### CONTENTS ENVELOPE 6988

TENEMENT: E.L. 1450.

TENEMENT HOLDER: Bariston Holdings Pty. Ltd.

REPORT: Quarterly Report E.L. 1450 For Period 7th December 1987 To Pgs. 3-5

7th March 1988.

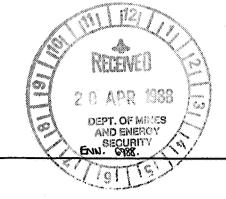
Final Report E.L. 1450 Mount Arden Project 17th June 1988. Pgs. 6-23

Expenditure Statement Period Ending 6th June 1988. Pg. 24

PLANS: Nil.

BARISTON HOLDINGS PTY LTD GROUND FLOOR, 524 HAY STREET, PERTH, W.A. 6000 POSTAL ADDRESS: G.P.O. BOX D181, PERTH, W.A. 6001 TELEPHONE: (09) 325 8799 TELEX: AA96926

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QUARTERLY REPORT ON EXPLORATION LICENCE NO. 1450

for the Period December 7,1987 to March 7, 1988

### MOUNT ARDEN PROJECT

M.J. Castle April 11, 1988

### INTRODUCTION

Mount Arden Exploration Licence No. 1450 held by Bariston Holdings Pty Ltd is located on the western flank of the Flinders Ranges approximately north of Adelaide and 50 kilometres northeast kilometres ofPort Augusta. The E.L. covers an area of 152 square kilometres. The stratigraphic section ranges from upper Proterozoic (Marinoan) sediments through the lower Cambrian sediments including the Parachilna formation, Parara Wilkawillina Limestone Limestone. and Structurally the E.L. comprises three N-NE trending synclines with some minor regional faults. the keels of two of the synclines are occupied by lower Cambrian sediments.

### Land Ownership -

Land usage within the Mount Arden Exploration Licence is predominately mixed grain farming and pastoral. are approximately 80 separate Section numbers in the which fallwithin the Hundreds of Yarrah Wyacca. these Ofsections about 20 are occupied by Lower Cambrian sediments and a search of the titles for sections resulted in eight perpetual leases which these are held by six owners.

### Previous Work -

In the central portion of the current exploration licence there are two old mining localities. Mount Arden mine was reportedly worked for copper minerals during the period from 1880 to 1900 and is located within the Parachilna formation and basal Wilkawillina

Limestone with no defined lode. Three kilometres to the south the Comstock area also in the Parachilna formation was worked for Ironstone material. Total reserves quoted by the South Australian Geological Survey Report of Investigation =37 (1972) are 350,000 tones of ironstone ranging from 48-58% iron.

Kennecott Explorations (Australia) Pty Ltd discovered significant concentrations of Lead and Zinc in close proximity to these two old mines in 1966. The following year Kennecott conducted geophysical and further surveys, trenching and drilling. geochemical results of this programme were very encouraging with some 27 kilometres strike length of the Lower Cambrian formations giving anomalous values in zinc, lead and The highest and most continuous values were copper. located on the western side of the Ragless Range. follow up costeaning and drilling of this extensive anomalous zone indicated that the zinc mineralization had been significantly enriched at the surface and that primary mineralization consisted  $\mathsf{of}$ chalcopyrite, invariable associated with goethite and manganese wad. Sulphide mineralization was not detected. grades of 0.2 to 1.0 percent zinc were encountered at depth. Copper mineralization was less extensive and rarely exceeded 0.2 percent copper.

Work during the current quarter has involved a review of the available data on the Mount Arden area and similar displays of mineralization both in the Flinders Ranges and elsewhere. A geochemical sampling programme has been commissioned including rock chip sampling and bulk leach precious metal sampling and assays will be requested for gold, base metals and rare earths. Results are anticipated to be available early in the next quarter.

## EXPLORATION EXPENDITURE

Geological Administration \$2,300 460

\$2,780

Yours faithfully

M.J. CASTLE CONSULTANT

FINAL REPORT ON E.L. 1450

MOUNT ARDEN PROJECT

SOUTH AUSTRALIA

M. J. Castle June 17, 1988



1.

### INTRODUCTION

The Mount Arden Exploration Licence No. 1450 held by Bariston Holdings Pty Ltd is located on the western flank of the Flinders Ranges approximately 350 kilometres north of Adelaide and 50 kilometres northeast of Port Augusta. The E.L. covers an area of 152 square kilometres.

### GEOCHEMICAL PROGRAMME

During the last quarter a geochemical programme was carried out on the Mount Arden Exploration Licence. Forty three rock chip samples and two bulk leach samples (weighing approximately 10 kilogrammes each) were collected. The target concept involved sampling Lower Cambrian sediments in the vicinity of known base metal occurrences and/or zones of structural complexity. The programme was designed as a reconnaissance sampling survey for gold and rare earths.

All sample sites are marked on the ground with red flagging with the sample number written on it. All sample locations were plotted on 1:40,000 scale aerial photographs. The samples were submitted to Comlabs Services of Mile End, South Australia for analysis of Au, Nd, Ce, La, Ba and Y. The gold in the rock chip samples was analysed by Comlabs scheme AAS5A, which is an aqua regie digest giving a minimum level of detection of 0.05 ppm. Gold in the bulk leach stream sediment samples was analysed by Comlabs scheme AAS5D, giving minimum detection limit of 0.1 ppb. Neodymium, Cesium, Lantharium, Barium and Yttrium were analysed by Comlabs scheme XRF1, a pressed powder technique utilising X-ray flouresence. Minimum levels of detection with this scheme are 20 ppm for Nd, Ce, La and Y.

Ten of the forty three rock chip samples collected from this exploration licence returned detectable gold values of 0.05 ppm or greater, however all but two were at the 0.05 ppm level. The highest gold value was that of sample MA25, a medium brown limonitic shale outcropping 3 kilometres north north east of Mount Arden Mine. This sample recorded medium range values in those rare earths analysed and a high barium value of 9700 ppm. the most consistently detectable gold values came from the immediate vicinity of the Mount Arden Mine where four of the six samples taken returned 0.05 ppm Au. Sample MA23 from this locality was associated with a 1.49% Barium value, the other three golds had much lower associated Barium from 145 to 430 ppm.

Rare earths values for this group of gold samples were all close to the average values recorded for the EL. Detectable gold values are evenly distributed throughout the area sampled with the exception of the previously mentioned group of low gold values near the Mount Arden Mine. The Lower Cambrian sediments of this tenement returned very low gold values quite consistently, suggesting a very low background gol value for these sediments already noted fortheir anomalous base metal content.

Rare earth values returned from this sampling programme range from the lower limit of detection to highest values as follows: Neodymium 120 ppm, Cesium 160 ppm, Lanthanium 100 ppm and Yttrium 240 ppm. None of the highest recorded rare earth values was associated with a detectable gold value.

Barium values ranged from 30 ppm to 3.15%, with no clear cut association of high barium and detectable golds, except as previously mentioned in sample MA25.

### CONCLUSIONS

The analytical results for the rare earths neodymium, cesium, Lanthanium and Yttrium are very low and of no economic significance. Maximum values are as follows: Nd 120 ppm, Ce 160 ppm, La 100 ppm and Y 240 ppm. Barium values reached a high of 3.15% and six of the total of forty three rock chip samples recorded approximately 1% or greater Ba. The high incidence of anomalous Ba values can be attributed to sample locations at or near breccia zones. Gold values are very low with the highest being 0.12 ppm in sample MA25 and the remainder of detectible golds being 0.05 to 0.06 ppm. However, ten of the forty three rock chip samples did report detectable gold at or above the 0.05 ppm level and this is considered to be an unusually high incidence of detectable golds for a reconnaissance sampling programme of this nature. A background gold value somewhat below the 0.05 ppm minimum detection limit is indicated for the Lower Cambrian sediments which are widely recognised for their base metal values.

Results of the rock chip and Bulk Leach sampling programme were disappointing and no specific target areas emerge for followup work. It has been decided to relinquish the tenement.

