

Exploration Licence 897

Mount Tolmer, Northern Territory

Annual Repprt

for

the Year Ended 15th August, 1975

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Fig. 1.

12° S.

13° S.

14° S.

130° E.

131° E.



0 10 20 30 40 50
KILOMETRES
1:1,000,000

Centre
Melbourne

Date
26-2-75

THE BROKEN HILL PROPRIETARY CO. LTD.
FINNISS RIVER-MT. TOLMER -N.T.
LOCATION MAP

Project No.

Drawing No.
A4- 1645

Exploration Licence 897

Mount Tolmer, Northern Territory

Annual Report for the Year Ended 15th August, 1975.

1. General Statement

Exploration Licence 897 is located 110 kilometres south-west of Darwin, covering an area of Litchfield Complex and poorly outcropping Cambrian Sediments.

2. Field Investigations

2.1 Mapping

Ground traversing, mainly along creeks, was carried out early in the year. Mapping was re-commenced in July, after the Wet Season.

2.2 Drilling

Four holes, TP 1, 2, 6, and 7 totalling 233.3 metres, were drilled with a Mayhew 1000 rig, to test the Cambrian for phosphate. The aim was to drill to the base of the Cambrian, but, because cavities in the calcareous rocks halted drilling, no holes reached the base.

Location of drill holes is shown on Figures 2 and 3.

The holes were sampled every three metres and the samples were analysed for Cu, Pb, Zn and P_2O_5 .

Preparation of drill sites for further drilling began in July.

3. Results of Investigations

3.1 Mapping

Ground traversing located only a small amount of outcrop as much of the area is covered by lateritic sandy soil. This outcrop indicates that Cambrian siltstone and shale, generally flat lying, extend over most of E.L. 897. The Litchfield Complex outcrops in the south-west corner. Figure 2 shows outcrop and Figure 3 is an interpretive geological map.

3.1.1 Litchfield Complex

Only brief reconnaissance was carried out over the Litchfield Complex in the south-west of E.L. 897. Rock types appear to be intrusive garnetiferous granodiorite, granite and adamellite. No gneiss or schist were seen.

3.1.2 Cambrian Sediments

Flat lying calcareous sediments cover much of E.L.897. Rock types encountered, in order of abundance, are very calcareous ferruginous shale (tending to impure limestone), calcareous ferruginous siltstone, sandstone and impure dolomite. The siltstone and shale are commonly micaceous.

Near the base of the Cambrian, exposed in the south-west corner of the licence area, the sediments are very coarse arkoses which are very micaceous and obviously derived quite locally.

Petrological work on a limited number of samples has demonstrated the presence of fine interstitial carbonaceous (?bituminous) material.

No fossils were observed, however lithologically the rocks can be correlated with Cambrian rocks of the Daly River Basin.

3.1.3 Cainozoic

Most of E.L. 897 is covered by sand and fine silt, commonly lateritic.

3.2 Drilling

The drill-holes intersected monotonous red and green, very calcareous shales.

Analysis results are given in the Appendix. All values are low, the highest phosphate result being 0.2% P_2O_5 .

4. Personnel

The following personnel were engaged in exploration of E.L. 897 during the year:-

- 1 Geologist/Geophysicist
- 1 Senior Geologist
- 1 Field Assistant
- 3 Contract Drillers

5. Expenditure

Expenditure incurred on E.L. 897 during the year ended 31st July, 1975 was as follows:-

Wages & Salaries	\$ 4,649
Messing & Accommodation	862
Fares & Mobilisation	1,214
Drilling	10,456
Transport	1,195
Aircraft Charter	135
Surveying	77
Sample Analysis	676
Occupancy & Location Expenses	45
Vehicles	1,554
Capital Items	105
Other Items	145
	\$21,113

Total Expenditure to 31st July, 1975 is \$35,603.

This report is submitted to the
Mines Department as required by
Condition 3 of Exploration
Licence 897.

