Australian Government

ANSTO
Science. Ingenuity. Sustainability.

POSITION DESCRIPTION

Position Title:	Research Hydrometallurgist or Hydrometallurgist
Cluster / Business Unit / Division	Nuclear Medicine and Commercial
Section or Unit:	Minerals
Classification:	Band 4/5 linked role
Job Family:	Engineering and Technical
Position Description Number:	PD-2547
Work Contract Type:	Professional
STEMM/NON-STEMM:	STEMM
STEMM CATEGORY:	Science/Engineering

POSITION PURPOSE

The purpose of this role is to contribute to applied / translational research and development activities relating to the processing of critical minerals such as rare earths and lithium along with uranium and other minerals containing radioactivity.

ORGANISATIONAL ENVIRONMENT

ANSTO is a leading global nuclear science and technology organisation delivering world class research and expertise to benefit Australia and support a more sustainable future. Using nuclear science, we improve health, support industries, provide expert advice to government on nuclear technologies and help develop Australia's nuclear workforce.

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.

Minerals incorporates Process Development groups that undertake commercial and research work that seeks to identify, investigate and develop technologies that will increase the competitiveness and environmental sustainability of operations in critical minerals (including rare earths and lithium), uranium and other metallurgical industries, including those affected by NORM (naturally occurring radioactive materials).

ACCOUNTABILITIES & RESPONSIBILITIES

Key Accountabilities Band 4

- Assist senior professionals in the execution of strategic applied / translational research and development programs or commercial laboratory test work/desktop studies.
- Set up and conduct experimental work and ensure that the data obtained is reproducible, accurate and appropriately recorded.
- Summarise data from experimental research and commercial test work programs to ensure that the project manager receives reliable data in a reportable format
- Contribute to the critical analysis of data and identify gaps that need to be filled in order to draw conclusions and contribute to process solutions.
- Under direct guidance, contribute to the preparation of research/commercial reports, publications and presentations
- Contribute to pilot plant campaigns as an operator - responsible for running metallurgical processes reliably and escalating issues to the campaign manager.

- Take on an area supervisor / deputy area supervisor role in order to both maintain and improve the management, cleanliness and organisation of a laboratory area.
- Contribute to risk assessments for laboratory test work to ensure that all work is conducted safely and provide suggestions for additional controls to mitigate risk.
- Undertake additional duties as required and during periods of leave of other staff.

Key Accountabilities Band 5

In addition to the above accountabilities of the band 4 role, the band 5 key accountabilities include:

- Prepare draft technical notes, research papers and commercial reports for review by senior professionals.
- Prepare draft test work proposals and associated project costings for review by senior professional.
- Independently prepare risk assessments for review by senior professional.
- Actively participate in meetings with client representatives.
- Contribute ideas for the creative and innovative development of alternative/modified approaches for solving industrially relevant problems to provide a strategic and competitive advantage to ANSTO Minerals' research and commercial projects.
- Demonstrate ability to understand and explain the underlying chemistry behind observed results, and apply sound judgement based on scientific knowledge and apply experience to critically interrogate results.
- Contribute to the development of alternative/modified approaches to laboratory and industrially relevant problems, including flowsheet development.
- Establish and foster professional networks to promote ANSTO Minerals.
- Supervise and instruct technical staff and student interns in the execution of test work programs.

Decision Making

- The position works within a framework of project requirements, legislation, policies, professional standards and resource parameters. Within this framework the position has some independence in determining how to achieve assigned objectives however will be constrained by the project requirements, deliverables and timeframes once they are set.
- The ANSTO values, organisational corporate plan, business plan, operational excellence program, the Minerals business strategy and commercial and development project plans provide the context for the position.
- The position is fully accountable for the accuracy, integrity and quality of the content of work undertaken and advice provided and is required to ensure that decisions are based on sound evidence, but at times may be required to make effective judgements under pressure or in the absence of complete information or expert advice.
- Determine key work priorities within the context of agreed work plans and project plans and will consult with the line manager on complex, sensitive and major issues that have a significant impact on the project or team members.
- 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

- Executing test work projects on-time and within budget.
- Understanding unexpected chemical results and troubleshooting experimental difficulties.
- Working with multi-disciplinary and specialist teams towards common goals.
- Critically analysing research program results and contributing to ideas and innovation to help drive project direction.

KEY RELATIONSHIPS

Who	Purpose
Internal	
Manager	• Receive guidance and direction • Provide professional and evidence based advice • Provide regular updates on key tasks, issues & priorities • Report on progress of project outcomes consistent with project plans and goals • Recommend and gain endorsement for plans and goals and other initiatives • Escalate issues and propose solutions
Work area team members	• Support team members and work collaboratively to contribute to achieving outcomes • Supervise technical staff to conduct laboratory test work. • Provide advice and analysis on a full range of matters • Contribute to group decision making processes, planning and goals • Collaborate and share accountability • Identify and escalate conflicts.
External	
Customers and suppliers	• Communicate and provide advice and information to clients, research collaborators and suppliers and answer questions.

