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## INVESTIGATION OF GOLD MINE

## TAILINGS, NE TASMANIA GOLD

### CORRIDOR

1994

ELs 17/91, 18/91

1/92, 22/92, 23/92

MINES		
FILE REF.		
- 5 OCT 1994		
DOC. REF.		
OFFICE	FOR ACTION	FOR INFO.
SEE FOLIOS		
EL22/92		F.20/21
EL23/92		F.55/57
EL11/92		F.61/62

94-3832

G.D Iliff  
Senior Geologist  
3<sup>rd</sup> August 1994

Offices in N.S.W., Tasmania & Queensland

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**Appendix: Lotus produced tables, Tables 1-13.**

**SUMMARY**

A study of the tailings dumps of the Mangana-Mathinna-Alberton-Warrentinna gold belt was based on a list of dumps, author anonymous, provided by the Department of Mines and by asking questions of locals and other informed people.

The list proved generally rather optimistic in grades (of which only a few were given) and tonnage, and some of the reported dumps were found to be nonexistent or spread on roads by Forestry Department or graziers.

Some dumps were sampled several times and are assessed on many samples, others are represented by only a few samples.

Tables of results are given in this report. Cut-offs and availability are represented in the tables.

Tonnage of tailings at 1g/t Au cut-off: 16,100t at 2.51g/t Au.

Tonnage of tailings at 2g/t Au cut-off: 11,100t at 3.19g/t Au.

Tonnage of tailings at 3g/t Au cut-off: 4,500t at 4.87g/t Au.

Table 1:

Gold-bearing Tailings, NE Tasmania				
Mine	KT	g/t	EL	Licensee
Mangana G.R.	20	0.83	18/19	<i>A. White</i>
Fingal	?	0.3	18/19	
Buckland	1.4		22/92	<i>Newcrest</i>
Golden Entrance	0.7		18/91	
Miami	0.8		22/92	
Golden Gate	300	1.5	17/91	<i>A. White</i>
Volunteer	14.5	0.67	22/92	
Twilight	5	15	22/92	
City of Hobart	15.1	0.43	17/91	
Volunteer Cons.	1.8		17/91	
New Eldorado	0.6		17/91	
New Golden King	1.6		22/92	
City of Melbourne	0.8	2.07	22/92	
O'Briens	1.3		1/92	<i>Montroyal</i>
Havelock	0.9		1/92	
Starlight	1		1/92	
Alberton	>22?		4/88 & 23/92	
			<i>VMT</i>	<i>Newcrest</i>
Warrentinna	>3.6?			
Gladstone	>3?			
Golconda	>0.8?		<i>Feb-92 2/92</i>	<i>Max Mining</i>
Deposits without grades are estimates based on production.				

This table was provided by Ralph Bottrill of Mineral Resources Tasmania. The author is not known.

## 1. POTENTIAL SOURCES AND RESOURCES BY AREA

A guide to the potentially available tailings was provided by a Mines Department list, Table 1, given by Ralph Bottrill.

### 1.1. Alberton

- Ringarooma United Mine: <1,500t at 3.27 g/t Au (3-6,000t suggested by Mines Dept.).
- Mt Victoria Mine: <10,000t at 2.54g/t Au.
- Long Struggle Mine: <3,000t at 1.1g/t Au (550t reported), probably at Mt Victoria dump.
- Mercury: 2,000t mined: tailings perhaps 2.5g/t Au, presumed contributed to Mt Victoria dump.

### 1.2 Golden Mara

- 3,500t at 2-3g/t Au. Partly located on David Brown's land. None yet found near the main battery.

### 1.3 Mines in EL 23/92

Tonnages for most can only be guessed.

- Heathorns, Prendergast, Krushka, Crest, Bodyline, Central Ringarooma etc, (all doubtful).
- Mammoth, Bright Star, McCaul's, South Star (all very small shows without battery).
- Una (no battery reported).
- Hinemoa (no battery reported).

### 1.4 Mines in EL 22/92 (ex-Newcrest, now Resolute Mining):

- City of Melbourne: 800t at 2.07g/t Au,
- Bright Star, King Solomon, Heaton, Lady Mary,
- New Golden King: 1,600t,
- Golden Horseshoe, Revenue, Mabel, October.
- Twilight: 5,000t at 15g/t Au (quoted by Mines Dept.),
- Sunbeam and Tower Hill, Golden Gully.
- Miami: 800t, West Miami,
- Hit or Miss, Great Fingal, South Golden Entrance,

- Buckland: 1,400t,
- Richardsons, Alpine, Cardinal, Tower Hill Freehold,

1.5 Mines in EL 1/92 (Cuttack Mining):

- O'Brien's: 1,300t.
- Starlight: 1,000t.
- Havelock: 900t.

