



# PRIME MINERALS LIMITED

Level 1, 8 Parliament Place, West Perth WA 6005

PO Box 1618 West Perth WA 6872

Telephone: +61 8 9481 7833 Facsimile: +61 8 9481 7835

27 April 2010

**The Manager  
Company Announcements Office  
Australian Securities Exchange  
Exchange Centre  
20 Bridge Street  
SYDNEY NSW 2000**

Dear Sir,

## QUARTERLY REPORT FOR THE PERIOD ENDED 31 MARCH 2010

### 1. EXPLORATION ACTIVITIES

Exploration has continued on the Company's project areas, as detailed below:

#### 1.1 LAKE MASON URANIUM PROJECT, WESTERN AUSTRALIA

PRIME holds 100% of three exploration licenses (E 57/591, ELA 784 & 785) covering the eastern section of the Lake Mason palaeo-drainage. The tenement covering the lake itself, E 57/591, is currently granted with the surrounding tenements, ELA 57/784-5, currently under application.

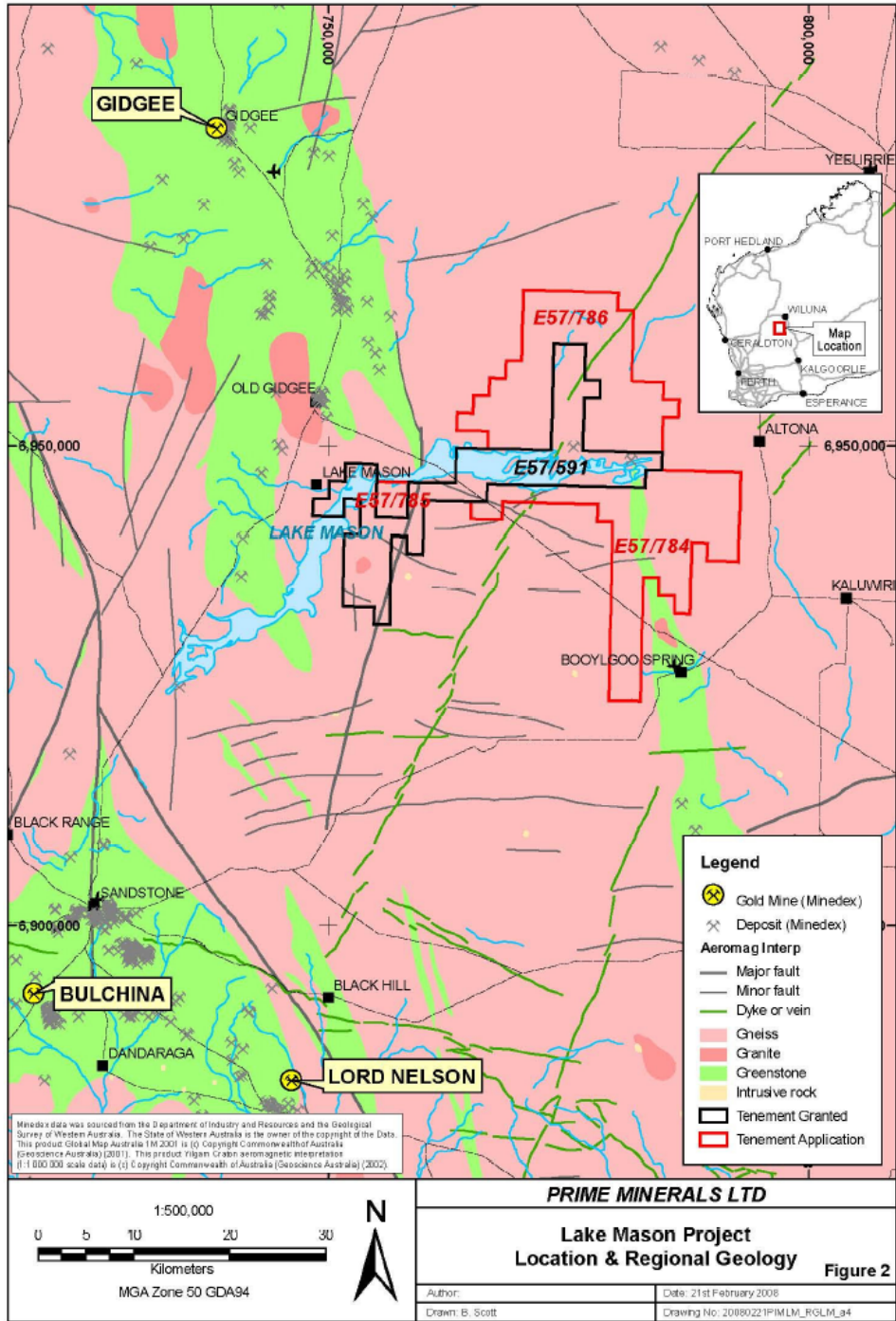
The Lake Mason project includes the Bolitho Bore uranium prospect, which was discovered by Uranex in the 1980s. Previous exploration at Lake Mason has focused on the defined radiometric anomalies within the eastern extremity and northern shore of the main Lake Mason channel within E57/591.

