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SUBMISSION

AGRICULTURE and ENVIRONMENT COMMITTEE

STATE PARLIAMENT

Environment Protection (Underground Water Management) and Other Legislation Amendment Bill

SUBMITTER: George Houen, Landholder Services Pty Ltd

Submission on the Underground Water Management Bill:

- **evaluating the Bill's provisions governing dewatering of aquifers by resource companies, to clear the way for extraction of either minerals or coal seam gas (CSG); and**
- **evaluating the Bill's provisions on aspects of the make good scheme for water bores affected by dewatering – and pointing to the other changes I believe must be made in reforms to follow, so that make good can actually live up to its name.**

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Received 07 October 2016

Authorising Dewatering

Provided the issues listed immediately below can be resolved, I commend and strongly support the Underground Water Management Bill. Under the Bill new applications for mine dewatering approval – that is taking of associated water in mining projects - will become an integral part of the environmental authority assessment and approval process.

For CSG and other petroleum activities, dewatering – as in approval of new applications for the take of associated water - will be subject to environmental evaluation on the same criteria as for mine dewatering, and approval if granted will be a component of the environmental authority.

But I argue that the Bill's design has been compromised to conform to the policy under which water supply is not recognised as an environmental value, consequently the Bill in its present form would be effectively unworkable and its very important goals would not be achieved.

Those of us on the landholders' side have long been baffled by this policy - whatever its original justification, it seems far from realistic today.

Not just to landholders, but to the community each aquifer and the measures of its hydraulic pressure, its bores and their sustainable yield and quality, its storativity and permeability etc. (as well its water quality) are all part of the high value placed on them by the community.

Urgent Issues

Water Supply Not an Environmental Value

1) Clause 5 (new section 126A of EP Act re new applications) and Clause 8 (new section 227AA of EP Act re amendment of environmental authority) both restrict the approval criteria to 'environmental values' which EHP defines as water quality only.

2) Clause 1250E similarly restricts the criteria for grant of the associated water licence to water quality impacts, with no reference to anything concerned with water supply impacts.

3) The Environmental Protection (Water) Policy defines environmental values but clause 6(1)(b) only refers to water quality (not supply) and then only relating to surface water. That differs from the EP Act itself, section 9(a), which defines environmental value *as a quality or physical characteristic of the environment that is conducive to health or public amenity or safety* – which I believe extends to both groundwater water supply and water quality as environmental values.

4) There is no apparent justification for this policy and in reality water quality and water supply are inseparable twin environmental values. I submit that maintaining water quality alone is no help if, because of dewatering the bore no longer supplies – and likewise maintaining water supply doesn't help if due to dewatering its quality is not fit for the purpose. And I believe there must be doubt about the legal validity of EHP's rejection of water supply as an environmental value.

5) Chapter 3 of the Water Act states its purpose is: *to provide for the management of impacts on underground water caused by the exercise of underground water rights by resource authority holders.*
EHP is the administering authority for Chapter 3 and therefore responsible for the comprehensive framework which governs (but does not authorise) the take of associated water; also it covers the monitoring and response to impacts including diminished water supply and, where required, make good. I believe that exclusion of water supply from environmental

values is at odds with and poses a threat to government policy for dealing with the impacts of dewatering, as expressed in Chapter 3.

6) Under the Bill as it stands, provided water quality impacts were acceptable EHP would have no basis for refusing approval of dewatering even if the take of associated water is unsustainable and/or significant damage to water supply and to users of the groundwater is inevitable – I submit the Committee could not support such a flawed approach.

7) An environmental authority authorises the carrying out of an ERA (environmentally relevant activity) but only authorises environmental harm if it contains a condition specifically authorising the environmental harm. Therefore, the environmental authority which EHP issues will not authorise harm to groundwater supplies - unless it happens to be one of the coordinated projects where the Coordinator General has imposed conditions in the environmental authority governing and thereby authorising those impacts. Would that make the take of associated water illegal ?

8) Clause 5 and Clause 8, as they stand, would prevent EHP, when it is deciding environmental authority applications and conditions, from taking into account and assessing the environmental impacts of dewatering on the all-important supply from water bores. These are, after all, amongst the most important provisions of Chapter 3. Against that, I and other stakeholders argue (see below) that instead of artificially restricting the criteria for decision, baseline reports on all potentially affected water bores and a proposed value of bond or security against make good default should be part of the information considered by the administering authority when deciding environmental authority applications.

9) In my experience with numerous EIS and environmental management plans for resource projects – including those which have been contested through objections – this exclusion of water supply from environmental values has been irritating but usually only academic in its consequences. By that I mean confrontation over it has usually been avoided in the past because it happened that agencies other than EHP could fill the gap – this time it has to be confronted.

10) In coordinated projects the Coordinator General, working according to the much broader definition of ***environment*** in the State Development and Public Works Organisation Act (please see **Attachment 'A'**) exercises its power to pre-emptively impose environmental authority conditions covering impacts on water supply. And where the EPBC Act comes into play, Environment Australia will also impose its own conditions (separate from the environmental authority) governing groundwater supply impacts (as is the case with the Springsure Creek Coal project, which is not a coordinated project).

11) While the involvement of the Coordinator General and Environment Australia in certain resource applications would not change as a result of this Bill in its present form, it would still be the case that the environmental authority or associated water licence for new projects are degraded by legislative conflict and uncertainty, so that parties including landholders may be prejudiced as a result.

12) Proposed amendments to Clauses 5, 8 and Clause 36 section 1250E are at **Attachment 'B'**.

Baseline Before Starting to Take

13) To give really clear expression of purpose and to lay the best foundation for make good, provision could be made for:

a. All potentially-affected private bores to be baseline tested and the results reported in the environmental authority application – and their pressure and sustainable yield unambiguously recognised as an environmental value.

b. A proposal for the amount of bond or security for make good costs to be lodged by the environmental authority holder in respect of each potentially-affected private water bore, payable to the bore owner in the event the tenure holder defaults.

14) Those points are addressed in the proposed amendments at Attachment 'B'.

How it Works

15) Provided water supply is fully recognised in the assessment criteria, the result of the Bill should be:

a. New applications for approval of dewatering – in both mining and coal seam gas (CSG) production and in both regulated and non-regulated subartesian areas - are to be assessed and considered for approval as an integral part of the well-established environmental authority (EA) assessment process.

b. Coal seam gas (CSG) dewatering is currently authorised on the basis that petroleum tenure holders have a so-called limited statutory right to take associated water as required. The effect of the Bill is to make that existing right subject to assessment of its environmental impacts under the same criteria as for a mining application, including cumulative impacts.

16) For both mining and CSG, it is possible there will be circumstances where an environmental authority application is refused because the impacts of the associated water take were judged unacceptable.

17) Mining environmental authority applications are subject to an objection process heard in the Land Court – petroleum and gas applications have no objection process but members of the public can make submissions in response to Draft Terms of Reference and later to the Draft EIS.

18) The Bill will transform approval of mine dewatering. For new applications it abolishes the present licence for dewatering under the Water Act. In any case that licence scheme is ineffective because it is isolated from, and happening later than, assessment of the relevant mining approval; it only applies in regulated subartesian areas; and it seems no dewatering licence application has been refused under it. Neither, as far as I know, has grant of a dewatering licence been appealed in the Land Court, in recent decades at least - I believe that's because such a retrospective appeal, which if successful would potentially wreck the project even if it is already underway, would be seen by most people as futile.

19) Providing it is altered to include water supply impacts in the assessment, the Bill's changes should ensure there is thorough investigation of impacts under the EP Act and - for mine applications where there are objections, also ***independent*** assessment by the Land Court.

20) For both new CSG and mining, dewatering and its impacts (ie. assuming water supply impacts are included) will be assessed in the EIS and in the environmental authority approval processes, with extra emphasis on environmental and water usage impacts . For smaller non-EIS mining projects the assessment will be done under the draft environmental management plan.

21) The regime for assessment and approval of new dewatering proposals will apply throughout the state. That's in sharp contrast to the present system where about 30 mines are licensed to dewater within regulated subartesian groundwater areas, while a similar number outside of regulated areas are also dewatering but don't need a licence or any other approval.

22) Subject to satisfactory resolution of the water supply impacts issue, including the take of associated water in dewatering as an integral part of the EA assessment and approval process is logical, responsible action that is long overdue. For mining, dewatering will for the first time be properly within the Land Court's jurisdiction. And the onus will be squarely on the Environment Department to give dewatering applications, whether for CSG or mining, comprehensive and impartial consideration.

23) Transitional provisions allow project applications within regulated subartesian groundwater areas, that have commenced but are not completed, to be completed under the old provisions.

24) Understandably there is some concern about loss of the right to appeal to the Land Court against grant of the dewatering licence for new applications and amendment applications dealt with under Clause 5 and Clause 8. In mining applications/objections, the Land Court performs an administrative rather than a judicial function against which there is no appeal. But the administrative decisions and recommendations of the Land Court are subject to Judicial Review – however, that is a review of the process through which the decision was made, not a review of its merit.

Superior to WROLA

25) The Underground Water Management Bill's changes are vastly superior to the relevant amendments proposed in the WROLA Act – that Act would create a statutory right for miners, without any impact assessment, to remove as much groundwater as they think is necessary to facilitate their extraction work, while empowering them to dispose of it any way they choose. That would be wrong and irresponsible environmentally, and grossly unfair to any landholders who would potentially be robbed of their bore water supply while at the same time silenced and given no recourse or compensation.

Dewatering Methods

26) The primary purpose of dewatering is to give access to the mineral and allow machinery to operate, or to release the gas being held by water pressure in fissures of the coal.

27) The method and the impacts of dewatering differ between open cut and longwall mining, and again in CSG operations.

28) As to depth, while open cut mining is generally not deeper than about 200 metres (though sometimes extending to 400 metres) the longwall method for coal is usually employed on seams between about 200 metres and about 500 metres or more deep. Open cut mining obviously digs through and drains the groundwater aquifers which it intersects.

29) Longwalling selectively extracts the target coal seam (which is usually also an aquifer) leaving a void or 'goaf' which causes the roof and the strata above (along with any aquifers) to subside. Aquifers above the seam will normally be disrupted, dispersed, drained etc., depending on the depth below surface, thickness of the target seam, geology of the strata and the extent of

subsidence. That subsidence extends upwards, and outwards at the angle of draw. Depending on the degree of permeability, water from fractured aquifers might find its way to the floor of the former coal seam as much as 500 metres or more down. Within the subsidence area there must be dispersal and mixing of water from the various aquifers, and as with open cut mining there will be a drawdown of affected aquifers in a radius around the mine.

30) In open cut mining some water is usually pumped from bores placed around the site to partially dewater the aquifers before they discharge to the pit, while the balance accumulates in the pit and is pumped from there. The resulting drawdown of the aquifers extends outwards within a radius determined primarily by the local geology, such as where there is interconnection between aquifers. That radius was estimated in one expert report for the Galilee Basin to extend 30km from the pit – obviously an area big enough to contain a number individual properties and affected water bores.

