

# **Open File Envelope**

## **No. 11,304**

**EL 3477 / 4725**

**WOOCALLA**

**ANNUAL REPORTS AND FINAL REPORT TO LICENCE  
SURRENDER, FOR THE PERIOD 8/12/2005 TO 18/12/2014**

Submitted by  
Gunson Resources Ltd, Xstrata Copper Exploration Pty Ltd, MIM Resource  
Development Pty Limited and Strandline Resources Limited  
2015

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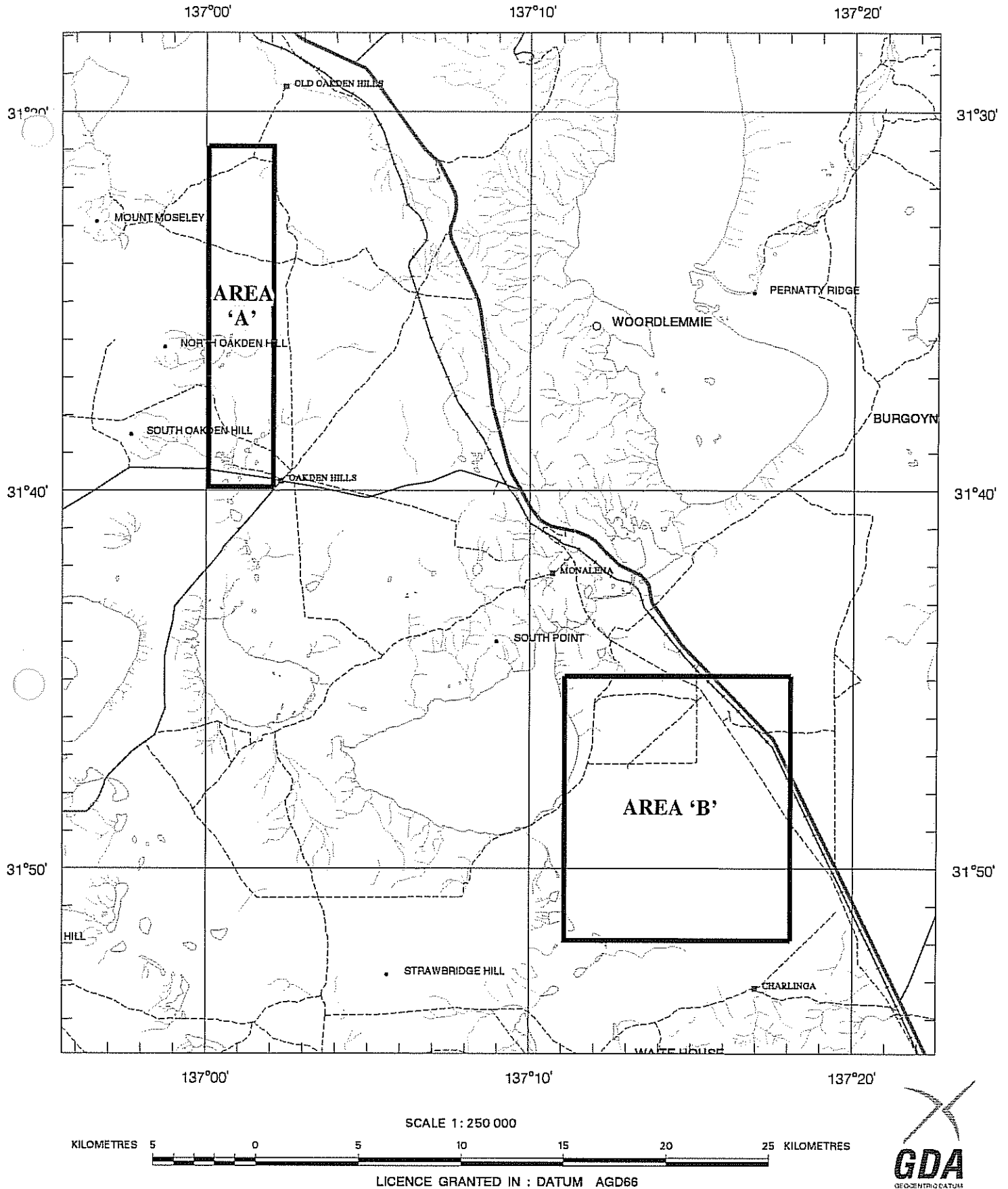
**Enquiries:** Customer Services  
Resources and Energy Group  
7th Floor  
101 Grenfell Street, Adelaide 5000

Telephone: (08) 8463 3000  
Facsimile: (08) 8204 1880



**Government of South Australia**  
Department of State Development

# SCHEDULE A



APPLICANT : GUNSON RESOURCES LTD

FILE REF : 701/05

TYPE : MINERAL ONLY

AREA : 196 km<sup>2</sup> (approx.)

1:250000 MAPSHEETS : TORRENS

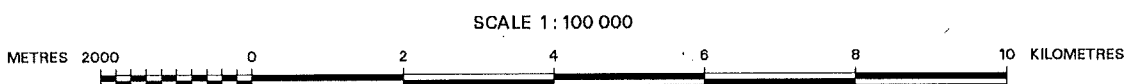
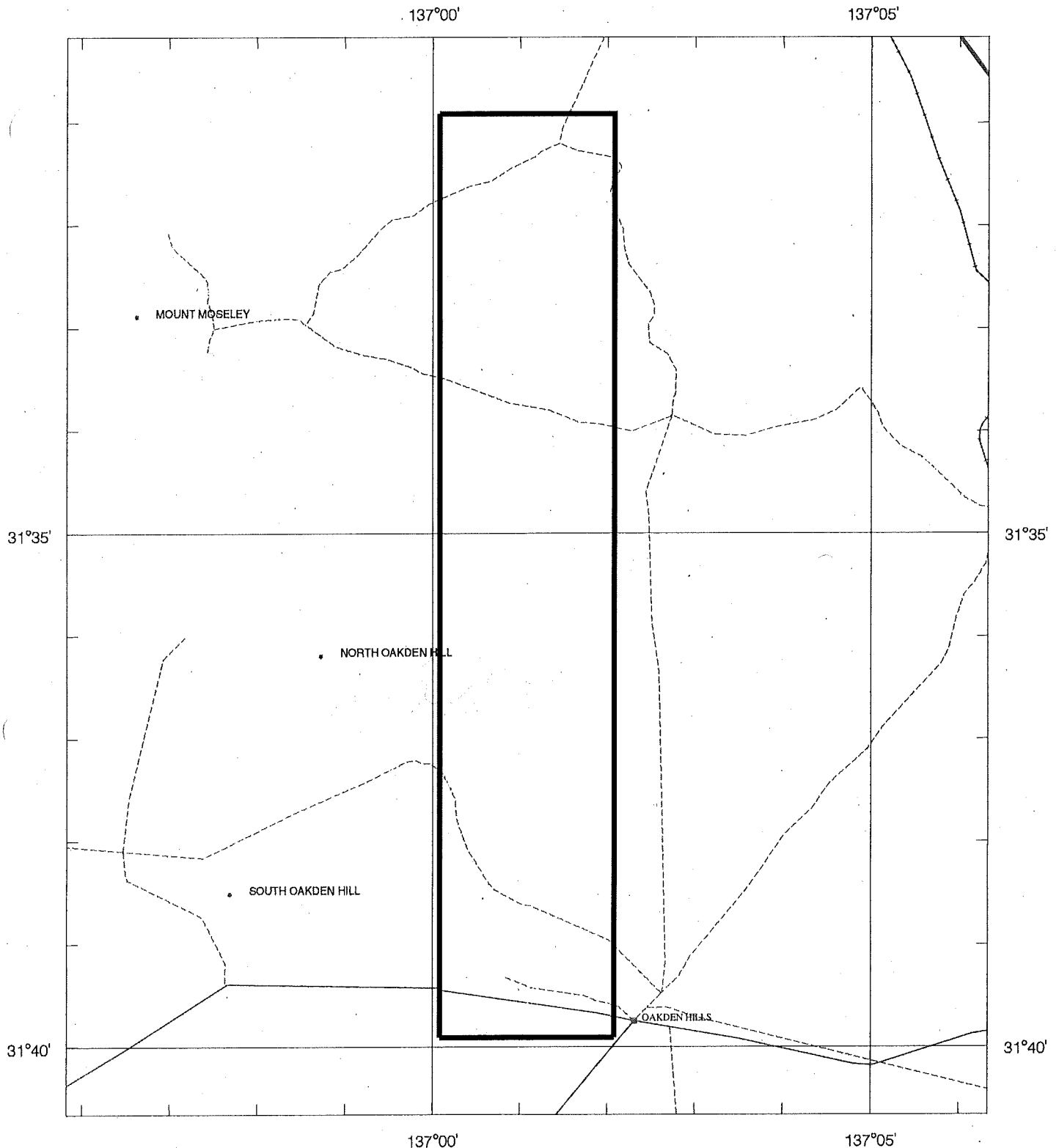
LOCALITY : WOOCALLA AREA - Approximately 110 km northwest of Port Augusta

DATE GRANTED : 08-Dec-2005

DATE EXPIRED : 07-Dec-2006

EL NO : 3477

# SCHEDULE A



LICENCE GRANTED IN : DATUM AGD66



**APPLICANT : GUNSON RESOURCES LTD**

**FILE REF : 346/10**

**TYPE : MINERAL ONLY**

**AREA : 53 km<sup>2</sup> (approx.)**

**1:250000 MAPSHEETS : TORRENS**

**LOCALITY : WOOCALLA AREA - Approximately 110 km northwest of Port Augusta**

**DATE GRANTED : 20-Apr-2011**

**DATE EXPIRED : 19-Apr-2013**

**EL NO : 4725**

# **GUNSON RESOURCES LTD**

## **EL 3477 WOOCALLA**

**First Annual Report on Exploration Activities  
for the period  
08 December 2005 to 07 December 2006**

**Distribution:**

- 1 P I R S A
- 2 File: PRO M1-S1
- 3 H L Paterson

H L Paterson  
January 2007

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## **1 SUMMARY**

Exploration Licence 3477 (Woocalla) was granted to Gunson Resources Ltd on 8<sup>th</sup> December, 2005, as a replacement for EL 2756 which had been explored by the company and its forebears for the previous 5 year term. Gunson Resources Limited is exploring EL 3477 for stratiform copper mineralisation of the various styles present in the Mount Gunson area. In addition, the Mesoproterozoic basement has significant potential for analogues of the Olympic Dam style of mineralisation, and for gold-only mineralisation.

During this first year of tenure, work on EL 3477 has consisted of:

- Re-evaluation of stratiform copper targets, following drilling on EL 3022 in January, 2006.
- Discussion of exploration history and target potential, as part of JV negotiation process.

Exploration expenditure incurred during Year 1 of EL 3477 amounted to \$101. Expenditure reported previously was \$0 making a total expenditure on this EL of \$101, and a cumulative expenditure (ie including EL 2099 and EL 2756) since August 4<sup>th</sup>, 1995 of \$517,952.

## **2 INTRODUCTION**

Exploration Licence EL 3477 (Woocalla) was granted to Gunson Resources Limited on 8<sup>th</sup> December, 2005, as a replacement for EL 2756 (which in turn was a replacement for EL 2099). The tenement, in two separate blocks, covers 196 sq kms in the western part of the Torrens 1:250,000 map sheet (Figure 1).

EL 3477 adjoins ELs 3264 and 3022 which are also held by Gunson Resources Limited. These three tenements, with EL 3112 to the north of EL 3264, are explored collectively by Gunson Resources as the Mount Gunson Project. The proximity of EL 3477 to Mount Gunson has meant that past exploration work has focussed mainly on exploration for copper mineralisation within the Adelaidean sediments of the Stuart Shelf and the underlying Pandurra Formation, such as was mined at various sites in the Mount Gunson area.

This report describes work completed on EL 3477 during the year from 8<sup>th</sup> December 2005 to 7<sup>th</sup> December 2006.

## **3 REGIONAL SETTING**

A description of the regional setting of the project area was provided in the previous Annual Reports for EL 2099 and 2756, and need not be restated here.

## **4 PREVIOUS WORK**

Previous work carried out in the area covered by EL 3477 was summarised in the Annual Reports for EL 2099 and 2756.

## **5 EXPLORATION MODELS**

As detailed in the previous Annual Reports, current exploration is based on the potential of the Mount Gunson area for hosting three separate types of mineralisation:

- stratiform copper mineralisation similar to that of the world-class Central African Copper Belt and White Pine deposit in Michigan. This style of mineralisation would be hosted in flat-lying sedimentary units of the Adelaidean sequence, with copper metal being sourced from the underlying Pandurra Formation redbeds or even from zones of extensive alteration and leaching in the pre-Pandurra basement. The deposits at Windabout and at MG 14, hosted in dolomitic black shales of the Tapley Hill Formation in each case, have similarities to this style of mineralisation. The mineralisation mined at the Cattlegrid deposit, while differing in detail

from the classic stratiform copper models, probably represents a local variant of this type of deposit.

