



# Helpful Resources

## Chapter 11

In this chapter we cover:

- **Experts on tap**
- **Research Institutes**
- **Health and wellbeing**

*Current as of February 2022*

# Experts on tap

## Department of Agriculture and Fisheries (DAF)

The DAF biosecurity experts are focussed on preventing, minimising and/or controlling the spread of pest animal species, harmful weeds, and soil and plant disease. The potential risk of weed spread occurs in earthmoving and construction activities. Accredited washdown procedures should be in place to minimise this risk.

### SERVICES

- Biosecurity advice and planning for inclusion in on-site activities from preliminary to rehabilitation stages.

**Phone:** 13 25 23

**Email:** [info@daf.qld.gov.au](mailto:info@daf.qld.gov.au)

**Web:** [www.daf.qld.gov.au](http://www.daf.qld.gov.au)

## Resources Safety & Health Queensland (RSHQ)

RSHQ is the independent regulator of worker safety and health in Queensland's mining, quarrying, petroleum, gas and explosives industries. RSHQ's focus is on ensuring the protection of the safety and health of workers and community affected by resources operations.

### SERVICES

- Developing policy, working with and educating industry, monitoring data and identifying trends, implementing risk-based compliance plans and prosecuting breaches.

**Web:** [www.rshq.qld.gov.au/contact-us/petroleum-gas-inspectorate](http://www.rshq.qld.gov.au/contact-us/petroleum-gas-inspectorate)

## Department of Environment and Science (DES)

DES protects and manages the State's environment and natural resources with a gas industry focus on groundwater, chemical usage and waste disposal. Before resource companies start any work on any operation, they must meet the requirements of a stringent approvals process that may vary according to the nature of activities (e.g. exploration, development or production).

### SERVICES

- Expert advice on 'make good' provisions of the [Water Act 2000](#)
- EA definitions, offsets policy and best practice
- Environment Impact Statement (EIS) advice
- [CSG water and environmental management](#).

**Phone:** 1300 130 372

**Email:** [info@des.qld.gov.au](mailto:info@des.qld.gov.au)

**Web:** [www.des.qld.gov.au](http://www.des.qld.gov.au)

## Office of Groundwater Impact Assessment (OGIA)

OGIA is an independent statutory entity established to undertake evidence-based independent scientific assessment of cumulative groundwater impacts, setting management arrangements and assigning responsibilities to resource companies for implementation of strategies within CMAs (for more OGIA information see [Research Institutes](#)).

**Phone:** (07) 3199 7321

**Email:** [ogia@rdmw.qld.gov.au](mailto:ogia@rdmw.qld.gov.au)

**Web:** [www.business.qld.gov.au/industries/mining-energy-water/resources/land-environment/ogia](http://www.business.qld.gov.au/industries/mining-energy-water/resources/land-environment/ogia)

# GasFields Commission Queensland (GFCQ)

Whilst the Commission became an independent statutory body on 1 July 2013 when the *Gasfields Commission Act* was passed, the Commission has been in existence since 2012. The purpose of the Commission is to manage and improve sustainable coexistence and be a trusted reference source for landholders, regional communities and the onshore petroleum and gas industry.

The Commission undertakes an extensive schedule of information sessions for landholders, local governments and communities while building and maintaining a comprehensive knowledge base to share with all gas industry stakeholders.

The Commission's website holds a wealth of information for landholders written in plain English and updated regularly through e-newsletters and social media updates.

## SERVICES

- The Gas Guide is just one of a number of free publications and fact sheets
- Expert information from regionally based Stakeholder Engagement Managers with rural knowledge and on-ground experience
- Facilitate connections between different stakeholder groups to help everyone work together
- Best practice recommendations for everyone involved in Queensland's onshore petroleum and gas industry
- e-Newsletters and industry updates

**Phone: (07) 3067 9400**

**Email: [enquiries@gfcq.org.au](mailto:enquiries@gfcq.org.au)**

**Web: [www.gfcq.org.au](http://www.gfcq.org.au)**

# Department of Resources (DOR)

DOR offers a range of engagement, compliance, tenure management and technical and geoscientific services that support the exploration and development of minerals and energy resources, with staff located throughout Queensland.

## SERVICES

- Regular schedule of QEP opportunities for petroleum and gas, and coal.

[www.business.qld.gov.au/industries/mining-energy-water/resources/geoscience-information/exploration-incentives/exploration-program](http://www.business.qld.gov.au/industries/mining-energy-water/resources/geoscience-information/exploration-incentives/exploration-program)

- Provides a single contact point for the community and landholders via the Resource Community Infoline, regarding complaints and enquiries associated with minerals and energy resources in Queensland
- Has the ability to assist parties in negotiations around compensation and make good
- Manages authorities and permits for minerals and energy resources, including petroleum and gas
- Delivers a critical compliance service, ensuring that resource companies comply with statutory obligations associated with resource authorities. This includes audits, inspections and complaint investigations relating to land access and includes water bore investigations.

[www.business.qld.gov.au/industries/mining-energy-water/resources/landholders/csg/monitoring-complaints](http://www.business.qld.gov.au/industries/mining-energy-water/resources/landholders/csg/monitoring-complaints)

**Phone: 13 71 07**

**Email: [resources.info@resources.qld.gov.au](mailto:resources.info@resources.qld.gov.au)**

**Websites: [www.resources.qld.gov.au](http://www.resources.qld.gov.au) - or visit the '[Business Queensland](#)' portal**

# Land Access Ombudsman (LAO)

The Office of the Land Access Ombudsman operates to improve the land access framework for landholders and the resources sector in Queensland.

