

OTTER GOLD NL

**PARTIAL RELINQUISHMENT
REPORT FOR**

EL9538

(Muriel Range East 1)

Part of the McFarlane Agreement

24 July 2000 – 23 July 2002

**TANAMI REGION
NORTHERN TERRITORY**

COMPILED BY: M MUIR

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Newmont NFM Exploration

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TITLE: Partial Relinquishment of Exploration Licence EL9538

PERIOD: 24 July 2000 to 23 July 2002

AUTHOR: Maryanne Muir

LOCATION: The Granites 1:250,000 SF52-03

COMMODITY: Gold

DATE: November 2002

SUMMARY

Exploration Licence 9538 (Muriel Range East 1) was granted on the 24th of July 2000, for a period of six years. At the end of the second year of the Exploration Licence it was decided because of escalating tenement costs that the ground be reduced from 2 blocks (6.42 km²) to 1 block (3.21 km²).

The relinquished ground included 15 regional surface samples completed by Otter Gold NL where results were less than 0.4 ppb Au. The surface samples were taken in bulk and sieved at a later date on a 500m x 500m grid using a Robinson Helicopter for access.

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1.0 INTRODUCTION

Exploration Licence (EL) 9538 was granted to Otter Gold NL (OGNL) on 24th July 2000 for a period of six years. The 2 blocks cover 6.42 km² and is wholly owned by Otter Gold NL (100%).

At the end of the second year of tenure the decision to relinquish ground was made. The ground will be reduced from 2 blocks to 1 block. The relinquished ground consists of alluvial sediments and sheet flow colluvium. No Proterozoic outcrop occurs with predominantly Killi Killi Beds interpreted to underlie cover sediments. Muriel Range Sandstone lies to the south east of the relinquished ground. The areas of relinquishment also have been partially surface sampled on regional basis (15 surface samples) and not returned significant results (<0.4ppb Au). These regions have unconfirmed depth of cover.

