# CENTRAL DESERT JOINT VENTURE

# Otter Gold NL (60%)

Anglogold Australia Pty Ltd (40%)

TANAMI REGION NORTHERN TERRITORY

# 5<sup>th</sup> ANNUAL REPORT

For the

# Pendragon Agreement

EL 8012

EL 9477

EL 9759

EL 9992

**SEL 10188** 

6<sup>th</sup> JULY 2002 to 5<sup>th</sup> JULY 2003

Volume 1 of 1

Newmont Report No: 31230

Compiled By: M.Muir

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#### CENTRAL DESERT JOINT VENTURE

**TITLE:** 5<sup>th</sup> ANNUAL REPORT FOR EXPLORATION LICENCES

EL8012, EL9477, EL9759, EL9992 & SEL10188

**PERIOD:** 6<sup>th</sup> JULY 2002 to 5<sup>th</sup> JULY 2003

**REPORT No.:** 31230

**COMPILED BY:** M. MUIR

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

GRANITES 1:250,000 SF 52-03 PARGEE 1:100,000 4758 McFARLANE 1:100,000 4757 FRANKENIA 1:100,000 4857

**COMMODITY:** GOLD

DATE: JULY 2003

**KEYWORDS:** GEOCHEMICAL SAMPLING, RAB DRILLING, REGIONAL

GEOLOGY, PROTEROZOIC, SUPERGENE DEPOSITS, VEIN

DEPOSITS, VERY LOW GOLD DETECTION ANALYSIS.

# **SUMMARY**

The Pendragon Project area is located within the south-western sector of the Tanami, and the north-western sector of the Granites, 1:250,000 Sheet areas. Exploration Licences (EL) 8012, 9477, 9759, 9992 and SEL 10188 are held by the Central Desert Joint Venture (Otter Gold NL 60%; AngloGold Australasia Limited 40%) and are subject to the **Pendragon Deed** executed 15 June 1998.

Exploration work undertaken during the fifth licence year comprised data review and target generation by Newmont Exploration and drilling/surface sampling these targets.

All of the area covered by the subject ELs remains under CDJV title and therefore details covered in this report should remain on **CLOSED FILE**.

Activity	No. of	High Result	Drilling	Drilling	Drill Intercept
	Surface		No.	Metres	maximum
	Samples		Holes		
Rockchips – SEL10188	3	g/t Au			
<b>Geochemistry – EL9992</b>	5	11.4ppb Au			
<b>Geochemistry-SEL10188</b>	2	470ppb Au			
RAB drilling-SEL10188			34	2040	3m @ 0.57 g/t Au
(Dolphin)					
RAB drilling-SEL10188			49	2838	3m @ 0.17 g/t Au

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#### 1.0 INTRODUCTION

Exploration Licences (EL) 8012, 9477, 9759, 9992 and SEL 10188 are held by the Central Desert Joint Venture (Otter Gold NL 60%; AngloGold Australasia Limited 40%). Collectively, the ELs form the CDJV's **Pendragon** Project area.

This report summarises exploration work undertaken by Otter Gold NL (on behalf of the CDJV) during the Fifth licence year for Exploration Licences 8012, 9477, 9759, 9992 and Substitution Exploration Licence 10188. Ongoing tenure of the land means that detail contained within this report should remain on **closed file**.

This report also outlines *proposed* exploration activities and expenditure to be completed on the subject licences.

## 2.0 LOCATION AND EXPLORATION HISTORY

## 2.1 Location and Access

The Pendragon Project area is located within the southwestern sector of the Tanami 1:250,000 Sheet area (SE 52-15). The tenements straddle the Tanami Road some 30km west of the Tanami gold mine (Groundrush) and covers approximately 352km² (Figure 1). Access within the project area is provided via pre-existing exploration tracks and Haul Roads.

## 2.2 Tenement Status

On 6<sup>th</sup> July 1998 the Northern Territory Department of Mines and Energy (NTDME) granted Exploration Licence Applications covered by the **Pendragon Deed** (ELs 8012, 9477, 9759, 9992, & SEL 10188 (previously 6760 and 7423). The Pendragon Deed for Exploration Agreement between the CDJV and Central Land Council (CLC) was executed 15 June 1998. On 19<sup>th</sup> May 1997 all Western Mining Corporation Limited (WMC) tenements were purchased by the CDJV. These tenements included EL 8012, 9992, SEL 7423, and EL 6760.

	Year	Area	Blocks	Rent(\$)	Rent for	Covenant (\$)	Covenant
		(km2)					covering period
EL8012	5/6	35	11	968	6/07/02-5/07/03	7000	6/07/02-5/07/03
EL9477	5/6	33	13	1144	6/07/02-5/07/03	9200	6/07/02-5/07/03
EL9759	5/6	51	16	1408	6/07/02-5/07/03	10400	6/07/02-5/07/03
EL9992	5/6	39	14	1408	6/07/02-5/07/03	7400	6/07/02-5/07/03
SEL10188*	5/6	194	60	21120	6/11/02-5/11/04	20000	6/11/02-5/11/03
SEL10188						24000	6/11/03-5/11/04

Table 1: Tenement Status

<sup>\*</sup> Note that rent on SEL10188 was a renewal and paid for a two year period.

#### 2.2.1 EL8012

EL8012 was formerly a WMC tenement and was granted to the CDJV 06/07/98. Transfer of the Title to the CDJV occurred 19/05/97.

#### 2.2.2 EL9477

The Minister's consent for negotiation with the CLC was received 15/05/96 and the EL was granted 06/07/98.

## 2.2.3 EL9759

Minister's consent to enter into negotiations with the CLC was given 18 April 1997 and subsequently granted 06/07/98.

## 2.2.4 EL9992

The area now covered by EL 9992 was previously a WMC tenement ERL 137. It comprises 9 complete blocks and 7 blocks shared with EL9477, the total area being 38.7 km<sup>2</sup>. Otter Gold NL, on behalf of the CDJV, lodged an application 17 October 1997 receiving consent to enter negotiations 6 November 1997. The EL was granted 06/07/98.

With the successful definition of an ore reserve at **Beaver Creek** within EL9992 (ERL 137), the CDJV lodged an application for a Mineral Lease (Molech) on February 24<sup>th</sup> 1998. The area nominated covered a 40km<sup>2</sup> within ERL 137-139. ML 180 was granted on the November 18<sup>th</sup> 1998 and has currently seen the completion of six pits (Beaver/Banjo{referred to as Banjo North by the exploration team}/Bonsai/Orion/Orion North/& Cheeseman).

# 2.2.5 SEL10188

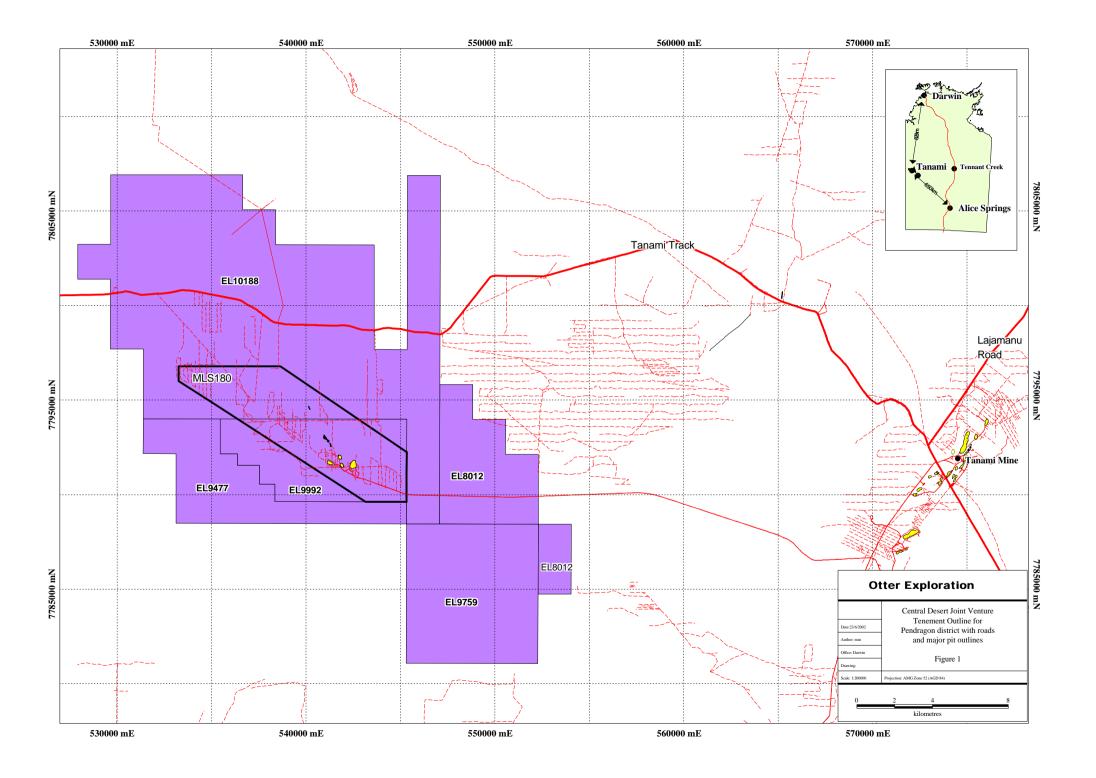
Substitution Exploration Licence 7423 was granted to Western Mining Corporation Ltd (WMC) on 24<sup>th</sup> April 1991 for a period of four years. A subsequent application for a two-year renewal expired before negotiations under the terms of the Aboriginal Land Rights (NT) Act (ALRA) could be completed. A further renewal application was lodged on 17<sup>th</sup> January 1997.

On 19<sup>th</sup> May 1997 SEL 7423 was transferred from WMC to the Central Desert Joint Venture.

On  $6^{\text{th}}$  November 1998 an application for a new SEL (10188) incorporating SEL 7423 and EL 6760 was granted.

## 2.2.6 CORPORATE CHANGES

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. By May 2002 Newmont Australia had taken over Normandy and had a controlling interest in Normandy NFM (now Newmont Tanami Pty Ltd) and thus Otter Gold NL.



## 3.0 PREVIOUS EXPLORATION

Various companies have undertaken exploration in the Tanami area over a thirty-year period. This section summarises the work undertaken by WMC and Otter that has been reported previously in Annual Reports to the NTDME. Exploration undertaken by WMC is summarised in Reports to the NTDME (Norriss, 1990, 1991, 1992, 1993, 1994, Barratt, 1995: Wedekind 1995, 1996, 1997).

Geopeko Limited undertook the earliest documented exploration in 1969 - 1970 with their quest for both gold and uranium mineralisation. Two anomalies were identified in airborne radiometric and magnetic surveys, but only one was followed up with drilling and this produced negative results (Twiggs, 1970).

Exploration by PNC between 1985 and 1988 was more extensive with the main focus of their effort being the discovery of uranium mineralisation. Work carried out included reconnaissance geological mapping, followed by more detailed mapping (1:25,000) in areas of interest. Airborne magnetic and radiometric surveying was also completed. No areas were targeted for further exploration.

WMC began exploration in the Tanami in 1989, initially in joint venture with PNC, but later in their own right. Exploration targeted gold mineralisation of both the Granitesstyle iron formation and Callie-style vein array gold mineralisation. Substitute Exploration Licence 7423 was granted to PNC on 24<sup>th</sup> April 1991 from the amalgamation of EL6457 (WMC) and EL's 4827, 4828 and 4829 (PNC). With PNC opting out of the joint venture and reverting to a royalty position, the SEL 7423 was transferred to WMC on 17<sup>th</sup> October 1995.

WMC originally targeted the Pendragon area because of the complex structure in the region that is clearly evident in regional aeromagnetic imagery and anomalous geochemistry returned in surface sampling near the south western margin of the Coomarie Dome. Mineralisation was outlined at Bonsai and Perisher but sampling on tenements lying outside of these prospects were ineffective largely to the extensive and often very deep alluvial cover.

Although drilling of the Bonsai prospect intersected gold mineralisation in a high proportion of holes WMC was unable to define continuity on 100m section spacings and concluded the prospect by itself, unlikely to support a stand alone operation. Thus a regional exploration program was implemented. The company identified significant anomalism in a broad zone extending NW of Bonsai for a distance of some 10km.

With mineralisation intersected at Bonsai and Perisher and highly anomalous regional geochemical targets established, WMC applied for four ERL's to secure title and access to the area when the existing EL's were in their final licence year. The grant of four ERLs on 20<sup>th</sup> April 1995 coincided with a protracted internal reorganisation within WMC, which eventually led to the decision to divest its Tanami interests in late 1996.

# 3.1 1995 – 1996 (Wedekind, 1996)

PNC withdrew from the Western Desert Joint Venture and as a result ERLs 138-140 were transferred to WMC on 17<sup>th</sup> October 1995.

Exploration included reconnaissance bedrock geochemical drilling and RC drilling of selected targets. Extensive geochemical anomalism was intersected at Cheeseman (peak value 580 Au ppb). Limited drilling at the Beaver Creek Prospect provided promising results.

Despite successful definition of anomalous areas, together with the discovery of potentially ore-grade mineralisation at Beaver Creek, WMC ran out of steam during 1996 and this work was never followed up.

# 3.2 1996 –1997 (Wedekind, 1997)

Reorganisation within WMC and associated budgetary constraints prevented WMC from mounting any field programmes during 1996 and 1997. However, prior to its decision to divest its Tanami interests, a complete re-evaluation of the Tanami project was undertaken.

Otter completed a review of the data and planned a work programme for the coming year.

# 3.3 1997 – 1998 (Scriven and Wedekind, 1998)

Exploration continued to focus on areas of known mineralisation within the Pendragon area. A detailed aeromagnetic survey (25m x 25m) was carried out over the tenement area including the Bonsai and Beaver prospects.

RC drilling at Bonsai completed coverage of the prospect down to 50m sections spacing. Results were not spectacular, but an inferred mineral resource of **420,000 Tonnes** @ **1.9** g/t was calculated.

Posthole drilling undertaken to follow-up WMC's paleochannel anomaly confirmed anomalism, but did not repeat the levels previously reported. This result is possibly related to WMC's misinterpretation of the transported/residual unconformity in the regolith profile.

# 3.4 **20**<sup>th</sup> April - 6<sup>th</sup> July 1998 (Wedekind and Burgess 1998)

Work conducted in the relatively short period between the Annual Report and the relinquishment of the tenements (ERL 137-140) was predominantly focussed within ERL 137.