It is an independent, impartial body designed to help landholders and resource companies resolve disputes about alleged breaches of CCAs and MGAs. It does not have legal authority to make rulings on disputes.

## SERVICES

- Investigations into disputes over alleged breaches of CCAs and MGAs
- Advice and recommendations on dispute resolution
- Refer or recommend possible offences and breaches to the relevant government department
- Provide advice to government agencies about systemic issues arising from land access disputes.

**Phone (free call): 1800 717 550**

**Email: [enquiries@lao.org.au](mailto:enquiries@lao.org.au)**

**Web: [www.lao.org.au](http://www.lao.org.au)**

# Land Court of Queensland

Perceived as ‘the last resort’ for a legal ruling on property disputes, the Land Court of Queensland offers a number of ADR options in the interests of resolving disputes fairly, cost-effectively and efficiently.

Contact the [Land Court](#) to discuss your options. You can attend an interview at the Land Court Registry in person, by phone or via Skype.

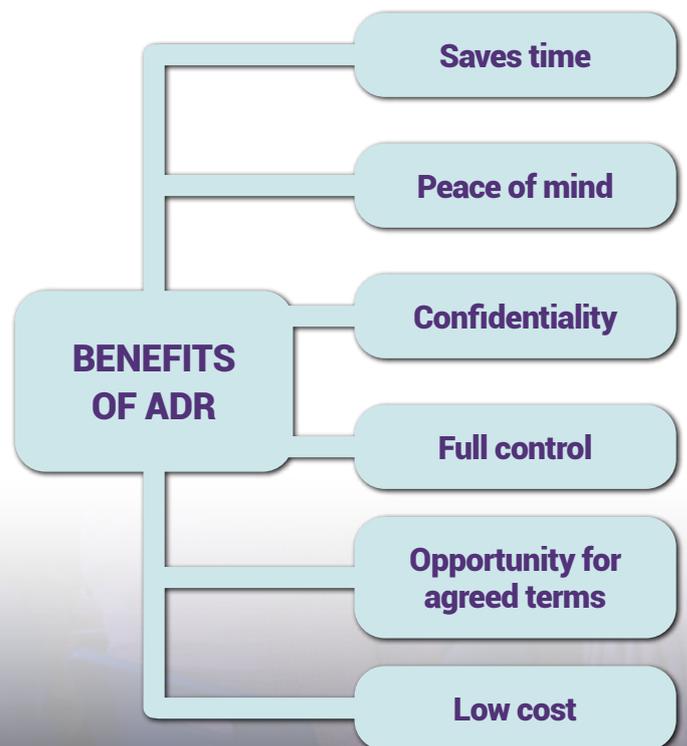
## SERVICES

- [Procedural Assistance Service](#)
- Facilitated conferencing of parties
- Mediation by court officers or qualified convenors
- Expert ADR panel
- ADR referral opportunities even when a case is being heard in the Land Court.

**Phone: (07) 3406 7777**

**Email: [adrpanel.landcourt@justice.qld.gov.au](mailto:adrpanel.landcourt@justice.qld.gov.au)**

**Web: [www.courts.qld.gov.au/courts/land-court/resolving-disputes-without-a-hearing](http://www.courts.qld.gov.au/courts/land-court/resolving-disputes-without-a-hearing)**



## Queensland Law Society

The Queensland Law Society strongly advises that you get independent legal advice before entering into a Compensation Agreement, Deferral Agreement or Opt-Out Agreement. The importance of getting legal assistance is recognised by the legislation in the area.

The Queensland Government has specifically legislated that the resource company is obliged to pay for the legal fees that are reasonable and necessarily incurred to help you negotiate such agreements.

### SERVICES

- Help find a solicitor
- Useful links.

**Phone:** 1300 367 757

**Email:** [info@qls.com.au](mailto:info@qls.com.au)

**Web:** [www.qls.com.au/for\\_the\\_community/land\\_access](http://www.qls.com.au/for_the_community/land_access)

## Australian Mediation Association

The Australian Mediation Association is a group of mediators and conflict resolution practitioners who provide private mediation services, consulting services, and education in mediation, communication and negotiation to help businesses and individuals avoid disputes through planning and to resolve disputes through mediation.

### SERVICES

- Professional mediators and ADR practitioners
- Getting the appropriate parties to the negotiation table
- Completely independent consultants.

**Phone:** 1300 633 428

**Email:** [info@ama.asn.au](mailto:info@ama.asn.au)

**Web:** [www.ama.asn.au](http://www.ama.asn.au)

## Resolution Institute

Resolution Institute is a vibrant community of mediators, arbitrators, adjudicators, restorative justice practitioners and other Dispute Resolution (DR) professionals. DR can help prevent, manage and resolve conflict and disputes in business, workplaces, families and communities. Resolution Institute is a not-for-profit organisation with more than 2,800 members in Australia, New Zealand and the Asia Pacific region.

### SERVICES

- When parties need a contractually agreed, independent and unbiased service to appoint a dispute resolver
- When a government, industry or agency scheme requires an independent and unbiased third party to appoint an appropriately qualified dispute resolver.

**Phone:** 1800 651 650

**Email:** [infoaus@resolution.institute](mailto:infoaus@resolution.institute)

**Web:** [www.resolution.institute](http://www.resolution.institute)

# Research Institutes

## Office of Groundwater Impact Assessment (OGIA)

OGIA is an independent statutory entity established to undertake evidence-based independent scientific assessment of cumulative groundwater impacts, setting management arrangements and assigning responsibilities to resource companies for implementation of strategies within CMAs.