- base-metal and gold mineralisation within brecciated and altered lithologies in the pre-Pandurra basement, as seen at the world-class Olympic Dam deposit. Variants of this style of mineralisation are seen elsewhere on the Stuart Shelf, and the tectonic and structural setting of the Mount Gunson area is favourable for repetitions of the Olympic Dam setting.
- gold mineralisation of any of the types being explored in the central and western Gawler Craton.

Because the basement geology of the Stuart Shelf area is so poorly known, there is also the possibility that unanticipated styles of mineralisation may be present in the project area.

## 6 WORK COMPLETED THIS YEAR

No field work was carried out on EL 3477 in this first year of tenure. A drilling program was completed on the adjoining tenement EL 3022 in January 2006, and data from this work was used to update the interpretation of stratigraphic relations within the immediate area (including EL 3477).

In addition, previous work and exploration potential on EL 3477 were reviewed as part of a presentation to potential joint venture partners, following successful drilling at Chianti Prospect in December 2005.

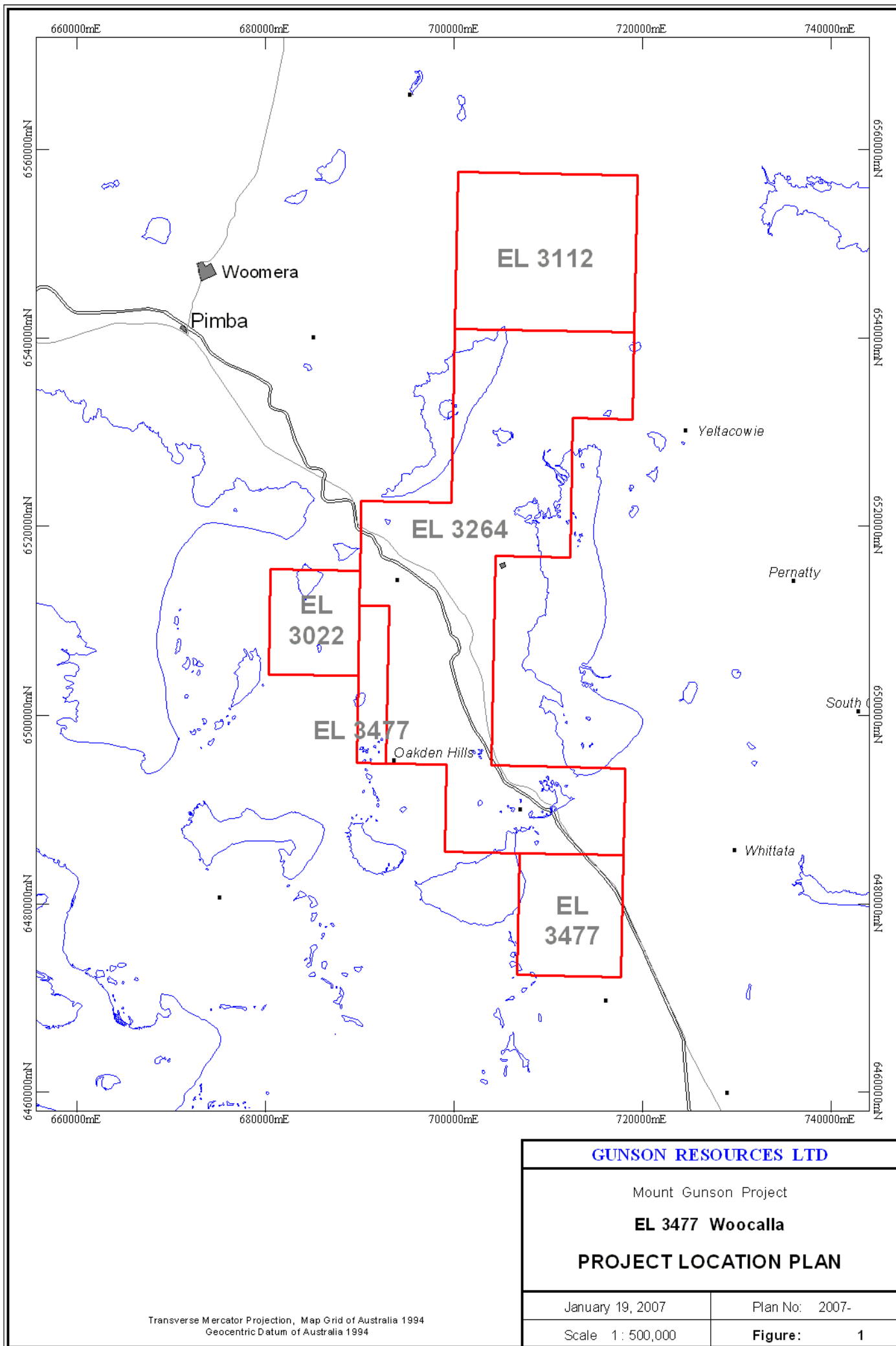
## 7 FUTURE PROGRAM

The current focus within the Mount Gunson Project is on basement-hosted targets, mainly on EL 3264 and EL 3112, and a comprehensive drilling program is planned to begin in February 2007. The new JV partner (Xstrata Copper Exploration) has expressed interest in other mineralisation styles in the Mt Gunson area, however, so it is likely that further testing of stratiform copper targets within EL 3477 may be undertaken during the course of the joint venture.

At this stage it is not possible to predict when such work may occur, or what the level of expenditure is likely to be.

## 8 EXPENDITURE TO 07/12/2006

Category	1 <sup>st</sup> Half	2 <sup>nd</sup> Half	TOTAL
Consulting geologists	\$91	\$0	\$91
Rent/rates/government charges	\$10	\$0	\$10
<b>Year 1 expenditure:</b>	<b>\$101</b>	<b>\$0</b>	<b>\$101</b>
<b>Total expenditure EL 3477:</b>	<b>\$101</b>	<b>\$0</b>	<b>\$101</b>
<hr/>			
<b>Total expenditure on EL 2756</b>			<b>\$88,924</b>
<b>Total expenditure on EL 2099</b>			<b>\$428,927</b>
<b>Gross expenditure to date:</b>			<b>\$517,952</b>
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# **GUNSON RESOURCES LTD**

## **EL 3477 WOOCALLA**

**Second Annual Report on Exploration Activities  
for the period  
08 December 2006 to 07 December 2007**

**Distribution:**

- 1 P I R S A
- 2 File: PRO M1-S1
- 3 H L Paterson

H L Paterson  
December 2007

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## **1 SUMMARY**

Exploration Licence 3477 (Woocalla) was granted to Gunson Resources Ltd on 8<sup>th</sup> December, 2005, as a replacement for EL 2756 which had been explored by the company and its forebears for the previous 5 year term. Gunson Resources Limited is exploring EL 3477 for stratiform copper mineralisation of the various styles present in the Mount Gunson area. In addition, the Mesoproterozoic basement has significant potential for analogues of the Olympic Dam style of mineralisation, and for gold-only mineralisation.

During this second year of tenure, work on EL 3477 has consisted of:

- Continuing re-evaluation of stratiform copper targets.
- Discussion of exploration history and target potential, as part of JV negotiation process.

Exploration expenditure incurred during Year 2 of EL 3477 amounted to \$1,882. Expenditure reported previously was \$101 making a total expenditure on this EL of \$1,983, and a cumulative expenditure (*ie* including EL 2099 and EL 2756) since August 4<sup>th</sup>, 1995 of \$519,834.

## **2 INTRODUCTION**

Exploration Licence EL 3477 (Woocalla) was granted to Gunson Resources Limited on 8<sup>th</sup> December, 2005, as a replacement for EL 2756 (which in turn was a replacement for EL 2099). The tenement, in two separate blocks, covers 196 sq kms in the western part of the Torrens 1:250,000 map sheet (Figure 1).

EL 3477 adjoins ELs 3264 and 3967 (formerly EL 3022) which are also held by Gunson Resources Limited. These three tenements, with EL 3112 to the north of EL 3264, are explored collectively by Gunson Resources as the Mount Gunson Project. The proximity of EL 3477 to Mount Gunson has meant that past exploration work has focussed mainly on exploration for copper mineralisation within the Adelaidean sediments of the Stuart Shelf and the underlying Pandurra Formation, such as was mined at various sites in the Mount Gunson area.

This report describes work completed on EL 3477 during the year from 8<sup>th</sup> December 2006 to 7<sup>th</sup> December 2007.

## **3 REGIONAL SETTING**

A description of the regional setting of the project area was provided in the previous Annual Reports for EL 2099 and 2756, and need not be restated here.

## **4 PREVIOUS WORK**

Previous work carried out in the area covered by EL 3477 was summarised in the Annual Reports for EL 2099 and 2756.

## **5 EXPLORATION MODELS**

As detailed in the previous Annual Reports, current exploration is based on the potential of the Mount Gunson area for hosting three separate types of mineralisation:

- stratiform copper mineralisation similar to that of the world-class Central African Copper Belt and White Pine deposit in Michigan. This style of mineralisation would be hosted in flat-lying sedimentary units of the Adelaidean sequence, with copper metal being sourced from the underlying Pandurra Formation redbeds or even from zones of extensive alteration and leaching in the pre-Pandurra basement. The deposits at Windabout and at MG 14, hosted in dolomitic black shales of the Tapley Hill Formation in each case, have similarities to this style of mineralisation. The mineralisation mined at the Cattlegrid deposit, while differing in detail from the classic stratiform copper models, probably represents a local variant of this type of deposit.

- base-metal and gold mineralisation within brecciated and altered lithologies in the pre-Pandurra basement, as seen at the world-class Olympic Dam deposit. Variants of this style of mineralisation are seen elsewhere on the Stuart Shelf, and the tectonic and structural setting of the Mount Gunson area is favourable for repetitions of the Olympic Dam setting.
- gold mineralisation of any of the types being explored in the central and western Gawler Craton.

Because the basement geology of the Stuart Shelf area is so poorly known, there is also the possibility that unanticipated styles of mineralisation may be present in the project area.

## 6 WORK COMPLETED THIS YEAR

No field work was carried out on EL 3477 in this second year of tenure. Drilling programs were completed on the adjoining tenement EL 3022 in January 2006, and on EL 3264 and EL 3112 in early 2007. Data from this work was used to update the interpretation of stratigraphic relations within the immediate area (including EL 3477).

In addition, previous work and exploration potential on EL 3477 were reviewed as part of a presentation to potential joint venture partners, following successful drilling at Chianti Prospect in December 2005.

