PILBARA MINERALS LIMITED ASX: PLS

Production, Cash Flow, Growth

An emerging Australian strategic metals producer – September 2014 Investor Update

Disclaimer and Competent Person's Statement

Disclaimer

- This presentation may contain some references to forecasts, estimates, assumptions and other forward-looking statements. Although the company believes that its expectations, estimates and forecast outcomes are based on reasonable assumptions, it can give no assurance that they will be achieved. They may be affected by a variety of variables and changes in underlying assumptions that are subject to risk factors associated with the nature of the business, which could cause actual results to differ materially from those expressed herein. All references to dollars ($) and cents in this presentation are to Australian currency, unless otherwise stated.
- Investors should make and rely upon their own enquires and assessments before deciding to acquire or deal in the Company's securities.

Competent Person Statement

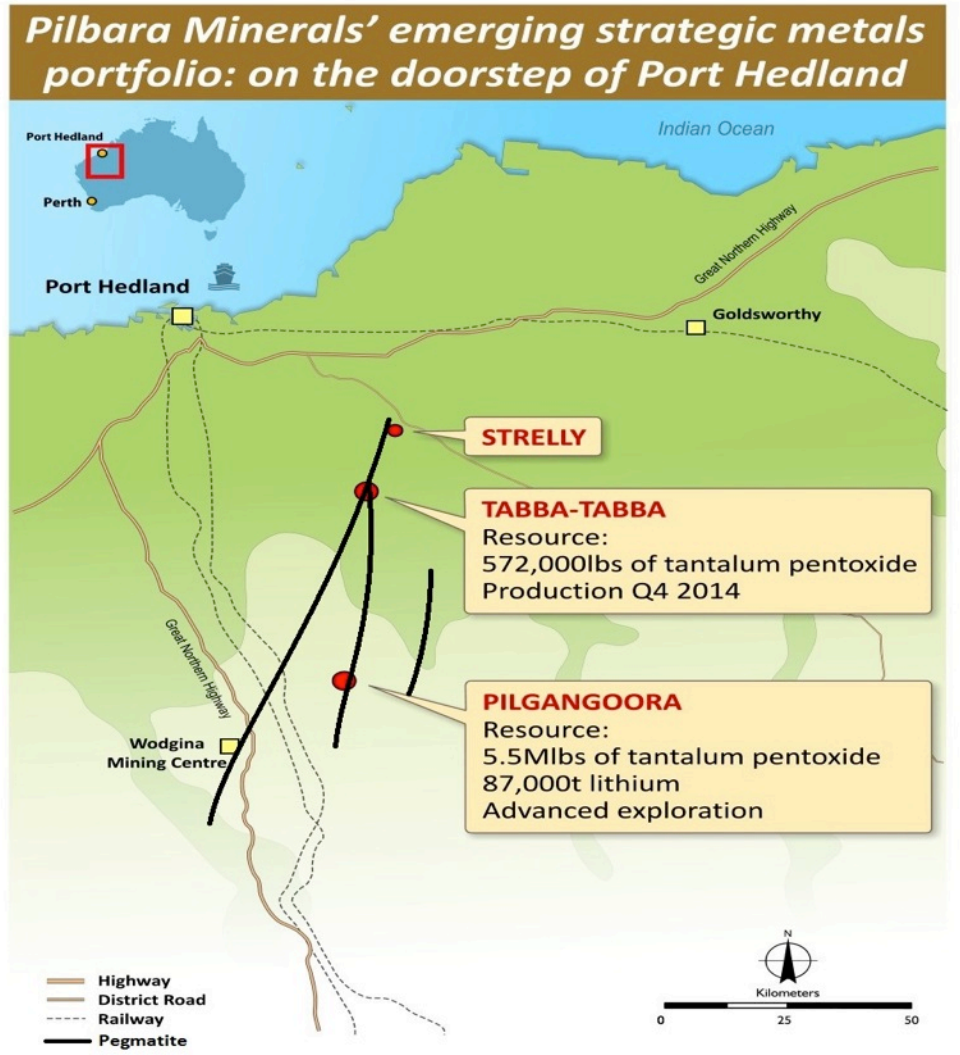
- The Company confirms it is not aware of any new information or data that materially affects the information included in the December 18, 2013 Mineral Resource Estimate and that all material assumptions and technical parameters underpinning the estimate continue to apply and have not materially changed when referring to its maiden resource announcement made on December 18, 2013.
- The Company confirms it is not aware of any new information or data that materially affects the information included in the June 17, 2014 Mineral Resource Estimate and that all material assumptions and technical parameters underpinning the estimate continue to apply and have not materially changed when referring to its maiden resource announcement made on June 17, 2014.
- The Company confirms it is not aware of any new information or data that materially affects the information included in the February 19, 2014 Mineral Reserve Estimate and that all material assumptions and technical parameters underpinning the estimate continue to apply and have not materially changed when referring to its maiden resource announcement made on February 19, 2014.

Listing Rule 5.19 Disclosure:

- The Company confirms that all the material assumptions underpinning the production target, or the forecast financial information derived from a production target, in the Feasibility Study as announced on 19 February 2014 continue to apply and have not materially changed.

Investment Highlights

- An emerging, low-cost producer of tantalum and lithium
- Portfolio of two substantial near-production assets in the Pilbara
- Located within 100km of Port Hedland – excellent infrastructure
- Imminent production and cash flow from Tabba Tabba Tantalum Project – 50/50 JV with Nagrom:
  - *Mining commencing Q4 2014*
  - *Low capital intensity, strong economics, secured off-take*
  - *Excellent production rate and mine life growth potential within Tabba Tabba underexplored pegmatites*
- 100% ownership of the world class Pilgangoora Project, located 55km from Tabba Tabba:
  - *World class lithium-tantalum resource with substantial upside*



Pilbara Minerals will produce ~10% of global tantalum production once Tabba Tabba is in production…