31) In the final voids left by open cut mining, water eventually reaches equilibrium as determined by ongoing groundwater inflow, rainfall, surface inflow and evaporation, and, usually over a very long period the affected aquifers within the radius of drawdown will eventually also reach equilibrium but never recover their pre-mining supply. The concentration of salts and metals etc. either dissolved or in colloidal suspension in the void will continue to rise gradually through evaporation.

32) CSG dewatering is done to liberate the gas which is trapped in the coal and it generally draws directly from the deeper coal seams that are favoured for CSG production. It is well-established that CSG dewatering affects private bores, either when a bore draws directly from the coal seams being dewatered, or by water migrating from aquifers above or below the dewatering zone as pressures equalize in response to the dewatering. Dewatering also causes limited subsidence.

33) The movement and mixing of water between aquifers triggered by the CSG dewatering is sometimes via natural interconnections such as geological faults, or by artificial connections created by fracking or sometimes by ineffective or damaged seals around the outer casing of gas bores.

34) This mixing of water quality is in addition to the massive mixing effect of the tens of thousands of 'legacy boreholes' left open in the Bowen and Surat Basins especially. Negligent coal or mineral exploration companies have failed to plug them, in blatant breach of environmental conditions (breaches that are and always have been condoned by EHP). For decades now, every day 24 hours a day those of the open drill holes which intersect aquifers have acted as the conduit for aquifers to mix which inevitably means water of good quality is degraded.

35) While I question its reliability as to the impact of CSG dewatering on supply from individual bores, the recently-revised Underground Water Impact Report for the Surat Cumulative Management Area is nevertheless a guide to the scale of dewatering impacts. It currently estimates that 469 bores will eventually suffer drawdown in excess of the 5 metre threshold - and 100 of those are classed as immediately affected. It states that the average water extraction by the CSG industry over its life is currently estimated at 70,000 megalitres a year – that is a take of about one third as much groundwater as the 203,000 megalitres per year currently taken annually via private bores in the same Cumulative Management Area for stock, crops, industry, town and domestic supply.

36) While miners may dispose of water taken in dewatering however they choose, disposal of the CSG industry's groundwater take is controlled under the 2012 CSG Water Management Policy under which provides *inter alia*:

> *Wherever possible, CSG water should be used and managed in a way that is of benefit to the community, and reduces impacts on the environment.*
>
> *The government aims to provide certainty for industry, but in return expects high-quality social and environmental outcomes.*

37) A suggestion for the next phase of reform is that the associated water taken by miners should also come under the CSG Water Management Policy or an adaptation of it – and that the owners of water bores likely to be affected by the take be given first call on disposal of that water.

Suggested Enhancements of the Bill

38) Obviously my submission is that the Bill's Clauses 5 and 8 should be amended to include consideration of impacts on water supply – **please see draft changes, Attachment 'B'.**

39) And, a better foundation for evaluating and deciding upon dewatering approvals would be achieved if the information required by the new section 126A of the EP Act included upfront baseline testing - in my view a proper baseline test for each bore is the single most important piece of information in this process.

40) A baseline test done properly is reasonably complex and time consuming compared to the simpler observations and physical measurements for such parameters as standing water level, but that extra effort is warranted because its information is invaluable, especially when combined with appropriate monitoring, in understanding of the groundwater resources and the actual performance of each bore.

Judicial Approval

41) We have to move with the times and adapt. Today governments of all political colours treat mining approvals as political capital. They are hungry for the jobs and the royalties perceived to flow from mining and in such an environment environmental and land use considerations can be overlooked. Hence it is no longer best practice for approval decisions to rest ultimately and exclusively with the government of the day. Our state should be considering a mine approval system with appeal to a court which makes a final and binding decision (instead of a recommendation), as is part of the mining approvals system in NSW.

Make Good

42) I hope the description above of the effects of dewatering on water supply bores helps the reader's understanding of the following evaluation of make good-related measures in the Bill, and listing of what else needs to be done to upgrade the make good system so it is technically robust and legally enforceable and genuinely able to fulfil its vital role.

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43) In my view and in keeping with my earlier submissions to the government, notwithstanding the helpful changes in the Bill, much more change is needed for the make good scheme to be technically robust and legally enforceable, as it must be if it is to deliver the government's promise that damage to private bores will be made good.

44) As to the following Clauses of the Bill amending various parts of the make good framework:

Clause 26	impaired capacity
Clause 27	cooling off period
Clause 28	termination within cooling off period
Clause 29	ADR and costs of ADR
Clause 34	impaired capacity
Clause 35	hydrogeologist costs

45) I support and welcome the changes listed above.

Genesis of Make Good

46) As members of the Agriculture and Environment Committee may already be aware, a specific make good framework for private water bores was first introduced in the Petroleum and Gas Act in December 2004. It was a rudimentary provision in response to the emerging need as the then fledgling coal seam gas industry began large-scale dewatering to liberate the gas from fissures in the coal. Prior to its introduction in 2004, make good was briefly mentioned in some water licenses issued for dewatering on open cut mines, but with no supporting provisions it was only a token provision.

47) The 2004 make good framework was subsequently transferred to the Water Act as Chapter 3, and has been amended and progressively refined since.

48) For my part, since 2004 I have participated, in cooperation with an expert hydrogeologist and with lawyers in the development of numerous private make good agreements. I have concentrated those efforts on development of terms which adequately provide the groundwater technical requirements as well as legal enforceability.

49) To assist Committee members in understanding the complex nature of a tried and tested make good agreement, please see my firm's current model agreement at **Attachment 'C'**.

50) The model agreement illustrates the essential gathering of data evidence, interpretation and identification of adverse change, comprehensive safeguards and dispute provisions that are indispensable. In general these requirements really apply equally whether it is a government scheme or a private scheme.

Proposed Changes

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51) I am a consistent critic of the existing Chapter 3 make good framework because my first-hand experience tells me that without major change the existing framework is simply ineffective and unenforceable. When make good claims become common as they surely must, landholders who've been assured by the government they are protected if their bores are damaged will be severely disillusioned. One departmental officer at the 2015 Committee hearing declared landholders have 'statutory certainty' that all dewatering damage to private bores will be rectified. That assertion is a grossly misleading overstatement and should never be made, even if the make good scheme is upgraded.

52) The departmental officers advised the earlier Infrastructure and Natural Resources Committee hearing on the Water Legislation Amendment Bill that an operational review of Chapter 3 of the Water Act was planned this year. We on the landholders' side trust that review will occur – and I have made representations seeking to have it conducted as an independent inquiry.

53) I consider an independent inquiry is necessary because of the wide gap between the current, government-run concept of make good, and the commercial arena for which the scheme must, above all, provide the essential evidence and the transparency. Only if that data evidence is available will landholders and resource tenure holders be able to avoid costly court battles and instead resolve disputes cheaply and amicably.

54) The following examples of what I consider are major flaws in the existing framework were put to the Environment Minister, the Hon Steven Miles, in my letter of 25th February last:

Examples of the technically and legally deficient provisions which the department so strongly defends despite well-informed criticism and plain common sense include:

a. Chapter 3 defines impaired capacity as when the bore is no longer able to provide a reasonable quantity or quality of water for its authorised use or purpose – and a further layer of vagueness whereby make good is triggered if the chief executive reasonably believes the bore's capacity is impaired because it no longer yields 'a reasonable quantity' for that purpose or use.

It is not possible to derive a finite, proven measure of baseline capacity or reasonable quantity from the bore's authorised use or purpose – there will always be a wide scope for competing interpretations (of that term). *And even if a finite bore capacity was arrived at* (eg it waters a given number of cattle), *the framework's monitoring* (currently) *only measures water level (and quality) which falls far short of proving that capacity has diminished or by how much.*

A relevant and precise test to measure a bore's actual capacity – ie. sustainable yield - is recognised and available; a shorter, related test of specific capacity is also available. These offer a level of precision and accuracy which minimises the risk of legal challenge as far as possible. Those tests are being used in commercial make good agreements.

With the department's vague definition, arguments about what is the actual purpose and use and what is a reasonable quantity of water for it and could go on indefinitely.

Make good is meant to replace what is lost because of tenure holders exercising their underground water rights – it can only work if the true capacity of the bore is measured as the baseline, and specific trigger values for decline in the main

parameters also set at baseline time. Those same parameters must then be monitored for timely detection of declining supply or quality and the cause of it.

b. Reliance on circumstantial evidence of declining supply, such as declining water level and water quality.

As mentioned, the present Chapter 3 relies on vague indicators when precise measurement (eg sustainable yield test) *is available and is essential.*

Pump testing establishes a bore's baseline sustainable yield and in monitoring, measures any subsequent adverse change – ie. a finite, directly relevant measure which is evidence of the standard required. While more expensive than the very basic water level testing, pump testing is the recognised method of proving a bore's capacity. Anything less is an invitation to dispute and legal challenge.

c. Reliance on a one-size-fits-all expected fall in groundwater levels as the basis for identifying immediately affected or long-term affected bores.

It is technically flawed because the relativity of water level decline to impacts on bore capacity and water quality varies widely between bores according to the characteristics of their particular aquifer(s), their depth, the local geology, their construction, their condition etc. – ie. the standard 5 metre fall could potentially cause the worst-affected bores to go dry, yet have little effect on the capacity of the least-affected bores.

Use of this 'bore trigger threshold' to define the bores which it is anticipated will be affected invites linkage to, and confusion with the definition of impaired capacity, with potential for dispute and legal challenge.

d. Defining impaired capacity as caused by declining water level.

This also invites dispute and argument – the declining water level should be attributed to the exercise, by tenure holders, of their underground water rights. Falling water level is obviously a cause of declining supply, but to represent it as the only cause is wrong.

When I refer to technically robust terms and legally enforceable conditions, I mean we must apply the worst-case test: assume it will end up in court, and require that the system gather and provide to the parties equally the accurate baseline and monitoring data and expert interpretations of the data required to meet the required standard of proof. Assuming – as the present system does - that departmental officers can decide on circumstantial evidence that make good is required, and that they can enforce their decision, is impracticable and unrealistic.

Reform of Chapter 3

55) In cooperation with others, an outline of our proposed Chapter 3 Reform was put to Minister Miles with that letter – please see it at **Attachment 'D'**.

GT Houen

DATE: 7th October 2016

Landholder Services Pty Ltd

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ATTACHMENT 'A'

State Development & Public Works Organisation Act

Definition:

environment includes-
(a) ecosystems and their constituent parts, including people and communities; and
(b) all natural and physical resources; and
(c) the qualities and characteristics of locations, places and areas, however large or small, that contribute to their biological diversity and integrity, intrinsic or attributed scientific value or interest, amenity, harmony and sense of community; and
(d) the social, economic, aesthetic and cultural conditions that affect, or are affected by, things mentioned in paragraphs (a) to (c).

