

# Normandy NFM Limited

NORMANDY EXPLORATION PTY LTD

# せつののの

# SECOND ANNUAL REPORT FOR EL8734 (PARGEE) FOR THE YEAR TO 8 SEPTEMBER 2001

1:250,000 SHEET REFERENCE: TANAMI SF52-15

1:100,000 SHEET REFERENCE: PARGEE 4758 MALLEE 4759

**DISTRIBUTION:** □ NT DEPARTMENT OF MINES AND ENERGY

■ NORMANDY NFM LIMITED

■ SIMON TITCHENER

The contents of this report remain the property of Normandy NFM Limited and may not be published in whole or in part nor used in a company prospectus without the written consent of the Company.

D Power August 2001 Normandy RN: 29121

### **SUMMARY**

The Pargee Exploration Licence 8734 is located in the Granites-Tanami block, approximately 150km northwest of the Granites Gold Mine. The licence was granted on the 9th September 1999. This is the second annual report for the Pargee EL covering the period to 08/09/2001.

Exploration comprised orientation surface sampling as well as regolith assessment drilling.

Exploration activity over the reporting period has incorporated:

Gridding
 Ground Magnetics
 Stream Sediment Sampling:
 Rock Chip Sampling
 Lag Sampling
 4.5 line kms
 4.5 line kms
 51 samples
 6 samples
 114 samples

Aircore Drilling: 28 holes for 1307m, 419 samples

Petrology 3 samples

Future work will involve the evaluation of shallowly covered areas using surface sampling as well as aircore drilling to empirically evaluate areas of deeper cover. Conceptual targets will also be tested.

# **TABLE OF CONTENTS**

# Page Number

1	INTRODUCTION	. 1
2	TENEMENT DETAILS	. 1
3	LOCATION, ACCESS AND PHYSIOGRAPHY	. 1
4	HISTORICAL EXPLORATION	. 1
5	GEOLOGY	. 2
6	WORK COMPLETED	. 3
6.1 6.2 6.3 6.4	GROUND MAGNETIC SURVEY  LAG SAMPLING & ROCK CHIP SAMPLING.  STREAM SEDIMENT SAMPLING.  AIRCORE DRILLING	. 3 . 4
7	EXPENDITURE INCURRED FOR THE REPORTING PERIOD	. 5
8	FORWARD PROGRAM	. 5
8.1	Proposed Expenditure	. 5
9	REFERENCE LIST / ANNUAL REPORT BIBLIOGRAPHY	. 6

# **LIST OF FIGURES**

		Scale
Figure 1	Normandy NFM Tenements (Tanami Region, NT) Showing Location of EL8734	1:1,000 000
Figure 2	EL8734 Prospect Location Map	1:500 000
Figure 3	Sample, Drillhole & Ground Magnetics Traverse Locality Plan	1:50 000

# **LIST OF APPENDICES**

Appendix 1	Digital Sample & Drillhole Data: containing the following files:
Appendix	Digital Campic & Difficiol Data. Containing the following files.

EL8734(a)2001\_Assay.DAT EL8734(a)2001\_CodeGeol.DAT EL8734(a)2001\_Collar.DAT EL8734(a)2001\_Soil.DAT EL8734(a)2001\_Survey.DAT

Appendix 2 Geophysical Data

EL8734(a)2001\_GMag.xls (EXCEL file on CD)

Appendix 3 Sampling and Survey Methodology

Appendix 4 Petrological Sample Descriptions

### 1 INTRODUCTION

Exploration Licence 8374 was granted to Simon Titchener and subsequently managed by Normandy NFM Limited on 9th September 1999 for a period of six years (Table 1). The area of the tenement stands at 456 blocks for 1468km<sup>2</sup>.

This report covers the Pargee Tenement for the period ending 08/09/2001.

### **2 TENEMENT DETAILS**

Normandy NFM Limited (NNFM) has signed an Option Agreement with Simon TitchEner (a copy of this Agreement has been lodged with the Department). Under the terms of the Agreement NNFM is responsible for all exploration, exploration programs, budgets, statutory reporting and compliance with the Mining Act. NNFM under the terms of the agreement may at any time between the date of the Agreement and the expiration of the 3<sup>rd</sup> option period (being the 3<sup>rd</sup> anniversary of the grant of the EL) elect to purchase the EL from Simon Titchener.

