

955001

ARGYLE MINERALS N.L.

E.L. 32/85

LISLE - GOLCONDA

ANNUAL REPORT

YEAR 1

(to 10/12/86)

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1/. INTRODUCTION

Argyle Developments Pty. Ltd. was awarded the Lisle-Golconda area EL32/85 (Fig. 1) on December 10, 1985. The area had previously been held by BP-Seltrust, who had explored the possibility of granites hosting disseminated gold, without success.

Argyle viewed both the hard rock and alluvial gold plays as prospective. Even though the best alluvial ground (in the Lisle Basin) on the licence area was held by others under mining lease, Argyle regarded the smaller alluvial and hard rock workings as worthy of further investigation.

The company's aim in Year 1 was to do a rapid reassessment of the old worked areas in the district and in Year 2 to concentrate on individual prospects.

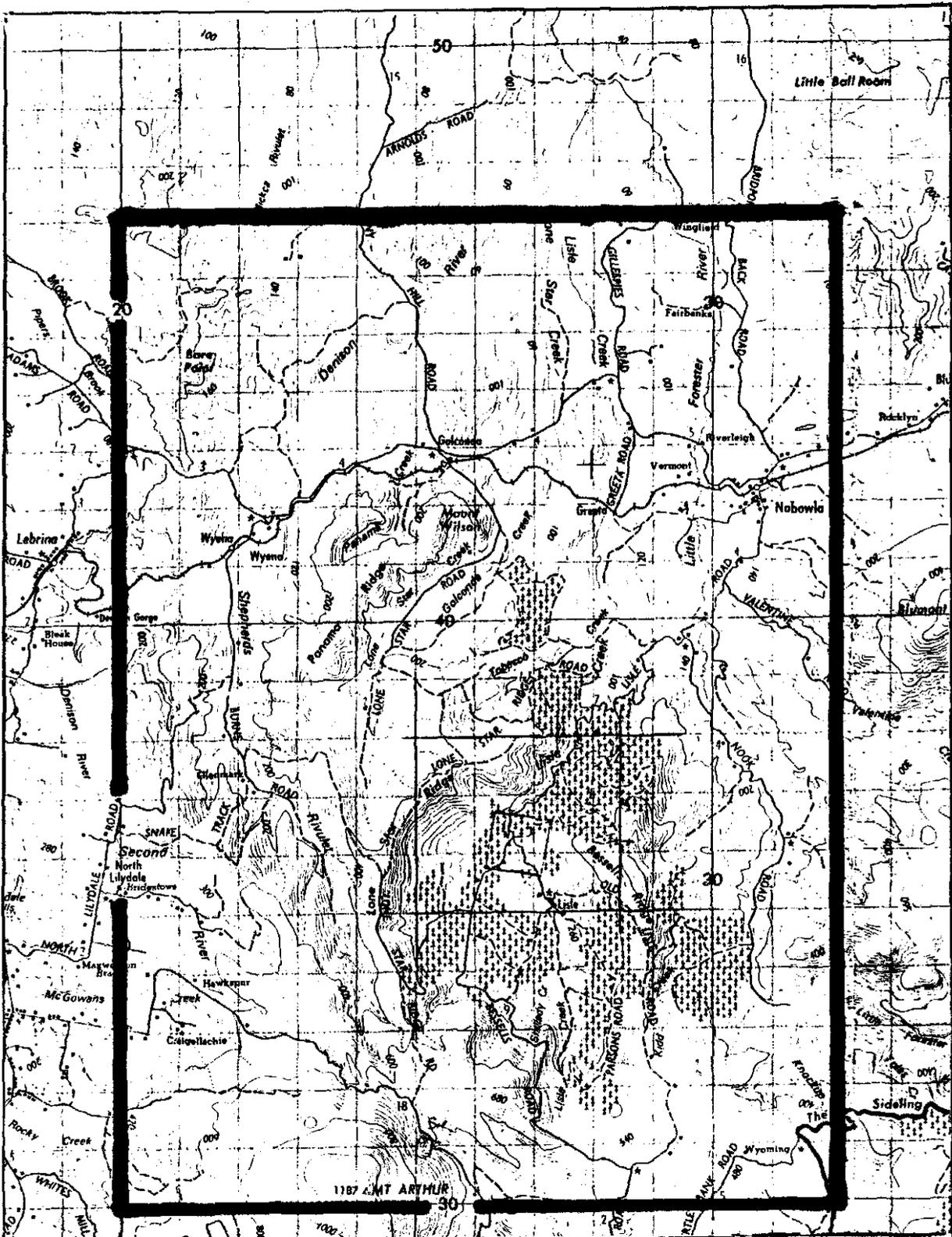
The initial exploration programme was managed by W.C. Cromer and K.C. Morrison, and most of the field work was done by P. Sansom, an independent geologist employed by W.C. Cromer Pty. Ltd. Argyle employed two local prospectors on a part-time basis.

Towards the end of Year 1, Argyle Developments Pty. Ltd. changed its name to Argyle Minerals N.L. W.C. Cromer Pty. Ltd. is now employed from time to time as consultants.

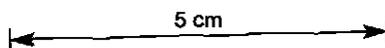
2/. PRELIMINARY ASSESSMENT OF THE E.L.

Argyle initially conducted a library search of previous reports on the area. Several Department of Mines publications deal with specific prospects (eg. Lisle Basin, Golconda), and the previous BP-Seltrust relinquishment report summarises most of these. A summary of the known fields and prospects in the area is presented as Appendix 1. Appendix 2 is an initial assessment of the Denison Golconda and Panama Fields.

Figure 2 shows the general geology of the E.L., taken from published Mines Department mapping and Fig. 3 shows potential and known prospects from Appendix 1.



EL 32/85 LOCATION MAP 199km²
 1:100000



ARGYLE MINERALS N.L.

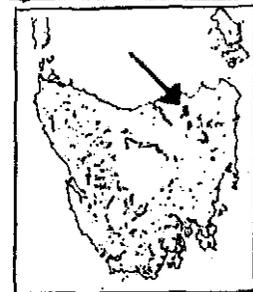


FIGURE 1

3/. AERIAL PHOTO-INTERPRETATION

Interpretation was done on 1:40000 colour photos prior to field work and sampling. The reasons for the survey were two fold:-

- (a) Previous exploration for alluvial gold has presumably been confined to the present day drainage pattern. If deep leads exist they may not necessarily be related to the current drainage pattern and might therefore offer potential for the presence of gold-bearing sediments. Previous drainage patterns can best be recognised by studying aerial photographs with follow-up field work.
- (b) Structural trends and igneous bodies which may influence the occurrence of gold can be recognised from aerial photographs.

The main findings from the study are:-

(a) Present day drainage pattern:

Drainage of major streams is northward:- Little Forester River, Lisle Creek, Golconda Creek, Panama Creek, and Denison Rivulet. These streams are sourced from higher ground to the south and are typically underfit i.e., they are flowing within a wide flat floored valley not in proportion to the size of their channel. Their channels meander across their valley floors.

There is little evidence to suggest that these streams are actively eroding at the present time.

Alluvial deposits in these valleys have not been deposited under the present fluvial regime.

Past Drainage:

Evidence for recent past drainage patterns consists of cut-off meanders and oxbow lakes. These are related to the present fluvial regime.

Numerous valley sides show evidence of meander curves cut into the valley sides. This indicates the valley confining the present day channel has been cut under

an active fluvial regime when lateral and vertical cutting were the dominant fluvial processes operating.

There is evidence for abandoned fluvial type channels cutting across low hills near the confluence of the Little Forester River and Valentines Creek.

North of the Tasman Highway isolated low hills of bedrock project above the alluvium filled valleys. There is a suggestion that there could be a considerable thickness of alluvial material in these marshy areas.

There is little evidence for structural control on the drainage pattern except in the Golconda Creek area where a major lineament appears to control the direction of Golconda Creek.

Gorge-like features partly infilled with sediment occur on the Little Forester River and on the Denison Rivulet near Wyena.

(b) Conclusions:

No obvious large paleochannels outside present day valleys appear to exist.

North of the Tasman Highway marshy areas may be underlain by old alluvial material.

Present valleys probably contain substantial volumes of alluvial material.

(c) Implications for Exploration:

Large quantities of possible gold-bearing sediment may be contained in valleys that have streams sourcing in known gold-bearing areas.

Under considerably more active fluvial regimes gold may have been transported north of its source areas to be deposited in paleochannels especially upstream from gorge areas.

