

POSITION DESCRIPTION

Position Title:	Hydrometallurgist
Cluster / Business Unit / Division	Commercial Products and Services
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 the Hydrometallurgist is to support commercial activities relating to the processing of critical minerals such as rare earths and lithium along with uranium and other minerals containing radioactivity with an emphasis on solvent extraction and ion exchange techniques.

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.

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 commercial laboratory test work programs, with a focus on solvent extraction and ion exchange test work.
- Set up and conduct experimental work and ensure that the data obtained is reproducible, accurate, appropriately recorded and reported in a report-ready format to ensure that the client receives a high-quality consultancy service.
- Summarise data from experimental programs to ensure that the project manager receives reliable data in a reportable format. Recognise the value of data and identify gaps that need to be filled in order to draw conclusions and develop process solutions. This involves applying sound judgement based on scientific knowledge/experience to question results.
- Contribute to desktop studies by assisting the senior professional in tabulating mass balances, equipment lists and costs and preparing process flow diagrams for a variety of processes.

- Analyse data and report results as a contribution to first-draft technical notes and commercial reports for the project manager to facilitate reporting to ANSTO Minerals' clients.
- Contribute to pilot plant campaigns as an operator - responsible for running metallurgical processes reliably and escalating issues to the campaign manager.
- Take on a 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 engineering 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 first draft of technical notes with limited review required by senior professionals, and contribute more substantially to commercial reports.
- Contribute to commercial test work proposals, and be well positioned to carry out project costings
- Contribute to pilot plant campaigns as a technical specialist, responsible for providing technical oversight of an aspect of the pilot plant and/or management of data.
- Prepare risk assessments independently for review by senior professional.
- Participate in meetings with client representatives.
- Contribute ideas for innovation and creativity for solving problems and provide competitive advantage to ANSTO Minerals' projects.
- Contribute to technical discussions with professionals and understand/explain the underlying chemistry behind observed 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.

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.
- Managing the client's expectations while managing multiple competing tasks.

KEY RELATIONSHIPS

Who	Purpose
Internal	
Manager	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Communicate and provide advice and information to clients and suppliers and answer questions.

POSITION DIMENSIONS

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

Special / Physical Requirements

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

	<p>Labour intensive physical requirements (sitting, standing, occasional manual handling up to 20 kg)</p> <p>Frequent movements (climbing, stooping, kneeling, crouching, crawling)</p> <p>Working in a loud environment</p> <p>Wearing personal protective equipment for the handling of hazardous and/or radioactive materials</p>
Radiation areas:	<p>May be required to work in radiation areas under tightly regulated conditions</p> <p>Perform duties in an area where radioactive materials are handled under tightly controlled safety conditions</p> <p>Perform duties with and in an area where hazardous chemicals or materials are handled under tightly controlled safety conditions</p>
Hours:	<p>Willingness to work extended and varied hours based on operational requirements</p> <p>After hours work will be required for short and infrequent periods</p> <p>Occasional work at ANSTO on a shift roster may be required</p>
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 experience in Hydrometallurgy or Chemical Engineering
2. Laboratory related work experience in the area of solvent extraction and ion exchange highly regarded
3. The ability to work more autonomously with limited supervision.
4. Experience in managing a test work project from the planning to execution phase of the project.
5. Experience with all major laboratory procedures in the area of solvent extraction and ion exchange, and demonstrated ability to problem solve issues with experiments/experimental results.
6. Experience producing and presenting high quality hydrometallurgical data analysis summaries and complex written reports.
7. 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:	

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 <i>and</i> in the individual's performance objectives of their APEA	<input type="checkbox"/> Yes <input type="checkbox"/> No
Demonstration of pursuing and building Band 5 accountabilities Inclusive of knowledge, skills and experience described in this PD <i>and</i> identified as development objectives in the individual's APEA	<input type="checkbox"/> Yes <input type="checkbox"/> No

Senior Hydrometallurgist'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

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:	