2.0 LOCATION AND EXPLORATION HISTORY

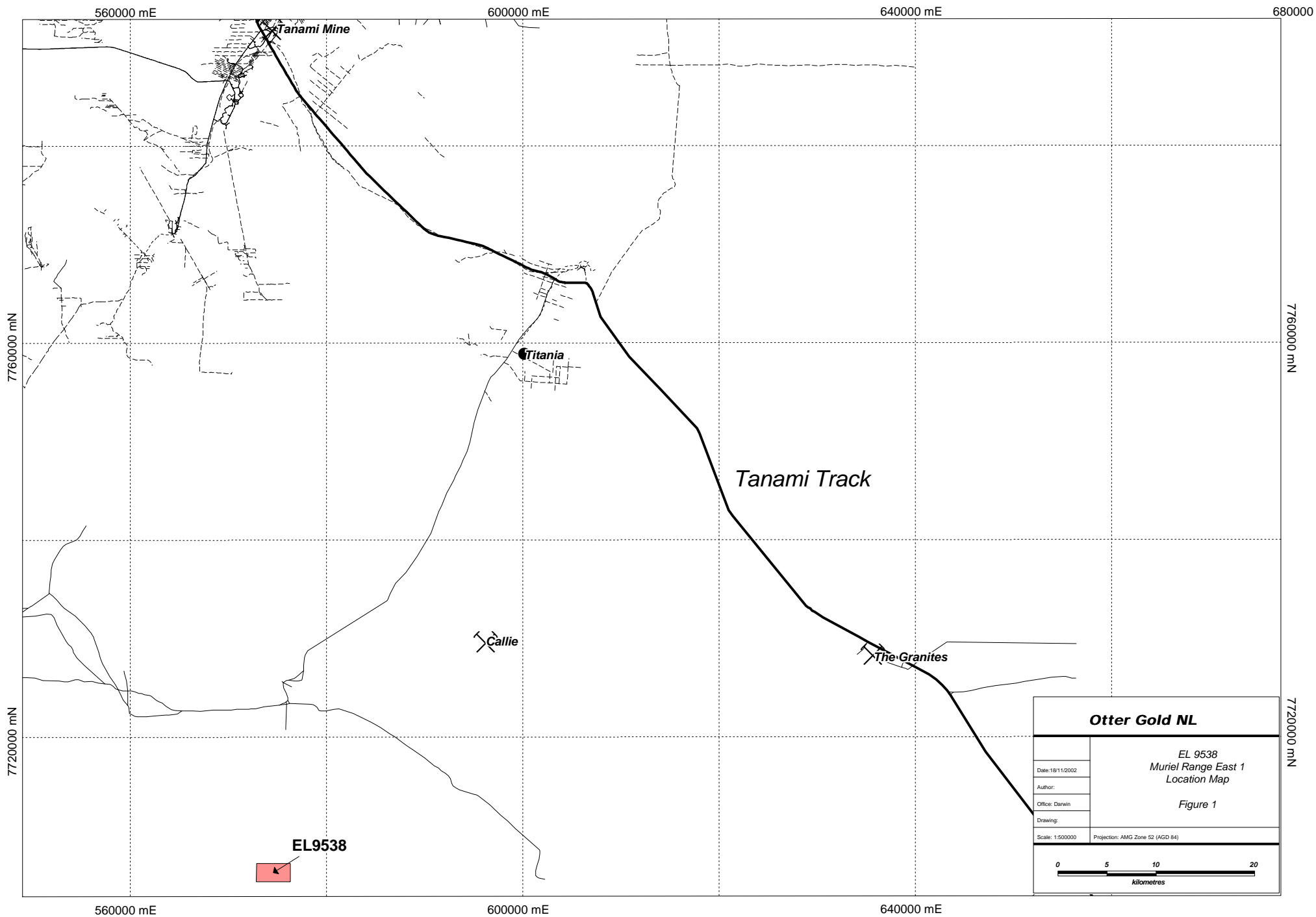
2.1 Location and Leasing

Exploration Licence 9538 (Muriel Range East 1) was granted to Otter Gold NL on the 24th July 2000 for a period of six years. The Exploration Lease is part of the McFarlane Agreement between Otter Gold NL and the Traditional Owners.

The tenement originally comprised 2 blocks covering an area of 6.42 square kilometres, 65 kilometres south west of The Granites Gold Mine, and approximately 18km south of Tanami Downs Cattle Station. Access is via the Tanami Track on the Tanami Downs Station track. From Tanami Downs old exploration tracks and station tracks would be used to access the tenement. Access is limited through the wet season (December to March). See Figure 1 for a Location Map.

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. During July of 2002 a decision was made to reduce EL9538 ground from 2 blocks to 1 block. The relinquished ground was considered as a voluntary reduction for the period ending 23rd July 2002. See Figure 2 for approximate ground relinquished.

In December 2001 – January 2002 Normandy NFM gained a controlling interest in Otter Gold NL, the Normandy NFM team took control of Mining Leases and Exploration ground. The ore from the Normandy NFM discovery - Groundrush was transported to the Tanami Mine for crushing and milling (in which it (Normandy NFM) has a 60% interest as Otter Gold, the other 40% is controlled by AngloGold). By May 2002 Newmont Gold had taken over Normandy and had a controlling interest in Normandy NFM (now Newmont NFM) and thus Otter Gold NL.



Otter Gold NL	
EL 9538 Muriel Range East 1 Location Map	
Figure 1	
Date: 18/11/2002	
Author:	
Office: Darwin	
Drawing:	
Scale: 1:500000	Projection: AMG Zone 52 (AGD 84)
<div>0 5 10 20</div> <div>kilometres</div>	



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).

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

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

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.

Lying unconformably above the Archaean basement is the Palaeoproterozoic McFarlane Peak Group. These rocks are characterised by a thick sequence of mafic volcanic, volcanoclastic 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. This group is divided into two units including 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 Supplejack Down sandstone is interpreted to belong to this group but its 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

The area to be relinquished within the Muriel Range East 1 region (EL9538) is covered by variable depths of alluvial sediments and sheet flow colluvium deposits. To the south west of the relinquishment a significant outcrop of Muriel Range sandstone exists. Muriel Range Sandstone comprises of sublithic arenite, quartz arenite, minor siltstone, shale, conglomerate very thin to medium-bedded and is cross-bedded in part with arkose and breccia noted. A major Palaeochannel exists 2.5km to 10km to the east of the tenement.

See Figures 3, 4, 5 & 6 for geology and regional aeromagnetics over the region.

4.0 EXPLORATION on RELINQUISHED GROUND

4.1 PRE 2000

Prior to Otter Gold NL North Flinders Mining (NFM) {currently Newmont NFM} held the ground as part of their Officer Hill tenement holdings. NFM took two lag samples in this region with no significant results.