The bulk of the alluvial material may be of Tertiary-early Quaternary age with Recent erosion and deposition reworking these older sediments.

Most but not all of these sediments occur on developed

Recommendations:

There should be an examination of these valleys and marsh areas for evidence of sediment volume, composition, age and presence of gold.

Field examination of other areas identified eg., Golconda Creek area for evidence of alluvial gold.

4/. INITIAL RECONNAISSANCE FIELD WORK AND SAMPLING

Forty-six surface grab samples from known hard-rock (non-alluvial) areas were assayed for gold. Results were generally poor but not necessarily discouraging. Best results averaging 7g/t (6 samples) were from the Golconda area. Denison River assays were very low, averaging less than 0.1g/t. Sample locations are shown in Fig. 4, and results tabulated in Appendix 3. ✓

General comments on reconnaissance field visits to the most prospective areas are as follows:-

- (a) LEBRINA MINE: There was no success in locating the workings associated with the Lebrina Mine. Under Argyle's instructions two prospectors spent a day searching for the workings and panning Drinkwater Creek. They reported they could not locate the mine but did find colours in their traverse up Drinkwater Creek.
- (b) DENISON FIELD: This area is accessible via new Forestry Roads. Having been burnt out last summer (1984) the area is also covered by numerous tracks constructed to fight the bushfire.

Most of the mines and prospects on the Denison Field were visited but there is uncertainty as to which mines correspond to the mines in Reid's 1926 report.

Grab samples were taken from the Wiangatta Mine and "Jim's Costean".

Initial impressions were that the Denison Field was worthy of more detailed investigations as the presence of sulphide bearing quartz at several of the mines indicates that mineralising (gold-bearing?)

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5/.

solutions were present in this area. (If gold is associated with the sulphidesthen geophysics could well be a useful exploration tool).

- (c) PANAMA FIELD: Access is by 4 wheel drive track heading SW from Golconda for about 2km to Nabowla (239410). Vegetation is mainly open forest with thick scrub adjacent to creeks and on the valley floor at Panama. Mathinna Beds form the valley sides with granite (reported, but not observed) underlying the valley floor. Three metres of alluvial material are present in Panama Creek at Nabowla (238410) but no gold was recovered in three pans of this material.

Previous Mining Activity: Near the end of the access track about 12 shafts up to 25m depth and some costeans occur within a 2.5 hectare area. Four shafts have been sunk within 50m on a bearing of 340°. Two adits possibly 100m long with large mullock heaps have been driven on the side of the valley. These have been driven on quartz and sulphide bearing quartz veins within the Mathinna Beds. Samples were taken for assay.

In contrast to the Denison Field very little vein quartz occurs on the ground surface at Panama. While presumably gold-bearing veins must have been followed in the adits and shafts, the lack of vein quartz on the ground surface suggests that mineralisation is not as extensive as at the Denison Field

The alluvial deposits would require costeaning to determine their prospectivity. Extensive costeaning would also be needed to locate and evaluate quartz (gold-bearing?) veins elsewhere on the field.

- (d) GOLCONDA FIELD: ^{5254 54418} Golden Crest Mine area: Access is obtained by a 4 wheel drive track ascending the steep northern slopes of Mt. Wilson. The track then continues along the ridge crest of Mt. Wilson. Vegetation is open forest on the northern slopes and ridge but is thick on the southern slopes.

007

Near the summit of Mt. Wilson costeans and shafts are associated with abundant quartz lying on the ground surface. A 10cm wide quartz vein is visible in the side of the shaft. There is no evidence of mineralisation in samples examined from the mullock heap.

Two hundred metres SW of Mt. Wilson more quartz occurs on the ground with a 50m long costean bearing SE down the side of the hill. Apparently there are reports of an adit in this vicinity but this was not located.

Samples were taken from both sites of mining activity.

The results of this initial assessment of the E.L. were presented in the first quarter report (to 30/2/86). The report concluded that exploration priorities for the remainder of the year should be:-

- (a) Golconda area (hard rock)
- (b) Denison area (hard rock and alluvial)

The Denison area was evaluated during the second and third quarter, although a wet winter hampered exploration.

5/. DENISON RIVER FIELD-ALLUVIAL ASSESSMENT

A reconnaissance bulk-sampling programme was done in Tertiary-Quaternary unconsolidated materials adjacent to known hard-rock gold occurrences. Several pits were dug by excavator, and representative samples were recovered and sent to the Department of Mines Laboratories in Launceston for screening, washing, crushing and assaying. Twelve bulk samples of surficial sediments (and two samples of vein quartz) were submitted.

The vein quartz and ten of the sediment samples contained traces of gold. Two of the sediment samples assayed 0.25 and 0.64 grms. per tonne (on dry basis). Moisture content of the sediment received was approximately 15% and Relative Density ranged from 1.5 to 1.7 tonnes per cubic metre.

Pit location are shown in Fig. 5, brief descriptions of each pit are Appendix 4, and assay procedures and results from the Department of Mines summarised in Appedix 5.

Only samples T10 and TX1 were considered encouraging. Further exploratory sampling was carried out in the vicinity of location T10 during the fourth quarter. Thirteen excavator pits were dug and sampled on site by panning. All locations are shown in Fig. 6 and results tabulated in Table 1.

TABLE 1. Evaluation of the Denison River Gold Prospect, E.L. 32/85

PIT	OVERBURDEN DEPTH (metres)	THICKNESS OF GRAVEL LAYER (cms)	GRADE OF PAY HORIZON (ozs per 100 m)
1	1.5	25	0
2	1.5	30	5
3	2.5	25	3
4	2.5	25	0
5	2.5	20	3
6	2.5	25	4
7	1.0	25	0
8	2.5	25	0
9	no gravel		
10	2.5	20	0
11	2.5	25	2
12	2.0	50	4
13	1.5	50	0

A layer of gold-bearing gravel, ranging in thickness from 20cm to 50cm is restricted about 300 metres of creek length and a width of about 20 metres. The creek bottom and banks have been worked by the old timers. With an average pay thickness of 300mm and a gold grade of 3ozs. per 100 cubic metres the probable recoverable gold reserve is about 50ozs. To win this gold about 12,000 cubic metres of overburden would need to be stripped prior to mining and treating the gold-bearing gravel.

