9. HOF (EL 2366)

9.1 Introduction

The Hairdresser (HOF) prospect is located twenty kilometres east-north-east of The Granites Gold Mine, within the Hordern Hills EL 2366. Outcrop of the graphitic Schist Hills Formation was identified during the 1993 Approach Hill reconnaissance investigation of anomalous magnetic horizons. The prospect is coincident with a 600nT amplitude ovoid magnetic feature with a diameter of one kilometer.

The reconnaissance vacuum drill coverage of 1989 returned elevated values of As, Pb, and to a lesser degree Bi and one occurrence of gold (LSV676, BLC of 1.2ppb) which from investigations at other prospects indicated the likelihood of proximity of gold anomalous Davidson Beds. (Birrell, 1990). The elevated Sn value was probably a response to rock-types reflecting a reactive contact zone with the granites.

A regional study of the 1987 magnetic data covering the Approach Hill district, provided evidence of favourable structures and rock types. These magnetic horizons appeared to outline a broad northeast plunging anticline, which is fault disrupted and granite intruded. The amplitude is low having an airborne determined signature of 80-120nT, with intermittent values upto 200nT.

As part of the Approach Hill reconnaissance program of 1990, broad spaced RAB traverses were designed to rapidly identify the source of the magnetic horizons. At the Hairdresser (HOF) prospect, it was Approach Hill Traverse 6 (designated 30000E on the local grid) upon which a HLEM determined conductor was confirmed as a silicified graphitic schist.

Detailed rock chip sampling followed but was confined to the sliceous capped formations and the hornflesed shales. Peak assay results were 32ppb Au and 130ppm As within the Schist Hills Iron Member equivalent sequences. Applying a threshold of 10ppb Au, the rock chip results defined a 200m x 100m anomalous zone.

Four across strike costeans revealed SHIM type banded silica formations within a dominantly hornfelsed carbonaceous schistose shale having a significant dolerite intrusive component. The best intersections within the two favoured target horizons were 3m @ 0.2g/t Au, 4.00ppm As, and 2m @ 0.28g/t Au, 940ppm As.

To extend this bedrock sampling coverage, a detailed vacuum drilling program was undertaken along seven traverse lines with a drill hole spacing of 25m x 100m. The drilling identified a zone of elevated gold values to the proximal west of the prospective knoll.

A ground magnetic survey with line spacings at 50m and a reading every 10 metres facilitated an interpretation of the source of the Hairdresser magnetic anomaly. It is considered that the anomaly is a magnetic dolerite of 60-200 metres width at a depth of 115-170 meters.

The initial two reconnaissance RAB traverses and infill vacuum drilling defined a granodiorite, which intruded and partly engulfed the graphitic schists. The granite is inferred to have stoped out the underlying Blake Beds to the east, if the interpreted stratigraphic younging direction is valid. The Killi Killi greywackes extend to the west. The intrusive style and extensive nature of the dolerites indicates that the graphitic schists are remnant roof pendants above a basic stock.

9.2 Work Undertaken

Two vacuum drilling programs were undertaken during 1992, which extended the original 1991 soil/bedrock sampling and logging coverage. The object of the first drilling program was to test and define the limits of prospective Davidson Beds in the main HOF area; the second program was to provide lithological and geochemical information from the zone covered by a low amplitude aeromagnetic anomaly 1-2 kilometers north west of HOF.

First Vacuum Drilling Program

32 vacuum holes were drilled for a total of 328 meters and 64 assay samples on portions of the main HOF grid.

Vertical holes were drilled at 25m spacings on lines at 100m intervals to a depth determined by identifiable bedrock (usually less than 5m). One colluvium and one bedrock sample were collected per drill hole.

Drill samples were composited into two metre composites, split on site, and dispatched for analyses for gold by method 334 (30g aqua regia with carbon rod finish) and arsenic by method 115 (perchloric acid digestion/hydride generation with AAS finish).

Second Vacuum Drilling Program

32 vacuum holes were drilled for a total of 203 meters and 59 assay samples over the aeromagnetic anomaly 1-2 kilometers north west of HOF.

Vertical drillholes were normally spaced at 50 metre intervals and drilled to a depth determined by identifiable bedrock, usually from two to nine metres. One base of colluvium and upto two bedrock samples were collected per drill site.

Drill cuttings were composited into 1.8 metre (drill rod length) samples, reduced by splitting at the drillsite and despatched for analyses for gold by Analabs method 334 (30g aqua regia digestion with carbon rod finish) and arsenic by method 115 (per chloric acid digestion/hydride generation with AAS finish).

