



OREesome FUTURES

RESOURCES SECTOR IN QUEENSLAND

Queensland has a large and diverse reserve of resources such as minerals, coal and gas. It's these resources that help secure the energy needs of Asia, build vital infrastructure such as bridges and skyscrapers across the world and make the products of modern life, from smartphones to solar panels.

The Queensland resources sector encompasses mineral exploration, mining, mineral processing, oil and gas production and electricity generation. It is one of the state's largest employers, providing high-tech and high-paid careers from Toowoomba in the south, to Mount Isa in the north west to Weipa in the far north.

To ensure the continued growth of the sector, it needs to attract the right people with the right skills and training. Pathways into the resources sector are many and varied and can take the form of apprenticeships, traineeships or specialised university degrees. It's important that you choose the right subjects at school to make sure you are on the path to the resources sector career you aspire to.

If you have never considered a career in resources, this booklet is a great first step on your path to an Oresome Future!

Did
you know?

**Electric cars require
four times more copper
than standard cars**

STEPS TO AN ORESOME FUTURE →

Read the Oresome
Futures booklet

Go to Job Outlook
joboutlook.gov.au
and complete the career quiz

Filter your results by **Mining** or
Electricity and Gas services

Check out the Oresome Futures
Career Interactive at
oresomeresources.com/careers
to hear more from people
already in the resources sector

RESOURCES AND MINING EQUIPMENT, TECHNOLOGY AND SERVICES (METS)



Did you know?

Queensland's METS industry employs more than 20 000 people and generates more than \$7 billion in revenue each year

The tools and technologies used in resources are developed and built by companies in the mining equipment, technology and services (METS) sector. There are a lot of different professions working in METS, and tertiary qualifications such as engineering, software development and metallurgy are all in demand, as are trades such as welding, electrical, machining and other manufacturing and mechanical skills. Skills you might not expect, like project management and psychology, also have important roles in the industry.

From pickaxes, shovels and gold pans to drones, virtual reality, computer modelling, robotics and artificial intelligence, the resources sector continues to be an early adopter of technology with companies building high-tech capacity into their operations to improve safety and efficiency. With the rise of automation, the sector will require new skills for its workforce, such as:

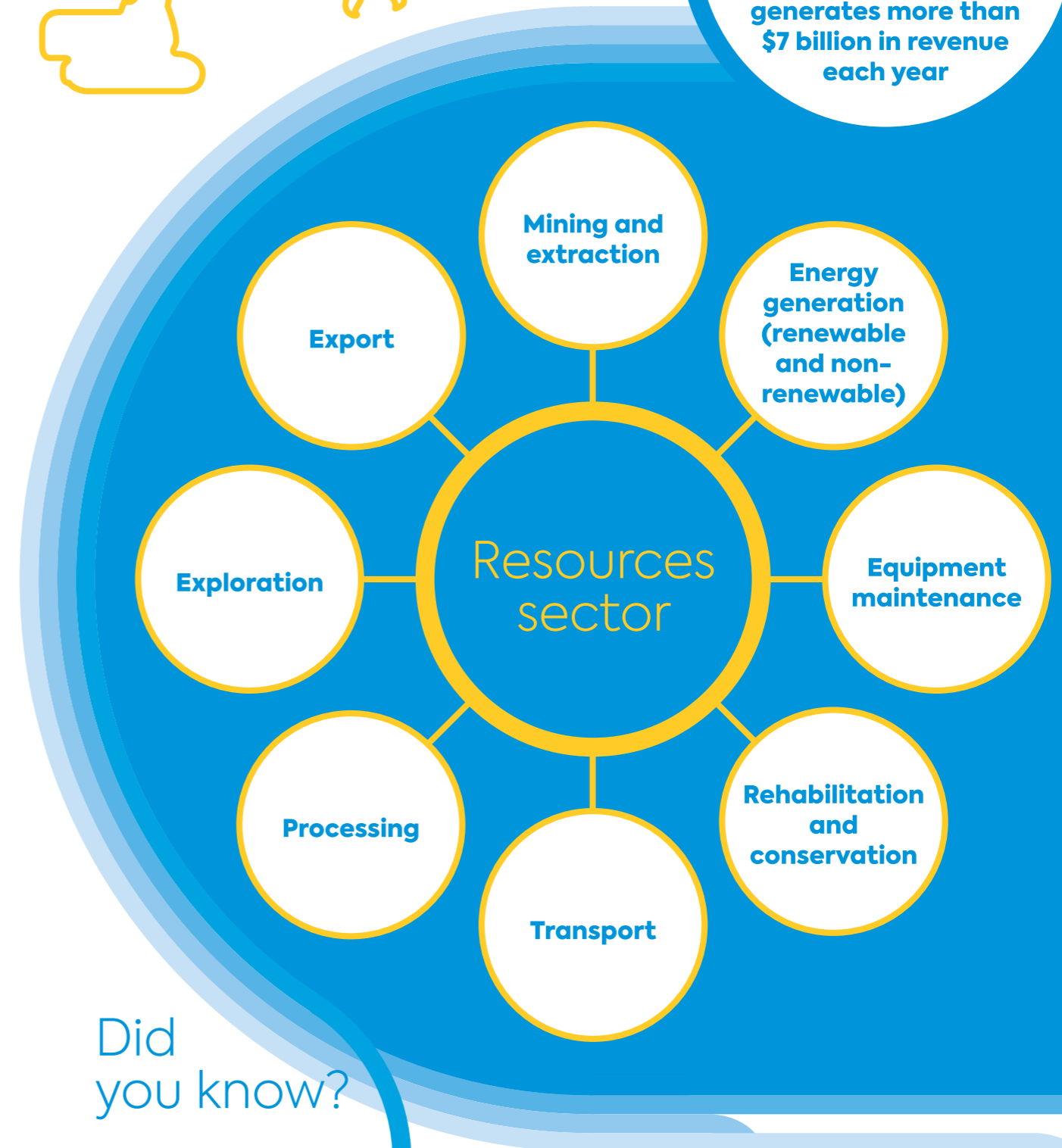
- programmers
- data scientists/analysts
- coders.

