The Basin Sustainability Alliance's Submission on the Draft Great Artesian Basin & Other Regional Aquifers (GABORA) Water Plan and the Draft GABORA Water Management Protocol.

1. What is the Basin Sustainability Alliance :

The Basin Sustainability Alliance (BSA) was established in 2010, to represent the interests and concerns of landholders and rural communities who were being subjected to the unprecedented scale and pace of Coal Seam Gas development in South-West Queensland.

BSA's charter is to advocate for the sustainable use and management of land and water resources in the Condamine Basin for future generations – in particular highlighting the risk that the Coal Seam Gas development poses to the Great Artesian Basin.

The BSA which has over 100 members, is comprised of farmers, graziers, business people and townspeople in south - western Queensland's Condamine Basin, as well as scientists who have a strong interest in supporting the BSA's "key focus".

Members of the BSA's Executive Committee attended consultation sessions convened by the Department of Natural Resources & Mines (DNR&M) at Toowoomba, Dalby and Roma. The BSA's Executive Committee found these consultation sessions to be extremely useful and is grateful for the opportunity to comment on the "Draft" Great Artesian Basin & Other Regional Aquifers (GABORA) Water Plan.

Our Submission addresses:

- General statements on issues of concern to the BSA on the management of the GAB.
- Comments on specific matters relating to the Draft GABORA Water Plan. and
- Comments on specific matters relating to the Draft GABORA Water Management Protocol.

2.General Statements on Issues that Concern the BSA on the Management of the GAB:

The farming and grazing properties, the commercial businesses and the rural townspeople who live in the Condamine Basin greatly depend on water from the GAB as their lifeblood. Many of the Basin's primary production stakeholders are totally dependent on their ability to access GAB water for their livestock, domestic and farm water supplies. Without access to GAB water, these communities and enterprises would no longer exist or be commercially viable. Hence it is vital that appropriate regulatory mechanisms are put in place and maintained to protect the health of the GAB and ensure its sustainability.

The GAB has never been under greater pressure that it is currently experiencing. The Queensland Government has authorised the Resources Sector to access both sub-artesian water connected to the GAB and GAB artesian water in its quest for coal seam gas extraction and the development of new mining projects.

The current regulatory regime of allowing petroleum & mining tenure holders to extract unlimited volumes of associated water as a consequence of their operations is a major concern to the BSA's stakeholders. This is an inequitable and punitive policy setting for landholders and rural townships who are dependent on the future sustainability of the Great Artesian Basin for their survival.

The BSA asserts that the Queensland Government has failed and continues to fail to appropriately regulate CSG, unconventional gas mining and conventional mining operations in Queensland. Instead, blinded by the expectations of capital investment, jobs creation and royalties for the Treasury coffers, successive Queensland Governments have amended legislation to facilitate development opportunities for the Resources Sector at the expense of landholder's basic rights and the long term cost to rural and regional communities, as well as the environment.

3. BSA's Response to Specific Issues in the Draft GABORA Water Plan:

3.1 The Plan Area and Aquifers for the GABORA Water Plan:

The BSA notes that the old terminology of Management Areas, Management Units and Aquifers in the current Great Artesian Water Plans (WRP & ROP) has been replaced with the new terminology of Groundwater Units and Groundwater Sub-Areas. While this change in terminology may create some confusion with water users, the BSA understands that these changes were introduced to allow the Department to manage aquifer systems in totality instead of managing water within a geographical area. While the BSA expressed a view that the old Management Areas and Management Units should be retained in its submission to the Minister's Statement of Proposal, the BSA is now supportive of this proposed approach of managing aquifers systems in totality

The BSA notes that the Draft GABORA Water Plan proposes to include the Betts Creek Beds and the Winton Mackunda Formation in the new Water Plan. While these aquifers are not within the geographical area of BSA's interest, the BSA takes the position that all aquifers or formations that have a demonstrated connectivity to the GAB, must be included in the new Water Plan. The BSA also takes the view that the prospect of the lower Galilee Basin aquifers being managed through 4 different WRPs, as being overly complex and highly likely to be totally ineffective. Hence – the BSA is supportive of the inclusion of the Betts Creek Beds and the Winton Mackunda Formation in the final GABORA Water Plan.

3.2 The Purpose of the GABORA Water Plan:

The BSA notes that Section 2 of the "draft" GABORA Water Plan outlines the Purposes of the plan as follows.

> The purposes of this plan are—
> (a) to define the availability of water in the plan area; and
> (b) to provide a framework for sustainably managing water and the taking of water in the plan area; and
> (c) to identify priorities and mechanisms for dealing with future water requirements; and
> (d) to provide a framework for reversing, if practicable, the degradation of natural ecosystems.

At the GABORA Water Plan "consultation meetings" convened by DNR&M staff, it was confirmed that the take of water by the Resources Sector through their "statutory underground water rights", was managed independently by the Department of Environment and Heritage Protection. DNR&M staff also confirmed at these "consultation meetings" that an estimated take of 60,000ML/annum of groundwater by the CSG Industry in the Surat CMA, had been factored into the Water Balance Model developed for that particular geographical area.

The BSA is deeply concerned at the current Queensland Government's policy settings where the Resources Sector have been given "statutory underground water rights" to access unlimited quantities of "associated water" from the GAB, while all other users of GAB water have to comply with the provisions of the current GAB WRP & ROP.

The BSA believes that this is a profoundly inequitable policy position and it makes it impossible to sustainably manage the GAB resource. The Queensland Government's policy position is both contradictory and inconsistent – how can it maintain GAB water for future generations when it has provided an unlimited take of water from the Basin to the petroleum & gas and mining sectors?

The BSA's Executive is seeking clarification from the Queensland Government and the DNR&M on how the GABORA Water Plan can "provide a framework for sustainably managing water and the taking of water in the plan area" when the take of water by the Resources Sector is managed independently of the GABORA Water Plan, and when this take of water by the CSG and Mining Industries is not considered in the overall water balance for the GABORA aquifers. The BSA contends that the "Purpose (2 (b))" in the Draft GABORA Water Plan cannot and will not be delivered and it is in fact disingenuous for the Queensland Government to suggest that it does. Furthermore – the BSA recommends that this purpose statement is amended to reflect the true situation which is "the sustainable management of that GABORA water that DNR&M can exercise statutory control over".

