000 N
15000 E

ABBREVIATIONS

amp	amphibolite
bio	biotite
fsp	feldspar
fg	fine
mg	medium grained
cg	coarse
intercal	intercalated
occ	occasional(ly)
chl	chlorite
q	quartz
qtzofsp	quartzofeldspathic

4928-9

Aberfoyle Exploration Pty Ltd

Geology: MGT	SOUTH AUSTRALIA	Location code: 153/8
Drawn: MGT	KOORALLA E.L. 1042	Date: Oct. 1983
Traced: JB	DDH PD1	Scale: 1:500
Checked: MGT	CROSS SECTION	Plate No: KRL - 9
Revised by: Date:		

ABERFOYLE EXPLORATION PTY.LTD.

Exploration Licence No.1042

KOORALIA

Report for the Fifth Quarter

ending

4 January 1984

Adelaide
8 February 1984

Report by: Mark G. Teakle
Geologist
Aberfoyle Exploration
Pty.Ltd.

CONTENTS

APPENDIX

FIGURE

1. INTRODUCTION

During the fourth quarter of E.L. 1042 (Kooralla), an exploratory diamond core hole on the Pondooma grid tested the source of a prominent linear magnetic ridge and its enclosing stratigraphic sequence, in a zone of disturbed magnetic response to the regional Kooralla aeromagnetic trend.

It was envisaged that this ridge might represent the equivalent of an iron oxide-rich member of the Lower Middleback jaspilite, but perhaps as a sulphide-bearing facies potentially more favourable for base metal mineralisation.

The rocks intersected in DDH PD1 are believed to be part of the Lincoln Complex, and there is no clear evidence that Middleback iron formation equivalents are present in the hole (see Teakle, 1983).

This fifth quarterly report describes geological analyses and magnetic susceptibility measurements on the PD1 core.

2. WORK IN THE FIFTH QUARTER

(i) Geochemistry

The 185.5 metres of core from PD1 was sliced and one-quarter slices, in two metre increment samples, submitted to AMDEL in Adelaide for semi-quantitative emission spectroscopic analyses for Ba, Ce, Co, Cr, La, Mn, Mo, Ni, V, W, Ag, As, Bi, Cd, Cu, Pb, Sb, Sn and Zn, to check for evidence of mineralization in these unfamiliar rocks. An aqua regia/AAS determination of Au was also made.

(ii) Magnetic Susceptibility

Magnetic susceptibility values were determined at one metre intervals on the PD1 core, using an Elliot PP-2A meter.

3. RESULTS

(i) Geochemistry

Analytical results are appended (Appendix A) and these show that no significant signs of base metal mineralisation were encountered. Some sections of PD1 are weakly anomalous in Cu (several values at 200 ppm) and Zn (300-400 ppm). In addition, several samples appear to be anomalous in Ba (2000 -3000 ppm) and Mn (1000-2000 ppm). Two samples have anomalous levels of Mo (60 and 100 ppm). Pb values throughout are very low, and Ag and Au contents are below detection limits.

(ii) Magnetic Susceptibility

A log of magnetic susceptibility of the PD1 core against the geological log is shown in Figure 1. Magnetic susceptibilities of the rocks intersected in PD1 range from very low to commonly high to very high, the latter confirming that the source of the magnetic ridge was, at least in part, tested by this drillhole. The high to very high susceptibilities associated with the magnetic ridge are believed to be due to concentrations of iron -rich minerals, probably principally ilmenite, magnetite,with subordinate hematite, associated with iron-rich amphiboles in the schist and gneiss sequence.

4. CONCLUSIONS AND FUTURE WORK

The work carried out so far has been unable to substantiate the presence of iron formation or its equivalent in the Pondooma grid area. The possibility that the rocks intersected in PD1 are iron formation equivalents that have been intensely modified by migmatization or granitization is to be investigated, by comparing them with known areas of granitized Middleback iron formation rocks.

The feasibility of using an EM technique to locate sulphides elsewhere on the Pondooma grid is currently being reviewed.

5. REFERENCES

Teakle, M.G. (1983) E.L. 1042, Kooralla: Report for the 4th Quarter ending 4 October 1983. Aberfoyle Exploration unpub. rept.

Report by: M.G. Teakle

M.G. Teakle
Geologist

Issued by:

I.B. Freytag
District Manager

Dist: Dept. Mines and Energy (1)
Concept (1)
Hawthorn (1)
Adelaide (1)
MGT (1)

ABERFOYLE EXPLORATION PTY. LTD.