6/. GOLCONDA FIELD - HARD ROCK ASSESSMENT

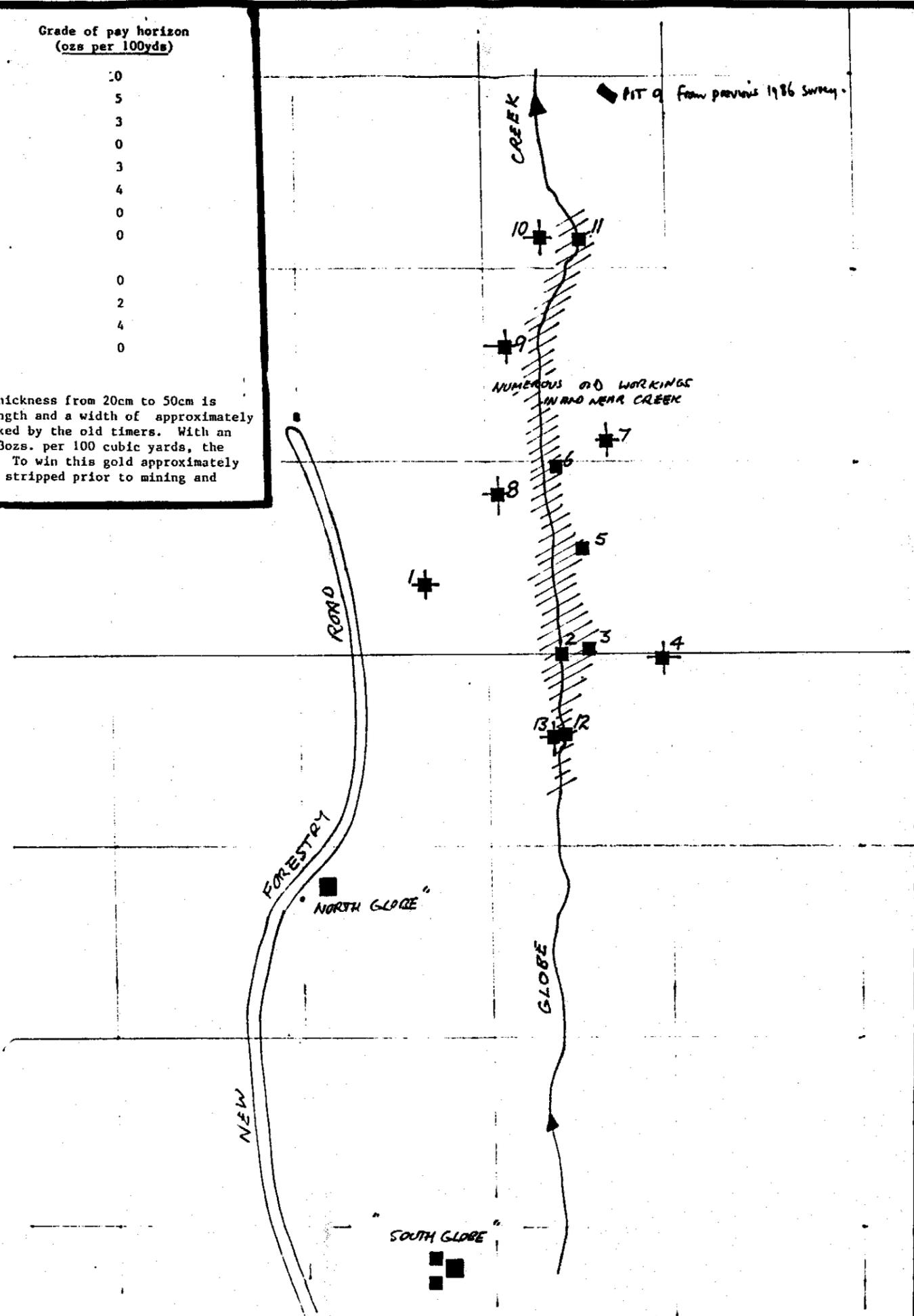
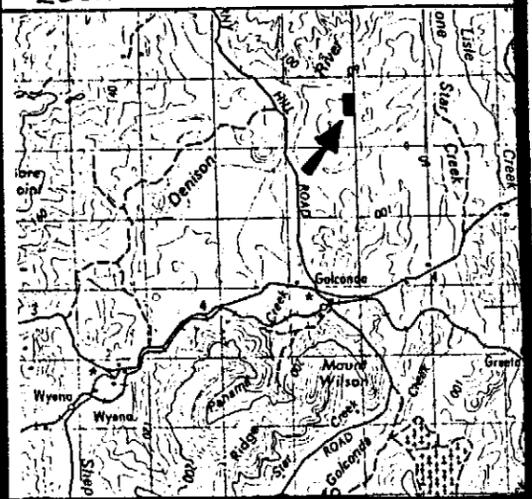
Preliminary assays of grab samples for Golconda were encouraging and a decision was made towards the end of Year 1 to investigate the area in more detail. Further grab samples returned high values - up to 62 g/t - from sulphide bearing vein quartz. Petrological notes on two samples from Golconda are presented in Appendix 6.

Pit	Overburden Depth (metres)	Thickness of gravel layer (cms)	Grade of pay horizon (ozs per 100yds)
1	1.5	25	10
2	1.5	30	5
3	2.5	25	3
4	2.5	25	0
5	2.5	20	3
6	2.5	25	4
7	1.0	25	0
8	2.5	25	0
9	NO GRAVEL		
10	2.5	20	0
11	2.5	25	2
12	2.0	50	4
13	1.5	50	0

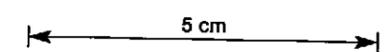
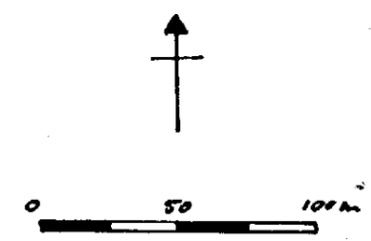
CONCLUSIONS.

A layer of gold-bearing gravel, ranging in thickness from 20cm to 50cm is restricted to approximately 300 metres of creek length and a width of approximately 20metres. The creek bottom and banks have been worked by the old timers. With an average pay thickness of 300m and a gold grade of 3ozs. per 100 cubic yards, the probable recoverable gold reserve is about 50ozs. To win this gold approximately 12,000 cubic metres of overburden would need to be stripped prior to mining and treating the gold-bearing gravel.

LOCALITY MAP 1:100000



APPROX
MAG. NORTH



OCTOBER 1986 PITS

- ✚ EXCAVATOR PIT: NO PANNED GOLD FROM WASH
- EXCAVATOR PIT: PANNED GOLD FROM WASH
- /// APPROXIMATE AREA UNDERLAIN BY WASH CONTAINING PANNABLE GOLD.

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ARGYLE MINERALS N.L.
E.L. 32/85
GLOBE CREEK, DENISON RIVER
PANNING RESULTS FROM PITS

83015/
OCT 1986

630

7/. PROPOSED YEAR 2 EXPLORATION PROGRAMME

Argyle Minerals accomplished most of its exploration aims in Year 1. (ie., mainly assessing alluvial gold prospects), and in Year 2 will concentrate on hard rock gold prospectivity.

In particular, known hard rock workings in Mathinna sediments at Golconda, Panama and Dension River will be explored. In each case, more surface sampling and assaying is needed before anomalous areas are drilled. It is probably that the Golconda area will be explored first, since samples collected from the area have consistently shown high, anomalous gold values. The Golconda exploration would probably include:

- : surface mapping and more reconnaissance sampling
- : systematic grid sampling over anomalous gold areas
- : diamond drilling and if appropriate, bulk samples.

The Golconda area is particularly interesting from a gold-origin view since granodiorite underlies the Mathinna Beds at relatively shallow depth and mapping and drilling might quickly indicate a relationship between the granodiorite and the gold bearing quartz veins in the Mathinna.

It is proposed that initial drilling, should it occur at Golconda, be fully cored, and logged and assayed, with this in mind. A single hole perhaps to 50-80m, is planned at this stage for Year 2.

8/. EXPENDITURE IN YEAR 1

Year 1 expenditure is summarised quarter by quarter in Table 2.

TABLE 2. Year 1 Expenditure

ITEM	QUARTERS				TOTAL	%TOTAL
	1	2	3	4		
Office admins. Fees	2052	800	1000	2500	6352	18
Geological (field/office)	4950	4125	1650	2500	13225	36
Travel/accommodation	327			1500	1827	5
Field assistance, wages		2000	1000	5200	8200	23
Equipment hire		2800		2183	4983	14
Assays, lab costs.	240		790	300	1330	3
TOTAL (\$)	\$7569	\$9725	\$4440	\$14183	\$35887	100%

APPENDIX 1.SUMMARY OF KNOWN GOLD PROSPECTS AND MINES EL 32/85A. PRIMARY (HARD ROCK AREAS)1/. LEBRINA FIELD

Gold bearing quartz veins previously worked by trenches and adits
200 tons of ore treated with 40 ounces of gold recovered.
Alluvial gold recovered from Drinkwater Creek which flows through
the area.

2/. DENISON FIELD

Gold bearing quartz veins up to 20 ounces/ton but generally less
than 3 ounces/ton
Eight small mines on the field.

3/. GOLCONDA FIELD

Gold bearing quartz veins within granite.
Several mines - Golden Crest Mine last worked in 1918, 773 tons of
ore treated, recovered 92 ounces of gold. Heavy loss of gold from
the milling and concentrating plant.
Kelly Prospect assayed at 13-27 dwt/ton.

4/. PANAMA FIELD

Gold bearing quartz veins up to 14 dwt/ton.
Numerous exploratory adits here have been driven on the quartz veins.

B. ALLUVIAL DEPOSITS1/. LEBRINA

Gold in alluvial deposits of Drinkwater Creek derived from gold
bearing quartz veins.

2/. CRADLE CREEK

Gold in beds of Cradle, Tobacco and nearby creek. 2000 ounces produced.

3/. LONE STAR BASIN

Similar to Lisle Basin, except gold is coarser.
Alluvial material up to 20m thick.
Gold bearing gravels reported as being restricted to a zone along
Lone Star Creek.

4/. LISLE BASIN

Workings along Lisle Creek and tributary creeks. Most gold bearing
ground now worked over although several areas probably not worked to
full depth of alluvials.
Some higher level deposits eg., near head of Bessells Creek.
Sampling in 1960 yielded 0.76-1.08 dwt/cubic yard.

APPENDIX 2.SUMMARY OF PROSPECTIVITY OF PRIMARY GOLD PROSPECTS, E.L. 32/85.

