



16th March 2016

New Lithium Target at Smith Bore – Pilbara, Western Australia

- ◆ **New 100% owned exploration licence application Smith Bore encompasses north-western portion of the Shaw River tin-tantalum pegmatite field in the Pilbara region of western Australia;**
- ◆ **Shaw River is a historic alluvial mining field, with tin, tantalum, niobium and rare earth element (REE) minerals being sourced from extensive pegmatite dykes, geologically very similar to nearby Pilgangoora lithium pegmatite district;**
- ◆ **An ongoing review of previous exploration activity has to date found no evidence of any lithium analyses during past exploration programs, nor any significant bedrock drilling programs, with the majority of previous exploration activity focused solely on the alluvial tin-tantalum-niobium-REE potential;**
- ◆ **Zenith's geologists believe that the area is prospective for lithium mineralisation of a similar style to that at the nearby Pilgangoora pegmatite field, located 75km to the northwest.**
- ◆ **Lithium potential is based on:**
 - ◆ A near identical regional geological setting to the Pilgangoora lithium pegmatite district;
 - ◆ Similar granite chemistry (four episodes of emplacement) to Pilgangoora lithium pegmatite district;
 - ◆ Common association of tin and tantalum with lithium-bearing pegmatites as found in other districts worldwide;
 - ◆ Presence of lithium bearing minerals (zinnwaldite) identified in historical work by Geological Survey of Western Australia;
 - ◆ Large pegmatite zones (up to 500m) identified in historical mapping (true width unknown);
 - ◆ Historical focus on alluvial tin-tantalum potential only; and
 - ◆ No bedrock drilling to test unweathered pegmatite potential.
- ◆ **Initial surface mapping and sampling to precede planned drill testing, and;**
- ◆ **The Company is continuing to assess several new lithium target opportunities internationally.**

Corporate Details

ASX: ZNC

Issued Shares*	166.3 m
Unlisted options*	21.1 m
Mkt. Cap*. (\$0.05) A\$	4.8m
Cash 31 st Dec 15**	A\$1.88M
Debt	Nil

*Assumes Rights Issue fully subscribed

** Assumes Rights Issue fully subscribed plus \$400k placement.

Directors

Michael Clifford:
Managing Director

Mike Joyce:
Non Exec Chairman

Stan Macdonald:
Non Exec Director

Julian Goldsworthy:
Non Exec Director

Major Shareholders

(pre-rights issue)

HSBC Custod. Nom	7.8%
Nada Granich	6.4%
Miquilini	5.4%
GDR PL	4.4%

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Zenith Minerals Limited (Zenith or the Company) is pleased to advise that it has secured a second lithium exploration target in Western Australia in addition to the Mt Alexander lithium target (100% ZNC) in the West Pilbara where rock chip samples returned high-grade lithium oxide assays ranging from 3.38%Li₂O to 4.05% Li₂O (ASX Release 2nd February 2016).

The Smith Bore project covers the north western portion of the Shaw River – Coongong tin-tantalum field in the East Pilbara and is underlain by granitic rocks of the Archaean Shaw River Batholith which intruded mafic and ultramafic rocks of the Wararwoona Group. Pegmatite dyke swarms constitute up to 5% volumetrically of the batholith and cut across banding of the gneissic granite host and remnant amphibolite facies mafic and ultramafic rocks.

The area has been extensively explored for alluvial tin, tantalum and niobium (to lesser extent rare earth elements), which have been derived from pegmatite dykes, with tin production occurring over an 80 year period commencing in 1890. The area was subject to systematic exploration of alluvial tin-tantalum-niobium potential during a 20 year period commencing in



1978, culminating in the definition of several non-JORC code compliant alluvial tin-tantalum-niobium-REE resources.

The district has however, received limited to no exploration focusing on the hard rock lithium potential, even though the pegmatites are described by Blockley (1980) as being “similar in all respects to those at Moolyella” located 50km to the northeast, which are noted to contain the lithium minerals (zinnwaldite and lepidolite). A sample taken by the Geological Survey of Western Australia immediately north of the northern boundary of the licence was also described as containing zinnwaldite. A review of previous exploration reports to date by Zenith has found no evidence of lithium being analysed for during past exploration programs, nor any significant bedrock drilling programs, with the majority of previous exploration activity focused solely on the alluvial tin-tantalum-niobium potential.

