### SOUTHERN TANAMI JOINT VENTURE

## Otter Gold NL (earning) Placer Dome

TANAMI REGION NORTHERN TERRITORY

### PARTIAL RELINQUISHMENT REPORT

For

**EXPLORATION LICENCE** 

EL9833

(Salt Lake 2)

(Part of the Granophyre 2 Agreement)

17<sup>th</sup> OCTOBER 2001 to 16<sup>th</sup> OCTOBER 2003

Volume 1 of 1

Newmont Report No: 31354

Compiled By: M.Muir

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TITLE: PARTIAL RELINQUISHMENT REPORT FOR

**EXPLORATION LICENCE 9833** 

**PERIOD:** 17<sup>th</sup> OCTOBER 2001 to 16<sup>th</sup> OCTOBER 2003

**REPORT No.:** 31354

**COMPILED BY:** M. MUIR

**LOCATION:** GRANITES 1:250,000 SE 52-3

FRANKENIA 1:100,000 4857

**COMMODITY:** GOLD

**DATE:** JANUARY 2003

**KEYWORDS:** GEOCHEMICAL SAMPLING, LAG SAMPLING, REGIONAL

GEOLOGY, PROTEROZOIC, VERY LOW GOLD DETECTION

ANALYSIS.

### **SUMMARY**

Exploration Licence (EL) 9833 (Salt Lake 2) was granted on the 17<sup>th</sup> of October 2001 for a period of six years. The exploration license was subject to a Deed (Granophyre 2) between the Otter Gold NL and the Traditional Owners. At the end of the second year of exploration it was decided to relinquish ground because of escalating tenement costs. The ground was reduced from 4 blocks (13 km²) to 2 blocks (6.5 km²).

The relinquished ground included 32 regional surface samples completed by Newmont where results were less than 2ppb Au. The surface samples were taken in bulk on a 500m x 500m grid. Other activities during the tenure of the licence included two regional drill holes and also focussed on remote detection of targets using the multiscale edge analysis worm technique and aeromagnetics. An assessment of the Exploration License was made and the decision was made to partially surrender EL9833 on the 17 October 2003.

Activity in Relinquished Ground	No. of Drillholes	No. of Samples	High Result	Sample Spacing
Geochemistry	-	20	2ppb Au	500m x 500m
Regional Drilling	2	-	-	-

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### 1.0 INTRODUCTION

This report contains details of exploration activities conducted within the relinquished ground EL9833 for the period 17<sup>th</sup> October 2001 to 16<sup>th</sup> October 2003. The tenement was part of the Granophyre 2 Agreement and was partially relinquished at the end of the second year of tenure.

The exploration that has been completed on the ground to be relinquished has produced no significant results and the ground is not seen as prospective. Also due to the high tenement costs associated with this licence there was seen a need to "drop off" the least prospective ground to focus exploration dollars in regions of substantially higher prospectivity.

### 2.0 LOCATION AND EXPLORATION HISTORY

### 2.1 Location and Access

Exploration Licence 9833 is situated 10 to 15km northwest of Callie (Figure 1). Main access to the tenements is by the Tanami Track and then via the Tanami Downs Road.

### 2.2 Tenement Status

Exploration Licence 9833 (Salt Lake 2) was granted to Otter Gold NL on the 17<sup>th</sup> October 2001 for a period of six years. The Exploration Lease is part of the Granophyre 2 Agreement between Otter Gold NL and the Traditional Owners.

The tenement originally comprised 4 blocks covering an area of 13 square kilometres, with control of Otter Gold NL being gained by Newmont NFM it was decided because of escalating tenement costs that the ground should be partially relinquished at the end of its second year. During October of 2003 a decision was made to reduce EL9833 ground from 4 blocks (13km²) to 2 blocks (6.5km²). See Figure 2 for approximate ground relinquished.

### 3.0 GEOLOGY

### 3.1 Regional Geology

The Granites – Tanami Block is bounded to the west by the Canning Basin, and to the east by the Wiso Basin and is considered to be one of the western most Palaeoproterozoic inliers of the Northern Australian Orogenic Province. The block is thought to have developed around the Barramundi Orogeny – major event 1845 – 1840 Ma (Blake et al., 1979).

The stratigraphy of the Tanami Region has been revised as a result of an intensive study recently completed by the NTGS (Hendrickx et al., 2000). The stratigraphy outlined by Blake et al (1979) has had some significant modifications (Table 1).