TABLE 1: EL8734 (Pargee) Tenement Summary

Area Name	Blocks	Km²	Grant Date	Expiry Date	Covenant
Pargee	456	1468	09/09/99	08/09/05	\$70,000

### 3 LOCATION, ACCESS AND PHYSIOGRAPHY

The Pargee EL is located in the Tanami Desert region, approximately 150km NW of the Granites Gold Mine. The area is covered by the Tanami (SF52-15), 1:250 000 series map sheet, as shown on Figure 1.

Access to the tenement can be gained via the old Tanami Highway, or a seismic line that runs north of the Tanami Road toward the Pargee Range.

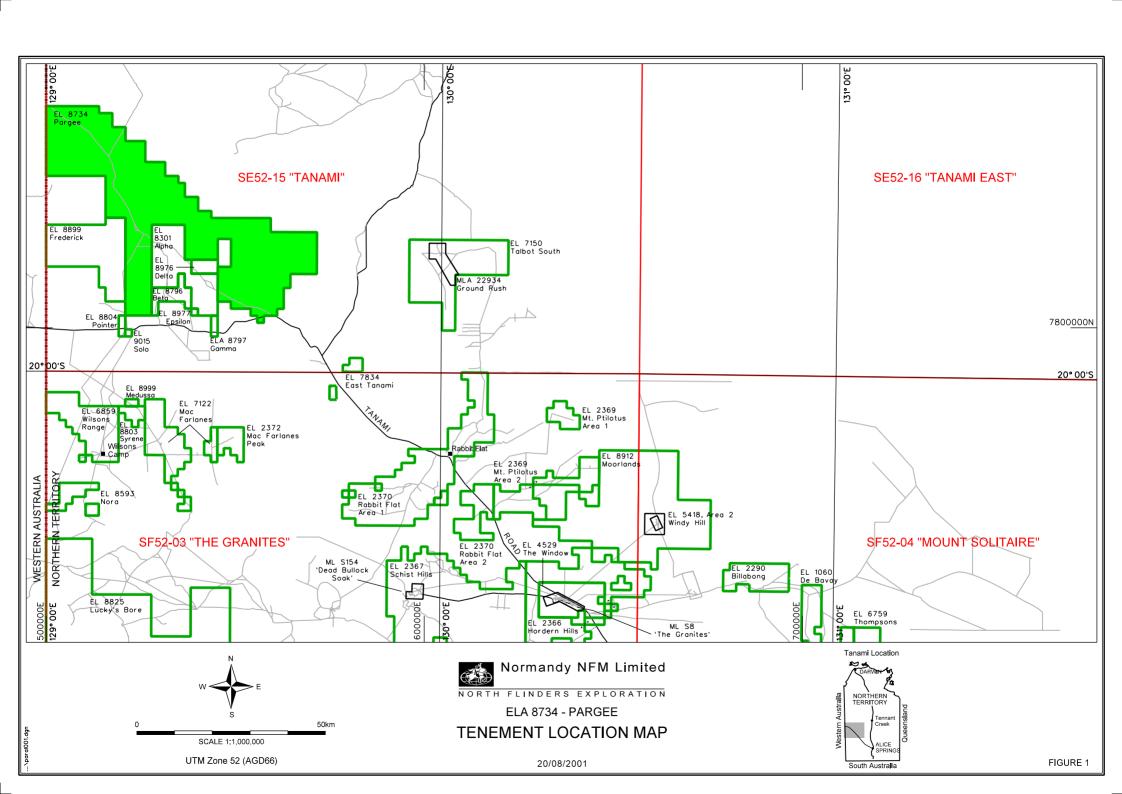
Approximately 70% of the project area is dominated by various thicknesses of alluvial cover, the depth of which is greatest within palaeodrainage systems. Hills and ridges are common in northern and central parts of the project area and range in height from less than 30m to more than 200m above the surrounding plains. They are often steeply incised by narrow channels and creeks, which pass into outwash fans before disappearing into the surrounding sand plains.