Corporate Overview

ASX CODE: PLS

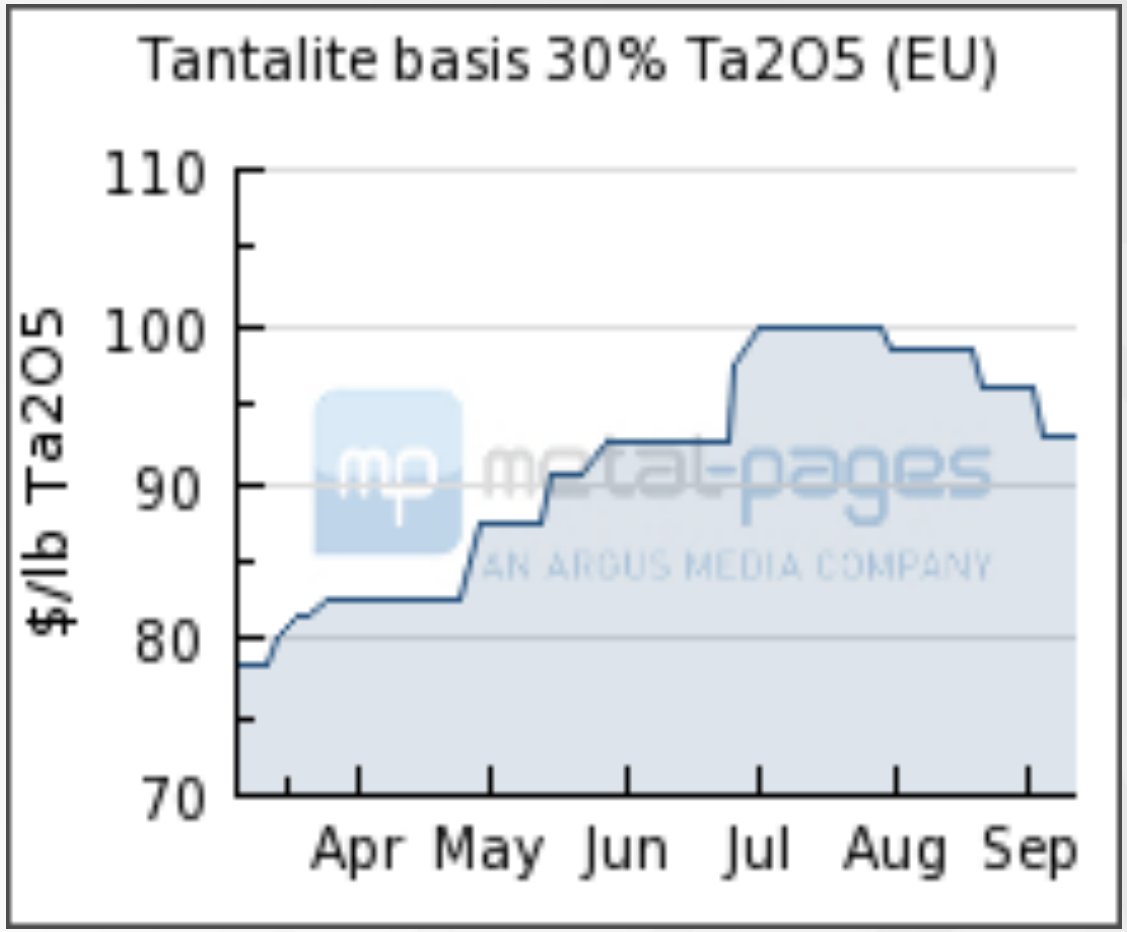
Capital Structure	ASX: PLS
Shares on issue	594 million
Convertible notes	1.5 million @ $1.00 each
Market capitalisation	$20 million @ 3.2¢
Top 20 shareholders	**80%**
Board & Management	**25%**
Cash	**$3.3 million**

Highly experienced management team with strong experience in exploration, mining and corporate management

- **Tony Leibowitz, Non-Executive Chairman** – Fellow of The Institute of Chartered Accountants in Australia, over 30 years professional experience and previously a senior partner with Price Waterhouse Coopers in corporate finance and investment banking
- **Neil Biddle, Director** – Geologist and Corporate Member of the AusIMM with over 30 years professional and management experience in the global exploration and mining industry. Since 1987, Mr Biddle has served as Managing Director and Exploration Manager of several ASX-listed companies
- **Robert G Adamson, Non-Executive Director** – Geologist with over 40 years experience, served in technical, managerial and board positions with several publicly-listed exploration and mining companies in Australia, South Africa, New Zealand, South Korea, Canada and the Philippines
- **John Young, Exploration Manager** – Geologist and Corporate Member of the AusIMM with over 25 years experience in the global exploration and mining industry. Ten years direct experience managing tantalite, tungsten and molybdenite projects

Tantalum – Rare and Highly Valuable

- Classified as a rare or specialty metal
- **Refined tantalum (99.99% Ta)** has a market value between US$800,000 and US$1.2M per tonne
- Tantalite, Ta_2O_5 has an approximate market value of **US$200,000 per tonne**
- Largest deposits located in **Australia**, Brazil and Africa
- Major use in **electronics**, especially for capacitors = **~50%** of global production (tablets, smartphones, cameras, etc)
- Also used for chemical and nuclear power plants, **airplanes** and missiles – may also substitute for platinum
- Global tantalum market forecast to grow by up to **60% to ~2,000 tonnes** by 2016 from ~1,300 tonnes currently
- Two major refiners globally: **Global Advanced Metals** (GAM) and HC Starck. GAM is PLS' off-take partner



Pilbara Minerals will account for ~10% of global tantalum production once Tabba Tabba is in production…

Quality Strategic Partners

Nagrom

- Project Manager, large PLS shareholder (4.2%)
- World-recognised metallurgical laboratory and processing engineers tantalum processing specialists since 1978
- Nagrom metallurgical staff will operate Tabba Tabba plant, ensuring optimum recovery and profit

Global Advanced Metals (GAM)

- **Leading vertically integrated and conflict-free provider** of high purity / high performance tantalum products to the electronics, aerospace, automotive, chemical manufacturing and other industries
- Off-take partner for Tabba Tabba concentrate (5-year term)

