Mineral and Energy Resources and Other Legislation Amendment Bill 2024

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COVER PAGE

SUBMISSION RELATING TO PROPOSED AMENDMENTS

TO SEVERAL ACTS OF PARLIAMENT

2024

A Bill

for

An Act to amend the *Electricity* Act 1994, the Fossicking Act 1994, the Gasfields Commission Act 2013, the Geothermal Energy Act 2010, the Greenhouse Gas Storage Act 2009, the Land Access Ombudsman Act 2017, the Mineral and Energy Resources (Common Provisions) Act 2014, the Mineral and Energy Resources (Financial Provisioning) Act 2018, the Mineral Resources Act 1989, the Petroleum Act 1923, the Petroleum and Gas (Production and Safety) Act 2004, the Regional Planning Interests Act 2014, the Water Act 2000 and the legislation mentioned in schedule 1 for particular purposes

Introduced to Parliament

By: The Honourable Scott Stewart, Minister for Resources and Critical Minerals

On: 18 April 2024

Title: Mineral and Energy Resources and Other Legislation Amendment Bill 2014

Submissions addressed to: <u>cejrtc@parliament.qld.gov.au</u>; Attention: Clean Economy Jobs, Resources and Transport Committee

Submitted by: Mrs G J Pedler,

Contact:

Interest: Member of farming community, agricultural business and property owner, farmer, partly within a petroleum lease

PRIVACY: As much as it is practicable and legally allowed, please redact name and contact details if this submission is to be shared outside the review committee: Clean Economy Jobs, Resources and Transport Committee.

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Committee:	Clean Economy Jobs, Resources and Transport Committee was appointed to review the BILL and submissions (<i>established 13 2 2024 by the Qld Legislative Assembly</i>)
Submis	ssion Copyright © May 2024 (<u>name supplied on cover page</u>)
Copyri Copyri Note:	ght © State of Queensland – Acts of Parliament and regulations, proposed BILL ght © State of Queensland, several departments - 2021, 2022, 2023 discussion and consultation papers. References and quotes if used are permitted under:- <i>Creative Commons Attribution 4.0 International (CC by 4.0) licence</i> ght © GasFields Commission Queensland 2021, 2022 – reviews and reports copyrights refer partly to discussion papers and reviews which resulted in two sions due 8/15 December 2023 (more specifically related to the Coal Seam Gas
Some commu	bservations in these submissions are anecdotal in nature i.e. based on nications with land owners in petroleum lease areas. To maintain some vity and protect privacy, no names appear.

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- 4. RESPONSE TO: The BILL drawing on S Stewart's "Explanatory Notes"
- 5. CLOSING COMMENTS



Photo: West Prairie © 2020 (name supplied)

Note: resource authority holders are also referred to as <u>CSG company</u> & landholders as land owners or <u>farmers</u> in this submission.

SECTION (1) OVERVIEW:

On 18 April 2024, The Honourable S Stewart, Minister for ¹Resources and Critical Minerals, introduced the Mineral and Energy Resources and Other Legislation Amendment Bill 2024 into the Queensland Parliament. While not widely circulated, opportunity has been given to the general public to make submissions by mid-day, 2 May 2024, to the Clean Economy Jobs, Resources and Transport Committee which was appointed to review the BILL and submissions.

• FOCUS:- The main focus of the BILL relates to the need to extract and produce energy both for Queensland residents, other Australian residents, and for export purposes and how to achieve this while paying lip service to respecting and protecting other Queensland industries, particulary agriculture. Three independent government entities will also have changes to their remits to assist in this focus – ² LAO, OGIA, GFCQ

Note: interpretation based on "Explanatory Notes" page 1

- Minor secondary focus is the amendment of Fossicking Act 1994 and protecting the environment

- Coexistence, when different interests overlap, plays a part in the review of these amendments, and their acceptance, rejection, or further amendments.

There are various segments to this BILL. For expediency, they have have been divided into two Sections and 3 subheadings for the purposes of this submission:(i) Section 3 RESPONSE TO: S Stewart's "Statement of Compatibility"

(ii) Section 4 RESPONSE TO: The BILL drawing on "Explanatory Notes

Subject A Proposed changes in relationship to renewable energy, electricity, and greenhouse gas storage. Proposals relating to MER(FP) 2018 Act and Fossicking Act 1994. As these subjects have not been studied, they are not dealt with in any depth in this submission.

Subject B Proposed changes and/or expansion of the roles of LAO, OGIA, GFCQ. (Some of these changes may also by relevant to Subject A.)

Subject C Proposed changes in relationship to the coal seam gas versus agriculture (and other) industries, particularly regarding subsidence.

¹ Referred to as the BILL

² LAO - Land Access Ombudsman // OGIA – Office of Ground Water Impact Assessment // GFCQ - Gas Fields Commission Qld (Coexistence Qld) Abbreviations are used throughout this submission

SECTION (2) SUMMARY: These key points relate to submissions filed 8/15 December 2023, and are relevant to aspects of this BILL

- <u>Land Access Ombudsman's</u> functions to remain impartial, neutral, advisory only. Decisions are not binding nor do they restrain parties from seeking alternative resolutions on any matter.
- The <u>Department of Agriculture</u> to be involved in all aspects of <u>the CSG-subsidence adaptive</u> <u>management framework</u>, e.g development and implementation of Risk Management Assessments, analysing LiDAR & InSAR, analysing reports and assessments, remediation advice.
- The <u>Department of Agriculture</u> will be the <u>administering authority</u> regarding the Subsidence Management Framework.
- The <u>Department of Environment</u> to be involved in aspects of the Subsidence Management Framework for the ecological wellbeing of water, soil, and other environmental aspects.
- Further consideration as to under which Act the Subsidence Management Framework will sit, with preference being given to the *Regional Planning Interests Act 2014*.
- <u>Predicted impacts of subsidence will not be exempt from *RPI Act* criteria, including RIDAs.</u>
- <u>GasFields Commission Queensland's</u> name will not change to Co-existence Queensland. Alternatives: *Energy Commission Qld / Gasfields & Renewable Energy Commission Qld.*
- Forming of an <u>Independent Consultancy/advocacy</u> entity that is farmer specific.
- One or at the most two entities (including GFCQ) to offer improved opportunities for education in relevant issues through literature, USB sticks, online and face to face forums.
- Land Access Ombudsman and/or GasFields Commission Queensland to be involved in:-(i) advising if a matter should be brought to the Department of Resources Engagement and Compliancy Unit's attention ii) mediating minor infringements (iii) explaining regulations.
- OGIA's identity to continue to be reporting and advising but not directing farmers.
- <u>Grants (tax-free)</u> or alternative remuneration <u>for land owners/occupiers' upfront costs</u> of dealing with aspects of the coal seam gas industry prior to negotiating agreements.
- <u>Any legislated decisions should not increase the apparent imbalance between resource</u> <u>industry interests and agricultural industry interests</u>. Decisions should strengthen not weaken the *RPI Act 2014* and regulations, including the RIDA process.
- When <u>negative impacts of coal seam gas developments</u> are too high, further development should halt, regardless of Environmental Authorities and Petroleum Leases in force.
- <u>Moratorium</u> on further development until Subsidence Management Framework is established.

