

POSITION DESCRIPTION

Position Title:	Radiochemist/Analytical Chemist
Cluster / Business Unit / Division	Commercial Products and Services
Section or Unit:	Minerals
Classification:	Band 5
Job Family:	Science
Position Description Number:	PD-1559
Work Contract Type:	Professional
STEMM/NON-STEMM:	STEMM

POSITION PURPOSE

The primary purpose of the Radiochemist/Analytical Chemist is to support commercial and development projects relating to the processing of uranium and ores containing radioactivity, providing analytical and project leadership with emphasis on radioanalytical techniques, including alpha, beta and gamma spectrometry, and nuclear techniques, including delayed neutron analysis.

ORGANISATIONAL ENVIRONMENT

ANSTO leverages great science to deliver big outcomes. We partner with scientists and engineers and apply new technologies to provide real-world benefits. Our work improves human health, saves lives, builds our industries and protects the environment. ANSTO is the home of Australia's most significant landmark and national infrastructure for research. Thousands of scientists from industry and academia benefit from gaining access to state-of-the-art instruments every year.

The Minerals business unit is a team of more than 60 consultants and technicians with expertise that covers chemical engineering, metallurgy, mineralogy, chemistry, geology, and radiation safety. ANSTO Minerals provides practical solutions and innovative technology in ways that deliver financial and environmental benefits to the mining and minerals processing industries. The unit also operates an Analytical and Radiochemistry Group that provides analytical and radioanalytical expertise and support to projects that will:

- increase the competitiveness and environmental sustainability of operations in the uranium mining sector and mineral processing industries affected by NORM (naturally occurring radioactive materials);
- underpin our commercial consulting service.

ACCOUNTABILITIES & RESPONSIBILITIES

Key Accountabilities

- Work independently and organise and coordinate routine activities in the radiochemistry laboratory to ensure the laboratory is functioning effectively.
- Independently plan, organise and perform experimental activities associated with the processing of uranium and ores containing radioactivity within required time and scope.
- Carrying out method development for samples with complex matrices for the Analytical group.
- Provide advice utilising expertise on radioactivity / radionuclide decay chain measurement and chemistry to the business unit.
- Lead and manage specific projects (quote for work, liaise with clients and manage client expectations on the delivery of services), and analysis of the results.

- Collect, analyse and assess data, recognise the value of data and identify gaps that need to be filled in order to draw conclusions. This involves applying sound judgement based on scientific knowledge/experience to identify good data and the ability to credibly question results.
- Seize opportunities for innovation and creativity for solving complex scientific problems and provide competitive advantage to ANSTO Minerals projects.
- Assist in the preparation and presentation of papers for national and international forums.
- Keep abreast of the literature; maintain knowledge of industry best practice and technological developments.
- Ensure work undertaken is compliant with safety, quality and other regulatory requirements.
- Act as relief Senior Radiochemist when required.
- Undertake additional duties as required and during period of leave of other staff.

Decision Making

- The Radiochemist/Analytical Chemist is expected to manage their own projects, drawing on support from the Leader, Analytical, and other project leaders within the business unit when appropriate, and support the general day to day activities of the Analytical group.
- The levels of authority delegated to this position are those approved and issued by the Chief Executive Officer. All delegations will be in line with the ANSTO Delegation Manual AS-1682 (as amended or replaced).

Key Challenges

The key challenges for this position include:

- Technical challenges, particularly identifying and developing improved analytical methods to deal with difficult process samples.
- Time constraints and meeting client deadlines.
- The unpredictability of workloads.
- Developing an understanding of the broad hydrometallurgical processes and radionuclide behaviour and the types of samples the unit deals with.
- Developing and maintaining radiochemical analytical skills.
- Developing a sound knowledge of the properties of radionuclides and radioactive tracers to provide advice to the unit and to clients.

KEY RELATIONSHIPS

Who	Purpose
Internal	
Manager/Executive	<ul style="list-style-type: none"> • Receive guidance and direction
Work area team members	<ul style="list-style-type: none"> • Analytical Team - Collaborate with and provide advice on radiochemistry and wet chemistry techniques • Project leaders – liaison on project requirements
Other departments	<ul style="list-style-type: none"> • Nuclear Operations - DNA and NAA analysis • Nuclear Stewardship – Gamma spectrometry and analytical

POSITION DIMENSIONS

Staff Data	
Reporting Line	Reports to the Leader, Analytical and Radiochemistry
Direct Reports	Nil
Indirect Reports	Nil

Financial Data (2021/2022)	
Revenue / Grants	Nil
Operating Budget	Nil
Staffing Budget	Nil
Capital Budget	Nil
Assets	Nil

Special / Physical Requirements	
Location:	Working in different areas of Lucas Heights as needed
Travel:	May be required travel to ANSTO sites from time to time, possibly on remote sites.
Physical:	Wearing personal protective equipment for the handling of hazardous and/or radioactive materials
Radiation areas:	Perform duties in an area where radioactive materials are handled under tightly controlled safety conditions Perform duties with and in an area where hazardous chemicals or materials are handled under appropriate safety conditions
Hours:	Shift work and after hours work will be required for short and infrequent periods Willingness to work extended and varied hours based on operational requirements
Clearance requirements:	Satisfy ANSTO Security and Medical clearance requirements

Workplace Health & Safety	
Specific role/s as specified in AP-2362 of the ANSTO WHS Management System	All Workers Officer (definitions found in appendix A of AP-2362)

ORGANISATIONAL CHART

On file.

KNOWLEDGE, SKILLS AND EXPERIENCE

1. Relevant degree qualifications (analytical chemistry or similar).
2. Experience in radiochemistry, nuclear chemistry and gamma spectrometry counting techniques with strong data analysis capabilities.
3. Knowledge of radioactivity and radiation: alpha, beta, gamma and x-rays, radioactive decay, natural decay series. Specific experience with NORM in mineral processing / extractive metallurgy is preferred.
4. Knowledge and practical experience in instrumental and wet analytical methods.
5. Ability to conduct routine and non-routine experiments with minimal supervision, according to tight deadlines with an organised approach to work.
6. Proficient in Microsoft Office.
7. Proven teamwork skills.
8. Demonstrated ability to produce high quality technical reports.
9. High level interpersonal skills enabling the development of strong client and stakeholder relationships.

VERIFICATION

This section verifies that the line manager and appropriate senior manager/executive confirm that this is a true and accurate reflection of the position.

Line Manager	Delegated Authority
Name: Sue Brown	Name: Hamilton Wearing
Title: Leader, Analytical and Radiochemistry	Title: Operation Manager
Signature:	Signature:
Date:	Date: