BOCO

381001

BILLITON AUSTRALIA

E.L. 2/90 - BOCO

Exploration Report for the Period 20-4-90 to 10-10-90

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LIST OF CONTENTS

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LIST OF FIGURES

LIST OF APPENDICES

1. INTRODUCTION

This report summarizes the results of exploration completed by Billiton Australia, obtained from the inception of the licence to October 1990. At this time, Pasminco Australia Limited became managers of the tenement under the terms of the Boco Joint Venture.

2. LOCATION & ACCESS

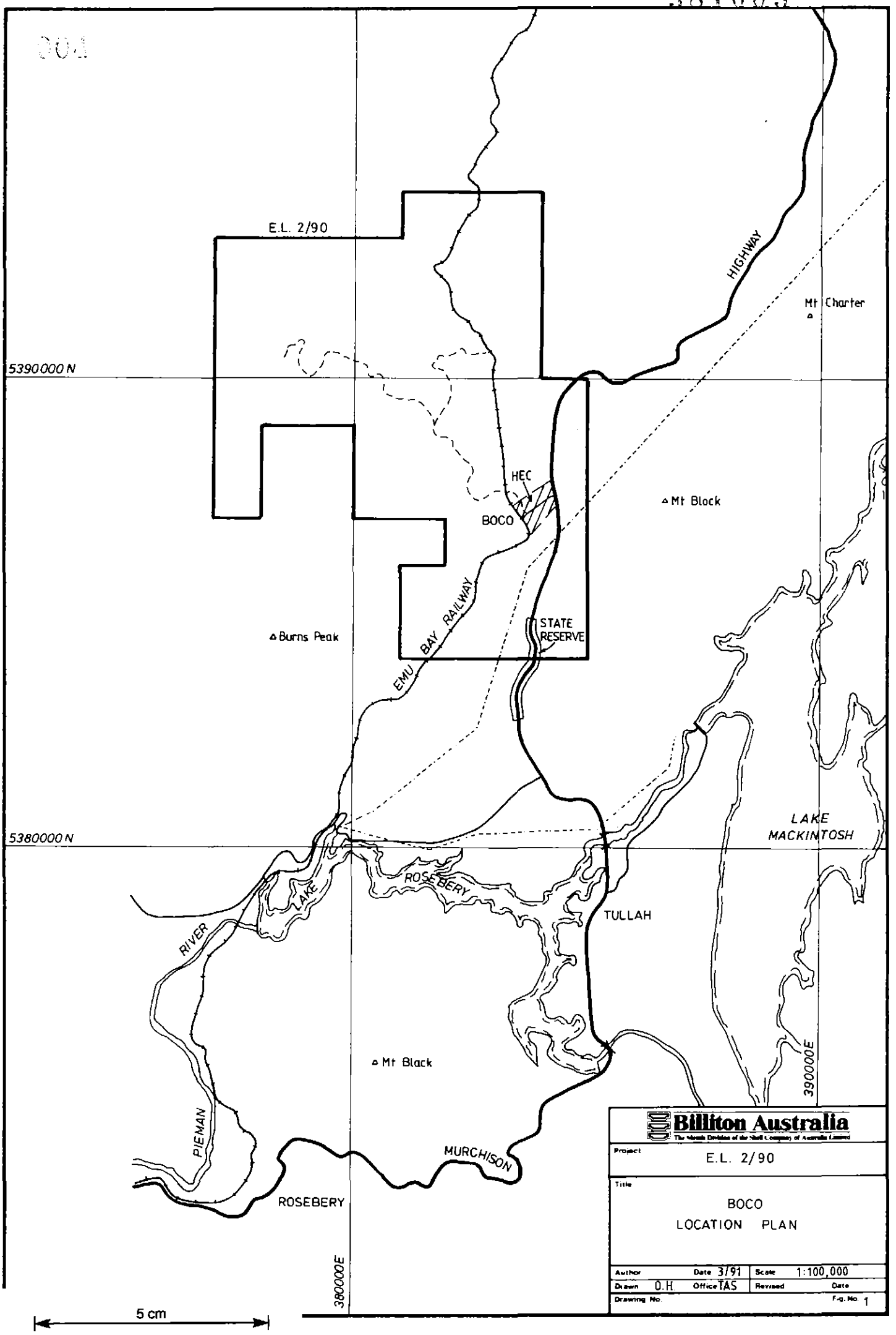
The licence is centred on the railway siding at Bulgobac, 17kms NNE of Rosebery on Tasmania's West Coast. (see Fig 1). The Murchison Highway passes through the eastern sector of the licence as does the Emu Bay Railway line. Access within the licence is limited to 4WD forestry tracks mainly.

3. LAND TENURE

Exploration Licence 2/90, of 55km², was granted to The Shell Company of Australia Limited on the 20th April 1990 for a period of 10 years, renewable every 12 months. The licence was acquired as a result of the company successfully tendering for the property through the Department of Mines tender system.

The tenement excludes an area of 0.5km² vested in the HEC and 0.2km² covering the Murchison Highway State Reserve.

381005


E.L. 2/90
HIGHWAY
Mt Charter
5390000 N
HEC
BOCO
Mt Block
BAY RAILWAY
STATE RESERVE
Burns Peak
EMU
LAKE MACKINTOSH
5380000 N
ROSEBERY
LAKE
RIVER
TULLAH
Mt Block
390000E
PIEMAN
MURCHISON
ROSEBERY
360000E
5 cm
Billiton Australia
The Minerals Division of the Shell Company of Australia Limited
Project
E.L. 2/90
Title
BOCO
LOCATION PLAN
Author
Date 3/91
Scale 1:100,000
Drawn O.H.
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Revised
Date
Drawing No.
Fig. No. 1

A joint venture agreement was signed with Pasminco Australia Limited on the 10th October 1990 whereby Pasminco would act as manager of the joint venture. This document is still current.

4. REGIONAL SETTING

The licence includes approximately 25% Central Volcanic Sequence rhyolitic-dacitic lavas and volcaniclastics with the remainder being Dundas Group volcaniclastics and sediments and ?Late Cambrian porphyritic intrusives. (Fig 2).

The main focus has been the area underlain by the CVS but as there is substantial glacial cover, geological information is limited to subsurface drill hole data.

The Boco Alteration Zone, a Cambrian hydrothermal system located near the top of the CVS is included within the licence.

5. PREVIOUS EXPLORATION

5.1 Summary of Work Completed

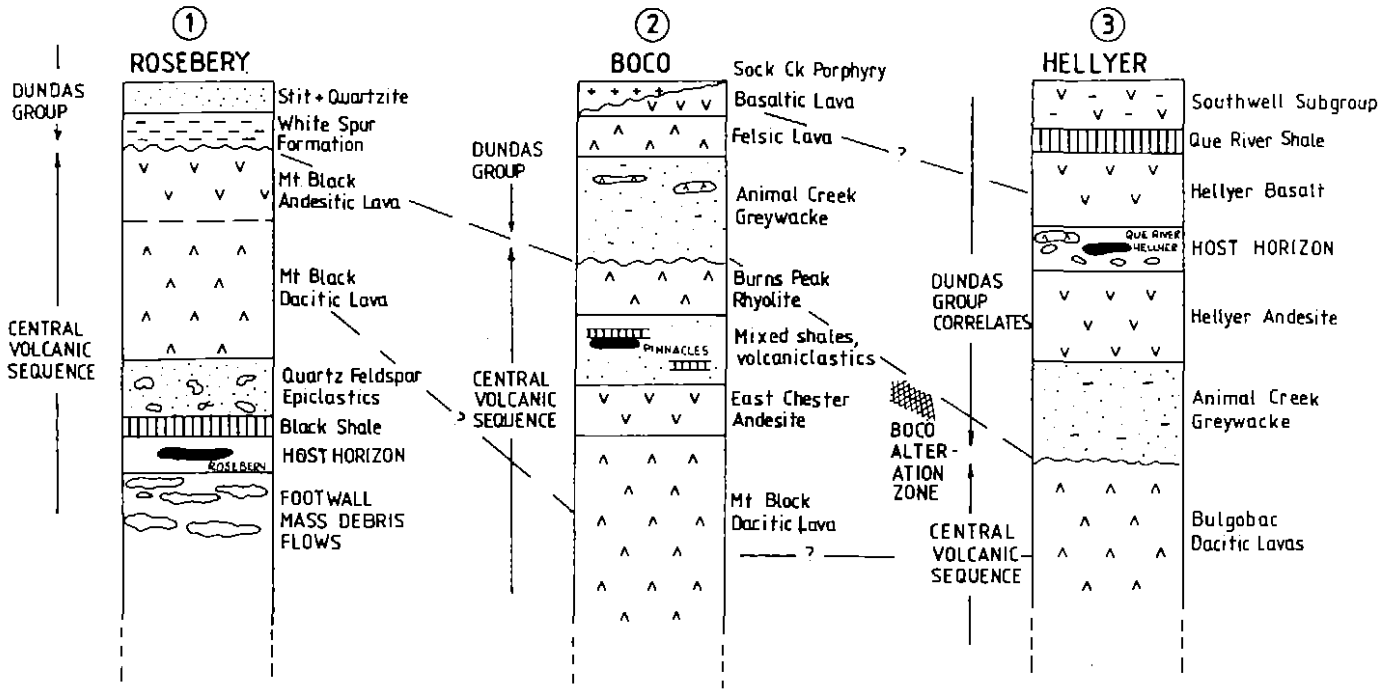
The licence area was held by Comstaff from 1963-1972 but most of the detailed exploration has been carried out since that date.

EL 12/72 of 94km² was granted to the Electrolytic Zinc Co. in 1972 and since that date has been the subject of three joint venture agreements; viz

1976 - Getty Oil Development Co., EZ manager,

1985 - CSR Ltd., CSR manager of the EZ-Getty-CSR JV. Getty later sold their Australian equity to Little River Goldfields.