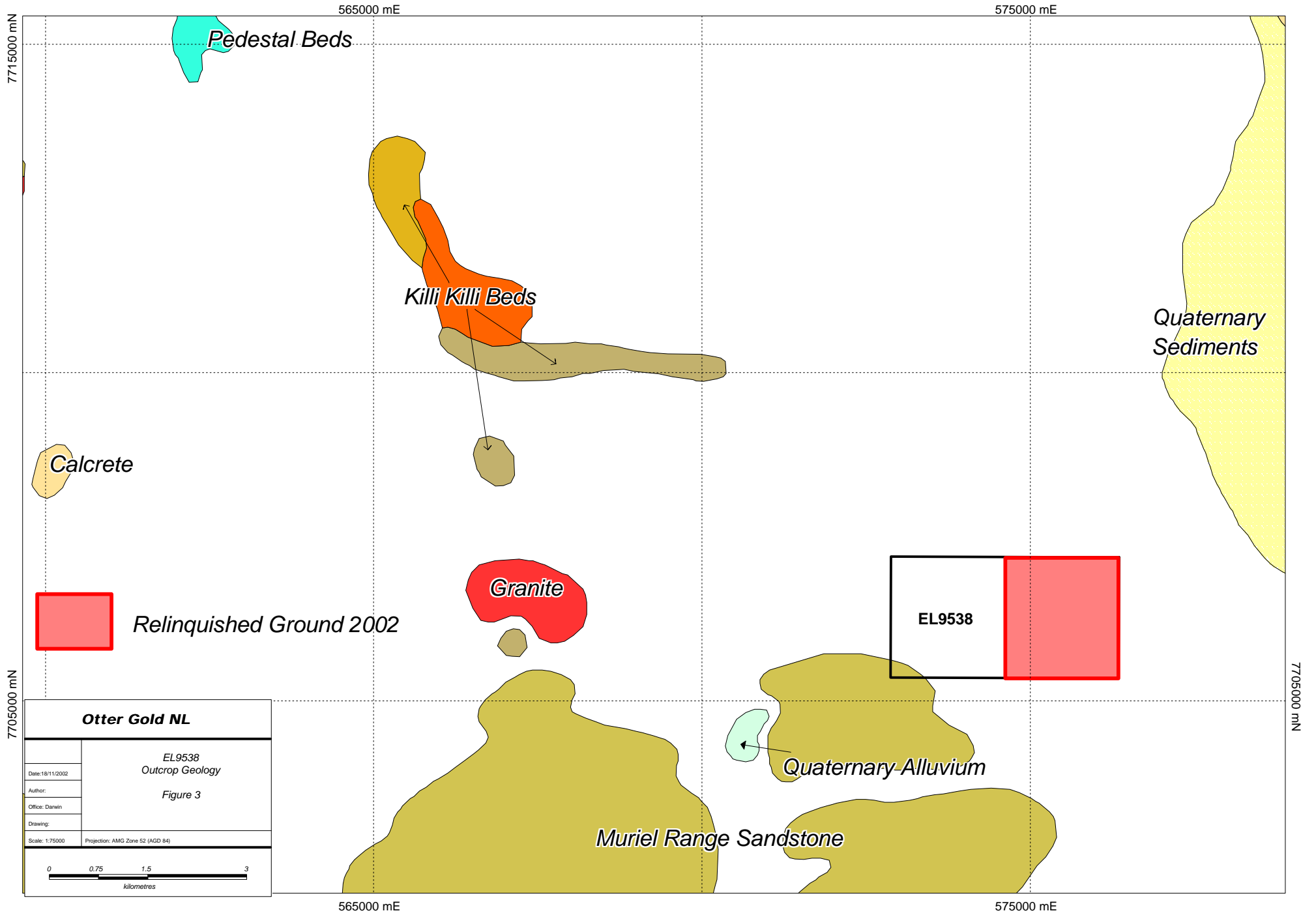
4.2 2000 – 2001

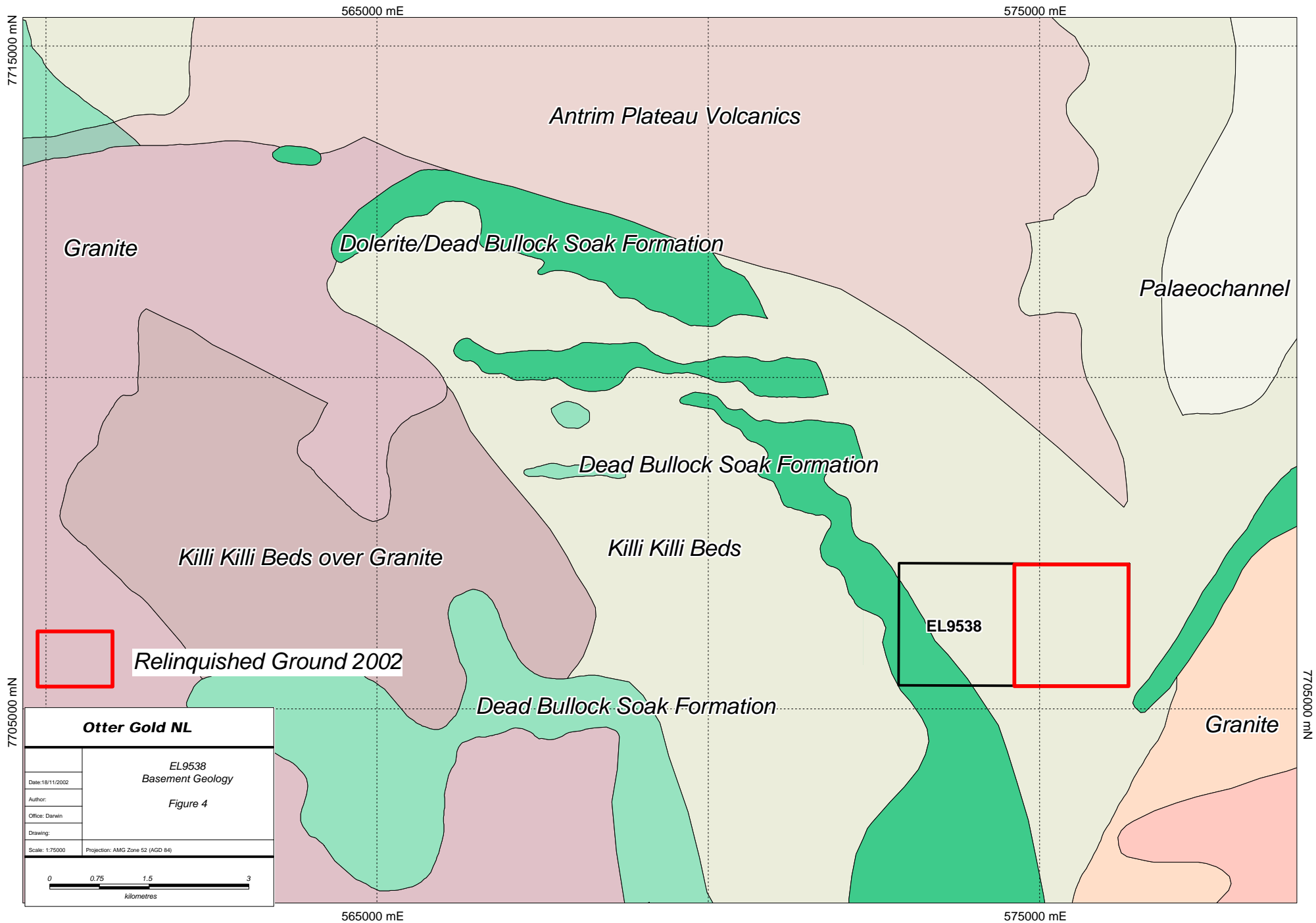
The areas of relinquishment have been partially surface sampled on regional basis (15 surface samples) and did not return significant results (<0.4 ppb Au). The samples were taken on 500m x 500m grid using a helicopter (Robinson). The samples were taken at an average depth of 30cm. Orange brown sandy loam was predominantly logged. The topography was seen as flat overall. Samples were taken in bulk bags and later sieved with a 200um sieve. The sieved samples were sent to ALS for their ZARG analysis. See Figure 7 & Figure 8 for location and sample results.