3.3 The Desired Outcomes of the GABORA Water Plan:

The BSA notes that the Daft GABORA Water Plan's "desired" outcomes include the protection of Groundwater Dependent Ecosystems (GDEs) and existing entitlements, increasing water pressure in the GABORA's aquifers, providing water for future development, the efficient use of water and the facilitation of efficient water markets.

The BSA also notes that the current Great Artesian Basin Water Resource Plan, includes a provision that **the granting of a water licence to take water in the plan area must be consistent with the provisions to protect the flow of water to springs and base flows to watercourses**. The BSA strongly supports this provision as well as the protection of GDEs, being continued in the new GABORA Water Plan.

The BSA notes the desired Plan's outcomes of increasing the water pressure in the GABORA's aquifers and the efficient use of GABORA water. The BSA is strongly supportive of these outcomes. While the capping of uncontrolled GABORA bores is a key strategy in the delivery of both of these outcomes, the BSA contends that the unlimited take of associated groundwater from the GABORA aquifers through P&G and Mining operations exercising their statutory groundwater rights, will significantly compromise these outcomes. The BSA will make further detailed comment on this matter further on in this submission.

The BSA notes the desired Plan's outcome of providing water for future development and will provide a detailed response to this matter further on in this submission. The BSA also notes that a desired Plan's outcome is to facilitate efficient water markets and will provide a detailed response on this matter further on in this submission.

However of significant concern to the BSA is the absence of any mention of protection of water quality as a GABORA Water Plan outcome. The BSA is aware that this matter was the subject of a number of Submissions on the 2015 Great Artesian Basin Statement of Proposals. It is a relevant matter in relation to the potential impacts of potential contamination of GABORA aquifers from CSG and Deep Gas fracking activities as well as the proposed CO2 sequestration project in the Surat Basin. The BSA noted in its submission on the Statement of Proposal for the new GAB Water Plan, that contamination of the GAB can occur through a number of causes. The construction of unlined bore-holes is a major threat, as is catastrophic well failure during oil and gas production, longer-term well failures linked to corrosion of lined bore-holes, migration of polluted material through faults, or through surface water pollution migrating into aquifers. An oil or gas well failure during critical points of production also has the potential to do permanent, possibly irreversible damage to aquifers in the GAB. The BSA also noted a report in Qld Country Life (29 October, 2015) on a failed GAB bore in the Quilpie District which had been capped as part of the GABSI Program. The BSA understands that this bore reconstruction was under the nominal supervision of DNR&M and it failed due to alleged substandard bore construction by the driller. The BSA is concerned that either; aging and poorly maintained water infrastructure or poor construction of petroleum & gas infrastructure into the GAB - has the potential to compromise the water quality of the GAB. While the Qld Country Life article doesn't canvas the question of whether the sealing of the failed GAB bore (Plugging & Abandonment –

(P&A)) was heavily supervised, the BSA expects it probably was. However, this incident begs the question that if the original driller couldn't be trusted to comply with the GAB drilling standards, how easy would it be for a petroleum & gas contractor to "bury his own shortcuts" in the P&A of oil and gas wells. This failed GABSI bore and the subsequent P&A is just as much at risk of creating inter-aquifer connectivity, or worse still aquifer contamination, as are any of the gas wells drilled the CSG Industry or the P&A of their failures. The BSA holds the view that appropriate compliance audits and supervision of drillers needs to be an integral part of the future management of the GAB.

The BSA also understands that the quality of water extracted from the fracking of unconventional gas wells, is very toxic and presents a significant risk to surface and groundwater resources if it is not appropriately constrained and managed. The BSA submits that the new GAB WRP must protect the water quality of the GAB by requiring that all wells - bores that interact with the GAB, are fully lined with approved casings, and that all wells at the end of their working life are properly rehabilitated by filling with concrete from the bottom up to avoid inter-bed leakage over time. The new plan must also stipulate that the full disclosure of the chemical composition of all chemicals used in fracking and the composition of fracked waters extracted from Unconventional gas wells that could or will interact with the GAB, is provided to the government and is made available to the public.

Research undertaken on behalf of the BSA in the last 12 months has indicated the following in respect to CSG fracking fluids. In response to the question of - "What chemicals are used in fracking fluid in Australia? APPEA (the Petroleum & Gas Industry's Peak Body) would have the community believe that the chemicals used in fracking in Australia are non-harming. While Santos do provide a public list of the chemicals and compounds they use for fracking – many of the products listed are listed under Halliburton or Schlumberger product codes and the public would be none the wiser as to what specific chemicals they contain. Furthermore the specific chemical composition of most "commercial fracking products" are protected from disclosure through various "trade secret" exemptions under State and Commonwealth laws.

The National Toxics Network (NTN) Submission on Unconventional gas exploration and production in Australia outlines that there are many volatile compounds released into the air and water as an outcome of unconventional gas exploration and production. Some are a product of fracking and some are naturally occurring chemical substances released from coal seams or shale rock. Source – page 4, NTN Submission.

The NTN Submission outlines that many chemicals used in hydraulic fracking have not been assessed for their long term environmental and health impacts. In Australia – only 2 of 23 chemicals identified as commonly used for fracking have been assessed by the National Industrial Chemicals Notification and Assessment Scheme (NICNAS) and neither of these chemicals were assessed for their use in unconventional gas fracking. In spite of APPEA's claims that the chemicals used in fracking are non-harming, evidence in the USA indicates that many of the chemicals used are carcinogenic. Currently the Australian regulatory authorities have no idea of the long term impacts of the chemicals used by the unconventional gas industry for fracking and appear to accept the advice of APPEA."

Accordingly - the BSA contends that to protect the public and regional community interests - the GABORA Water Plan MUST contain a robust water quality monitoring framework to monitor the potential water quality impacts of fracking by the Unconventional gas industry. This cannot be left to the CSG Companies for a self-regulation approach.

Another issue of concern to the BSA is the protection of water quality within the GAB from the Greenhouse Gas Exploration Permits issued by the Queensland Government's Department of Natural Resources and Mines (DNR&M) and the granting of an Environmental Authority for a private company, Carbon Transport Storage Corporation Pty Ltd, (CTSCo) to assess the carbon capture and storage of a possible 1.3 billion tonnes of CO2 emissions within the Precipice Aquifer. This company believes there is a theoretical storage potential for 3 billion tonnes of CO2 emissions in the Surat Basin. Very little is known about the process required by this company to access over $21m in funding from the Australian Coal Association Low Emissions Technologies Ltd and the Federal Government Department of Industry, Innovation and Science for a feasibility study to transport, inject and store CO2 emissions from Power Stations into the Precipice Aquifer in the Wandoan area. The BSA contends that the Department of Environment and Heritage Protection (DEHP)along with the DNR&M, should have been working together to ensure any contamination of a critically important potable water source such as the Precipice aquifer can never happen. Any project that could have possible impacts to the GAB water quality should go through a rigorous testing regime before an Environmental Authority is issued.