SECTION (3) RESPONSE TO "Statement of Compatibility"

The main topics in S Stewart's "Statement of Compatibility" were not necessarily discussion points in the consultation papers and reviews leading to ³two (2) submissions being submitted 8/15 December 2023. The need for this statement may have come out of comments made in some of those submissions.

- HUMAN RIGHTS
- FORCED WORK
- COEXISTENCE
- CONTRACTS

In the Statement of Compatibility, S Stewart commented:

(i) Page 1 "In my opinion, the BILL is compatible with the human rights protected by the HR Act."

(ii) Conclusion: "In my opinion, the Mineral and Energy Resources and Other Legislation Amendment BILL 2023 is compatible with human rights under the Human Rights Act 2019 because it limits human rights only to the extent that is reasonable and demonstrably justified in a free and democratic society based on human dignity, equality and freedom."

Comments: On reviewing this statement it is apparent, that S Stewart admits that there will be or may be infringements of Human Rights but they are justified.

The main justifications of the infringements are (i) "limitations are necessary to achieve the purpose of the BILL" (ii) "BILL does include amendments to ensure that the resource authority holder will be responsible for the professional fees necessarily and reasonably incurred in the negotiation and reparation of a CCA" (iii) to the extent that the CSG-induced subsidence amendments in the BILL impacts rights to freedom from forced work, noting that it is considered that the BILL does not limit this human right, it is considered that they are reasonably and demonstrably justifiably limited."

SOCIAL LICENCE

The number of contracts signed by land owners and occupiers, without ADR or Land Court intervention, is not proof of social licence to develop gas fields within a community.

Reason: Through Acts of Parliament, land owners and occupiers must sign contracts with resource authority holders should they be offered contracts. <u>There is no right to say, "No!"</u> Nor is there the right to choose which resource authority holder will be allowed entry.

³ Discussion papers & submissions: Proposed amendments relating to (i) Coexistence institutions and CSGinduced subsidence management frame work (ii) Regional Planning Interests Act 2014

HUMAN RIGHTS

- While it may be agreed infringing on the right to privacy, to lawfully carry out a business on private land, to not be deprived of any part of the land for commercial purposes is justified, in order to survey and analyse current CSG-induced subsidence or predict future subsidence, in order to remediate and or negotiate agreements, **it is still an infringement.**
- There is currently no guarantee or knowledge regarding to what extent land will be impacted by subsidence on both a regional and a farm specific scale.
- No in-depth study has been conducted and shared regarding to what extent the agricultural industry's productivity, viability, and continuance will be impacted on both a regional and a farm specific scale.
- Does the Act achieve its purpose? If the priority of this Act is to remove barriers limiting the continuation and expansion of the coal seam gas industry, then it will achieve its purpose.
- The statement <u>does not clearly and unequivocally prove achievement of the purpose</u> of the Act through limiting "*human rights only to the extent that is reasonable and demonstrably justified in a free and democratic society based on human dignity, equality and freedom*" is justified and/or acceptable in a free and democratic society.
- While ensuring that agricultural businesses must be compensated for the effects of subsidence already occurring is urgent, there is no guarantee that they will be compensated. The onus to prove, argue, and demand remediation and reparations is very much on the shoulders of farmers (land owners) who are usually operating from a financial and regulatory disadvantage. However, a <u>BILL clarifying that remediation</u> and reparations must be made is a positive step.
- This BILL and any complimentary regulations and any further BILL must not be used to justify the continuing destructive impacts of CSG-induced subsidence, i.e. a moratorium is urgently needed on further developments.
- S Stewart's statement declares that there is no other method to achieve the purpose of the BILL and develop Subsidence Management Action Plans and Subsidence Agreements.

While in essence this may be accurate, more steps can be taken **to ensure farmers** (land owners) have more control over legislated (legal) entry on to their properties and intrusion into their businesses, i.e. Notices of Entry, payment for time and inconvenience, supervised entry at convenient times.

FORCED WORK (HR Act section 18) Explanation: "must not be made to perform forced or compulsory labour" // explanations: "forced labour is when someone is compelled to do work ... sense of physical harm or mental constraint ... threat of punishment ... can cover all kinds of work or service, not just physical work"

(A) S Stewart's comments show a lack of understanding of the amount of work involved in dealing with Coal Seam Gas companies (i.e. resource industry.)

- While technically true that there is no threat of punishment, the **threat of ADR and more seriously Land Court may be perceived by land owners as punishment.** The **stress and fear of both dealing with and negotiating with CSG companies** who operate from a financial and legislative power base, coupled with the fear of attending ADR followed by Land Court may put a restraint on property owners. This can be seen as coercive, bullying behaviour on the part of the CSG companies.
- S Stewart's comment "The BILL does include amendments to ensure that the resource authority holder will be responsible for the professional fees necessarily and reasonably incurred in the negotiation and preparation of a CCA, including the costs for an agronomy ... payable even if the negotiation of a CCA are abandoned" is inaccurate.

(*i*) Subsidence Management Action Plans and Subsidence Agreements are different to CCAs although they may be (unwisely) incorporated into CCAs.

(*ii*) MER(CP) Act 2014 section S81 – provides for reasonable professional costs in preparing CCAs. This BILL expands that provision to include reasonable costs regarding Subsidence Management Action Plans and Subsidence Agreements.
 The MER(CP) Act 2014 S81 also provides for other compensatable affects.

- Many hours are taken up and will be taken up with (*i*) understanding the plans of the CSG company (*ii*) understanding the CCAs offered (*iii*) understanding what Subsidence Management Action Plans and Subsidence Agreements might entail, if offered (iv) assisting in providing regional and farm specific information (mostly private in nature) to assist in the proposed management of subsidence.
- There is no compensation for loss of time, productivity, or damages prior to the offer of agreements of any kind. These should be compensatable effects but are ignored by the CSG companies.

(B) S Stewart justifies the loss of time and productivity because:- (i) "The potential limitation to the right to freedom from forced work of landholders resulting from the management framework is balanced by the mutual benefits gained from developing well-informed management plans and subsidence compensation agreements that will support the maintenance of the integrity of the landholder's agricultural property while supporting the appropriate resource activity." (ii) "providing a pathway for the management of consequences and the payment of any necessary compensation to the landholder."

