T05001

DATA ENTRY

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Prospect X Ref T 253
Company Geopeko
Title EL44/89 Wedge Plains Report on Exploration Activity January 1990 to November 1990
Author Katrina Virgoe and Ian Matheson
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Near Town Mawbanna Country AUS State TAS Volumes 2
Commodities Cu Pb Zn Au Pages 8
Tenements EL44/89 Plans 6
Comments_1 Comments_2 V1 Text Appendices Plans
geochem water Cu Pb Zn Au As V2 Water Sampling Data

MAP SHEET 1:250 000 SERIES

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Longitude Deg 145 Min 20 Map1 BURNIE SK55-3
Map2
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GEOPEKO

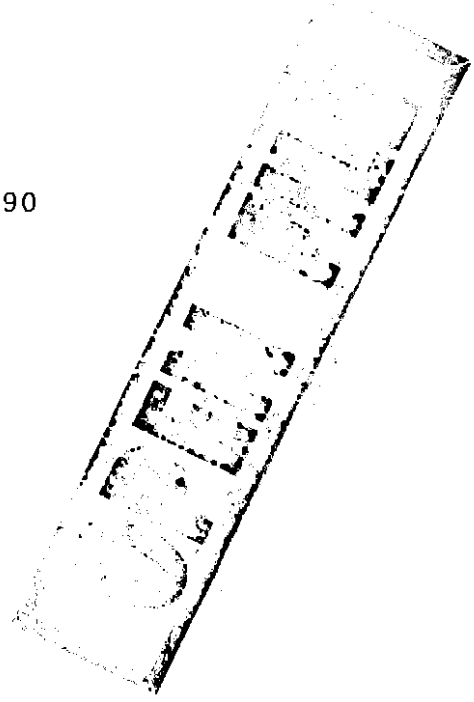
A DIVISION OF PEKO EXPLORATION

EL 44/89 WEDGE PLAINS

REPORT ON

EXPLORATION ACTIVITY

JANUARY 1990 TO NOVEMBER 1990



Katrina Virgoe
Ian Mathison
December, 1990

T253

Distribution: Geopeko, Parkes
Geopeko, Rosebery
DMMR, Hobart

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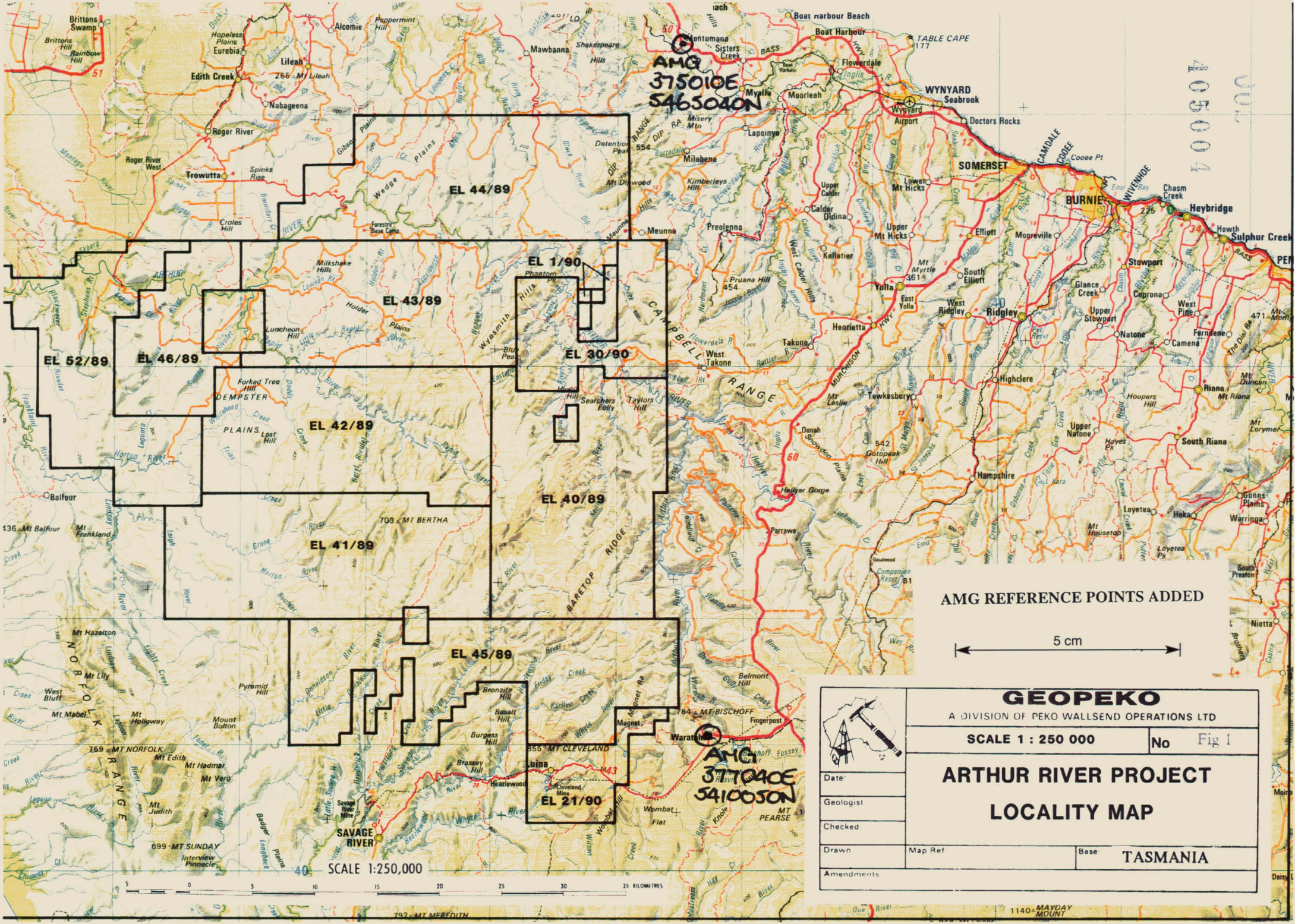
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EL 43/89
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EL 45/89
EL 21/90
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ARTHUR RIVER PROJECT
LOCALITY MAP
Date
Geologist
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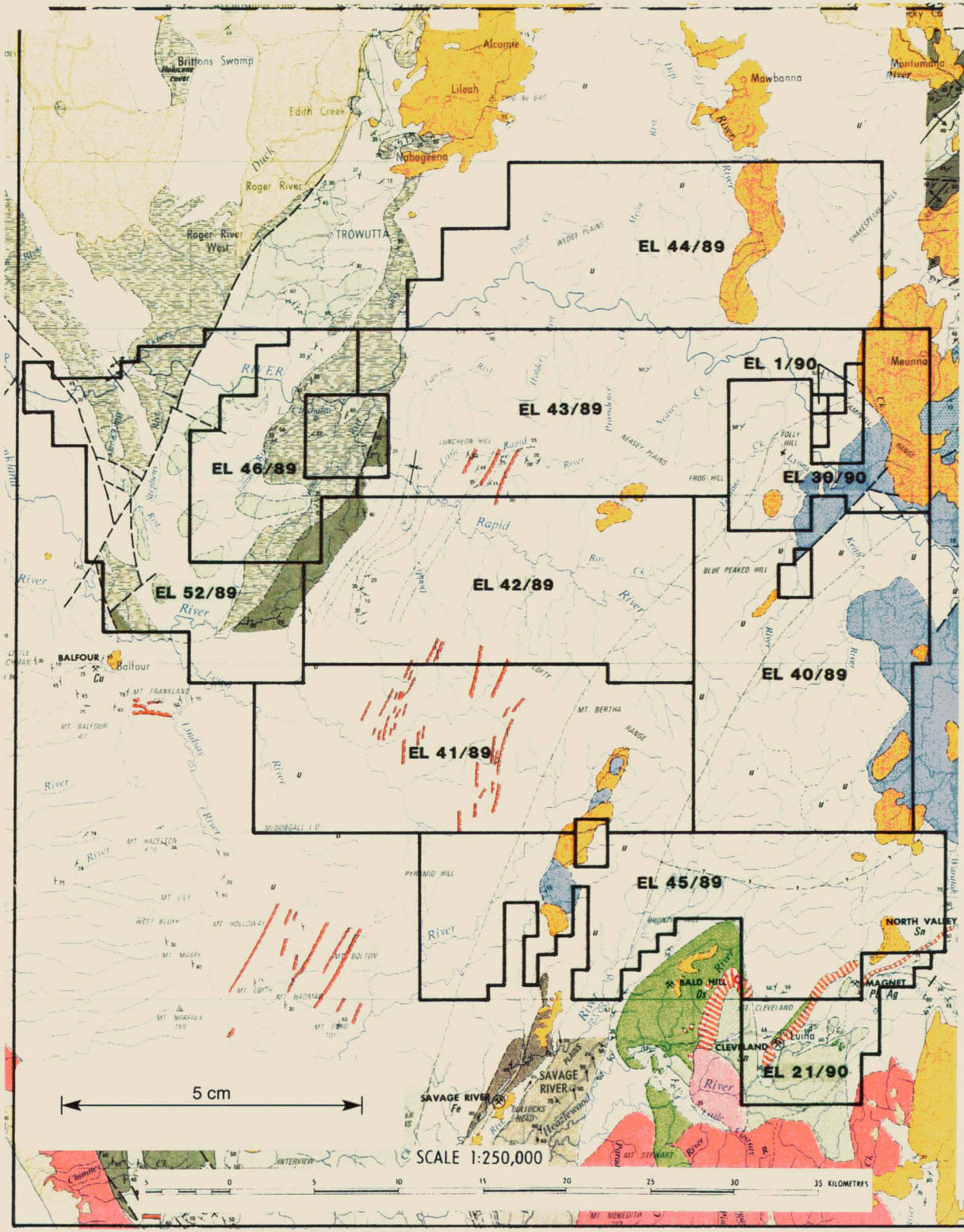
Map Ref
Base TASMANIA
Amendments



HOLOCENE	u	Alluvium, sand, gravel and talus
PLEISTOCENE	u	Till, fluvioglacial periglacial and associated deposits
		Errosional surface
TERTIARY	u	Non-marine sequences (light) marine limestone (dark) basalt and related igneous rock types (orange).
		Low angle unconformity.
TRIASSIC	u	Fluvio-lacustrine sequences of sandstone, siltstone, mudstone (light) with carbonaceous sequences indicated (dark) Fresh water sequence with some coal measures
PERMIAN	u	Upper glacio-marine sequence of pebbly mudstone pebbly sandstone and limestone Fresh water sequence with some coal measures
UPPER CARBONIFEROUS	u	Lower glacio-marine sequence of pebbly mudstone, pebbly sandstone, minor limestone, Tasmanite oil shale and basal tillite.
CAMBRIAN	u	Middle-Upper Cambrian fossiliferous usually greywacke turbidite sequences (horizontally lined overprint); acid with intermediate volcanic and associated rocks dominant (dark), and horizon with fossiliferous Upper Cambrian shallow water deposits (vertically lined overprint); basic-intermediate volcanic and associated rocks dominant (diagonally lined overprint); probably Cambrian unfossiliferous usually greywacke turbidite sequences (light); probably Cambrian unfossiliferous orthoquartzite sequence (dotted).
		Usually unconformity attributed to Penguin Orogeny but apparent conformity at Smithton and Pieman River
PRECAMBRIAN	u u'	Comparatively unmetamorphosed sequences. Mudstone-sandstone sequences (u') - dominantly mudstone (light), dominantly orthoquartzite (dark), quartzwacke turbidite successions (small dot over-print), conglomerate (large dot over-print); dolomite (horizontally lined over-print); basalt lava (vertically lined over-print).
	u	Metamorphic rocks. Pelitic sequences (dark); metaquartzite sequences (light) with some platy quartzite units indicated (vertically lined over-print), amphibolite (diagonally lined over-print). Garnet bearing rocks are indicated (g).

IGNEOUS ROCKS

CAMBRIAN	Dominantly adamellite-granite.
LOWER CARBONIFEROUS -UPPER DEVONIAN	Coarser grained basic rocks.
	Serpentinite, peridotite and associated rocks.
PRECAMBRIAN	Dolerite.

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SCALE 1 : 250 000 | No Fig 2

ARTHUR RIVER PROJECT
REGIONAL GEOLOGY

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1.0 INTRODUCTION

1.1 Location and Access (Fig. 1)

EL 44/89 Wedge Plains is located in NW Tasmania approximately 20 km to the south of the coastal town of Smithton.

Access within the EL is very good and is provided by a network of unsealed logging roads and by the Savage River Pipe Line Road. Secondary access is provided by 4WD and walking tracks. The Arthur River cuts across the southern half of the EL and is navigable by raft during the summer months.

1.2 Tenure and Land Usage

EL 44/89 of 250 km^2 was granted to Peko Exploration Ltd in January 1990. The EL schedule is detailed in Appendix 1.

The EL consists predominantly of State Forest, with approximately 20 km^2 of Private Property and 40 km^2 of Uncommitted Crown Land. The EL encloses the Dip Falls Forest Reserve of 0.3 km^2.

Large tracts of wet eucalypt forest within the State Forest have been intensively logged over the past 10 years. These areas now either lie devoid of vegetation or support thick regrowth.

Private landholdings are restricted to areas of Tertiary basalt and consist of farmland used for pasture and cultivation.

The Uncommitted Crown Land lies on the eastern boundary of the EL and consists predominantly of buttongrass-tea tree plains on the Dipwood Range.

1.3 Regional Geology

Geopeko's block of Arthur River ELs lie within the Rocky Cape Region of NW Tasmania. The oldest rocks in the area are those of the Precambrian Arthur Lineament. The Arthur Lineament is a north-east trending metamorphic belt consisting of highly deformed sediments, basic volcanics and dolomite. To the west of this belt lies the Rocky Cape Group, a thick shallow marine shelf sequence and to the east lies the Oonah Formation, a deeper water turbidite sandstone sequence. The Rocky Cape Group contains Precambrian dolerite/gabbro dykes which have been emplaced into north-north west trending faults.

The north western area is underlain by the Eo-Cambrian to Cambrian Smithton Trough which lies with a faulted or unconformable contact on the Rocky Cape Group. The Smithon Trough sequence consists of the basal Forest Conglomerate and Black River Dolomite (Success Creek Group correlate), volcaniclastic sediments and basalt (Crimson Creek Formation correlate), the Smithton Dolomite and fossiliferous sediments (Dundas Group correlate). The south eastern corner of the area

TABLE 1

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STRATIGRAPHIC CORRELATION ADOPTED FOR THIS REPORT

	ROCKY CAPE BLOCK	LYONS RIVER (Arthur Lineament)	CLEVELAND - WARATAH	CORINNA	ZEEHAN (Ord - Dev seds omitted)
TERTIARY	Tb - Tertiary Basalt Tc - Tertiary gravel	Tb - Tertiary Basalt Tc - Tertiary gravel	Tb - Tertiary Basalt Tc - Tertiary gravel	Tb - Tertiary Basalt Tc - Tertiary gravels	Tb - Tertiary Basalt Tc - Tertiary gravels
PERMO-CARB		P - Parmeneer Supergroup Fluviatile sandstone, coal measures, glacimarine & glacial deposits			
DEVONIAN			Intrusion of Cleveland Granite	Intrusion of Pieman Granite	Intrusion of Renison Bell & Heemskirk Granite
CAMBRIAN	Cs - Unnamed Quartzwacke, siltstone, mudstone, conglomerate				Dundas Group
			Intrusion/emplacement of Ultramafic bodies		Intrusion/emplacement of Ultramafic bodies
EO-CAMBRIAN	Ed - Smithton Dolomite			?? Ecd - Corinna Dolomite	Crimson Creek Formation
	Em - Smithton Basalt Mafic volcaniclastics and tholeiitic basalts		Ew - Unnamed mafic volcs, volcaniclastics and turbidites with some carbonates	Ebv - Bernafai Volcanics	
	Eb - Black River Dolomite Dolomite, silicified dolomite, chert			Esd - Savage Dolomite	Success Creek Group
	Ef - Forest Conglomerate and Quartzite				
PRE-CAMBRIAN			Pb - Burnie Formation Interbedded quartzose quartzwacke & siltstone with minor mafic volcs	Pd - Donaldson Formation Quartzose turbidites	Oonah Formation Interbedded quartzwacke and siltstone with some carbonates & mafic volcs
	Prj - Jacobs Quartzite Quartzarenite	??? Prn - Neasy Formation Quartzite-siltstone, minor dolomite and basic volcs		Pi - Interview Slate and Quartzite	
	Pri - Irby Siltstone Black mudstone, minor siltstone, sandstone, & dolomite				
	Prd - Detention Quartzite Quartzarenite & siltstone				
	Prc - Cowrie Siltstone Laminated siltstone, pyritic mudstone				
		Pa - Keith Metamorphics Pelitic & quartzose schist -some calcic & mafic schist (magnesite & amphibolite)		Timms Group Pelitic & quartzose schist -some calcic & mafic schist (magnesite & amphibolite) - magnetite	

is underlain by rocks of the Cleveland-Waratah Association that lie within the Dundas Trough. These rocks have been correlated with the Crimson Creek Formation and consist of basaltic, andesitic and tholeiitic lavas and volcaniclastic sediments.

The Precambrian-Cambrian rocks along the eastern edge of the area are in places overlain by Permian fluvio-glacial sediments and/or Tertiary basalt.

1.4 Known Mineral Deposits/Occurrences

There are a number of metallic mineral occurrences adjacent to the western, eastern and northern EL boundaries of Geopeko's Arthur River Project. (Green et al 1988).

These are listed in Table (2) and Figure (3) shows their locations.

The deposits range from small, relatively insignificant workings, e.g. Victory Mine, Atlas Leases to large world class ore bodies e.g. Mt Bischoff, Savage River. In most cases, extensions of the prospective host formations can be continued into Geopeko's Arthur River EL's.

1.5 Previous Exploration

The northwest of Tasmania has seen regional company exploration activity since the mid 1960's. Techniques applied include stream sampling, gridding, soil and rock chip sampling, geological mapping, photogeology, diamond drilling and geophysical surveys. Generally this work has been concentrated in areas within a few kilometres walking distance of vehicular access. As much of the central northwest is remote and inaccessible, this has resulted in many areas having not yet seen intensive modern exploration. See Appendix 2 for a review of previous exploration.

