20. FARRANDS HILLS (EL 2369 AND EL 2370)

20.1 Introduction

The Farrands Hills area is located approximately fifty five kilometres NNW of The Granites Gold Mine. Access to the area is by the Tanami Highway and thence by several NFM tracks via the Challenger prospect.

Geomorphologically, the area is dominated by the prominent Gardiner Sandstone Farrands Hills. The lowland area to the immediate east of the hills is in places deeply incised by the creeks draining Farrands Hills. This is particularly the case where pisolitic laterite capping is preserved. These creeks, combined with the low rubble scree-covered Gardiner Sandstone ridges, hinder vehicular access. The lowland area to the west of the hills lies as a broad colluvial/alluvial plain. In both lowland areas, the topography falls away to the south towards an area of significant silcrete development.

Vacuum drilling completed during 1990 identified three separate anomalous areas

(i) East of Farrands Hills gold anomalous BLEG and Bottom of Hole (BOH) samples were returned over mixed Gardiner Sandstone and lateritised graphitic Schist Hills Formation

(ii) West of Farrands Hills, gold anomalous BLEG and BOH samples were returned over similar bedrock lithologies; and

(iii) South of Farrands Hills (to the east of Anomaly 11) gold anomalous BLEG and BOH samples were returned from silicified colluvium overlying magnetic but undetermined bedrock.

All the areas were recommended for follow-up drilling, because of the dispersed distribution of the anomalous results.

20.2 Work Undertaken

The follow-up vacuum drilling program was completed with thirty three drill holes for a total of 253 metres (Hole numbers FV001-FV033). All drill holes were located by using the Global Positioning System (GPS) of navigation and position fixing. A summary of the work carried out appears in the table below.

Summary of Work Completed	
Coverage (km^2)	26
Number of Vacuum Holes	33
Total Metres Advanced	253
BOH Samples	34
BCL Samples	34

The drill collected BCL samples tested the ferruginised saprolite horizon. This sample medium was chosen to minimise the influence of the extensive transported cover. Where bedrock was not reached the retained sample taken from the shallow colluvium was submitted for BLEG analysis. Bedrock samples were taken at the bottom of each hole, or where not reached, colluvium was instead sampled.

BCL samples (of 5kg weight) were submitted to Rapley Wilkinson laboratories for Au (0.01ppb detection limit), Cu (0.01ppm detection limit) and Ag (0.01ppb detection limit) analyses. BOH samples were submitted to Analabs for Au (method 334, 1 ppb detection limit) and As (method 115, 5ppm detection limit) analyses.

6 stream sediment samples were collected from channels draining the Farrands Hills. These were analysed for Co, Cu, Mo, Ni, Pb, As, Te, La, V, Yb, Mg, U, Au, Pb, and Pt.

6 composite rock chips were colected from graphitic schists below the unconformity with Gardiner Sandstone. These were analysed for As, Mg, U, Au, Pd and Pt.

20.3 Results

Eastern Area

None of the original regional reconnaissance vacuum drillholes were located during the followup drilling program. As such, the accuracy of these 1990 drill sites remains uncertain. A portion of a possible vacuum drill line was, however, located coincident with a plotted drill line. Drilling in this area was generally successful with fifteen of the nineteen drill holes (FV001-FV019) reaching bedrock. Drilling of the southern sector was affected by deep alluvium and a shallow watertable.

Geologically the area is comprised of fine-grained foliated, green-maroon, ferruginous meta-sediment with minor medium-grained micaceous greywacke (?Madigan Beds) overlain unconformably by quartz sandstone (Gardiner Sandstone). A coarse-grained potassium feldspar, quartz, biotite granite intrudes the meta-sediment and was encountered in one hole (FV002). A fine grain sandstone with graded bedding (probably Gardiner Sandstone) is exposed in a creek near FV016.

The assay results of this follow-up program were generally not encouraging, as depicted on the geochemical sampling plans. Only threshold gold concentrations in BCL samples (0.92 and 1.59ppb Au) were returned from two holes, FV011 and FV018, drilled near to the plotted location of the two anomalous 1990 vacuum drill holes (LSV0259 and LSV0266). The BOH assays from FV011 and FV018 were at the limit of detection (1ppb), similar to the 1990 BOH assays (of 3ppb) and within the unreliable margin of analysis error. It is concluded that the recent drilling confirmed the presence of two near adjacent low-level anomalies, which if reflecting a proximal bedrock source rather than from transported material, may demonstrate a proximity to mineralising activity at the unconformity.

