

21 July 2025

# Loyal Joins Forces with Dr. Simon Beams to Unlock Highway Reward's Copper-Gold Potential

## Key Highlights

- Loyal Metals has joined forces with Dr. Simon Beams of Terra Search, a highly regarded Townsville-based geologist with over 38 years of hands-on experience at the Highway Reward Copper-Gold Mine and the broader Mount Windsor Volcanic Belt.
- The collaboration aims to unlock the remnant potential of the Highway Reward Copper-Gold Mine, among the world's highest-grade copper mines, with historical production of 3.65Mt at 5.7% Cu and 260kt at 4.5 g/t Au.
- Loyal Metals and Terra Search have launched an accelerated digitisation and data consolidation initiative, enabling advanced AI-powered mining software to create 3D geological models and identify promising exploration targets for drilling.
- Throughout the mine's 20-year dormancy, Terra Search has preserved a comprehensive and robust archive of both exploration and mining data — an invaluable foundation for revitalisation.
- Dr. Simon Beams, a key figure in the late 1980s discovery drillhole, has shaped the Highway-Reward project through his geological expertise, geochemical research, and over 15 technical publications.
- With \$4.4 million in available funding, Loyal Metals is primed to deploy modern exploration techniques and re-engage with Highway Reward's exceptional copper-gold potential.

Loyal Metals Limited (ASX:LLM) (**Loyal, LLM, or the Company**) is pleased to announce that renowned local geologist Dr. Simon Beams of Terra Search has been engaged to assist in unlocking the remnant copper-gold potential of the historic Highway Reward Mine, in Queensland, Australia. With \$4.4 million in funding<sup>1</sup> the collaboration aims to combine Dr. Simon Beams' 38+ years of experience with a comprehensive digital data set to accelerate the identification of exploration targets for drilling. With the aid of advanced exploration techniques, such as AI-powered mining software and cutting-edge geophysics, Loyal Metals plans to unearth the next generation of discoveries at this exceptional high-grade copper-gold system.