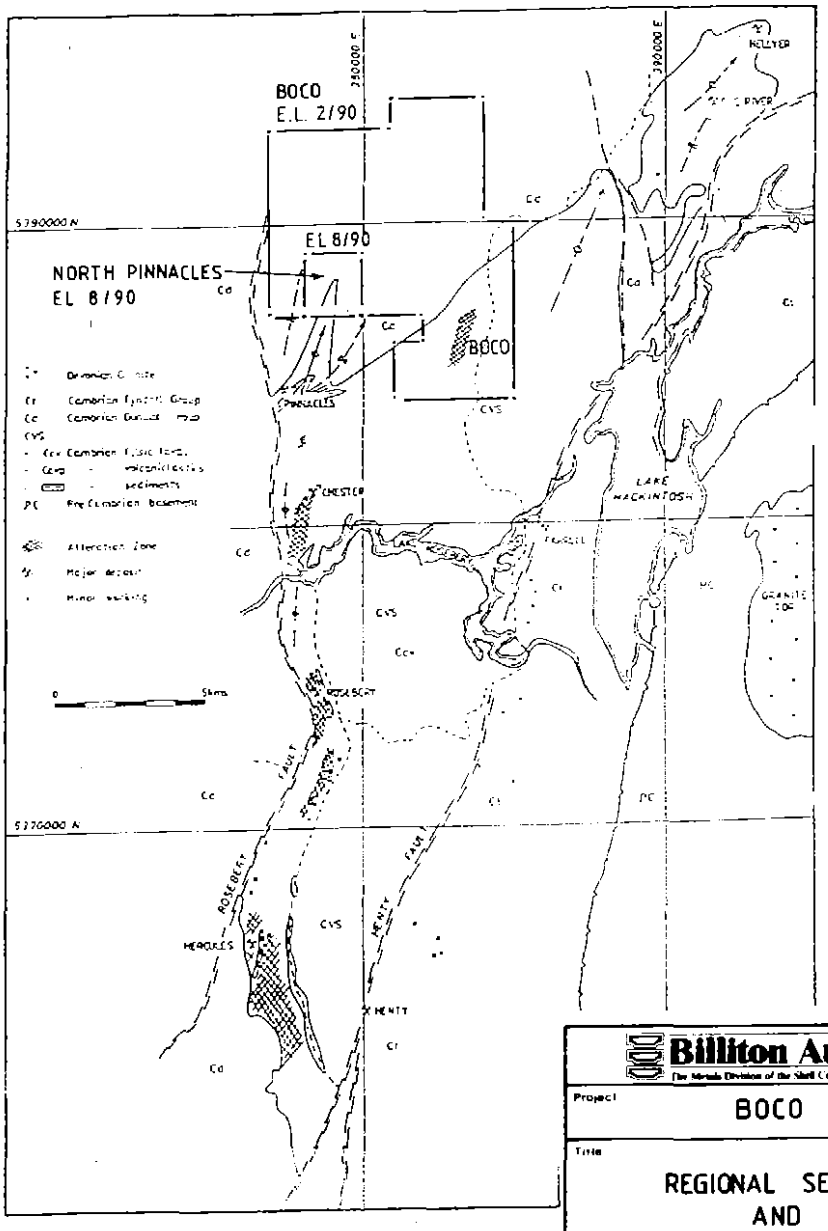
STRATIGRAPHIC COLUMNS (After Corbett 1990)



STRATIGRAPHIC COLUMN (3) →

STRATIGRAPHIC COLUMN (2) →

STRATIGRAPHIC COLUMN (1) →



Billiton Australia
The Minerals Division of the Shell Company of Australia Limited

Project: BOCO

Title: REGIONAL SETTING AND STRATIGRAPHIC CORRELATIONS

Author	J P R	Date	5/90	Scale	1:250 000
Drawn	O H	Office	TAS	Revised	Date
Drawing No.					Fig No. 2

1986 - Pancontinential Mining, Pancon. manager of the EZ-LRG -Pancon JV.

The licence expired on 25th December 1987 after which Samisen Ltd. successfully tendered for the area as EL 17/88.

Samisen subsequently relinquished the tenement in 1989 and the licence area reverted to open tender.

Excellent accounts of previous exploration surveys and results are contained in reports by CSR Ltd. (Williams, R.E. 1985) and Pancontinental (Taylor, S. 1987).

The exploration history is summarized below.

Pre-1963 : prospector workings (Samuel Smiths Lode) known at Boco Creek.

1963-1972: Comstaff- regional stream sediments.
2 lines IP at Boco.

1972-1976: EZ Co. - mapping.
- airborne magnetics.
- INPUT EM (flown by Comstaff).

1976-1979: EZ Co. - airborne EM.
(Boco) - gridding.
- gradient array IP.
- ground magnetics.
- soil sampling.
- 3 DDH's (BBP 207-209) of IP targets.
- dipole-dipole IP.

EZ Co. (Silver Falls, North Pinnacles, Northern Area) - gridding.
- INPUT follow up
- 3 DDH's (NNP 213-215)
- stream sediments.

1979-1984: EZ Co. - review geophysics.
(Boco) - gridding.
- soil sampling.
- dipole-dipole IP.
- mapping.
- 10 percussion holes.
- 8 DDH's (BBP 242, 246-248, 250-251, 253, 254).
- UTEM (immediate Boco area).
- down hole *Sirotem*.

1985 : CSR - mapping.
(Boco) - alteration studies.
- S isotopes.
- 3 DDH's (BBP 278-280).

1986-1987: Pancontinential - gridding.
(Boco) - UTEM (in loop, strike extensions of Boco).
- recompilation.

1988-1989: Samisen - RRMIP
(Boco) - test gravity.

5.2 Major Results

There has been considerable careful interpretation of the Boco environment by previous explorers and it is important in terms of prospectivity to summarize those points that relate to exploration implications (see Fig 3).

The Boco alteration zone, of dimensions defined by drilling of 1300mx350mx>400m depth, is a partly stratabound faulted zone of sericite-pyrite (3-5%) that shows strong geochemical depletion (Na_2O,Sr) typical of a Cambrian hydrothermal system. The alteration and pyritization is in part synvolcanic and some concordant massive sulphide laminae have been intersected within a strike restricted vitric ash bed.

Base metal mineralization is very weak with no precious metal anomalism.

eg. BBP 207 - 6m @ 0.35% Pb 1.55% Zn
BBP 208 - 0.8m @ 0.14% Pb 0.25% Zn
BBP 209 - 5m @ 0.01% Pb 0.40% Zn
BBP 247 - 3m @ 0.02% Pb 0.43% Zn

The zinc number (100Zn/Zn+Pb) is very erratic (8-97) and not typical of other VMS hydrothermal systems (consistent signature 60-77, Std.Dev. <15).

A N-S trending wrench fault, showing a right lateral displacement of 600m, transects the alteration zone and provides a structural boundary to the two alteration lobes. This fault is probably the same structure as the Boco Creek Fault but there is no evidence to suggest that the fault provided a locus for the alteration system.

Inter-hole correlation of lithologies is difficult but avail-able evidence suggests that stratigraphy trends from NE in the south to N in the north with moderate to steep W dips. However, evidence from a drill hole (BBP 208) to the east of the alteration zone suggests a steep easterly dip. Facing evidence is ambiguous, especially within the alteration zone but generally an E-facing sequence is assumed east of the alteration zone.

Both S- and O- isotope work has been carried out on the Boco alteration system and results from both studies imply a sign -ature not typical of Mt. Read VMS deposits. S-isotope values are light (-1.2 to +4.7°/₀₀) and similar to Chester (+0.4 to -3.9°/₀₀) but are not typical of known VMS deposits (eg Hellyer 11-5°/₀₀, Rosebery 10-15°/₀₀). These results suggest that the sulphur is of magmatic origin and not due to a seawater source or due to reduction of seawater sulphate.

The O-isotope values similarly are high for Boco (9.7-11.8 °/₀₀) and not typical of known VMS systems (eg Hercules +6.8 - +10°/₀₀, Hellyer +7 - +9°/₀₀). The Boco values are compatible with alteration by a fluid of seawater origin but at a lower temperature (<200°C) than that required to form a VMS deposit or to reduce seawater sulphate inorganically.

Exploratory drilling appears to have closed off the alteration zone to the south (BBP 253) although a mapped alteration zone occurs approx. 500m to the south of the main zone. To the north, BBP 278 has apparently tested any NE continuance but a northerly strike and shallow northerly plunge have not been considered.

The Boco alteration zone is covered by a variable but thick layer of fluvio-glacial debris (27-117m thick) which hampers the effectiveness of electrical geophysical surveys. UTEM has been carried out at Boco itself by EZ Co. who positioned

the transmitting loop assuming a steep W dip. This survey was confined to the drill indicated alteration zone. Pancontinental, on the other hand, assumed flat lying stratigraphy and carried out an in loop survey covering the main alteration zone and interpreted strike extensions to the NE and SW

Exploration outside of the Boco area has been essentially confined to three prospect areas viz Silver Falls, North Pinnacles and Que River.

At Silver Falls, exploration from 1979-81 involved surface follow up of the strike extensions of the known mineralization (which lies outside the EL). Weak quartz-galena veins in rhyolitic volcanics were costeaned but little potential for substantial mineralization was recognized.

The North Pinnacles prospect, excluded from this licence was tested by three DDH's in which anomalous gold values were intersected.

A small grid at Que River was cut to evaluate two INPUT anomalies. Surface work suggested that these anomalies were surficial and no other work was carried out.

6. EXPLORATION COMPLETED APRIL-OCTOBER 1990

Within EL 2/90, Billiton's main focus is restricted to those areas considered to hold potential to host a large volcanogenic massive sulphide deposit.

Initially attention was focused on the known alteration system at Boco but several factors have hindered exploration viz

- The long and reasonably comprehensive exploration history of the system.
- The extensive glacial cover which is in excess of 100m thick in places, limiting the effectiveness of geophysical surveys and making drilling an expensive option.

For these reasons it was decided to use Billiton's inhouse lithogeochemical research expertise to attempt to locate favourable stratigraphic breaks in the volcanic sequence that may host economic mineralization. Credence to this method was gained after Billiton completed a regional geochemical study of the Mt. Read Volcanics that involved the statistical treatment of a range of analyses from a data base of 1500 samples. The results of this work indicated that compositionally distinct volcanic assemblages occur in proximity to known mineralization. In particular, the contact between low and high Ti,Zr volcanics (CL and CH types, respectively) are favourable sites.

Within EL 2/90, outcrop is very limited and therefore sampling was limited to 20 sites (samples 14889-91, 14908-10, 16901-08, 16930-31, 16933-36; see Fig 3 and Appendix 1). In addition, 19 analyses from previous work by CSR were used to calculate compositional types.

7. EXPLORATION RESULTS

7.1 Lithogeochemical

Figure 3 shows the distribution of sample sites and the volcanic type calculated from the Ti, Zr factor and Sr, Y values. In essence it has been shown that known mineralization at Rosebery and Que-Hellyer occurs close to the CL/CH contact and therefore volcanic sequences that display a similar signature are, by analogy, favourable horizons for the development of mineralization.

Figure 4 shows the interpreted distribution of CL, CHh and Ch1 volcanics. The Pinnacles-North Pinnacles CL ridge is flanked by Chh-type volcanics on its western edge against the Dundas Group contact and Chl-type volcanics to the east, including the East Chester andesite.