1.6 Exploration Philosophy

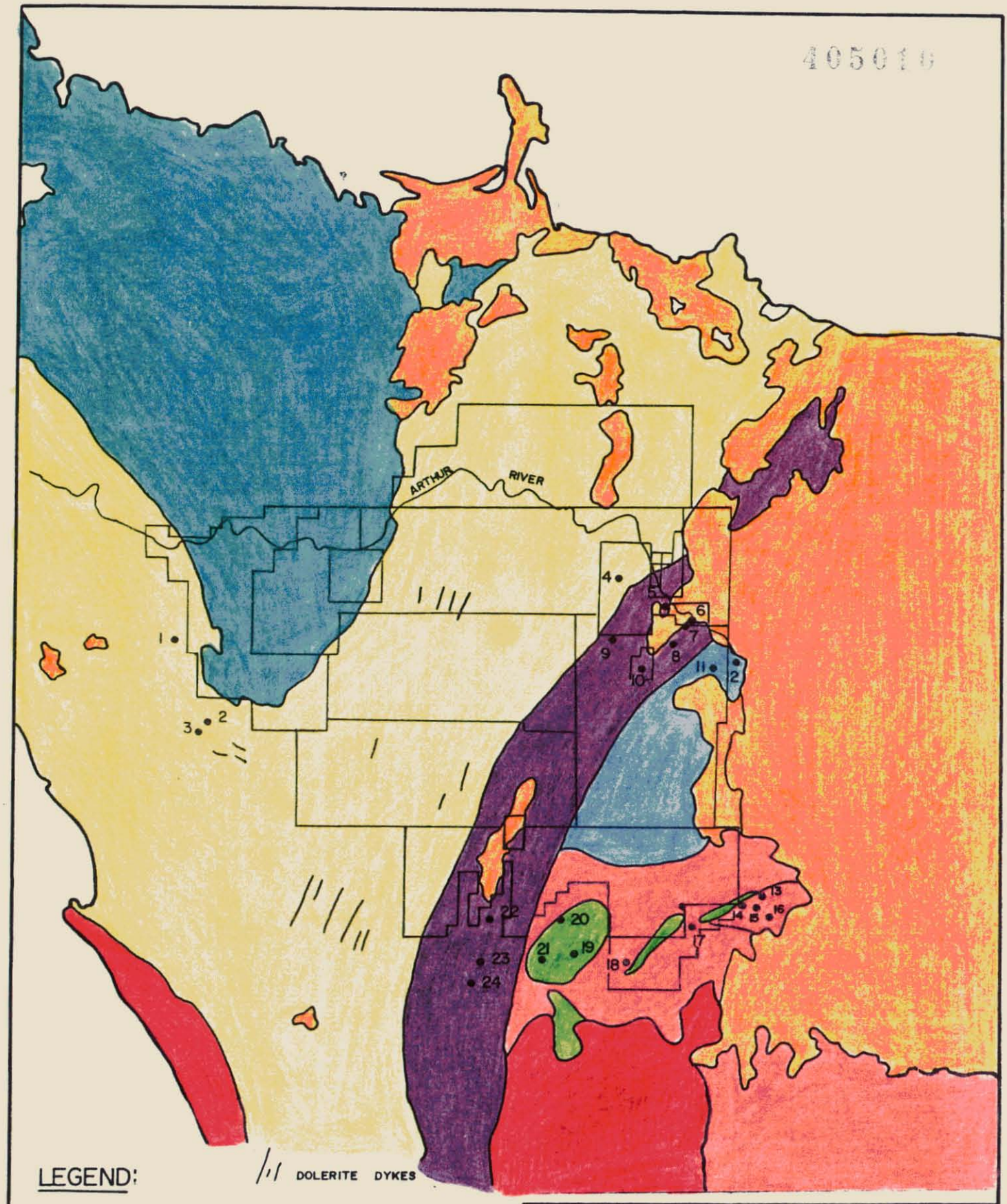
Geopeko consider this portion of Tasmania to have been inadequately explored for base metals and gold mineralization. Since the early prospecting stage, systematic exploration by several companies has relied on airborne geophysics (Aeromagnetics and INPUT) and conventional stream sediment geochemistry with limited ground follow up. These techniques will give readily detectable responses from, "ideal" orebodies under "ideal" conditions. However, the combination of rugged topography and intense leaching of soil profiles; the superimposed effects of Tertiary weathering and surficial deposits; the complications of pyritic black shales and manganiferous deposits; and the contamination of several river systems by tailings and slimes from old mining operations would have masked many good responses and obscured any subtle responses.

TABLE (2) METALLIC MINERAL OCCURRENCES/DEPOSITS

Map No.	Name	Commodity	Geology & Mineral Style	
1	The Clump	Cu	Rocky Cape Group	V
2	Murrays Reward	Cu	Rocky Cape Group	V
3	Specimen Hill	Sn Cu	Rocky Cape Group	V
4	Folly Hill	Au	Rocky Cape Group	A
5	Campbell Hydraulic	Au	Arthur Lineament	A
6	Victory	Cu	Arthur Lineament	V
7	Arthur River	Magnesite	Arthur Lineament	S
8	Keith River Gossan	Magnesite Py (Cu)	Arthur Lineament	MS
9	Pike's	Au	Arthur Lineament	A
10	Lyons River	Magnesite	Arthur Lineament	S
11	Atlas Leases	Ag Pb	Arthur Lineament	V?
12	Kay's	Au	Arthur Lineament	A
13	North Valley	Sn	Oonah Formation	A
14	Silver Cliffs	Pb Ag	Oonah Formation	V
15	Mt Bischoff	Sn	Oonah Formation	SCR
16	Fooks Load	Sn Pb Zn Ag Sb	Oonah Formation	V
17	Magnet	Pb Ag Zn	Crimson Ck Equiv.	V
18	Cleveland	Sn (Cu W Bi Mo)	Crimson Ck Equiv.	SCR
19	Lord Brassey	Ni	Cambrian Ultramafic	M
20	Bald Hill	Os Ir Au	Cambrian Ultramafic	A
21	Caudry's	Os Ir	Cambrian Ultramafic	?
22	Specimen Reef	Au	Arthur Lineament	V
23	Savage River Nth	Magnetite (Py)	Arthur Lineament	MS
24	Savage River Cent.	Magnetite (Py)	Arthur Lineament	MS

Mineralization Styles

A - Alluvial Deposit
V - Vein Deposit
M - Magmatic Deposit
S - Stratiform
MS - Massive Stratiform
SCR - Stratiform Carbonate Replacement



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1:500,000 | No Fig. 3

MINERAL OCCURRENCES.

(See Table 2 also)

Date SEPT. 1990.		
Geologist K.J.V.		
Checked		
Drawn	Map Ref TAS. DEPT. MINES.	Base PARKES NSW
Amendments		

Geopeko consider that the geochemical prospecting method developed by Dr. Baker of the Tasmanian Mines Department whereby the humate content of stream water is analysed for its content of leached metals provides a rapid and inexpensive method of screening large areas of ground.

Selected areas with a combination of suitable geological environment and geochemical characteristics could subsequently be further explored using expensive and slow techniques such as detailed geological mapping, grid based geochemistry and modern geophysical techniques.

As the proposed technique is both rapid and relatively cheap, it should be possible to define prospective areas at an early stage. Consequently Geopeko anticipate that it will be possible to relinquish a large proportion of the area following the first year of tenure.

1.7 Target Models

Geopeko consider the Precambrian rocks of NW Tasmania to be prospective for stratiform Pb, Zn, Ag deposits of the Mt Isa-McArthur River type and for stratiform Cu-Zn (Au) deposits of the Besshi Type. The mineralization at the Atlas Leases can be assigned to the first group while the Keith River Gossan can be compared to the Besshi Type.

Several occurrences of alluvial gold along the Arthur River highlight the potential of the area for gold only mineralization. Applicable models for gold mineralization include shear related gold deposits and volcanogenic gold deposits associated with basic volcanics.

2.0 EXPLORATION ACTIVITY

2.1 Aims

Exploration during 1990 was aimed at delineating through grass root techniques, prospective and geochemically anomalous areas within the EL. Areas worthy of further investigation would be followed up with more detailed exploration in the 1991 field season.

Work included huminex water sampling, rock chip sampling, geological mapping, regional geochemical compilation and a geophysical review.

2.2 Geochemistry

Work Completed

One hundred and nine (109) two litre huminex water samples were collected from EL 44/89 at a drainage density of 1 sample per 2-3 km^2. Good access within the EL allowed sampling of the entire exploration area. Two 12 km sections of the Arthur

River were rafted to collect samples from areas of thick regrowth.

At each sample location water colour, water level, rate of flow, vegetation type and rock float were recorded for statistical purposes. The sample location was marked with an aluminium tag, a sample tag and orange flagging tape.

Any mineralized, altered or interesting rock outcrop or float encountered during creek and road traverses was sampled for assay or hand specimen purposes.

Regional stream sediment data obtained by previous exploration companies in the area were compiled. This allowed delineation of anomalous areas recognized by traditional stream sampling methods as well as providing a comparison for the Huminex technique.

Stream Sediment Compilation

A compilation of stream sediment base metal data within EL 44/89 by previous companies in the area has been undertaken.

Six samples were collected by ANZECO in EL 6/72 and forty two by BHP in EL 18/80. These were assayed for base metals by AAS techniques.

In all cases the base metal analyses were very low.

The highest ANZECO sample (NRK/74) contained 230 ppm Cu, 50 ppm Pb and 80 ppm Zn. The highest results received by BHP was sample 193 with assays of 26 ppm Cu, 16 ppm Pb and 55 ppm Zn.

Gold in Water

Statistical analysis of 325 water samples taken regionally by Geopeko in the 1989-90 field season indicates that Au values >30 ng/l and Au:C >4 are possibly anomalous and that Au values >50 ng/l and Au:C >8 are probably anomalous. Any higher values are definitely anomalous. (Mathison, 1990)

Overall the gold assay results are low, with 10 of the 104 samples taken in this EL having anomalous gold or Au:C ratios. These samples highlight three main areas within the EL.

Three samples 20497 (22.6 ng/l Au, 4.04), 20079 (36.9 ng/l Au, 6.71) and 20080 (56.7 ng/l Au, 4.46) are from small tributaries that drain into the Arthur River. These samples drain rocks of the Cowrie Siltstone and lie close to magnetic feature 2 which is thought to be a significant crustal feature within the Rocky Cape Group.

Five samples, 20001 (66.0 ng/l Au, 22.0), 20007 (18.9 ng/l Au, 4.02) 20019 (21.2 ng/l Au, 4.82), 20021 (33.2 ng/l Au, 5.82) and 20110 (16.1 ng/l Au, 4.88) are from creeks in the eastern

half of the EL that drain rocks of the Cowrie Siltstones that are overlain by Tertiary Basalt.

The last two anomalous samples, 20010 (16.1 ng/l Au, 4.88) and 20012 (36.8 ng/l Au, 1.56) drain run off from the Dip Range on the eastern side of the EL. This area is underlain by the Detention Quartzite which overlies the Cowrie Siltstone.

> *Repeat analyses of five of these samples have been reported. These were: 20001 36.6 ppt Au, 20012 5.1 ppt Au, 20021 9.1 ppt Au, 20079 4.4 ppt Au, and 20080 0.4 ppt Au.*

The other 94 samples taken in the EL had Au values ranging from 0.2-24.1 ng/l Au and Au:C ratios of 0.18-3.65.

Base Metals in Water

Statistical analysis of the 325 water samples taken regionally by Geopeko in the 1989-90 field season indicates that samples with values of Cu >3.8 µg/l, Pb >7 µg/l and Zn > 27 µg/l are possibly anomalous and samples with Pb >13 µg/l, Cu >7 µg/l and Zn >47 µg/l are probably anomalous. (Mathison, 1990)

Overall the base metal assay results were low with highs of 23.0 µg/l Pb (sample 20034), 94 µg/l Cu (sample 20021) and 357 µg/l Zn (sample 20002).

In total 13 of the 109 samples reported anomalous Pb assays, 11 had anomalous Cu assays and 5 reported anomalous Zn values. Two samples (20002, 20021) reported anomalous copper, lead and zinc assays. Sample 20002 drains rocks of the Cowrie Siltstone and Detention Quartzite and sample 20021 is from a creek draining Cowrie Siltstone that is overlain by Tertiary basalt.

The other anomalous samples drain scattered areas throughout the EL that are underlain by the Cowrie Siltstone.

2.3 *Geology*

Field mapping indicates that EL 44/89 is predominantly underlain by rocks of the Precambrian Rocky Cape Group. The lowest known stratigraphic member of the Group, the Cowrie Siltstone underlies most of the area. The Cowrie Siltstone consists of interbedded black pyritic siltstone, laminated siltstone and mudstone and fine grained sandstone. Along the eastern boundary of the EL the Cowrie Siltstone is overlain by the Detention Quartzite. This unit comprises the Dip Ranges and consists of resistant quartz arenite with minor siltstone horizons.

Much of the central third of the EL is covered with Tertiary Basalt. The position of the basalt, usually on ridge tops, is indicated by its distinctive red soil.

Two green medium grained dolerite dykes outcrop between the Arthur River and Holder Road.

Bedding in the Rocky Cape Group rocks generally strikes north to north-east with south-easterly dips of 10-70°. Open folds with wavelengths of 100-150m occur regularly throughout the area with occasional faulted hinges.

Siltstones in the eastern quarter of the EL, 5-10 km west of the Arthur Lineament, contain a regional cleavage striking north-east to east with northerly dips of 25-65°.

No significant alteration or mineralization (except for the pyritic siltstones) was encountered during the sampling programme.

2.4 Geophysical Review

A geophysical review of the Rocky Cape Block using regional gravity and magnetic data was undertaken by D.E. Leaman. This work is detailed in a separate report. (Leaman, 1990) Discussions specific to this EL are appended as Appendix 3 and summarized in figures 4 and 5.

Both sets of data indicate that Arthur Lineament rocks lie at depth under the eastern third of the EL, where Rocky Cape Group rocks are exposed. An offset in a NNE magnetic feature occurs in the south-east corner of this area. Leaman suggests that this magnetic structure (17a) may be worthy of mineralization.

3.0 CONCLUSIONS

* EL 44/89 has been adequately covered by the regional 1989-90 water sampling programme

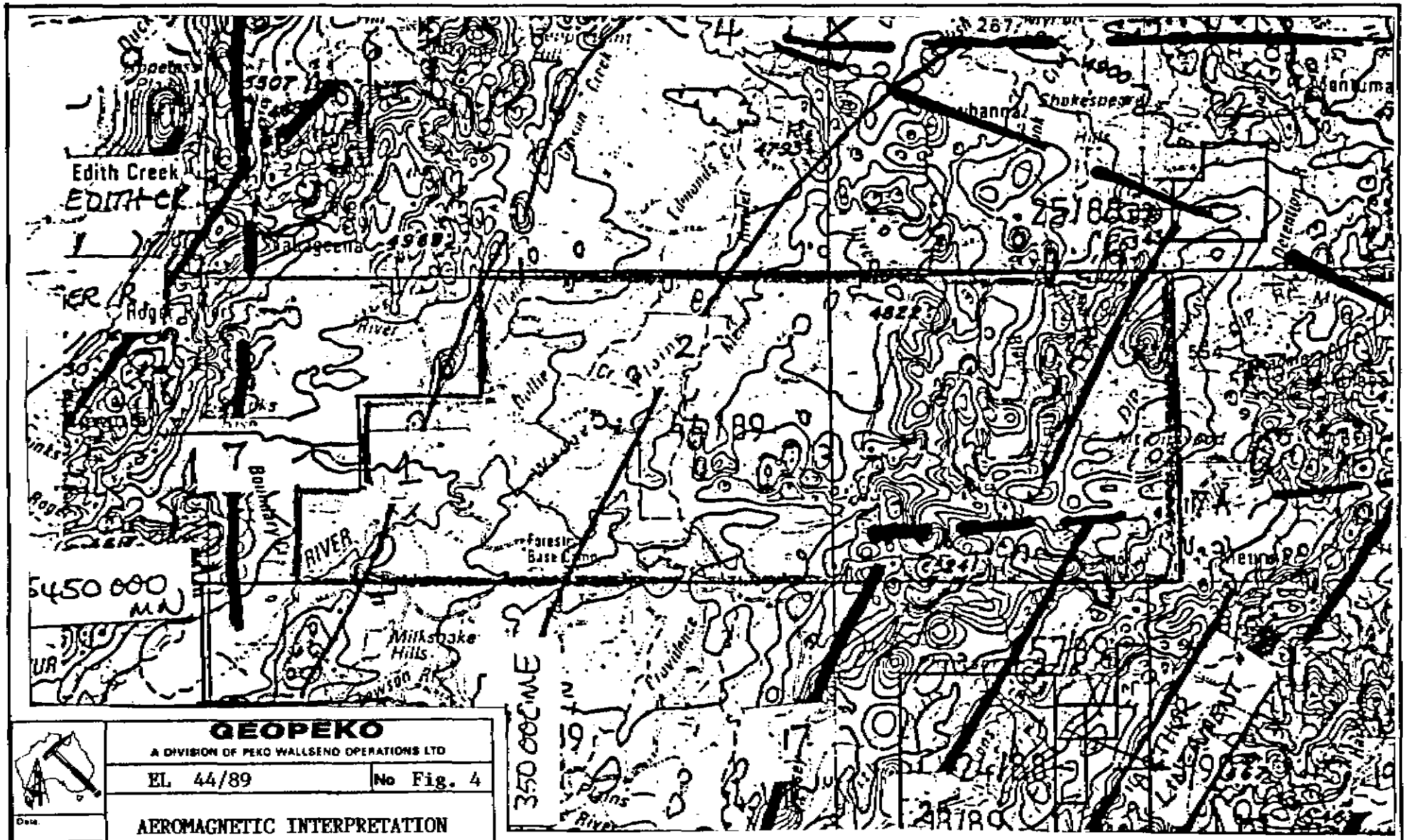
* The water sample gold results have highlighted 3 anomalous areas. These areas lie

  - in the north-east corner of the EL which is underlain by the Detention Quartzite.
  - in the eastern third of the EL which is underlain by basalt covered Cowrie Siltstone
  - near the intersection of magnetic linear 2 and the Arthur River. This area is underlain by black pyritic siltstones of the Cowrie Siltstone.

* The water sample base metal results have provided support for the delineation of the above latter two areas.

* The compilation of base metal stream sediment data has not indicated any areas worthy of more detailed work.

* No mineralization was encountered or anomalous rocks sampled.



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Geologist		
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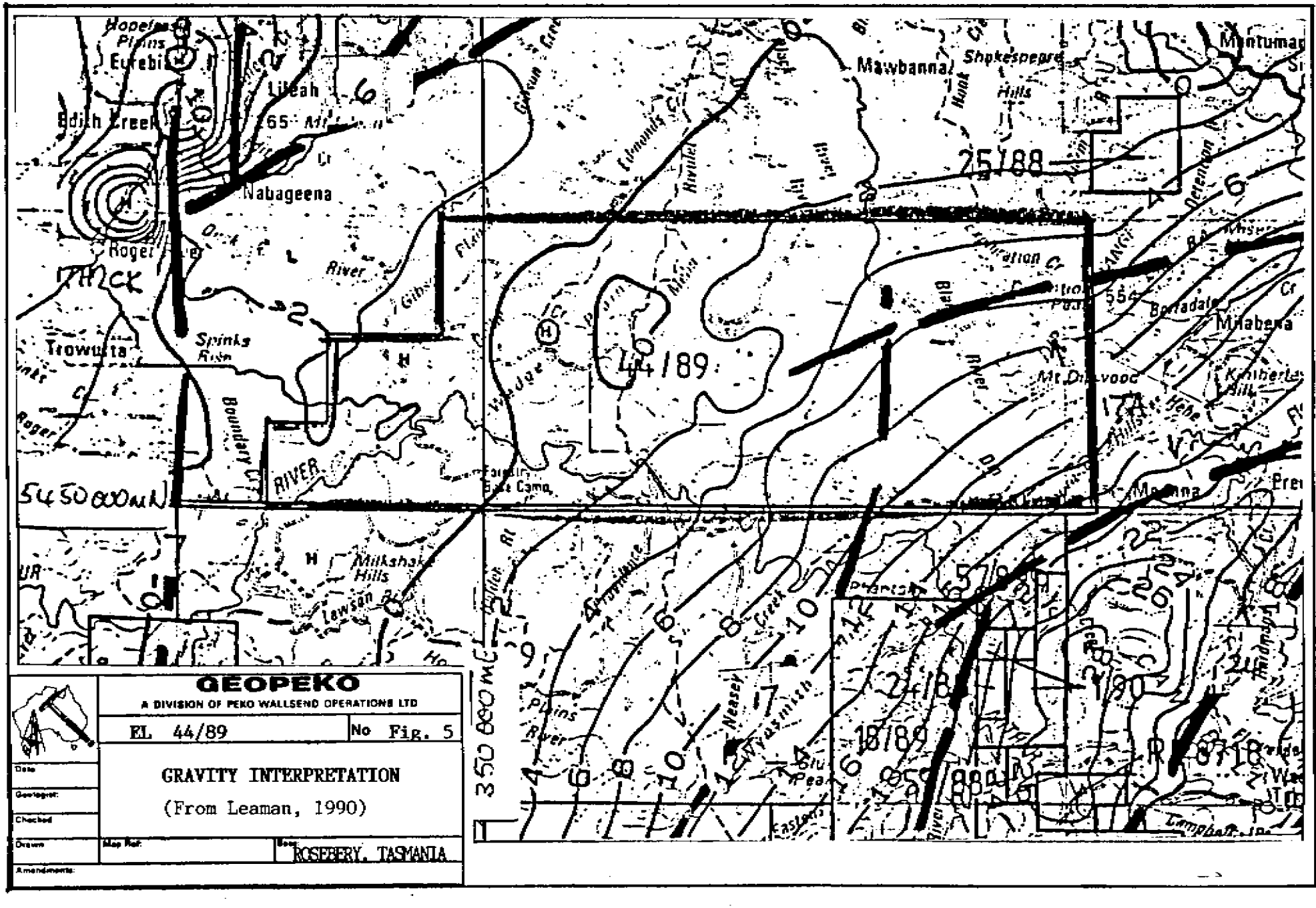

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A DIVISION OF PEKO WALLSEND OPERATIONS LTD

EL 44/89	No Fig. 5

GRAVITY INTERPRETATION

(From Leaman, 1990)

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Amendments	

* Magnetic data has indicated that 2 north-east trending linears (1 & 2), thought to be crustal features in the Rocky Cape Group cut the EL. (Leaman, 1990). Linear 2 may be associated with trace Au and Cu geochemistry.