Western Area

This sector of coverage is two to three kilometres southeast of the Challenger II prospect. Ten of the eleven drill holes (FV020-FV030) intersected recognisable bedrock. Drilling indicated that the geology of the area is similar to that described in the east. Fine-grained foliated green-maroon micaceous metasediment (?Madigan Beds) is unconformably overlain by well sorted quartz arenite, (Gardiner Sandstone). Possible chert bands were encountered in two of the drill holes (FV021, FV030).

The assay results in the area were not encouraging. One drill hole (FV030), however, returned low level coincident BCL (1.57ppb) and BOH (4ppb) gold anomalies. This hole was drilled adjacent to the location of the most significant 1990 vacuum drill anomaly, LSV0234, [BCL 2.05ppb Au, BOH (4ppb) Au]. This suggests that the anomaly, although isolated, is substantiated and may warrant follow-up. The anomaly may relate to the passage of mineralising fluids leaking via an adjacent post-Mid Proterozoic fault. The unconformity between the graphitic schists of the Tanami Group and the Gardiner Sandstone crops out at this locality.

Southern Area (Eastern Anomaly 11)

Three drillholes (FV031-FV033) were not successfully completed because a shallow water table was encountered. Vacuum drilling experience at Anomaly 11 where extensive silcrete overlies the bedrock suggested that the vacuum drilling program should be discontinued and undertaken utilising the capacity of a RAB drillrig.

The assay results from these three holes returned BOH assays of 2-4ppb Au and BCL assays of 0.22 to 0.75ppb. The sampled horizon was of transported material and the results are therefore inconclusive.

The tables below summarise the anomalous results for both the reconnaissance and follow-up programs over the three exploration areas.

The lack of anomalous arsenic is an indication that either the gold anomalous sediments are transported from a gold mineralised locality or that there have been secondary dispersion and concentrating processes.