SUMMARY OF EXPENDITURE

KOORALLA

Project Expenditure to 4 October 1983		$ 45,768.87
Expenditure for the Quarter ended 4 January 1984 -		
GEOLOGY	1,761.80	
GEOCHEMISTRY	1,700.10	
DIAMOND DRILLING	15.00	
ASSAYS	81.75	
TENURE	705.00	
ADMINISTRATION	639.53	$ 4,903.18
Total Project Expenditure to 4 January 1984		$ 50,672.05

Prepared:
Checked :

APPENDIX A

Analytical Results :
Diamond Drillhole PD1

The Australian
Mineral Development
Laboratories

lemington Street, Frewville,
South Australia 5063
Phone Adelaide 79 1662
Telex AA 82520

Please address all
correspondence to
P.O. Box 114 Eastwood
SA 5063
In reply quote:

amdel

3/43/2/0 - AC 1420/84

9 November 1983

NATA CERTIFICATE

The Manager,
Aberfoyle Exploration Pty. Ltd.,
1 Greenhill Road,
WAYVILLE S.A. 5034

REPORT AC 1420/84

YOUR REFERENCE:	*Order Number AD 5346*
IDENTIFICATION:	*As listed*
DATE RECEIVED:	*26 October 1983*

D. Patterson
Chief Chemist
Analytical Chemistry Division

for Brian S. Hickman
Managing Director

ij

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Townsville
Queensland 4814
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amdel

Analysis code C3/1 | Report AC 1420/84 | Page 1

NATA Certificate | Order No. AD 5346 | Results in ppm

Sample	Au
176-178 M	<0.05
182-184 M	<0.05
188-190 M	<0.05
194-196 M	<0.05
200-202 M	<0.05
206-208 M	<0.05
212-214 M	<0.05
218-220 M	<0.05
224-226 M	<0.05
230-232 M	<0.05
236-238 M	<0.05
242-244 M	<0.05
248-250 M	<0.05
254-256 M	<0.05
260-262 M	<0.05
266-268 M	<0.05
272-274 M	<0.05
278-280 M	<0.05
284-286 M	<0.05
290-292 M	<0.05
296-298 M	<0.05
302-304 M	<0.05
308-310 M	<0.05
314-316 M	<0.05
320-322 M	<0.05
326-328 M	<0.05
332-334 M	<0.05
338-340 M	<0.05
344-346 M	<0.05
350-352 M	<0.05
356-358 M	<0.05
360-361.5 M	<0.05
Detn limit	(0.05)

JOB NO 1420/84. Semi-Quantitative Spectrographic Analysis Schemes A1, A2, A3, A4, A5, A7 & A9 BATCH 7

Results in ppm unless otherwise stated. Detection limits in brackets

	SAMPLE NO.	176-178m	182-184	188-190	194-196	200-202	206-208	212-214
A1	Ba (200)	1000	600	1000	800	800	1500	1000
	Be (1)							
	Ce (300)	x	x	x	x	x	x	x
	Co (5)	30	x	10	10	40	20	5
	Cr (20)	x	x	x	x	60	40	x
	La (50)	150	x	50	x	50	200	100
	Mn (10)	1000	300	800	800	1500	600	800
	Mo (3)	x	x	3	3	60	15	6
	Nb (20)							
	Ni (5)	60	5	40	40	80	20	20
	Sc (3)							
	Sr (50)							
	Ta (100)							
	Th (100)							
	Ti (100)							
	V (10)	200	60	100	80	200	200	100
	W (50)	300	x	x	x	x	x	300
	Y (10)							
	Yb (1)							
	Zr (10)							
A2	Ag (0.1)	x	x	x	x	x	x	x
	As (50)	x	x	x	x	x	x	x
	Bi (1)	x	x	x	x	x	x	x
	Cd (3)	x	x	x	x	x	x	x
	Cu (1)	40	20	80	15	200	80	80
	Ga (1)							
	Ge (1)							

	SAMPLE NO.	176-178	182-184	188-190	194-196	200-202	206-208	212-214
A2	In (10)							
	Pb (1)	15	30	20	20	20	20	30
	Sb (30)	x	x	x	x	x	x	x
	Sn (1)	2	x	2	x	4	x	2
	Zn (20)	40	x	x	x	100	20	200
A3	Au (3)							
	P (100)							
	Te (20)							
	Tl (1)							
A4	Li (1)							
	Na (50)							
A5	Cs (30)							
	K (5)							
	Rb (10)							
A7	B (3)							
A9	Al (100)							
	Ca (100)							
	Fe (100)							
	Mg (100)							
	Si (100)							