RAB Drilling

A total of 24 RAB holes were drilled to an average depth of 29m over a 200m long by 150m wide area covering anomalous costean results over the main HOF prospect. Drill samples were composited into three metre samples on site and dispatched for analysis for gold by method 334 and for arsenic by method 115.

Mapping

Mapping concentrated on defining the limits of outcropping and subsurface Davidson Beds. Drill chips from previous vacuum and RAB drilling were relogged and geology was reinterpreted whilst the recent mapping was in progress.

PROGRESSIVE WORK SUMMARY - HOF

WORK PERIOD	DRILLING						COSTEANS				GEOPHYSICS		
	Vacuum			RAB							(km)		
	DH	(m)	samples	DH	(m)	Samples	Nor	(m)	samples	CRC	Traverse	Mag	HLEM
July-Nov 90											1		1.0
Feb-May 91				31	775	277					15	18.0	
Jun-Nov 91	60	362	120				4	500	500	53	3	3.0	3.5
Feb-Jun 92	32	328	64	24	699	224							
July-Nov 92	32	203	59										
Cumm. Total	124	803	243	55	1474	501	4	500	500	53	18	21	4.5

9.3 Results

Geology mapping, rotary airblast and vacuum drilling results indicate that there are four lithological units at the Hairdresser prospect. Stratigraphically from the oldest they are: the pelitic and chemical Davidson Beds of upper greenschist-amphibolite metamorphic grade; coarse grained massflow sediments of the Killi Killi Beds with the basal pelitic (carbonaceous) regional variant; the (probable) fine grained Coora equivalent dolerites; and, the post tectonic granodiorite with fine grained dykes.

The Davidson Beds contain two separate sets of banded iron-rich formation, each with a distinctive magnetite and quartz component. One set has a weak quartz fabric and the other is a magnetite-rich cherty unit.

The bedrock exposure at the Hairdresser knoll is limited to a 450 metre strike length, and in width the sequence measures 200 metres.

Elevated gold values are associated principally with silicified dolerite zones adjacent to the graphitic schists, though mineralisation is patchy. More extensive zones with anomalous arsenic values are also centred on the same rock type.

The RAB drilling confirmed the weakness of the gold mineralisation and demonstrated an association of significant gold values with (?altered) dolerite. An occasional association exists with silicification of the bedrock or granular quartz veins, which may define brittle fracture infill.

The vacuum drilling of the aeromagnetic anomaly 1-2 kilometers northwest of HOF located only elevated arsenic geochemistry associated with metaturbidites and quartz veining.