• The expectation is that property owners should allow entry on to their properties and assist with providing commercial information relevant to their business to allow regional scale assessment and predictions of CSG-induced subsidence is without remuneration. There are no agreements to sign at this stage of the CSG-subsidence management plans. Some farmers (land owners) may never be offered agreements.

Comments: S Stewart has not demonstrated that benefits will be mutual, fair, and equitable.

- The extent of the infringement to human rights is not justified nor should it be acceptable.
- Managing, repairing, and compensating CSG-induced subsidence from existing CSG activity is necessary. However (i) the proposal in which it is to be managed is unacceptable (ii) the BILL should not be used to justify risking further CSG-induced subsidence which may reach a level classed as "critical consequences".
- The infringement on Human Rights by allowing CSG-induced subsidence to continue unfettered further expands the power imbalance between the resource industry and the agricultural industry, while threatening the profitability and viability of the agricultural industry at a regional and farm scale.

COEXISTENCE

Opening: "The Queensland Resources Industry Development Plan (QRIDP) recognises that sustainable coexistence between the resources and agricultural sectors is critical to ensuring the state continues to realise the benefits from these industries"

"Sustainable coexistence is a key element for long term responsible and sustainable growth of the resources and agricultural industries in Queensland. The risk-based management of CSG-induced subsidence supports the development of enduring, mutually, beneficial relationships between key interested parties"

ⁱDefinitions of relevant words:

<u>Co-exist</u> In its simplest form, co-existence is:-

Co-existence -	existence together at the same time or at the same p	olace
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Co-existent - existing together at the same time or at the same place // that which coexists

Co-existing - existing together at the same time or at the same place

In relationship to the coal seam gas industry, <u>co-existence has been legislated under Queensland State</u> <u>Government Acts to occur</u>. Provided a resource authority holder holds the relevant authorities, and an environmental authority which does not allow for damage to environmentally sensitive areas, unless it permits the resource authority to do so, presents the relevant Notice of Entry (if it has not been waived) and, for advanced activities has negotiated by coercion, choice, or through the Land Court a Conduct and Compensation agreement, co-existence will occur.

The <u>choice of activity and the location</u> is at the discretion of the resource authority holder e.g. well pads, roads, gathering lines, deviated wells, work camps, communication towers, on any property within their tenure. There is some <u>limited scope to negotiate locations</u> with land owners/occupiers – but that is more a good will activity than a legislated requirement. There is <u>no scope to negotiate</u> trajectory well paths (deviated wells) when they originate from well pads on a neighbouring property.

From this basis, the <u>power in negotiations is firmly within the hands of the resource authority holders.</u> Codes of Conduct are at times little more than a feel good exercise. Should Codes of Conduct or Government regulations in various Acts of Parliament be broken or infringed on, it is not likely to result in more than a slap on the hand. Serious infringements may result in investigations and fines e.g. a resource authority holder in 2022 was fined \$1 million for drilling deviated wells several times without Notices of Entry.

Sustainable In its simplest form, sustainable is:-

Sustain	- 1. To suffer; to endure
	2. To rest for support // one who or that which upholds a sustainer
Sustainable	- capable of being sustained or maintained; maintainable

Therefore, the point is not "Will co-existence occur?"

It is:- (1) Can the hosts to the industry endure coexistence and for how long?
(2) Should coexistence occur, where should it occur, and how often should it occur?
(3) How to ensure genuine protections are in place to limit, restrict or prevent coexistence reaching an unsustainable level of endurance?

The statement states that the BILL "contains amendments that will insert a risk-based management framework for the assessment and management of coal seam gas induced subsidence. This will ensure that the potential impacts and consequences are assessed at both the regional level and at the farm scale It will establish processes to make agreements in relation to the management of CSG-induced subsidence and to compensate for any consequences on agricultural operations...."

Comments:

- As the exact and final extent to which CSG-induced subsidence will impact on agricultural operations and/or impact on the environment (such as ecosystems) is unknown, how sustainable coexistence will be, when or should CSG-induced subsidence occur, is also unknown.
- No genuine studies have occurred to understand the exact extent to which current coexistence has been proven to be sustainable. That is, *(i)* how many have left their properties rather than continue to cope *(ii)* what physical and mental health issues, including suicidal ideation, are contributed to current coexistence situations. *(iii)* to what extent has the profitability and viability of agricultural businesses on a regional and more particularly farm scale been impacted.

- "(*The*) forcing of landholders into Subsidence Management agreements when the science, technology and remediation steps have not been addressed is completely unacceptable. (*It*) is unethical and a definite breach of Human Rights" quoted with permission from another submission name supplied
- The signing of CCAs or other agreements is not evidence of sustainable coexistence. The signing of CCAs or other agreements is not evidence that the signatures have been inserted voluntarily (i.e. threats of ADR, land court, coercion, stress, bullying, fear may be contributing factors.)
- Continuing to carry on farming is not evidence of sustainable coexistence. It may be merely evidence of endurance.
- "(Sustainable) *Coexistence is where both parties benefit from an agreement or situation. The situation of being forced into ADR and Land Court is Coercion not Coexistence.*" quoted with permission from another submission name supplied
- There is an assumption by Government and associated departments and independent entities that CSG companies (i.e. resource authority holders) will be quick to accept blame, honour agreements, remediate and compensate for CSG-induced subsidence. The experiences of certain farmers already dealing with CSG-induced subsidence suggests that, to date, this is a false and naïve assumption. - names supplied

CONTRACTS

To facilitate the development and continuing expansion of the coal seam gas industry, various Acts of Parliament contain clauses which puts the balance of power squarely in the hands of the CSG companies (resource industry.) This facilitation includes the manner in which contracts are signed and are expected to be signed. They give the appearance of providing "rights" to farmers (land owners) but it can be illusionary.

- (i) Notices of Entry (ii) CCA agreements / Opt out or deferred agreements (iii) Deviated well agreements (unregulated by government) (iv) Proposed Subsidence Management Action Plans and Subsidence Agreements
- Technically, <u>Notices of Entry</u> are not contracts as signatures aren't necessarily required. There may be scope to negotiate the terms of the agreements but this may be at the discretion of the CSG companies. Also, there is no remuneration associated with Notices of Entry.
- <u>Deviated Well Agreements</u> Probably in response to being fined \$1 million for drilling under 48 properties without issuing Notices of Entry to 13 land owners, a CSG company with a reputation for "mistakes" drew up a Deviated Well Agreement.