POSITION DIMENSIONS

Staff Data	
Reporting Line	Reports to the Senior Hydrometallurgist– Process Development or Senior Applied Research Chemist – Process Development
Direct Reports	N/A
Indirect Reports	N/A

Special / Physical Requirements	
Location:	Lucas Heights Working in different areas of designated site/campus as needed May be required to work for short periods of time outside ANSTO, possibly on remote sites.
Travel:	May be required to travel to other ANSTO and/or remote sites from time to time
Physical:	Office based physical requirements (sitting, standing, manual handling, movement around office and site, extended hours working at computer) Industrial facility physical requirements (lifting, standing for long periods, operating machinery, equipment)

	Labour intensive physical requirements (sitting, standing, occasional manual handling up to 20 kg) Frequent movements (climbing, stooping, kneeling, crouching, crawling) Working in a loud environment Wearing personal protective equipment for the handling of hazardous and/or radioactive materials
Radiation areas:	May be required to work in radiation areas under tightly regulated conditions 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 tightly controlled safety conditions
Hours:	Willingness to work extended and varied hours based on operational requirements After hours work will be required for short and infrequent periods Occasional work at ANSTO on a shift roster may be required
Clearance requirements:	Satisfy ANSTO Security and Medical clearance requirements

Workplace Health & Safety
Specific role/s as specified in AP- All Workers 2362 of the ANSTO WHS Management System

KNOWLEDGE, SKILLS AND EXPERIENCE

Band 4 level

1. Degree in Chemical Engineering/Metallurgy/Applied Chemistry or Chemistry.
2. Industry experience preferably in Hydrometallurgy or chemical engineering, including laboratory related work experience.
3. The ability to work under the guidance of a senior professional's supervision, prioritise work and respond to changing priorities and deadlines in order to complete assigned duties and tasks.
4. Demonstrated ability to communicate information and establish productive relationships and share information with others, including strong team work and customer service focus.
5. Demonstrated ability to follow standard procedures, regulations and OHSE requirements.
6. Intermediate skills in Microsoft programs including Word, Excel and Outlook.

In addition to the required knowledge skills and experience above, the Band 5 level will require:

1. Demonstrated industry related research experience in Hydrometallurgy, Pyrometallurgy or Chemical Engineering
2. Experience with laboratory procedures in the areas of solvent extraction and ion exchange and / or baking, leaching, precipitation processes, and demonstrated ability to problem solve issues with experiments/experimental results is highly regarded.
3. The ability to work autonomously with limited supervision.
4. The ability to identify problems/knowledge gaps and innovative solutions to process challenges.
5. Experience in managing a test work project from the planning to execution phase of the project.
6. Experience in producing and presenting high quality hydrometallurgical data analysis summaries and complex written research reports to a standard sufficient for journal publication.
7. Experience in supervising and instructing technical resources and working in collaborative cross-disciplinary team.
8. Advanced skills in Microsoft programs including Word, Excel and Outlook

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:	James Quinn	Name:	Sateesha Tirumali Seetharam
Title:	Senior Hydrometallurgist	Title:	General Manager, Minerals
Signature:		Signature:	
Date:		Date:	
Line Manager		**Delegated Authority**	
Name:	John Demol	Name:	Sateesha Tirumali Seetharam
Title:	Senior Applied Research Chemist	Title:	General Manager, Minerals
Signature:		Signature:	
Date:		Date:	

Hydrometallurgist Linked Role (PD-2547)
Band 4 to Band 5 Transition Checklist

Name:	
Role Commencement Date:	
Assessment Date:	

Note: The transition will be assessed as part of ANSTO's APEA process, and will require at least one full APEA objective setting and review cycle to complete.

Requirements for Transition	Met Criteria
Full performance of Band 4 accountabilities Inclusive of knowledge, skills and experience described in this PD *and* in the individual's performance objectives of their APEA	☐Yes ☐No
Demonstration of pursuing and building Band 5 accountabilities Inclusive of knowledge, skills and experience described in this PD *and* identified as development objectives in the individual's APEA	☐Yes ☐No

Senior Hydrometallurgist's / Senior Applied Research Chemist's Assessment and Recommendation

I have reviewed the employee's competence and capabilities in accordance with Linked Role PD-2547 and certify that the employee meets all requirements for transition and recommend transition from Band 4 to Band 5 be endorsed.

Name:	
Signature:	
Date:	

Manager, Process Development Group 1 or 2

I have assessed the submission and confirm that the employee meets all requirements for transition from Band 4 to Band 5.

Name:	
Signature:	
Date:	

General Manager, Minerals

I have reviewed all information and approve transition from Band 4 to Band 5.

Name:	
Signature:	
Date:	
Effective Date of transition:	