



Report Title	Aboriginal Heritage Survey Report Consultations on Die Hardy Range & Red Legs Exploration Drilling Programme with Ngalia People for Southern Cross Goldfields Ltd	
Short Title	Ngalia Consultations: SXG Die Hardy Range & Red Legs Exploration Drilling Survey Report	
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Date of Report	March 07, 2012	
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Cover Photo: Daybreak at Mt King camp, Looking North West toward Yokradine Hills.



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## Ownership and Distribution of Information

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This report has been prepared for Aboriginal Heritage Consultants Pty Ltd (AHC) and the Ngalia people and contains information that has been approved by AHC/Ngalia (Ngalia) for distribution to Southern Cross Goldfields (SXG). It refers to a specific exploration-drilling program proposed by SXG, and the impact that Ngalia believes such a program will have on areas of cultural significance to them. The cultural information supporting Ngalia's assertions of cultural significance are reported for the purposes of advising the Aboriginal Cultural Materials Committee to assist in its deliberations of the any Section 18 application. A small portion of the cultural information is contained in this report for the sake of establishing appropriate context. However, Ngalia retains its policy of not divulging cultural information to development proponents in reports such as this one. This report should be used for its intended purpose of advising SXG of the heritage status of the areas which it reports on, but should not be further distributed to third parties without consent of Aboriginal Heritage Consultants Pty Ltd, and Ngalia Heritage Research Council.

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## Acronyms and Abbreviations

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Act	<i>Aboriginal Heritage Act 1972</i>
ACMC	Aboriginal Cultural Materials Committee
AHC	Aboriginal Heritage Consultants Pty Ltd
DIA	Department of Indigenous Affairs
NHRC	Ngalia Heritage Research Council
NNTT	National Native Title Tribunal
s18 area	The area that has been granted consent under section 18 of the <i>Aboriginal Heritage Act 1972</i>
SXG	Southern Cross Goldfields Ltd

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## GPS Notes

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All coordinates contained in this report were recorded using a Motion X GPS App, with an Iphone 4 device, in WGS84 datum. All coordinates are in UTM Eastings and Northings. The coordinates are in MGA Zone 50.



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## List of Survey Participants

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The ethnographic survey team consisted of the following people. These individuals were recognised as having appropriate association with the Ngalia group for heritage survey purposes. They were nominated by Ngalia and engaged directly by AHC.

### *Ngalia representatives*

- Peter Muir
- Jennifer Narrier
- Amanda Gilbert
- Gudathada Walker

### *Southern Cross Goldfields representative*

- Mairi Walsh

### *Aboriginal Heritage Consultants Pty Ltd*

Aboriginal Heritage Consultants Pty Ltd are the Aboriginal heritage manager for the Ngalia Heritage Research Council (Aboriginal Corporation), the representative of Ngalia People. Kado Muir undertook the fieldwork and data collection component of this heritage survey and the write up and finalisation of the report. Deeva Muir of Aboriginal Heritage Consultants attended as field Assistant and Sophie Walker is acknowledged for her assistance in logistics and organisation. Danielle Stefani of Landgate is acknowledged for her assistance with background nomenclature research. Tim McCabe is acknowledged for his assistance with Noongar language.



**Table One: List of sites located during the survey**

<b>Site number</b>	<b>Coordinates</b>	<b>Comments</b>
Aboriginal Site Id 20359 (KY 45)	729836mE, 6687371mN	Aboriginal Sites Register needs to be updated with information from this report.



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## Heritage Survey Summary

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### *Invitation*

On 9<sup>th</sup> January 2012 Mr Richard Simmons Exploration Manager of Southern Cross Goldfields Ltd wrote to Ngalia Heritage Research Council Aboriginal Corporation advising they *manage Mining Tenements E77/1164, R77/001 and R77/002 in Central Yilgarn region of Western Australia...* and they were *...planning to undertake exploration, including reverse circulation and diamond drilling programmes within these tenements.* Further, *Ngalia Heritage Research Council is listed, among others on the Register as an informant for Aboriginal Site 20358 (KY 45),* accordingly he requested a consultative meeting with Ngalia.

### *Consultative meeting*

Kado Muir responded to the request on behalf of Ngalia, the parties met for a consultative meeting on Friday 3<sup>rd</sup> February 2012 where it was agreed to undertake a site visit and Aboriginal heritage survey for the 20<sup>th</sup> and 21<sup>st</sup> February 2012.

### *Survey Area*

Mining Tenements E77/1164, R77/001 and R77/002

### *Scope of works*

Exploration Activities, a drilling program including:

1. Reverse circulation drilling
2. Diamond drilling circulation.

### *Heritage Survey*

On the 20<sup>th</sup> and 21<sup>st</sup> February 2012 the parties engaged in an ethnographic survey over two areas, Red Legs on R77/000001 and Die Hardy on R77/000002. This document reports the results of those inspections and heritage surveys.

### *Aboriginal Site Affected*

Aboriginal Site 20358 (KY 45).



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## Heritage Survey Summary - Outcomes

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### *Proposed drilling activity on R77/001 and R77/002*

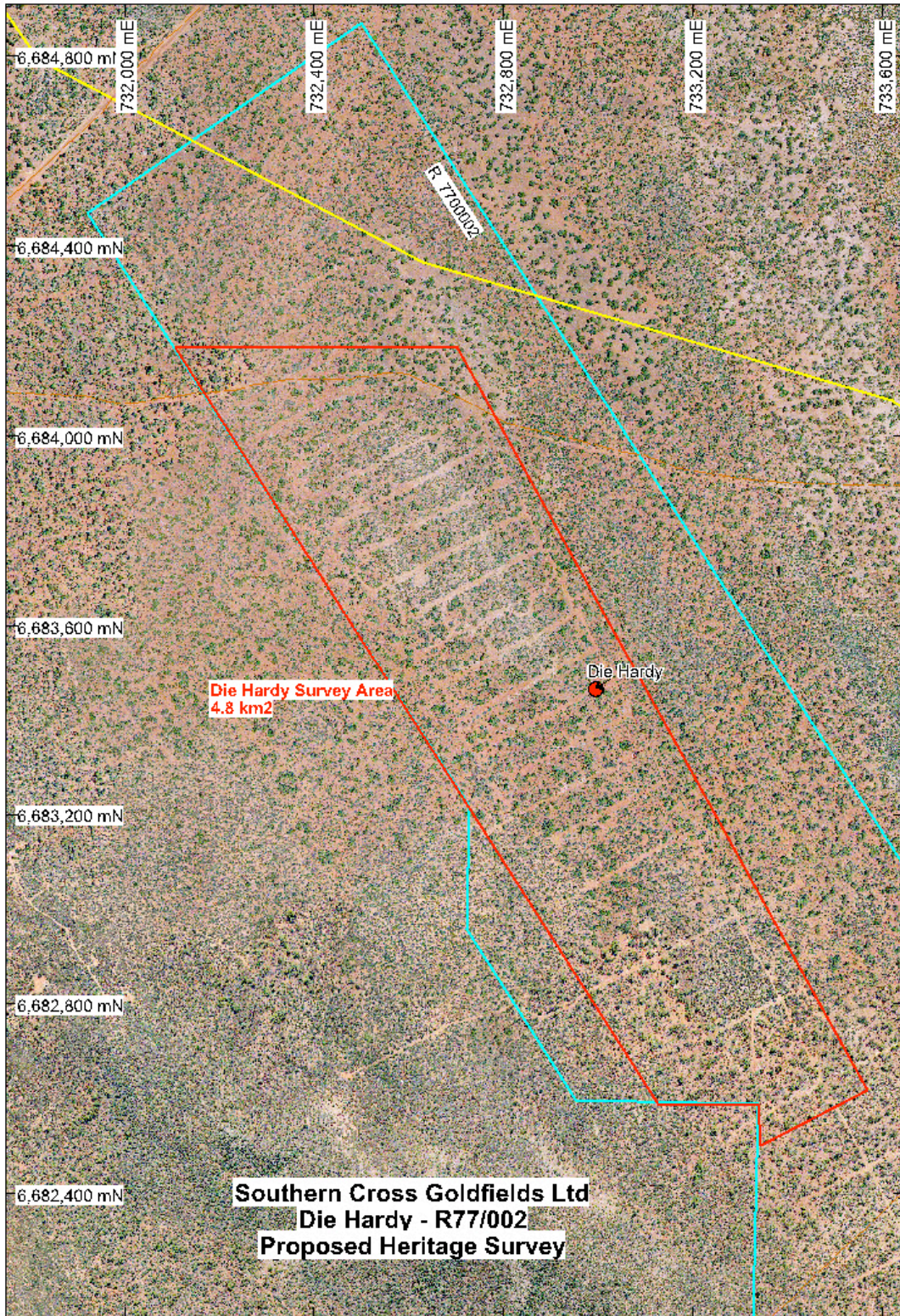
#### **Red Legs Area**

The proposed drilling programme will follow an area with previous drilling and gridlines in mixed area including low relief and some slightly higher areas. Most of the drilling will be confined to the North Eastern section of the area, in the flat area. Ngalia were concerned about impacts on a hill area and requested that no impacts occur along the ridge located at 730219 and 6687748 above the 512m topographic gradient.

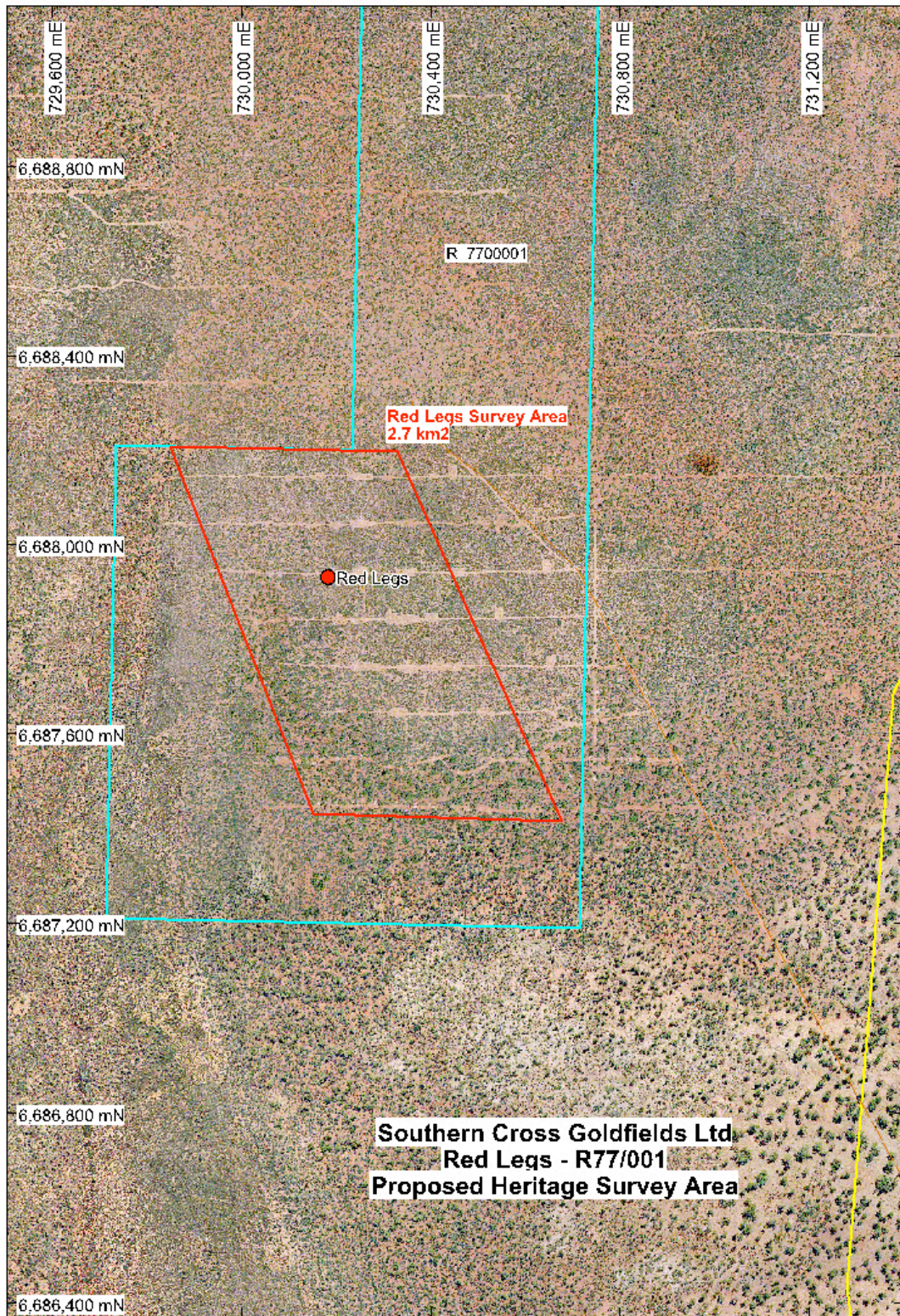
#### **Die Hardy Area**

The proposed drilling programme will follow an area with previous drilling and gridlines on low flat ground. These activities will not adversely impact Aboriginal heritage values.

See diagrams below.









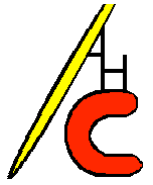
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## Methodology

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In undertaking this survey AHC:

1. Agreed with SXG to undertake Aboriginal heritage survey
2. Conducted a search of the DIA Register to understand background information on sites registered in the areas subject to the survey.
3. AHC analysed the information obtained from the search.
4. Selected representatives from the Ngalia people to act as Aboriginal consultants for the project.
5. Conducted a field inspection of the locations.
6. Reviewed the results of the field inspection with the Aboriginal consultants at conclusion of survey.
7. Compiled the technical data for the report, including the recording of spatial coordinates and photographs.
8. Submitted the report in draft to the Project Manager to ensure that details about project activities are correctly recorded.
9. Discussed the draft report with the Ngalia people to ensure that details about project activities, their impacts and sites details are correctly recorded.
10. Edited the report as required.
11. Submitted the final report to the Project Manager.



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## Desktop Study

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### **DIA Register of Aboriginal Sites**

The Department of Indigenous Affairs Register of Aboriginal Sites (Register) holds information relating to Aboriginal sites throughout Western Australia. The Register operates primarily as a form of notice that places may be of Aboriginal heritage significance, and hence fall under the ambit of the AHA. The site registration process has three basic steps. Information is lodged; it is registered and then assessed. Only upon assessment does the status of the place change.

All places reported to the Registrar of Aboriginal Sites are assessed within the terms of Section 5 of the AHA. *Sites lodged with the Department are assessed under the direction of the Registrar of Aboriginal Sites through the Site Assessment Group. These are not to be considered the final assessment, as the Aboriginal Cultural Material Committee (ACMC) will determine final assessment.*

Registration, either Interim or Permanent, does not change the legal status of places alleged to be Aboriginal sites since all such places, whether known or presently undiscovered are given equivalent protection. The Register operates primarily as a form of notice that places may be of Aboriginal heritage significance, and hence fall under the ambit of the AHA. However, entry onto the Permanent Register indicates that a place has been assessed by the ACMC and met the criteria for definition as an Aboriginal site, and hence makes it very clear that the provisions of the AHA will apply.

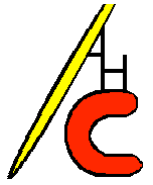
AHC conducted a search of the DIA Register of Aboriginal Sites (Register). There is One (1) site listed on the Register that relate to the survey area. This site has not yet been assessed by the ACMC as meeting the terms of section 5 of the AHA and are listed as a lodged site.

### ***Sites on the Permanent Register***

There are no sites in the Survey Area that the ACMC has assessed as meeting the terms of section 5 of the AHA and are registered as permanent sites.

### ***Sites on the Interim Register***

There are no listed on the Interim Register. Listed sites are sites that have either been assessed by the ACMC who have concluded that there is insufficient information in the site files for them to make an assessment under section 5 or have not yet been assessed by the ACMC.



### ***Sites on the Register as Lodged***

There is one site in the Study Area listed as Lodged. All places lodged with the Registrar will be placed on the Register and considered as Lodged Data. The letter L will be used in reports from the Register to indicate that a place is Lodged. These places have not been assessed by the ACMC against Section 5 of the AHA. The provisions of the AHA apply to these places until they are assessed as places to which the AHA does not apply.

***Table One: Sites on Register as Lodged***

<b><i>ID</i></b>	<b><i>Name</i></b>	<b><i>Status</i></b>	<b><i>Type</i></b>
20359	Ky45 - Die Hardy Ranges	LON	Mythological, Natural Feature

### ***Access***

There are two types of access to sites files. Open Access and Closed Access. The site in this area is an Open file.

### ***Open***

Information assessed as "Open" is not restricted in any way and, subject to search time, can be made available on immediate request. The location and extent of places are shown on all maps and mapping systems, including the [Aboriginal Heritage Inquiry System](#). The majority of places on the Register have Open access. The letter O will be used in reports from the Register to indicate that a place has Open access.

### ***Closed***

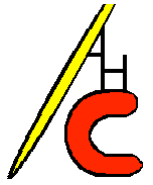
Information assessed as "Closed" is restricted to places where the information contains culturally sensitive information. Most Closed site files include requests from the Aboriginal informants that they remain closed. If anyone wishes to access Closed files, apart from the informants themselves, DIA requires the written approval of appropriate informants.

DIA maps the locations of all sites, including Closed sites, as accurately as the information lodged with the Registrar allows. However, to preserve the confidentiality of Closed sites their locations are published in reports from the Register and displayed on the [Aboriginal Heritage Inquiry System](#) within one or more 2 km square boxes. These 2 km boxes act as indicators for the presence of sites rather than as the exact boundaries of the sites.

### ***Restrictions***

Often sites are listed on the register with restrictions; these could be male only sites, **M**-Male access only, female only sites, **F**-Female access, or **N**-No restriction.

There are no restrictions on the site in this Survey Area.



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## Survey Journal

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The survey was conducted over 2 days between the 20<sup>th</sup> and 21<sup>st</sup> February, 2012.

### *Day One (proposed drilling activity on R77/0002 – Die Hardy)*

On 20<sup>th</sup> February Ngalia Survey Team met with Ngalia Elder, Peter Muir in Leonora to discuss the significance of the area prior to driving to meet up with SXG representative near Mount Geraldine to survey the area. He confirmed that the Die Hardy Ranges are associated with the Seven Sisters Dreaming. Left Leonora at 10:40, driving out to Survey Area arriving at 14:40. Met Mairi Walsh near Mt King and proceeded out to the Die Hardy survey area.

Stopped at 733277, 6682522, Drill Hole DH001. Looked at maps and had discussion, ascertained that most of the drilling will be well away from Mt Geraldine mostly on flat or low relief ground.

There were a number of previous grid lines and drilling locations, proceeded to examine the Die Hardy survey area by driving down each of these previously cleared drill lines. Stopped at 732751, 6683702 a line that adjoined a small low relief rise. Traversed the area on foot to look for archaeological materials and objects, none sighted. Walked around to 732641, 6683917, northern end of the small rise.

Completed inspection around 16:00. No impacts to Aboriginal heritage values observed.

Attention was quickly diverted to the horizon with the build up of foreboding storm clouds, as the Survey team were camping out so it was decided to make haste and set up camp at the now abandoned Radar Iron exploration camp, near Mt King. That evening all were treated to a fantastic electric storm out toward Diemals and the camp did receive its fair dose of rain.

### *Day Two (proposed drilling activity on R77/0001 – Red Legs)*

All woke early, had breakfast, packed and planned out work program for the remainder of the day. Today the arty were to inspect the Red Legs area. Broke camp at 09:00 and proceeded to survey area.

Arrived at 730588, 6687432 to commence survey at 09:30. This area is in the western shadow of the Yokradine Hills and nearby Mt Manning Nature Reserve in the north. Similar to the Die Hardy Survey Area, there were a number of previous grid lines and drilling locations, proceeded to examine the Red Legs survey area by driving down each of these previously cleared drill lines. Vehicles stopped at 730219, 6687748, then proceeded to inspect a ridgeline.

Walked most of the drilling area and took the following coordinates along the ridgeline:

1. 729991, 6687945 – top of Ridgeline (MW waypoint)
2. 730483, 6687548 – a rock overhang on the ridgeline at Alt 501m
3. 730482, 6688046 – the bottom of the ridgeline at Alt 512m
4. 730647, 6687548 – base of ridge (MW waypoint)

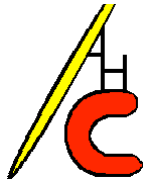


Ngalia requested that drilling in the Red Legs area avoid the ridge and be restricted to areas below the 512m topographic relief gradient.

It was confirmed that most of the drilling would be confined to the North East section of the Red Legs drilling area, on the cleared flats.



Red Legs Area: View looking NE, Drilling will be confined to flats in middle ground of this image.



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## Heritage sites located

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A total of one previously recorded Aboriginal heritage sites was identified during the survey:

- Aboriginal Site 20358 (KY 45) Die Hardy Ranges.

The impacts of the proposed works programme within the site are summarised below, listed against the relevant element of the survey program.

### Aboriginal Site: Die Hardy Range / Yokradine Hills

The site information is examined further below in the context of its significance under Section 5 of the AHA and with a discussion of the impact if any.

To be identified as an Aboriginal site and to assist in assessing significance any sites will have to meet the definition of **Section 5 of the Aboriginal Heritage Act, 1972**. Section 5 of the Aboriginal Heritage Act reads;

#### PART II – APPLICATION AND TRADITIONAL USE

Application to places:

5. This Act applies to –

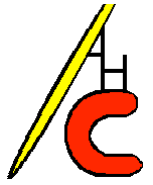
- (a) any place of importance and significance where persons of Aboriginal descent have, or appear to have, left any object, natural or artificial, used for, or made or adapted for use for, any purpose connected with the traditional cultural life of the Aboriginal people, past or present.
- (b) any sacred, ritual or ceremonial site, which is of importance and special significance to persons of Aboriginal descent;
- (c) any place which, in the opinion of the Committee, is or was associated with the Aboriginal people and which is of historical, anthropological, archaeological or ethnographical interest and should be preserved because of its importance and significance to the cultural heritage of the State;
- (d) any place where objects to which this Act applies are traditionally stored, or to which, under the provisions of this Act, such objects have been taken or removed.

In undertaking this heritage survey some background research was undertaken to better understand the significance of the Site and to provide the Aboriginal Cultural Materials Committee with a level of detail and information to assist it in assessing the significance of this site. The following table outlines “new” and further background information relating to this site.