Appendix

Analysis Results of Bore Samples

TP SERIES		ROTARY	PERCUSSION		DRILLING			OCT/NOV 1974
(M)		(M)	(AM PREFIX) (%)		(PPM)	(PPM)	(PPM)	
HOLE	TOTAL DEPTH	SAMPLE INTERNAL	SAMPLE NUMBER	P ₂ O ₅	Cu	Pb	Zn	SAMPLE DESCRIPTION
TP1	21	0-3	AM4498	.086	N/A	N/A	N/A	
		3-6	9	.067				calcareous red/
		6-9	500	.129				brown shale and
		9-12	1	.145				siltstone
		12-15	2	.145				
		15-18	3	.102				
		18-21	4	.112				

7 samples

TP SERIES		ROTARY (M)	PERCUSSION		DRILLING			OCT/NOV 1974
HOLE	TOTAL DEPTH		(AM PREFIX)	(%)	(PPM)	(PPM)	(PPM)	
		SAMPLE INTERNAL	SAMPLE NUMBER	P ₂ O ₅	Cu	Pb	Zn	SAMPLE DESCRIPTION
TP2	77	0-3	AM4505	.079	N/A	N/A	N/A	
		3-6	6	.058				calcareous
		6-9	7	.086				red/brown and
		9-12	8	.118				grey/green
		12-15	9	.102				shales and
		15-18	10	.110				siltstones,
		18-21	1	.097				dolomitic in
		21-24	2	.099				part.
		24-27	3	.097				
		27-30	4	.097				
		30-33	5	.088				
		33-36	6	.092				
		36-39	7	.210				
		39-42	8	.197				
		42-45	9	.116				
		45-48	20	.095				
		48-51	1	.097				
		51-54	2	.164				
		54-57	3	.145				
		57-60	4	.096				
		60-63	5	.097				
		63-66	6	.081				

22 samples.

Cont.

TP SERIES	ROTARY	PERCUSSION	DRILLING	OCT/NOV 1974	
(M)	(M)	(AM PREFIX) (%)	(PPM) (PPM) (PPM)		
HOLE	TOTAL DEPTH	SAMPLE INTERNAL	SAMPLE NUMBER	P ₂ O ₅	SAMPLE DESCRIPTION
TP2		66-69	AM4527	.079	
		69-72	8	.079	
	Hard rock	72-75	9	.081	
	at 76m	75-77	30	.105	
	stopped				
	hole in				
	cavity				

4 samples

TP SERIES		ROTARY	PERCUSSION		DRILLING			OCT/NOV 1974
HOLE	(M)	(M)	(AM PREFIX)	(%)	(PPM)	(PPM)	(PPM)	SAMPLE
TOTAL		SAMPLE	SAMPLE	P ₂ O ₅	Cu	Pb	Zn	DESCRIPTION
DEPTH		INTERNAL	NUMBER					
TP 6	90	0-3	AM4648	.038	8	30	22	calcareous,
		3-6	9	.038	6	26	22	red/brown
		6-9	50	.092	8	44	28	siltstones and
		9-12	1	.073	4	30	18	grey/green
		12-15	2	.089	8	26	24	shale dolomitic
		15-18	3	.089	14	32	46	in part
		18-21	4	.068	12	30	38	
		21-24	5	.092	14	32	56	
		24-27	6	.079	8	28	34	
		27-30	7	.081	12	28	46	
		30-33	8	.085	8	28	40	
		33-36	9	.089	10	32	36	
		36-39	60	.080	12	28	42	
		39-42	1	.089	10	36	38	
		42-45	2	.066	8	28	30	
		45-48	3	.075	102	34	40	
		48-51	4	.070	12	30	44	
		51-54	5	.087	10	30	42	
		54-57	6	.077	12	32	40	
		57-60	7	.073	10	34	38	
		60-63	8	.080	10	30	38	

21 samples.

Cont.

