

# **Otter Gold NL (100%)**

TANAMI REGION  
NORTHERN TERRITORY

## **7<sup>th</sup> ANNUAL REPORT**

For  
EXPLORATION LICENCE

### **EL 9592**

**23<sup>rd</sup> OCTOBER 2002 to 22<sup>nd</sup> OCTOBER 2003**

**Volume 1 of 1**

**Newmont Report No: 31300**

**Compiled By: M.Muir**

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## OTTER GOLD NL

**TITLE:** 7<sup>th</sup> ANNUAL REPORT FOR EL9592

**PERIOD:** 23<sup>rd</sup> OCTOBER 2002 TO 22<sup>nd</sup> OCTOBER 2003

**REPORT No.:** 31300

**COMPILED BY:** M. MUIR

**LOCATION:** BIRRINDUDU 1:250,000 SE 52-11  
STYLES 1:100,000 4961  
MT WINNECKE 1:100,000 4960

**COMMODITY:** GOLD

**DATE:** NOVEMBER 2003

**KEYWORDS:** REGIONAL GEOLOGY, PROTEROZOIC.

## SUMMARY

Exploration Licence 9592 (Birrindudu) was granted on the 23<sup>rd</sup> of October 1996, for a period of six years. During the fifth year of the Exploration Licence it was decided because of escalating tenement costs and the granting of adjacent Exploration Licences 22152 & 22376 that EL9592 and the recently granted licences become part of two adjoining SELs (23367 & 23368).

However, with control of Otter Gold NL being gained by Newmont NFM the ground remained as EL9592 for the sixth year of tenure and the SELs remained as applications. The SELs were reassessed as SEL23367 and applied for on the 27<sup>th</sup> May 2002. This SEL application covers the original EL9592 area and the granted EL22152. During July of 2002 a decision was made to reduce the original EL9592 ground from 258 blocks to 146 blocks and this reduction was submitted with the application for renewal of EL9592 for a further two years. The renewal was granted on the 19<sup>th</sup> December 2002.

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

## TABLE OF CONTENTS

SUMMARY .....	
<b>1.0 INTRODUCTION.....</b>	<b>1</b>
<b>2.0 LOCATION AND EXPLORATION HISTORY .....</b>	<b>1</b>
2.1 Location and Leasing .....	1
2.2 Exploration History.....	3
<b>3.0 GEOLOGY .....</b>	<b>4</b>
3.1 Regional Geology .....	4
3.2 Local Geology.....	6
<b>4.0 EXPLORATION FOR 23 OCTOBER 2002 TO 22 OCTOBER 2003. ....</b>	<b>7</b>
<b>5.0 EXPENDITURE FOR PERIOD 23/10/2002 TO 22/10/2003. ....</b>	<b>8</b>
5.1 Expenditure for period 23/10/2002 to 22/10/2003 on EL 9592.....	8
<b>6.0 PROPOSED EXPENDITURE 2003-2004 .....</b>	<b>9</b>
<b>7.0 REFERENCES.....</b>	<b>10</b>

## LIST OF FIGURES

**Figure 1**                      Tenement Map

## LIST OF TABLES

<b>TABLE 1</b>	Comparison of stratigraphic nomenclature
<b>TABLE 2</b>	Expenditure Summary EL9592 2002-2003
<b>TABLE 3</b>	Proposed Expenditure EL9592 2003-2004

## 1.0 INTRODUCTION

During the 2002 - 2003 field season work was predominantly office based with a review of available data, geology and magnetic signatures within EL9592 for the purpose of defining field work for the 2004 proposed budget.

This report documents the work undertaken by Newmont Staff on EL 9592 during the seventh year of tenure and outlines the previous work programmes from 1996-2002.

## 2.0 LOCATION AND EXPLORATION HISTORY

### 2.1 Location and Leasing

Exploration Licence 9592 (Birringdudu) was granted to Otter Gold NL on the 23 October 1996 for a period of six years. The exploration licence was subject of a joint venture agreement between Otter Gold Mines Ltd. and Stockdale Prospecting Ltd (SPL). In January 1999 SPL requested the withdrawal of EL 9592 from the Birringdudu Agreement.