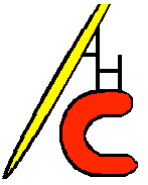


Site Id 20358	Ky45 - Die Hardy Ranges
Name:	It is recommended that the Sites Register be amended to reflect the following name, <b>Die Hardy Range/Yokradine Hills</b>
Location:	730856mE/6683380mN
Description:	<p>This site was first recorded in 2001 by the Ngalia Heritage Research Council as a site complex. This site complex includes both the Die Hardy Ranges and the Yokradine Hills. Each Mt and prominent feature in these hills represent-dreaming characters associated with the Seven Sisters dreaming. Another important consideration is that the hills occur within the zone Bates and later Tindale refer to as “Circumcision Line”, see discussion below.</p> <p>A search of Landgate records show:</p> <p><i>DIE HARDY RANGE.</i>  <i>The first recording of this feature name is to be found in Surveyor G.W. Sabine's Field Book Number I page 5 dated 29.9.1895. The origin of this name is unknown but believed to be derived from a mining lease in the area at that time.</i></p> <p><i>YOKRADINE HILLS</i>  <i>The name Yokradine first appeared on Public Plan 55/500 which was published on 4.8.1915 and cancelled on 3.10.1921 How the name came to be included on the plan and what it was representing is unknown, accordingly in 1966 when the Army 1:250 OOO was produced it was agreed that the name be retained and given the suffix Hills and made applicable to the north south line of hills to the west of the Die Hardy Range.</i></p> <p><i>CONCLUSION .</i>  <i>Inspection of the plan at page 51 will confirm the position and extent of both the Range and Hills to which the names Die Hardy and Yokradine have been applied. However with regards to the Mounts' it is suggested that the names Mt. Geraldine be adopted for that point as indicated on the plan and Mt. King be deleted in so far as it is not possible to apply to a separate feature and because the name has been duplicated on at least three previous occasions Within the State.</i></p> <p><i>J.D. Maddison</i>  <i>3rd November 1971.</i></p>
Significance:	<p>In the 2001 Parker report that initially identified this site Ngalia elders described the significance of <i>that place is an extremely important range of hills within the Tjukurrpa, and asked that the entire feature be recorded as a site complex.</i></p> <p>This range of hills occurs in the transition territory between the Western Desert cultural groups and the South West Noongar cultural groups. Bates and Tindale labelled that transition zone the <i>Circumcision zone</i>. It is discussed in Native title proceedings, but perhaps the best discussion comes from Place Names Australia Newsletter,</p> <p>“The Circumcision Line divided the groups who carried out circumcision as an integral part of initiation ceremonies from those who did not. In the southern part of WA the Circumcision Line ran from just east of Geraldton to around Bremer Bay on the south coast. Those to the east conducted circumcisions of novices as part of initiation, to the west they did not. According to Daisy Bates, it was formerly the custom for some boys from non-circumcising groups to be sent to circumcising groups to be initiated. This was a diplomatic gesture, intended to maintain good relations, alliances.”  p.3</p>





	<p>Ngalia tradition, based on Western Desert cultural influences, identifies this site as belonging to the Seven Sisters Dreaming (Kungkarangkura or Minyipurru). The Die Hardy Range including the hill known as Mt Geraldine, represents and is associated with the man who pursues the Seven Sisters. The Yokradine hills, particularly each of the peaks represent and are associated with the Seven Sisters.</p> <p>The name of the Yokradine Hills is based on the Noongar term <i>Yokrakine, yoka kaany, women's spirit place. (pers comm. Tim McCabe 2012)</i></p> <p>By way of background the Seven Sisters dreaming is widely known throughout Australia often by various names. The theme is consistent and the linkages between places is well established. It is also linked to the Pleadies and Orion constellations. For example see the following quote taken from (<a href="http://www.kitez.com/sevensisters/7sisters.htm">http://www.kitez.com/sevensisters/7sisters.htm</a>), accessed 1<sup>st</sup> March 2012);</p> <p><i>Kungkarangkalpa (the Pleiades): This group of stars share similar myths across Australia. In each myth they represent seven sisters who are pursued by Orion. One day the sisters looked down at Earth and decided to visit (the area around Kalgoorlie). They found the plateau that they always looked down upon but when they got there they discovered that it was covered with men called Yayarr. They called to the men to move but they didn't so the sisters landed on another hill. The men saw them and decided to capture them. The sisters ran and soon all but one of the men were too tired to pursue. He continued after the sisters. During the chase one of the sisters left the group to find water. As she was drinking she heard the man's footsteps behind her. She turned to flee but he caught her. She screamed and yelled so he picked up a stick. He swung at her but she dodged the blow. He swung and missed over and over again. The marks where the blows landed can still be seen on a hill in that part of the country. The sister finally escaped and ran back to the hill where they landed. She saw that her sisters had already returned so she rose to the sky to rejoin them. The Yayarr man saw her and followed after. He became Orion.</i></p> <p>The Die Hardy Range/Yokradine Hills site must be assessed by the ACMC and listed in the permanent register of Aboriginal sites. It meets Sections 5a, 5b and 5c of the Aboriginal Heritage Act.</p>
<p><b>Impacts:</b></p>	<p><b>Die Hardy:</b> No impacts</p> <p><b>Red Legs:</b> Avoid drilling on the ridgeline above topographic gradient 512m. Otherwise no significant impact to Aboriginal heritage values.</p>



<b>Maps:</b>	
<b>Red Legs Avoidance Area.</b>	<p>The map displays an aerial view of a landscape with a large, irregularly shaped area shaded in blue, representing the Red Legs Avoidance Area. Several key locations are marked with pins and labels: 'RL 4peak MW' (red pin), 'Bottom of Ridge' (yellow pin), 'Vehicle Stop' (yellow pin), 'Rock Overhang' (yellow pin), and 'RL base of ridge MW' (red pin). The terrain is a mix of green vegetation and brownish soil, with some linear features like roads or tracks visible.</p>



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## Conclusions

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The Ngalia people participating in this survey confirmed that one previously recorded Aboriginal heritage site is located within the two survey areas and assert that the survey areas are located within an area of cultural significance. The site can be summarised as:

Die Hardy Range/Yokradine Hills

- A mythological site complex, composed of a series of ranges, significant under Sections 5a, 5b and 5c of the Aboriginal Heritage Act 1972-80

In the view of the survey team, the ground disturbing activities as explained during the consultations for this exploration program will have minimal impact on Aboriginal heritage values associated with this ethnographic feature.

Ngalia survey team requested that SXG refrain from conducting ground disturbing activities within the Red Legs areas as requested below.

In summary, the survey team requested that no ground disturbing activities take place:

- Above the 512m topographic gradient around the ridgeline at Red Legs Survey Area

The remainder of the proposed drilling and exploration program as proposed by SXG will have minimal disturbance to Aboriginal heritage values.



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## Recommendations

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1. No ground disturbing activities should take place above the 512m topographic gradients around the ridge located as shaded in the map above. This will include staying away from rock overhang at 703483mE, 6687548mN.
2. DIA update its Aboriginal Sites Register to include information contained in this report.
3. The APMC formally assess this site for the purposes of updating the Aboriginal Sites Register from Lodged to Permanent.
4. The Ngalia people are kept informed of the progress of drilling activities, with sample monitoring photos at the commencement of drilling and after rehabilitation.
5. SXG consult with Ngalia for all future ground disturbing and drilling activities impacting on this site.




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## Bibliography

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Report Id	Catalogue Number	Title	Author	Old Ref No.
21739	HSR G 2005 GLE	A report of an ethnographic survey for a proposed mineral exploration program at Evanston, WA with the Ballardong NT Claimant Group	Glendenning, Wayne	2269 05
21738	HSR G 2004 GLE	A report of an ethnographic survey for a proposed mineral exploration program at Evanston, WA with the Gubrun People and the Central West NT Claimant Group	Glendenning, Wayne	2270 05
23253	HSR G 2008 OCO	Aboriginal Heritage Survey of Portman Iron Ore Limited Diemals Station Drilling Programmes	R & E O'Connor Pty Ltd	3252 08
27263	HSR G 2012 OCO [TBD]	Ethnographic Survey of P77/3461 and P77/3462	R & E O'Connor Pty Ltd	4822/12
106941	HSR G 2001 MUI [OWE]	Heritage assessment for Portman Iron Ore Mining Co Pty Ltd	Muir, Peter	1306 03
27262	HSR G 2011 CEC [TBD]	Report on an Aboriginal Heritage Survey of Radar Iron Limited's Johnston Range, Evanston and Die Hardy Project Areas, Yilgarn Region, WA	Cecchi, John	4821/12
27264	HSR G 2012 CEC [TBD]	Report on an Archaeological Survey of Radar Iron Ltd Die Hardy Project	Cecchi, John	4823/11
19306	HSR MW 2001 PAR [OWE]	Site identification survey under the Aboriginal Heritage Act (1972) of tenements in the Koolyanobbing - Windarling areas in the Yilgarn region of Western Australia Volume 3 of 3 'Walker and Muir Families of the Ngalia People'	Parker, Susan	0835 01
Place Names Australia	June 2010	<i>NEWSLETTER OF THE AUSTRALIAN NATIONAL PLACENAMES SURVEY</i>	Published by Placenames Australia (Inc.)	p.3

## **ETHNOGRAPHIC SURVEY OF**

### **RED LEGS AND DIE HARDY PROSPECTS**

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**March 2012**

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The coordinates listed in this report are MGA Zone 50.

Information given by the indigenous participants in regard to the survey area is, at their request, restricted to Southern Cross Goldfields Ltd, the Department of Indigenous Affairs and the Aboriginal Cultural Material Committee. They have requested that this report should be held under Closed Access by that Department.

## ABSTRACT

Aboriginal heritage surveys of the Red Legs and Die Hardy Prospects were commissioned by Southern Cross Goldfields Ltd and carried out by R. & E.O'Connor Pty Ltd in the company of members of the Sambo family group and Champion family group in February and March 2012.

The proposed drilling programme will take place in areas that have been previously heavily impacted by mineral exploration activity. No Aboriginal sites were newly recorded as a result of the field surveys.

This report notes that the Register of Aboriginal Sites contains a listing for one "Other Heritage Place" within the Project Area, namely Listing Number 20359, "Ky 45 – Die Hardy Ranges", a mythological natural feature, listed as "Lodged" under Open Access at the time of the field survey. The Registered Informant for Listing 20359 is Ngalia Heritage Research Council of Leonora. In order to extend natural justice to the Informant and in keeping with the requirements of the *Cultural Heritage Due Diligence Guidelines*, as issued by DIA and the Department of Premier and Cabinet, the Company consulted the Ngalia Heritage Research Council in respect of the Project. The Council carried out a field inspection of the proposed drilling programme area and submitted a report on the results of that inspection.

Following completion of the field surveys, the Aboriginal Cultural Material Committee debated the status of listing Number 20359, having scrutinised a

submission made in its regard by Ngalia Heritage Research Council and another by the author of this report. The Committee found that Listing Number 20359, (“KY25 – Die Hardy Ranges”) is not an Aboriginal site within the meaning of Section 5 of the *Aboriginal Heritage Act 1972*. The DIA File for Listing Number 20359 was inspected by the author on 24 March 2012. The formal record shows that it was deemed “not a site” by Resolution Number 6842 at Meeting Number 4581 on 14 March 2012. Accordingly, it has been relegated to the status of “Stored Data” in the Register. Stored Data listings are not covered by the provisions of the legislation.

Accordingly, there are no areas or sites within the Project area to which the provisions of the *Aboriginal Heritage Act 1972* apply. Therefore the Company has no obligations in respect of the proposed drilling programme arising from the provisions of that Act. This report has noted, however, that an Aboriginal individual or group has the option of appealing under Sections 9 and 10 of the *Aboriginal and Torres Strait Heritage Protection Act 1995* (Cth) if they feel that the State legislation has not adequately considered their heritage. It also notes, however, that it would be unusual for the Commonwealth Department of Sustainability, Environment, Water, Population and Communities to uphold an appeal in a case where the relevant State legislation and administrative body have made a formal decision.

Accordingly it is a recommendation of this report that the Company has carried out all consultations and surveys that it could reasonably be expected to have done under the provisions of the heritage legislation and that Aboriginal heritage considerations should not be deemed an impediment to the completion of the proposed drilling programme as planned.



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## 1.0 INTRODUCTION

### 1.1 Background

This report, which is based on a period of field research carried out by R. & E. O'Connor Pty. Ltd. in February and March 2012, was commissioned by Southern Cross Goldfields Ltd, of 16 Campbell Street, West Perth, Western Australia 6005 ("the Company"). The aim of the research was to consult with relevant Aboriginal people regarding proposed exploration and possible mining activities within the Company's Red Legs and Die Hardy Prospects in the Yilgarn Region of Western Australia ("the Project"), in order to ensure compliance with the requirements of the *Aboriginal Heritage Act 1972* ("the Act").

### 1.2 Research Brief

The location of the Project is shown in Figures One and Two; the Red Legs Prospect is detailed in Figure Three; the Die Hardy Prospect is detailed in Figure Four. In regard to the Project, as thus described, the objectives of the Aboriginal heritage survey were as follows:

- (i) identify any Aboriginal sites as determined by the *Aboriginal Heritage Act*;  
and
- (ii) ascertain whether or not work within the Project will disturb any such site.

The research brief also requires that the findings of the survey are to be reported in a format suitable to enable the Aboriginal Cultural Material Committee of the Department of Indigenous Affairs to:

- (i) determine whether there is an Aboriginal site within the Project, and
- (ii) evaluate the importance and significance of any such site.

## 2.0 SOCIAL AND HISTORICAL BACKGROUND

### 2.1 Linguistic Groups

At the outset, it can be stated that in the era before European settlement the general area in which Diemals, Mount Jackson, Southern Cross, Coolgardie and Kalgoorlie and, by extension, the Project, are located was a transition zone between the Bibbulmun people of the Southwest and the tribal groups who inhabited the Desert regions of Australia's interior (collectively known nowadays as "Wangkayis" or "Wongis"). Thus, Bates (1944) notes that:

*"...Southern Cross was the eastern border of Bibbulmun country. In 1909 all remaining members of its group had been drawn into the circumcised tribes on their eastern boundary, the last natives of Merredin and Burracoppin also having being circumcised before they died out."*

Tindale (1974) refers to these intermediate people as the *Kelamaia*, but his field notes reveal that this was the name for the language spoken in that region, whereas *Kubrun* was the name of the people which he collected. In her field notes, published in 1985 by the National Library of Australia, Bates gives more detail in their regard, collected during a visit to that region in the early years of the century:

*"...the name Karratjibbin has been applied to this nation as it was the term supplied by my Southern Cross informants, for their chief camping ground in that locality...the area over which this group extended ran from Mount Jackson in the north (about Lat. 30\*20') through the Southern Cross district towards the Dundas area...The peculiar organisation existing amongst these people differentiates them from every other known tribe in the West. They possess a two-moiety system, which in this respect links them with their south-western neighbours, but with the important difference amongst the Karratjibbin people of each moiety marrying within itself and producing the other moiety...Whether the area of these people extends further than the limits mentioned, could not be ascertained in the short time allowed for investigation...I found the system among the Norseman district natives and in the Mount Jackson group."*

*Their social organisation, customs, laws, initiation, etc., coincide with those of their eastern, north-eastern and south-eastern neighbours, with whom they have traded their local products...The various groups composing the "nation" held rights of possession to certain water-holes, hills, soaks, springs, etc., the chief of which appeared to be Karratjibbin, Wilgauin (Mt. Jackson), Yogguragain (west of Karratjibbin), Kammining (north-west of Karratjibbin), Malyorning (?), Juwardain (near Mt. Jackson)...The Karratjibbin Nation borders the Bibbulmun on the north-east, and several of the latter were adopted into and circumcised by the Karratjibbin people.*

## 2.2 Native Title Groups

Following an initial period of uncertainty subsequent to the enactment of the *Native Title Act*, during which multiple and overlapping applications for determination of native title were made by family sub-groups for lands which covered the present survey area and surrounds, amalgamation of applications resulted in the formation of a combined group known as the Central West Applicant group. Although initially entered on the Register of Native Title Claims, resignations of certain Registered Applicants led to this claim being deregistered. The formal claim was subsequently struck out by the Federal Court of Australia on technical legal grounds. However, as persons who can demonstrate relevant cultural knowledge of the Project area, members of this group were involved in the field survey, in accordance with Paragraph 1.10(d) of Version 2.0 of the *Cultural Heritage Due Diligence Guidelines* issued by Department of Indigenous Affairs and Department of the Premier and Cabinet.

The Gubrun and Kalamaia Kabu(d)n applicant groups, whose applications failed to satisfy the requirements of Section 190A of the Act, partially amalgamated and have reapplied for registration. This reapplication was opposed by the Goldfields Land and Sea Council and a considerable degree of animosity was generated by the

resulting struggle. Although also not registered, the Kelamaia claim has now been reduced to two small areas; one near Widgiemooltha and another to the east of the Project area, centered upon Ularring Rock. The original Gubrun claim has also been struck out by the Federal Court of Australia. Again, however, as persons who can demonstrate relevant cultural knowledge of the Project area, members of both the Gubrun and Kelamaia groups were involved in the field survey.

Comments on Ngalia Heritage Research Council of Leonora, whose members were consulted separately by the Company, are included below.

## 3.0 THE SURVEY

### 3.1 Methodology

Five separate phases were involved in the survey, as follows:

- (i) examination of existing ethnographic database;
- (ii) consultation with Aboriginal Native Title Applicants, as listed above;
- (iii) inspection of Exploration Areas with Central West group elders;
- (v) inspection of Exploration Areas with Kelamaia Kabu(d)n elders;
- (vi) report preparation.

The base methodology was that of a “site identification survey”, which is described in the *Draft Guidelines for Aboriginal Heritage Assessment in Western Australia* as follows:

*“ in this type of survey sites are located and documented and the spatial extent and significance of sites is recorded. This information may be made available to the proponent in report form, subject to agreement from the relevant Aboriginal people. Alternatively, or in addition, confidential information may be presented in a restricted report to the ACMC, usually through the DAS.*

*This survey strategy is particularly appropriate at the advanced stage of planning a project, when the location, nature and extent of impacts on the land are well defined and where a detailed knowledge of sites is required to ensure compliance with the requirements of the Act”.*

### 3.2 Previously Recorded Sites

A search of the Register of Aboriginal Sites for R77/1 and R77/2 was carried out as part of the survey (the Register extract is included in this report as Appendix

Four). This revealed that there are no registered Aboriginal sites previously recorded within the tenements in question, but that there is one “Other Heritage Place” as follows.

- Listing Number 20359, “KY45 –Die Hardy Ranges”, a mythological area and natural feature listed on the Register as “Lodged” under Open Access at the time of the survey.

Although the status of the above listing has not yet been assessed by the Aboriginal Cultural Material Committee, it was still covered by the provisions of the Act at the time of the survey. Accordingly, and in keeping with Section 1.10 of Version 2.0 of the *Cultural Heritage Due Diligence Guidelines*, as issued by DIA and the Department of Premier and Cabinet, the Registered Informant for that listing, the Ngalia Heritage Research Council of Leonora, was consulted by the Company in respect of the Project. Representatives of the Council carried out an on-site inspection of the Project area and prepared a report on their findings for the Company.

On 14 March 2012 the Aboriginal Cultural Material Committee debated the status of listing Number 20359, having scrutinised a submission made in its regard by Ngalia Heritage Research Council and another by the author of this report. The Committee found that Listing Number 20359, (“KY25 – Die Hardy Ranges”) is not an Aboriginal site within the meaning of Section 5 of the *Aboriginal Heritage Act 1972*. The DIA File for Listing Number 20359 was inspected by the author on 24 March 2012. The formal record shows that it was deemed “not a site” by Resolution Number 6842 at Meeting Number 4581 on 14 March 2012. Accordingly, it has been relegated to the status of “Stored Data” in the Register. Stored Data listings are not



covered by the provisions of the legislation. It should, however, be noted that an Aboriginal individual or group has the option of appealing under Sections 9 and 10 of the *Aboriginal and Torres Strait Heritage Protection Act 1995* (Cth) if they feel that the State legislation has not adequately considered their heritage. It would be unusual, however, for the Commonwealth Department of Sustainability, Environment, Water, Population and Communities to uphold an appeal in a case where the relevant State legislation and administrative body has made a formal decision.

### 3.4 The Field Survey

The ethnographic field survey was carried out concurrently with the archaeological survey. On behalf of the Sambo family group of the former Central West Goldfields People, Mr Leon Coleman, Mr Dennis Sambo, Ms. Jasmine Sambo and Ms. Elizabeth Sambo inspected the Project Area from 17 to 19 February 2012. Mr John Cecchi organised the field survey teams, walking roughly east-west oriented transects spaced 100 metres apart. Mr D.Sambo, Ms. J.Sambo and Mr L.Sambo walked roughly parallel to Mr Cecchi, spaced approximately twenty metres apart. Ms. E.Sambo tended the vehicles and arranged transport and drinks for the survey party at the end of each transect. On completion of the field inspection the Aboriginal representatives stated that there are no sacred, ritual or ceremonial Aboriginal sites within the survey area, that the Die Hardy Range, as such, is not an Aboriginal site, as it does not feature in any Gubrun myth and, accordingly, signed the following statement (see Appendix Three): *Members of the Central West Goldfields People/Sambo family have been consulted in regards to Southern Cross Goldfields*

*Red Legs and Die Hardy projects. The Aboriginal consultants have surveyed the project areas and approve the exploratory drilling: Leon Coleman, Dennis Sambo, Jasmine Sambo, Elizabeth Sambo.*

On behalf of the Champion family of the former Kelamaia Kabu(d)n People, Mr George Champion, Ms Trixie Jackson, Mr Aden Graham-Jackson and Mr. Charlie Champion inspected the Project Area from 16 to 18 March 2012. The field survey methodology replicated that employed by the Sambo family survey party, with Ms. Trixie Jackson tending the vehicles and arranging intra-transect transport. Again, on completion of the field inspection the Aboriginal representatives stated that there are no sacred, ritual or ceremonial Aboriginal sites within the survey area, that the Die Hardy Range, as such, is not an Aboriginal site, as it does not feature in any Kelamaia myth and, accordingly, signed the following statement (see Appendix Three): *An Aboriginal heritage survey of Southern Cross Goldfields Red Legs and Die Hardy project areas was undertaken in consultation with members of the Kelamaia Kabu(d)n native title claimant group/Champion family. The Aboriginal representatives approve of both projects.*

#### 4.0 CONCLUSIONS AND RECOMMENDATIONS

Aboriginal heritage surveys of the Red Legs and Die Hardy Prospects were commissioned by Southern Cross Goldfields Ltd and carried out by R. & E.O'Connor Pty Ltd in the company of members of the Sambo family group and Champion family group in February and March 2012.