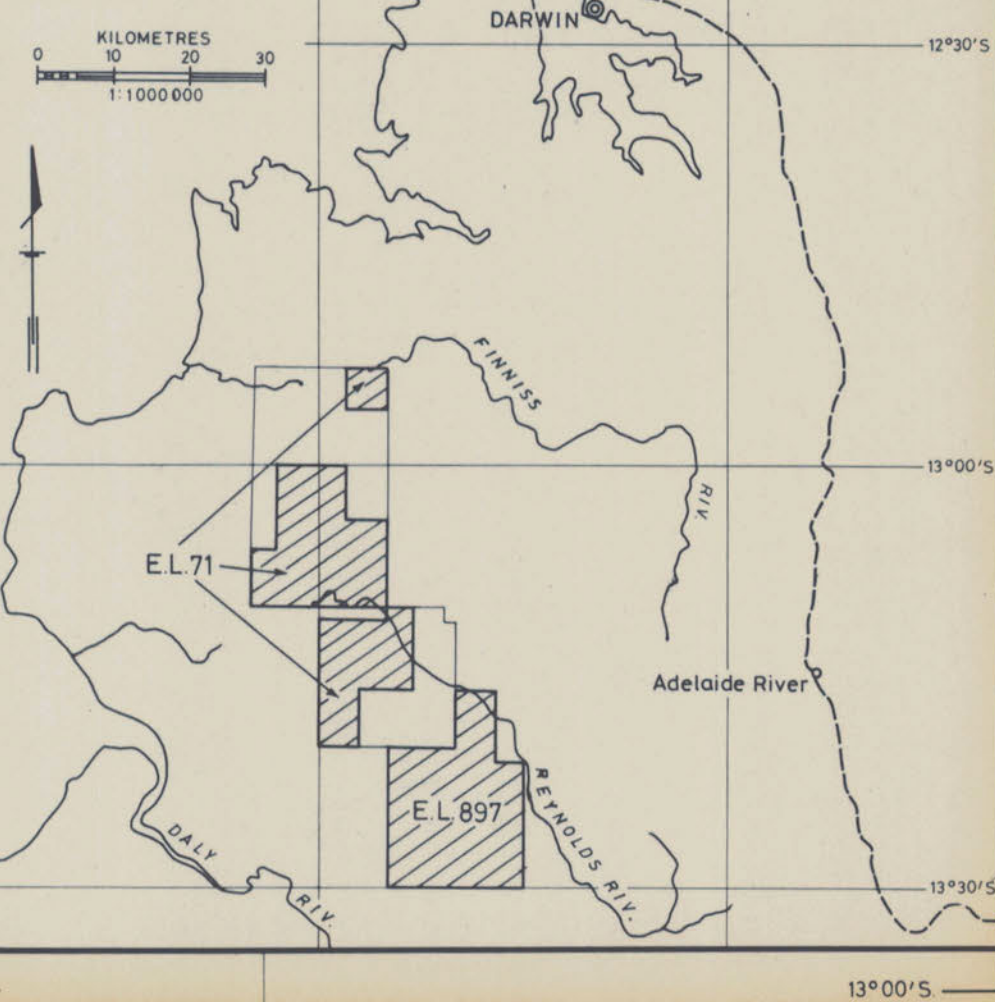
TP SERIES		ROTARY	PERCUSSION		DRILLING			OCT/NOV 1974
(M)		(M)	(AM PREFIX) (%)					
HOLE	TOTAL DEPTH	SAMPLE INTERNAL	SAMPLE NUMBER	P ₂ O ₅	(PPM) Cu	(PPM) Pb	(PPM) Zn	SAMPLE DESCRIPTION
		63-66	AM4669	.073	8	34	36	
		66-69	70	.089	12	28	36	
		69-72	1	.083	160	34	40	
		72-75	2	.073	28	28	38	
		75-78	3	.079	10	32	40	
		78-81	4	.079	8	30	38	
		81-84	5	.082	8	28	36	
		84-87	6	.108	8	34	14	
		87-90	7	.085	14	32	26	

9 samples

TP SERIES		ROTARY (M) SAMPLE INTERNAL	PERCUSSION		DRILLING			OCT/NOV 1974 SAMPLE DESCRIPTION
HOLE	TOTAL DEPTH		(AM PREFIX)	(%) P_2O_5	(PPM) Cu	(PPM) Pb	(PPM) Zn	
TP7	45.30	0-3	AM4678	.040	32	44	14	calcareous and
		3-6	9	.026	26	38	26	dolomitic
		6-9	80	.101	210	26	44	red/brown
		9-12	1	.092	120	32	44	siltstone
		12-15	2	.096	18	32	38	green/grey
		15-18	3	.089	14	30	42	shales; and
		18-21	4	.079	8	30	34	buff dolomite
		21-24	5	.086	8	34	38	
		24-27	6	.094	8	34	34	
		27-30	7	.080	10	26	34	
		30-33	8	.086	78	28	36	
		33-36	9	.080	42	30	36	
		36-39	90	.073	54	24	34	
		39-42	1	.069	28	30	34	
		42-45	2	.075	32	28	36	
		45-45.30	3	.070	18	48	32	

16 samples

LOCALITY MAP



- EL 71 as at Sept 1974.
- Original E.L. 71.

- Cambrian (?) Siltstone, shale, limestone.
- Silicified siltstone.
- Gabbro, dolerite, pyroxenite.
- Lower Proterozoic Litchfield Complex:
 - grd, gr, gn Granodiorite (grd), granite (gr), adamellite, gneiss (gn)
 - s s Mica schist, minor quartzites, amphibolites.

- 76 Aerial uranium channel anomaly
- C-Cambrian sediments S-schist.
- oFU12 Auger drillholes
- oTP7 Mayhew 1000 drillholes
- oD8 Diamond drillholes
- o432 Bedrock drillholes
- Strike and dip
- + Vertical bedding
- + Vertical joints
- Air photo trends
- Photo lineament
- Vehicular tracks
- Boundary of swamp

40 000 m.N.