1.6 Mines in EL 17/91 (A. White):

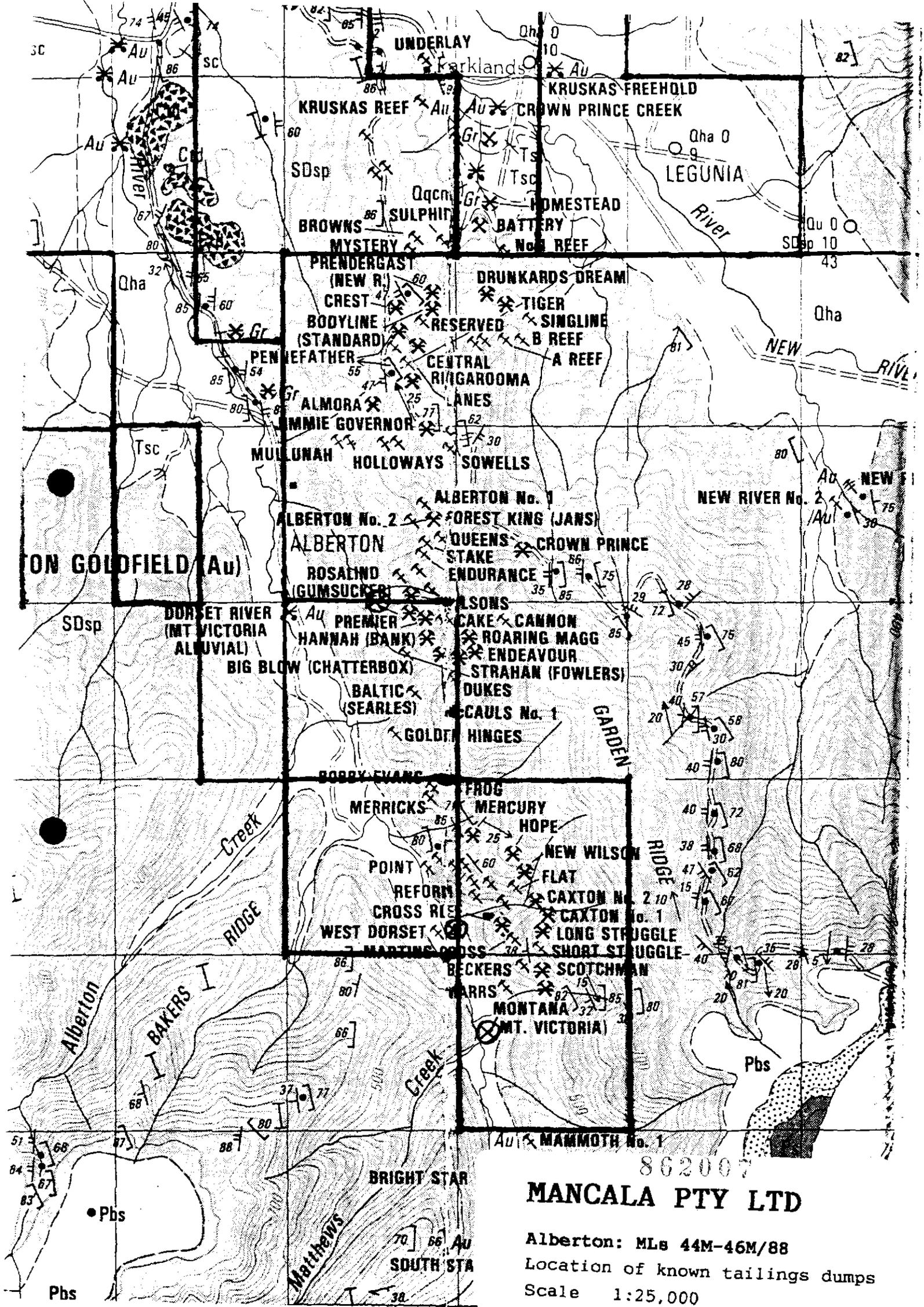
- New Golden Gate: 300,000t at 1.5g/t Au.
- City of Hobart: 15,000t at 0.43g/t Au.
- Volunteer Consolidated: 1,800t.
- New Eldorado: 600t.

None is available to us.

1.7 Mines in EL 18/91 (A. White):

- Mangana Golden Reef: 20,000t at 0.83g/t Au.
- Fingal: tons not known, at 0.3g/t Au.
- Golden Entrance: 700t.

Again, none is available to us.



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Alberton: MLs 44M-46M/88  
 Location of known tailings dumps  
 Scale 1:25,000

## 2. PROGRAMME

### 2.1 Establishment of Tonnages and Sampling of Tailings Dumps.

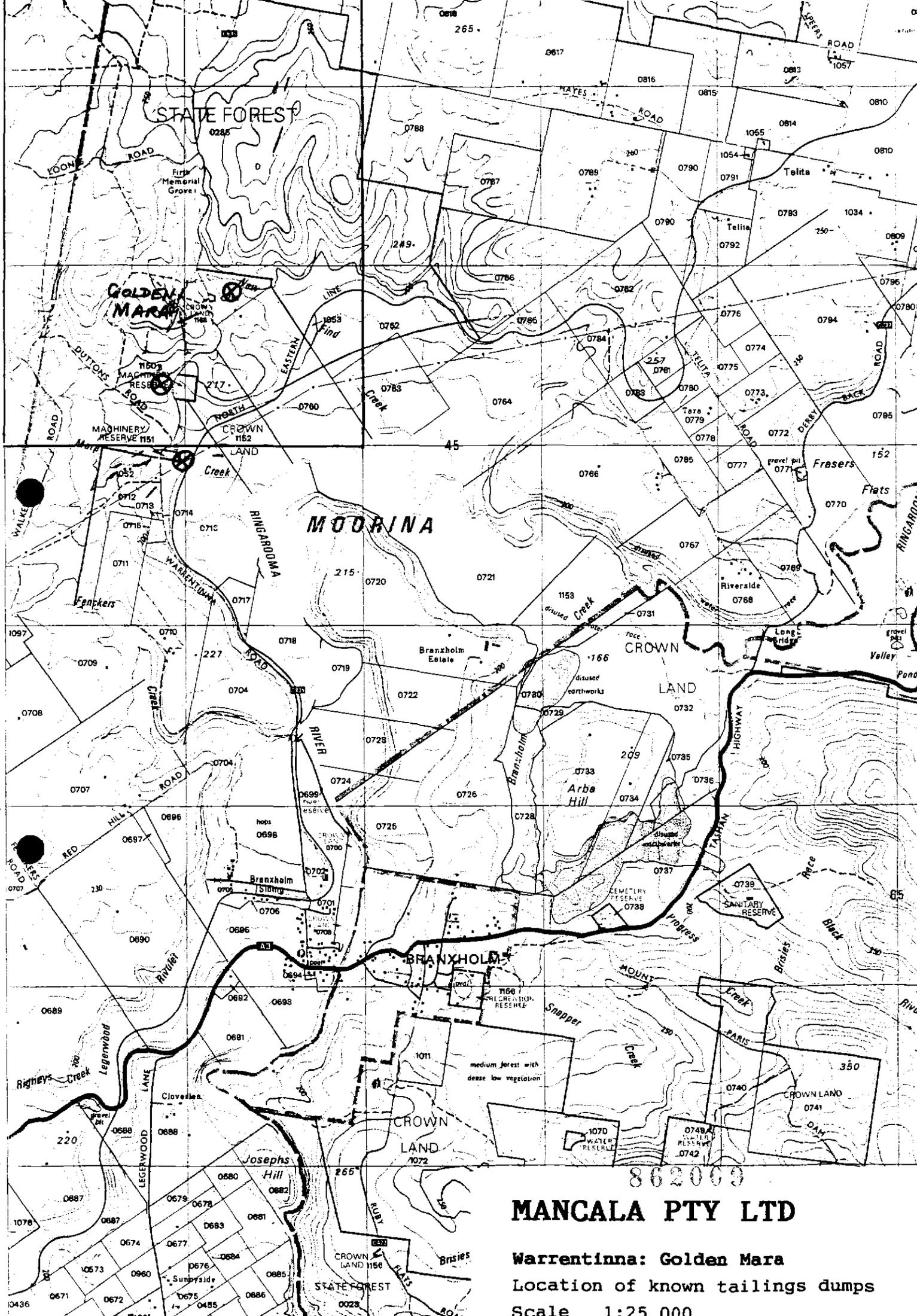
#### 2.1.1 Alberton

A programme of testing known tailings dumps with a power auger was done the week starting 16<sup>th</sup> May 1994, to determine more accurately their tonnages. This was done first on the dumps of Ringarooma United, Long Struggle and Mt Victoria mines, with the aim of determining the thickness and area of each dump. Samples were taken of the Ringarooma United and Mt Victoria Mine dumps. The results of all the samples taken at these dumps are averaged in the tables below and in the Lotus tables appended.