Results are semi-quantitative. Elements apparently present in concentrations of economic interest should be redetermined

JOB NO 1720/01. Semi-Quantitative Spectrographic Analysis Schemes A1, A2, A3, A4, A5, A7 & A9 BATCH —,

Results in ppm unless otherwise stated. Detection limits in brackets

SAMPLE NO.		218-220	224-226	230-232	236-238	242-244	248-250	254-256
A1	Ba (200)	1500	800	400	800	800	2000	1500
	Be (1)							
	Ce (300)	x	x	x	x	x	x	x
	Co (5)	5	15	x	60	40	x	30
	Cr (20)	x	x	x	40	x	x	80
	La (50)	150	x	x	50	x	150	50
	Mn (10)	800	1000	300	2500	1000	800	600
	Mo (3)	10	3	x	3	3	3	3
	Nb (20)							
	Ni (5)	40	40	15	40	40	x	60
	Sc (3)							
	Sr (50)							
	Ta (100)							
	Th (100)							
	Ti (100)							
	V (10)	40	100	x	300	200	40	200
	W (50)	x	x	x	x	x	x	x
	Y (10)							
	Yb (1)							
	Zr (10)							
A2	Ag (0.1)	x	x	x	x	x	x	x
	As (50)	x	x	x	x	x	x	x
	Bi (1)	x	x	x	x	x	x	x
	Cd (3)	x	x	x	x	x	x	x
	Cu (1)	80	40	6	200	150	15	80
	Ga (1)							
	Ge (1)							

SAMPLE NO.		218-220	224-226	230-232	236-238	242-244	248-250	254-256
A2	In (10)							
	Pb (1)	20	30	60	30	60	30	15
	Sb (30)	x	x	x	x	x	x	x
	Sn (1)	1	2	x	6	3	x	x
	Zn (20)	60	100	x	300	300	40	40
A3	Au (3)							
	P (100)							
	Te (20)							
	Tl (1)							
A4	Li (1)							
	Na (50)							
A5	Cs (30)							
	K (5)							
	Rb (10)							
A7	B (3)							
A9	Al (100)							
	Ca (100)							
	Fe (100)							
	Mg (100)							
	Si (100)							

Results are semi-quantitative. Elements apparently present in concentrations of economic interest should be redetermined by an appropriate accurate analytical technique. X = Not detected at limit quoted

AMDEL ANALYTICAL SERVICE

JOB NO 1420/84 · Semi-Quantitative Spectrographic Analysis Schemes A1, A2, A3, A4, A5, A7 & A9 BATCH 3

Results in ppm unless otherwise stated. Detection limits in brackets

SAMPLE NO.		260-262	266-268	272-274	278-280	284-286	290-292	296-298
A1	Ba (200)	600	1500	1000	1000	800	1500	1500
	Be (1)							
	Ce (300)	x	x	x	x	x	x	x
	Co (5)	x	15	15	30	15	15	40
	Cr (20)	x	40	20	20	x	x	80
	La (50)	50	100	50	150	x	x	100
	Mn (10)	400	600	600	1000	1000	400	1000
	Mo (3)	15	x	x	3	x	15	10
	Nb (20)							
	Ni (5)	40	40	20	40	15	40	150
	Sc (3)							
	Sr (50)							
	Ta (100)							
	Th (100)							
	Ti (100)							
	V (10)	80	150	100	150	100	80	200
	W (50)	x	x	x	x	x	x	x
	Y (10)							
	Yb (1)							
	Zr (10)							
A2	Ag (0.1)	x	x	x	x	x	x	x
	As (50)	x	x	x	x	x	x	x
	Bi (1)	x	x	x	x	x	x	x
	Cd (3)	x	x	x	x	x	x	x
	Cu (1)	6	20	200	30	15	60	100
	Ga (1)							
	Ge (1)							

SAMPLE NO.		260-262	266-268	272-274	278-280	284-286	290-292	296-298
A2	In (10)							
	Pb (1)	20	30	20	20	15	20	15
	Sb (30)	x	x	x	x	x	x	x
	Sn (1)	x	x	1	1	x	x	2
	Zn (20)	x	60	60	100	40	40	40
A3	Au (3)							
	P (100)							
	Te (20)							
	Tl (1)							
A4	Li (1)							
	Na (50)							
A5	Cs (30)							
	K (5)							
	Rb (10)							
A7	B (3)							
A9	Al (100)							
	Ca (100)							
	Fe (100)							
	Mg (100)							
	Si (100)							

