

- Presence of gas in water bores
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## Make Good You are here



Resource companies are required to take a number of steps to ensure water bore owners are not disadvantaged by their operations.

If a Make Good Agreement (MGA) is required, the appropriate make good measures will be negotiated between the resource company and bore owner.

An MGA outlines the planned actions to be undertaken by a resource company to satisfy the agreed make good measures.

### **LANDHOLDER TIP:**

- Consider the long-term implications of proposed make good measures, especially if you're considering monetary compensation instead of a new water supply.
- Learn how to measure groundwater levels in your own bore and become aware of water level patterns and bore capacity - <u>DRDMW's Groundwater Net</u> can help you find out more (see Chapter 11 – Helpful Resources).

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The GasFields Commission Queensland, PO Box 15266 City East QLD 4002
Phone: +61 7.3067 9400

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### Water

Water is a limited resource and groundwater plays a critical role in supplying Queensland's water needs - to ensure groundwater resources are used sustainably, the State Government closely manages its allocation and use.

In Queensland, groundwater resources are researched, assessed and managed extensively by:

- <u>OGIA</u>
- **DOR**
- DES
- The University of Queensland
- Resource companies
- Other research organisations, such as CSIRO.

Under legislation, resource companies have the right to extract groundwater as part of the process of extracting petroleum and gas. In the case of CSG, that process requires the removal of groundwater from coal seams to reduce the pressure within the formation and allow gas to escape. Groundwater, unavoidably removed during the gas extraction process (known as 'produced water' or 'associated water') is treated and re-used for a variety of applications including irrigation, town water supply, reinjection into the aquifers and various industrial applications.

Removal of groundwater in the gas extraction process is subject to a range of obligations on resource companies relating to the management of groundwater impacts - including monitoring of impacts and proactive Make Good Agreements of affected water bores. Authorised water bores impacted, or likely to become impacted by that extraction process may be eligible for an MGA.

Bores that are likely to be impacted in the short term (also referred to as Immediately Affected Area bores or IAA bores), and qualify for a bore assessment for potential MGA, are identified in an Underground Water Impact Report (see <u>Underground Water Impact</u> Report (UWIR) for the Surat CMA) which is updated every three years by the OGIA for the Surat Cumulative Management Area (CMA). Predictions are made independently by OGIA based on up-to-date data, research on connectivity and modelling.

If a bore owner is concerned their water bore may have been impaired by gas development, they should check the predictions of impacts for that bore via OGIA's 'Bore Search' webpage, or contact DOR's Resource Community Infoline on 137 107 or via resources.info@ resources.qld.gov.au.

Resource companies are obliged to undertake a bore assessment for all water bores that are identified as IAA bores in a UWIR. The purpose of the bore assessment is to establish if predicted impacts are likely to cause impairment to the water bore. Once impairment is established then the bore qualifies for an MGA.

If a bore is not identified as an IAA bore in a UWIR, DES may still direct resource companies to carry out bore assessments in exceptional circumstances – where DES reasonably believe local conditions may result in impairment of water supply to a water bore.

### Important considerations

- Not all bores are automatically eligible for compensation.
- Make good measures are determined on the basis of impaired capacity.
- In the case where a bore is delivering water but not operating at its paper entitlement, an MGA can be measured against its actual
- A bore should be in working condition in order to determine impairment if it is to be considered for compensation.
- A bore that is damaged and/or unworkable may hinder the completion of a bore assessment and any entitlement to make good
- A bore assessment will determine the actual capacity of a bore and an MGA will be negotiated on that basis.
- Predictions of impacts to individual water bores within the Surat CMA are available via the OGIA 'Bore Search' webpage.

### UNDERGROUND WATER IMPACT REPORTS

The regulatory framework requires resource companies to prepare a UWIR every 3 years, which includes an assessment of the water level decline in aquifers and impacts to springs in both the long and short-term. In the case where there are multiple petroleum tenures, with more than one tenure holder, adjacent to each other, the government may establish a CMA. In a CMA, the responsibility to prepare a UWIR rests with OGIA. To date, only one CMA has been declared in Queensland – the Surat Cumulative Management Area (see adjacent map). OGIA is the independent statutory body responsible for preparing and updating the Surat CMA UWIR. To date, OGIA has released three UWIRs – 2012, 2016 and 2019.

UWIRs provide an assessment of current and future impacts on groundwater assets (such as water bores and environmental values), as well as strategies for managing these impacts – together with clearly identified responsible tenure holders to carry out the management actions. Management strategies include MGAs, water monitoring strategies, baseline assessment, and actions for minimising and mitigating impacts on springs.

Water bores likely to be affected in the short (IAA) and long term (LAA) are identified in a UWIR based on the bore trigger threshold. The trigger thresholds for different aguifers are:

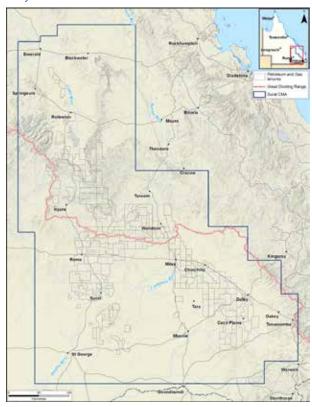
- A 5 metre decline in water level for a consolidated aquifer; or
- A 2 metre decline in water level for an unconsolidated aquifer.

IAA bores are a subset of LAA bores where predicted impacts exceed the bore trigger thresholds within three years from the release date of the corresponding UWIR.

#### **BORE SEARCH TOOL**

You can obtain information about the predicted impacts of water extraction for a specific bore within the Surat CMA, and whether the bore is identified as an IAA bore or LAA bore, by entering the bore's Registration Number (RN) into OGIA's 'Bore Search' webpage.

You can use <u>Queensland Globe</u> to find a bore's RN, or by <u>contacting DOR</u> – N.B. you will need the lot number and plan details for your property, which can be found on your rates notice.



### **BASELINE ASSESSMENTS**

Before any gas development occurs, a baseline assessment must be undertaken by the resource company.

Baseline assessments record the details of authorised bores in the area and provide a reference point for subsequent bore assessments. A baseline assessment of a water bore collects information about the bore, including:

- Water level and quality (including presence of gas)
- Bore construction
- Existing pumping infrastructure.

Further information on 'Baseline Assessment Guidelines' can be found here: <a href="https://www.environment.des.gld.gov.au">www.environment.des.gld.gov.au</a>.

## Bore assessments

Bore assessments are undertaken to assess the capacity of a water bore and to establish whether the bore has, or is likely to have, an impaired capacity due to resource activity.

Resource companies undertake bore assessments to determine if make good measures are required under an MGA with the bore owner.

A bore assessment must be undertaken for all authorised water bores identified in the IAA of an UWIR within 60 business days after the UWIR takes effect.

When undertaking a bore assessment, the resource company will need to collect information on the water bore such as:

- Details of the bore construction (drill date, drilling company etc.)
- Photographs, details, condition and rate of the bore pump
- Repair history
- Purpose and use of the bore
- Bore capacity and status
- Water level and pressure.

# Determining impaired capacity

The assessment of impaired capacity of a water bore with respect to water levels is based on whether the bore is:

- An existing bore the bore existed prior to the first UWIR relating to the area took effect; or
- A new bore the bore was constructed after the date above (N.B. the first UWIR for the Surat CMA took effect on 18 July 2012).

Existing bores are considered to have an impaired capacity if they can no longer provide reasonable quantity or quality of water for the bores' authorised use or purpose because of resource company activities.

Impaired capacity for new bores is assessed slightly differently. Water levels in new bores must decline by more than the predicted level for the aquifer accessed by the bore in the most recent UWIR (referred to as the 'relevant report' in the <u>Water Act 2000</u>) at the time the new bore was drilled. This means that the tenure holder is not required to provide make good measures until the actual drawdown (decline) exceeds the impacts predicted in the relevant report.

Landholders intending to drill a new water bore are strongly advised to refer to information in the current UWIR and consider the extent and location of the LAA impacts within each aquifer prior to drilling (see <u>OGIA's 'Bore Search' webpage</u>).

The most recent Surat CMA UWIR took effect on 16 December 2019 (see the <u>Underground Water Impact</u> Report for the Surat Cumulative Management Area - <u>OGIA July 2019</u>). The distribution of long-term impacts in key formations can be found <u>Appendix G2</u>.