In 2007, Prime completed 126 reconnaissance aircore drill holes at Lake Mason (total 1,898 metres), along with downhole radiometric logging. Forty six of the drill holes intersected uranium oxide values greater than 100 ppm. Prime has focused on the calcrete-hosted uranium mineralisation at Bolitho Bore, and set an **initial exploration target** of:

1,000,000 – 5,000,000 tonnes @ 150-300 ppm Uranium Oxide\*

\*At this stage of exploration, the potential quantity and grade of the Bolitho Bore uranium deposit is conceptual in nature, as Prime has determined that insufficient work has been undertaken to define a mineral resource and it is uncertain if further exploration will result in the determination of a mineral resource. The exploration target size was based upon existing exploration data and conceptual modelling.

Interpretation of the results of Prime's drilling concluded the mineralisation at Bolitho Bore to be more extensive and of **higher-grade** than outlined by the 1980 drilling. The mineralisation remains open to the west and it is likely that additional drilling will extend the known body of mineralisation.



A detailed review of the Lake Mason project is currently underway and is aimed at identifying extensions to the mineralisation along strike. The identified mineralisation at Lake Mason is located within the lake and on its margins. This mineralisation is of the 'playa lake-style' found at Mega Uranium's Lake Maitland project. There is potential for additional mineralisation in a number of locations adjacent to Lake Mason, including the drainages and deltas that feed into lake.

The exploration field programme is due to recommence next quarter with a planned site visit and reconnaissance over a number of potential target areas.

## 1.2 PROJECT GENERATION

Prime is presently carrying out an active programme of project generation in both Australia and overseas to identify projects that will further enhance Prime's exploration portfolio.

In respect to other projects, the Company's option over the Star of Mangaroon project expired during the quarter and was allowed to lapse due to the prospectivity of other opportunities being examined by Prime.

Prime Minerals looks forward to updating shareholders as the Company's exploration and project generation programme continues.

**For further information please contact:**

David Zukerman, Company Secretary

Phone (08) 9481 7833

**Or consult our website:**

<http://www.primeminerals.com.au/>

**Competent Persons Declaration**

The information in this report that relates to Exploration Results, Mineral Resources or Ore Reserves is based on information compiled by Timothy Putt of Exploration and Mining Information Systems, who is a member of The Australasian Institute of Geoscientists and the Society of Economic Geologists. Mr. Putt has sufficient experience that is relevant to the various styles of mineralisation and types of deposit under consideration, and to the activity that they are undertaking to qualify as Competent Persons as defined in the 2004 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resource and Ore Reserves". Timothy Putt consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

**Forward-Looking Statements**

This document may include forward-looking statements. Forward-looking statements include, but are not limited to, statements concerning Prime Minerals Limited's planned exploration programme and other statements that are not historical facts. When used in this document, the words such as "could," "plan," "estimate," "expect," "intend," "may", "potential," "should," and similar expressions are forward-looking statements. Although Prime Minerals Limited believes that its expectations reflected in these forward-looking statements are reasonable, such statements involve risks and uncertainties and no assurance can be given that actual results will be consistent with these forward-looking statements.