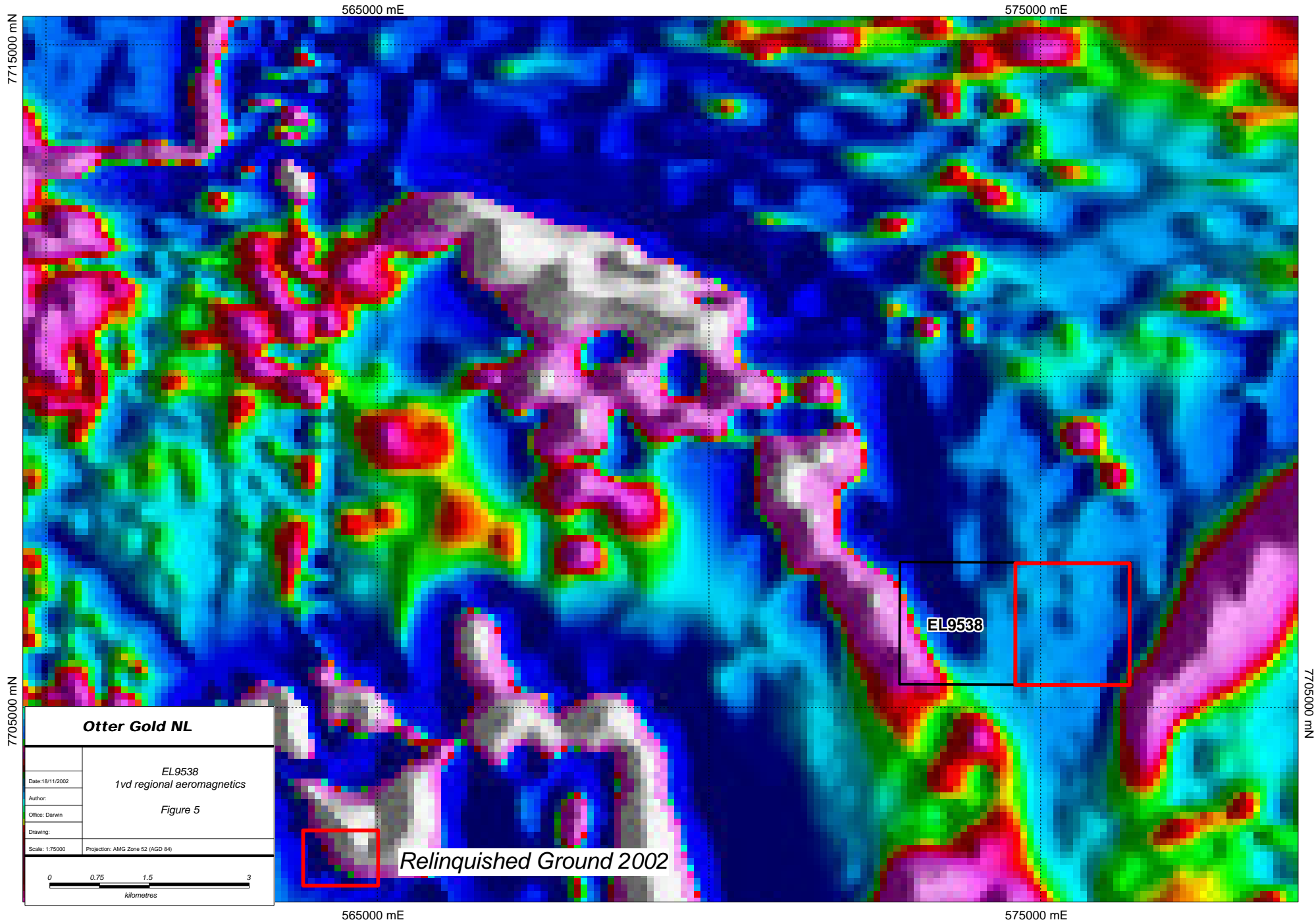
Otter in conjunction with Fractal Graphics in Perth, undertook to worm the detailed magnetic and gravity datasets using a relatively new process developed by Fractal Graphics and the CSIRO. The resulting data process provides a new way a viewing the old data in three dimensions.

