

**QUEENSLAND FLOODS**  
**COMMISSION OF INQUIRY**

**STATEMENT OF ANDREW STUART BRIER**  
**MORANBAH NORTH COAL MINE**

I, **ANDREW STUART BRIER** of c/- 400 George Street Brisbane in the State of Queensland, General Manager Strategic Implementation, Coal & CSG Operations, Regional Service Delivery, Operations and Environmental Regulator, Department of Environment and Resource Management (DERM), solemnly and sincerely affirm and declare:

**Requirement from Queensland Floods Commission of Inquiry**

1. I have seen a copy of a letter dated 9 September 2011, which is attachment **ASB-01**, from the Commissioner, Queensland Floods Commission of Inquiry to me requiring a written statement under oath or affirmation, and which details the topics my statement should cover.

**Role**

2. I am currently the General Manager Strategic Implementation, Coal and Coal Seam Gas Operations within the Regional Service Delivery Division in the Department of Environment and Resource Management. I have held this position since 21 February 2011 although I was involved in the management of flood related issues surrounding coal mines from the 10 January 2011 onwards.
3. Between 2010 and 2011 my roles were as follows:
  - 25/12/2009 to 05/08/2010 - Regional Manager GABSI & Major Projects
  - 06/08/2010 to 02/01/2011 - Regional Manager CSG Activities
  - 03/01/2011 to 20/02/2011 - Director LNG Enforcement Unit
  - 21/02/2011 onwards - General Manager Coal & CSG Operations

**Item 1: Department of Environment and Resource Management's activities in respect of each mine's flood preparedness in advance of the 2010/2011 wet season, including whether any particular activities were undertaken as a response to the forecast of an above-average rainfall wet season.**

4. As a regulator DERM's compliance activities are designed to strategically review the performance of individual regulated entities on the basis of perceived risk.
5. DERM undertook pre wet season compliance programs to evaluate water management preparedness ahead of the 2010/2011 wet season. This primarily involved evaluating past wet season performance and preparedness ahead of the next wet season in terms of having available dam storage capacity to meet the minimum design storage allowance required on the 1 November of any year.

6. Environmental authorities include requirements for companies to prepare Water Management Plans that outline the overall mine water management strategy for their site. The environmental authorities require an annual review of these plans to ensure learnings from past wet season performance are incorporated into forward plans and preparations for future wet seasons.
7. Environmental authorities for mine sites also include dam structural design, construction and operation requirements that are commensurate with flood risks given a mines location, including:
  - a. certified hazard assessment required for all dams;
  - b. must be designed to prevent floodwaters from entering the dam, wall failure and overtopping up to and including a specified flood event based on AEP;
  - c. certified design plans, high risk dams reviewed by DERM technical experts;
  - d. having a marked "mandatory reporting level" above which DERM must be notified immediately, and actions put in place to prevent or minimise environmental harm
  - e. ensuring that dams are inspected by a suitably qualified and experienced person;
  - f. undertaking reviews annually about the effectiveness of the dam during the preceding wet season and modifying the water management system accordingly
  - g. monitoring of water quality within the dam prior to the wet season;
  - h. maintaining a register of dams and relevant information.
8. Moranbah North Coal mine was included in a list of mines to be inspected prior to the 2010-2011 wet season. This list was developed following an assessment of all coal mines in the region and the risk of a non-compliant discharge from each site on the receiving environment.
9. Officers of DERM carried out a compliance inspection on 6 October 2010. This inspection was prior to the 20 inspections carried out as part of the pre-wet season preparedness plan (ASB-MN01-01, ASB-MN01-02, ASB-MN01-03 and ASB-MN01-04). As a result of the 6 October inspection, the Moranbah North Mine was not required to be inspected as part of the pre wet season preparedness inspection program.
10. Prior to the 2010-2011 wet season the site was also issued two Transitional Environmental Programs (TEP) for the construction of a new dam to increase its Design Storage Allowance (DSA) (ASB-MN01-05 and ASB-MN01-06) and water management (ASB-MN01-07). These TEPs were negotiated in an effort to minimise the risk of non-compliances over the wet season.