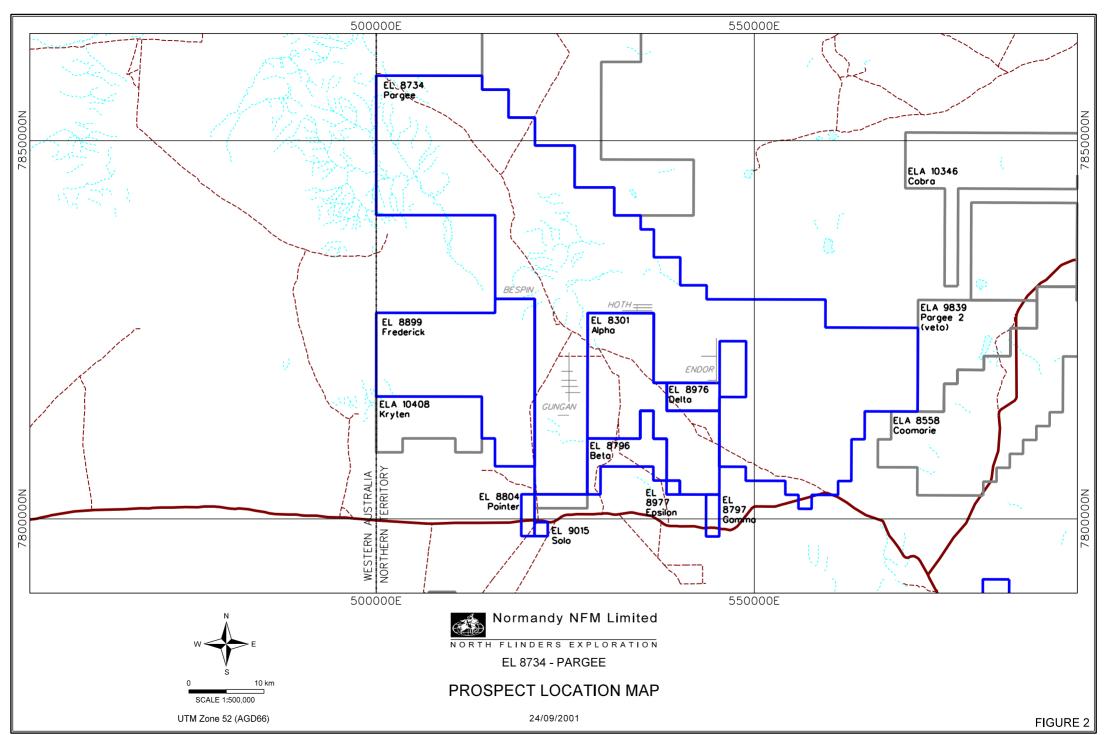
Vegetation is generally sparse, because of the arid climate and predominantly sandy soils, and consists mainly of spinifex with scattered low trees (mostly species of eucalyptus and acacia), shrubs and herbaceous plants. Few trees are taller than 8m with relatively large trees present only along creeks.

There are no permanent watercourses in the region, however water apparently persists at the Pargee Rockhole and in some creeks for at least a few months following seasonal rains.

### 4 HISTORICAL EXPLORATION

Limited exploration has been undertaken within the region presently occupied by the Pargee Exploration License. Power and Nuclear Corporation (PNC Exploration Australia) explored the district for uranium and gold from 1986-1990. No anomalism is reported within the area.





### 5 GEOLOGY

The Granites-Tanami Goldfield lies in the eastern part of the Early Proterozoic Granites-Tanami Inlier, which is part of the Northern Australian Orogenic Province (Plumb 1990). The Inlier abuts the Arunta Complex to the south and east and is onlapped by younger cover sequences including the extensive Palaeozoic Wiso Basin on its north-eastern margin. To the west, clastic sediments of the Middle Proterozoic Birrindudu Basin overlie and separate the Inlier from similar age rocks in the Halls Creek Province.

Meso Proterozoic Birrindudu Group sediments dominate the northern portion of the reporting area. These comprise mature fluviatile sandstones and interbedded shales of the Gardiner formation and to a lesser extent calcareous sediments of the Talbot Well formation. The Birrindudu sediments are unmetamorphosed, shallowly dipping and unconformably overlie Palaeo Proterozoic sediments of the Pargee formation, which is characterised by immature fluviatile sandstone and intercalated siltstones. The Pargee sequence unconformably overlies turbiditic greywacke and pelitic sedimentary sequences of the Killi Killi group. The Palaeo Proterozoic units have been subject to complex, polyphase deformation and have reached greenschist facies metamorphism during the regional Barramundi Orogeny. The south-eastern portion of the tenement is dominated by the post orogenic Coomarie Batholith.