	DENISON FIELD	PANAMA FIELD	GOLCONDA FIELD
Access to area	fair	good	poor
Proximity to formed roads	0.2 - 1km	1 - 2.5km	1km
Distance to power (min.)	3km	2.5km	1km
Water availability on field	Excellent - Denison River	poor	none
Vegetation cover	Mainly open forest	Mixed open & thick scrub	Mixed open & thick scrub
Previous mining activity	Numerous shafts & costeans, adit	Several shafts, 2 adits	Several costeans shaft, adit
Gold occurrence - primary	sulphide & gold bearing quartz veins within Mathinna Beds	sulphide & gold bearing? quartz veins within Mathinna Beds	Quartz veins gold bearing? within Mathinna Beds
Gold occurrence - alluvial	Yes, approx. 125 hectares	Yes, approx. 10 hectares	none
Future exploration programme	costeaning geophysics drilling	costeaning	costeaning?
Prospect rating	good	fair	poor

X

PRELIMINARY GOLD ASSAY SURFACE GRAB SAMPLES EL 32/85

FIELD	DEPT. MINES REG. NO.	PROSPECT	FIELD NO.	AU (g/t)	DESCRIPTION
DENISON	851604	Wiangatta Mine	W1A	0.3	Quartz with minor crystalline quartz in sample. Micaceous lenses within quartz. Micaceous Mathinna Beds intruded by a 3cm wide quartz vein. Massive quartz with occasional Mathinna Bed lenses within the sample. No sulphides present. Massive quartzite with metamorphosed Mathinna Beds. Contains disseminated sulphide. Quartz veins to 1cm cut across the specimen. As above. Mathinna Beds with a pod of sulphide in a quartz cavity. Milky quartz with cavities filled by secondary ferruginous clayey material. Massive quartzite with metamorphosed Mathinna Beds. Contained disseminated sulphide. Four quartz veins cut across the specimen.
	605		W2A	0.3	
	606	Jim's Costean	DC1	0.3	
	607		DC2	0.4	
	608		DC3	1.2	
	609		DC4	1.9	
	610		DC5	0.3	
	611		DC6	1.1	
	851817	Jim's Costean	JC1		Quartz with disseminated sulphide
	818		JC2	0.1	Quartzite with quartz bands
	819		JC3	0.1	Mathinna Beds unmetamorphosed from the costean
	820		JC4	0.1	Massive quartz
	821		JC5	0.1	Mathinna Beds unmetamorphosed from the end of adit mullock heap.
	822	N. Globe Mine?	NG1	0.1	Mathinna Beds with quartz vein attached
	823		NG2	0.1	Massive crystalline quartz
	824		NG3	0.1	" " "
	825	S. Globe Mine	SG1	0.1	Quartzite with quartz vein
	826		SG2	0.1	" " veins
	827		SG3	0.1	Massive crystalline quartz
	828		SG4	0.1	Quartzite
	829	W. Globe Mine?	WG1	0.1	Quartzite with quartz vein
	839		WG2	0.1	" " " veins
	831		WG3	1.2	Vein quartz with some quartzite on the specimen
	832	Tertiary Locality (75)	DT1	0.1	Quartz with ferruginous staining on specimen
	833		DT2	0.1	" " " " " "
	834		DT3	0.1	Ironstone
GOLCONDA	835		DT4	0.1	" with quartz clasts
	836	Golden Crest Mine	G1	3.2	Quartz with minor amounts of Mathinna Beds
	837	5254 5448	G2	0.1	" " " " " " "
	838		G3	8.3	Quartz
	839		G4	1.0	Quartz with ferruginous bands
	840		G5	26.5	Mathinna Beds with a quartz vein on specimen
PANAMA	841		G6	0.3	" " " " " " " "
	842	5239 54411	P1	0.1	Grey Mathinna Beds, metamorphosed from the lower adit.
	843		P2	0.4	" " " " " " "
	844		P3	1.8	Grey metamorphosed Mathinna Beds with disseminated pyrite
	845		P4	0.1	Grey metamorphosed Mathinna Beds with disseminated pyrite from the lower adit.
	846		P5	0.4	Grey metamorphosed Mathinna Beds with disseminated pyrite from the upper adit.
	847		P6	3.3	Quartz from the upper adit
	848		P7	0.57	Quartz from shaft near log loading area
DENISON	849		P8	1.2	Quartz from the fill above the adit
	850	Wiangatta Mine	W1	0.1	Quartz with layers of grey slate
	851851	Wiangatta Mine	W2	0.1	Grey slate
	852		W3	0.1	Quartz
	853		W4	0.1	"
	854	Fire Trail Sample co-ords 264438	DS1	0.1	Quartz with crystals and cavities.

APPENDIX 4.BRIEF GEOLOGICAL DESCRIPTIONS OF EXCAVATOR TEST PITS, DENISON RIVER

Pit locations are shown on Fig. 5. Assay results from each are also included in Appendix 5.

- JC No detailed description. About 3m deep, exposing 1-1.5 of well rounded Tertiary (?) gravel overlying extremely weathered Mathinna bedrock. Only gravel assayed. An adjacent trench 20m NE exposed 4m of weathered Mathinna bedrock.
- W1 and W2 At Wiangatta Mine were not bulk sampled, but showed 1-3m of extreme weathered Mathinna bedrock. No detailed description.
- T1 No detailed description. 2m of Quaternary colluvium and gravels over plastic clay.
- T2 No detailed description. 1m of Quaternary colluvium over clay.
- T3 No detailed description. 3m of extremely weathered Mathinna bedrock.
- T4 No detailed description. 1m of friable sandy loam and coarse-grained river gravels/clay overlying Mathinna bedrock.
- T5
(Tertiary
Locality)
- | | | | |
|--------|--------|--|------|
| Length | 8.0m | Bearing | 030° |
| Width | 1.25m | | |
| Depth | 2.5m | | |
| 0 | -0.3 m | dark, organic rich horizon; mainly sand/silt but with occasional granules. | |
| 0.3 | -1.0 m | yellow/brown clay containing sand, granules and pebbles generally of quartz. Some clasts are well rounded. Locally concentrated. | |
| 1.0 | -2.4 m | yellow/orange/white clay. Extremely weathered Mathinna bedrock. | |
| 2.4 | -2.5 | yellow/orange/white claystone, Highly weathered Mathinna bedrock. | |
- T6
- | | | | |
|--------|--------|---|------|
| Length | 18m | Bearing | 110° |
| Width | 1.25m | | |
| Depth | 1.90m | | |
| 0 | -0.2 m | dark organic horizon - silty clay | |
| 0.2 | -1.0m | yellow brown clay containing scattered granules and pebbles of quartz; some rounded, locally concentrated. Scattered areas of sandy clay. | |
| 1.0 | -1.9m | yellow/orange/cream clay - deeply weathered Mathinna bedrock. | |

APPENDIX 4 cont.

- T7 Length 13m Bearing 107° "Royal Treasury"
 Width 1.25m
 Depth 1.5m
- 0 -0.2 m dark organic layer silty clay
- 0.2 -1.0 m yellow/orange/brown clay often silty. Contains scattered granules and pebbles of generally angular quartz.
- 1.0 -2.5m yellow/orange/brown cream claystone - highly weathered Mathinna bedrock.
 4m from eastern end 40cm wide band of quartzite and quartz 60° to 230°. Numerous fractures, with clay on fracture surfaces. Band extends to about 1.0m from surface.
- T8 Length 8m Bearing 355°
 Width 1.25m
 Depth 2.3m
- 0 -0.2 m dark organic horizon, sandy clay
- 0.2 -1.0m yellow brown clay, silty in places, more sandy clay towards top of unit. Contains scattered granules and pebbles.
- 1.0-2.3m brown, orange, yellow, cream claystone highly weathered.
- T9 Dogleg in plan, with 2 sections
- (a) Length 8m Bearing 030°
 Width 1.25m - 3m at intersection with (b)
 Depth 1.6m - 3m
- (b) Length 8m Bearing 300°
 Width 1.25m
 Depth 1.6m
- 0 -0.2 m dark organic horizon, silty clay.
- 0.2 -2.0m yellow brown clay containing rounded and angular granules, pebbles, cobbles of quartz and quartzite. Locally concentrated.
- 1.5-3.0m yellow, brown, cream clay matrix with numerous pebbles and cobbles of quartz and quartzite.
- 3.0- cream/brown Mathinna sandstone, hard, contact metamorphosed by up to 3 quartz veins which intrude it. Veins up to 5cm wide bedding 60° to 315°. Quartz veins 75° to 0.30°.