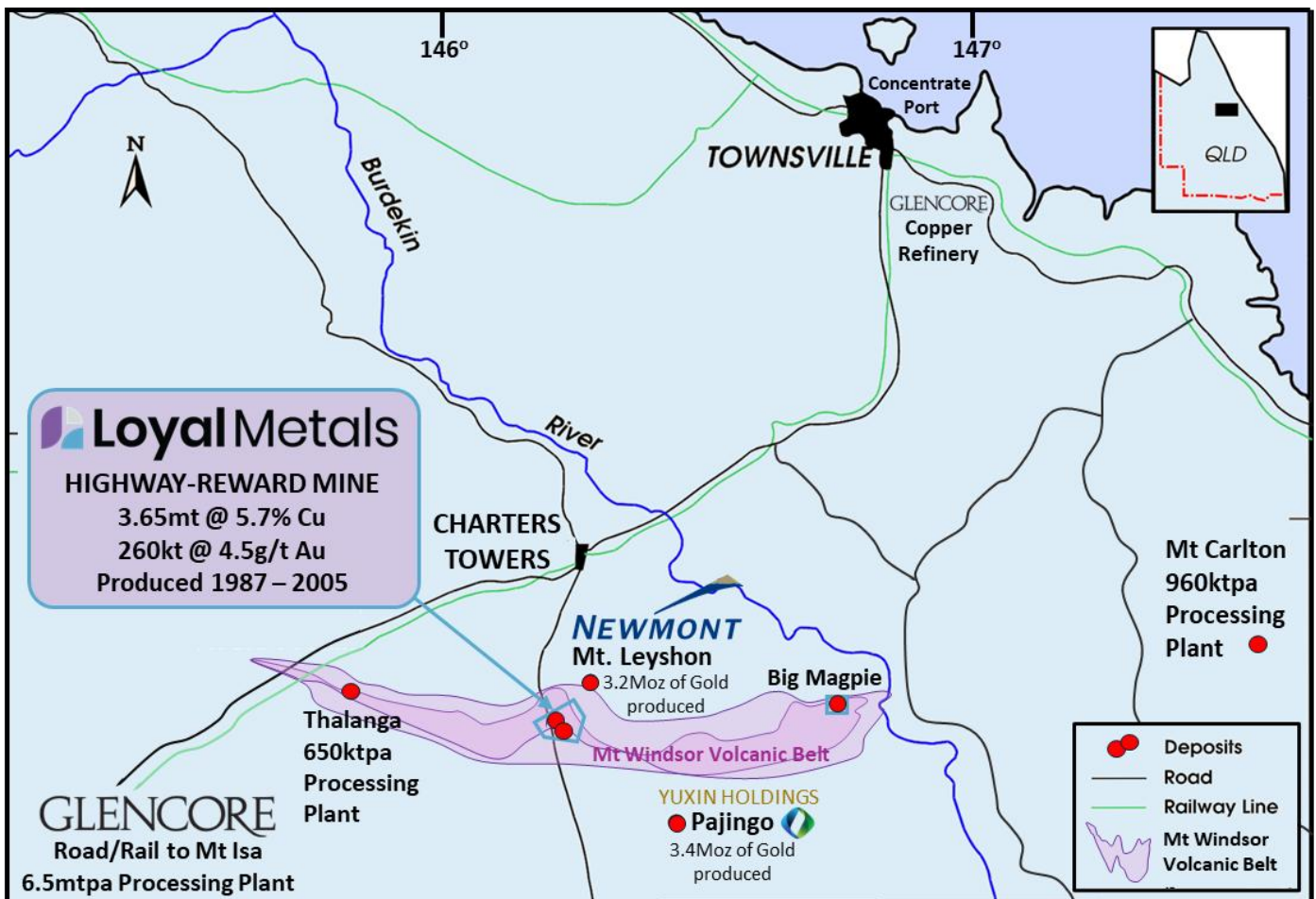


**Image 1:** Dr Simon Beams (left) and Loyal Metals' Competent Person Darren Allingham (right) reviewing physical copies of geologic data for the Highway Reward Copper Gold Mine at the Terra Search office, in Townsville, Australia.

**Loyal's Managing Director, Mr. Adam Ritchie, commented:**

*"Highway Reward is more than a historic mine — it's a proven, high-grade copper-gold system with significant untapped potential. Engaging Dr. Simon Beams enables us to fast-track the next phase of discoveries, combining unmatched local expertise, modern exploration tools, and a clear vision for revitalisation. With a comprehensive digital data set and \$4.4 million in funding, Loyal Metals is well positioned to unlock significant value through targeted exploration."*

*"Dr. Simon Beams and the Terra Search team have been instrumental in preserving and interpreting the Highway Reward Mine's legacy data, ensuring its integrity and accessibility for future exploration. His decades of hands-on involvement have advanced the deposit's geological understanding and laid a strong foundation for its next chapter. His expertise is invaluable as we work to realise the full potential of this world-class copper-gold system."*



**Figure 1:** Highway Reward Copper Gold Mine: Located 37 km south of Charters Towers within the Mt Windsor Volcanic Belt. Accessible via an all-weather highway, 172 km from the Port of Townsville, Queensland, Australia.

**Terra Search’s Managing Director and Principal Geologist, Dr. Simon Beams, commented:**

*“Highway Reward holds a special place in my career – not just as a geologist, but as someone who was there for the discovery drill hole, a rare privilege in this field. Seeing it now enter a new phase of revitalisation is incredibly rewarding. This is a high-grade copper-gold system with immense untapped potential.*

*Having guided this project through its early exploration, I’ve seen firsthand the richness of its geology. Now, we’re bridging decades of hands-on knowledge with cutting-edge tools—AI, advanced geophysics, and 3D modeling—to fast-track new discoveries. This isn’t just about revisiting old data; it’s about rewriting the playbook with modern precision.*

*Creating a technical partnership between Terra Search and Loyal Metals injects fresh energy into a project I’ve long believed in. Together, we’re not just revisiting a mine; we’re setting a new standard for how legacy assets can be transformed through innovation. Highway-Reward is one of those richly endowed mineralisation hubs where since the initial discovery that Terra Search were involved in, I have been fortunate enough to see smart geological teams make repeated discoveries in the district.”*

Dr. Simon Beams and his Terra Search team will be leading an accelerated digitisation and data consolidation initiative. Dr. Simon Beams deep history with both the Highway Reward archives and the Mt Windsor Volcanics (where his research on VHMS systems is widely cited) will enable rapid consolidation of drilling logs, geologic interpretations, and production data analysis. Critical structural controls and mineralisation trends identified in Dr. Beams' earlier work will now be enhanced through modern analytics. Integrating the preservation of knowledge with advanced analytics enables Loyal Metals to target both remnant and new mineralisation in the high-grade system of Highway Reward.