13°00' S

20 000 m.N.

13°15' S

00

13°30' S
20 000 m. S



Revisions:

Drawn:	ASG	Date:	18-2-75	Centre:	Melbourne
Traced:	ASG	Project No.:		Drawing No.:	A1-1720
Checked:	GB				
OLC:	GB				

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EXPLORATION DEPARTMENT

EL. 71, 897 FINNISS RIVER-MTOLMER AREA - N.T.

GEOLOGY AND DRILLING

OUTCROP MAP

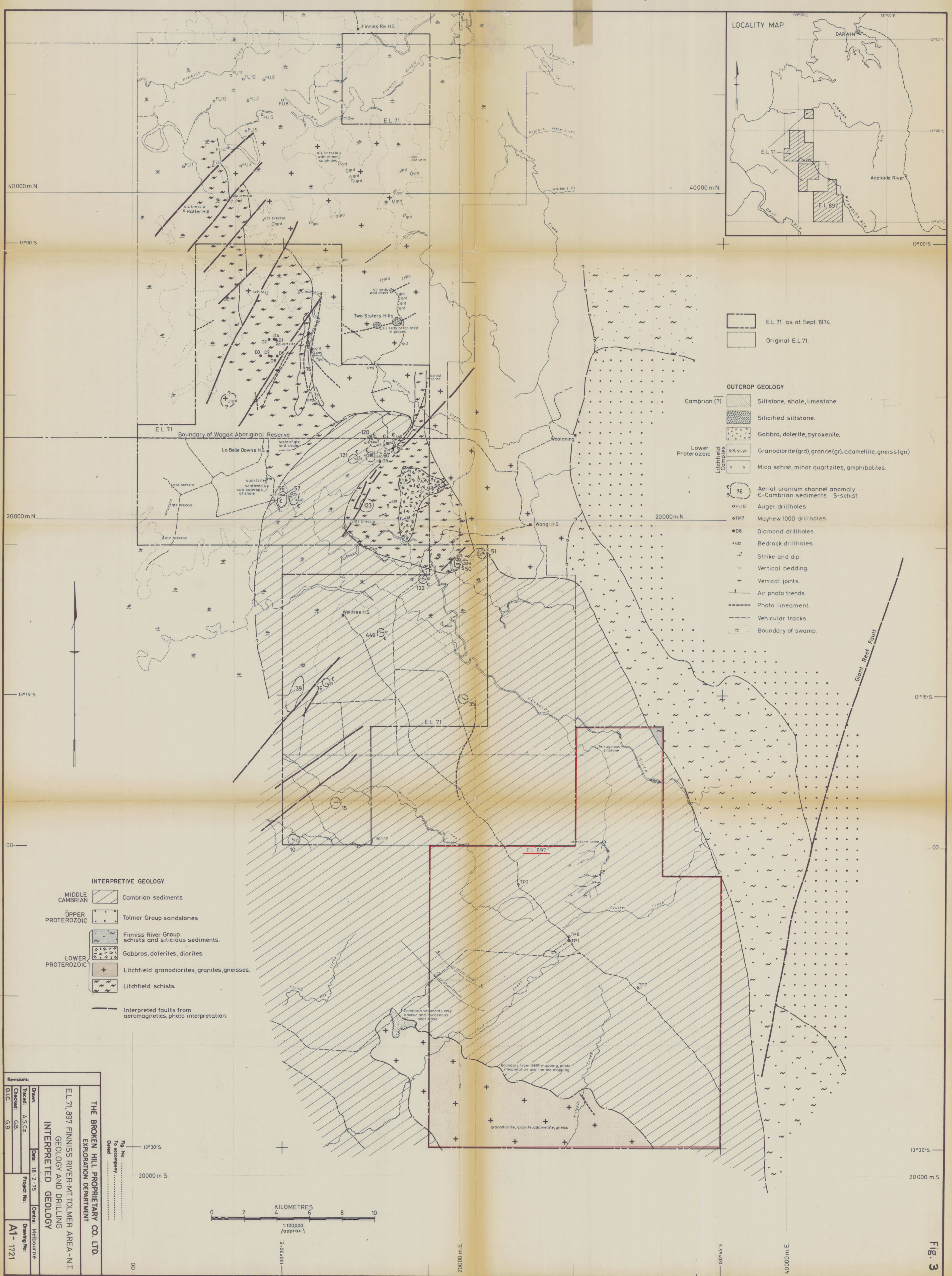


Fig. 3