



POSITION DESCRIPTION

Position Title:	AMS Chemistry QC Officer (Linked)
Cluster / Business Unit / Division	Nuclear Science & Technology
Section or Unit:	Centre for Accelerator Science
Classification:	Band 5 / 6 Linked
Job Family:	Science
Position Description Number:	PD-2291
Work Contract Type:	Professional
STEMM/NON-STEMM:	STEMM

POSITION PURPOSE

The AMS Chemistry QC Officer supports Accelerator Mass Spectrometry (AMS) through sample preparation using established methods. It provides assistance to the AMS Chemistry Specialists in new analytical method development across all three components of the CAS AMS capability (radiocarbon, cosmogenic, actinides) to meet user demand and the user programme schedule. It underpins quality control and regulatory compliance activities for the CAS Chemistry Group by streamlining sample information management systems and enhancing process documentation.

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.

Nuclear Science & Technology (NST) incorporates ANSTO's research, innovation, landmark infrastructure and associated platforms and capabilities. NST conducts research and development in relation to nuclear science and technology and connects people, transfers knowledge, and provides nuclear-based products and services for the benefit of Australia.

The Centre for Accelerator Science (CAS) is a national user facility and multi-disciplinary team of scientists and engineers supporting academic and industry users across Australia and the world with a suite of ion beam accelerator instrumentation for ultra-sensitive analysis and irradiation applications. The facility informs policy, provides critical services for IAEA, and enables discovery and innovation in areas such as environment, climate and health sciences, space technologies, advanced energy, nuclear and quantum materials, and cultural heritage.

CAS offers accelerator mass spectrometry, sample processing and preparation, ion beam analysis, ion beam implantation, and ion beam irradiation - together in one centre - backed by decades of accumulated experience in accelerator science and in maintaining complex accelerator systems.

CAS capabilities deliver:

- Ultra-sensitive analysis via a suite of radioisotope dating, trace element and actinide isotope analytical techniques.
- Precision irradiation via a suite of ion beam irradiation modalities covering a wide range of tasks including material doping, nanostructure fabrication, bulk or surface material modification, advanced material and device fabrication, or radiation testing.
- End-to-end user provision including consulting, experiment design, sample preparation, sample analysis, and results interpretation.

ACCOUNTABILITIES & RESPONSIBILITIES

Key Accountabilities – Band 5

- **Maintain safe and compliant work environment**
Perform all work in accordance with operational safety, security, sustainability requirements and adhere to applicable standards, legislative and regulatory requirements and support a positive safety culture.
- **Improve regulatory compliance systems and procedures for existing processes**
Ensure regulatory compliance procedures and safe work practices are updated and revised in line with best practise to ensure all laboratories processes and systems comply with relevant standards, regulatory frameworks and documented procedures.
- **Update compliance and procedural instruction documentation for process modifications**
Work with AMS Chemistry Specialist and CAS scientists to develop revised quality control procedures and supporting regulatory documentation for modified experimental or developmental processes.
- **Sample management**
Contribute to implementation and development of sample information management systems within AMS Chemistry sample processing laboratories.
- **Laboratory Operations Support**
Perform routine laboratory support and maintenance activities for AMS Chemistry sample processing laboratories including maintaining housekeeping standards, spare parts and stock levels to ensure reliability, productivity and availability of equipment and facilities.
- **Select appropriate routine sample processing regimen**
Assess samples to determine appropriate sample processing regime under guidance of AMS Chemistry Specialists.
- **Contribute to sample processing**
Apply expertise in sample processing methodologies to process samples (both routine and non-routine) across AMS sample processing.
- **Contribute to method development and enhancement**
Perform enhancement of discrete components of existing sample processing methods through experimentation and testing and develop new processing innovations as allocated by AMS Chemistry Specialists and senior scientists.
- **Provide Training to users and CAS Chemistry staff**
Provide training to users (visitors and student) as well as CAS Chemistry staff in routine sample processing techniques and quality control procedures.
- **Technical Skill updating and best practice laboratory processes**
Develop knowledge of full range of current AMS sample processing techniques utilised in CAS, and begin to develop awareness of international AMS sample preparation and laboratory practices.
- Undertake additional duties as required and during period of leave of other staff.

Key Accountabilities – Band 6

- **Streamline and improve existing regulatory compliance documentation**
Implement improvements to quality management systems and safety compliance documentation in consultation with AMS Chemistry Specialists and the CAS Chemistry manager.
- **Develop new compliance and procedural instruction documentation for complex processes**
Coordinating and writing instructional material and approval documentation for new or modified complex laboratory processes, ensuring accurate and timely records are made and maintained as required for regulatory purposes.
- **Sample information management**
Responsibility for oversight of sample information management system across the CAS Chemistry group
- **Develop new sample processing methods and technical equipment, and improve existing methods**
Research, plan and undertake method development to implement new methods or to improve

existing methods to meet international best practice and support emerging applications, with support from expert users, ANSTO AMS researchers and the CAS Chemistry Group Lead.

- **Enhance training of staff and users**

Support users and staff training in routine AMS laboratory methods, quality control procedures and regulatory/safety controls and develop innovative and streamlined methods for improving the efficacy and efficiency of user training.

- **Maintain individual learning and knowledge currency**

Develop knowledge of new best practice AMS sample preparation practices, laboratory quality control and sample administration by performing regular literature reviews and attending relevant workshops, conferences and symposia.

- **Build networks through collaborative research and development**

Engage with communities of practice in regulatory best practice and laboratory management/administration/LIMS and outreach activities

- **Additional duties** Undertake additional duties in sample prioritisation, laboratory management and workflow management as required and during period of leave of other staff.

Undertake additional duties as required and during period of leave of other staff.

Decision Making

Band 5

- Modifications to the quality systems or regulatory compliance systems will be made on advice from the AMS Chemistry Specialists, CAS Chemistry Group Lead and senior scientists.
- Decisions on work schedules and task priorities for this position will be governed by ANSTO Research Portal commitments, CAS Accelerator Schedule and the CAS business plan.
- The position holder will respond to key work priorities within the context of agreed CAS Chemistry processing schedule determined by the AMS Chemistry Specialists and the CAS Chemistry Group Lead.
- The position holder will use judgement based upon their knowledge and experience to negotiate changes to their key work priorities in response to unexpected variations of the sample processing schedule.
- Variations to sample processing methods and quality control measures will be based on sound evidence and quality procedures, but at times may be required to be made in the absence of complete information or advice from the client/collaborator, requiring effective judgements to be made under pressure in consultation with AMS Chemistry Specialists.
- The position holder will liaise with other group members to manage work priorities impacted by variations in other components of the sample processing schedule.

Band 6

- Decisions on minor changes to quality systems or regulatory compliance systems project will be taken with notification of AMS Chemistry Specialists and CAS Chemistry Group Lead. Major changes will require consultation with the CAS Chemistry team and group lead.
- Decisions on significant changes to work plans and priorities will be made in consultation with CAS Chemistry Group Lead, CAS accelerator operators, and Portal Project contacts. Minor changes will be made with notification of the AMS Chemistry Specialists and CAS Chemistry Group Lead.
- Decisions on complex or non-routine sample processing methods and quality control measures for user projects will often require the role holder to implement variations based upon experience in the absence of complete information from the client/collaborator for non-routine samples.
- Will contribute to planning and decision making on strategic developments in sample information management, regulatory compliance and quality control system
- 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).

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Key Challenges

- Developing and maintaining detailed knowledge of best international practice in AMS chemistry quality control and sample information management to keeping abreast of current innovations in analytical precision and reliability.
- Maintaining continuous improvement in regulatory compliance in the CAS Chemistry laboratories.
- Research and develop new and enhanced methods to improve the range and quality of user services offered.
- Managing work tasks in a context of changing deadlines and conflicting priorities to allow sample processing objectives relating to high precision quality control requirements and volume targets to be met.
- Developing and maintaining knowledge and competence in a wide range of AMS sample preparation techniques and methods to support the broad user research and science program.