LEASE Nº	SEC/HUNDRED	LESSEE.	ADDRESS.
	KANYAKA	EXPLORATION LICENCE #	1446
0.P 11185	100,551 HO KANYAKA.	MILLERS CREEK PASTORAL  CO. PTY. LTD.	147 WARD ST NORTH ADELAIDE 5006
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077419.	85 to 90, 102 to 108, 117 to 120, 123, 286, 237 HO CUIDLA MUDLA.	GRAHAN JOHN HILDER	D.M.C.S CARTIETON SU32
	MOUNT ARDA	N EXPLORATION #	1450
WD9648	160,231 HDYAFERE.	ECCEPTY CALL (NEW)	Box 89 Quoreso. 5033
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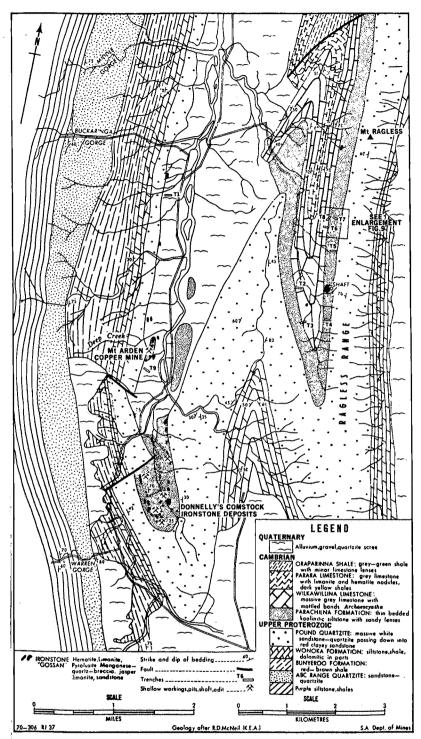


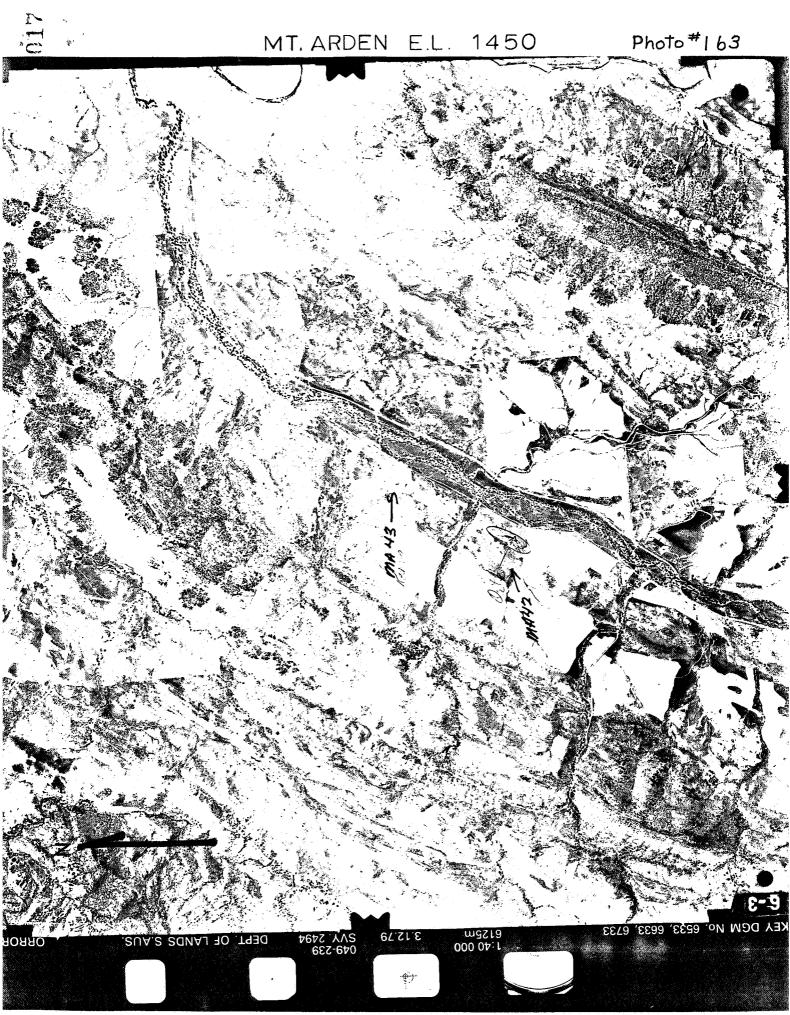
Fig. 8. Mount Arden—Comstock area, geological plan.
from Rpt. of Invest.\*37
G. S. S. A.