The proposed drilling programme will take place in areas that have been previously heavily impacted by mineral exploration activity. No Aboriginal sites were newly recorded as a result of the field surveys.

This report notes that the Register of Aboriginal Sites contains a listing for one "Other Heritage Place" within the Project Area, namely Listing Number 20359, "Ky 45 – Die Hardy Ranges", a mythological natural feature, listed as "Lodged" under Open Access at the time of the field survey. The Registered Informant for Listing 20359 is Ngalia Heritage Research Council of Leonora. In order to extend natural justice to the Informant and in keeping with the requirements of the *Cultural Heritage Due Diligence Guidelines*, as issued by DIA and the Department of Premier and Cabinet, the Company consulted the Ngalia Heritage Research Council in respect of the Project. The Council carried out a field inspection of the proposed drilling programme area and submitted a report on the results of that inspection.

Following completion of the field surveys, the Aboriginal Cultural Material Committee debated the status of listing Number 20359, having scrutinised a submission made in its regard by Ngalia Heritage Research Council and another by

the author of this report. The Committee found that Listing Number 20359, (“KY25 – Die Hardy Ranges”) is not an Aboriginal site within the meaning of Section 5 of the *Aboriginal Heritage Act 1972*. The DIA File for Listing Number 20359 was inspected by the author on 24 March 2012. The formal record shows that it was deemed “not a site” by Resolution Number 6842 at Meeting Number 4581 on 14 March 2012. Accordingly, it has been relegated to the status of “Stored Data” in the Register. Stored Data listings are not covered by the provisions of the legislation.

Accordingly, there are no areas or sites within the Project area to which the provisions of the *Aboriginal Heritage Act 1972* apply. Therefore the Company has no obligations in respect of the proposed drilling programme arising from the provisions of that Act. This report has noted, however, that an Aboriginal individual or group has the option of appealing under Sections 9 and 10 of the *Aboriginal and Torres Strait Heritage Protection Act 1995* (Cth) if they feel that the State legislation has not adequately considered their heritage. It also notes, however, that it would be unusual for the Commonwealth Department of Sustainability, Environment, Water, Population and Communities to uphold an appeal in a case where the relevant State legislation and administrative body has made a formal decision.

Accordingly it is a recommendation of this report that the Company has carried out all consultations and surveys that it could reasonably be expected to have done under the provisions of the heritage legislation and that Aboriginal heritage considerations should not be deemed an impediment to the completion of the proposed drilling programme as planned.

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Bates, D. 1944

*The Passing of the Aborigines*. London: John Murray.

Bates, D. 1985 (Ed. Isobel White)

*The Native Tribes of Western Australia*. Canberra: National Library of Australia.

R. & E.O'Connor Pty Ltd, February 2012

*Report on an Ethnographic Survey of Radar Iron Limited's Die Hardy Project Area*.

Tindale, N. 1974

*Aboriginal Tribes of Australia*. The University of California Press.

Tonkinson, R. 1978

*The Mardudjara Aborigines*. New York: Holt, Rinehart and Winston.

Figure One:

Location of Project Area – Tenement Map

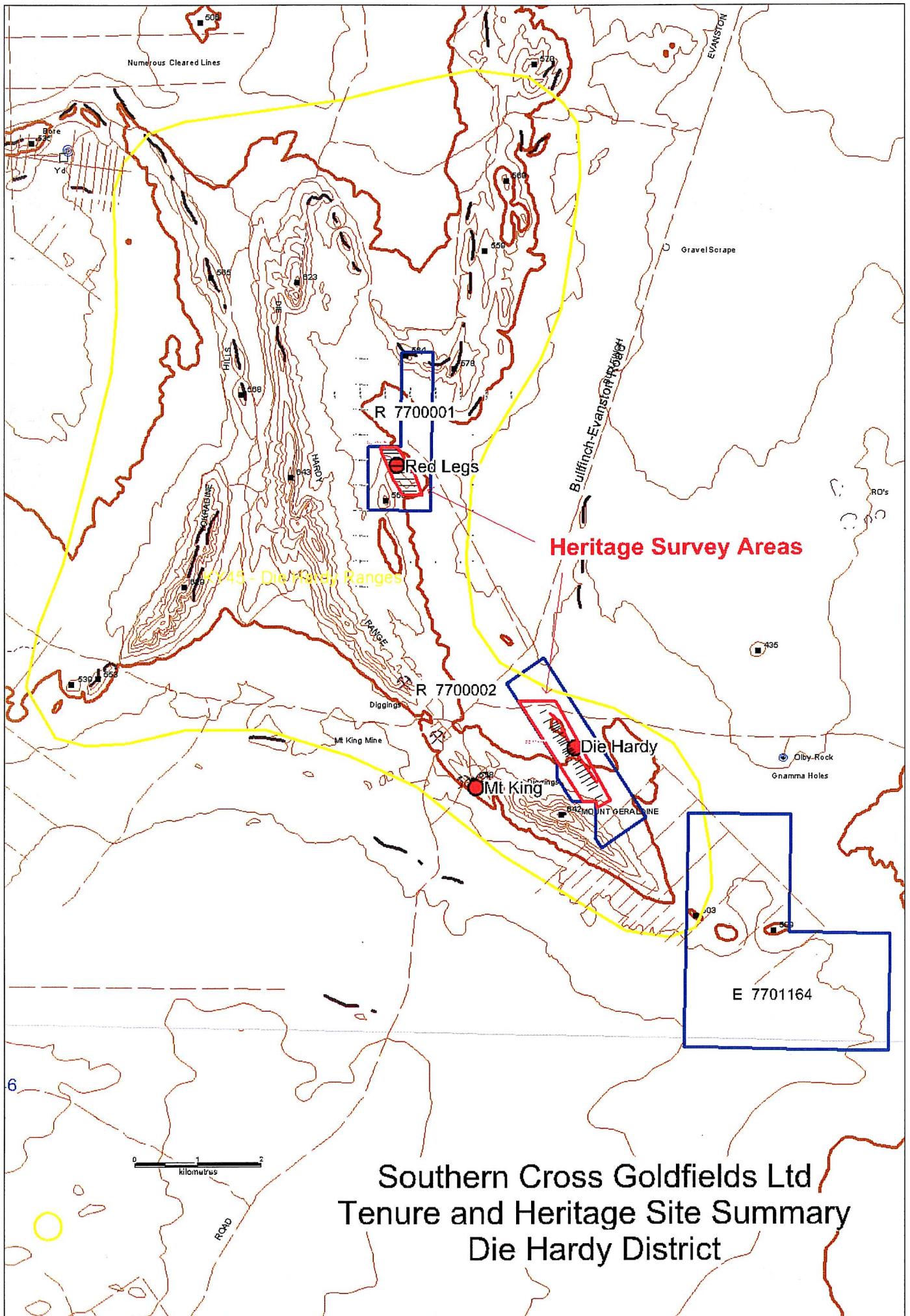


Figure Two:

Location of Project Area – Aerial Photograph



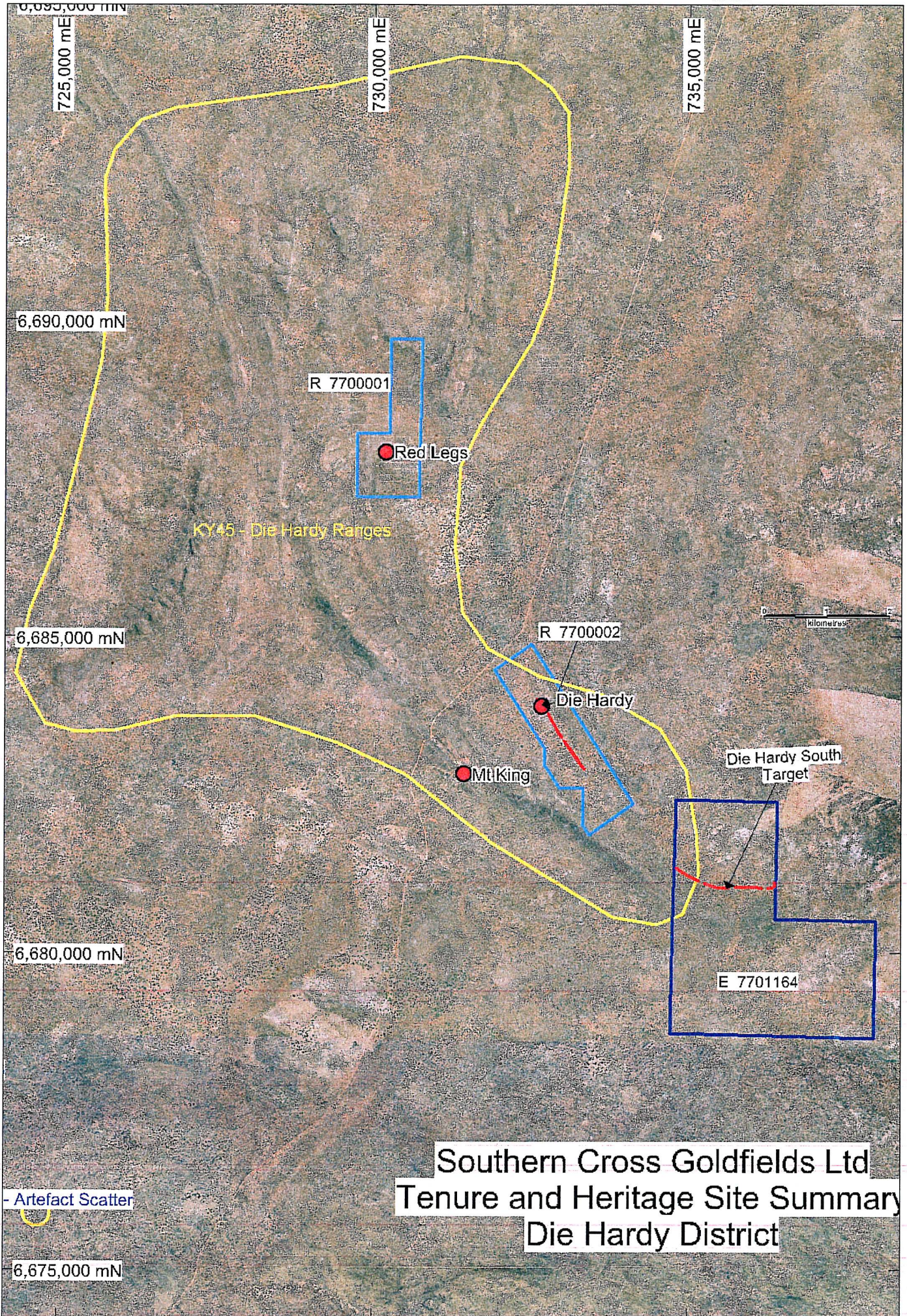


Figure Three:

Red Legs Prospect

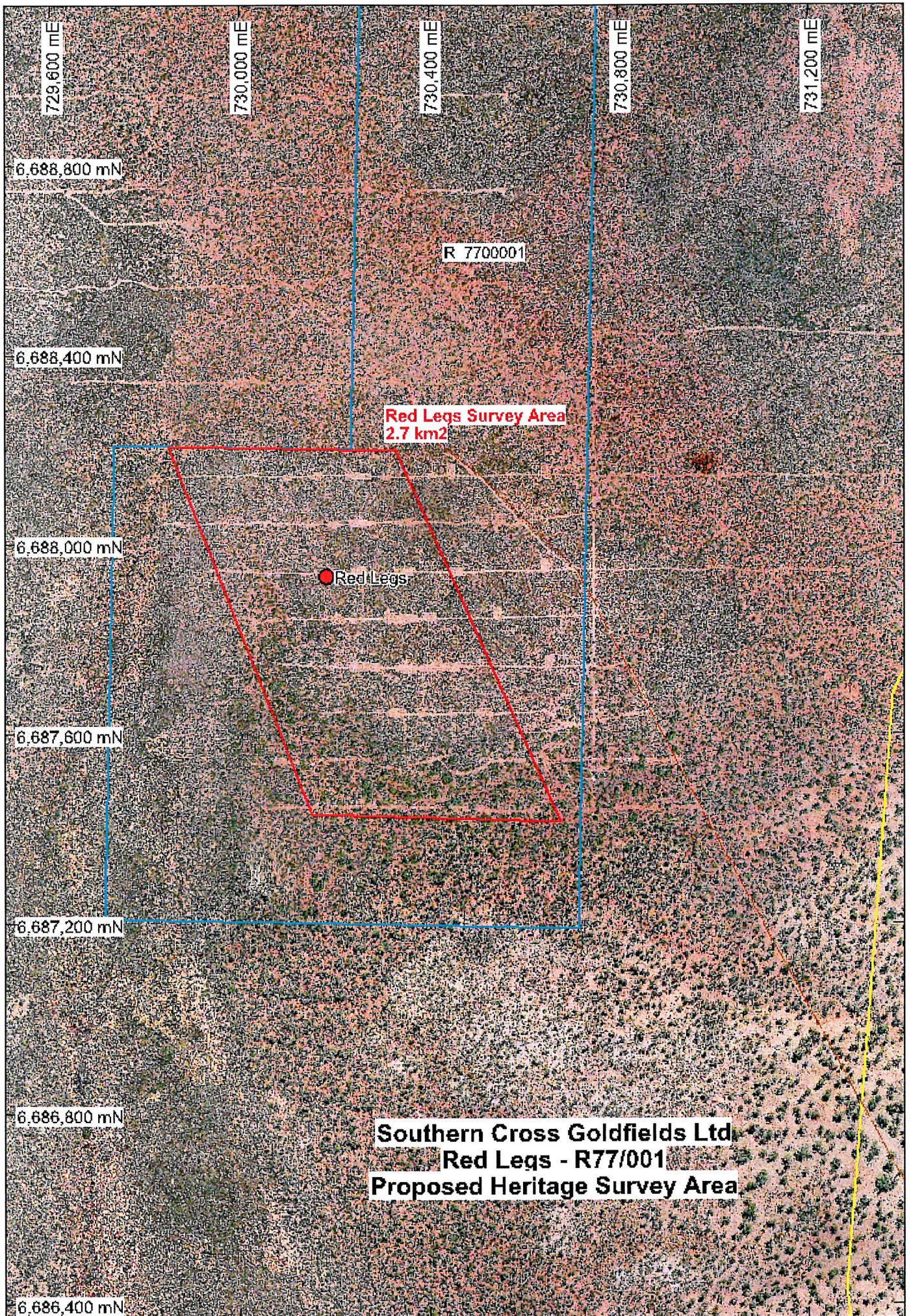
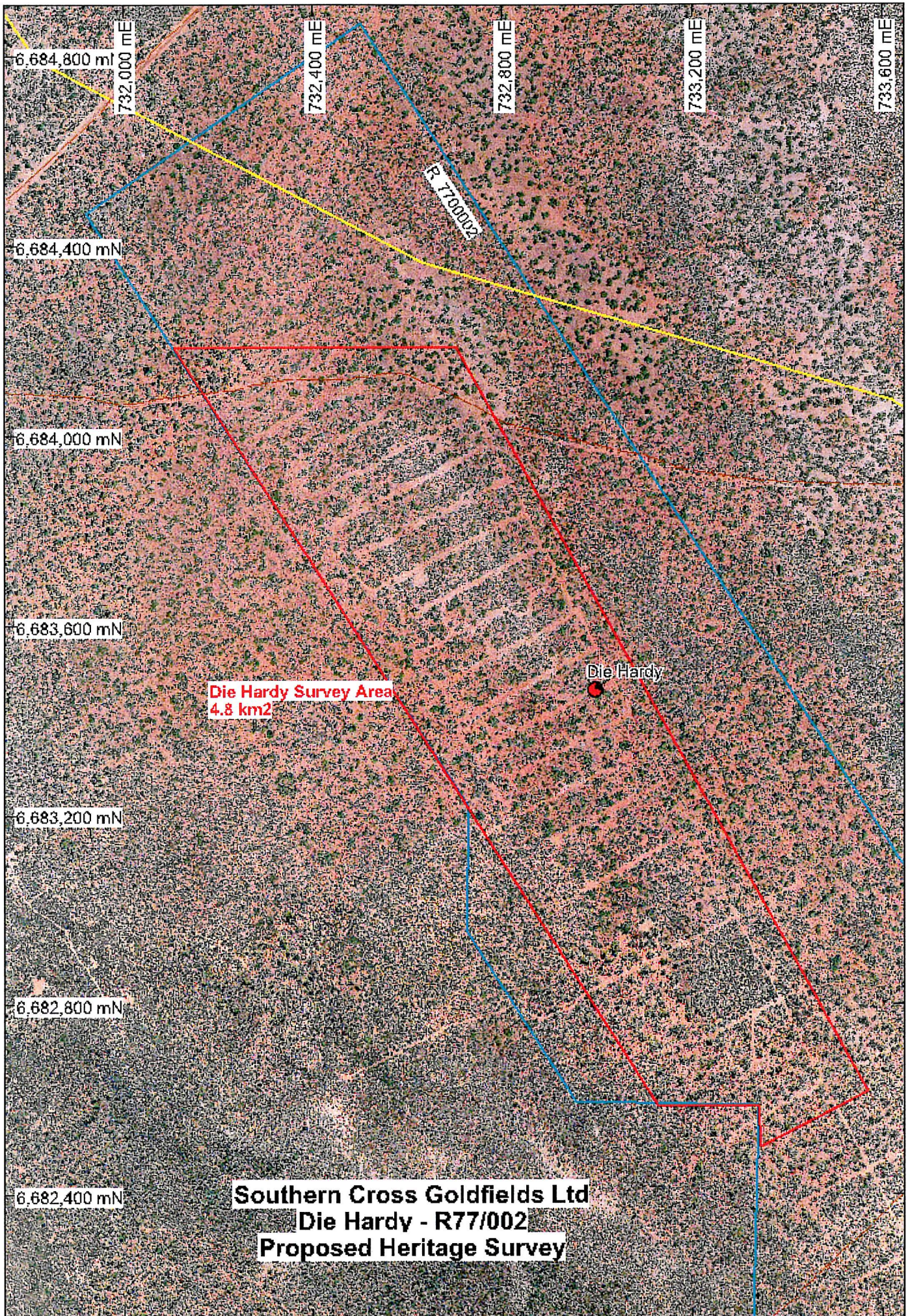


Figure Four:

Die Hardy Prospect



Appendix Three:

Signed Statements

17-19.2.12

19/2/2012

Members of the Central West Goldfields People /  
Sambo Family have been consulted in regards  
to Souther Cross Goldfields Red Legs and Die Hardy  
projects. The Aboriginal consultants have surveyed  
the project areas and approve the exploratory  
drilling.

ELIZABETH SAMBO

*Elizabeth Sambo*

DENNIS SAMBO

*D Sambo*

LEON COLEMAN

*Leon*

KASHINE SAMBO

*Kashine*

16-18.3.12

An Aboriginal Heritage Survey ~~of~~ Southern  
Cross Goldfields 'Red Legs & Die Hardy' project  
areas was undertaken in consultation with  
members of the Kalamia Kubuckin native title  
claimant group / Champion Family. The  
Aboriginal representatives approve of both projects

GEORGE CHAMPION

CHARLIE CHAMPION

Handwritten signatures of George and Charlie Champion in blue ink.

TRIXIE JACKSON

AYDEN GRAHAM JACKSON

Adengraham

Trixié Jackson.



Appendix Four:

Register of Aboriginal Sites Extract



## Search Criteria

1 sites in mining tenement 'R 7700001'.

## Disclaimer

Aboriginal sites exist that are not recorded on the Register of Aboriginal Sites, and some registered sites may no longer exist. Consultation with Aboriginal communities is on-going to identify additional sites. The AHA protects all Aboriginal sites in Western Australia whether or not they are registered.

## Copyright

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## Legend

Restriction	Access	Coordinate Accuracy
<b>N</b> No restriction	<b>C</b> Closed	Accuracy is shown as a code in brackets following the site coordinates.
<b>M</b> Male access only	<b>O</b> Open	<b>[Reliable]</b> The spatial information recorded in the site file is deemed to be reliable, due to methods of capture.
<b>F</b> Female access	<b>V</b> Vulnerable	<b>[Unreliable]</b> The spatial information recorded in the site file is deemed to be unreliable due to errors of spatial data capture and/or quality of spatial information reported.

## Status

L - Lodged	ACMC Decision Made
Information lodged, awaiting assessment	<p style="text-align: center;"><b>↑</b></p> <p><b>R - Registered Site</b> I - Insufficient information S - Stored Data</p>

## Spatial Accuracy

Index coordinates are indicative locations and may not necessarily represent the centre of sites, especially for sites with an access code "closed" or "vulnerable". Map coordinates (Lat/Long) and (Easting/Northing) are based on the GDA 94 datum. The Easting / Northing map grid can be across one or more zones. The zone is indicated for each Easting on the map, i.e. '5000000:Z50' means Easting=5000000, Zone=50.