Of the supposed dump of Long Struggle there is little sign. The material was found in separate very small pockets, which would not add up to 50t. It appears the dump has been either dispersed or removed.

Since there was a stamp battery at Heathorns (and still is), it should follow there are some tailings there too. None was found.

We still have no idea whether there are any tailings dumps associated with the mines outside the three mining leases within EL 23/92. Prendergast is reported to have had a battery. Central Ringarooma, Krushka, Crest, etc did not have batteries reported. Local knowledge as to their whereabouts of Prendergast must be sought from the likes of Norm Brown. This also applies to the mines at the southern end of the valley: Mammoth, Bright Star, etc: all very small. I suspect any ore from these mines was treated at Mt Victoria's battery.



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**Warrentinna: Golden Mara**  
 Location of known tailings dumps  
 Scale 1:25,000

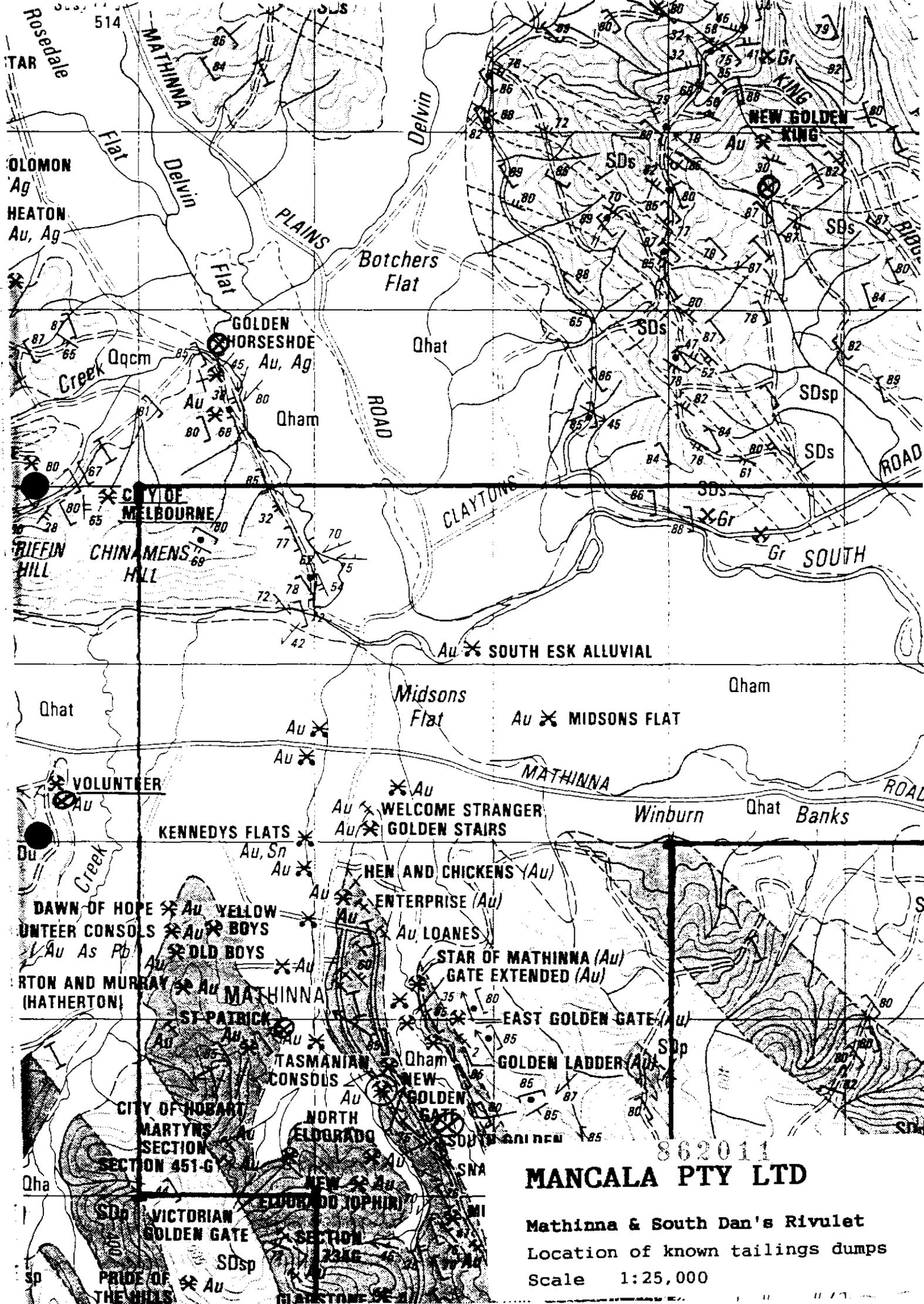
### 2.1.2 Warrentinna.

There is supposed to be up to 3,600t of tailings in the Warrentinna area, with the majority from the Golden Mara Mine.

At Golden Mara, one tailings dump has been recognised east of the road, near the site of the Warrentinna Post Office, beside a farm dam on the northern half of David Brown's property. This dump would not account for even half of the tonnage reported, being probably less than 800t.