Volcanics to the NE of the East Chester Andesite are of Chl-type, indicating a hanging wall sequence but with a complex interplay of CL, CHh and CHl-types corresponding with the Boco alteration zone. The available structural data would suggest that the Boco alteration system is located on the hinge of a shallowly north plunging anticline and that the Boco fault has later exploited this zone of weakness. The zonation of CL-type versus mixed CL/CH-type volcanics mimics this plunge attitude and furthermore, the three CHh-type samples near Bulgobac Hill and the Murchison Highway suggest

continuity of favourable stratigraphy to the north-east of Boco.

It is interesting that the NE plunging direction suggests favourable stratigraphy close to the CVC-Dundas Group contact. If the Pinnacles mineralizing episode is near the top of the Central Volcanics and the Que-Hellyer volcanism is lower Dundas Group then extrapolation in time - stratigraphic terms would place a mineralizing episode at Boco at the CVC-Dundas Group contact. This agrees with the lithogeochemical data and serves to highlight the prospectivity of the NE Boco quadrant. This work is also in agreement with the correlation made by Komyshan (1986) in regard to the possible equivalence of the Cdlf Sock Creek felsic sequence with the Que-Hellyer Cdlf unit. The two samples collected by Billiton from Sock Creek South Cdlf unit both are high Sr CH-types suggesting proximity to a favourable horizon ie the CVC/Dundas Group contact.

8. CONCLUSIONS

It is concluded that the weight of evidence argues against the Boco alteration zone, as drilled, being a footwall system to an exhalative massive sulphide deposit. The S- and O-isotope data, weak base metal mineralization, lack of precious metal values and zinc number all support this conclusion. It is envisaged that the low temperature hydrothermal system was initiated by intrusion of the massive Sock Creek Porphyry body

and that late tectonic fluids were mobilizied and deposited into zone of weakness induced at the hinge zones of antiformal and synformal structures. The Boco zone occupies the hinge of one of these N-plunging anticlinal flexures.

However, there are some important positive factors.

1. Mineralization at Pinnacles occurred in late CVC time while at Que-Hellyer, a lower Dundas Group time is interpreted. It is interpreted that there is a general younging of mineralization to the north (from Elliott Bay-Rosebery-Hellyer) and therefore in time-stratigraphic terms, an horizon at or near the CVC/Lower Dundas Group contact between Pinnacles and Hellyer is favourable for the development of a similar style of mineralization. The spatial location of this hypothetical deposit is not fixed except in so far as -

2. The lithogeochemical study completed by Billiton indicates the presence of favourable volcanic types close to the Boco alteration system. The signature of this lithogeochemical map is identified with that of other mineralized systems (eg Rosebery, Hellyer) and therefore indicates that a favourable setting is present in the vicinity of Boco for the development of a base metal VMS deposit.

3. Regionally, fold axes all plunge to the north at a shallow angle and this is supported by the lithogeochemical zonation around Boco. Therefore, the vector to mineralization is to the north-north east of Boco.

The ultimate conclusion to be drawn is that the most favourable position for development of a base metal VMS deposit lies at or near the Central Volcanics/Dundas Group contact between AMG co-ordinates 5388000N and 5390000N. This necessarily invokes some relationship between the known Boco alteration zone and a potential VMS deposit: it may be genetic or merely one of structurally favourable locii.

If the Pancontinental UTEM survey was effective in terms of EM coupling then we must reasonably expect that an economic size conductor does not exist within the top 200m of the surface. However, this survey was conducted in loop ie survey lines were read inside the transmitting loop based on the assumption of near horizontal stratigraphy. Billiton's interpretation, and indeed that of several other workers, would invoke a folded stratigraphy with moderate to steep fold limbs. In this case, EM coupling with a vertical conductor would be minimal with consequent failure of the system to detect such a source. It is therefore concluded that this survey was ineffective to detect a significant size steeply dipping conductor certainly at depths greater than 200m and probably near surface also.

In terms of the remainder of the Central Volcanic Sequence within the licence, it is concluded that the area covered by the Pancontinental survey has been ineffectively tested for the same reasons as cited above. The non-surveyed area has not had any modern deep seeking EM coverage and also remains untested.

The northern half of the licence covers upper Dundas Group sediments and porphyry intrusives with islands of Tertiary basalt and is not the subject of this current exploration phase.

9. RECOMMENDATIONS

The conclusions drawn from very limited exploration to date are quite speculative and require verification. It is recommended that a stratigraphic diamond drill hole be targeted to test the CVC/Dundas Group contact near the Murchison Highway. Deep seeking CSAMT and TEM depth soundings may be appropriate pre-drilling techniques to attempt to target the favourable stratigraphy more closely. However, the ultimate test will be a deep >800m diamond drill hole that will attempt to intersect part of a large alteration system that may or may not include mineralization. Any encouragement at this stage would need to be followed up by more diamond drilling which in itself may be at least partly stratigraphic.

APPENDIX 1

Lithogeochemical Sampling Assays

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(SHADED AREA TO BE ENTERED.)

	SAMPLE		EASTING	NORTHING	SiO2	Al2O3	TiO2	Fe2O3
46	14845	21	383200	5331200	75.70	13.20	0.290	4.27
47	14847	21	383600	5331150	71.40	13.00	0.390	3.89
48	14848	21	383600	5331150	67.60	11.50	0.210	8.11
49	14849	21	383750	5330850	74.90	13.60	0.270	4.12
50	14850	20	378800	5336350	54.80	17.60	0.970	10.50
51	14851	20	378800	5336350	56.90	16.30	0.880	9.98
52	14852	18	387250	5341150	67.10	14.10	0.970	7.38
53	14853	19	382950	5340450	64.50	13.60	0.380	10.50
54	14854	19	382800	5340250	76.10	14.70	0.300	2.90
55	14855	19	382450	5340650	80.10	9.74	0.250	2.05
56	14856	19	382050	5340800	75.00	15.20	0.350	3.34
57	14857	19	381600	5341150	72.40	16.80	0.390	3.47
58	14858	19	381400	5341050	46.00	23.20	0.800	14.50
59	14859	16	377550	5344600	58.50	14.20	0.620	5.38
60	14860	16	377600	5345000	66.60	16.20	0.680	5.26
61	14861	16	377300	5345500	65.70	14.90	0.690	6.79
62	14862	16	376450	5350100	64.70	17.00	0.630	6.26
63	14863	16	376720	5350240	66.30	15.10	0.670	5.88
64	14864	16	377060	5350500	73.00	14.90	0.380	3.73
65	14865	16	377200	5351460	61.70	16.70	1.040	10.30
66	14866	16	378050	5352400	71.30	15.00	0.390	4.43
67	14867	16	378460	5353000	68.20	14.80	0.640	5.91
68	14868	17	379120	5354500	69.80	15.70	0.560	4.75
69	14869	17	379640	5354940	60.10	13.60	0.440	7.95
70	14870	17	380160	5355260	59.40	14.30	0.460	7.71
71	14871	17	380570	5355700	59.50	14.50	0.540	7.24
72	14872	17	380640	5356000	57.10	15.50	0.550	7.61
73	14873	17	380860	5356920	61.20	15.80	0.810	6.16
74	14874	17	381100	5357850	62.30	15.30	0.780	5.81
75	14875	17	381040	5358500	68.40	12.70	0.490	5.31
76	14876	17	381180	5358960	77.80	12.30	0.410	3.90
77	14877	17	381180	5358960	71.10	11.10	0.270	3.45
78	14878	15	385440	5362760	67.70	12.20	0.530	7.43
79	14879	15	385560	5366840	72.20	10.30	0.160	2.44
80	14880	15	385800	5366700	65.20	12.10	0.470	11.10
81	14881	15	386220	5366380	68.60	13.10	0.520	6.15
82	14882	15	386680	5369520	59.30	14.30	0.780	7.12
83	14883	15	386680	5370220	56.70	15.10	0.900	8.83
84	14884	15	386480	5371320	63.10	13.90	0.780	7.44
85	14885	12	386160	5372940	71.60	12.30	0.440	2.87
86	14886	12	386320	5373740	74.70	11.80	0.370	1.75
87	14887	12	385980	5374260	67.30	14.80	0.180	3.82
88	14888	12	385600	5374340	78.30	10.60	0.130	0.98
89	14889	9	381840	5385200	73.70	12.20	0.150	2.27
90	14890	9	381460	5385460	75.60	11.50	0.250	1.50
91	14891	9	380920	5385460	69.30	14.20	0.290	2.68
92	14892	9	378800	5385260	75.50	11.20	0.220	0.58
93	14893	9	378800	5385260	71.40	11.90	0.400	3.43
94	14894	9	378360	5385060	73.70	11.30	0.320	2.85
95	14895	9	378320	5385450	77.80	11.30	0.290	1.36
96	14896	9	378520	5386250	71.60	12.90	0.550	3.38
97	14897	9	378660	5386700	70.60	14.20	0.350	2.63
98	14898	9	378840	5387040	81.80	8.93	0.110	1.62
99	14899	9	377720	5384320	76.70	11.50	0.220	1.70
100	14900	9	377200	5383800	77.60	11.10	0.310	1.17

