12-710

713001

C.R.A. EXPLORATION PROPRIETARY LIMITED

Ref. No. T. 59
KEITH RIVER

SUBJECT: LYONS RIVER COPPER OCCURRENCE, E.L. 43/70.
NORTHWEST TASMANIA.

AUTHOR: T. M. PORTER

DATE: 17th May, 1972.

72-916

713D

D 454

000

C.R.A. EXPLORATION PTY. LIMITED

713002

17th May, 1972

MEMORANDUM TO : G. W. PATTERSON

Copies to : D. S. Carruthers
H. J. Evans

From : T. M. Porter

Lyons River Copper Occurrence, E.L. 43/70, Northwest Tasmania

A reported occurrence of chalcopyrite mineralisation in the Lyons River within E.L. 43/70 was inspected at the invitation of the licence holders, Mineral Holdings Australia Pty. Ltd. and Tomic Exploration Pty. Ltd. on Thursday April 20th.

This mineralisation was found to constitute a continuation of the "Keith River Sulphide Horizon", the subject of intensive investigation during 1971 at the Keith River Prospect, some 4 km to the northeast along regional strike.

The work undertaken involved a brief study of the sequence in the vicinity of the mineralisation and sufficient geochemical drainage sampling to indicate whether further investigation was warranted.

The following "Older Precambrian" rocks were encountered along the bed of the Lyons River, heading from south to north -

a) grey phyllite grading in part to chlorite schist.

b) magnesite with lesser dolomite. This occurs as discontinuous lenses along strike and is probably the equivalent of similar magnesite bands encountered near the sulphide horizon at Keith River and at the Arthur River. These were observed along the creek contributing to drainage sample 212652 (see plan) and average about 12 m in thickness.

c) grey dolomitic slate, weakly magnetic and containing traces of pyrite - about 20 metres thick.

d) green silicified pyritic slate with bands of grey-green magnetic slate also carrying pyrite - about 30 to 40 metres thick.

e) grey phyllite and slate for several hundred metres.

f) brecciated and silicified dolomitic slate with pyrite present in bands parallel to the overall bedding direction and on the boundaries of breccia fragments. One small patch of chalcopyrite a few centimetres across was found in this unit by Mintom personnel, although no further occurrences of this type were sighted in the vicinity. About 6 m of this unit was noted.

g) grey phyllite grading in part to chlorite schist.

The two pyritic beds may be the expression of the "Keith River Sulphide Horizon" on two limbs of an anticline closing to the northeast, the northern limb dipping at a shallow angle of 30^{o} and striking 60^{o} while the southern is vertical with a strike of 40^{o}.

In the Lyons River area the sulphide horizon appears to have emerged from a major fault which truncates it in the southwestern extremity of the Keith River prospect (see plan).

Two drainage samples were collected from small streams draining the sulphide horizon adjacent to the Lyons River. Both returned background levels for all metals (see plan).

This reconnaissance suggests that the Lyons River occurrence warrants no further investigation.

GENERAL NOTES

Isolated small patches of chalcopyrite similar to this occurrence were probably responsible for the few highly anomalous geochemical soil levels at Keith River.

Only fresh sulphides were observed in the Lyons River in contrast to the intense gossan development which is a characteristic of the Keith River Prospect. The latter gossans were developed mainly from early Permian time until the extrusion of the recently eroded Tertiary basalts. There is evidence in the area that about 40 m of the approximately 200 m of gossan below the basalts predated Permian glaciation. The bed of the Lyons River is roughly 300 m below the base of the Tertiary extrusives and hence is below the zone of gossan development.

TMP:RY

T. M. Porter

Attachment - One (1) drainage ledger sheet.

KEYWORDS

Copper, dolomite, magnesium, magnetite, sediments - undiff., Precambrian, Permian, Tertiary, gossan, geochem-drainage, stratiform.

Locality : Burnie SK55-3 1:250,000 map sheet.

REFERENCE

Porter, T.M. 1971 Final Report on the Keith River Prospect E.L. 43/70 Northwest Tasmania. C.R.A.E. Report. (unpubl.)

PLANS

Plan No.	Title	Scale
T.813	E.L. 43/70 Northwest Tasmania Geological-Geochemical.	1:63,360

003

713005

ENSIGN
CRAE 16.