**Item 2: the water management sections of the environmental authority applicable at the mine during the 2010/2011 wet season, including:**

- a) **Any concerns held by him or the Department of Environment and Resource Management (DERM) regarding its terms and the ability of the mine operator to comply with it**
  - b) **Any terms that the mine operator has indicated it is unable to comply with, or breached**
  - c) **Any terms that had to be amended from the Fitzroy model conditions because the model terms were unsuitable for this mine site**
  - d) **Any terms that he or DERM consider do not adequately promote environmental protection and dam safety**
- a) **Any concerns held by him or the Department of Environment and Resource Management (DERM) regarding its terms and the ability of the mine operator to comply with it**
11. Following the approval of TEPs prior to the wet season, DERM did not have any specific concerns that the Moranbah North Coal Mine would be unable to comply with the conditions of the TEP.
12. With respect to the environmental authority conditions (ASB-MN02-01) DERM was satisfied that those conditions that were not superseded by conditions of the approved TEP, could be complied with.
- b) **Any terms that the mine operator has indicated it is unable to comply with, or breached**
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13. DERM was not advised by the mine operator that it would not be able to comply with any terms of the EA or TEPs relevant to the Moranbah North site. The mine was operating under an Environmental Authority and two TEP's prior to the 2010/11 wet-season. Moranbah North Coal contravened the release flow events of TEP MAN10140 between 24 November - 26 November 2010 as detailed in paragraph 52.
14. Moranbah North Coal advised on 1 December 2010 that for a release that commenced on that day it was unable to undertake sampling at the monitoring point required in TEP MAN10140 due to access road conditions. Moranbah North Coal took alternative sampling at approximately 2 kilometres downstream of this location.
15. Moranbah North Coal advised on 12 December 2010 that for a release that commenced on 11 December it was unable to undertake sampling at the monitoring point required in TEP MAN10140 due to access road conditions. Moranbah North Coal took alternative sampling at approximately 1.5 kilometres downstream of this location.
- c) **Any terms that had to be amended from the Fitzroy model conditions because the model terms were unsuitable for this mine site**
16. The Moranbah North Coal Mine Environmental Authority contains the full suite of model water conditions that were developed after the 2008 flooding in Central Queensland. These conditions were applied to the Environmental Authority (EA)

in late 2009.

17. Moranbah North Coal Mine has two approved TEPs with conditions that supersede a number of the Fitzroy Model Conditions.
  18. One TEP is in relation to DSA compliance, authorising the construction of a new regulated dam on site and one TEP is in relation to water management, authorising an additional mine affected water release point (ASB-MN01-05, ASB-MN01-06 and ASB-MN01-07).
  19. There have not been any amendments to model water conditions of the Moranbah North Mine EA.
- d) Any terms that he or DERM consider do not adequately promote environmental protection and dam safety**
20. To the best of my knowledge the Moranbah North Mine EA/TEPs does not contain terms that do not adequately promote environmental protection and dam safety.

**Item 3: any transitional environmental program (TEP) issued or refused or any emergency direction (ED) given or considered regarding either mine during the period 1 October 2010 to 30 July 2011 related to water management, and for each, the following:**

- a) Information received from the mine operator
  - b) Any relevant dam safety issues
  - c) Relevant correspondence with the mine operator and other stakeholders
  - d) Whether and, if so, how DERM consulted with stakeholders
  - e) What considerations DERM took into account in making the decision
  - f) Whether, and if so, how DERM balanced environmental considerations and economic consequences of mines being non-operational
  - g) Whether, and if so how, DERM took account of downstream effects, including cumulative effects
  - h) The terms of the TEP issued or ED given
  - i) What actions were taken by DERM to advise emergency management personnel, including local and regional disaster management groups and local residents downstream of the dam about the TEP and any discharges or effects
  - j) Reasons for the decision given to the mine operator
  - k) Any breaches of the TEP or ED by the mine operator and DERM's response
- a) Information received from the mine operator**
21. There were a number of dealings related to mine releases authorised by a Transitional Environmental Program (TEP) at Moranbah North mine between the dates specified. Due to the time constraints placed on submission of this statement and the large amount of correspondence received by DERM in relation to TEPs

over the specified period there is a possibility that there are other items of correspondence or information that DERM has received in relation to this mine that have not been attached to this statement. This being said, the information provided is the best available data that could be provided at the time of submission.