Drilling activity was concentrated on definition drilling at Beaver Creek, extension drilling at Banjo, and angle RAB and posthole testing of anomalies and structural targets in the immediate vicinity of known mineralisation. The programme to infill WMC's 400m spaced traverses down to 200m was

completed. Depths of transported cover vary between 5 and 30m. Results were quite promising with several >100ppb results indicating a continuation of anomalism northwest from Bonsai.

A detailed orientation sampling programme undertaken to evaluate the effectiveness of low-level surface sampling techniques defined coherent low order surface anomalism.

Regional geophysical datasets including WMC's survey over the Pendragon were merged with the new Otter survey.

# 3.5 6<sup>th</sup> July 1998-5<sup>th</sup> July 1999 (Burgess and Mohammed 1999)

Exploration work undertaken during the first licence year under the **Pendragon Agreement** comprised regional surface and posthole geochemical sampling with local angle RAB and RC follow up of anomalies generated. Otter focused much of its efforts into utilising this unique analytical method to implement a relatively cheap and effective first pass exploration strategy.

# 3.6 6<sup>th</sup> July 1999-5<sup>th</sup> July 2000 (Burgess and Mohammed 2000)

Exploration work undertaken comprised of infill surface and posthole geochemical sampling with local Angle RAB and aircore follow up of anomalies generated. Surface sampling comprised the bulk of the exploration activity (with 4533 samples collected) and RAB drilling (with 4623m drilled).

# 3.7 6<sup>th</sup> July 2000 -5<sup>th</sup> July 2001 (Muir 2001)

Regional and Infill surface sampling and posthole comprised the work completed in the Pendragon region. Three hundred surface samples, utilising low level gold detection analysis (ZARG) were collected. Drilling figures for the period included 54 postholes for 1111 metres. No significant results were returned from either the surface sample programmes or the posthole drilling (max 14ppb Au).

# 3.8 6<sup>th</sup> July 2001 -5<sup>th</sup> July 2002 (Muir 2002)

Fourth year work programmes were put on hold within this region due to the reduction of staff and the turmoil of potential takeovers and takeovers. Fourth year work involved remote discrimination of targets using the enhanced geophysical technique multiscale edge analysis (worming) process as developed by Fractal Graphics over the Tanami Region and as discussed in the previous years Annual Report.

Regions within all the tenements were subject to assessment of surface sampling programme and follow up work was proposed however unable to be completed as priorities changed.

# 4.0 GEOLOGY

# 4.1 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		Co	Coomarie Sandstone		Birrindudu Coomarie			
Group						Group	Sandstone	Suplejack
		Ta	lbot We	ell Form	ation		Talbot Well	Downs
							Formation	Sandstone
		Ga	rdiner S	Sandsto	ne		Gardiner	
							Sandstone	
Suplejack Dov		ndstor	ne				Nanny Goat Creek	Volcanics
Mount Winne	cke						Mount Winnecke Group	
Pargee Sandst	one					Pargee	Mount Charles For	rmation
						Sandstone		
Tanami	Mt.	Killi	Nanny	Nongra	Helena	Tanami	Killi Killi Format	ion
Complex	Charles Beds	Killi Beds	Goat Creek	Beds	Creek Beds	Group	Twigg Formation	
	Beas	Beas	Beds		Beas		Dead Bullock For	rmation
		<u> </u>				McFarlane Peak Group		
Archaean	Archaean			Browns Range Metamorphics				
						"Billabong	Complex"	

**Table 2.** 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, 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 and alusite, 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 breecias 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.

# 4.2 Local Geology

The Project area is located over the southwestern margin of the Coomarie Dome, covering predominantly Lower Proterozoic stratigraphy of the Tanami Complex (Blake et al, 1975). The Coomarie granite is interpreted to have intruded into the already tightly folded rocks during a major period of plutonism that occurred between 1820 Ma and 1700 Ma (Page et al, 1976).

Aeromagnetic surveying reveals a well defined package of magnetic stratigraphy that wraps around the margin of the Coomarie dome in what has been interpreted as a southeast plunging syncline (Norris, 1990). Obvious evidence for both truncation and folding of the magnetic units attests to the complex tectonic history of the area. Two fault orientations are observed; a dominant WNW to NW structural trend, which is characteristic of the Granites-Tanami province in general, and a local pattern of NE trending faults on which relatively minor displacements of the stratigraphy are observed. The latter orientation is possibly related to the intrusion of the Coomarie granite.

Recent mapping within the CDJV areas (Large, 1998), has subdivided the Black Peak formation into several units, which are continuous with the Pendragon stratigraphy. The Tanami mine sequence (Mine Basalts), comprising basalts with intercalated thin to thick bedded turbidites are traced through the Jim's Find area into Pendragon where they host the mineralisation at Bonsai, Beaver Creek and Banjo. Marginal to the Mine Basalts is the Lower Sequence that is interpreted to comprise undifferentiated sediments below the mine sequence. Two west-northwest trending structures separate the Mine Basalts and Lower Sequence from the Wild Turkey Sandstone to the south and the Flores Complex to the north.

Recent work dating basalts, by the NT DME suggests that the Pendragon region is part of the older McFarlane Peak Group (Hendrickx, et al 2000).

Detailed examination of rocks found around the margin of the Coomarie Dome indicates that they are variably metamorphosed from greenschist facies through to amphibolite facies. The metamorphic fabrics described are interpreted to describe a transitional sequence from regional metamorphism into a contact metamorphic environment. Thus the distinction of "upper" and "lower" sequences possibly relates to differing degrees of metamorphism.

South and west of the Coomarie Dome, the magnetic character of the rocks is subdued and generally lacking in contrast. Limited drilling and scattered outcrop indicates that these rocks are similar to the Killi Killi Beds (Blake et al., 1975), which are regionally extensive in the west of the Granites-Tanami Block. Locally, these sediments are unconformably overlain by flat lying cover rocks comprising conglomerate and quartzite (Pargee Sandstone).

Shallow reconnaissance drilling and prospect-sale RC drilling undertaken on the ERLs suggests that the sequence is dominated by deeply weathered wacke and shale that are probably derived from a mafic source. These rocks are steeply dipping and display a prominent foliation that is typically defined by the preferential alignment of biotite. Locally, mapping indicates complex deformation with evidence of syn-sedimentary slump folds, tectonic isoclinal folding and regional tight-to-open folds (Norris, 1990).

Basaltic rocks have been intersected in drilling and there is a general correlation between these rocks and magnetic units within the sequence. However, drilling at Beaver prospect also indicates that at least some of the magnetic units are correlated with coarse wacke units that contain a significant iron oxide component. The mafic units are more deeply weathered than the adjacent sedimentary rocks, but are typically less deformed; an observation that is probably related to the competency contrast compared to the adjacent sediments.

#### Mineralisation

The Tanami Mine Sequence has yielded over 1,000,000oz Au that was mined from numerous pits that are commonly developed on high-grade ore shoots. These shoots are localised at the intersection of  $020^{\circ}$  and  $060^{\circ}$  trending structures and plunge  $\sim\!60^{\circ}$  to the southeast. In section, the orebodies display an en-echelon array of one or more sub-parallel shoots dipping to the east at a high angle to stratigraphy (Marsh, 1996).