## Sites Shown on Maps

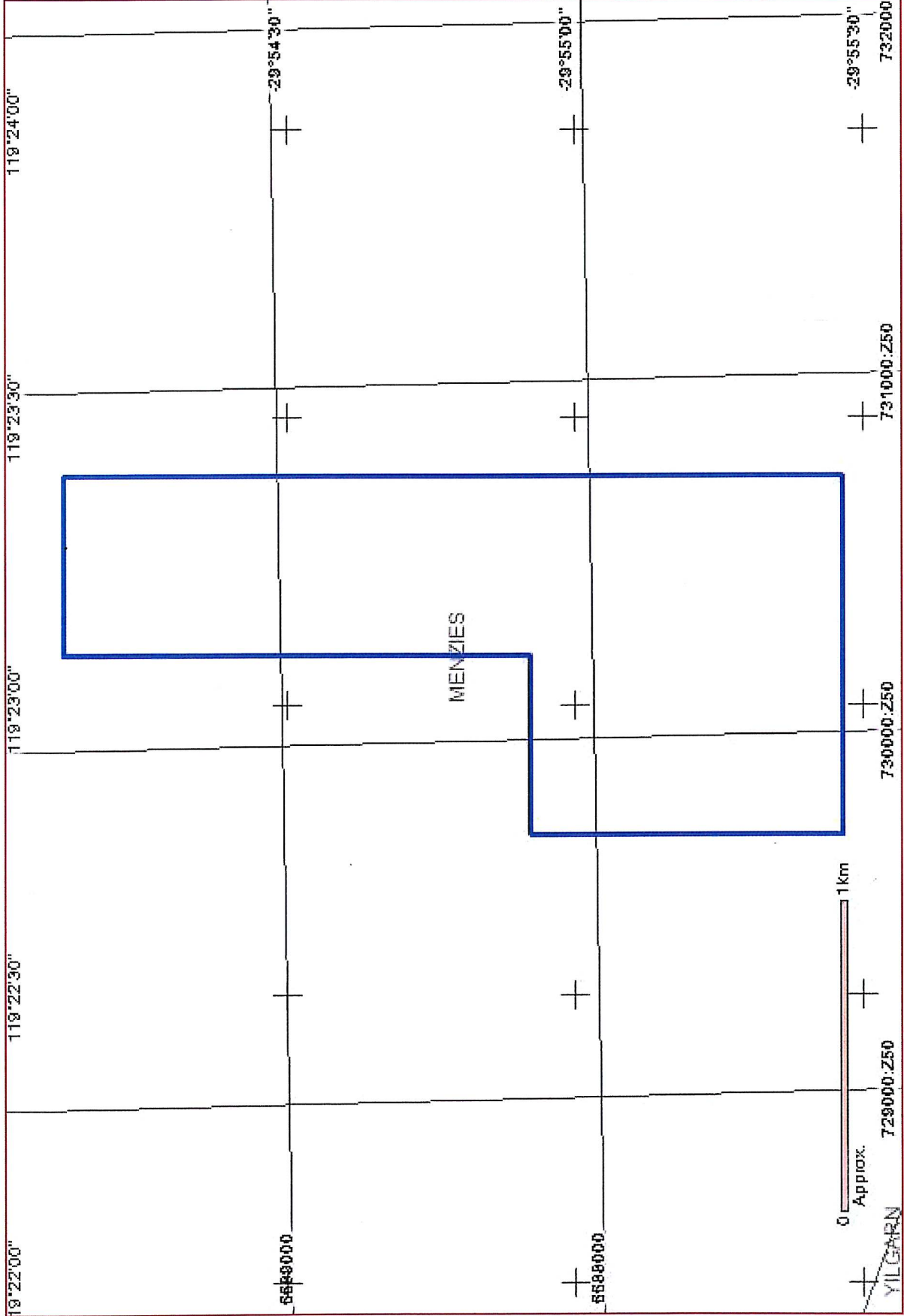
Site boundaries may not appear on maps at low zoom levels



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## List of Registered Aboriginal Sites with Map

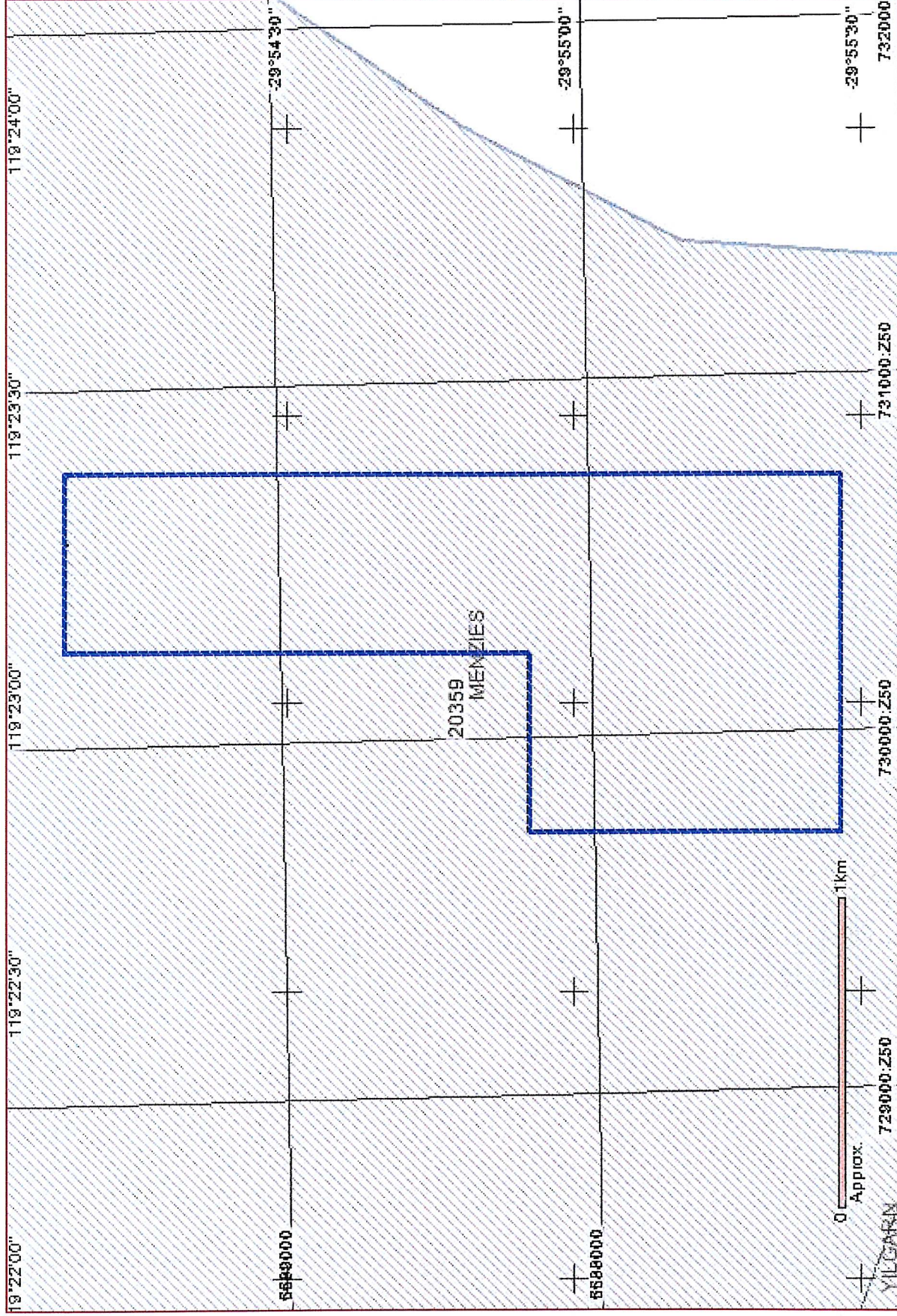
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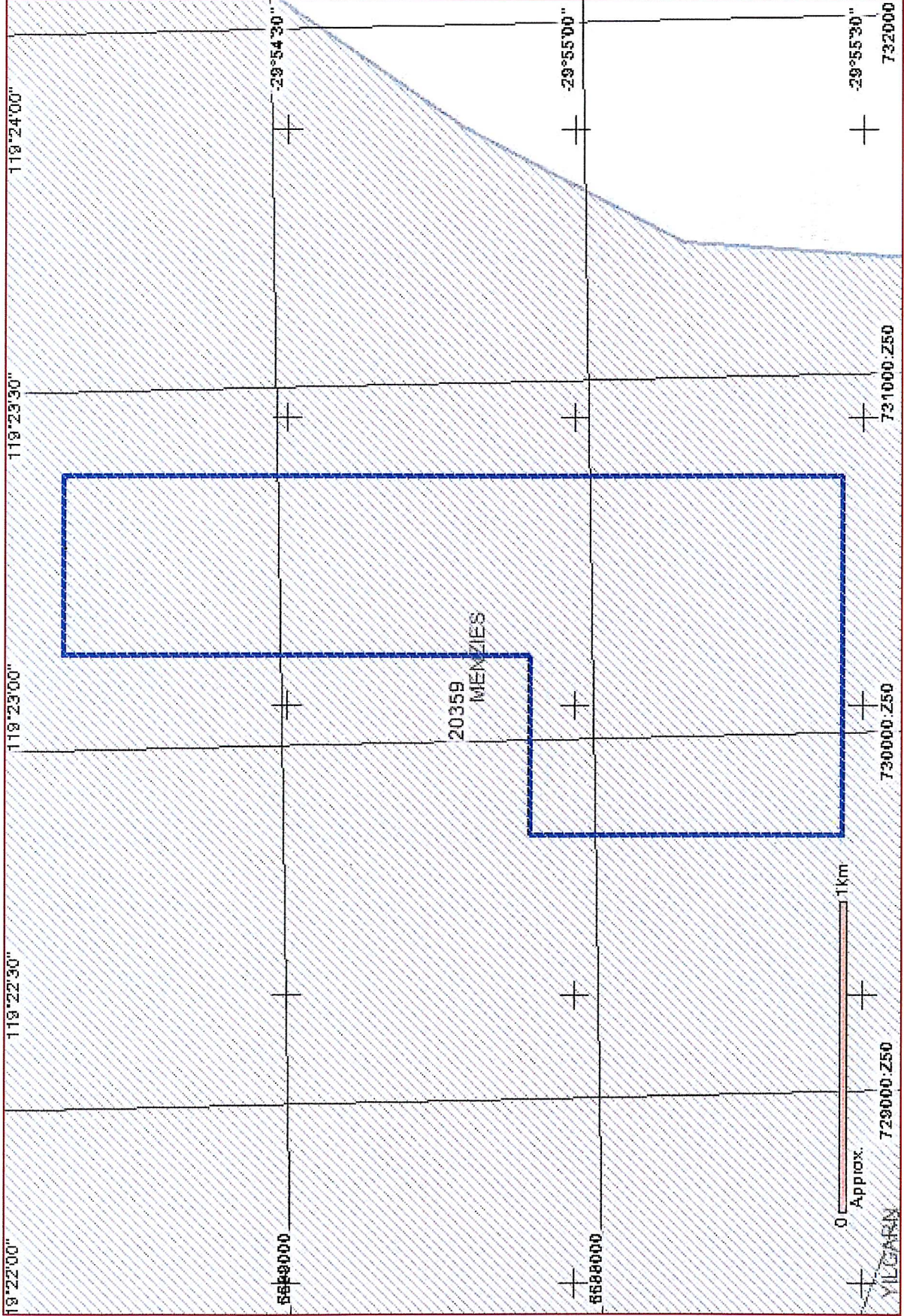
List of 1 Other Heritage Places with Map

Site ID	Status	Access	Restriction	Site Name	Site Type	Additional Info	Informants	Coordinates	Site No.
20359	L	O	N	Ky45 - Die Hardy Ranges	Mythological	Natural Feature	*Registered Informant names available from DIA.	729836mE 6687371mN Zone 50 [Reliable]	










## Map Showing Registered Aboriginal Sites and Other Heritage Places



**Legend**

- Selected Heritage Sites**
-  Registered Sites
  -  Other Heritage Places
  -  Town
  -  Map Area
  -  Search Area

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Geothermal Application, Geothermal Title, Mining Tenement, Petroleum Application, Petroleum Title boundary data copyright © the State of Western Australia (DMP) (2012.4).

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### Search Criteria

1 sites in mining tenement 'R 7700002'.

### Disclaimer

Aboriginal sites exist that are not recorded on the Register of Aboriginal Sites, and some registered sites may no longer exist. Consultation with Aboriginal communities is on-going to identify additional sites. The AHA protects all Aboriginal sites in Western Australia whether or not they are registered.

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### Legend

Restriction	Access	Coordinate Accuracy
N No restriction	C Closed	Accuracy is shown as a code in brackets following the site coordinates. [Reliable] The spatial information recorded in the site file is deemed to be reliable, due to methods of capture. [Unreliable] The spatial information recorded in the site file is deemed to be unreliable due to errors of spatial data capture and/or quality of spatial information reported.
M Male access only	O Open	
F Female access	V Vulnerable	

### Status

L - Lodged	ACMC Decision Made
Information lodged, awaiting assessment	<p style="text-align: center;">↑</p> <p><b>R - Registered Site</b> I - Insufficient information S - Stored Data</p>

### Spatial Accuracy

Index coordinates are indicative locations and may not necessarily represent the centre of sites, especially for sites with an access code "closed" or "vulnerable". Map coordinates (Lat/Long) and (Easting/Northing) are based on the GDA 94 datum. The Easting / Northing map grid can be across one or more zones. The zone is indicated for each Easting on the map, i.e. '5000000:Z50' means Easting=5000000, Zone=50.

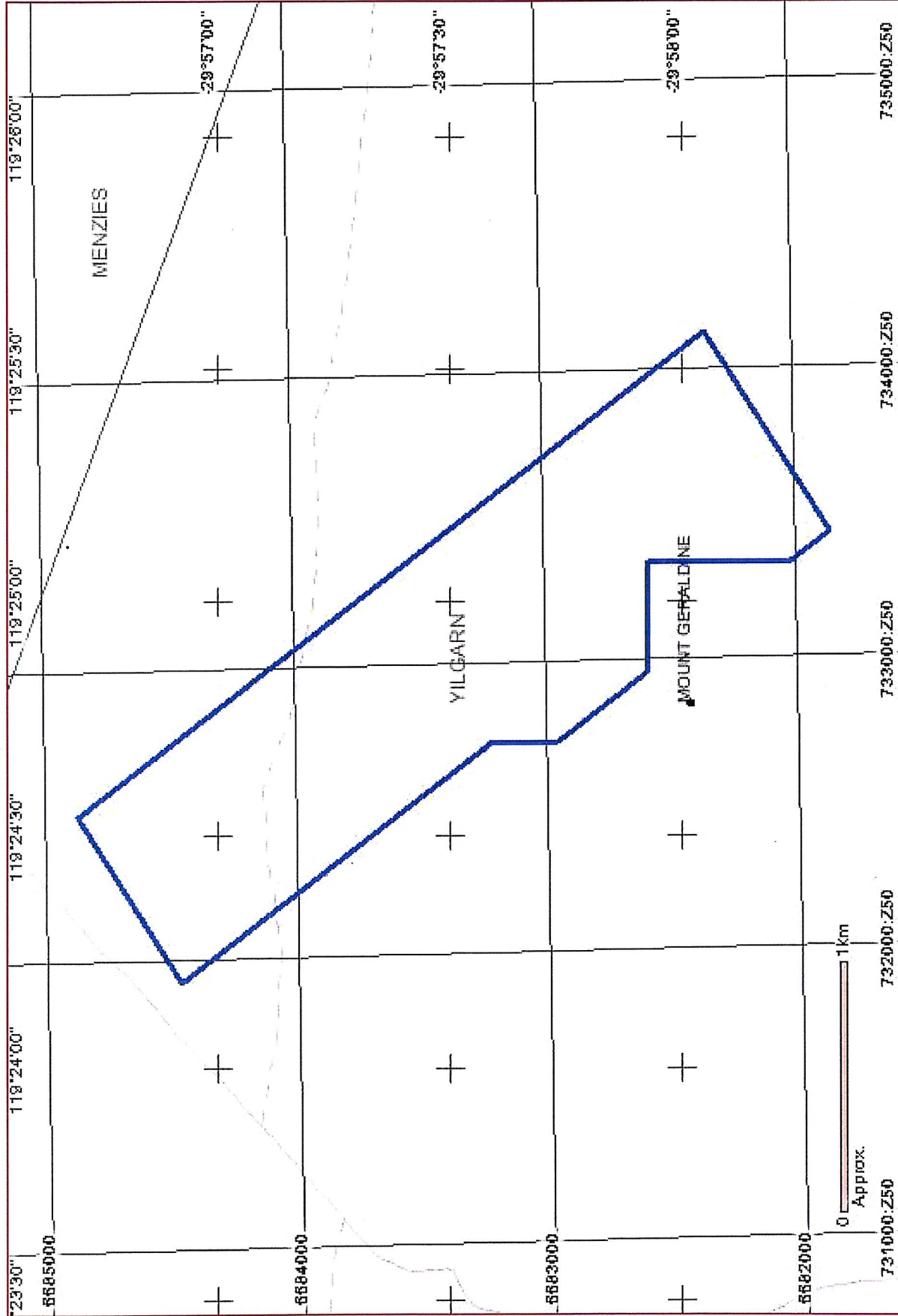
### Sites Shown on Maps

Site boundaries may not appear on maps at low zoom levels



## List of Registered Aboriginal Sites with Map

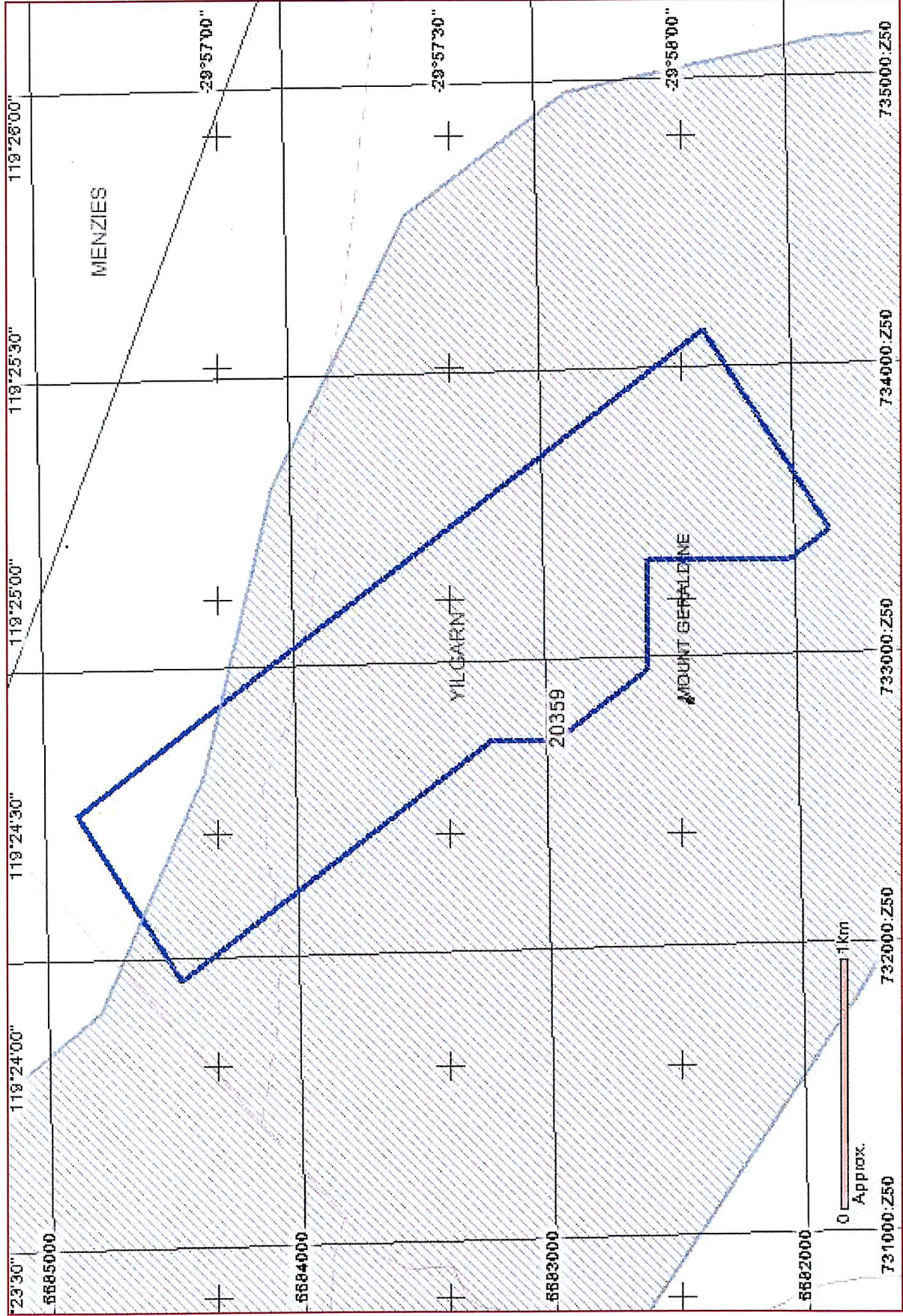
**No results**





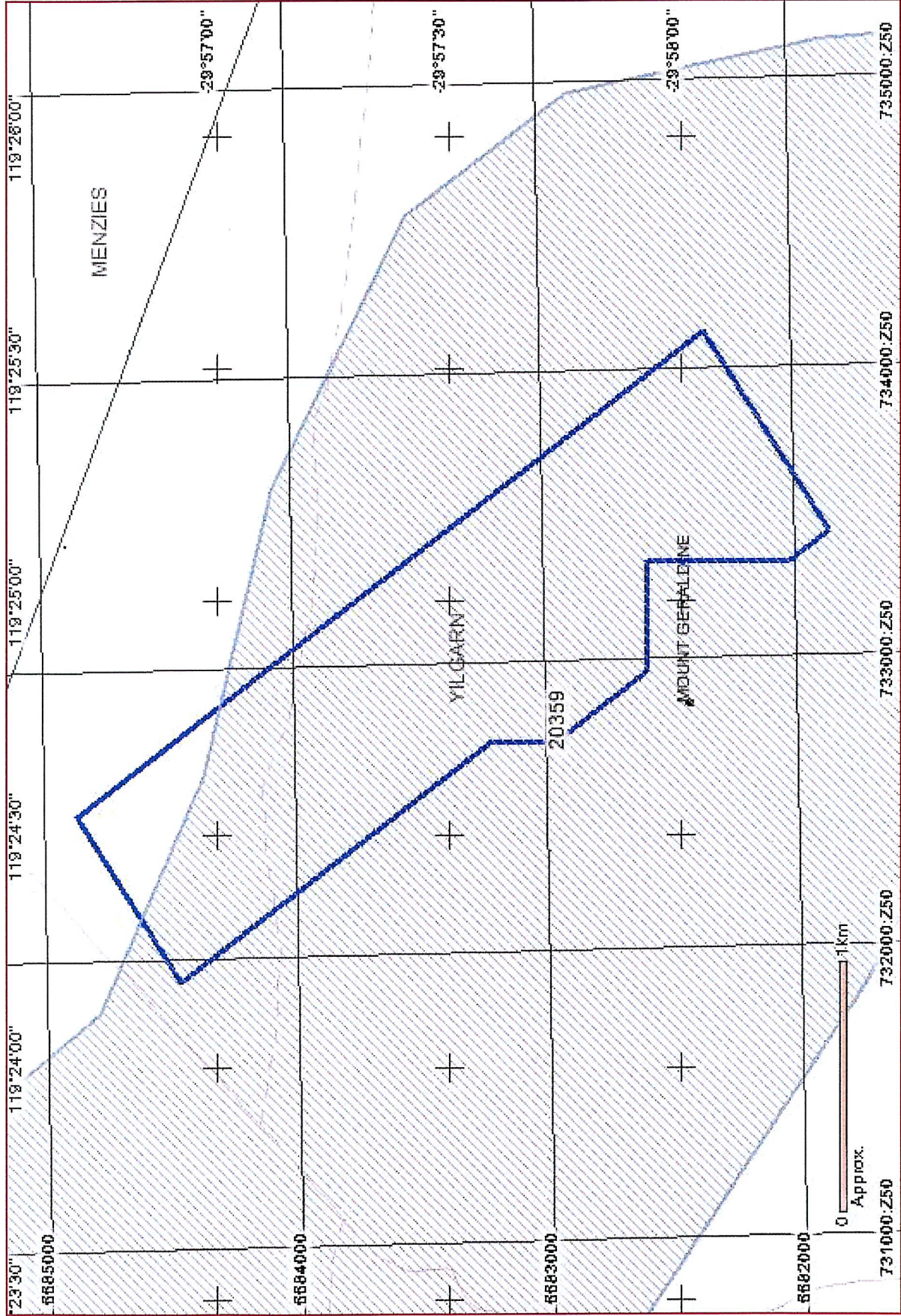
List of 1 Other Heritage Places with Map

Site ID	Status	Access	Restriction	Site Name	Site Type	Additional Info	Informants	Coordinates	Site No.
20359	L	O	N	Ky45 - Die Hardy Ranges	Mythological	Natural Feature	*Registered Informant names available from DIA.	729836mE 6687371mN Zone 50 [Reliable]	





## Map Showing Registered Aboriginal Sites and Other Heritage Places



2012

John Cecchi Heritage  
Management Consultancy

# REPORT ON AN ARCHAEOLOGICAL SURVEY OF SOUTHERN CROSS GOLDFIELDS LTD DIE HARDY AND RED LEGS PROJECTS

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PO Box 708, West Perth 6872

**April 2012**

All co-ordinates given by this report area MGA Zone 50 referenced to GDA 94.