Mount Arden LL. Hppl. 10/400 Location Description 0013 THA Photo 046 Comontitie Shale Bonnelly Quarry Area Adjoid Costean MA 1 046 Lt. grey sandston AS Above MAZ lt. grey brecainted spoil-frammostean As Above s.s. /lim. speaks. Limopita shale gran.gz biebs. MA3 Old Fequarry site MA4 Mussive hem. de Aditotrack MA5 046 massive Lim. Adj Truck + fense MA6 sh. Ole s. of feace pdj old pit 046 Mussive line. MAT s. of fence 046 Black Mn. Ole MAB 100m S. of Above OH6 Blackmn & Ozte MA 9 breezin screeboulers Margon, Line. decompentruments sed./mn rodules 046 MA 10 046 DK. red. bl. Mn Heap near Ck. MA II preceia rubbleha Constock 046 K. br massive MA12 QUATTY FACE. Dk.bn masive 046 lim. AS Above 10m E MA 13 Libr. Qute al 046 MA14 medibr. breech 046 MA 15 tisted azte. 50 NE of Above photo loc. 046 Pound Orte MA16 Or veining photolog. 046 Pound Orte 20m S. of MAIT Az veins slieka photoloe 046 Mt. Arden Mine Are Azte Ferrus. MA/8 Screen spoil
Selepted spoil
SAMPLE from SOUTH
MOST COSTERN TEL photolog 046 Costean spoil MA 19 046 Shaffolmp MA20 malachite strong AS Above 046 ferrug.ss. MA 2/ malachite stain top of hill Ol Adj e. Be ush fault.b MA22 046 Top of hill no workings Bli Mn GE MA23 de OK br line brania 046 MA24 OC 10m For 046 Med br. Vin. 8 h. MA25 Ofe in ex. 046 Red milaces MA 26 sh. med-Ligrey spoil from shaff. 046 MA 27 ls./spots bank of ck. medigray Ls./ MA 28 red. br. friable floor of eastern MA 29 elays red.br.hem. As Above 20m E Concretions Thin red br. zone in bleached elays MA 30 eostean photolog MA 31 AS Above fe. qz. grain+ ss. zone MA 32 As Above Ot br. forma

Lt. grey sandston 046 AS Above MAZ spoil-framcostean As Above lt. grey brecointed MA3 5.5. /lim. 5.5. /lim. speake. Limogitia shale gran.gz blebs. ON Fequatry site MA4 MASSIVE HEM. CO Aditotrack MA5 046 MASSIVE Lim. MAG Adj Truck + fense sh. Ole 046 s. of feace adjobl pit massive lini. sh. Ole MAT 046 s. of tence Black Mn. Ole MAB Black Mn & Qzte 100m S. of Above Oth MAG breelin streeboulers Marcon, Line. decompentrumesto sed./mn rodules 046 MA 10 DK. red. bl. mn 046 HEAP NEAR MA 11 breceia rubblehay Constock 046 OK. br masave MA 12 QUATTY FACE. DK. bn masive 046 As Above 10m E. lim. MA 13 Lt.br. azte al 046 MAIH med br. breecia 046 MA 15 tiples azte. 50 NE of Above photo loc. 046 Pound Orte MA16 Or veining photolog. 046 Pound Orte 20m S. of MAIT Pz veins +sliekasides photoloe ferrug. Azte MA/8 Mt. Arden Mine Ar Scree Selected spoil SAMPLE From SOUT hotoloc 046 Costean spoil MA19 046 Shaftdomp MA20 malachite strung 046 AS Above MA 21 malachite stains top of hill Old Adi e. Be +sh fault. MA22 046 top of hill no workings Bl. Mr Ge MA23 OK br line bracein de 046 MA24 OCIOMEORO46 Med br. Kim. 5 h. MA25 046 Red minutes De in ek. MA 26 spoil from shaff. med-Lt. grey MA 27 Ls./spots 046 bank ofek. medigray Ls. MA 28 red. br. friable floor of eastern MA 29 As Above Som E Costean photologo 046 MA 30 concretion n blenchedelmys MASI AS Above fe. qz. qrain+ ss. zone MA 32 As Above Ok. br. forng. De noj to casta MA 33 Ole Adilt orth MA 34 Hem. / randed granes

0015 SAMPLENO LOCATION photo lac 046 MASINE Te O/c MA 35 Rober fe. Oc photo loc 046 MA36 BOWN. of Above MASSIVE MA 37 20 m E of Shaft. As Above M#38 MA 39 10m. Not Shaft photo los. 046 MA 40 Red mieneous sits Costean N. wall 046 MA 41 As above Photolog. 163 MA 42 Photo loc 163 arte white some man minor fe string MA 43 John Rowe -saw white Togoth (wide wheels) prospection on KANYAKA Area. They did not C411 in.