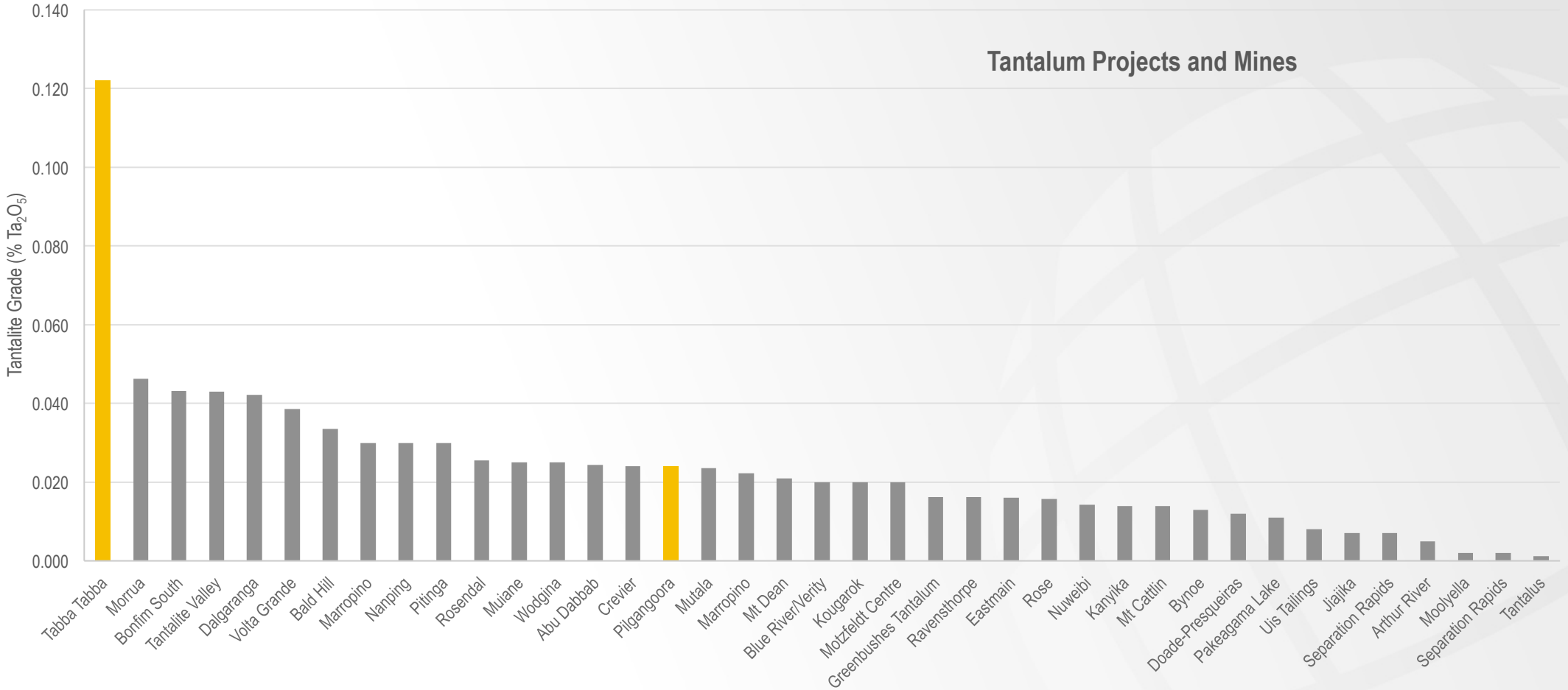
Tabba Tabba Tantalum Project

- Very high grade tantalum project
- Four Mining Licences granted: M45/354; M45/375; M45/376 and M45/377
- Environmental approvals completed
- Fully funded, capex of only $5.0 million ($2.5m already spent)
- Mine in construction
  - *Processing plant 95% constructed*
  - *Project start-up Q4 2014*
- Imminent cash flow
  - *Forecast to generate $16 million of EBITDA in first 1.5 years*
  - *Secure 5-year off-take with Global Advanced Metals Production upside*
  - *Excellent potential to increase project reserves to at least 5 year mine life*
  - *Mineral Resource of 572,200 lb of contained tantalite*
  - *2,000m drilling programme underway to extend Tabba Tabba minelife*

Tabba Tabba plant site

Water dam proposed for processing water

Pilbara Minerals Project Benchmarking



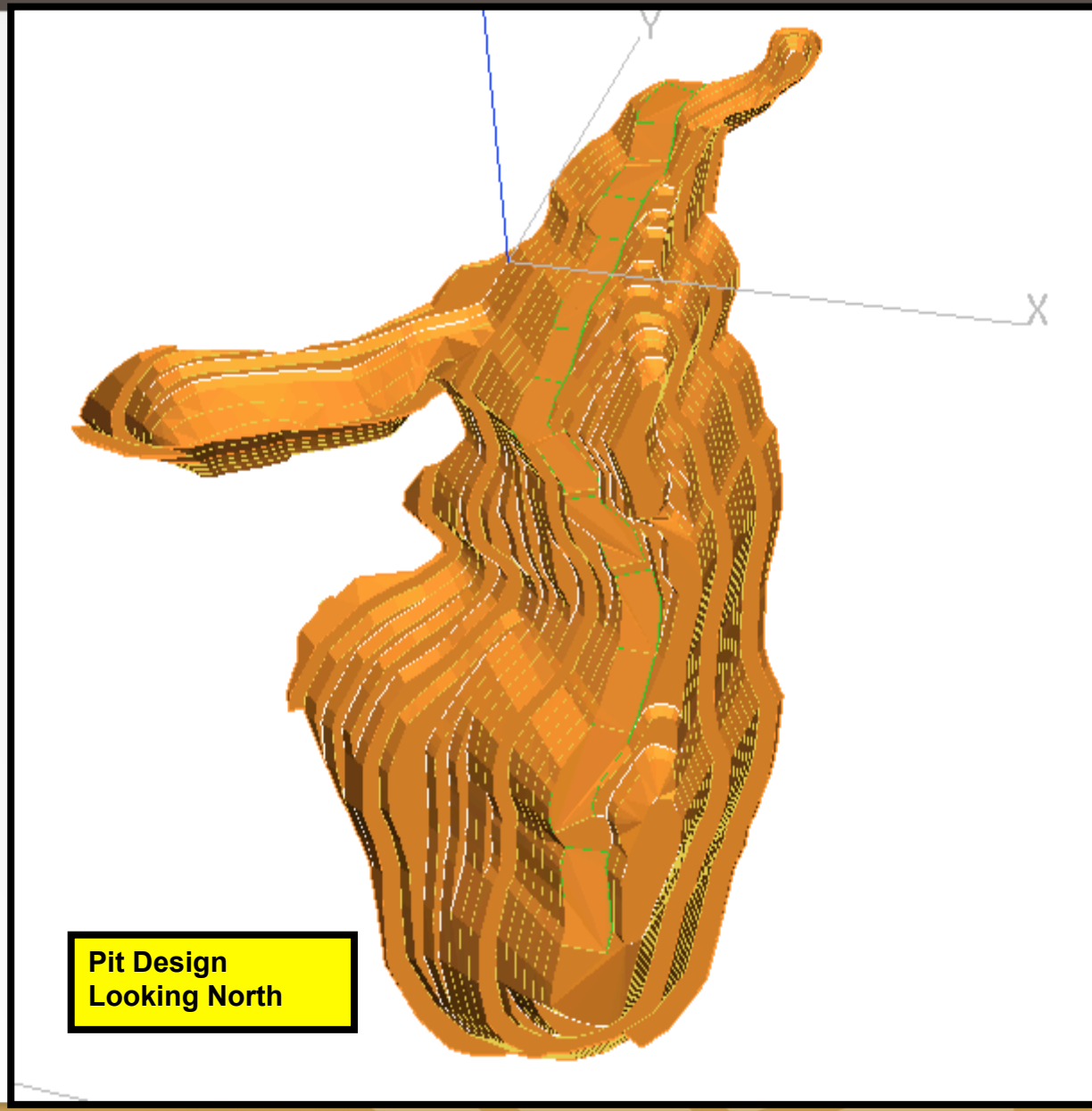
Tabba Tabba Ore Reserve Upside

- Past exploration and drilling focused on high grade zone
- Ore reserve converts 84% of the estimated measured & indicated mineral resource
- Ore Reserve