ATTACHMENT 'B'

Insertion of new s 126A
After section 126—
insert—
126A Requirements for site-specific applications—particular resource projects and resource activities

(1) This section applies to a site-specific application, involving the exercise of underground water rights, for—
  (a) a resource project that includes a resource tenure that is a mineral development licence, mining lease or petroleum lease; or
  (b) a resource activity for which the relevant tenure is a mineral development licence, mining lease or petroleum lease.

(2) The application must also state the following—
  (a) any proposed exercise of underground water rights during the period in which resource activities will be carried out under the relevant tenure;
  (b) the areas in which underground water rights are proposed to be exercised;
  (c) for each aquifer affected, or likely to be affected, by the exercise of underground water rights—
    (i) a description of the aquifer; and

    (ii) a list with details of private bores potentially affected by the exercise of underground water rights

and their current usage, together with baseline test results for each bore including sustainable yield; and

(iii) a proposed monitoring plan for each potentially affected private bore; and

(iv) the value proposed of a bond or security to be lodged reflecting the bore owner's estimated cost of make good in the event of the tenure holder's default; and

~~(ii)~~ (v) an analysis of the movement of underground water to and from the aquifer, including how the aquifer interacts with other aquifers and surface water; and

~~(iii)~~ (vi) a description of the area of the aquifer where the water ~~level~~ supply or quality is predicted to decline and the predicted extent of the decline because of the exercise of underground water rights; and

(iv) the predicted quantities of water to be taken or interfered with because of the exercise of underground water rights during the period in which resource activities are carried out;

(d) the environmental values that will, or may, be affected by the exercise of underground water rights and the nature and extent of the impacts on the environmental values;

(e) any impacts on the supply or quality of groundwater that will, or may, happen because of the exercise of underground water rights during or after the period in which resource activities are carried out;

(f) strategies for avoiding, mitigating or managing the predicted impacts on the environmental values stated for paragraph (d) or the impacts on the quality of groundwater mentioned in paragraph (e).

EPOLA Bill October 2016

1250E Criteria for deciding application

In deciding whether to grant or refuse the application, the chief executive must consider the application together with—

(a) if additional information has been given to the chief executive under section 111 as

applied by section 1250D(3)—the additional information; and

(b) all properly made submissions about the application in response to the notice of the application published under section 111 as applied by section 1250D(3); and

(c) existing water entitlements and authorities to take or interfere with water; and

(d) any environmental assessments carried out in relation to the mining tenure, including—

(i) any conditions imposed on the mining tenure or on the environmental authority granted in relation to the mining tenure; and
(ii) any report prepared by the Coordinator-General under the *State Development and Public Works Organisation Act 1971*, section 34D evaluating the EIS prepared in relation to the mining tenure; and

(e) any information about the effects of taking, or interfering with, water on natural ecosystems and on the capacity and sustainable yield of private water bores; and

(f) any information about the effects of taking, or interfering with, water on the physical integrity of watercourses, lakes, springs and aquifers including effects on private water bores; and

(g) strategies for the management of impacts on underground water, including the impacts of dewatering; and

(h) strategies and policies for the relevant coastal zone; and

(i) the public interest.

MODEL GROUNDWATER MAKE GOOD AGREEMENT

LANDHOLDER SERVICES PTY LTD

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MAKE GOOD AGREEMENT

Addressing

Groundwater Impacts –
dewatering under a Resource Authority

Seek Competent Advice if negotiating this Model Agreement with a Resource Authority Holder

Version: September 2015

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Notification Details

1. Landowner.....

    Address.....

    Telephone.....

    Facsimile.....

    Email.....

2. Landowner's

    Agent/Solicitor.....

    Address.....

    Attention.....

    Telephone.....

    Facsimile.....

    Email.....

3. Resource Authority Holder.....

    Address.....

    Attention.....

    Telephone.....

    Facsimile.....

    Email.....

4. Resource Authority Holder's

    Agent/Solicitor.....

    Address.....

    Attention.....

    Telephone.....

    Facsimile.....

    Email.....

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5. Land Description: Lot: Plan:

County: Parish: Title Ref:

Relevant Act:

Resource Authority:

Background

A. The Landowner is the registered owner of the Property, located at ....., and for its operation of the Property it depends upon groundwater obtained from Bores on the Property.

B. The Tenement Holder is the holder of/applicant for the Resource Authority and its Resource Operations, which involve dewatering and taking of groundwater, may affect the volume and quality of water from Bores upon which the Landowner relies.

C. The Resource Authority Holder agrees to the measures set out in this Agreement to monitor for and respond to any impairment in the yield capacity or water quality of the Bores as a consequence of the Resource Operations.

Operative Provisions

1. Interpretation and definitions

This Agreement, and the capitalized terms, will be interpreted in accordance with Schedule 1.

2. Term

2.1 This Agreement takes effect on and from the date of this Agreement.

2.2 Notice of end of Resource Operations

The Resource Authority Holder must, within 20 Business Days of ceasing its Resource Operations, notify the Landowner in writing of the cessation.

2.3 The parties agree and accept that drawdown of aquifers as a consequence of the Operations can extend beyond cessation of mining. Therefore the Resource Authority Holder's obligations under this Agreement end:

(a) for a Bore which, as at Termination Date, has not been determined Unduly Affected and which is assessed by the Hydrogeologist under Clause 2.4 as unlikely to become Unduly Affected in future - at the Termination Date;

(b) for a Bore which, as at Termination Date, has not been determined Unduly Affected but which is assessed by the Hydrogeologist under Clause 2.4 to be likely to become Unduly Affected - at the date set by any relevant agreement between the Landowner and the Resource Authority Holder;

(c) for a Bore which is the subject of an unfinished Trigger Value Investigation as at the Termination Date, and

(i) It is ultimately determined not Unduly Affected and unlikely to be Unduly Affected in future - at the date of that determination;
(ii) It is ultimately determined Unduly Affected – at the date when either Replacement Works are completed in accordance with this Agreement, or Compensation paid in full.

(d) for a Bore which, before Termination Date, has been determined Unduly Affected but the relevant Replacement Works, or payment in full of Compensation, as the case may be, have not been completed - at the date the relevant remedy is completed.

(e) for an Unduly Affected Bore for which, as at Termination Date, the Resource Authority Holder has elected to pay Compensation - the date upon which Compensation is paid in full.

2.4 In relation to the Termination Date as it affects any Bore described in Clause 2.3(a) or 2.3(b) above, within 3 months prior to the Termination Date the Resource Authority Holder will procure that the Hydrogeologist conducts an appropriate groundwater assessment before issuing to the parties a Determination stating whether it is likely the relevant Bore will become Unduly Affected, and if so in what approximate timeframe.

3. Intent of Agreement

3.1 The intent of this Agreement is:

a. To record the parties' agreement on the methods and procedure for Baseline Testing and Monitoring so as to identify whether Resource Operations have caused bores to become Unduly Affected Bores and, if so, to what extent Resource Operations are the cause;

b. To specify the methods and procedures for Baseline Testing, Monitoring, Trigger Value Investigation, and resolving the make good Replacement Works or alternatively the determination and payment of Compensation;

c. To define the time at which the Resources Activity Holder's obligations under this Agreement are at an end.

4. Acknowledgements

4.1 The Landowner acknowledges and agrees:

4.1.1 This Agreement adequately provides for Replacement Works or alternatively Compensation if the Landowner's Bore or Bores is/are Unduly Affected; and

4.1.2 That the Bores (which includes any replacement bores or new bores reasonably required for operation of the Property), are the only bores to which this Agreement applies.

4.1.3 The Resource Authority Holder may at its discretion carry out a survey of all bores and storages (including any new bore or replacement bore) on the Property to collate such information in the Baseline Data, and must provide a copy of any bore survey to the Landowner.

4.1.4 The Landowner must provide to the Resource Authority Holder all information as is within its knowledge regarding the Bores for incorporation into the survey prepared by the Resource Authority Holder in accordance with this Clause 4.

4.2 Resource Authority Holder subject to applicable laws

The Landowner further acknowledges and agrees that the Resource Authority Holder :

4.2.1 Is subject to applicable laws as they exist from time to time;

4.2.2 Can only comply with its obligations under this agreement if it obtains any necessary authorisations;

4.2.3 Will use its reasonable endeavours to obtain those authorisations but, beyond that, obtaining the authorisations may be difficult, time consuming and ultimately not possible despite Resource Authority Holder using its Reasonable Endeavours;

4.2.4 Subject to 4.2.5 below, has no further obligation to the Landowner to provide Replacement Works the extent that Resource Authority Holder is subject to applicable laws or cannot obtain authorisations to comply with its obligations under this agreement; and

4.2.5 Will compensate the Landowner under Clause 10, where the Resource Authority Holder:

a. has elected under Clause 10.4 to implement Replacement Works; and

b. is prevented from implementing the Replacement Works because it is unable to obtain Authorisations to conduct those Replacement Works.

4.3 Withdrawal of Objections

If the Landowner has lodged an objection to either the Resource Authority or the Environmental Authority or amendment thereto, the Landowner will, on execution of this Agreement, deliver to the Mining Registrar, Environment and Heritage Protection or the Land Court, as the legislation requires, fully executed Notices of Withdrawal of Objection.

4.4 Costs

The parties agree that in respect of any objections withdrawn pursuant to Clause 4.3 above, each will bear its own costs and not make any application for costs in the Land Court.

4.5 Disclosure

4.5.1 The Landowner authorises the Resource Authority Holder to provide a copy of this Agreement to the DNRM, Mining Registrar and the Land Court or any other relevant government agency as necessary.

4.5.2 The parties agree that in all assessment and determination processes arising under this Agreement, and in particular those relating to Baseline Testing, Monitoring and Unduly Affected determinations, each party will provide the other with disclosure of relevant documents and information.

4.5.3 For the sake of clarity, disclosure of relevant documents referred to in Clause 4.5.2 excludes any privileged legal advice, documentation or material which would not ordinarily be disclosed.

5. Hydrogeologist

6.1. The parties agree that within the six (6) months preceeding commencement of Resource Operations on the Resource Authority, the Resource Authority Holder will engage an independent, appropriately qualified and experienced Hydrogeologist to be responsible to the Resource Authority Holder for the conduct of Baseline Testing and the various other hydrogeology-related tasks under this Agreement.

(a) The Resource Authority Holder will notify the Landowner of its intention to engage a specific Hydrogeologist 14 days prior to engagement, providing information on the experience of the specific Hydrogeologist.

(b) The Landowner has 5 Business Days to notify the Resource Authority Holder if it wishes to have an alternate Hydrogeologist appointed, providing information on the experience of its nominate alternative Hydrogeologist. The Resource Authority Holder must consider the Landowner's nomination in good faith.