22. Moranbah North Coal Mine submitted a request for an ED via email on Sunday 19 December 2010 at 10:05am by Mr Michael Rodgerson (ASB-MN03-01). A response from Christopher Loveday, Manager, Environmental Services – Mining, Central West Region, DERM on Sunday 19 December 2010 at 11:30am (ASB-MN03-02) indicated that an ED was issued to discharge water from Production Dam to the Isaac River via pipeline. The authorisation was valid until 5:00pm Friday 24 December 2010 or until a TEP authorising this release in the medium term could be approved.
  23. Another application for an ED was requested 11:12am 20 December 2010 seeking permission to discharge contaminated water from Dam 4. An ED was issued on 20 December 2010 and remained in effect until 25 December 2010 (ASB-MN03-03 and ASB-MN03-04).
  24. Moranbah North submitted a draft TEP (MAN11420) on 20 December 2010 for release from existing release points at a higher Electrical Conductivity than the existing Environmental Authority (ASB-MN03-05).
  25. The TEP was assessed by DERM and this assessment is documented in a request for statutory approval (ASB-MN03-06) outlining who negotiated with the mine who amended the TEP on 23 December 2010 (ASB-MN03-06, ASB-MN03-07 through to ASB-MN03-14). This TEP was forwarded to the delegate for approval on 24 December 2010. The approved TEP, certificate of approval and notice of decision (ASB-MN03-15) were forwarded to the mine electronically and in hard copy on the same date.
  26. The terms of the approved TEP have been attached (ASB-MN03-15).
- b) Any relevant dam safety issues**
27. The two emergency directions (EDs) were issued due to dam safety potentially being compromised as a result of extreme rainfall on the mine site. In relation to the ED issued on 19 December 2010 for a production dam, in this instance the dam was about to overtop. The ED was issued due to Dam 4 being above MRL and there were safety concerns for dam stability at current water levels and predicted wet weather.
- c) Relevant correspondence with the mine operator and other stakeholders**
28. Notifications and Discharge Reports, provided by the mine were received by DERM during the period of the ED (ASB-MN03-16, ASB-MN03-17, ASB-MN03-18, ASB-MN03-19 and ASB-MN03-20).

29. There was a significant level of correspondence with many mines in relation to TEPs assessed as a result of the 10/11 wet season within the dates specified. This correspondence is held in a number of regional offices and in the email accounts of a significant number of DERM staff. It is estimated that there are several thousand correspondence items across all mines within this period of time and, as such, the department was unable to search all the potential sources of correspondence within the timeframe allowed for submission of this statement. I was not comfortable with attaching correspondence items to this statement at this time due to the potential for errors, omissions or inaccuracies due to the high number of documents that would need to be searched in a short period of time. If the Commission wishes copies of particular items of correspondence then I am more than willing to provide these if requested. Additionally, if the Commission wishes copies of all correspondence these can be provided if time is allowed.

**d) Whether and, if so, how DERM consulted with stakeholders**

30. DERM also consulted with the Fitzroy Water Quality Advisory Group (FWQAG) on three occasions during the dates specified. This consultation formed part of the agenda at meetings of the FWQAG held in Rockhampton on 16 December 2010, 4 February 2011 and 7 April 2011. This consultation was in the context of all mines currently discharging in the Fitzroy Basin and DERMs management of these TEPs and discharges.

31. The FWQAG is made up of a number of stakeholders including the mining industry, community groups, conservation groups, local government and DERM. One of the key roles of the group is to provide advice to State Government agencies relating to water quality management in the Fitzroy River Basin.

32. DERM also consulted with Qld Health regarding mine water discharges. However the Moranbah North Mine releases would not have been individually referred to as the discussions were based around whole of catchment water quality issues. The Moranbah North Mine discharges would only have been discussed if there were specific water quality issues downstream of the mine.

33. The Director Environmental Health from Qld Health was also placed on the distribution list for the weekly Fitzroy Basin water quality report compiled by DERM (ASB-MN03-39) in an effort to keep Qld Health informed of the current situation across the Fitzroy Basin.

34. On 28 June 2011, Ed Donohue, Regional Manager, Environmental Services – Mining, Central West Region, DERM presented to the Isaac Regional Council an update on water quality issues associated with mine discharges.

**e) What considerations DERM took into account in making the decision**

35. Transitional environmental programs (TEPs) are specific programs that, when complied with, achieve compliance with the *Environmental Protection Act 1994* (EP Act) for an activity by reducing environmental harm, detailing the transition of the activity to an environmental standard or detailing the transition of the activity to comply with a condition of a development approval, an environmental

authority or code of environmental compliance. The requirements for TEPs and the process for assessing and approving them is set out in chapter 7, part 3 of the EP Act (ASB-MN03-35).