#### Helpful online resources:

- Approved Underground Water Impact Reports (www.environment.des.qld.gov.au)
- Previous Surat CMA UWIRs (www.business.qld.gov.au)
- OGIA's roles and functions (www.business.gld.gov.au)
- Department of Environment and Science's FAQs on make good obligations: (www.environment.des.qld.qov.au).

## Presence of gas in water bores

The presence of methane, in dissolved and free gas form, has been detected while drilling for water and in existing water bores in the Surat and Bowen basins since the beginning of the twentieth century. Methane is found at higher concentrations in aquifers containing coals seams, above geological features such as faults, and above known gas reservoirs.

The concentrations of gas vary in time according to atmospheric and various other factors.

Under the <u>Water Act 2000</u>, resource companies are required to collect and analyse baseline samples for the presence of gas as part of a baseline assessment, and the results are sent to DES. During a baseline assessment, bore owners must advise the resource tenure holder if gas is present in the bore and provide further information under what conditions it occurs.

If gas is present in your water bore and you believe it is impairing the bore's capacity, contact the <u>Compliance Unit at DOR</u> (for further contact details see <u>Chapter 11 – Helpful Resources</u>). They are responsible for investigating complaints associated with impacts to water bores from CSG development.

# Impaired capacity due to free gas

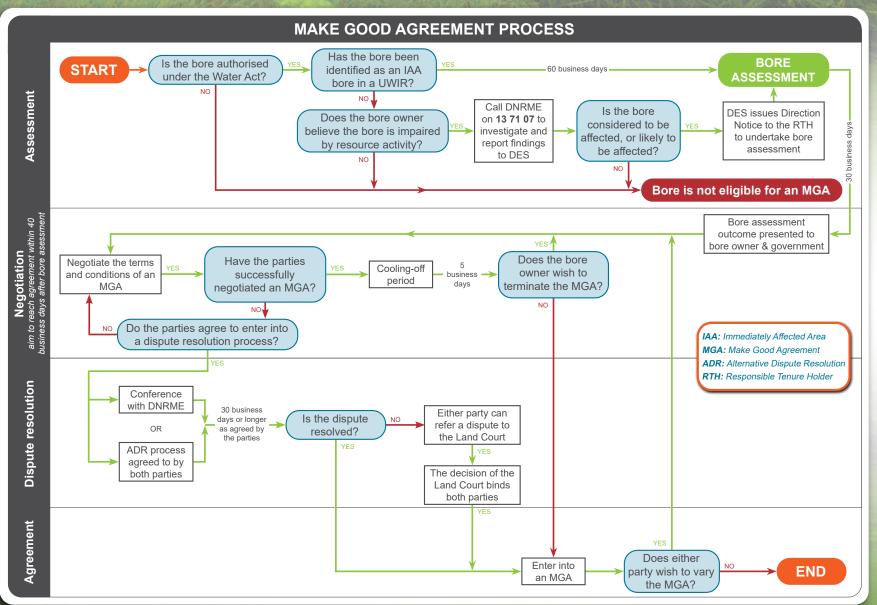
The assessment of impaired capacity of a water bore with respect to free gas is the same for existing and new water bores. Water bores are considered to have an impaired capacity if the presence of free gas resulting from resource company activities cause or materially contributed to any of the following adverse effects:

- Damage to the bore, OR to the bore's pump, OR other infrastructure;
- The bore poses a health or safety risk; and
- The bore can, or is likely to, no longer provide reasonable quantity or quality of water for the bores' authorised use or purpose.

Currently, the minimum requirement for the resource tenure holder to determine impairment due to free gas is to follow best practice industry standards for carrying out work similar in nature to that of undertaking a bore assessment.

The type of make good measure for a bore with impaired capacity due to the presence of free gas will depend on the outcome of a bore assessment – <u>see</u> the Make Good Agreement Decision Table on page 6.

## **Make Good Agreement Process**



This flow chart outlines the MGA process as per Subdivision 3 of the Water Act 2000. Resource companies are required to carry out a bore assessment and enter into an MGA if the bore has been identified as an IAA bore in a UWIR, or DES has issued a direction notice for that bore.