	SAMPLE		EASTING	NORTHING	SiO_2	Al_2O_3	TiO_2	Fe_2O_3
101	14901	9	377300	5384000	84.10	8.33	0.220	0.89
102	14902	9	377480	5384060	88.60	6.06	0.160	0.55
103	14903	9	377500	5383680	83.40	9.27	0.170	0.81
104	14904	9	377820	5383780	80.00	10.80	0.310	0.81
105	14905	9	377900	5383200	76.60	14.20	0.370	2.07
106	14906	9	377860	5382960	52.40	19.30	1.130	15.00
107	14907	9	378020	5382560	54.40	19.30	1.020	11.20
108	14908	10	385580	5387800	74.50	14.20	0.320	2.23
109	14909	10	385960	5388460	68.90	18.00	0.580	4.12
110	14910	10	386340	5388850	77.90	12.80	0.330	2.15
111	14911	10	387160	5389760	70.90	15.90	0.400	2.50
112	14912	10	387900	5390640	76.40	13.20	0.330	2.81
113	14913	8	388520	5391220	78.10	14.70	0.350	1.25
114	14914	8	388570	5391270	75.10	14.30	0.340	2.32
115	14915	8	389340	5392140	58.50	20.10	0.630	6.96
116	14916	8	389460	5392220	76.80	14.30	0.320	0.88
117	14917	8	389680	5392450	66.80	19.00	0.400	3.19
118	14918	8	388980	5392620	80.70	11.40	0.290	1.47
119	14919	8	390080	5392960	69.70	14.80	0.330	4.28
120	14920	8	390380	5393160	52.80	17.00	0.640	9.50
121	14921	8	390740	5393560	49.50	17.50	0.690	9.69
122	14922	11	378080	5373100	81.90	12.30	0.077	1.05
123	14923	11	378380	5372900	74.50	14.30	0.350	2.54
124	14924	11	378630	5372920	73.30	13.00	0.330	3.17
125	14925	11	378880	5372940	71.60	14.90	0.370	2.34
126	14926	11	379160	5372840	72.10	15.30	0.410	2.42
127	14927	11	379210	5372720	75.10	13.90	0.370	2.42
128	14928	11	379350	5372440	72.60	15.20	0.530	3.31
129	14929	11	378200	5375100	72.50	16.00	0.360	2.14
130	14930	11	378500	5375080	66.70	19.10	0.480	2.92
131	14931	11	378720	5375000	74.40	14.70	0.410	2.84
132	14932	11	378790	5375150	72.30	15.40	0.350	4.39
133	14933	11	378940	5375340	73.80	14.80	0.350	2.95
134	14934	11	379190	5375500	73.10	16.00	0.360	2.53
135	14935	11	379460	5375800	73.70	14.70	0.390	3.82
136	14936	11	379740	5376070	69.50	17.40	0.330	3.29
137	14937	11	380030	5376230	70.00	15.80	0.400	4.55
138	14938	11	380420	5376600	78.80	12.50	0.250	2.26
139	14939	11	380640	5376070	76.10	13.70	0.270	2.18
140	14940	11	382080	5372360	61.40	16.60	0.710	7.70
141	14941	12	382900	5373030	51.20	18.40	1.010	11.30
142	14942	12	383600	5372920	55.30	14.50	0.740	7.93
143	14943	12	383310	5373540	48.00	19.60	1.050	12.10
144	14944	12	384050	5374150	56.00	18.10	0.940	9.56
145	14945	9	377730	5378820	71.00	14.50	0.360	3.10
146	14946	9	378050	5379350	75.90	13.40	0.260	2.85
147	14947	9	378300	5379570	77.40	13.20	0.260	2.44
148	14948	9	378720	5379970	70.40	13.80	0.470	4.25
149	14949	9	379020	5379540	69.70	14.50	0.490	4.55
150	14950	9	379240	5380280	71.00	14.10	0.330	2.98
151	14951	9	379780	5380540	75.20	13.60	0.300	2.16
152	14952	9	380110	5380210	76.10	12.60	0.230	1.95
153	14953	9	380490	5380200	77.20	12.50	0.200	2.18
154	14954	9	381220	5380300	78.70	12.10	0.240	2.19
155	14955	6	401880	5405940	79.90	12.20	0.250	1.93

	Sample	MgO	CaO	Na_2O	K_2O	MnO	P_2O_5	As
46	14846	0.880	0.0320	0.280	4.91	0.1300	0.0290	4.0
47	14847	0.780	0.0022	0.140	6.06	0.0200	0.0130	4.0
48	14848	0.610	0.0062	0.120	5.51	0.0540	0.0130	19.0
49	14849	0.480	0.0085	0.660	4.61	0.0580	0.0230	4.0
50	14850	4.030	2.9000	4.780	1.63	0.1100	0.1100	4.0
51	14851	5.390	2.9100	4.110	2.06	0.1300	0.1100	4.0
52	14852	1.950	0.1200	2.910	4.08	0.0440	0.0820	4.0
53	14853	3.370	0.0130	0.010	2.90	0.1800	0.0340	4.0
54	14854	0.790	0.0032	0.130	4.45	0.0260	0.0067	4.0
55	14855	0.042	0.0000	0.180	2.05	0.0039	0.0064	12.0
56	14856	0.520	0.0000	0.110	4.56	0.0150	0.0400	4.0
57	14857	0.520	0.0000	0.320	3.89	0.0290	0.0280	4.0
58	14858	3.430	0.0026	0.031	3.08	0.1000	0.3000	4.0
59	14859	2.340	0.2400	1.650	4.10	0.0920	0.0840	4.0
60	14860	1.970	0.0850	2.030	4.44	0.0700	0.0690	4.0
61	14861	2.050	0.0510	1.730	4.42	0.1400	0.1000	4.0
62	14862	2.070	0.0380	2.840	3.12	0.0520	0.0820	4.0
63	14863	2.770	0.0850	2.150	4.57	0.0580	0.0990	4.0
64	14864	0.530	0.7900	1.120	4.02	0.0740	0.0660	4.0
65	14865	3.140	0.0620	2.310	1.11	0.0530	0.1400	4.0
66	14866	0.760	0.6400	3.900	3.82	0.0480	0.0730	4.0
67	14867	2.940	0.1600	3.060	2.29	0.0190	0.1100	4.0
68	14868	0.690	0.0500	1.530	4.52	0.0120	0.1000	4.0
69	14869	4.150	4.6500	1.860	2.64	0.1200	0.1800	4.0
70	14870	4.090	4.9800	3.220	2.11	0.1000	0.2100	4.0
71	14871	4.010	2.7700	5.340	2.64	0.1400	0.1900	4.0
72	14872	3.320	3.1200	3.640	4.22	0.0770	0.3000	4.0
73	14873	2.950	0.7700	6.360	2.10	0.1500	0.1100	4.0
74	14874	2.340	0.8100	7.540	1.36	0.1300	0.1300	4.0
75	14875	2.400	0.3100	6.050	0.88	0.1000	0.0640	4.0
76	14876	1.130	0.0710	3.020	3.42	0.0340	0.0240	4.0
77	14877	0.830	0.0470	4.300	2.28	0.0230	0.0062	4.0
78	14878	1.160	0.0130	0.360	6.00	0.0420	0.0360	4.0
79	14879	0.610	0.5100	2.820	2.45	0.0300	0.0054	4.0
80	14880	1.750	0.0190	0.084	5.72	0.0520	0.0740	4.0
81	14881	1.270	0.0500	0.077	6.04	0.1300	0.0740	4.0
82	14882	3.100	4.5200	2.380	4.31	0.2300	0.1400	4.0
83	14883	4.490	1.9200	1.030	5.22	0.4200	0.1800	4.0
84	14884	3.080	0.4400	2.110	4.28	0.2200	0.1200	4.0
85	14885	1.300	0.7400	2.150	4.64	0.0720	0.0680	4.0
86	14886	0.870	1.1300	3.340	2.39	0.0680	0.0410	4.0
87	14887	1.760	0.0430	0.360	4.41	0.1200	0.0000	4.0
88	14888	0.140	0.0470	1.150	4.81	0.0082	0.0000	4.0
89	14889	0.430	0.2000	2.900	4.30	0.0680	0.0000	4.0
90	14890	0.120	0.4300	3.290	4.33	0.0230	0.0140	4.0
91	14891	0.390	0.1100	4.090	4.14	0.0360	0.0190	4.0
92	14892	0.010	0.0770	3.330	3.98	0.0031	0.0100	4.0
93	14893	1.870	1.2900	3.170	2.91	0.0830	0.0420	4.0
94	14894	0.830	0.1600	2.850	5.14	0.0460	0.0340	4.0
95	14895	0.420	0.0450	2.590	3.10	0.0076	0.0065	4.0
96	14896	0.910	0.2600	1.970	2.77	0.0380	0.0900	4.0
97	14897	0.180	0.3200	2.310	3.29	0.0430	0.0520	24.0
98	14898	0.620	0.0550	1.420	2.19	0.0240	0.0000	113.0
99	14899	0.300	0.0650	3.470	3.13	0.0290	0.0057	4.0
100	14900	0.420	0.0044	0.110	4.25	0.0290	0.0000	4.0

	Sample	MgO	CaO	Na_2O	K_2O	MnO	P_2O_5	As
101	14901	0.480	0.0047	0.063	3.30	0.0300	0.0000	4.0
102	14902	0.430	0.0053	0.071	2.42	0.0230	0.0000	4.0
103	14903	0.590	0.0082	0.051	3.54	0.0310	0.0000	4.0
104	14904	0.230	0.0000	0.170	3.74	0.0065	0.0000	4.0
105	14905	0.410	0.3500	2.110	2.64	0.0540	0.0077	4.0
106	14906	3.060	0.0470	1.320	2.56	0.1800	0.2100	4.0
107	14907	3.300	0.6800	2.060	3.01	0.4800	0.2300	4.0
108	14908	0.400	1.4000	2.370	3.87	0.0680	0.0210	4.0
109	14909	0.930	0.0000	0.120	3.41	0.0550	0.0540	4.0
110	14910	0.410	0.0200	0.190	4.18	0.0250	0.0140	4.0
111	14911	0.600	0.2400	3.590	3.89	0.0400	0.0670	4.0
112	14912	0.540	0.0920	1.980	2.97	0.0470	0.0110	4.0
113	14913	0.590	0.0100	0.060	4.74	0.0079	0.0000	4.0
114	14914	0.470	0.0039	0.110	5.40	0.0063	0.0210	5:.0
115	14915	1.830	0.8300	4.100	1.31	0.1700	0.2600	42.0
116	14916	0.170	0.0220	0.360	6.45	0.0073	0.0680	15.0
117	14917	0.430	0.1100	1.650	4.15	0.0200	0.0810	4.0
118	14918	0.190	0.0870	2.480	1.86	0.0051	0.0610	4.0
119	14919	0.750	0.1600	3.640	3.22	0.0710	0.0660	4.0
120	14920	5.170	5.8800	3.020	1.87	0.1500	0.4000	4.0
121	14921	7.090	3.5000	1.600	1.51	0.2300	0.5700	4.0
122	14922	0.450	0.0620	0.085	3.82	0.0073	0.0094	26.0
123	14923	0.880	0.2000	1.410	3.68	0.0610	0.0340	4.0
124	14924	0.990	0.0000	0.061	4.86	0.0550	0.0000	4.0
125	14925	1.760	0.0680	1.680	2.54	0.0370	0.0100	4.0
126	14926	0.580	0.1900	2.860	3.40	0.0360	0.0170	4.0
127	14927	0.410	0.6700	3.120	2.28	0.0320	0.0230	4.0
128	14928	0.860	0.2000	2.630	2.91	0.0600	0.0710	23.0
129	14929	0.780	0.1400	4.440	1.83	0.1200	0.0310	4.0
130	14930	0.760	0.0500	1.020	4.12	0.0190	0.0230	4.0
131	14931	0.640	0.0960	2.270	2.39	0.0310	0.0130	4.0
132	14932	0.960	0.0400	1.020	3.84	0.0540	0.0320	4.0
133	14933	0.640	0.0370	2.260	2.92	0.0130	0.0210	4.0
134	14934	0.640	0.0058	0.440	3.85	0.0130	0.0058	4.0
135	14935	0.810	0.1200	2.860	3.39	0.0260	0.0650	4.0
136	14936	0.660	0.0310	2.370	4.24	0.0095	0.0170	4.0
137	14937	1.000	0.0074	0.160	4.75	0.0250	0.0290	4.0
138	14938	0.460	0.0400	2.230	3.44	0.0170	0.0140	4.0
139	14939	0.290	0.1300	3.790	3.49	0.0110	0.0060	4.0
140	14940	2.880	4.8600	4.040	0.65	0.1500	0.1000	4.0
141	14941	4.980	4.8200	4.210	0.88	0.2100	0.0960	4.0
142	14942	3.260	2.6200	3.140	2.45	0.1800	0.1200	4.0
143	14943	4.520	6.9000	2.870	1.11	0.2300	0.0960	4.0
144	14944	4.040	2.1800	3.620	1.39	0.2400	0.1200	10.0
145	14945	1.290	1.2200	1.750	3.60	0.2100	0.0450	4.0
146	14946	0.390	0.1600	1.190	3.84	0.2400	0.0240	4.0
147	14947	0.320	0.4800	1.100	3.59	0.2000	0.0220	4.0
148	14948	1.190	1.5000	2.820	3.06	0.0650	0.1100	4.0
149	14949	1.110	1.5900	3.260	3.00	0.0870	0.1200	4.0
150	14950	0.600	2.0100	1.780	3.69	0.0770	0.0610	4.0
151	14951	0.530	1.0600	1.850	3.78	0.0550	0.0330	4.0
152	14952	0.350	0.7300	2.540	2.96	0.0300	0.0160	4.0
153	14953	0.300	0.1100	2.990	3.86	0.0280	0.0081	4.0
154	14954	0.370	0.3900	2.870	3.43	0.0380	0.0190	4.0
155	14955	0.360	0.0140	2.250	3.37	0.0094	0.0150	4.0

