

**OTTER GOLD NL**  
**1<sup>st</sup> ANNUAL REPORT**  
**for**  
**EXPLORATION LICENCES**

**10349 (Bush Turkey)**  
**10356 (Finch)**

*Gardiner 2 Agreement*

**17<sup>th</sup> OCTOBER 2001 – 16<sup>th</sup> OCTOBER 2002**

**TANAMI REGION**  
**NORTHERN TERRITORY**

Compiled by: M Muir

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Newmont Exploration  
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**TITLE:** 1<sup>ST</sup> ANNUAL REPORT FOR EL 10349 & EL 10356, TANAMI REGION.

**PERIOD:** 17 October 2001 to 16 October 2002

**COMPILED BY:** Maryanne Muir

**LOCATION:** TANAMI 1:250,000 SE 52-15

**COMMODITY:** GOLD

**DATE:** November 2002

### ***SUMMARY***

Exploration Licences 10349 (Bush Turkey) & 10356 (Finch) were granted to Otter Gold NL on the 17<sup>th</sup> of October 2001, for a period of six years. EL 10349 & 10356 are located some 80km and 55km north west respectively of the Tanami Mine. This is the first year of tenure. Both tenements are part of the Gardiner 2 Agreement between Otter Gold NL and the Traditional Owners.

Work included assaying of surface samples taken by Stockdale (by Otter Gold NL) and regional rockchipping and surface sampling by Newmont Exploration staff. The Licence was also a part of the remote detection of targets instigated by the Otter Gold NL exploration team.

Ongoing tenure of this licence by Otter Gold NL means that this report should remain **CLOSED FILE.**

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## **1.0 INTRODUCTION**

Exploration Licences (EL) 10349 & 10356 were granted to Otter Gold NL (OGNL) on 17<sup>th</sup> October 2001 for a period of six years. Work within this report includes assaying of surface samples taken by Stockdale (by Otter Gold NL) and regional rockchipping and surface sampling by Newmont Exploration staff. The Licence was also a part of the remote detection of targets instigated by the Otter Gold NL exploration team.

## **2.0 LOCATION AND ACCESS**

### **2.1 Location and Access**

ELs 10349 & 10356 are located some 80km and 55km north west respectively of the Tanami Mine. Access to the tenements is difficult – with the easiest entry being via helicopter. Access could be either Suplejack station tracks to the east or via the Mt Frederick turnoff – either way there would be at least 15 - 20km of bush before access was gained to the tenement. Access to these areas is limited during the wet season (December to March).

### **2.2 Tenement Status**

EL 10349 comprises of 244 blocks covering an area of 734km<sup>2</sup>. See Figure 1. Rent for the first year is \$2440 with the initial covenant being set at \$34,600.

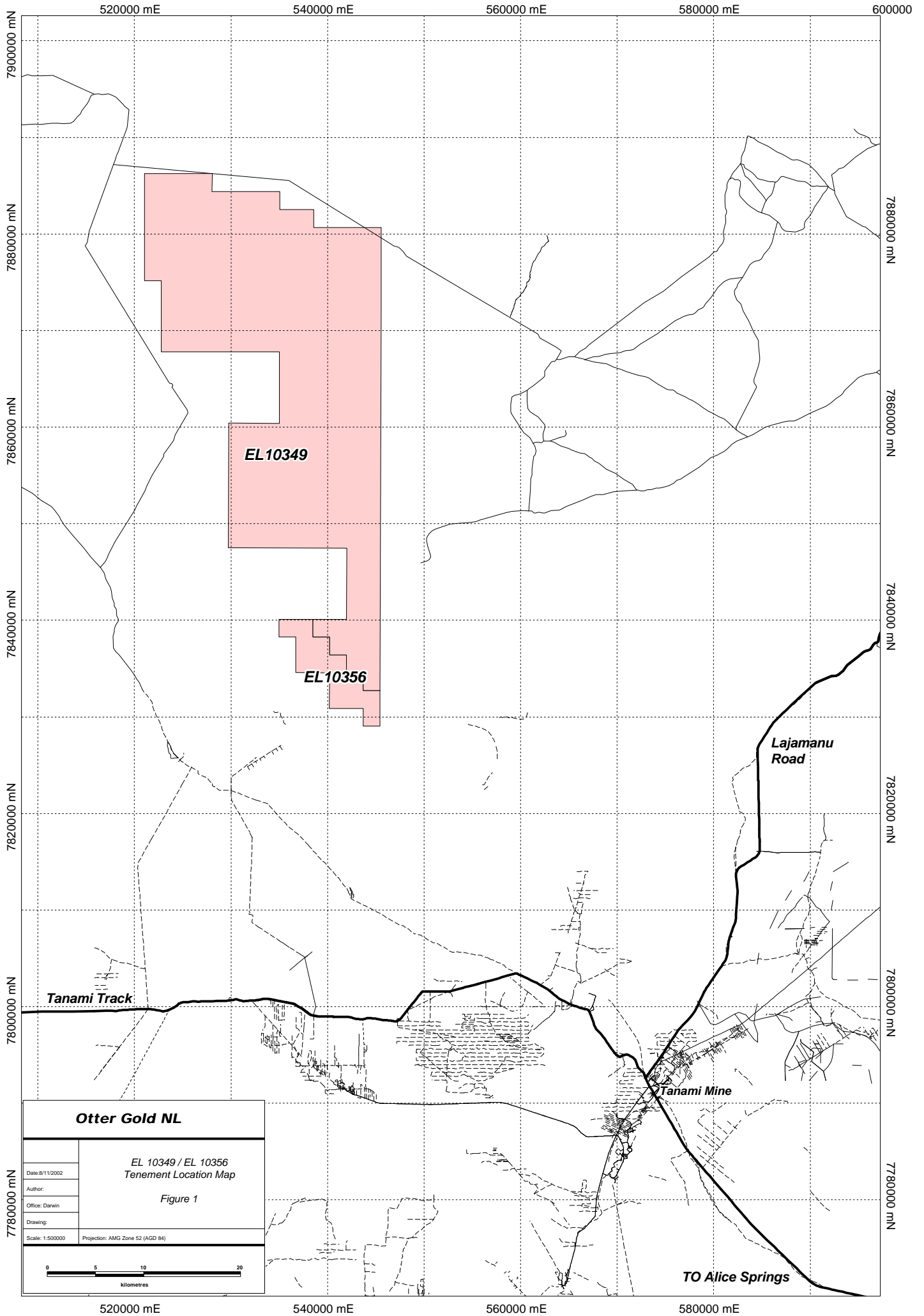
EL 10356 comprises of 13 blocks covering an area of 42km<sup>2</sup>. See Figure 1. Rent for the first year is \$130 with the initial covenant being set at \$13,500.