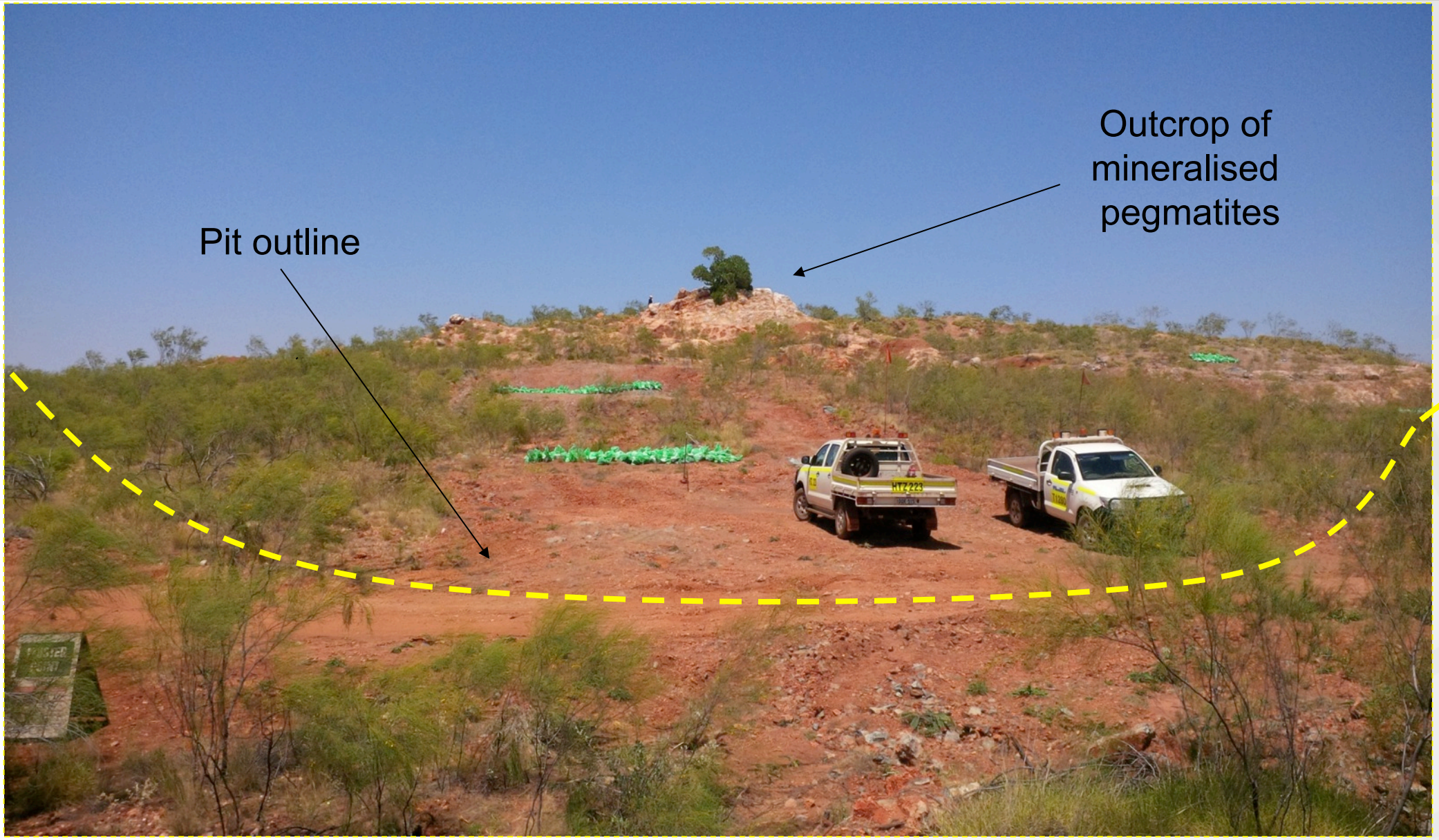
Category	Tonnage	Grade	Tantalite
Proven	32,000 t	1,420 ppm Ta_2O_5	100,178 lb
Probable	101,000 t	1,249 ppm Ta_2O_5	278,111 lb
Total	**133,000 t**	**1,290 ppm Ta_2O_5**	**378,289 lb**
Total Pit Design *	162,000 t	1,240 ppm Ta_2O_5	442,865 lb

* Includes 29,000 t @ 1,038 ppm Ta_2O_5 of inferred material (ramp)

- Inferred material may add substantially to the mine model with potential for **significant increase in the pit design and financial model**