NB: In early December, after the bulk of this report was completed, it became obvious that the DMMR laboratory was having severe problems with the determination of gold in water. Some unknown element or compound was being concentrated by the activated charcoal extraction technique and was reporting on the gold channel. Repeat analyses using alternative techniques indicated that many, but not all, gold results were spurious. Re-analysis of water samples to identify genuinely anomalous samples is currently in progress.

4.0 RECOMMENDATIONS

The realization that not all gold in water results provided by the DMMR are valid necessitates either a pause in the program or a change in direction of the project. While alternative ways of selecting zones within this underexplored region are available, they do not offer the new approach , the near total coverage or the relatively low cost of the water technique.

It is recommended that the exploration program in this area should be delayed until resolution of the analytical problem by the DMMR. Anomalous samples with confirmed high gold values should be followed up by detailed geological mapping and rock chip sampling. Areas of the EL underlain by the Cowrie Siltstone should be relinquished.

5.0 ENVIRONMENTAL DISTURBANCE AND REHABILITATION

Exploration conducted by Geopeko during 1990 has caused no environmental disturbance. Semi permanent samples markers left at sample sites are considered to be valuable reference points for future exploration. No rehabilitation has been necessary.

REFERENCES

BROWN, A.V. (1989), "Geological Survey Explanatory Report, 1:50 000 series Sheet 21 - Smithton". Tas. DMMR.

BURRETT, C.F., Martin E.L. (1989) "Geology & Mineral Resources of Tasmania" Geological Society of Australia 15 (Burrett et al 1989)

GREEN, G.R., BOTTRILL, R.S., BACON, C.A., TURNER, N.J. (1988) - Mineral Deposits and Metallogenic Map of Tasmania 1:50 000, Tas. DMMR.

LEAMAN, D.E., (1990) - Geophysical - Structural Review - Rocky Cape Block NW Tasmania. Unpublished report for Geopeko.

MATHISON, I.J. (1990) - Arthur River Project - 1990 Summer Field Season Water Sampling.

APPENDIX 1

EL SCHEDULE

405020

TASMANIA

No. E.L. 44/89 (Regulation 6A)

The Mining Act 1929

EXPLORATION LICENCE

Issued to PEKO EXPLORATION LTD of PO BOX 180 ROSEBERY TASMANIA 7470 in respect of 250 square kilometres of land in the Land Districts of WELLINGTON & RUSSELL vicinity of WEDGE PLAINS as described in the schedule hereto.

This licence shall remain in force until the Twelfth day of January 1991.

This licence is subject to the following conditions:-

1. That the licensee shall immediately on the issue of this licence take steps to commence preliminary works necessary for the investigation of the area.
2. That the licensee shall carry out investigations as may be necessary to determine the mineral potential of the area, and in particular will fulfil the proposals set out in the exploration programme and approved by the Director of Mines.
3. That the licensee shall employ such technical and other staff and equipment as may be necessary effectively to carry out such investigations.
4. This licence shall apply to all minerals.
5. The licensee shall notify the owner and occupier of private land, in writing, at least three days before entering such land.
6. That the security (Private Land Deposit) provided by Section 15E (1) (a) & (b) of the Mining Act, 1929, (see below) shall be lodged with the Director of Mines before entering private land.
7. The licensee shall observe, perform and fulfil the conditions as set forth in Schedule 'A' (Revised) attached hereto.

8. The licensee shall be liable to pay the cost of any work carried out to remedy any damage arising from any breach of the conditions of this licence.

9. The licensee shall deposit an amount of $5,000 (Performance Deposit) as security that the conditions contained herein shall be observed. Upon expiry or sooner determination of the licence, if the licensee satisfies the Director of Mines that such conditions have been complied with, the Director of Mines shall refund such deposit or such portion thereof, as he may determine.

10. If it is found, that the operations hereby authorised, are causing any undue damage to, or erosion of, the subject land or other land in the vicinity thereof or are unnecessarily disturbing the environment, the Minister may cancel the licence without compensation to the licensee by giving seven days' notice in writing of his intention so to do.

11. The licensee shall obtain the written permission of the Director of Mines before carrying out any work in a Forest Reserve.

12. The licensee shall arrange and keep in good standing public liability insurance to the minimum of $1,000,000. Evidence of currency shall be produced on demand.

SCHEDULE

Commencing at the north west corner of the area whose grid co-ordinates are 349 000 metres E. 5 460 000 metres N. thence grid east to 371 000 metres E. grid south to 5 450 000 metres N. grid west to 343 000 metres E. grid north to 5 453 000 metres N. again grid east to 345 000 metres E. again grid north to 5 456 000 metres N. again grid east to 349 000 metres E. aforesaid thence again grid north to the point of commencement.

The area excludes: 25 ha Mining Leases
0.3 skm Dip Falls Forest Reserve
0.2 skm Crown Reserve

LAND TENURE:

The area comprises: State Forest
Private Property
Crown Land

NOTE: The land tenure table is a guide only.

APPENDIX 2

REVIEW OF PREVIOUS EXPLORATION

APPENDIX 2

REVIEW OF PREVIOUS EXPLORATION

A2.1 EL 12/65 Pieman Project

During the mid 1960s Pickands Mather & Co International held EL 12/65 over a large part of northwest Tasmania. An extensive regional stream geochemical survey was conducted and although a number of geochemical anomalies were detected, and some resampling occurred later, no further work was undertaken. (Anon. 1966 in Cromer, 1988a). Unfortunately records of this sampling program are no longer held by the Tasmanian DMMR.

A2.2 EL 48/70 and EL 49/70

Two exploration licences to the southwest of Geopeko's Arthur River Project were granted as a joint venture to Australian Consolidated Industries Ltd and Consolidated Goldfields Australia Ltd. Field investigations included an aeromagnetic survey, stream sediment sampling, geological mapping and soil and rock chip sampling. This was designed to detect any tin mineralization that may be associated with the three Devonian granites in the two licence areas. Detailed evaluation was carried out in areas of geochemical and geomagnetic anomalies and known mineralization.

Results were not encouraging enough to justify further exploration and the two ELs were dropped in 1972. (Bell, 1972)

A2.3 EL 6/72 North West Tasmania

Australian and New Zealand Exploration Company was granted EL 6/72 in January 1972. This EL covered an area of the Smithton Trough to the north of the Arthur River. It was considered by ANZECO to be prospective for tungsten due to the similarity of the dolomites to those hosting the King Island Scheelite ore body. A panned concentrate and stream sediment sampling programme was completed over the EL with 94 samples taken and analysed for W, Cu, Pb, Zn, Mo, Sn and Cr. ANZECO received a number of anomalous assays for all the elements tested but found it difficult to interpret the results. Though some follow up was recommended, no further exploration was attempted. (Kinnane, 1972).

A2.4 EL 2/73

Following a study of the mineral potential of Australia during 1971, ESSO took out EL 2/73 in the northwest of Tasmania and conducted an airborne geophysical survey (INPUT) over the licence area. Sixty two anomalies were detected, however, dense vegetation restricted examination to thirty six targets and only thirteen had outcrop. Most of the anomalies were attributed to black slates and lithological contacts. ESSO

considered that no further exploration was warranted and the EL was relinquished in 1974. (Neale, 1973)

A2.5 EL 43/70 Keith River

Magnesite was first discovered in the Lyons River-Keith River area in 1925 by P.B. Nye. Since Mineral Holdings Australia was granted EL 43/70 over the area, numerous companies have explored the licence under joint venture agreements. A joint venture between Mineral Holdings Australia and CRAE Pty Ltd in 1982 delineated two deposits of moderate-high grade magnesite. These are known as the Lyons River and the Keith-Arthur River Prospects. (Mackenzie, 1984). Retention Licences 8717 and 8718 cover these two magnesite reserves.

A2.6 EL 1/77 Rocky Cape

EL 1/77 was initially taken up by CRAE Pty Ltd to investigate the possible tin potential of the area. Following a joint venture with Geopeko in 1979 and recommendations by P. Legge in 1980 that the Rocky Cape rocks showed similarities to the Selwyn Basin, Canada, the target was extended to shale hosted lead zinc deposits.

Statistical evaluation of regional drainage data indicated that the Trowutta Dempster plains district showed elevated values of Cu, Pb, Zn and Co. (Weir, 1982). Follow up of this area included stream sediment sampling, geological mapping and rock chip sampling. A photogeological interpretation (by Carey, 1981) covered the whole EL. The stream sediment sampling revealed lead anomalies from the Julius River, the Meryanna area, Wents Creek and Stephens Rivulet and an arsenic anomaly from Sumac Rivulet.

Follow up in the Julius River and Meryanna area included detailed stream sampling, gridding, soil sampling and ground geophysics. It was concluded that the Julius River anomaly was derived from a disseminated source or shears within the dolomite and that the Meryanna anomaly was the results of erosional basaltic remnants on topographic highs.

Resampling of the other 3 anomalous areas failed to repeat the initial high values.

CRA Exploration relinquished the northern part of EL 1/77 in 1983 concluding that the black shale sequences exposed at the eastern margin of the trough were too thin to have produced economic mineralization from brines (Weir, 1983).

Exploration continued in the western coastal parts of the EL including diamond drilling at the Alpine and Red prospects for tin before total EL relinquishment in 1985.

A2.7 EL 1/79 Rapid River

A detailed program of exploration was carried out over the Rapid River EL by Geopeko and/or CRAE Pty Ltd from 1979 to 1987. Commodities searched for included gold, platinum, shale hosted base metals and Mittershill type tungsten as well as extensions to the Lyons River magnesite trend. The work included airborne magnetic and radiometric surveys, ground follow up of all major magnetic anomalies, geological mapping and stream sediment sampling in selected areas. No significant mineralization was located. (Dickson, 1987)

A2.8 EL 10/79

EL 10/79 was operated as a joint venture by CRAE and Mineral Holdings Australia Pty Ltd. The target was initially dolomite, but when some anomalous gold and platinum values were obtained, greater emphasis was given to the metals aspect of exploration. Grades of 3.09 g/t [410732] and 4.06 g/t Au with 0.46 g/t Pt [408726] were obtained from dolomite chip sampling and, although resampling returned results of only 0.04 g/t Pt, the partners concluded that there was a significant gold occurrence in the dolomites. However, EL 10/79 was relinquished in 1984 with no follow up work. (Anon 1985 in Cromer, 1988a)

A2.9 EL 12/80 Leigh River and EL 61/83

EL 12/80 was granted to CRAE Pty Ltd in order to investigate two tin stream sediment anomalies located during previous reconnaissance by CRAE in 1977. The EL was also considered for shale hosted lead zinc and gold mineralization and this was supported by the presence of a number of INPUT anomalies obtained by ESSO in 1973. Work carried out included a computer study of all previous stream sediment geochemistry, infill stream sediment sampling, regional scale mapping, follow up of nine aeromagnetic anomalies defined by the Mines Dept. West Coast survey and investigations into the gold potential of altered Cambrian basalts. No significant base or precious metals were detected and the EL was relinquished in 1985. (Dickson, 1985).

EL 61/83 was taken up by CRAE to cover a large aeromagnetic anomaly located on the eastern margin of EL 12/80. A grid was established over the anomaly and Genie EM traverses carried out. No base metal or gold anomalism was detected and the EM failed to locate any conductors. The aeromagnetic anomaly was attributed to unmineralized Precambrian basic volcanics and the EL was dropped in 1985. (Dickson, 1986)

A2.10 EL 18/80 Arthur River and EL 18/83 Lake Chisholm

EL 18/80 was taken up by BHP Co Ltd and thought to be prospective for a skarn or massive sulphide hosted tin tungsten deposit of the Renison/Cleveland style. Carlin style gold, diamonds, Mississippi Valley lead-zinc and sedimentary copper

deposits were secondary targets. Work completed includes stream sediment and pan concentrate sampling, rock chip sampling, petrology, a photogeological and Landsat Image study, geological mapping, and evaluation and follow up of existing INPUT and aeromagnetic data. In view of the disappointing results and difficult access, the EL was relinquished in 1983. (Anon, 1983).

EL 18/83 lies adjacent to EL 18/80 and was taken by BHP to cover a broadly coincident INPUT/Aeromagnetic anomaly. An extensive grid was cut over the main zone of interest at Lake Chisholm and soil sampling, geophysical surveys and geological mapping were carried out. Pan concentrate sampling was used to follow up anomalous tin geochemistry reported from earlier work. The INPUT/Aeromagnetic anomaly was attributed to a small amphibolite body and magnetically susceptible basalts. No indications of potentially economic mineralization were encountered. (Anon, 1984).

A2.11 EL 21/87 Balfour and EL 22/87 Trowutta

Aureole Resources took up ELs 21/87 and 22/87 to explore for platinum group metals, gold and base metals, hosted mainly by receptive rocks along the eastern and southern margins of the Smithton Trough. Work included a regional geophysical evaluation by D.E. Leaman and rock chip sampling for assay and petrological purposes. Despite upgrading the prospectivity of parts of the two ELs, 22/87 was relinquished and 21/87 reduced in 1989 as Aureole shifted their emphasis to other tenements. (Cromer, 1988a + b).

A2.12 EL 5/63

EL 5/63 was granted to Comstaff Proprietary Limited in 1963 and covered the area from Rosebery in the south to Wandle Creek in the north. Comstaff divided the EL in 6 areas, ie, Area 1 Arthur River, Area 2 Ramsay, Area 3 Mt Block, Area 4 Chester/Pinnacles, Area 5 Huskisson and Area 6 East Renison. Area 1 covers part of Geopeko's EL 45/89 and is the only area discussed in this summary.

Systematic and detailed exploration of Area 1 commenced in 1970-71 field season and little is reported of any exploration carried out before this time.

Exploration of Area 1 from 1970-75 was based around 2 stream sampling programmes and several widely spaced TURAM EM traverses. The stream sampling surveys produced anomalies in the Tinstone Creek area (Ag,Cu,Zn,Pb,Sn & Ba), Magnet Creek (Sn), Deep Gully (Sn), Rollins Creek (Sn), Dalcos Creek (Sn) and from the Happy Day Creek (Cu, Zn, Ni). Follow up included gridding and soil sampling of the Tinstone Creek area, Happy Day Creek and four other Cu-Zn anomalies. No anomalies indicative of the presence of mineralization were recorded.

The Turam EM survey reported 8 anomalies and 5 of them were gridded and subjected to EM and/or magnetic surveys. No significant results were obtained.

From 1975-78 work was centred on the Magnet-Bischoff grid which was subjected to geological mapping, soil sampling, ground magnetics and EM surveys. Three diamond holes were drilled in the grid area, one to test an EM anomaly and the other two to test the Magnet lode at depth. No mineralization was intersected and no further work on the grid was recommended. (Shaw & Everett, 1985).

In 1980 a programme to investigate the alluvial tin potential of the Arthur River commenced. Initial work was encouraging with a tin volume estimate of 6-8 million m^3 of variable grade outlined. Though follow up work was recommended, no further exploration on this project was reported. (Washausen & Wilding, 1980).

In 1983-85 a DIGHEM survey was carried out over Area 1 using flight lines with a NW-SE direction. Five anomalies were recommended for follow up. Comstaff attributed them to Tertiary basalt cover.

In 1985 Comstaff was required to reduce EL 5/63 and most of Area 1 was relinquished. (Shaw & Everett, 1985).

A2.13 *EL 1/68 Heazlewood*

In 1968 EL 5/63, held by Comstaff Pty Ltd, was subdivided to form EL 1/68. EL 1/68 covered an area north of Luina which is drained principally by the Savage and Heazlewood Rivers.

Initially exploration of this licence focussed on the ultramafics and their potential for nickel mineralization. Gridding, soil sampling, geological mapping, geophysical surveys and some trenching failed to identify any new mineralization.

Regional reconnaissance projects were then implemented in the Savage, Whyte and Heazlewood drainages. The upper Heazlewood drainage basin emerged as the most prospective with anomalous values of zinc and copper. Two grids (HAB, HAC) were cut and geologically mapped and soil sampled. No mineralization was found and geochemical responses were weak.

In 1980, a DIGHEM survey over the total licence area was commissioned and exploration for the next 3 years centred around the follow up of 13 resultant anomalies. All anomalies were gridded, geologically mapped, soil sampled and subjected to ground magnetic and EM surveys. In all cases no mineralization was observed. In late 1983 two EM targets were selected for drill testing. Both holes failed to intersect mineralization and the EM responses were attributed to black graphitic slate and phyllite.

In 1984 Comstaff considered that all avenues for locating mineralization had been exhausted and the EL was relinquished. (Shaw, 1984).

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APPENDIX 3

GEOPHYSICAL REVIEW

EL 44/89 WEDGE PLAINS

The location of this area is shown in Figure 1.

Figure 28 presents relevant gravity and magnetic data .

