

QUEENSLAND FLOODS
COMMISSION OF INQUIRY

STATEMENT OF ROBERT (ROB) ANTHONY LAWRENCE

WITH RESPECT TO THE CENTURY MINE

I, **ROBERT (ROB) ANTHONY LAWRENCE** of c/- 5B Sheridan Street, Cairns in the State of Queensland, Regional Manager, Environmental Services (North Region), Regional Service Delivery, Operations and Environmental Regulator, Department of Environment and Resource Management (DERM), make oath and states as follows:-

Requirement from Queensland Floods Commission of Inquiry

1. I have seen a copy of a letter dated 13 September 2011, which is attachment **RAL-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 Regional Manager Environmental Services, North Region, Regional Service Delivery Division, Operations and Environmental Regulator Business Group, DERM. I am based in Cairns, but my work covers the whole North Region. Attachment **RAL-02** is a map showing the regions.
3. From 1 Oct 2010 to present my roles were as follows:
 - a. From 1 October 2010 Regional Manager, Mining and Industry, North Region
 - b. On or around 4 April 2011 the role changed to Regional Manager, Environmental Services, North Region due to some internal realignment.
 - c. Reporting arrangements for a and b above are directly to the Regional Services Director, North Region, Regional Service Delivery Division, DERM.
 - d. I was on leave from DERM from 24 December 2010 until 28 January 2011 and 4 July 2011 until 11 July 2011.
 - e. I acted in the position of Regional Services Director from 8 August 2011 until 19 August 2011.

Item 1: Department of Environment and Resource Management (DERM) activities in respect of the 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. The Century mine is located approximately 250km north west of Mt Isa. The mine produces lead and zinc concentrates (RAL-CM01-01 excerpt page 9 of Plan of Operations MMG Century).
5. DERM has a pre wet season inspection program focusing on mining operations that hold a current environmental authority (EA) issued under the *Environmental Protection Act 1994*. This program aims to inspect the larger level 1 mines with a particular focus on water management prior to the wet season. In addition following the 2008/2009 wet season where a number of discharges occurred, North region developed a Mine Discharge Response Plan which provides a framework for incident management in relation to mine discharges as well as information for responding to a discharge such as site access and land holder contact details. The plan is updated each year prior to the wet season (RAL-CM01-02 mine discharge response plan with Century mine page).
6. DERM conducted the annual review of the Mine Discharge Response Plan for North Region in advance of the 2010/2011 wet season (Refer to attachment RAL-CM01-02 above). DERM officers also ensured that sufficient resources were available to respond in the event of a discharge from a mine site.
7. Given that above average rainfall was predicted for the 2010/2011 wet season, DERM closely monitored the Bureau of Meteorology(BoM) forecasts both prior to and during the 2010/2011 wet season and maintained contact with MMG Century Limited (MMG) the holder of the EA for Century mine in relation to site specific weather conditions and rainfall during that period.
8. DERM officers conducted a compliance inspection at Century mine focussing on water management prior to the 2010/2011 wet season to establish site preparedness.
9. I am advised that the compliance inspection identified areas of non compliance with the EA. DERM advised MMG of these issues and required the issues identified during the inspection to be rectified (RAL-CM01-03 DERM letter dated 23 December 2010). MMG responded in writing acknowledging the outcomes of the inspection. (RAL-CM01-04 Letter from MMG January). DERM confirmed the actions to be undertaken by MMG to achieve compliance (RAL-CM-01-05 DERM letter dated 17 January 2011) and MMG responded to each action item at a meeting with DERM officers on 19 January 2011 (RAL-CM-01-06 meeting notes).
10. The conditions of the EA for Century mine require that MMG have any high hazard dams containing hazardous waste on site inspected annually before the 1 November each year by a Registered Professional Engineer, Queensland (RPEQ). The 2010 annual report on hazardous storages at Century mine prepared by a RPEQ identified that some minor works were required, which were implemented by MMG prior to the 2010/2011 wet season (RAL-CM01-07 copy of annual dam report).

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.