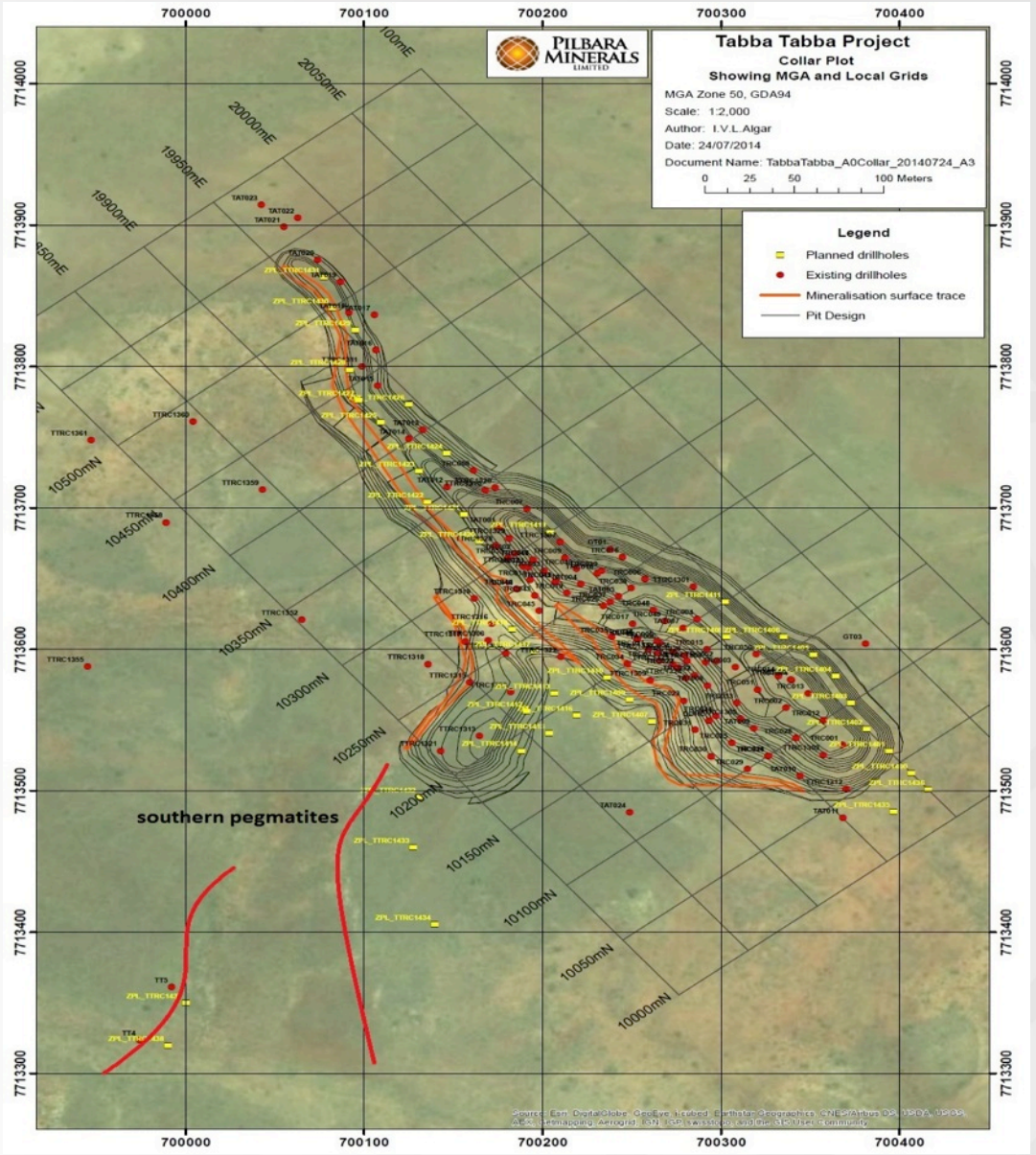


Tabba Tabba Pegmatite – Open Pit Zone looking south



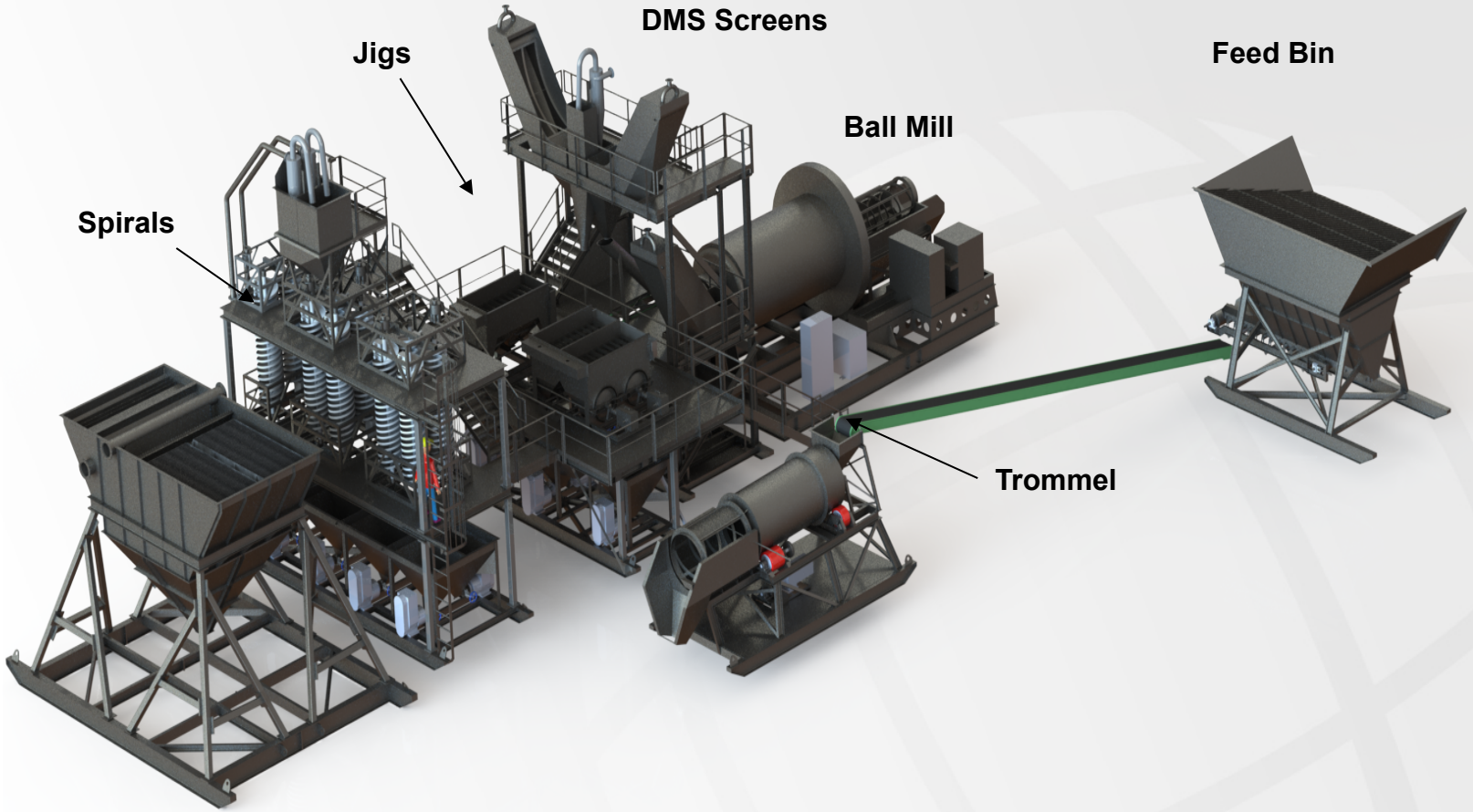
Tabba Tabba Tantalum Project – Strong Growth Potential

- Tabba Tabba pegmatite only drilled in high grade zone, up and down dip and along strike extensions to be drill tested in September 2014
- Tabba Tabba resource remains open in every direction
- Exploration targets at Tabba Tabba and surrounding areas have potential to significantly expand mine life
- 2,000m drilling program underway
- Advanced exploration asset located at Strelley 10km from Tabba Tabba, JV has MOU with GAM
- Historical Strelley drilling comprises 62 NQ diamond holes and 3 RC holes