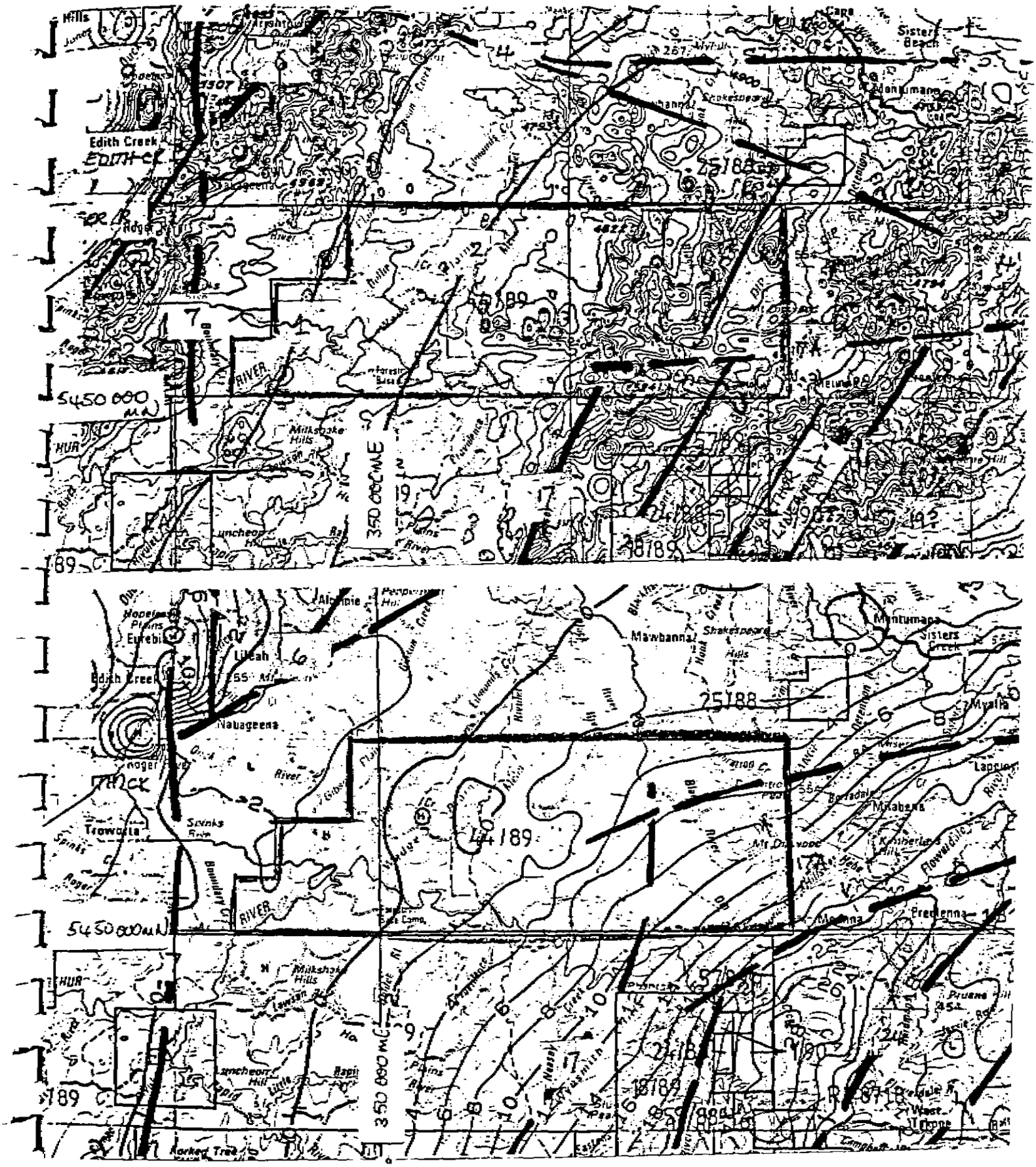
Only Rocky Cape Group rocks are exposed in this area. The gravity and magnetic fields, however, are not consistent with this surface indication.

The gravity data suggest that the denser Lineament and mafic members faulted or included within the Burnie Formation underlie the entire eastern portion of the EL. The limiting structures have been suggested. Since these underlying rocks have been mineralised, as shown by occurrences of gold along and east of the lineament, some effort should be made to locate the projections of these structures to surface. This recommendation is made on the basis that any rejuvenation and fluid passage may well have transferred metals into dolomitic hosts closer to surface. Magnetic data indicate the approximate position of the concealed fault or unit slices at depths of more than 2 km. Since there may be some offset due to dip projections some limited ground surveys may be necessary to identify the precise location of these features. It is possible that any mineral transfer may have taken place along the major thrust which has carried the Rocky Cape Block eastward. If this has occurred all mineralisation will be found east of the EL.

Magnetic features (1) and (2) cross the EL. There is some scope within this EL for identification of the origin of these features. It has been suggested that (2) is a disguised fault within the Rocky Cape Group sequence. The origin of (1) is more difficult to predict. The feature is of higher amplitude and is localised but no available mapping has identified any feature with the continuity and likely lithology required. Some susceptibility meter traverses would identify this feature - if it is exposed.

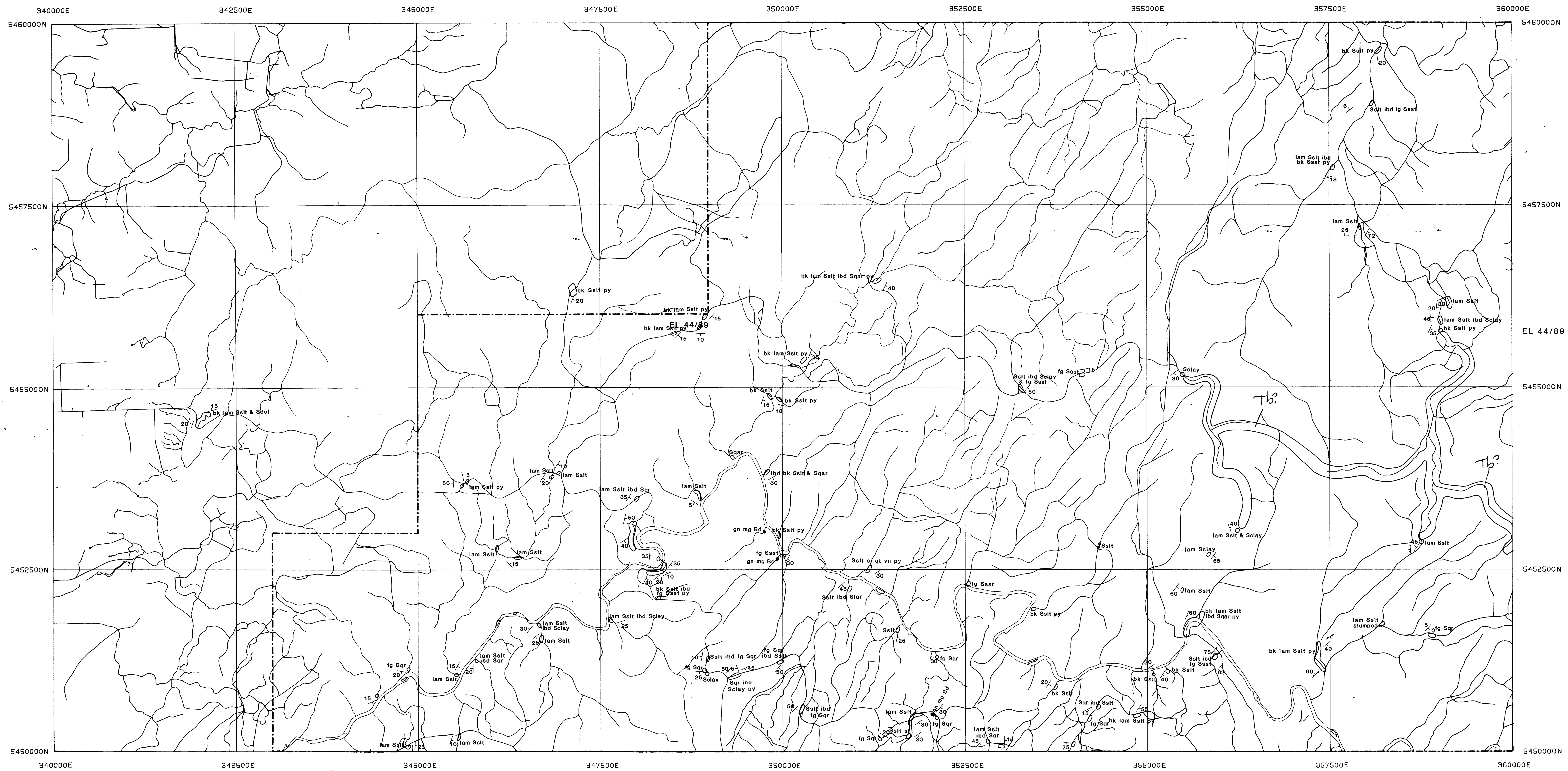
Much of the low amplitude, speckled magnetic anomaly patterns observed west of Black River are due to Tertiary basalts. The anomaly distribution would suggest that there is far more basalt in this area than has been mapped to date. It may be noted that the patches of basalt overly the gross trend intersection marked in the gravity part of the figure. This would indicate some rejuvenation has occurred.

It is not known whether the implied offset in the magnetic trends near the SE corner of the EL is significant. An ENE trend has been indicated but another, less continuous, is present to the ESE from the same hinge point near 362 000 mE, 5452 000 mN. This may be a locality worthy of geochemistry. No mineralisation is known from the area covered by this EL.



EL 44/89 WEDGE PLAINS MAGNETIC AND RESIDUAL GRAVITY DATA

FIGURE 28



ROCK TYPES

SEDIMENTS:

Ssst	sandstone
Sqar	quartz arenite
Swk	greywacke
Sslt	siltstone
Sdol	dolomite
Scon	conglomerate
Sbx	breccia

IGNEOUS ROCKS:

Tert Bb	tertiary basalt
€ Bb	cambrian basalt
Bd	dolerite

METAMORPHICS:

Mpyl	phyllite
MSqr	meta arenite

SEDIMENT GRAIN SIZE

vfg	very fine grained
fg	fine grained
mg	medium grained
cg	coarse grained

TEXTURES

vns	veins
ibd	interbedded
lam	laminated
clvd	cleaved
stn	staining
gd	graded
wthd	weathered

COLOURS

bk	black
wh	white
gn	green
gy	grey
pl	pale
dk	dark
or	orange
cm	cream

MINERALOGY

py	pyrite
qt	quartz
Fe	iron
Mn	manganese
cbd	carbonate
Tq	turquoise

STRUCTURAL SYMBOLS

bedding
facing
overturned bedding
cleavage
fault
rock outcrop
float/subcrop
definite contact
approximate contact
interpreted contact

PLATE 1a

405033

5 cm

91-3220.

	3445	3645
3244	3444	3644

GEOPEKO

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SCALE - 1:25000

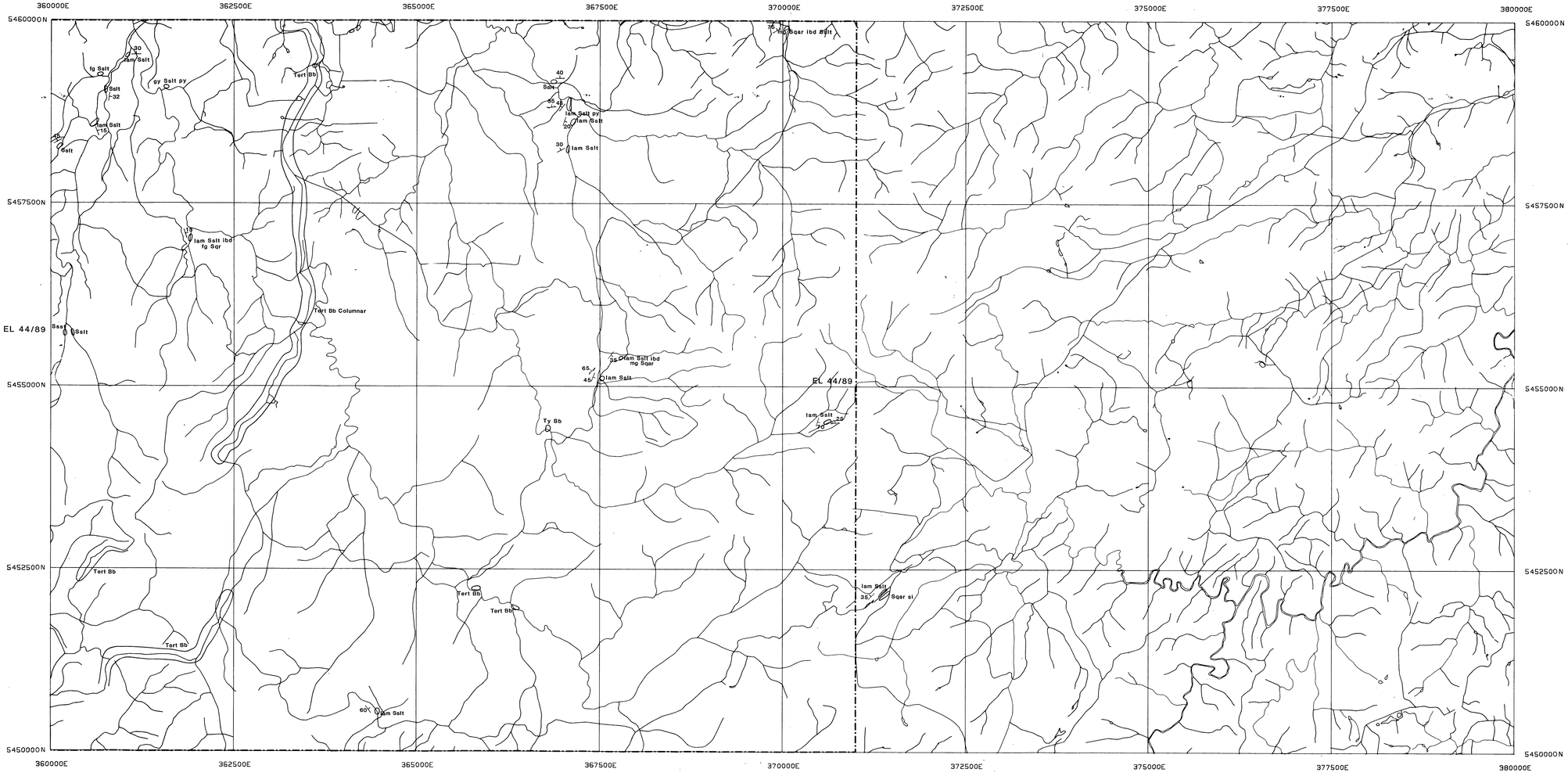
AUSTRALIAN HHIGHT DATUM

TASMANIA

3445 TAYATEA

EL 44/89

GEOLOGICAL FACT MAPPING



ROCK TYPES

SEDIMENTS:

Ssst	sandstone
Sqar	quartz arenite
Swk	greywacke
Sslt	siltstone
Sdol	dolomite
Scon	conglomerate
Sbx	breccia

IGNEOUS ROCKS:

Tert Bb	tertiary basalt
€ Bb	cambrian basalt
Bd	dolerite

METAMORPHICS:

Mpyl	phyllite
MSqr	meta arenite

SEDIMENT GRAIN SIZE

vfg	very fine grained
fg	fine grained
mg	medium grained
cg	coarse grained

TEXTURES

vns	veins
lbd	interbedded
lam	laminated
clvd	cleaved
stn	staining
gd	graded
wthd	weathered

COLOURS

bk	black
wh	white
gn	green
gy	grey
pl	pale
dk	dark
or	orange
cm	cream

MINERALOGY

py	pyrite
qt	quartz
Fe	iron
Mn	manganese
cbd	carbonate
Tq	turquoise

STRUCTURAL SYMBOLS

- bedding
- facing
- overturned bedding
- cleavage
- fault
- rock outcrop
- float/subcrop
- definite contact
- approximate contact
- interpreted contact

PLATE 1b

5cm

405034

91-3220.

3445	3645	
3444	3644	

TASMANIA

GEOPEKO

A DIVISION OF PEKO EXPLORATION LIMITED

SCALE - 1:25000

AUSTRALIAN HEIGHT DATUM

3645 MILABENA

EL 44/89

GEOLOGICAL FACT MAPPING

340000E 342500E 345000E 347500E 350000E 352500E 355000E 357500E 360000E

5460000N
5457500N
5455000N
5452500N
5450000N

EL 44/89

20411,8,2,6,5,1,26
20410,7,7,10,10,76
20412,5,8,10,6,0,53
20416,5,2,12,8,0,41
20415B,5,2,9,9,0,53
20415A,5,2,9,9,0,53
20417,05,12,9,7,82
20418,11,8,7,5,1,57
20107,10,5,8,5,1,24
20103,11,8,29,3,4,4
20104,15,7,10,8,1,45
20106,11,4,11,8,0,97
20105,14,6,7,3,2,27
20102,19,2,5,5,3,49
20101,23,7,10,2,2,32
20414,8,7,12,6,0,69
20413,4,6,11,3,0,41
20434,7,4,11,8,0,63
20402,6,4,7,7,0,91
20403,7,5,6,3,1,19
20404,2,4,12,1,0,2
20083B,18,12,6,1,43
20401,8,12,8,0,63
20406,7,11,3,0,62
20402,6,1,10,3,0,59
20082C,19,7,11,1,1,68
20500B,9,13,3,0,69
20407,4,3,10,5,0,41
20500A,9,13,3,0,68
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20437,6,6,7,3,0,9
20497,22,6,5,6,4,04
20485,15,7,9,9,1,59
20498,22,3,6,5,3,43
20029,7,1,6,1,18
20032,6,1,2,9,2,4
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20034,8,4,2,6,3,23
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20099,20,3,9,9,2,65
20603,19,6,10,9,1,8
20601,24,1,6,6,3,63
20602,16,12,9,1,1,24
20604,12,9,12,2,1,14
20439,5,5,9,0,0,85
20441,8,1,16,3,0,6
20420,9,2,6,5,1,06
20421,5,4,7,4,0,73
20422B,9,1,4,1,2,22
20808,56,7,12,7,4,46
20808A,56,7,15,7,4,46
20808,17,9,11,7,1,53
20494,12,6,6,5,1,94
20494A,12,6,6,5,1,94
20495,9,9,9,3,1,06
20079C,36,9,5,5,6,71
20079A,36,9,5,5,6,71
20494C,12,6,5,5,1,94
20444,2,9,5,7,0,51
20443,3,5,13,5,0,26
20454,13,4,5,2,6,8
20453,9,3,4,7,1,98
20113,4,1,6,5,0,63
20445,2,5,6,3,0,4
20038,5,13,9,1,56
20031,35,0,6
20035,7,4,6,1,52
20488,11,9,6,9,1,72

LEGEND

Sample Location
Sample Number
Au (ppt)
C (ppm)
Au/C Ratio
* 20662,11.8,13.9,0.85
BT - Below Detection

PLATE 2a

405035

5 cm

91-3220.

