

GEOPEKO

A DIVISION OF PEKO WALLSEND OPERATIONS LIMITED

A.C.N. 000 081 434

EL 40/89 KEITH RIVER

MICROFILMED FICHE No.012340-

REPORT ON

EXPLORATION ACTIVITY

DECEMBER 1990 TO NOVEMBER 1991

TCR 92-3328

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Ian Mathison
December, 1991

T260

Distribution: Geopeko, Parkes
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TABLE OF CONTENTS

	<u>Page No.</u>
<u>1.0 Introduction</u>	
1.1 Location & Access	1
1.2 Tenure & Land Usage	1
1.3 Regional Geology	1
1.4 Known Mineral Deposits/Occurrences	2
1.5 Previous Exploration	2
<u>2.0 Exploration Activity</u>	
2.1 Aims	2
2.2 Work Completed	3
2.3 Results Received	4
<u>3.0 Discussion</u>	4
<u>4.0 Conclusions</u>	5
<u>5.0 Recommendations</u>	5
Figure 1 Location and Access	
Appendix 1 Geochemical Results	
Plate 1 EL40/89, 01/90: Topography, Sample Locations	
Plate 2 EL40/89 KEITH RIVER: Sample Locations and Types	

1.0 INTRODUCTION

1.1 Location and Access (Fig. 1)

EL 40/89, Keith River, is located in NW Tasmania approximately 15 km north of the township of Luina.

Access within the EL is very poor and is restricted to the Savage River Pipe Line Road and unsealed logging roads along the western and eastern EL boundaries respectively.

The central portion of the EL is largely inaccessible and access requires the use of cut walking tracks and helicopter support.

1.2 Tenure and Land Usage

EL 40/89 of 250 km² was granted to Peko Exploration Ltd in January 1990.

The EL consists predominantly of Crown Land with approximately 50 km² of State Forest in the northwest corner. The EL area includes part of the Savage River, Australian Heritage Commission Act, Registered Entry.

Vegetation is generally comprised of wet eucalypt forest with a thick undergrowth. Buttongrass-tea tree plains occur along north-east trending ridge tops in the centre of the EL.

1.3 Regional Geology

EL 40/89 lies within the Rocky Cape Region of NW Tasmania. The most interesting 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. The Rocky Cape Group contains Precambrian dolerite/gabbro dykes which have been emplaced into north-north west trending faults. Rocks assigned to the Precambrian Burnie Formation outcrop east of the Arthur Lineament. Within EL 40/89, interbedded siltstone and quartz wacke predominate with at least one dolomitic siltstone unit mapped. Close to the Arthur Lineament, these rocks have been metamorphosed to schistose metasandstones and phyllitic metasilstone.

The south eastern corner of the area 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 volcanoclastic sediments of Eo-cambrian to Cambrian age.

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 southern EL boundaries of Geopeko's Arthur River Project. (Green et Al 1988).

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

Geopeko report T250 (Virgoe and Mathison, 1990), summarizes previous exploration and details the results of Geopeko's 1990 exploration.

2.0 EXPLORATION ACTIVITY**2.1 Aims**

The aim of Geopeko's exploration of EL 45/89 is to use water sampling, rock chip sampling, geological mapping and the resultant previous exploration to delineate prospective and geochemically anomalous areas within the EL. Areas worthy of further investigation will be followed up with more detailed exploration.

Due to major problems with the DMMR's analytical techniques for stream water geochemistry, no work was carried out in EL 40/89 after January 1990. It was considered necessary to suspend exploration until the analytical problems were corrected and consequently a waiver of expenditure commitment was sought, and granted.

2.2 Work Completed

Some exploration commenced in EL 40/89 before the decision to abort the 1991 program was made. This included track cutting, stream sediment sampling and rock chip sampling. This work is summarized below:

Activity	Area	Completed	Comments
Track cutting	Atlas - Keith River	4.0 km	
	SR Pipeline - Lyons R.	3.5 km	
Stream sed. sampling.	Puzzle Ck & Spod Ck	11 samples	
	Rapid River	8 samples	
Rock chips.	Atlas	3 samples	
	Keith River	9 15 samples	
	Spod Creek	21 samples	

All assays were performed by Analabs, Burnie. Rock samples were crushed to -1 mm before splitting for analysis. Cu, Pb, Zn and Ni were determined by AAS after perchloric acid digestion (GA101) while Au was determined by fine assay with AAS finish (GG313).