36. Draft TEPs may be submitted voluntarily by a mine operator, or DERM may require an operator to submit a draft TEP if it is satisfied that an activity or proposed activity is or may cause unlawful environmental harm. In either case, the draft TEP is prepared by the operator. DERM's role is to assess the draft TEP against the requirements of the EP Act and either approve the TEP, approve the TEP with conditions, or refuse to approve the TEP.
37. Section 338 of the EP Act (ASB-MN03-36) provides the framework for considerations that the administering authority must make in deciding whether to approve or refuse a draft TEP or the conditions (if any) of the approval. In making its decision it:
  - must comply with any relevant regulatory requirement and
  - subject to the above, must also consider the following:
    - the standard criteria
    - additional information given in relation to the draft TEP and
    - the views expressed at a conference held in relation to the draft TEP.
38. DERM has produced guidance material to support regional officers and delegated decision makers in assessing draft TEPs. A two part procedural guide; Part 1- Notice requiring a draft TEP (ASB-MN03-21) and Part 2-Considering and making a decision about a draft TEP (ASB-MN03-22) is attached. Supplementing the guidelines are two correlating assessment report templates Part 1 Assessment Report (ASB-MN03-23) to assist officers to record the information considered by DERM when deciding to issue a notice requiring a TEP and Part 2 – Assessment Report (ASB-MN03-24) to assist users to evaluate the content of a draft TEP and make a decision to either approve (with or without conditions) or refuse a draft TEP. Prior to the procedural guides and assessment reports coming into effect, a draft Administrative Practice Note (ASB-MN03-37) and a Request for Statutory Approval template (ASB-MN03-38) was utilised by regional officers to assist with the TEP assessment process.
39. The reasons for the decisions are contained within the assessment report and request for statutory approval (ASB-MN03\_06, ASB-MN03\_25 and ASB-MN03\_26).
40. If an approved TEP authorises the holder of the TEP to do or not do something, the holder may do or not do that thing despite anything in a regulation, an environmental protection policy, an environmental authority held by the holder of the TEP, a development approval, a standard condition of a code of environmental compliance for a chapter 4 activity or an accredited environmental risk management plan.
41. Mine operators typically voluntarily submit TEPs to DERM when they are seeking authorisation to discharge water from the mine site in circumstances

where the discharge is not authorised by the environmental authority. Many TEP applications were received by DERM following the 10/11 wet season.

42. DERM typically require mine operators to submit a draft TEP when DERM becomes aware that there is a non-compliance at the mine site that will require a significant amount of time and/or investment by the operator to rectify.
43. Once a draft TEP is submitted to DERM there is often a discussion between the environmental officer involved in the matter and the mine operator about the contents of the draft TEP. This is an opportunity for DERM to raise any concerns with the draft document and for the operator to take steps to address those concerns before DERM makes a decision about the draft TEP.
44. DERM has produced guidance material to assist environmental officers in assessing draft TEPs (ASB-MN03-33 and ASB-MN03-34).
45. In the case of the Moranbah North Coal Mine, the department considered a number of issues such as:
  - Releases to the major regional watercourse (Isaac River) and the impacts on water quality as a result of releases of mine affected water with EC of up to 10,000uS/cm during large flow events;
  - The background water quality parameters in the streams surrounding the mine;
  - Downstream water quality in the Isaac River and the Isaac River, being mindful of the DRAFT environmental values and water quality objectives for those streams;
  - Water users located downstream of the mine and there requirement for water;
  - The economic impacts of the mine being unable to mine effectively due to inundation; and
  - Impacts of any releases on access to properties.

**f) whether, and if so how, DERM balanced environmental considerations and economic consequences of mines being non-operational**

46. The EP Act and subordinate legislation governs the responsibilities of DERM in the environmental regulation of mining activities in Queensland. The objective of the EP Act is to protect Queensland's environment while allowing for development that improves the total quality of life, both now and in the future, in a way that maintains the ecological processes on which life depends. This is referred to as ecologically sustainable development (ESD). Accordingly, DERM is required to balance environmental, economic, social and equity considerations when making decisions.
47. When making any decision under the EP Act, including whether to approve a draft TEP, DERM must consider the "Standard Criteria" (ASB-MN03-27) as specified in Schedule 4 of the EP Act. The standard criteria specifically require environmental and economic considerations to be balanced and considered. Part 2- *Considering and making a decision about a draft TEP* procedural guide (refer to ASB-MN03-22) provides further guidance on some of the principles on



evaluating ESD. In addition further direction is provided on other considerations of the standard criteria, relevantly the financial implications for an applicant in complying with a TEP (and any conditions that may have been imposed) and the character, resilience and values of the receiving environment.

