TETRIS GEOMETALLURGY

"Solving the Puzzle, One Deposit at a Time"

About Us

Tetris Geometallurgy is an independent consulting business specialising in geometallurgy, orebody knowledge, and predictive resource characterisation.

We help mining companies maximise project value by designing and implementing geometallurgical programs that deliver actionable insights—not simply more data. Our approach integrates geology, mineralogy, metallurgy, geochemistry and operational performance to identify the key drivers of processing variability and embed predictive knowledge into resource models.

Rather than relying on generic testing programs, we develop customised strategies that answer the questions that matter most for each deposit, reducing uncertainty and supporting better investment, mine planning and operational decisions.

Why Choose Tetris Geometallurgy?

- Independent and vendor-neutral advice
- More than 20 years of mining industry experience
- Whole-of-value-chain perspective from exploration through processing
- Expertise across geology, mineralogy, metallurgy and data analytics
- Practical experience implementing geometallurgy within operating mines
- Strong focus on innovation and emerging technologies
- Proven leadership of multidisciplinary technical teams
- Extensive experience mentoring and developing technical professionals

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The Tetris ‘Edge’

Every orebody is different.

The Tetris ‘Edge’ is our structured methodology for designing geometallurgical programs that connect strategic understanding with operational outcomes.

Our approach ensures that data collection is purposeful, representative and focused on identifying the factors that genuinely influence processing performance and project value.

Our methodology follows five key stages.

Understand: Identify the geological controls, knowledge gaps and business risks that influence project value.

Design: Develop representative sampling strategies and fit-for-purpose metallurgical testwork programs.”

Integrate: Combine geology, mineralogy, metallurgy and operational datasets into a unified understanding of ore variability.

Predict: Develop practical predictive models that quantify processing response and support strategic planning.

Deliver: Embed actionable knowledge into resource models, mine planning and operational workflows.

The result is a practical understanding of ore behaviour that improves decision-making throughout the mining value chain.

Our Commitment

At Tetris Geometallurgy, we believe that data is only useful if it delivers actionable insights.

Our goal is to help clients collect the right data, ask the right questions and develop practical predictive tools that improve decision-making to unlock value.

Contact

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Principal Consultant

Karyn Gardner BSc (Hons), MAusIMM

Karyn Gardner has over twenty years' experience across Australia's leading mining companies, including Newcrest Mining, Evolution Mining and Mineral Resources.

Throughout her career she has developed and led strategic geometallurgical programs for major gold, copper, lithium and iron ore operations, integrating geology, mineralogy, metallurgy and operational data to improve mine planning and processing performance.

Her experience spans the entire mining value chain, including:

- Resource estimation
- Orebody knowledge and geometallurgy
- Metallurgical testwork program design
- Predictive modelling
- Technology implementation

Karyn has successfully led multidisciplinary teams of geologists, metallurgists, mineralogists, data scientists and technicians while developing innovative approaches that combine traditional geological understanding with machine learning and modern analytical technologies.

Industry Experience

Commodities include:

- Gold
- Copper
- Lithium
- Iron Ore
- Base Metals

Selected project experience:

- Design of strategic geometallurgical programs for world-class gold deposits.
- Development of predictive recovery models using operational plant data.
- Application of LIBS and machine learning to classify lithology and alteration.
- Integration of mineralogical domains into resource block models.
- Evaluation of sensor-based ore sorting and emerging mining technologies.
- Research collaboration
- Mergers and acquisitions support