3.4 The Strategies of the GABORA Plan:

The BSA notes that within the Strategies section of the GABORA Water Plan there is a reference to the Chief Executive must not make a decision that "increases the average volume of water that may be taken". The BSA also notes that this is consistent with the current provisions of the Great Artesian Basin Water Resource Plan (WRP) (2006) and is supportive of this strategy.

However, the BSA also notes, that like the current Great Artesian Basin WRP - there are a number of exemptions listed in Section 13(2) to this requirement, which include:

- Water taken by a water permit.
- Water taken for stock purposes (the BSA notes that domestic use has been removed from Section 13(2) even though the Statement of Intent says for "stock or domestic purposes") The BSA requests the DNR&M to clarify this matter.
- The grant of a Water licence as a percentage of water saved through the capping of a flowing bore.
- The grant of a Water Licence for the continued use an existing bore.
- The grant of a P&G tenure for take of "associated water", and
- The grant of unallocated water.

Given that the holders of Mineral Development Licences (MDLs) and Mining Leases (MLs) have a statutory right take underground water through the securing of an "associated water licence", the BSA is relieved that holders of MDLs and MLs have not been granted an

exemption and the BSA believes that P&G tenure holders should be subjected to the same "associated water licencing "process. Alarmingly, there is also no recognition of the take of groundwater by the Mining industry from dewatering operations – perhaps this water is being taken from the Queensland Government's Magic Pudding!!!

As the volumes of water that may be extracted or interfered with by the mining and petroleum operators are potentially large, the BSA still contends that neither miners nor petroleum & gas producers, should have this exemption in the new GABORA Water Plan. It is an appalling policy decision and totally unsustainable to allow miners and petroleum & gas producers to have unlimited access to GAB water, when other water users are subjected to stringent regulatory controls in the interests of future sustainability of the Basin.

3.5 The Provisions of Unallocated Water in the GABORA Plan:

The BSA notes that Schedule 4 of the Draft GABORA Water Plan outlines the volumes of General, State & Indigenous Reserves of unallocated water that are proposed to be made available. The Draft GABORA Water Plan provides for 35,055ML of additional unallocated water for new development. The BSA notes with some interest that 28,610ML (80%) of this unallocated water is State Reserve for major projects (presumably for gas, mining & power stations), 5,615ML (16%) is General Reserve water for agriculture and 830ML (4%) is Indigenous Reserve for Indigenous community projects.

Within the Groundwater Units associated with the BSA's area of interest - there is 1,685ML of General Reserve and 350ML of State Reserve unallocated water. Within the General Reserve:

- There is 845ML is in the Bowen Clematis Groundwater Sub- Area of the Clematis Groundwater Unit.
- There is 840ML is shared between the Eastern Downs and Surat Precipice Sub-Areas in the Precipice Groundwater Unit.
- There is no unallocated water for the Eastern Downs Marburg or the Eastern Downs Springbok Walloon Sub-Areas.
- There is no unallocated water for the Adori Injune Creek, Bungil, Surat East Springbok Walloon, Gubberamunda, Surat Hutton, Surat Wallumbilla and Surat West Springbok Walloon Sub-Areas.

Within the State Reserve in the BSA's area of interest - there is 100ML in the Bowen Clematis Sub-Area and 250ML split across 15 Sub-Areas in the Mooga Groundwater Unit. Some 16,400ML of the State Reserve is in the Winton Mackunda Groundwater Unit and 9,800ML is within the Cape Groundwater Unit & the Gilbert River aquifer.

The Statement of Intent on the Draft GABORA Water Plan outlines that water has been set aside in those areas where there is a known demand and the aquifer has sufficient capacity to provide for that demand. For aquifers with a high volume of use relative to capacity, the amount of water made available is limited or set to zero. Major demands identified included large scale agriculture, intensive stock (feedlotting), mining and petroleum and gas, and geothermal power. There is also a close link between where unallocated water is proposed

to be made available and the water licence relocation rules – for sub-areas or units where water is not permitted to be relocated, the same justification also applies to not making unallocated water available.

The BSA is extremely concerned at the low volume of General Reserve unallocated water that may be potentially available to agricultural enterprises – either extensive or intensive. A volume of 840ML between Roma and Toowoomba from the Surat and Eastern Downs Precipice Sub-Areas will significantly constrain the development of new agricultural pursuits in this Region. Given that within Schedule 5 of the existing Great Artesian Basin Water Resource Plan 2006 – it provides for 7,200ML of General Reserve Unallocated Water in the Surat, Surat East and Surat North Management Areas, and that 5,901ML of this water is still available; the proposed greatly reduced allocation of only 840ML is a huge impact on agriculture (a 5,061ML or 602% reduction in available water) – particularly when the Resources Sector can still exercise its statutory underground water rights. The provision of only 840ML of General Reserve unallocated water will place a "major constraint" on the expansion of existing water dependent industry and the establishment of new water dependent industry in the Western Darling Downs Region. To date, the DNR&M have not satisfactorily clarified why the 5,901ML of currently available unallocated water is not carried over into the new GABORA Water Plan. While the BSA is of the view that the limited volume of unallocated General reserve water in the Surat Basin is a direct result of CSG "associated water" extractions, the BSA requests the Department to clarify this matter.

The BSA firmly believes that this massive reduction in available unallocated water in the General Reserve clearly indicates two things, namely:

a) This is a clear demonstration of the Palaszczuk Government's current priorities of being pro the Resources Sector and not supportive of agriculture. and
b) This is also a clear demonstration that the take of water by the Unconventional Gas Industry will have a far greater impact than the OGIA 2016 Report portrayed.

Information presented at the DNR&M "consultation meeting" in Toowoomba on Monday 27th February, 2017, clearly indicated that the Springbok/Walloons and Huttons formations were under pressure from over-extraction and the Gubberamunda and Precipice formations had some capacity to sustain some more extraction. While the BSA does note that the reserves of Sate Reserve unallocated water in the BSA's area of interest are also very small (a maximum of 350ML), the BSA is also mindful that this does not place any constraint on the Resources Sector exercising its underground water rights to take "associated underground water".

