# Position Details

## Research Scientist/Engineer- CSOF5

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| The following information is for applicants | |
| Advertised Job Title | Mineral Mapping Scientist |
| Job Reference | 83721 |
| Tenure | Specified Term of 3 years  Full-time |
| Salary Range | AU$102,724k - AU$111,165k per annum (pro-rata for part-time)  plus up to 15.4% superannuation |
| Location(s) | Kensington, Perth, WA |
| Relocation Assistance | Will be provided to the successful candidate if required |
| Applications are open to | * All Candidates |
| Position reports to the | Principal Research Scientist |
| Client Focus – Internal | 40% |
| Client Focus – External | 60% |
| Number of Direct Reports | 0 |
| Enquire about this job | Contact Adam Bath via email at adam.bath@csiro.au or phone +61 8 6436 8690 |
| How to apply | Apply online at <https://jobs.csiro.au/>  Internal applicants please apply via **Jobs Central**  If you experience difficulties when applying, please email [careers.online@csiro.au](mailto:careers.online@csiro.au) or call 1300 984 220. |

**Acknowledgement of Country**

CSIRO acknowledges the Traditional Owners of the land, sea and waters, of the areas that we live and work on across Australia. We acknowledge their continuing connection to their culture and pay our respects to their Elders past and present. View our [vision towards reconciliation](https://www.csiro.au/en/about/Indigenous-engagement/Reconciliation-Action-Plan).

### Role Overview

CSIRO Mineral Resources (CMR) is one of the largest minerals research and development groups globally, with a proud track record in delivering innovation and solutions across the mineral resources value chain. We thrive on innovation harnessed by the diversity of the minds and lived experiences of our team and apply our expert knowledge and specialised research to provide innovation that solves the complex problems faced by minerals companies, mining equipment, technology, and services (METS) companies, government, and other industry stakeholders.

The role of Research Scientist/Engineer staff is to conduct innovative research leading to scientific achievements that are aligned with CSIRO’s strategies. The Research Scientist/Engineer may be engaged in scientific activity ranging from fundamental research to the investigation of specific industry or community problems. The Research Scientist/Engineer will have the opportunity to build and maintain networks, play a lead role in securing project funds, provide scientific leadership and pursue new ideas and approaches that create new concepts.

## As a mineral systems scientist within CSIRO’s Discovery program, you will help design and support industry and government sponsored researched programs. You will help acquire and oversee the acquisition of key data sets from world class ore bodies and help integrate those data with large pre-existing data sets to help understand large-scale processes during the formation of ore bodies. You will be responsible within a team environment for acquisition of data using CSIRO’s TIMA SEM and LIBS scanners, data handling, QA/QC and application of the data towards ore-body knowledge and exploration. You will also contribute to the design and implementation of data streams and analytics systems which help innovate new workflows leading to more efficient practices towards understanding mineral systems. This role may also work with and support other projects across CSIRO’s Discovery portfolio.

### Duties and Key Result Areas

* Working with project leads to support processing and analysis of large spatial and temporal datasets from mineral systems
* Supporting and helping to lead the acquisition of data at the deposit- and camp-scale with a focus on developing the application of LIBS and TIMA-SEM mineral data-sets for mineral exploration for a range of commodities
* Help with the development of data processing workflows using programming skills in a high-level languages such as Python
* Presenting findings in reports to sponsors, industry presentations, conferences and in peer-reviewed journals
* Under the supervision of more senior researchers, assist in the planning and preparation of research proposals and carry out research investigations, requiring originality, creativity and innovation.
* Select the most profitable line of attack upon a problem, prepare detailed design proposals and experimental protocols.
* Draw on professional expertise, knowledge of other disciplines and research experience to recognise opportunities for innovation and generate new theoretical perspectives by pursuing new ideas/approaches and networking with scientific colleagues across a range of disciplines.
* Participate in identification of further opportunities which arise from research and initiate new lines of research.
* Undertake activities focused on one or more elements of larger research projects.
* Apply discretion to decide and implement strategies appropriate to the successful completion of work.
* Liaise with clients to determine their needs and take personal responsibility for client satisfaction.
* Present results in a meaningful format, prepare reports for clients and/or write scientific papers for publication.
* Address problems promptly and in a constructive manner.
* Undertake experimental and/or observational research activities and supervise/train others to ensure experiments are established in accordance with research design.
* Provide supervision and coaching to students and technical staff.
* Communicate openly, effectively and respectfully with all staff, clients and suppliers in the interests of good business practice, collaboration and enhancement of CSIRO’s reputation.
* Work collaboratively as part of a multi-disciplinary, regionally dispersed research team to carry out tasks in support of CSIRO’s scientific objectives.
* Adhere to the spirit and practice of CSIRO’s Code of Conduct, Health, Safety and Environment procedures and policy, Diversity initiatives and Zero Harm goals.
* Other duties as directed.