C.R.A. EXPLORATION PTY. LIMITED

GEOCHEMICAL DRAINAGE SAMPLING LEDGER

DDO. 13638

AREA Lyons R. Prospect. SAMPLE Nos. 21651–21652. COLLECTED BY C.R.A. SHEET No. 1

MAP OR PHOTO REFERENCE ANALYSED BY Zinc Corp. Broken Hill DATE 20/4/72

366080 E 5435740 N

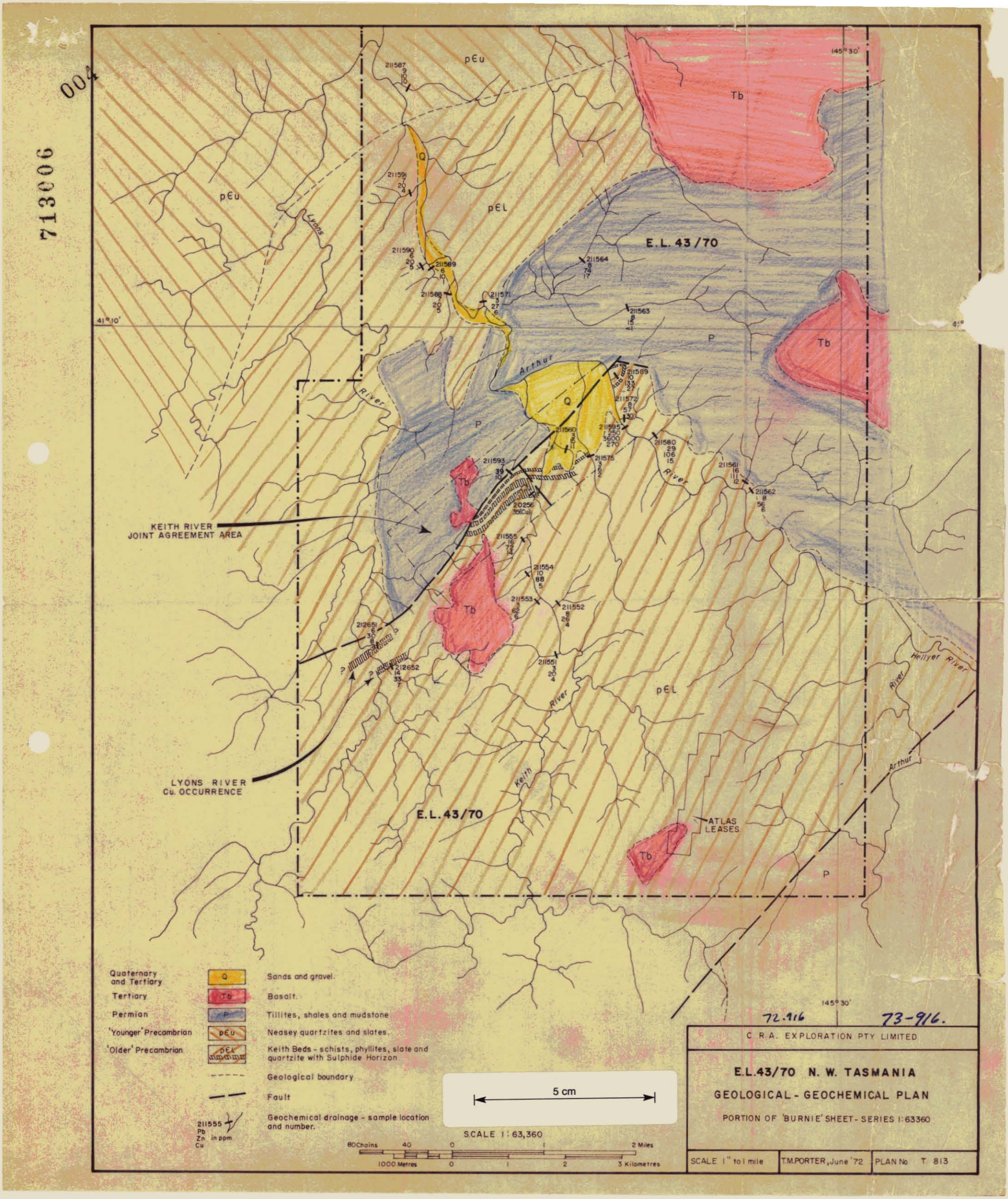
366260 E 5435460 N

Map or photo No.	No. Sample	Sediment				Channel				pH	Metal content, p. p. m.											Geological observations
		Gravel	Sand	Silt/mud	Organic	Flow	Width	Alluvial	Colluvial		Pb	Zn	Cu	Ni	Co	Cr	Mn	Ag	Mo	As	U.	
	21651	40	30	20	10	S	2'	–	✓	–	6	30	8	7	5			<1	<2	<5	1	dc grey phyllite – slate. Float same Small precipitate Ck.
	21652	30	40	30	–	S	5'	–	✓	–	14	33	7	22	17			<1.	2	<5	.1	dc Magnetite. Float same + quartz + basalt + limonite dolomite – dk. schist + grey mica schist

M.304

004

7130006



72.916 73-916.

C.R.A. EXPLORATION PTY LIMITED

E.L.43/70 N. W. TASMANIA

GEOLOGICAL - GEOCHEMICAL PLAN

PORTION OF 'BURNIE' SHEET - SERIES 1:63360

SCALE 1" to 1 mile	T.M.PORTER, June '72	PLAN No T. 813