The BSA would like to place on the public record, the inequitable situation where an intensive livestock producer has recently been refused access to an additional 100ML of water for an expansion of their feedlot operation - whereas a CSG producer has secured a tenure to drill 80 plus gas wells on or around this property and extract in the order of 960ML/annum, on average. The BSA would also like to place on the public record, the action of SANTOS CSG Pty Ltd recently purchasing precipice sandstone water for irrigation purposes. This water entitlement was purchased from an existing water entitlement holder at a price of $4000.00/ML, which has led to market interference and highly inflated prices for GAB water entitlement for agricultural purposes. Both of these examples clearly

indicates the Palaszczuk Government's priorities of being pro the Resources Sector and not supportive of agriculture or primary producers.

The BSA notes with some significant concern that Section 15(1) of the Draft GABORA Water Plan outlines the grant of General Reserve unallocated water can be for "any" purpose – this means that the Resources Sector could potentially access this water for meeting their "non-associated water" requirements. Section 15(2) of the Draft GABORA Water Plan outlines the grant of State Reserve unallocated water can be for Coordinated Projects, projects of Regional significance, Local Government water supplies or electricity generation.

Section 16 of the Draft GABORA Water Plan places some restrictions on the grant of General, State and Indigenous Reserves of unallocated water. Specifically – unallocated water may not be granted from the General, State or Indigenous Reserves in a Zone declared under a Water Management Protocol, and as far as practicable – water granted from a State or Indigenous Reserve is to be granted from groundwater units or sub-areas:

- Where General Reserve unallocated water is being made available.
- Where the water is accessed from a deeper source (aquifer) that that being accessed for the General Reserve water.

The GABORA Water Management Protocol allows the Chief Executive to declare a Zone within a Groundwater Unit to protect existing entitlements, other authorities (such as petroleum tenements) and natural ecosystems. The declaration of a Zone and the provisions of Section 16 of the Draft GABORA Water Plan may limit the granting of Water Licences from unallocated water reserves, dealings Water Licences to take water, including the relocation of Water Licences. The Draft GABORA Water Management Protocol outlines the following Zones are proposed:

- Springbok/Walloon Zone.
- Precipice Zone, and
- Hutton Zone.

This means that there may be no unallocated water granted from either the; General, State or Indigenous Reserves, for water users within these Zones. This suggests the only "new water" for any user is the 840ML from the General Reserve in the Precipice Groundwater Unit , and 250ML in the Bungil Sub-Area and 100ML in the Clematis Groundwater Unit within the State Reserve. When the Precipice Zone is overlaid where NO further allocations can occur, there is an area in the North – Western section of the SCMA which has NO further access to any new water, except for meeting make good provisions. The BSA is extremely concerned at the potential impacts of these provisions on the expansion of existing water dependent enterprises or the establishment of new water dependent enterprises within these three proposed Zones. Furthermore – while the BSA is supportive of the sustainability initiative, and if the Queensland Government decides to proceed with these provisions, then the BSA contends that the GABORA Water Plan should contain provisions that prevent the Resources Sector from accessing General Reserve unallocated water in the new GABORA Water Plan, and that any water required by the Resources Sector for "non-associated water use" should be sourced from the State Reserve of unallocated water. The BSA contends these provisions could and should be inserted as an additional part of Section 16 of the final GABORA Water Plan.

The BSA is concerned that the Chief Executive of DNR&M may alter a Zone or introduce a new Zone, with limited capacity for stakeholders to have their say and defend their water rights.

3.6 Provisions in the GABORA Plan for Restoring & Maintaining Groundwater Pressure:

The BSA notes that:
Section 22 of the Draft GABORA Water Plan allows a person to interfere with water in the Plan area for:- a) Domestic purposes if the bore has a watertight delivery system, and b) for Stock purposes from the Groundwater Units or Sub-Areas listed on pages 15 & 16 of the Plan, if the bore has a watertight delivery system. These include the following groundwater units:

- *Betts Creek beds*
- *Mulgildie North Hutton*
- *Normanton*
- *Winton Mackunda;*

and the following groundwater sub-areas:

- *Cape Rolling Downs*
- *Crows Nest Marburg*
- *Crows Nest Woogaroo*
- *Eastern Downs Marburg*
- *Eastern Downs Precipice*
- *Eastern Downs Springbok Walloon*
- *Gatton Esk Road Marburg*
- *Gatton Esk Road Woogaroo*
- *Mulgildie North Precipice*
- *Mulgildie South Precipice*
- *Murphys Creek Marburg*
- *Murphys Creek Woogaroo*
- *Redbank Creek Woogaroo*
- *Southern Clarence Moreton Marburg*
- *Southern Clarence Moreton Walloon*
- *Southern Clarence Moreton Woogaroo.*

Section 22 also limits the take to 2ML/annum for indigenous use, an activity prescribed under the Water Regulation 2016 or the use of a bore for water monitoring activities. The BSA acknowledges that these provisions are a continuation of strict management controls that have been applied to aquifers under pressure from overuse or overallocation in the current Great Artesian Basin Water Plans, and hence it is supportive of them being continued.

Section 23 of the Draft GABORA Water Plan outlines that controlled bores are either sub-artesian bores or artesian bores fitted with permanent controlling headworks. It also defines a watertight delivery system as a bore that is controlled, water taken from the bore is

distributed through a pipeline, tanks and trough network and the bore is maintained. The BSA is concerned at the narrow focus of defining controlled bores and asks why the focus cannot also include non-flowing artesian bores. This would allow bores that start to flow again as a result of the GABSI scheme, to be required to be also fitted with permanent controlling headworks.

Sections 25 & 26 outline that existing GAB bores must have a watertight delivery system fitted by 1 September, 2027 (10 years from the commencement of the GABORA Water Plan) for stock & domestic take. Existing Water Licences are to be amended to apply the 10 year timeline for implementation of a watertight delivery system. The BSA notes that the Water Licence holder is required to provide advice to the Chief Executive of DNR&M when a watertight delivery system is installed.