Otter Gold NL applied for and was granted both EL 10349 & EL 10356. Prior to this Stockdale Pty Ltd had acquired the ground as EL 9861.

Exploration Licences 10349 & 10356 were granted to Otter Gold NL on 17<sup>th</sup> October 2001 for a period of six years. Both tenements are part of the Gardiner 2 Agreement between Otter Gold NL and the Traditional Owners.

### **2.3 Transfer of Ownership**

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 [formerly Acacia Resources Ltd]). 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.



### 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	
						MacFarlane 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.

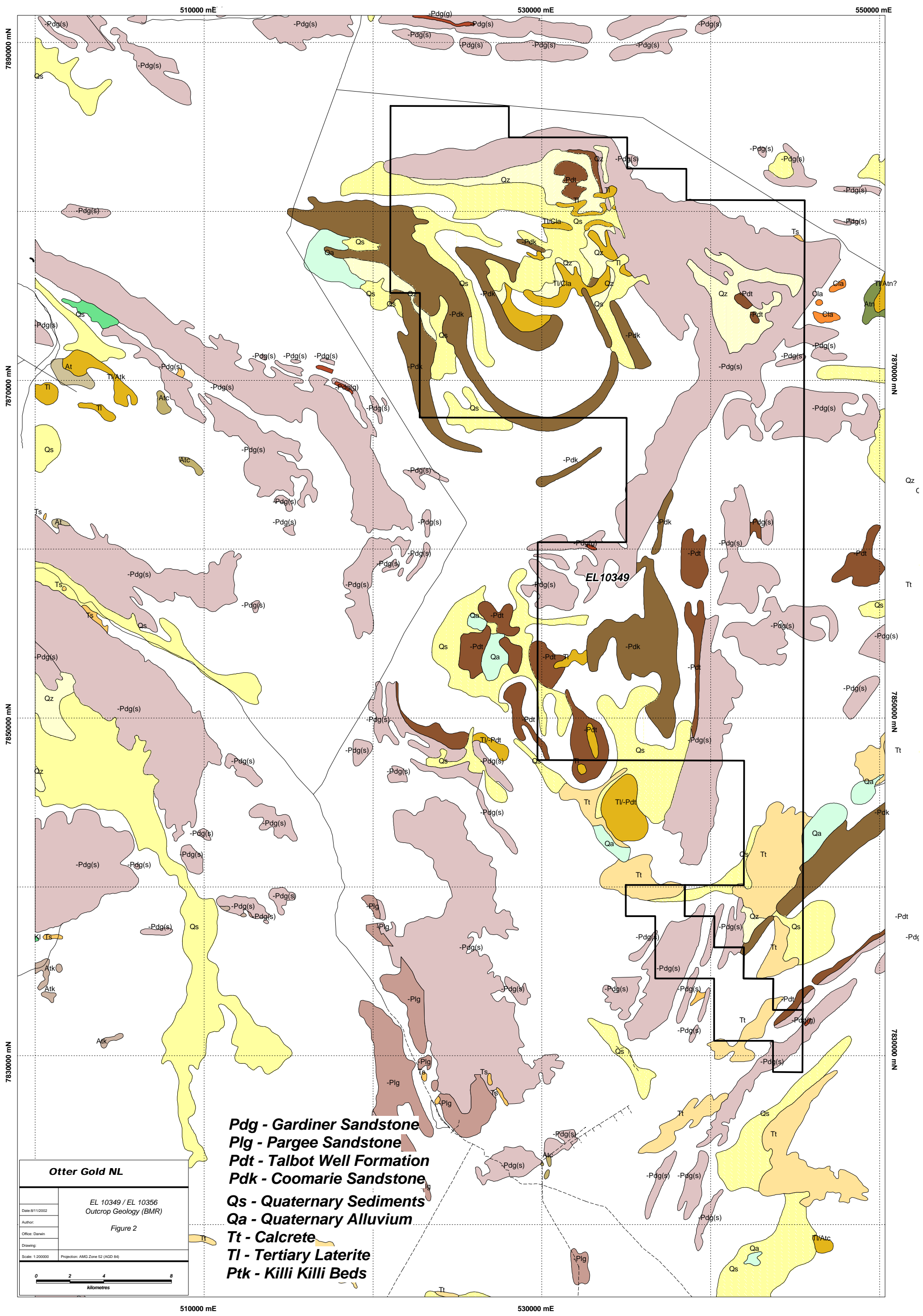
The Mount Charles Formation comprises an intercalated package of basalts and turbiditic sediments, which occur on the western side of the Frankenia Dome. The Mount Charles Formation is host to structurally controlled vein hosted gold mineralisation in the Tanami Mine Corridor. Sediments include sandstone, 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 Suplejack 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.