The mineralisation tends to occur in clusters of deposits where the total gold content is of the order of 250,000 oz of gold. Individual deposits typically range from 5,000 oz to 200,000 oz.

#### **Local Mineralisation**

Mineralisation in the Pendragon region has resulted in five pits (Beaver, Bonsai, Banjo North, Cheeseman and Orion). Structurally controlled quartz veins containing gold and minor sulphides are hosted within a sequence of basaltic units intercalated with 'volcanic-derived' sedimentary rocks. Several targets have not been able to be brought to resource status (Marlena and Pablo most notably).

The style, size and clustering of mineral deposits observed to date in the whole Pendragon area is very similar to those developed in the Mine Sequence.

#### 5.0 EXPLORATION

# 5.1 EXPLORATION for 6<sup>th</sup> July 2002 to 5<sup>th</sup> July 2003

#### 5.1.1 EL8012

During 2002 – 2003 targets were identified within EL8012.

<u>Target J</u> – Medium Priority - lies within Otter's Heidi West prospect that identified a weakly anomalous zone of Au mineralisation expressed at surface despite cover being in excess of 10m. A peak result of 188ppb was returned from soil samples within the identified mineralisation, and several ZARG samples identified a zone of elevated Au. A combination of angled RAB fences over the peak anomaly and 400m spaced vertical posthole drilling over the area tested the extension of this anomaly into SEL10186, but the anomaly remains undrilled within the limits of EL8012.

The geology within the target area shows the contact between mafic units and sediments and hosts a major regional WNW trending structure that forms part of the interpreted Pendragon-Galifrey magnetic trend. The magnetic signature within the target area appears similar in amplitude and orientation to that above the known mineralisation at the Beaver and Bonsai pits on MLS180 despite the depth of cover being potentially deeper.

As a follow-up to the surface geochemical work and due to the depth and nature of the regolith profile Target J will use drilling as the primary exploration tool. Two lines of angled RAB drilling across the prospect in conjunction with a number of more widely spaced holes around the target zone should determine if additional work is warranted. The additional holes are designed to test discrete magnetic targets, determine background mineralisation and aid understanding of local geology.

<u>Target K</u> – Low Priority - Otter ZARG sampling identified a number of anomalous geochemical results in soils through EL8012. Target K focuses on two of these areas. Here 400m spaced regional soils have failed to generate any significant values. Though later (undated) work involving lines of soil samples  $\approx 100$ m apart generated values 10-20 times above the D.L. This inconsistency may mean that the sampling technique used was inappropriate although the values look suspiciously like batch errors or the result of possible lab contamination.

Proposed Work includes to try and duplicate the anomalous values generated during the Otter sampling program using soil sampling on a restricted grid (where appropriate). Given the assumed depth of cover soil sampling is considered the primary sampling technique of choice. To complement this 1 to 2 RAB holes are proposed to test the depth of regolith in the target area and determine the effectiveness of the soil sampling program.

<u>Target L</u> – Low Priority - Extrapolation of the Pendragon Shear Zone along strike (based on magnetic interpretation) places the structure cutting through magnetically neutral sediments of indeterminate age (NTGS mapping suggests

Killi Killi beds though nearby Otter work places them along strike from interpreted Mount Charles formation). In the southeastern corner of EL8012 co-incident with the extrapolated Pendragon Shear Zone, Otter identified a broad zone of very weak anomalism (4-5 times for D.L.) This seems unusual given that background levels in the area seem to be only a fraction of this, and may represent a mineralised body at depth with fluids sourced from the major regional shear zone.

Proposed Work includes the testing of the area with angled RAB drilling as given the interpreted regolith profile surface sampling may be ineffective. 2-3 lines of regularly spaced (200m?) north-south orientated drillholes across the interpreted structure should be sufficient to determine if the area warrants further work.

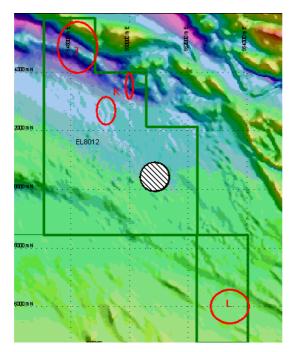


Figure 2 Local Magnetics of the EL8012 showing proposed Exploration Targets. (NB. Hatched areas represent known sites of significance).

#### 5.1.2 EL9477

No work was completed within this Lease during the current Licence Year.

## 5.1.3 EL9759

During 2002 – 2003 targets were identified within EL9759.

<u>Target M</u> – Low Priority - lies within Otter's Llama West prospect that identified a weakly Au anomalous zone extending 1.3km by 1.3km at a 0.5 Au ppb cutoff. Peak values attained consisted of a 3.7, 1.6, 1.5 and 1.1 Au ppb. While these values are still low the sampling technique of ZARG used appears to show low bias and the depth to bedrock remains unknown. It is proposed to

follow-up the surface geochemical work using drilling as the primary exploration tool. Three lines of spaced angled RAB drilling across the Llama West prospect should enough information to determine if further work is warranted.

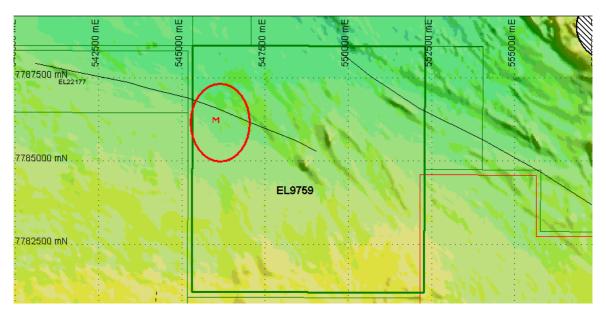


Figure 3 Local Magnetics of EL9759 showing proposed Exploration Targets in red and interpreted major structures in solid black lines.