The BSA also notes there are also a number of new rules for Notices and Actions in regard to bores that no longer have a watertight delivery system. There are also provisions in the Draft GABORA Water Plan for an extension of this timeline for special circumstances – section 32 allows the Chief Executive to give consideration after 1 September, 2022 if the 1 September, 2027 timeline is not considered to be reasonable by the impacted bore owner. Sections 41 & 42 allow a Water Licence holder to apply for an amendment of the condition for the installation of a watertight delivery system. Section 45 allows for "people to opt out" on the installation of a watertight delivery system.

The BSA further notes that Sections 46 – 49 of the Draft GABORA Water Plan outline a process for allowing the Chief Executive to grant a Water Licence for a "% of the volume of water saved" by the installation of a watertight delivery system. The BSA acknowledges this is a process aimed at encouraging the capping and piping of the remaining uncontrolled GAB bores – however as already raised by the BSA – the GABORA Water Plan allows for numerous opportunities for bore owners not to comply. In its Submission on the GAB Statement of Proposal, the BSA submitted that non GABSI Program participants need to be encouraged to participate in an ongoing bore capping & piping program - but how that is done shouldn't overly penalise those who have already invested in protecting the GAB resource.

The BSA suggested the following options or strategies could be seriously considered by the Queensland Government:-

a) Imposing a charge for waste on those owners who are yet to participate in the bore capping program. If the bore owner refuses to pay the waste charge - then a lien could be taken over the title of their land for unpaid charges to be recovered on the death of the owner or transfer of the land title.

b) One of the impediments to faster landholder uptake of the GABSI program is the incongruence between the public spin of "up to 80% subsidy for GABSI works" and the reality of what is eligible expenditure. In one case that has come to the BSA's attention, the maximum subsidy available to pipe and reticulation works was $40,000 for a total project cost of $250,000 to adequately replace the water access lost by closing the drain. There were also a number of technical difficulties

associated with this project including; a lack of "head" for gravitational pressure, a lack of elevation for a storage as well as the cost of providing an adequate volume of storage to safeguard stock from problems in the bore. These technical difficulties can also present significant impediments to a landholder's uptake of the GABSI Program. Any future GABSI Program should retain a degree of flexibility to address these impediments.

c) As the Queensland Government is continuing with its policy position of granting "statutory underground water rights" for the mining and petroleum & gas industries – then a material GABSI water charge MUST be applied for all "associated water use" and all monies collected utilised in a continuation and/or expansion of the GABSI Program.

d) Installing water measuring devices on all GAB bores and imposing a water use charge for all water use (including a bulk water charge for residential water use and excluding a water charge for livestock and domestic use) with all monies collected being used to manage the GAB and to continue with the roll out of the GABSI Program.

e) Continuing to apply pressure on the Commonwealth Government to provide matching funding for Queensland's contributions by the Resources Sector and other GAB water users to the continuation of the GABSI Program.

The BSA notes, with some disappointment, that the Draft GABORA Water Plan does not reflect any of these suggested options to encourage the continuation of the hugely successful GABSI bore capping and piping program in Queensland. Instead, it has applied a statutory timeline for the capping of uncontrolled bores (with some let out clauses for bore owners who feel aggrieved at this requirement) and included a process to grant a Water Licence for a "% of the volume of water saved" by the installation of a watertight delivery system as the only strategies to cap the remaining uncontrolled bores.

The BSA is very supportive of the Draft GABORA Water Plan's provisions for capping & piping of the remaining uncontrolled flowing GAB bores to reduce water wastage. However, given the reluctance of some owners of the remaining flowing bores to become involved in the GABSI Program, the BSA does have some significant concerns about these bore owners seeking and being granted an exemption by the Chief Executive of DNR&M, to the installation of a watertight delivery system by 2027.

The BSA holds the strong view that uncontrolled flows from GAB bores do need to be addressed and an ongoing program to cap the flow of these bores needs to continue – the key question is what additional mechanism/s is the Queensland Government going to adopt to ensure the bore capping and piping program is continued? The BSA strongly contends that all bores licensed to extract water from the GAB (including stock and domestic bores) should be paying a flat licence fee with a significant part of this fee being directed to supporting the GABSI Program. The BSA also requests the Queensland Government to reconsider the imposition of a water charge on the P&G and Miners for the take of "associated water" from GAB aquifers and the direction of a significant part of the monies

collected to the GABSI Program. Furthermore, the BSA also contends that the owners of the remaining uncapped GAB bores are still required to make a significant contribution to the capital costs of capping and piping.

The BSA also recognises that DNR&M does not have a good record of compliance monitoring and taking robust action for non-compliance. The DNR&M has a CSG Compliance Unit located in Roma to monitor the actions and compliance of the CSG Companies operating in the Surat CMA. The Roma CSG Compliance Unit is now chronically understaffed with a history of compliance officers being transferred or leaving after a short time in the position. This issue is resulting with officers being inexperienced in the role and losing the trust of landholders. If the landholder cannot see where the Compliance unit is protecting and upholding the landholder's interests when problems arise with, at times, aggressive CSG company representatives, the Compliance Unit will become redundant. Experienced and dedicated people are required for these roles and the Government should act to ensure the appropriate officers fulfil the obligations required and rebuild the trust that has already been lost. Furthermore, the recent record of the Mines Safety & Health unit of the Department in regard to the "Black Lung" disease is another excellent example of the Department's lack of commitment to compliance monitoring and remedial action. The BSA contends that the 2027 timeline is reasonable and there should be limited capacity for bore owners to circumvent this requirement through applications to the Chief Executive of DNR&M. The BSA is concerned that "if push comes to shove" in respect to bore owners complying with the 2027 timeline, then the Chief Executive and the Department are highly likely to roll over and do nothing.

The BSA notes that Section 8 of the Draft Water Management Protocol for the Draft GABORA Water Plan outlines that it will be a requirement to install a water meter to measure water taken under a water entitlement for metered entitlements listed in the Water Regulation 2016. A review of the Water regulation 2016 (Schedule 11) indicates that there are no Groundwater Units in the Surat Basin listed for metering. However it is ambiguous as to whether new constructed bores may be considered to be metered entitlements and be required to be metered.

The BSA contends that a complete understanding of the volume of water that is extracted from the GABORA aquifers in each water year is essential for maintaining the GABORA as a secure source of water for future generations. This will require the Queensland Government to adopt a program for measuring the take of all water users accessing water from the GAB – this includes Councils, stock & domestic users, miners and petroleum & gas operators and any other GAB water users. While CSG producers are now required to provide "associated water" production data and Miners are required to provide "associated water" extraction data to the Queensland Government, this presents an "incomplete picture" of water use from the GAB. The BSA contends that all bores extracting water from GAB aquifers should be metered and monitored. As a minimum, the BSA contends that the policy setting must mandate that any new GAB bore constructed after a specified date (say 1 July 2017) has to be fitted with a water measuring device at the time of construction – this must be non-negotiable and with no exclusions.