	3445	3645
3244	3444	3644

TASMANIA

GEOPEKO
A DIVISION OF PEKO EXPLORATION LIMITED

SCALE - 1:25000
AUSTRALIAN HHIGHT DATUM

3445 TAYATEA

EL 44/89

WATER GEOCHEMISTRY
Sample Number, Au, C, Au/C

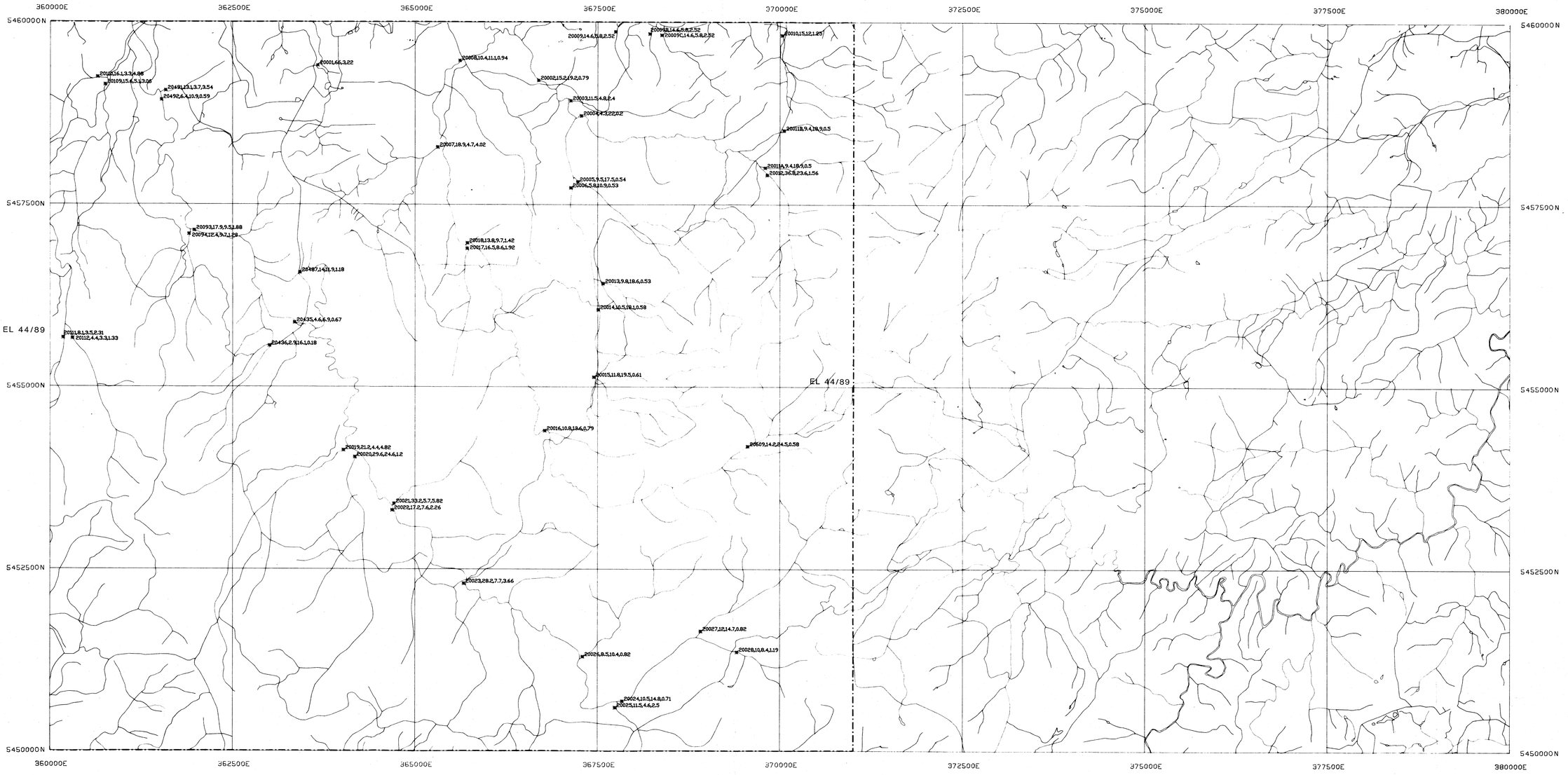


PLATE 2b

LEGEND

Sample Location
Sample Number
Au (ppt)
C (ppm)
Au/C Ratio
* 20662,11.8,13.9,0.85
BT - Below Detection

5 cm

405036

91-3220.

3445	3645	
3444	3644	

TASMANIA

GEOPEKO
A DIVISION OF PEKO EXPLORATION LIMITED

SCALE - 1:25000
AUSTRALIAN HEIGHT DATUM

3645 MILABENA

EL 44/89 — WATER GEOCHEMISTRY
Sample Number, Au, C, Au/C

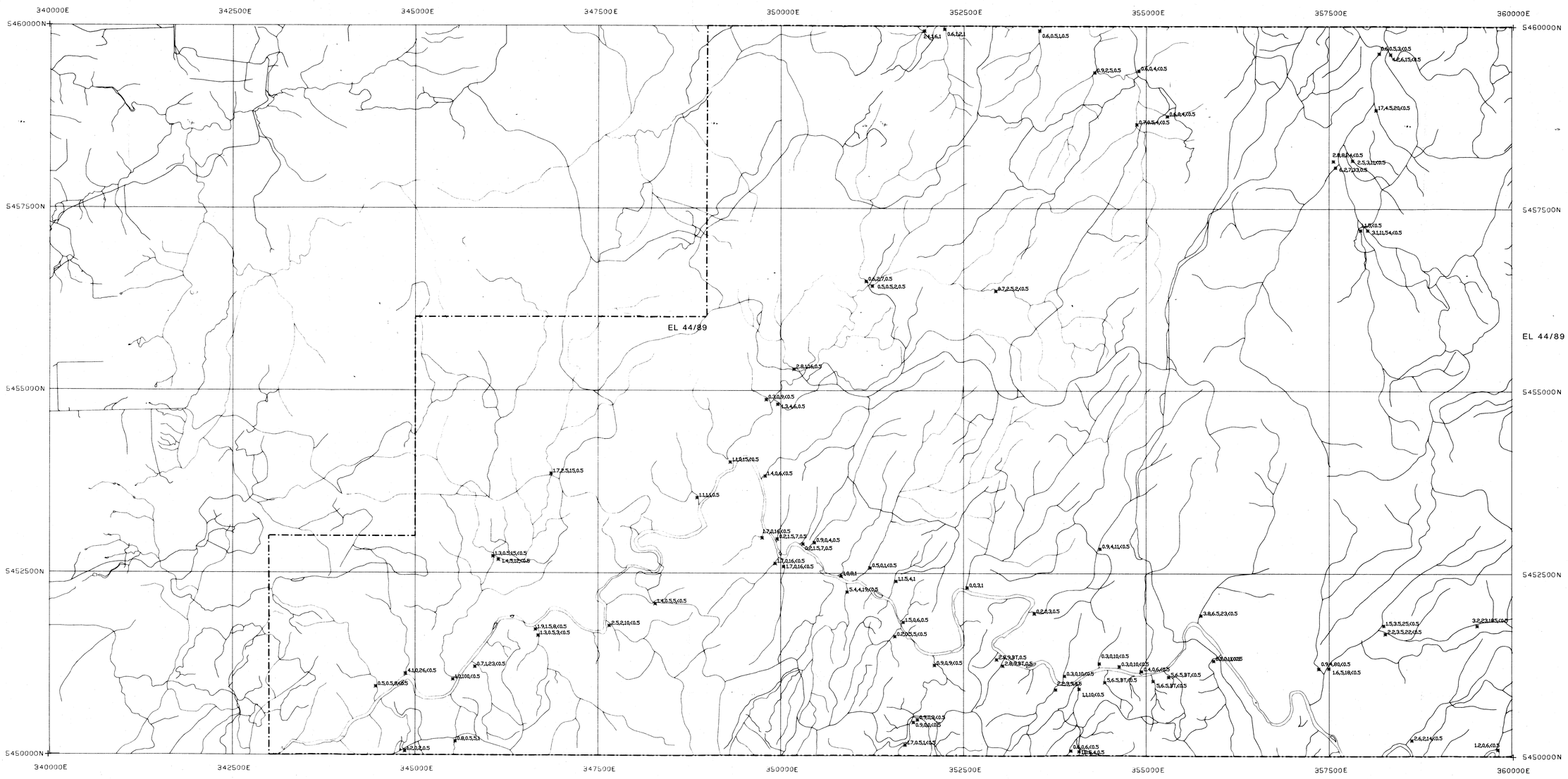


PLATE 3a

LEGEND

Sample Location
Copper (ppb)
Lead (ppb)
Zinc (ppb)
Arsenic (ppb)
3.8,6.5,23,<0.5
BT - Below Detection

5 cm

405037

91-3220.

	3445	3645
3244	3444	3644

TASMANIA

GEOPEKO
A DIVISION OF PEKO EXPLORATION LIMITED

SCALE - 1:25000
AUSTRALIAN AHIGHT DATUM

3445 TAYATEA

EL 44/89 WATER GEOCHEMISTRY
Cu, Pb, Zn, As

9910

360000E 362500E 365000E 367500E 370000E 372500E 375000E 377500E 380000E

5460000N 5457500N 5455000N 5452500N 5450000N

EL 44/89

0.2,4,<0.5
1.4,0.5,4,<0.5
1.3,0.7,<0.5
0.9,0.7,<0.5
7,8,12.5,BT,<0.5
1.4,8.5,3,34,<0.5
1.8,5.5,13,<0.5
1.8,5.5,13,<0.5
1.8,5.5,13,<0.5
5,14,357,0.5
1.4,2.5,12,<0.5
1.4,6.5,8,<0.5
26.5,10,<0.5
1.4,0.5,11,<0.5
1.1,0.5,11,<0.5
1.5,11.37,<0.5
2.2,17,150,<0.5
1.8,17,<0.5
0.5,4,41,<0.5
3,4,2.5,13,<0.5
10,2,10,<0.5
0.8,8.5,147,<0.5
2.2.5,20,<0.5
0.4,14,<0.5
1.0,11,<0.5
1.3,6.2,6,<0.5
1.7,5.5,6,<0.5
1.1,4.5,10,<0.5
0.4,0.6,<0.5
1.5,6.5,10,<0.5
1.7,5.22,<0.5
3.6,1.5,10,<0.5
0.4,1.8,<0.5
2,4,3.5,14,<0.5
2.9,5.30,<0.5
3,4,13.5,BT,3.9
2.6,6,105,<0.5
1.4,5.5,11,<0.5
0.6,3,35,<0.5
1.1,3,26,<0.5
0.7,1.5,11,<0.5
2,4,2.5,10,<0.5
0.4,5,14,<0.5

EL 44/89

LEGEND

Sample Location
Copper (ppb)
Lead (ppb)
Zinc (ppb)
Arsenic (ppb)
3.8,6.5,23,<0.5
BT - Below Detection

PLATE 3b

5 cm

405038

91-3220.

3445	3645	
3444	3644	

TASMANIA

GEOPEKO
A DIVISION OF PEKO EXPLORATION LIMITED

SCALE - 1:25000
AUSTRALIAN HEIGHT DATUM

3645 MILABENA

EL 44/89 WATER GEOCHEMISTRY
Cu, Pb, Zn, As

405033

GEOPEKO

A DIVISION OF PEKO EXPLORATION

EL 44/89 WEDGE PLAINS

1990 SUMMER
WATER SAMPLING DATA
SAMPLE DESCRIPTIONS,
UNITS AND RESULTS

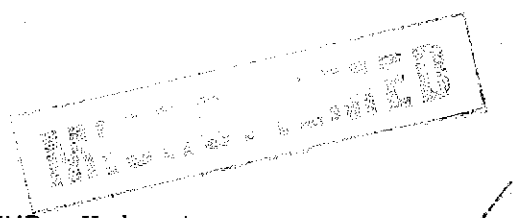
91-3220

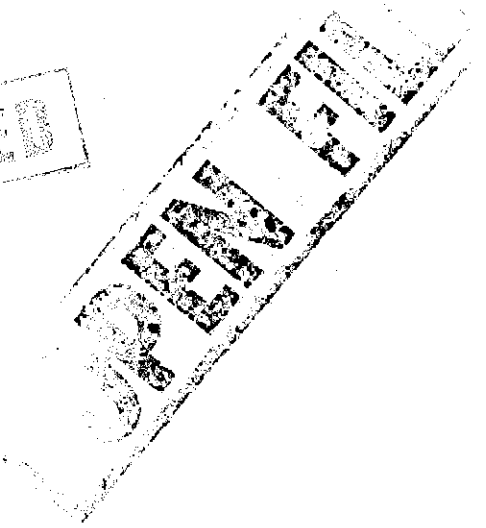
EL44/89

LETTER
8-1-'91
REFERS.

Katrina Virgoe
Ian Mathison
December, 1990

To accompany report
T253





Distribution: DMMR, Hobart

ARTHUR RIVER PROJECT WATER SAMPLES - EL 44/89

DATE 19-01-1990 NUMBER 20001 MAP MILABENA TYPE WATER

EL 44/89 NORTH 5459420 EAST 363680 SAMPLER KJV

		UNIT	Tb on Prc
WIDTH	0.0	FLOAT_1	
DIRECTION	0	FLOAT_2	
COLOUR	weak brown	FLOAT_3	
FLOW	stagnant		
			LEVEL low
CONTAM	farming		
VEGETATION	pasture		DRAINAGE AREA 2.0

DATE 19-01-1990 NUMBER 20002 MAP MILABENA TYPE WATER

EL 44/89 NORTH 5459220 EAST 366700 SAMPLER KJV

		UNIT	Prd on Prc
WIDTH	7.0	FLOAT_1	gy lam Sslt
DIRECTION	0	FLOAT_2	wh Sqar
COLOUR	brown	FLOAT_3	
FLOW	medium		
			LEVEL low
CONTAM			
VEGETATION	wet eucalypt		DRAINAGE AREA 16.0

DATE 19-01-1990 NUMBER 20003 MAP MILABENA TYPE WATER

EL 44/89 NORTH 5458940 EAST 367160 SAMPLER KJV

		UNIT	Prd
WIDTH	5.0	FLOAT_1	wh Sqar
DIRECTION	0	FLOAT_2	
COLOUR	clear	FLOAT_3	
FLOW	slow		
			LEVEL low
CONTAM			
VEGETATION	wet eucalypt		DRAINAGE AREA 2.0

DATE 19-01-1990 NUMBER 20004 MAP MILABENA TYPE WATER

EL 44/89 NORTH 5458740 EAST 367300 SAMPLER KJV

		UNIT	Prd
WIDTH	5.0	FLOAT_1	wh Sqar
DIRECTION	0	FLOAT_2	
COLOUR	brown	FLOAT_3	
FLOW	med		
			LEVEL low
CONTAM			
VEGETATION	wet eucalypt		DRAINAGE AREA 6.0

ARTHUR RIVER PROJECT WATER SAMPLES - EL 44/89

DATE 19-01-1990 NUMBER 20005 MAP MILABENA TYPE WATER

EL 44/89 NORTH 5457840 EAST 367200 SAMPLER KJV

		UNIT	Prd
WIDTH	3.0	FLOAT_1	wh Sqar
DIRECTION	0	FLOAT_2	
COLOUR	brown	FLOAT_3	
FLOW	med		
			LEVEL low
CONTAM			
VEGETATION	wet eucalypt		DRAINAGE AREA 1.5

DATE 19-01-1990 NUMBER 20006 MAP MILABENA TYPE WATER

EL 44/89 NORTH 5457740 EAST 367140 SAMPLER KJV

		UNIT	Prd
WIDTH	5.0	FLOAT_1	wh fg Sqar
DIRECTION	0	FLOAT_2	
COLOUR	brown	FLOAT_3	
FLOW	med		
			LEVEL low
CONTAM			
VEGETATION	wet eucalypt		DRAINAGE AREA 4.0

DATE 19-01-1990 NUMBER 20007 MAP MILABENA TYPE WATER

EL 44/89 NORTH 5458300 EAST 365320 SAMPLER KJV

		UNIT	Tb on Prc
WIDTH	2.0	FLOAT_1	
DIRECTION	0	FLOAT_2	
COLOUR	clear	FLOAT_3	
FLOW	med		
			LEVEL low
CONTAM	farming		
VEGETATION	pasture		DRAINAGE AREA 3.0

DATE 19-01-1990 NUMBER 20008 MAP MILABENA TYPE WATER

EL 44/89 NORTH 5459480 EAST 365620 SAMPLER KJV

		UNIT	Prd
WIDTH	7.0	FLOAT_1	wh Sqar
DIRECTION	0	FLOAT_2	
COLOUR	weak brown	FLOAT_3	
FLOW	med		
			LEVEL low
CONTAM			
VEGETATION			DRAINAGE AREA 15.0

ARTHUR RIVER PROJECT WATER SAMPLES - EL 44/89

DATE 24-01-1990 NUMBER 20009 MAP MILABENA TYPE WATER

EL 44/89 NORTH 5459880 EAST 367760 SAMPLER KJ

		UNIT	Prd
WIDTH	1.0	FLOAT_1	bk fg Bb ol
DIRECTION	0	FLOAT_2	
COLOUR	clear	FLOAT_3	
FLOW	med		
			LEVEL low
CONTAM			
VEGETATION	wet eucalypt		DRAINAGE AREA 3.0

DATE 24-01-1990 NUMBER 20010 MAP MILABENA TYPE WATE

EL 44/89 NORTH 5459840 EAST 370060 SAMPLER KJV

		UNIT	Prd
WIDTH	1.0	FLOAT_1	wh Sqar
DIRECTION	0	FLOAT_2	
COLOUR	weak brown	FLOAT_3	
FLOW	slow		
			LEVEL low
CONTAM			
VEGETATION	button grass		DRAINAGE AREA 1.5

DATE 24-01-1990 NUMBER 20011 MAP MILABENA TYPE WATEI

EL 44/89 NORTH 5458540 EAST 370060 SAMPLER KJV

		UNIT	Prd
WIDTH	1.5	FLOAT_1	wh Sqar
DIRECTION	70	FLOAT_2	
COLOUR	weak brown	FLOAT_3	
FLOW	slow		
			LEVEL low
CONTAM			
VEGETATION	button grass		DRAINAGE AREA 1.0

DATE 24-01-1990 NUMBER 20012 MAP MILABENA TYPE W R

EL 44/89 NORTH 5457920 EAST 369840 SAMPLER

		UNIT	Prd
WIDTH	2.0	FLOAT_1	wh Sqar
DIRECTION	0	FLOAT_2	
COLOUR	brown	FLOAT_3	
FLOW	fast		
			LEVEL low
CONTAM			
VEGETATION	button grass		DRAINAGE AREA 7.0

ARTHUR RIVER PROJECT WATER SAMPLES - EL 44/89

DATE 24-01-1990 NUMBER 20013 MAP MILABENA TYPE WATER

EL 44/89 NORTH 5456460 EAST 367580 SAMPLER KJV

		UNIT	Prd
WIDTH	1.0	FLOAT_1	wh Sqar
DIRECTION	50	FLOAT_2	
COLOUR	weak brown	FLOAT_3	
FLOW	stagnant		
			LEVEL low
CONTAM			
VEGETATION	wet eucalypt		DRAINAGE AREA 0.5

DATE 24-01-1990 NUMBER 20014 MAP MILABENA TYPE WATER

EL 44/89 NORTH 5456080 EAST 367520 SAMPLER KJV

		UNIT	Prd
WIDTH	1.0	FLOAT_1	Sqar
DIRECTION	340	FLOAT_2	
COLOUR		FLOAT_3	
FLOW	moderate		
			LEVEL low
CONTAM			
VEGETATION	button grass		DRAINAGE AREA 5.0

DATE 24-01-1990 NUMBER 20015 MAP MILABENA TYPE WATER

EL 44/89 NORTH 5455140 EAST 367460 SAMPLER KJV

		UNIT	Prd
WIDTH	1.5	FLOAT_1	wh Sqar
DIRECTION	0	FLOAT_2	
COLOUR	brown	FLOAT_3	
FLOW	moderate		
			LEVEL low
CONTAM			
VEGETATION	button grass		DRAINAGE AREA 3.0

DATE 24-01-1990 NUMBER 20016 MAP MILABENA TYPE W

EL 44/89 NORTH 5454520 EAST 366800 SAMPLER

		UNIT	Prd
WIDTH	10.0	FLOAT_1	wh Sqar
DIRECTION	0	FLOAT_2	qt
COLOUR	weak brown	FLOAT_3	
FLOW	slow		
			LEVEL low
CONTAM			
VEGETATION			DRAINAGE AREA 11.0

ARTHUR RIVER PROJECT WATER SAMPLES - EL 44/89

DATE 24-01-1990 NUMBER 20017 MAP MILABENA TYPE WATER

EL 44/89 NORTH 5456920 EAST 365740 SAMPLER KJV

		UNIT	Prd
WIDTH	0.5	FLOAT_1	wh Sqar Fe
DIRECTION	315	FLOAT_2	
COLOUR	brown	FLOAT_3	
FLOW	slow		
			LEVEL low
CONTAM			
VEGETATION	wet eucalypt		DRAINAGE AREA 2.0