Results are semi-quantitative. Elements apparently present in concentrations of economic interest should be redetermined

ABLE ANALYTICAL SERVICE

JOB NO 1420/84 : Semi-Quantitative Spectrographic Analysis Schemes A1, A2, A3, A4, A5, A7 & A9

Results in ppm unless otherwise stated. Detection limits in brackets

BATCH 4/

	SAMPLE NO.	302-304	308-310	314-316	320-322	326-328	332-334	338-340
A1	Ba (200)	2000	1000	600	1000	2000	1000	800
	Be (1)							
	Ce (300)	x	x	x	x	x	x	x
	Co (5)	30	5	20	x	x	40	x
	Cr (20)	20	x	40	x	x	x	x
	La (50)	100	50	x	x	100	50	50
	Mn (10)	1500	800	1000	150	400	1000	300
	Mo (3)	3	x	100	10	6	3	3
	Nb (20)							
	Ni (5)	60	15	60	30	40	40	5
	Sc (3)							
	Sr (50)							
	Ta (100)							
	Th (100)							
	Ti (100)							
	V (10)	200	60	150	80	30	300	80
	W (50)	x	x	x	x	x	x	x
	Y (10)							
	Yb (1)							
	Zr (10)							
A2	Ag (0.1)	x	x	x	x	x	x	x
	As (50)	x	x	x	x	x	x	x
	Bi (1)	x	x	x	x	x	x	x
	Cd (3)	x	x	x	x	x	x	x
	Cu (1)	100	80	100	15	6	200	6
	Ga (1)							
	Ge (1)							

	SAMPLE NO.	302-304	308-310	314-316	320-322	326-328	332-334	338-340
A2	In (10)							
	Pb (1)	20	30	30	60	30	30	40
	Sb (30)	x	x	x	x	x	x	x
	Sn (1)	1	1	x	x	x	6	x
	Zn (20)	40	40	150	x	40	200	40
A3	Au (3)							
	P (100)							
	Te (20)							
	Tl (1)							
A4	Li (1)							
	Na (50)							
A5	Cs (30)							
	K (5)							
	Rb (10)							
A7	B (3)							
A9	Al (100)							
	Ca (100)							
	Fe (100)							
	Mg (100)							
	Si (100)							

Results are semi-quantitative. Elements apparently present in concentrations of economic interest should be redetermined

JOB NO 1420/84. Semi-Quantitative Spectrographic Analysis Schemes A1,A2,A3,A4,A5,A7 & A9 BATCH 5

Results in ppm unless otherwise stated. Detection limits in brackets

153

	SAMPLE NO.	344-346	350-352	356-358	360-361.5
A1	Ba (200)	3000	1000	800	1000
	Be (1)				
	Ce (300)	x	x	x	x
	Co (5)	15	40	15	40
	Cr (20)	20	x	x	x
	La (50)	100	50	100	50
	Mn (10)	600	1000	1000	2000
	Mo (3)	3	3	3	3
	Nb (20)				
	Ni (5)	x	40	60	x
	Sc (3)				
	Sr (50)				
	Ta (100)				
	Th (100)				
	Ti (100)				
	V (10)	100	200	150	80
	W (50)	x	x	x	x
	Y (10)				
	Yb (1)				
	Zr (10)				
A2	Ag (0.1)	x	x	x	x
	As (50)	x	x	x	x
	Bi (1)	x	x	x	x
	Cd (3)	x	x	x	x
	Cu (1)	200	200	40	150
	Ga (1)				
	Ge (1)				

	SAMPLE NO.	344-346	350-352	356-358	360-361.5
A2	In (10)				
	Pb (1)	30	30	6	150
	Sb (30)	x	x	x	x
	Sn (1)	x	1	x	1
	Zn (20)	40	100	x	400
A3	Au (3)				
	P (100)				
	Te (20)				
	Tl (1)				
A4	Li (1)				
	Na (50)				
A5	Cs (30)				
	K (5)				
	Rb (10)				
A7	B (3)				
A9	Al (100)				
	Ca (100)				
	Fe (100)				
	Mg (100)				
	Si (100)				

Results are semi-quantitative. Elements apparently present in concentrations of economic interest should be redetermined