APPENDIX 4 cont.

T10		Length 5m	Bearing 080°
		Width 1.25m	
		Depth 2m	infilled with water
	0 -1.0m	grey, brown clay containing scattered angular quartz fragments.	
	1.0-2.0?	? material next to costean contains numerous quartz pebbles to small boulder in size range. Clay/silt matrix.	
TX1		Not an excavation. Bulk sample and assat from roadside dump of sandy surface loam with angular vein quartzite.	

APPENDIX 5ASSAY REPORT DENISON RIVER ALLUVIAL SAMPLES. DEPT OF MINES REG. NOS861104-16 & 861236

Twelve samples ranging from approximately 16kg to 115kg in wet mass were submitted by Argyle Development for gold determination. The samples varied in composition from almost totally clay through to approximately forty percent quartz while some also contained amounts of decomposed sandstone.

The following method of treatment was adopted:

- 1/. The mass and volume of each sample in the as received condition was determined and the relative density calculated.
- 2/. The samples were separately tumbled in a concrete mixer with a quantity of water.
- 3/. The concrete mixer discharge was fed to a Sweco vibrating screen fitted with screens such that the followign fractions were produced.
 - (a) + 10.06mm
 - (b) - 10.06 mm + 1.24mm
 - (c) - 1.24mm
- 4/. The + 10.06 mm product was returned to the concrete mixer for further treatment while the - 10.06mm + 1.24mm product was agitated in a Denver conditioner. This process was repeated until both oversize products were reasonably free from clay and it was considered that the effect of a log washer or trommel had been simulated.
- 5/. The 1.24mm product was fed to a Vickers rougher spiral with a spiral concentrate and reject tailing being produced.
- 6/. The spiral concentrate was further concentrated on a Wilfrey table. The resulting table concentrate was then upgraded by panning.
- 7/. Pan concentrates were separately digested with aqua regia and the gold extracted with methyl iso butyl ketone, prior to Atomic Absorption gold determination. The following results were obtained:

955020

APPENDIX 5 (cont.)

Reg. No.	Argyle No.	Mass as Received kg.	Oversize Mass kg.		Approx. Density t/m ³	GOLD	
			+10.06mm	+1.24mm		As Received Basis mg/t	Dry Basis mg/t
861104	JC(a,b,c,d)	110.4	19.7	20.0	1.65	1	1
861105	T1(a,n,c,d)	91.2	17.2	6.5	1.53	5	6
861106	T2(a,b,c,d)	76.6	3.1	2.6	1.34	35	42
861107	T3(a,b,c,d)	94.8	2.6	21.5	1.51	3	3
861108	T4(a,b,c,d)	115.1	16.7	trace	1.48	4	5
861109	T5(a)	15.9	0.2	2.9	1.57	2	3
861110	T6(a)	19.8	2.8	0.6	1.48	48	57
861111	T7(a)	20.5	0.9	trace	1.46	2	2
861112	T8(a)	15.9	0.1	4.1	1.62	1	1
861113	T9(a,b,c,d)	87.3	9.2	5.3	1.51	2	3
861114	T10(a,b,c)	67.4	14.1	20.0	1.64	540	640
861236	TX1(a,b-c,d)	103.8	16.8		1.54	210	240

The dry mass of sample Reg. No. 861104 (Argyle No. JC(a,b,c,d)) was 93.4kg., giving a moisture content of the as received sample of 15.4%

The amount of gold present on a dry basis in mg/tonne was determined by assuming that all samples contained the same percent moisture as JC(a,b,c,d) namely 15.4%.

810

019

APPENDIX 6NOTES ON TWO SPECIMENS FROM GOLCONDA AREA, t2 32/851/. QUARTZ-ARSENOPYRITE

A slice approximately 10mm thick was sawn from the sulphide-rich area of the specimen. Both sides of this slice were polished resulting in an area of about 20 square cm being suitable for examination.

About 30% of the polished area is sub-hedral arsenopyrite. Most of the rest is vein quartz. There are a number of significant minor phases however which would not total more than 5%.

There are a few percent of pyrite intergrown with the arsenopyrite.

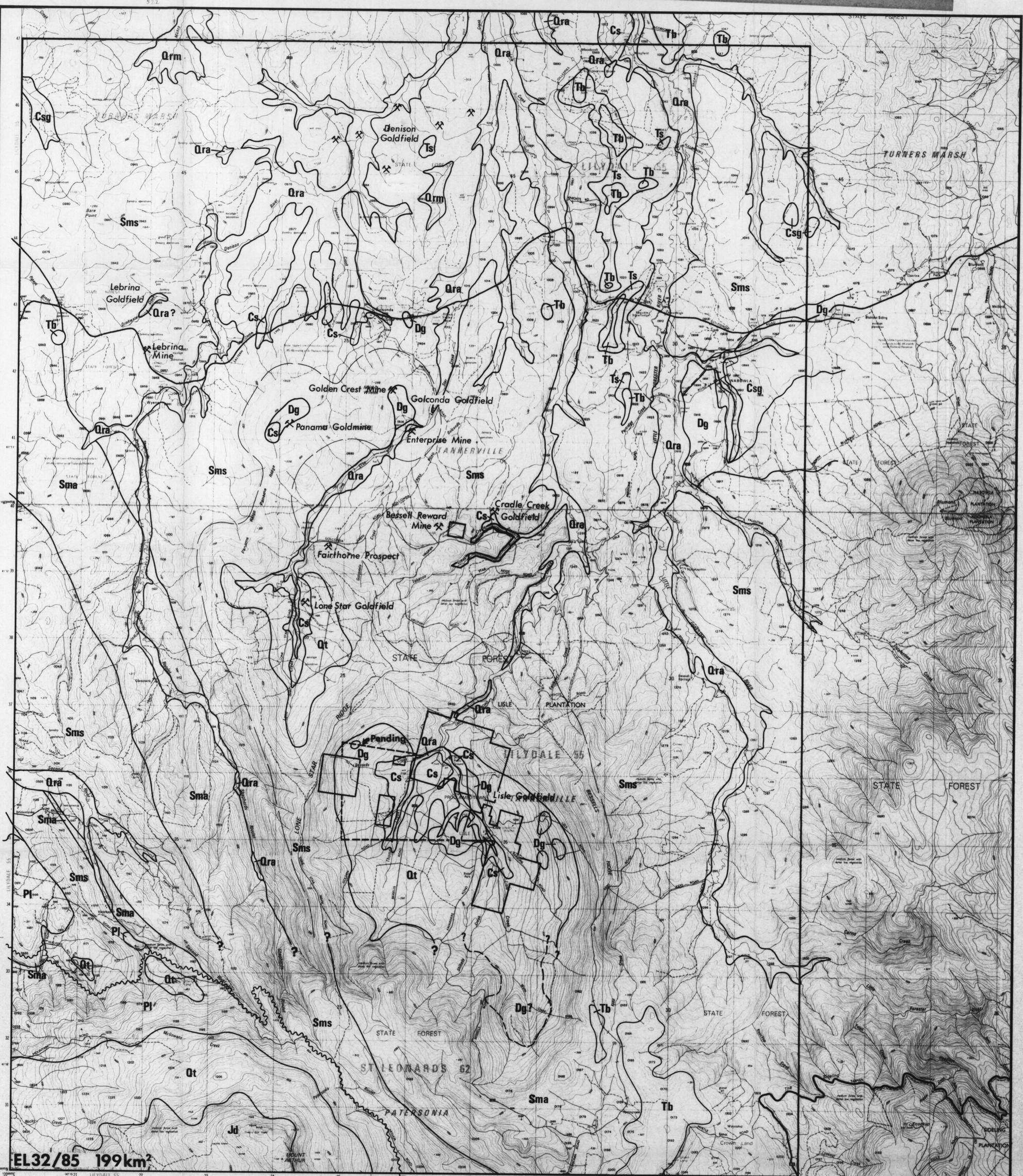
Chalcopyrite occurs as later veins and in-fillings and is associate with covellite and some copper oxide and/or carbonate material.

Of more interest are small blebs and flakes of gold about 0.1 mm or less scattered sparsely throughout the quartz and arsenopyrite. The gold is found within and often associated with a soft, white, columnar and highly anisotropic mineral which is most likely stibnite.