The Archaean Billabong Complex and Browns Range Metamorphics are the oldest rocks in the area. Browns Range Metamorphics comprise granitic gneiss and muscovite schist intruded by fine-grained granite, thin granitic sills, aplite and pegmatite. The Billabong Complex comprises banded granitic gneiss', which are generally elongated and fault bound.

**Table 1.** Comparison of stratigraphic nomenclature (Hendrickx et al, 2000).

Blake et al (1979)					Hendrickx et al (2000)					
Birrindudu		Co	Coomarie Sandstone			Birrindudu	Coomarie			
Group	Group			Group	Sandstone Suplejack					
Talbot Well Formation				Talbot Well	Downs					
						Formation	Sandstone			
Gardiner Sandstone				Gardiner						
						Sandstone				
Suplejack Downs Sandstone					Nanny Goat Creek Volcanics					
Mount Winne	Mount Winnecke					Mount Winnecke Group				
Pargee Sandstone				Pargee	Mount Charles Formation					
					Sandstone					
Tanami	Mt.	Killi	Nanny	Nongra	Helena	Tanami	Killi Killi Formation			
Complex	Charles Beds	Killi Goat Beds Creek Beds Group Ty		Twigg Formation						
Deus		Beas	Beds		Deas		Dead Bullock Formation			
						McFarlane	arlane Peak Group			
Archaean				Browns Range Metamorphics						
					"Billabong Complex"					

Lying unconformably above the Archaean basement is the Palaeoproterozoic McFarlane Peak Group. These rocks are characterised by a thick sequence of mafic volcanic, volcaniclastic and clastic sedimentary rocks, which possess a distinctive magnetic and gravity signature. This package of rocks is structurally complex and is considered to have a tectonic contact with the overlying Tanami Group.

The Tanami group is subdivided into three formations:

Twigg Formation: purple siltstone with minor sandstone and chert

Killi Killi Formation: turbiditic sandstone

Dead Bullock Formation: siltstone, mudstone, chert and banded iron formation

The Dead Bullock Formation occurs at the base of the Tanami Group and is dominated by fine-grained sedimentary rocks. The rocks outcrop at Dead Bullock Soak, Lightning Ridge and Officer Hill. At the Granites the rocks have been metamorphosed to amphibolite facies to form andalusite, garnet and hornblende bearing schists. The Dead Bullock formation is host to significant gold mineralisation at the Granites and Dead Bullock Soak.

The Killi-Killi Formation conformably overlies the Dead Bullock Formation and is the most extensive formation in the group. The sequence of turbidites includes micaceous greywacke, quartzwacke, and lithic greywacke, quartz arenite and lithic arenite, interbedded with siltstone, mudstone and occasional thin chert beds. Detrital mica is a characteristic feature. The Killi-Killi is metamorphosed to lower greenschist facies and is interpreted to be up to 4km thick.

The Twigg formation is confined to a narrow package of rocks immediately west of the Tanami Mine corridor. It comprises a sequence of interbedded purple siltstone with thin-bedded chert and minor medium bedded greywacke.

The Pargee Sandstone unconformably overlies the Tanami Group and is exposed on the western side of the Coomarie Dome extending into Western Australia. The Pargee Sandstone comprises thick-bedded quartz arenite, lithic arenite and conglomerate with pebbly sandstone and conglomerate at the base.

The Mount Charles Formation comprises an intercalated package of basalts and turbiditic sediments, which occur on the western side of the Frankenia Dome. The Mount Charles Formation is host to structurally controlled vein hosted gold mineralisation in the Tanami Mine Corridor. Sediments include sandstone, mudstone, carbonaceous mudstones and intraclast conglomerate. Basalts are predominantly massive units with pillow basalts and basaltic breccias also evident.

The Mt Winnecke Group is also interpreted to lie unconformably over the Tanami Group and is divided into two units - siliciclastic sediments and felsic volcanics.

The Nanny Goat Volcanics are characterised by extrusive volcanic rocks including quartz-feldspar ignimbrite, feldspar ignimbrite, rhyolite lava, basalt and minor siliciclastic sediments.

The Birrindudu group comprises 3 units with Gardiner Sandstone at the base, overlain by Talbot Well Formation and Coomarie Sandstone. The Suplejack Down sandstone is interpreted to belong to this group but is relationship is unclear. The Birrindudu group lie unconformably over the Browns Range Metamorphics, MacFarlane Peak Group, Tanami Group, Pargee Sandstone, Nanny Goat Creek Volcanics and Mount Winnecke Group.