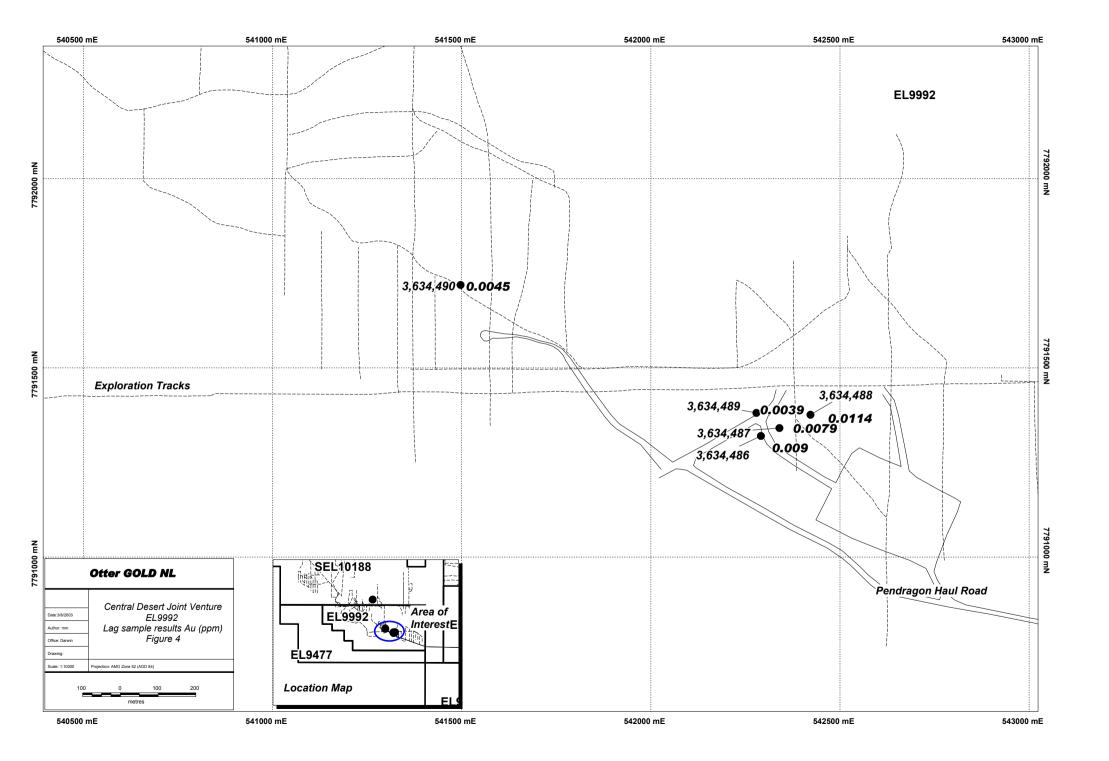
## 5.1.4 EL9992

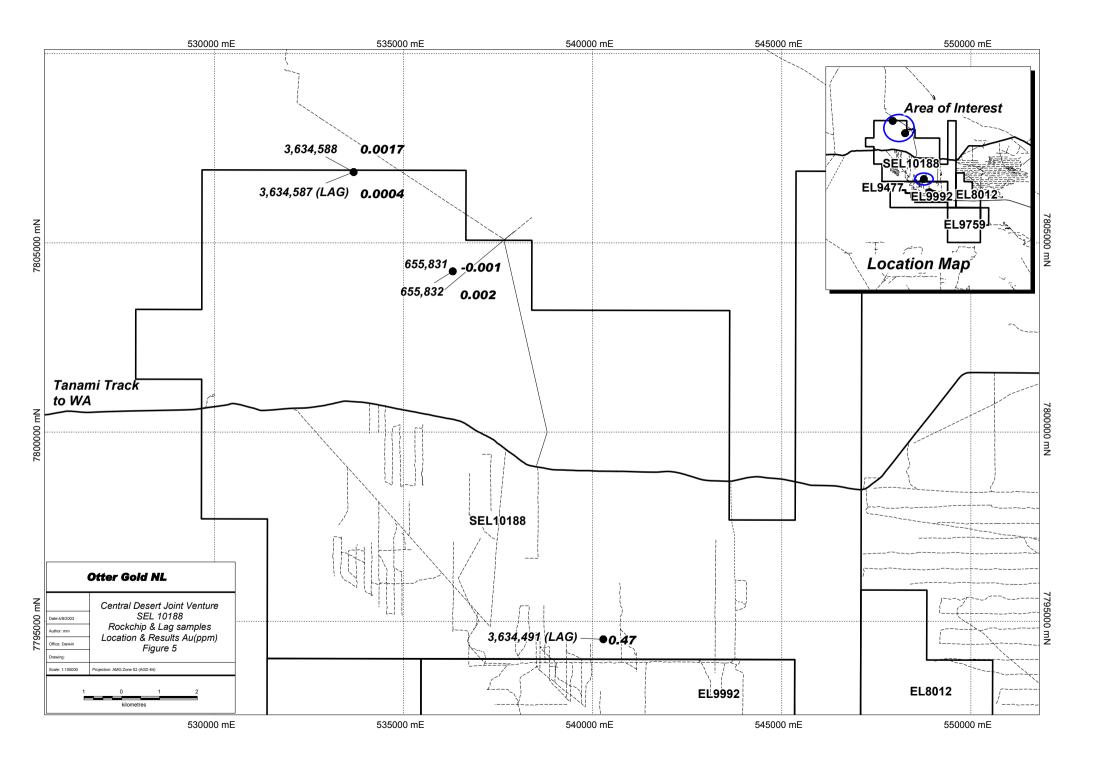
Five lag samples were taken within this Exploration Licence during August of 2002. All samples seem to have been taken around the area of the pits, with a +3mm sieve size. The samples were predominantly of pisolites. The high result was 11.4ppb Au (Sample No 3634488). See Figure 4 for sample location and results.

#### 5.1.5 SEL10188

## **Rockchips & Lag Samples**

During August 2002 and March 2003 field visits were carried out to a number of geochemical and structural targets within the Pendragon trend in preparation for RAB drilling. Limited rock chipping and lag sampling was carried out. Three rockchips and two lag samples were taken, a fine grained mafic volcanic and quartz vein both returned a negative result, a lag sample of pisolites returned a 470ppb Au (sample No 3634491). See Figure 5 for location and results of lag and rockchip samples.





# **RAB Drilling – programme 2002**

Early in October 2002, 21 Angle RAB holes (DERB0001-0034) were drilled for 2040m in the "Dolphin" region east of Pendragon. The program was designed to test possible closures (identified in TMI) within folded sediments and basalts that host the Pendragon mineralisation. Otter's previous drilling in the area (300m away from the lines completed this month) reported numerous values >1g/t, peaking at 6.7g/t Au. The programme was the first phase of drilling to be completed by the CDJV this year to test the prospective north west trending Pendragon-Galifrey trend.

The results were encouraging considering that these results occur 500m along strike from Otter's previous drilling that return results up to 3m @ 6.7ppm Au. Weak mineralisation was intersected with the most significant results being

DERB0005 6-9m 3m @ 0.15ppm Au DERB0005 18-21m 3m @ 0.24ppm Au DERB0009 48-51m 3m @ 0.57ppm Au

All holes were drilled to the target depth of 60m with the blade. Cover in the region was estimated to be 2-4m with basement being recorded as predominantly interbedded sediment/basalt. See Figure 6 for hole locations.

# RAB Drilling – programme 2003

RAB drilling within SEL10188 along the Pendragon Trend was completed in May, 2003. Drilling proceeded quickly averaging 675m/day in just over four days of drilling. A total of 2838 RAB metres were drilled (2738 blade and 100 hammer) and 987 samples were collected (some 49 holes).

Figures 7, 8 and 9 show the location of the RAB drill holes.

<u>Target A</u> lies within mafics and interbedded sediments. Consisting of a series of ENE to EW trending magnetic lows. These structures are normal to the dominant NS to NNE trending thrust/magnetic trend and may be splays that formed synchronously to activation along the main structure. Areas of magnetic depletion along these structures may represent zones of hydrothermal alteration.

The Geological Interpretation from drilling showed cover depth was variable but was always in excess of 7 metres and averaged 18m. Cover was mostly Alluvial and colluvium underlain by laterite and silcrete. The weathering profile was quite subdued with the depth to complete and partial oxidation being logged at around 21 and 30m respectively.

The lithologies were dominated by a mixture of fine to medium grained sediments logged as greywackes, feldspathic wackes, sandstones, and

undifferentiated meta-sediments. Some fine grained, massive doleritic units were also logged interbedded within sediments. All units appeared to have (variably) undergone low-grade metamorphism resulting in a weak fabric being evident through the less competent sedimentary lithologies.