DATE 24-01-1990 NUMBER 20018 MAP MILABENA TYPE WATER

EL 44/89 NORTH 5457000 EAST 365740 SAMPLER KJV

		UNIT	Prd
WIDTH	5.0	FLOAT_1	wh Sqar
DIRECTION	0	FLOAT_2	
COLOUR	brown	FLOAT_3	
FLOW	slow		
			LEVEL low
CONTAM			
VEGETATION	wet eucalypt		DRAINAGE AREA 10.0

DATE 24-01-1990 NUMBER 20019 MAP MILABENA TYPE WATER

EL 44/89 NORTH 5454140 EAST 364040 SAMPLER KJV

		UNIT	Prc
WIDTH	5.0	FLOAT_1	wh Sqar
DIRECTION	0	FLOAT_2	qt
COLOUR	very weak	FLOAT_3	
FLOW	moderate		
			LEVEL low
CONTAM	old logging		
VEGETATION	wet eucalypt		DRAINAGE AREA 5.0

DATE 24-01-1990 NUMBER 20020 MAP MILABENA TYPE WATER

EL 44/89 NORTH 5454040 EAST 364180 SAMPLER KJV

		UNIT	Prc
WIDTH	5.0	FLOAT_1	
DIRECTION	0	FLOAT_2	
COLOUR	muddy	FLOAT_3	
FLOW	dry		
			LEVEL low
CONTAM	old logging		
VEGETATION	wet eucalypt		DRAINAGE AREA 5.0

ARTHUR RIVER PROJECT WATER SAMPLES - EL 44/89

DATE 24-01-1990 NUMBER 20021 MAP MILABENA TYPE WATER

EL 44/89 NORTH 5453420 EAST 364720 SAMPLER KJV

		UNIT	Prc
WIDTH	0.3	FLOAT_1	
DIRECTION	0	FLOAT_2	
COLOUR	very weak	FLOAT_3	
FLOW	moderate		
			LEVEL low
CONTAM	old logging		
VEGETATION	wet eucalypt		DRAINAGE AREA 2.0

DATE 24-01-1990 NUMBER 20022 MAP MILABENA TYPE WATER

EL 44/89 NORTH 5453320 EAST 364700 SAMPLER KJV

		UNIT	Prd on Prc
WIDTH	10.0	FLOAT_1	
DIRECTION	330	FLOAT_2	
COLOUR	med brown	FLOAT_3	
FLOW	slow		
			LEVEL low
CONTAM	old logging		
VEGETATION	wey eucalypt		DRAINAGE AREA 18.0

DATE 24-01-1990 NUMBER 20023 MAP MILABENA TYPE WATER

EL 44/89 NORTH 5452320 EAST 365680 SAMPLER KJV

		UNIT	Prc
WIDTH	15.0	FLOAT_1	bk cg B f hb
DIRECTION	0	FLOAT_2	qt Sqar
COLOUR	med brown	FLOAT_3	
FLOW			
			LEVEL low
CONTAM	old logging		
VEGETATION	wet eucalypt		DRAINAGE AREA 1.0

DATE 19-01-1990 NUMBER 20024 MAP MILABENA TYPE WATER

EL 44/89 NORTH 5450740 EAST 367820 SAMPLER KV

		UNIT	Prd
WIDTH	15.0	FLOAT_1	Sqar
DIRECTION	0	FLOAT_2	Sbs
COLOUR	weak brown	FLOAT_3	qz
FLOW	moderate		
			LEVEL
CONTAM	old logging		
VEGETATION	wet eucalypt		DRAINAGE AREA 6.0

ARTHUR RIVER PROJECT WATER SAMPLES - EL 44/89

DATE 19-01-1990 NUMBER 20025 MAP MILABENA TYPE WATER

EL 44/89 NORTH 5450680 EAST 367760 SAMPLER KV

		UNIT	Prd
WIDTH	15.0	FLOAT_1	qz Ssst
DIRECTION	0	FLOAT_2	Sslt
COLOUR	med brown	FLOAT_3	
FLOW	moderate		
			LEVEL low
CONTAM	old logging		
VEGETATION	wet eucalypt		DRAINAGE AREA 2.5

DATE 19-01-1990 NUMBER 20026 MAP MILABENA TYPE WATER

EL 44/89 NORTH 5451300 EAST 367300 SAMPLER KV

		UNIT	Prd
WIDTH	15.0	FLOAT_1	Sslt
DIRECTION	0	FLOAT_2	qz
COLOUR	med brown	FLOAT_3	
FLOW	still		
			LEVEL low
CONTAM	old logging		
VEGETATION	wet eucalypt		DRAINAGE AREA 2.0

DATE 19-01-1990 NUMBER 20027 MAP MILABENA TYPE WATER

EL 44/89 NORTH 5451680 EAST 368930 SAMPLER KV

		UNIT	Prd
WIDTH	5.0	FLOAT_1	
DIRECTION	0	FLOAT_2	
COLOUR	med brown	FLOAT_3	
FLOW	slow		
			LEVEL low
CONTAM	farming		
VEGETATION	pasture		DRAINAGE AREA 3.5

DATE 19-01-1990 NUMBER 20028 MAP MILABENA TYPE WATER

EL 44/89 NORTH 5451400 EAST 369400 SAMPLER KV

		UNIT	Prd
WIDTH	5.0	FLOAT_1	
DIRECTION	0	FLOAT_2	
COLOUR	weak brown	FLOAT_3	
FLOW	slow		
			LEVEL low
CONTAM	farming		
VEGETATION	ti-tree		DRAINAGE AREA 1.0

ARTHUR RIVER PROJECT WATER SAMPLES - EL 44/89

DATE 21-01-1990 NUMBER 20029 MAP TAYATEA TYPE WATER

EL 44/89 NORTH 5451900 EAST 355720 SAMPLER KV

		UNIT	Prc
WIDTH	5.0	FLOAT_1	fg Ssst
DIRECTION	0	FLOAT_2	Sslt
COLOUR	weak brown	FLOAT_3	
FLOW	slow		
			LEVEL low
CONTAM	old logging		
VEGETATION	wet eucalypt		DRAINAGE AREA 3.5

DATE 21-01-1990 NUMBER 20030 MAP TAYATEA TYPE WATER

EL 44/89 NORTH 5451200 EAST 357400 SAMPLER KV

		UNIT	Prc
WIDTH	0.5	FLOAT_1	Sslt
DIRECTION	0	FLOAT_2	
COLOUR	brown	FLOAT_3	
FLOW	slow		
			LEVEL low
CONTAM	logging		
VEGETATION	logged		DRAINAGE AREA 4.0

DATE 21-01-1990 NUMBER 20031 MAP TAYATEA TYPE WATER

EL 44/89 NORTH 5451200 EAST 357440 SAMPLER KV

		UNIT	Prc
WIDTH	5.0	FLOAT_1	lam Sslt
DIRECTION	0	FLOAT_2	
COLOUR	very weak	FLOAT_3	
FLOW	moderate		
			LEVEL low
CONTAM	logging		
VEGETATION	logged		DRAINAGE AREA 4.5

DATE 21-01-1990 NUMBER 20032 MAP TAYATEA TYPE WATER

EL 44/89 NORTH 5451840 EAST 358220 SAMPLER KV

		UNIT	Prc
WIDTH	1.0	FLOAT_1	gy Sslt
DIRECTION	0	FLOAT_2	Ssst
COLOUR	very weak	FLOAT_3	Sgwk
FLOW	moderate		
			LEVEL low
CONTAM	logging		
VEGETATION	logged		DRAINAGE AREA 2.0

ARTHUR RIVER PROJECT WATER SAMPLES - EL 44/89

DATE 21-01-1990 NUMBER 20033 MAP TAYATEA TYPE WATER

EL 44/89 NORTH 5451680 EAST 358220 SAMPLER KV

		UNIT	Prc
WIDTH	5.0	FLOAT_1	
DIRECTION	0	FLOAT_2	
COLOUR	very weak	FLOAT_3	
FLOW	moderate		
			LEVEL low
CONTAM	logging		
VEGETATION	logged		DRAINAGE AREA 2.5

DATE 21-01-1990 NUMBER 20034 MAP MILABEENA TYPE WATER

EL 44/89 NORTH 5451800 EAST 359500 SAMPLER KV

		UNIT	Prc
WIDTH	3.0	FLOAT_1	gy Sslt
DIRECTION	0	FLOAT_2	qz
COLOUR	very weak	FLOAT_3	
FLOW	moderate		
			LEVEL low
CONTAM	logging		
VEGETATION	logged		DRAINAGE AREA 1.5

DATE 21-01-1990 NUMBER 20035 MAP TAYATEA TYPE WATER

EL 44/89 NORTH 5450200 EAST 358580 SAMPLER KV

		UNIT	Prc
WIDTH	2.0	FLOAT_1	
DIRECTION	0	FLOAT_2	
COLOUR	very weak	FLOAT_3	
FLOW	moderate		
			LEVEL low
CONTAM	logging		
VEGETATION	logged		DRAINAGE AREA 2.0

DATE 20-02-1990 NUMBER 20079 MAP TAYATEA TYPE WATER

EL 44/89 NORTH 5451120 EAST 355240 SAMPLER KJV

		UNIT	Prc
WIDTH	4.0	FLOAT_1	qz
DIRECTION	0	FLOAT_2	bk Sslt
COLOUR	very weak	FLOAT_3	
FLOW	slow		
			LEVEL mod
CONTAM	logging		
VEGETATION	logged		DRAINAGE AREA 1.0

ARTHUR RIVER PROJECT WATER SAMPLES - EL 44/89

DATE 20-02-1990 NUMBER 20079 c MAP TAYATEA TYPE WATER

EL 44/89 NORTH 5451080 EAST 355080 SAMPLER KJV

		UNIT	Prc
WIDTH	2.0	FLOAT_1	Sslt
DIRECTION	0	FLOAT_2	qt
COLOUR	very weak	FLOAT_3	
FLOW	slow		
			LEVEL mod
CONTAM	logging		
VEGETATION	logged		DRAINAGE AREA 1.0

DATE 20-02-1990 NUMBER 20079 c MAP TAYATEA TYPE WATER

EL 44/89 NORTH 5451120 EAST 354480 SAMPLER KJV

		UNIT	Prc
WIDTH	2.0	FLOAT_1	qz
DIRECTION	0	FLOAT_2	lam Sslt
COLOUR	med brown	FLOAT_3	
FLOW	slow		
			LEVEL mod
CONTAM	logging		
VEGETATION	logged		DRAINAGE AREA 1.0

DATE 20-02-1990 NUMBER 20080 MAP TAYATEA TYPE WATER

EL 44/89 NORTH 5451320 EAST 353060 SAMPLER KJV

		UNIT	Prc
WIDTH	2.0	FLOAT_1	qz
DIRECTION	0	FLOAT_2	Ssst
COLOUR	weak brown	FLOAT_3	
FLOW	slow		
			LEVEL mod
CONTAM	logging		
VEGETATION	logged		DRAINAGE AREA 0.8

DATE 20-02-1990 NUMBER 20080 c MAP TAYATEA TYPE WATER

EL 44/89 NORTH 5451480 EAST 352960 SAMPLER KJV

		UNIT	Prc
WIDTH	2.0	FLOAT_1	Ssst q
DIRECTION	0	FLOAT_2	
COLOUR	weak brown	FLOAT_3	
FLOW	slow		
			LEVEL mod
CONTAM	logging		
VEGETATION	logged		DRAINAGE AREA 0.8

ARTHUR RIVER PROJECT WATER SAMPLES - EL 44/89

DATE 20-02-1990 NUMBER 20081 MAP TAYATEA TYPE WATER

EL 44/89 NORTH 5451270 EAST 352100 SAMPLER KJV

		UNIT	Prc
WIDTH	15.0	FLOAT_1	iBd
DIRECTION	0	FLOAT_2	Sar
COLOUR	med brown	FLOAT_3	lam Sslt
FLOW	moderate		
			LEVEL mod
CONTAM			
VEGETATION	rain forest		DRAINAGE AREA 6.0

DATE 20-02-1990 NUMBER 20082 MAP TAYATEA TYPE WATER

EL 44/89 NORTH 5452660 EAST 350010 SAMPLER KJV

		UNIT	Prc
WIDTH	4.0	FLOAT_1	bk Sslt
DIRECTION	0	FLOAT_2	Sqar
COLOUR	weak brown	FLOAT_3	
FLOW	moderate		
			LEVEL mod
CONTAM	logging		
VEGETATION	logged		DRAINAGE AREA 2.0

DATE 20-02-1990 NUMBER 20082 c MAP TAYATEA TYPE WATER

EL 44/89 NORTH 5452670 EAST 349940 SAMPLER KJV

		UNIT	Prc
WIDTH	4.0	FLOAT_1	Sar
DIRECTION	0	FLOAT_2	Sslt
COLOUR	weak brown	FLOAT_3	
FLOW	moderate		
			LEVEL mod
CONTAM	logging		
VEGETATION	logged		DRAINAGE AREA 2.0

DATE 20-02-1990 NUMBER 20082 c MAP TAYATEA TYPE WATER

EL 44/89 NORTH 5453060 EAST 349740 SAMPLER KJV

		UNIT	Prc
WIDTH	4.0	FLOAT_1	iBd
DIRECTION	0	FLOAT_2	Sar
COLOUR	med brown	FLOAT_3	Sslt
FLOW	slow		
			LEVEL mod
CONTAM	logging		
VEGETATION	logged		DRAINAGE AREA 2.0

ARTHUR RIVER PROJECT WATER SAMPLES - EL 44/89

DATE 20-02-1990 NUMBER 20083 MAP TAYATEA TYPE WATER

EL 44/89 NORTH 5454015 EAST 349350 SAMPLER KJV

		UNIT	Prc
WIDTH	10.0	FLOAT_1	gy Sslt
DIRECTION	20	FLOAT_2	iBd
COLOUR	med brown	FLOAT_3	cm Sslt
FLOW	fast		
			LEVEL mod
CONTAM	logging		
VEGETATION	logged		DRAINAGE AREA 15.0

DATE 20-02-1990 NUMBER 20093 MAP MILABENA TYPE WATER

EL 44/89 NORTH 5457180 EAST 361995 SAMPLER KJV

		UNIT	Tb on Prc
WIDTH	20.0	FLOAT_1	Ty Bb
DIRECTION	0	FLOAT_2	
COLOUR	weak brown	FLOAT_3	
FLOW	moderate		
			LEVEL low
CONTAM			
VEGETATION	logged		DRAINAGE AREA 2.0

DATE 20-02-1990 NUMBER 20094 MAP MILABENA TYPE WATER

EL 44/89 NORTH 5457120 EAST 361920 SAMPLER KJV

		UNIT	Prc
WIDTH	5.0	FLOAT_1	Sqar
DIRECTION	0	FLOAT_2	lam Sslt
COLOUR	weak brown	FLOAT_3	qt
FLOW	moderate		
			LEVEL low
CONTAM			
VEGETATION	rain forest		DRAINAGE AREA 31.0

DATE 20-02-1990 NUMBER 20099 MAP TAYATEA TYPE WATER

EL 44/89 NORTH 5451820 EAST 347640 SAMPLER KJV

		UNIT	Prc
WIDTH	7.0	FLOAT_1	lam Sslt
DIRECTION	0	FLOAT_2	Sar
COLOUR	med brown	FLOAT_3	
FLOW	moderate		
			LEVEL mod
CONTAM			
VEGETATION	rain forest		DRAINAGE AREA 3.0

ARTHUR RIVER PROJECT WATER SAMPLES - EL 44/89

DATE 20-02-1990 NUMBER 20100 MAP TAYATEA TYPE WATER

EL 44/89 NORTH 5451720 EAST 346680 SAMPLER KJV

		UNIT	Prc
WIDTH	15.0	FLOAT_1	i/b lam Sslt & Sar
DIRECTION	0	FLOAT_2	
COLOUR	weak brown	FLOAT_3	
FLOW	moderate		
			LEVEL mod
CONTAM			
VEGETATION	rain forest		DRAINAGE AREA 3.0

DATE 17-01-1990 NUMBER 20101 MAP TAYATEA TYPE WATER

EL 44/89 NORTH 5457200 EAST 358000 SAMPLER MAT

		UNIT	Prc
WIDTH	0.5	FLOAT_1	
DIRECTION	290	FLOAT_2	
COLOUR	med brown	FLOAT_3	
FLOW	still		
			LEVEL low
CONTAM	logging		
VEGETATION	logged		DRAINAGE AREA 2.0

DATE 18-01-1990 NUMBER 20102 MAP TAYATEA TYPE WATER

EL 44/89 NORTH 5457180 EAST 357900 SAMPLER MAT

		UNIT	Prc
WIDTH	3.0	FLOAT_1	
DIRECTION	340	FLOAT_2	
COLOUR	weak brown	FLOAT_3	
FLOW	mod		
			LEVEL low
CONTAM	logging		
VEGETATION	logged		DRAINAGE AREA 3.5

DATE 18-01-1990 NUMBER 20103 MAP TAYATEA TYPE WATER

EL 44/89 NORTH 5458860 EAST 358120 SAMPLER MAT

		UNIT	Prc
WIDTH	0.5	FLOAT_1	gy lam Sslt
DIRECTION	320	FLOAT_2	cm xfg Ssst
COLOUR	muddy	FLOAT_3	
FLOW	still		
			LEVEL low
CONTAM	logged		
VEGETATION	logged		DRAINAGE AREA 1.0

ARTHUR RIVER PROJECT WATER SAMPLES - EL 44/89

DATE 18-01-1990 NUMBER 20104 MAP TAYATEA TYPE WATER

EL 44/89 NORTH 5458160 EAST 357560 SAMPLER MAT

		UNIT	Prc
WIDTH	0.5	FLOAT_1	
DIRECTION	80	FLOAT_2	
COLOUR	weak brown	FLOAT_3	
FLOW	still		
			LEVEL low
CONTAM	logged		
VEGETATION	logged		DRAINAGE AREA 0.5

DATE 18-01-1990 NUMBER 20105 MAP TAYATEA TYPE WATER

EL 44/89 NORTH 5458060 EAST 357580 SAMPLER MAT

		UNIT	Prc
WIDTH	4.0	FLOAT_1	
DIRECTION	30	FLOAT_2	
COLOUR	very weak	FLOAT_3	
FLOW	mod		
			LEVEL low
CONTAM			
VEGETATION	rain forest		DRAINAGE AREA 1.5

DATE 18-01-1990 NUMBER 20106 MAP TAYATEA TYPE WATER

EL 44/89 NORTH 5458160 EAST 357820 SAMPLER MAT

		UNIT	Prc
WIDTH	0.5	FLOAT_1	
DIRECTION	320	FLOAT_2	
COLOUR	very weak	FLOAT_3	
FLOW	slow		
			LEVEL low
CONTAM	logged		
VEGETATION	rain forest		DRAINAGE AREA 0.5

DATE 18-01-1990 NUMBER 20107 MAP TAYATEA TYPE WATER

EL 44/89 NORTH 5459620 EAST 358300 SAMPLER MAT

		UNIT	Prc
WIDTH	1.0	FLOAT_1	
DIRECTION	320	FLOAT_2	
COLOUR	very weak	FLOAT_3	
FLOW	slow		
			LEVEL low
CONTAM	logged		
VEGETATION	rain forest		DRAINAGE AREA 2.0

ARTHUR RIVER PROJECT WATER SAMPLES - EL 44/89

DATE 18-01-1990 NUMBER 20108 MAP TAYATEA TYPE WATER

EL 44/89 NORTH 5459620 EAST 358160 SAMPLER MAT

		UNIT	Prc
WIDTH	4.0	FLOAT_1	vfg Mqzt
DIRECTION	340	FLOAT_2	lam Sslt
COLOUR	very weak	FLOAT_3	wh vn qz
FLOW	mod		
			LEVEL low
CONTAM			
VEGETATION	rain forest		DRAINAGE AREA 2.0