Additionally, the resources sector regularly experiences shortages of appropriately qualified people, including:

- mining engineers
- geologists and geophysicists
- industrial and mechanical engineers
- metallurgists and surveyors.

The resources sector is also committed to ensuring that it maintains a diverse workforce with a focus on improving gender balance by reducing structural and cultural barriers that have previously limited female participation in the sector.

1 in 8 jobs in Qld are in the resources sector



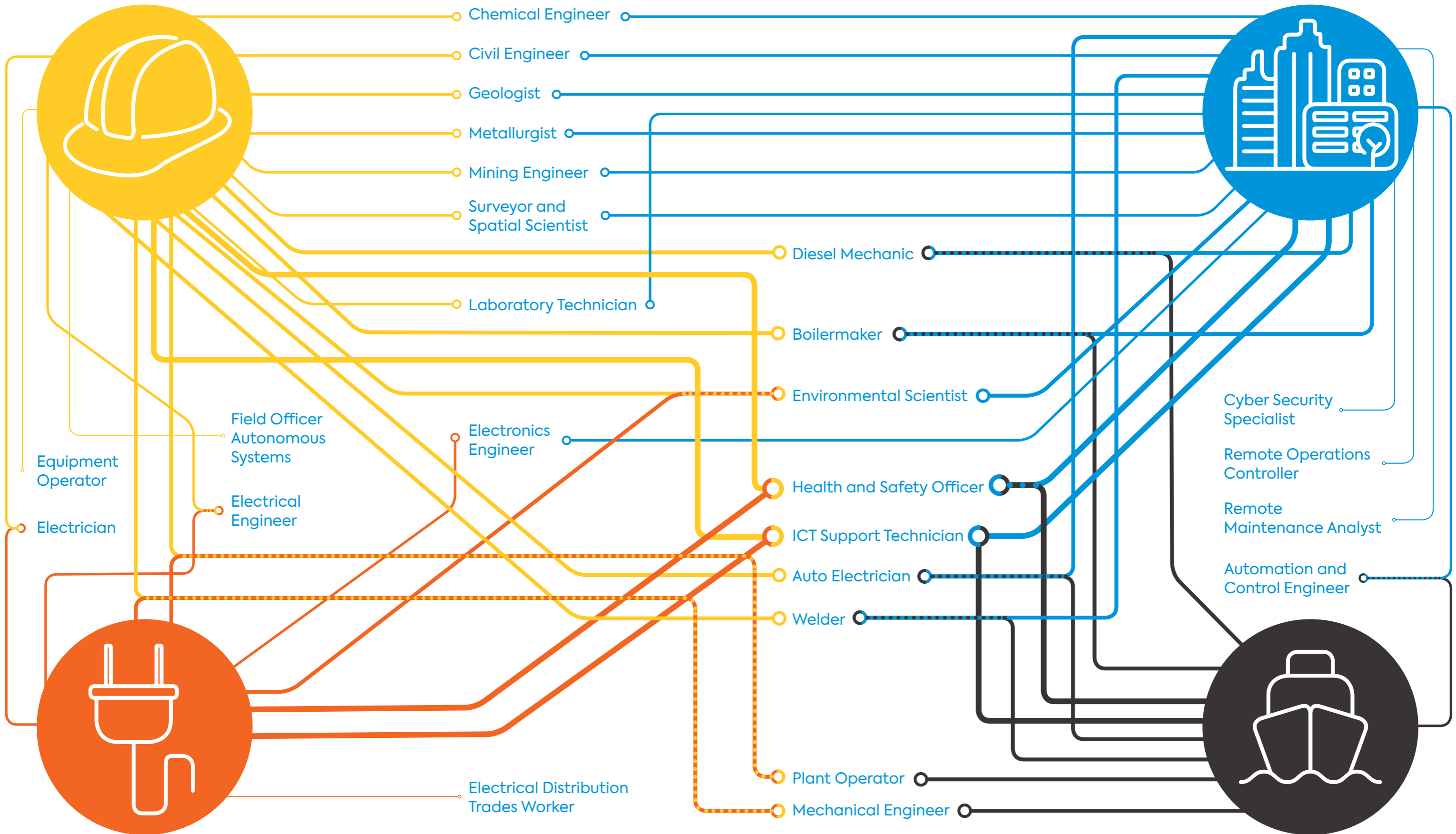
Did you know?

More than 40 mined metals and rare earths are used to produce a single smartphone

ORESOME LOCATIONS & ROLES

SITE OPERATIONS

CITY



POWER GENERATION

Careers in the resources sector can take you many places. For more information on where it could take you go to oresomeresources.com/careers