At a recent OGIA Stakeholder Reference Group (SRG) meeting one of the projects discussed was OGIA's investigations into declining water pressure trends in the Hutton Sandstone in relation to CSG impacts in the Surat CMA. A key element of this investigation is estimating the unmeasured non-CSG water use (stock and domestic use as well as losses). At the DNR&M's GABORA Water Plan's consultation session in Toowoomba it was highlighted that Stock & Domestic use is estimated at 66,000ML/annum (13,734ML in the SCMA) and Stock & Domestic losses were an additional estimated 90,400ML/annum. Landholders at the OGIA SRG meeting raised serious concerns about the lack of metering of all water entitlements (including S&D take) and expressed its importance in the sustainable management of the water resource. The BSA contends that all take of water from the GABORA aquifers (including S&D take) should be measured and accounted for where practical in the medium term & for intensive agriculture in the short term. The BSA would like to see the Draft GABORA Water Management Protocol amended to reflect this position.

In its response to the GAB Statement of Proposal, the BSA highlighted the water use and propensity for wastage by the residents of the towns and villages in Inland Queensland. It was noted by the BSA that most Councils have rostered watering days as supplies become lower and few (if any), are applying demand management strategies on their residents and hence their per capita water use is some of the highest in the State. The absence of water demand management strategies encourages residents of these towns and villages to leave their garden taps running 24/7 and the continual wastage of GAB water. It is also encouraging an unhelpful attitude by the residents of these towns and villages, to use water efficiently. While one of the Draft GABORA Water Plan' stated outcomes (section 11) is "the efficient use of water", the BSA is disappointed that there are no strategies included in the Draft Plan to address the efficient use of GABORA water being accessed by Councils in Inland Queensland.

3.7 Provisions in the GABORA Plan for the Protection of Groundwater Dependent Ecosystems and Existing Water Entitlements:

The BSA notes that Section 21 of the Draft GABORA Water Plan allows the Chief Executive of DNR&M to require an applicant for a water licence from a General, State or Indigenous Reserve, to investigate the impacts of the proposed take may have on:

- Flows to Groundwater Dependent Ecosystems (GDE's)
- Groundwater pressure, and
- Existing entitlements and other authorisations.

While the BSA is supportive of this provision – the BSA also notes that Section 21 has a discretionary application in that the Chief Executive MAY require this investigation. The BSA takes the view that Section 21 is highly inconsistent with the "statutory underground water rights" afforded to the Resources Sector, where unlimited volumes of underground water can be taken regardless of the impacts on GDE's, Groundwater Pressure or Existing GAB Entitlements.

Division 5/Section 33 of the Draft GABORA Water Plan outlines protective measures to Groundwater Dependent Ecosystems (GDEs) and existing water entitlements from the grant of:

- Unallocated water entitlements.
- Stock & Domestic entitlements.
- Seasonal Water Assignments (temporary transfers) if > 100ML, and
- The amendment or relocation of a Water Licence.

For additional provisions for the protection of Groundwater Dependent Ecosystems it is necessary to refer to the Draft Water Management protocol for the GABORA Water Plan**.**

Comment:- The Draft GABORA Water Plan is the first plan to be issued after the proclamation of the Water Reform & Other Legislation Amendment Act (WROLA) 2014, the Water Legislation Amendment Act (WLA) 2016 and the Environmental Protection & Other Legislation (Underground Water management) Amendment Act (EPOLA) 2016. This Draft GABORA Water Plan and associated documents clearly highlights the increased level of complexity of undertaking a review of all the documentation associated with Queensland's new Water Planning framework. This has increased the complexity for organisations such as the BSA to review "draft" water planning documents and compile relevant submissions.

Section 16 of the Draft Water Management Protocol outlines there is to be no new Water Licences issued for Stock take from a Groundwater Unit or Sub-Area connected to a Groundwater Dependent Ecosystem (GDE) - if the increase in take is within 5 kms of a GDE. While the BSA is supportive of measures to protect GDE's, it would like to point out what appears to be a policy inconsistency where a landholder is not allowed to construct a new Stock bore within 5 kms of a GDE, but a CSG operator may be allowed to drill a CSG well within this distance without regard to the impact on the GDE. The BSA considers this apparent policy anomaly needs to be clarified because it is not clearly articulated in the Draft GABORA Water Plan.

Section 17 outlines that an existing bore taking water from a Groundwater Unit or Sub-Area which is connected to a GDE, and within 5 kms of a GDE, is not allowed to be relocated any closer. The DNR&M can apply additional conditions to better define the bore's location, but there is to be no limit on a person's capacity to take water from an existing water bore. The BSA notes that this policy position is consistent with existing GAB Water Plans. The BSA also noted at the Toowoomba DNR&M GABORA consultation meeting that stock bores are not allowed with 5kms of a spring and that this restriction apparently does not apply to domestic bores. The BSA requests clarification on the reasoning for splitting stock & domestic bores in this policy position.

There are new bore separation distances for listed Groundwater Units and Sub-Areas outlined in Attachment 5 of the Draft GABORA Water Management Protocol. The BSA notes that only 30 of the 55 Groundwater Units and Sub-Areas are listed in Attachment 5, and that the Springbok Walloons, Surat Huttons and Precipice Groundwater Units/Sub-Areas are the only ones listed for the Surat Basin area. The BSA also notes the separation distance shown in Attachment 5 for a Surat Hutton or Springbok Walloons bore extracting 10ML/annum, is 4.2kms and this increases to 16.9kms for an extraction of 100ML/annum. The BSA notes

that the separation or set back distances included in Attachment 5 are dependent on and determined by aquifer transmissivity – the BSA supports the principle of this approach. The BSA requests clarification from the DNR&M as to why only 30 of the 55 Groundwater Units and Sub-Areas are listed in Attachment 5.