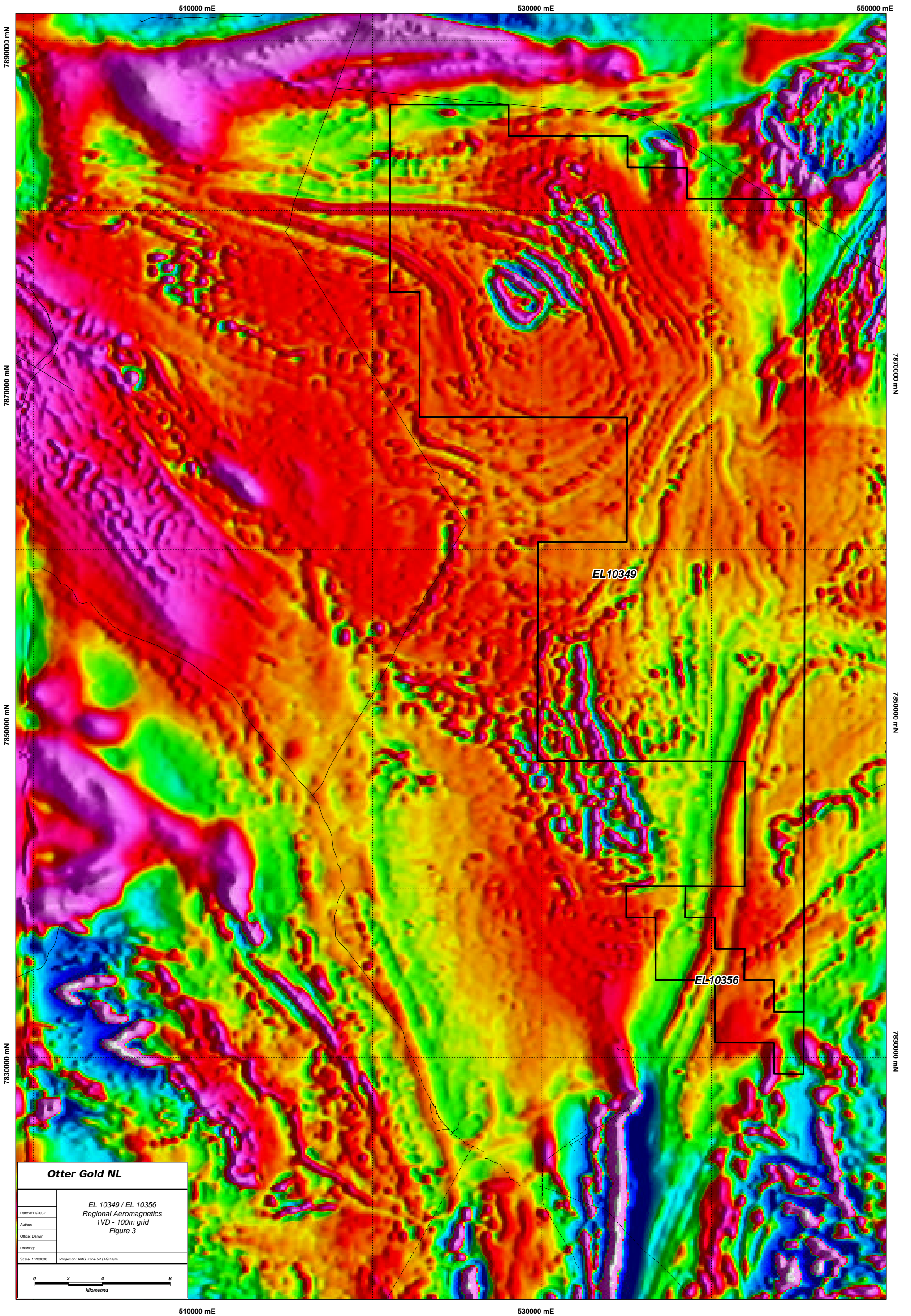


**Pdg - Gardiner Sandstone**  
**Plg - Pargee Sandstone**  
**Pdt - Talbot Well Formation**  
**Pdk - Coomarie Sandstone**  
**Qs - Quaternary Sediments**  
**Qa - Quaternary Alluvium**  
**Tt - Calcrete**  
**Tl - Tertiary Laterite**  
**Ptk - Killi Killi Beds**

<b>Otter Gold NL</b>	
EL 10349 / EL 10356 Outcrop Geology (BMR)	
Figure 2	
Date: 8/11/2002	
Author:	
Office: Darwin	
Drawing:	
Scale: 1:200000	Projection: AMG Zone 52 (AGD 84)

510000 mE

530000 mE



510000 mE

530000 mE

550000 mE

7890000 mN

7870000 mN

7870000 mN

7850000 mN

7850000 mN

7830000 mN

7830000 mN

EL10349

EL10356

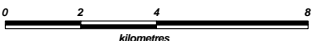
**Otter Gold NL**

Date: 8/11/2002  
Author:  
Office: Darwin  
Drawing:

EL 10349 / EL 10356  
Regional Aeromagnetics  
1VD - 100m grid  
Figure 3

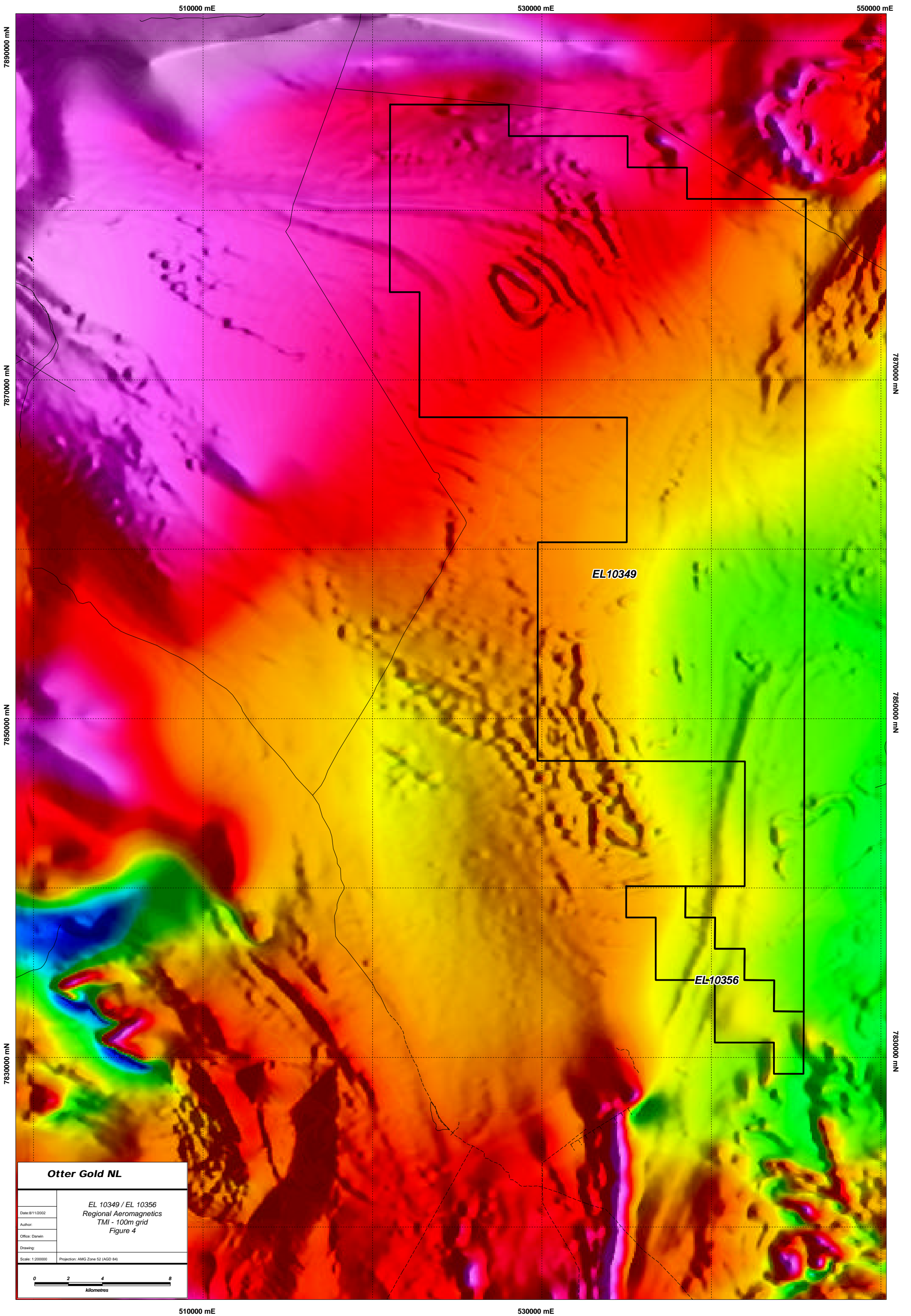
Scale: 1:200000

Projection: AMG Zone 52 (AGD 84)



510000 mE

530000 mE





### 3.2 Local Geology

These tenements are characterised by Upper Proterozoic suites such as Gardiner Sandstone (sublithic arenite, quartz arenite, medium to coarse; basal conglomerate, minor siltstone; medium to thin-bedded, cross-bedded), Talbot Well Formation (stromatolitic chert, sublithic arenite, siltstone, limestone) and Coomarie Sandstone (sublithic arenite, cross-bedded, ripple marks). NT geological survey map suggest that McFarlane Peak Group underlies the region. See Figure 3 for out crop geology.

Regolith across the region is residual Upper Proterozoic cover. No significant palaeochannels pass through the tenement although the circular feature in the north of the tenement holds water during the wet season with a significant lake to the west of EL10349. Figures 3 & 4 show regional aeromagnetic images {gridded to 100m} (1vd & TMI).

### 4.0 EXPLORATION OF EL 10349 & EL 10356 BY OTTER GOLD NL PRE 2001.

During 2000 Otter Gold acquired secondary samples taken by Stockdale Pty Ltd while bulk sampling for diamonds within EL10349 (previously known as EL9861). These samples were taken from the surface of the sample sites and kept in a small geochem sample packet. The samples were taken on approximate two kilometre by two kilometre grid. 202 samples were purchased by Otter Gold NL and assayed using the ALS – ZARG (Zeeman Aqua Regia Gold) method. Results are displayed in Figures 7 & 8. No significant results were recorded however areas with elevated values were worth follow up.