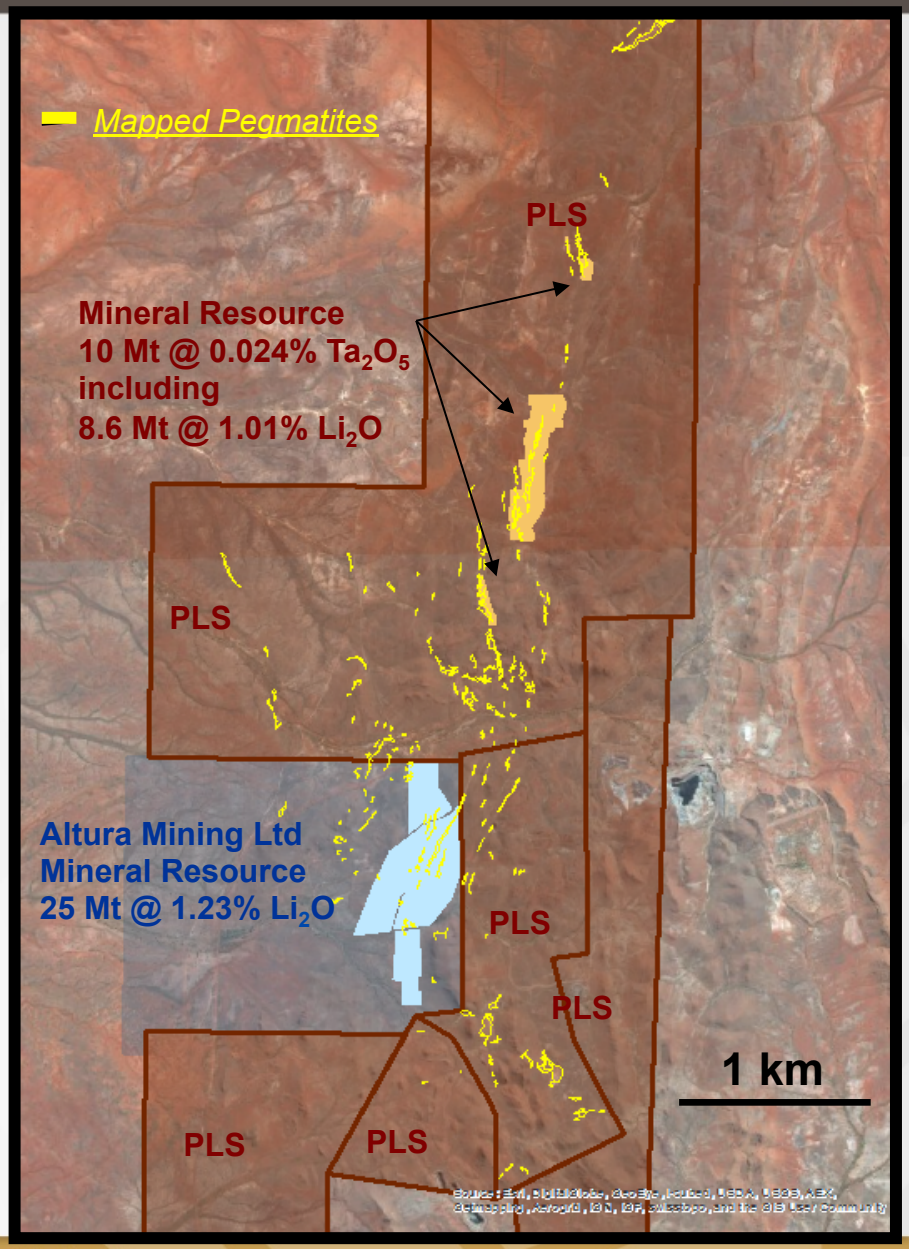
Tabba Tabba Tantalite Processing Plant

- Crushing and gravity plant rated at 120,000tpa on single shift
- Upgradeable to 250,000tpa with additional ball mill and spirals
- Upgradeable to 500,000tpa with working
  2 x 10 hour shifts per day
- Produces 5% Ta_2O_5 concentrate to meet GAM's off-take specification



Pilgangoora Lithium-Tantalite Project

- 100% owned world class Lithium and Tantalite resource within contiguous block of 3 Mining Licences, 2 Exploration Licences
- Maiden Inferred Resource of 10.4Mt @ 0.024% Ta_2O_5 containing 5.5Mlb of Ta_2O_5, including 8.6Mt @ 1.01% Li_2O containing 87,000t of lithium
- Significant potential to increase resource through in-fill and step-out drilling
  - *RC drilling planned for Q4 2014 focusing on higher-grade tantalum lenses and lithium targets on strike from Altura's resource*
- Majority of pegmatites remain untested by drilling
- **10,000m RC drill program commencing in October 2014**



Timetable for Tabba Tabba Production – Resource Upgrades

	Q3 2014	Q4 2014	Q1 2015
MINE PRODUCTION	✓ Complete $2.5M capital raising ✓ Complete lodgement of Statutory Works Approval Application, Mine Plan & Mine Closure Plan	• Complete construction of Tabba Tabba treatment plant • Commission treatment plant at Nagrom • Commence mine construction – pads for tailings dam and waste dumps, pads and concrete footings for treatment plant, camp pads, haul roads • Transport treatment plant to site, install and commence trialling • Commence open pit pre-strip and ore stockpile	• **Official mine opening** • **Production and sale of first tantalite concentrates**
DRILLING & RESOURCE UPGRADES	• Commence resource extension drilling at Tabba Tabba • Exploration drilling at southern pegmatite	• Assess southern pegmatite for resource potential • Commence Pilgangoora resource drilling • Complete Tabba Tabba drilling • **Upgrade Tabba Tabba resource/reserve**	• Complete first phase of Pilgangoora drilling • Infill drilling southern pegmatite • **Resource upgrade for Pilgangoora** • Resource estimate for southern pegmatite