Results were disappointing with a maximum of 0.05ppm Au from hole GORB0009 @12m-15m. See Figure 7 for hole locations.

<u>Target B</u> resulted from a surface sampling anomaly with a peak value of 110ppb and a rock chip sample returning 1.5g/t. Two RAB holes, drilled by Otter 70m south of the anomaly, returned a maximum value of 0.42g/t Au.

Geological Interpretation from drilling showed cover depth was very shallow throughout the area often not exceeding 5-6 metres and with abundant patchy lag and quartz float in the area. The weathering profile through the area was similar to Target A with the depth to complete and partial oxidation being logged at around 18 and 34m respectively.

The lithologies here showed a marked increase in deformation/metamorphism, possibly as a result of the emplacement of the Coomarie batholith to the NW. Rocktypes were logged as a mixture of sandstones, siltstones, schists and metasediments interbedded with thin meta-mafic units. The presence of thin mafic units was not immediately apparent from the magnetics. Weak quartz veining was logged in three consecutive holes dominated by undifferentiated metasediments and mafic rock types (associated with sericite-chlorite alteration).

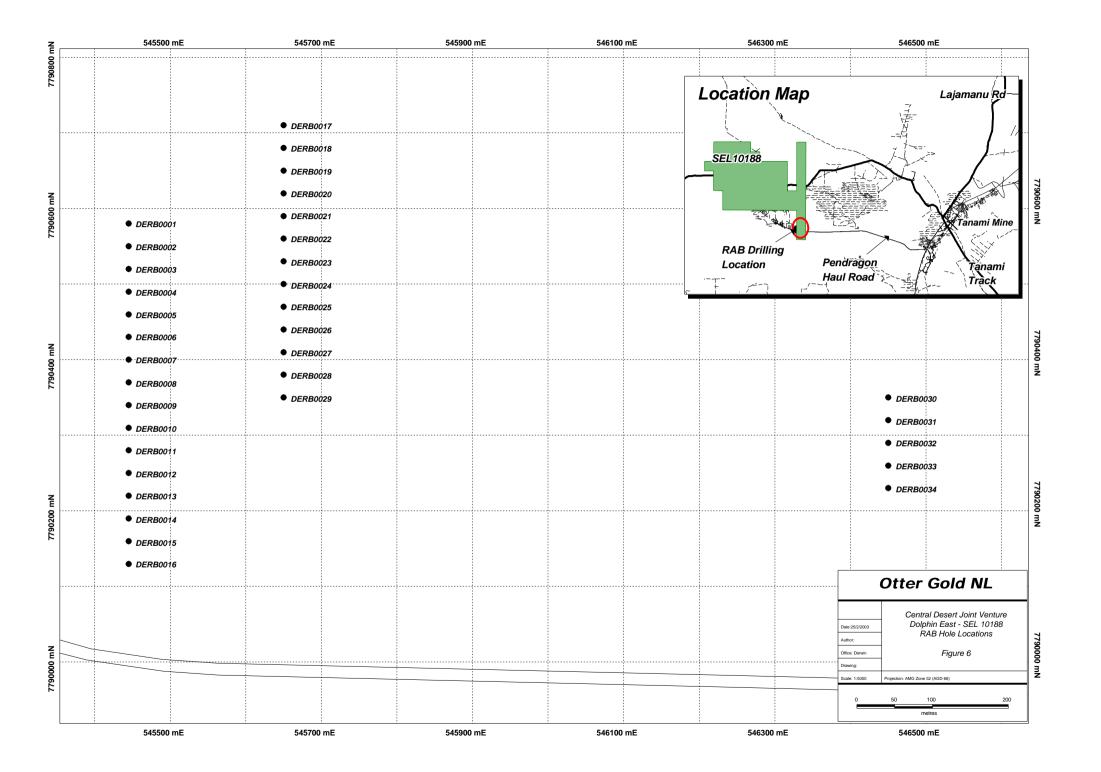
The maximum result was GORB0036 42m-45m @ 0.17g/t Au and was part of 18m @ 0.1 g/t Au from 33m to 51m (BOH). See Figure 8 for hole locations.

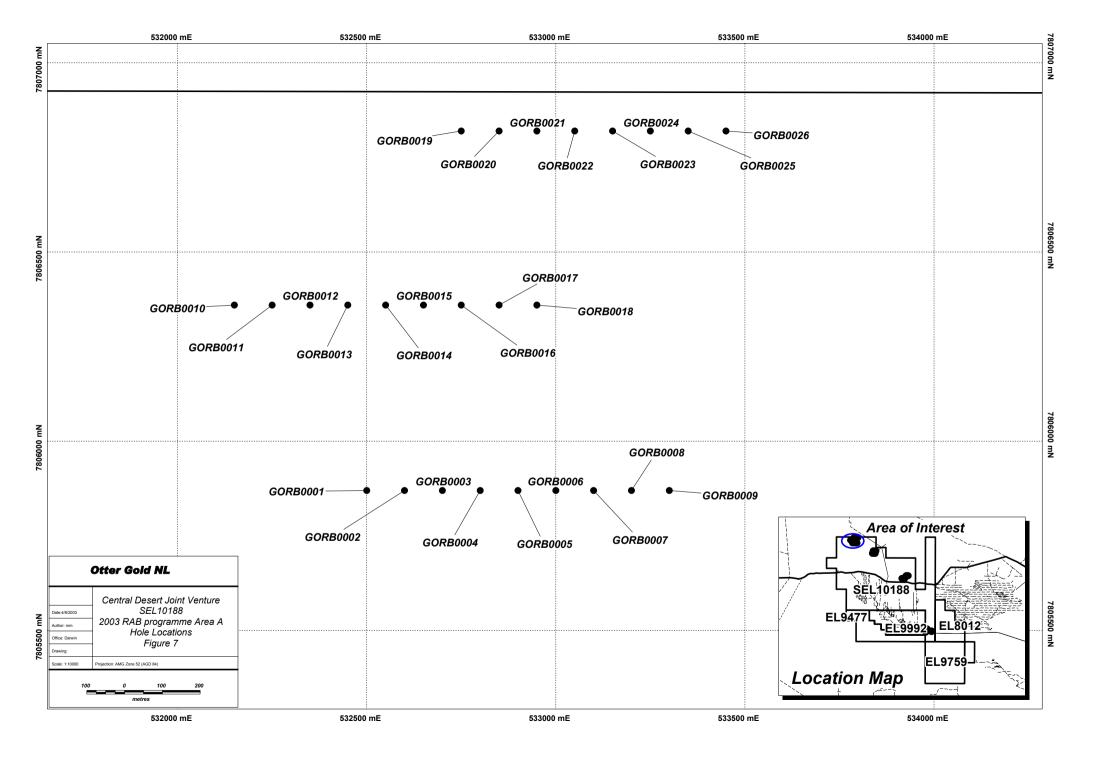
<u>Target C</u> sits within an ultramafic unit which shows a considerable variation in magnetic intensity potentially due to a combination of brittle faulting and hydrothermal alteration. Faults are orientated at  $060^{\circ}$  and splay from the major pendragon shear zone. No drilling of any sort has been conducted in the area though the depth to regolith in the area is interpreted to be in excess of 5m.