11. The water management sections of the EA in effect during the 2010/2011 wet season are provided at attachment **RAL-CM02-01**.
12. In response to Item 2 (a), as detailed in paragraph 9 above, DERM officers carried out a compliance inspection of Century mine in November 2010 that identified areas of non compliance with the EA. I am advised by those officers that there were no major issues in relation to water management arising from that inspection. DERM and MMG corresponded regarding the outcome of the compliance inspection as referred to at attachments **RAL-CM01-03, RAL-CM01-04 and RAL-CM01-05** above.
13. In the 2008/2009 wet season a discharge occurred from the Century mine which exceeded limits stipulated in the EA. This matter was formally investigated by DERM and MMG were charged with causing serious environmental harm and for a breach of a condition of their environmental authority. MMG pleaded guilty to the charges and were subsequently fined \$130,000 and costs of \$8686.96. Documentation on the discharge, investigation and prosecution has not been attached as this incident did not occur during the 2010/2011 wet season. However the information can be provided on request.
14. As a result of the discharge in 2008/2009 MMG made a range of improvements to their site water management systems in 2009 and 2010 to minimise the risk of future releases (**RAL-CM02-02** Letter from MMG 16 September 2010).
15. DERM highlighted in correspondence to MMG the need for continuous improvement in water management practices at Century mine to minimise the risk of a discharge (**RAL-CM02-03** letter from Dean Ellwood 17 November 2010).
16. Based on the available information in the lead up to the 2010/2011 wet season I had no specific concerns regarding the ability of MMG to comply with the EA, recognising the water management improvement works that MMG had already undertaken in 2009 and 2010.

17. In response to Item 2 (b), as detailed in paragraph 8 & 9 above, DERM officers carried out a compliance inspection of Century mine in November 2010 that identified areas of non compliance with the EA. I am advised by those officers that there were no major issues in relation to water management arising from that inspection. DERM and MMG corresponded regarding the outcome of the compliance inspection are referred to at attachments **RAL-CM01-03, RAL-CM01-04 and RAL-CM01-05** above.
18. On 15 March 2010 MMG notified DERM of non compliance with their EA due to a contaminated water discharge. This was confirmed in writing by MMG on 18 March 2010 and included submission of a Program notice of relevant event under section 350 of the *Environmental Protection Act 1994* (**RAL-CM02-04** MMG Notification). Submission of a Program notice of relevant event would ordinarily result in the voluntary submission of a draft Transitional Environmental program (TEP). MMG subsequently decided not to proceed with lodging a TEP (**RAL-CM02-05**).
19. In response to Item 2 (c), I was not involved in the development of the Fitzroy model conditions however I understand that they were developed specifically for coal mining operations in Central Queensland. These conditions have not been applied to metalliferous mines in North Queensland. The Fitzroy model conditions were developed by DERM specialists who would be best placed to comment on them.
20. The Century mine EA was originally issued in 2001 by the District Manager (Mt Isa) of the former EPA who was the delegate at that time under the *Environmental Protection Act 1994*. The current EA was issued in 2009 following a minor amendment by the then acting Director, Far Northern Region, Environmental Services, of the former EPA, who was the delegate at the time under the *Environmental Protection Act 1994*.
21. DERM officers are currently negotiating an amendment to the EA to include contemporary conditions. In relation to the water schedule DERM is proposing amendments based on information contained in studies undertaken by MMG together and with reference to the Australian and New Zealand Environment Conservation Council (2000) (ANZECC 2000) water quality guidelines and the Queensland Water Quality Guidelines 2009.
22. While not directly involved in the negotiations with MMG, I am aware that the water schedule has been redrafted to:
- a. Ensure that any discharges are tied to minimum flow rates in the receiving environment;
 - b. Ensure that end of pipe and receiving water limits reflect DERM's current understanding of the environmental values of the receiving environment and take into account studies undertaken by MMG, and with reference to the ANZECC 2000 and the Queensland Water Quality Guidelines 2009;
 - c. Enhance and formalise environmental monitoring and reporting;