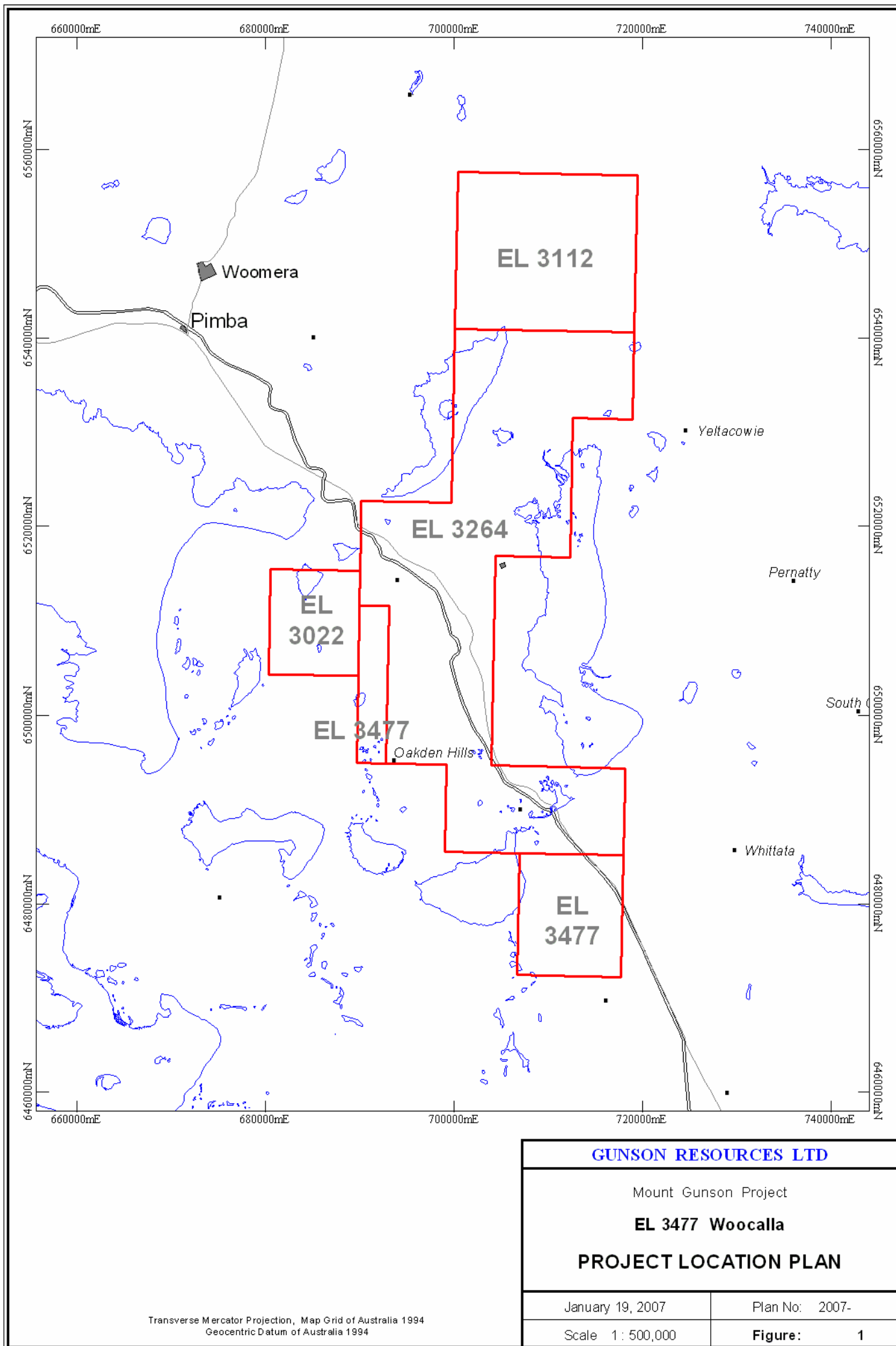
## 7 FUTURE PROGRAM

The current focus within the Mount Gunson Project is on basement-hosted targets, mainly on EL 3264 and EL 3112, and a follow-up drilling program is planned to begin in January 2008. The new JV partner (Xstrata Copper Exploration) has expressed interest in other mineralisation styles in the Mt Gunson area, however, so it is likely that further testing of stratiform copper targets within EL 3477 may be undertaken during the course of the joint venture.

At this stage it is not possible to predict when such work may occur, or what the level of expenditure is likely to be.

## 8 EXPENDITURE TO 07/12/2007

Category	1 <sup>st</sup> Half	2 <sup>nd</sup> Half	TOTAL
Consulting geologists	\$1,582	\$300	\$91
<b>Year 2 expenditure:</b>	<b>\$1,582</b>	<b>\$300</b>	<b>\$1,882</b>
<b>Year 1 expenditure:</b>	<b>\$101</b>	<b>\$0</b>	<b>\$101</b>
<b>Total expenditure EL 3477:</b>	<b>\$1,683</b>	<b>\$300</b>	<b>\$1,983</b>
<hr/>			
<b>Total expenditure on EL 2756</b>			<b>\$88,924</b>
<b>Total expenditure on EL 2099</b>			<b>\$428,927</b>
<b>Gross expenditure to date:</b>			<b>\$519,834</b>
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# **GUNSON RESOURCES LTD**

## **EL 3477 WOOCALLA**

### **Third Annual Report on Exploration Activities for the period 8 December 2007 to 7 December 2008**

**Distribution:**

- 1 P I R S A
- 2 File: PRO M1-S1
- 3 H L Paterson

H L Paterson  
February 2009

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## **1 SUMMARY**

Exploration Licence 3477 (Woocalla) was granted to Gunson Resources Ltd (Gunson) on 8<sup>th</sup> December, 2005, as a replacement for EL 2756 which had been explored by the Company and its forebears for the previous 5 year term. Gunson is exploring EL 3477 for stratiform copper mineralisation of the various styles present in the Mount Gunson area. In addition, the Mesoproterozoic basement has significant potential for analogues of the Olympic Dam style of mineralisation, and for gold-only mineralisation.

During this third year of tenure, no work has been completed on EL 3477, although the tenement is still regarded as a key property in the Mount Gunson Project, which has been the subject of an amalgamated expenditure agreement with PIRSA since February 2000.

Exploration expenditure incurred during Year 3 of EL 3477 amounted to \$1,636. Expenditure reported previously was \$1,983 making a total expenditure on this EL of \$3,619, and a cumulative expenditure (*ie* including EL 2099 and EL 2756) since August 4<sup>th</sup>, 1995 of \$521,470.

## **2 INTRODUCTION**

Exploration Licence EL 3477 (Woocalla) was granted to Gunson on 8<sup>th</sup> December, 2005, as a replacement for EL 2756, which in turn replaced EL 2099. The tenement, in two separate blocks, covers 196 sq kms in the western part of the Torrens 1:250,000 map sheet (Figure 1). Exploration of EL 3477 is carried out in Joint Venture with Noranda Pacific Pty Limited, now part of the Xstrata Copper business unit.

EL 3477 adjoins ELs 3264 and 3967 (formerly EL 3022) which are also held by Gunson. These three tenements, with EL 4187 (formerly EL 3112) to the north of EL 3264, are explored collectively by Gunson as the Mount Gunson Project. The proximity of EL 3477 to Mount Gunson has meant that past exploration work has focussed mainly on exploration for copper mineralisation within the Adelaidean sediments of the Stuart Shelf and the underlying Pandurra Formation, such as was worked at various sites in the Mount Gunson mining centre.

This report describes work completed on EL 3477 during the year from 8<sup>th</sup> December 2007 to 7<sup>th</sup> December 2008.

## **3 REGIONAL SETTING**

A description of the regional setting of the project area was provided in the previous Annual Reports for EL 2099 and 2756, and need not be restated here.

## **4 PREVIOUS WORK**

Previous work carried out in the area covered by EL 3477 was summarised in the Annual Reports for EL 2099 and 2756.

## **5 EXPLORATION MODELS**

As detailed in the previous Annual Reports, current exploration is based on the potential of the Mount Gunson area for hosting three separate types of mineralisation:

- stratiform copper mineralisation similar to that of the world-class Central African Copper Belt and White Pine deposit in Michigan. This style of mineralisation would be hosted in flat-lying sedimentary units of the Adelaidean sequence, with copper metal being sourced from the underlying Pandurra Formation red beds or even from zones of extensive alteration and leaching in the pre-Pandurra basement. The deposits at Windabout and at MG 14, hosted in dolomitic black shales of the Tapley Hill Formation in each case, have similarities to this style of mineralisation. The mineralisation mined at the Cattlegrid deposit, while differing in detail from the classic stratiform copper models, probably represents a local variant of this type of deposit.



- base-metal and gold mineralisation within brecciated and altered lithologies in the pre-Pandurra basement, as seen at the world-class Olympic Dam deposit. Variants of this style of mineralisation are seen elsewhere on the Stuart Shelf, and the tectonic and structural setting of the Mount Gunson area is favourable for repetitions of the Olympic Dam setting.
- gold mineralisation of any of the types being explored in the central and western Gawler Craton.

Because the basement geology of the Stuart Shelf area is so poorly known, there is also the possibility that unanticipated styles of mineralisation may be present in the project area.

## 6 WORK COMPLETED THIS YEAR

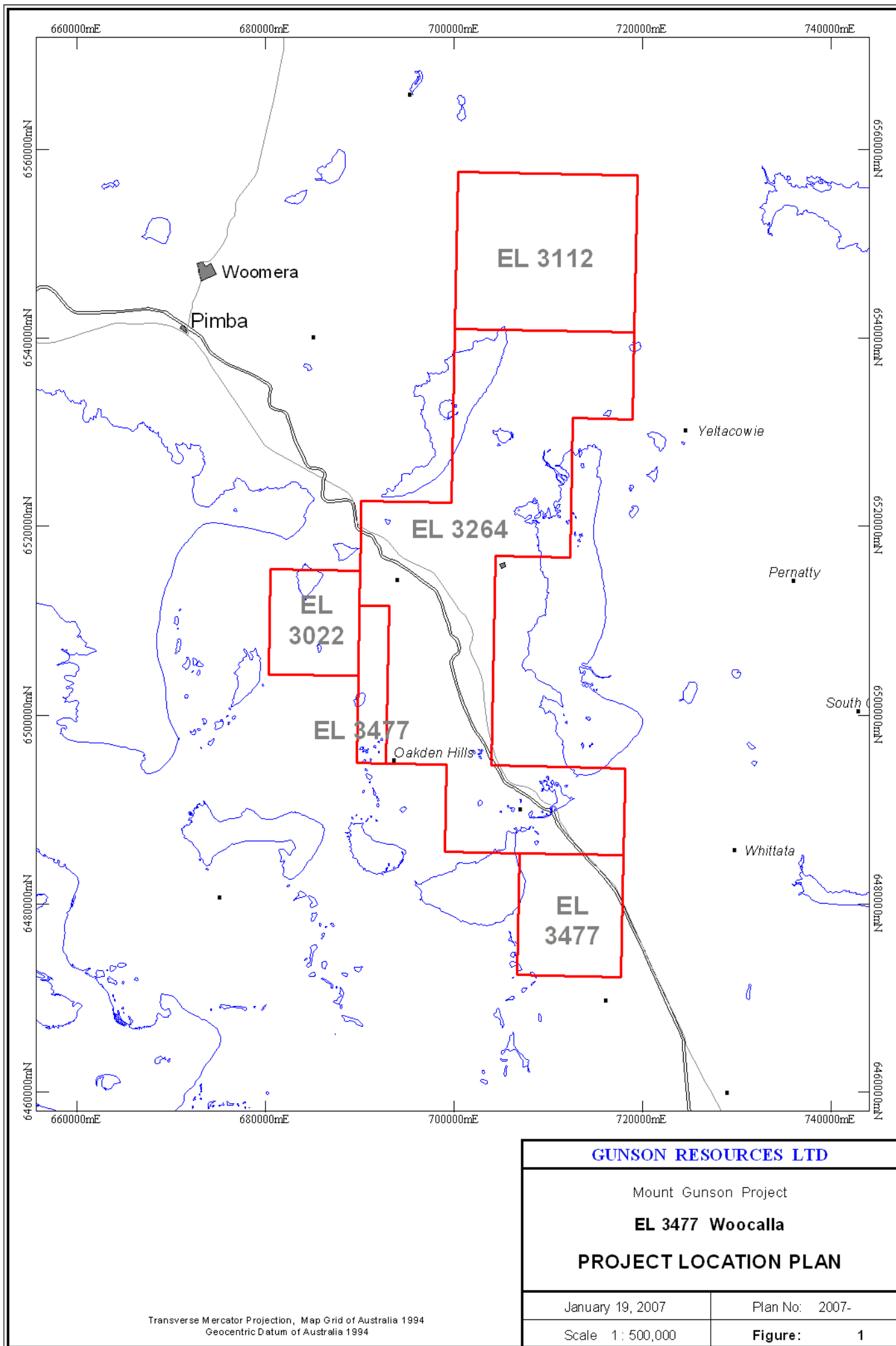
No field work was carried out on EL 3477 in this third year of tenure. Drilling programs were completed on the adjoining tenement EL 3264 and on EL 4187 (formerly EL 3112) in early 2008. Data from this work was used to update the interpretation of stratigraphic relations and general prospectivity within the immediate area, including EL 3477.

## 7 FUTURE PROGRAM

The exploration focus within the Mount Gunson Project is on basement-hosted targets, mainly on EL 3264 and EL 4187. The Joint Venture agreement with Noranda Pacific Pty Ltd is currently being extended via a Variation Agreement, as outlined on page 3 of Gunson's report to the Australian Securities Exchange for the December quarter of 2008. It is expected that geophysical surveys will be carried out on EL 3264 and EL 4187 and if attractive drilling targets are defined, drilling would follow in 2009/2010.