## **Selection Criteria**

#### Essential

*Under CSIRO policy only those who meet all essential criteria can be appointed.*

1. A PhD (or an equivalent combination of qualifications and research experience) in a relevant field such as geochemistry, mineralogy and mineral systems science.
2. Demonstrated knowledge and technical capability in the use of spatial and temporal data sets from mineral systems.
3. Demonstrated knowledge and technical capability in reducing and building mineral libraries from SEM and/or LIBS data in mineral systems.
4. Demonstrated experience in the implementation and use of data sets towards mapping and understanding processes that drive mineral systems.
5. Sound written and oral communication skills, including the production of scientific reports.
6. A demonstrated knowledge and some technical capability with programming languages (e.g., Python, R) would be seen as an advantage
7. Demonstrated ability to undertake original, creative and innovative research by generating and pursuing novel ideas and solutions to scientific research problems.
8. A demonstrated publication history of authorship on scientific papers in peer reviewed journals and/or reports, grant applications or inventorship on patent applications.

## **Desirable**

1. Experience with geological modelling/mapping 3D and 2D software packages (e.g., Leapfrog, ArcGIS, QGIS or similar)
2. Experience working on a mine site (core logging, pit and underground mapping)

## **Required Competencies**

* **Teamwork and Collaboration:** Cooperates with others to achieve organisational objectives and may share team resources in order to do this. Collaborates with other teams as well as industry colleagues.
* **Influence and Communication:** Uses knowledge of other party's priorities and adapts presentations or discussions to appeal to the interests and level of the audience. Anticipates and prepares for others’ reactions.
* **Resource Management/Leadership:** Allocates activities, directs tasks and manages resources to meet objectives. Provides coaching and on the job training, recognises and supports staff achievements and fosters open communication in the team.
* **Judgement and Problem Solving:** Investigates underlying issues of complex and ill-defined problems and develops appropriate responses by adapting/creating and testing alternative solutions.
* **Independence:** Plans, sets and works to meet challenging standards and goals for self and/or others. Recognises where endeavours will make the most impact or difference, decides on desired outcome and sets realistic goals to reach this target.
* **Adaptability:**Copes with ambiguity or situations that lack clarity. Adapts readily to changing circumstances and new responsibilities (which may include activities outside own preferences) in the interests of achieving team objectives. Recognises the need for and undertakes personal development as a result of change.

Special Requirements

Include if relevant:

* The successful candidate will be asked to obtain and provide evidence of a National Police Clearance or equivalent. Please note that individuals with criminal records are not automatically deemed ineligible. Each application will be considered on its merits.

## **About CSIRO**

We solve the greatest challenges through innovative science and technology. Visit [CSIRO Online](http://www.csiro.au/) and CSIRO [Mineral Resources](https://www.csiro.au/en/Research/MRF) for more information.

CSIRO is a values-based organisation.  In your application and at interview you will need to demonstrate behaviours aligned to our values of:

* People First
* Further Together
* Making it Real
* Trusted