- d. Require both a site water management plan and an erosion and sediment management plan to be developed and maintained;
 - e. Reflect the water improvement works that MMG have undertaken on site and place all conditions relating to regulated dams into a dedicated schedule of the EA.
23. In response to item 2(d), whilst I am not a dam safety engineer, I am not aware of any conditions in the EA that do not promote dam safety.
24. The EA includes conditions in relation to receiving water contaminant limits as well as end of pipe contaminant release limits. These conditions were included to protect the environmental values downstream of the mine.
25. As mentioned in paragraphs 20 and 21 above, the Century mine EA was originally issued in 2001 by the District Manager (Mt Isa) of the former EPA who was the delegate at that time under the *Environmental Protection Act 1994*. The current EA was issued in 2009 following a minor amendment by the then acting Director, Far Northern Region, Environmental Services, of the former EPA, who was the delegate at the time under the *Environmental Protection Act 1994*. The wording of the current water schedule of the EA would allow for a discharge when there is no flow in the creeks. While this is not the current practice of MMG permitting such a release does not adequately promote environmental protection.
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26. DERM officers are currently negotiating an amendment to the EA to include more contemporary conditions and to remedy the issues raised in paragraph 25 above. In relation to the water schedule DERM is proposing amendments based on information contained in studies undertaken by MMG together with the ANZECC 2000 water quality guidelines and the Queensland Water Quality Guidelines 2009.
27. While not directly involved in the negotiations with MMG I am advised that the water schedule has been redrafted to;
- a. Ensure that discharges are tied to minimum flow rates in the receiving environment;
 - b. Ensure that end of pipe and receiving water limits reflect DERM's current understanding of the environmental values of the receiving environment and take into account studies undertaken by MMG, and with reference to the ANZECC 2000 and the Queensland Water Quality Guidelines 2009;
 - c. Enhance and formalise environmental monitoring and reporting;
 - d. Require both a site water management plan and an erosion and sediment management plan to be developed and maintained;
 - e. Reflect the water improvement works that MMG have undertaken on site and place all conditions relating to regulated dams into a dedicated schedule of the EA.

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

28. I can confirm that no TEP was issued or refused by DERM in relation to water management at the Century mine during the period of 1 October 2010 to 30 July 2011.

29. I can confirm that no ED was given in relation to water management at the Century mine during the period of 1 October 2010 to 30 July 2011.

30. I am aware that a TEP was approved by DERM on 29 August 2011 to permit the construction of a stormwater diversion channel to divert clean stormwater away from an evaporation dam on the mine site. Documents relating to the application, assessment and decision can be provided on request. A brief was provided to update the Minister for Environment, on Century mine water management issues (RAL-CM03-01 copy of brief to Minister).

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 from the mine during the period 1 October 2010 to 30 July 2011.

31. The Century mine is located in the Gregory River catchment which discharges into the Gulf of Carpentaria therefore there is no discharge to the Great Barrier Reef Marine Park. There are five (5) ephemeral creeks surrounding the mine which can receive discharges from the mine site. These creeks are not used for drinking water or recreational purposes.

32. During the period 1 October 2010 to 30 July 2011 Century mine discharged from multiple locations on the mine site. With the exception of the discharge event mentioned in paragraph 18 above, all of these discharges were compliant with EA release limits (RAL-CM04-01 emails from MMG).

33. During the non-compliant discharge mentioned in item 18 above, DERM officers undertook sampling on 15 and 16 March 2011. DERM officers have reviewed the results of the samples and have advised that the discharge event resulted in exceedances of the Australian and New Zealand Environment Conservation Council (2000) (ANZECC 2000) water quality guideline trigger values for the protection of ecosystems for heavy metals and electrical conductivity.
34. In relation to the effects on drinking water and public health it should be noted that the none of the five (5) creeks are used for this purpose, however sample results indicate that the Australian Drinking Water Guidelines were exceeded specifically for heavy metals, and sulphate. In addition the recommended recreational water quality for primary contact was exceeded for heavy metals.
35. DERM officers have undertaken a formal investigation in relation to non compliance with the EA and the potential for environmental harm in the receiving environment as a result of the discharge event in March 2011. A brief of evidence has been prepared by DERM's Compliance and Investigations Branch into the release in March 2011. I am advised that this brief of evidence is currently with DERM's Litigation unit for review to provide advice and recommendations on potential prosecution. I have not been directly involved in that investigation and as this matter may be placed before the courts, a copy of the brief of evidence has not been attached. A copy may be made available on request. A briefing note on the investigations is however attached (refer to **RAL-CM03-01** above Ministerial brief).
36. Following the 2011 wet season discharges MMG committed to carryout further studies downstream of the mine site to ascertain the extent of impacts on the receiving environment (if any). This report has not yet been submitted to DERM.