### **6 WORK COMPLETED**

### 6.1 Ground Magnetic Survey

During the reporting period ground magnetic surveys were conducted over conceptual target areas.

The surveys were undertaken with the objective of providing ground control for the aeromagnetic anomalies and geological definition of the magnetic sources. In total, 3 lines were surveyed comprising 4.5 line kilometres (Table 3).

These surveys were conducted by Normandy personnel, utilising methods outlined in Appendix 3 of this report. Profiled data is provided in Appendix 2. Survey lines are shown on Figure 3.

TABLE 2: EL8734 (Pargee) Ground Magnetic Survey Details

Line ID	Prospect	Date Completed	AMG Easting	AMG Northing	Bearing (AMG)	Length (km)
7813700	Gungan	17/09/2000	524000	7813700	090	1.5
	Bespin	06/06/2001	518250	7829400	036	1.5
	Bespin	06/06/2001	517000	7831500	036	1.5
					TOTAL	4.5km

### 6.2 Lag Sampling & Rock Chip Sampling

Lag and rock chip samples were collected at reconnaissance spacing ( $500m \times 500m$ ) within appropriate regolith domains. Samples were collected and recorded utilising methods outlined in Appendix 3 of this report. Sample locations are shown on Figure 3.

TABLE 3: EL8734 (Pargee) Lag & Rock Chip Sample Details

Sample Type	Sample Numbers	Total	Genalysis Method	Elements Analysed
Lag	3242001-005, 3242007-029, 3242031-046; 3242140-3242179,	114	[B*ETA] Aqua Regia digest with Enhanced Sensitivity Graphite Furnace Atomic Absorption Spectrometry.	Au (0.1ppb)
	3242181-200; 3242619-627; 756310.		[A/MS] Multi Acid digest with Inductively Coupled Plasma Mass Spectrometry.	Th, Bi, U (0.01ppb) Sb (0.05ppm) Mo, W, Sn, Co, Ag (0.1ppm)
RC	755091-755093; 756311-756313.	6		As, Ni, Cu (1ppm) Pb (2ppm), Fe (0.01%)
				120 samples

All gold assays returned from this program were less than 20ppb.

### 6.3 Stream Sediment Sampling

Stream sediment samples were collected from representative drainage sites within the Pargee and Gardiner Ranges. The program was intended to empirically test for unconformity and vein-style mineralisation. Sample locations are shown on Figure 3.

The samples were analysed by Genalysis as detailed below (descriptions of analytical techniques including detection limits, are provided in Appendix 1). Samples were also sent to Becqurel to be assayed by Neutron Activation (descriptions of analytical techniques including detection limits, are provided in Appendix 1).

TABLE 4: EL8734 (Pargee) Stream Sediment Sample Details

Sample Numbers	Total	Laboratory	Method	Elements Analysed
		Genalysis	ICP Mass Spectrometry	Au / Ag /Cu
287779-793, 287798-829, 287794-797	51	Becqurel	INAA	Au (5ppb), Ag, As, Ba, Br, Ca, Ce, Co, Cr, Cs, Eu, Fe, Hf, Ir, K, La, Lu, Mo, Na, Rb, Sb, Sc, Se, Sm, Ta, Te, Th, U, W, Yb, Zn, Zr.
				51 samples

There were no repeatable gold anomalous assays.

### 6.4 Aircore Drilling

Aircore drilling was used to make an initial regolith and lithological assessment of priority areas. This work also utilised the ground magnetic data outlined in section 6.1.

Samples were collected and recorded and all holes were rehabilitated utilising methods outlined in Appendix 3 of this report. Complete assay records and sample descriptions are included in Appendix 1.