For more information visit: www.gfcq. org.au/landholders/ water/make-goodagreement-process/

## Make Good Agreement Decision Table

### MAKE GOOD AGREEMENT TEMPLATE **DECISION TABLE**

All water bores that have undergone a bore assessment require a Make Good Agreement, even if they are not eligible for Make Good measures. The Commission has developed this table to recommend appropriate Make Good Agreement templates that may be used based on the outcomes of a bore assessment.

OUTCOME OF BORE ASSESSMENT			DUE TO PETROLEUM & GAS ACTIVITIES		NOT DUE TO PETROLEUM AND GAS ACTIVITIES
Bore has the capacity to provide a reasonable quantity and/or quality of water for its authorised use or purpose	Not impaired and unlikely to become impaired due to water level decline or free gas*		Make Good Agreement: NO MAKE GOOD MEASURES		Make Good Agreement:
	Not impaired but likely to become impaired	Due to water level decline	Make Good Agreement:  MONITORING  Bore is monitored with triggers for future assessment and variation of Make Good Agreement		NO MAKE GOOD MEASURES
		Due to free gas*			
Bore does not have the capacity to provide a reasonable quantity and/or quality of water for its authorised use or purpose	Impaired	Due to water level decline	Make Good Agreement:  COMPENSATION OR NEW BORE(S)**	Make Good Agreement: NO MAKE GOOD MEASURES	
		Due to free gas*		W BORE(S)**	Action may be taken by the bore owner to P&A*** the bore
>	Unlikely to become a health or safety risk due to free gas*		Make Good Agreement: NO MAKE GOOD MEASURES		Make Good Agreement: NO MAKE GOOD MEASURES
Bore has never had capacity  Bore has always been dry	<b>Likely</b> to become a health or safety risk due to free gas*		Make Good Agreement:  NO MAKE GOOD MEASURES  Resource company may P&A*** the bore if the bore owner agrees		Make Good Agreement:  NO MAKE GOOD MEASURES  Action may be taken by the bore owner to P&A***  the bore
	Bore has become a health or safety risk due to free gas*				
BORE ASSESSMENT WAS ATTEMPT	ED BUT COULD NOT	BE UNDERTAKEN:			
Due to the bore having <b>pre-existing damage</b> ****			No Make Good obligation triggered. If the damaged bore is repaired, or a <u>replacement water bore</u> is drilled, another attempt to conduct a bore assessment may be undertaken		
Because the bore does not physically exist****			No Make Good obligation triggered.		

<sup>\*\*\*\*</sup> This may provide the tenure holder a reasonable excuse not to undertake a bore assessment under Section 417(2) or Section 418(2)(b) of the Water Act 2000.



This Make Good Agreement Decision Table can be used to determine what sort of MGA template that may be suitable.

The Commission has developed four MGA templates for use by bore owners and the gas industry. The templates are intended to be used as a starting point for negotiations between a tenure holder and a bore owner and create common ground from which an MGA can be produced.

Download the MGA templates: www.qfcq.orq.au/ landholders/water/ make-good-agreementtemplates/

<sup>\*\*</sup> This does not cover other Make Good measures such as reconditioning the bore or providing an alternative water supply, which may be negotiated.

<sup>\*\*\*</sup> P&A (to 'plug and abandon' or decommission a water bore) is not a Make Good measure and it is not a requirement under the Water Act 2000. However, it may be negotiated as a special condition in the Make Good Agreement if the parties agree for the bore to be decommissioned.

## **Engaging**professional services

Chapter 3 (Subdivison 2) of the Water Act 2000 states that the resource company must:

"reimburse the bore owner for any accounting, hydrogeology, legal or valuation costs the bore owner necessarily and reasonably incurs in negotiating or preparing a make good agreement".

However, when you engage one of these services you are initially responsible for the costs that will be incurred so it is important to engage each one directly, manage the work that is done and provide clear instructions.

It is best practice that you discuss these costs with the resource company to agree on 'reasonable costs' upfront and get written confirmation of what they will reimburse.

Note: You may be personally liable for costs that are incurred outside the MGA negotiation process.

There are a few considerations if you choose to use a professional advisor.

All documentation produced by your professional advisors should contain information to back up your claim including any assumptions applied.

It is best practice that you personally engage each professional advisor on your team rather than appoint another person to manage all the necessary experts and the negotiation.