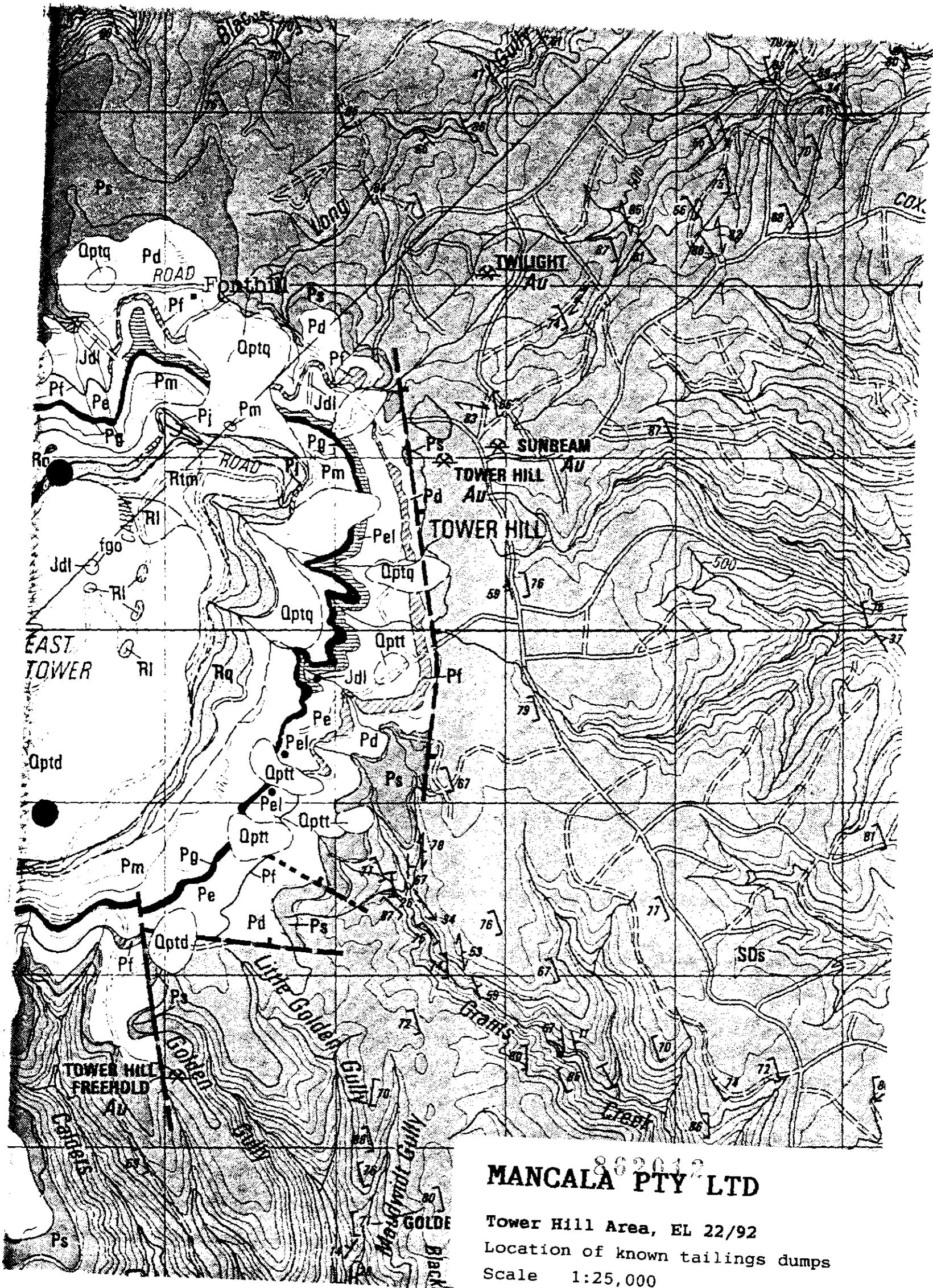
There should be another dump south of Bailey's Adit, where a battery used to be sited about 155m south of the portal. We have yet to find it, despite at least five excursions in the bush south of the Bailey's Adit. The area is thickly covered with brambles, ferns and man-ferns, and the soil is typical of rainforest, with no tell-tale mounds nor swampy ground found. However, a water race is still intact here, so evidently the ground has not been bulldozed flat, though the area has been logged.

In the light of experience at other sites, the marshy ground down creek of the supposed 'old battery site' on the east side of the road, on the designated machinery reserve, was tested in several places with a hand auger up to a depth of a metre. Fine grey clayey material (with no anomalous gold grades) was found, but nothing appropriately sandy. It is possible the topsoil in the woods could be mixed with tailings. This possibility was further investigated with the able assistance of Bill Bourke, of the Department of Environment and Planning on the 26<sup>th</sup> July. We found the same dark grey-brown, rather sandy soil Andrew Swain and I found in May, establishing it covers an elongated area in the woodlands which corresponded loosely with the direction of the creek line. This 'soil' is anomalous in this area, where the normal soil is red-brown and has a strong component of sandstone pebbles, which are characteristically brick red from iron oxide staining. The dark grey-brown soil we suspect is



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Mathinna & South Dan's Rivulet  
 Location of known tailings dumps  
 Scale 1:25,000



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Tower Hill Area, EL 22/92  
 Location of known tailings dumps  
 Scale 1:25,000

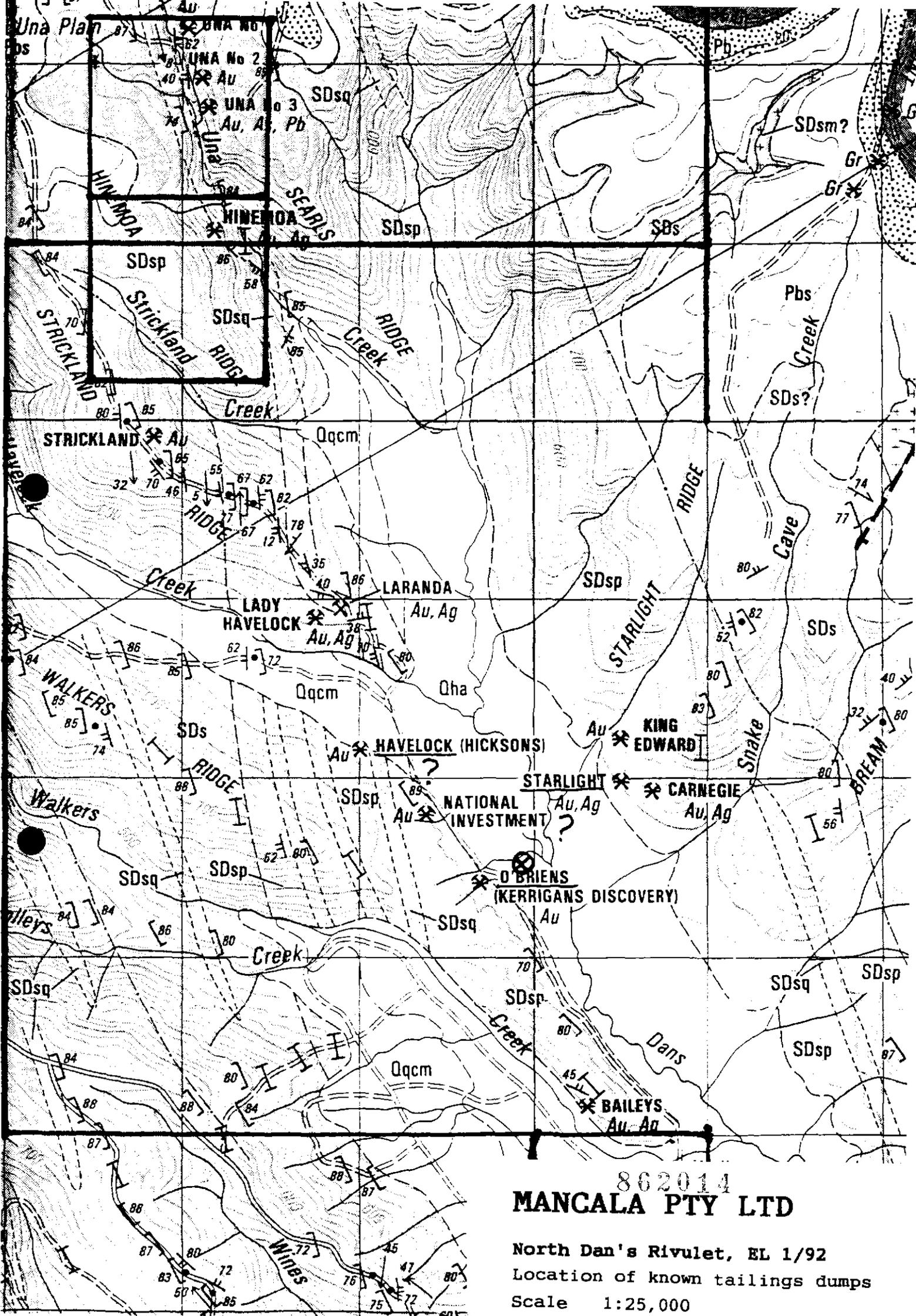
tailings, or mixed soil and tailings, has a minor component of small (<1cm) pebbles with the occasional larger pebbles up to 2.5cm of weathered sandstone which break open red-brown with iron oxide. It has no component of quartz visible to the naked eye. The depth of this grey-brown soil is up to 0.3m. There could be about 600t of it in that area. The best of the samples Andrew and I took here was 0.8g/t Au.