There was input or advice taken from several entities, including at least one government department, GFCQ, and about 3 grower representative entities. However, they are an unbalanced agreement. Basically, DWAs are one size fits all, one payment fits all, no negotiation allowed – take it or leave it. At least one farmer offered a DWA was informed (in writing) that if it was not signed, the company would proceed with filing a Regional Interest Development Approval application (RIDA.) The company refused to give a template of a DWA (to the writer of this submission) as it was too soon in the process. <u>These are Contracts of Adhesion, that is "one party drafts the terms of the contract with no input form the other party... in a "take it or leave it" situation.</u>

- While there is scope to negotiate <u>CCA</u>, <u>Deferred and Opt out agreements</u>, they are drawn up by the CSG companies. (There is a template available on the Department of Resources website, but that Department did not forward a copy when asked, the writer sourced it through website searches.)
- <u>Subsidence Management Action Plans and Subsidence Agreements</u> There are currently no templates, no suggested templates, and no information on what they might entail and how they will work. The main reason is because of the variety of uses and farming methods employed by individual farming operations.
- Failure to sign these agreements, leads to ADR and/or Land Court.

How might Contract law be applied?

Duress

* Threats to file a civil suit is not duress because filling a suit is a legal action.

However, the stress and fear of both dealing with and negotiating with CSG companies who operate from a financial and legislative power base, coupled with the fear of attending ADR followed by Land Court may put a restraint on property owners. There may be coercive, stressful, bullying behaviour on the part of the CSG companies, i.e. duress.

<u>Substantive unconscionability</u> - "Harsh, unfair, excessively oppressive, and unduly onesided..... terms of a contract so unreasonably favour the stronger party to the point of being oppressive.... when one party takes all the benefits and the other party gets none (or nearly none"

With <u>no benchmark on which to judge if SMAP and/or SAs will be oppressive and one sided</u>, it is not possible to make an informed judgement. However, as the CSG companies stand to make profits that may far outstrip the ability for the farmer to make a profit, it is likely that the contracts will favour the stronger party.

<u>Procedural unconscionability</u> *"the circumstances in which the contract is made: lack of opportunity to negotiate terms, unequal bargaining power, lack of meaningful choice, wide knowledge gap on the subject matter"*

The <u>majority of farmers</u> (land owners) will be signing these contracts with a <u>knowledge gap</u> on the subject, therefore there will be a <u>lack of opportunity to negotiate fair and reasonable</u> terms, and <u>unequal bargaining power</u>.

Conclusion: As the farmers (land owners) have no choice but to sign Subsidence Management Action Plans and Subsidence Agreements (or have the Land Court enforce plans and agreements), the **Qld State Government is complicit along with the resource industry in forcing/enforcing agreements which no reasonable person would be expected to sign due to the lack of knowledge as to how effective these plans will be to manage or, preferably, prevent CSG-induced subsidence damage.**

ENVIRONMENT - ecosystems, habitats, watercourses, flora and fauna

In the Overview of the Bill, S Stewart states "primary objectives of the Bill are to enhance the State's coexistence framework, improve regulatory efficiency, modernise the Financial Provisioning Scheme, strengthen industry's ESG credentials, and **protect the environment**."

- There is no provisions in the BILL to monitor, study, report, analyse, or prevent damage to the environment. The exception is the Subsidence Management Framework which is focused on agricultural productivity being impacted by CSG-induced activities not on environmental damage from an ecosystem focus.
- Several clauses relate to Environmental Authorities but these are more focused on mitigation after the event and/or funds being available should resource authority holders not meet their remediation obligations.
- Consultation papers in 2023 regarding the proposed Subsidence Management Framework suggested that part of that framework would include hydrological studies, e.g. changes to watercourses and overland flow. Will there be studies directly related to impacts on ecosystems or only impacts to farms?

Example of area which may potentially have environmental damage: Arrow Energy Area Wide Planning (Springvale & Grassdale development areas) includes plans to drill deviated wells (trajectory well paths) several times underneath the Condamine River between Dalby and Cecil Plains. Departmental communications indicate that these plans may not necessarily have been included in Environmental Authority applications as resource authority holders may not know the location of their wells at the time of application. Further enquiries have not yet been made to confirm if environmental values relating to the river were considered when applying for the EA. (*Note: paraphrased from email // <u>No accusations</u> are <i>directed towards Arrow Energy. This is used as an example only.*)

SECTION (4) RESPONSE TO: The BILL & "Explanatory Notes"

Opening Comments:

• A <u>number of issues and proposals</u> were raised in:

"Regulatory review of CSG-induced subsidence" // "Qld Resources Industry Development Plan" // "Land Access and Coexistence: a review of coexistence principles and coexistence Institutions" // "Amendments to RPI Act 2014 – draft consultation paper"

• Many <u>submissions were filed</u> (8/15 December 2023) regarding these papers. It is <u>obvious that not all proposals are included in this BILL</u>. It is unclear if they will be included in amended regulations and/or subsequent BILLs.

It would be <u>careless for the committee to review this BILL without being fully cognizant with</u> <u>those issues and proposals</u>. However, with time restraints, it is unlikely they will be considered.

<u>RPI Act 2014</u>: It is expected that further amendments over and above this BILL will be introduced to Parliament at a later date regarding the RPI Act 2014.

- Any amendments established through the passing of this BILL should not further weaken and/or ⁴undermine the already toothless RPI Act 2014.
- The passing of this BILL should not be retrospective. That is any RIDAs filed with DSDILGP prior to the passing of this BILL should not be allowed to be withdrawn.

Examples:- RPI 22/004 Arrow – Kupunn Springvale CSG Deviated Well Paths RPI 21/028 Arrow – Wells and gathering lines (locally called Warakirri) which has had extensions to a Compliance Requirement issued after the submissions due date had ended.

⁴ **Undermine** = no pun intended

Subject A **Proposed changes in relationship to renewable energy, electricity, and greenhouse gas storage. Proposals relating to MER(FP) Act 2018 and Fossicking Act 1994.** As these subjects have not been studied, they are not dealt with in any depth in this submission.

Points to consider:-

(1) **Land Access** How many times should or will any particular property be accessed under various Acts, regulations, and land access rules regarding the resource industry.

That is: (*i*) How many companies may have petroleum and/or exploration leases over the same property or portion of a property?

(ii) How many different energy related companies may have access to the same property to develop their industry e.g. renewable energy, geothermal energy, coal seam gas, coal mines?

Comment: Regulation must be in place to limit access to private properties for the activities of other industries. The size of properties may influence the limits.

Reason: Coexistence cannot be sustainable and mutually beneficial if a property owner is (*i*) continuously having to negotiate agreements and Notices of Entry & (*ii*) continuously giving way to other industries which operate from a financial and regulatory position of power.

(2) Notices of Entry

Comment: Notices of Entry should be required by any business given legislated right to enter a property for purposes not relevant to the principal industry conducted on said property.