LOGISTICS / PORT

UNIVERSITY PATHWAYS

Completing a university qualification can open up a variety of rewarding and interesting career prospects within the resources sector across Queensland, Australia and the world.

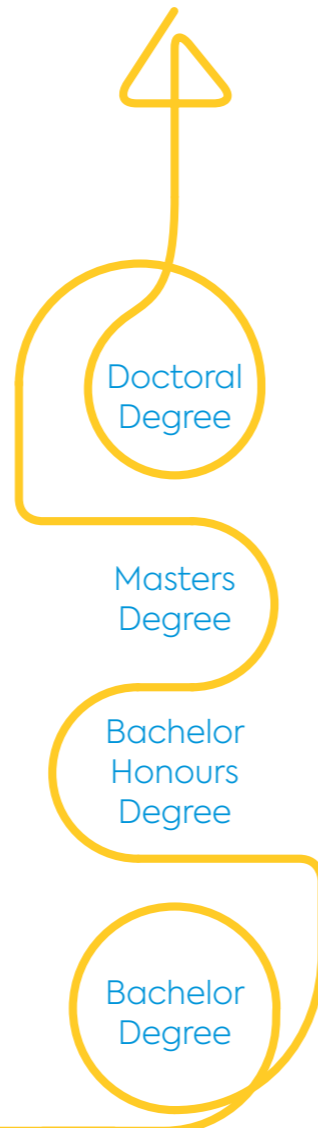
In addition to the roles already highlighted, people with qualifications in IT, law, finance, human resources, occupational health and safety and science (just to name a few) are all vital to the resources sector.

A bachelor degree (also referred to as an undergraduate degree) is your first degree in a particular area (ie. science, engineering) and can take up to four years full-time to complete. After completing a bachelor's degree you will be qualified to apply for graduate roles in your field of study.