Zenith’s geologists believe that the area is prospective for lithium mineralisation of a similar style to that at the nearby Pilgangoora pegmatite field, located 75km to the northwest.

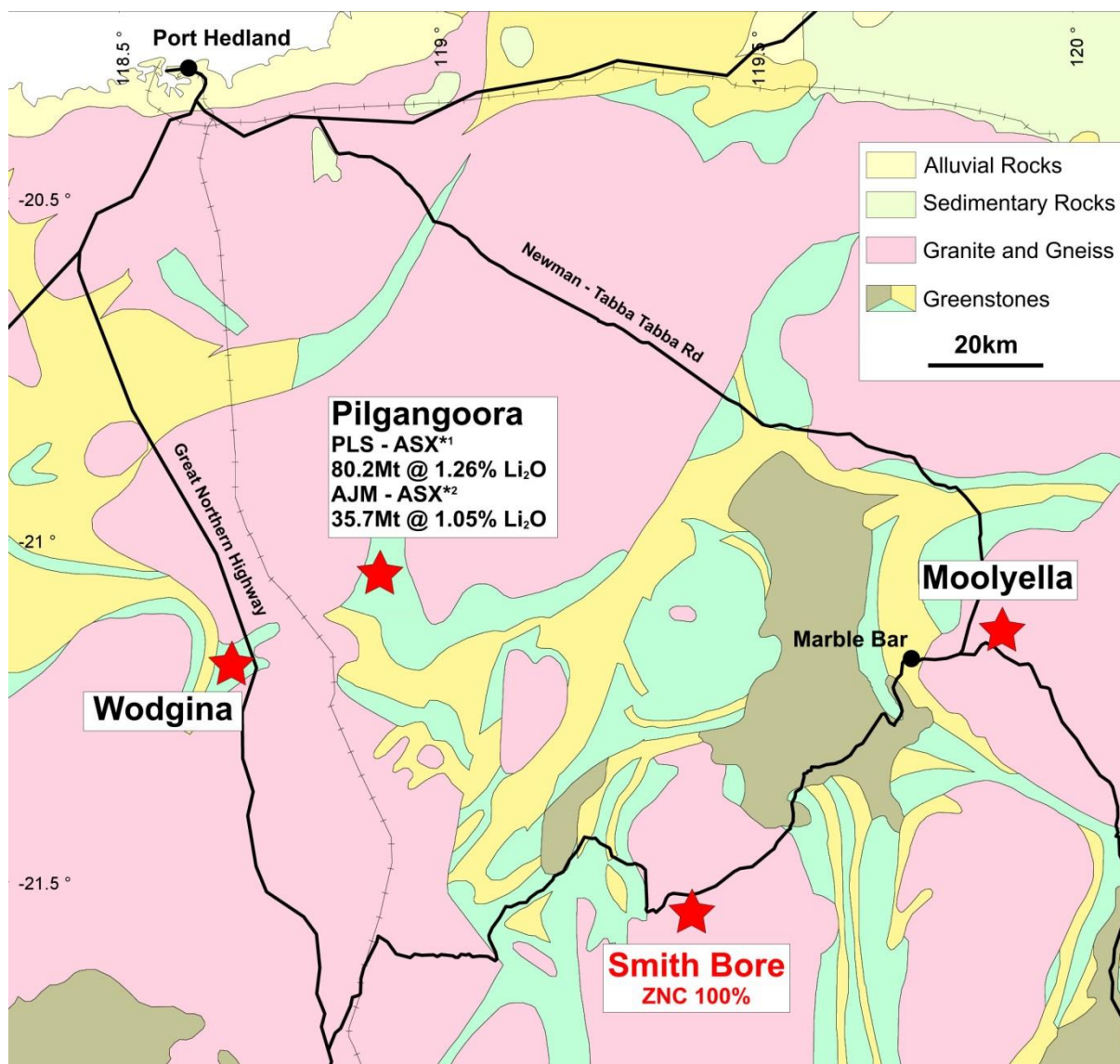


Figure 1: Smith Bore Project Location - Stars are historic tin-tantalum fields, Pilgangoora now major lithium district and Wodgina a tantalum mine with lithium

***1 Source PLS ASX release 15/03/16**

***2 Source AJM ASX release 29/02/16**



Background on Smith Bore Project (E45/4713)

A single exploration licence 45/4713 (12 blocks, 38km²) was applied for by Black Dragon Energy (Aus) Pty Ltd (a wholly owned subsidiary of Zenith Minerals Limited) in early March 2016.