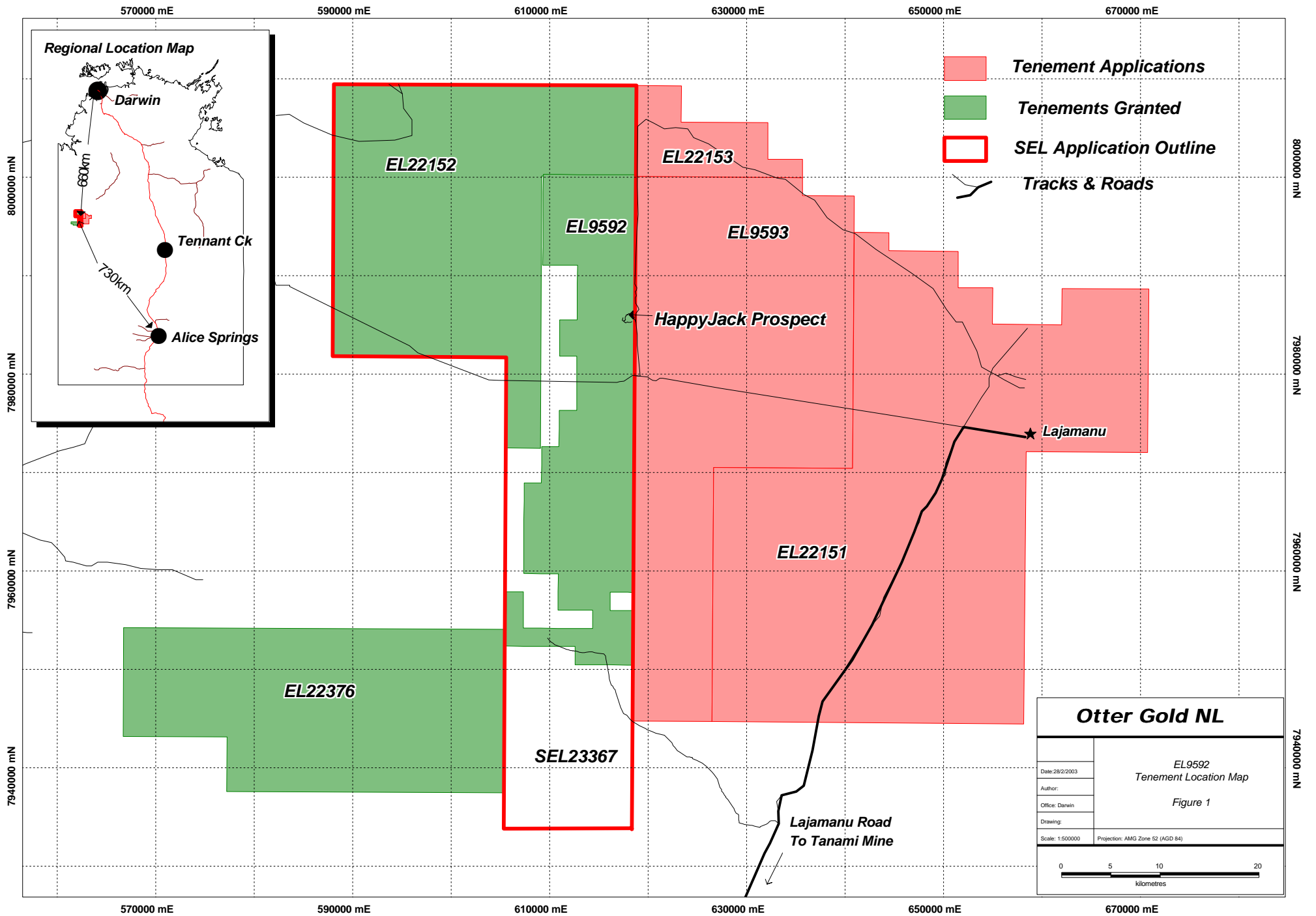
The original tenement comprised 258 blocks covering an area of 838 square kilometres (reduced to 146 blocks) west of the Lajamanu Road, on the Birringdudu and Riveren pastoral leases. Exploration Licence (EL) 9592 is located on the western margin of the Styles and Mount Winnecke 1:100,000 map sheets. EL 9592 is located approximately 170km north-north east of the Tanami Mine Site via the Lajamanu Road.

During the fifth year of the Exploration Licence it was decided because of escalating tenement costs and the granting of adjacent Exploration Licences 22152 & 22376 that EL9592 and the recently granted licences become part of two adjoining SELs (23367 & 23368).

*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.*

However, with control of Otter Gold NL being gained by Newmont NFM the ground remained as EL9592 for the sixth year of tenure and the SELs remained as applications. The SELs were reassessed as SEL23367 and applied for on the 27<sup>th</sup> May 2002. This SEL application covers the original EL9592 area and the granted EL22152. During July of 2002 a decision was made to reduce the original EL9592 ground from 258 blocks to 146 blocks and this reduction was submitted with the application for renewal of EL9592 for a further two years. The renewal was granted on the 19<sup>th</sup> December 2002.