# ABS SERVICES P

305 South Road, Mile End South. South Australia 5031 Telephone (08) 43 5722 Telex LABCOM AA89323 Facsimile No. (08) 234 0321

NATA REGISTERED No. 1526

John Clema

Bariston Holdings

OUR REF.:

GPO D181

YOUR REF.:

PERTH

WΑ

JOB NUMBER:

8AD0528

Your Reference:

3205

Date Received:

22-FEB-1988

Turnaround

7 days

Date Relayed:

29-FEB-1988

Date Reported:

29-FEB-1988

Number of Samples:

86

Report Comprising:

Cover Sheet

Pages 1 to 5

Comments:

Report Dist'n: Carbon Copies(CC), Electronic Media(EM), Magnetic Media(MM)

Type

Recipient

Location

Date

Copies

CC

Mr. M. Fry

Glenside

29-FEB-88

1

Approved Signature

Harry Fishman

Deputy Managing Director.

CLASSIC COMLABS LTD

(Please address any enquiries to Mr. Trevor Francis)

This report relates specifically to the sample(s) tested in so far as that the sample(s) is truly representative of the sample source as supplied.



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Job: 8AD0528 O/N: 3205

		ANALY	TICAL	REPORT			ο/ <b>ι.</b> .	
	SAMPLE	Nd	Се	La	Ba	Y	Au	
	MA 1	20	50	30	165	12	<0.05	
	MA 2	40	40	20	290	12	<0.05	
	ма з	30	30	20	450	10	<0.05	
	MA 4	<2.0	40	20	130	24	<0.05	
	MA 5	80	120	80	290	28	0.06	
	MA 6	50	20	<20	100	<4	<0.05	
	MA 7	<20	30	40	115	10	<0.05	
	MA 8	60	30	40	2750	50	<0.05	
	MA 9	<20	<20	40	2.55%	58	<0.05	
	MA 10	<20	<20	40	3.15%	34	<0.05	
	MA 11	120	40	40	1.65%	64	<0.05	
	MA 12	<20 <sup>.</sup>	<20	30	660	<4	<0.05	
	MA 13	30	20	20	1680	26	0.05	
	MA 14	<20	<20	<20	380	<4	<0.05	
	MA 15	<20	<20	20	270	<4	<0.05	
	MA 16	30	20	<20	130	<4	<0.05	
	MA 17	<20	20	<20	165	4	<0.05	
	MA 18	20	20	<20	280	<4	<0.05	
	MA 19	20	20	30	145	8	0.05	
	MA 20	60	100	60	155	240	<0.05	
	MA 21	50	90	50	185	74	0.05	
	MA 22	<20	50	30	430	16	0.05	
	MA 23	80	30	20	1.49%	30	0.05	
	MA 24	120	70	60	1.44%	52	<0.05	
	MA 25	80	40	30	9700	16	0.12	
UPPER	UNITS SCHEME SCHEME	ppm XRF1	ppm XRF1	ppm XRF1	ppm XRF1 XRF2	ppm XRF1	ppm AAS5A	
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Page 1 of 5



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Job: 8AD0528 O/N: 3205

ANTAT	UTTOXI	REPORT
ΔΝΔΙ	. Y 1   C.A.	. REPURT

SAMPLE	Nd	Се	La	Ba	Ÿ	Au
MA 26	20	100	50	1580	14	<0.05
MA 27	20	60	30	145	16	0.05
MA 28	<20	<20	<20	80	<4	<0.05
MA 29	<20	30	30	540	10	<0.05
MA 30	20	30	<20	500	16	<0.05
MA 31	40	80	50	95	20	<0.05
MA 32	<20	<20	<20	90	8	<0.05
MA 33	<20	<2.0	<20	95	22	<0.05
MA 34	<20	<20	<20	30	12	<0.05
MA 35	<20	50	20	185	105	0.05
MA 36	<20	70	30	170	10	0.06
MA 37	40	70	100	85	28	<0.05
MA 38	<20	50	20	40	.8	<0.05
MA 39	60	70	50	195	22	<0.05
MA 40	<20	<20	<20	125	<4	<0.05
MA 41	40	160	90	140	8	<0.05
MA 42	<20	30	20	1880	4	<0.05
MA 43	20	20	30	880	4	<0.05
K 1	30	50	30	330	14	<0.05
K 2	30	40	20	330	4	<0.05
к з	40	90	50	220	8	<0.05
K 4	30	80	60	490	36	<0.05
K 5	30	60	50	320	36	<0.05
К 6	40	70	50	340	26	<0.05
к 7	20	60	30	310	16	<0.05
UNITS SCHEME	ppm XRF1	ppm XRF1	ppm XRF1	ppm XRF1	ppm XRF1	ppm AAS5A



