# Position Details

## Research Projects- CSOF5

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| The following information is for applicants | |
| Advertised Job Title | Experimental Scientist – Mineralogy |
| Job Reference | 72649 |
| Tenure | Indefinite |
| Salary Range | AU$100,710 to AU$108,985 pa (pro-rata for part-time) + up to 15.4% superannuation |
| Location(s) | Melbourne (Clayton) VIC |
| Relocation Assistance | Will be provided to the successful candidate if required |
| Applications are open to | * Australian/New Zealand Citizens and Australian Permanent Residents Only |
| Position reports to the | Research Team Leader |
| Client Focus – Internal | 25% |
| Client Focus – External | 75% |
| Number of Direct Reports | 0 |
| Enquire about this job | Contact Dr Nathan Webster via email at Nathan.Webster@csiro.au |
| 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. |

### Role Overview

The role of Research Projects staff in CSIRO is to collaborate in scientific and technological activities with other research staff usually by assisting with detailed planning, undertaking or assisting with experimental, observational or technology development work, and in carrying out the more practical aspects of the work.

The Experimental Scientist – Mineralogy will deliver advanced powder XRD-based mineralogical characterisation in a wide range of mineral contexts. The role will be a member of the Diffraction/Mineralogical and Geochemical Characterisation team of the CSIRO Mineral Resources (CMR) Characterisation Program and will drive the application and development of high-level analytical science. The position will be involved with providing characterisation consulting services for external and internal stakeholders.

The CMR Characterisation Program delivers high quality and accurate information to improve understanding of mineral resources across the minerals value chain, from exploration to processing.

The range of state-of-the-art analysis and characterisation capability includes X-ray fluorescence spectroscopy, electron/optical microscopy, electron probe microanalysis, QEMSCAN, particle size analysis and high-resolution X-ray computed tomography.

### Duties and Key Result Areas

* Deliver XRD-based characterisation services, particularly data analysis and reporting, to external and internal customers across a wide range of mineral contexts, with a focus in the field of clay mineralogy.
* Contribute to the maintenance of a world-class characterisation laboratory, and development and application of specialised X-ray analysis techniques.
* Establish and develop clay sample separation and preparation capability in the Clayton laboratory.
* Take on custodianship responsibilities of a laboratory housing multiple X-ray diffractometers.
* Follow safe work practices when working with chemicals, hazardous materials and scientific equipment.
* Be involved in CSIRO Research Project teams and deliver impact to research projects through high quality analytical science.
* Communicate the outcomes of consulting/service work through reports and liaise with customers to ensure their satisfaction.
* Communicate the outcomes of project and/or research work through publications in relevant scientific journals, and through presentation of results at conferences.
* Contribute to the business development activities of the team through identification of new avenues of business, customer/stakeholder interactions, preparation of proposals and design, and execution and delivery of work programs.
* Work collaboratively with colleagues within the team, the Mineral Resources business unit and across CSIRO, to reach objectives.
* Allocate activities, direct tasks for junior staff, and manage resources to meet objectives.
* Foster open communication, provide coaching and on-the-job training to both support and research colleagues, as required, and provide recognition and acknowledgement for staff achievements.
* Adapt and/or develop original experimental methods/equipment/software/concepts/ideas in support of existing and further research.
* Maintain confidentiality when dealing with commercially sensitive information.
* 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 Values, Code of Conduct, Health, Safety and Environment procedures and policy, Diversity initiatives and Making Safety Personal goals.
* Other duties as directed.

## **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 team 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:** Sets up and maintains effective and efficient work teams and manages performance and resources, to achieve objectives. Chooses appropriate management strategies and communication styles to maintain high levels of motivation and productivity. Gives feedback for development purposes and provides support and direction for improvement.
* **Judgement and Problem Solving:** Investigates underlying issues of complex and ill-defined problems and develops appropriate response 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 changes.

## **Selection Criteria**

#### Essential

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

1. Relevant bachelor’s or master’s degree or equivalent relevant work experience in Minerals/Minerals Processing, Geology, Geochemistry or Mineralogy.
2. Demonstrated experience in applied research (or similar) related to minerals characterisation.
3. Strong experience in sample preparation, and the collection and analysis of XRD data, for mineral phase identification and quantification.
4. Experience in the management of scientific equipment and tailoring data collection and analysis approaches to solve specific problems.
5. Demonstrated ability to liaise with customers and/or colleagues to establish their characterisation requirements and ensure customer satisfaction and carry out tasks autonomously in support of scientific research.
6. Demonstrated strong communication skills and the ability to work effectively as part of a multi-disciplinary, regionally dispersed team.
7. Demonstrated ability & willingness to contribute novel ideas and approaches in support of scientific investigations.

## **Desirable**

1. Experience in sample preparation techniques, and the collection and analysis of XRD data, for clay mineral identification and quantification.
2. Experience in the use of software packages for mineral phase identification (e.g. HighScore Plus, EVA, ICDD PDF4+) and for mineral phase quantification (e.g. TOPAS, SIROQUANT).
3. Experience in the collection and analysis of in situ diffraction XRD data, especially at high temperature and under non-ambient gas atmospheres.
4. Experience scripting languages to develop packages and/or techniques to solve new problems.
5. Experience in the collection and analysis of singe-crystal XRD data for structure determination.
6. Experience in electron and/or optical microscopy, electron microanalysis, and/or FTIR/Raman for minerals characterisation.

Special Requirements

Appointment to this role may be subject to conditions including provision of a national police check as well as other security/medical/character clearance requirements.

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

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* 1. People First
  2. Further Together
  3. Making it Real
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Find out more about CSIRO [Mineral Resources](https://www.csiro.au/en/Research/MRF)