However, the BSA is undecided on the overall relative effectiveness of these separation distances to protect existing water bores from interference – particularly as there appears to be two rules operating – one rule for private landholder's water bores and another rule for the Resources Sector. There are examples in the Surat CMA where new "make good" bores have not complied with existing separation distances. Furthermore – the Draft GABORA Water Management Protocol does not make it clear if these separation distances also apply to CSG wells and CSG "make good" bores or whether these separation distances can also be used for bore impairment negotiations. At the DNR&M's Toowoomba GABORA Water Plan consultation meeting, it was indicated that these separation distances will not apply to CSG wells and the take of "associated water". The BSA does not support this inequitable approach to the management of "potential interference with existing water bores" and requests that this matter is equitably and appropriately resolved in the final GABORA Water Management Protocol.

The BSA does not believe that the proposed spring protection rules in the Draft GABORA Water Plan and the Draft Water Management Protocol will adequately protect GAB fed springs. The BSA has noted the predicted impacts of petroleum & gas operations on the GAB springs vents and springs complexes in the Surat CMA – reference the Surat UWIR 2012. The UWIR 2012 outlines that 71 springs complexes comprising of 330 individual springs vents have been identified in the Surat CMA. There are also 43 "watercourse springs" contributing to the base flows of watercourses in the CMA. The OGIA 2016 indicates that monitoring data collected to date, outlines "no impacts from P&G water extraction have been observed" – so there isn't an issue!!! However, OGIA 2016 indicates that OGIA will continue to monitor 11 springs complexes and 3 watercourse springs which have been identified as "high or moderate risk springs" (page 107 - OGIA 2016).

The 2012 UWIR identified 5 springs complexes where pressure impacts were predicted at > 0.2metres. At two (2) of these sites - a relocation of stock & domestic bores has mitigated the risk. For the other three (3) sites (Lucky Last, Springrock Creek & Yebna) more investigations were needed. The BSA notes that petroleum & gas tenure holders are required to assess mitigation options at these 5 sites and report these outcomes to the Queensland Government. The outcomes of these investigations has resulted in Lucky Last spring no longer being considered to be at risk and SANTOS are doing further work on the impacts on Springrock Creek and Yebna springs. OGIA 2016 report the "need for targeted action by tenure holders" will be reassessed in the next update of the UWIR (page 110).

With 4 years of investigation into these springs already elapsed and potentially another 4 years of investigation to be undertaken - the BSA questions whether the Queensland Government is really committed to spring protection and would intervene to halt adjacent CSG production if that what was required to protect spring complexes. The BSA has also noted that the Surat UWIR 2016 is silent on the potential impacts of mining operations on GAB fed springs.

The BSA has also noted that the Draft GABORA Water Plan and the Draft Water Management Protocol for the GABORA Water Plan, is also silent on managing the impacts of the Resources Sector on GAB fed springs. It is apparent that the GABORA Water Plan and its supporting Water Management Protocol will only apply controls to the impacts of new non-Resource Sector's water bores on GAB springs. This is an appalling and inequitable application of policy and in the BSA's view, it will lead to substandard outcomes – in other words a significant number of GAB fed springs will be compromised. This position is borne out by the recently approved Adani Mine in the Galilee Basin which is expected to have significant impacts on the Nationally Listed Mellaluka and Doongmabulla GAB springs, as well as the base flows of the Carmichael River. The BSA contends that protection of GAB-fed springs means exactly that, and if any springs are compromised by mining or petroleum & gas projects, then the proponent MUST be required to provide for offset arrangements, such as a significant financial contribution to the GABSI Program.

3.8 Water Trading Provisions in the GABORA Plan:

The BSA notes that the rules for the relocation of a GAB Water Licence have also been changed. The proposed new rules include:

- The Water Licence MUST have a stated volumetric limit.
- The Water Licence is declared a metered entitlement – this means if it isn't metered now it may have to be metered after relocation.
- The relocation MUST not increase the total volume of water taken.

Sections 26 (3) & (4) of the Water Management Protocol outline:

Section 26 (3) outlines that a part or all of a Water Licence may be relocated within a Groundwater Unit under the following circumstances, provided the relocation is not relocating from outside a Zone into a Zone –

(a) Within any Groundwater Sub-Area; or
(b) Out of any groundwater sub-areas listed in column 2 of Attachment 6.1; and
(c) Into any groundwater sub-areas listed in column 3 of Attachment 6.1.

Section 26 (4) outlines that a part or all of a Water Licence may be relocated from one Groundwater Unit to another under the following circumstances, provided the relocation is not relocating into a Zone –

(a) The relocation is into a deeper groundwater unit; and
(b) Is relocating out of any Groundwater Unit or Sub-Area listed in column 1 of Attachment 6.2; and
(c) Is relocating into any Groundwater Unit or Sub-Area listed in column 2 of Attachment 6.2.

Subsections (3) and (4) do not apply to water licences that are amended under Section 51 of the GABORA Water Plan to facilitate make good agreements.

Additionally - part or all of a water licence granted for any of the following purposes, may not be relocated if the relocation includes a change in the purpose for which water may be taken –

(a) Town Water Supply; or
(b) A specific project – for the duration of that project; or

(c) From the State Reserve.

Attachment 6.1 lists the permitted Water Licence relocations within a Groundwater Unit (Columns 2 & 3) and Attachment 6.2 lists the permitted Water Licence relocations between Groundwater Units (Columns 1 & 2)

In spite of the GABORA Statement of Proposal exploring the possibility of making the trade of GAB Water Licences easier, the BSA notes for aquifers in the Surat CMA with a high volume of use relative to capacity, the amount of unallocated water made available is limited or set to zero and there is also a close link between where unallocated water is to be restricted and the water licence relocation rules – for those sub-areas or units where water is not permitted to be relocated. The BSA has interpreted these restrictions to be a direct consequence of the impact to date of the Resource Sector's unlimited take of associated water through statutory underground water rights. At the DNR&M's Toowoomba GABORA consultation meeting, it was outlined the Plan will only allow the transfer of water out of an overused system into an underutilised system – for example from the Huttons formation into the Precipice & Clematis formations and any request for a relocations of take of water by Water Licences into the Walloons Coal Measures and the Huttons formation, will not be allowed. While the BSA is supportive of the Department's attempts to manage a system that is beyond their control, the BSA also notes that agriculture will pay a very high price.

The GABORA Water Management Protocol allows the Chief Executive to declare a Zone within a Groundwater Unit to protect existing entitlements, other authorities (such as petroleum tenements) and natural ecosystems. The declaration of a Zone may limit: a) the granting of Water Licences from unallocated water reserves, and b) dealings Water Licences to take water including the relocation of Water Licences. The GABORA Water Management Protocol outlines the following Zones are proposed:

- Springbok/Walloon Zone.
- Precipice Zone, and
- Hutton Zone.