Stream sediments were collected from trap sites, sieved on site to -2 mm, and then forwarded to Analabs. Cu, Pb and Zn, were determined by AAS (GA101) and Au by fine assay (GG313). In addition, Cu, Pb, Zn, Fe, Mn, Sb, Bi, Co and Ni, were determined by ICP (GI222). Good correlation was achieved between ICP and AAS results.

2.3 Results Received (Appendix 1)**Stream Sediments**

No anomalies are obvious in Cu, Pb, Zn, Ni, As, Sb or Bi. Elevated Fe, Mn and Co values in several samples are tentatively ascribed to Tertiary basalt caps.

Rock Chips

Area	Element	Range	Comments
Atlas	Cu	20-55	Similar results achieved by detailed CRAE exploration of this area. -> ?basalt influence.
	Pb	40-465	
	Zn	105-1800	
	Ni	30-45	
	Au	<0.005-0.025	
Keith River	Cu	15-70	-> ?mafic volcanic content. Not anomalous for siltstone and sandstone. -> ?mafic volcanics in pt. One weak anomaly.
	Pb	<5-10	
	Zn	25-150	
	Ni	<5-160	
	Au	<0.005-0.025	
Spod Creek	Cu	15-85	Elevated values in black pyritic shales. Elevated values in some black shales.
	Pb	15-105	
	Zn	70-325	
	Ni	20-35	
	Au	<0.005-0.025	

3.0 DISCUSSION

Anomalous Pb and Zn values in rock chips from the Atlas area require follow up. Much detailed exploration has been conducted in this area by CRAE, including some drilling. No significant mineralization was intersected. The results of CRA's exploration should be carefully reviewed before any more detailed work is attempted. Weak geochemical anomalies in Keith River and Spod Creek rocks are geologically interesting.

4.0 CONCLUSIONS

- * Insufficient exploration has been conducted in this EL.
- * The association of known mineralization, distinct magnetic and gravity features, and unusual geology highlight the anomalism of the Arthur Lineament and the rocks east and west of the lineament.

5.0 RECOMMENDATIONS

It is recommended that the exploration program in this area should be delayed until the DMMR's problems with the Humminex analytical technique have been resolved. All of EL 40/89 should be retained until reconnaissance exploration has been completed.

REFERENCES

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

MATHISON, I.J., VIRGOE, K. (1990) Keith River - Report on
Exploration Activity - January 1990 to November 1990.
Unpublished Geopeko report T260.

APPENDIX 1

GEOCHEMISTRY - ANALYTICAL RESULTS

ANALABS

A Division of Incheape Inspection and Testing Services Australia Pty. Ltd

Analabs - A Division of Incheape Inspection & Testing Services



Phone (004) 31 8890

14 Thirkell St, Geeva Tas 7320

Fax No. (004) 31 8890

ANALYTICAL REPORT No. 106480.50.07/623

THIS REPORT MUST BE READ IN CONJUNCTION WITH THE ACCOMPANYING ANALYTICAL DATA

INVOICE TO:	Geepoko P.O. Box 180 Rosebery Tasmania 7470	ORDER No.	PROJECT
		50068	Arthur
		DATE RECEIVED	RESULTS REQUIRED
		17/12/90	ASAP

No. OF PAGES OF RESULTS	DATE REPORTED	No. OF COPIES	TOTAL No. OF SAMPLES
3	09/01/91	1	59

SAMPLE NUMBERS	SAMPLE DESCRIPTION	ELEMENT/METHOD
Various	RC Prep: GP009, GP016	Cu, Pb, Zn, Ni/SA101
Various	RC	Au, Au(R), Au(S)/SG313, Au/RAW, Au/Wt

RESULTS TO	Mr Ian Mathison Geepoko P.O. Box 180 Rosebery Tasmania 7470	REMARKS
RESULTS TO		
RESULTS TO		

Gentle
 AUTHORIZED OFFICER

ANALABS

A Division of Incharge Inspection and Testing Services Australia Pty. Ltd.