Elevated Gold Results, HOF Prospect

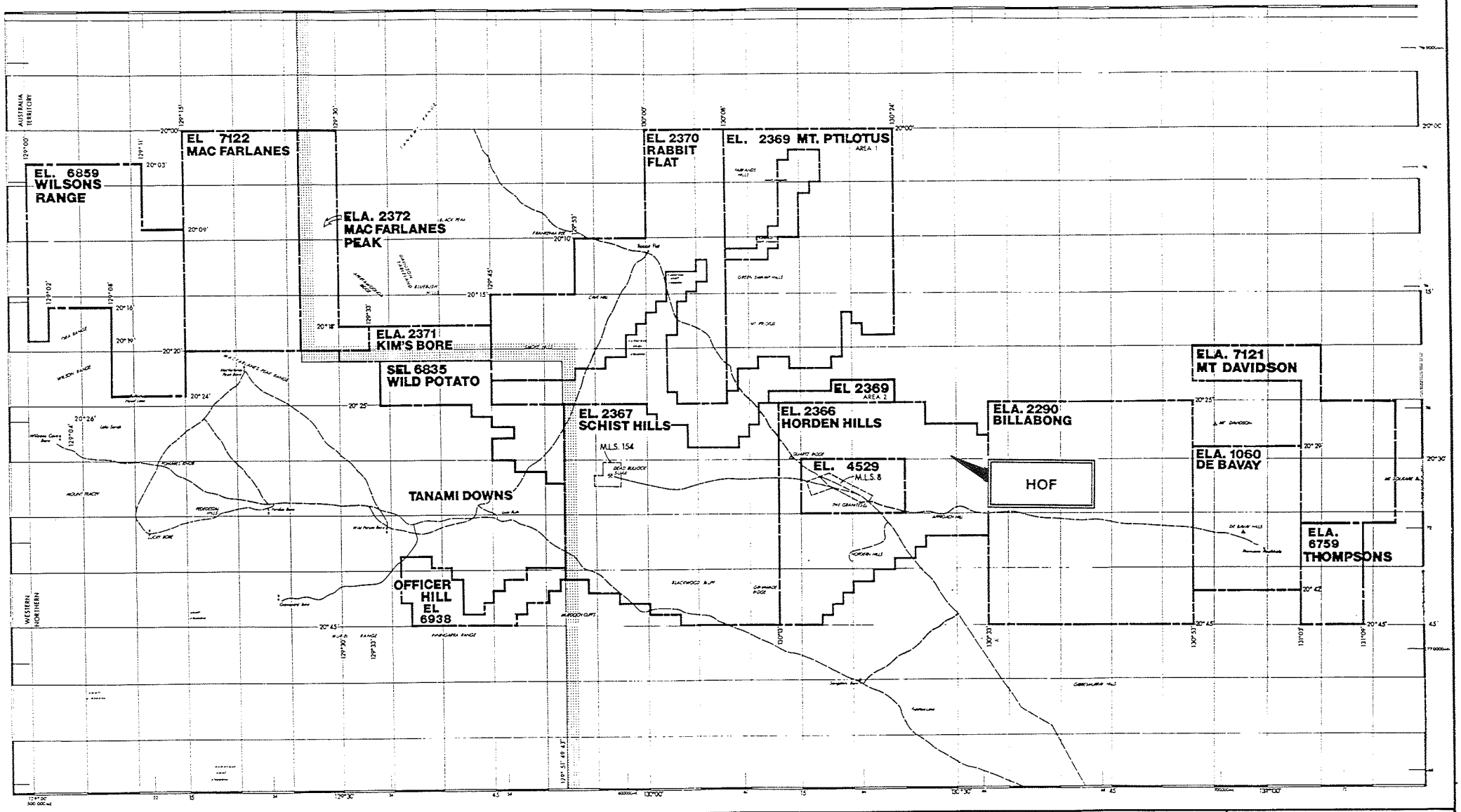
EASTING	COSTEAN		RAB DRILLING*			NORTHING
					Drillhole No.	
	Grade(ppm)	Geology	Grade(ppm)	Geol.	HFRB	
29950	5m @ 0.01	hornfelsed CSC	1.5mT @ 0.06	Dolerite	049	10010
	4m @ 0.01	?SHIM	1.5mT @ 0.17	Dolerite	052	10045-50
30000	5m @ 0.02	silic dol contact with Sch	1.5mT @ 0.37	Dolerite	047	10085-90
	1m @ 0.05	graph Sc on dyke contact	1.0 mT @ 0.50	Dolerite	048	10105
30050	4m @ 0.2 (incl 1m @ 0.56)	silic Dolerite	1.5mT @ 0.09	?Dol	041	10110
	2m @ 0.27	graph cherty Sc + ? Bl			042	10135
	3m @ 0.03	silic Dolerite	3mT @ 0.39	Dolerite	043	10145
30100			4.5mT @ 0.06	Dolerite	036	10135

* Drilled gold intersections are 14-20 metres vertically below the surface and beneath the weathering depletion zone.

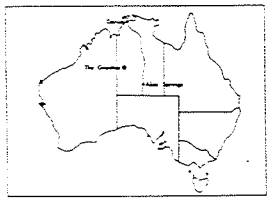
9.4 Plans

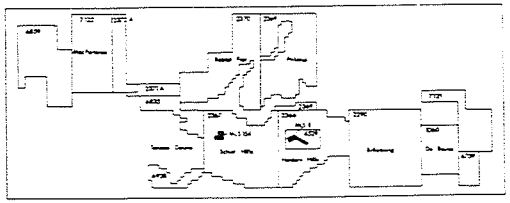
Drawing No.	Title	Scale
1900-1352	HOF:Costeans 30050E,30100E.	1:250
1900-1358	HOF:Costeans 29950E,30000E.	1:250
1900-1432	HOF:Geology	1:2500
1900-1348	Rockchip locations and assays	1:2500
1900-1350	Drilling locations with colluvium assays	1:2500
1900-1351	Drilling locations with bedrock assays	1:2500
1900-1353	Vacuum Drilling: X-Section and Assay, 29700E*	1:500
1900 1354	Vacuum Drilling: X-Section and Assay, 29800E*	1:500
1900 1355	Vacuum Drilling: X-Section and Assay, 29900E*	1:500
1900 1356	Vacuum Drilling: X-Section and Assay, 30000E*	1:500
1900 1357	Vacuum Drilling: X-Section and Assay, 30100E*	1:500
1900-1418	Vacuum Drilling: X-Section and Assay, 30200E	1:500
1900-1419	Vacuum Drilling: X-Section and Assay, 30300E	1:500
1900-1269	RAB X-Section: Geology and Assay, 30000E	1:500
1900-1270	RAB X-Section: Geology and Assay, 10000N	1:500
1900-1429	RAB X-Section: Geology and Assay, 30050E	1:500
1900-1430	RAB X-Section: Geology and Assay, 30100E	1:500
1900-1431	RAB X-Section: Geology and Assay, 29950E	1:500
1900-1574	HOF: Interpretive Geology	1:2500

* Not supplied as submitted with the previous Annual Report.



