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EL 3088 / 4154 / 5312 AND EL 4530

WESTERN RIVER AND WESTERN RIVER COVE

**FINAL REPORT AT LICENCES' JOINT FULL
SURRENDER, FOR THE PERIOD
22/5/2003 TO 16/7/2014**

Submitted by
Monax Mining Limited
2014

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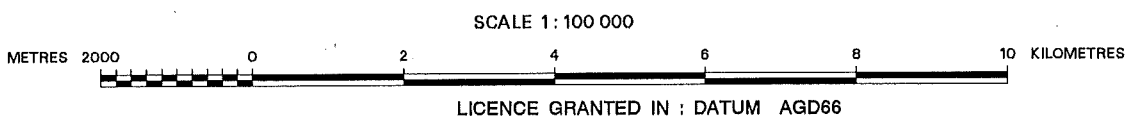
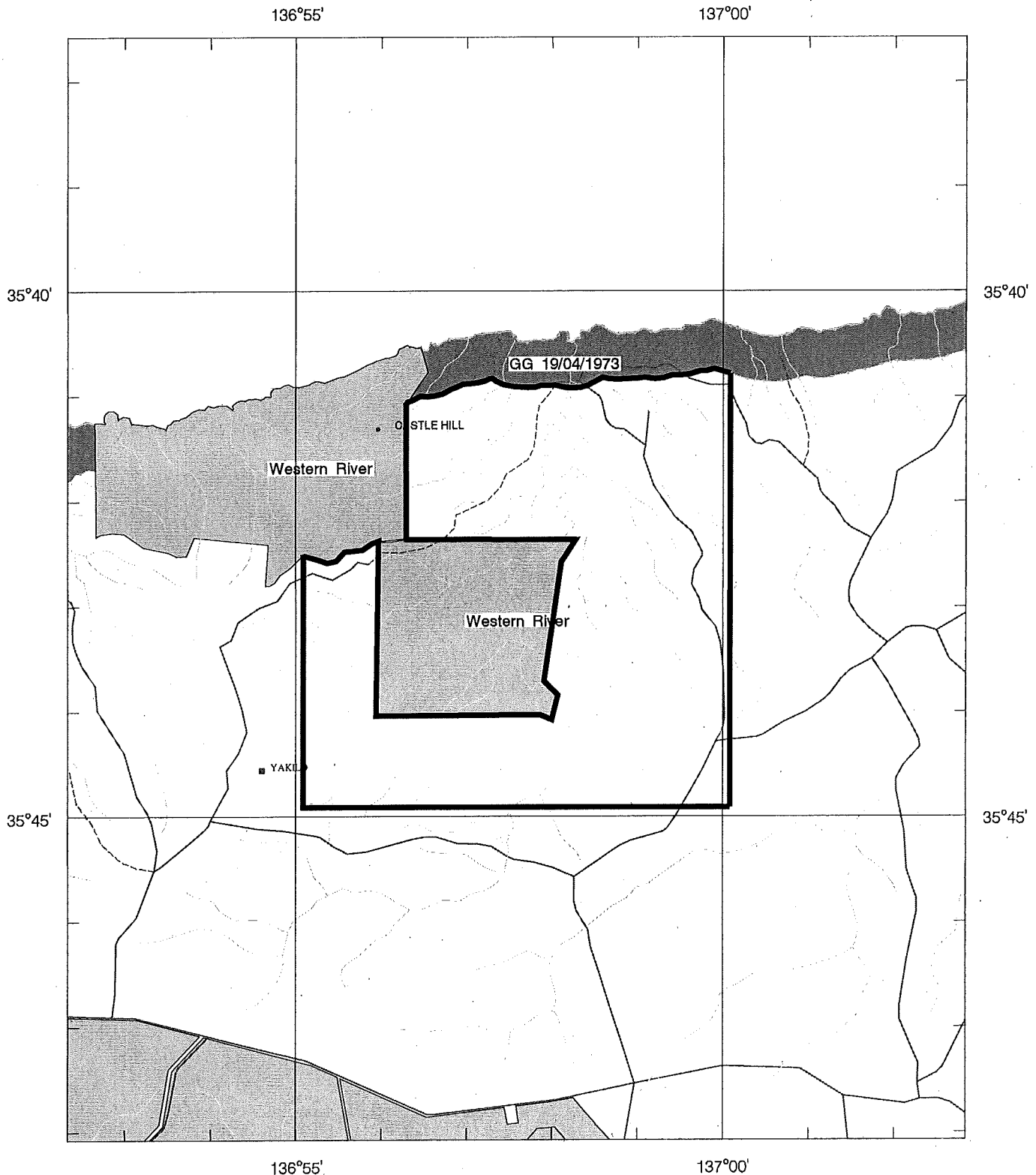
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Government of South Australia
Department of State Development