ANALYTICAL DATA

SAMPLE PREFIX REPORT NUMBER REPORT DATE CLIENT ORDER No PAGE

TUBE No.	SAMPLE No.	Cu	Pb	Zn	Ni	Au					
		106480.60.07623				09/01/91	50068		1 OF 3		
1	21423	20	15	105	35	<0.005					
2	21424	15	15	90	25	<0.005					
3	21425	15	20	150	25	<0.005					
4	21426	30	20	105	30	<0.005					
5	21427	30	20	140	30	<0.005					
6	21428	25	25	190	30	<0.005					
7	21429	25	110	325	35	<0.005					
8	21430	55	60	210	25	<0.005					
9	21431	55	20	180	25	<0.005					
10	21432	65	20	140	35	0.025				25% 57%	
11	21433	80	20	140	35	0.015					
12	21434	85	20	70	20	<0.005					
13	21435	30	20	120	30	<0.005					
14	21436	25	25	135	35	<0.005					
15	21437	50	65	230	25	<0.005					
16	21438	25	105	225	30	0.025					
	21439	20	20	115	30	<0.005					
18	21440	20	20	125	30	<0.005					
19	21441	20	20	170	35	<0.005					
20	21442	15	20	95	25	<0.005					
21	21443	20	20	95	25	<0.005					
22	21582	580	5	90	20	0.040				Quarry	
23											
24											
25											

Results in ppm unless otherwise specified
 T = element present; but concentration too low to measure
 X = element concentration is below detection limit
 -- = element not determined

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ANALYTICAL DATA

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24/12/90

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1 OF 4

TUBE No.	SAMPLE No.	Cu	Pb	Zn	Ni	Au	Au (R)	Au (S)		
1	21401	55	465	105	30	0.025	--	--		40/89 Pb 50
2	21402	20	40	180	30	<0.005	--	--		
3	21403	45	400	1800	45	0.015	--	--		
4	21404	20	5	40	10	<0.005	--	--		Keith R.
5	21405	15	5	35	<5	<0.005	--	--		
6	21406	70	<5	150	80	<0.005	--	--		
7	21407	15	5	25	<5	<0.005	--	--		
8	21408	15	10	30	<5	<0.005	--	--		
9	21409	20	5	40	10	<0.005	--	--		
10	21410	35	10	110	160	<0.005	--	--		
11	21411	35	5	75	40	0.025	--	--		
12	21412	20	5	45	25	<0.005	<0.005	--		20/89
14										
15										
16										
18										
19										
20										
21										
22										
23	DETECTION	5	5	5	5	0.005				
24	UNITS	ppm	ppm	ppm	ppm	ppm				
25	METHOD	GA101	GA101	GA101	GA101	GG313				

Results in ppm unless otherwise specified
 T = element present; but concentration too low to measure
 X = element concentration is below detection limit
 -- = element not determined

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Genki

ANALABS

A Division of Inchcape Inspection and Testing Services Australia Pty. Ltd.