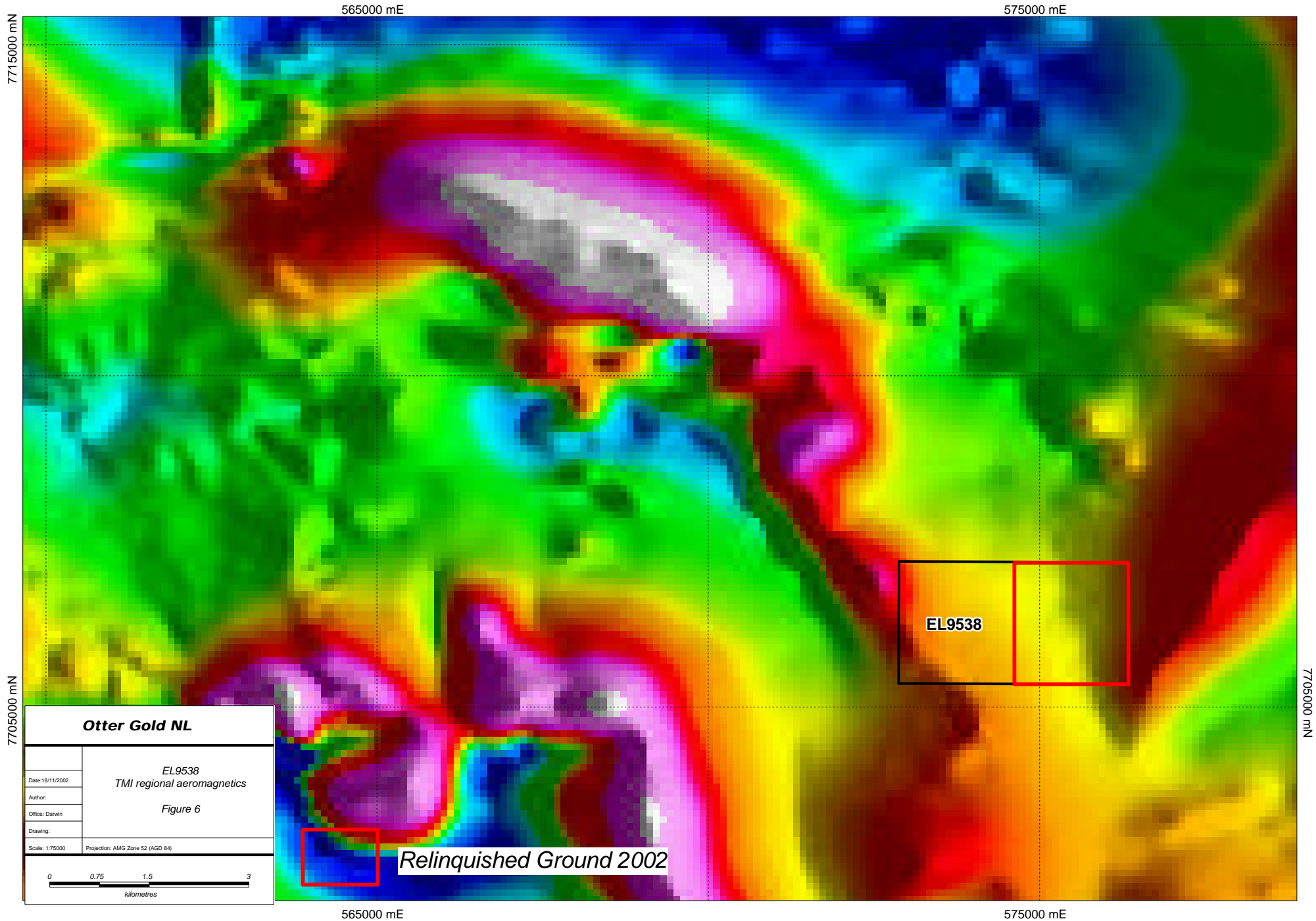
4.3 2001 – 2002

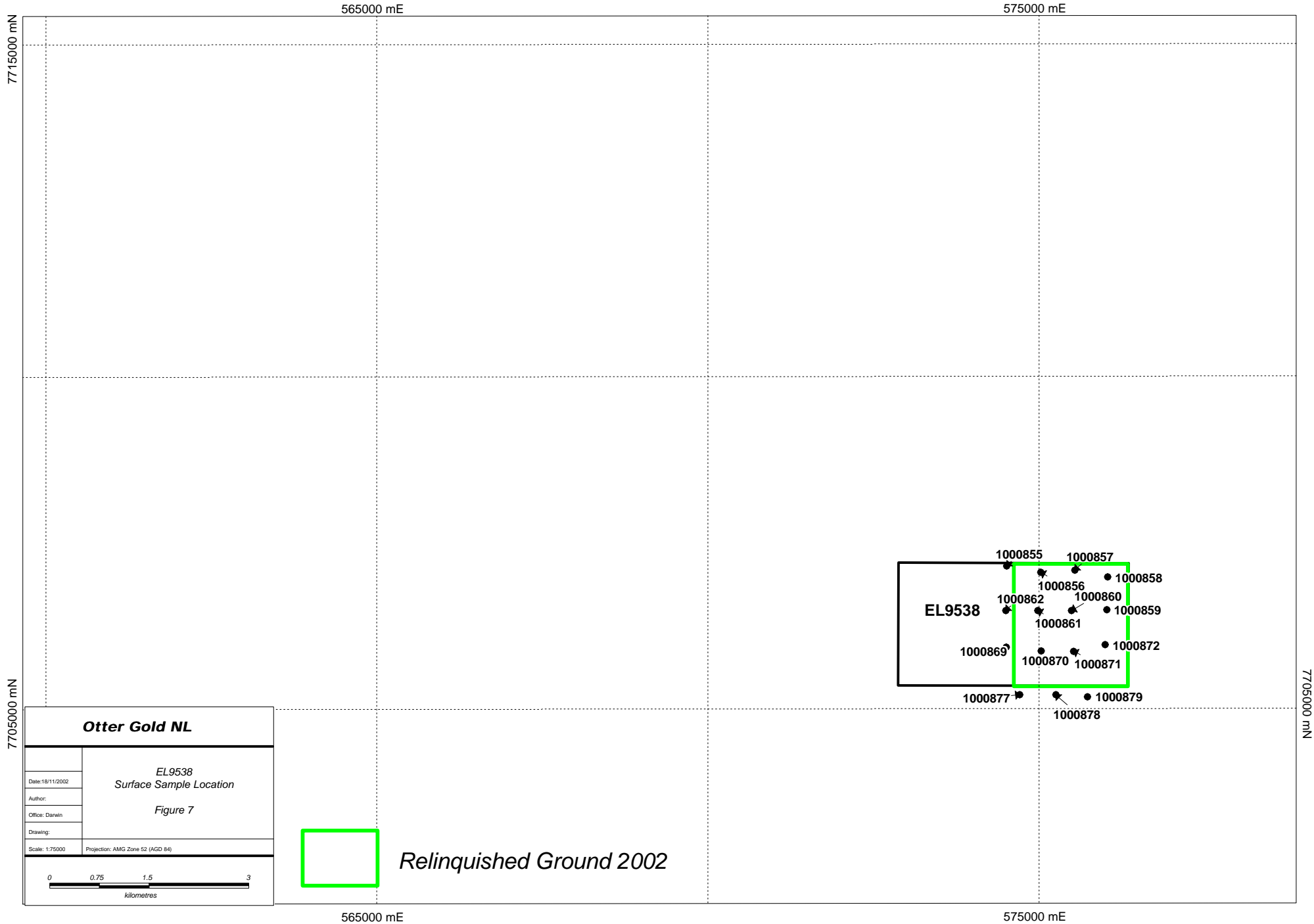
Work programmes were put on hold within this region. The change of control from Otter Gold to Newmont Exploration demanded that work priorities should to be assessed across the Tanami – Granites Licences. Work during this year involved remote discrimination of targets using an enhanced geophysical technique, 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. No worm targets were discriminated within the areas of relinquishment. An assessment of all available data was also made but this did not result in any further targets being generated within the area to be relinquished. Figure 9 represents a 2D image of a worm image within the region of EL9538.