(c) Appointment of the Hydrogeologist, both initially and in any replacement appointment, will nevertheless be at the discretion of the Resource Authority

Holder, acting reasonably including having regard to the experience and suitability of the candidates and any submissions by the Landowner.

(d) The costs of the Hydrogeologist will be paid by the Resource Authority Holder.

6. Monitoring equipment

6.1 The Resource Authority Holder must:

6.1.1 Within three (3) months of the Commencement Date, install water level sensors and time series data loggers with a continuous power supply (may be battery and/ or solar powered) with appropriate protection from weather and livestock (Additional Monitoring Equipment) to continuously measure groundwater levels on each Bore.

6.1.2 From the date of installation of the Additional Monitoring Equipment, ensure that that as part of each monitoring, the Hydrogeologist attends to the Additional Monitoring Equipment to:

a. Download logger data to computer storage; and

b. Check system operation.

6.2 Pump Tests

6.2.1 The Baseline Bore Assessment in respect of Bores will involve pump testing of each Bore.

6.2.1 The Hydrogeologist is responsible for the preparation of the Bores that are to be pump tested pursuant to this Deed including, where required, the temporary removal of, adjustment to, or any necessary modification of the Property Water Infrastructure.

6.2.3 Pump testing will:

a. be in accordance with the Minimum Construction Requirements for Water Bores in Australia (Section 14), and Australian Standard AS2368-1990 Test pumping of water wells, or most recent versions thereof.

b. for Sustainable Yield (where the parties have elected to use it) be performed using a pump which the Hydrogeologist considers to have sufficient capacity to effectively determine Sustainable Yield and Specific Capacity. The Hydrogeologist may, at its discretion, install a temporary pump for this purpose, at the Resource Authority Holder's cost;

c. assist in determining aquifer transmissivity and recovery time; and

d. be at the Resource Authority Holder's risk unless the Hydrogeologist determines, before commencing the test, that the Property Water Infrastructure is in poor condition and order or otherwise unfit for its

purpose, in which case pump testing will only be done if requested by the Landowner and at the Landowner's risk.

6.2.4 If the Landowner declines to have a Bore pump tested it will not be entitled to Restoration Measures on that bore.

6.3 Purpose of Baseline Bore Assessment

The parties agree that the purpose of the Baseline Bore Assessment is to provide the foundation for monitoring which:

(a) enables the parties to interpret monitoring data collected under this Agreement; and

(b) enables the parties to identify an Unduly Affected Bore, or to decide whether it is necessary to undertake a detailed review of monitoring data for the purpose of determining the likelihood of an adverse impact of mining operations on a Bore, such that the provisions of this Agreement apply.

(c) provide a finite, comprehensive baseline upon which to decide the make good obligation should it be required.

7. Baseline Bore Assessment

7.1 Baseline Parameters

Baseline Bore Assessment of each Bore will include determination of:

(i) the legal description of the Landowner's Bore, including Water Licence terms and conditions and registration number, if any, as held by the Department;

(ii) coordinates of the location of the bore and the bore's height above sea level as determined by survey;

(iii) physical description of the bore, including pump specifications, depth, accessibility.

(iv) for bores which supply water for stock or cropping purposes:

(a) for open grazing on natural or improved pasture, the relevant number of grazing stock ordinarily pastured on the land serviced by the relevant bore, and their estimated water volume requirements having regard to seasonal fluctuations and the carrying capacity of that land; and/or

(b) for intensive livestock or irrigation usage, the licensed capacity of the feedlot and estimated water volume requirements of the feedlot, or the irrigation scheme as the case may be;

(v) Standing Water Level;

(vi) Specific Capacity (or the alternative of Sustainable Yield if the parties agree);

(viii) aquifer transmissivity;

(viii) aquifer recovery;

(ix) water quality;

(x) details other Property Water Infrastructure;

(xi) interim Standing Water Level Trigger Value

(xii) interim Specific Capacity Trigger Value and/or, as the case may be, interim Sustainable Yield Trigger Value;

(xiii) interim Water Quality Trigger Values;

(xiv) subject to Clause 7.5 below, % LEL and whether the Bore complies with maximum methane gas concentration not exceeding 20% LEL; and

(xv) suitability for ongoing monitoring and the Interim Monitoring Frequency;

7.2 Baseline water quality parameters will include:

(i) pH;

(ii) electrical conductivity;

(iii) temperature;

(iv) turbidity;

(v) total dissolved solids (by evaporation);

(vi) sodium;

(vii) calcium;

(viii) magnesium;

(ix) potassium;

(x) chloride;

(xi) carbonate/bicarbonate;

(xii) sulphate;

(xiii) total N and total P; and

(xiv) metals and metalloids (annually), being the metals and metalloids described in Environmental Protection (Water) Policy 2009.

Water samples will be collected in accordance with the relevant standards used in the State of Queensland, and tested in a NATA Registered Laboratory.

7.3 The Baseline Bore Assessment will include a photographic record of the bore and associated infrastructure.

7.4 Methane gas concentration as mentioned in Clause 7.(xiv) above will be monitored in all bores and recorded as % LEL (Lower Explosive Limit). The well casing should be sealed with an air tight plastic cap at the time of sampling. Well casing caps can be left in-situ between monitoring rounds provided the cap is drilled with a hole of approximately 6mm internal diameter. The hole in the cap will allow the pressure inside the bore to equilibrate with the air outside when there are changes in water levels. The hole can be sealed by a gland fitting around the sample hose when sampling. The concentration will be measured before pumping begins and when the groundwater drawdown is at a maximum during testing.

7.5 Within 20 Business Days of completion of the field work component of the survey a draft report shall be prepared by the Hydrogeologist reporting the Baseline Bore Assessment of each bore surveyed on the Property, for review by the Resource Authority Holder and Landowner.

7.6 Within 20 Business Days of receiving the draft baseline report, the Resource Authority Holder and Landowner may each provide comments to the Hydrogeologist and a statement either accepting or not accepting all or parts of the draft report. Where the draft report or part thereof is not accepted, the party shall state the reasons for their non-acceptance. A party which has not provided a response to the Hydrogeologist with the specified time shall be deemed to have accepted the report.

7.7 After considering the comments and reasons (if any) of the Resource Authority Holder and the Landowner, the Hydrogeologist will within 20 Business Days of receiving the views of both parties prepare and give to each party a final Baseline Survey report.

8. Trigger Values and Monitoring

8.1 The Hydrogeologist will revise Interim Trigger Values previously determined under Clause 7.1 above after a minimum of 2 years of on-going monitoring has been undertaken, for the purpose of determining final Trigger Values. If sufficient data has not been collected after 2 years to be statistically significant, additional data will be collected until sufficient data is available for Final Trigger Values to be determined.

8.2 The Hydrogeologist will revise the Interim Monitoring Frequency after two years from Commencement Date, and again when considered appropriate by the Hydrogeologist, with notice to the parties notice of its Determination in each case.

8.3 As part of each monitoring, at each Bore the Hydrogeologist will:

a. Download logger data to computer storage including date and time of measurement; instantaneous Standing Water Level; and accumulative yield since the last record;

b. Attend to, or make suitable arrangements for maintenance of the data loggers;

c. Check system operation;

d. Undertake a Specific Capacity of Groundwater Facility test by pump testing;

e. Measure Standing Water Level;

f. Take field measurement of water pH, conductivity and temperature.

e. Take Water Quality samples for NATA Registered Laboratory testing of the parameters mentioned in Clause 7.2 above.

8.4 The Hydrogeologist will, within 20 Business Days of commencing each monitoring of Bores (or 30 Business Days where there is also a Trigger Value Investigation Report), produce a single report (including copies of laboratory test certificates) covering the monitoring results, and provide that report to the Resource Authority Holder and the Landowner.

8.5 The contents of the report will include:

a. Statement of data scope;

b. Graphical presentations of all time series data;

c. Summaries of all time series data, and comparison with previous series;

d. Specific capacity of a Groundwater Facility analysis outcomes, and comparison with previous series;

e. Summaries of Water Quality field tests and laboratory test results; and

f. Comparison between monitoring data and Trigger Values; and

8.6 The monitoring report must not include any interpretation of monitoring data.

9. Trigger Value Investigations

This Clause 9 applies to all Bores, including Bores which have previously been determined Unduly Affected and have been subject to Replacement Works under this Agreement.

9.1 If monitoring under Clause 8 shows that a Final Trigger Value (or interim Trigger Value as the case may be) has been reached or exceeded, the Hydrogeologist will prepare and give to both parties a statement for inclusion in the monitoring report that provides:

a. an interpretation of the data collected under Clause 8 to identify the circumstances contributing to the Trigger Value being reached or exceeded;

b. an assessment of the extent to which Resource Operations have contributed to the occurrence of the Trigger Value being reached or exceeded;

c. an assessment of the extent to which activities by others such as the Landowner or other entity, in particular by:

(i) a breach by the Landowner of clause 8;

(ii) an act, neglect, default or omission of the Landowner:

(iii) a Force Majeure Event;

(iv) natural diminution of Standing Water Level due to drought or other natural occurrence; or

(v) an act, neglect, default or omission of a third party, including other Resource Authority holders;

may have contributed to the occurrence of the Final Trigger Value being reached or exceeded.

9.2 The Hydrogeologist will determine and state in the report whether, having regard to his or her findings on the causes of the declining performance listed in clauses (b) and (c) above, the relevant Landowner's Bore is deemed Unduly Affected, and the extent to which it is Unduly Affected (Unduly Affected Determination).

9.3 Landowner's Call

9.3.1 The Landowner, if at any time it believes (acting reasonably) that a Trigger Value Investigation is necessary because of declining water volume or water quality from a Bore that is not already being addressed pursuant to this Agreement, may give the Resource Authority Holder notice of its request for an investigation (Investigation Notice).

9.3.2 An Investigation Notice must be accompanied by:

a. reasonable evidence in support from the Landowner's own records (kept in accordance with this Agreement or otherwise), the monitoring results and any review or report prepared in relation to the Monitoring and Reporting Program (including expert advice obtained by the Landowner); and

b. an estimate of extent to which the Bore or Storage is Unduly Affected.

9.3.3 Upon receipt from the Landowner of an Investigation Notice, the Resource Authority Holder must - unless acting reasonably it considers the notice clearly unwarranted - procure as soon as reasonably possible that the Hydrogeologist undertakes a Trigger Value Investigation pursuant to Clause 9.2 to ascertain if the relevant Bore is Unduly Affected.

9.3.4 The Hydrogeologist will issue to the parties an Unduly Affected Determination reporting the outcome of the investigation.

9.4 Acceptance by the Parties

9.4.1 When the Hydrogeologist has given notice of its Determination (Unduly Affected Determination) under Clause 9.2 or Clause 9.3.3, the Resource Authority Holder and the Landowner each must, within 20 Business Days of receiving the notice, advise the Hydrogeologist in writing if it does not accept the Unduly Affected Determination, and its reasons for that non-acceptance.