The site of a third battery, the southernmost of the three marked on the Warrentinna South plan of Blake (1934), can be identified in another machinery reserve, east of the road, on pasture land, also owned by David Brown, beside a dam. The tailings of this battery were, in the memory of Okie Reeves, garage proprietor of Brankholm, in mounds which have since been flattened by bulldozer and distributed to make way for pasture. They were described as "grey, like your shirt". A thin non-continuous topsoil of this description was found east of the dam by the road, on Whiskey Creek, on both sides of the railway line. This looks quite similar to the soil found in the woods, back across the road, that Bill Bourke and I decided must be the tailings we sought. It is impossible to estimate a tonnage for these patches, as the disturbance is comprehensive. Besides, the grey material assayed only up to 0.1g/t.

### 2.1.3 Mathinna Area and Dan's Rivulet.

In the Mathinna area, within EL 17/92 (held by Alex White), dumps are reported at the Golden Gate (of course), City of Hobart, Volunteer Consolidated and New Eldorado. Presumably these are destined to be treated by the plant being erected at Mathinna. I did not venture to sample these dumps as they were behind gates and evidently on private land, as well as being on Alex White's EL.

In EL 22/92, the dumps of the Twilight, Volunteer and New



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North Dan's Rivulet, EL 1/92  
 Location of known tailings dumps  
 Scale 1:25,000

Golden King were found as definite mounds and were sampled. The City of Melbourne Mine tailings were positively identified on Delvin Flat, beside Dan's Rivulet, well east of the mine. The tailings here are of material that came also from the nearby King Solomon, Heaton, Bright Star, Lady Mary and True Blue mines (H. Rayner, pers. comm.).

Three dumps are reported in the upper Dans Rivulet area, in EL 1/92, at O'Brien's, Havelock and Starlight Mines. These apparently have material from other mines in the area: Laranda, Lady Havelock, National Investment, King Edward and Carnegie.

To date, only the dump of O'Brien's has been positively identified, in marshy ground. A similar environment close to Starlight Mine was tested but only clayey grey material could be found in three extended sorties. One result from the vicinity of Starlight, at 0.78g/t, is encouraging but not necessarily indicative of a tailings dump.

Nothing at all of Havelock tailings could be found. Heck Rayner said they had been scattered. The flat ground in front of all the mines in this area has been much disturbed and turned to pasture. This also applies to O'Brien's, but evidently the tailings were not so distributed as to be unrecognisable, and they gave encouraging results (average 4.1g/t).

#### 2.1.4 Mangana and Southern EL 22/92.

In the southern part of EL 22/92, dumps were reported at the Miami and Buckland Mines.

In search for the Miami tailings, three sites were tested. The first was in the pasture paddock north of the mine (again, checked on past experience, as of the City of



Melbourne), where a patch of thistles marked a fairly uniform textured sandy grey soil, which elsewhere was stony and less even in texture. The second site was an extended creek-like depression in woods next to the paddock, where was a small mound of buff coloured uniform sandy material, similar to that found at Twilight and New Golden King. Some more of this material was found beneath an uprooted tree nearby. The third site investigated was at the dam at Miami Park, which made sense as a site for a battery, being down hill of, and closer to the mine, with a water supply. There was a 'beach' of quartz sand and grit by the dam, which might have been brought there by the Forestry Department. Nevertheless, it was sampled, and assayed as sand would,  $<0.1\text{g/t Au}$ . The results indicate that none of these sites is the Miami tailings dump. Being in a pine plantation, the ground has been greatly disturbed, and indications of direction of transport of ore from the mine, except for the track to it, have been totally obscured. I have since learned that the Forestry Department had a habit of using tailings for road material, and this was the fate of the Miami tailings.

The reported tailings of Buckland Mine (and presumably of the other mines nearby: Alpine, Cardinal and Richardson's) were thought also to be quite well removed from the mines, which are up on a ridge. No signs of tailings could be found in the valley or creek below the Buckland Mine. In a paddock on the south side of Richardson's Creek, east of the bridge across the creek, is a concrete emplacement which might have supported a battery, in front of which is an area of distinct red-brown, fairly uniform sandy textured 'soil' which, can be seen exposed in the river bank. This looked similar to the tailings of Twilight and New Golden King, though more compressed than these. This impression was not supported by the assays of five samples, which were all below detection limit of the laboratory's fire assaying method. This area has not been planted with pines, so there is a chance the real tailings are still relatively undisturbed. Mike Phelan of

Zeehan, Mangana born and bred, gave me another idea where to look. This I did, but found nothing that looked different from the normal stony soil of the valley floor. One must conclude that the uniform red-brown 'soil', which is an anomalous soil for the area, is indeed the tailings.