OGIA is a department within DOR, which provides corporate and administrative support.

### Core activities and services

- Preparation of a UWIR every three years for a CMA
- Overseeing implementation of the UWIR and preparing Annual Reports
- Undertake research, hydrogeological investigations and assessments relating to groundwater flow behavior and connectivity
- Cumulative groundwater impact modelling, including identifying impacted water bores for make-good
- Designing and implementing of groundwater monitoring and impact management strategies
- Maintenance and analysis of groundwater monitoring data in a CMA
- Assigning statutory responsibilities to resource companies for the implementation of management strategies within CMAs.

**Phone: (07) 3199 7321**

**Email: [ogia@rdmw.qld.gov.au](mailto:ogia@rdmw.qld.gov.au)**

**Web: [www.business.qld.gov.au/industries/mining-energy-water/resources/land-environment/ogia](http://www.business.qld.gov.au/industries/mining-energy-water/resources/land-environment/ogia)**

## Centre for Natural Gas (University of Queensland)

The University of Queensland's Centre for Natural Gas conducts research and supports education in key discipline areas including economics, business, petroleum engineering, geosciences, water, ecology and social sciences. A core team including four professorial research chairs covering geoscience, petroleum engineering, water and social performance manages the Centre for Natural Gas.

**Phone: (07) 3346 4101**

**Email: [naturalgas@uq.edu.au](mailto:naturalgas@uq.edu.au)**

**Web: [www.natural-gas.centre.uq.edu.au](http://www.natural-gas.centre.uq.edu.au)**

## CSIRO's Gas Industry Social and Environmental Research Alliance (GISERA)

GISERA provides CSIRO quality-assured scientific research and information to communities living in gas development regions. It focusses on social and environmental topics including groundwater and surface water, biodiversity, land management, the marine environment, human health and socio-economic impacts. The governance structure for GISERA is designed to provide for and protect research independence and transparency of research outputs.

**Web: <https://gisera.csiro.au>**

# Health and wellbeing

Working on the land can affect your health, both physically and mentally. If you need support, it is always important to talk to your GP or healthcare professional. If you or someone you know are in need of support, there are countless services available across numerous platforms (via phone, online, face-to-face). Browse through the services below to find a support provider that best suits your needs. *Community and Neighbourhood Centres can also be a good source of information, as well as your local council's website.*

## Primary Healthcare Networks (PHN)

PHNs have been established with the key objectives of increasing efficiency and effectiveness of medical services for patients, particularly those at risk of poor health outcomes, and improving coordination of care to ensure patients receive the right care, in the right place, at the right time. See below to find a PHN service in your area:

### Darling Downs and West Moreton Region

Phone: (07) 4615 0900

Email: [info@ddwmpnh.com.au](mailto:info@ddwmpnh.com.au)

Web: [www.ddwmpnh.com.au](http://www.ddwmpnh.com.au)

### Western Queensland

Phone: (07) 4573 1900

Email: [admin@wqphn.com.au](mailto:admin@wqphn.com.au)

Web: [www.wqphn.com.au](http://www.wqphn.com.au)

### Central Queensland, Wide Bay & Sunshine Coast

Phone: (07) 5456 8100

Email: [info@ourphn.org.au](mailto:info@ourphn.org.au)

Web: [www.ourphn.org.au](http://www.ourphn.org.au)

### Northern Queensland

Phone: (07) 4034 0300

Email: [hello@nqphn.com.au](mailto:hello@nqphn.com.au)

Web: [www.nqphn.com.au](http://www.nqphn.com.au)

## Government Health Initiatives

Your mental wellbeing is the unique way that you handle your emotions, respond to stress and also your general outlook on life. Having a healthy sense of mental wellbeing has many benefits. Discover ways to strengthen your mental wellbeing utilising these online resources from the Queensland Government:

1. <https://mentalwellbeing.initiatives.qld.gov.au>
2. [www.headtohealth.gov.au](http://www.headtohealth.gov.au)
3. [www.healthdirect.gov.au](http://www.healthdirect.gov.au)

### HEALTH SERVICE NAVIGATORS (HSN)

HSNs are community service professionals who can help people understand and navigate the often-challenging pathways to accessing mental health services, utilising a within a stepped care approach.

It can be the first point of call to evaluate what mental health supports are available in a particular region and how that support could be funded. HSN works with people to find the right service, with the right person, at the right time. RHealth is a dynamic and innovative Primary Health Care Organisation that has HSNs engaged in the Western Downs, Southern Downs, Goondiwindi, South Burnett, Cherbourg and Somerset regions. [Click here to read 'Everything You Need To Know about HSNs'](#).

### RHealth

Phone: 1300 012 710

Email: [services@rhealth.com.au](mailto:services@rhealth.com.au)

Web: [www.rhealth.com.au](http://www.rhealth.com.au)

# Health and wellbeing

Access 24 hour support via the numerous helplines listed below. If it is an emergency always call triple zero (000).



**Queensland  
Government**

## MENTAL HEALTH ACCESS LINE (1300 64 22 55)

Confidential mental health telephone triage service that provides Queenslanders first point of contact to public mental health services. A 24/7 service that links callers to the nearest Queensland Public Mental Health service.