Reason: Without Notices of Entry, there can and will be unsupervised, indiscriminate entry onto properties with the property owners and occupiers having no say or control over the entry. Work Place Health and Safety, bio-security, productivity losses, and legal liability are some of the issues that may arise from a supervised or unsupervised entry.

(3) The right to say "NO"

Currently, property owners have the right to say "NO" to renewable energy on their properties. This may change in the future. As GFCQ under their current remit has been focused on ensuring the unfettered progression of the coal seam gas industry, there is the possibility they may work towards removing this right. *(opinions may vary)*

Comment: Are there plans to remove the right to say "No?"

(4) ⁵MER(FP) Act 2018

Financial Provisioning Scheme - The purpose of this act is to manage the risk of the State incurring costs where mining companies do not fulfil their rehabilitation obligations.

(i) In the design of this Act, it is acknowledged that the State realises there is the likelihood of companies abandoning a mine, equipment, or resource activity e.g. coal seam gas production, without meeting their regulatory obligations to remediate the land to its original or better condition.

The likelihood also exists for environmental harm to occur and the damage not remediated.

(ii) **Subsidence** is an environmental and productivity issue. No meaningful studies have currently been undertaken to estimate the exact cost of subsidence to the State or individual businesses regarding loss of productivity and/or environmental damage.

- A study/audit is urgently required to estimate the likely cost of CSGsubsidence induced damage. Funds must be set aside to ensure the burden does not fall on the land owners' shoulders to remediate the damage.
- Declining land values due to the impact or existence of resource infrastructure and activities, whether they areexisting, abandoned, or decommissioned, should require compensation either from the resource company or the State Government.

⁵ Mineral Energy Resources (Financial Provisioning) Act 2018

Subject B: LAO, OGIA, GFCQ

LAO – Amendment of Land Access Ombudsman Act 2017

(A) Currently the role of the LAO relates to Conduct and Compensation or make good agreements. It will now be expanded to include *(i)* disputes relating to breaches of subsidence management plans or subsidence compensation agreements & *(ii)* being appointed to conduct ADRs for ADR election notice disputes.

Comments: (i) BILL Part 3A ADR for ADR election notice disputes

Correctly identifies ADR as being non-binding.

Repeat: The word **non-binding must not be removed from the proposed BILL**, as the LAO must retain its neutral role.

(*ii*) There is still no provision for the LAO to mediate in Land Access disputes relating to (a) Notices of Entry (b) unregulated Deviated Well Agreements

(iii) There is no provision to mediate in Land Access disputes relating to Deviated Wells originating from a neighbouring property.

(B) BILL 31K appointment of LAO members and Advisory Council members

Comment: The BILL's recommended representatives has **identified in (3) (b) that members who represent the interests of agricultural** and other landholder groups are to be included the memembership. **AGREE**

SPECIFIC SUBJECTS RELATING TO CSG-induced subsidence

CSG-induced subsidence -

(*i*) Given the complexities of the issues relating to CSG-induced subsidence e.g. loss of crops, potential long term loss of production, changes to water courses, changes to cropping (farming) practices, the Land Access Ombudsman and employees are ill prepared to understand and comment.

(*ii*) As subsidence is an ongoing issue, the mechanisms to determine if subsidence has occurred or if it's predicted to occur and the extent to which it will have material impacts on (*a*) the land (*b*) water courses (*c*) financial viability of an agriculturally based business (or any other business) is still in the planning stages. The level of expertise required to study reports obtained through the resource authority holder, or more independent sources, is beyond the remit of the LAO. It will require calling in experts.

GFCQ - Amendment of GasFields Commission Qld Act 2013

(A) Before changing the name of *GasFields Commission Queensland* to *Coexistence Queensland* and/or making changes to the *GasFields Commission Queensland Act 2013*, several matters should be considered:-

(1) Purpose of existing GFCQ Act 2013: "to establish the GasFields Commission to manage and improve the sustainable coexistence of landholders, regional communities and the onshore gas industry in Queensland"

- Is the purpose of the Act to enforce coexistence when such coexistence is not sustainable, cannot be made sustainable, and is to the detriment of other industries, the environment, and the social prosperity of local communities?
- Is the purpose of the Act to assume that coexistence should, could, and must happen regardless of how the development of the resource industry impacts on non-resource related industries, the environment, or the social prosperity of local communities?
 OR Is the purpose of the Act to facilitate sustainable coexistence when it is deemed to be achievable, equitable, and desirable.

There is no requirement under the existing GFCQ Act 2013 (or amended Coexistence Act) that requires this entity to advise when impacts from the resource industry are not sustainable coexistence and should halt or be limited in certain parts of Queensland.

Note: GFCQ informed some interested parties in 2022 that they defined their role as "removing barriers to coexistence" which may be perceived to mean prioritising the taking of whatever steps are necessary to avoid hindering, delaying, or limiting the expansion of the resource industry.

(2) Name Change = GasFields Commission Queensland to Coexistence Queensland?

- Will it cause confusion and give a false impression that *GasFields Commission Queensland* is a neutral entity which does not favour the resource industry over other entities such as agriculturally based industries.
- Will the name change fully identify the roles and functions of this Organisation?
- With such a general name, there is potential for this independent (but not necessarily neutral entity) to expand their remit through further Amended Acts of Parliament to intrude into areas beyond the resource industry.
- Possible alternatives Gas Fields and Renewable Energy Commission Queensland or Energy Commission Queensland

(B) Renewable Energy Sector

As Renewable Energy is an alternative to other Energy sources and is a potential growth industry, it is probably accurate for this industry to be included in the role of the *GasFields Commission Queensland* and the relevant *Act* regardless of name change.

(C) Education

"refreshing GFCQ's role to focus its functions on providing education and information to stakeholders on matters related to coexistence and land access across a broadened remit, being the resources and renewable energy sectors" (*Reference: 2023 Consultation paper pg 23*)

• It is acceptable to expand GFCQ's role in educating and supporting stakeholders and land owners and occupiers.

(D) Health

<u>Acceptable</u> with this proviso: the <u>identity and privacy of any impacted persons must not be</u> <u>shared</u> without written permission. In particular, knowledge of farmers (land owners) health issues must not be shared with other stake holders, particularly CSG industry personnel.

• A review on health impacts on residents, land owners/occupiers within CSG fields and how to address those issues is required.

(E) Membership: 19 Replacement of s10 (Eligibility for appointment as a commissioner)

• (*a to b*) Nowhere in this eligibility list does it state that a member should have qualifications or experience in the Agricultural Industry! Land management is vague and could be a person involved in environmental Landcare not in agriculture.

(ii) 24 Amendment of pt3 div 2 hdg (*Powers relating to landholders, onshore gas operators and other entities*) (Section 26 (5) prescribed entity (a) a landholder

• Landholder is vague and could include a person with a house block and no knowledge or experience in the agricultural industry!