SCHEDULE A



APPLICANT : MONAX MINING LTD

FILE REF : 284/09 TYPE : MINERAL ONLY

AREA : 41 km² (approx.)

1:250000 MAPSHEETS : KINGSCOTE

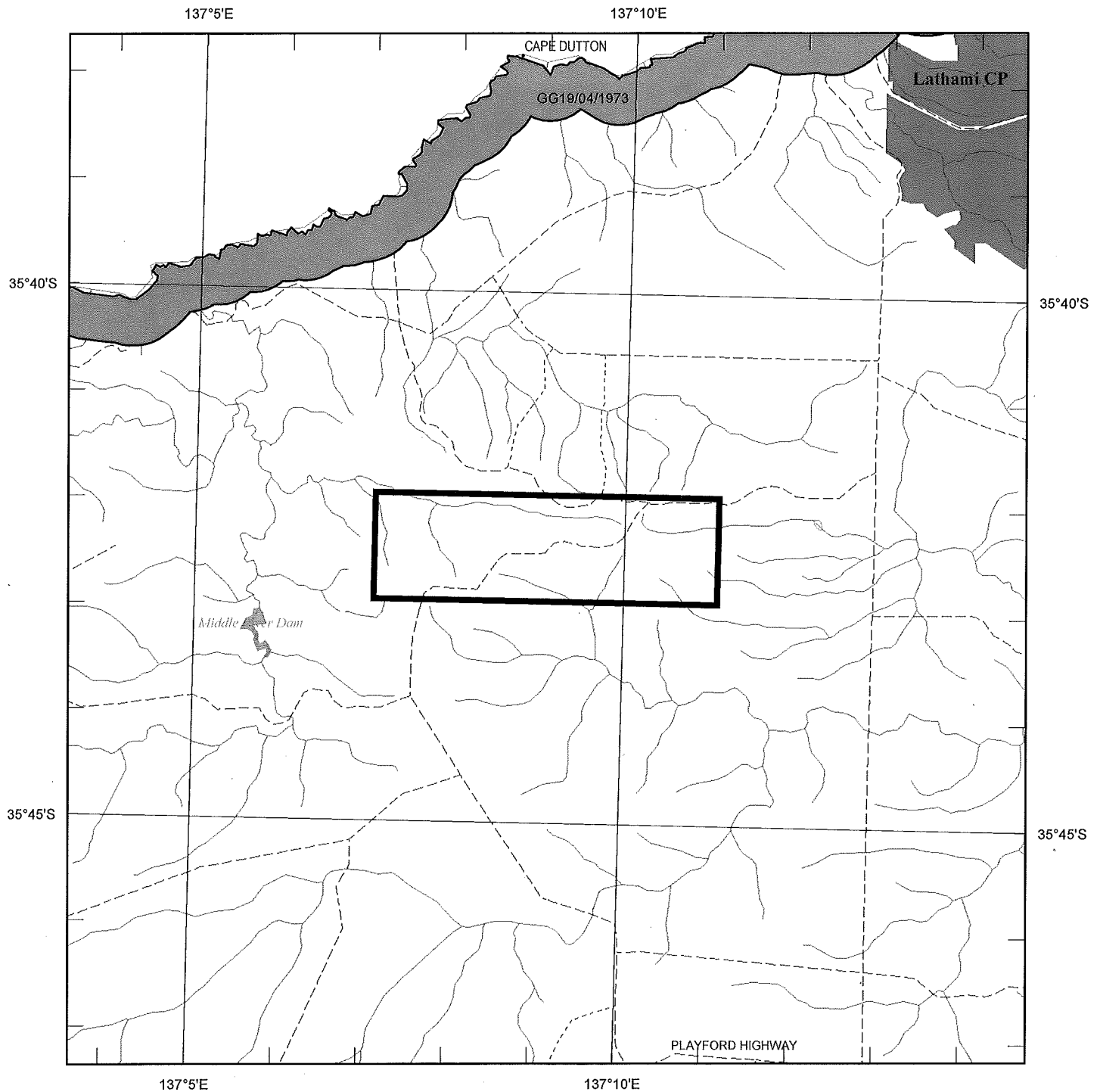
LOCALITY : WESTERN RIVER COVE AREA - Approximately 60 km WSW of Kingscote