Tenement rental was paid for two years (YE 22/10/2004) on the 17/07/2002. The total amount was \$51392.



## 2.2 Exploration History

**1996 – 1997:** Otter Gold NL had recently targeted the interpreted northerly continuation of the Tanami Mine Complex beyond the Central Desert Joint Venture tenements centred on the Tanami mine site which lead to the acquisition of EL 9592. Delays experienced arranging and conducting sacred site clearances prevented any on-ground exploration of this licence in the first year of its term.

**1997 – 1998:** Reconnaissance loam sampling carried out by Stockdale during 1997 on a 2km by 2km grid. Whilst sampling, a second smaller, sample was collected, these were then re-assayed by Otter Gold NL for low level gold using the ALS ZARG method. These results were reported in 'Supplement to Annual Report for Exploration Licence 9592 23 October 1997–22 October 1998. Analysis of results from this broad grid showed anomalism that appears coherent over several kilometres.

**1998 – 1999:** Third year exploration included regional soil sampling programmes and infill of targets generated within these programmes, with follow up of one target by Angle RAB. Drilling figures for the period were 21 RAB holes for 1,368 metres. The highest significant intercept values were 2m @ 1.70 g/t Au, 6m @ 0.78g/t Au and 2m @ 1.46g/t Au. Several zones of 0.2g/t Au significant intercepts were detected in eighty percent of the lines. Over 1,268 surface samples were collected, including infill samples over Happy Jack.

A mapping exercise was undertaken in the third year of exploration over the Happyjack region for three days and concluded that finer grained 'intrusions' exists within a coarse grained porphyry. There were also two types of quartz veins, igneous and mesothermal. The mesothermal veins tend to parallel the 'intrusions'. The igneous veins appear to produce alluvial gold in near by creeks.

**1999 – 2000:** During the 1999 - 2000 field season a significant helicopter surface sampling programme was completed over the region with limited success. The aim was to find targets on a larger scale than the Happyjack prospect.

Approximately 2306 soil samples were taken on a 400m x 400m grid from a 425 square kilometre region within the Birrindudu Lease. Analysis was conducted using the ZARG method. Anomalies from 0 to 2.6ppb Au were reported in the results. Approximately 14 of these were above 0.5ppb Au.

Relatively small areas of geophysics inclusive of radiometrics were flown over the Happy Jack and Jumping Jack regions by UTS geophysics at the beginning of the Licence year. A 5km x 8km survey was flown over the Happyjack region in the north of EL 9592, and a 5km x 5km survey was flown over a region known as Jumping jack to the south.

**2000 – 2001:** During early August 2001 an excursion was made to EL 9592. The aim was to show the DME geologists the location of the Happyjack quartz veins that ran at approximately 20g/t Au and visit some of the BMR mapped north south trending quartz veins that occur to the south of the Happyjack prospect. The

additional benefit arose that further ground could be checked and rockchipped prior to reductions.

It was noted that the region had the potential for high grade veins. Also the two types of granitoid noted in the region (fine grained [brecciated in the fault zone] and the coarser grained) were noted to possibly have a different background gold values. The coarser grained granitoid was seen to contain very little gold whereas the fine grained (porphyry) granitoid was seen to have an average value around 0.2g/t Au.

Results returned for the seventeen rockchips that were sampled were less than detection (<0.02ppm Au).

**2001-2002:** Work conducted within EL9592 between 2001-2002 included study of previous work completed within the Licence by Otter Gold NL by Newmont NFM staff. The ground was partially relinquished and put under application as SEL23367.

A field trip was organised for Newmont NFM staff to become familiar with the region. The field trip was not successful as access was difficult with the main creek crossing having been washed out.

### **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.

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.

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						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 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.

### **3.2 Local Geology**

The major rock types within the Birrindudu region (EL9592) are the Winnecke Granophyre and its varieties. Outcrop of Helena Creek Beds is described as greywacke, tuff, phyllite, conglomerate, lithic arenite and acid porphyry. To the north the granophyre is overlain by a thick sheet of Cambrian Antrim Plateau Volcanics described as tholeiitic basalt (silica oversaturated, calcium rich with orthopyroxenes (iron and magnesium – the major type of basalt)) with minor tuffaceous sandstone, lithic arenites and cherts.

Within the Happyjack region, more intensive field mapping programme was undertaken during the 1998 – 1999 field season. Essentially, granitoid porphyries have intruded an older granitoid lithology. These porphyries generally stand out as ridges (running in a north-south direction and dipping to the east). The porphyries are host to an early, igneous style of quartz veining (associated with potassic alteration). These are then cut by a later phase of mesothermal style quartz veining (associated with phyllic alteration).