Analabs - A Division of Inchcape Inspection & Testing Services

Phone (004) 31 8837

14 Thirkell St. Coode Tas 7320

Fax No. (004) 31 8890

ANALYTICAL REPORT No. 106480.60.07622

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SAMPLE NUMBERS

SAMPLE DESCRIPTION

ELEMENT/METHOD

Various

SS Prep: SP005, SP007

Cu, Pb, Zn/BA101, As/BA114

Various

SS

Au, Au(R), Au(S)/BB309, Au/RAW, Au/Wt

Various

SS

Cu, Pb, Zn, Fe, Mn, Sb, Bi, Co, Ni/S1222

REMARKS

RESULTS

TO

Mr Ian Mathison
Geopoko
P.O. Box 180
Rosebery
Tasmania 7470

RESULTS

TO

RESULTS

TO

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SAMPLE PREFIX REPORT NUMBER REPORT DATE CLIENT ORDER No PAGE

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TUBE No.	SAMPLE No.	Cu	Cu	Pb	Pb	Zn	Zn	Au	Au(R)	Au(S)	
2	21572	25	33.20	5	8.47	65	98.60	<0.005	-	-	
3	21573	10	10.20	5	<3.00	45	48.90	<0.005	-	-	
4	21574	10	4.59	<5	<3.00	10	15.30	<0.005	-	-	
5	21575	10	9.16	<5	<3.00	35	38.30	<0.005	-	-	
6	21576	10	11.00	<5	3.93	35	38.20	<0.005	-	-	
7	21577	10	5.48	<5	<3.00	10	15.90	<0.005	-	-	
8	21578	5	4.15	<5	3.31	5	12.70	<0.005	-	-	
9	21579	5	3.42	5	<3.00	<5	7.30	<0.005	-	-	
12	21901	25	21.10	10	14.70	75	75.00	<0.005	<0.005	Refr R T-1	
13	21902	20	18.60	5	12.10	50	56.80	<0.005	-	-	
14	21903	20	15.50	5	11.10	55	54.90	<0.005	-	Puzzle 16	
15	21904	20	18.80	5	8.29	80	83.60	<0.005	-	-	
16	21905	10	12.90	5	9.28	75	75.70	<0.005	-	-	
	21906	45	47.70	5	18.00	95	104.00	<0.005	-	Agens R T-1	
18	21907	50	45.30	15	23.20	170	173.00	<0.005	-	-	
19	21908	20	21.50	5	8.86	50	57.90	<0.005	-	-	
20	21909	30	29.80	10	7.81	105	112.00	<0.005	-	-	
21	21910	10	9.04	5	15.10	110	94.20	<0.005	-	-	
22	21911	5	4.95	5	6.25	10	20.40	<0.005	-	<0.005	
21	Please Note: Sb Acid Soluble										
22	DETECTION	5	2.00	5	3.00	5	2.00	0.005	0.005	0.005	
23	UNITS	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
24	METHOD	GA101	GI222	GA101	GI222	GA101	GI222	GG313	GG313	GG313	
25											

Results in ppm unless otherwise specified
 T = element present, but concentration too low to measure
 X = element concentration is below detection limit
 - = element not determined

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ANALYTICAL DATA

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REPORT NUMBER

REPORT DATE

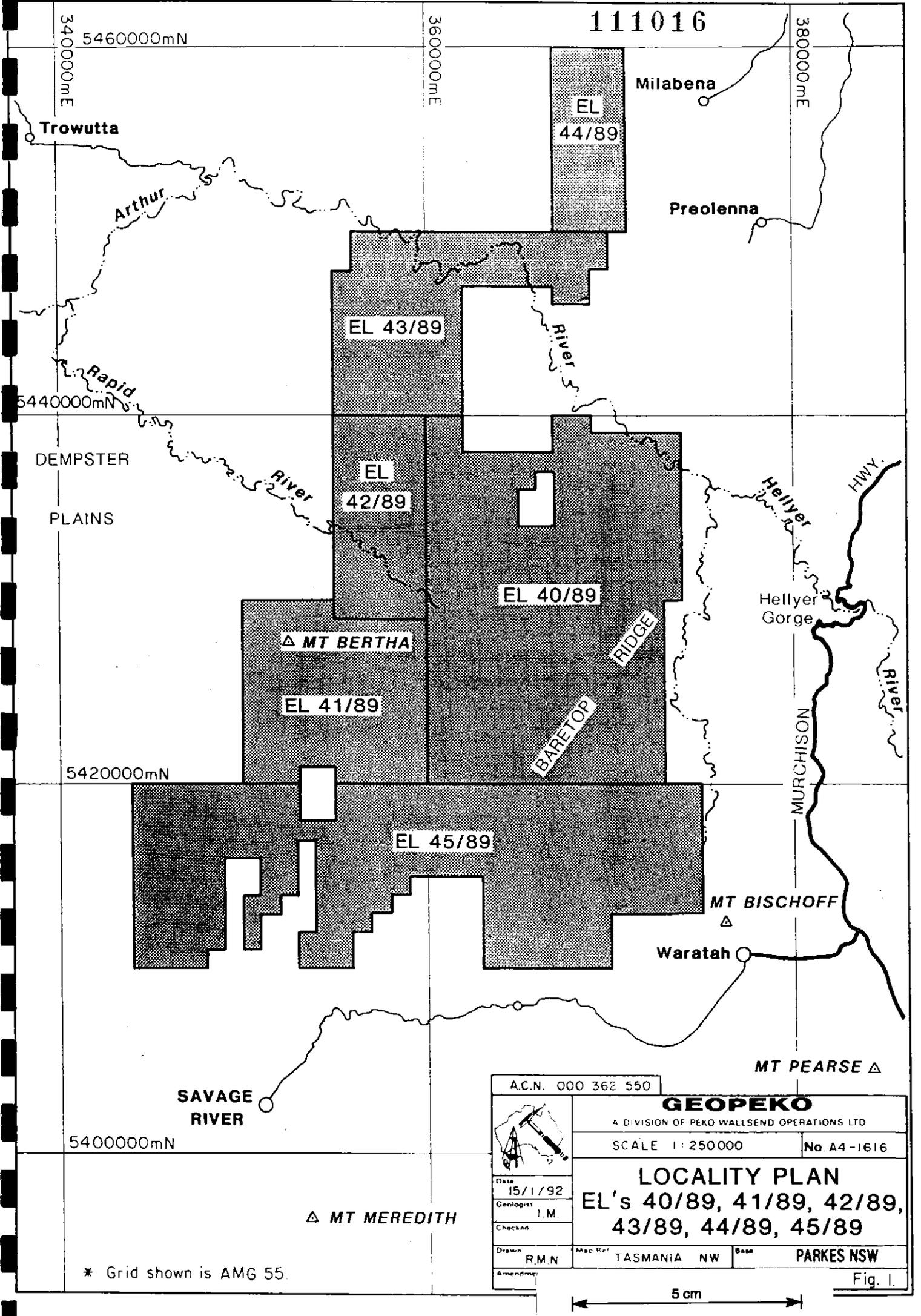
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PAGE