DATE 18-01-1990 NUMBER 20109 MAP MILABEENA TYPE WATER

EL 44/89 NORTH 5459160 EAST 360760 SAMPLER MAT

		UNIT	Prc
WIDTH	5.0	FLOAT_1	cm Mqzt
DIRECTION	330	FLOAT_2	Sslt
COLOUR	clear	FLOAT_3	mg Bd
FLOW	mod		
			LEVEL low
CONTAM			
VEGETATION	rain forest		DRAINAGE AREA 1.5

DATE 18-01-1990 NUMBER 20110 MAP MILABENA TYPE WATER

EL 44/89 NORTH 5459260 EAST 360660 SAMPLER MAT

		UNIT	Prc
WIDTH	1.0	FLOAT_1	lam Sslt
DIRECTION	70	FLOAT_2	gn gy Bd
COLOUR	very weak	FLOAT_3	cm vfg Ssst
FLOW	slow		
			LEVEL low
CONTAM			
VEGETATION	rain forest		DRAINAGE AREA 1.0

DATE 18-01-1990 NUMBER 20111 MAP MILABENA TYPE WATER

EL 44/89 NORTH 5455680 EAST 360200 SAMPLER MAT

		UNIT	Prc
WIDTH	4.0	FLOAT_1	dk gy fg Ssst
DIRECTION	10	FLOAT_2	wh vn qz
COLOUR	very weak	FLOAT_3	
FLOW	mod		
			LEVEL low
CONTAM	logging		
VEGETATION	logged		DRAINAGE AREA 3.0

ARTHUR RIVER PROJECT WATER SAMPLES - EL 44/89

DATE 17-01-1990 NUMBER 20112 MAP MILABENA TYPE WATER

EL 44/89 NORTH 5455720 EAST 360300 SAMPLER MAT

		UNIT	Prc
WIDTH	4.0	FLOAT_1	gy Sslt
DIRECTION	310	FLOAT_2	qz
COLOUR	very weak	FLOAT_3	
FLOW	moderate		
			LEVEL low
CONTAM	logging		
VEGETATION	logged		DRAINAGE AREA 2.5

DATE 17-01-1990 NUMBER 20113 MAP TAYATEA TYPE WATER

EL 44/89 NORTH 5451330 EAST 355900 SAMPLER MAT

		UNIT	Prc
WIDTH	4.0	FLOAT_1	dk gy Sslt
DIRECTION	80	FLOAT_2	fg Ssst
COLOUR	med brown	FLOAT_3	mg Sqar si'd
FLOW	moderate		
			LEVEL low
CONTAM	logging		
VEGETATION	logged		DRAINAGE AREA 2.5

DATE 17-01-1990 NUMBER 20114 MAP TAYATEA TYPE WATER

EL 44/89 NORTH 5452900 EAST 354380 SAMPLER MAT

		UNIT	Prc
WIDTH	1.0	FLOAT_1	
DIRECTION	210	FLOAT_2	
COLOUR	med brown	FLOAT_3	
FLOW	moderate		
			LEVEL
CONTAM	logging		
VEGETATION	logged		DRAINAGE AREA 2.0

DATE 19-01-1990 NUMBER 20401 MAP TAYATEA TYPE WATER

EL 44/89 NORTH 5453860 EAST 346860 SAMPLER JHF

		UNIT	Prc
WIDTH	5.0	FLOAT_1	lam Sslt
DIRECTION	0	FLOAT_2	
COLOUR	weak brown	FLOAT_3	
FLOW	still		
			LEVEL low
CONTAM	logging		
VEGETATION	logged		DRAINAGE AREA 3.0

ARTHUR RIVER PROJECT WATER SAMPLES - EL 44/89

DATE 19-01-1990 NUMBER 20402 MAP TAYATEA TYPE WATER

EL 44/89 NORTH 5455300 EAST 350160 SAMPLER JHF

		UNIT	Prc
WIDTH	1.0	FLOAT_1	
DIRECTION	0	FLOAT_2	
COLOUR	weak brown	FLOAT_3	
FLOW	still		
			LEVEL low
CONTAM	logging		
VEGETATION	logged		DRAINAGE AREA 2.0

DATE 19-01-1990 NUMBER 20403 MAP TAYATEA TYPE WATER

EL 44/89 NORTH 5453540 EAST 348860 SAMPLER JHF

		UNIT	Prc
WIDTH	2.0	FLOAT_1	Sslt
DIRECTION	230	FLOAT_2	
COLOUR	weak brown	FLOAT_3	
FLOW	medium		
			LEVEL low
CONTAM			
VEGETATION	rain forest		DRAINAGE AREA 1.0

DATE 19-01-1990 NUMBER 20404 MAP TAYATEA TYPE WATER

EL 44/89 NORTH 5454820 EAST 349960 SAMPLER JHF

		UNIT	Prc
WIDTH	3.0	FLOAT_1	Sslt
DIRECTION	250	FLOAT_2	qz
COLOUR	med brown	FLOAT_3	
FLOW	medium		
			LEVEL low
CONTAM			
VEGETATION	wet eucalypt		DRAINAGE AREA 4.0

DATE 19-01-1990 NUMBER 20405 MAP TAYATEA TYPE WATER

EL 44/89 NORTH 5454900 EAST 349800 SAMPLER JHF

		UNIT	Prc
WIDTH	3.0	FLOAT_1	bk Sslt
DIRECTION	120	FLOAT_2	cm Sslt
COLOUR	very weak	FLOAT_3	qz
FLOW	slow		
			LEVEL low
CONTAM			
VEGETATION	rain forest		DRAINAGE AREA 0.5

ARTHUR RIVER PROJECT WATER SAMPLES - EL 44/89

DATE 19-01-1990 NUMBER 20406 MAP TAYATEA TYPE WATER

EL 44/89 NORTH 5453840 EAST 349800 SAMPLER JHF

		UNIT	Prc
WIDTH	3.0	FLOAT_1	dk gy Mb see me
DIRECTION	212	FLOAT_2	bk Sslt py
COLOUR	med brown	FLOAT_3	qz
FLOW	slow		
			LEVEL low
CONTAM			
VEGETATION	rain forest		DRAINAGE AREA 3.0

DATE 19-01-1990 NUMBER 20407 MAP TAYATEA TYPE WATER

EL 44/89 NORTH 5452940 EAST 350460 SAMPLER JHF

		UNIT	Prc
WIDTH	1.5	FLOAT_1	dk gy Mb check me
DIRECTION	170	FLOAT_2	cm fg Ssst
COLOUR	med brown	FLOAT_3	qz
FLOW	slow		
			LEVEL low
CONTAM	logging		
VEGETATION	logged		DRAINAGE AREA 2.5

DATE 19-01-1990 NUMBER 20408 MAP TAYATEA TYPE WATER

EL 44/89 NORTH 5452600 EAST 351220 SAMPLER JHF

		UNIT	Prc
WIDTH	4.0	FLOAT_1	
DIRECTION	210	FLOAT_2	
COLOUR	med brown	FLOAT_3	
FLOW	slow		
			LEVEL low
CONTAM	logging		
VEGETATION	logged		DRAINAGE AREA 4.5

DATE 19-01-1990 NUMBER 20409 MAP TAYATEA TYPE WATER

EL 44/89 NORTH 5452400 EAST 351560 SAMPLER JHF

		UNIT	Prc
WIDTH	0.5	FLOAT_1	
DIRECTION	230	FLOAT_2	
COLOUR	weak brown	FLOAT_3	
FLOW	slow		
			LEVEL low
CONTAM			
VEGETATION	wet eucalypt		DRAINAGE AREA 1.0

ARTHUR RIVER PROJECT WATER SAMPLES - EL 44/89

DATE 24-01-1990 NUMBER 20410 MAP TAYATEA TYPE WATER

EL 44/89 NORTH 5459920 EAST 351960 SAMPLER JHF

		UNIT	Prc
WIDTH	1.0	FLOAT_1	
DIRECTION	35	FLOAT_2	
COLOUR	med brown	FLOAT_3	
FLOW	slow		
			LEVEL low
CONTAM			
VEGETATION	wet eucalypt		DRAINAGE AREA 1.0

DATE 24-01-1990 NUMBER 20411 MAP TAYATEA TYPE WATER

EL 44/89 NORTH 5459995 EAST 352260 SAMPLER JHF

		UNIT	Prc
WIDTH	2.0	FLOAT_1	cm Ssst
DIRECTION	10	FLOAT_2	qt
COLOUR	weak brown	FLOAT_3	
FLOW	slow		
			LEVEL low
CONTAM			
VEGETATION	wet eucalypt		DRAINAGE AREA 1.5

DATE 24-01-1990 NUMBER 20412 MAP TAYATEA TYPE WATER

EL 44/89 NORTH 5459995 EAST 353550 SAMPLER JHF

		UNIT	Prc
WIDTH	4.0	FLOAT_1	lam Sslt
DIRECTION	35	FLOAT_2	qt
COLOUR	weak brown	FLOAT_3	
FLOW	moderate		
			LEVEL low
CONTAM			
VEGETATION	wet eucalypt		DRAINAGE AREA 1.5

DATE 24-01-1990 NUMBER 20413 MAP TAYATEA TYPE WATER

EL 44/89 NORTH 5456460 EAST 351240 SAMPLER JHF

		UNIT	Prc
WIDTH	5.0	FLOAT_1	qt
DIRECTION	220	FLOAT_2	vfg Sqar
COLOUR	med brown	FLOAT_3	
FLOW	moderate		
			LEVEL low
CONTAM	logging		
VEGETATION	logged		DRAINAGE AREA 4.5

ARTHUR RIVER PROJECT WATER SAMPLES - EL 44/89

DATE 24-01-1990 NUMBER 20414 MAP TAYATEA TYPE WATER

EL 44/89 NORTH 5456480 EAST 351160 SAMPLER JHF

		UNIT	Prc
WIDTH	1.0	FLOAT_1	gy Sslt
DIRECTION	70	FLOAT_2	qt
COLOUR	med brown	FLOAT_3	
FLOW	slow		
			LEVEL low
CONTAM			
VEGETATION	wet eucalypt		DRAINAGE AREA 3.0

DATE 24-01-1990 NUMBER 20415 MAP TAYATEA TYPE WATER

EL 44/89 NORTH 5459380 EAST 354900 SAMPLER JHF

		UNIT	Prc
WIDTH	1.0	FLOAT_1	
DIRECTION	260	FLOAT_2	
COLOUR	med brown	FLOAT_3	
FLOW	still		
			LEVEL low
CONTAM			
VEGETATION	wet eucalypt		DRAINAGE AREA 1.0

DATE 24-01-1990 NUMBER 20416 MAP TAYATEA TYPE WATER

EL 44/89 NORTH 5459340 EAST 354280 SAMPLER JHF

		UNIT	Prc
WIDTH	1.0	FLOAT_1	
DIRECTION	45	FLOAT_2	
COLOUR	med brown	FLOAT_3	
FLOW	slow		
			LEVEL low
CONTAM			
VEGETATION	wet eucalypt		DRAINAGE AREA 1.5

DATE 24-01-1990 NUMBER 20417 MAP TAYATEA TYPE WATER

EL 44/89 NORTH 5458660 EAST 354880 SAMPLER JHF

		UNIT	Prc
WIDTH	3.0	FLOAT_1	
DIRECTION	320	FLOAT_2	
COLOUR	med brown	FLOAT_3	
FLOW	slow		
			LEVEL low
CONTAM			
VEGETATION	wet eucalypt		DRAINAGE AREA 4.5

ARTHUR RIVER PROJECT WATER SAMPLES - EL 44/89

DATE 24-01-1990 NUMBER 20418 MAP TAYATEA TYPE WATER

EL 44/89 NORTH 5452740 EAST 346060 SAMPLER JHF

		UNIT	Prc
WIDTH	2.0	FLOAT_1	lam Sslt
DIRECTION	170	FLOAT_2	
COLOUR	med brown	FLOAT_3	
FLOW	slow		
			LEVEL low
CONTAM	farming		
VEGETATION	wet eucalypt		DRAINAGE AREA 3.5

DATE 24-01-1990 NUMBER 20419 MAP TAYATEA TYPE WATER

EL 44/89 NORTH 5452700 EAST 346140 SAMPLER JHF

		UNIT	Prc
WIDTH	5.0	FLOAT_1	gy Sslt
DIRECTION	160	FLOAT_2	
COLOUR	med brown	FLOAT_3	
FLOW	moderate		
			LEVEL low
CONTAM			
VEGETATION	wet eucalypt		DRAINAGE AREA 4.5

DATE 24-01-1990 NUMBER 20420 MAP TAYATEA TYPE WATER

EL 44/89 NORTH 5450520 EAST 351860 SAMPLER JHF

		UNIT	Prc
WIDTH	1.5	FLOAT_1	lam Sslt
DIRECTION	150	FLOAT_2	qt
COLOUR	weak brown	FLOAT_3	
FLOW	moderate		
			LEVEL low
CONTAM	logging		
VEGETATION	logged		DRAINAGE AREA 4.0

DATE 24-01-1990 NUMBER 20421 MAP TAYATEA TYPE WATER

EL 44/89 NORTH 5450480 EAST 351810 SAMPLER JHF

		UNIT	Prc
WIDTH	8.0	FLOAT_1	lam Sslt
DIRECTION	335	FLOAT_2	qt
COLOUR	weak brown	FLOAT_3	
FLOW	moderate		
			LEVEL low
CONTAM	logging		
VEGETATION	logged		DRAINAGE AREA 6.0

ARTHUR RIVER PROJECT WATER SAMPLES - EL 44/89

DATE 24-01-1990 NUMBER 20434 MAP TAYATEA TYPE WATER

EL 44/89 NORTH 5456340 EAST 352800 SAMPLER JHF

		UNIT	Prc
WIDTH	5.0	FLOAT_1	
DIRECTION	250	FLOAT_2	
COLOUR	med brown	FLOAT_3	
FLOW	slow		
			LEVEL low
CONTAM			
VEGETATION	wet eucalypt		DRAINAGE AREA 2.5

DATE 24-01-1990 NUMBER 20435 MAP MILABENA TYPE WATER

EL 44/89 NORTH 5455880 EAST 363360 SAMPLER JHF

		UNIT	Prc
WIDTH	15.0	FLOAT_1	Bb
DIRECTION	270	FLOAT_2	qt
COLOUR	med brown	FLOAT_3	
FLOW	fast		
			LEVEL low
CONTAM			
VEGETATION	wet eucalypt		DRAINAGE AREA 27.0

DATE 24-01-1990 NUMBER 20436 MAP MILABENA TYPE WATER

EL 44/89 NORTH 5455580 EAST 363020 SAMPLER JHF

		UNIT	Prc
WIDTH	2.0	FLOAT_1	
DIRECTION	10	FLOAT_2	
COLOUR	brown	FLOAT_3	
FLOW	stagnant		
			LEVEL low
CONTAM			
VEGETATION	wet eucalypt		DRAINAGE AREA 1.5

DATE 24-01-1990 NUMBER 20437 MAP TAYATEA TYPE WATER

EL 44/89 NORTH 5452100 EAST 348260 SAMPLER JHF

		UNIT	Prc
WIDTH	1.0	FLOAT_1	cm vfg Ssst
DIRECTION	222	FLOAT_2	gy Sslt
COLOUR	weak brown	FLOAT_3	
FLOW	slow		
			LEVEL low
CONTAM	logging		
VEGETATION	logged		DRAINAGE AREA 0.5

ARTHUR RIVER PROJECT WATER SAMPLES - EL 44/89

DATE 24-01-1990 NUMBER 20438 MAP TAYATEA TYPE WATER

EL 44/89 NORTH 5451660 EAST 346680 SAMPLER JHF

		UNIT	Prc
WIDTH	5.0	FLOAT_1	lam Sslt
DIRECTION	350	FLOAT_2	qt
COLOUR	weak brown	FLOAT_3	
FLOW	fast		
			LEVEL low
CONTAM	logging		
VEGETATION	logged		DRAINAGE AREA 3.0

DATE 24-01-1990 NUMBER 20439 MAP TAYATEA TYPE WATER

EL 44/89 NORTH 5450060 EAST 344860 SAMPLER JHF

		UNIT	Prc
WIDTH	1.0	FLOAT_1	lam Sslt
DIRECTION	270	FLOAT_2	
COLOUR	weak brown	FLOAT_3	
FLOW	stagnant		
			LEVEL low
CONTAM	logging		
VEGETATION	logged		DRAINAGE AREA 1.5

DATE 24-01-1990 NUMBER 20441 MAP TAYATEA TYPE WATER

EL 44/89 NORTH 5450200 EAST 345540 SAMPLER JHF

		UNIT	Prc
WIDTH	1.0	FLOAT_1	
DIRECTION	40	FLOAT_2	
COLOUR	brown	FLOAT_3	
FLOW	slow		
			LEVEL low
CONTAM	road		
VEGETATION	logged		DRAINAGE AREA 0.0

DATE 24-01-1990 NUMBER 20442 MAP TAYATEA TYPE WATER

EL 44/89 NORTH 5452260 EAST 350920 SAMPLER JHF

		UNIT	Prc
WIDTH	5.0	FLOAT_1	Ssst py
DIRECTION	310	FLOAT_2	iBd
COLOUR	brown	FLOAT_3	
FLOW	fast		
			LEVEL low
CONTAM	logging		
VEGETATION	logged		DRAINAGE AREA 0.0

ARTHUR RIVER PROJECT WATER SAMPLES - EL 44/89

DATE 24-01-1990 NUMBER 20443 MAP TAYATEA TYPE WATER

EL 44/89 NORTH 5450920 EAST 353740 SAMPLER JHF

		UNIT	Prc
WIDTH	2.0	FLOAT_1	
DIRECTION	20	FLOAT_2	
COLOUR	med brown	FLOAT_3	
FLOW	slow		
			LEVEL low
CONTAM	logging		
VEGETATION	logged		DRAINAGE AREA 0.0

DATE 24-01-1990 NUMBER 20444 MAP TAYATEA TYPE WATER

EL 44/89 NORTH 5450940 EAST 354080 SAMPLER JHF

		UNIT	Prc
WIDTH	5.0	FLOAT_1	
DIRECTION	350	FLOAT_2	
COLOUR	weak brown	FLOAT_3	
FLOW	moderate		
			LEVEL low
CONTAM	logging		
VEGETATION	logged		DRAINAGE AREA 0.0

DATE 24-01-1990 NUMBER 20445 MAP TAYATEA TYPE WATER

EL 44/89 NORTH 5451300 EAST 355900 SAMPLER JHF

		UNIT	Prc
WIDTH	7.0	FLOAT_1	lam Sslt
DIRECTION	60	FLOAT_2	
COLOUR	weak brown	FLOAT_3	
FLOW	fast		
			LEVEL low
CONTAM	logging		
VEGETATION	logged		DRAINAGE AREA 0.0

DATE 18-02-1990 NUMBER 20487 MAP MILABENA TYPE WATER

EL 44/89 NORTH 5456580 EAST 363440 SAMPLER JHF

		UNIT	Prc
WIDTH	0.5	FLOAT_1	
DIRECTION	245	FLOAT_2	
COLOUR	brown	FLOAT_3	
FLOW	slow		
			LEVEL med
CONTAM	farming		
VEGETATION	pasture		DRAINAGE AREA 0.0