48. Furthermore, part 2 and 3 of the *Environmental Protection Regulation 2008* (EP Reg) (ASB-MN03-28) stipulate requirements for all environmental management decisions and additional regulatory considerations with respect to imposing conditions relating to a wide ambit of environmental and economic considerations including but not limited to monitoring, and releases to waters or land. Decisions must also consider any relevant Environmental Protection Policies (EPP) such as the *Environmental Protection (Water) Policy 2009* which sets out to achieve the objective of the EP Act with respect to Queensland waters. It does this by identifying environmental values and management goals and providing a framework for making consistent, equitable and informed decisions about Queensland waters.
49. In accordance with the provisions of the EP Act, when making an environmental management decision in relation to a TEP DERM must consider the economic or financial implications of the program and any conditions to be imposed on the holder. This part also requires the financial implications of the holder not being granted a TEP. When assessing the Moranbah North Mine TEP and when processing amendments to the approved program DERM did take into consideration the economic and financial implications of the mines inability to extract coal if a release could not be authorised. This was primarily in regard to the decision to grant a TEP however conditioning of the TEP was based on environmental considerations.

**g) Whether, and if so how, DERM took account of downstream effects, including cumulative effects**

50. When assessing the Moranbah North Mine Water Management TEP submitted on 20 December 2010 (ASB-MN03-05) DERM took into consideration the downstream impacts of the proposed releases to Isaac River and other watercourses further downstream by ensuring the conditions of the TEP required adequate dilution to achieve downstream EC targets. These targets included drinking water quality guidelines and aquatic ecosystem guidelines to ensure the protection of waterholes and refugia in the Isaac River.
51. DERM also took into account releases from other mines into the system along with background water quality parameters to ensure cumulative impacts were minimised and downstream water users were adequately protected. DERM also took these other releases into account to ensure other mines were afforded the opportunity to release water where required under similar programs.
52. When assessing and deciding on a draft TEP the assessing officer also seeks advice from other business groups within DERM such as the Aquatic Ecosystem Risk & Decision Support Unit who provide specific scientific advice in relation to proposed TEP conditions and guidance as to the downstream impacts of mine affected water releases to the environment.

53. The Moranbah North TEPs included a condition that required them to cease releases if directed to do so by DERM. This was required to ensure that DERM could direct mines to cease discharging if monitoring demonstrated potential issues with the cumulative effects of multiple mine releases.

**h) The terms of the TEP issued or ED given**

54. Please refer to (a) in Item 3 above for terms of TEPs issued.

**i) What actions were taken by DERM to advise emergency management personnel, including local and regional disaster management groups and local residents downstream of the dam about the TEP and any discharges or effects**

55. Due to the limited rate of release, e.g less than a 300 litres per second and the fact that the release was unlikely to cause any significant issues to downstream landholders or the environment. DERM did not consider it was necessary to brief local and regional disaster management groups about the release. The releases of mine affected water from Moranbah North Mine constituted only a very small (typically less than 5%) portion of the flow in the Isaac River. Therefore any risks to person due to flooding were not increased as a result of the releases and had already been accounted for by emergency services personnel.

**j) Reasons for the decision given to the mine operator**

56. The reasons for the decisions are contained within the request for statutory approval (ASB-MN03-06).

**k) Any breaches of the TEP or ED by the mine operator and DERM's response**

57. The Moranbah North Mine has breached the conditions of its TEP. The notification received by Moranbah North Coal (ASB-MN03-29) identified that the mine affected water being released from the Environmental Dam spillway into Service Area Creek was occurring when the natural flow in the Isaac River was less than that required by conditions of the TEP.

58. This release was a contravention of the conditions of the TEP. A warning letter was issued on 3 December 2010 (ASB-MN03-30).

59. A second warning letter was also issued to Moranbah North relating to a breach of the ED issued on 20 December 2010 (ASB-MN03-31 and ASB-MN03-32). It was identified that Moranbah North Coal was still releasing under the ED, however the Isaac River did not have sufficient flow.