With the acquisition of the Highway Reward Copper-Gold Mine, Loyal Metals has gained access to a substantial repository of exploration and mining data in both physical and digital formats. This data will be digitised, analysed, and prioritised to enable the integration of advanced AI-driven mining software. Leveraging this technology will support the development of advanced 3D geological models, which will help identify high-potential exploration targets for drilling and assess opportunities for remnant copper-gold extraction.

Concurrently, Loyal plans to implement modern exploration techniques, including MobileMTd (drone-based innovative geophysics) and LiDAR surveys. The addition of these cost-effective techniques will further refine the 3D geological models and exploration targets for drilling.

### **Dr. Simon Beams and the Highway-Reward Project**

Dr. Simon Beams, a geologist since 1975, holds a doctorate in geology and has been a leading figure in mineral exploration across Northern Australia. As Managing Director and Principal Geologist of Terra Search Pty Ltd for over 38 years, he has overseen numerous exploration and evaluation programs that have led to significant mineral discoveries and mine developments. His work has spanned a range of commodities including base metals, gold, uranium, phosphate, magnetite skarn, oil shale and critical metals such as cobalt, REE, and graphite.

Dr. Beams has had a particularly influential role in the Highway-Reward polymetallic project, located in the Mt Windsor Subprovince of North Queensland. His early geological investigations and detailed documentation of the region's stratigraphy, mineralisation, and geochemistry were critical in shaping the understanding of the deposit prior to mining. His research provided a foundation for exploration strategies and resource development in the area.

Connected to over 15 technical publications and numerous publicly available company reports in his esteemed career, with the following key publications related to Highway-Reward and Mt Windsor Subprovince:

1. The Exploration History, Geology and Geochemistry of the Polymetallic Highway-Reward Deposit, Mt Windsor Subprovince
  - Co-authors: Ed V. Dronseika, Mark G. Doyle
  - Published in: Economic Geology of Northeast Queensland, 1998 Perspective,

- Impact: Assisted Mining Geologists. Established a full geological and geochemical model for the deposit. Scientific journal publications on the volcanic facies.
- 2. Reward Polymetallic Sulphide Deposit
  - Co-authors: J.P. Laurie, D.M. O'Neill
  - Published in: Geology of the Mineral Deposits of Australia and Papua New Guinea, 1990 AusIMM Monograph
  - Impact: Provided early insights into the mineralisation and structural controls of the Reward deposit.
- 3. Excursion Guide to the Seventy Mile Range Group: Mt Windsor Volcanics and Trooper Creek Formation
  - Published: 1985
  - Impact: Served as a foundational field guide for understanding the volcanic stratigraphy of the Mt Windsor belt.
- 4. The Exploration History and Geology of the Polymetallic Reward Deposit, Mt Windsor Volcanic Belt, North Queensland
  - Published in: NQ Gold '89 Conference Proceedings
  - Co-authors: Bill Laing, & Dennis O'Neill
  - Impact: Documented the early exploration and geological evolution of the Reward deposit.
- 5. Polymetallic massive sulfide deposits of the Mt Windsor Subprovince.
  - Published in 2018 In: Phillips, GN (Ed), Australian Ore Deposits pp689-692.AusIMM Monograph
  - Co-authors : Tav Bates, Dave Huston & Ian Morrison
  - Impact: A succinct more recent summary of the volcanic hosted mineralisation styles and resources within the Mt Windsor sub province.

Dr. Beams' contributions have had a lasting impact on the success of the Highway-Reward project, bridging applied academic research with practical exploration outcomes. Beyond his fieldwork, he has served for over three decades on the Industry Advisory Board of the Economic Geology Research Centre (EGRU) at James Cook University and is a member of the Queensland Exploration Committee for AMEC, a leading industry body representing mineral explorers in Australia.

### **The Highway Reward Copper Gold Mine Story<sup>2</sup>**

The initial discovery of gold occurred at the Highway mine in 1953 when a road cutting exposed a gossanous heavy white mineral. Government geologists identified this mineral as barite associated with gold. However, it wasn't until 1987 that this discovery was mined as a shallow (~50m) open-cut gold operation, which lasted until 1989. Although accurate production records are inexact, it is reported that approximately 171,000 tonnes at 4.4 g/t of gold were mined. During

this first mining phase, drilling uncovered the high-grade copper Reward orebody, an oxide and supergene copper-gold discovery. Further drilling revealed a second copper pipe, the Highway orebody, which was a primary fresh rock copper discovery. Additional copper pipes were found, including Highway South, Upper & Lower Reward, Conviction, B Lens and Chimney, supporting underground mining and extending the life of mine. These discoveries shifted the project's focus from gold to copper as multiple copper pipes and lenses were discovered.