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TUBE No	SAMPLE No	As	Fe	Pb	Co	Mn	Ni	Sb			
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2	21572	5	12.20	0.12	26.70	562.00	99.70	0.52			
3	21573	2	4.88	<0.10	12.90	160.00	38.50	0.36			
4	21574	<1	1.17	<0.10	3.57	40.80	10.70	0.16			
5	21575	1	1.94	<0.10	27.20	69.10	84.50	0.36			
6	21576	2	6.02	<0.10	24.00	542.00	35.40	0.34			
7	21577	1	2.16	<0.10	4.81	120.00	15.70	0.18			
8	21578	1	2.16	<0.10	5.17	131.00	8.74	0.21			
9	21579	<1	0.80	<0.10	1.00	26.10	3.83	0.52			
12	21901	12	5.50	0.29	10.10	373.00	18.00	0.34			
13	21902	9	3.49	0.20	10.70	296.00	29.20	0.32			
14	21903	6	3.47	0.16	22.00	591.00	27.10	0.29			
15	21904	7	4.59	0.14	16.90	545.00	47.10	0.27			
16	21905	7	3.45	0.21	17.90	520.00	26.20	0.23			
	21906	27	8.96	0.24	18.80	800.00	32.30	0.43			
18	21907	36	9.27	0.12	43.90	2520.0	46.60	0.57			
19	21908	5	4.09	0.11	10.10	396.00	10.90	0.45			
20	21909	8	10.10	<0.10	26.00	744.00	47.80	0.37			
21	21910	26	4.86	0.21	12.30	560.00	15.60	1.27			
22	21911	2	0.90	<0.10	2.60	88.40	6.10	0.26			
21	Please Note: Sb Acid Soluble										
22	DETECTION	1	0.01	0.10	0.20	0.50	2.00	0.05			
23	UNITS	ppm	%	ppm	ppm	ppm	ppm	ppm			
24	METHOD	GA114	GI201	GI222	GI222	GI222	GI222	GI222			
25											

Results in ppm unless otherwise specified
 T = element present; but concentration too low to measure
 X = element concentration is below detection limit
 - = element not determined