DATE GRANTED : 12-Jul-2010

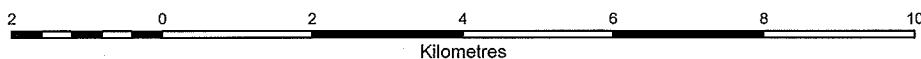
DATE EXPIRED : 11-Jul-2012

EL NO : 4530

SCHEDULE A



SCALE 1 : 100 000



LICENCE BOUNDARIES IN : DATUM AGD66

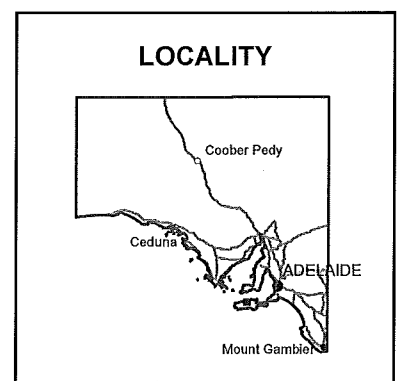
APPLICANT : **MONAX MINING LIMITED**

FILE REF : **2013/00063** TYPE : **MINERAL ONLY**

AREA : **11** sq km (approx)

1 : 250 000 MAPSHEETS : **KINGSCOTE**

LOCALITY : **WESTERN RIVER AREA -**
Approximately 55 km west of Kingscote



DATE GRANTED: **13-Jun-2013** DATE EXPIRED: **12-Jun-2014** EL NO: **5312**

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MONAX
MINING LIMITED

Combined Final Annual Technical Report

EL4530 Western River Cove

EL5312 Western River
(and preceding ELs 3088 & 4154)

For the period 22 May 2003 – 16 July 2014

Tenure holder | Monax Mining Limited
Author | Greg Swain

Tenement operator | Monax Mining Limited
Report date | 17 December 2014

Distribution: Department of State Development (digital copy)
 Monax Mining Limited (digital copy)

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Summary

This combined final annual technical report details the work undertaken by Monax Mining Limited on EL 4530 (Western River Cove) and EL 5312 and its former licences ELs 3088 and 4154 (Western River) during the period 22 May 2003 – 16 July 2014. At the time of relinquishment, the project area comprised 52 km² and is located on Kangaroo Island, on the southern margin of the Gawler Craton. ELs 4530 and 5312 have previously been included in Combined Annual Technical Reports with EL 4581 (Parndana).

EL 3088 (Western River) was acquired from Havilah Resources in July 2005 and formed part of Monax's package of tenements in the Initial Public Offering and its subsequent ASX listing.

During the term of the licence exploration conducted on ELs 3088 and its subsequent licences 4154 and 5312 consisted of a 1x1km spaced ground gravity survey in 2006, 100m line spaced aeromagnetic survey in 2007, as well as a small corner of the detailed 25m line spaced heli-magnetic survey conducted in 2010. In accordance with the Sunset Clause conditions, Monax permitted all exploration data related to EL 4581 up to 18th October 2012 to become open file data.

No work was undertaken on EL 4530 during the term of the licence.

Keywords

EL4530, EL3088, EL4154, EL5312, Western River, Western River Cove, Kangaroo Island, Cygnet-Snelling Fault Zone, Pb-Zn mineralisation.