9.4.2 If, within 20 Business Days of receiving the Unduly Affected Determination, a party has not given the Hydrogeologist notice of its non-acceptance, that party is deemed to accept the Determination.

9.4.3 In the event that either or both parties give notice of non-acceptance under clause 7.10, the Hydrogeologist will consider the reasons for non-acceptance and, within a further 10 Business Days after the end of the non-acceptance notice period, give each party notice either confirming or varying its Determination. Subject to Clause 17 (Dispute Resolution) the Unduly Affected Determination is final and binding on both parties.

10. Determining need for replacement works or compensation

10.1 In response to an Unduly Affected Determination, the Resource Authority Holder and the Landowner must, within 20 Business Days of receiving that Determination, meet to discuss and seek agreement on the implementation of make good provisions.

10.2 If the Resource Authority Holder agrees with the Landowner on Replacement Works (or a combination of Replacement Works and Compensation), then the Resource Authority Holder shall proceed to carry out and complete the agreed Replacement Works and/or pay the Compensation in accordance with the said agreement.

10.3 If within 40 Business Days of receiving the Unduly Affected Determination the parties have not reached agreement as to implementation of the make good measures, Clause 17 (Dispute Resolution) applies.

10.4 The Resource Authority Holder may, upon its receival of the Unduly Affected Determination and at any time up to the end of the 40 Business Day period mentioned in Clause 10.3 above, elect to discharge the whole of its make good obligation under this Agreement by the payment of Compensation. It must give the Landowner notice accordingly (Election Notice) not later than the end of the 40 Business Day period.

10.5 If the Resource Authority Holder has given the Election Notice as provided in Clause 10.4 above, and within 20 Business Days of the Election Notice the parties have not reached agreement on the amount and terms of Compensation, Clause 17 (Dispute Resolution) applies.

10.6 **Basis for Calculating Compensation**

If not otherwise agreed, the Compensation and its terms must be determined in the Dispute Resolution process under Clause 17 as:

(a) the amount which is the difference between:

(i) market value of the Property as at the date of the valuation, assuming that no Bore is affected or perceived to be affected, nor perceived to be at risk, from Resource Operations; and

(ii) market value of the Property given:

- it has a Bore or Bores Unduly Affected; and
- Replacement Measures (if any) already installed or which the Resource Authority Holder is obliged by agreement or statute to install); and
- the dependability, adequacy and comparative running cost of those Replacement Measures (if any) compared to the Bore or Bores which they replace.

(b) any costs reasonably incurred by the Landowner prior to the determination (and not otherwise compensated under this Agreement) in respect of the relevant Trigger Event Investigation including the costs of relevant expert advice and of representation; and costs or losses of any reasonably necessary short-term or emergency water supply; any necessary removal of stock to agistment (including consequent loss of weight or reduced weight gain); or the loss of, or higher costs incurred in, crop production; and

(c) costs reasonably incurred by the Landowner (and not otherwise compensated under this Agreement)in the determination of compensation, including costs of expert advice and of representation; and

(d) extra costs which will be incurred in operating the Property, or losses of income which will be experienced from the Property because of the Unduly Affected Bore or Bores;

(e) where it is necessary for the Landowner to purchase additional or replacement land, the estimated time and costs of the Landowner in searching for such land, negotiating and processing purchase, stamp duty and legal costs, relocation of stock, equipment and chattels and re-establishment of services;

(f) an additional amount as is warranted by the circumstances of the case (and not otherwise compensated under this Agreement) equivalent to a minimum of 10% - or such higher percentage as is determined - of the aggregate amount under items (a) to (e) above.

In this Clause **circumstances of the case** means the degree of overall interference, inconvenience, disruption and destabilisation to the Landowner's business and personal affairs, including stress suffered by the Landowner and his or her family members, arising because in exercising its statutory authority the Resource Authority Holder rendered the Landowner's Bore or Bores Unduly Affected.

11. Short Term Water Supply

11.1 At any time if the Landowner believes (acting reasonably) that a Bore or Bores cannot supply water for the Purpose, or where monitoring of a Bore shows a Trigger Value has been reached or exceeded, the Landowner may give the Resource Authority Holder notice that its Bore or Bores cannot produce sufficient water for its/their Purpose, and that pending the outcome of the Trigger Event Investigation or Unduly Affected Determination it requires short-term emergency water supply.

11.2 The parties must meet as soon as possible and use their reasonable endeavours to agree on arrangements for the Resource Authority Holder, at its cost, to supply the Landowner with an alternative or supplementary water supply sufficient to make up the deficit.

11.3 If the Landowner's water shortfall is not made up by the Resource Authority Holder and provided it is subsequently confirmed under this Agreement that the Bore or Bores is/are Unduly Affected, the Landowner will be entitled to claim its cost of obtaining and delivering the water necessary to make up the deficit, plus any demonstrable loss of income arising from the water shortage and any costs or loses of obtaining and moving stock to agistment land and supervising stock while there.

12. Responsibilities of the Landowner - property water infrastructure

12.1 The landowner must:

12.1.1 Operate and maintain the Property Water Infrastructure in accordance with good agricultural practice;

12.1.2 Keep, maintain and make available to the Resource Authority Holder on request the records relating to the Property Water Infrastructure and water use on the Property;

12.1.3 Allow the Resource Authority Holder and all persons nominated by it reasonable access to the Property and the Property Water Infrastructure to enable the Resource Authority Holder to perform its obligations and exercise its rights under this Agreement;

12.1.4 Subject to the requirements of any relevant authorisations, allow, at the Resource Authority Holder's option and cost, the installation, reading and maintenance of meters to record hours of operation of pumps and volumes of water taken from the Property Water Infrastructure; and

12.1.5 Promptly give notice to the Resource Authority Holder of any material changes observed by the Landowner in relation to the Standing Water Level, Water Quality and Rate of Recovery of the Bore.

12.1.6 Give the Resource Authority Holder written notice promptly upon completion of any new or replacement bore if it is eligible to be treated under this Agreement as a Bore.

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13. Access to the Property

13.1 Where the Resource Authority Holder has access to the Property, the Resource Authority Holder:

(a) Does so at its own risk;

(b) Shall give twenty four (24) hours prior notice by telephone before entry, except if there is an emergency in which case the Resource Authority Holder shall make every reasonable endeavour to notify the Landowner by phone or other means;

(c) Shall minimise, so far as is reasonably practicable without in any way limiting the Resource Authority Holder's rights to mine under the mining tenement, disturbance to the Landowner's operations;

(d) Shall repair and reinstate, so far as is practicable and necessary, the property to its condition prior to the Resource Authority Holder exercising its rights of access under Clause 8.1.3;

(e) Shall take all reasonable precautions to ensure that declared pest plants and seeds are not brought onto the Property in the exercise of its rights under Clause 8.1.3, including by complying with Clause 10.2; and

(f) Shall at all times ensure that stock do not have access to any chemicals, supplies or equipment brought onto the Property by it, consistent with the Landowner's food safety obligations under the Livestock Production Assurance scheme.

(g) Will indemnify the Landowner and keep the Landowner indemnified from any claims, demands, actions, suits, costs and expense (other than those for which compensation has been paid under this Agreement) made against or properly incurred by the Landowner in respect of any injury (including death) to any person, or any loss or damage to property (including crops, livestock and improvements) arising out of or caused by anything done or omitted to be done by the Resource Authority Holder or its employees or contractors under the Mining Tenement or this Agreement except to the extent that such acts and omissions result from the Landowner's or the Landowner's agents', employees' or contractors' negligence or default.

13.2 Declared Weeds and Plants

13.2.1 For the purposes of this Clause 10.2 and Clause 10.5, Declared Weed means:

Plants declared as class 1, 2 or 3 pests under the Land Protection (Pest and Stock Route Management) Act 2002 (QLD); or

Plants declared to be pests under sections 5 or 6 of the ..... Shire Council (Control of Pests) Local Law .....

13.2.2 The Resource Authority Holder must procure that all consultants or others entering the Property under it:

(a) Prior to entering the Property, and if the Landowner has reported the existence of a Declared Weed under Clause 10.5 also on leaving the Property, have had their vehicles and self-propelled machines cleaned by the ..... Shire Council in accordance with its policies, procedures and requirements to prevent the spread of Declared Weeds, or by an independent weed hygiene service provider.

13.3 Reporting of Declared Weeds

13.3.1 The Landowner must notify the Resource Authority Holder as soon as reasonably practicable after becoming aware of the existence of a Declared Weed on the access route to the Bore.

13.3.2 The Resource Authority Holder must take all steps reasonably necessary in a timely manner to eradicate the Declared Weed.

14. No further compensation claims

The Landowner agrees that the obligations of the Resource Authority Holder in this Agreement, if fulfilled, are accepted by the Landowner in full and final satisfaction of any Claim which the Landowner may have against the Resource Authority Holder at any time (whether pursuant to any statute or at common law or in equity or otherwise) by virtue of any operations carried on pursuant to, or associated with, the Resource Authority Holder's authorised activities on the Property, including the taking, using, supplying or interfering with water, unless specifically excepted by this Agreement.

15. Dealing with property

15.1 Landowner Not to Deal Adversely with Property

The Landowner warrants that it will not, during the term of this Agreement, enter into any agreement or arrangement which would or might adversely affect the Landowner's ability to comply with the obligations imposed on the Landowner under this Agreement.

15.2 Sale or Disposal of the Property

The Landowner must not transfer, lease or otherwise deal with the Property or any interest in the Property unless the Landowner ensures that, before completion of that transfer, lease or other dealing, the transferee, lessee or other party with whom the Landowner is dealing enters into a covenant with the Resource Authority Holder in a form reasonably acceptable to the Resource Authority Holder by which the transferee, lessee or other party agrees with the Resource Authority Holder to be bound by the terms of this Agreement.

15.3 Dealing with Resource Authority

The Resource Authority Holder must ensure that no person during the Term of this Agreement shall transfer, sublease or otherwise deal with the Resource Authority or any interest in the Resource Authority unless, before completion of that transfer,

sublease or other dealing, the transferee, sublessee or other party enters into a covenant with the Landowner in a form reasonably acceptable to the Landowner by which the transferee, lessee or other party agrees with the Landowner to be bound by the terms of this Agreement.

16. Force Majeure

16.1 Event of Force Majeure

A party will not be liable for any delay in or failure of performance arising from Force Majeure if, acting reasonably:

(a) It has taken all proper precautions, due care and reasonable alternatives with the intention of avoiding that delay or failure of carrying out its obligations under this Agreement; and

(b) As soon as possible after the beginning of the Force Majeure affecting the ability of a party to perform any of its obligations under this Agreement, it gives a notice to the other party under Clause 14.2.