60. Downstream monitoring undertaken on both occasions indicated that water quality parameters were not of a concentration sufficient to cause environmental harm. Warning notices were issued as a result of the contravention of conditions rather than as a result of environmental harm.

**Item 4: the effects on the environment, drinking water quality and public health downstream of each of the mine sites (as far as the Great Barrier Reef Marine Park) as a result of discharges of water under a TEP or ED.**

61. The potential effects of releases of water from mine sites are assessed prior to the grant of environmental authorities or transitional environmental programs. In applying to receive approval to discharge to a surface water, applicants must prepare information to support the application which identifies the environmental values, water quality objectives and management intent (that is, the goals to be achieved in terms of meeting water quality objectives and protecting environmental values) of the surface water. This framework is provided in the subordinate *Environmental Protection (Water) Policy 2009* (EPP Water) (ASB-MN04-01). Applications must be able to demonstrate that the management intent for the receiving water will be met despite the discharge occurring.
62. All applications for environmental authorities and TEPs submitted for the approval of discharge to surface waters must be assessed by DERM against the requirements of the EP Act which includes the EPP Water, including an impact assessment to ensure that environmental values of any surface water will be protected. In conducting these regulatory assessments, DERM has developed a number of decision support tools including the guideline "Protecting Environmental Values from CSG Water Discharged to Surface Waters" (2010, ASB-MN04-02) Conditions for Coal Mines in the Fitzroy Basin – Approach to Discharge Licensing (June 2010) and the Operational Policy "Waste water discharge to Queensland Waters" (2007, ASB-MN04-03) and associated procedural information (ASB-MN04-04 and ASB-MN04-05). DERM has also prepared an "Interim Decision Support Matrix Release of water produced in association with Coal Seam Gas activities to surface waterways" (2010, ASB-MN04-06) which informs assessments and resultant authority conditions
63. The approach used by DERM throughout the 2010-2011 wet season aimed to be consistent with state/national water quality guidelines e.g. The Queensland Water Quality Guidelines (2006), ANZECC/ARMCANZ Guidelines for Fresh and Marine Water Quality 2000, the Australian Drinking Water Quality Guidelines and the October 2010 released Draft for Consultation – Establishing Environmental Values, Water Quality Guidelines and Water Quality Objectives for Fitzroy Basin Waters.
64. Controls and limitations are placed on authorities as conditions such as limits upon the volumes discharged, timing of discharge and required dilution and mixing zones for discharges. Conditions also include comprehensive contaminant monitoring programs for discharge quality which is supplemented by detailed receiving environment monitoring programs.
65. Releases of water from a dam at a mine site can be authorised by the conditions of an environmental authority or via specific permission under a transitional environmental program. Regardless of the statutory instrument, for releases of water from a dam at a mine site to be authorised, the assessment procedure described above would apply.

66. The EP Act and the subordinate EPP Water provides for drinking water values for Queensland waters. Accordingly, the protection of these values must be demonstrated prior to any authority being granted authorising a contaminant release to surface waters. Conditions of the environmental authority or TEP will provide quality limits and environmental monitoring to ensure that discharge quality is sufficient to protect drinking water values.
67. During the 10/11 wet season, DERM staff liaised with Queensland Health on a regular basis to ensure that any authorised or un-authorised discharges from mine sites were managed to ensure the protection of drinking water quality.
68. TEPs issued during or as a result of the 10/11 wet season also considered the effects of any mine site release on drinking water and were conditioned to ensure that the discharge was managed in such a way as to ensure the protection of drinking water supplies.
69. DERM has observed that salinity (measured by Electrical Conductivity) in all water courses in the Fitzroy basin has increased following the 2010/2011 wet season. The high rainfall resulted in extensive recharge to the groundwater in the Fitzroy basin which increased contribution of groundwater to base flows in streams high in the catchment. At times, the salinity of this water is quite high (in excess of the EC 2500 micro Siemens per centimetre (uS/cm)). As a consequence, salinity in base flows in the larger streams of the Fitzroy catchment is higher than has been experienced in recent years when there was little or no groundwater contribution to stream flow.
70. DERM does not believe that discharges from mine sites as a result of the 2010/11 wet season have contributed significantly to the currently elevated electrical conductivity of the Fitzroy river system. Discharges from mine sites have been closely monitored in accordance with conditions set on both EAs and TEPs to ensure water quality downstream of mines remains within acceptable limits.
71. This rising salinity is currently causing some minor issues in drinking water supplies in the lower Mackenzie and Fitzroy Rivers. The electrical conductivity (EC) in the Fitzroy Barrage, which supplies drinking water to Rockhampton and the Bedford Weir, which supplies drinking water to Tieri, Middlemount, Blackwater, and Bluff has risen to levels above 600uS/cm. At these levels part of the population are able to detect taste difference to the water normally supplied from these storages.
72. There is no evidence to suggest that any plant or animal species has been adversely impacted by the increased salinity in waterways across the Fitzroy river system.
73. Whilst there have not been major impacts on electricity generation there has been some minor inconvenience and increased costs on electricity generation at the Stanwell power station. An increase in salinity in the raw water supply results in fewer cycles for cooling water. Consequently, to achieve the same levels of electricity generation increased volumes of cooling water sourced from the Fitzroy River are required.