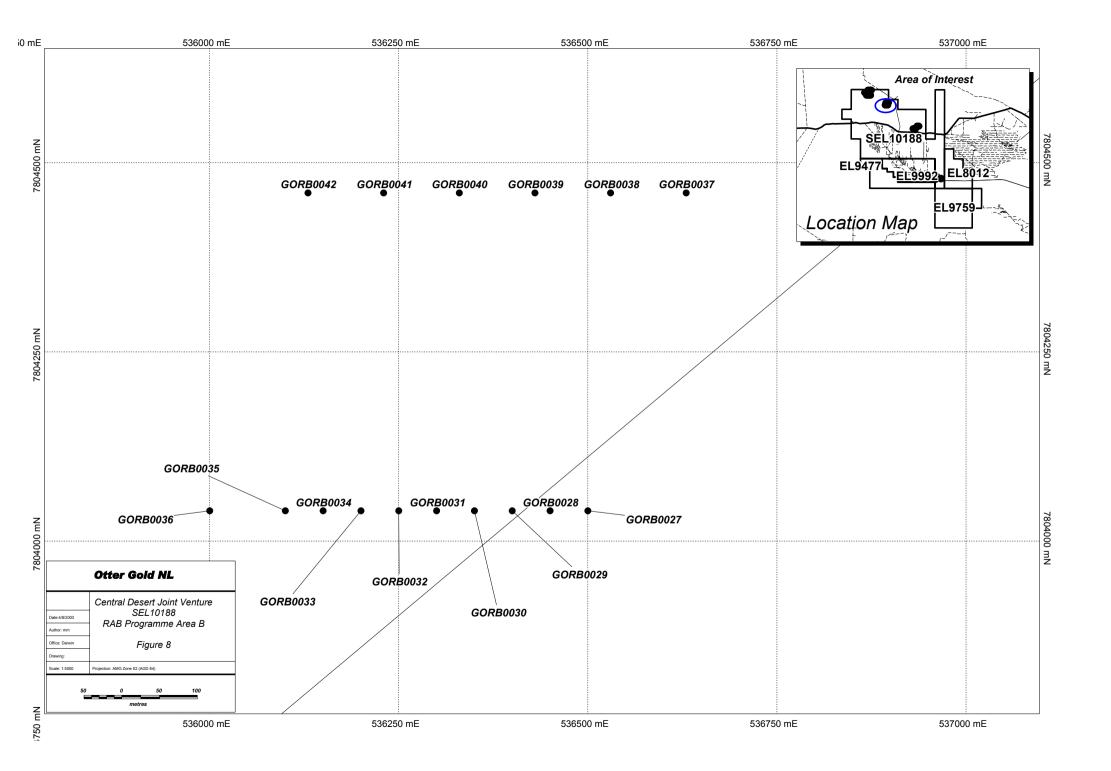
Geological Interpretation from drilling shows cover was comprised of Laterite and chert with the depth increasing to the south from  $\approx 9m$  at 7800100mN to  $\approx 21m$  500m further south. The weathering profile through the area was also similar to the other drilling through the area showing a deeply weathered profile

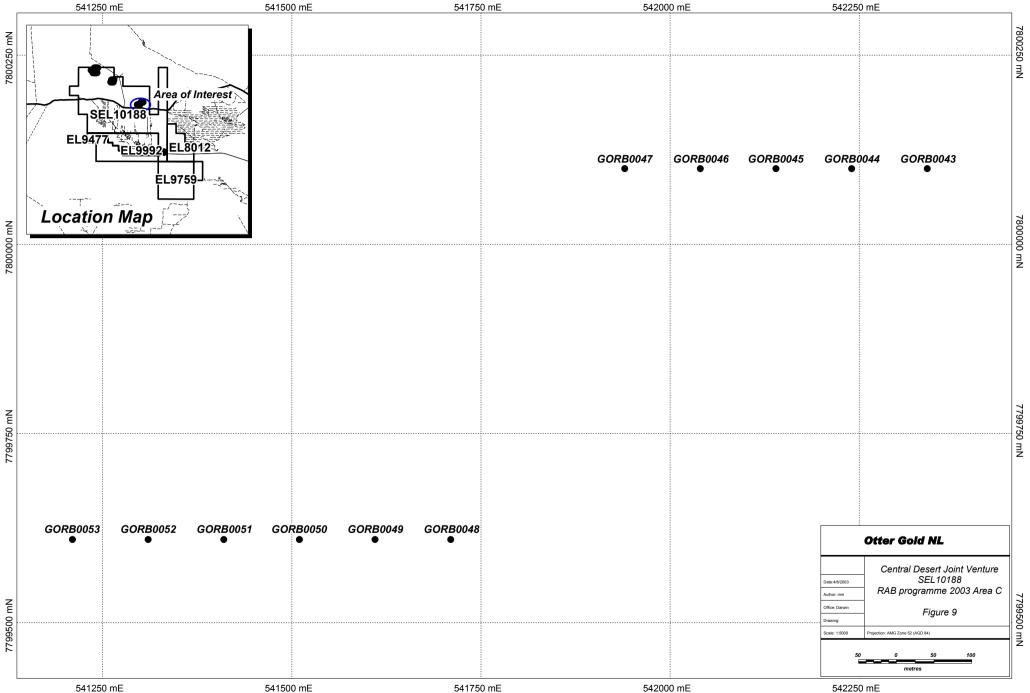
The basement lithologies in this area were dominated by Ultramafic units which other than changes due to oxidation and shearing (of which a continuous prospect scale structure interpreted from magnetics appears to have been identified) appeared to be massive and uniform. Minor quartz veining was noted in the base of GORB0053 59-66m EOH) but the hole was stopped due to drilling problems (caving further up the hole causing the rods to bog).

The maximum result was GORB0043 42m-45m @ 0.22g/t Au but this was a duplicate of 0.03ppm Au. So a question mark exists about the validity of the sample. See Figure 9 for hole locations.









541250 mE 541500 mE 541750 mE 542000 mE

# **6.0 EXPENDITURES FOR PERIOD 6/07/2002 TO 5/07/2003**

# 6.1 Expenditure for period 6/07/2002 to 5/07/2003 on EL 8012

Table 3 summarises the expenditure for the current licence year.

EL 8012		Admissible Costs
800001 Proj/Explorn labour	6,453.50	6,453.50
839001 Sal & Wages Allocat	705.09	705.09
* Expln Employee Costs	7,158.59	7,158.59
520600 Couriers & Bulk Mai	122.01	122.01
839003 Regnl Office Alloct	3,074.16	3,074.16
Expl Overheads and Alloca	3,196.17	3,196.17
510000 Accom & Messing	850.00	850.00
512025 Safety Training	440.36	440.36
520555 Withholding Tax	0	0
520635 Publications & Subs	11.71	11.71
520681 Radio Communication	685.75	685.75
520900 Travel - Air Charte	672.00	672.00
520920 Travel & Accom Loca	603.53	603.53
550065 Consum Oil/Greas	339.97	339.97
550999 Consum-Direct Purch	135.00	135.00
* Expln Operating Costs	3,738.32	3,738.32
521001 TLO - Comp Payments	0	
521002 TLO - Agrmt Complia	0	
521010 Legal Fees - Non De	59.37	
560040 Tenement Fees	50.00	
542300 Asset Acquisitions	0	
560042 Tenement Rentals	0	
* Expln Tenement Costs	109.37	402.00
550030 Consum Drilling	403.86	403.86
LAPIN Drilling Costs	403.86	403.86
513000 Consultants - Gen.	2,083.75	2,083.75
* Exploration	2,083.75	2,083.75
Total Exploration	16,690.06	16580.69
Covenant		7000

# 6.2 Expenditure for period 6/07/2002 to 5/07/2003 on EL 9477

Table 4 summarises the expenditure for the current licence year.