		Ba	Ce	Co	Cr	Cu	Ga	La
46	14846	1050	180	14	20	58.0	17	47
47	14847	2050	170	25	20	1187.0	17	52
48	14848	1850	120	110	20	684.0	18	10
49	14849	1050	140	16	20	1.0	15	39
50	14850	1150	94	39	20	11.0	22	10
51	14851	2050	130	38	20	6.0	16	10
52	14852	1050	130	46	20	6.0	20	37
53	14853	1250	130	45	20	93.0	18	27
54	14854	1350	150	14	20	1.0	18	35
55	14855	1950	130	27	20	15.0	18	10
56	14856	1850	200	19	20	6.0	19	52
57	14857	950	110	12	20	41.0	21	51
58	14858	950	160	64	160	389.0	24	79
59	14859	1050	120	24	140	39.0	20	42
60	14860	1450	150	25	140	12.0	21	38
61	14861	1150	140	41	130	1.0	21	44
62	14862	850	120	19	70	1.0	23	37
63	14863	1150	150	30	140	4.0	18	49
64	14864	120	110	26	20	1.0	18	40
65	14865	30	120	42	99	1.0	21	49
66	14866	950	120	37	20	1.0	16	29
67	14867	240	130	34	110	1.0	20	38
68	14868	1450	160	25	20	1.0	19	39
69	14869	1050	170	42	120	60.0	16	62
70	14870	810	180	55	100	37.0	15	74
71	14871	1350	160	50	20	7.0	18	47
72	14872	2950	280	46	84	22.0	19	99
73	14873	1050	79	29	20	1.0	22	10
74	14874	670	100	44	20	1.0	21	23
75	14875	430	83	37	20	1.0	22	10
76	14876	1250	160	31	20	1.0	20	50
77	14877	950	60	27	20	1.0	17	10
78	14878	2650	170	43	20	10.0	16	34
79	14879	760	120	59	20	1.0	16	30
80	14880	1970	180	65	20	1.0	18	47
81	14881	1350	160	26	20	6.0	20	36
82	14882	1250	140	64	20	9.0	19	33
83	14883	1450	150	54	120	23.0	21	40
84	14884	850	88	87	20	1.0	17	10
85	14885	1350	180	24	20	1.0	18	45
86	14886	370	120	39	20	1.0	19	24
87	14887	1650	210	15	20	1.0	19	10
88	14888	2150	170	33	20	1.0	15	46
89	14889	1950	190	29	20	1.0	15	65
90	14890	1950	160	53	20	1.0	19	37
91	14891	2250	230	8	20	1.0	19	72
92	14892	2050	110	35	20	1.0	10	10
93	14893	410	150	26	40	1.0	23	59
94	14894	2150	220	74	20	1.0	14	59
95	14895	720	130	14	20	30.0	15	37
96	14896	1050	140	18	20	1.0	17	32
97	14897	1350	200	27	20	1.0	21	79
98	14898	760	190	54	20	1.0	14	31
99	14899	1250	100	21	20	1.0	15	26
100	14900	850	61	14	20	1.0	16	10

		Ba	Ce	Co	Cr	Cu	Ga	La
101	14901	730	54	17	20	1.0	13	10
102	14902	360	28	50	20	1.0	13	10
103	14903	790	70	24	20	1.0	13	10
104	14904	1350	85	18	20	1.0	16	10
105	14905	830	71	9	20	1.0	17	10
106	14906	800	190	32	20	29.0	27	88
107	14907	850	120	38	20	63.0	23	50
108	14908	1350	180	16	20	1.0	14	50
109	14909	750	160	6	20	1.0	19	27
110	14910	1050	68	16	20	1.0	13	10
111	14911	1050	130	10	20	1.0	20	35
112	14912	1050	130	25	20	1.0	16	27
113	14913	150	87	16	20	1.0	18	28
114	14914	740	140	13	20	1.0	19	41
115	14915	1450	290	17	20	17.0	21	110
116	14916	3950	300	11	20	1.0	13	76
117	14917	1350	190	10	20	1.0	22	67
118	14918	390	150	24	20	1.0	14	53
119	14919	2050	240	22	20	1.0	15	88
120	14920	950	250	50	350	147.0	19	110
121	14921	1450	270	59	390	137.0	21	110
122	14922	540	100	14	20	6.0	18	20
123	14923	1150	140	11	20	1.0	17	35
124	14924	830	58	10	20	1.0	19	10
125	14925	1150	100	16	20	4.0	19	24
126	14926	1850	120	12	20	15.0	22	21
127	14927	1050	94	26	20	1.0	20	27
128	14928	1150	69	14	20	4.0	19	10
129	14929	430	140	13	20	1.0	23	34
130	14930	1750	190	8	20	7.0	26	57
131	14931	1250	95	15	20	1.0	20	23
132	14932	810	78	7	20	35.0	20	10
133	14933	680	94	12	20	1.0	17	35
134	14934	950	97	10	20	1.0	22	23
135	14935	760	120	22	20	1.0	21	25
136	14936	840	150	9	20	1.0	24	51
137	14937	1150	170	16	20	1.0	22	45
138	14938	850	150	12	20	1.0	19	42
139	14939	850	110	14	20	1.0	17	29
140	14940	160	66	30	20	1.0	25	32
141	14941	360	47	54	40	158.0	19	10
142	14942	870	130	34	20	1.0	18	38
143	14943	430	37	61	77	117.0	23	26
144	14944	250	76	43	65	69.0	19	27
145	14945	850	120	11	20	1.0	16	22
146	14946	1050	120	14	20	1.0	18	28
147	14947	750	120	11	20	1.0	16	35
148	14948	600	100	25	20	1.0	17	34
149	14949	630	95	18	20	1.0	18	30
150	14950	740	94	23	20	1.0	19	35
151	14951	850	130	13	20	1.0	19	25
152	14952	610	90	12	20	1.0	20	23
153	14953	1350	99	33	20	1.0	16	10
154	14954	1250	140	23	20	1.0	14	21
155	14955	1050	170	17	20	1.0	15	57

		Nb	Ni	Pb	Rb	Sc	Sr	Th
46	14846	11.0	4.0	3.0	185.0	8	11	20
47	14847	17.0	1.0	9.0	183.0	9	30	16
48	14848	18.0	2.0	3.0	137.0	7	37	18
49	14849	16.0	2.0	17.0	185.0	7	28	23
50	14850	9.0	7.0	10.0	34.0	38	467	3
51	14851	15.0	4.0	3.0	46.0	37	417	3
52	14852	15.0	9.0	19.0	137.0	18	128	19
53	14853	9.0	23.0	238.0	98.0	23	5	7
54	14854	14.0	4.0	50.0	190.0	11	6	18
55	14855	11.0	3.0	29.0	77.0	8	71	13
56	14856	14.0	6.0	174.0	179.0	13	5	11
57	14857	12.0	4.0	47.0	155.0	11	16	19
58	14858	6.0	55.0	11.0	81.0	44	14	25
59	14859	14.0	36.0	237.0	153.0	19	108	17
60	14860	15.0	29.0	23.0	141.0	19	82	21
61	14861	13.0	35.0	3.0	153.0	22	63	23
62	14862	13.0	27.0	3.0	98.0	16	71	21
63	14863	14.0	37.0	3.0	166.0	21	88	20
64	14864	3.0	5.0	3.0	154.0	11	17	27
65	14865	8.0	33.0	3.0	50.0	25	64	17
66	14866	9.0	1.0	3.0	119.0	12	141	20
67	14867	8.0	33.0	3.0	90.0	19	58	21
68	14868	13.0	4.0	3.0	127.0	15	57	18
69	14869	6.0	38.0	3.0	71.0	30	531	28
70	14870	3.0	39.0	3.0	73.0	31	517	24
71	14871	7.0	16.0	3.0	65.0	28	329	21
72	14872	18.0	30.0	3.0	75.0	34	617	25
73	14873	8.0	3.0	3.0	35.0	29	159	8
74	14874	8.0	2.0	42.0	30.0	21	270	12
75	14875	6.0	1.0	44.0	21.0	17	216	13
76	14876	17.0	3.0	3.0	113.0	12	101	20
77	14877	14.0	1.0	3.0	84.0	10	116	19
78	14878	18.0	4.0	3.0	250.0	20	65	9
79	14879	10.0	5.0	10.0	132.0	4	167	24
80	14880	12.0	8.0	14.0	249.0	16	45	11
81	14881	14.0	3.0	22.0	261.0	14	23	16
82	14882	12.0	8.0	40.0	221.0	23	402	12
83	14883	13.0	23.0	214.0	246.0	30	209	10
84	14884	10.0	5.0	49.0	261.0	27	116	10
85	14885	12.0	12.0	110.0	179.0	12	117	21
86	14886	9.0	11.0	48.0	169.0	10	106	19
87	14887	7.0	18.0	10.0	102.0	3	125	17
88	14888	17.0	6.0	11.0	129.0	3	80	16
89	14889	8.0	4.0	3.0	143.0	3	60	23
90	14890	12.0	2.0	7.0	112.0	6	116	20
91	14891	13.0	4.0	18.0	74.0	7	196	21
92	14892	7.0	1.0	23.0	88.0	5	59	25
93	14893	17.0	5.0	240.0	193.0	11	55	32
94	14894	16.0	3.0	10.0	109.0	9	58	27
95	14895	16.0	2.0	9.0	140.0	7	179	30
96	14896	13.0	1.0	6.0	107.0	12	184	16
97	14897	16.0	1.0	246.0	83.0	5	152	18
98	14898	12.0	1.0	254.0	77.0	2	89	9
99	14899	8.0	1.0	38.0	97.0	8	84	17
100	14900	8.0	1.0	9.0	180.0	5	5	15