Cenozoic laterite, silcrete, calcrete, and Quaternary debris cover 60 - 70% of the Tanami Desert. The Quaternary sediments are generally unconsolidated, representing the most recent phase of erosion and deposition of sands, gravels and lithic fragments.

### 3.2 Local Geology

EL 9833 is dominated by major palaeodrainages of significant size. EL 9833 is covered by calcrete to the south, drainage centrally and ?Killi Killi Beds to the north. Aeromagnetic images show a fractionated granite partially within this Licence.

### 4.0 EXPLORATION HISTORY of Relinquished Ground within EL9833

### 4.1 Exploration completed during 17<sup>th</sup> October 2001 to 16<sup>th</sup> October 2002.

First year work programmes were put on hold within this region with the change of control in Otter Gold NL. Work priorities needed to be assessed. Work during this year involved remote discrimination of targets using an enhanced geophysical technique, the multiscale edge analysis (worming) process (developed by Fractal Graphics) that Otter Gold applied over the Tanami Region. The worming process was designed to generate targets within stratigraphic units with moderately to strongly contrasting internal magnetic signatures. The re-imaging of the worm data (multi scale edge analysis) delineated no targets within EL9833.

### 4.2 Exploration completed during 17<sup>th</sup> October 2002 to 16<sup>th</sup> October 2003

32 soil samples (See Figure 7 for sample locations and results) were collected over the relinquished portion of EL 9833 on an approximately 500m by 500m grid. Samples were analysed using the Newmont Proprietary technique. The maximum result included a 1.92ppb Au.

Two regional aircore holes were also completed (REC0006 & REC0007). These were 72m and 96m in depth with approximately 55m of cover (dominated by totally weathered clay  $\pm$  gypsum). The holes were interpreted to be pelitic in nature and 'granitic'. No significant results were recorded. See Figure 6.

### 5.0 ENVIRONMENT

Environmental disturbance has been kept to a minimum wherever possible. The backfilling of sample holes and the emphasis on remote detection of targets have kept the environmental disturbance to a minimum. All rubbish was removed from sites and camps.

### 6.0 REFERENCES

**Blake, D.H.**, Hodgson, I.M., and Muhling, P.C., 1979, *Geology of the Granites-Tanami Region*, Bur. Min. Res. Geol. Aust. Bull., No. 197.

Hendrickx M.A., Slater K.R., Crispe A.J., Dean A.A., Vandenberg L.C., and Smith J.B., 2000. Palaeoproterozoic stratigraphy of the Tanami Region: regional correlations and relation to mineralisation – preliminary results. Northern Territory Geological Survey. Geological Survey Record GS 2000-13.