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Arthur River

EL 44/89

EL 43/89

5440000mN

DEMPSTER PLAINS

EL 42/89

EL 40/89

△ MT BERTHA

EL 41/89

BARTON RIDGE

Hellyer Gorge

5420000mN

EL 45/89

MT BISCHOFF

Waratah

MT PEARSE △

SAVAGE RIVER

5400000mN

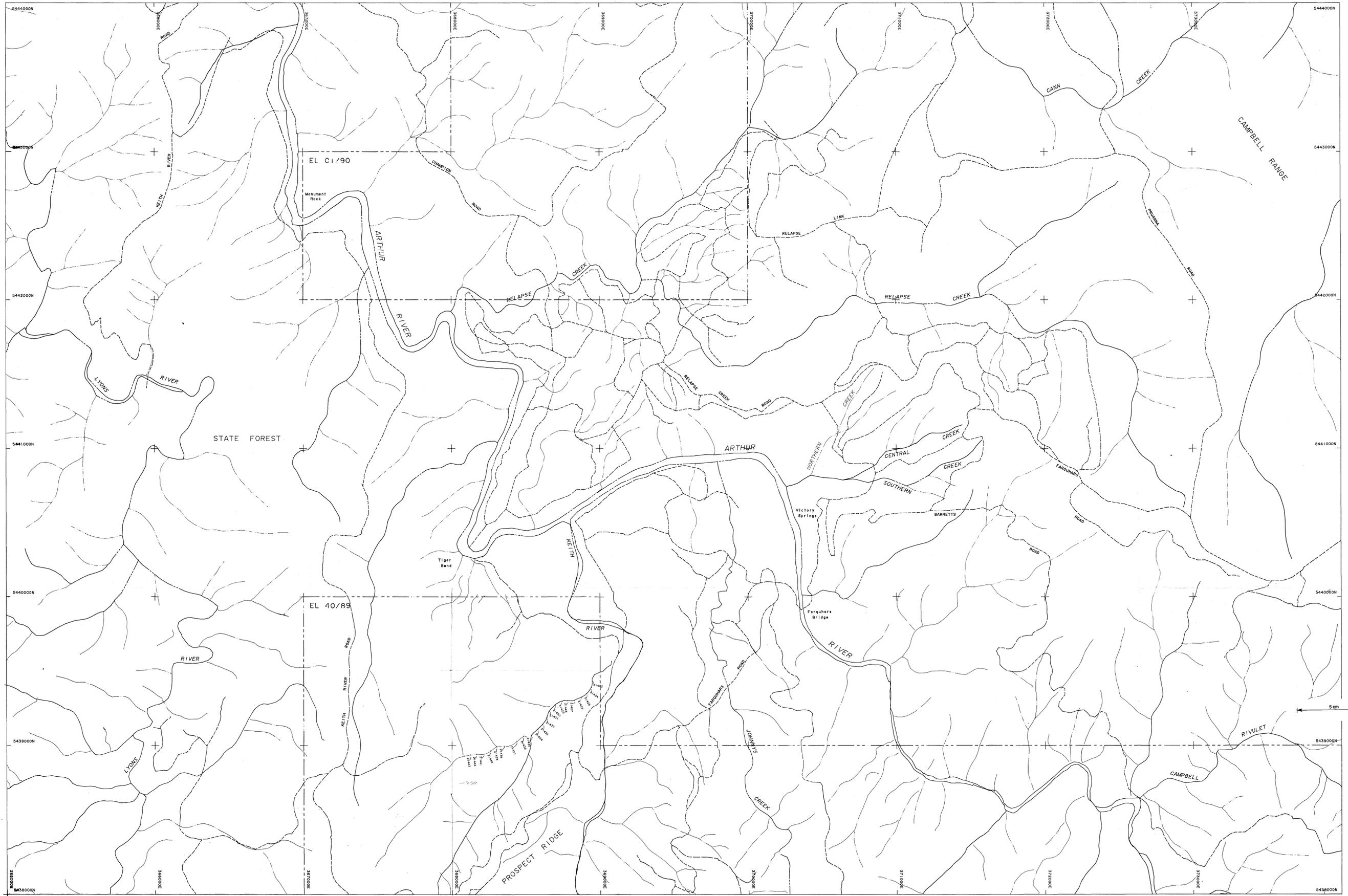
△ MT MEREDITH

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EL's 40/89, 41/89, 42/89, 43/89, 44/89, 45/89			
Date 15/1/92	Geologist J.M.	Drawn R.M.N.	Map Ref TASMANIA NW
Checked		Base PARKES NSW	
Amendments			

* Grid shown is AMG 55

5 cm

Fig. 1.



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 A.C.N. 000 362 550
 Scale 1:10000
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TASMANIA
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 Date 13-MAR-91
 ARTHUR RIVER 7915
EL 40/89, 01/90
TOPOGRAPHY, SAMPLE LOCATIONS
111017
PLATE 1
 Dwg No. 1495#ob d