		Nb	Ni	Pb	Rb	Sc	Sr	Th
101	14901	5.0	1.0	28.0	149.0	3	2	16
102	14902	5.0	2.0	3.0	113.0	2	4	18
103	14903	9.0	4.0	3.0	159.0	3	2	19
104	14904	12.0	3.0	25.0	183.0	5	25	14
105	14905	11.0	3.0	39.0	93.0	5	150	19
106	14906	3.0	1.0	102.0	104.0	33	81	17
107	14907	2.0	3.0	3.0	103.0	33	110	11
108	14908	14.0	3.0	3.0	163.0	8	578	27
109	14909	12.0	3.0	3.0	181.0	15	17	24
110	14910	12.0	4.0	3.0	147.0	7	28	22
111	14911	13.0	8.0	3.0	110.0	13	132	26
112	14912	14.0	3.0	3.0	137.0	7	111	21
113	14913	7.0	3.0	7.0	226.0	7	4	20
114	14914	11.0	6.0	17.0	187.0	8	10	27
115	14915	14.0	4.0	21.0	47.0	24	344	27
116	14916	20.0	5.0	28.0	149.0	11	38	24
117	14917	10.0	10.0	3.0	142.0	17	102	30
118	14918	4.0	4.0	3.0	65.0	8	125	20
119	14919	13.0	5.0	3.0	69.0	14	152	28
120	14920	8.0	74.0	12.0	40.0	44	456	20
121	14921	12.0	83.0	71.0	35.0	51	467	22
122	14922	7.0	3.0	20.0	183.0	3	6	18
123	14923	12.0	3.0	6.0	198.0	6	86	20
124	14924	9.0	3.0	81.0	236.0	5	8	9
125	14925	14.0	5.0	3.0	136.0	5	125	22
126	14926	16.0	3.0	11.0	208.0	10	213	23
127	14927	12.0	2.0	3.0	118.0	9	268	22
128	14928	9.0	3.0	17.0	128.0	13	175	14
129	14929	11.0	3.0	3.0	100.0	6	235	25
130	14930	19.0	8.0	50.0	146.0	13	74	28
131	14931	14.0	7.0	13.0	89.0	9	140	22
132	14932	10.0	4.0	3.0	171.0	6	28	23
133	14933	11.0	1.0	3.0	118.0	7	61	18
134	14934	16.0	4.0	68.0	161.0	6	15	19
135	14935	8.0	2.0	3.0	147.0	8	74	23
136	14936	19.0	3.0	11.0	190.0	9	47	24
137	14937	15.0	1.0	3.0	199.0	11	13	21
138	14938	11.0	1.0	12.0	131.0	5	64	16
139	14939	13.0	3.0	3.0	103.0	6	100	18
140	14940	1.0	11.0	3.0	21.0	24	415	13
141	14941	1.0	45.0	7.0	27.0	35	277	3
142	14942	8.0	8.0	3.0	63.0	19	213	13
143	14943	1.0	56.0	25.0	40.0	40	275	3
144	14944	1.0	36.0	75.0	168.0	31	242	3
145	14945	10.0	3.0	3.0	155.0	7	61	18
146	14946	8.0	3.0	15.0	171.0	5	25	16
147	14947	8.0	3.0	3.0	158.0	5	42	18
148	14948	6.0	1.0	3.0	141.0	11	127	14
149	14949	5.0	3.0	3.0	141.0	11	134	17
150	14950	7.0	3.0	9.0	161.0	9	89	16
151	14951	10.0	2.0	150.0	163.0	5	49	16
152	14952	10.0	3.0	10.0	134.0	5	48	19
153	14953	15.0	4.0	3.0	97.0	5	65	20
154	14954	13.0	4.0	11.0	101.0	4	90	16
155	14955	11.0	7.0	39.0	123.0	7	35	23

		U	V	Y	Zn	Zr
46	14846	1	10	35.0	74	264
47	14847	1	10	33.0	69	266
48	14848	1	10	29.0	109	187
49	14849	1	10	29.0	98	201
50	14850	1	290	22.0	66	145
51	14851	1	260	16.0	60	132
52	14852	1	200	26.0	127	256
53	14853	1	120	30.0	738	178
54	14854	1	10	38.0	89	281
55	14855	1	32	25.0	8	157
56	14856	1	53	32.0	84	243
57	14857	1	10	31.0	78	324
58	14858	1	360	26.0	205	165
59	14859	1	120	33.0	415	260
60	14860	1	140	27.0	231	253
61	14861	1	140	24.0	169	261
62	14862	1	93	36.0	87	279
63	14863	1	140	24.0	79	253
64	14864	1	24	41.0	13	248
65	14865	1	190	29.0	99	394
66	14866	1	10	33.0	76	244
67	14867	1	130	26.0	74	259
68	14868	1	60	26.0	50	225
69	14869	1	220	16.0	66	125
70	14870	1	230	16.0	66	140
71	14871	1	210	20.0	133	164
72	14872	1	250	20.0	70	155
73	14873	1	210	16.0	77	136
74	14874	3	120	26.0	86	237
75	14875	1	62	27.0	93	246
76	14876	1	30	36.0	52	229
77	14877	1	27	34.0	64	206
78	14878	1	110	22.0	221	191
79	14879	1	10	16.0	66	133
80	14880	1	180	18.0	156	168
81	14881	1	61	41.0	282	287
82	14882	1	180	23.0	291	162
83	14883	1	230	20.0	506	157
84	14884	1	170	22.0	475	223
85	14885	1	54	30.0	234	242
86	14886	1	43	41.0	87	280
87	14887	1	10	30.0	103	224
88	14888	1	10	30.0	85	243
89	14889	1	10	26.0	20	205
90	14890	1	10	22.0	54	252
91	14891	5	10	27.0	75	243
92	14892	1	10	13.0	43	121
93	14893	1	62	20.0	143	194
94	14894	3	23	22.0	20	140
95	14895	1	22	25.0	108	173
96	14896	1	53	18.0	29	176
97	14897	1	10	22.0	140	208
98	14898	1	10	21.0	17	174
99	14899	1	10	23.0	69	158
100	14900	1	10	20.0	33	209

		U	V	Y	Zn	Zr
101	14901	1	10	18.0	37	152
102	14902	1	10	13.0	14	122
103	14903	1	10	11.0	25	115
104	14904	1	10	22.0	15	213
105	14905	1	10	19.0	60	269
106	14906	1	210	30.0	459	168
107	14907	1	320	26.0	345	82
108	14908	4	10	46.0	41	276
109	14909	1	34	28.0	67	300
110	14910	1	10	19.0	23	252
111	14911	1	25	21.0	30	290
112	14912	1	10	31.0	47	270
113	14913	1	10	31.0	10	289
114	14914	1	10	27.0	26	281
115	14915	7	200	23.0	215	204
116	14916	1	29	18.0	31	154
117	14917	1	37	18.0	50	203
118	14918	1	28	17.0	8	146
119	14919	1	39	24.0	46	173
120	14920	7	310	25.0	170	150
121	14921	5	350	24.0	345	163
122	14922	1	10	27.0	14	99
123	14923	1	10	27.0	26	248
124	14924	1	10	19.0	55	243
125	14925	1	10	25.0	37	263
126	14926	1	10	34.0	30	291
127	14927	1	10	34.0	37	287
128	14928	1	52	22.0	83	227
129	14929	1	10	36.0	40	284
130	14930	1	31	46.0	112	351
131	14931	1	10	34.0	67	315
132	14932	1	21	23.0	40	267
133	14933	1	10	27.0	26	261
134	14934	1	23	28.0	23	293
135	14935	1	43	27.0	34	245
136	14936	1	10	45.0	36	339
137	14937	1	52	30.0	47	261
138	14938	1	10	34.0	26	231
139	14939	1	10	30.0	15	257
140	14940	7	200	31.0	113	185
141	14941	1	360	20.0	180	81
142	14942	1	180	22.0	199	195
143	14943	1	370	27.0	176	82
144	14944	1	230	26.0	226	158
145	14945	1	27	24.0	85	253
146	14946	1	10	19.0	120	186
147	14947	1	10	20.0	54	180
148	14948	1	80	26.0	57	189
149	14949	1	84	25.0	38	195
150	14950	1	47	16.0	64	164
151	14951	1	23	25.0	66	243
152	14952	1	10	33.0	37	243
153	14953	1	10	29.0	19	223
154	14954	1	10	29.0	35	230
155	14955	1	10	44.0	34	236

029

CLASSIC COMLABS LTD
Analytical Laboratories (INC. IN WA.)

305 South Road, Mile End South, South Australia, 5031
Telephone: (08) 43 5722 Fax: (08) 234 0321 Telex: LABCOM AA89323

381030 MT24 845

Mr. Jeff Randell
Billiton Australia Ltd
PO Box 860
DEVONPORT
TAS 7310

Job Number: 9AD3029

Your Reference: 11707/MT24/JPR
Number of Samples: 8
Extra Samples : 0

Date Received: 08-NOV-1989
Date Reported: 30-NOV-1989

This 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. Please address any enquiries to Mr. Trevor Francis.

BoCo Lithogeochem.

Approved Signature:

for J Kikkert.

Dr. John Kikkert
General Manager - Adelaide.

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

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

030

CLASSIC COMLABS LTD

Analytical Laboratories (INC. IN W.A.)