Intense news flow over the next six months

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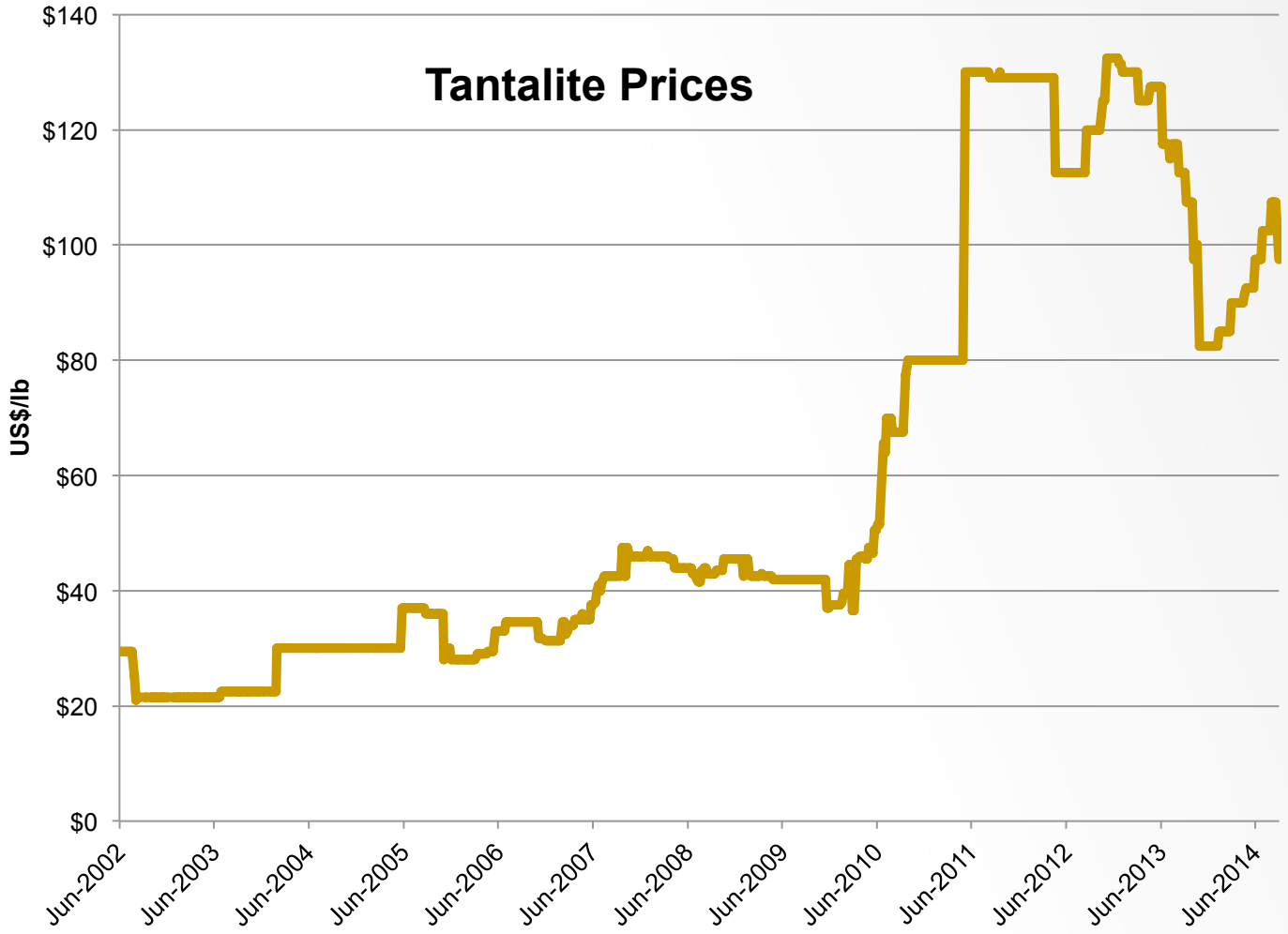
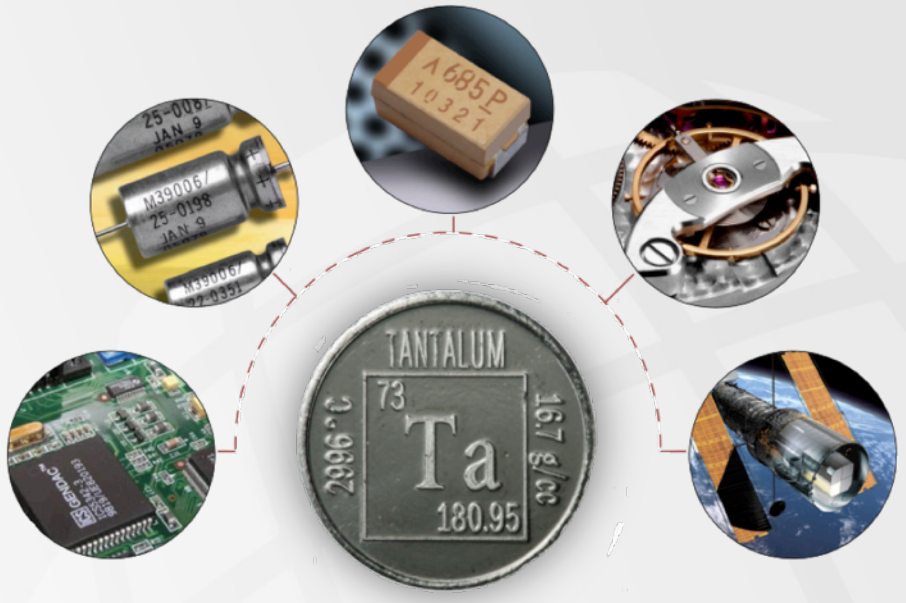
APPENDIX