**Hodgson, C. J.**, 1975, Tanami, Northern Territory, 1:250,000 Geological Series: Explanatory Notes.

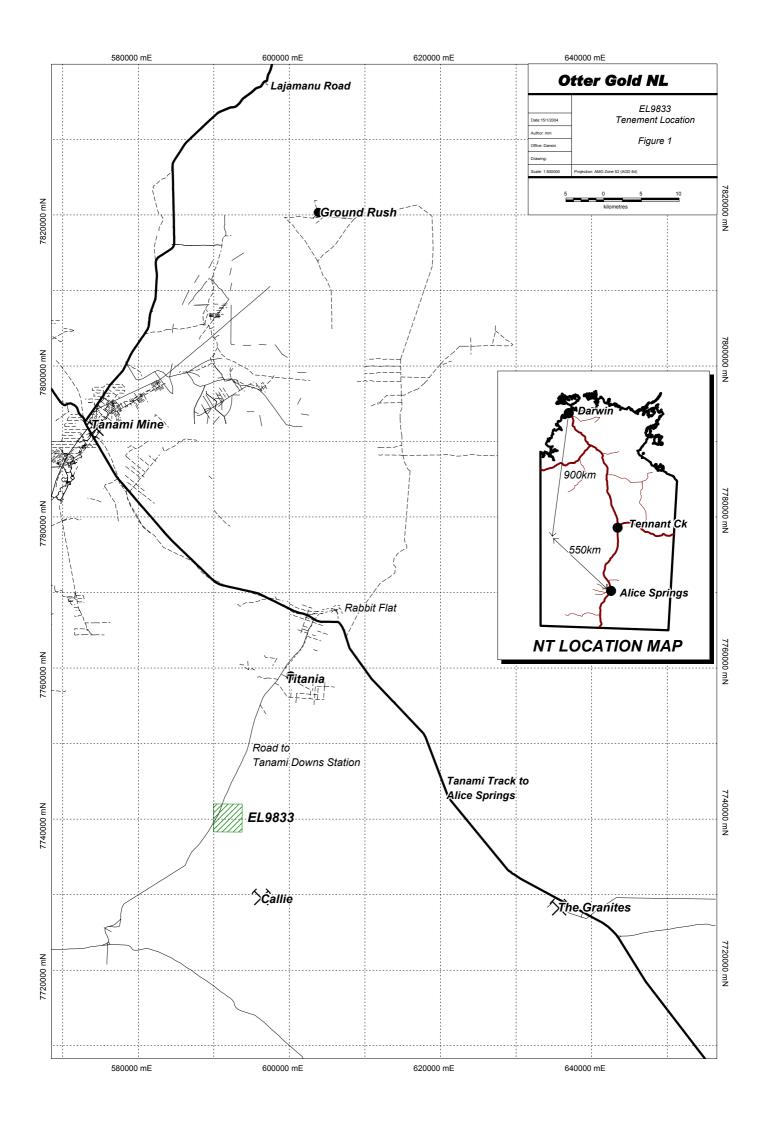
Marsh, S., 1996, Geological and Structural Controls on Magnetism in the Tanami Mine Corridor, Tanami Desert, Northern Territory, Masters Thesis, University of Tasmania, Hobart.

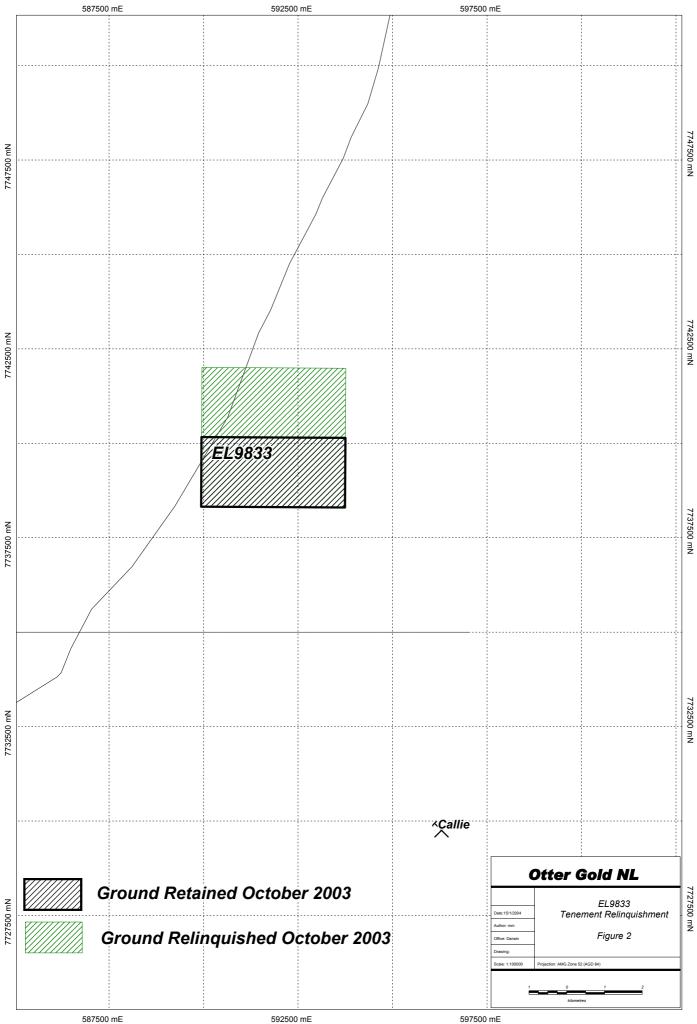
**Muir, M.,** 2002, First Annual Report For EL's 7908, 8526, 9833 & 9845 Tanami Region, NT, STJV, Unpublished Company Report