KEY RELATIONSHIPS

Who	Purpose
Internal	
Manager/Executive	• Receive guidance and direction from CAS Chemistry Group lead on issues relating to CAS operations, priorities and objectives. • Provide expert, authoritative evidence-based advice on AMS sample processing. • Recommend and gain endorsement for development plans, new methods and controls and changes to workflow. • Provide reporting on laboratory compliance, quality control outputs and sample information management
Work area team members	• Provide expert advice and support on AMS sample processing, quality control and regulatory compliance • Provide training on AMS sample processing methodologies • Contribute to group decision making processes, planning and goals • Collaborate and share accountability for AMS Chemistry targets • Negotiate, communicate and resolve conflicts
Direct Reports	• Nil
Science Group	• Provide expert, authoritative and evidence-based advice on sample preparation • Work collaboratively to ensure projects are completed in a timely manner
Accelerator Systems and Development Group	• Work collaboratively to ensure consistency and excellence in CAS operations quality control and compliance
External	
CAS ChemLab Users	• Establish constructive relationships • Provide advice on sample processing capabilities and scheduling • Liaise with users on analytical requests and results reporting • Collaborate on technical development projects • Supervise and train users in sample processing methods

POSITION DIMENSIONS

Staff Data	
Reporting Line	Reports to the CAS Chemistry Group Lead
Direct Reports	Nil
Indirect Reports	Nil
Financial Data (2022/2023)	
Revenue / Grants	N/A
Operating Budget	N/A
Staffing Budget	N/A
Capital Budget	N/A
Assets	N/A
Special / Physical Requirements	
Location:	Lucas Heights Working in different areas of designated site/campus as needed
Travel:	May be required travel to alternate ANSTO sites from time to time Occasional travel to ANSTO sites within Australia Occasional travel both internationally and nationally
Physical:	Office based physical requirements (sitting, standing, extended hours working at computer). Laboratory based physical requirements (long hours standing, frequent manual handling). Public speaking Wearing personal protective equipment for the handling of hazardous and/or radioactive materials.
Radiation areas:	Perform duties with and in an area where hazardous chemicals or materials are handled under tightly controlled safety conditions. 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.
Hours:	Willingness to work extended and varied hours based on operational requirements. After hours work may be required for short and infrequent periods.
Clearance requirements:	Satisfy ANSTO Security and Medical clearance requirements
Workplace Health & Safety	
Specific role/s as specified in <u>AP-2362</u> of the ANSTO WHS Management System	All Workers Officer (definitions found in appendix A of AP-2362) May be required to undertake one or more of the specified roles within the context and course of their duties • Area Supervisor • Building Warden • Contractor Supervisor • Designated First Aid Officer Health and Safety Committee Member

Other specialised roles identified within the guideline a position holder may be allocated to in the course of their duties

ORGANISATIONAL CHART

Refer to published Organisational Chart.

KNOWLEDGE, SKILLS AND EXPERIENCE

Band 5

1. Degree in Chemistry, Environmental Science, or equivalent
2. Practical experience (3 years) working within an analytical laboratory environment
3. Ability to innovate and develop new and enhanced sample processing methodologies and techniques
4. Ability to work under limited supervision to prioritise work routines and respond to changing priorities and deadlines to complete assigned duties.
5. Experience in communication with customers/facility users
6. Demonstrated ability to provide training to laboratory users on technical procedures
7. Ability to report information effectively such as analysis results, technical data and QC information
8. Interpersonal skills supporting effective teamwork and communication within a multi-compartment, interdependent analytical team.
9. Experience working within a quality assurance environment
10. Demonstrated ability to develop and apply standard operating procedures, quality assurance protocols and WHS systems to comply with regulations.
11. Demonstrated high level proficiency with advanced computer data handling, and electronic reporting and presentations.