## 8 EXPENDITURE TO 07/12/2008

Category	1 <sup>st</sup> Half	2 <sup>nd</sup> Half	TOTAL
Consulting geologist	\$450	40	\$450
Rent/Rates/Gov't charges	\$1,186	\$0	\$1,186
<b>Year 3 expenditure:</b>	<b>\$1,636</b>	<b>\$0</b>	<b>\$1,636</b>
<b>Year 2 expenditure:</b>	<b>\$1,582</b>	<b>\$300</b>	<b>\$1,882</b>
<b>Year 1 expenditure:</b>	<b>\$101</b>	<b>\$0</b>	<b>\$101</b>
<b>Total expenditure EL 3477:</b>	<b>\$3,319</b>	<b>\$300</b>	<b>\$3,619</b>
<hr/>			
<b>Total expenditure on EL 2756</b>			<b>\$88,924</b>
<b>Total expenditure on EL 2099</b>			<b>\$428,927</b>
<b>Gross expenditure to date:</b>			<b>\$521,470</b>
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# **GUNSON RESOURCES LTD**

## **EL 3477 WOOCALLA**

### **Fourth Annual Report on Exploration Activities for the period 8 December 2008 to 7 December 2009**

**Distribution:**

- 1 P I R S A
- 2 File: PRO M1-S1
- 3 H L Paterson

H L Paterson  
January 2010

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## **1 SUMMARY**

Exploration Licence 3477 (Woocalla) was granted to Gunson Resources Ltd (Gunson) on 8<sup>th</sup> December, 2005, as a subsequent licence for EL 2756, which had been explored by the Company and its forebears for the previous 5 year term. Gunson is exploring EL 3477 for stratiform copper mineralisation of the various styles present in the Mount Gunson area. In addition, the Mesoproterozoic basement has significant potential for analogues of the Olympic Dam style of mineralisation, and for gold-only mineralisation.

During this fourth year of tenure, no work has been completed on EL 3477, although the tenement is still regarded as a key property in the Mount Gunson Project, which has been the subject of an amalgamated expenditure agreement with PIRSA since February 2000.

Exploration expenditure incurred during Year 4 of EL 3477 amounted to \$2,383. Expenditure reported previously was \$3,619 making a total expenditure on this EL of \$6,002, and a cumulative expenditure (*ie* including EL 2099 and EL 2756) since August 4<sup>th</sup>, 1995 of \$523,853.

## **2 INTRODUCTION**

Exploration Licence EL 3477 (Woocalla) was granted to Gunson on 8<sup>th</sup> December, 2005, as a replacement for EL 2756, which in turn replaced EL 2099. The tenement, in two separate blocks, covers 196 sq kms in the western part of the Torrens 1:250,000 map sheet. In late 2009, the southern block of EL 3477 was relinquished, leaving only one small area of 53 sq kms, as shown on Figure 1. Exploration of EL 3477 is carried out in Joint Venture with Noranda Pacific Pty Limited, now part of the Xstrata Copper business unit.

EL 3477 adjoins ELs 3264 and 3967 (formerly EL 3022) which are also held by Gunson. These three tenements, with EL 4187 (formerly EL 3112) to the north of EL 3264, are explored collectively by Gunson as the Mount Gunson Project. The proximity of EL 3477 to Mount Gunson has meant that past exploration work has focussed mainly on exploration for copper mineralisation within the Adelaidean sediments of the Stuart Shelf and the underlying Pandurra Formation, such as was worked at various sites in the Mount Gunson mining centre.

This report describes work completed on EL 3477 during the year from 8<sup>th</sup> December 2008 to 7<sup>th</sup> December 2009.

## **3 REGIONAL SETTING**

A description of the regional setting of the project area was provided in the previous Annual Reports for EL 2099 and 2756, and need not be restated here.

## **4 PREVIOUS WORK**

Previous work carried out in the area covered by EL 3477 was summarised in the Annual Reports for EL 2099 and 2756.

## **5 EXPLORATION MODELS**

As detailed in the previous Annual Reports, current exploration is based on the potential of the Mount Gunson area for hosting three separate types of mineralisation:

- stratiform copper mineralisation similar to that of the world-class Central African Copper Belt and White Pine deposit in Michigan. This style of mineralisation would be hosted in flat-lying sedimentary units of the Adelaidean sequence, with copper metal being sourced from the underlying Pandurra Formation red beds or even from zones of extensive alteration and leaching in the pre-Pandurra basement. The deposits at Windabout and at MG 14, hosted in dolomitic black shales of the Tapley Hill Formation in each case, have similarities to this style of mineralisation. The mineralisation mined at the Cattlegrid deposit at Mount Gunson, while

differing in detail from the classic stratiform copper models, probably represents a local variant of this type of deposit.

- base-metal and gold mineralisation within brecciated and altered lithologies in the pre-Pandurra basement, as seen at the world-class Olympic Dam deposit. Variants of this style of mineralisation are seen elsewhere on the Stuart Shelf, and the tectonic and structural setting of the Mount Gunson area is favourable for repetitions of the Olympic Dam setting.
- gold mineralisation of any of the types being explored in the central and western Gawler Craton.

Because the basement geology of the Stuart Shelf area is so poorly known, there is also the possibility that unanticipated styles of mineralisation may be present in the project area.

## 6 WORK COMPLETED THIS YEAR

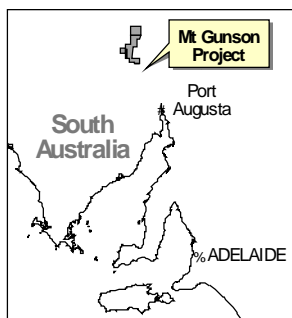
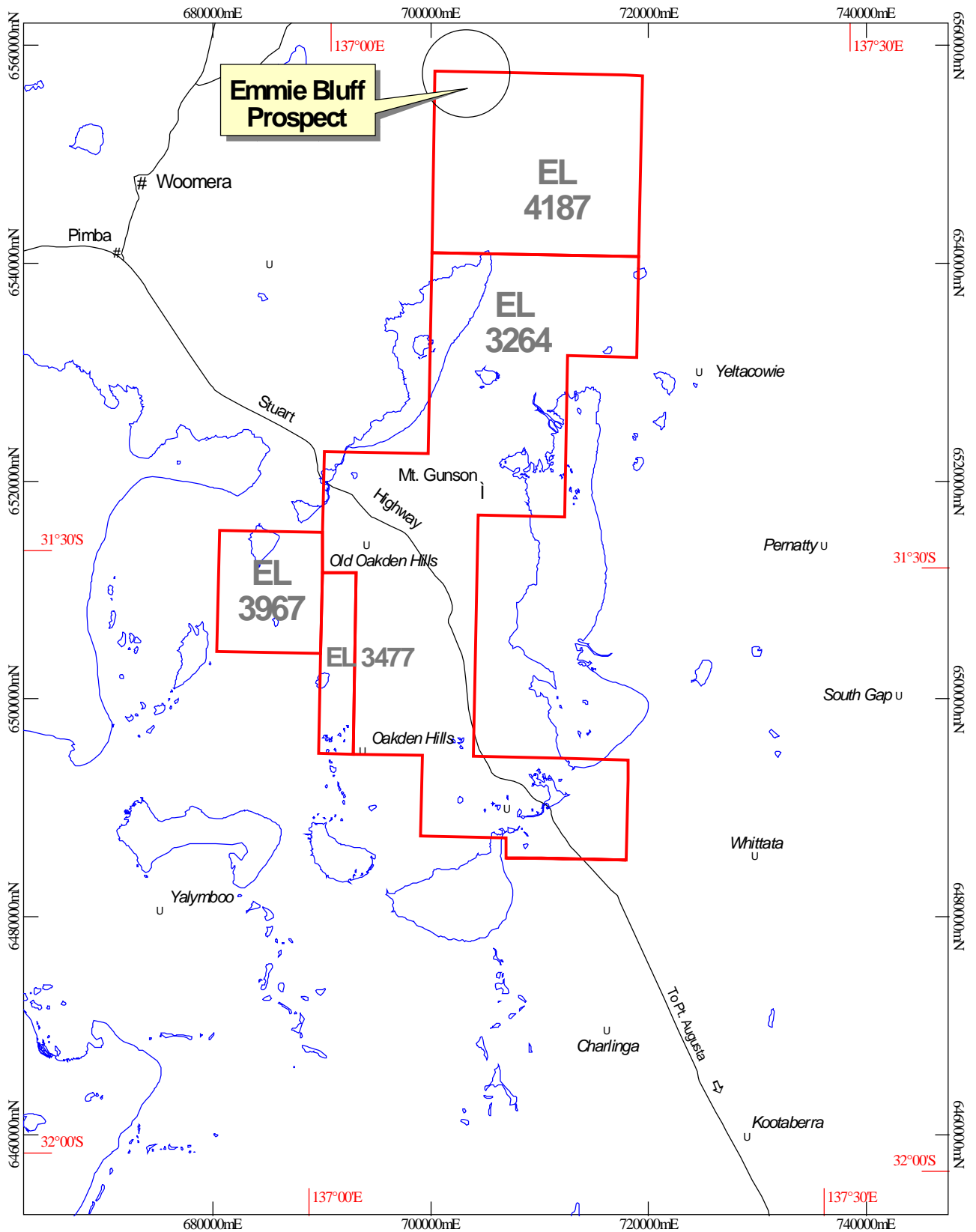
No field work was carried out on EL 3477 in this fourth year of tenure. Drilling programs were completed on the adjoining tenement EL 3264 and on EL 4187 in early 2008 and 2009. Data from this work was used to update the interpretation of stratigraphic relations and general prospectivity within the immediate area, including EL 3477.

## 7 FUTURE PROGRAM

The exploration focus within the Mount Gunson Project is on basement-hosted targets, mainly on EL 3264 and EL 4187. The Joint Venture agreement with Noranda Pacific Pty Ltd is still in effect. It is expected that deep drilling will be carried out at the Emmie Bluff prospect on EL 4187, commencing in February 2010 and expenditure from this activity alone will exceed \$350,000. Gunson is also committed to considerable additional expenditure in evaluating the copper deposits at the MG 14 and Windabout prospects, on EL 3264.

## 8 EXPENDITURE TO 7<sup>th</sup> December 2009

Category	1 <sup>st</sup> Half	2 <sup>nd</sup> Half	TOTAL
Consulting geologist	---	\$225	\$225
Rent, rates, government charges	\$1,590	---	\$1,590
Exploration management	---	\$521	\$521
Superannuation	---	\$47	\$47
<b>Year 4 expenditure:</b>	<b>\$1,590</b>	<b>\$793</b>	<b>\$2,383</b>
<b>Year 3 expenditure:</b>	<b>\$1,636</b>	<b>\$0</b>	<b>\$1,636</b>
<b>Year 2 expenditure:</b>	<b>\$1,582</b>	<b>\$300</b>	<b>\$1,882</b>
<b>Year 1 expenditure:</b>	<b>\$101</b>	<b>\$0</b>	<b>\$101</b>
<b>Total expenditure EL 3477:</b>	<b>\$4,909</b>	<b>\$1,093</b>	<b>\$6,002</b>
<hr/>			
<b>Total expenditure on EL 2756</b>			<b>\$88,924</b>
<b>Total expenditure on EL 2099</b>			<b>\$428,927</b>
<b>Gross expenditure to date:</b>			<b>\$523,853</b>
<hr/>			



Transverse Mercator Projection,  
Geocentric Datum of Australia 1994

## GUNSON RESOURCES LTD

Mount Gunson Project

### PROJECT LOCATION PLAN

November 11, 2008

Plan No: 2006- 001

Scale 1 : 500,000

Figure: 1

# **GUNSON RESOURCES LTD**

## **EL 3477 WOOCALLA**

**Fifth Annual Report on Exploration Activities  
for the period  
8 December 2009 to 7 December 2010**

**Distribution:**

- 1 P I R S A
- 2 File: PRO M1-S1
- 3 H L Paterson

H L Paterson  
July 2011



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8	EXPENDITURE TO 7/12/2010.....	2



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## **1 SUMMARY**

Exploration Licence 3477 (Woocalla) was granted to Gunson Resources Ltd (Gunson) on 8<sup>th</sup> December, 2005, as a replacement for EL 2756 which had been explored by the Company and its forebears for the previous 5 year term. Gunson is exploring EL 3477 for stratiform copper mineralisation of the various styles present in the Mount Gunson area. In addition, the Mesoproterozoic basement has significant potential for analogues of the Olympic Dam style of mineralisation, and for gold-only mineralisation.

During this fifth year of tenure, no work has been completed on EL 3477, although the tenement is still regarded as a key property in the Mount Gunson Project, which has been the subject of an amalgamated expenditure agreement with PIRSA since February 2000.

Exploration expenditure incurred during Year 5 of EL 3477 amounted to \$744. Expenditure reported previously was \$6,002 making a total expenditure on this EL of \$6,746, and a cumulative expenditure (*ie* including EL 2099 and EL 2756) since August 4<sup>th</sup>, 1995 of \$524,597.

## **2 INTRODUCTION**

Exploration Licence EL 3477 (Woocalla) was granted to Gunson on 8<sup>th</sup> December, 2005, as a replacement for EL 2756, which in turn replaced EL 2099. The tenement originally consisted of two separate blocks. In late 2009, the southern block of EL 3477 was relinquished, leaving only one small area of 53 sq kms, as shown on Figure 1. Exploration of EL 3477 is carried out in Joint Venture with Noranda Pacific Pty Limited, now part of the Xstrata Copper business unit.