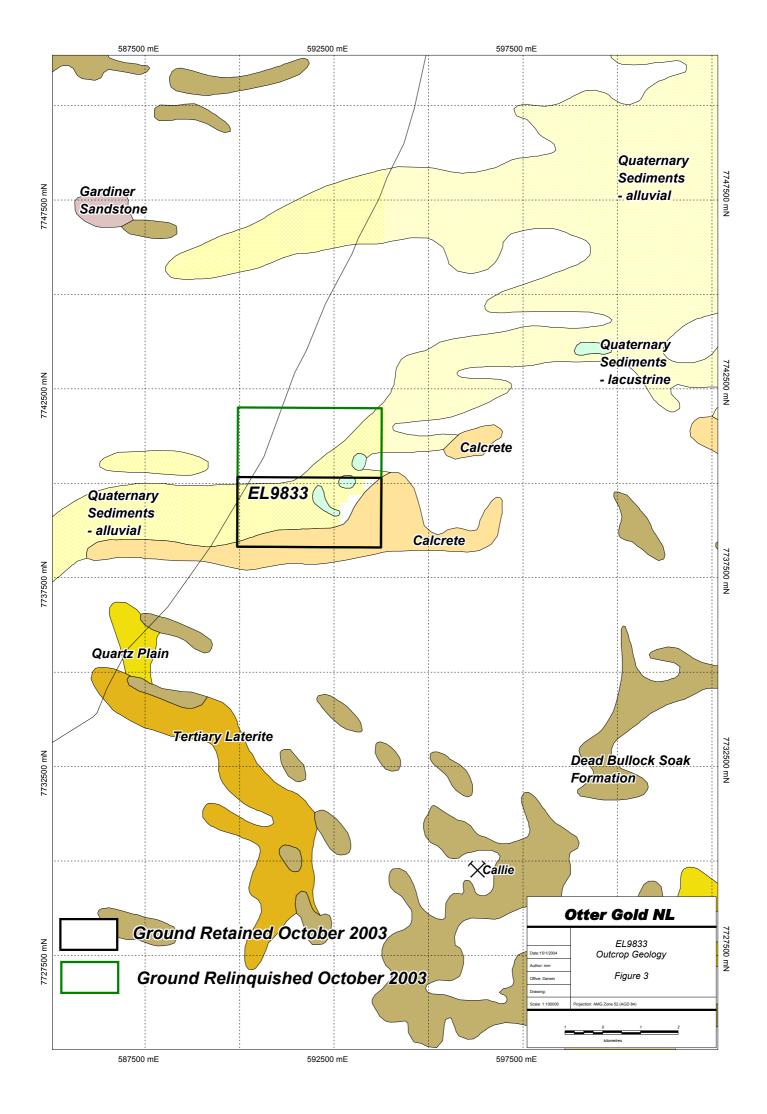
**Muir, M.,** 2003, Second Annual Report For EL's 7908, 8526, 9833 & 9845 Tanami Region, NT, STJV, Unpublished Company Report

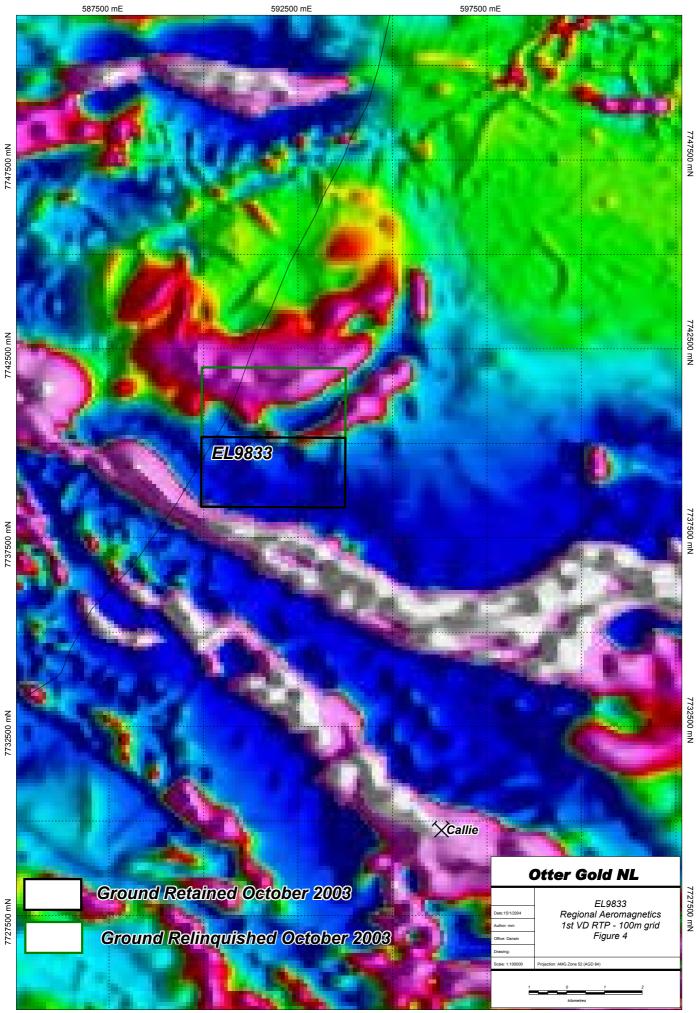
**Tunks, A. J.**, 1996, Geology of the Tanami Gold Mine, Northern Territory, PhD Thesis, University of Tasmania, Hobart.