This report is subject to the provisions of the *Australian Copyright Act (Cth) 1968*.



# Report on an Archaeological Survey of Southern Cross Goldfields Ltd Die Hardy and Red Legs Project

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# Report on an Archaeological Survey of Southern Cross Goldfields Ltd Die Hardy and Red Legs Project

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## **EXECUTIVE SUMMARY**

John Cecchi of John Cecchi Heritage Management Consultancy undertook an Aboriginal archaeological heritage survey, on behalf of R. & E. O'Connor Pty Ltd, of Southern Cross Goldfields Ltd (SXG) Die Hardy and Red Legs Project areas, from the 17 to 19 February and from the 15 to 17 March 2012. The archaeological survey was commissioned in relation to SXG proposed exploratory program of tenements R77/001 and R77/002. Both survey areas are located in the Die Hardy Range district, 140 kilometres north of Southern Cross.

A desktop research was undertaken prior to the field survey, including information on the region's archaeological and environmental background. A search for previously recorded sites in the survey region revealed that Department of Indigenous Affairs (DIA) Site ID 20359, named Ky-45 "Die Hardy Range", is located within both survey areas. This is a mythological site placed under Lodged Status with Open Access. The site encompasses the entirety of the Die Hardy Range in relation to 'Tjukurrpa' Beings Stories. Recommendations regarding this site are presented in the relevant ethnographic report (O'Connor 2012, in prep.)

Representatives of the Kelamaia Kubu(d)n/ Champion Family and Central West Goldfields People/Sambo Family groups participated in the archaeological survey. The field survey was conducted by probabilistic pedestrian transect aligned north south and spaced 100 metres apart. The Aboriginal consultants assisted by walking parallel to the archaeologist, 20 metres apart from each other.

As a result of the field survey no sites of Aboriginal archaeological heritage were identified within Red Legs or Die Hardy survey areas.

## Report on an Archaeological Survey of Southern Cross Goldfields Ltd Die Hardy and Red Legs Project

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This report recommends that no further archaeological research is warranted for these areas.

As DIA Site 20359 is placed on the Interim Register with Lodged status, SXG may require Ministerial consent to use this listing.

# Report on an Archaeological Survey of Southern Cross Goldfields Ltd Die Hardy and Red Legs Project

## 1.0 INTRODUCTION

SXG is a gold mining company with tenements in the central Yilgarn region of Western Australia (Fig. 1)

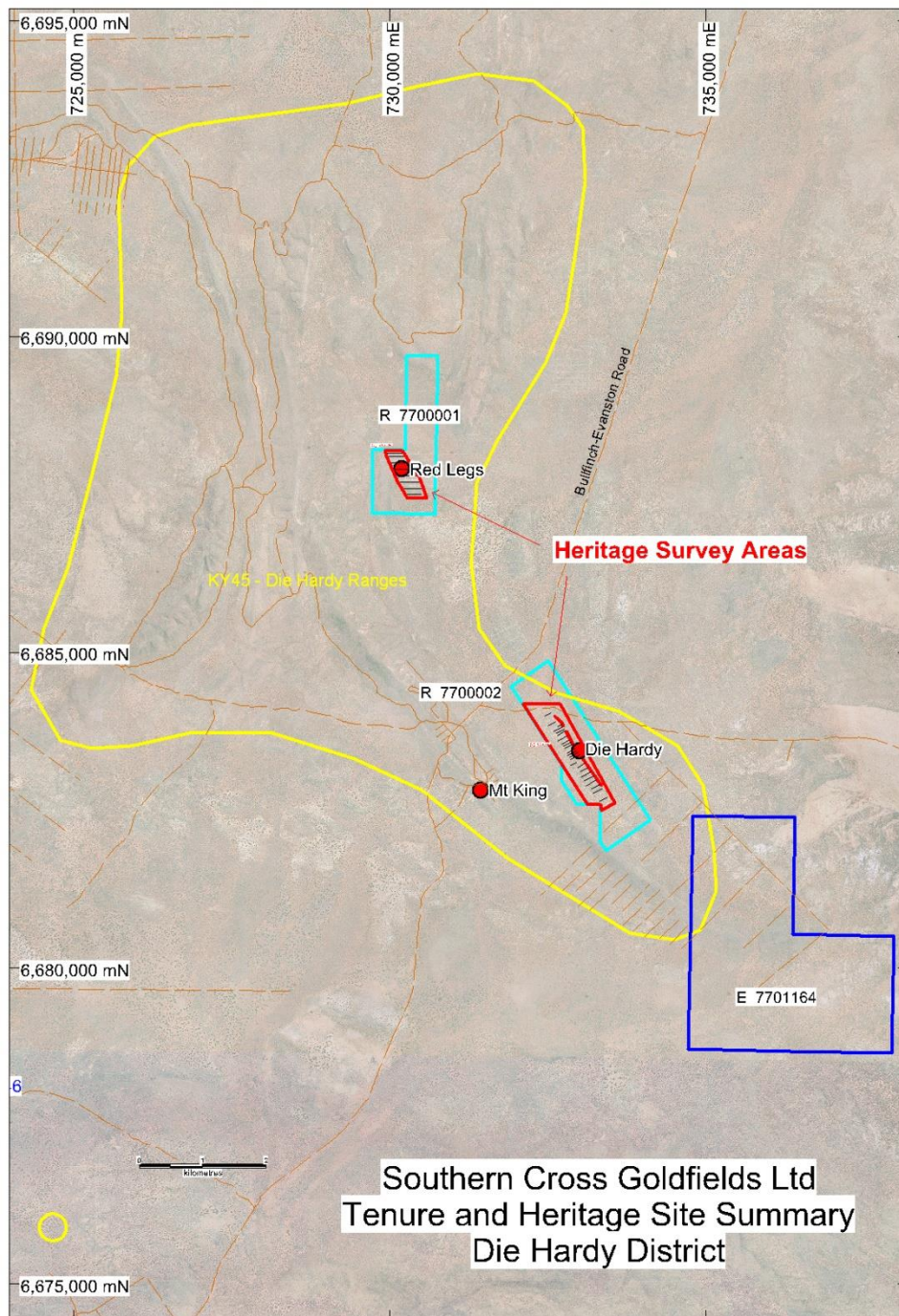


Figure 1 Map showing the locality of the survey areas.

# Report on an Archaeological Survey of Southern Cross Goldfields Ltd Die Hardy and Red Legs Project

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SXG employed the services of R. & E. O'Connor Pty Ltd to undertake an Aboriginal Heritage Study of two project areas that will be subject to mining exploration works, named Red Legs and Die Hardy.

As stated in the Department of Indigenous Affairs website (DIA 2011) the aim of an Aboriginal heritage survey is to:

- Identify any known or potential Aboriginal heritage issues that may affect the project.
- Undertake research and/or consultation that may be required to meet the requirements of the Aboriginal Heritage Act 1972.
- Locate and record Aboriginal sites (if any).
- Make recommendations regarding the management of the sites, including further research and/or consultation that may be required.

Additionally the scope of an archaeological survey is to:

- Establish whether a given piece of land contains physical evidence of past Aboriginal occupation and land use (archaeological sites).
- To record, assess and make recommendations regarding the management of archaeological sites.
- To provide a developer with sufficient information on which to base development planning decisions.

# Report on an Archaeological Survey of Southern Cross Goldfields Ltd Die Hardy and Red Legs Project

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## **2.0 SURVEY AREA**

The survey areas are covered by tenement licences R77/001 and R77/002 and are located 140 kilometres north of Southern Cross, in Western Australia's Yilgarn Region. Die Hardy survey area encompasses 0.8 square kilometres of land north of Mt. Geraldine (Fig 3). Red Legs survey area covers 0.4 square kilometres of land, west of the Bullfinch Evanston Road, north of the Mount Geraldine crossing (Fig 4).

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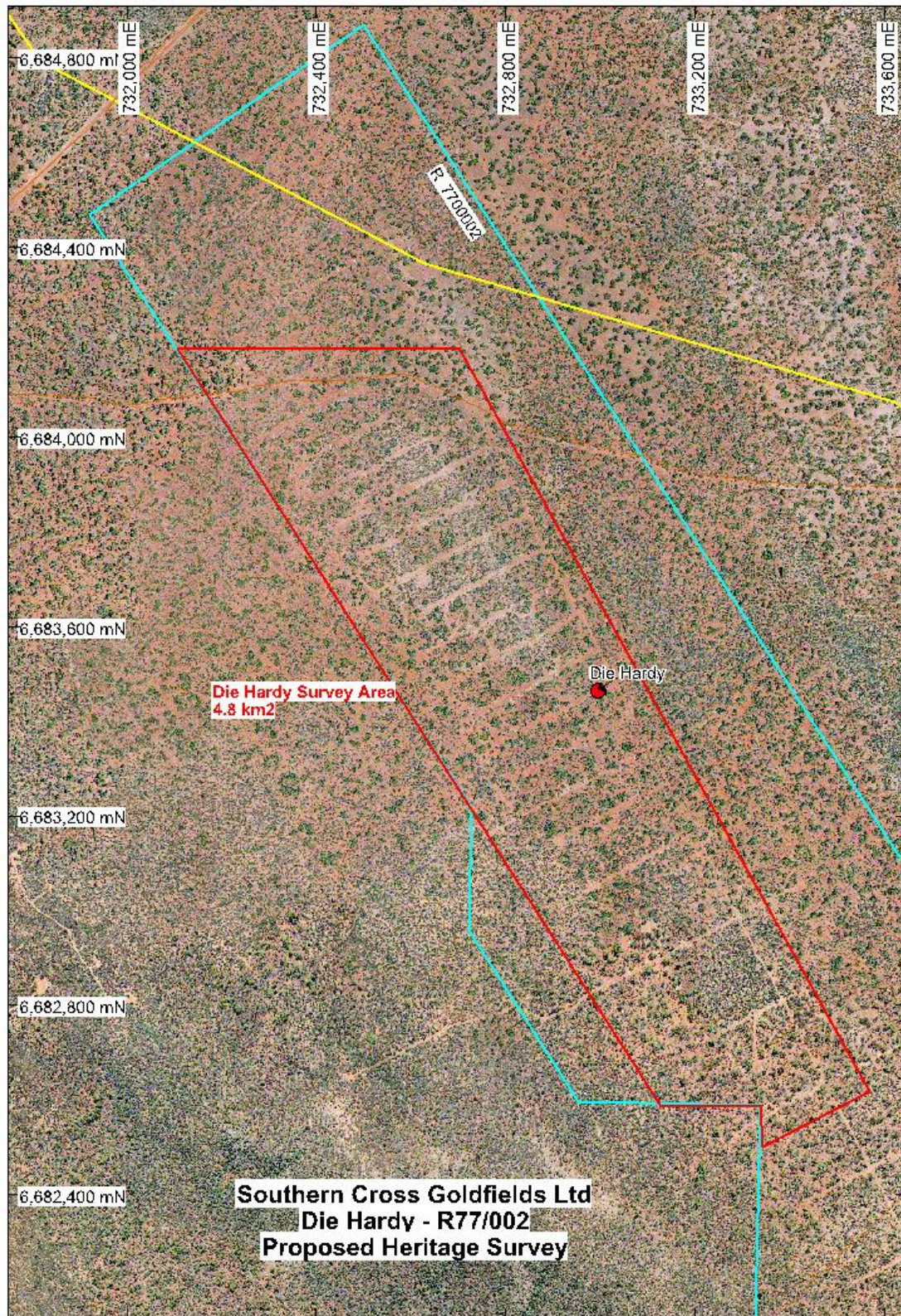


Figure 2. Map of Die Hardy Survey Area

# Report on an Archaeological Survey of Southern Cross Goldfields Ltd Die Hardy and Red Legs Project

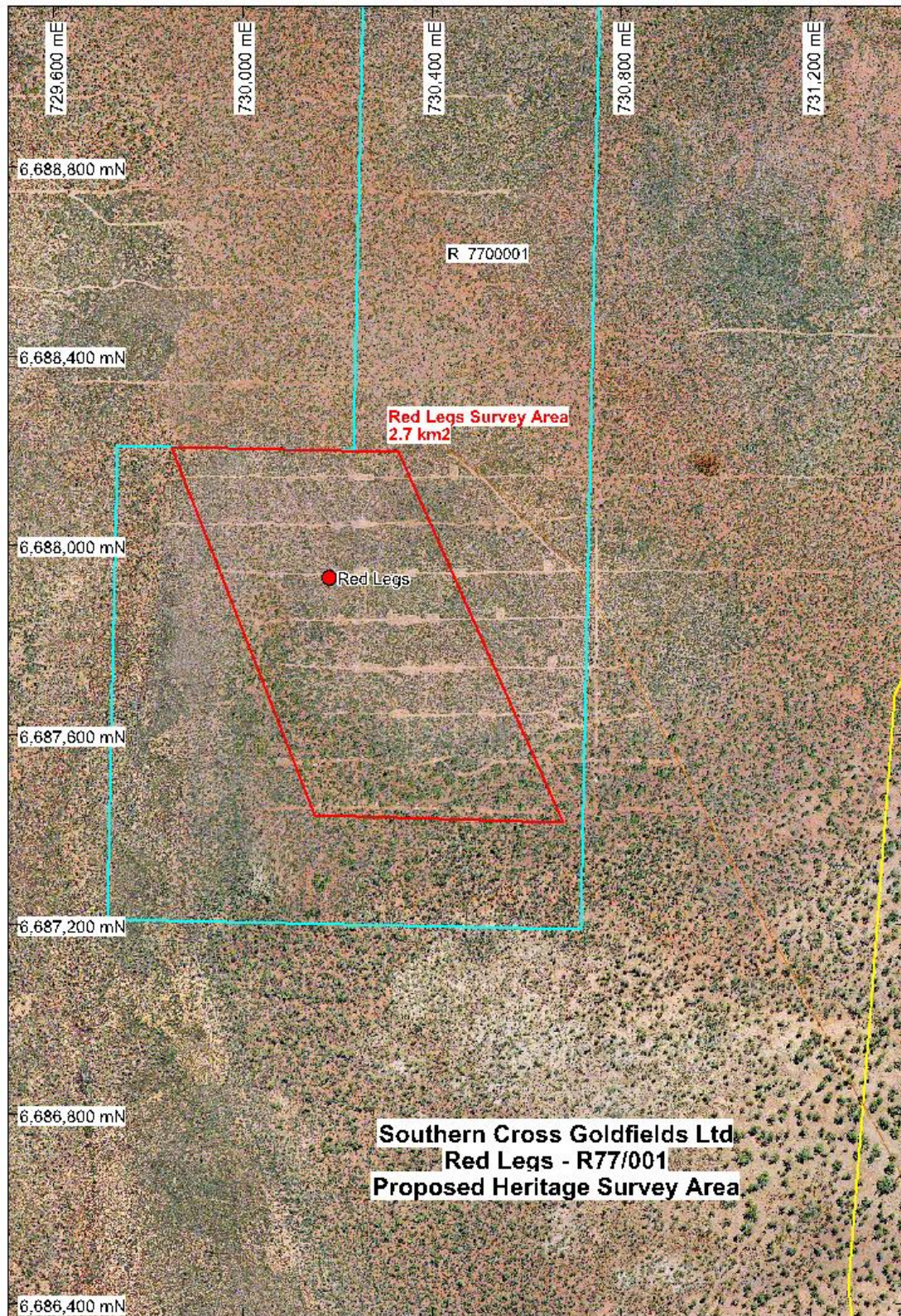


Figure 3. Map of Red Legs Survey Area



# Report on an Archaeological Survey of Southern Cross Goldfields Ltd Die Hardy and Red Legs Project

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## 3.0 ENVIRONMENTAL BACKGROUND

The survey area is characterised by a semi-arid Mediterranean climate, with average rainfalls of 250mm annually, precipitating over one to three months of the year (Beard 1990). Winters are mild and summers hot and dry with maximum temperatures reaching 45°C, leading to high evaporation rates of approximately 2,7800mm per year (Beard 1990). Winter rains are associated with cold fronts whilst, infrequently, thunderstorms may provide heavy falls during summer.

The survey area is located within the Yilgarn Craton, a crustal unit stable since the Proterozoic, formed by intersecting bands of granite and greenstone. The latter tend to form ridges whilst the granitoids may form monolithic or flat pavement features.

The vegetation surrounding the survey area falls within the Coolgardie Botanical District of the South Western Interzone (Beard 1990). Eucalyptus woodlands and thickets dominate lateritic sandplains, characterised by medium to deep silty soils. On granitic soils *Acacia* thickets grow with an *Eremophila* spp. or other succulents undergrowth (Beard 1990).

# Report on an Archaeological Survey of Southern Cross Goldfields Ltd Die Hardy and Red Legs Project

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## **4.0 ARCHAEOLOGICAL BACKGROUND**

Early aboriginal occupation of arid and semi-arid regions of Australia has been dated to 25,000 BP from site such as the Newman Rockshelter in the Pilbara (Maynard 1980). Other excavations at Puntutjarpa in the Gibson Desert (Gould 1977) and at Walga Rock (Bordes et al 1983) have yielded dates of around 10,000 BP.

Researchers (Gould 1980) have elaborated a rain-chasing model to describe the type of Aboriginal adaptation to arid and semi-arid regions. The model proposes an opportunistic water exploitation system, where ephemeral and semi-permanent water sources were utilised prior to the more reliable and permanent sources (Gould 1980, Veth 1989).

Aboriginal colonisation theories for arid and semi-arid ecosystems have been widely debated. Smith (1988) has suggested that availability of water during an earlier lacustral phase would have allowed Aboriginal occupation of the interior of Australia by 12,000 years BP. Occupation of desert lowlands before and during the last glacial maximum would have been abandoned until the amelioration in climate c.15,000 to 7,000 years BP.

Veth (2000) postulated a different model whereby the initial colonisation of the arid regions occurred during the more favourable climatic period of the late Pleistocene, from approximately 25,000 years ago, with a retreat to less arid areas during the 22,000 to 13,000 BP period, and a re-occupation of marginal lands between 13,000 to 5,000 BP. From 5,000 to 1,500 BP all desert ecosystems are thought to have been inhabited due to a re-establishment of regional networks and an intensification of site occupation, ceremonial gatherings and long distance exchange (Veth 2000).

## Report on an Archaeological Survey of Southern Cross Goldfields Ltd Die Hardy and Red Legs Project

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Several dated sites within the survey region have yielded Holocene dates in the range of 2,000 BP near Leinster (Lieberman et al 1977) to 500 BP near Hyden (Bowdler 1989) and 1570 BP at Windimurra (Harris 2002).

According to previous research, the archaeological mark of a rain-chasing model of occupation includes a higher number of low-density artefact scatters around ephemeral water sources and larger sites associated with more permanent water bodies.

# Report on an Archaeological Survey of Southern Cross Goldfields Ltd Die Hardy and Red Legs Project

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## 5.0 DESKTOP STUDY

A search of the DIA Aboriginal Heritage Site Register for sites located within or near the survey areas, identified two relevant sites, namely DIA Site ID 20359 and 31477, and eight relevant heritage survey reports (see Appendix 2 for a copy of the DIA Aboriginal Heritage Inquiry System results). Analysis of these reports assessed that only two reports held original information regarding DIA Site ID 20359, and another two contained information relevant to DIA Site ID 31477.

### 5.1 Relevant Heritage Survey Reports

*Cecchi, J. 2012, "Report on an Archaeological Survey of Radar Iron Ltd Die Hardy Project". Report prepared for Radar Iron Ltd. DIA Heritage Survey Report Id 27264.*

An archaeological survey was undertaken north of Mt. Geraldine in consultation with members of the Sambo and Champion families. The report presents information regarding DIA Site Id 31477. This site is located outside the current project area.

*Cecchi, J. 2011, "Report on an Aboriginal Heritage Survey of Radar Iron Limited's Johnston Range, Evanston and Die Hardy Project Areas. Yilgarn Region, Western Australia". Report prepared for Radar Iron Ltd. DIA Heritage Survey Report Id 27264*

Exploration leases held by Radar Iron Ltd in the Yilgarn Region were surveyed by John Cecchi in consultation with members of the Central West Goldfields People and Kelamaia Kubu(d)n group. Nine previously reported sites were identified via a desktop

## Report on an Archaeological Survey of Southern Cross Goldfields Ltd Die Hardy and Red Legs Project

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study and the survey newly recorded seven sites, including rockshelter, artefact scatter, rockhole and quarry sites. Recommendations included avoidance of breakaway/granite outcrop areas and avoidance of recorded sites. Previously recorded DIA Site ID 20359 was identified as being located within the Die Hardy Project area and requiring a s18 consent for its use. An artefact scatter/reduction area site (named Die Hardy 1) was also recorded within the Die Hardy Project Area.