## 1300 MH CALL / 1300 64 22 55:

- Is the main point of access into public mental health services
- Can provide support, information, advice and referral in a mental health emergency or crisis
- Is staffed by trained and experienced professional mental health clinicians
- Will provide a mental health triage and refer to acute care teams where appropriate.



Lifeline are a national charity providing all Australians experiencing emotional distress with access to 24 hour crisis support and suicide prevention services.

**Phone: 13 11 44**

**Text line: 0477 13 11 14 (6pm – 12am, 7 days/wk)**

**Web: [www.lifeline.org.au](http://www.lifeline.org.au)**



Suicide Call Back Service is a nationwide service that provides professional 24/7 telephone and online counselling to people who are affected by suicide.

**Phone: 1300 659 467**

**Online counselling: [/phone-and-online-counselling/](#)**

**Video chat: [www.suicidecallbackservice.org.au](http://www.suicidecallbackservice.org.au)**



Beyond Blue provides information and support to help everyone in Australia achieve their best possible mental health, whatever their age and wherever they live.

**Phone: 1300 224 636**

**Online chat: [online.beyondblue.org.au](http://online.beyondblue.org.au) (3pm – 12am)**

**Web: [www.beyondblue.org.au](http://www.beyondblue.org.au)**



MensLine Australia is a telephone and online counselling service for men with emotional health and relationship concerns.

**Phone: 1300 78 99 78**

**Online counselling: [/phone-and-online-counselling/](#)**

**Video chat: [www.mensline.org.au](http://www.mensline.org.au)**



Kids Helpline is Australia's only free, private and confidential 24/7 phone and online counselling service for young people aged 5 to 25.

**Phone: 1800 55 1800**

**Online chat: [/webcounselling/live/chat/](#)**

**Web: [www.kidshelpline.com.au](http://www.kidshelpline.com.au)**



MATES provides suicide prevention through community development programs and by supporting workers in need through a 24/7 help line.

**Phone: 1300 642 111**

**Send a message: [www.mates.org.au/contact-us](http://www.mates.org.au/contact-us)**

**Web: [www.mates.org.au](http://www.mates.org.au)**



# Appendix

## The Gas Guide – Legal Disclaimer

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The GasFields Commission Queensland, PO Box 15266 City East QLD 4002

Phone: +61 7 3067 9400

Email: [enquiries@gfcq.org.au](mailto:enquiries@gfcq.org.au)

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# Glossary

*The gas industry and the mechanisms covering its operation in Queensland have spawned a range of terms and acronyms. This is a quick guide to some of the terms a landholder might find themselves using far more often than they thought possible.*

## **ACCESS AGREEMENT**

A negotiated agreement between a resource company and landholder relating to the rights over designated 'access land' (see below).

## **ACCESS LAND**

This is land outside a declared resource authority area, over which it is reasonably necessary for a resource company to travel in order to access land subject to their resource authority.

## **ACCESS RIGHT**

A resource company's right to cross access land (where reasonably necessary) or carry out activities on the access land that are reasonably necessary to allow the crossing of that land.

## **ADR**

Alternative Dispute Resolution refers to any means of settling disputes outside of the courtroom (resolving disputes without litigation) and typically includes early neutral evaluation, negotiation, conciliation, mediation, and arbitration.

## **ADVANCED ACTIVITY**

An authorised activity for the resource authority that is not a preliminary activity.

## **ATP**

To explore for petroleum, oil, coal seam gas and natural gas in Queensland, you must hold a current authority to prospect.

## **AUTHORISED ACTIVITY**

An activity permitted for the resource authority by the particular Act under which it is granted.

## **BCF**

Billion cubic feet (of gas).

## **BARRELS OF OIL EQUIVALENT (BOE)**

A unit of energy approximating the energy released by burning one barrel (158 litres) of crude oil.

## **CCA**

A Conduct and Compensation Agreement is a legal agreement between a landholder and a resource company relating to proposed activities or conduct and, where there is impact on the landholder, compensation arrangements for those activities.

## **CMA**

Under the [Water Act 2000](#), a cumulative management area can be declared if an area contains two or more resource tenures, including tenures on which CSG and mining activities operate, and where there may be cumulative impacts on groundwater resulting from water extraction by the tenure holders.

## **CSG**

Coal seam gas is natural gas that is contained within coal seams.

## **CSIRO**

The Commonwealth Scientific and Industrial Research Organisation is Australia's national science research agency.

## **DAA**

A data acquisition authority authorises you to conduct limited geophysical survey activities and collect data outside the area of your exploration permit or lease.

## **DAF**

The Department of Agriculture and Fisheries works to achieve a productive and profitable agriculture, fisheries and forestry sector in Queensland by promoting sustainability and innovation.

## **DEFERRAL AGREEMENT**

A legal agreement in which a landholder and resource company agrees to defer the negotiation of a CCA until a later date and after the resource company has accessed the land to undertake advanced activities.

## **DES**

The Department of Environment and Science are responsible for protecting and managing parks, forests and the Great Barrier Reef. They lead the development of science strategy for government whilst fostering a community of the arts and facilitating the growth of the arts and cultural sector in Queensland. They are also responsible for administering Chapter 3 of the [Water Act 2000](#).

# Glossary

## **DOR**

The Department of Resources are responsible for regulating the exploration and mining of mineral and land resources in Queensland.

## **DRDMW**

The Department of Regional Development, Manufacturing and Water drives Queensland's focus on creating competitive regional economies with an innovative and resilient manufacturing sector across the State, to create and support jobs for all Queenslanders.

## **EA**

In Queensland, you need to apply for an Environmental Authority to undertake an environmentally relevant activity (ERA).