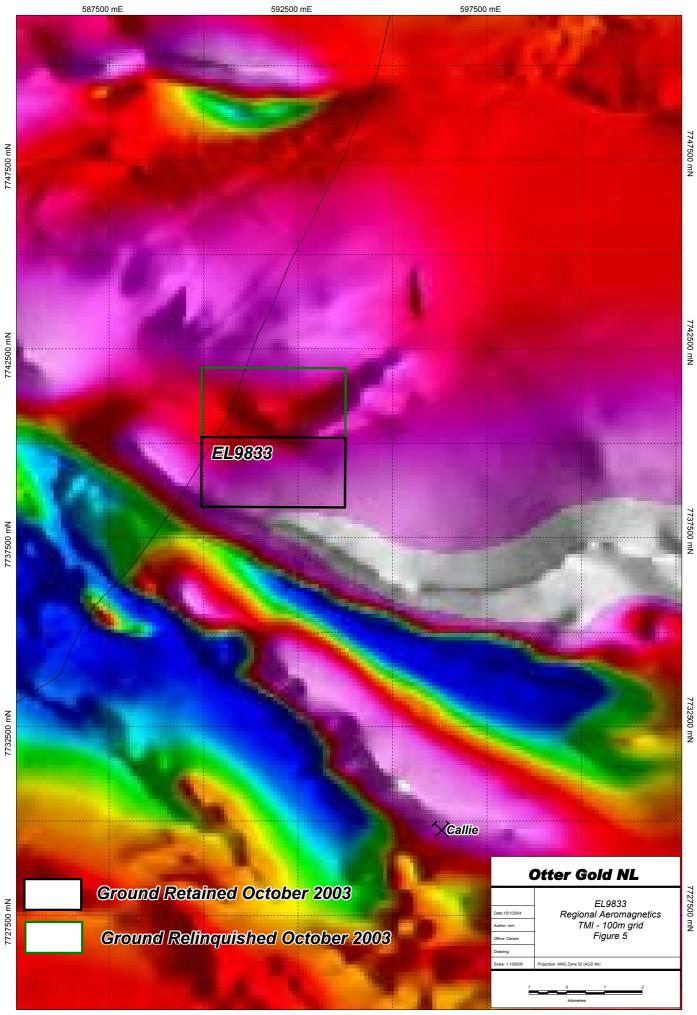
# **APPENDIX 1 Figures**

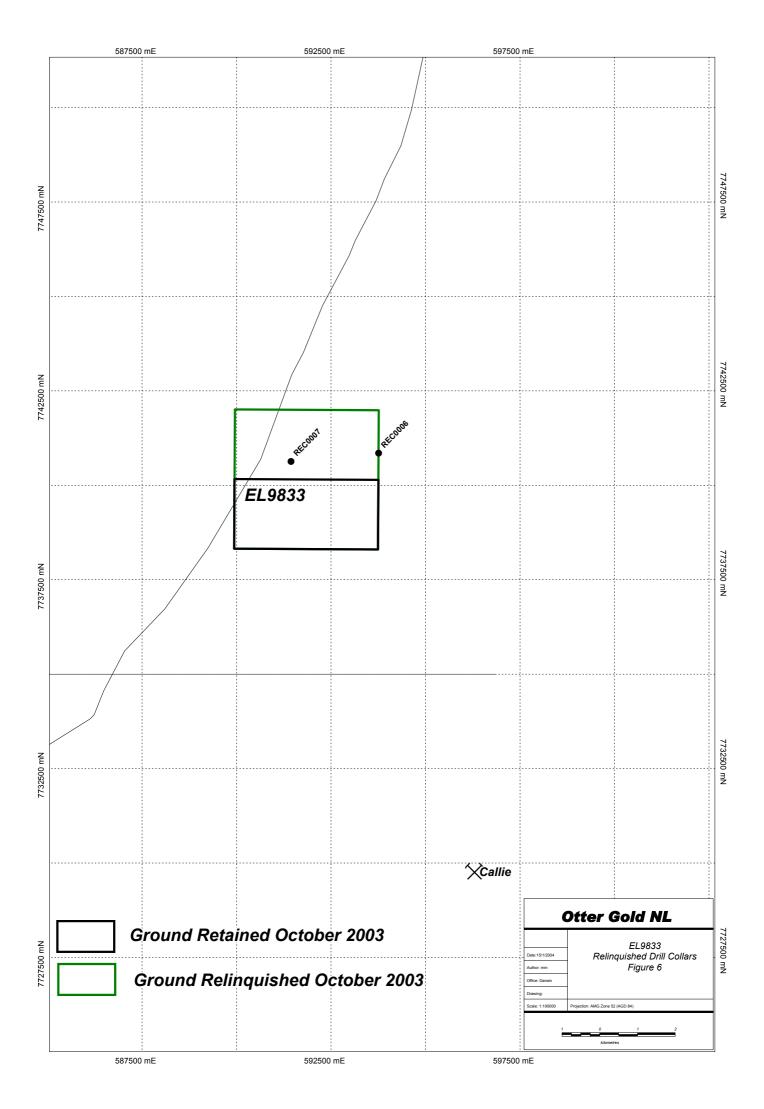