The DNR&M's GABORA consultation meeting in Toowoomba confirmed that the construction of new Stock & Domestic bores in a Zone will be prohibited. The BSA considers this to be a huge impost on primary producers – especially when the CSG Industry can exercise their "statutory underground water rights" to extract unlimited volumes of "associated water" in a Zone. The BSA requests the Queensland Government to give serious consideration to the impacts of this impost and identify alternative sources of secure water supply for agricultural producers in finalising the final GABORA Water Plan.

All of these proposed Zones are within the Surat CMA and are also within the BSA's area of interest. The BSA is extremely concerned at the potential restrictive nature of the proposed Water Licence relocation rules on primary producers in the Surat CMA. The lack of a sufficient volume of General Reserve unallocated water (only 840ML in the Surat Precipice & Eastern Downs Precipice formations) together with the proposed restrictions on being able to secure unallocated water or the relocation of an existing Water Licence in the proposed Zones in the Surat CMA will have significant impacts on agricultural enterprises in

the Western Downs Region. The BSA requests the DNR&M to reconsider these proposed rules and convene further consultation on their potential impacts.

3.9 Make Good Provisions in the GABORA Plan:

The BSA notes that Section 51 in the Draft GABORA Water Plan allows Water Licences to be amended to take water for meeting a "make good" obligation. However, the location of the Water Licence or the volume of water taken cannot be changed. At the DNR&M's GABORA Water Plan consultation meeting in Toowoomba, the matter of where "make good" water was accounted for and taken from was raised. The Departments response was to the effect that the current GAB Water Plans contained no provisions or mechanisms for dealing with "make good" water and Section 51 was introduced into the Draft GABORA Water Plan to provide such a mechanism.

Furthermore, the Departmental Officers present at this meeting advised that "make good" water is not taken from any Reserve of unallocated water in the GABORA Water Plan because it was already being taken from a groundwater aquifer. This point is not clear in the Draft GABORA Water Plan and in the BSA's view, it needs to be fully clarified. The BSA also contends that the GABORA Water Plan should make it patently clear which aquifers either above or below the original aquifer being accessed by a bore which is impaired, are allowed to be accessed for a "make good" bore. The BSA also noted the Department clarified at the GABORA Water Plan "consultation meetings" that "make good" bores and bores drilled by the Resources Sector for "Non-Associated Water", have to meet the separation distances outlined in Attachment 5 of the Draft GABORA Water Management Protocol. Again this is not clear in the Draft GABORA Water Management Protocol and in the BSA's view it should be hard wired into the final GABORA Water Management Protocol.

3.10 Water Accounting in the GABORA Plan:

The BSA notes that Section 32 of the Draft Water Management Protocol outlines the Water Accounting provisions of the Draft GABORA Water Plan. The focus of the Plan's Water Accounting is on the use of water within a Water Licence's volumetric limit, as well as accounting for water use by Seasonal Water Assignments and/or Carry Over water (if available).

The BSA expresses its disappointment that there is no reference whatsoever in the Protocol to accounting for water use by P&G and Mining operations under their Statutory Underground Water Rights provisions. The BSA contends that there has to be full transparency and accountability to the recording and public disclosure to all water use from the GABORA Plan's aquifers. The BSA requests that this matter is fully addressed in the final GABORA Water Management Protocol.

3.11 Water Monitoring in the GABORA Plan:

The BSA notes that the "performance assessment" provisions of the Draft GABORA Water Plan are now included in the GABORA Water Management Protocol. In terms of GABORA Monitoring responsibilities – the Chief Executive:

- MUST monitor changes in groundwater pressure & bore levels for bores in the GAB Ambient Network.

- MUST measure water pressure, water levels, water flow, temperature and electronic conductivity as well as the date of measurement.
- The Chief Executive MUST also review the "monitoring network" at least every 5 years.

A review of the monitoring requirements for Groundwater Dependent Ecosystems (GDE's) indicate that they are quite vague and non specific. While the Draft Water Management Protocol does outline the GDE Monitoring Network is to include a number of named springs including: Abercorn, Yowah Creek, Moorabinda Springs, Elizabeth Springs, Spring Rock Springs and Edgbaston Springs spring complexes, there is no reference in the Draft Water Management Protocol or the Draft GABORA Water Plan, as to where the GDE Monitoring Network is held or whether it is a publicly accessible document. Efforts to locate it on DE&HP's or DNR&M's Website were unsuccessful.

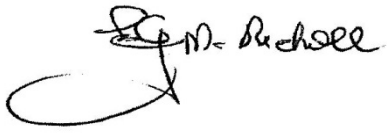
The Draft Water management Protocol outlines the Chief Executive:

- MUST monitor the GDEs in the Network at least once in every 3 years.
- Must review the GDEs in the Network at least once in every 5 years.

The Draft Water Management Protocol outlines the Chief Executive MUST publish an analysis of the Groundwater and Groundwater Dependent Ecosystem data at least every 5 years.

The BSA would like to raise its concerns that the GAB Water Resource Plan's Statement of Proposals (September 2015), highlighted **that the DNR&M had clearly indicated it had not undertaken a complete and routine monitoring of groundwater pressure or springs impacts to ascertain whether the initial GAB Water Resource Plan had delivered on its Objectives (page 13)**. The Statement of Proposal specifically stated:- *"The department's Great Artesian Basin Ambient Network and Groundwater Level Network together deliver a regional scale pressure monitoring network. Due to priority constraints, routine monitoring on a triennial basis as required by the GAB ROP has not been undertaken for all bores in these networks. While no local scale impact monitoring is explicitly undertaken for the plan, impact monitoring is being undertaken across the state to assess the impact of coal seam gas and mining operations on groundwater. Such impact monitoring will inform preparation of the new plan".*

The BSA contends *that* there is no detectable improvement in the Monitoring Requirements of the Draft GABORA Water Management Protocol and in fact the focus on the monitoring of GDE's has been diminished. This is a significant concern to the BSA and it requests the DNR&M to take this matter more seriously in the development of the final GABORA Water Management Protocol.



Lee McNicholl, Chair – Basin Sustainability Alliance.

Version Control – Version 4.2 – prepared on 14th April, 2017.