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Job: 8AD0528 O/N: 3205

### ANALYTICAL REPORT

way						
SAMPLE	Nd	Ce	La	Ba	Y	Au
К 8	50	9.0	60	300	24	<0.05
К 9	<20	50	40	200	14	<0.05
K 10	40	60	50	380	16	<0.05
K 11	30	8.0	50	270	10	<0.05
K 12	<20	140	110	160	<4	<0.05
K 13	50	8.0	70	40	<4	<0.05
K 14	<20	40	30	195	<4	0.20
K 15	<20	<20	20	70	<4	0.05
K 16	40	120	60	200	26	0.05
K 17	30	40	30	60	<4	<0.05
K 18	<20	40	20	270	74	0.08
K 19	30	40	60	190	155	0.05
K 20	<20	30	50	210	18	0.08
K 21	50	40	30	200	12	<0.05
K 22	30	60	30	240	20	<0.05
K 23	30	100	60	175	12	<0.05
K 24	40	50	40	195	10	<0.05
K 25	3.0	30	30	55	6	<0.05
K 26	20	40	30	100	4	<0.05
K 27	20	<20	<20	60	<4	<0.05
K 28	20	80	40	130	10	<0.05
К 29	40	80	30	150	28	<0.05
К 30	40	100	40	130	30	<0.05
К 31	60	80	40	145	18	<0.05
К 32	40	40	20	210	12	<0.05
UNITS SCHEME	ppm XRF1	ppm XRF1	ppm XRF1	ppm XRF1	ppm XRF1	ppm AAS5A



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Job: 8AD0528 0/N: 3205

	ANA	LYTICAL	REPORT	•		ο/ <b>π</b> .
SAMPLE	Nd	Ce	La	Ba	Y	Au
К 33	40	70	40	580	22	<0.05
K 34	<20	<20	<20	220	<4	<0.05
К 35	<20	30	20	50	4	0.05
К 36	20	<20	<20	125	<4	<0.05
К 37	40	60	50	320	6	<0.05
К 38	30	<20	<20	150	<4	0.06
К 39	20	30	<20	1280	26	0.06
K 40	40	60	30	1.60%	28	0.06
K 41	130	140	50	3200	100	0.06
K 42	90	90	100	240	110	0.06
K 43	20	50	20	280	<4	<0.05
UNITS SCHEME UPPER SCHEME	ppm XRF1	ppm XRF1	ppm XRF1	ppm XRF1 XRF2	ppm XRF1	ppm AAS5A



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Job: 8AD0528 O/N: 3205

### ANALYTICAL REPORT

SAMPLE	Au
MA 1.	0.3
MA 2	<0.1
K 1	<0.1
K 2	0.1
к з	0.2
K 4	0.1
K 5	0.1
К 6	0.1
K 7	<0.1
K 8	<0.1
UNITS SCHEME	ppb AAS5D

BARISTON HOLDINGS PTY LIMITED

GROUND FLOOR, 524 HAY STREET, PERTH, W.A. 6000 POSTAL ADDRESS: G.P.O. BOX D181, PERTH, W.A. 6001 TELEPHONE: (09) 325 8799 TELEX: AA96926

**FACSIMILE: 325 3930** 

· x · M

February 10, 1989

Your Ref: EL 1446, 1450

The Director-General
Department of Mines & Energy
P.O. Box 151
EASTWOOD SA 5063

Dear Sir

## Exploration Licences 1450 Mt Arden

The Expenditure Statements for the above EL is as follows:

EL1450 for the period ended 6.6.88 is \$8,775.25

Yours faithfully

J.M. Clema Chairman