EL 3477 adjoins ELs 4460 and 3967 (formerly EL 3022) which are also held by Gunson. These three tenements, with EL 4187 (formerly EL 3112) to the north of EL 4460, are explored collectively by Gunson as the Mount Gunson Project. The proximity of EL 3477 to Mount Gunson has meant that past exploration work has focussed mainly on exploration for copper mineralisation within the Adelaidean sediments of the Stuart Shelf and the underlying Pandurra Formation, such as was worked at various sites in the Mount Gunson mining centre.

This report describes work completed on EL 3477 during the year from 8<sup>th</sup> December 2009 to 7<sup>th</sup> December 2010.

## **3 REGIONAL SETTING**

A description of the regional setting of the project area was provided in the previous Annual Reports for EL 2099 and 2756, and need not be restated here.

## **4 PREVIOUS WORK**

Previous work carried out in the area covered by EL 3477 was summarised in the Annual Reports for EL 2099 and 2756.

## **5 EXPLORATION MODELS**

As detailed in the previous Annual Reports, current exploration is based on the potential of the Mount Gunson area for hosting three separate types of mineralisation:

- stratiform copper mineralisation similar to that of the world-class Central African Copper Belt and White Pine deposit in Michigan. This style of mineralisation would be hosted in flat-lying sedimentary units of the Adelaidean sequence, with copper metal being sourced from the underlying Pandurra Formation red beds or even from zones of extensive alteration and leaching in the pre-Pandurra basement. The deposits at Windabout and at MG 14, hosted in dolomitic black shales of the Tapley Hill Formation in each case, have similarities to this style of mineralisation. The mineralisation mined at the Cattlegrid deposit, while differing in detail from the classic stratiform copper models, probably represents a local variant of this type of deposit.

- base-metal and gold mineralisation within brecciated and altered lithologies in the pre-Pandurra basement, as seen at the world-class Olympic Dam deposit. Variants of this style of mineralisation are seen elsewhere on the Stuart Shelf, and the tectonic and structural setting of the Mount Gunson area is favourable for repetitions of the Olympic Dam setting.
- gold mineralisation of any of the types being explored in the central and western Gawler Craton.

Because the basement geology of the Stuart Shelf area is so poorly known, there is also the possibility that unanticipated styles of mineralisation may be present in the project area.

## 6 WORK COMPLETED THIS YEAR

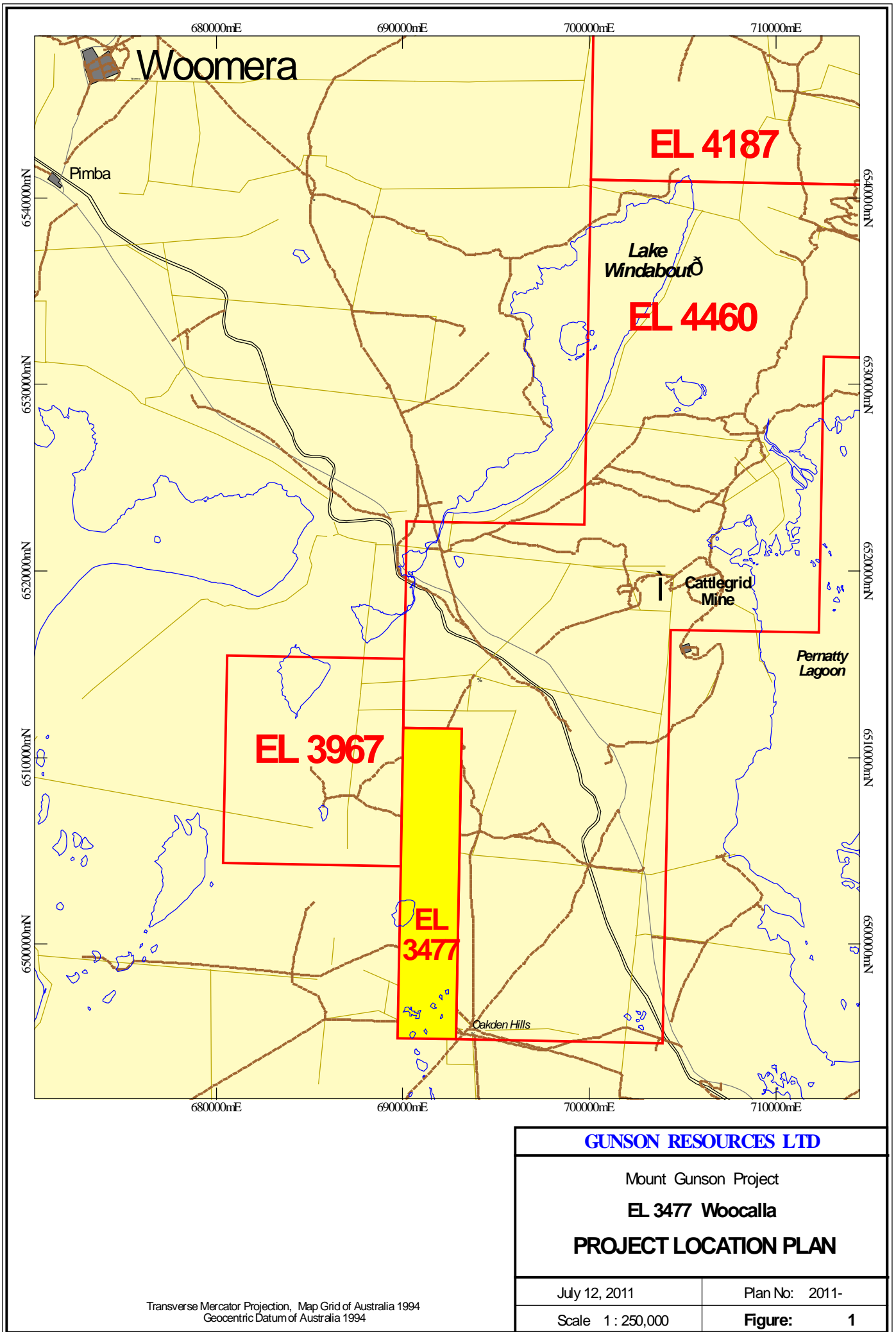
No field work was carried out on EL 3477 in this fifth year of tenure. Drilling programs were completed on the adjoining tenement EL 4460 and on EL 4187 (formerly EL 3112) during 2008, 2009 and 2010. Data from this work was used to update the interpretation of stratigraphic relations and general prospectivity within the immediate area, including EL 3477.

## 7 FUTURE PROGRAM

The exploration focus within the Mount Gunson Project is on basement-hosted targets, mainly on EL 4460 and EL 4187. The Joint Venture agreement with Noranda Pacific Pty Ltd is still in effect. It is expected that deep drilling will be carried out at the Emmie Bluff prospect on EL 4187 in 2011 and expenditure from this activity alone will exceed \$350,000. Gunson is also committed to considerable additional expenditure in evaluating the copper deposits at the MG 14 and Windabout prospects, on EL 4460.

## 8 EXPENDITURE TO 07/12/2010

Category	1 <sup>st</sup> Half	2 <sup>nd</sup> Half	TOTAL
Consulting geologist	\$221	---	\$221
Rent, rates, government charges	\$523	---	\$523
<b>Year 5 expenditure:</b>	<b>\$744</b>	<b>\$0</b>	<b>\$744</b>
<b>Year 4 expenditure:</b>	<b>\$1,590</b>	<b>\$793</b>	<b>\$2,383</b>
<b>Year 3 expenditure:</b>	<b>\$1,636</b>	<b>\$0</b>	<b>\$1,636</b>
<b>Year 2 expenditure:</b>	<b>\$1,582</b>	<b>\$300</b>	<b>\$1,882</b>
<b>Year 1 expenditure:</b>	<b>\$101</b>	<b>\$0</b>	<b>\$101</b>
<b>Total expenditure EL 3477:</b>	<b>\$5,653</b>	<b>\$1,093</b>	<b>\$6,746</b>
<hr/>			
<b>Total expenditure on EL 2756</b>			<b>\$88,924</b>
<b>Total expenditure on EL 2099</b>			<b>\$428,927</b>
<b>Gross expenditure to date:</b>			<b>\$524,597</b>
<hr/>			



**GUNSON RESOURCES LTD**

Mount Gunson Project  
**EL 3477 Woomera**  
**PROJECT LOCATION PLAN**

July 12, 2011

Plan No: 2011-

Scale 1 : 250,000

**Figure: 1**

Transverse Mercator Projection, Map Grid of Australia 1994  
Geocentric Datum of Australia 1994

**Technical Report  
3323**

**Exploration Licence (EL) 4725  
'Woocalla', South Australia  
Annual Report  
For The Period  
8 December 2010 to 19 April 2012**

# **XSTRATA COPPER EXPLORATION PTY LTD**

## **TECHNICAL REPORT No. 3323**

<b>TITLE:</b>	EXPLORATION LICENCE (EL) 4725 'WOOCALLA', SOUTH AUSTRALIA ANNUAL REPORT FOR THE PERIOD 8 DECEMBER 2010 TO 19 APRIL 2012
<b>HOLDER:</b>	NORANDA PACIFIC PTY LTD GUNSON RESOURCES LIMITED
<b>OPERATOR:</b>	NORANDA PACIFIC PTY LTD
<b>1:250,000 SHEET:</b>	SH53-16 'TORRENS'
<b>1:100,000 SHEET:</b>	6334 'WOOCALLA'
<b>INVESTIGATIONS CONDUCTED BY:</b>	XSTRATA COPPER EXPLORATION PTY LTD
<b>AUTHORS:</b>	AJ BROWN, MS MALE & TV HARVEY
<b>SUBMITTED BY:</b>	T SHAW
<b>DATE:</b>	APRIL 2012
<b>COPY:</b>	2

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4. Gunson Resources Limited

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Drawing No	Title	Scale
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Appendix No	Title
Appendix 1	Expenditure Statement

# SUMMARY

## **Aim of Project**

Exploration Licence (EL) 4725 "Woocalla" is located in a world class province that hosts a number of IOCG (iron oxide-copper-gold) deposits that includes the Olympic Dam, Prominent Hill and Carrapateena. Exploration at EL 4725 Woocalla is focussed on additional discovery of IOCG resources, and a secondary focus on discovery of economic stratibound copper of 'Mount Gunson' style.

## **Object of Report**

The purpose of this report is to document exploration carried out by Xstrata Copper Exploration Pty Ltd (XCuX) on EL 4725 Woocalla tenement from 8<sup>th</sup> December 2010 (expiry of EL3477) to 19<sup>th</sup> April, 2012.

## **Location**

EL 4725 Woocalla is located approximately 110km south of the township of Roxby Downs or approximately 45km south east of Woomera in southern-central South Australia.

## **Tenure**

Exploration Licence EL 4725 (Woocalla) was granted to Gunson Resources Limited on 20<sup>th</sup> April 2011, as a subsequent license to EL3477 that expired on 7<sup>th</sup> December 2010. EL3477 replaced EL2756, and EL2099 before that. After recent relinquishments, the tenement now covers 53km<sup>2</sup>.

In 2006 a Joint Venture was announced between Gunson Resources Limited and Noranda Pacific Pty Ltd (now a wholly owned subsidiary of Xstrata plc). Under the terms of the agreement in March 2010 Xstrata earned 51% interest in the project after reaching the initial earn-in target of \$3.5M.

## **Conclusions and Recommendations**

Work completed during the reporting period was mostly restricted to data analysis and review, as part of a wider project target generation process upon the earn-in by XCuX.

## **Keywords**

Torrens, SH53-16, Exploration, IOCG, Copper, Mount Gunson.

# 1 INTRODUCTION

Exploration Licence EL 4725 Woocalla was granted to Gunson Resources Limited on 20<sup>th</sup> April 2011, as a subsequent license for EL3477, which replaced EL2756, and EL2099 before that. After recent relinquishments, the tenement now covers 53km<sup>2</sup>, and along with three other adjoining EL's comprises the Gunson Project. The tenement is located in a region of South Australia highly prospective for IOCG style mineralisation with other deposits of this style in the district including Olympic Dam, Prominent Hill and Carrapateena.

This report outlines exploration undertaken by Xstrata Copper Exploration (XCuX) on behalf of Noranda Pacific Pty Ltd (JV partner of Gunson) from 8 December 2010 (expiry of EL3477) to 19<sup>th</sup> April, 2012.

## 2 LOCATION AND ACCESS

The tenement EL 4725 Woocalla is located approximately 45km south east of Woomera in central-southern South Australia (Drawing No 52429). Access is best travelling south from Woomera along the Stuart Highway for ~50km. Access is then gained by private station tracks.