### YOUR PROFESSIONAL ADVISORS SHOULD **CLEARLY DOCUMENT:**

- Their professional qualifications
- The services they will provide you (this can apply to stages of the process or the whole process)
- The date(s) for delivery of their services, including key milestones for deliverables
- The cost of their services
- Their relevant insurance coverage.

By engaging an expert, you will receive professional advice but at the end of the day you make the final decisions. An accountant, hydrogeologist, lawyer or valuer is there to provide you with advice. It is up to you whether you take it or not.



### WHEN SEEKING TO ENGAGE PROFESSIONAL **EXPERTS, DO SOME RESEARCH, ASK** FRIENDS, FAMILY AND EXTENDED **NETWORKS FOR RECOMMENDATIONS BASED ON THEIR EXPERIENCE. SOME** QUESTIONS TO CONSIDER ASKING ARE:

- How streamlined, timely and cost-effective were the services they provided?
- Did the professional advisor simplify the process, or did they feel it was cumbersome and overwhelming?
- Did the professional advisor listen to their needs, provide advice and follow instructions?
- Would they use them again?

### How they can help

### **Tips**

### **Accountant**

Hydrogeologist '

- Provide accounting advice on business income and impacts on financial arrangements
- Provide tax advice & implications if you're considering monetary compensation as a make good measure.
- Engage an accountant before you commence negotiations if you would like professional advice on any potential issues for your financial arrangements
- Choose an accountant who has experience in agribusiness and the petroleum and gas industries, your business structure and tax implications of compensation (if applicable). This may not be your usual accountant
- If you're considering monetary compensation as a make good measure, ask your accountant about what compensation payment structure (upfront or annual) aligns with your financial arrangements. You will need to be prepared to agree to this with the company
- If you have a succession plan, consider any implications.

Note: the resource company is responsible for conducting any required bore assessments and baseline assessments. Companies are not obliged to reimburse you for hydrogeological costs involved in conducting your own bore assessment.

- Interpret a bore assessment outcome report and any associated technical data
  - Provide advice on any proposed groundwater monitoring programs including water level and quality
- Provide practical knowledge of groundwater systems, water bore construction, performance and infrastructure.
- Understand the construction and capacity of your bores.
   Confirm ongoing need for water supply to support your business plan and domestic requirement. (Remember make good measures are based on the bores capacity for its authorised purpose)
- Ask about local groundwater resources so you are prepared to discuss practical options for make good measures (e.g. new bore, bore modification, compensation)
- If monitoring is proposed, seek advice on an appropriate monitoring program for the bore (e.g. water level, water quality or the presence of gas) with clear triggers for action
- For any replacement bore, understand ongoing maintenance and technical requirements including pump size and sustainable pumping rates.
- As with any property transaction it is normal practice to engage a lawyer to review the terms and conditions of an agreement that you have negotiated directly with the company
- Engage a lawyer who has experience in the petroleum and gas industry
- As you are initially responsible for the costs of engaging a lawyer, ask for a "Costs Agreement". This will involve you negotiating with the lawyer how much you will pay for the work they do
- A Costs Agreement is a document which details what the lawyer is going to do in relation to a matter and for what cost
- Make sure you understand what you are agreeing to with your lawyer and ask questions if you are not sure about anything
- You know your property and your business better than anyone. You should lead and be involved in all conversations with the company. Only you can ensure that all your interests and needs are addressed.

### Valuer

Lawyer

 Provide a valuation on your property and identify how petroleum and gas operation may impact this

Provide legal advice on the

structure and legality of the

draft MGA

- Document productivity losses in your business as a result of petroleum and gas construction and operation on your property
- Deliver a valuation report documenting compensation entitlements and information to substantiate the stated amount.
- Engage a valuer if you are considering compensation as a make good measure and would like professional advice on a fair amount
- Ideally the valuer you choose should be experienced in both agribusiness and the petroleum and gas industries – valuation principles relevant to this sector will be applied
- Ensure that the valuer produces a final certified valuation report to assist in your negotiation with the resource company – a draft document cannot be relied upon to assist in a negotiation
- Valuers with experience in the petroleum and gas industry will talk you through the components of the valuation report and may identify areas for inclusion that you had not previously considered.