Some companies provide support for tertiary study through scholarships and industry work placement while you are still at university.

Did you know?

More than 220 tonnes of coal is required to build a wind turbine



As automation increases across the sector, more skilled people will be required to develop and work with automated systems

Make sure you check the QTAC website to determine the entry requirements for your preferred courses.

qtac.edu.au



Alicia Hurkmans
Santos

“As a Commissioning Lead working with Santos, it is my job to make sure that when complicated systems and machinery are switched on for the very first time, they work as planned. As you can imagine, this requires a great deal of planning and coordination, as well as problem solving when things don't go to plan.

While I was studying a double degree in Chemical Engineering (Honours), I used the opportunity to undertake a number of work experience placements in various industries. It was during my placement working in oil and gas that I discovered how varied and rewarding careers in the resources sector can be.

The thing I enjoy most about my job is spending time out in the field, working with people on site to execute plans and see big projects come together.

My advice would be to learn as much as you can about what the resources sector really does. It will surprise you how much of an integral role it has in creating value for our economy as well as providing the materials to support your every-day life.

If you're looking for challenging and rewarding career opportunities, the resources sector has them in spades!



VET PATHWAYS



Vocational education and training (VET) is an excellent pathway into the resources sector.

Careers that require VET qualifications include:

- boilermaker
- diesel fitter
- auto electrician
- equipment operators

Apprentices are trained in a skilled trade (i.e. boiler making, diesel fitting, electrical, plumbing). Apprenticeships have a nominal completion time of four years with some apprenticeships able to be commenced in years 11 and 12 as school-based apprenticeships.

Trainees are trained in vocational areas (i.e. business, equipment operator, administration, IT). Traineeships have a nominal completion time of between 18 months to 2 years and will provide you with a level 2 qualification.

Both qualifications provide a combination of on the job training and theoretical training in a classroom setting and you will be paid while you are completing your apprenticeship/traineeship.

These roles can be site based in regional areas or in cities as support roles

VET qualifications are completed in a hands-on working environment, requiring problem solving skills, team work and the ability to work safely.

Many companies in the resources sector advertise on a yearly basis for apprentices and, in some cases, they will pay for your education costs.

Did you know?

Site operations can be controlled from purpose-built centres located in major cities



Riley Stewart
Hastings Deering

“After growing up on a farm, I knew that I wanted to pursue a career working on machinery. I started my diesel fitting apprenticeship with Hastings Deering straight after school and I am now in the third year of my apprenticeship.

During my apprenticeship I have been rotated through all the different parts of the workshop which means I am familiar with all of the different processes and machinery. I also spend around eight weeks a year at Hastings Deering Registered Training Organisation in Brisbane where I complete all of my theory, which I then apply in the workshop.

I am really enjoying the challenge of learning quickly on the job as well as diagnosing faults on different machines and working out how to get them back into operation.

My advice would be to apply yourself to all aspects of your schooling because a good work ethic and attitude will get you a long way toward gaining an apprenticeship. Doing lots of work experience in a variety of jobs will also help get you ready for the workforce.”

Advanced Diploma

Diploma

Certificate IV

Certificate III

Certificate II

Certificate I

NEXT STEPS

- Identify a resources career that interests you at **oresomeresources.com/careers**
- Go to **joboutlook.gov.au** to see the career profile and relevant study options
- Check the **QTAC website** to find out the entry requirements for your course of interest
- Visit the careers counsellor at your school to discuss your subject choices

The Queensland Resources Council is committed to resourcing Queensland's future through the Queensland Minerals and Energy Academy, Australia's largest industry partnership initiative.

Acknowledgements

The Queensland Resources Council, through the Queensland Minerals and Energy Academy, would like to acknowledge the Department of State Development, Manufacturing, Infrastructure and Planning and their associated networks who assisted to deliver this resource.

Disclaimer

This publication is delivered in good faith that the information provided is true and correct at the time of publication (April 2019). This publication provides a broad overview of some of the roles in the resources sector and does not, in any way, show the full depth and breadth of opportunities across the sector. This publication is intended to inform students, parents, teachers and careers advisors about possible pathways to the resources sector.

Copyright © Queensland Resources Council 2019