*Parker, S. & Parker, R. 2001, "Site Identification Survey under the Aboriginal Heritage Act (1972) of tenements in the Koolyanobbing-Windarling areas in the Yilgarn region of Western Australia; Volume 3 of 3; 'Walker and Muir Families of the Ngalia People'. Report prepared for Portman Iron Ore Pty Ltd. DIA Heritage Survey Report Id 19306.*

Sue and Ronald Parker undertook the survey to inspect leases held by Portman Iron Ore in the Yilgarn region of WA, including the Mt. Jackson and Windarling prospects. Although not within the land claim of the Ngalia, Peter Muir, Dolly Walker and Paddy Walker from the Ngalia group were consulted and the survey team recorded approximately fifty sites, all natural features including lakes, ridges, breakaways, granite outcrops, stone pinnacles, clay pans and others. Most of the sites reported were identified as the group travelled to the survey area along the Evanston-Bullfinch Road. Several sites were described as part of Dreaming tracks, whilst others as traditional resource areas. Information on these sites is scant.

## Report on an Archaeological Survey of Southern Cross Goldfields Ltd Die Hardy and Red Legs Project

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*Muir, P., Walker D. 2001, "Heritage Assessment for Portman Iron Ore in the Mt. Jackson Area". Prepared for Portman Iron Ore. DIA Heritage Survey Report Id 106941.*

This is the same survey as that reported by Parker in 2001. This report states that although the Aboriginal people consulted never travelled or belonged to the area under investigation, they deemed to be able to identify, via a set of traditional views and perspectives about the natural world, sites of Aboriginal significance within Portman Iron Ore's leases. In the author's words:

*"None of us ever set eyes on Mount Jackson or Windarling Peaks region before, but with knowledge of the songlines crossing our normal jurisdiction we are able to apply that knowledge to what we see in another jurisdiction and thus arrive at reasonable conclusions as to what there is of heritage value in it."*

The report concludes that the entire survey area within the Portman leases contains a complex of sites, and that the area should be set aside given both its Aboriginal heritage and ecological importance. DIA Site ID 20359 is described as 'large rounded scrub covered hills...of great importance to Aboriginal culture and heritage'. No further information is available regarding the site.

# Report on an Archaeological Survey of Southern Cross Goldfields Ltd Die Hardy and Red Legs Project

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## 5.2 Previously Recorded Sites

- Site ID 20359 “Ky45 Die Hardy Ranges”

Named KY45-Die Hardy Ranges, this is reported as a mythological site centred at 729836mE 6687371mN. The site has a Lodged Status and is placed under Open Access. This site was recorded by Ronald and Sue Parker in 2001, in consultation with the Walker and Muir Families of the Ngalia People. The DIA site file holds the following information regarding this site:

*“As the team travelled southward [on the Bullfinch-Evanston Road], a range of hills, identified as the Die Hardy Ranges, was apparent. To the left, or east, of the road is a prominent hill what was taken to be Mt. Geraldine. At 729856mE 6687380mN the team stopped at a cutting in through the hills where Peter [Muir] explained that the place is an extremely important range of hills within the ‘Tjukurrpa, and asked that the entire feature be recorded as a site complex. Dolly was explaining that the surrounding country-side was an area that included many different ‘Tjukurrpa’ stories and Beings.”*

- Site ID 31477 Die Hardy 1

This site was recorded by Cecchi (2011, 2012) as a highly concentrated artefact scatter and reduction area centred at 733946mE 6680647mN. Approximately 300 artefacts were noted within two metres of the given co-ordinates, with artefact density decreasing to 1-4 artefacts per square metre outside this perimeter, and no artefacts being present further than fifteen metres from the given GPS point. All the artefacts

# Report on an Archaeological Survey of Southern Cross Goldfields Ltd Die Hardy and Red Legs Project

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were produced from very fine-grained and highly siliceous jasperoidal/chert stone. Complete flakes formed the largest portion of the assemblage, with relatively few cores and retouched flakes.

## **5.3 Desktop Conclusion**

DIA Site ID 20359 is located within both survey areas. Given its Lodged status, SXG should apply for Ministerial consent to use this listing.

DIA Site ID 34177 is an artefact scatter located outside the survey area. This site will not be disturbed by the proposed projects.



# Report on an Archaeological Survey of Southern Cross Goldfields Ltd Die Hardy and Red Legs Project

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## **6.0 METHODOLOGY**

Probabilistic pedestrian transects spaced 100 metres and aligned north south were undertaken over the entire survey area. The Aboriginal consultants assisted the field survey by walking parallel to the archaeologist, twenty metres apart.

The field investigation was carried out with the assistance of various scale maps and a hand-held Garmin Map67CSx GPS which is accurate to 10 metres. All co-ordinates given in this report are referenced to WGS84, which approximates to GDA94, and are MGA Zone 50.

The basis for the assessment of archaeological significance and a brief overview of the archaeological terms used in this report are provided below.

### **6.1 Assessing Archaeological Significance**

Assessment of site significance forms the basis of the recommendations made in this report. The standard applied is based on a site's representativeness and research potential (Bowdler 1984). Site significance is therefore assessed on the basis of present knowledge of sites within the area, archaeological techniques, theory and method, all of which may vary with time.

During the survey, the significance of archaeological sites was analysed in regards to its potential to answer the following research questions:

-When was the region initially occupied by Aboriginal people?

-How did economies adapt to environmental and climate changes?

# Report on an Archaeological Survey of Southern Cross Goldfields Ltd Die Hardy and Red Legs Project

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-How do occupational patterns reflect this?

-What stone tool technologies and reduction practices were employed in the area?

-What are the characteristics and what accounts for variables in stone tool production within assemblages and over time?

## 6.2 Definition Of Archaeological Terms

**Stone Structures** are man made arrangements of stones. In the Yilgarn they occur as cairns, standing stones, circles, multiple and singular lines. Some of these structures have ceremonial and, or mythological significance to the Aboriginal consultants.

**Grinding Patches** are polished areas on flat bedrock that result from the action of grinding seeds or other small terrestrials with a rock.

### Scarred Trees

Aboriginal scarred trees reflect several traditional activities involving the removal of bark and wood. A significant amount of Aboriginal cultural material was sourced from the bark and wood of trees to make implements such as shields, sacred boards, shelters and containers. Other scars have been recorded as toe holds made in order to climb trees, or holes within trunks used to smoke out and hunt mammals (Long 2005). Aboriginal scars occur on a variety of tree types and given the variety of purposes for which they were used, appear in a diverse range of sizes and shapes.

Scars on trees formed after the piece of bark or wood is extracted and damage to the cambium results in a drying out of the sapwood, where bark will not be able to grow back again (Long 2005). Overgrowth of bark surrounding the scar may occur and to

## Report on an Archaeological Survey of Southern Cross Goldfields Ltd Die Hardy and Red Legs Project

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such an extent to eventually close or apparently seal the wound, although this new growth will never join with the dry face underneath.

A scar on a tree can also derive from other injuries the bark receives, for example via lightning strike, fire damage, collapse of branches or other trees onto trunk, vehicle collision, surveyors marks, ring barking and faunal damage (Long 2005).

Given the above considerations, it is sometimes difficult to accurately identify a scarred tree as of Aboriginal, European or natural origin.

A **Quarry** may occur wherever outcrops of suitable stone are found. These exhibit a concentration of primary flakes in the artefact assemblage with a relative dense concentration, and may contain the original quarried stone exhibiting hundreds of flake scars.

Because rocks and minerals can fracture as a result of geomorphic or other natural processes flaked stones are classified as **stone artefacts** if they exhibit one or more of the following features (Holdaway & Stern 2004: 108-9):

A positive or negative ring crack

A negative or positive bulb of percussion

An érraillure scar below the point of percussion

Negative flake scars or ridges

Flakes, Cores and Retouched flakes (Tools), are the three main categories of artefacts and their features are detailed below (Hiscock 1984: 129):

**Flakes** must exhibit at least one of the following traits:

A ring crack

# Report on an Archaeological Survey of Southern Cross Goldfields Ltd Die Hardy and Red Legs Project

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A positive bulb of percussion

An érraillure scar below the point of percussion

**Cores** exhibit negative flake scars marking the place where previous flakes were struck. A core may be described as Unidirectional, Bidirectional, Bifacial or Multidirectional depending on the orientation of the flake scars and location of the striking platform (Holdaway & Stern 2004:180-2).

**Retouched Flakes**, also classified as Tools, are stones that show signs of flake scars across their ventral surface and display a ring crack.

# Report on an Archaeological Survey of Southern Cross Goldfields Ltd Die Hardy and Red Legs Project

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## **7.0 FIELD PARTICIPANTS**

The author would like to acknowledge the following members of the Central West Goldfields People for participating in the survey and assisting the archaeologist: Ms. Elizabeth Sambo, Mr. Dennis Sambo, Mr. Leon Coleman and Ms. Yasmine Sambo.

The following Kelamaia Kubu(d)n/ Champion Family members are also gratefully acknowledged for their participation: Mr. George Champion, Mr. Charlie Champion, Ms. Trixie Jackson and Mr. Hayden Graham Jackson.

Acknowledgments are due to SXG geologist Mrs. Mairi Walsh who participated in the first part of the survey and Exploration Manager Mr. Richard Simmons for organising the accommodation.

# Report on an Archaeological Survey of Southern Cross Goldfields Ltd Die Hardy and Red Legs Project

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## **8.0 RESULTS**

No archaeological sites or isolated artefacts of Aboriginal heritage were recorded within Red Legs and Die Hardy survey areas.

## **9.0 DISCUSSION**

Ground visibility at Red Legs survey area was average ranging 50-60%. The survey area has been previously disturbed by mining exploration. Tracks of cleared vegetation representing drill lines and aligned east west, cover the entire survey area, regularly spaced some eighty metres apart.

Die Hardy survey area has also been subject to previous disturbances by exploratory drilling and vegetation clearing. Ground visibility at this survey area was good at above 60%.

DIA Site ID 20359 boundary, as defined by the DIA Site Register, places this listing within both Red Legs and Die Hardy survey areas. Given DIA Site Id 20359 Lodged status SXG should seek consent under s18 of the Act to use this site. Should the APMC resolve that DIA Site Id 20359 does not constitute a site under s5 of the Act, Ministerial consent will not be required to use this site.

# Report on an Archaeological Survey of Southern Cross Goldfields Ltd Die Hardy and Red Legs Project

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## RECOMMENDATIONS

- No Aboriginal archaeological sites have been identified within Red Legs or Die Hardy survey areas.
- No further archaeological research is warranted for Red Legs or Die Hardy survey areas.
- DIA Site ID 20359 “Ky-45 Die Hardy Range” is an ethnographic site with a Lodged status. Given that the boundaries for this listing locate it within both survey areas, SXG may require Ministerial consent for use of this listing.

# Report on an Archaeological Survey of Southern Cross Goldfields Ltd Die Hardy and Red Legs Project

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## Report on an Archaeological Survey of Southern Cross Goldfields Ltd Die Hardy and Red Legs Project

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**APPENDIX 1- EXTRACT OF ABORIGINAL HERITAGE ACT 1972**

**Part IV — Protection of Aboriginal sites**

15. Report of findings

Any person who has knowledge of the existence of any thing in the nature of Aboriginal burial grounds, symbols or objects of sacred, ritual or ceremonial significance, cave or rock paintings or engravings, stone structures or arranged stones, carved trees, or of any other place or thing to which this Act applies or to which this Act might reasonably be suspected to apply shall report its existence to the Registrar, or to a police officer, unless he has reasonable cause to believe the existence of the thing or place in question to be already known to the Registrar.

*[Section 15 amended by No. 24 of 1995 s. 16.]*

16. Excavation of Aboriginal sites

- (1) Subject to section 18, the right to excavate or to remove any thing from an Aboriginal site is reserved to the Registrar.
- (2) The Registrar, on the advice of the Committee, may authorise the entry upon and excavation of an Aboriginal site and the examination or removal of any thing on or under the site in such manner and subject to such conditions as the Committee may advise.

*[Section 16 amended by No. 8 of 1980 s. 5; No. 24 of 1995 s. 17.]*

17. Offences relating to Aboriginal sites

A person who —

- (a) excavates, destroys, damages, conceals or in any way alters any Aboriginal site; or
- (b) in any way alters, damages, removes, destroys, conceals, or who deals with in a manner not sanctioned by relevant custom, or assumes the possession, custody or control of, any object on or under an Aboriginal site,

commits an offence unless he is acting with the authorisation of the Registrar under section 16 or the consent of the Minister under section 18.

*[Section 17 inserted by No. 8 of 1980 s. 6; amended by No. 24 of 1995 s. 18.]*

**APPENDIX 2- DIA SITE REGISTER SEARCH RESULTS**

## Search Criteria

8 survey reports with information on the sites in a search polygon. The polygon is formed by these points (in order):

MGA Zone 50	
Northing	Easting
6691517	726857
6685963	739811
6679245	739466
6678826	726244

## Disclaimer

Reports shown may not be held at DIA. Please consult report holder for more information. Refer to [www.dia.wa.gov.au/heritage](http://www.dia.wa.gov.au/heritage) for information on requesting reports held by DIA.

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## Legend

### Access

Some reports are restricted. The type of restriction is shown as a code in brackets following the catalogue number. No code indicates an unrestricted report.

[CLOSED]	Closed
[OWE]	Open with exception
[TBD]	To be determined
[RESTRICTED PENDING]	Restricted pending

Report ID	Catalogue Number	Title	Author	Old Ref No.
21739	HSR G 2005 GLE	A report of an ethnographic survey for a proposed mineral exploration program at Evanston, WA with the Ballardong NT Claimant Group	Glendenning, Wayne	2269 05
21738	HSR G 2004 GLE	A report of an ethnographic survey for a proposed mineral exploration program at Evanston, WA with the Gubrun People and the Central West NT Claimant Group	Glendenning, Wayne	2270 05
23253	HSR G 2008 OCO	Aboriginal Heritage Survey of Portman Iron Ore Limited Diemals Station Drilling Programmes	R & E O'Connor Pty Ltd	3252 08
27263	HSR G 2012 OCO [TBD]	Ethnographic Survey of P77/3461 and P77/3462	R & E O'Connor Pty Ltd	4822/12
106941	HSR G 2001 MUI [OWE]	Heritage assessment for Portman Iron Ore Mining Co Pty Ltd	Muir, Peter	1306 03
27262	HSR G 2011 CEC [TBD]	Report on an Aboriginal Heritage Survey of Radar Iron Limited's Johnston Range, Evanston and Die Hardy Project Areas, Yilgarn Region, WA	Cecchi, John	4821/12
27264	HSR G 2012 CEC [TBD]	Report on an Archaeological Survey of Radar Iron Ltd Die Hardy Project	Cecchi, John	4823/11
19306	HSR MW 2001 PAR [OWE]	Site identification survey under the Aboriginal Heritage Act (1972) of tenements in the Koolyanobbing - Windarling areas in the Yilgarn region of Western Australia Volume 3 of 3 'Walker and Muir Families of the Ngalia People'	Parker, Susan	0835 01



## Search Criteria

2 sites in a search polygon. The polygon is formed by these points (in order):

MGA Zone 50	
Northing	Easting
6691517	726857
6685963	739811
6679245	739466
6678826	726244



## Disclaimer

Aboriginal sites exist that are not recorded on the Register of Aboriginal Sites, and some registered sites may no longer exist. Consultation with Aboriginal communities is on-going to identify additional sites. The AHA protects all Aboriginal sites in Western Australia whether or not they are registered.

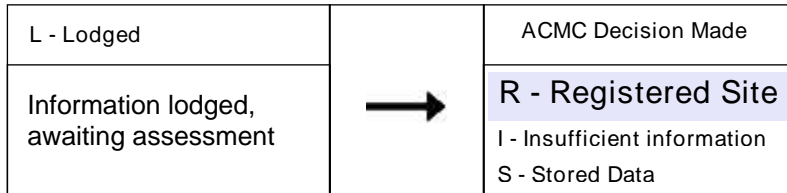
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## Legend

Restriction	Access	Coordinate Accuracy
N No restriction	C Closed	Accuracy is shown as a code in brackets following the site coordinates.
M Male access only	O Open	[Reliable] The spatial information recorded in the site file is deemed to be reliable, due to methods of capture.
F Female access	V Vulnerable	[Unreliable] The spatial information recorded in the site file is deemed to be unreliable due to errors of spatial data capture and/or quality of spatial information reported.

## Status



## Spatial Accuracy

Index coordinates are indicative locations and may not necessarily represent the centre of sites, especially for sites with an access code "closed" or "vulnerable". Map coordinates (Lat/Long) and (Easting/Northing) are based on the GDA 94 datum. The Easting / Northing map grid can be across one or more zones. The zone is indicated for each Easting on the map, i.e. '5000000:Z50' means Easting=5000000, Zone=50.

## Sites Shown on Maps

Site boundaries may not appear on maps at low zoom levels





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## List of Registered Aboriginal Sites with Map

No results



### Legend

- Selected Heritage Sites
- Registered Sites
- Town
- Map Area
- Search Area

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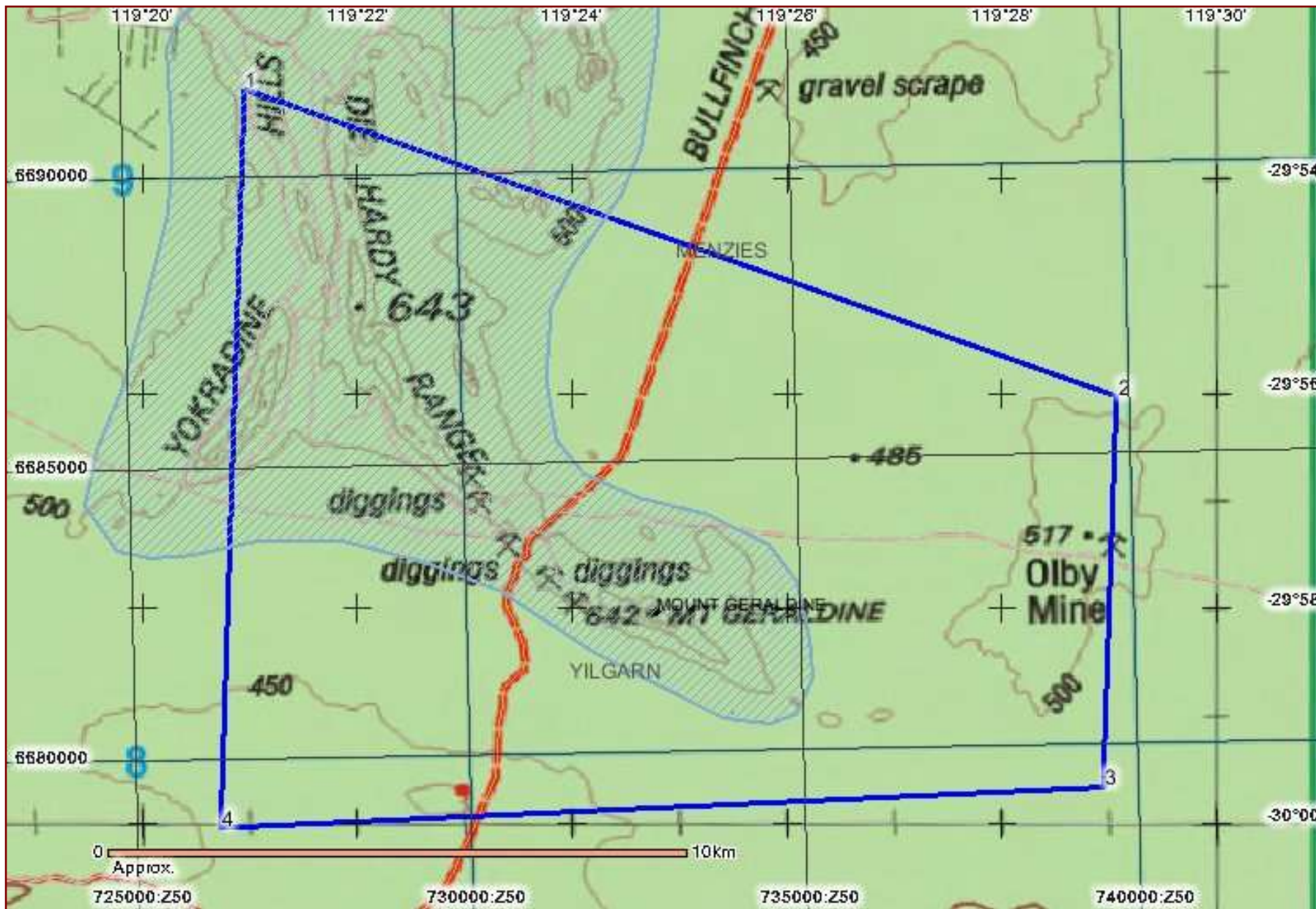
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## List of 2 Other Heritage Places with Map

Site ID	Status	Access	Restriction	Site Name	Site Type	Additional Info	Informants	Coordinates	Site No.
20359	L	O	N	Ky45 - Die Hardy Ranges	Mythological	Natural Feature	*Registered Informant names available from DIA.	729836mE 6687371mN Zone 50 [Reliable]	
31477	L	O	N	Die Hardy 1	Artefacts / Scatter		*Registered Informant names available from DIA.	733945mE 6680648mN Zone 50 [Reliable]	



### Legend

- Selected Heritage Sites
- Other Heritage Places
- Town
- Map Area
- Search Area

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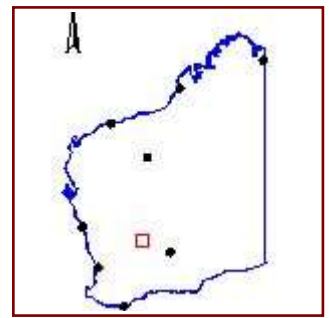
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## Map Showing Registered Aboriginal Sites and Other Heritage Places



### Legend

- Selected Heritage Sites
- Registered Sites
- Other Heritage Places
- Town
- Map Area
- Search Area

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**2013**

**REPORT ON AN ABORIGINAL  
HERITAGE SURVEY OF  
SOUTHERN CROSS  
GOLDFIELDS LTD MARDA  
GOLD PROJECT ADDITIONAL  
AREAS AND DIE HARDY ROAD  
WIDENING**

**John B. Cecchi**

**January 2013**

REPORT ON AN ABORIGINAL HERITAGE SURVEY OF SOUTHERN  
CROSS GOLDFIELDS LTD MARDA GOLD PROJECT ADDITIONAL  
AREAS AND DIE HARDY ROAD WIDENING

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All co-ordinates given by this reports are MGA Zone 50, referenced to WGS 84, which approximates to GDA 94.