74. DERM has been informed that Stanwell Corporation has been able to handle the increase in salinity in its raw water through a temporary amendment to its Development Approval (DA). The amendment allows Stanwell to use larger volumes of below down water at the same time not exceeding its current water quality discharge limits.
75. There is no evidence that rising EC in stream flow in the Fitzroy river system or mine water discharges across the state as a result of the 2010/11 wet season have had any adverse impact on the environment. DERM has investigated a number of breaches of conditions of both EAs and TEPs and has concluded that no environmental harm has resulted from any non compliant release.
76. Where salinity has risen in drinking water supplies in the lower Mackenzie and Fitzroy Barrage, there is some concern in particular for those people who are on low sodium diets and kidney dialysis in Tieri, Middlemount, Blackwater, Bluff and Rockhampton. Bio medical services of the Central Queensland Health Service District have also reported that adjustments have had to be made to dialysis and other equipment as a result of the associated increase in hardness.
77. Monitoring has shown high EC levels in a number of local catchments upstream of mines not influenced by mine water discharges, therefore DERM believes that the major cause of this increase in salinity and hardness is the increasing contribution of groundwater to stream flows rather than the effects of mine water discharges..

**Item 5: details of how the new Fitzroy Model Conditions negotiated during 2011, or any other discussions with DERM, will resolve any issue raised above 1, 2, 3, or 4**

78. The new Fitzroy Model conditions may provide more opportunities for the Moranbah North Mine to release mine affected water to the environment. This may have the effect of reducing the volume of mine affected water stored on site, increasing the capacity of the mine to deal with rainfall events without pumping water to active mining pits.
79. It is the opinion of DERM that the Moranbah North mine may benefit from the new Fitzroy Model Conditions as a result of increased flexibility in mine affected water discharge conditions that can be applied to mines close to the boundary of a catchment. Consideration of the potential impacts on the mine due to the modified conditions will require detailed analysis on a site by site basis by the relevant mining company.
80. During a Compliance Inspection at Moranbah North on 16 September 2011, Michael Rodgeron, Environment Superintendent indicated that they will not be submitting an amendment for the Fitzroy Model Conditions until early next year. In the meantime, Mr Rodgeron considers the current TEP (MAN12579) sufficient to deal with the 2011/12 wet season.

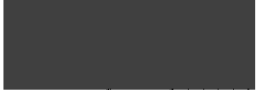
**Item 6: an explanation as to whether the new Fitzroy Model Conditions negotiated during 2011 are advantageous or disadvantageous to the mine operator in the management of water at the mine, the downstream environment and safety issues.**

81. With regard to the Moranbah North Mine, the new Fitzroy Model Conditions may provide the mine operator additional opportunity to discharge mine affected water to the environment through possible amendments to water quality limits and stream flow triggers.
82. Additional discharge of mine affected water may prove advantageous where the Moranbah North Mine is storing amounts of excess water on site either in pits where it is impacting on production or in the current water management system where it is impacting on the ability of the mine to comply with EA conditions.
83. The new Fitzroy Model conditions have been developed in an attempt to provide mine operators with additional flexibility to manage mine affected water on site through discharges, whilst maintaining minimal impacts on the receiving environment. The benefit to individual mines from adoption of the new model conditions needs to be determined by the mine through relevant analysis.

I make this solemn declaration conscientiously believing the same to be true, and by virtue of the provisions of the *Oaths Act 1867*.

Signed  .....  
Andrew Stuart Brier

Taken and declared before me, at Brisbane this 27th day of September 2011

 .....  
~~Solicitor/Barrister/Justice of the  
Peace/Commissioner for Declarations~~