### 5.0 WORK COMPLETED DURING 17<sup>TH</sup> OCT 2001 TO 16<sup>TH</sup> OCT 2002.

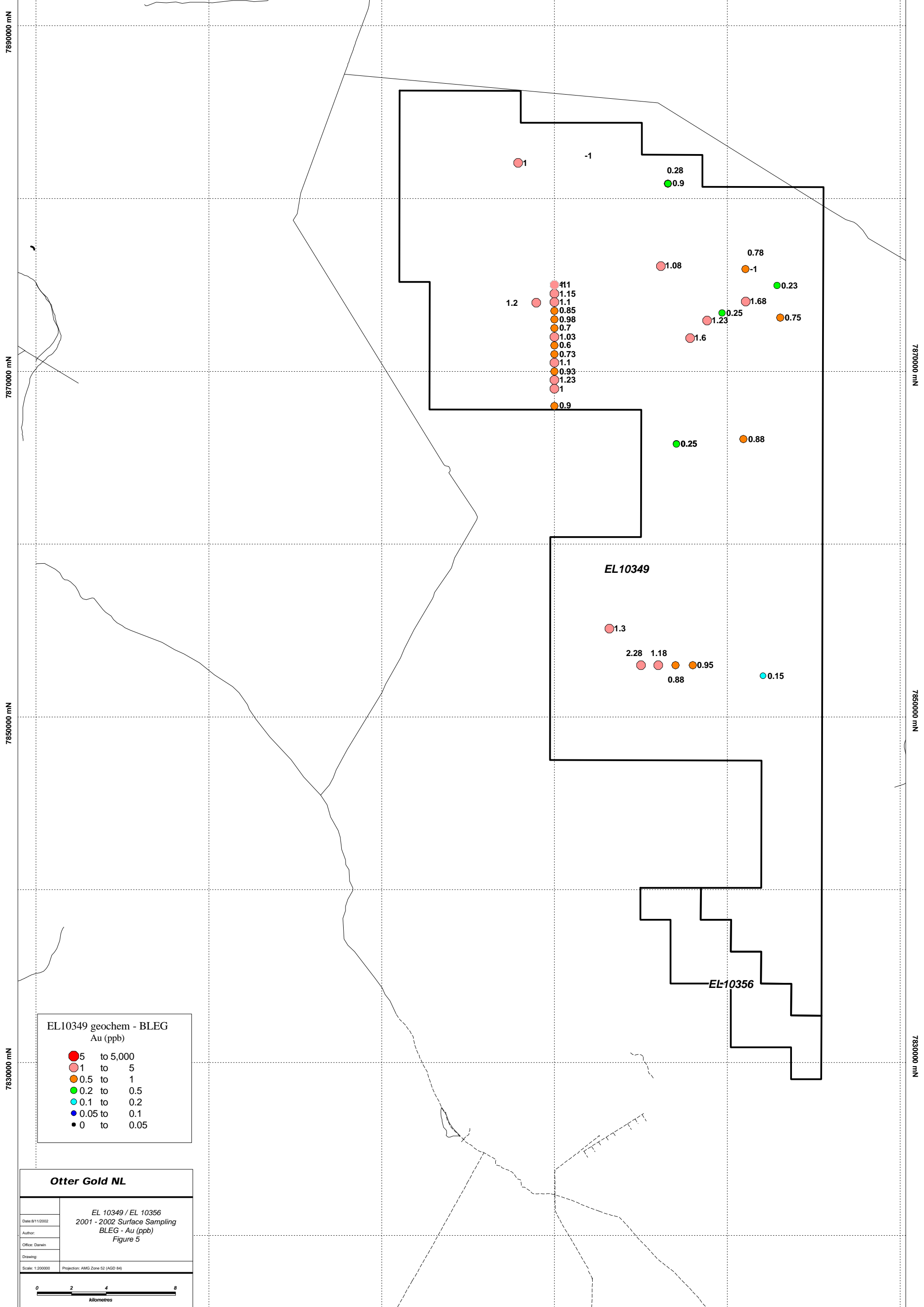
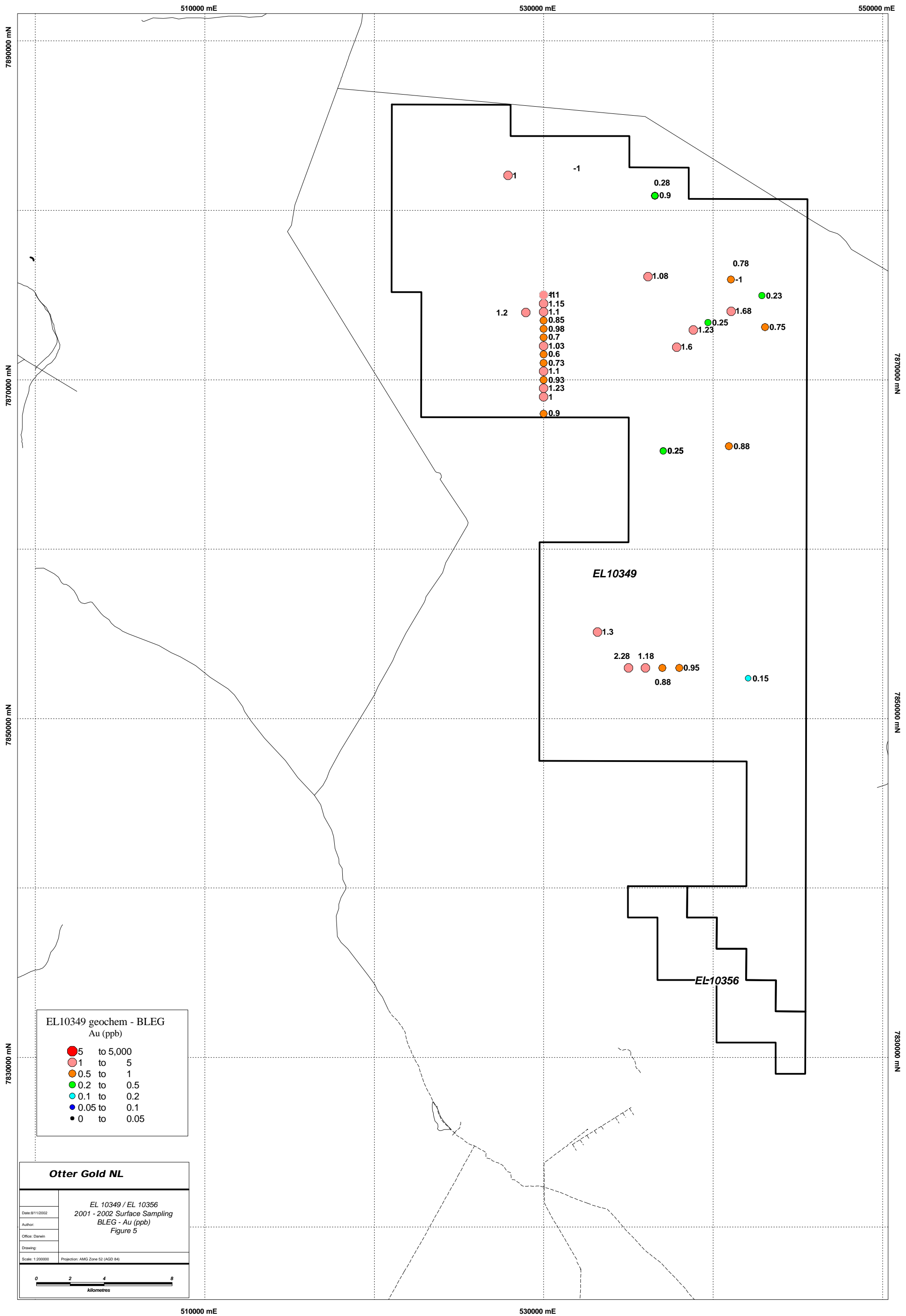
Work during the first year of tenure included several days where a helicopter was used to collect surface samples and rockchips from across EL 10349. 38 samples were collected in total and sent off for assay using a Newmont NFM proprietary BLEG technique. Location and results are displayed in Figures 5 & 6.