This specimen should contain significant gold values though the small grain size and dispersed nature should be taken into account.

2/. GRANODIORITE

This is a fine grained granodiorite with a fairly complex history. It contains quartz, zoned plagioclase, biotite, hornblende and chlorite. Opaque minerals are mainly what would be expected from this type of rock, ie., oxides of iron and titanium.



EL32/85 199km²

PRODUCTION: Mapping Division, Lands Department, Hobart, 1983.
 ACCURACY: Vertical 90% of actual ground level within 12.5 metres of true position. Horizontal 90% of actual ground level within 5 metres. These accuracies may not be adequate in areas of steep slopes.
 RELIABILITY: Topography compiled from aerial photography flown with field verification.
 NOMENCLATURE: Place names have been approved by the Manufacturers Board of Tasmania.
 PUBLIC RIGHT OF WAY: Roads on this map do not necessarily indicate a public right of way.
 REGION: A five degree region circle is provided for the region. State outline errors and omissions are invited to be written to the Director of Mapping, GPO Box 444, Hobart, Tasmania, 7001.
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PROJECTION: Universal Transverse Mercator (UTM).
 HORIZONTAL DATUM: Australian Spheroid Datum 1986.
 VERTICAL DATUM: Australian Height Datum (Tasmanian) excepting offshore islands whose datum is mean sea level.
 GRID: 1000 metre intervals of the Universal Transverse Mercator Grid, Zone 58 Australian Map Grid, Australian National Spheroid. Grid values are shown in full at the south west corner of the map.
 CONTOUR INTERVAL: 10 metres with 50 metre index contours.
 WINDS: GEOSTROPHIC SYSTEM 1972. To convert coefficients from this system to Australian Geostrophic Datum 1986, increase the value of velocity by 10% equivalent to 10% increase in the value of length by 10% equivalent to 10% increase in the value of velocity by 10%.
 MAGNETIC VARIATION: True, Grid and Magnetic North are shown diagrammatically for the centre of the map. Magnetic North is correct for 1983 and moves westerly about 0.1° every two years.

Residential area: Commercial buildings
 Roads maintained for continuous public use
 Primary road with route number
 Secondary road with route number
 Motor road with route number
 Other road
 Other roads with bridge
 Vehicle track with gate
 Walking track or horse trail (approximately indicated with bridge)
 Railway with station. Places entered in National Estate Register
 Power transmission line and pylon position
 Public: Feature of historic or special interest: Ruin, Mine
 Post office: Police station, Fire station, School

Common park, Camping ground, Public toilet
 Disposal area, Information centre, Cemetery
 Plastic area, Tug station, beacon, Spot elevation
 Contour with value, Depression contour
 Quarry, pit or open cut mine
 Rock cover, Boulder rock surface
 Dense forest, Medium forest
 Low dense vegetation, Distinctive grass
 Orchard, Pine plantation
 Quagmire plantation, Submerged trees

Swamp
 Wet area, Subject to flooding
 Waterfall, Rapids
 Indefinite shoreline or footbank, Ledge
 Tidal rock or ledge, Obsolete rock
 Navigation light or light-house, Exposed wreck
 Sand, Tidal reef
 Saltie coastal flat, Tidal flat
 Saltie, Leaching ramp

BOUNDARIES shown on this map are NOT authoritative. For all particulars please consult the Registrar General's Division, Lands Department; or the Survey Division, Lands Department. Areas within proclaimed reserves or lease free land include any road and drainage. Boundaries shown on this map are not intended to be a legal guarantee. To give a legal guarantee, please contact the Registrar General's Division, Lands Department. Property and parcel boundaries are shown as at Municipality name and number
 Municipality boundary
 Ward name
 Ward number
 Town boundary, Other administrative boundaries
 Reserve boundary, Vicinity or joining symbol
 Property boundary, Land parcel boundary and number
 Boundary location coordinate or latitude

KEY

Qrm	Marsh and swamp deposits	Ct	Silt and clay with occasional pebbles	Tf	Siliceous conglomerate	Pu	Upper with pebbly horizons a and b
Qra	Alluvial deposits, including younger gravels	Csg	Angular gravel, mainly vein quartz	Tg	Angular gravel, mainly vein quartz	Pig	Liffey Group
Qrd	Dune sand	Csg	Rounded and angular gravel, mainly vein quartz	Tg	Rounded and angular gravel, mainly vein quartz	Pi	Lower, including conglomerate and pebbly mudstone and sandstone
Qw	Windblown and locally derived sand	Csg	Rounded gravel, mainly vein quartz	Tg	Rounded gravel, mainly vein quartz	Sms	Contact metamorphic: Unconformity
Qt	Dolerite talus	Csg	Quartz granite sand with pebbles	Ts	Ferruginous zone	Sma	Predominantly siltstone and sandstone
Qb	Basalt talus	Csg	Medium grained sand	Rs	Sandstone and conglomerate	Tb	Igneous Rocks
Qm	Masthina Beds talus	Csg	Ferruginous, porphyritic gravel with ironstone blocks			Jd	TERTIARY Basalt Sub basalt tuff
Qrg	Older gravels, Qrg = 25' erosional terrace	Cs	Sandstone and conglomerate			Dg	JURASSIC Dolerite
							DEVONIAN Granodiorite (Dg' = finer grained and more leucocratic phases)

Geology modified from Dept. of Mines 1 mile to 1 inch series; 83155 Launceston (Longman et al 1964) 8315N Pipers River (Marshall et al 1965)

955022

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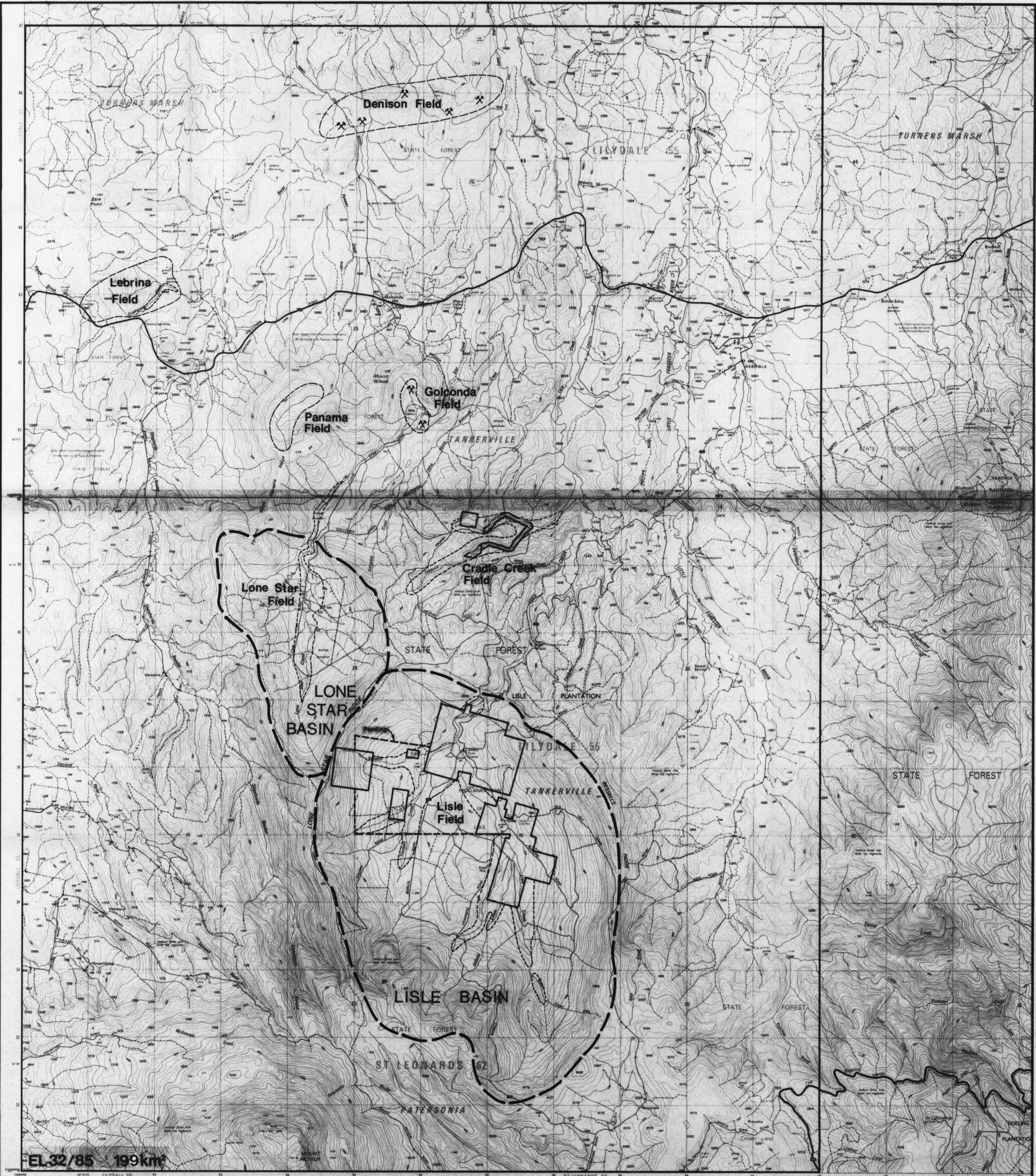
192 MACQUARIE ST., HOBART, TAS. 7000 (002) 31 0656