Band 6

1. Degree in Chemistry or Environmental Science, or equivalent
2. Extensive experience (5 years) working with high sensitivity isotopic analysis
3. Demonstrated ability to innovate and develop new and enhanced sample processing methodologies and techniques.
4. Demonstrated ability to develop and improve safety focussed standard operating procedures and quality assurance protocols to comply with complex regulatory frameworks
5. Demonstrated ability to establish and expand productive professional networks and relationships

Linked Role Transition

Transition to the higher band within the linked role is not automatic and ability to perform Band 6 accountabilities will need to be demonstrated and assessed. This can be done by completing the attached form and completing a full written submission demonstrating and justifying how an employee meets the transition requirements.

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:	David Child	Name:	Ceri Brenner
Title:	CAS Chemistry Group Lead	Title:	Leader, Centre for Accelerator Science
Signature:		Signature:	
Date:		Date:	

**AMS Chemistry QC Officer (PD-XXXX)
Band 5 to Band 6 Transition Checklist**

Name:	
Commencement Date:	
Assessment Date:	

Written submission demonstrating and justifying how the employee meets requirements must also be attached.

Requirements for transition	Met Criteria
a) Minimum 5 years working as AMS Chemistry QC Officer (Band 5) OR b) Minimum 5 years equivalent experience	☐ Yes ☐ No OR ☐ Yes ☐ No
Degree in Chemistry, Environmental Science, or equivalent	☐ Yes ☐ No
Extensive experience with Analytical Chemistry laboratories and demonstrate meeting all below requirements	☐ Yes ☐ No

Demonstrated ability to independently and responsibly perform Band 6 accountabilities and apply required knowledge, skills and experience for the band 6 position including:	
Undertake band 5 accountabilities at a technical expert level and independently without supervision or guidance	☐ Yes ☐ No
Demonstrated ability to maintain and improve regulatory compliance and quality control documentation	☐ Yes ☐ No
Demonstrated ability to configure and maintain laboratory information management systems	☐ Yes ☐ No
Demonstrated knowledge of an extensive range of AMS sample processing methodologies and ability to select appropriate customised analytical plans	☐ Yes ☐ No
Demonstrated capacity to contribute to innovations in sample processing methods and capability development projects	☐ Yes ☐ No
Demonstration of teamwork, knowledge sharing, collaborative and user focussed working environment	☐ Yes ☐ No
Professional specialist expertise developed sufficiently to contribute to scientific papers, client reports, and training materials	☐ Yes ☐ No
Demonstrated capacity to develop networks with users and other stakeholders	☐ Yes ☐ No
Demonstrated provision of training, supervision and expert advice to staff and users to ensure effective and safe work within the facility and achievement of high-quality project outputs	☐ Yes ☐ No
	☐ Yes ☐ No
	☐ Yes ☐ No

Attach written submission demonstrating and justifying how the employee meets each of the above requirements.

Manager Recommendation

I have reviewed the employee's competence in accordance with Linked Role PD-2291 and certify that the employee meets all requirements for transition and recommend transition from Band 5 to Band 6 be endorsed as demonstrated in the attached written submission detailing how the employee meets each of the requirements.

Name & Title:			
Signature:		Date:	

Leader, Centre for Accelerator Science

I have reviewed all information and approve transition from Band 5 to Band 6.

Name & Title:			
Signature:		Date:	
Effective date of transition:			

Appendix 1

ANSTO Job Families
Accounting & Finance
Administration
Communications & Marketing
Compliance & Regulation
Engineering and Technical
Human Resources
ICT & Digital Solutions
Information & Knowledge Management
Legal
Manufacturing
Monitoring & Audit
Operations
Organisational Leadership
Project & Program
Research
Science
Security & Intelligence
Senior Executive
Service Delivery
Strategic Policy
Trades & Labour