## **ERA**

Environmentally Relevant Activities are industrial, resource or intensive agricultural activities with the potential to release contaminants into the environment. They include a wide range of activities such as aquaculture, sewage treatment, cattle feedlotting, mining and resource activities such as petroleum (which includes coal seam gas), geothermal and greenhouse gas storage activities.

## **FRACKING/FRACCING**

See Hydraulic Fracturing.

## **GFCQ/THE COMMISSION**

Established as an independent statutory body in 2013, the GasFields Commission Queensland's purpose is to manage and improve the sustainable coexistence of landholders, regional communities and the onshore gas industry in Queensland.

## **GISERA**

CSIRO's Gas Industry Social & Environmental Research Alliance is a collaboration between CSIRO, Commonwealth and State Governments and industry established to undertake publicly-reported independent research.

## **HYDRAULIC FRACTURING (FRACCING)**

Is a safe and established method used by the petroleum and gas industry since the late 1940s to increase the rate and total amount of petroleum and

gas extracted from reservoirs. Water, sand (99%) and household chemicals (1%) are pressure pumped into steel-encased wells to stimulate the opening of cracks in gas-bearing formations. In Queensland, the technique is used in approximately 8% of wells.

## **HPVs**

In order to completely fill a gas piping system (gathering lines) you must be able to purge all air from the pipes – air will naturally accumulate in the high points of the system. Thus companies install High Point Vents on gathering lines to get rid of any air.

## **HYDROCARBONS**

Are organic compounds comprising hydrogen and carbon. Hydrocarbons are the principal constituents of oil and gas.

## **IAA**

An immediately affected area (a subset of an LAA) is predicted to exceed the bore trigger thresholds within the next three years.

## **LAA**

A UWIR identifies bores in a long-term affected area that are predicted at any time in the future to exceed the bore trigger threshold.

## **LANDHOLDER**

The owner and/or occupier (e.g. rental tenant) of private land.

## **LNG**

Liquefied natural gas.

## **LPDs**

See HPV. Once all air has been purged from a gas piping system (gathering lines), companies must be drain out all the water. Water naturally gravitates to low points of the system, so companies install Low Point Drains.

## **LPG**

Liquefied petroleum gas.

## **METHANE**

Methane is a chemical compound with the chemical formula CH<sub>4</sub>. It is the primary constituent of natural gas.

# Glossary

## **MGA**

A Make Good Agreement is a legally binding agreement entered into by a resource tenure holder and a bore owner about a water bore. An MGA is required for all bores that have had a bore assessment undertaken (not just those with an impaired capacity).

## **NATURAL GAS**

Primarily methane extracted from gas-bearing underground reservoirs.

## **NIN**

A resource company wishing to begin formal negotiations with a landholder may give the landholder a Notice of Intent to Negotiate. This period is 20 business days and provides a formal window for negotiation of a CCA. The notice will state whether the resource company wishes to negotiate a CCA or a Deferral Agreement.

## **OGIA**

The Office of Groundwater Impact Assessment is an independent entity established under the [Water Act 2000](#) responsible for assessing and managing the impacts of groundwater extraction from resource operations in CMAs (OGIA also provides advice on related matters outside CMAs).

## **OPT-OUT AGREEMENT**

A legal agreement in which the landholder chooses to 'opt-out' of the requirement to enter into a CCA or Deferral Agreement.

## **PAA**

A priority agricultural area (as defined in the *RPI Act 2014*) is an area that includes one or more areas used for a priority agricultural land use, whether it also includes other areas or features, including, for example, a regionally significant water source.

## **PCA**

A potential commercial area is a way of retaining an area of your ATP beyond its term to provide extra time to commercialise the resource. The maximum term for an ATP is 12 years, while the declaration for the PCA can be for up to 15 years.

## **PETROLEUM**

Liquid, gaseous and solid hydrocarbons including oil, natural gas, gas condensate, ethane, propane, butane and pentane.

## **PERMANENT IMPACT**

A continuing effect on land, its use, or a permanent or long-term adverse effect on its current use by the land's occupier.

## **PERMEABILITY**

The degree to which gas or fluids can move through a porous material, such as rocks.

## **PFL**

You will require a petroleum facility licence for a processing, refining, storage or transport facility if the facility is not already covered by your petroleum lease or pipeline licence.

## **PL**

A petroleum lease gives its holder the right to explore, test for production and produce petroleum within the defined area of the lease.

## **PLA**

A priority living area (as defined in the *RPI Act 2014*) is an area shown on a map in a regional plan as a priority living area; and that includes the existing settled area of a city, town or other community and other areas necessary or desirable for the future growth of the existing settled area; and as a buffer between the existing or a future settled area and resource activities.

## **PPL**

To construct a petroleum pipeline outside the area of your petroleum lease, you need a petroleum pipeline licence.

## **PSL**

A petroleum survey license gives you the right to enter land to survey the proposed route of a pipeline or the suitability of land for a petroleum facility licence.

## **PRELIMINARY ACTIVITY**

An activity that will have no impact or only a minor impact on the business or land use activities of a landholder on which the activity is to be carried out. (N.B. These activities are not considered preliminary activities if they are carried out on land that is being used for intensive farming or broadacre agriculture that is less than 100ha in size or if they affect organic or bio-organic farming).

# Glossary

## **PRIVATE LAND**

Is freehold land, or an interest in land less than fee simple held from the State under another Act.

