ANALYTICAL CHEMIST

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NSW GOVERNMENT
Department of Primary Industries

PURPOSE OF YOUR ROLE

As an analytical chemist I produce accurate results for soil, water and plant tissue analysis. How does that help build stronger primary industries?

How does it fit into the role of DPI?

We work with our stakeholders in the farming community to help them understand what is happening with their soil and water. The results I produce play an integral role in quantifying the unknown concentrations of important elements in the environment.

A TYPICAL DAY IN YOUR ROLE

It can vary, I run a lot of different instrumentation. I also do other tasks that are asked of me, recently we've held field days, given presentations, we work with school groups and we go out to career workshops but my main role is in the laboratory running instrumentation and reporting results out to our clients.

PERSONAL ATTRIBUTES THAT ARE USEFUL IN THIS ROLE?

- I am very research orientated in my thinking, very analytical. But I also get the job done it is good to be able to bounce between the two ways of operating. I think that one of my key strengths is know when to knuckle down and do the work and when to think about things and think about the big picture.
- Well the first thing that comes to mind as an analytical chemist is attention to detail. We deal with a lot of numbers and we focus on precise and accurate results. We have a rigorous quality control system in place. Sometimes it's not quite obvious something is wrong when you are dealing with a large amount of data but you have to really train yourself to notice things that don't look quite right and then question that.

TRAINING / EDUCATION

I have a Bachelor degree in Science sub-majoring in chemistry. I was fortunate to get a traineeship with CSIRO where I learnt a lot about the instrumentation in this role. It's a very important part of this role the hands-on part, you can only learn so much at Uni and as soon as you go into the workplace you get exposed to the instruments. So the degree is great, it's pretty much a standard entry into the role of a chemist but the at work part, the hands on part, on the job training is really important as well.

Quote

"I always have an interest in doing new and different varied things, my Honours degree was based on something I was doing for my own amusement. "

WHAT IMPACT DO YOU SEE TECHNOLOGY HAVING IN THIS FIELD IN THE NEXT 20 YEARS?

A lot of the work we do here is automated already, and very repetitive, some of the preparation steps are very repetitive. So in 20 years I think robots will take a lot of the mundane preparation work. You will still need people to interpret the data and trouble shoot and fix problems.

I would suggest that people interested in this field should get up to speed on their coding and they also think about what the data means. It's really important to think about interpreting and presenting data. Those skills will be more important in the future than the fundamental skills of pipetting and those basics, I think they will get lost but they are still relevant at the moment.

I am just fascinated by chemistry, recently my catch phrase is 'It's like magic, but it's better it's chemistry'! It's just the way my brain works.

Cleaning up! I hate washing up and we have to be really tidy in what we do so when you are really busy it's hard to stay on top of it.

DOES CREATIVITY PLAY A PART IN THIS ROLE?

It can, method development and trying to solve the unknown, trying to solve problems. I took a year off work early in my career to do an Honours degree. I was looking at toxicants in my local area, I developed a new method and applied it to my local area.

Staff Profile

BACKGROUND

Steven grew up in Urunga, on the mid-north coast of New South Wales and attended Bellingen High School. Following the Higher School Certificate Steven completed a business degree at Southern Cross University in Coffs Harbour and worked in hotels as a concierge for many years and taught English in Japan.

In his late 20s Steven decided on a career change and studied science at the University of Technology Sydney, he had enjoyed and been good at chemistry while at school. While undertaking a traineeship with the CSIRO in Lucas Heights it was suggested that Steven complete an Honours degree based on the research he was undertaking.

Steven worked for Envirolab in Sydney and came to this role in 2018 after transferring to Wollongbar in 2015. In the role of Analytical Chemist he gets to satisfy his need to explore and find answers while living in the beautiful north coast.

What advice do you have for young people who are interested in this sort of work?

It took me a long time to work out what I want to do and I think that's a common thing for people. The best advice I give anyone is just do something when you finish school and do it well, it is not going to define you for the rest of your life. But if you do one thing well that can lead into another opportunity, people notice when people are really having a go and really trying their best. So it's about whatever you do, doing it well and then as time goes on you can change careers and have success in a number of fields.