Tantalum – Rare and Precious

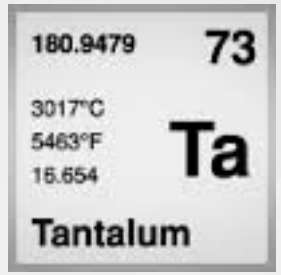


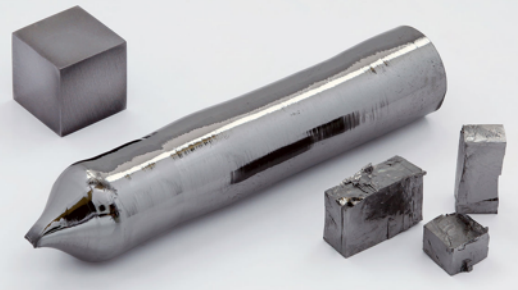
Source: Metal Prices, Terra Studio

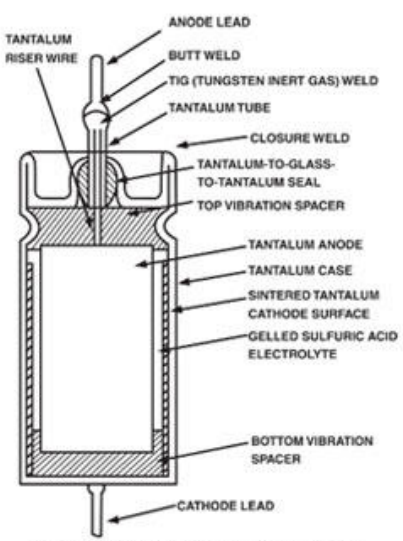


Tantalum – Characteristics and Uses

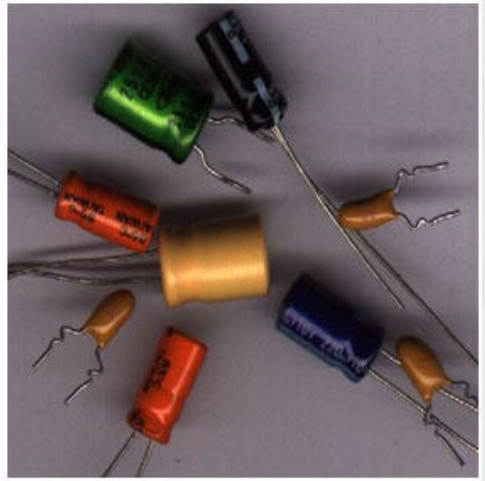
- **Characteristics**: Tantalum is a hard, dense, blue-grey metal with a melting point of 3017°C that combines readily with other refractory metals to form 'super alloys'. It has high tensile strength, is extremely malleable and ductile, and is almost completely immune to chemical attack. The metal is extremely good at conducting both heat and electricity, meaning that it can be used in small components that don't crack up under pressure. Tantalum is present in a vast array of minerals; however, it is tantalite, a member of the columbite–tantalite group, that is the most commonly occurring tantalum mineral
- **Uses**: The chemical inertness of tantalum makes it a valuable substance for laboratory equipment and a substitute for platinum. Tantalum is also used for medical implants and bone repair. Its main use today is in **tantalum capacitors** in electronic equipment such as mobile phones, DVD players, video game systems and computers
- In excess of 50% of tantalite concentrate is used in the manufacture of high-purity tantalum powder for the manufacture of tantalum capacitors required by the electronics and telecommunication industries. Due to their small size and high reliability, these capacitors are used in miniaturised circuits of computerised equipment. It is estimated that 35% of tantalum capacitors are destined for use in mobile phones. The average mobile phone has about 40mg of tantalum inside



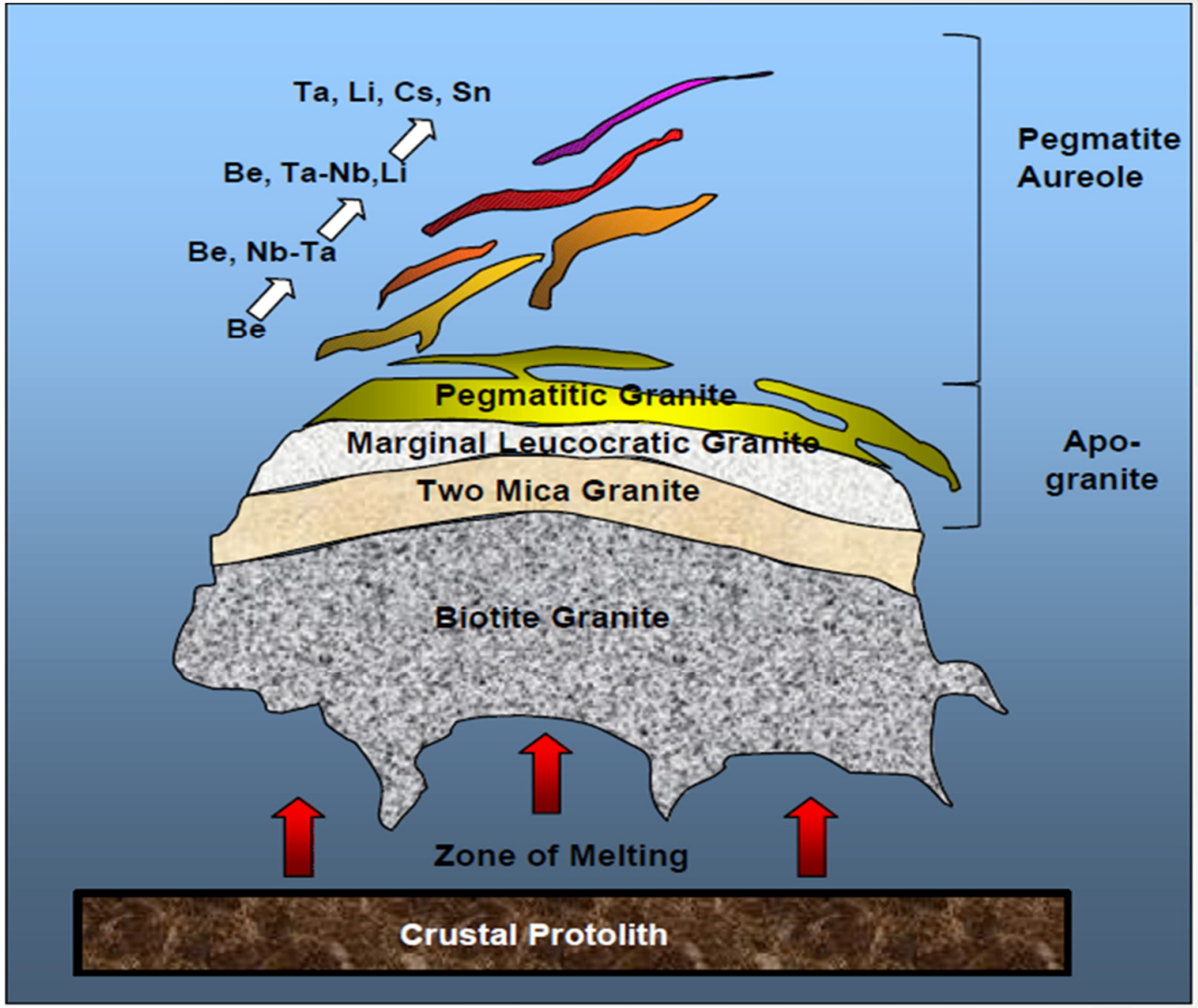




Tantalum Electrolyte Construction


Tantalum Electrolyte Capacitors

Tantalum – Lithium Metallogenic Model



Typical Fractionation Paradigm of Pegmatites from the Parent Magma

Tabba Tabba Main Pegmatite

Massive quartz core of the main Tabba Tabba pegmatite dyke (looking south). While quartz mass rises to about 2.5m above the natural land surface

Detail of the Tabba Tabba pegmatite quartz core. Shows surficial tantalite (dark grey)