

000

215001

MICROFILMED

FORM	A.O.	C.G.	E.O.	OTHER
				Registrar
D. DIR.	28 MAR 1985			E & IL
	DEPT. OF MINES			
REF. No.	3264/85			

BILLITON AUSTRALIA, THE METALS DIVISION OF
THE SHELL COMPANY OF AUSTRALIA LIMITED

EL 36/79 - LOONGANA

PROGRESS REPORT ON EXPLORATION FOR THE PERIOD
1 MAY, 1984 - 30 MARCH, 1985

Author: D N Carter

Report No.: 08.2840

Date: 26 March, 1985

Copy No.: 1

OPEN FILE

- Distribution:
1. Department of Mines
 2. Comalco Ltd
 3. CRAE
 4. Billiton, Melbourne
 5. Billiton, Devonport

LIST OF CONTENTS

1. Introduction
2. Past Exploration
3. Exploration Activities 1984-85
4. CRAE Joint Venture

References

002

LIST OF FIGURES

<u>No.</u>	<u>Title</u>	<u>Scale</u>
1	EL 36/79 - Loongana	1:250,000
2	EL 36/79 - Loongana Geology	1:50,000

1. INTRODUCTION

The Loongana EL forms part of the Moina Joint Venture between Billiton and Comalco Limited (Fig. 1). During the period Billiton has been manager of the joint venture and has an 81.7% equity. The licence is to be reduced from its present 277 sq kms to 125 sq kms on 1 May, 1985. A report on the area to be relinquished has been submitted to the Department of Mines.

2. PAST EXPLORATION

Billiton has conducted exploration activities over EL 36/79 since 1980. Originally the exploration effort was focused on the discovery of replacement sulphide tin mineralisation within Gordon Limestone. The Devonian Housetop Granite crops out in the north of the licence (Fig. 2) while the limestone occurs some 6 kms to the southeast. The carbonates are cut by the northern extensions of the Bismuth Creek and other related faults which are considered to be the main plumbing system for the hydrothermal fluids from the Devonian Granites.

Because of the association of pyrrhotite/magnetite with the replacement bodies an aeromagnetic survey was flown over the entire EL (250 m line spacing) in 1980. Anomalies were ground checked and follow up gridding, geological mapping, soil and rock geochemistry and ground geophysical surveys (magnetics) completed. No economic tin-tungsten mineralisation was located.

More recently, the Cambrian volcanics, which crop out in the central and southern portions of the EL, have been examined for their base metal potential. In 1982 an INPUT survey was flown. Follow up activities consisted of gridding, geological mapping, soil, rock and stream sediment geochemistry, and IP, TEM, magnetics and Max-Min surveys. One diamond drill hole was completed. As with the earlier exploration, results have been negative.

3. EXPLORATION ACTIVITIES 1984-85

Early in 1984 a re-assessment of the data for the EL was undertaken. Work was centred on the Cambrian Volcanics. The Challenger III (Two Hummocks) prospect

004

was selected for further work and a UTEM survey completed. Several low order anomalies were outlined but no further work has been completed. Data from this survey is reported in 08.2263, Progress Report on Exploration for the period 1 July, 1983 - 30 April, 1984.

Following this stage of exploration, it was considered that a "first pass" exploration effort at Loongana had been completed. The Cambrian Volcanics are/were still considered to have considerable potential for hosting volcanogenic base metal deposits although, in evaluating the previous work completed in the area, exploration would have to be high risk. With this in mind a partner was sought so that this risk could be shared between parties.

4. CRAE JOINT VENTURE

In March 1984, CRAE were approached regarding their entry into the Moina Joint Venture. Following their initial field trip and study of technical data, negotiations on a joint venture agreement commenced. No field work was carried out by Billiton during the negotiations.