LOCATION MAP





LEGEND

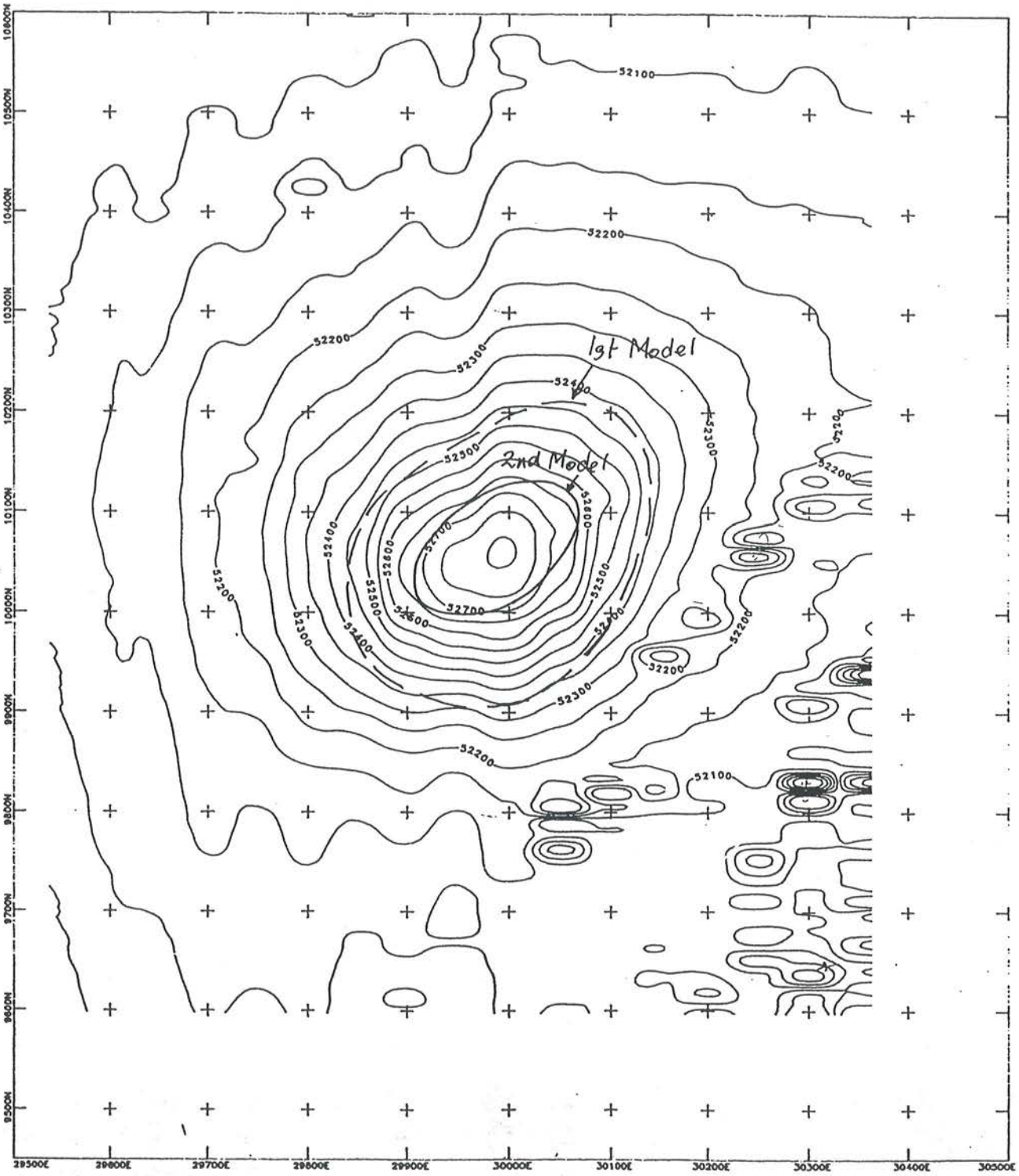
NORTH FLINDERS MINES LIMITED

Tanami Reconnaissance : Northern Territory

EL LAYOUT

Fig. 9A

Dwg No. 20-1



Total Magnetic Intensity Map with Anomalous Source Superimposed
(PETER RUTTER 1991)

Fig. 9B