16.2 Force Majeure Notice

A notice given under Clause 14.1 must:

(a) Specify the obligations a party cannot perform; and

(b) Describe the event of Force Majeure.

16.3 Remedy of Force Majeure

The party that is prevented from carrying out its obligations under this Agreement as a result of Force Majeure must remedy the Force Majeure to the extent reasonably practicable and resume performance of its obligations as soon as reasonably possible.

16.4 Mitigation

The party that is prevented from carrying out its obligations under this Agreement as a result of Force Majeure must take all action reasonably practicable to mitigate any loss suffered by the other party as a result of its failure to carry out its obligations under this Agreement.

17. Dispute resolution

17.1 Kinds of dispute

(a) **technical matter** means a matter which is capable of determination by reference to engineering or scientific knowledge and practice;

(b) **legal matter** means a matter involving the meaning, interpretation of the provisions of this Agreement or in connection with this Agreement which is capable of determination by reference to the law;

(c) **valuation matter** means a matter which is within the expertise of a Registered Valuer .

17.2 Notice of dispute

Unless expressly provided to the contrary in this Agreement, a party may give to another party a Notice (**Notice of Dispute**) setting out the particulars of the dispute and requiring that it be dealt with in the manner set out in this clause 15.

17.3 Technical matter

If the dispute is in relation to a technical matter (**Technical Dispute**):

(a) within 10 Business Days of the receipt of a Notice of Dispute, a senior officer of the Resource Authority Holder must meet with the Landowner to seek to resolve the Technical Dispute; and

(b) failing resolution of the Technical Dispute under Clause 17.5 (d) within 20 Business Days of receipt of the Notice of Dispute, the Technical Dispute may be referred to determination by an Independent Expert in accordance with clause 17.5.

17.4 Legal matter

If the dispute is in relation to a legal matter (**Legal Dispute**):

(a) within 10 Business Days of the receipt of a Notice of Dispute, a senior officer of the Resource Authority Holder must meet with the Landowner to seek to resolve the Legal Dispute; and

(b) failing resolution of the Legal Dispute under clause 15.(b)(a), within 20 Business Days of receipt of the Notice of Dispute, either party may refer the Legal Dispute to a court of competent jurisdiction for determination.

17.5 Appointment of Independent Expert

(c) If a Technical Dispute is referred to an independent expert in accordance with clause 17.3(b), an independent expert must be appointed by the parties.

(d) If the parties are unable to agree upon the appointment of an independent expert within 10 Business Days:

(i) for a matter concerning groundwater hydrogeology, any party may refer the matter to the President for the time being of the Institute of Engineers (Queensland) or, if no longer in existence, other professional body that includes a similar group of professions, to nominate a suitably qualified and experienced person to act as the independent expert to determine the Technical Dispute;

(ii) for a matter concerning Compensation, any party may refer the matter to the President for the time being of the Australian Property Institute (Queensland) or, if no longer in existence, other professional body that includes a similar group of professions, to nominate a suitably qualified and experienced person to act as the independent expert to determine the Technical Dispute.

17.6 Qualifications

Unless otherwise agreed by the parties, an independent expert appointed under clause 17.5 must:

(a) have reasonable qualifications and practical experience in the area of the Technical Dispute;

(b) have no interest or duty which conflicts or may conflict with his or her function as an expert, he or she being required to disclose fully any relevant interest or duty before his or her appointment;

(c) not be a current employee or officer of Resource Authority Holder or of the Landowner or be related to the Landowner.

17.7 Expert not an arbitrator

The independent expert appointed under clause 10.5 will act as an expert and not as an arbitrator.

17.8 Evidence and representation

(d) Within 20 Business Days after the independent expert is appointed, each party must produce to the other party and the independent expert a written submission that sets out its opinion about the Technical Dispute and any materials or evidence which that party believes is relevant to the matter in question.

(e) Each party will make available to the independent expert and the other party all materials requested by the independent expert and all other materials which are relevant to the independent expert's determination.

(f) Within 10 Business Days of the receipt of the last of the written submissions referred to in clause 15.7(d), each party may make a further written submission or modify its previously provided written submission. A copy of any new submission must be provided to the other party.

(g) Unless otherwise agreed by the parties, the independent expert will be required to keep confidential all material and evidence made available for the purposes of the determination.

17.9 Determination

(h) Within 50 Business Days after the independent expert is appointed, the independent expert must make a determination on the Technical Dispute.

(i) The independent expert may, with the prior written consent of both parties (such consent not to be unreasonably withheld), engage such consultants or advisors as are reasonably necessary to assist the independent expert in making its determination within the time period set out in clause 15.8(h).

(j) In the absence of fraud or manifest error, the determination of the independent expert will be final and binding upon the parties.

(k) Unless otherwise agreed to by the parties, the independent expert will be required to keep confidential the determination made in relation to any matter.

17.10 Costs of Dispute Resolution

Except in case of a referral to this process by the Landowner which the independent expert determines is frivolous or vexatious or entirely without merit, the costs of the independent expert and of the Landholder's legal and technical costs reasonably incurred in the dispute resolution process will be borne by the Resource Authority Holder.

18. Costs

The Resource Authority Holder will reimburse the Landowner's costs of consultant, solicitor and hydrogeologist as shown by invoices, reasonably incurred in negotiating and settling this Agreement, to a maximum of $10,000.

18. Entire understanding

18.1 This Agreement:

(a) Contains the entire agreement and understanding between the Parties on everything connected with the subject matter of this Agreement; and

(b) Supersedes any prior agreement or understanding on anything connected with that subject matter.

18.2 Each Party has entered into this Agreement without relying on any representation by the other Party or any person purporting to represent that other Party.

19. Variation

An amendment or variation to this Agreement is not effective unless it is in writing and signed by the Parties.

20. Waiver

20.1 All powers and rights under this Agreement are cumulative.

20.2 A Party's failure or delay to exercise a power or right does not operate as a waiver of that power or right.

20.3 The exercise of a power or right does not preclude either its exercise in the future or the exercise of any other power or right.

20.4 A waiver is not effective unless it is in writing.

20.5 Waiver of a power or right is effective only in respect of the specific instance to which it relates and for the specific purpose for which it is given.

21. Payment of costs, stamp duty

The Resource Authority Holder must pay:

21.1 Any stamp duty imposed on this Agreement or the transactions contemplated by this Agreement.

21.2 Costs of the landowner in negotiation of this Agreement.

22. Unavoidable delay

Neither Party shall be liable in any circumstances whatsoever for a failure or delay in performance of an obligation under this Agreement where such failure or delay is due to force majeure or any other event beyond the reasonable control of that Party.

23. Denial of agency, partnership etc

The Parties agree that nothing in this Agreement does or is intended to establish any relationship of partnership, agency or employment between them.

24. Merger

Despite the performance of the Parties' respective obligations under this Agreement, any general or special provision (or any part of parts thereof) which is capable of taking effect after the completion of that performance shall not merge but rather shall remain in full force and effect.

25. Independent advice

In executing this Agreement the Parties acknowledge that they have been offered the opportunity of obtaining independent legal and accounting advice concerning the nature and effect of this Agreement and have availed themselves of that opportunity to the extent to which they choose to do so.

26. Further assurances

Each Party must promptly do all things (including executing and if necessary delivering all documents) necessary or desirable to give full effect to this Agreement.

27. Confidentiality

27.1 This Agreement and its subject matter represents confidential information.

27.2 Each of the Parties shall at all times keep confidential and shall procure their respective servants, agents, directors and consultants to keep confidential:

(a) The provisions of this Agreement;

(b) The subject matter of this Agreement;

(c) Any information of a confidential or sensitive nature arising from the provisions of this Agreement;

(d) The circumstances which gave rise to the execution of this Agreement.

27.3 The Parties may disclose information of the kind described in Clause 27.2 where:

(a) Reasonably necessary to any legal or financial advisors retained to act on their behalf; or

(b) Required by law.

27.4 Each of the Parties must ensure that any persons related to them, engaged by them or appointed or employed by them shall not disclose to any person any information of the kind described in Clause 27.2.

27.5 Each of the Parties acknowledges that a breach of this Clause 27 shall, without prejudice to any other rights or remedies of the aggrieved Party, entitle the aggrieved Party to immediate injunctive relief.

27.6 Upon a breach of this Clause, nothing in this Clause 27 shall prevent the aggrieved Party from recovering from the Party in breach damages arising from or connected with that breach, together with all costs, charges and expenses which may be incurred by the aggrieved Party.

28. No precedent

The Parties expressly acknowledges that the provisions of this Agreement operate between the parties to this Agreement only and that those provisions relate solely to the matters referred to in the Recitals and will not be viewed as a precedent.

29. Warranty

29.1 The Parties warrant that:

(a) They have taken independent legal advice or been given the opportunity to take legal advice as to the nature, effect and extents of this Agreement;

(b) They have not made any promise, representation or inducement or been party to any conduct material to the entry into this Agreement other than as set out in this Agreement; and

(c) They are aware that each Party is relying upon this warranty in executing this Agreement.

30. Binding effect of this agreement

This Agreement binds the parties hereto and any executor, administrator, transferee, assignee liquidator or trustee in bankruptcy appointed in respect thereof.

31. Counterpart and facsimile

31.1 This Agreement may be executed in any number of counterparts and all such counterparts taken together will be deemed to constitute this Agreement.

31.2 Notwithstanding any other provision of this Agreement the Parties acknowledge and agree that a copy of this Agreement, bearing a signature and forwarded by facsimile transmission, or electronic mail transmission will be effectual as a counterpart upon receipt of the facsimile transmission or electronic mail transmission by the Party to whom it is sent.

32. Contra proferentem

The contra proferentem rule and other rules of construction will not apply to disadvantage a Party whether that Party put the Clause forward, was responsible for drafting all or part of it or would otherwise benefit from it.

33. Notices

33.1 A notice or other communication connected with this Agreement has no legal effect unless it is in writing.

33.2 In addition to any other method of service provided by law, the Notice may be:

(a) Sent by prepaid post to the address of the addressee set out in this Agreement or subsequent notified;

(b) Sent by facsimile to the facsimile number of the addressee; or

(c) Delivered at the address of the addressee set out in this Agreement or subsequently notified.

33.3 If the Notice is sent or delivered in a manner provided by Clause 22.2, it must be treated as given to and received by the Party to which it is addressed:

(a) If sent by post, on the 2nd Business Day (at the address to which it is posted) after posting;

(b) If sent by facsimile before 5.00 pm on a Business Day at the place of receipt, on the day it is sent and otherwise on the next Business Day at the place of receipt; or

(c) If otherwise delivered before 5.00 pm on a Business Day at the place of delivery, upon delivery, and otherwise on the next Business Day at the place of delivery.