# REPORT ON AN ABORIGINAL HERITAGE SURVEY OF SOUTHERN CROSS GOLDFIELDS LTD MARDA GOLD PROJECT ADDITIONAL AREAS AND DIE HARDY ROAD WIDENING

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## EXECUTIVE SUMMARY

Southern Cross Goldfields Ltd (SXG) is a mining company with tenements in the Yilgarn region of Western Australia. SXG is proposing to mine gold deposits north of Southern Cross in the Mt Jackson and Marda area. The project will entail open pit mining of Marda, Golden Orb and King Brown deposits and construction of haulage roads. Ancillary infrastructure will include an airstrip, workforce camp, sewage treatment and disposal ponds, landfill, processing plant, tails storage facility and a diesel fired power plant. Previous Aboriginal heritage surveys have been commissioned to inspect the proposed development areas in consultation with Aboriginal stakeholders (Cecchi 2011, 2012a, 2012b).

R. & E. O'Connor Pty Ltd was engaged in December 2012 to undertake an Aboriginal heritage survey of additional areas proposed for development in consultation with relevant Aboriginal community representatives. Prior to the field survey, cultural heritage consultant John Cecchi undertook a desktop research and analysed relevant information held in the Department of Indigenous Affairs Site Register including past heritage survey reports and previously reported sites. Information on the survey region's archaeological, ethnographic and environmental background were also researched. A search of the Department of Indigenous Affairs Site Register revealed that there are no registered Aboriginal heritage sites within or near the survey area. Relevant heritage survey reports were analysed and found to contain no information regarding the survey area.

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John Cecchi undertook the field survey in December 2012 with Aboriginal representatives for Central West Goldfields People and Sambo Family Ms. Elizabeth Sambo, Mr. Lonnie Coleman, Mrs. Desley Richards and Ms. Gina Sambo. Members of the Kelemaia Kubu(d)n and Champion Family were consulted on a separate field trip and were represented by Mr. George Champion, Mr. Simon Champion, Mr. Kyron Tucker and Mr. Andrew Champion.

The field survey methodology employed probabilistic and purposive pedestrian transects. The probabilistic survey methodology was carried out via east-west aligned pedestrian transects spaced 100 metres apart, with the Aboriginal representatives surveying on either side of the cultural heritage consultant spaced fifteen to thirty metres apart. This survey methodology was used to survey the additional areas at Marda. Purposive pedestrian transect aligned along the proposed route were carried out to survey the connecting road between areas at Marda, and the Die Hardy road widening, with walkers spaced ten to fifteen metres apart. Aerial photographs of the survey area, cadastral maps and a handeld Garmin GPS Map CSx76, accurate to ten metres, aided the field survey.

The survey identified some isolated stone artefact material. A small scatter likely representing a reduction area, with artefacts manufactured exclusively from chert was located at 711337mE 6659906mN. This scatter covers an area approximately fifteen metres square and contains fifteen flakes, two flake fragments, three cores and one blade. The Aboriginal people consulted did not deem these artefacts to represent a significant area of Aboriginal heritage.

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The field survey did not identify any sites of Aboriginal heritage and the Aboriginal representatives have approved use of the survey areas.

# REPORT ON AN ABORIGINAL HERITAGE SURVEY OF SOUTHERN CROSS GOLDFIELDS LTD MARDA GOLD PROJECT ADDITIONAL AREAS AND DIE HARDY ROAD WIDENING

## 1.0 INTRODUCTION

Southern Cross Goldfields Limited (SXG) is a gold mining company with prospects in the central Yilgarn region, near Southern Cross (Figure 1). SXG is proposing to mine Marda, King Brown and Golden Orb gold deposits. The project area has been surveyed previously (Cecchi 2011, 2012a, 2012b). Additional areas have been proposed for development in the Marda and Die Hardy areas. Prior to any disturbances SXG engaged R. & E. O'Connor Pty Ltd to consult with relevant Aboriginal stakeholders and carry out an Aboriginal heritage survey of the proposed development area. The survey aimed to identify and record any Aboriginal heritage sites and, or issues, and provide suitable management recommendations to enable SXG to abide by relevant State and Commonwealth legislation.

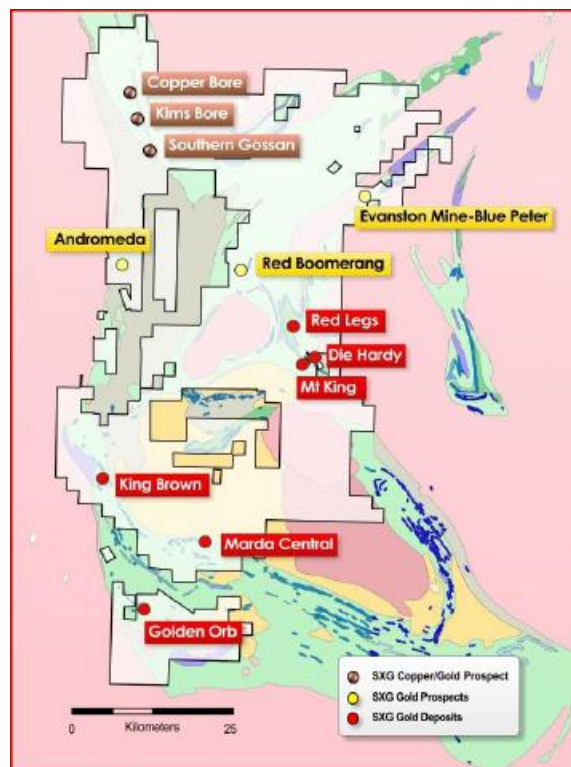


Figure 1. Gold Mining Tenements held by SXG (SXG 2012)

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## 1.1 Brief

Southern Cross Goldfields Limited commissioned R. & E. O'Connor Pty Ltd to undertake an Aboriginal heritage survey of the proposed Marda Gold Project Additional Areas and Die Hardy Road Widening in consultation with relevant Aboriginal stakeholders.

As stated in the DIA website (DIA 2011) the aim of an Aboriginal heritage survey is to:

- Identify any known or potential Aboriginal heritage issues that may affect the project.
- Undertake research and/or consultation that may be required to meet the requirements of the Aboriginal Heritage Act 1972 (the Act).
- Locate and record Aboriginal sites (if any).
- Make recommendations regarding the management of the sites, including further research and/or consultation that may be required.

Additionally the scope of an ethnographic survey is to:

- Undertake consultation with all people who have a valid interest in, are knowledgeable about and/or who have traditional rights and obligations in the study area
- Document all discussions and decisions by groups or individuals, including any limitations to information
- Identify sites
- Document any recommendations and conditions voiced by the Aboriginal consultants
- Document any other relevant Aboriginal heritage issues
- Analyse the above information against the development proposal to provide the basis for the development of planning recommendations

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## 2.0 SURVEY AREA

The proposed Marda Gold Project is situated in the Yilgarn Region of Western Australia, between 115 to 145 kilometres north of Southern Cross. The following areas were surveyed (Figures 2 and 3):

1. A 3.7 kilometre long road widening north of Die Hardy Range (Figure 3); and
2. Additional Areas at Marda, one with a connecting access track to Mount Jackson Road (Figure 2).

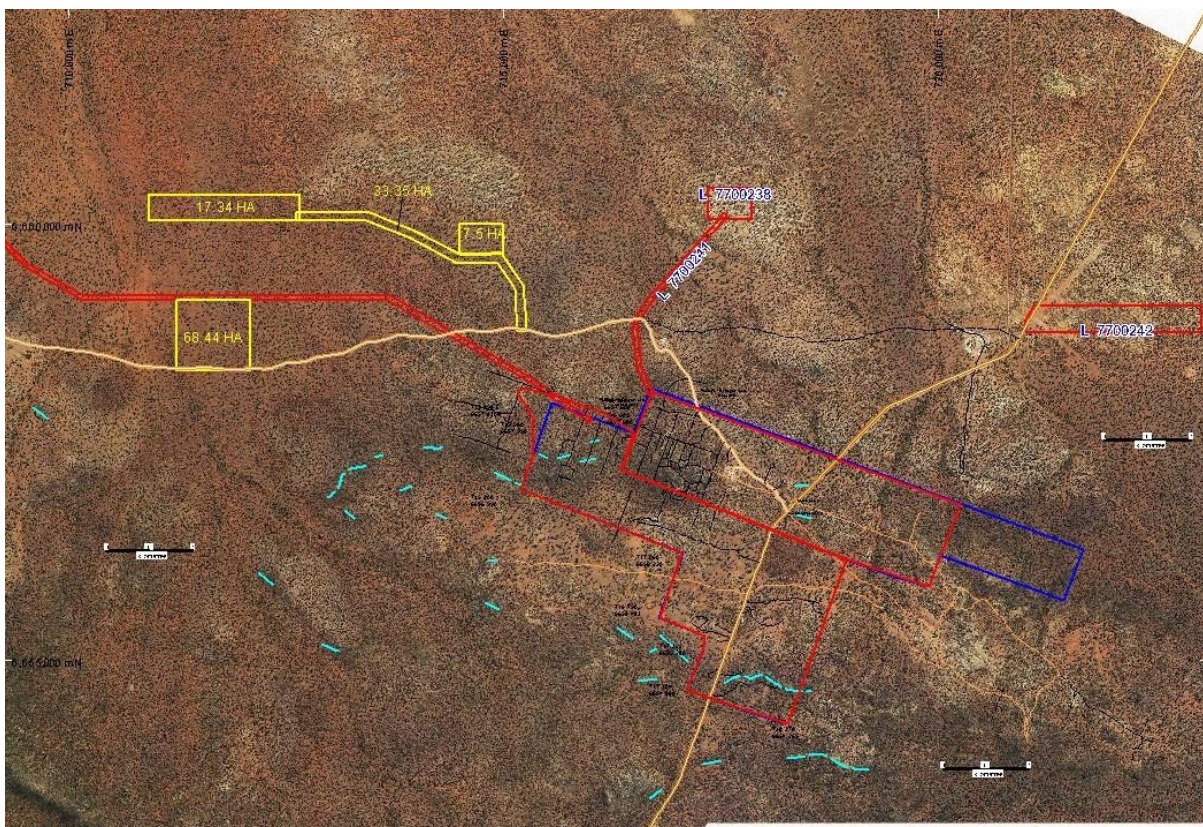


Figure 2. Marda Additional survey areas outlined in yellow.

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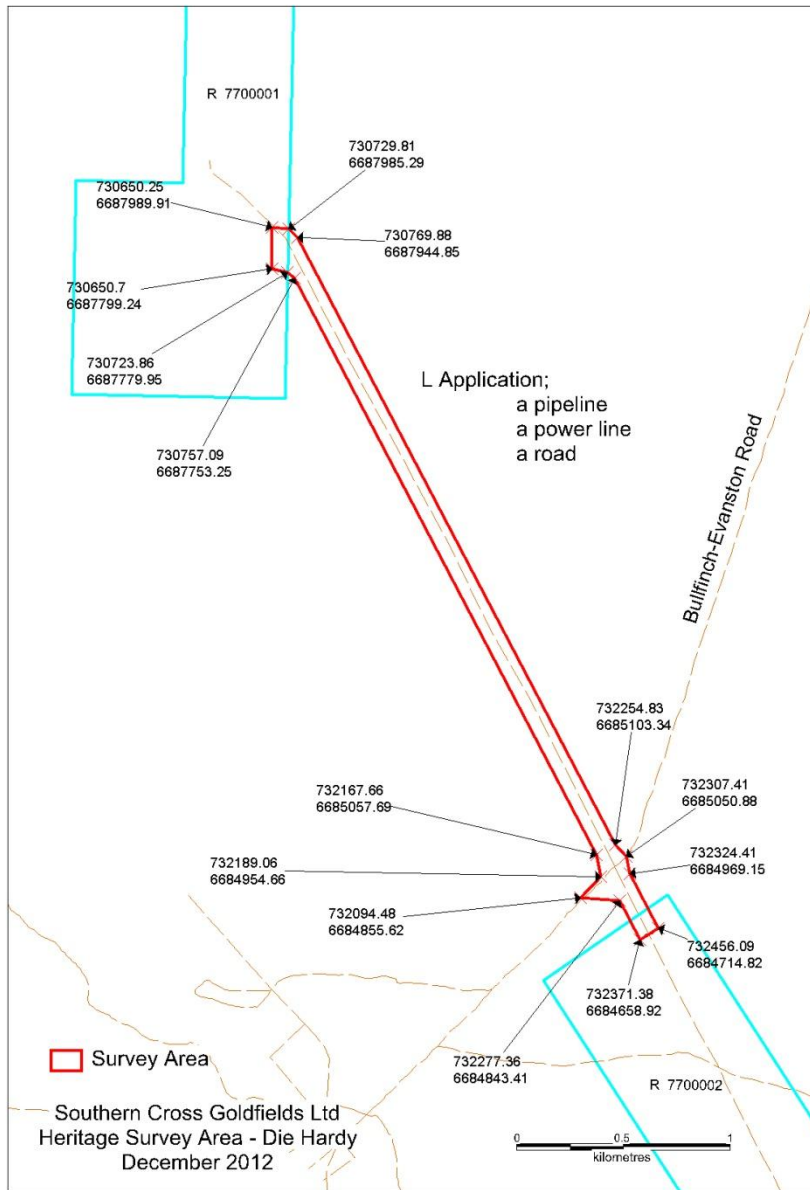


Figure 3. Road Widening Survey Area



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## **3.0 ENVIRONMENTAL BACKGROUND**

The survey area is characterised by a semi-arid Mediterranean climate, with average rainfalls of 250mm annually, precipitating over one to three months of the year (Beard 1990). Winters are mild and summers hot and dry with maximum temperatures reaching 45°C, leading to high evaporation rates of approximately 2,780mm per year (Beard 1990). Winter rains are associated with cold fronts whilst, infrequently, thunderstorms may provide heavy falls during summer.

The survey area is located within the Yilgarn Craton, a crustal unit stable since the Proterozoic, formed by intersecting bands of granite and greenstone. The latter tend to form ridges whilst the granitoids may form monolithic or flat pavement features.

The vegetation surrounding the survey area falls within the Coolgardie Botanical District of the South Western Interzone (Beard 1990). Eucalyptus woodlands and thickets dominate lateritic sandplains, characterised by medium to deep silty soils. On granitic soils *Acacia* thickets grow with an *Eremophila* spp. or other succulents undergrowth (Beard 1990).

## **4.0 ARCHAEOLOGICAL BACKGROUND**

Early aboriginal occupation of arid and semi-arid regions of Australia has been dated to 25,000 BP from sites such as the Newman Rockshelter in the Pilbara (Maynard 1980). Other excavations at Puntutjarpa in the Gibson Desert (Gould 1977) and at Walga Rock (Bordes et al 1983) have yielded dates of around 10,000 BP.

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Aboriginal colonisation theories for arid and semi-arid ecosystems have been widely debated. Smith (1988) has suggested that availability of water during an earlier lacustral phase would have allowed Aboriginal occupation of the interior of Australia by 12,000 years BP. Occupation of desert lowlands before and during the last glacial maximum would have been abandoned until the amelioration in climate c.15,000 to 7,000 years BP.

Veth (2000) postulated a different model whereby the initial colonisation of the arid regions occurred during the more favourable climatic period of the late Pleistocene, from approximately 25,000 years ago, with a retreat to less arid areas during the 22,000 to 13,000 BP period, and a re-occupation of marginal lands between 13,000 to 5,000 BP. From 5,000 to 1,500 BP all desert ecosystems are thought to have been inhabited due to a re-establishment of regional networks and an intensification of site occupation, ceremonial gatherings and long distance exchange, inferred from an increase in late Holocene dated sites and an increase in artefact densities and assemblage complexity (Veth 2000).

Researchers (Gould 1980) have elaborated a rain-chasing model to describe the type of Aboriginal adaptation to arid and semi-arid regions. The model proposes an opportunistic water exploitation system, where ephemeral and semi-permanent water sources were utilised prior to the more reliable and permanent sources (Gould 1980, Veth 1989).

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Several dated sites within the survey region have yielded Holocene dates in the range of 2,000 BP near Leinster (Lieberman et al 1977) to 500 BP near Hyden (Bowdler 1989) and 1570 BP at Windimurra (Harris 2002).

According to previous research, the archaeological mark of a rain-chasing model of occupation includes a higher number of low-density artefact scatters around ephemeral water sources and larger sites associated with more permanent water bodies.

## 5.0 LINGUISTIC GROUPS

Little agreement has been reached by earlier writers in regards to pre-contact tribal boundaries and social organisation of tribes in Western Australia. Historical factors causing mass Aboriginal displacement and high death rates have increased the difficulty in accurately identifying the traditional local organisation of groups in Western Australia. The survey area is situated within a distinct transitional cultural zone between what Berndt refers to as the Western Desert Culture Bloc to the east, and the *Nyoongar* Aboriginal groups to the west (Berndt 1980). Currently, the Aboriginal people that occupy the Desert region east of the survey area are generally referred, to as 'Wongis'.

Bates (1985), who conducted ethnographic studies in the area in the early twentieth century, divided Aboriginal groups of Western Australia into six nations. Those living within the Southern Cross region she labelled the *Karratjibbin* cultural group, with a territory that:

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*"...Ran from Mt. Jackson in the North (about Lat. 30°20') trough the Southern Cross district towards the Dundas area...West and south of Kalgoorlie and Coolgardie, northward towards Mt. Jacskon, westward to Southern Cross and south towards and beyond Norseman".*

These groups also exhibited a different organisation to surrounding groups in that they possessed a two-moiety system that married within itself to produce the other moiety. Bates also stated that groups within this nation held rights of possession to certain water holes, hills, soaks and springs (Bates 1985).

Aboriginal groups generally follow maps by Tindale (1974), which state that the Yilgarn region was traditionally occupied by the *Kelamaia*, their territory extending from:

*"...Boorabbin and Southern Cross, east ot Bullabulling, North to Youanmi. Lake Barlee and Pigeon Rocks, West to Buracoppin, Mukinbudin, Kalannie and Lake Moore, South to Mt Holland and Parker Range."*

It has been noted that Tindale (1974) refers to the *Kelemaia* with regards to the language spoken and that the *Kabu(d)n* was the name of the group (O'Connor 2008).

## **5.1 Aboriginal stakeholder groups**

The Central West Goldfields People and Kelamaia Kubu(d)n group are stakeholders in the project given that these groups have been extensively involved in heritage surveys within the survey region, and continue to hold active interest of that region.

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As neither of these groups is registered under Section 190A of the Native Title Act (1993), they do not hold the Right to Negotiate under Section 25 of that Act.

## **6.0 METHODOLOGY**

Prior to the field survey a search of the DIA Heritage Inquiry System was undertaken to identify and study previously recorded sites within or near the survey area, and any relevant heritage survey reports. The results were presented to the Aboriginal representatives before the commencement of the field survey, together with maps highlighting the location and extent of the proposed Marda Gold Project Additional Areas and Die Hardy Road Widening.

Probabilistic pedestrian transects spaced 100 metres and aligned east west were undertaken over the proposed Marda Project Additional Areas. The connecting track to the Mount Jackson Road and the Die Hardy Road widening were surveyed via purposive pedestrian transect aligned along the proposed route with the Aboriginal consultants surveying on either side of the Cultural Heritage Consultant, spaced ten to fifteen metres apart.

The field investigation was carried out with the assistance of various scale maps and a hand-held Garmin Map67CSx GPS which is accurate to 10 metres. All co-ordinates given in this report are referenced to WGS84, which approximates to GDA94, and are MGA Zone 50.

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## 7.0 DEFINITION OF ARCHAEOLOGICAL TERMS

### Scarred Trees

Aboriginal scarred trees reflect several traditional activities involving the removal of bark and wood. A significant amount of Aboriginal cultural material was sourced from the bark and wood of trees to make implements such as shields, sacred boards, shelters and containers. Other scars have been recorded as toe holds made in order to climb trees, or holes within trunks used to smoke out and hunt mammals (Long 2005). Aboriginal scars occur on a variety of tree types and given the variety of purposes for which they were used, appear in a diverse range of sizes and shapes.

Scars on trees formed after the piece of bark or wood is extracted and damage to the cambium results in a drying out of the sapwood, where bark will not be able to grow back again. Overgrowth of bark surrounding the scar may occur and to such an extent to eventually close or apparently seal the wound, although this new growth will never join with the dry face underneath.

A scar on a tree can also derive from other injuries the bark receives, for example via lightning strike, fire damage, collapse of branches or other trees onto trunk, vehicle collision, surveyors marks, ring barking and faunal damage. Given these considerations, it is sometimes difficult to accurately identify a scarred tree as of Aboriginal, European or natural origin.

Long (2005) provides the following guidelines to assess the whether a scar on a tree is from natural or incidental types of scarring:

- What impacts have occurred in the vicinity of the scar?

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- How old is the tree on which the scar occurs, and how long has the scar been there?
- What impacts have occurred to the tree, and can you work out the order in which they have occurred?
- Can you identify the form and size of the original scar on the tree?

An epicormic shoot or stem will be located immediately below a section of damaged trunk which interrupts the connection between the roots and the canopy and is a common feature associated with cultural scars (Long 2005).

If the scar occurs on a dead tree, an arborist could perhaps indicate when the tree died, how old the tree was at the time of death and provide an estimate of the time between scarification and death of the tree. This information would provide a possible time span for the production of the scar on the tree. C-14 dating and growth ring counting can provide accurate dates for the age of the tree.

A **Quarry** may occur wherever outcrops of suitable stone are found. These exhibit a concentration of primary flakes in the artefact assemblage with a relative dense concentration, and may contain the original quarried stone exhibiting hundreds of flake scars.