In Alex White's EL 18/92, Mangana Golden Reefs, Golden Entrance and Fingal Mines have dumps reported. One would presume these too are destined for treatment by the plant at Mathinna. Since the holder of the EL lives at Mangana, I refrained from sampling the dumps.

**3. RESULTS**

The results of the sampling programme are summarised in Table 2. This should be compared with Table 1.

**Table 2: Gold Mines Tailings Dumps.**

<b>Mine</b>	<b>Tonnes</b>	<b>g/t Au</b>
Ringarooma United	800	3.28
Long Struggle	<50	0.86
Mt Victoria	6,000	2.02
Golden Mara (Brown's dam side)	600	2.31
City of Melbourne	800	3.83
New Golden King	1,600	6.80
Twilight	<5,000	1.00
Volunteer	<10,000	0.80
O'Brien's	1,300	4.10
Starlight	<600	0.78
Buckland	1,400	0.06
<b>Total available dumps</b>	<b>28,150</b>	<b>1.74</b>

See also Lotus Tables 1 to 13, which provide the data for this and following tables, in the Appendix.

## 4. CONCLUSIONS

### 4.1 Findings

Investigations to date have not been completely successful in finding all the tailings dumps reported by the Mines Department. The list of dumps was compiled (anon.) some years ago, apparently on reported production information rather than field investigation (Ralph Bottrill, pers. comm.). So the list is theoretical rather than factual. Nevertheless it has been a useful guide on which to base the search.

Out of 9 listed (apart from Warrentinna and Alberton) that are of potential interest to Mancala, five have been positively located and sampled. The other four have resisted repeated attempts to locate them, as have also those of the Golden Mara (except for one dump) and Long Struggle.

### 4.2 Economic Potential

See Lotus Table 13 for a summary of valid dumps and operation of cut-offs.

Clearly, the grade of many of these dumps is too low to make retreatment economic: those below 1g/t, for instance.

**Table 3: Gold Mines Tailings Dumps, cut-off 1g/t Au.**

<b>Mine</b>	<b>Tonnes</b>	<b>g/t Au</b>
Ringarooma United	800	3.28
Mt Victoria	6,000	2.02
Golden Mara (available)	600	2.31
City of Melbourne	800	3.83
New Golden King	1,600	6.80
O'Brien's	1,300	4.10
Twilight	5,000	1.00
<b>Total available dumps</b>	<b>16,100</b>	<b>2.51</b>

Then, the Mt Twilight tailings, averaging 1.00g/t could be eliminated:

**Table 4: Gold Mines Tailings Dumps, cut-off 2g/t Au.**

Mine	Tonnes	g/t Au
Ringarooma United	800	3.28
Mt Victoria	6,000	2.02
Golden Mara (as known)	600	2.31
City of Melbourne	800	3.83
New Golden King	1,600	6.80
O'Brien's	1,300	4.10
<b>Total available dumps</b>	<b>11,100</b>	<b>3.19</b>

Deducting Mt Victoria and Golden Mara:

**Table 5: Gold Mines Tailings Dumps, cut off 3g/t Au.**

Mine	Tonnes	g/t Au
Ringarooma United	800	3.28
City of Melbourne	800	3.83
New Golden King	1,600	6.80
O'Brien's	1,300	4.10
<b>Total available dumps</b>	<b>4,500</b>	<b>4.87</b>

Or the tailings in EL 22/92 are unavailable:

**Table 6: Available Gold Mines Tailings Dumps, cut-off 3g/t Au.**

Mine	Tonnes	g/t Au
Ringarooma United	800	3.28
O'Brien's	1,300	4.10
<b>Total available dumps</b>	<b>2,100</b>	<b>3.79</b>

With Golden Mara (as presently known) added:

**Table 7: Available Gold Mines Tailings Dumps, cut-off 2g/t Au.**

<b>Mine</b>	<b>Tonnes</b>	<b>g/t Au</b>
Ringarooma United	800	3.28
Golden Mara (available)	600	2.30
O'Brien's	1,300	4.10
<b>Total available dumps</b>	<b>2,700</b>	<b>3.46</b>

**APPENDIX**

**LOTUS PRODUCED TABLES:**

**TABLES 1 - 13**

**TABLE 1: RINGAROOMA UNITED TAILINGS SAMPLING.**

72534	16-Sep-93	Ringarooma United	Tailings	Au	8.780	ppm	
72535	16-Sep-93	Ringarooma United	Tailings	Au	4.070	ppm	
72536	16-Sep-93	Ringarooma United	Tailings	Au	1.760	ppm	
72537	16-Sep-93	Ringarooma United	Tailings	Au	2.200	ppm	
72538	16-Sep-93	Ringarooma United	Tailings	Au	1.630	ppm	
72539	16-Sep-93	Ringarooma United	Tailings	Au	1.820	ppm	
72540	16-Sep-93	Ringarooma United	Tailings	Au	9.340	ppm	
72541	16-Sep-93	Ringarooma United	Tailings	Au	2.670	ppm	
R001	20-Aug-93	Ringarooma United	Tailings	Au	3.310	ppm	
R001a	20-Aug-93	Ringarooma United	Tailings	Au	3.340	ppm	
R002	20-Aug-93	Ringarooma United	Tailings	Au	2.060	ppm	rpt 2.33
R003	20-Aug-93	Ringarooma United	Tailings	Au	2.840	ppm	
R004	20-Aug-93	Ringarooma United	Tailings	Au	1.540	ppm	
R005	20-Aug-93	Ringarooma United	Tailings	Au	0.589	ppm	
R005a	20-Aug-93	Ringarooma United	Tailings	Au	3.070	ppm	
73423	16-May-94	Ringarooma United	Sandy white and grey tailings.	Au	2.400	ppm	rpt 2.40
73424	16-May-94	Ringarooma United	Sandy white and grey tailings.	Au	5.500	ppm	rpt 4.90
73425	16-May-94	Ringarooma United	Sandy white and grey tailings.	Au	0.480	ppm	
73426	16-May-94	Ringarooma United	Fine grey clayey soil: fines?	Au	0.100	ppm	
73427	16-May-94	Ringarooma United	Coarse quartz grit tailings.	Au	3.000	ppm	
73428	16-May-94	Ringarooma United	Cream and white coarse sand tailings.	Au	8.300	ppm	
		Average		Au	3.276	ppm	