ARGYLE DEVELOPMENTS PTY LTD
 EL 32/85
GEOLOGY

NS	85015/2
DATE	NOV '85
COMPILED	WCC
DRAWN	JMT
SCALE	1:25,000

5 cm

87-2629 FIG 2



EL 32/85 199 km²

PRODUCTION: Mapping Division, Lands Department, Hobart, 1983.
 ACCURACY: Horizontal: 80% of well defined detail is within 12.5 metres of true position.
 Vertical: 80% of elevations are within 1 metre. These accuracies are not to be applied in areas of dense vegetation.
 RELIABILITY: Topography compiled from aerial photography taken with field verification.
 Nomenclature: Place names have been approved by the Nomenclature Board of Tasmania.
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PROJECTION: Universal Transverse Mercator (UTM).
 HORIZONTAL DATUM: Australian Geodetic Datum 1983.
 VERTICAL DATUM: Australian Height Datum (Mean Sea Level).
 GRID: 100 metres intervals of the Universal Transverse Mercator Grid.
 ZONE: 58 Australian Map Grid, Australian National Standard Grid.
 CONTOUR INTERVAL: 20 metres with 50 metres where contours are closely spaced.
 MOUNTAIN HEIGHTS SYSTEM: 1972. To convert to elevations from this system to Australian Geodetic Datum 1983, increase the value of heights by 1.7 metres, and decrease the value of lengths by 0.0001 metres.
 MAGNETIC VARIATION: True, Grid and Magnetic North are shown respectively by the centre of the map. Magnetic North is correct for 1983 and moves westerly about 0.1° every two years.

Residential area, Commercial buildings
 Primary road with route number
 Secondary road with route number
 Road maintained for continuous public use
 Other road
 Other road with bridge
 Vehicle track with gate
 Walking track or horse trail (appropriate position) with bridge
 Railway with station. Place named in National States Register
 Power transmission line and poles and pylons
 Building: Features of historic or special interest; Ruin; Mill
 Post office; Police station; Fire station; School

Common park, Cemetery, grave, Public toilet
 Disposal area, Information centre, Cemetery
 Flood area, Trig station beacon, Spot elevation
 Contour with value, Depression contour
 Quarry, fill or open cut site
 Rock scree, Broken rocky surface
 Dense forest, Medium forest
 Low dense vegetation, Disturbance grass
 Orchard; Pine plantation
 Exotic plantation, Submerged trees

SCALE 1:25 000
 1 centimetre on the map represents 250 metres on the ground
 Shaded relief
 Wet area, Subject to flooding
 Wetland, Pools
 Inland drainage or floodbank; Levee
 Tidal rocks or ledge, Obsolete rock
 Navigation light or light-house, Exposed wreck
 Sand; Tidal reef
 Saline coastal lagoon; Tidal fans
 Jetty, Launching ramp

BOUNDARIES shown on this map are NOT authoritative. For full particulars please consult the Register-Generals' Office, Lands Department, or the Survey Director, Lands Department. Areas within proclaimed towns or less than two hectares may not be depicted. Boundaries shown Land (including reserved) owned by the State. To give a full parcel reference, quote parcel number with multiple number. To use the number to gain title or survey information please consult the Mapping Division. Property and parcel boundaries are shown as follows:
 Municipality name and number
 Municipality boundary
 Ward name
 Ward boundary
 Town boundary; Other administrative boundaries
 Reserve boundary; Vicinity or public garden
 Property boundary; Land parcel boundary and number
 Boundary location uncertain or indefinite

- KEY**
- Known alluvial/colluvial goldfield
 - Known hard rock goldfield with minor alluvial component
 - Area of potential gold bearing alluvial material
 - Current mining lease
 - Major topographic depression
 - Mine or working in hard rock area

955023

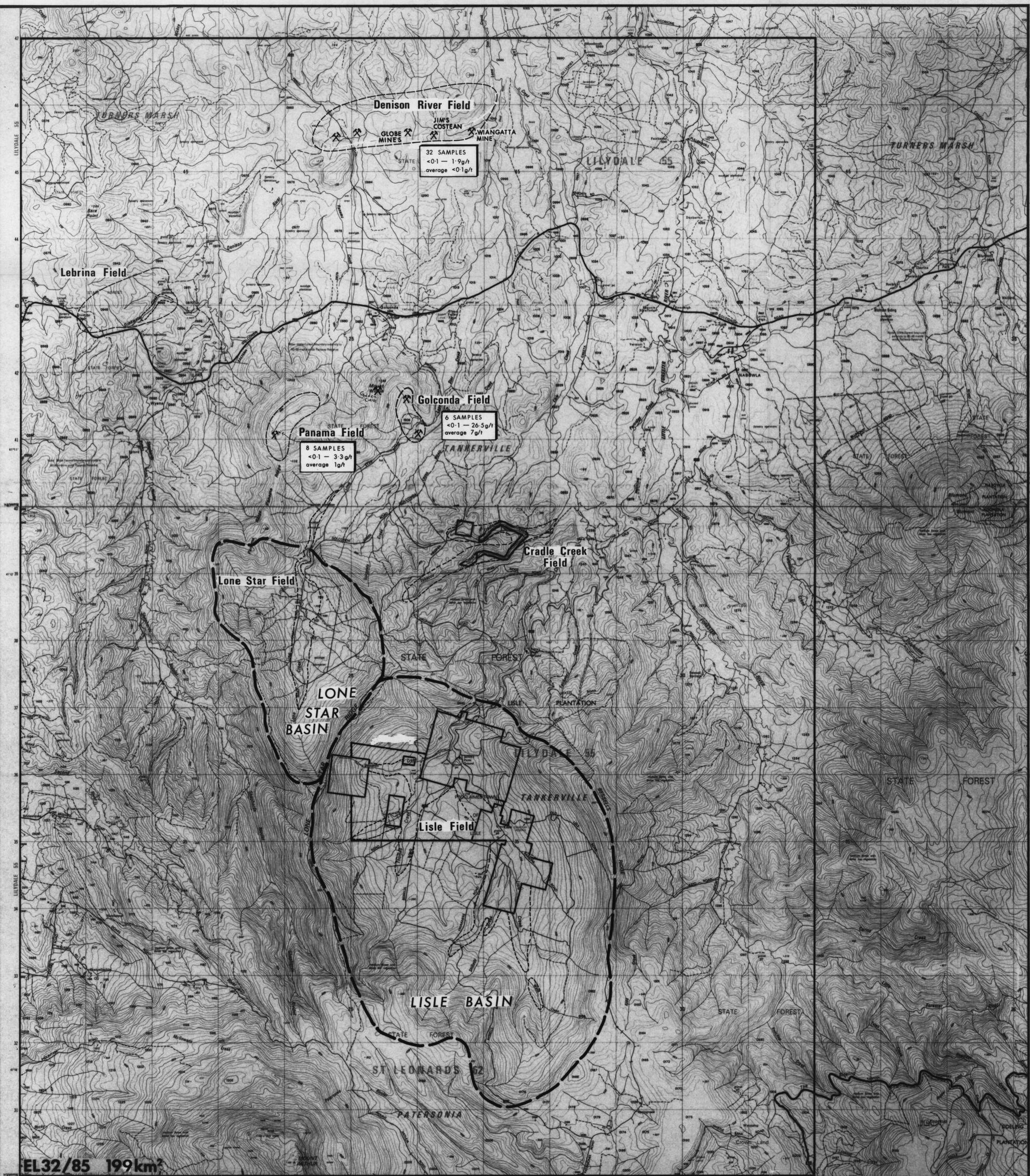
5 cm

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ARGYLE DEVELOPMENTS PTY LTD
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POTENTIAL GOLD-BEARING AREAS