Geological Setting

At Smith Bore remnant greenstone of mafic and ultramafic composition metamorphosed to amphibolite facies grade rocks ascribed to the Wararwoona Group (3,525 – 3,426Ma) have been intruded by the Shaw granitic complex, including four episodes of granite emplacement. The oldest granites of the complex are the highly migmatized Callina Supersuite (3,490-3,460 Ma) that are intruded by the significantly less deformed leucogranites of the Tambina Supersuite (3,450-3,420 Ma), Sisters Supersuite (2,945-2,930 Ma) and later Cooglegong Monzogranite of the Split Rock Supersuite (2,890-2,830 Ma).

As a comparison the Pilgangoora geological setting is described as a greenstone belt consisting of ultramafic, mafic and felsic volcanics with intercalated chert and sedimentary rocks of the Warrawoona (3,525-3,426 Ma) and overlying Kelly (3,350-3,300 Ma) Groups. The composition of the Carlindi granitic complex is similar to those of the Moolyella and Shaw River districts with four episodes of granite emplacement including the initial highly migmatized Callina Supersuite (3,490-3,460 Ma) followed by the Cleland Supersuite (3,275-3,225 Ma), the Sisters Supersuite (2,945-2,930 Ma) and lastly by monzogranites of the Split Rock Supersuite (2890-2,830 Ma).

In the Smith Bore area swarms of simple and complex pegmatites are associated with the Cooglegong Monzogranite and cut across the banding of the adjacent gneissic rocks. In 1994, Mount Edon Mines (Aust) Ltd conducted local detailed traverse surveying at Shaw Patch (Figure 2) within the central west portion of E45/4713 mapping pegmatites over zones >100 wide and combined pegmatite zones and pegmatite dykes over zones greater than 500m, however no indication is provided as to the strike of the pegmatites and therefore the true widths of the dykes remain unknown (DMP-open file report a40371).

Alluvial tin-tantalum-niobium-REE deposits, derived from the pegmatites, have developed in an area of low undulating relief with small shallow creeks and in major deeply incised braided streams. Eluvial and colluvial deposits are also found on ridges and divides and typically occur as a 0.5m thick layer of cover (notably at Spear Hill and Hillside). The alluvial tin-tantalum-niobium deposits have been used to derive probable hard rock pegmatite source areas, that are the priority exploration zones for initial ground follow-up (Figure 2).

Previous Mining and Exploration

The Shaw River tin field was discovered in 1890 and by 1975 produced a total of 6,585 tonnes of tin concentrate (Lithex Resources Limited – Mar 2011 Prospectus) from eluvial and colluvial deposits.

From 1978 to 1998 a number of companies conducted further evaluation and exploration activities primarily for tin, tantalum and REE's. A mining feasibility study of the Shaw River tin field, under a joint venture between Greenbushes and Western Australia Rare Metals, was completed in 1988. The project was deemed to be sub-economic at that time and the tenements were subsequently relinquished in 1989.