<b>TABLE 2: MT VICTORIA MINE TAILINGS SAMPLING.</b>						
72977	03-Jan-94	Mt Victoria Mine	Tailings	Au	1.900	ppm
72978	03-Jan-94	Mt Victoria Mine	Tailings	Au	4.110	ppm
72979	03-Jan-94	Mt Victoria Mine	Tailings	Au	2.870	ppm
72980	03-Jan-94	Mt Victoria Mine	Tailings	Au	2.100	ppm
72981	03-Jan-94	Mt Victoria Mine	Tailings	Au	2.200	ppm
72982	03-Jan-94	Mt Victoria Mine	Tailings	Au	2.300	ppm
72983	03-Jan-94	Mt Victoria Mine	Tailings	Au	2.100	ppm
72984	03-Jan-94	Mt Victoria Mine	Tailings	Au	2.700	ppm
73429	16-May-94	Mt Victoria Mine	Grey tailings near the 'costean'.	Au	2.100	ppm
73430	16-May-94	Mt Victoria Mine	Grey fines/clay at <0.5m depth: not tailings.	Au	0.130	ppm
73431	16-May-94	Mt Victoria Mine	Grey sandy tailings <0.7m depth.	Au	2.300	ppm
73432	16-May-94	Mt Victoria Mine	Grey sandy tailings from Norm's hole.	Au	1.200	ppm
73433	16-May-94	Mt Victoria Mine	Grey sandy tailings from NW corner of tippet.	Au	0.250	ppm
		Average		Au	2.020	ppm
<b>TABLE 3: LONG STRUGGLE MINE TAILINGS SAMPLING.</b>						
73043	22-Feb-94	Long Struggle Mine	Tailings?	Au	0.050	ppm
73044	21-Feb-94	Long Struggle Mine	Tailings	Au	1.600	ppm
73045	21-Feb-94	Long Struggle Mine	Tailings	Au	1.100	ppm
73046	22-Feb-94	Long Struggle Mine	Tailings mixed with soil.	Au	0.570	ppm
73047	22-Feb-94	Long Struggle Mine	Tailings	Au	1.000	ppm
		Average		Au	0.864	ppm

**TABLE 4: GOLDEN MARA MINE TAILINGS SAMPLING.**

				Au		ppm
				Au		ppm
72503	23-Aug-93	Golden Mara	Tailings 1	Au	2.800	ppm
72504	23-Aug-93	Golden Mara	Tailings 2	Au	0.060	ppm
72505	23-Aug-93	Golden Mara	Tailings 3	Au	2.230	ppm
72506	23-Aug-93	Golden Mara	Tailings 4	Au	2.640	ppm
72507	23-Aug-93	Golden Mara	Tailings 5	Au	1.550	ppm
73452	18-May-94	Golden Mara	Grey, fairly uniform sandy soil.	Au	0.080	ppm
73453	18-May-94	Golden Mara	Grey, fairly uniform sandy soil.	Au	0.100	ppm
73454	18-May-94	Golden Mara	Grey, fairly uniform sandy soil.	Au	0.450	ppm
73455	18-May-94	Golden Mara	Grey, fairly uniform sandy soil.	Au	0.530	ppm
73456	18-May-94	Golden Mara	Grey, fairly uniform sandy soil.	Au	0.800	ppm
73487	17-Jun-94	Golden Mara	In marsh E. of road: pale grey and orange clay 0.8-1m depth: fines?	Au	0.030	ppm
73488	20-Jun-94	Golden Mara	S. battery E. of dam: grey sandy soil/tailings?	Au	0.030	ppm
73489	20-Jun-94	Golden Mara	S. battery site, E. of railway: dark grey sandy soil/tailings?	Au	0.100	ppm
73490	20-Jun-94	Golden Mara	S. battery E. of dam: grey sandy soil/tailings?	Au	0.030	ppm
73491	26-Jul-94	Golden Mara	Dark grey-brown sandy soil with sandstone pebbles: tailings?	Au		ppm
73492	26-Jul-94	Golden Mara	Dark grey-brown sandy soil with Fe stained sst pebbles: tailings?	Au		ppm
73493	26-Jul-94	Golden Mara	Dark gry-brn sandy layerd soil with Fe stnd sst pebbles: tailings?	Au		ppm
73494	26-Jul-94	Golden Mara	Dark grey-brown slightly sandy soil: tailings?	Au		ppm
73495	26-Jul-94	Golden Mara	Dark grey-brown & lt gry slightly sandy soil sst pebbles: tailings?	Au		ppm
73496	26-Jul-94	Golden Mara	Dark grey-brown slightly sandy soil: tailings?	Au		ppm
		Average		Au	0.572	ppm

**TABLE 5: TWILIGHT MINE TAILINGS SAMPLING.**

73434	18-May-94	Twilight Mine	Red-brown fine sandy tailings.	Au	1.250	ppm	
73435	18-May-94	Twilight Mine	Red-brown fine sandy tailings.	Au	0.840	ppm	
73436	18-May-94	Twilight Mine	Red-brown fine sandy tailings.	Au	0.930	ppm	
73437	18-May-94	Twilight Mine	Red-brown fine sandy tailings.	Au	2.000	ppm	rpt 0.93
73438	18-May-94	Twilight Mine	Red-brown fine sandy tailings with some white sand.	Au	0.250	ppm	
73439	18-May-94	Twilight Mine	Red-brown fine sandy tailings with some white sand.	Au	0.750	ppm	
73440	18-May-94	Twilight Mine	Red-brown fine sandy tailings with some white sand.	Au	0.430	ppm	
73441	18-May-94	Twilight Mine	Red-brown fine sandy tailings with some white sand.	Au	1.300	ppm	
73484	17-Jun-94	Twilight Mine	1m deep beneath site of sample No 73435, above.	Au	0.550	ppm	
73485	17-Jun-94	Twilight Mine	0.4-0.6m depth in tailings mound: tan sand/tailings.	Au	1.380	ppm	
73486	17-Jun-94	Twilight Mine	Tan sand/tailings in mound.	Au	1.330	ppm	rpt 0.95
		Average		Au	1.001	ppm	

**TABLE 6: VOLUNTEER MINE TAILINGS SAMPLING.**

73443	18-May-94	Volunteer Mine	Grey sandy tailings with light brown 'pellets' of finer material.	Au	0.780	ppm	rpt 0.68
73444	18-May-94	Volunteer Mine	Grey sandy tailings with light brown 'pellets' of finer material.	Au	0.600	ppm	rpt 0.50
73445	18-May-94	Volunteer Mine	Grey sandy tailings with light brown 'pellets' of finer material.	Au	0.580	ppm	
73446	18-May-94	Volunteer Mine	Grey sandy tailings with light brown 'pellets' of finer material.	Au	1.250	ppm	
		Average		Au	0.803	ppm	