29 Community Leaders Council (may establish more than 1 committee)

(2) Paraphrased: consists of the chief executive, other individuals representing local governments, regional communities, resources industry, renewable energy industry.

• Landholders, farmers, individuals representing the agricultural community are missing from these criteria!

Closing Comment: It is clear that avoidance of genuine, experienced representatives of the agricultural industry is a desirable goal of GFCQ or whatever name is chosen.

EXPANSION OF ROLE OF OGIA – Office of Groundwater Impact Assessment

<u>ROLE</u> - "The Office of Groundwater Impact Assessment (OGIA) is an independent office responsible for <u>assessing impacts from resource development in Queensland</u>, including coal seam gas (CSG), conventional oil and gas, and mining; and then <u>developing and supporting</u> <u>proactive strategies for managing those impacts</u>." It was established under Chapter 3A of the Water Act 2000.

<u>OGIA is not a regulator</u>. It is uniquely positioned to bring together the science and resource management. Its work is <u>primarily focused on scientific investigation, modelling and</u> <u>monitoring relating to groundwater impacts, and support of an adaptive management</u> <u>framework for managing the impacts within cumulative management areas (CMAs)</u> in Queensland.

COMMENTS:

- (A) The purpose of expanding the role of OGIA is to:-
 - continue researching, monitoring, and reporting in the Underground Water Impact Report (UWIR) which is published approximately every 3 years on the potential for CSG activities to cause subsidence, and/or the consequence once subsidence has occurred.
 - expand the level of research and reporting on CSG-induced subsidence matters through devising regional scale and farm scale assessments which will be the remit of the relevant resource holder to collect and report to OGIA.
 - accommodate OGIA's involvement in CSG-induced Subsidence Management Framework to address how land owners/occupiers (farmers) may adaptively manage the impacts of subsidence on their properties.
 - Call in independent specialists when deemed appropriate.
- (B) While the <u>expansion of the role has merit</u>, there are some <u>flaws</u>:

(i) It needs to be clearer who the independent specialists will be that OGIA may consult with on occasion; how their expertise will be funded, how accessible reports on either a regional scale or a farm scale will be to land owners/occupiers.

(ii) OGIA has primarily <u>functioned from a hydrologist's framework</u>. Their role is <u>not agriculturally based</u>.

• Therefore, OGIA is not equipped or experienced to make decisions relating to the extent of CSG-induced subsidence impacting on (a) short and long term productivity (b) short and long term profits (c) short and long term (predicted to be decades after the extraction of gas has ceased) impacts on farming methods which OGIA and GFCQ have recommended will have to change to adaptively manage (*sic put up and shut up*) CSG-induced subsidence on agricultural properties (particularly cropping.)

(iii) The role of OGIA is primarily collating, modelling and on groundwater impacts reporting (mainly through the UWIR). Their role is seen or is now seen as developing and supporting proactive strategies for managing impacts:-

- The fundamental flaw in <u>OGIA</u> being the primary statutory body in the subsidence management frame work is that:- they are <u>hydrologists</u>, not agronomists</u>. Just as they would not be expected to advise a resource industry on how to adjust their business to accommodate impacts caused by their own activities, nor should OGIA be charged with telling the agricultural industry how to adjust their business practices to accommodate impacts caused by another business, namely the resource industry.
- I<u>t is not OGIA's place to be advising and teaching farmers how to farm</u>. (Nor is it the GasFields Commission Qld's place.)
- <u>Is OGIA's purpose</u> to <u>advise in the prevention of subsidence</u>, <u>advise on the</u> <u>inability to remediate impacts successfully</u> **OR** to only <u>"assist" farmers to live</u> <u>with the impacts ensuring the coal seam gas industry progresses</u> with as little impediment as possible?

CONCLUSION:

- <u>Subsidence management would better sit under the administering authority of</u> <u>the Department of Agriculture.</u>
- The <u>Department of Agriculture must be brought into the scenario</u> to analyse expert reports, analyse predictions and methods of adaptively managing impacts and/or to advise against proceeding with the development of coal seam gas infrastructure in the most vulnerable areas of the state i.e. priority agriculture and strategic cropping lands.

SUBJECT C Proposed changes to coal seam gas versus agriculture

Baseline Assessments, Land Categories, Data Collection, Timing of Events

The most fatal flaws of the subsidence management proposal is that:-

(i) Some properties are already experiencing subsidence.

(*ii*) Some properties already have CSG development on, under or beside their properties but are yet to experience subsidence.

(*iii*) Development of CSG infrastructure and the extraction of gas is allowed to continue while (*a*) this BILL passes into legislation & (*b*) the necessary data collection, analysis and reports are collated and analysed.

Comments: It is too late to obtain base line assessments once gas extraction occurs.

- There is no obligation for CSG companies to inform land owners (on and off tenure) of the subsidence management proposal prior to it's passing into law.
- These farmers (land owners) are at a disadvantage.
- 184FC of the BILL will not apply i.e. the resource authority holder will not be restricted on starting to produce coal seam gas from particular petroleum wells.

Notices of Entry

(A) To facilitate the proposed subsidence management plans, entry is required onto a number of properties througout Queensland. These entries potentially occur in stages:

(*i*) Entry for regional scale information gathering and reporting of the likelihood of subsidence occuring in areas to be declared as Category A, B or C.

(*ii*) Entry of properties for farm scale information gathering and for the drawing up of Subsidence Management Action Plans and Subsidence Agreements.

(*iii*) Enforced entry declared by the Chief Executive.

(*iv*) Entry when damage occurs.

(v) Entry when there is a disagreement or breach regarding the Subsidence Management Action Plans and Subsidence Agreements.

(**B**) Under the proposed BILL

(*i*) the resource authority holder must issue "an owner and occupier of the land with an Entry Notice in order to undertake a 'subsidence activity' on private land outside the authorised area (off-tenure).

(*ii*) there is no clear direction as to the requirement for Notices of Entry for on-tenure areas.

Comments:

- Notices of Entry should be required by any business or persons given legislated rights to enter a property.
- These should be stand alone documents and separate to other Notices of Entry. Included in the notices should be arrangements for the recording of times, dates, purpose, and names each time entry occurs.
- While the BILL allows for minimal damage to occur (sic at the CSG company's discretion) a requirement of Notices of Entry should be to negotiate how to prevent damage (minimal or major) from occuring at all!

Reasons: The number of times and the potential of additonal times to enter any one property increases risks to the property and the agricultural business based upon it, e.g. bio-security, damage to livestock and crops, legal liability, interference and interruptions to the daily management of the business, work place health and safety, the loss of quiet occupancy.