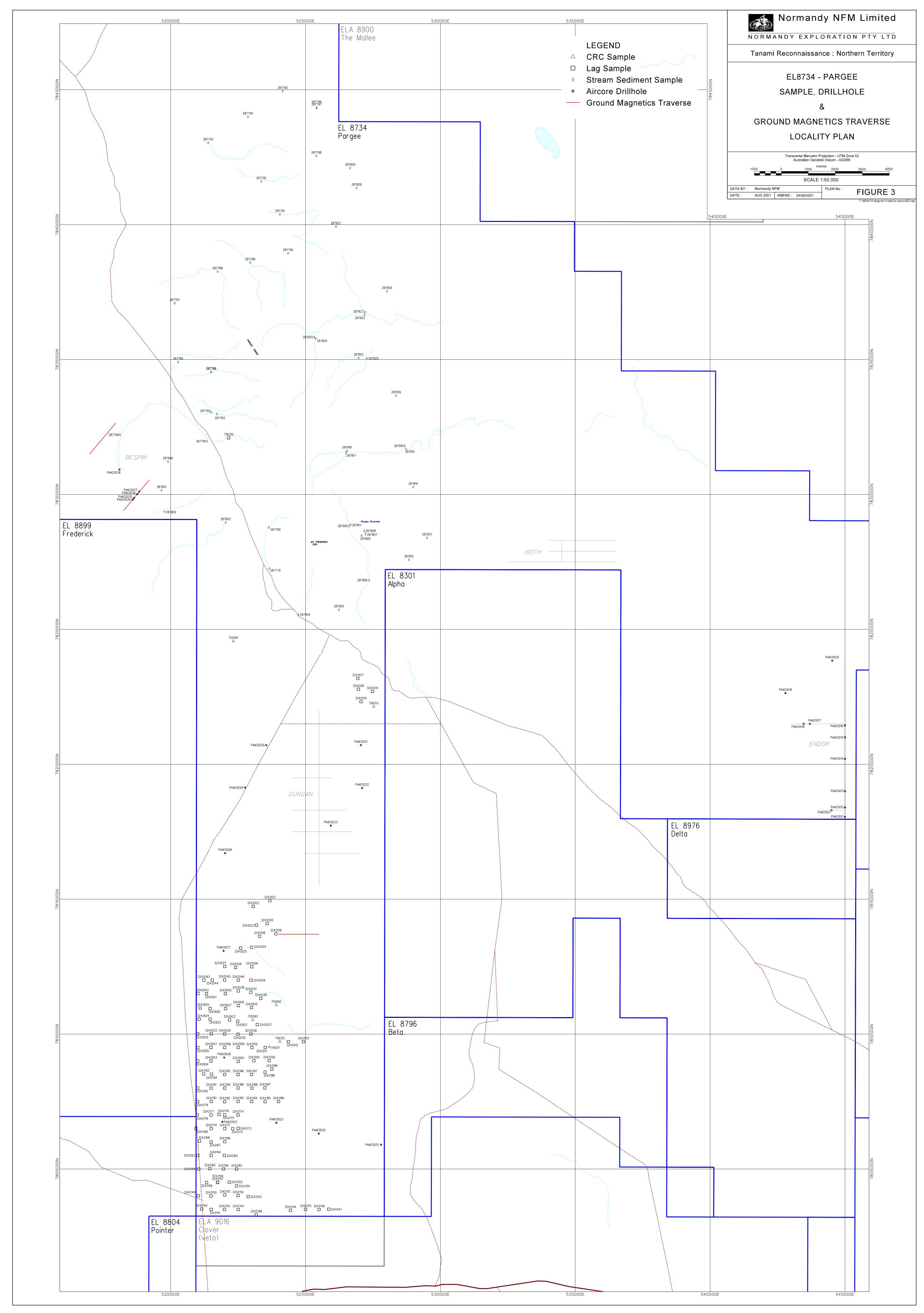
Samples were sent to Amdel for multielement analysis by the ARM1 analytical technique (see Table 5 for details) and drill chips were retained for later inspection and storage.

Three samples were sent for petrological analysis (see Appendix 4 for details).