EL 9477		Admissible Costs
800001 Proj/Explorn labour	1,685.00	1,685.00
839001 Sal & Wages Allocat	144.75	144.75
* Expln Employee Costs	1,829.75	1,829.75
520680 Stationery and Supp	245.08	245.08
839003 Regnl Office Alloct	926.66	926.66
Expl Overheads and Alloca	1,171.74	1,171.74
510000 Accom & Messing	100.00	100.00
520086 Maintenance - Vehcl	195.12	195.12
520555 Withholding Tax	0	0
520635 Publications & Subs	11.71	11.71
520900 Travel - Air Charte	140.00	140.00
520920 Travel & Accom Loca	290.33	290.33
* Expln Operating Costs	737.16	737.16
521001 TLO - Comp Payments	0	
521002 TLO - Agrmt Complia	0	
521010 Legal Fees - Non De	65.31	
560040 Tenement Fees	50.00	
542300 Asset Acquisitions	0	
560042 Tenement Rentals	0	
* Expln Tenement Costs	115.31	4 000 75
513000 Consultants - Gen.	1,698.75	1,698.75
* Expln Specialist Services	1,698.75	1,698.75
Total Exploration	5,552.71	5,437.40
Covenant		9200

# 6.4 Expenditure for period 6/07/2002 to 5/07/2003 on EL 9759

Table 5 summarises the expenditure for the current licence year.

EL 9759		Admissible Costs
800001 Proj/Explorn labour	1,450.00	1,450.00
839001 Sal & Wages Allocat	209.84	209.84
* Expln Employee Costs	1,659.84	1,659.84
520680 Stationery and Supp	112.72	112.72
839003 Regnl Office Alloct	582.02	582.02
Expl Overheads and Alloca	694.74	694.74
520555 Withholding Tax	0	0
520635 Publications & Subs	11.71	11.71
520920 Travel & Accom Loca	348.75	348.75
Expln Operating Costs	360.46	360.46
521001 TLO - Comp Payments	0	
521002 TLO - Agrmt Complia	0	
521010 Legal Fees - Non De	65.31	
560040 Tenement Fees	50.00	
542300 Asset Acquisitions	0	
560042 Tenement Rentals	0	
* Expln Tenement Costs	115.31	
550030 Consum Drilling	403.86	403.86
* Expln Drilling Costs	403.86	403.86
513000 Consultants - Gen.	1,698.75	1,698.75
* Expln Specialist Services	1,698.75	1,698.75
Total Exploration	4,932.96	4,817.65
Covenant		10400

# 6.5 Expenditure for period 6/07/2002 to 5/07/2003 on EL 9992

Table 6 summarises the expenditure for the current licence year.

EL 9992		Admissible Costs
800001 Proj/Explorn labour	1,500.50	1,500.50
839001 Sal & Wages Allocat	(3,749.28)	(3,749.28)
* Expln Employee Costs	(2,248.78)	(2,248.78)
520685 Telephone & Fax	995.93	995.93
839003 Regnl Office Alloct	(151.47)	(151.47)
* Expl Overheads and Alloca	844.46	844.46
520555 Withholding Tax	0	0
520635 Publications & Subs	11.71	11.71
* Expln Operating Costs	11.71	11.71
521001 TLO - Comp Payments	0	
521002 TLO - Agrmt Complia	0	
521010 Legal Fees - Non De	65.31	
560040 Tenement Fees	50.00	
542300 Asset Acquisitions	0	
560042 Tenement Rentals	0	
* Expln Tenement Costs	115.31	
513000 Consultants - Gen.	1,698.75	1,698.75
Expln Specialist Services	1,698.75	1,698.75
Total Exploration	421.45	306.14
Covenant		7400

# 6.6 Expenditure for period 6/07/2002 to 5/07/2003 on SEL 10188

Table 7 summarises the expenditure for the current reporting year.

SEL 10188		Admissible Costs
800001 Proj/Explorn labour	15,174.00	15,174.00
839001 Sal & Wages Allocat	(2,259.30)	(2,259.30)
* Expln Employee Costs	12,914.70	12,914.70
839003 Regnl Office Alloct	3,805.18	3,805.18
<ul> <li>Expl Overheads and Alloca</li> </ul>	3,805.18	3,805.18
510000 Accom & Messing	830.00	830.00
520086 Maintenance – Vehcl	151.38	151.38
520635 Publications & Subs	11.71	11.71
520681 Radio Communication	120.00	120.00
520900 Travel - Air Charter	140.00	140.00
520920 Travel & Accom Loca	1,075.53	1,075.53
550999 Consum-Direct Purcha	25.43	25.43
570025 Freight	500.00	500.00
<ul> <li>Expln Operating Costs</li> </ul>	2,854.05	2,854.05
521010 Legal Fees - Non De	65.31	
560040 Tenement Fees	25.00	
542300 Asset Acquisitions	0	
560042 Tenement Rentals	19,200.00	
* Expln Tenement Costs	19,290.31	
560063 Assays - Surf Sample	48.72	48.72
560065 Assays – RAB	9,543.00	9,543.00
* Expln Laboratory Costs	9,591.72	9,591.72
514025 Contract - Drill RA	40,025.25	40,025.25
* Expln Drilling Costs	40,025.25	40,025.25
513000 Consultants - Gen.	2,621.34	2,621.34
* Expln Specialist Services	2,621.34	2,621.34
Total Exploration	91,102.55	71,812.24
Covenant	24000	between 6/11/2003-5/11/2003

## 7.0 PROPOSED EXPENDITURE 2003-2004

During the 2003-2004 field season exploration expenditure will concentrate on the following areas.

EL8012: work is anticipated to include 1000m of RAB drilling to assess targets generated during 2002-2003.

EL9477: work is expected to include a review of data previously collected by Otter Gold NL and assessment of the region. 500m RAB drilling is anticipated.

EL9759: work is anticipated to include 1700m of RAB drilling to assess targets generated during 2002-2003.

EL9992: work is expected to include a review of data and 500m RAB drilling to check targets.

SEL10188: work may continue in the north western regions of the tenement with a review of data and the potential drilling of lower order targets with around 2500m of drilling.

License	Proposed Expenditure
EL8012	\$ 15,000
EL9477	\$ 10,000
EL9759	\$ 22,000
EL9992	\$ 11,000
SEL10188	\$ 35,000

**TABLE 8**: Proposed Expenditures 6<sup>th</sup> July 2003 – 5<sup>th</sup> July 2004

## 8.0 ENVIRONMENT

In the main, exploration activity during the previous year has had a low environmental impact on the Pendragon Licences. Tracks existing from previous exploration work were utilised when site visits were conducted to the Mining Leases. All drill holes were backfilled and plugged with concrete plugs.

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# **APPENDIX 1 Sampling Data** See attached Files