## **PROVEN RESERVES (1P)**

Petroleum that can be estimated with reasonable certainty (at least 90%) to be commercially recoverable. Also known as 1P/P90 reserves.

## **PROVEN AND PROBABLE RESERVES (2P)**

Proven petroleum reserves plus reserves deemed probable (at least 50% likely) to be commercially recoverable. Also known as 2P/P50 reserves.

## **PROVEN, PROBABLE AND POSSIBLE RESERVES (3P)**

Proven and probable reserves plus reserves deemed possible (at least 10%) to be commercially recoverable. Also known as 3P/P10 reserves.

## **QEP**

The Queensland Exploration Program provides a yearly schedule for exploration opportunities for petroleum and gas and coal. The program outlines the tender process and provides details on the location of each exploration tender area and the timing of each competitive tender process.

## **REPLACEMENT WATER BORE**

Means a water bore that is constructed, installed or erected (i) to replace a water bore (the previous bore) used for the taking of, or interfering with, water – (A) for which a development permit was held or, under section [1048A of the Water Act 2000](#), was taken to be held; or (B) for which a development permit was not required; or (C) which, under the repealed [Sustainable Planning Act 2009, section 681\(1\)](#), was taken to be a lawful use of the premises in which the previous bore was constructed, installed or erected; and (ii) within 10m of the location of the previous bore; and (b) taps the same aquifer tapped by the previous bore.

## **RESOURCE AUTHORITY**

An authorisation from the Queensland Government for a resource company to carry out specified activities over an area of land, including privately owned land.

## **RESOURCE COMPANY**

A resource authority holder or their agents or representatives.

## **RESTRICTED LAND**

Land around particular buildings and areas that a resource company cannot enter without written permission from the landholder.

## **SCA**

A strategic cropping area (as defined in the [RPI Act 2014](#)) consists of the areas shown on the SCL Trigger Map (see below) as strategic cropping land.

## **SCL TRIGGER MAP**

Means the electronic map called '[Trigger Map for Strategic Cropping Land in Queensland](#)'.

## **SDS**

Safety Data Sheets are documents that provide critical information about hazardous chemicals.

## **SEA**

A strategic environmental area (as defined in the [RPI Act 2014](#)) is an area that contains one or more environmental attributes for the area; and is either shown on a map in a regional plan as a strategic environmental area; or prescribed under a regulation.

## **SHALE GAS**

Natural gas that is contained within shale formations.

## **TIGHT GAS**

A natural gas field that can be made economical with a combination of horizontal wells and fracture stimulation (see hydraulic fracturing).

## **UWIR**

An underground water impact report for the Surat Cumulative Management Area assesses the groundwater impacts from resource operations in the Surat and southern Bowen basins. It also establishes strategies to manage the predicted impacts and responsibilities for implementing various aspects of the strategies.

## **WMA**

Holders of a mining lease or a mining development licence can apply for a water monitoring authority over land outside the area of your lease/licence to comply with their obligations.

# Glossary

## Well operation terms

*To assist landholders, CSIRO's GISERA has compiled definitions for a range of industry terms linked to the petroleum and gas well life cycle. Some terms are self-evident, while others have industry-specific meanings.*

### **CEMENT**

Cement is placed in the wellbore, filling the space between the outside of the casing pipe and surrounding rock, and is also used to 'hold' the casing in place. Cement is also used to plug the inside of the well when it is abandoned. The cement used in wells typically consists of Portland cement mixed with water and special additives to achieve desired performance. The cement mix is designed to suit the local geology and well-specific engineering requirements. Laboratory testing checks the cement design and performance against well conditions.

### **COMPLETION**

After a well has been drilled for production purposes it is 'completed'. This involves installing a wellhead at the top of the well and completion hardware inside the well that allows the well to be operated as required. The completion will vary depending on the purpose of the well (production of gas, dewatering, monitoring).

### **DECOMMISSIONING AND REHABILITATION**

Decommissioning involves rehabilitating the surface around the well pad and plugging and abandoning the well. Rehabilitation can begin as soon as drilling is completed and includes removing or burying rock cuttings, and disposing any fluids. A small area around the wellhead is retained for surface infrastructure.

### **DELAMINATION**

Delamination is where pathways are created between the layers of cement, casings, or surrounding rock that could compromise the long-term integrity of a well.

### **DRILLING**

Drilling a well involves getting a drilling rig and associated equipment to the site, drilling the well, completion of the well and demobilisation of the drilling equipment. Drilling rigs used for CSG wells are typically smaller than those used for conventional petroleum wells as the target coal seams are at shallow depths compared to conventional petroleum resources. The rigs may be mounted on a single truck, with support vehicles, or be transported using several semi-trailers. The drilling stage occurs over several days to several weeks, depending on the depth and design of the well.

### **DRILL CUTTINGS**

An 800-metre deep CSG well will produce around 50 cubic metres of drill cuttings, which are rocks removed from the hole. Drill cuttings have traditionally been captured in drilling sumps or pits. They are typically disposed of on-site, through the mix-bury-cover method. However, pitless drilling techniques may be used to manage the drilling fluid and cuttings.

### **PLUGGED AND ABANDONED**

Once a well is no longer required, the well is plugged and abandoned. Abandonment aims to plug the well in perpetuity, preventing any movement of gas or water between rock layers in the subsurface or to the surface. Effective abandonment needs all potential fluid flow to be blocked, and relies on the integrity of the casing-cement-formation system as well as cement plugs placed inside the casing.