HR	85015/1
JATE	OCT. 85
COMPILED	PS
DRAWN	JT
SCALE	1:25,000

87-2629 FIG 3



EL32/85 199km²

1983
 PRODUCTION: Mapping Division, Lands Department, Hobart, 1983.
 ACCURACY: Horizontal: 50% of ground distance in every 100 metres of true position.
 Vertical: 50% of elevation or within 5 metres. These accuracies may not be applied in areas of dense vegetation.
 RELIABILITY: Topography compiled from aerial photography flown with 1:25,000 scale.
 REMARKS: Place names have been approved by the Nomenclature Board of Tasmania.
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PROJECTION: Universal Transverse Mercator (UTM).
 HORIZONTAL DATUM: Australian Geodetic Datum 1983.
 VERTICAL DATUM: Australian Height Datum (AHD) (Mean Sea Level).
 GRID: 100 metre squares of the Universal Transverse Mercator Grid. Zone 52, Australian Spheroid, Australian National Spheroid. Grid values are shown in 100 m at the north west corner of the map.
 CONTROL SYSTEM: 25 metres with 50 metres true contour.
 WORLD GEODETIC SYSTEM 1972: To convert co-ordinates from this system to Australian Geodetic Datum 1983, increase the value of latitude by 1.17 seconds in north, and decrease the value of longitude by 1.17 seconds in west.
 MAGNETIC VARIATION: True, Grid and Magnetic North are shown approximately for the centre of the map. Magnetic North is correct for 1983/84. Magnetic declination is 17° west two years.

- | | | | | |
|---|---|--|---|---|
| <ul style="list-style-type: none"> Major topographic depression Mine or working in hard rock area | <ul style="list-style-type: none"> Roads maintained for continuous public use Roads of restricted use or access Walking track to house and Department position with bridge Power transmission line and pylon position Building, Farmhouse or special house, Hut, Mine Post office, Police station, Fire station, School | <ul style="list-style-type: none"> Primary road with route number Secondary road with route number Minor road with route number Other road Other roads with bridge Vehicular track with gate | <ul style="list-style-type: none"> Covered park, Camping ground, Public toilet Deposited area, Information centre, Cemetery Place name, Flag, other features, Spot elevation Contour with value, Depression contour Quarry, pit or open cut mine Rock scree, Broken rocky surface Dunes, forest, Medium forest Low density vegetation, Distinctive grass Grassland, Pine plantation Geological features, Submerged mine | <ul style="list-style-type: none"> Swamp Wetland Wet area, Subject to flooding Waterfall, Rapids Indicative of algal or bacterial life Tidal marks or bridge, Obsolete mark Navigation light or light-house, Exposed wreck Sand, Tidal reef Saline covered flat, Tidal flat Jetty, Launching ramp |
|---|---|--|---|---|

SCALE 1:25,000
 1 centimetre on the map represents 250 metres on the ground

ROSS 60

SOURCES shown on this map are 1977 information. For full particulars please consult the Preparation, Control, and Information of the Bureau of Geology, Land Department. Areas with unconsolidated terrain or less than ten hectares may not be included. Boundaries shown are for information only and do not constitute a legal title. To give a legal title please refer to the relevant title plan. Property and parcel boundaries are shown as at Municipalities name and number.
 ROSS 60
 West name: SOUTH
 West boundary: ...
 Town boundary: Other administrative boundaries
 Reserve boundary: Wharfedale or other symbol
 Property boundary: Land parcel boundaries and number
 Boundary: Boundary contour or building

5 cm

955024

KEY

- Major topographic depression
- Mine or working in hard rock area

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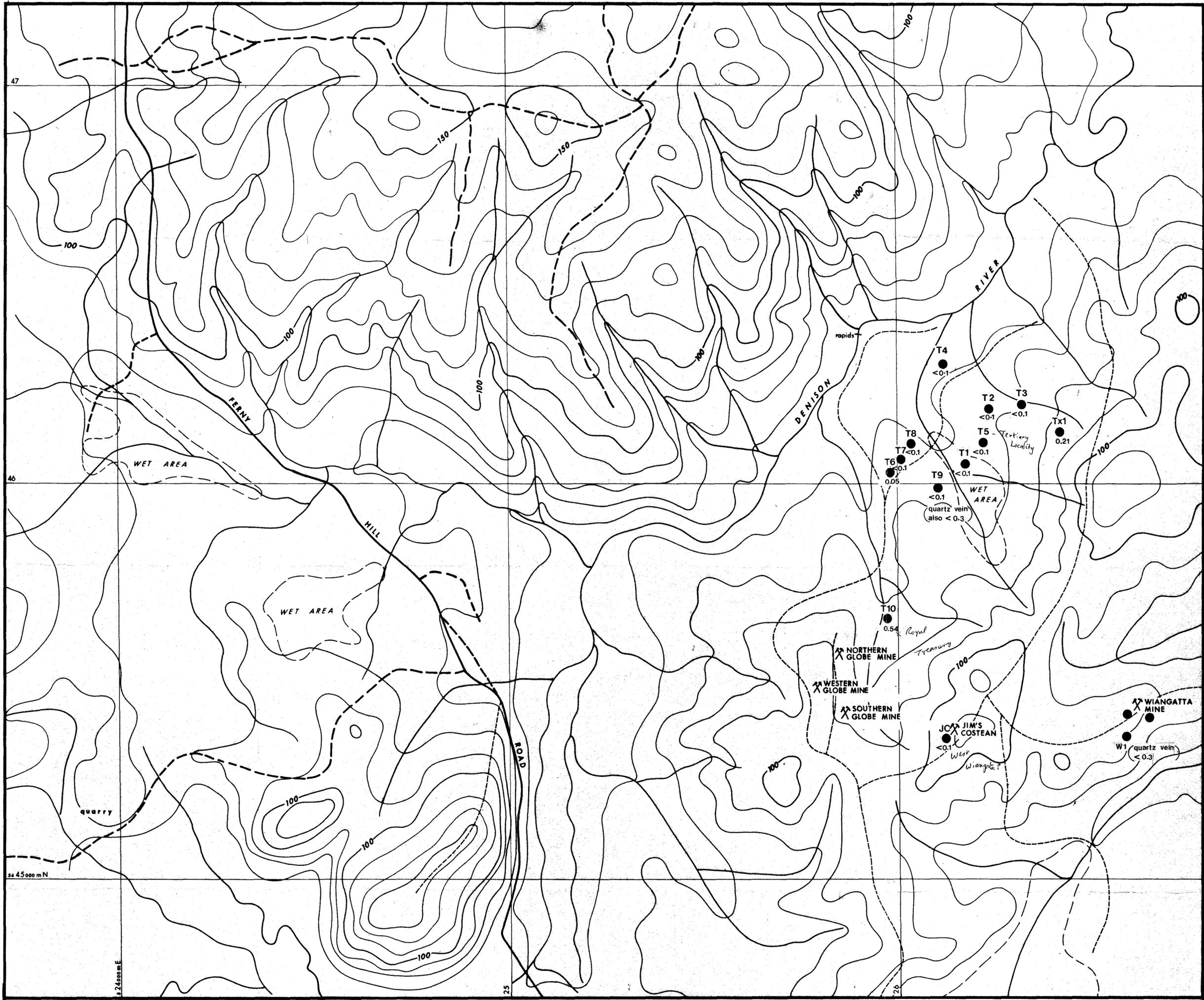
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 EL 32/85

GOLD ASSAYS
 Denison River, Golconda and Panama Fields Surface Samples

No.	85015/3
DATE	Feb. 1986
COMPILED	P.S.
DRAWN	J.T.
SCALE	1:25,000

87-2629 FIG 4



T6 ● PITS DUG BY EXCAVATOR JUNE 1986
 <0.3 (GOLD ASSAYS IN g/tonne, on wet basis)
 (LOCATION APPROXIMATE)

935025 5 cm

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ARGYLE DEVELOPMENTS PTY LTD EL 32/85	
No.	85015/5
DATE	July 1986
COMP'D	P. S. W. C.
DRAWN	J. T. N. R.
SCALE	1:5000?

DENISON RIVER PROSPECT
 GOLD ASSAYS
 Costean Samples 6/15