Job: 9AD3029 381031

O/N: 11707/MT24/JPR

ANALYTICAL REPORT

Sample	Al2O3	CaO	Fe2O3	K2O	MgO	Na2O	P2O5
16901	15.9	0.11	1.89	4.14	1.43	0.17	0.03
16902	14.2	0.07	2.76	5.30	0.67	0.74	0.03
16903	13.7	0.03	0.63	1.12	0.08	0.29	0.02
16904	18.4	0.13	2.84	4.44	0.40	2.24	0.06
16905	15.1	0.47	3.08	4.48	0.52	3.70	0.09
16906	16.0	0.66	3.10	5.00	0.42	2.98	0.10
16907	19.7	0.06	2.96	1.95	0.39	0.35	0.04
16908	14.2	0.51	3.62	3.78	0.80	3.84	0.10
Units	%	%	%	%	%	%	%
Detn Limit	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Scheme	ICP5	ICP5	ICP5	ICP5	ICP5	ICP5	ICP5

U31

CLASSIC COMLABS LTD

Analytical Laboratories (INC. IN WA)

Job: 9AD3029 381032
O/N: 11707/MT24/JPR

ANALYTICAL REPORT

Sample	SiO2	TiO2	LOI	MnO
16901	71.8	0.31	4.42	0.06
16902	72.1	0.35	3.50	0.03
16903	80.4	0.26	2.32	<0.01
16904	64.7	0.61	5.25	0.06
16905	69.7	0.54	2.26	0.06
16906	67.5	0.63	3.12	0.04
16907	65.3	0.31	8.60	0.03
16908	72.0	0.39	1.72	0.07
Units	%	%	%	%
Detn Limit	0.01	0.01	0.01	0.01
Scheme	ICP5	ICP5	ICP5	ICP5

032

CLASSIC COMLABS LTD

Analytical Laboratories (INC. IN W.A.)

Job: 9AD3029
O/N: 11707/MT24/JPR

381033

ANALYTICAL REPORT

Sample	Zr	Sr	Rb	Y	Nb
16901	240	16	195	30	18
16902	230	105	220	32	16
16903	210	78	18	14	17
16904	530	140	120	28	16
16905	480	220	105	24	15
16906	570	240	130	34	17
16907	240	20	64	20	14
16908	200	140	110	34	14
Units	ppm	ppm	ppm	ppm	ppm
Detn Limit	4	2	2	4	2
Scheme	XRF1	XRF1	XRF1	XRF1	XRF1

035
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

381034

LD58
845

Mr. Jeff Randell
Billiton Australia Ltd
PO Box 860
DEVONPORT
TAS 7310

F I N A L A N A L Y S I S R E P O R T

Your Order No: 11722/LD58/JPR Our Job Number : 0AD1119

Samples received : 17-APR-1990 Results reported : 26-APR-1990
No. of samples : 17
Report comprises a cover sheet and pages I1 to I3, 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 Mr David Eardley-Harris quoting the above job number.

16930-36 Boco
37-42 Nth. Pinnacle

Approved Signatory:

Dr John Kikkert
General 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"

381035

CLASSIC LABORATORIES LTD

Analysis code ICP 5 Report AC 0AD1119 Page I1

NATA Certificate Results in percentages

	16930	16931	16933	16934	16935
SiO2	69.6	72.6	72.8	69.3	62.3
TiO2	0.40	0.36	0.48	0.73	0.67
Al2O3	14.5	12.5	12.9	14.6	19.0
Fe2O3	2.92	2.44	1.60	3.60	4.68
MnO	0.05	0.02	0.02	0.09	0.09
MgO	1.11	0.94	0.93	1.45	1.27
CaO	1.05	0.69	1.16	1.59	0.95
Na2O	3.28	1.91	1.03	4.56	0.07
K2O	3.66	4.98	5.15	1.46	2.12
P2O5	0.24	0.24	0.40	0.36	0.37
LOI	2.58	2.10	1.58	2.64	8.20
Totals	99.4	98.8	98.0	100.4	99.7

Total FE as Fe2O3

035
CLASSIC LABORATORIES LTD

381036

Analysis code ICP 5 Report AC 0AD1119 Page I2

NATA Certificate Results in percentages

	16936	16937	16938	16939	16940
SiO2	67.1	77.9	75.3	70.2	75.1
TiO2	0.41	0.23	0.26	0.55	0.32
Al2O3	16.5	11.2	12.7	14.6	12.2
Fe2O3	2.68	1.78	1.37	3.00	0.80
MnO	0.08	0.08	0.02	0.06	0.01
MgO	1.18	0.89	0.72	1.31	0.55
CaO	0.84	0.70	0.81	1.00	0.88
Na2O	1.00	2.56	1.66	4.58	2.42
K2O	2.26	2.52	5.50	1.40	4.56
P2O5	0.28	0.22	0.25	0.29	0.29
LOI	6.50	2.32	1.76	3.38	1.88
Totals	98.8	100.4	100.3	100.4	99.0

Total FE as Fe2O3

036
CLASSIC LABORATORIES LTD

Analysis code ICP 5 Report AC 0AD1119 Page I3

NATA Certificate Results in percentages

	16941	16942
SiO2	75.3	67.7
TiO2	0.35	0.50
Al2O3	12.5	15.2
Fe2O3	1.91	3.56
MnO	0.03	0.03
MgO	0.92	0.82
CaO	0.82	1.51
Na2O	0.24	2.36
K2O	4.18	1.59
P2O5	0.26	0.27
LOI	3.08	4.84
Totals	99.6	98.4

Total FE as Fe2O3

037

381038

CLASSIC LABORATORIES LTD

Job: 0AD1119
O/N: 11722/LD58/JPR

ANALYTICAL REPORT

Sample	Zr	Sr	Rb	Y	Nb
16930	175	300	120	18	10
16931	180	70	155	24	16
16933	230	78	210	36	13
16934	300	220	75	35	16
16935	260	18	120	16	15
16936	200	78	70	22	14
16937	140	130	95	24	14
16938	145	115	125	25	15
16939	190	200	42	16	11
16940	125	96	84	16	11
16941	155	30	175	22	10
16942	170	320	62	22	10
Units	ppm	ppm	ppm	ppm	ppm
Detn Limit	4	2	2	4	2
Scheme	XRF1	XRF1	XRF1	XRF1	XRF1

038
CLASSIC LABORATORIES LTD

Job: 0AD1119
O/N: 11722/LD58/JPR

ANALYTICAL REPORT

Sample	Au Avg	Au Au Rp1	Au SS1	Cu	Zn	Ag
16921	0.01	0.01	--	--	115	98	<1
16922	<0.01	<0.01	--	--	4	13	<1
16924	<0.01	<0.01	--	--	10	155	<1
16929	<0.01	<0.01	--	--	9	125	<1
16932	<0.01	<0.01	--	--	14	10	<1
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detn Limit	0.01	0.01	0.01	0.01	2	2	1
Scheme	FA1	FA1	FA1	FA1	AAS2	AAS2	AAS2

039

381040

CLASSIC LABORATORIES LTD

Job: OAD1119
O/N: 11722/LD58/JPR

ANALYTICAL REPORT

Sample	Pb	As	Ba
16921	310	54	190
16922	13	2	420
16924	850	<2	310
16929	140	<2	1140
16932	14	11	1780
Units	ppm	ppm	ppm
Detn Limit	2	2	10
Scheme	XRF1	XRF1	XRF1

381041 CSR Report.

APPENDIX IV

TABULATED WHOLE ROCK AND TRACE ELEMENT ANALYSES

DDH NO.		BBP 248	BBP 248	BBP 246	BBP 250	BBP 242	BBP 253	BBP 253	BBP 253	BBP 278	BBP 278	BBP 278	BBP 278
INTERVAL		567.0-577.0	319.0-331.0	272.0-287.0	337.0-355.0	195.0-213.0	114.7-128.0	319.0-336.0	436.5-448.5	183.3-196.0	217.2-223.1	438.2-442.5	447.5-457.0	324.0-339.0
SAMPLE NO.		A184709	A184710	A184711	A184712	A184713	A184706	A184707	A184708	A184701	A184702	A184703	A184704	A184705
SiO_2	%	75.6	73.0	73.5	70.9	72.6	73.0	68.8	73.4	70.8	49.5	56.9	72.0	72.8
TiO_2	%	0.22	0.24	0.23	0.33	0.30	0.30	0.30	0.34	0.30	0.68	1.15	0.29	0.31
Al_2O_3	%	11.7	13.7	12.0	12.4	13.8	12.6	12.4	13.7	13.4	11.5	14.6	11.6	12.7
Fe_2O_3	%	1.65	2.15	4.15	3.35	2.45	2.95	2.80	2.10	3.85	11.60	9.75	3.00	2.70
FeO	%													
MnO	%	0.04	0.04	0.07	0.08	0.05	0.05	0.09	0.04	0.07	0.37	0.18	0.10	0.05
MgO	%	0.10	0.45	0.45	0.80	0.65	0.20	0.15	0.70	0.50	5.50	2.35	0.70	0.70
CaO	%	1.10	1.00	0.55	2.90	1.50	1.35	3.05	1.40	1.20	8.45	4.35	2.70	1.70
Na_2O	%	2.65	3.05	2.15	1.75	2.35	2.75	2.05	2.80	3.85	1.95	4.30	0.29	3.95
K_2O	%	4.55	3.30	4.60	2.95	3.10	5.25	5.05	3.20	3.35	1.05	1.50	3.75	2.15
P_2O_5	%	0.021	0.021	0.021	0.055	0.069	0.041	0.034	0.043	0.076	0.607	0.427	0.060	0.039
SO_3	%													
CO_2	%													
H_2O^+	%													
H_2O^-	%													
L.O.I.	%	1.51	2.07	1.36	3.50	2.86	1.53	3.21	2.62	1.75	8.75	4.33	4.78	2.21
Total	%													
Ag	ppm	x	x	x	x	x	x	x	x	x	x	x	x	x
As	ppm	3	x	8	2	2	3	3	x	x	x	x	4	40
Au	ppm													
Ba	ppm	940	500	1350	450	600	920	610	560	1150	680	480	320	330
Co	ppm	10	10	5	10	10	5	5	x	5	30	20	5	10
Cr	ppm	80	55	30	30	70	10	35	25	35	125	15	45	45
Cu	ppm	5	5	x	x	5	x	x	x	x	70	5	x	5
F	ppm													
La	ppm	30	40	45	45	65	50	45	40	70	170	40	45	30
Mo	ppm													
Nb	ppm	8	15	10	10	15	8	10	10	15	7	7	10	10
Ni	ppm	55	60	30	35	50	20	30	20	30	55	20	35	35
Pb	ppm	10	x	5	10	20	x	x	5	x	5	5	x	5
Rb	ppm	140	170	160	150	140	160	160	150	110	30	55	150	95
Sb	ppm	x	x	x	x	x	x	x	x	3	x	x	x	6
Sc	ppm													
Sn	ppm													
Sr	ppm	75	95	95	100	110	110	95	120	210	160	230	50	90
Ti	ppm													
V	ppm	3	x	8	2	2	10	9	15	5	230	170	30	25
W	ppm	x	x	x	x	x	x	x	x	x	x	x	x	x
Y	ppm	35	35	35	35	25	40	40	35	40	35	40	40	25
Zn	ppm	50	40	45	105	30	30	30	20	35	170	80	40	90
Zr	ppm	170	210	180	230	190	260	260	250	200	150	140	170	230