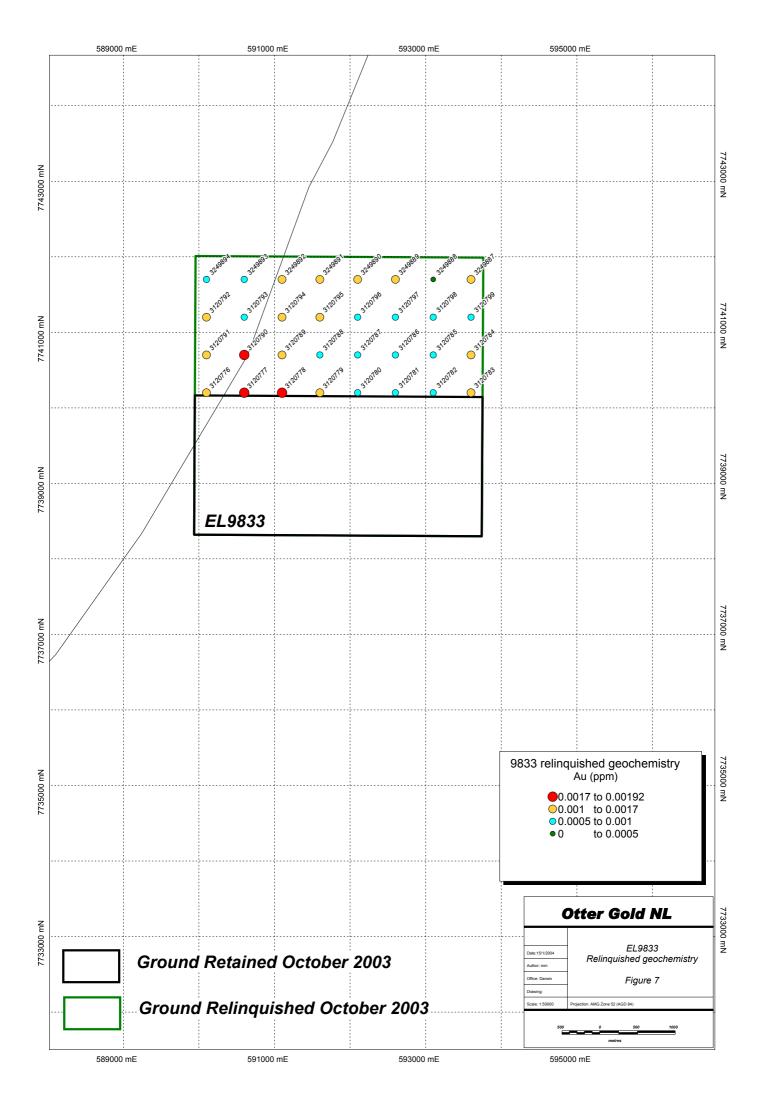












## **APPENDIX 2 Sampling Data** See attached Files