## 3 TENURE

Exploration Licence EL 4725 Woocalla was granted to Gunson Resources Ltd on 20<sup>th</sup> April 2011, as a subsequent license to EL3477 that expired on 7<sup>th</sup> December 2010. EL3477 replaced EL2756, and EL2099 before that. After recent relinquishments, the tenement now covers 53km<sup>2</sup>.

In 2006, a Joint Venture was announced between Gunson Resources Limited and Noranda Pacific Pty Ltd (now a wholly owned subsidiary of Xstrata plc) for the four tenements that comprise the Gunson Project. Under the terms of the agreement, in March 2010 Xstrata earned a 51% interest in the project after reaching the initial earn-in target of \$3.5M. Xstrata has the right to earn a further 24% share by spending a cumulative total of \$10M by June 2013 which would bring its equity to 75% of the Gunson Project. Xstrata took over managing the Gunson JV tenure in January 2012.

## 4 REGIONAL GEOLOGY

This project area is located in the central part of the Stuart Shelf (Gawler Craton). Basement rocks in the local area comprise leucocratic granite of the Hiltaba Suite, volcanic rocks of the Gawler Range Volcanics (GRV) and metasediments of the Wandearah Formation. This is overlain by 600-800m of flat lying cover sequence of Adelaidean Age and is comprised predominantly of sandstones, quartzites and shales.

The Gawler Mineral Promotion Project (GMPP), a joint effort of GA (Geoscience Australia) and PIRSA, has highlighted the potential of the ~1590Ma IOCG mineral systems of the eastern Gawler Craton and highlighted the high potential of the Emmie Bluff-Olympic Dam metasomatic cell to host further world class IOCG deposits (Skirrow *et al.*, 2006). The area possesses a number of key ingredients of IOCG ore-forming systems including:

- Rock units of the Gawler Range-Hiltaba Volcano-Plutonic Association
- Deep seated faults/shear zones with first order controls on fluid pathways being NW-trending thrust faults
- Copper geochemistry (>200ppm) in Meso-Proterozoic and older crystalline basement

- Hydrothermal alteration assemblages and zones, based on drill hole logging, potential field interpretation and 3D inversion modelling of potential field data
- Host sequence units considered important in localising IOCG alteration and mineralisation (eg Wallaroo Group and equivalents, Hutchison Group and equivalents, BIF)

The tenement is located adjacent to the Mount Gunson mining complex, an area of significant historical copper production and exploration activity. The tenement is also located on the western edge of the NNW-trending G2 corridor, which hosts the Olympic Dam Deposit. This structure is thought to be a long lived zone of crustal weakness and a conduit for mineralising fluids.

## **5 PREVIOUS EXPLORATION**

Previous work carried out in the area covered by EL 4725 Woocalla was summarised in the Annual Reports for EL 2099 and 2756 (Paterson, 2011).

## **6 WORK COMPLETED DURING THE CURRENT TERM**

The work completed during the current term comprised of data analysis and review of historical literature as part of a target generation process encompassing all of the tenements in the Gunson Project, subsequent to Xstrata Copper gaining its earn-in interest of 51% in 2010. This included the review and processing of geophysical datasets, and building 3D models of various target areas.

The targeting model for basement hosted IOCG relies heavily on magnetic and gravity datasets. The gravity dataset available for EL4725 Woocalla is very coarse and not appropriate for generating targets. Further targeting in this area for IOCG will require a more detailed survey to be carried out. There is also concern that the depth to basement in this area is >1000m, which at the current stage is not seen to represent an appropriate exploration strategy.

Work by Gunson Resources Limited prior to Xstrata becoming operator of the Mount Gunson JV consisted of on-going geological compilation and target assessment. No field work was undertaken.

## **7 CONCLUSIONS AND RECOMMENDATIONS**

Work completed during the reporting period was mostly restricted to data analysis and review, as part of a wider project target generation process upon the earn-in by Xstrata Copper. The lack of detailed gravity data prevented robust targets from being identified, and a detailed gravity survey will be required to progress further with basement hosted IOCG.

Future work planned over the tenement area includes:

- Infill gravity surveying

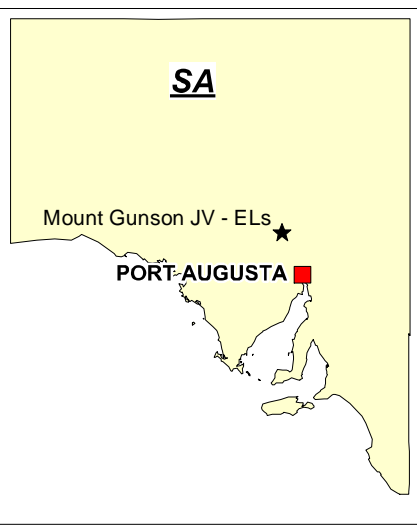
## 8 REFERENCES

Davidson GJ, Paterson H, Meffre S and Berry R, 2007. Characteristics and Origin of the Oak Dam East Breccia Hosted, Iron Oxide Cu-U(-Au) Deposit: Olympic Dam Region, Gawler Craton, South Australia, *Economic Geology* vol 102 pp 1471-1498.

Paterson H 2011. EL 3477 Woocalla – Fifth Annual Report on Exploration Activities for the period 8 December 2009 to 7 December 2010. Annual Report - Gunson Resources Limited.

Skirrow R, Fairclough M, Budd A, Lyons P, Raymond O, Miligan P, Batrakov E, Fraser G, Highet L, Holm, O and Williams, N 2006. Iron oxide Cu-Au (-U) potential map of the Gawler Craton, South Australia. (First Edition), 1:500 000 scale, Geoscience Australia, Canberra.





**KEY**

Exploration Licence Boundaries

**Xstrata Copper Exploration Pty. Ltd.**

102 Oban Road, Mount Isa, QLD 4825 Tel +61 7 4744 2507 Fax +61 7 4744 3998 ABN 53 009 681 118



**MOUNT GUNSON JV**  
**Exploration Licences**

1:100000 :	Drawn : S. Jeffery	Author : A. Brown	
1:250000 : SH53_16	Date Drawn : 30/03/2012	Scale : 1:250,000	Size : A3
Region : NWQ	Revision Date : 11/05/2012	Dwg No : 52429	Rev : 1
Projection : MGA Zone 53 (GDA94)	File :		



# **APPENDIX 1**

## **Expenditure Statements**

## SUMMARY OF PROJECT EXPENDITURE

### **CURRENT TERM (ENDING 19 APRIL 2012):**

Noranda Pacific Pty Ltd	\$ 1,338 (See detailed statement)
Gunson Resources Ltd	\$ 2,254(See detailed statements)

---

<b>Total Expenditure Current Term:</b>	<b>\$ 3,592</b>
--	-----------------

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<b>PREVIOUS EXPENDITURE EL2756</b>	<b>\$ 88,924</b>
------------------------------------	------------------

<b>PREVIOUS EXPENDITURE EL2099</b>	<b>\$ 428,927</b>
------------------------------------	-------------------

<b>PREVIOUS EXPENDITURE EL3477</b>	<b>\$ 6,746</b>
------------------------------------	-----------------

---

<b>TOTAL PROJECT EXPENDITURE TO DATE</b>	<b>\$ 528,189</b>
--	-------------------

---



# NORANDA PACIFIC PTY LTD

## EL 4725 WOOCALLA

### STATEMENT OF EXPENDITURE - 8 DECEMBER 2010 TO 19 APRIL 2012

LABOUR	-
ADMIN & GENERAL	-
INFRASTRUCTURE	-
RESEARCH	-
JOINT VENTURE CONTRIBUTIONS	-
CONTRACT & CONSULTANTS	<b>780</b>
DRILLING	-
GEOPHYSICS	-
GEOCHEMICAL	-
FIELD SUPPORT	-
PERSONNEL	-
TRAVEL & ACCOMMODATION	-
NATIVE TITLE / TENURE & ENVIRONMENT	<b>558</b>
<b>TOTAL DIRECT COST</b>	<b>1,338</b>

<b>TOTAL CURRENT TERM</b>	<b>1,338</b>
---------------------------	--------------

# Mount Gunson Joint Venture

Level 1, 985 Wellington Street  
WEST PERTH 6005  
WESTERN AUSTRALIA

## Job Activity [Summary]

1/07/2011 To 19/04/2012

10/05/2012  
12:29:42 PM

Page 1

Job #	Job Name	Debit	Credit	Net Activity
<b>1-4458</b>	<b>Consulting Geologist</b>			
403	Mt Gunson - EL 3477	\$982.30	\$0.00	\$982.30
	Total:	\$982.30	\$0.00	\$982.30
<b>1-4605</b>	<b>Rent/Rates/Gov Charges</b>			
403	Mt Gunson - EL 3477	\$97.50	\$0.00	\$97.50
	Total:	\$97.50	\$0.00	\$97.50
	Grand Total:	\$1,079.80	\$0.00	\$1,079.80

**Mount Gunson Joint Venture**

Level 1, 985 Wellington Street  
WEST PERTH 6005  
WESTERN AUSTRALIA

**Job Activity [Summary]****8/12/2010 To 30/06/2011**

10/05/2012  
12:28:37 PM

**Page 1**

<b>Job #</b>	<b>Job Name</b>	<b>Debit</b>	<b>Credit</b>	<b>Net Activity</b>
<b>1-4458</b>	<b>Consulting Geologist</b>			
403	Mt Gunson - EL 3477	\$110.00	\$0.00	\$110.00
	Total:	\$110.00	\$0.00	\$110.00
<b>1-4605</b>	<b>Rent/Rates/Gov Charges</b>			
403	Mt Gunson - EL 3477	\$1,014.60	\$0.00	\$1,014.60
	Total:	\$1,014.60	\$0.00	\$1,014.60
<b>1-4703</b>	<b>Vehicle Costs</b>			
403	Mt Gunson - EL 3477	\$538.00	\$0.00	\$538.00
	Total:	\$538.00	\$0.00	\$538.00
	Grand Total:	\$1,662.60	\$0.00	\$1,662.60



**Technical Report  
No. 3329**

**Exploration Licence (EL) 4725  
'Woocalla', South Australia  
Annual Report  
For The Period  
Ended 19 April 2013**

# **XSTRATA COPPER EXPLORATION PTY LTD**

## **TECHNICAL REPORT No. 3329**

<b>TITLE:</b>	EXPLORATION LICENCE (EL) No. 4725 'WOOCALLA', SOUTH AUSTRALIA ANNUAL REPORT FOR THE PERIOD ENDED 19 APRIL 2013
<b>HOLDER:</b>	NORANDA PACIFIC PTY LTD GUNSON RESOURCES LIMITED
<b>OPERATOR:</b>	NORANDA PACIFIC PTY LTD
<b>1:250,000 SHEET:</b>	SH53-16 'TORRENS'
<b>1:100,000 SHEET:</b>	6334 'WOOCALLA'
<b>INVESTIGATIONS CONDUCTED BY:</b>	XSTRATA COPPER EXPLORATION PTY LTD
<b>AUTHORS:</b>	AJ BROWN, MS MALE & TV HARVEY
<b>SUBMITTED BY:</b>	T SHAW
<b>DATE:</b>	APRIL 2013
<b>COPY:</b>	2

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Drawing No	Title	Scale
52429	Mt Gunson JV Exploration Licenses	1:250,000

## LIST OF APPENDICES

Appendix No	Title
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## SUMMARY

### **Aim of Project**

Exploration Licence (EL) 4725 "Woocalla" is located in a world class province that hosts a number of IOCG (iron oxide-copper-gold) deposits that includes the Olympic Dam, Prominent Hill and Carrapateena. Exploration at EL4725 Woocalla is focussed on additional discovery of IOCG resources, and a secondary focus on discovery of economic stratibound copper of 'Mount Gunson' style.

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The purpose of this report is to document exploration carried out by Xstrata Copper Exploration Pty Ltd (XCuX) on EL4725 Woocalla from 20<sup>th</sup> April 2012 to 19<sup>th</sup> April 2013.

### **Location**

EL4725 Woocalla is located approximately 110km south of the township of Roxby Downs or approximately 45km southeast of Woomera in southern-central South Australia.

### **Tenure**

EL4725 was granted to Gunson Resources Limited on 20<sup>th</sup> April 2011, as a subsequent license to EL3477 that expired on 7<sup>th</sup> December 2010. EL3477 replaced EL2756 and EL2099 before that. After recent relinquishments, the tenement now covers 53km<sup>2</sup>.

In May 2006 a Joint Venture was announced between Gunson Resources Limited and Noranda Pacific Pty Ltd (now a wholly owned subsidiary of Xstrata plc). In March 2010, under the terms of the agreement, Xstrata earned 51% interest in the project after reaching the initial earn-in target of \$3.5M.