DDH NO.		BBP 279	BBP 279	BBP 279	BBP 279	BBP 279	BBP 279	BBP 279	BBP 279
INTERVAL		217.0-227.0 TVH	237.0-242.0 TVH	319.0-330.0 LAVA	374.0-381.0 LAVA	418.0-426.0 Tuff	441.0-450.0 Lava	516.0-530.0 LAVA	697.0-698.2 LAVA
SAMPLE NO.		A184680	A184681	A184682	A184683	A184684	A184685	A184686	A212901
SiO_2	%	75.9	55.9	49.9	72.2	70.3	70.8	73.9	71.4
TiO_2	%	0.21	0.92	0.64	0.30	0.29	0.29	0.24	0.28
Al_2O_3	%	11.2	15.3	10.4	12.5	12.7	11.8	11.7	13.15
Fe_2O_3	%	2.25	9.55	12.00	2.90	3.60	5.40	2.10	2.45
FeO	%								
MnO	%	0.05	0.19	0.30	0.05	0.08	0.03	0.05	0.07
MgO	%	0.40	3.05	7.40	0.30	0.30	0.25	0.20	0.35
CaO	%	2.05		7.50	1.35	2.55	1.35	1.85	1.19
Na_2O	%	2.25	2.05	1.80	2.65	3.55	1.40	2.30	2.490
K_2O	%	2.30	1.90	0.68	5.25	2.90	4.40	5.00	4.11
P_2O_5	%	0.021	0.341	0.572	0.039	0.066	0.034	0.023	0.030
SO_3	%								
CO_2	%								
H_2O^+	%								
H_2O^-	%								
L.O.I.	%	2.70	6.20	8.70	1.45	2.90	3.25	2.20	2.36
Total	%								
Ag	ppm	x	x	x	x	x	x	x	x
As	ppm	2	3	4	x	x	15	2	2
Au	ppm				1000	800	650	960	690
Ba	ppm	450	460	370	5	10	10	10	
Co	ppm	10	20	25	35	35	115	55	1
Cr	ppm	35	5	95	5	5	20	5	4
Cu	ppm	x	x	55					
F	ppm				50	60	35	35	55
La	ppm	40	55	160					
Mo	ppm				15	10	10	10	10
Nb	ppm	10	10	10	35	25	80	40	6
Ni	ppm	30	20	45	5	x	110	x	1
Pb	ppm	x	x	x	170	100	150	140	260
Rb	ppm	130	90	25	^	x	3	x	x
Sb	ppm	x	x	6					
Sc	ppm								
Sn	ppm				110	200	75	85	95
Sr	ppm	85	130	180					
Tl	ppm				10	8	9	5	9
V	ppm	8	190	220	x	x	x	x	x
W	ppm	x	x	x	40	35	35	40	50
Y	ppm	35	30	30	30	40	480	45	30
Zn	ppm	70	110	165	270	200	250	190	260
Zr	ppm	170	150	150					

DDH NO.		BBP 280	BBP 280	BBP 280 (By Vitric Tuff)	BBP 280 (Pyritic Vitric Tuff)	BBP 280 (Felsic Intrusive)	BBP 280	BBP 280	BBP 280	BBP 280	BBP 280	BBP 280
INTERVAL		74.9-85.0	104.9-108.0	190.0-202.0	211.0-221.0	261.5-268.6	278.5-284.6	289.6-295.6 EPI	307.6-317.6	332.7-342.0	344.6-347.4	395.0-400.0
SAMPLE NO.		Acid Lava A212903	Acid Intrusive A212909	A212932 A212933 A212934	A212938 A212939	A212802 A212803	EPICL A212806 A212807	A212809 A212810 A212811	A212819 To A212823	A212832 A212833 A212834	LAVA A212836	EPIC A212839
SiO_2	%	80.6	66.0	77.0	74.1	66.2	67.8	73.4	75.6	73.3 tuff and vein	58.2	73.2
TiO_2	%	0.22	0.85	0.24	0.35	0.49	0.52	0.31	0.24	0.27	1.00	0.26
Al_2O_3	%	10.15	17.35	12.30	13.60	14.35	13.30	12.75	12.05	12.45	14.35	11.70
Fe_2O_3	%	2.15	2.45	2.20	2.75	5.10	4.65	3.05	2.15	2.65	9.05	2.50
FeO	%											
MnO	%	0.01	0.02	0.01	0.01	0.11	0.08	0.01	0.06	0.02	0.18	0.04
MgO	%	0.10	1.15	0.45	0.35	1.55	0.80	0.60	0.55	0.50	1.85	0.45
CaO	%	x	0.06	x	0.05	0.98	1.51	0.09	0.46	0.22	1.54	0.56
Na_2O	%	0.065	0.055	0.055	0.055	4.350	0.100	0.090	0.085	0.080	0.415	2.700
K_2O	%	3.19	3.92	4.03	4.20	2.31	3.94	4.17	4.25	4.18	1.89	3.06
P_2O_5	%	0.011	0.048	0.014	0.048	0.112	0.117	0.046	0.023	0.025	0.361	0.034
SO_3	%											
CO_2	%											
H_2O^+	%											
H_2O^-	%											
L.O.I.	%	1.92	5.44	2.66	3.11	2.62	4.62	3.51	3.03	3.29	5.08	2.70
Total	%											
Ag	ppm	x	x	x	x	0.2	x	0.1	x	0.2	x	x
As	ppm	3	x	x	3	4	9	8	7	2	7	10
Au	ppm											
Ba	ppm											
Co	ppm											
Cr	ppm	1	1	1	1	11	2	2	1	1	3	1
Cu	ppm	8	4	4	7	9	8	8	5	9	13	7
F	ppm											
La	ppm	40	40	20	30	85	40	40	45	40	70	35
Mo	ppm											
Nb	ppm	10	7	15	15	15	9	10	15	10	150	10
Ni	ppm	6	26	9	7	36	10	7	10	7	11	5
Pb	ppm	x	3	12	10	4	20	8	6	11	5	14
Rb	ppm	90	190	140	140	95	170	170	190	150	90	140
Sb	ppm	x	x	x	x	x	x	x	x	x	x	x
Sc	ppm											
Sn	ppm											
Sr	ppm	8	20	8	15	230	60	20	30	10	120	75
Tl	ppm											
V	ppm	10	170	25	30	73	70	24	1	x	120	6
W	ppm	x	x	x	x	x	x	x	x	x	x	x
Y	ppm	20	30	30	35	40	35	35	35	35	40	35
Zn	ppm	6	71	57	49	74	98		30	58	110	67
Zr	ppm	180	170	200	250	220	240	240	210	230	170	220

9897

DUNDAS GROUP SEDIMENTS

CENTRAL VOLCANIC COMPLEX

QUE - HELLYER COMPLEX

MURCHISON HIGHWAY

MURCHISON HIGHWAY

MT CHARTER FAULT

HENTY FAULT ZONE

HEC LINE

HEC LINE

(ULTRAMAFIC? AT DEPTH)

(QUARTZ PORPHYRY)

SILVER FALLS

NORTH PINNACLES ANTICLINE

ROSEBERY THRUST

SHALE BASIN

Anomalous Pb in soils

QUE SYNCLINE

EAST CHESTER ANTICLINE

PANCON UTEM IN LOOP SURVEY

EZ UTEM SURVEY

BOCO ALTERATION ZONE

BULGOBAC HILL

MOUNT BLOCK

SOCK CREEK

HELLYER

QUE RIVER

THOMAS

BROWNS

PINNACLES

5 395 000 N

5 390 000 N

5 385 000 N

380 000 E

385 000 E

390 000 E

LEGEND

	Tb	Tertiary Basalt
	Cd	Cambrian Lithologies Undiff. sediments
	Cdlf	Felsic Lava
	Cdgm	Animal Creek Greywacke
Dundas Group	Cdal	Lower Hellyer andesites
	Cdb	Upper Hellyer basalts
	Cp	Quartz porphyry intrusive
	Cdt	Felsic tuff
	Ccvl	Acid lavas, pyroclastics
Central Volcanics	Ccva	Andesitic lavas
	CHSl	High Ti + Zr, low Sr
	CHSh	High Ti + Zr, high Sr
	CL	Low Ti + Zr

Aeromagnetic Anomaly

Fault mapped or inferred

ETA Boundary

0 500 1000 1500 2000 m

SCALE

5 cm

381045

91-3245

Billiton Australia
The Metals Division of the Shell Company of Australia Limited

Project: E.L. 2/90

Title: BOCO GEOLOGICAL SETTING

Author JPR	Dept. TAS	Scale 1 25 000	
Drawn OH	Date 12/89	Revised	Date
Checked	Date	S'ceded	Date
Sheet No. FIG 3		Drawing No.	

9898

395000 N

390000 N

385000 N

380000 E

385000 E

390000 E

⚒ HELLYER

⚒ QUE RIVER

QUE - HELLYER
VOLCANIC COMPLEX

⚒ MT. CHARTER

SOCK CREEK ⚒

SOCK CREEK PORPHYRY

Felsic Lava (Que Hellyer equivalent?)

MT CHARTER

MURCHISON HIGHWAY

FAULT

SCHEMATIC POSITION OF STRATIGRAPHIC HOLE

STRATIGRAPHIC POSITION, FOR VMS DEVELOPMENT

FAVORABLE

Possible shallow plunge

BULGOBAC HILL △

△ MT BLOCK

CENTRAL VOLCANIC COMPLEX

⚒ SILVER FALLS

NORTH PINNACLES

PROSPECTIVE VOLCANIC STRATIGRAPHY

Pb in soils

DUNDAS GROUP SEDIMENTS

MIXED CHh CL CHh

BOCO ALTERATION ZONE

QUE SYNCLINE

⚒ PINNACLES

CHh

CL

CHI

AMG N

MAG N

LEGEND

PROSPECTIVE VOLCANICS

- CHI High Ti + Zr, low Sr Volcanics
- CHh High Ti + Zr, high Sr Volcanics
- CL Low Ti + Zr Volcanics
- ETA Boundary

0 500 1000 1500 2000 m
SCALE

91-3245.

381046

Billiton Australia
The Metals Division of the Shell Company of Australia Limited

Project	E.L. 2/90
Title	BOCO LITHOGEOCHEMICAL MAP

Author JPR	Dept. TAS	Scale 1:25 000	
Drawn OH	Date 12/89	Revised	Date
Checked	Date	S'ceded	Date
Sheet No. FIG 4		Drawing No.	