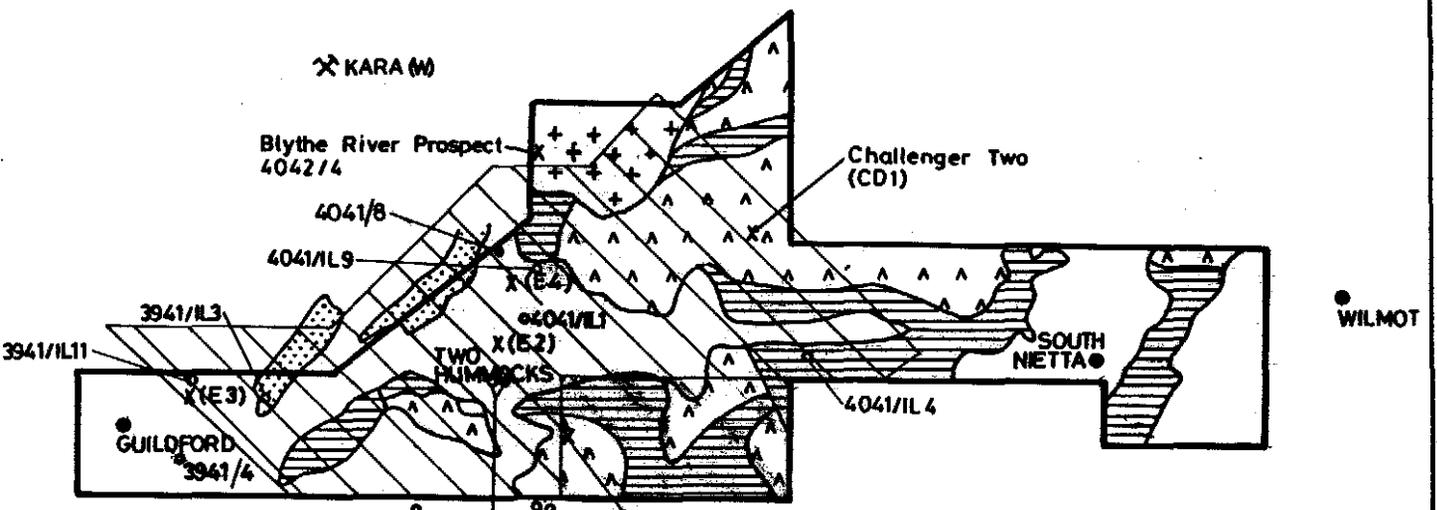
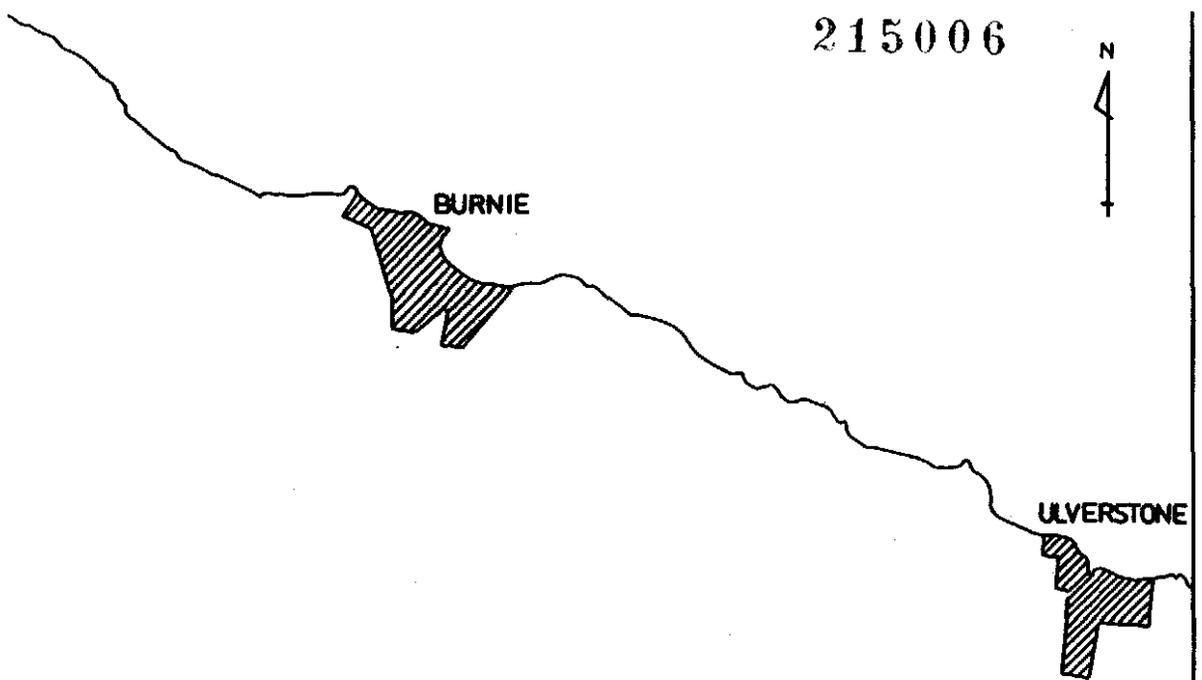
Due to the form and complexity of the joint venture documents, it has taken about 12 months for the parties to reach agreement on the wording of some of the clauses. Although still not signed, agreement was finally reached in March 1985 and all the relevant technical reports have now been forwarded to CRAE. The effective date of commencement of the joint venture was set at 1 January, 1985 although CRAE, as managers are not expected to commence field work until April.