# Glossary

## Well operation terms

### DRILLING FLUIDS

Drilling fluids are typically made up of water and additives that reduce the friction between the drill rods and the wellbore walls, increase density and thickness of the fluid to help remove rock cuttings, and decrease the reactivity of the drilling fluid with the rock layers being drilled. Additives may include:

- Clays (primarily bentonite) to increase the thickness of the drilling fluid and to reduce loss of drilling fluid into the geological layers being drilled
- Additives such as polymers to increase thickness and provide lubrication
- Salts (typically potassium chloride or potassium sulphate) to limit damage to the geological layers being drilled and increase the density of the drilling fluid.

The amount of drilling fluid required for a well will be around 50,000 litres, although this will vary depending on the diameter and depth of the well and the characteristics of the formations the well intersects.

### SUSPENDED WELL

A well not currently operating (not producing or being used for monitoring), but that has not been plugged and abandoned permanently.

### WELL/WELLBORE

Deep vertical holes drilled into the earth to extract oil and gas. They provide a pathway for the flow of gas and water to the surface. Once a well is drilled, steel casing, also known as a casing string, is run into the well hole and cemented into the ground.

### WELL CASING

The well casing provides structural integrity and a channel for the flow of fluid. Casing is made of a series of hollow steel pipes, known as strings, which are connected as they are lowered into the well. Engineers select the casing based on the characteristics of the local geology, the well design and any anticipated treatments, such as hydraulic fracturing. The casing is cemented into the well, sealing the gap between the casing and the rock formations the well is drilled through.

### WELL INTEGRITY

Well integrity prevents the unintended flow of gas or water into or out of a well. This includes at the surface or between rock layers in the subsurface, and is critical to maintain safe operation of the well and to protect the environment. Well integrity establishes barriers to control the flow of gas or water with elements including casing cemented into the well, a wellhead to control the flow of gas and water at the surface, and operational procedures to manage and maintain the well.

### WORKOVER

A well workover involves bringing a rig onsite to clean, check, repair and/or treat the infrastructure inside the well. Where necessary, workovers can involve replacing the pump, well tubing or rods, reoperating the well, removing any loose rock or even changing the downhole configuration of the well. Workovers typically last between 3 - 6 days.

### WORKOVER RIG

A workover rig is a mobile self-propelled rig used to perform one or more remedial operations on a producing oil or gas well to try to restore or increase the well's production. Workover rigs are very similar to drill rigs in that they are truck-mounted mobile rigs that travel between job sites on public roads.

# Understanding Resource Authorities

Before the Queensland Government considers issuing a resource authority permitting specified activities on private land, it must be satisfied that the applicant (the resource company) has the financial and technical capability to ensure planned activities are sufficiently funded. The applicant must also pay a security deposit and financial assurance (a rehabilitation bond) and may be liable for 12 months' land rent in advance.

Before a resource authority is issued, the resource company must also have:

- An appropriate EA issued by the DES
- Fulfilled all legal obligations under national Native Title Protection Conditions
- Regional interests development approval if the resource authority application area contains high-value living, agricultural or environmental areas under the [Regional Planning Interests Act \(2014\)](#).

A resource authority holder must comply with the following reporting obligations, as well as with specific conditions attached to the authority.

## REPORTING OBLIGATIONS

- **Water**
- **Development plans and work programs**
- **Permit administration and authority renewal**
- **Rent and royalties**
- **Collecting and maintaining drill core and drill samples**
- **Land access requirements**
- **Native Title Protection Conditions/Native Title Agreement**
- **Indigenous cultural heritage**
- **Environmental authorities**
- **Restricted areas, reserve land**
- **Overlapping authorities**
- **Safety and health.**

## TECHNICAL NOTE: EXPLORATION

The Geological Survey of Queensland collates and distributes geoscience data and information on the State's resource potential. This information can highlight areas in Queensland that are made up of certain geological formations that can potentially contain gas reserves.

The Queensland Government releases potentially viable areas of land and provides authority for resource companies to further explore these areas and confirm if/how much gas can be produced.

Once given the required authority, explorers further examine the local geology and undertake activities such as seismic surveys and drilling.

### SEISMIC SURVEYS

Trucks emit sound vibrations from the earth's surface and measure the time taken for the sound waves to reflect signals back from geological formations underground.

These measurements produce an image of what's underground, indicating rock density and the likely presence of gases.

### DRILLING

Informed by seismic images, exploration and appraisal wells are drilled to further confirm what's underground. Core samples and rock cuttings that are brought to the surface from drilling are examined to determine the physical properties of the underground reservoirs.

Explorers also lower specialised logging equipment into the well for more information. Exploration wells confirm the presence of gas. Appraisal wells assess the flow rates to confirm the gas can be extracted in commercial quantities.



# Petroleum & Gas Resource Authorities

## **AUTHORITY TO PROSPECT (ATP)**

To explore for petroleum and gas in Queensland, a resource company must hold a current authority to prospect (ATP). The Queensland Government provides regular releases of land for potential exploration tenure via a competitive tender process. Resource companies first submit a tender bid for the area – if successful, and subject to meeting other requirements, this may result in the granting of an ATP.

Under an ATP, a resource company commits financial and physical resources to undertake verifiable exploration activities. An ATP lasts 12 years and the resource company must hand back 50% of the ATP after 6 years if they have not applied to convert it to a petroleum lease during that time. The government can also withdraw component 'blocks' if agreed activities are not conducted. A company may apply for relief from 'use it or lose it' provisions because of circumstances beyond their control.