33.4 Despite Clause 33.2:

(a) A facsimile is not treated as given or received unless at the end of the transmission the sender's facsimile machine issues a report confirming the transmission of the number of pages in the Notice;

(b) A facsimile is not treated as given or received if it is not received in full and in legible form and the addressee notifies the sender of that fact within three (3) hours after the transmission ends or by 12 noon on the Business Day on which it would otherwise be treated as given and received, whichever is later.

33.5 A Notice sent or delivered in a manner provided by Clause 22.2 must be treated as validly given to and received by the Party to which it is addressed even if:

(a) The addressee has been liquidated or deregistered or is absent from the place at which the Notice is delivered or to which it is sent; or

(b) The Notice is returned unclaimed.

33.6 Any Notice by a Party may be given and may be signed by its Lawyer.

33.7 Any Notice to a Party may be given to its Lawyer by any means listed in Clause 22.2 to the Lawyer's business address or facsimile number.

33.8 The address for service and facsimile number for the Resource Authority Holder are detailed in Item 2 of the Reference Schedule.

33.9 The address for service and facsimile number for Landowner are detailed in Item 4 of the Reference Schedule.

33.10 A Party may change its address for service or facsimile number by giving Notice of that change to each other Party.

33.11 If the Party to which a Notice is intended to be given consists of more than one (1) person then the Notice must be treated as given to that Party if given to any of those persons.

Schedule 1: DICTIONARY AND INTERPRETATION

Dictionary

In this Agreement the following words shall, unless the context otherwise requires, have the meanings detailed opposite:

Additional Monitoring Equipment means the equipment described in Clause 6.1.1.

Agreement means this 'Make Good Agreement' executed by the parties, including any schedule or annexure to it.

Authorisation includes:

a. Any consent, authorisation, entitlement, registration, filing, lodgement, agreement, notarisation, certificate, permission, licence, approval, authority or exemption from, by or with a Government Agency; or

b. In relation to anything which will be fully or partly prohibited or restricted by law if a Government Agency intervenes or acts in any way within a specified period after lodgement, filing, registration or notification, the expiry of that period without intervention or action.

Baseline Bore Assessment means the baseline data gathered and reported as described in Clause 7.

Baseline Testing means testing of groundwater aquifers and bores on the Landowners property as detailed in Clause 7.2.

Bore means the water production bore or bores detailed on the plan attached to this Agreement and any bore which replaces an Unduly Affected Bore under this Agreement, and any bore constructed on the Property which the Landowner reasonably requires for the operation of the Property.

Business Day means a day that is not a Saturday, Sunday, public holiday or bank holiday in Brisbane, Queensland.

Claim *means, in relation to a party, a demand, claim, action or proceeding made or* brought by or against the party, however arising and whether present, unascertained, immediate, future or contingent.

Commencement Date has the meaning given in Clause 2.1.

Compensation means:

a. When settled by agreement between the parties, whatever monetary and/or non-monetary compensation and terms the parties agree upon;

b. When determined under Clause 17.9, the amount and the terms of payment of monetary compensation and/or (provided the Landowner agrees to non-monetary compensation as a supplement to or substitute for money) any non-monetary compensation determined by the independent expert.

Compensation Payment means the amount agreed, or otherwise determined under Clause 13 of this Agreement, to be paid by the Resource Authority Holder to the Landowner in the event the Landowner's Bore(s) is/are Unduly Affected.

Dispute Resolution means the process described in Clause 17.

Date of Agreement means the date of this Agreement detailed in Item 1 of the Reference Schedule.

DNRM means the Queensland Department of Natural Resources and Mines.

Environmental Authority means the authority under the EP Act relevant to the Resource Authority.

Force Majeure means an event or cause beyond the reasonable control of the party claiming force majeure and includes each of the following, to the extent it is beyond the reasonable control of that party:

a. Act of God, lightning, storm, flood, drought, fire, earthquake, explosion or adverse weather conditions;

b. Strike, lockout or other labour difficulty;

c. Act of public enemy, war (declared or undeclared), terrorism, sabotage, blockade, revolution, riot, insurrection, civil commotion, epidemic;

d. The effect of any applicable laws, orders, rules, or regulations of any government or other competent authority, or the inability to obtain any Authorisation required to give effect to this Agreement and the transactions contemplated under it;

e. Embargo, inability to obtain, or delays in obtaining, any necessary materials, equipment (including drilling equipment), facilities or qualified employees, contractors, power shortage, lack of transportation; and

f. Breakage or accident or other damage to machinery.

Hydrogeologist means an independent and appropriately experienced groundwater expert engaged and responsible to the Resource Authority Holder for the conduct of hydrogeology-related testing and assessment under this Agreement.

Interim Monitoring Frequency means the frequency determined under Clause 7.1(xv).

Landowner means the party described in Item 4 of the Reference Schedule.

Landowner's Lawyer means the party described in Item 5 of the Reference Schedule.

Law means any statute, regulation, order, rule, subordinate legislation or other document enforceable under statute, regulation, rule or subordinate legislation.

LEL means lower explosive limit.

Liabilities means debts, obligations, liabilities, losses, expenses, costs and damages of any kind and however arising, including penalties, fines, and interest and including those which are prospective or contingent and those the amount of which for the time being is not ascertained or ascertainable.

Livestock Production Assurance means the Landowner's accreditation as a beef producer under the compulsory food standards and traceback scheme administered by Meat and Livestock Australia.

Monitoring means the program described in Clause 8 in respect of the Bores.

NATA Registered Laboratory means a laboratory for testing Parameters accredited by the National Association of Testing Authorities.

Parameter means a factor or quality relating to a thing or substance (such as water). For example, pH is a parameter of water when assessing Water Quality.

Party means the Resource Authority Holder and the Landowner jointly or severally as the context requires.

Property means the land described in the Reference Schedule.

Property Water Infrastructure means all infrastructure on the Property used for the purposes of taking, storing, reticulating and supplying groundwater, and any Replacement Works, and any new bores reasonably required for operation of the Property.

Purpose (of a Bore) means the role performed by the Bore in watering livestock or irrigating crops, as established by details recorded in the Baseline Bore Assessment - Clause 7.1(iv) – together with any subsequent increase in number of stock watered or scale of irrigation, and any upward revision of the Bore's licensed volume.

Rate of Recovery means the time taken for the water level to return to Standing Water Level after pumping has drawn it down by a specific distance.

Reasonable Endeavours means a party must do what it can reasonably do in the circumstances to achieve the desired outcome, using a fair, proper and due degree of care and ability as might be expected of an ordinary prudent person with the same knowledge and experience, and engaged in a similar business, as the party.

Replacement Works means those works and other measures and any Authorisations required to approve or permit those works or other measures (which may include the drilling or deepening of bores, the equipping of bores, the laying of pipelines and connecting any additional works and measures into the Property Water Infrastructure) agreed under Clause 10 or determined under Clause 17.

Resource Authority Holder means the holder of a tenure under one of the 'resource Acts', eg. mineral development licence, mining lease, environmental authority, petroleum authority to prospect, petroleum lease, etc.

Resource Operations means activities authorised and carried out under the Resource Authority.

Short Term Water Supply has the meaning given in Clause 11.

Specific Capacity means a measure for comparing bore performance over time using the volume of groundwater pumped per unit of drawdown in groundwater level, calculated by running the pump for a specific time.

Standing Water Level means the groundwater level in a bore measured in metres to an accuracy of +/- 0.01metres by reference to the top of the bore casing.

State means the State of Queensland.

Sustainable Yield means the safe long term pumping rate for a bore, calculated from a combination of drawdown and recovery of groundwater levels, and from pumping rate data collected during a pumping rate test of a minimum six hours pumping with one hour of recovery.

Term has the meaning give it in Clause 2.

Termination Date means the date on which the Resource Authority expires or is surrendered or cancelled.

Trigger Values:

Water Quality Trigger Value means the value assigned to identify a material decline in Water Quality as detailed in the report referred to in Clause 7.4.

Specific Capacity Trigger Value means the value assigned to identify a material decline in groundwater pumped per unit of drawdown as detailed in the report referred to in Clause 7.4.

Standing Water Level Trigger Value means the value assigned to identify a material decline in Standing Water Level as detailed in the report referred to in Clause 7.4.

Trigger Value Investigation means an investigation of reasons for a Trigger Value being reached or exceeded.

Unduly Affected means a Bore has been agreed between the parties to be, or pursuant to this Agreement to be determined by the Hydrogeologist to be, or determined by an independent expert to be so affected.

Water Entitlement means the entitlement to take water as authorised under the Water Act 2000 (Qld) held by the Landowner as at the date of this Agreement.

Water Quality means the water quality of the Bore as detailed in the report referred to in Clause 7.1.

Interpretation

1. In this Agreement, headings are for convenience only and do not affect interpretation, and unless the context indicated a contrary intention;
   1.1 This Agreement will be deemed to have been formed on the date detailed at its beginning.

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1.2 Reference to a person includes a corporation, trust, partnership, related party and government body and the legal representatives, successors and assigns of that person.

1.3 A word importing the singular includes the plural and vice versa; and any gender includes all other genders.

1.4 If a Party consists of more than one (1) person, this Agreement binds each of them separately and any two (2) or more of them jointly.

1.5 An obligation, representation or warranty in favour of more than one (1) person is for the benefit of them separately and jointly.

1.6 A Party which is a Trustee is bound personally and in its capacity as a Trustee.

1.7 References to statutes, regulations, ordinances or by- laws include all statutes, regulations, ordinances or by- laws amending, consolidating or replacing them.

1.8 As far as possible, all provisions of this Agreement will be construed so as not to be invalid, illegal or unenforceable in any respect.

1.9 If any provision on its true interpretation is illegal, invalid or unenforceable, that provision will, as far as possible, be read down to the extent necessary to ensure that it is not illegal, invalid or unenforceable and so as to give it a valid operation of a partial character.

1.10 If any provision or part of it cannot be read down, that provision or part will be deemed to be void and severable and the remaining provision of this Agreement will not be affected or impaired.

1.11 Despite the performance of the Parties' respective obligations under this Agreement, any general or special provision (or any part of part thereof) which is capable of taking effect after the completion of that performance will not merge, but rather will remain in full force and effect.

1.12 The provisions of this Agreement comprise the whole agreement between the Parties.

1.13 No further terms will be implied or arise between the Parties under any collateral or other agreement made on or prior to the Date of the Agreement.

1.14 References to Clauses, schedules and annexures will be construed as references to Clauses of and schedules and annexures to this Agreement.

1.15 "Including" and similar terms are not words of limitation.

1.16 Where a word or expression is given a particular meaning other parts of speech and grammatical forms of that word or expression have corresponding meanings.

1.17 The contra proferentem rule and other rules of construction will not apply to disadvantage a Party whether that Party put the Clause forward, was responsible for drafting all or part of it or would otherwise benefit from it.

1.18 This Agreement may be executed in any number of counterparts and all such counterparts taken together will be deemed to constitute this Agreement.