REFERENCES

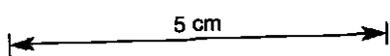
- Lawton, J.J., Wright, R.G., Buchhorn, I.J., Oakes, G.D., 1983. EL 36/79 Loongana, Progress Report on Exploration for the Period 1 May, 1980 - 30 June, 1983, Shell Company, Unpubl., Rep. 08.1266.
- Wright, R.G., Smyth, W.D., 1984. EL 36/79 Loongana, Progress Report on Exploration for the Period 1 July, 1983 - 30 April, 1984, Shell Company, Unpubl. Rep. 08.2263.

005

215006



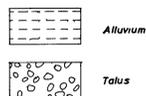
-  Basalt (Tb)
-  Bell shale (Db)
Florence Sst (Df)
-  Gordon Limestone (Og)
Moina Sandstone (Om)
Roland Conglomerate (Or)
-  Acid/intermediate
Volcanics, Sediments (G)
-  Housetop Granite (Dg)
- (E) Electrical sounding location
-  1982 Input survey area
- o Input anomaly



The Shell Company of Australia Limited METALS DIVISION	
E.L.36/79 LOONGANA	
Scale 1:250,000	
FIG. No. 1	REPORT No.
ENCL. No.	DRG. No. D/MZD2/044
DATE 24-8-81	AUTHOR J.J.L.
DRAWN H.L.H.	OFFICE DEVONPORT