An ATP allows the resource company to:

- Explore for petroleum and gas
- Test for petroleum and gas production
- Evaluate production feasibility
- Evaluate or test natural underground reservoirs for the storage of petroleum and gas.

Under an ATP, preliminary activities are undertaken followed by seismic investigations and the drilling of core samples to investigate whether resource deposits exist, and, if so, their size and depth. An exploration well may be drilled to obtain further data by examining rock cuttings and using specialised 'down hole' logging tools.

If these activities indicate there is a potential resource warranting further investigation, the resource company may drill a small number of appraisal wells to understand whether the resource is technically and financially feasible to develop. This is also known as 'production testing' or a 'pilot test'.

A resource company has an obligation under its EA to rehabilitate the land on completion of the exploration activities.

Exploration is not necessarily a precursor to production. As geology varies over relatively short distances, so do resources and their prospectivity. Adjacent wells can also perform differently, confirming that the earth can play as many tricks as the weather.



## **LANDHOLDER TIP:**

ATPs can cover a maximum of 100 blocks on a linear grid of Queensland and measure up to 75km<sup>2</sup> (7,500 ha) each, depending on location.



# Petroleum & gas resource authorities

## Petroleum Lease (PL)

With evidence of a commercially viable discovery, a petroleum lease (PL) can be issued over the area of an ATP. If a PL is granted, that area is excised from the ATP. A PL lasts up to 30 years and a resource company can apply to the government to have the tenure renewed.

The resource company has an obligation to rehabilitate the land when production ceases. This is staged for projects where wells cease production at different times.

A PL allows exploration, construction and commercial production. Exploration related activities can continue under a PL, particularly if a resource company is trying to understand how rocks perform in different areas of the tenure.

Types of infrastructure associated with development on a PL include access tracks, production wells, gathering lines and associated above ground infrastructure, temporary camps, compression facilities, dams, water treatment facilities, gravel pits and laydown areas. The larger facilities are small in number and are often located on land owned by the resource company.

## Potential Commercial Area (PCA)

If a resource company with an ATP makes a discovery that is not feasible to develop at that time owing to a lack of market infrastructure or potential to roll into a larger development project, the company can request a potential commercial area (PCA) declaration for evaluation purposes.

This is a means of retaining the area beyond the maximum 12-year ATP term, with a PCA current for up to 15 years. A commercial viability report and an evaluation program confirming how the company would overcome challenges to the project's commercial viability must accompany a PCA application.

## Pipeline Licences (PPL)

Pipelines are required to transport petroleum, gas and/or water to processing facilities and then into larger pipelines for distribution. It is increasingly common for a number of lines to be co-located including optic fibre and electricity. If a resource company wishes to construct a petroleum pipeline outside the area of their PL, they need a petroleum pipeline licence (PPL). A PPL confirms the right to construct and operate a pipeline on designated 'pipeline land', defined as land that the resource company either owns or over which it has:

- An easement
- A written agreement with the landholder to enter to construct and operate the pipeline
- [Part 5 permission](#).

While it seems logical to run pipelines along the most convenient easement, there is always complexity negotiating with a third party such as a rail or power company, also noting specific separation distances. In most cases, a resource company will approach the landholder first to negotiate an easement before examining other options. Bottom line – the shortest distance between two points is a straight line.

Should easement negotiations fail, a resource company can, *as a last resort*, apply for what is known as a **part 5 permission** (see later section).

### PIPELINE LICENCE TYPES:

- **AREA PPL** – covering a system of pipes within the licence area rather than individual licences for each pipeline. An area PPL can extend over several adjacent petroleum leases
- **POINT-TO-POINT PPL** – granted from one point, or points, to another point, or points.

## Petroleum facility licence (PFL)

This is required for a processing, refining, storage or transport facility on private land that is not already covered by a PL or PPL. A PFL allows construction of a facility on 'petroleum facility land' – land either owned by the resource company or land over which there is:

- An easement
- A written agreement with a landholder to enter to construct and operate the facility on their land
- Part 5 permission (see below).

A petroleum facility built on private land must follow negotiations with the landholder, usually resulting in the creation of an easement in return for some form of compensation.

## Information gathering authorities

These are authorities to conduct authorised activities off tenure. They are not tenures in their own right.

For further information see Chapter 2, parts 3 and 5 of the *Petroleum and Gas (Production and Safety) Act 2004*: [www.legislation.qld.gov.au/view/pdf/current/act-2004-025](http://www.legislation.qld.gov.au/view/pdf/current/act-2004-025)

### INFORMATION GATHERING AUTHORITIES INCLUDE:

**Petroleum survey licence (PSL)** – grants a right to enter land to survey the proposed route of a pipeline or the suitability of land for a petroleum facility licence. Can be granted for a maximum of two (2) years, only allowing activities with minimal land impact. There are no area limitations.

**Data acquisition authority (DAA)** – authorises a resource company to conduct limited geophysical survey activities and collect data from outside their ATP or PL. Only granted over land contiguous to the granted ATP/PL, and for activities directly relevant to authorised activities of the ATP/PL. A DAA can be granted for a maximum term of two (2) years and ends if the ATP/PL with which it is associated ends.

**Water monitoring authority (WMA)** – an ATP/PL holder has an obligation to monitor potential impacts to groundwater levels on a regional scale and 'make good' if private bores are impaired due to their activities. A water monitoring authority (WMA) over land outside the area of an ATP/PL is available to comply with those obligations. The WMA ends if the ATP/PL with which it is associated ends.



# THE GAS GUIDE

Version 2.01 - February 2022



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