1.19 Notwithstanding any other provision of this Agreement the Parties acknowledge and agree that a copy of this Agreement, bearing a signature and forwarded by facsimile transmission, or electronic mail transmission will

be effectual as a counterpart upon receipt of the facsimile transmission or electronic mail transmission by the Party to whom it is sent.

1.20 This Agreement binds the Parties and any executor, administrator, transferee, assignee liquidator or trustee in bankruptcy appointed for a Party.

1.21 A variation of this Agreement is not effective unless it is in writing and signed by the Parties.

1.22 The Parties agree that nothing in this Agreement establishes any relationship of partnership, agency or employment between them.

1.23 All powers and rights under this Agreement are cumulative.

1.24 A Party's failure or delay to exercise a power or right does not operate as a waiver of that power or right.

1.25 The exercise of a power or right does not preclude either its exercise in the future or the exercise of any other power or right.

1.26 A waiver is not effective unless it is in writing.

1.27 Waiver of a power or right is effective only in respect of the specific instance to which it relates and for the specific purpose for which it is given.

Executed as an Agreement.

DATE:

SIGNED for and on behalf of

.....

(Resource Authority Holder)
in accordance with section 127 of the
Corporations Act 2001:

.....

SIGNED SEALED and **DELIVERED**

By.....

(Landowner)
in the presence of:

)

A Justice of the Peace/ Solicitor

Submission No. 46
Received 07 October 2016

DESCRIPTION OF BORES

PROPERTY PLAN & APPROXIMATE LOCATION OF BORES

Submission No. 46
Received 07 October 2016

ATTACHMENT 'D'.

PROPOSED REFORM OF CHAPTER 3 WATER ACT

George Houen Landholder Services Pty Ltd

Submission No. 46
Received 07 October 2016

Groundwater Make Good - Chapter 3 Reform

The upgraded standards would apply to all baseline tests under Chapter 3 of the Water Act occurring after commencement.

Within 1 year of commencement of the new baseline standard, all baseline assessments for resource operations which pre-date commencement must be reviewed. Where the existing baseline assessment does not meet or exceed the upgraded standard, a new baseline test must be conducted.

Make Good means:

> The Tenement Holder must replace the Bore Owner's adversely impacted water supply with a secure and durable supply having yield/capacity, water quality and gas content at least equivalent to the baseline levels of the relevant bore(s). The water supply to be replaced includes the bore's reserve capacity (if any) in excess of the then current actual water usage as at the date of its baseline assessment.

Compensation means:

a. The difference between market value of the Bore Owner's property before and after the damage to the relevant bore(s); and
b. Any costs or losses reasonably incurred by the Bore Owner and which are not reimbursed as part of make good.

Make Good Agreement means: An agreement between the Tenement Holder and Bore Owner, details of which are set out below.

Obligations

- All baseline assessment, monitoring, setting of trigger values, investigations and make good actions specified below are to be arranged and paid for by the Tenement Holder and conducted and delivered through an independent, suitably experienced and qualified hydrogeologist (Independent Expert).

- The Tenement Holder is to promptly provide the Bore Owner with each of the Independent Expert's reports described below.

Baseline Test

- Baseline testing of each private bore to new minimum standards requiring at least:

  a. Standing Water Level measurement (no exceptions). The Independent Expert (at the Tenement Holder's cost) to make any necessary modifications to bore equipment to facilitate SWL measurement (unless the Bore Owner unreasonably refuses to permit the modifications in which case such bore(s) will be excluded from the make good scheme).

  b. For bores that are equipped with electric or engine powered pumps (including those equipped with a pump jack), pumping and recovery tests (in accordance with relevant standards) to assess specific capacity (ie. a short-form version of sustainable yield).

NOTE: A full sustainable yield test is desirable and may be adopted as an alternative to specific capacity if the Tenement Holder and bore owner agree.

(i) Data loggers to be installed in all equipped bores at the time of baseline testing.

c. Water quality tests – pH, EC, Temperature, Turbidity and laboratory testing of total dissolved solids (by evaporation) plus a full chemical test.

d. Gas intrusion test of % LEL which must not exceed 20% LEL.

e. Comprehensive assessment and documentation of the bore and its infrastructure, from which to derive data showing the water volume actually delivered, the pumping rate, stock watered or area of irrigation or other uses quantified, and any reserve capacity as at baseline date, including:

(i) detailed inventory of bore equipment and capacities, including water storage tanks, reticulation pipelines, troughs, etc;
(ii) grazing area and the number of stock the bore is supporting;
(iii) for bores supplying irrigation water, as in (i) and (ii) above with any necessary changes;
(iv) measurement (or, if it cannot reasonably be measured, an estimate) of pumping and recovery performance including data logging results if available;
(v) records of any relevant yield or capacity or quality data provided by the bore owner;
(vi) assessment of reserve capacity, if any, over and above existing usage;

f. For bores that are unequipped as at baseline date, install a temporary pump of appropriate capacity to test for the specific capacity. Also conduct SWL, water quality and %LEL tests.

g. On receival of the Independent Expert's Draft Baseline Assessment either party may, within three weeks, respond to the Independent Expert with any query or to supply any additional information.

h. Upon their receival of the Final Baseline Assessment, both parties will be taken to have accepted it if, within three weeks, they have not referred it to dispute resolution.

i. In the event of a dispute over trigger values or make good, the Final Baseline Assessment (as accepted by the parties or as determined through dispute resolution) will, if required, be used as evidence of the baseline qualities of a bore.

Trigger Values

- Interim Trigger Values for each equipped bore - specific capacity (or sustainable yield if the parties have consented to that as an alternative), water quality, and gas intrusion (ie. % LEL) to be set by the Independent Expert upon completion of the Baseline process.

- Final Trigger Values are to replace Interim Trigger Values for each bore as and when the Independent Expert judges that sufficient monitoring data is available on which to determine them.

- Either party may refer Interim Trigger Values or Final Trigger Values to dispute resolution.

Monitoring

- Mandatory periodic monitoring of all equipped bores, at time intervals determined by the Independent Expert. Monitor for all baseline parameters, downloading of data loggers.

    a. Monitoring of unequipped bores to be limited to Standing Water Level and Gas Intrusion.

Investigation

- If monitoring shows one or more Interim Trigger Values or Final Trigger Values reached or exceeded, the Independent Expert will review the data and investigate as necessary in order to notify the Tenement Holder and the Bore Owner of his or her determination of:

    a. the scale of Trigger Value exceedance,
    b. the Independent Expert's determination as to whether the exceedance results from the Tenement Holder's activities or if not, the actual cause,
    c. whether there is a requirement for Make Good, and
    d. an opinion as to whether and in what way(s) it is feasible to make good by restoring the water supply at, or better than, baseline values.

- Either party may refer the determination to dispute resolution.

Bore Owner's Trigger

- Notwithstanding that a monitoring program is in place, if at any time a Bore Owner considers that a Bore has become adversely affected because of the Tenement Holder's activities - to the extent that one or more Trigger Values have been reached or exceeded - the Bore Owner may give notice, together with supporting information, to the Tenement Holder.

    a. Unless it can demonstrate that the Bore Owner's claim of damage is manifestly untrue, the Tenement Holder must promptly arrange for the Independent Expert to carry out appropriate investigations.
    b. If after investigations the Independent Expert confirms that one or more Trigger Values have been reached or exceeded, then the investigation procedure must be promptly initiated.

Make Good Commissioner

Establish the statutory position of Make Good Commissioner to provide an independent and credible process for resolving disputes arising in baseline assessments, trigger value determinations or make good determinations as described above.

The Commissioner would preferably be qualified and experienced in groundwater assessment and management as well as dispute resolution, and could perhaps be a Member of an existing judicial body who is seconded as Make Good Commissioner as required.

The Commissioner would follow established ADR procedures and have authority to engage one groundwater technical expert, with qualifications and experience relevant to the issues, to act as adviser to the Commissioner in a particular case.

The Commissioner would also be empowered to call on the CSG Compliance Unit of DNR&M to provide detailed assessments of relevant bores and to make its officers available for examination. All material provided by the CSG Compliance Unit to the Commissioner must also be provided to the relevant Bore Owner and Tenement Holder.

The Tenement Holder would carry the onus of proof and be obliged to show, to the Commissioner's satisfaction, that either the bore was not unduly affected or alternatively that the resource activities were not the cause, or not the whole cause, of the damage.

The Commissioner would not be bound by the rules of evidence or formal hearing procedure, just the best practice ADR rules. The legislation would specify that, due to the nature of groundwater issues, the Commissioner's determinations may, of necessity, rely to an appropriate extent on circumstantial evidence and expert opinion regarding matters arising in disputes.

Where satisfied that make good by the Tenement Holder is called for and is feasible, the Commissioner would so order. If requested by either party, the Commissioner could make orders as to the form of make good that is required of the Tenement Holder.

Costs

Where a dispute is referred to the Make Good Commissioner, the bore owner's reasonable costs of technical and legal representation and advice in formulating and pursuing its claim must be paid, as incurred, by the Tenement Holder - unless the Commissioner finds that the Bore Owner's claim was manifestly without merit or that the Bore Owner behaved frivolously or vexatiously. The Tenement Holder must bear its own costs of the dispute resolution regardless of the outcome.

Compensation

Where satisfied that make good is called for but is not feasible, the Commissioner would so order, at the same time ordering a period after which, if they have not reached agreement on compensation, either party may apply to the Land Court to have compensation determined.

The basis upon which the Land Court would determine compensation would be:

- A before and after comparison of the market value of the Bore Owner's property
- Any costs incurred by the Bore Owner arising from disruption of water supply, such as –
  - (i) Costs of emergency or temporary alternative water supply
  - (ii) Costs of mustering or moving or otherwise attending stock
  - (iii) Costs reasonably and necessarily incurred for advice and representation, including formulation of a Trigger Notice, Dispute Notice and related representation
- Any losses incurred by the Bore Owner, such as –
  - (i) Deaths of stock
  - (ii) Loss of sales, or lower value of sales of stock or crops

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(iii) Reduced production from stock or crops
(iv) Consequential losses to the Bore Owner's business.

Make Good Agreement

Before commencing any dewatering by taking groundwater from a bore or by pumping of groundwater discharged to a pit as part of any Resource Operations, the Tenement Holder must enter into a Make Good Agreement with the owner of every bore which may potentially be affected by the dewatering at any time (including after closure of the Tenement Holder's project).

A Bore Owner, who considers its bore(s) is/are at risk from dewatering by a Tenement Holder who has not settled a Make Good Agreement, may apply to the Commissioner who may order that a Make Good Agreement is required and the dewatering must cease until an agreement has been signed.

If terms of the Make Good Agreement are inconsistent with provisions of Chapter 3, the Agreement prevails to the extent of that inconsistency .

George Houen
Landholder Services Pty Ltd

August 2015