FARRANDS HILLS SUMMARY OF ANOMALOUS RESULTS

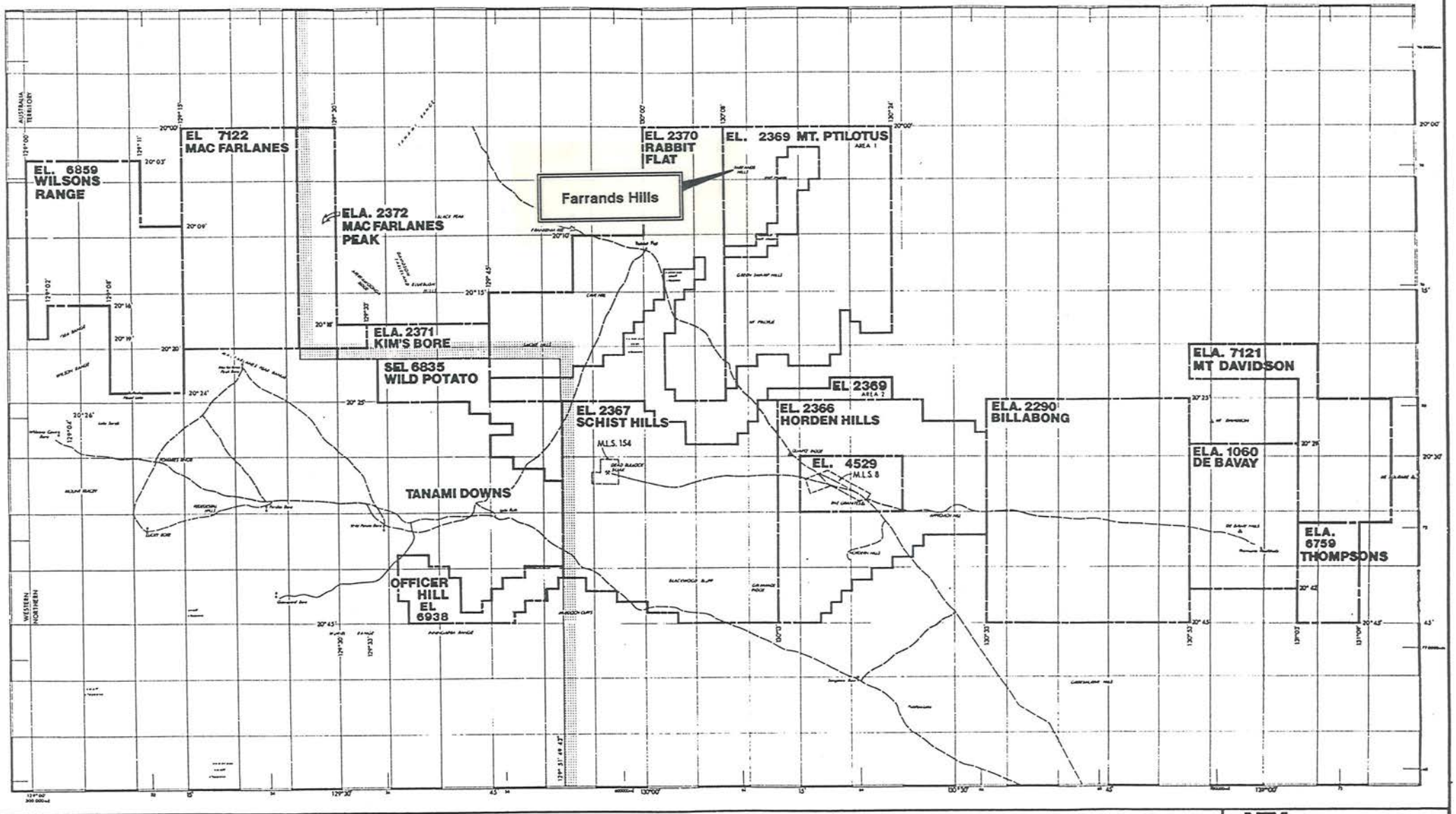
	HOLE No.	BCL (Au ppb)	
1990	LSV234 1 Km S of LSV242 LSV247 LSV258 LSV259	2.05 1.10 0.85 1.43	
1992	FV011 FV018 FV030	0.92 1.59 1.57	
	HOLE No.	**BOH (Au ppb)**	**BEDROCK**
1990	LSV151 LSV234 LSV246 LSV259 LSV266	3 4 3 3 3	f.g meta-sediment Gardiner Sandstone silcrete/no bedrock Gardiner Sandstone ? No bedrock
1992	FV030 FV032 FV033	4 4 3	f.g. metasediment no bedrock no bedrock

FARRANDS HILLS PEAK 1993 RESULTS		
BCL	Au	1.5 ppb
	Cu	0.09 ppm
	Ag	612 ppb
BOH	Au	4 ppb
	As	30 ppm

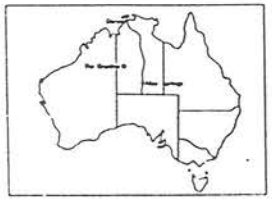
Stream sediment and composite rock chip sampling failed to detect any substantial geochemical anomalies.

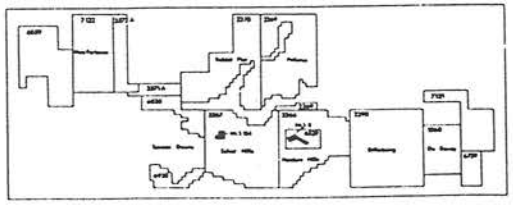
20.4 Plans

Drawing No.	Title	Scale
?	Regional Map H16 Showing Vacuum Drilling Assays	1:25 000