Because rocks and minerals can fracture as a result of geomorphic or other natural processes flaked stones are classified as **stone artefacts** if they exhibit one or more of the following features (Holdaway & Stern 2004: 108-9):

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A positive or negative ring crack

A negative or positive bulb of percussion

An érraillure scar below the point of percussion

Negative flake scars or ridges

Flakes, Cores and Retouched flakes (Tools), are the three main categories of artefacts and their features are detailed below (Hiscock 1984: 129):

**Flakes** must exhibit at least one of the following traits:

A ring crack

A positive bulb of percussion

An érraillure scar below the point of percussion

**Cores** exhibit negative flake scars marking the place where previous flakes were struck.

A core may be described as Unidirectional, Bidirectional, Bifacial or Multidirectional depending on the orientation of the flake scars and location of the striking platform (Holdaway & Stern 2004:180-2).



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**Retouched Flakes**, also classified as Tools, are stones that show signs of flake scars across their ventral surface and display a ring crack.

## 8.0 ASSESSING ARCHAEOLOGICAL SIGNIFICANCE

Assessment of site's significance forms the basis of the recommendations made in this report. The standard applied is based on a site's representativeness and research potential (Bowdler 1984). Site significance is therefore assessed on present knowledge of sites within the area, archaeological techniques, theory and method, all of which may vary in time.

During the survey, the significance of archaeological sites was analysed in regards to its potential to answer the following research questions:

- When was the region initially occupied by Aboriginal people?
- How did economies adapt to environmental and climate changes?
- How do occupational patterns reflect this?
- What stone tool technologies and reduction practices were employed in the area?
- What are the characteristics and what accounts for variables in stone tool production within assemblages and over time?

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## **9.0 RELEVANT HERITAGE SURVEY REPORTS**

R. & E. O' Connor Pty Ltd has conducted several heritage surveys in the region in relation to Southern Cross Goldfields exploration programme (Cecchi 2011, 2012a, 2012b). Several other Aboriginal heritage surveys have been undertaken in the region for various mining companies resulting in the identification of several artefact scatter, stone structure, rockhole and scarred tree sites. Two rockshelter sites were excavated in the vicinity of Windarling and Mt. Dimer, the latter with participation from the author, yielding occupation dates from nine hundred to five hundred years ago.

## **10.0 FIELD PARTICIPANTS**

The author would like to acknowledge the following members of the Central West Goldfields People/ Sambo Family for participating in the survey: Ms. Elizabeth Sambo, Mr. Lonnie Coleman, Ms. Gina Sambo and Mrs. Desley Richards.

The following Kelamaia Kubu(d)n/ Champion Family members are also gratefully acknowledged for their participation: Mr. George Champion, Mr. Simon Champion, Mr. Kyron Tucker, and Mr. Andrew Champion.

Signed statements of consultation and project approval for both Aboriginal groups are attached under Appendix A.

Acknowledgments are made to Exploration Manager Mr. Richard Simmons for organising the accommodation and preparing the survey maps.

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## 11.0 RESULTS

The field survey did not identify any areas of Aboriginal heritage significance. Several isolated stone artefacts were recorded throughout the survey area, the isolated artefacts were produced mainly from chert with just two quartz artefacts recorded.

A small scatter likely representing a reduction area, with artefacts manufactured exclusively from chert, was located at 711337mE 6659906mN. The artefacts covered an area approximately fifteen metres. Fifteen flakes, two flake fragments, three cores and one blade were recorded. The Aboriginal people consulted did not deem these artefacts to represent a significant area of Aboriginal heritage.

**Figure 4. Isolated Artefacts**

	<b>Artefact Type</b>	<b>Lithic Type</b>	<b>GPS Co-ordinates</b>
1	Flake	Quartz	712724 6658716
2	Backed Blade	Chert	712724 6658716
3	Retouched Flake	Quartz	712386 6658638
4	Blade	Chert	712386 6658638
5	Nosed Edge Scraper	Quartz	711626 6658657
6	Blade	Chert	712865 6658752
7	Notched Side Scraper	Chert	712610 6659086
8	Core	Chert	711937 6659907
9	Core	Chert	711937 6659907
10	Core	Chert	711937 6659907
11	Broken Point	Chert	710563 6659912
12	Blade	Chert	710563 6659912
13	Blade	Chert	710563 6659912
14	Blade	Chert	710563 6659912
15	Flake	Chert	711305 6660006

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Figure 5. Isolated Chert Flake

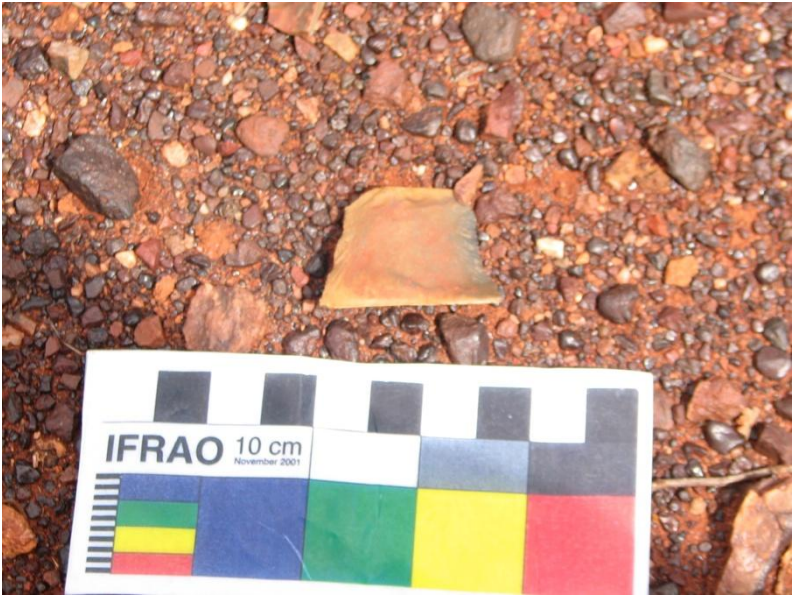


Figure 6. Isolated Chert Flake

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## **12.0 DISCUSSION**

Representatives of Central West Goldfields People and Kelamaia Kubu(d)n Claim groups surveyed additional areas to be developed by Southern Cross Goldfields for the Marda Gold Project. The Aboriginal people undertook systematic pedestrian transects over the survey area to ascertain whether any areas of Aboriginal heritage may be located within the project area. The field survey was carried out with the assistance of a Garmin GPS 76CSx Map, topographic and aerial maps, with the Aboriginal people spaced between fifteen to thirty metres from each other on either side of the Cultural Heritage Consultant.

The field survey did not identify any sites of Aboriginal heritage significance and the Aboriginal people consulted approved the use of the additional areas to be developed by Southern Cross Goldfields Ltd.

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## **13.0 RECOMMENDATIONS**

1. Representatives of the Kelamia Kubu(d)n/ Champion Family and Central West Goldfields People/ Sambo Family have surveyed the project area and have approved the use of the survey areas for use by Southern Cross Goldfields Ltd.
2. Should any artefacts be uncovered during the project, works should cease and further consultation should be undertaken.
3. Should any skeletal remains be encountered the Western Australian Police should be contacted.

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# REPORT ON AN ABORIGINAL HERITAGE SURVEY OF SOUTHERN CROSS GOLDFIELDS LTD MARDA GOLD PROJECT ADDITIONAL AREAS AND DIE HARDY ROAD WIDENING

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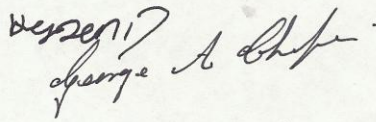
REPORT ON AN ABORIGINAL HERITAGE SURVEY OF SOUTHERN  
CROSS GOLDFIELDS LTD MARDA GOLD PROJECT ADDITIONAL  
AREAS AND DIE HARDY ROAD WIDENING

APPENDIX A SIGNED DOCUMENTS CONFIRMING ABORIGINAL  
CONSULTATION

5-DEC 2012 MARDA ADDITIONAL AREAS

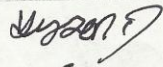
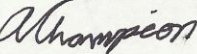
The following members of the KELEMAIA KUBUCON Champion Family have surveyed the additional areas for the proposed MARDA MINE PROJECT. The Aboriginal representatives have approved the areas to be used for this project.

KYRON TUCKER  
GEORGE CHAMPION  
ANDREW CHAMPION  
SIMON CHAMPION





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KYRON CHAMPION   
ANDREW CHAMPION 

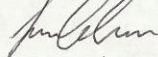
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11 DEC 2012 MARDA ADDITIONAL AREAS

The following representatives of the Central West Goldfields People / Sambo Family have surveyed the additional areas for the proposed MARDA MINE PROJECT. The Aboriginal representatives have approved the areas to be used for this project.

DESLEY RICHARDS 

GINA SAMBO 

LONNIE COLEMAN 

ELIZABETH SAMBO 

REPORT ON AN ABORIGINAL HERITAGE SURVEY OF SOUTHERN  
CROSS GOLDFIELDS LTD MARDA GOLD PROJECT ADDITIONAL  
AREAS AND DIE HARDY ROAD WIDENING

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**APPENDIX B DIA SITE REGISTER RESULTS**



## Search Criteria

0 sites in a search polygon. The polygon is formed by these points (in order):

MGA Zone 50	
Northing	Easting
6657342	709197
6657638	716512
6662737	716591
6662892	709114



## Disclaimer

Aboriginal sites exist that are not recorded on the Register of Aboriginal Sites, and some registered sites may no longer exist. Consultation with Aboriginal communities is on-going to identify additional sites. The AHA protects all Aboriginal sites in Western Australia whether or not they are registered.

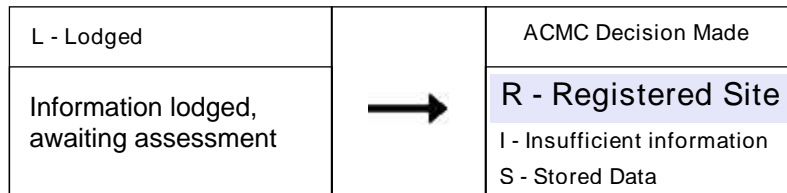
## Copyright

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## Legend

Restriction	Access	Coordinate Accuracy
N No restriction	C Closed	Accuracy is shown as a code in brackets following the site coordinates.
M Male access only	O Open	[Reliable] The spatial information recorded in the site file is deemed to be reliable, due to methods of capture.
F Female access	V Vulnerable	[Unreliable] The spatial information recorded in the site file is deemed to be unreliable due to errors of spatial data capture and/or quality of spatial information reported.

## Status



## Spatial Accuracy

Index coordinates are indicative locations and may not necessarily represent the centre of sites, especially for sites with an access code "closed" or "vulnerable". Map coordinates (Lat/Long) and (Easting/Northing) are based on the GDA 94 datum. The Easting / Northing map grid can be across one or more zones. The zone is indicated for each Easting on the map, i.e. '5000000:Z50' means Easting=5000000, Zone=50.

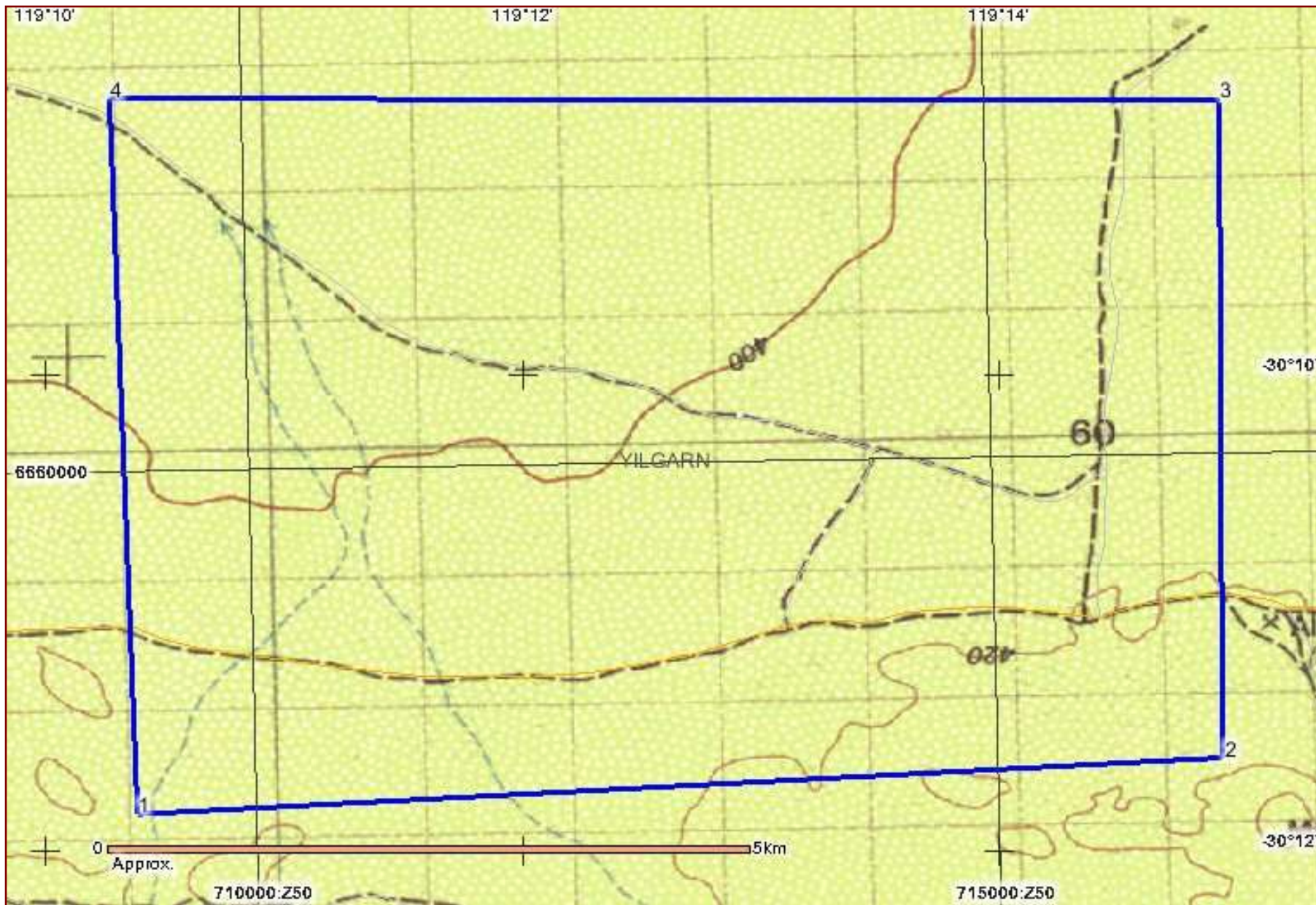
## Sites Shown on Maps

Site boundaries may not appear on maps at low zoom levels







## List of Registered Aboriginal Sites with Map

No results



### Legend

Selected Heritage Sites

-  Registered Sites
-  Town
-  Map Area
-  Search Area

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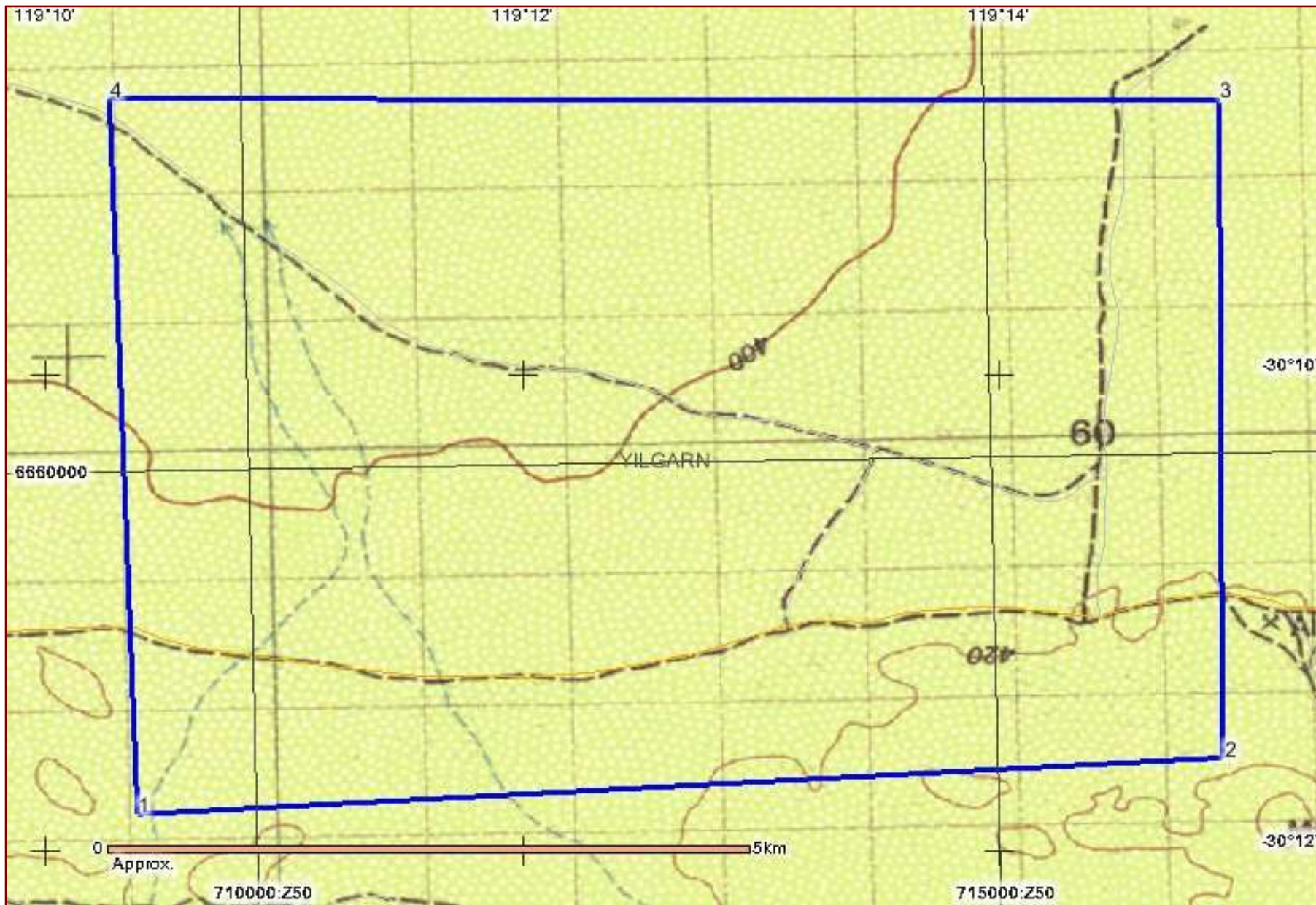
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## List of Other Heritage Places with Map

No results



## Legend

- Selected Heritage Sites
- Other Heritage Places
- Town
- Map Area
- Search Area

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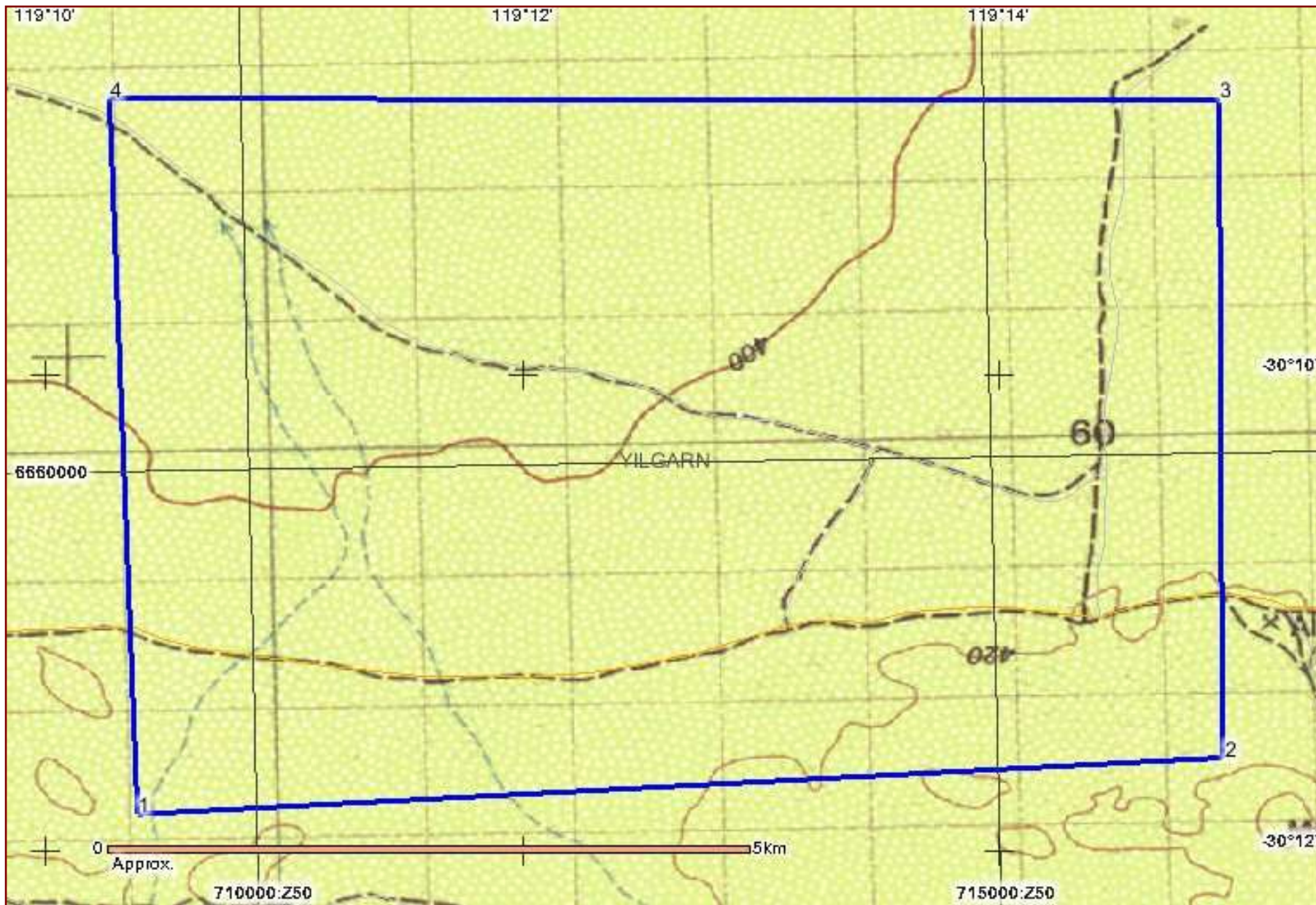
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## Map Showing Registered Aboriginal Sites and Other Heritage Places



## Legend

- Selected Heritage Sites
  - Registered Sites
  - Other Heritage Places
- Town
- Map Area
- Search Area

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