RPI ACT 2014 & Regional Interests Development Approvals (RIDA)

- <u>No actions legislated under this BILL should undermine the intent and purpose</u> of the RPI Act 2014.
- **RIDA** applications filed with the appropriate Department prior to this **BILL** passing into legislation should not be withdrawn.
- The proposed framework will eliminate or potentially circumvent the Regional Interest Development Approval process which currently sits under the Regional Planning Interests Act 2014 and regulations. Very few RIDA's have ever been lodged; only some relate to priority agricultural areas and strategic cropping land.
- The CSG-induced Subsidence Management Framework and land access risk assessment framework should not be implemented in such a way that the RIDA process in the Regional Planning Interests Act 2014 becomes obsolete. Rather, the framework should strengthen the intent of the RPI Act "to manage the impact of resource activities and other regulated activities on areas of the State that contribute, or are likely to contribute, to Queensland's economic, social and environmental prosperity".

- Land owners (farmers) given Subsidence Management Action Plans and Subsidence Agreements should be advised of the existence of the RPI Act 2014, if it applies. They should be advised that the signing of these agreements (either in or outside a CCA) may be used to circumvent the RPI Act 2014 through the s22 exemption (which Qld Government is planning to remove from the RPI Act.)
- When it is found in the farm scale predictions that subsidence will damage more than 2% of land that falls under the RPI Act 2014, it should trigger a RIDA application regardless of the signing of these compulsorary subsidence management aciton plans and subsidence plans.

Preliminary activities

• Amend 100 hectares to 300 hectares.

Reason: 100 hecatares is too small an area. It does not provide a living. Nor does 300 hectares, but that size which is slightly more than the traditional 640 acres is potentially more viable.

• 1000 metres. (*This was not covered in consultation papers and requires more thought.*) If these surveys relate to LiDar then, upon request, **property owners should be given copies of surveys and appropriate reports.**

Damage to Private Land

(*i*) Under 53E the relevant holder (a) "must not cause or contribute to unnecesary damage to any structure or works on the land" (b)"must take all reasonable steps to ensure the holder causes as little inconvenience, and does as little other damage, as is practicable in the circumstances."

(*ii*) Under 53F, the relevant holder is liable to compensate the owner or occupier of the private land, (sic if you can get them to admit fault.)

(iii) Under Section 54, a report is required to be given to owners and occupiers when entry has occurred for the undertaking of a subsidence activity.

- **Comments:** This essentially is a continuation of the Department of Resources "Code of Conduct" which allows for minimal damage if no damage is possible, i.e. cut a fence, damage a gate but tell the farmer and repair the damage; kill a cow but tell the farmer as soon as possible.
 - There is no definition as to **what constitutes necessary or minimal damage.**

- There is no provision in the BILL for negotiation and inclusion in Notices of Entry as to how to prevent damage from occuring in any location and to any structure.
- How often is minimal damage to be allowed on any one property i.e. may a resource company's employees/contractors carelessly cause \$5000 damage on first entry, \$40000 on second entry, \$25000 on another entry?

Reports and information shared with land owners and occupiers

184DF and 184EF of the BILL legislates that reports and information relating to land monitoring and baseline data should be a "*document in a form that is reasonably likely to be understood by the owner or occupier*"

- **Comment:** Expand this provision to include: *Upon request (i) owners/occupiers are to be given complete copies of reports and information. (ii) farmers and neighbours are to be given copies of hydrological reports relevant to their properties.*
- **Reason:** (*i*) To seek their own expert opinions on the interpretation and accuracy of the information given. (*ii*) To determine if information given in simplified reports has been down played (*iii*) To make informed decisions when negotiating agreements.

New developments

Comments:

- It is not clear if the resource authority holders may apply for amended Environmental Authorities to drill additional wells within developed petroleum leases that fall within Category A, B, or C areas.
- If a property is assessed with the intention of drilling 2 deviated wells under it but later an amended Environmental Authority is granted allowing additional wells and 3 more deviated wells are to be drilled under the property this will considerably change the assessment results of the original baseline data collection and analysis.
- Any Subsidence Management Action Plans and Subsidence Agreements will be inaccurate. Provision is made in the BILL to change and/or make new agreements when there are <u>material changes in circumstances</u>. However what is overlooked is that when these material changes relate to the resource industry activities, <u>critical consequences could potentially be the end result</u>.
- Regional assessments as to whether an area falls under Category A, B, or C, should be completed prior to new Environmental Authorities being granted or in areas where EAs have been granted, they should require a revision of the EAs prior to further development within the petroleum lease (PL) areas relevant to those EAs.

SECTION 5 Closing Comments

- While it contains some valid points, the Subsidence Management Framework is a time consuming, expensive process, which forces land owners/occupiers into unchartered waters and into agreements that are **untested in court**, with little guarantee of genuine protections of land, water, industry, or the environment.
- It is also expensive and time consuming for resource authority holders, however, these companies are operating from a financial and legislative power base. They have the most to contain financially from the continued extraction of coal seam gas.
- The CSG-induced Subsidence Management Framework will impose a further burden on farmers (land owners/occupiers) to assist the coal seam gas industry to continue in already developed areas and to expand into new areas with little impediment. The **proposals are not geared towards preventing damage (harm) but are geared towards attempting to adaptively managing the damage (harm).**
- Management of impacts should not be interpreted as allowing unlimited impacts in any area. Rather, it should be interpreted as limiting, restricting, and preventing impacts, even if it requires permanent closure of gas wells.

(*i*) Clause 87, new section 184HB relating to the drawing up of subsidence management plans includes the wording "prevent, mitigate or remediate." This would suggest that prevention should be a consideration in any plan.

(*ii*) However, the <u>only genuine guarantee of prevention is to not extract coal seam</u> gas and CSG water!

ANNEXURE to SUBMISSION No 11

RELATING TO PROPOSED AMENDMENTS

TO SEVERAL ACTS OF PARLIAMENT

2024

A Bill

for

An Act to amend the *Electricity* Act 1994, the Fossicking Act 1994, the Gasfields Commission Act 2013, the Geothermal Energy Act 2010, the Greenhouse Gas Storage Act 2009, the Land Access Ombudsman Act 2017, the Mineral and Energy Resources (Common Provisions) Act 2014, the Mineral and Energy Resources (Financial Provisioning) Act 2018, the Mineral Resources Act 1989, the Petroleum Act 1923, the Petroleum and Gas (Production and Safety) Act 2004, the Regional Planning Interests Act 2014, the Water Act 2000 and the legislation mentioned in schedule 1 for particular purposes

Introduced to Parliament

By: The Honourable Scott Stewart, Minister for Resources and Critical Minerals

On: 18 April 2024

Title: Mineral and Energy Resources and Other Legislation Amendment Bill 2014

Submissions addressed to: <u>cejrtc@parliament.qld.gov.au</u>; Attention: Clean Economy Jobs, Resources and Transport Committee

NAME, Contact details, and interests included in opening pages of Submission no 11

Additional Comments to Submission No 11:-

(A) Organic Farms

(i) Notices of Entry (2 page 15, B page 23), Reports (page 25), and Timing –

Organic farms have an additional layer of reporting obligations in the carrying out of their enterprises. An audit is required each year. (Korean Certification requires an additional smaller audit.) The farmers must know who has entered their property and what activities have been carried out. This often requires letters of confirmation from those operators stating that certain requirements have been met: *examples* "We confirm we are certified to deliver organic compost" // "We confirm that our truck has been triple washed before loading organic grain."