LOCATION MAP





LEGEND

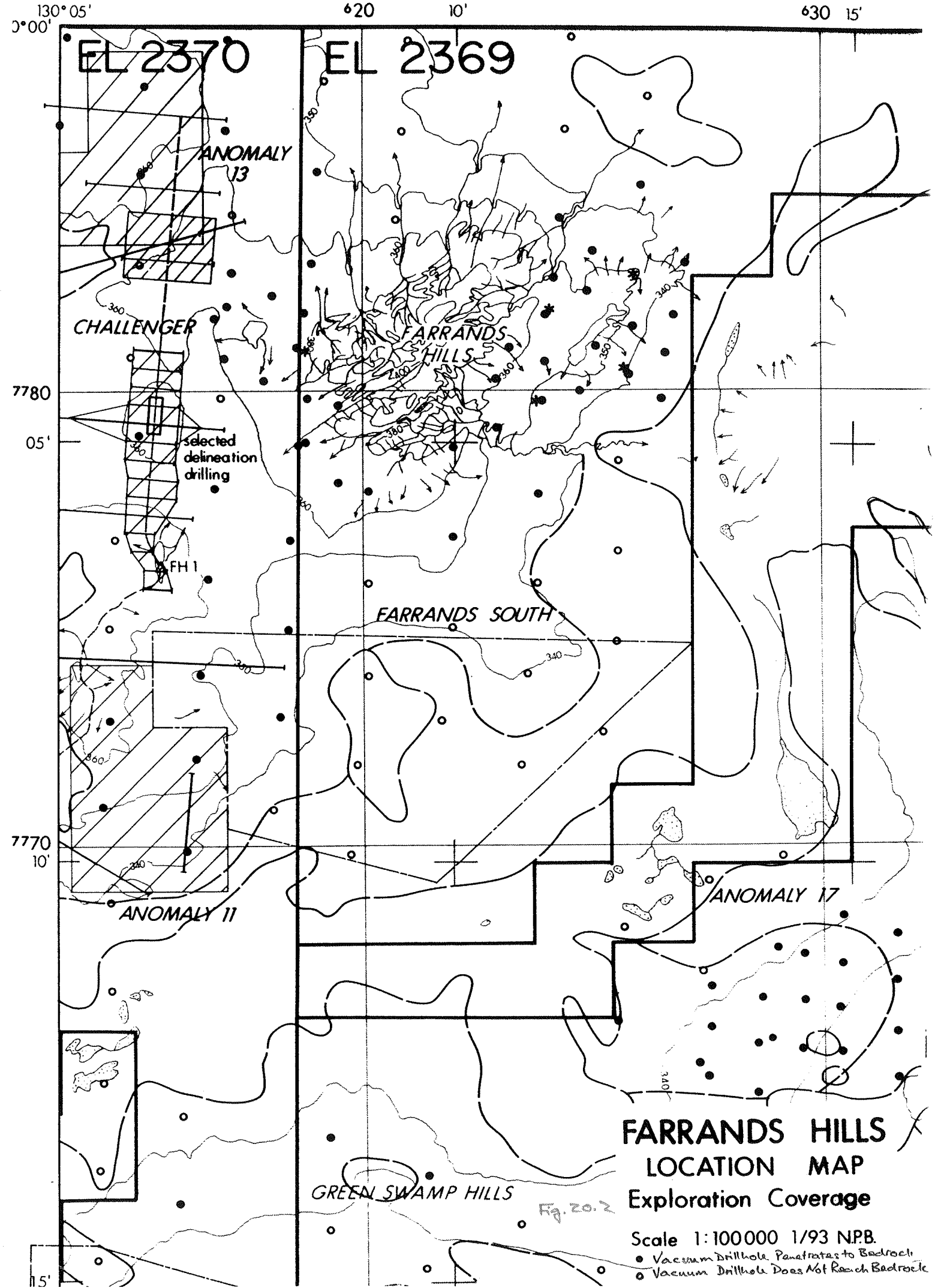
NORTH FLINDERS MINES LIMITED

Tanami Reconnaissance : Northern Territory

EL LAYOUT

Fig. 20.1

Dwg No. 20-1


130° 05'
620
10'
630 15'
0°00'
EL 2370
EL 2369
ANOMALY 13
CHALLENGER
FARRANDS HILLS
7780
05'
selected delineation drilling
FH 1
FARRANDS SOUTH
7770
10'
ANOMALY 11
ANOMALY 17
GREEN SWAMP HILLS
15'
FARRANDS HILLS
LOCATION MAP
Exploration Coverage
Scale 1:100000 1/93 N.P.B.
• Vacuum Drillhole Penetrates to Bedrock
o Vacuum Drillhole Does Not Reach Bedrock
Fig. 20.2