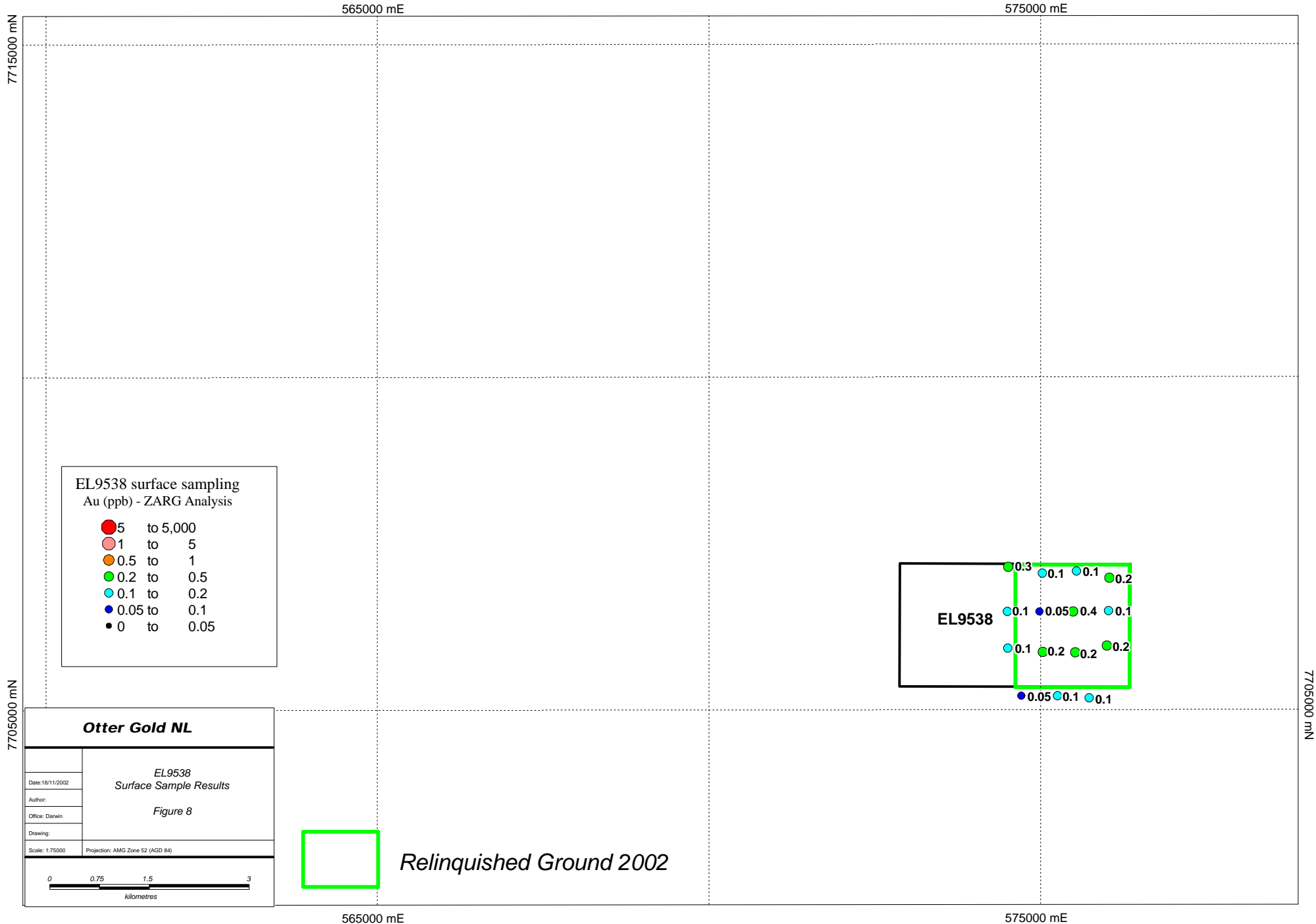


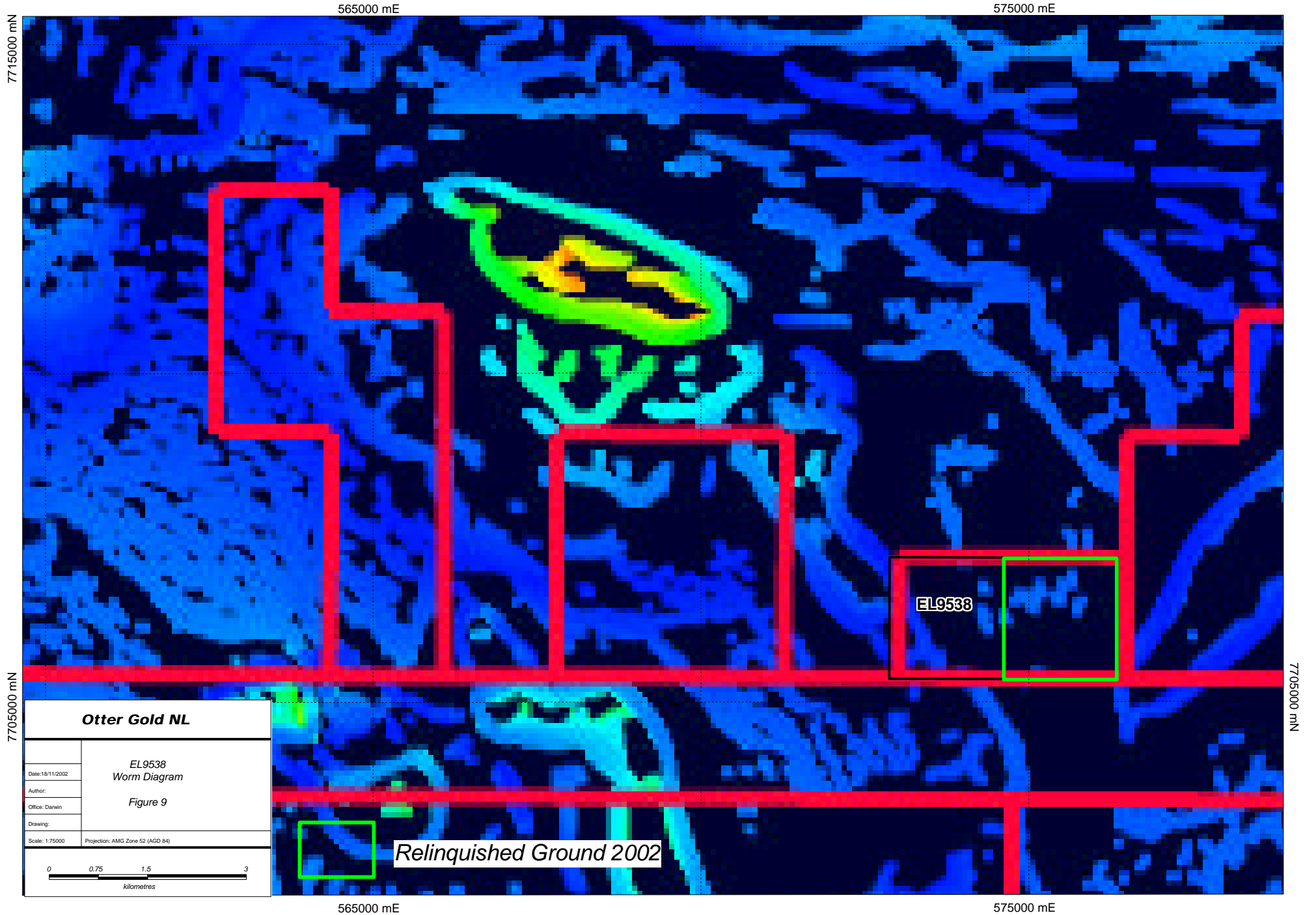












Otter Gold NL	
Date: 18/11/2002	EL9538 Worm Diagram Figure 9
Author:	
Office: Darwin	
Drawing:	
Scale: 1:75000	Projection: AMG Zone 52 (AGD 84)

5.0 REFERENCES

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