A key lesson from past exploration at the Highway Reward Mine was the repeated discovery of high-grade copper pipes. Despite their short strike lengths, restricted depths, and narrow widths, these structures consistently host rich copper mineralization. These copper pipes are now known to be present even in areas where the geology was previously considered unfavourable, with the last discovered high-grade copper lens named Conviction found in dacite.

Following a series of corporate transactions, feasibility studies were conducted without the consideration of gold. The studies selected the Thalanga polymetallic processing plant, located within a 100 kilometres drive of the deposit, to process ore for its copper content. The Highway Reward Copper mine operated from 1987 to 2005, with total copper production reported as 3.65 million tonnes at 5.7% Cu. Records for total oxide gold production are less certain for the 1987-1989 mine, with a reliable global estimate for two stages of oxide gold mining of approximately 260,000 tonnes at 4.5 g/t Au.

## Corporate Update

To better align the interests of the Directors with the performance of the Company's newly acquired Highway Reward Copper Gold Project, the Company proposes to cancel performance rights issued to Directors that relate to the Company's North American lithium assets. Subject to shareholder approval at an upcoming extraordinary general meeting, a new class of performance rights and options will be issued to Directors, with performance milestones that directly align with the performance milestones of the Highway Reward Copper Gold Mine acquisition.

Director	Cancelled Performance Rights	New Performance Rights	Net increase of Performance Rights	New Options (exercisable at \$0.30, expiring 3 years from date of issue)
Adam Ritchie	-4m	5m	1m	-
Peretz Schapiro	-1.25m	2.5m	1.25m	-
Blair Way	-	1m	1m	1m

The new performance rights are subject to shareholder approval and will convert to shares upon the achievement of the following milestones (Performance Milestones):

Performance Milestone	Performance Rights		
	Adam Ritchie	Peretz Schapiro	Blair Way
Upon the Company delineating a JORC compliant Inferred Mineral Resource of at least 1.0mt at a minimum grade of at least 2% Copper equivalent at the Highway Reward Project.	1m	0.5m	0.2m
Upon the Company delineating a JORC compliant Indicated Resource or Measured Resource with at least 100,000t of contained Copper metal equivalent at the Highway Reward Project.	1m	0.5m	0.2m
Upon the Company announcing to the ASX a positive Pre-Feasibility Study for the recommencement (or commencement) of the Highway Reward Project operations.	1m	0.5m	0.2m
Upon the Company announcing to the ASX the entry into a financing and offtake agreement (or any similar or alternate arrangements).	1m	0.5m	0.2m
Upon the Company announcing to the ASX that commercial mining recommenced (or commenced) at the Highway Reward Project.	1m	0.5m	0.2m
<b>Total</b>	<b>5m</b>	<b>2.5m</b>	<b>1m</b>

In accordance with ASX Listing Rule 3.16.4, Loyal announces amendments to the terms of Mr. Ritchie's Managing Director employment contract. Instead of an increase to the Managing Director's fixed annual remuneration, which will remain unchanged, the Company will also issue 4m retention shares in staged tranches over an 18-month period, subject to shareholder approval pursuant to Listing Rule 10.1.

Key Management performance rights (1.15m) will also be cancelled and replaced with of new performance rights (2.35m). These securities will be issued under the Employee Securities Incentive Plan and align directly with the performance milestones of Directors and the Highway Reward Copper Gold Mine acquisition. The cancellation of the existing performance rights and options is being undertaken independently and not on the basis that the holders will receive new securities as consideration or replacement. On this basis, Listing Rule 6.23.2 does not apply and the issue of the new securities will not be subject to shareholder approval.

*This announcement has been authorised for release by Loyal Metal's Board of Directors.*

**For more information:****Adam Ritchie**

Managing Director

aritchie@loyallithium.com

+61 (0) 403 462 383

**About Loyal Metals**

Loyal Metals Limited (ASX: LLM) is a well-structured listed resource exploration company with projects in Tier 1 North American and Australian mining jurisdictions. Through the systematic exploration of its projects, the Company aims to delineate JORC compliant resources, creating value for its shareholders.