Remote discrimination of targets using an enhanced geophysical technique, the multiscale edge analysis (worming) process (developed by Fractal Graphics) was not used over these regions. The re-imaging of the worm data (multi scale edge analysis) did not extend to EL 10349 & EL 10356 thus more conventional methods (eg available aeromagnetic data, geochemistry and regolith interpretations) were used to target anomalism. No targets were identified within EL10356. Two geochemical targets were identified within EL10349.

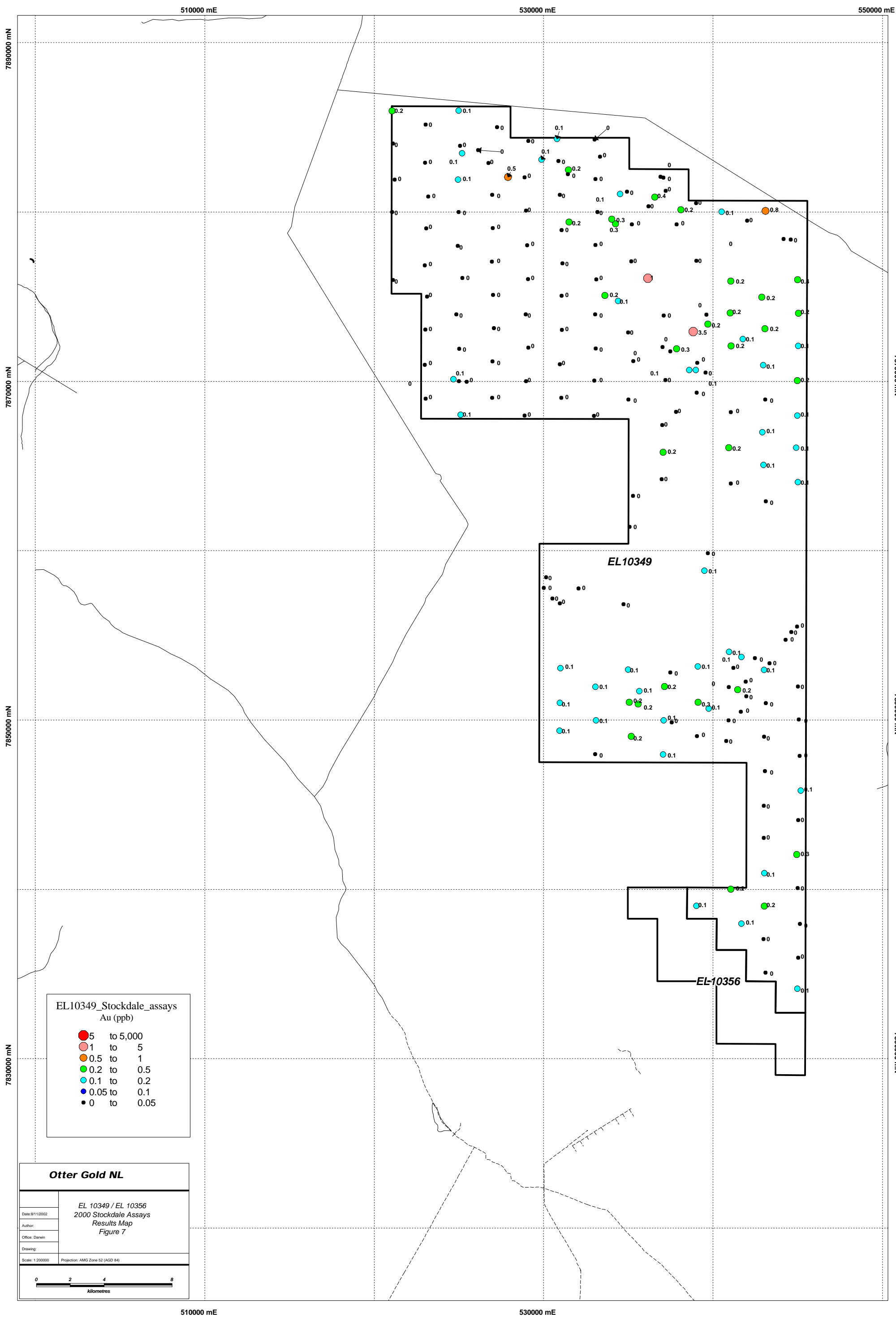
*Target OT53/OT54:* These are geochemical targets generated from the review of data instigated by Otter Gold NL. Both OT53 and OT54 are low level anomalies from the previously described regional ZARG sampling and are found in Upper Proterozoic cover some 10km south of the Browns Range Dome. The magnitude of the assays is 3.5ppb Au & 0.8ppb Au. The location of the targets is as follows:

OT53 535900E 7875800N

OT54 542900E 7880100N







EL10349\_Stockdale\_assays  
Au (ppb)

- 5 to 5,000
- 1 to 5
- 0.5 to 1
- 0.2 to 0.5
- 0.1 to 0.2
- 0.05 to 0.1
- 0 to 0.05

**Otter Gold NL**

EL 10349 / EL 10356  
2000 Stockdale Assays  
Results Map  
Figure 7

Date: 8/11/2002  
Author:  
Office: Darwin  
Drawing:  
Scale: 1:200000 Projection: AMG Zone 52 (AGD 84)

0 2 4 8  
kilometres

510000 mE

530000 mE

7890000 mN

7870000 mN

7850000 mN

7830000 mN

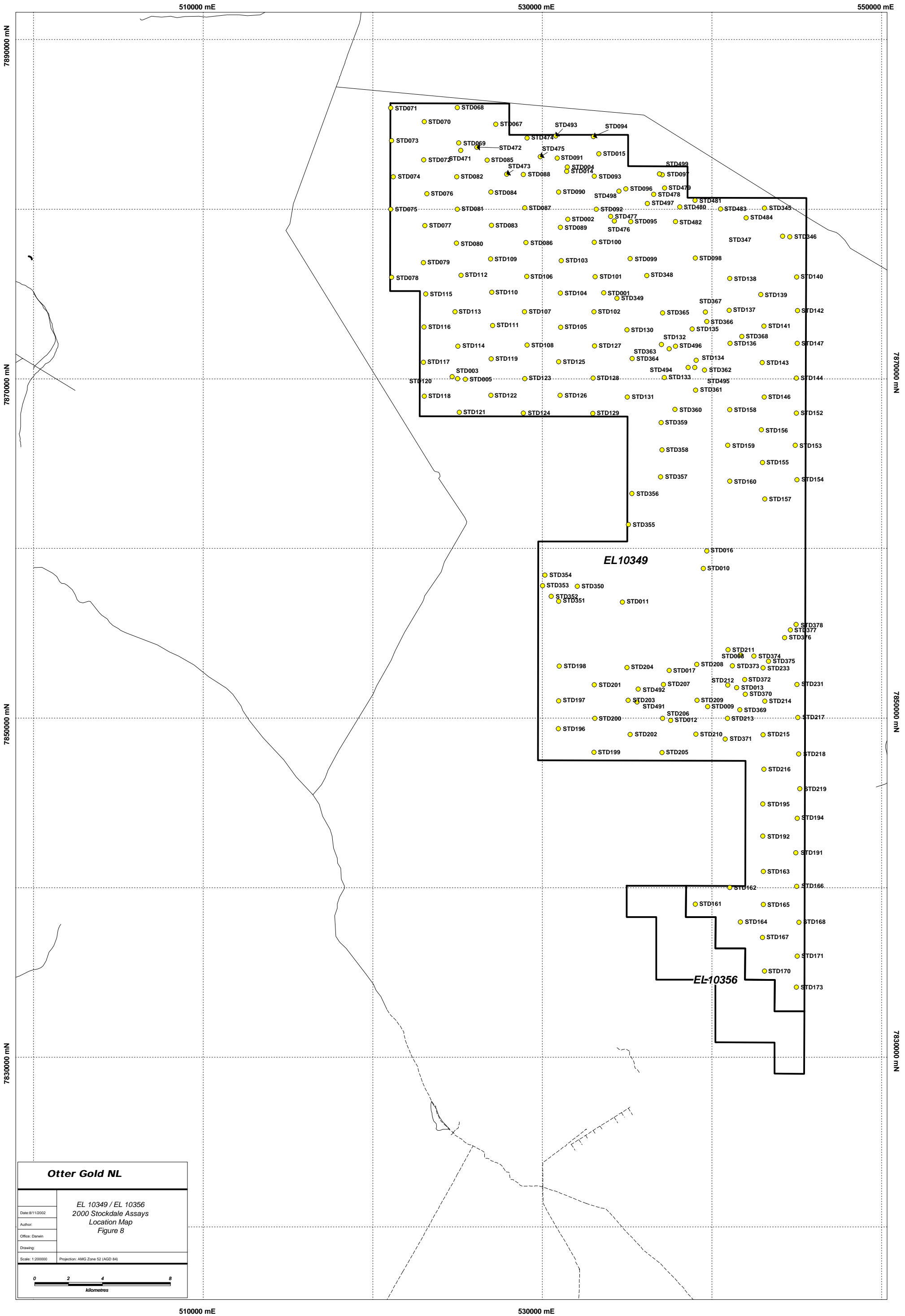
7870000 mN

7850000 mN

7830000 mN

EL10349

EL-10356



<b>Otter Gold NL</b>	
EL 10349 / EL 10356 2000 Stockdale Assays Location Map Figure 8	
Date: 8/11/2002	
Author:	
Office: Darwin	
Drawing:	
Scale: 1:200000	Projection: AMG Zone 52 (AGD 84)

510000 mE

530000 mE

7890000 mN

7870000 mN

7850000 mN

7830000 mN

7870000 mN

7850000 mN

7830000 mN



## 6.0 EXPENDITURES FOR EL 10349 & EL 10356 - 17<sup>TH</sup> OCT 2001 TO 16<sup>TH</sup> OCT 2002.

Expenditures with in EL 10349 & EL 10356 are both down considerably. Reasons for this include:

- Problems associated with the change in management pushing back the commencement of the field season to April – May.
- Other targets may have taken priority.
- Work also was at a basic level with the discrimination of regional targets remotely.
- Assessment of exploration licenses being office based.

**Table 2:** Expenditure for EL 10349 & EL 10356 2001-2002

<b>Categories</b>	<b>EL 10349</b>	<b>EL 10356</b>
Salary & Wages	\$4288.70	\$2973.41
General Administration	\$6567.33	\$221.92
Tenements Fees / Rentals	-	-
Tenement Consultants	\$106.22	\$106.22
CLC Compensation	-	-
CLC Meetings	-	-
CLC - Consultants	-	-
Camp Allocations	-	-
Survey	-	-
Environmental	-	-
Light Vehicles alloc	-	-
Geology - Consultants	-	-
Geology - Contractor	-	-
Drilling_RAB	-	-
Assaying - RAB & Other	-	-
Geochemistry	-	-
Petrology - Consultants	-	-
General - Consultants	\$350.00	\$350.00
Aeromagnetics	-	-
<i>Covenant</i>	<i>\$34,600</i>	<i>\$13,500</i>
<b>Total</b>	<b>\$11312.25</b>	<b>\$3651.55</b>