**TABLE 7: NEW GOLDEN KING MINE TAILINGS SAMPLING.**

73448	18-May-94	New Golden King	Red-brown sandy tailings like those of Twilight Mine.	Au	6.610	ppm	
73449	18-May-94	New Golden King	Red-brown sandy tailings like those of Twilight Mine.	Au	6.500	ppm	
73450	18-May-94	New Golden King	Red-brown sandy tailings like those of Twilight Mine.	Au	7.500	ppm	
73451	18-May-94	New Golden King	Red-brown sandy tailings like those of Twilight Mine.	Au	6.600	ppm	
		Average		Au	6.803	ppm	

TABLE 8: O'BRIENS MINE TAILINGS SAMPLING.							
73458	10-Jun-94	O'Brien's Mine	Dark grey-brown clayey fines from marshy ground: tailings?	Au	0.130	ppm	
73459	10-Jun-94	O'Brien's Mine	Light grey and brown clayey fines from marshy ground: tailings?	Au	0.030	ppm	
73460	10-Jun-94	O'Brien's Mine	Tan and grey sandy tailings in marshy ground.	Au	3.200	ppm	3.200
73461	10-Jun-94	O'Brien's Mine	Tan sandy tailings in marshy ground.	Au	2.200	ppm	2.200
73462	10-Jun-94	O'Brien's Mine	Light grey sandy tailings in marshy ground.	Au	6.900	ppm	6.900
		Average	Proper tailings average: 4.10g/t Au.	Au	2.492	ppm	4.100
TABLE 9: CITY OF MELBOURNE MINE & OTHER MINES TAILINGS SAMPLING.							
73447	18-May-94	City of Melbourne	Light grey sandy soil near minesite.	Au	1.180	ppm	
73464	10-Jun-94	City of Melbourne	Tan sandy tailings on Delvin Flat (site of battery by Dan's Rivulet.)	Au	3.500	ppm	3.500
73465	10-Jun-94	City of Melbourne	Tan sandy tailings on Delvin Flat.	Au	3.400	ppm	3.400
73466	10-Jun-94	City of Melbourne	Brown sandy tailings(?) on Delvin Flat.	Au	0.100	ppm	
73467	10-Jun-94	City of Melbourne	Brown soil and sandy tailings(?) on Delvin Flat.	Au	4.600	ppm	4.600
		Average	Proper tailings average: 3.833g/t Au.	Au	2.556	ppm	3.833

<b>TABLE 10: STARLIGHT MINE TAILINGS SAMPLING.</b>						
73468	16-Jun-94	Starlight Mine	From marsh: grey, clayey fines: tailings.	Au	0.150	ppm
73469	16-Jun-94	Starlight Mine	From marsh: grey clayey fines with orange lumps: tailings?	Au	0.050	ppm
73470	16-Jun-94	Starlight Mine	From marsh: grey and orange clayey fines: tailings?	Au	0.080	ppm
73471	16-Jun-94	Starlight Mine	From marsh: grey-brown clayey fines: tailings?	Au	0.780	ppm
		Average	<b>Proper tailings: 0.780g/t Au.</b>	Au	0.265	ppm
<b>TABLE 11: MIAMI MINE: ATTEMPTED SAMPLING OF TAILINGS (NONE VALID AS TAILINGS).</b>						
73472	16-Jun-94	Miami: thistle patch	Grey-brown soil in limited area of the same soil type: tailings?	Au	0.050	ppm
73473	16-Jun-94	Miami: thistle patch	Grey-brown sandy soil of the same type: tailings?	Au	0.040	ppm
73474	16-Jun-94	Miami: bush mound	Buff fine sand from a mound 2m diameter: tailings?	Au	0.030	ppm
73475	16-Jun-94	Miami: bush	Buff fine sand /soil exposed by fallen tree's roots: tailings?	Au	0.050	ppm
73476	16-Jun-94	Miami: bush	Grey-brown soil/sand: tailings?	Au	0.050	ppm
73477	16-Jun-94	Miami Park	Buff quartz sand (perhaps carted to site).	Au	0.100	ppm
73478	17-Jun-94	Miami Park	Grey coarse quartz sand/grit (perhaps carted to site).	Au	0.080	ppm
		Average		Au	0.057	ppm
<b>TABLE 12: BUCKLAND &amp; OTHER MINES (SUPPOSED) TAILINGS SAMPLING.</b>						
73479	17-Jun-94	Buckland Mine	Red-brown sandy soil/tailings devoid of stones, beneath paddock.	Au	0.130	ppm
73480	17-Jun-94	Buckland Mine	Dark red-brown sandy soil/tailings, as above.	Au	0.040	ppm
73481	17-Jun-94	Buckland Mine	Red-brown sandy soil/tailings as above.	Au	0.040	ppm
73482	17-Jun-94	Buckland Mine	Red-brown sandy soil/tailings as above.	Au	0.040	ppm
73483	17-Jun-94	Buckland Mine	Red-brown sandy soil/tailings as above.	Au	0.040	ppm
		Average		Au	0.058	ppm

**TABLE 13: SUMMARY OF AVAILABLE VALID TAILINGS SAMPLED.**

		Tons		Grade	
Ringarooma United Mine Tailings	Sandy grey and minor white tailings and minor fines.	800	Au	3.276	ppm
MT Victoria Mine Tailings	Grey sandy tailings and some fines.	6000	Au	2.020	ppm
Long Struggle Mine Tailings	Sandy tailings and soil mix.	50	Au	0.864	ppm
Golden Mara Mine Tailings	Valid sandy tailings.	600	Au	2.305	ppm
Twilight Mine Tailings	Red-brown and tan sandy tailings.	5000	Au	1.001	ppm
Volunteer Mine Tailings	Grey sandy tailings with brown mud pellets.	10000	Au	0.803	ppm
New Golden King Mine Tailings	Red-brown sandy tailings.	1600	Au	6.803	ppm
O'Briens Mine Tailings	Tan and light grey sandy tailings.	1300	Au	4.100	ppm
City of Melbourne Mine et al Tailings	Light grey, tan and brown sandy tailings.	800	Au	3.833	ppm
<b>Simple average:</b>		<b>26150</b>	<b>Au</b>	<b>2.778</b>	<b>ppm</b>
<b>Weighted average:</b>		<b>26150</b>	<b>Au</b>	<b>1.854</b>	<b>ppm</b>
<b>Cut-off at 1g/t Au.</b>		<b>16100</b>	<b>Au</b>	<b>2.510</b>	<b>ppm</b>
<b>Cut-off at 2g/t Au.</b>		<b>11100</b>	<b>Au</b>	<b>3.190</b>	<b>ppm</b>
<b>Cut-off at 3g/t Au.</b>		<b>4500</b>	<b>Au</b>	<b>4.867</b>	<b>ppm</b>

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