**Future Performance**

This announcement may contain certain forward-looking statements and opinion. Forward-looking statements, including projections, forecasts and estimates, are provided as a general guide only and should not be relied on as an indication or guarantee of future performance and involve known and unknown risks, uncertainties, assumptions, contingencies and other important factors, many of which are outside the control of the Company and which are subject to change without notice and could cause the actual results, performance or achievements of the Company to be materially different from the future results, performance or achievements expressed or implied by such statements. Past performance is not necessarily a guide to future performance and no representation or warranty is made as to the likelihood of achievement or reasonableness of any forward-looking statements or other forecast. Nothing contained in this announcement, nor any information made available to you is, or and shall be relied upon as, a promise, representation, warranty or guarantee as to the past, present or the future performance of Loyal Metals Limited.

**ASX Listing Rules Section 5.23**

Exploration results are cross-referenced in this Announcement, with the relevant market announcement containing the statements and consent referred to in the section "References" in this Announcement. Loyal Metals Ltd confirms that it is not aware of any new information or data that materially affects the information included in the relevant market announcement.

**List of References:**

1. ASX LLM Announcement - 30 April 2025 Quarterly Activities Report For the Quarter Ending 31 March 2025.
2. ASX LLM Announcement - Loyal to Acquire The High-Grade Highway Reward Copper Gold Mine 02 July 2025.

## Appendix 1: List of Dr. Simon Beams Publications Relevant to the Mt Windsor Volcanics

Beams, S.D., Laing, W.P. & O'Neill D.M., 1989. The exploration history and geology of the polymetallic Reward deposit, Mt Windsor Volcanic Belt, North Queensland: North Queensland Gold '89 Conference, Townsville, Queensland, April 1989, Proc., pp.95-102.
Beams, S.D., Laurie J.P. & O'Neill D.M. (1990) .Reward polymetallic sulphide deposit In Hughes F.E. ed. Geology of the Mineral Deposits of Australia and Papua New Guinea, pp 1539-1543. (The Australasian Institute of Mining and Metallurgy, Melbourne.)
Berry, R.F., Huston, D.L., Stolz, A.J., Hill, A.P., Beams, S.D., Kuronen, U. & Taube, A., 1992. Stratigraphy, structure and volcanic hosted mineralisation of the Mt Windsor Subprovince, North Queensland, Australia. Econ. Geol. V.87, 739-763.
Beams, S.D. (1995) .ed. Mineral deposits of North east Queensland: Geology and Geochemistry. EGRU Publication 52. James Cook University of North Queensland pp277.
Beams, S.D. & Dronseika, E.V., 1995. Exploration history, geology and geochemistry of the polymetallic Reward & Highway deposits, Mt Windsor. In: Mineral Deposits of Northeast Queensland: Geology & Geochemistry (Ed. S.D. Beams), pp.137-153. EGRU Contribution 52, James Cook University.
Beams, S.D. & Jenkins, D.R., 1995. Regional exploration geochemistry and the regolith of Northeast Queensland. In Mineral Deposits of Northeast Queensland: Geology and Geochemistry (Ed. S.D. Beams), pp.33-53. EGRU Contribution 52. James Cook University.
Hutton, L.J., Beams, S.D. & Rapkins, R.J (1996) Charters Towers 100,000 Geology Map. Queensland Department of Mines and Energy.
Beams, S.D. (1998a) .An overview of the influence of the regolith on mineral exploration sampling media, north east Queensland. In: Eggleton, R.A. ed. The State of the Regolith. Geological Society of Australia Special Publication, 20, 7-22
Beams, S.D. (1998b) .ed. Economic Geology of North east Queensland, the 1998 Perspective. Mineral deposits of North east Queensland: Geological Society of Australia Inc. pp248.
Beams, S.D., Dronseika, E.V. & Doyle, M.G., 1998. The exploration history, geology and geochemistry of the polymetallic Highway-Reward deposit, Mt Windsor Subprovince. In: Beams, S.D. ed. Economic Geology of Northeast Queensland, the 1998 Perspective. Geological Society of Australia Inc.
Beams, S.D. (2009) .ed. North Queensland, Gold and Base Metals Field Trip. Excursion Guide, Selected Papers and Maps. SGA2009, EGRU. James Cook University of North Queensland, pp277.
Beams,S.D.,Bates, T.,Huston,D.L.,& Morrison,I.J. 2018. Polymetallic massive sulfide deposits of the Mt Windsor Subprovince. In : Phillips,GN (Ed), 2017 <i>Australian Ore Deposits</i> pp689-692. (The Australasian Institute of Mining and Metallurgy:Melbourne).