ARTHUR RIVER PROJECT WATER SAMPLES - EL 44/89

DATE 20-02-1990 NUMBER 20488 MAP TAYATEA TYPE WATER

EL 44/89 NORTH 5450100 EAST 359800 SAMPLER JHF

		UNIT	Prc
WIDTH	1.0	FLOAT_1	lam Sslt
DIRECTION	205	FLOAT_2	Ssh
COLOUR	clear	FLOAT_3	
FLOW	moderate		
			LEVEL med
CONTAM	logging		
VEGETATION	logged		DRAINAGE AREA 0.0

DATE 20-02-1990 NUMBER 20491 MAP MILABENA TYPE WATER

EL 44/89 NORTH 5459580 EAST 361080 SAMPLER JHF

		UNIT	Prc
WIDTH	3.0	FLOAT_1	gy Sslt
DIRECTION	270	FLOAT_2	gy Si Ssst
COLOUR	clear	FLOAT_3	qt
FLOW	fast		
			LEVEL med
CONTAM			
VEGETATION	wet eucalypt		DRAINAGE AREA 0.0

DATE 20-02-1990 NUMBER 20492 MAP MILABENA TYPE WATER

EL 44/89 NORTH 5458540 EAST 361940 SAMPLER JHF

		UNIT	Prc
WIDTH	10.0	FLOAT_1	gy Sslt py
DIRECTION	330	FLOAT_2	gy Ssst
COLOUR	med brown	FLOAT_3	
FLOW	fast		
			LEVEL med
CONTAM			
VEGETATION	wet eucalypt		DRAINAGE AREA 0.0

DATE 20-02-1990 NUMBER 20493 MAP TAYATEA TYPE WATER

EL 44/89 NORTH 5451180 EAST 354920 SAMPLER JHF

		UNIT	Prc
WIDTH	2.0	FLOAT_1	gy lam Sslt
DIRECTION	190	FLOAT_2	cm Ssst si'd
COLOUR	weak brown	FLOAT_3	
FLOW	moderate		
			LEVEL med
CONTAM	logging		
VEGETATION	logged		DRAINAGE AREA 0.0

ARTHUR RIVER PROJECT WATER SAMPLES - EL 44/89

DATE 20-02-1990	NUMBER 20494		MAP TAYATEA		TYPE WATER
EL 44/89	NORTH 5451240		EAST 354620		SAMPLER JHF
			UNIT	Prc	
WIDTH	0.5		FLOAT_1	gy lam Sslt	
DIRECTION	195		FLOAT_2	lam Ssst	
COLOUR	med brown		FLOAT_3		
FLOW	slow				
					LEVEL med
CONTAM	logging				
VEGETATION	logged				DRAINAGE AREA 0.0
DATE 20-02-1990	NUMBER 20494	c	MAP TAYATEA		TYPE WATER
EL 44/89	NORTH 5451300		EAST 354460		SAMPLER JHF
			UNIT	Prc	
WIDTH	0.5		FLOAT_1		
DIRECTION	110		FLOAT_2		
COLOUR	med brown		FLOAT_3		
FLOW	slow				
					LEVEL med
CONTAM	logging				
VEGETATION	logged				DRAINAGE AREA 0.0
DATE 20-02-1990	NUMBER 20494	c	MAP TAYATEA		TYPE WATER
EL 44/89	NORTH 5451180		EAST 353900		SAMPLER JHF
			UNIT	Prc	
WIDTH	0.5		FLOAT_1		
DIRECTION	250		FLOAT_2		
COLOUR	med brown		FLOAT_3		
FLOW	slow				
					LEVEL med
CONTAM	logging				
VEGETATION	logged				DRAINAGE AREA 0.0
DATE 20-02-1990	NUMBER 20495		MAP TAYATEA		TYPE WATER
EL 44/89	NORTH 5451960		EAST 353480		SAMPLER JHF
			UNIT	Prc	
WIDTH	4.0		FLOAT_1	gy Sslt	
DIRECTION	300		FLOAT_2	qt	
COLOUR	weak brown		FLOAT_3	fg gy Ssst	
FLOW	moderate				
					LEVEL med
CONTAM	logging				
VEGETATION	logged				DRAINAGE AREA 0.0

ARTHUR RIVER PROJECT WATER SAMPLES - EL 44/89

DATE 20-02-1990 NUMBER 20496 MAP TAYATEA TYPE WATER

EL 44/89 NORTH 5452320 EAST 352540 SAMPLER JHF

		UNIT	Prc
WIDTH	5.0	FLOAT_1	cm, gy Ssst
DIRECTION	160	FLOAT_2	cm Sgwk
COLOUR	weak brown	FLOAT_3	qt
FLOW	moderate		
			LEVEL med
CONTAM	logging		
VEGETATION	logged		DRAINAGE AREA 0.0

DATE 20-02-1990 NUMBER 20497 MAP TAYATEA TYPE WATER

EL 44/89 NORTH 5451860 EAST 351660 SAMPLER JHF

		UNIT	Prc
WIDTH	1.0	FLOAT_1	
DIRECTION	185	FLOAT_2	
COLOUR	clear	FLOAT_3	
FLOW	moderate		
			LEVEL med
CONTAM	logging		
VEGETATION	logged		DRAINAGE AREA 0.0

DATE 20-02-1990 NUMBER 20498 MAP TAYATEA TYPE WATER

EL 44/89 NORTH 5451660 EAST 351560 SAMPLER JHF

		UNIT	Prc
WIDTH	2.0	FLOAT_1	gy Sslt
DIRECTION	350	FLOAT_2	iBd
COLOUR	clear	FLOAT_3	cm fg Ssst
FLOW	moderate		
			LEVEL med
CONTAM	logging		
VEGETATION	logged		DRAINAGE AREA 0.0

DATE 20-02-1990 NUMBER 20499 MAP TAYATEA TYPE WATER

EL 44/89 NORTH 5452480 EAST 350860 SAMPLER JHF

		UNIT	Prc
WIDTH	1.0	FLOAT_1	fg Si Ssst
DIRECTION	240	FLOAT_2	gy Sslt
COLOUR	med brown	FLOAT_3	qt
FLOW	slow		
			LEVEL med
CONTAM	logging		
VEGETATION	logged		DRAINAGE AREA 0.0

ARTHUR RIVER PROJECT WATER SAMPLES - EL 44/89

DATE 20-02-1990 NUMBER 20500 MAP TAYATEA TYPE WATER

EL 44/89 NORTH 5452960 EAST 350340 SAMPLER JHF

		UNIT	Prc
WIDTH	2.0	FLOAT_1	cm sslt
DIRECTION	290	FLOAT_2	gy sslt
COLOUR	med brown	FLOAT_3	gy Ssst
FLOW	moderate		
			LEVEL med
CONTAM	logging		
VEGETATION	logged		DRAINAGE AREA 0.0

DATE 20-02-1990 NUMBER 20500 c MAP TAYATEA TYPE WATER

EL 44/89 NORTH 5453060 EAST 349980 SAMPLER JHF

		UNIT	Prc
WIDTH	1.0	FLOAT_1	gy Si Ssst
DIRECTION	190	FLOAT_2	iBd
COLOUR	med brown	FLOAT_3	
FLOW	slow		
			LEVEL med
CONTAM	logging		
VEGETATION	logged		DRAINAGE AREA 0.0

DATE 20-02-1990 NUMBER 20601 MAP TAYATEA TYPE WATER

EL 44/89 NORTH 5451220 EAST 345800 SAMPLER KJV

		UNIT	Prc
WIDTH	7.0	FLOAT_1	lam Sslt
DIRECTION	0	FLOAT_2	
COLOUR	weak brown	FLOAT_3	
FLOW	mod		
			LEVEL mod
CONTAM			
VEGETATION	rain forest		DRAINAGE AREA 1.0

DATE 21-02-1990 NUMBER 20602 MAP TAYATEA TYPE WATER

EL 44/89 NORTH 5451050 EAST 345550 SAMPLER KJV

		UNIT	Prc
WIDTH	10.0	FLOAT_1	lam Sslt
DIRECTION	0	FLOAT_2	Sar
COLOUR	weak brown	FLOAT_3	
FLOW	mod		
			LEVEL mod
CONTAM			
VEGETATION	rain forest		DRAINAGE AREA 11.0

ARTHUR RIVER PROJECT WATER SAMPLES - EL 44/89

DATE 21-02-1990 NUMBER 20603 MAP TAYATEA TYPE WATER

EL 44/89 NORTH 5451140 EAST 344880 SAMPLER KJV

		UNIT	Prc
WIDTH	4.0	FLOAT_1	Sar
DIRECTION	0	FLOAT_2	lam Sslt
COLOUR	weak brown	FLOAT_3	
FLOW	mod		
			LEVEL mod
CONTAM			
VEGETATION	rain forest		DRAINAGE AREA 2.0

DATE 21-02-1990 NUMBER 20604 MAP TAYATEA TYPE WATER

EL 44/89 NORTH 5450780 EAST 344500 SAMPLER KJV

		UNIT	Prc
WIDTH	3.0	FLOAT_1	VSar
DIRECTION	0	FLOAT_2	Sslt
COLOUR	weak brown	FLOAT_3	qt
FLOW	mod		
			LEVEL mod
CONTAM			
VEGETATION	rain forest		DRAINAGE AREA 2.0

DATE 21-02-1990 NUMBER 20609 MAP MILABENA TYPE WATER

EL 44/89 NORTH 5454200 EAST 369600 SAMPLER KJV

		UNIT	Prc
WIDTH	3.0	FLOAT_1	lam Sslt
DIRECTION	0	FLOAT_2	Sqar
COLOUR	med brown	FLOAT_3	qt
FLOW	moderate		
			LEVEL mod
CONTAM			
VEGETATION	button grass		DRAINAGE AREA 2.0

ARTHUR RIVER PROJECT WATER SAMPLES - EL 44/89

NUMBER	AU	C	AU_C	CU	PB	ZN	AS
20001	66.0	3.0	22.00	7.80	12.50	-1000	-0.5
20002	15.2	19.2	0.79	5.00	14.00	357	0.5
20003	11.5	4.8	2.40	1.40	2.50	12	-0.5
20004	4.3	22.0	0.20	1.40	6.50	60	-0.5
20005	9.5	17.5	0.54	1.00	8.00	17	-0.5
20006	5.8	10.9	0.53	0.50	4.00	41	-0.5
20007	18.9	4.7	4.02	2.20	17.00	150	-0.5
20008	10.4	11.1	0.94	1.40	5.50	34	-0.5
20009	14.6	5.8	2.52	1.80	5.50	13	-0.5
20010	15.0	12.0	1.25	1.60	5.00	10	-0.5
20011	9.4	18.9	0.50	1.10	0.50	11	-0.5
20012	36.8	23.6	1.56	1.50	11.00	-1000	-0.5
20013	9.8	18.6	0.53	1.00	0.00	11	-0.5
20014	10.5	18.1	0.58	1.30	6.00	26	-0.5
20015	11.8	19.5	0.61	1.70	5.00	22	-0.5
20016	10.8	13.6	0.79	3.60	1.50	10	-0.5
20017	16.5	8.6	1.92	2.00	2.50	20	-0.5
20018	13.8	9.7	1.42	0.90	8.50	147	-0.5
20019	21.2	4.4	4.82	2.40	3.50	14	-0.5
20020	29.6	24.6	1.20	2.90	5.00	30	-0.5
20021	33.2	5.7	5.82	94.00	13.50	-1000	3.0
20022	17.2	7.6	2.26	2.60	6.00	102	-0.5
20023	28.2	7.7	3.66	1.40	5.50	11	-0.5
20024	10.5	14.8	0.71	2.10	2.50	10	-0.5
20025	11.5	4.6	2.50	0.40	5.00	14	-0.5
20026	8.5	10.4	0.82	0.70	1.50	11	-0.5
20027	12.0	14.7	0.82	0.60	3.00	35	-0.5

ARTHUR RIVER PROJECT WATER SAMPLES - EL 44/89

NUMBER	AU	C	AU_C	CU	PB	ZN	AS
20028	10.0	8.4	1.19	1.10	3.00	26	-0.5
20029	7.1	6.0	1.18	3.80	6.50	23	-0.5
20030	6.1	3.9	1.56	0.90	4.00	80	-0.5
20031	3.0	5.0	0.60	1.60	5.00	18	-0.5
20032	6.1	2.9	2.10	1.50	3.50	25	-0.5
20033	4.8	3.4	1.41	2.20	3.50	22	-0.5
20034	8.4	2.6	3.23	3.20	23.00	185	-0.5
20035	7.0	4.6	1.52	2.60	2.00	14	-0.5
x20079	36.9	5.5	6.71	5.00	6.50	-1000	-0.5
x20080	56.7	12.7	4.46	2.80	9.00	-1000	0.5
20081	17.9	11.7	1.53	0.90	0.00	9	-0.5
20082	18.7	11.1	1.68	1.70	0.00	16	-0.5
20083	18.0	12.6	1.43	1.10	0.00	15	-0.5
20093	17.9	9.5	1.88	3.40	2.50	13	-0.5
20094	12.4	9.7	1.28	10.00	2.00	10	-0.5
20099	20.3	9.9	2.05	2.50	2.00	10	-0.5
20100	27.3	11.6	2.35	1.90	1.50	8	-0.5
20101	23.7	10.2	2.32	3.10	11.00	54	-0.5
20102	19.2	5.5	3.49	1.00	1.00	5	-0.5
20103	11.8	29.3	0.40	17.00	4.50	20	-0.5
20104	15.7	10.8	1.45	2.80	8.00	24	-0.5
20105	16.6	7.3	2.27	6.20	7.00	33	0.5
20106	11.4	11.8	0.97	2.50	3.00	11	-0.5
20107	10.5	8.5	1.24	4.20	6.00	15	-0.5
20108	11.8	7.5	1.57	0.60	0.50	3	-0.5
20109	15.6	5.1	3.06	1.40	0.50	4	-0.5
20110	16.1	3.3	4.88	0.20	0.00	4	-0.5

ARTHUR RIVER PROJECT WATER SAMPLES - EL 44/89

NUMBER	AU	C	AU_C	CU	PB	ZN	A
20111	8.1	3.5	2.31	1.10	4.50	10	-0.
20112	4.4	3.3	1.33	0.40	0.00	6	-0.
20113	4.1	6.5	0.63	0.70	0.00	11	-0.
20114	5.2	6.0	0.87	0.90	4.00	11	-0.
20401	8.0	12.8	0.63	1.70	2.50	15	0.
20402	6.4	7.0	0.91	2.80	1.00	16	0.
20403	6.1	10.3	0.59	1.10	1.00	1	0.
20404	2.4	12.1	0.20	1.30	4.00	6	0.
20405	7.5	6.3	1.19	0.30	0.00	9	-0.
20406	7.0	11.3	0.62	1.40	0.00	6	-0.
20407	4.3	10.5	0.41	0.90	0.00	4	0.
20408	8.7	10.4	0.84	0.50	0.00	1	-0.
20409	7.0	10.8	0.65	1.00	1.50	4	1.
20410	7.7	10.1	0.76	24.00	1.00	6	1.
20411	8.2	6.5	1.26	0.60	1.00	2	1.
20412	5.8	10.6	0.55	0.60	0.50	1	0.
20413	4.6	11.3	0.41	0.50	0.50	2	0.
20414	8.7	12.6	0.69	0.60	2.00	7	0.
20415	5.2	9.9	0.53	0.60	0.00	4	-0.
20416	5.2	12.8	0.41	0.90	2.00	5	0.
20417	0.2	12.9	0.02	0.70	0.50	4	-0.
20418	13.8	10.1	1.37	1.30	0.50	15	-0.
20419	14.0	9.9	1.41	1.40	5.00	12	-0.
20420	9.2	8.5	1.08	0.90	0.00	3	-0.
20421	5.4	7.4	0.73	0.90	0.00	0	-0.
20434	7.1	11.8	0.60	0.70	2.50	2	-0.
20435	4.6	6.9	0.67	1.70	5.50	6	-0.

ARTHUR RIVER PROJECT WATER SAMPLES - EL 44/89

NUMBER	AU	C	AU_C	CU	PB	ZN	AS
20436	2.9	16.1	0.18	3.50	0.50	10	-0.5
20437	6.6	7.3	0.90	1.40	0.50	5	-0.5
20438	6.5	7.0	0.93	1.30	0.50	3	-0.5
20439	5.0	5.9	0.85	1.20	0.00	2	0.5
20441	8.1	16.3	0.50	0.80	0.50	5	1.0
20442	3.3	10.4	0.32	5.40	4.00	19	-0.5
20443	3.5	13.5	0.26	2.20	3.00	9	0.5
20444	2.9	5.7	0.51	1.00	1.00	10	-0.5
20445	2.5	6.3	0.40	0.50	0.00	1	-0.5
20487	14.0	11.9	1.18	0.40	0.00	14	-0.5
20488	11.9	6.9	1.72	1.20	0.00	6	-0.5
20491	13.1	3.7	3.54	1.30	0.00	7	-0.5
20492	6.4	10.9	0.59	0.90	0.00	7	-0.5
20493	9.9	9.3	1.06	0.40	0.00	6	-0.5
20494	12.6	6.5	1.94	0.30	0.00	10	-0.5
20495	15.7	9.9	1.59	0.20	0.00	3	0.5
20496	15.7	11.1	1.41	0.00	0.00	3	1.0
20497	22.6	5.6	4.04	1.50	0.00	6	0.5
20498	22.3	6.5	3.43	0.20	0.50	5	-0.5
20499	12.5	12.6	0.99	1.00	0.00	8	1.0
20500	9.0	13.3	0.68	0.20	1.50	7	0.5
20601	24.1	6.6	3.65	0.70	1.00	23	-0.5
20602	16.0	12.9	1.24	1.00	0.00	100	-0.5
20603	19.6	10.9	1.80	4.10	0.00	26	-0.5
20604	13.9	12.2	1.14	0.50	0.50	8	-0.5
20609	14.2	24.5	0.58	0.40	1.00	8	-0.5

ARTHUR RIVER PROJECT 1990 SUMMER - WATER SAMPLES
DMMR REPEAT ANALYSIS

EL	NUMBER	AU	AURPT
1/90	20071	3468.0	1.8
1/90	20072	82.8	18.0
1/90	20073	118.8	1.3
43/89	20052	47.2	6.5
43/89	20060	47.2	2.6
43/89	20076	596.4	1.6
43/89	20077	47.0	2.6
43/89	20087	67.1	3.6
43/89	20087	67.1	3.6
43/89	20089	35.6	2.6
43/89	20091	30.1	3.6
43/89	20657	30.7	2.3
44/89	20001	66.0	36.6
44/89	20012	36.8	5.1
44/89	20021	33.2	9.1
44/89	20079	36.9	4.4
44/89	20079	36.9	4.4
44/89	20079	36.9	4.4
44/89	20080	56.7	0.4
44/89	20080	56.7	0.4

AU :-by activated carbon extraction
AURPT :-by new organic extraction technique

ARTHUR RIVER PROJECT 1990 SUMMER – WATER SAMPLES ANALYTICAL METHODS,UNITS AND LABORATORIES

Element	Units	Laboratory	Method
Au	ng/l (ppt)	DMMR Hobart	Activated carbon extraction from water, Aqua regia digestion - AAS
AuRPT	ng/l (ppt)	DMMR Hobart	Organic solvent extraction from water, AAS determination
C	mg/l (ppm)	DMMR Hobart	Total Organic Carbon – carbon analyser
Au/C	–	DMMR Hobart	Au result in ppt divided by C result in ppm
Cu	ug/l (ppb)	ANALABS Mbne	Carbon rod AAS on raw water
Pb	ug/l (ppb)	ANALABS Mbne	Carbon rod AAS on raw water
Zn	ug/l (ppb)	ANALABS Mbne	Carbon rod AAS on raw water
As	ug/l (ppb)	ANALABS Mbne	Hydride generation AAS on raw water