### **Conclusions and Recommendations**

Work completed during the reporting period was mostly restricted to data analysis and review, as part of a wider project target generation process following the earn-in by XCuX.

### **Keywords**

Torrens, SH53-16, Exploration, IOCG, Copper, Mount Gunson.

# 1 INTRODUCTION

Exploration Licence 4725 Woocalla was granted to Gunson Resources Limited on 20<sup>th</sup> April 2011, as a subsequent licence for EL3477, which replaced EL2756 and EL2099 before that. After recent relinquishments, the tenement now covers 53km<sup>2</sup>, and along with three other adjoining tenements comprises the Mount Gunson Project. The tenement is located in a region of South Australia highly prospective for IOCG style mineralisation with other deposits of this style in the district including Olympic Dam, Prominent Hill and Carrapateena.

This report outlines exploration undertaken by Xstrata Copper Exploration (XCuX) on behalf of Noranda Pacific Pty Ltd from 20<sup>th</sup> April 2012 to 19<sup>th</sup> April 2013.

## 2 LOCATION AND ACCESS

EL4725, Woocalla, is located approximately 45km south east of Woomera in central-southern South Australia (Drawing No 52429). Access is best travelling south from Woomera along the Stuart Highway for ~50km. Access is then gained by private station tracks.

## 3 TENURE

Exploration Licence 4725 was granted to Gunson Resources Ltd on 20<sup>th</sup> April 2011, as a subsequent licence to EL3477 that expired on 7<sup>th</sup> December 2010. EL3477 replaced EL2756, and EL2099 before that. After recent relinquishments, the tenement now covers 53km<sup>2</sup>.

In May 2006, a Joint Venture was announced between Gunson Resources Limited and Noranda Pacific Pty Ltd (now a wholly owned subsidiary of Xstrata plc; with fieldwork undertaken by Xstrata Copper Exploration - XCuX) for the four tenements (includes EL4725 Woocalla) that comprise the Mount Gunson Project. Under the terms of the agreement, in March 2010 Xstrata earned a 51% interest in the project after reaching the initial earn-in target of \$3.5M. Xstrata has the right to earn a further 24% share by spending a cumulative total of \$10M by June 2013 which would bring its equity to 75% of the Mount Gunson Project. Xstrata took over management of the Mount Gunson JV tenure in January 2012.

## 4 REGIONAL GEOLOGY

This project area is located in the central part of the Stuart Shelf and eastern side of the Gawler Craton. Gawler Craton basement rocks in the local area comprise leucocratic granite of the Hiltaba Suite, volcanic rocks of the Gawler Range Volcanics (GRV) and metasediments of the Wandearah Formation. This is overlain by 600-800m of flat lying Stuart Shelf cover sequence of Adelaidean and older age and is comprised predominantly of sandstones, quartzites and shales.

The Gawler Mineral Promotion Project (GMPP), a joint effort of GA (Geoscience Australia) and PIRSA, has highlighted the potential of the ~1590Ma IOCG mineral systems of the eastern Gawler Craton and highlighted the high potential of the Emmie Bluff-Olympic Dam metasomatic cell to host further world class IOCG deposits (Skirrow *et al.*, 2006). The area possesses a number of key ingredients of IOCG ore-forming systems including:

- Rock units of the Gawler Range-Hiltaba Volcano-Plutonic Association
- Deep seated faults/shear zones with first order controls on fluid pathways being NW-trending thrust faults

- Anomalous copper geochemistry (>200ppm) in Meso-Proterozoic and older crystalline basement
- Hydrothermal alteration assemblages and zones, based on drill hole logging, potential field interpretation and 3D inversion modelling of potential field data
- Host sequence units considered important in localising IOCG alteration and mineralisation (eg Wallaroo Group and equivalents, Hutchison Group and equivalents, BIF)

The tenement is located adjacent to the Mount Gunson mining complex, an area of significant historical copper production and exploration activity. The tenement is also located on the western edge of the NNW-trending G2 corridor, which hosts the Olympic Dam Deposit. This structure is thought to be a long lived zone of crustal weakness and a conduit for mineralising fluids.

## **5 PREVIOUS EXPLORATION**

Previous work carried out in the area covered by EL 4725, Woocalla was summarised in the Annual Reports for EL2099, EL2756 (Paterson, 2011). Subsequent work at this tenure is documented by Brown *et al.* (2012).

## **6 WORK COMPLETED DURING THE CURRENT TERM**

The work completed during the current term comprised data analysis and review of historical literature along with assessment of recent work by XCuX in adjoining tenements that comprise the Mount Gunson Project. This work is part of a target generation process encompassing all of the tenements in the Mount Gunson Project, following-on from Xstrata Copper gaining its earn-in interest of 51% in 2010. This included the review and processing of geophysical datasets and building 3D models of various target areas.

The targeting model for basement hosted IOCG relies heavily on magnetic and gravity datasets. The gravity dataset available for EL4725 is very coarse and not appropriate for generating targets. Further targeting in this area for IOCG will require a more detailed survey to be carried out. There is also concern that the depth to basement in this area is >1000m, which may not be seen to represent an appropriate exploration strategy.

Work by Gunson Resources Limited prior to Xstrata becoming operator of the Mount Gunson JV consisted of on-going geological compilation and target assessment. No field work was undertaken.

## **7 CONCLUSIONS AND RECOMMENDATIONS**

Work completed during the reporting period was restricted to data analysis and review, as part of a wider project target generation process following the recent earn-in by Xstrata Copper. The lack of detailed gravity data prevented robust targets from being identified, and a detailed gravity survey will be required to progress this tenement further with discovery of basement hosted IOCG resources. Infill gravity surveying is the main work programme being considered for EL 4725.

## 8 REFERENCES

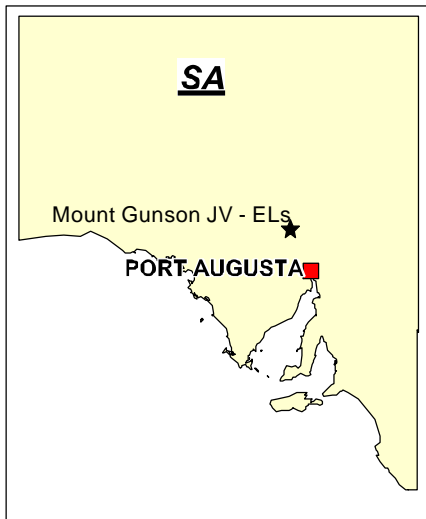
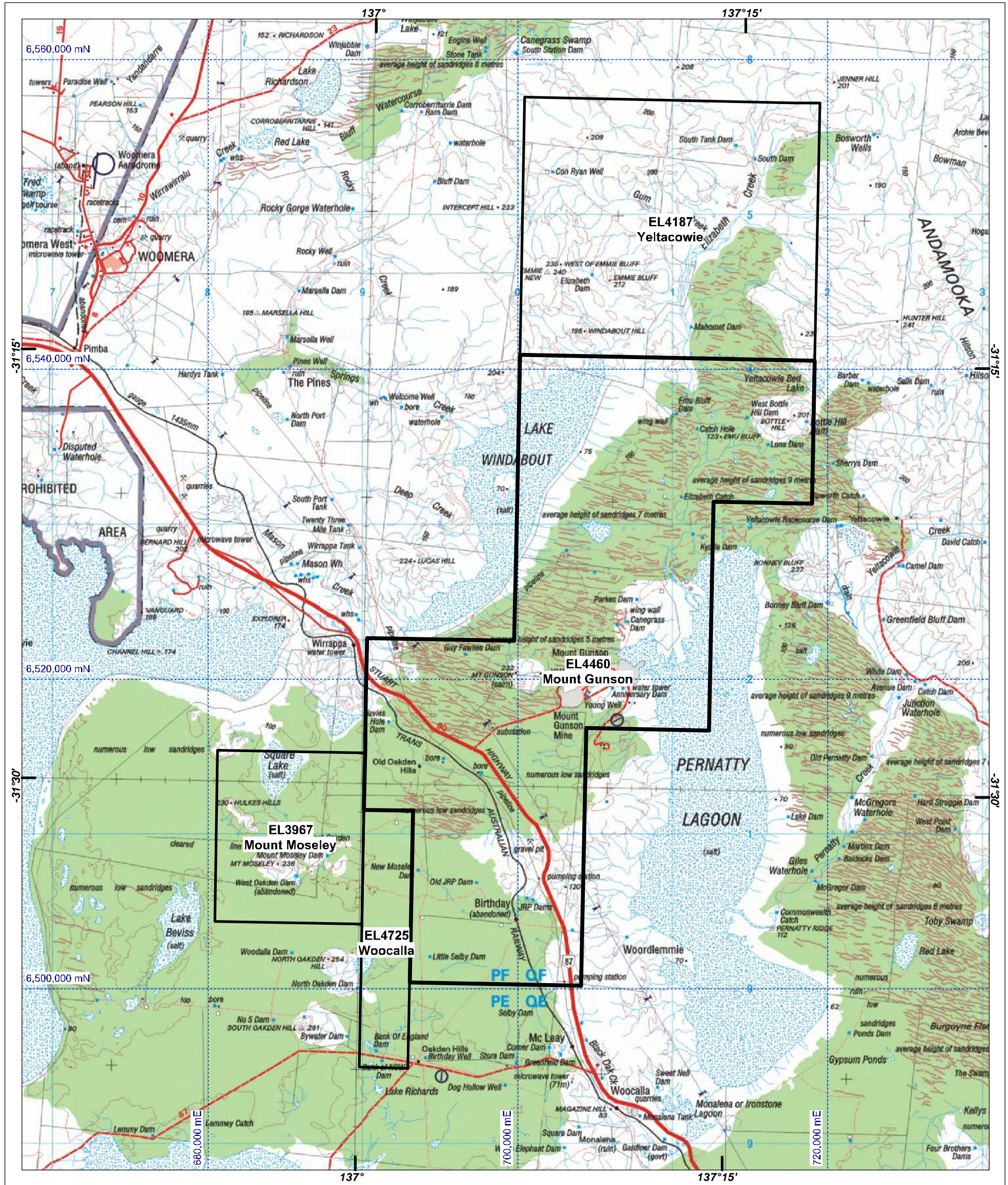
Brown AJ, Male MS & Harvey TV, 2012. Exploration Licence (EL) 4725 Woocalla, South Australia. Annual Report – Xstrata Copper Exploration Pty Ltd.

Davidson GJ, Paterson H, Meffre S and Berry R, 2007. Characteristics and Origin of the Oak Dam East Breccia Hosted, Iron Oxide Cu-U(-Au) Deposit: Olympic Dam Region, Gawler Craton, South Australia, *Economic Geology* vol 102 pp 1471-1498.

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Skirrow R, Fairclough M, Budd A, Lyons P, Raymond O, Miligan P, Batrakov E, Fraser G, Highet L, Holm, O and Williams, N 2006. Iron oxide Cu-Au (-U) potential map of the Gawler Craton, South Australia. (First Edition), 1:500 000 scale, Geoscience Australia, Canberra.