LEGEND

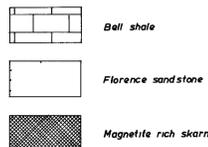
Quaternary



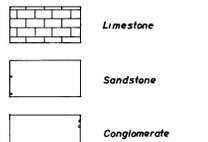
Permo-Carboniferous



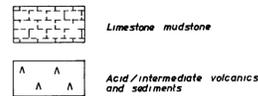
Devono-Silurian



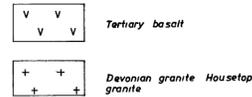
Ordovician



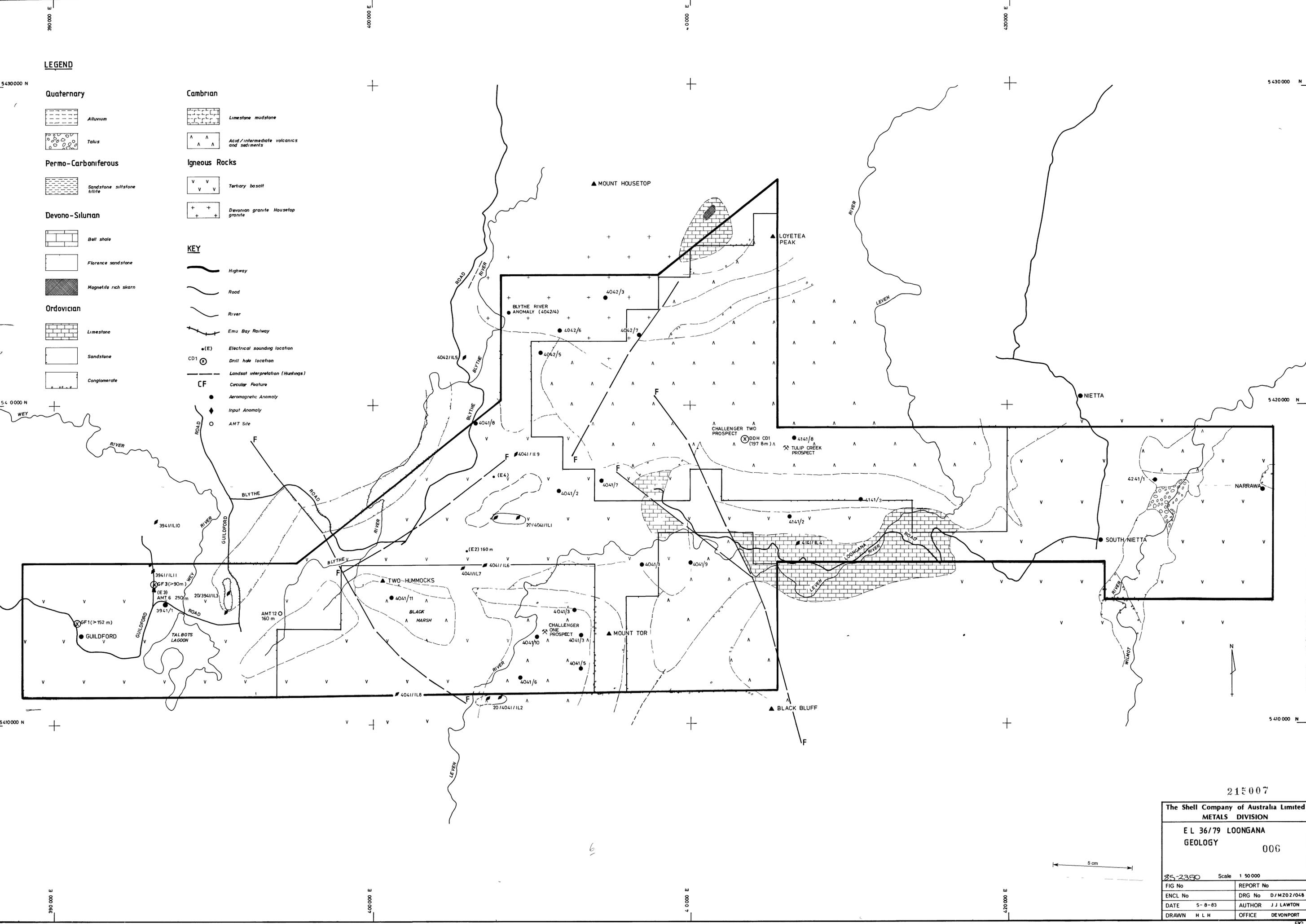
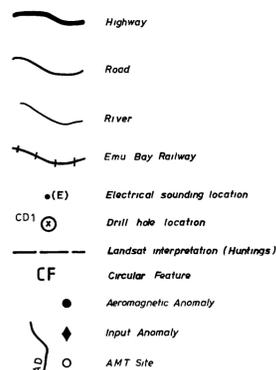
Cambrian



Igneous Rocks



KEY



215007

The Shell Company of Australia Limited	
METALS DIVISION	
E L 36/79 LOONGANA	
GEOLOGY	
006	
85-2350	Scale 1:50,000
FIG No	REPORT No
ENCL No	DRG No D/MZ02/04B
DATE 5-8-83	AUTHOR J J LAWTON
DRAWN H L H	OFFICE DEVONPORT