#### **4.0 EXPLORATION FOR 23 OCTOBER 2002 TO 22 OCTOBER 2003.**

On completion of the seventh licence year work has concentrated on a review of available data, geology and magnetic signatures within EL9592 for the purpose of defining field work for the 2004 proposed budget.

The open file data and previous exploration by Otter was reviewed as part of an evaluation of the “Otter 100%” by Newmont Exploration staff and a prospectivity analysis was carried out to assess the EL potential for gold mineralisation. A number of target areas should have been highlighted for future surface sampling and RAB drilling during the 2004 field season.

**5.0 EXPENDITURE FOR PERIOD 23/10/2002 TO 22/10/2003.****5.1 Expenditure for period 23/10/2002 to 22/10/2003 on EL 9592****TABLE 2 Expenditure Summary for EL9592 (2002-2003)**

<b>EL 9592</b>	<b>Actual YTD</b>	<b>Admissible Costs</b>
800001 Proj/Explorn labour	6,617.00	6,617.00
511005 Relocation	625.76	625.76
839001 Sal & Wages Allocat	687.06	687.06
520155 Temporary Staff	385.04	385.04
840000 Employee Cost Allo	199.95	199.95
<b>* Expln Employee Costs</b>	<b>8,514.81</b>	<b>8,514.81</b>
520600 Couriers & Bulk Mai	189.25	189.25
520680 Stationery and Supp	245.09	245.09
520685 Telephone & Fax	0	0
839000 Fixed Asset Usage	1,123.95	1,123.95
839003 Regnl Office Alloc	2,316.57	2,316.57
840007 Expln Other Alloc	3.43	3.43
<b>* Expl Overheads and Alloca</b>	<b>3,878.29</b>	<b>3,878.29</b>
510000 Accom & Messing	605.91	605.91
512010 Safety Clothing	214.20	214.20
512025 Safety Training	590.66	590.66
516020 Equip Hire - Other	0	0
520082 Minor Capital Expen	643.80	643.80
520086 Maintenance - Vehcl	728.29	728.29
520400 Donations - Deducti	72.68	72.68
520555 Withholding Tax	0	0
520605 Furnitre/Equip <\$50	326.75	326.75
520635 Publications & Subs	11.71	11.71
520681 Radio Communication	308.54	308.54
520900 Travel - Air Charte	42.00	42.00
520920 Travel & Accom Loca	2,343.71	2,343.71
550020 Consum. - General	0	0
550999 Consum-Direct Purch	1,949.13	1,949.13
556095 Spares - Tyres/Tube	181.63	181.63
570025 Freight	469.30	469.30
839004 Field Costs Allocn	(9.88)	(9.88)
561020 IT Infrs Hardware	215.00	215.00
561025 IT Maintenance Hard	1,672.67	1,672.67
562015 Vehicle Registratio	0	0
840002 Trav & Accom Allo	5.25	5.25
840003 Draft & IT Alloc	40.31	40.31
840005 Equip & Veh Alloc	2.70	2.70
<b>* Expln Operating Costs</b>	<b>10,414.36</b>	<b>10,414.36</b>
521001 TLO - Comp Payments	0	
521002 TLO - Agrmt Complia	0	
560040 Tenement Fees	50.00	
542300 Asset Acquisitions	0	
560042 Tenement Rentals	0	
840006 Ten/Legal Cost Allo	4.26	
<b>* Expln Tenement Costs</b>	<b>54.26</b>	
560011 Drill Site Rehab	300.22	300.22
<b>* Expln Drilling Costs</b>	<b>300.22</b>	<b>300.22</b>
513000 Consultants - Gen.	833.75	833.75
520015 Audit Fees	0	0
<b>* Expln Specialist Services</b>	<b>833.75</b>	<b>833.75</b>
520025 Bank Charges	0	0
<b>* Expln Accounting Costs</b>	<b>0</b>	<b>0</b>
<b>TOTAL</b>	<b>23,995.69</b>	<b>23,941.43</b>
COVENANT		20000

## 6.0 PROPOSED EXPENDITURE 2003-2004

During the 2003-2004 field season it is hoped that staff will visit the Happyjack prospect. Follow up drilling to the initial RAB results obtained by Otter Gold NL is planned with reconnaissance (using the Newmont proprietary technique for assay of surface samples) of the Licence and further aeromagnetic interpretation for similar prospects styles.

**TABLE 3:** Proposed Expenditures 23/10/2003 – 22/10/2004

License	Proposed Expenditure
EL9592	\$ 20,000

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