## 7.0 PROPOSED 2002 - 2003 WORK PROGRAMME AND EXPENDITURE

The work programme for the next reporting period will include a review of data obtained to date. A literature search should be carried out to enhance knowledge of the region. Work should commence within EL 10356 with some surface sampling to identify if any anomalous ground exists. Work on EL 10349 may include site visits to determine why the low level anomalism exists as determined from this years sampling programme.

See Table 3 for proposed expenditures.

	<b>EL10349</b>	<b>EL 10356</b>
<b>Expenditure</b>	\$10,000	\$ 5,250

**Table 3:** Proposed Expenditure for EL 10349 & EL 10356 2002-2003

## 8.0 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.

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

# **APPENDIX 1**

## **Environmental Register**

**OTTER GOLD NL  
TENEMENT ENVIRONMENTAL MANAGEMENT REGISTER**

**ENVIRONMENTAL IMPACT RECORD**

**Tenement Name:** Bush Turkey/Finch **No:** EL 10349 / EL10356

**Report Ref No's:** 1<sup>st</sup> Annual Report – EL 10349 / EL10356

**Exploration Activities:** Regional Helicopter Sampling

**Grid & Traverses:**

**Soil Sampling:** 38 surface samples – taken from helicopter.

**Costeans/pits:**

**Drilling:**

**Drill Traverses:**

**Drill Pads:**

**Ground Geophysics:**

**Access Track:**

**Camps:** Field work was accessed from the Pargee Camp on Newmont NFM's tenement adjacent to EL 10349

**Other:**

**Compiled by:** Maryanne Muir **Date:** 9/11/02

**OTTER GOLD NL  
TENEMENT ENVIRONMENTAL MANAGEMENT REGISTER**

**REHABILITATION RECORD**

**Tenement Name:** Bush Turkey/Finch                      **No:** EL 10349 / EL10356

**Disturbance:** Low impact                                      **Rehabilitation Date:** 9/11/03

**Grids & Traverses:**

**Soil Sampling:** All sample holes were backfilled at the time of sampling  
and left to rehab naturally.

**Costeans/pits:**

**Drilling:**

**Drill Pads/Access:**

**Ground Geophysics:**

**Access Tracks:**

**Camps:**

**Other:**

**Inspected / Clearances:**                                      **Bond/Security released:**

**Compiled by:** Maryanne Muir                                      **Date:** 9/11/02

**Follow-up Inspection Report:**

# **APPENDIX 2**

## **Sampling Data**

See attached files.