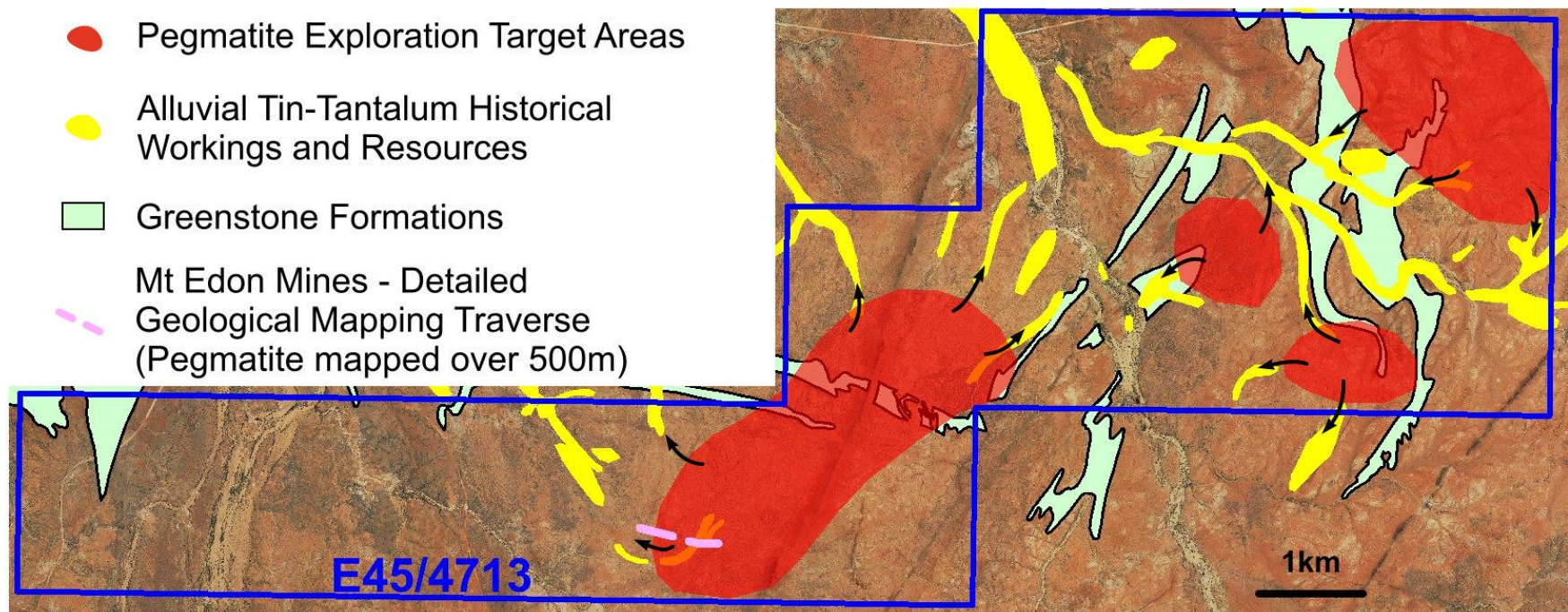
Lithex Resources Limited acquired the ground covering portions of E45/4713 and began a program to assess the potential of the district for hard rock tin-tantalum and lithium. Work comprised a review of historical exploration and airborne remote sensing before the licence was sold to Atlas Iron Limited as the western licence boundary abutted Atlas' Mt Webber iron ore project.

Planned Programs

Following completion of the review of historical exploration activity and grant of the exploration licence, Zenith intends to undertake surface mapping and sampling prior to drill testing.

References

Blockley, J. G (1980) The Tin deposits of Western Australia with Special reference to the Associated Granites. Geological Survey of Western Australia, Mineral Resources Bulletin 12



Competent Persons Statement

The information in this report that relates to Exploration Results is based on information compiled by Mr Michael Clifford, who is a Member of the Australian Institute of Geoscientists and an employee of Zenith Minerals Limited. Mr Clifford has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Clifford consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

16th March 2016

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About Zenith

Zenith is advancing its project portfolio of high-quality, gold, lithium and base metal projects whilst building a superior project base of high-quality advanced exploration assets:

Kavaklitepe Gold Project, Turkey (Teck earning 70%)

- Recent (2013) grass roots gold discovery in Tethyan Belt – (“elephant” terrain)
- Large, virtually drill-ready, high order gold soil / IP anomaly >1km strike
- Rock chip traverses to 54m @ 3.33g/t gold, including 21.5m @ 7.2 g/t gold
- Trenching and drilling (permitting in progress)

Develin Creek Copper-Zinc-Silver-Gold, QLD (ZNC initial 51%, option for 100%)

- 3 known VHMS massive sulphide deposits with JORC resources, 50km of strike of host volcanics
- 2011 drilling outside resource; 13.2 metres @ 3.3% copper, 4.0% zinc, 30g/t silver and 0.4g/t gold
- Drilling to extend known deposits, geophysics, geochemistry to detect new targets

Mt Minnie Gold Project, WA (ZNC 100%)

- Major regional fault. Alteration, geochemistry, rock samples 64.2 and 21.5 g/t Au
- Drill testing planned 2016

Earaheedy Manganese Project, WA (ZNC 100%)

- New manganese province discovered by ZNC, potential DSO drill intersections (+40%Mn)

Mt Alexander Iron Ore, WA (ZNC 100%)

- JORC magnetite Resource 566 Mt @ 30.0% Fe close to West Pilbara coast, 50% of target untested.
- Seeking development partner/ buyer for iron project

Other

- Evaluating new lithium project opportunities