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Digital File List

| | File size |
|--|------------------|
| EL4530_5312_2014_F_01_ReportBody.pdf | 122KB |
| EL4530_5312_2014_Figure1_Tenement location.pdf | 334KB |

1. Introduction

ELs 5312 (Western River) & 4530 (Western River Cove) cover an area of 11km² and 41km² respectively and formed part of Monax's Kangaroo Island Project, along with EL4581. EL5312 is a subsequent licence to EL4154 and previously EL 3088

The project area lies on the southern margin of the Gawler Craton of South Australia, covering a 40 km section of the Cygnet-Snelling Shear Zone (C-SSZ) on Kangaroo Island (**Figure 1**).

Bedrock in the project area generally consists of deep marine and shelf sediments of Cambrian age. The tenement encloses a section of the east-west trending C-SSZ for a distance of nearly 40 kilometres. North of this fault zone, lightly metamorphosed, shallow water, shelf sediments of the Kangaroo Island Group crop out. These mainly include greenschist facies siltstones, shales and fine grained sandstones of the basal Mt McDonnell Formation. South of the fault zone are more highly metamorphosed lower amphibolite facies metasediments of the Kanmantoo Group, chiefly the fine grained greywackes of the Tapanappa Formation. The majority of the area is covered by relatively thin (<20m thick) Tertiary laterites and Quaternary alluvial deposits making exploration difficult away from the deeply incised C-SSZ.

The C-SSZ is a deep crustal feature, and is interpreted to coincide at depth with the southern margin of the Gawler Craton. Gold and base metal occurrences are found along much of the C-SSZ, including the historic Grainger's Mine, Bonaventura Prospect, Dewrang Prospect and the Kohinoor Goldfield.

2. Tenure

Tenement details for ELs 4530 and 5312 are listed below in **Table 1**.

| EL | Name | Area (km ²) | Licence holder/operator | Grant Date | Expiry/relinquish date | Notes |
|------|--------------------|-------------------------|--|--------------|------------------------|---|
| 3088 | Western River | 301 | Havilah Resources (22/05/03 – 20/07/05) Monax Mining Limited (21/07/05 – 21/05/08) | 22/05/03 | 21/05/08 | Reduced from 301km to 188km on 03/06/04 |
| 4154 | Western River | 188 | Monax Mining Limited | 13/06/08 | 12/06/13 | Reduced from 188km to 11 km on 5/07/10 |
| 5312 | Western River | 11 | Monax Mining Limited | 13/06/13 | 16/06/14 | Relinquished |
| 4530 | Western River Cove | 41 | Monax Mining Limited | 12 July 2010 | 16/06/14 | Relinquished |

3. Previous Exploration

Past exploration in the tenement area, which dates from 1968, has been relatively limited. Commodities targeted include base metals, bauxite, kaolin, gold, diamonds and, most recently, zinc.

Base metal exploration carried out between 1968 and 1982 by Elcor Australia Pty Ltd (Donovan, P.R., 1969, 1970), AOG Minerals Pty Ltd (Burnside, E., 1973; Whiting, J.W. and Cowan, D., 1974), Aquila Minerals Ltd (Liddy, J.C., 1972), Preussag Australia Pty Ltd (Hosking, A.J., 1976) and Shell Company of Australia Ltd (Reis, E., 1982) included stream sediment and soil geochemical surveys, IP and resistivity surveys and limited diamond drilling. At Grainger's Mine, Preussag outlined a large area of elevated lead-zinc concentration in soils. AOG established the presence of sub-economic lead-zinc-copper mineralisation at Dewrang prospect, where five diamond drill holes revealed the presence of sphalerite, chalcopyrite, galena and marcasite rich micro-fracture fillings, sometimes accompanied by low temperature hydrothermal alteration.

Comalco Ltd (Buchhorn, 1978) explored the area for bauxite and kaolin in 1978-79, but auger drilling did not encourage further work.

Gold exploration between 1987 and 1993, by Tectonic Systems Pty Ltd (Robb, D.W., 1988) and Pasminco Australia Ltd (Lees, T.C., 1993), focussed on the Cygnet mine. Tectonic Systems reported low-order gold values in RC drilling, whilst RAB drilling by Pasminco intersected anomalous copper (487 ppm Cu) and weak epigenetic gold mineralisation (up to 0.33 ppm Au) at Cygnet mine. Pasminco also reported elevated base metal values in drill holes at Dewrang prospect, but did not consider them sufficiently encouraging to warrant further work.