**KEY**

Exploration Licence Boundaries



**Xstrata Copper Exploration Pty. Ltd.**

102 Oban Road, Mount Isa, QLD 4825 Tel +61 7 4744 2507 Fax +61 7 4744 3998

ABN 53 009 681 118



## MOUNT GUNSON JV Exploration Licences

1:100000 :	Drawn : S. Jeffery	Author : A. Brown	
1:250000 : SH53_16	Date Drawn : 30/03/2012	Scale : 1:250,000	Size : A3
Region : NWQ	Revision Date : 08/04/2013	Dwg No : 52429	Rev : 1
Projection : MGA Zone 53 (GDA94)			

File : SA\PROJECTS\Mount Gunson\IMDATA\Workspaces\Numbered\52429 Mt Gunson JV ELs.wor



# **APPENDIX 1**

## **Expenditure Statement**

# **NORANDA PACIFIC PTY LTD**

## **EL 4725 Woocalla**

### **STATEMENT OF EXPENDITURE - 12 MONTHS ENDING 19 APRIL 2013**

LABOUR	<b>681</b>
ADMIN & GENERAL	-
INFRASTRUCTURE	-
RESEARCH	-
JOINT VENTURE CONTRIBUTIONS	-
CONTRACT & CONSULTANTS	<b>1,050</b>
DRILLING	-
GEOPHYSICS	-
GEOCHEMICAL	-
FIELD SUPPORT	-
PERSONNEL	-
TRAVEL & ACCOMMODATION	-
NATIVE TITLE / TENURE & ENVIRONMENT	-
<b>TOTAL NORANDA PACIFIC YEAR 2</b>	<b>1,731</b>

NORANDA PACIFIC YEAR 2	1,731
GUNSON RESOURCES YEAR 2 (see separate statement)	200

<b>TOTAL CURRENT TERM (YEAR 2)</b>	<b>1,931</b>
------------------------------------	--------------

EL 4460 YEAR 1	3,592
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PREVIOUS EXPENDITURE EL2756	88,924
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PREVIOUS EXPENDITURE EL2099	428,927
-----------------------------	---------

PREVIOUS EXPENDITURE EL3477	6,746
-----------------------------	-------

<u>530,120</u>
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<b>TOTAL PROJECT EXPENDITURE TO DATE</b>	<b>530,120</b>
--	----------------



<b>Mount Gunson Joint Venture</b> <i>Level 1, 985 Wellington Street</i> <i>WEST PERTH 6005</i> <i>WESTERN AUSTRALIA</i>				
<b>Job Activity [Summary]</b> <b>20/04/2012 To 30/06/2012</b>				
<b>Job #</b>	<b>Job Name</b>	<b>Debit</b>	<b>Credit</b>	<b>Net Activity</b>
1-4154	Sample Storage			
403	Mt Gunson - EL 4725	\$220.00	\$0.00	\$220.00
	Total:	\$220.00	\$0.00	\$220.00
	Grand Total:	\$220.00	\$0.00	\$220.00

**Note: - Amounts are GST inclusive**



**MOUNT ISA  
MINES**

A GLENCORE COMPANY

## **Technical Report**

**No. 3337**

**Exploration Licence EL 4725**

**Woocalla**

**Annual Report**

**For The Period Ended 19 April 2014**

# MIM RESOURCE DEVELOPMENT PTY LIMITED

## TECHNICAL REPORT

**No. 3337**

<b>TITLE:</b>	EXPLORATION LICENCE EL4725 'WOOCALLA', SOUTH AUSTRALIA ANNUAL REPORT FOR THE PERIOD ENDED 19 APRIL 2014
<b>HOLDER:</b>	NORANDA PACIFIC PTY LTD GUNSON RESOURCES LIMITED
<b>OPERATOR:</b>	MIM RESOURCE DEVELOPMENT PTY LIMITED
<b>1:250,000 SHEET:</b>	SH53-16 'TORRENS'
<b>1:100,000 SHEET:</b>	6334 'WOOCALLA'. 6335 'ARCOONA'
<b>INVESTIGATIONS CONDUCTED BY:</b>	MIM RESOURCE DEVELOPMENT PTY LIMITED
<b>AUTHOR:</b>	AJ BROWN
<b>SUBMITTED BY:</b>	T SHAW
<b>DATE:</b>	JUNE 2014
<b>COPY:</b>	2

## **DISTRIBUTION**

1. MIM Resource Development Pty Limited, Mount Isa Library
2. DMITRE, Adelaide
3. MIM Resource Development Pty Limited, Archived
4. Gunson Resources Limited

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2.	LOCATION AND ACCESS .....	1
3.	TENURE.....	1
4.	REGIONAL GEOLOGY.....	1
5.	PREVIOUS EXPLORATION .....	3
6.	WORK COMPLETED IN THE CURRENT TERM.....	3
7.	CONCLUSIONS AND RECOMMENDATIONS .....	3
8.	REFERENCES .....	4

## LIST OF DRAWINGS

Drawing No	Title	Scale
52429	Mt Gunson JV Exploration Licences	1:250,000

## LIST OF APPENDICES

Appendix No	Title
Appendix 1	Expenditure Statement

# **SUMMARY**

## **Aim of Project**

Exploration Licence (EL) 4725 “Woocalla” is located in a world class province that hosts a number of IOCG (iron oxide-copper-gold) deposits that includes Olympic Dam, Prominent Hill and Carrapateena. Exploration at Mount Gunson is focused on additional discovery of IOCG resources, and a secondary focus on discovery of economic stratabound copper of ‘Mount Gunson’ style.

## **Object of Report**

The purpose of this report is to document exploration carried out by MIM Resource Development Pty Limited (MIMRD) on EL4725 for the year ending 19<sup>th</sup> April 2014.

## **Location**

EL4725 is located approximately 110km south of the township of Roxby Downs or approximately 35km southeast of Woomera in southern-central South Australia.

## **Tenure**

EL4725 was granted to Gunson Resources Limited on 20<sup>th</sup> April 2011, as a subsequent license to EL3477 that expired on 7<sup>th</sup> December 2010. EL3477 replaced EL2756 and EL2099 before that. After recent relinquishments, the tenement now covers 53km<sup>2</sup>

In 2006, a Joint Venture was executed between Gunson Resources Limited and Noranda Pacific Pty Ltd (now a wholly owned subsidiary of Glencore, with exploration activity by MIMRD). Under the terms of the agreement Noranda earned 51% interest in the project in March 2010, after reaching the initial earn-in target of \$3.5M.

## **Conclusions and Recommendations**

No field work was conducted during the current term, and project review and targeting did not identify new prospects. The JV is currently exploring farm-out options.

## **Keywords**

Torrens, SH53-16, IOCG, Copper, Pandurra Formation, Tapley Hill Formation, Gawler Craton, Mount Gunson, Exploration.

## **1. INTRODUCTION**

Exploration Licence 4725 Woocalla was granted to Gunson Resources Limited on 20<sup>th</sup> April 2011, as a subsequent licence for EL3477, which replaced EL2756 and EL2099 before that. After recent relinquishments, the tenement now covers 53km<sup>2</sup>, and along with three other adjoining tenements comprises the Mount Gunson Project. The tenement is located in a region of South Australia highly prospective for IOCG style mineralisation with other deposits of this style in the district including Olympic Dam, Prominent Hill and Carrapateena.

This report outlines exploration undertaken by MIM Resource Development Pty Limited (MIMRD), on behalf of Noranda Pacific Pty Ltd (JV partner of Gunson Resources Limited) during the year ending 24th March, 2014.

## **2. LOCATION AND ACCESS**

EL4725, Woocalla, is located approximately 45km south east of Woomera in central-southern South Australia (Drawing No 52429). Access is best travelling south from Woomera along the Stuart Highway for ~50km. Access is then gained by private station tracks.

## **3. TENURE**

Exploration Licence 4725 was granted to Gunson Resources Ltd on 20<sup>th</sup> April 2011, as a subsequent licence to EL3477 that expired on 7<sup>th</sup> December 2010. EL3477 replaced EL2756, and EL2099 before that. After recent relinquishments, the tenement now covers 53km<sup>2</sup>.

In 2006, a Joint Venture was executed between Gunson Resources Limited and Noranda Pacific Pty Ltd for the four tenements that comprise the Mount Gunson Project. Under the terms of the agreement, Noranda earned a 51% interest in the project in March 2010, after reaching the initial earn-in target of \$3.5M.

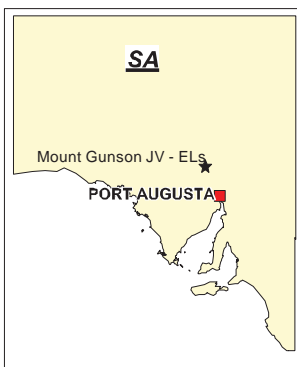
## **4. REGIONAL GEOLOGY**

This project area is located in the central part of the Stuart Shelf and eastern side of the Gawler Craton. Basement rocks in the local area comprise leucocratic granite of the Hiltaba Suite, volcanic rocks of the Gawler Range Volcanics (GRV) and metasediments of the Wandearah Formation. This is overlain by 600-800m of flat-lying cover sequence of Adelaidean and older age, comprised predominantly of sandstones, quartzites and shales.

The Gawler Mineral Promotion Project (GMPP), a joint effort of GA (Geoscience Australia) and PIRSA, has highlighted the potential of the ~1590Ma IOCG mineral systems of the eastern Gawler Craton and highlighted the high potential of the Emmie Bluff-Olympic Dam metasomatic cell to host further world class IOCG deposits (Skirrow *et al.*, 2006). The area possesses a number of key ingredients of IOCG ore-forming systems including:

Rock units of the Gawler Range-Hiltaba Volcano-Plutonic Association





**KEY**

Exploration Licence Boundaries



5 0 5 10  
Kilometres

## Xstrata Copper Exploration Pty. Ltd.

102 Obar Road, Mount Isa, QLD 4825 Tel +61 7 4744 2507 Fax +61 7 4744 3998

ABN 53 009 681 118



## MOUNT GUNSON JV Exploration Licences

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1:250000: SH53_16	Date Drawn : 30/03/2012	Scale : 1:250,000
Region : NWQ	Revision Date : 08/04/2013	Dwg No : 52429
Projection : MGA Zone 53 (GDA94)	File : SA\PROJECTS\MountGunson\MOUNTGUNSON\MOUNTGUNSON\MOUNTGUNSON JV ELs.wor	Size : A3
		Rev : 1

- Deep seated faults/shear zones with first order controls on fluid pathways being NW-trending thrust faults
- Anomalous copper geochemistry (>200ppm) in Meso-Proterozoic and older crystalline basement
- Hydrothermal alteration assemblages and zones, based on drill hole logging, potential field interpretation and 3D inversion modelling of potential field data
- Host sequence units considered important in localising IOCG alteration and mineralisation (eg Wallaroo Group and equivalents, Hutchison Group and equivalents, BIF)

The tenement is located adjacent to the Mount Gunson mining complex, an area of significant historical copper production and exploration activity. The tenement is also located on the western edge of the NNW-trending G2 corridor, which hosts the Olympic Dam Deposit. This structure is thought to be a long lived zone of crustal weakness and a conduit for mineralising fluids.

## **5. PREVIOUS EXPLORATION**

Previous work carried out in the area covered by EL 4725, Woocalla was summarised in the Annual Reports for EL2099, EL2756 (Paterson, 2011). Subsequent work at this tenure is documented by Brown *et al.* (2012).

## **6. WORK COMPLETED IN THE CURRENT TERM**

Work in the current term by MIMRD has been limited to project review, with no field work being carried out. This review has not identified any targets for immediate work, and farm out options are currently being explored.

The targeting model for basement hosted IOCG relies heavily on magnetic and gravity datasets. The gravity dataset available for EL4725 is very coarse and not appropriate for generating targets. Further targeting in this area for IOCG will require a more detailed survey to be carried out. There is also concern that the depth to basement in this area is >1000m, which may not be seen to represent an appropriate exploration strategy.

## **7. CONCLUSIONS AND RECOMMENDATIONS**

No field work was conducted during the current term by MIMRD, and project review and targeting did not identify new prospects. The JV is currently exploring farm-out options.

## 8. REFERENCES

Brown AJ, Male MS & Harvey TV, 2012. Exploration Licence (EL) 4725 Woocalla, South Australia. Annual Report – Xstrata Copper Exploration Pty Ltd.

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**APPENDIX 1**  
**EXPENDITURE STATEMENT**

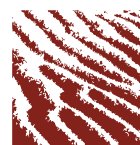


# **NORANDA PACIFIC PTY LTD**

**EL 4725 Woocalla**

## **STATEMENT OF EXPENDITURE - 12 MONTHS ENDING 19 APRIL 2014**

LABOUR	-	
ADMIN & GENERAL	-	
INFRASTRUCTURE	-	
RESEARCH	-	
JOINT VENTURE CONTRIBUTIONS	-	
CONTRACT & CONSULTANTS	<b>2,100</b>	
DRILLING	-	
GEOPHYSICS	-	
GEOCHEMICAL	-	
FIELD SUPPORT	-	
PERSONNEL	-	
TRAVEL & ACCOMMODATION	-	
TENEMENT FEES	<b>1,278</b>	
<b>TOTAL DIRECT COST</b>	<b>3,378</b>	
<b>TOTAL CURRENT TERM (YEAR 3)</b>		<b>\$ 3,378</b>
<b>TOTAL EL 4725 TO DATE (YRS 1 - 3)</b>		<b>\$ 8,901</b>



**STRANDLINE**  
resources limited

35 Richardson Street  
West Perth WA 6005

**P** +61 8 9226 3130  
**F** +61 8 9485 2070

ACN 090 603 642

7 January 2015

DSD Mineral Tenements  
GPO Box 320  
Adelaide SA 5001

Dear Sir/Madam

**EL 4725 RELINQUISHMENT  
CONFIRMATION OF NO TECHNICAL WORK UNDERTAKEN**

There has been no technical work undertaken by the Company on EL 4725 for the period 20 April to 18 December 2014.

Please do not hesitate to contact me if you require any more information.

Yours faithfully

Brendan Cummins  
Chief Geologist

Mob : +61 (0) 400 799 756