TABLE 5: EL8734 (Pargee) Aircore Drillhole Details

Drillhole ID	Total Holes	Metres	Total samples	Sample type	Laboratory	Elements Analysed
PAAC011-038	28	1307	419	3m composite	Amdel ARM 1 Aqua Regia leach / ICP- MS	Ag, As, Au, Bi, Cd, Co, Cu, Mo, Ni, Pb, Sb, Se, Te, Zn
					28 h	oles for 1307m, 419 samples

Drilling intersected sediments and variously differentiated granitoids with locally sheared fabrics and minor veining. All gold assays returned from this program were less than 50ppb.



### 7 EXPENDITURE INCURRED FOR THE REPORTING PERIOD

TABLE 6: EL8734 (Pargee) Exploration Expenditure for the Year to 08/09/01

COST CENTRE	EL8734 TOTAL
Employee Costs	62,290.97
Operating Costs	42,397.55
Laboratory Costs	14,444.43
Drilling	23,040.23
Specialist Services	340.00
TOTAL	142,513.18
COVENANT	\$70,000.00

### 8 FORWARD PROGRAM

Further work will involve an empirical assessment of prospective areas. It is anticipated that this work will involve geophysical surveys, surficial sampling and aircore drilling.

### 8.1 Proposed Expenditure

TABLE 7: EL8734 (Pargee) Details of Proposed Expenditure for the Year

COST CENTRE	EL8734 TOTALS
Aircore Drilling	\$8,500
Surface Sampling	\$5,000
Laboratory Costs	\$5,000
Employee Costs	\$8,000
Specialist Services	\$500
Operating Costs	\$8,000
TOTAL	\$35,000
PROPOSED COVENANT	\$35,000

The proposed program for EL8734 will lead to an expenditure that is anticipated to be in the vicinity \$35,000 for the 12 month period to 08/08/02.

### 9 REFERENCE LIST / ANNUAL REPORT BIBLIOGRAPHY

### **References**

- Blake, D., Hodgson, I.M., and Muhling, P.C., 1979. Geology of The Granites-Tanami Region, Northern Territory and Western Australia, *Bur. Miner. Resour. Geol. Geophys. Aust. Bull.* 197.
- Davidson, A.A. 1905. Journal of Explorations in Central Australia, by the Central Australian Exploration Syndicate, Limited, *South Australia Parliamentary Paper 27.*
- Gee, L.C.E. 1911. General Report on Tanami Goldfield and District (Northwestern Central Australia). South Australia Parliamentary Paper 31.
- Hossfeld, P.S. 1940b. The Gold Deposits of The Granites-Tanami District, Central Australia. *Aer. Geol. Geophys. Surv. N.Aust., Northern Territory Report 4*3.
- Mayer, T.E. 1990. The Granites Gold Field, in *Geology of the Mineral Deposits of Australia and Papua New Guinea* (Ed F.E. Hughes) pp 719-724 (The Australasian Institute of Mining and Metallurgy: Melbourne).
- Plumb, K.A. 1990. Halls Creek Province and The Granites-Tanami Inlier regional geology and mineralisation, in *Geology of the Mineral Deposits of Australia and Papua New Guinea* (Ed F.E. Hughes) pp 681-695 (The Australasian Institute of Mining and Metallurgy: Melbourne).

### **Reports to NTDME**

Power, D. 2000. Annual Report for EL8734 (Pargee) for the Year to 8 September 2000. Normandy Exploration Pty Ltd CR:27235.

# APPENDIX 1 – DIGITAL DATA APPENDIX 2 – GEOPHYSICAL DATA

# **APPENDIX 3 - SAMPLING METHODS AND ANALYTICAL TECHNIQUES**

### **SURFACE SAMPLES**

### RC (Rock Chip)

A composite technique is adopted whereby approximately 4-5kg of material comprising 10 to 15 grab samples is collected from within a 2m radius of the designated sample site. A description of sample material is recorded in the sample logs.

GPS equipment is used to determine reconnaissance sample locations in the absence of a local grid. Sampled sites have been marked with flagging tape and numbered aluminium permatags affixed to the outcrop.

### Lag

**Lag** is any hard surficial material varying from a coarse sand to rock fragments.

The sample is obtained via a shallow surface scrape, sieved to obtain approximately 250g of material and collected into a plastic zip seal bag. The size of the sieved fraction, which is variable from project to project, is listed in the sample logs.