Department of Mines and Energy South Australia (SADME) (McCallum, 1991) investigated the Grainger's Mine from 1989 to 1990. Drilling of 14 percussion holes confirmed the presence of zinc mineralisation in Cambrian bedrock beneath the Preussag soil anomaly. The best intersection was 16 m @ 2.69% Zn, 0.45% Pb and 1.7 g/t Au. SADME suggested that the laterite cover may be masking the surface geochemical response from this mineralisation.

Carnegie Minerals NL (Mateev, 1998) explored for diamonds on Kangaroo Island from 1996 to 1998. Stream sediment sampling did not recover diamonds or kimberlitic indicators.

4. Exploration Rationale

ELs 4530 and 5312 are prospective for base and precious metals mineralisation, associated with the C-SSZ. The fault zone is a deep crustal feature, which Geological Survey geologists believe coincides at depth with the southern boundary of the Gawler Craton. Gold and base metal occurrences are found along much of the C-SSZ, including six historic mines, such as the Grainger's Mine and the Kohinoor goldfield. These deposits are evidence of an extensive hydrothermal alteration and vein system related to the fault structure. Aeromagnetic data indicate that a distinct magnetic low marks the C-SSZ in the vicinity of the Grainger's Mine. This phenomenon is apparently due to de-magnetisation of the Cambrian host rocks by mineralising fluids channelled through the fault zone.

High-grade zinc mineralisation discovered by Havilah at Grainger's Mine forms stockworks of thin, quartz-sphalerite-galena veins invading a silicified greywacke host rock. A halo of lower grade, disseminated, zinc and lead mineralisation surrounds the stockworks over a strike

length of at least 400 m. These results indicate that the Grainger's Mine area is a focus of significant hydrothermal base metal mineralisation, with associated precious metal values. Further drilling would offer the potential to define a significant metal resource.

Monax considers that a marked kink in the fault zone at the Grainger's Mine may reflect a secondary structural control. Further exploration will be assisted by the discovery that the surficial laterite layer may not hinder soil geochemical surveys to the extent previously thought. At Dewrang prospect, which lies on the fault zone 4 km west of Grainger's Mine, the possibility of widespread lead mineralisation is indicated by anomalous soil geochemistry.

5. Geology

Bedrock in the project area generally consists of shelf sediments of Cambrian age. The tenements enclose a section of the east-west trending C-SSZ for a distance of nearly 40 kilometres. North of this fault zone lightly metamorphosed sediments of the Kangaroo Island Group crop out. These mainly include greenschist facies siltstones, shales and fine grained sandstones of the basal Mt McDonnell Formation. South of the fault zone are more highly metamorphosed lower amphibolite facies metasediments of the Kanmantoo Group, chiefly the fine grained greywackes of the Tapanappa Formation.

The C-SSZ is a deep crustal feature, and is interpreted to coincide at depth with the southern margin of the Gawler Craton. Gold and base metal occurrences are found along much of the C-SSZ, including the historic Grainger's Mine and the Kohinoor Goldfield.

6. Exploration Conducted

6.1 Current reporting period

No work was conducted on the tenements during the current reporting period.

6.2 Term of the licence

Exploration on EL5312 and its former licences comprised a 1x1km spaced ground gravity survey in 2006, 100m line spaced aeromagnetic survey in 2007, as well as a small corner of the detailed 25m line spaced heli-magnetic survey conducted in 2010. In accordance with the Sunset Clause conditions, Monax permitted all exploration data related to EL5312 up to 18th October 2012 to become open file data. No work was undertaken on EL 4530 during the term of the licence.