If these requirements are not met or certain activities have taken place that are unacceptable, *example* resource authority holder using herbicide on or near a paddock, the organic farmer will be issued with a CARS notice. Issues identified in the CARS notice must be addressed before Organic Certification is renewed. Expired notices mean grain will be refused by the buyer.

It is <u>crucial that organic farmers have reports in a timely manner</u> so they may complete these audits. It is also crucial that any incidents are reported immediately. Farms or areas of farms may lose their certification and it requires years to regain full certification. (**Note**: these comments relate to broad-acre cultivation but there would be similar requirements for other types of organic/bio-organic enterprises.)

(ii) Damage to Private Land (pages 23 - 25)

Under the MERCP Act, any CSG activity on an <u>organic farm</u> or bio-organic farm is an advanced activity if it will cause damage.

The MEROLA BILL (53E) implies necessary damage to works on the land and structures is allowed. It doesn't mention if this includes necessary damage to the land and doesn't define if works on the land includes plants: crops, pastures, fruit trees.

(a) Any and all "subsidence activities" should be classed as an advanced activity.

(*b*) More clarification is required regardless of type of farming enterprise. However, this should not excuse the indiscriminate damage of private property for any resource industry purpose.

(iii) Organic farms may also include <u>restricted areas</u> e.g. dams, sheds, bores, residence.

(B) Condamine River and Trajectory Well paths (aka Deviated Drilling)

Further to comments regarding the Condamine River and potential environmental impacts of Deviated Drilling and/or subsidence, please include the following.

(i) One of the proposed deviated wells under the Condamine River is included in the *Kupunn-Springvale CSG Deviated Well Paths RIDA application RPI 22/004* currently being assessed. Property description: Lot 141 AG4261 (originally two properties; appear to have been amalgamated) located on Prenzlers road, north of St Ruth Hall.

(ii) There is a fenced off <u>nature reserve</u> to the south of this property. It is unknown if any assessment has been carried out regarding potential disturbance of this reserve. An area <u>Map</u> is *attached page 4*.

(C) GeoThermal activity and subsidence

Within Energy Pty Ltd applied for a Geothermal exploration permit No *EPG 2031* on 25 august 2022. The farm in submission 11 is one of several within the proposed exploration tenure area.

Reports out of New Zealand indicate that this method of energy production may also result in subsidence. The <u>Subsidence Management Framework should also apply to Geothermal</u> <u>activities and not just CSG activities</u>.

References: Review of subsidence at Wairakei field, New Zealand; August 2000, Geothermics 29(4):455-478, DOI:<u>10.1016/S0375-6505(00)00016-X</u> Author: Rick G. Allis // *University of Auckland – modelling of Subsidence in Geothermal Fields* citation: <u>http://hdl.handle.net/2292/49316 2019</u>, Copyright: The author; Rights (URI): <u>https://researchspace.auckland.ac.nz/docs/uoa-docs/rights.htm</u>

(D) Soil health, regenerative farming practices

Explanatory Notes page 11 reads: "Chapter 7 provides that in assessing the risk of impacts of CSG-induced subsidence on agricultural land in the subsidence management area, the following matters must be considered: <u>the soil characteristics of the land</u>"

Beyond considering these initial soil characteristics, the subsidence management framework appears to be focused on how subsidence causes soil to sink, move, and slow the drainage of water across the paddocks, thus impacting on productivity.

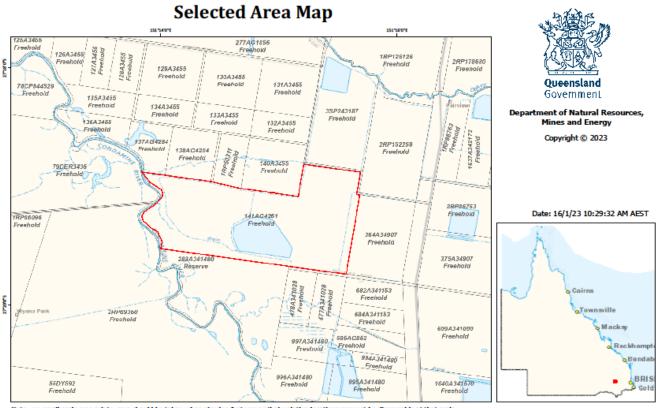
What has not been included in the proposal is the requirement for studies and reviews on how the health of the soil may be impacted by these changes in the natural characteristics of the land. Unhealthy soil results in long term lower yields and poor quality grains. (It is acknowledged that other variables may have temporary impacts e.g. such as rain, fertilizer, crop varieties.)

Implementing regenerative farming methods may occur on both organic and non-organic farms. How subsidence activity and/or subsidence damage may impact on farm management practices focused on improving soil health to increase productivity and crop quality needs to be considered within the Subsidence Management Framework.

References: www.ScienceDirect.com; Soil Biology and Biochemistry Vol 120, May 2018 pages 105-125: "SOIL QUALITY – A critical review = two terms are used synonymously (....), soil quality focuses more on the soil's capacity to meet defined human needs such as the growth of a particular crop, whilst soil health focuses more on the soil's continued capacity to sustain plant growth and maintain its functions". // From Wikipedia, the free encyclopaedia - **Regenerative agriculture** is a conservation and rehabilitation approach to food and farming systems. It **focuses on topsoil regeneration, increasing biodiversity**,^[1] **improving the water cycle**,^[2] **enhancing ecosystem services, supporting biosequestration**,^[3] increasing resilience to climate change, and **strengthening the health and vitality of farm soil.**

Map refers to point (B) page 2

Note the watercourses, lagoons, and dams. More may be seen in area maps to the south of St Ruth towards Cecil Plains



te - on small scale map prints, care should be take ot be disce Users of the information recorded in this document (the information) accept all responsibility and risk as with the use of the in tion and sho es and En vice in re ent of Natural F ME) best efforts, DN nt profe lation to de ig with property. ray (DNF n, and, to the e ility, completeness or currency and all liability for any direct and co rising from negligence) in connection with any use of or reliance o ntial cost

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