Reconnaissance lag samples were collected using a Scoutmaster Global Positioning System (GPS) with an external aerial for navigation and lag sample location. Surface lag material was sieved to a +2mm size fraction and a 100-300g amount was double bagged and retained for multielement and low level gold analysis. Notes were made regarding the sample type, quality, description and grain size.

### SSS (Stream Sediment)

These samples are collected from defined drainage channels. Typically the samples are sieved to obtain approximately 100g of -80# mesh and analysed for gold, however on occasion multielement analysis is determined.

The density of sampling varies according to the perceived prospectivity of the rock units feeding the drainage system. Drainage sites are preselected using aerial photographs and sample material is collected from a radius of a few metres. Trap sites are deliberately avoided to eliminate sample bias.

### **RAB & AIRCORE DRILLING**

Drilling is undertaken by Century Drilling Ltd. The "Moonwalker" rig can readily covert between RAB and Aircore drilling if and when required.

All drill sites are appropriately rehabilitated with holes being plugged with a concrete bung and covered with available drill spoil.

Drillholes are typically composite sampled at 3m intervals where the geology is considered to be prospective. Depending on the program budget, the drillhole may be comprehensively sampled from surface, sampled only at particular lithologies or have been restricted to a bottom of hole sample. Drill spoil is speared to obtain 2kg composite samples. While this sample is customarily a 3m composite sample, the sample interval is ultimately left to the geologist's discretion. The sample intervals are clearly documented in the drillhole logs accompanying this report.

### **GEOPHYSICS SURVEY METHODOLOGY**

### **Ground Magnetics**

All ground magnetic surveys are effected by Normandy NFM personnel.

Total Magnetic Intensity (TMI) readings are taken at 0.1 second intervals (0.5m) using a GEM GSM-19W walkmag Overhauser magnetometer. Diurnal measurements are taken using a second magnetometer as a base station, with readings taken every 30 seconds.

Data is collected over surveyed lines which are pegged every 100m and clearly annotated with GPS controlled coordinates (Trimble Global Positioning System combined with a Racal differential GPS attachment).

On completion of the survey, diurnal variations are removed from the data using in-house geophysical software.

Details particular to each survey are discussed in the body of this report. Line origins are estimated to be within +/-50m of the AMG co-ordinates listed.

# **APPENDIX 4 - PETROLOGICAL SAMPLE DESCRIPTIONS**

Report # Author Date	Work G	Seo Prospect		Notes	Mt Frederick
Petrology # Count ID	Туре	NFMSample # From To	Easting Northing	Description	EL8734

Mt Frederick

EL8734 Parge

P8046a	PU	14/11/2000 TS	D	P Pargee (E	L)		Par	gee
P06	097	12 PAAC016	DC	3671603	75	78 545000	7821440	Quartz-plagioclase-biotite-magnetite-chlorite schist with a clay vein and sericitised plagioclase. Possibly Blake Beds?
P06	098	13 PAAC017	DC	3671619	45	48 543700	7821500	Altered schistose amphibolite with pale amphibole (tremolite-actinolite or magnesiohornblende). Sericite-epidote +/- prehnite-altered plagioclase, opaque oxide lenses and fragmented veins, largely filled by prehnite.
P06	099	14 PAAC033	DC	3673626	72	75 525935	7817729	Partly brecciated and veined, altered pyroxene diorite with very minor quartz and altered possible olivine.

### **BIBLIOGRAPHIC DATA SHEET**

29121 **REPORT NUMBER** 

SECOND ANNUAL REPORT FOR EL8734 (PARGEE) FOR THE YEAR TO 8 SEPTEMBER 2001 **REPORT TITLE** 

**PROSPECT NAME** Pargee, Bespin, Gungan, Hoth

EL8734 **TENEMENT NUMBER** 

S. Titchener **OWNER** 

Gold **COMMODITIES** 

**TECTONIC UNITS** Tanami Inlier

STRATIGRAPHIC UNITS Mount Charles Beds, Pargee Sandstone, Gardiner Sandstone

1:250,000 MAPSHEET SF52-15 Tanami

Mallee 4758, Pargee 4759 1:100,000 MAPSHEET

**KEYWORDS** Aircore Drilling, Geophysics, Ground Magnetic Surveys, Lag

Sampling, Petrology, Reconnaissance, Rock Chip Sampling,

Stream Sampling