6.2.1 Gravity Survey

A helicopter based, ground-gravity survey was completed by Daishsat Geodetic Surveyors on EL3088/4154/5312 in 2006. The raw gravity data was reported in the 2007 annual report. This data was released on 18th October 2012

6.2.2 Aeromagnetic Surveys

During 2008, an airborne magnetic and radiometric survey totalling 3,439 line kilometres with line spacing of 100m, with 50m nominal height, was jointly flown over EL3088/4154/5312. The raw data was reported in the 2008 annual report. A detailed 25m line spaced heli-magnetic survey conducted in 2010 covered a very small corner of EL 5312. All data was released on 18th October 2012.

7. Conclusions

Monax maintains an active interest in base metals exploration on Kangaroos Island. Two diamond drill holes were completed during August 2014 at the new Vincó prospect, 1km to the east of the exiting Bonaventura Zn-Pb prospect, on Parndana EL 4581.

In accordance with the Sunset Clause conditions, Monax permitted all exploration data related to its Kangaroo Island project up to 18th October 2012 to become open file data. No work was undertaken on the relinquished tenements subsequent to this date.

8. References

Buchhorn, I.J., 1978. EL 408:Progress and final reports for the period ended 07/03/79. Comalco Ltd. Unpublished report to SA Department of Mines. Envelope 03310.

Burnside, E., 1973. SML 00688: Progress and final reports for the period ended 20/1/73. A.O.G Minerals Pty Ltd. Unpublished report to SA Department of Mines. Envelope 02022.

DoNovan, P.R., 1969. Stream sediment reconnaissance survey SML 252 Kangaroo Island, SA. Elcor (Australia) Pty Ltd. Unpublished report to SA Department of Mines. Envelope 01058.

DoNovan, P.R., 1970. Eastern Kangaroo Island. Progress reports for the period 1/11/1968 to 30/4/1970. Elcor (Australia) Pty Ltd. Unpublished report to SA Department of Mines. Envelope 01059.

Gum, J.C. Swain, G. and Grant, C., 2006. Annual Technical Report. EL3088 Western River – EL3376 Parndana, for the period 8 July 2005 – 7 July 2006. Unpublished Report PIRSA.

Gum, J.C. and Grant, C., 2007. Annual Technical Report. EL3088 Western River – EL3376 Parndana, for the period 8 July 2006 – 7 July 2007. Unpublished Report PIRSA.

Hosking, A.J., 1976. Kangaroo Island. Progress and final reports to licence surrender for the period 25/11/1975 to 24/8/1976. Preussag Australia Pty Ltd. Unpublished report to SA Department of Mines. Envelope 02695.

Lees, T.C., 1993. EL 1737. Progress and final reports for the period ended 20/7/93. Pasminco Exploration Pty Ltd. Unpublished report to SA Department of Mines. Envelope 08500.

Liddy, J.C., 1972. Northern Kangaroo Island. Progress reports for the period 18/5/1972 to 17/5/1973. Aquila Investment Corporation Ltd. and John Liddy Associates Ltd. Unpublished report to SA Department of Mines. Envelopes 02077 and 02161.

Mateev, B., 1998. Eastern Western and Central Kangaroo Island. Progress and final reports to licence surrender for the period 01/10/1996 to 09/03/1998. Carnegie Minerals NL and pecan Holdings Pty Ltd. Unpublished report to SA Department of Mines. Envelope 09262.

McCallum, W.S., 1991. Geological investigations and drilling, Parndana Area, Kangaroo Island, 1989-1990. South Australian Department of Mines and Energy (SADME) unpublished report book, RB91/023.

Reis, E., 1982. Progress reports for the period 06/01/1980 to 06/1/1982. The Shell Company of Australia Pty Ltd. Unpublished report to SA Department of Mines. Envelope 04250.

Robb, D.W., 1988. Progress and final reports for the period ended 19/09/88. Clackline Ltd and Tectonic Systems Pty Ltd. Unpublished report to SA Department of Mines. Envelope 06814.

Whiting, J.W. and Cowan, D., 1974. EL 00061 Progress and final reports for the period ended 19/1/74. A.O.G Minerals Pty Ltd. Unpublished report to SA Department of Mines. Envelope 02304.

Figures

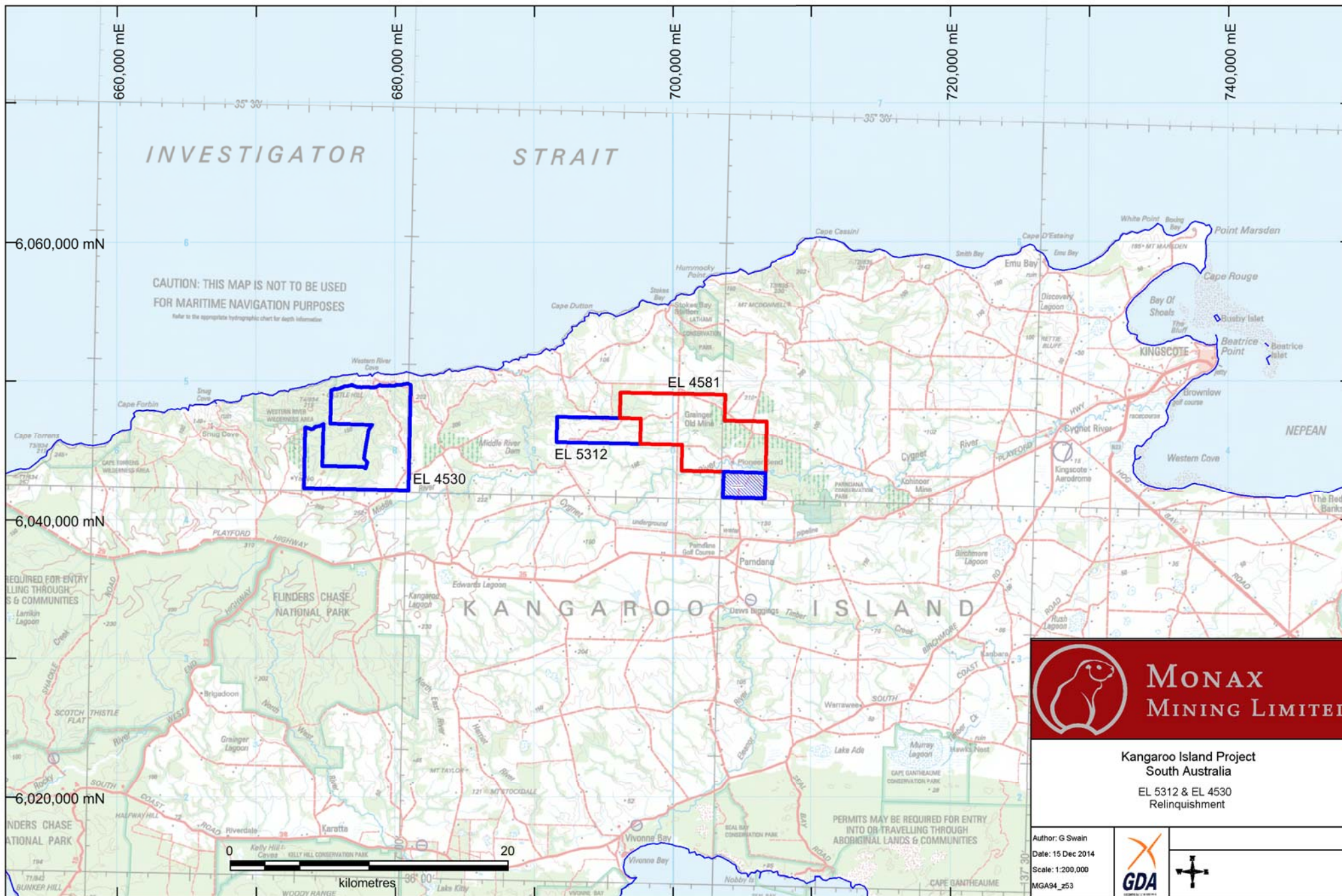
Monax Mining Limited


Combined Final Annual Technical Report for ELs 4530 & 5312

22 May 2003 – 16 June 2014

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Figure 1 Tenement Location







MONAX

MINING LIMITED

Kangaroo Island Project
South Australia
 EL 5312 & EL 4530
 Relinquishment

| | | |
|---|---|---|
| Author: G Swain Date: 15 Dec 2014 Scale: 1:200,000 MGA94_253 |  |  |
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