Item 5: any actions taken by DERM in response to any effect of discharges from the mine falling into 4, above, during the period 1 October 2010 and 30 July 2011.

37. I refer to my comments at paragraphs 35 and 36 above.
38. The notification of discharge provided to DERM by MMG confirmed that downstream landholders had been notified of the release. DERM officers notified the Burke Shire Council of the discharge (**RAL-CM05-01** record of conversation CEO, Burke Shire Council).
39. In addition DERM officers have continued to engage with MMG, as well as attending the Century Environment Committee (CEC) meetings with MMG and interested stakeholders.
40. DERM will review the report being prepared by MMG into the March 2011 discharge when it is received.

Item 6: any briefing (written or oral) given to any Minister or Director-General regarding a TEP or ED related to water management or non-compliance with the water management provisions of the environmental authority at the mine and the reason for that briefing.

41. For the purpose of this question I have assumed the period 1 October 2010 to 30 July 2011 applies.
42. I can confirm that no TEP was issued or refused by DERM and no ED was given by DERM in relation to water management at the Century mine during the period of 1 October 2010 to 30 July 2011.
43. As detailed in paragraph 30 above I am aware that a TEP was approved by DERM on 29 August 2011 to permit the construction of a stormwater diversion channel to divert clean stormwater away from an evaporation dam on the mine site. Documents relating to the application, assessment and decision have not been attached however, such documents can be provided on request. (Refer to Attachment RAL-CM03-01 above copy of brief to Minister).

Item 7: details of any flood preparedness activities planned to precede the 2011/2012 wet season

44. DERM are currently finalising the annual review of the Mine Discharge Response Plan for North region in advance of the 2011/12 wet season. Regional staff will also ensure sufficient resources are available to respond in the event of a discharge during the wet season. (Refer to RAL-CM01-02 mine discharge response plan).
45. DERM has a pre wet season inspection program focusing on mining operations that hold a current EA issued under the *Environmental Protection Act 1994*. This program aims to inspect the larger level 1 mines with a particular focus on water management prior to the wet season. The Century mine is included in that program.
46. DERM officers will closely monitor meteorological observations and forecasts prior to and during the upcoming wet season to maximise operational preparedness. DERM will also maintain contact with MMG during the wet season.

Item 8: details of how the new Fitzroy Model Conditions negotiated during 2011, or any other discussions with DERM, will resolve any issue raised above in 1, 2, 3, or 4

and

Item 9: 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

47. I was not involved in the development of the Fitzroy model conditions however I understand that they were developed specifically for coal mining operations in Central Queensland. These conditions have not been applied to metalliferous mines in North Queensland. The Fitzroy model conditions were developed by DERM specialists who would be best placed to comment on them.
48. In regard to the Century mine in North Queensland DERM officers are currently negotiating an amendment to the EA to include more contemporary conditions. In relation to the water schedule DERM is proposing amendments based on information contained in studies undertaken by MMG together with the ANZECC 2000 water quality guidelines and the Queensland Water Quality Guidelines 2009.
49. While not directly involved in the negotiations with MMG I am advised that the water schedule has been redrafted to;
- a. Ensure that any discharges are tied to minimum flow rates in the receiving environment;
 - b. Ensure that end of pipe and receiving water limits reflect DERM's current understanding of the environmental values of the receiving environment and take into account studies undertaken by MMG, and with reference to the ANZECC 2000 and the Queensland Water Quality Guidelines 2009;
 - c. Enhance and formalise environmental monitoring and reporting;
 - d. Require both a site water management plan and an erosion and sediment management plan to be developed and maintained;
 - e. Reflect the water improvement works that MMG have undertaken on site and place all conditions relating to regulated dams into a dedicated schedule of the EA.

Item 10: DERM's opinion as to whether the mine operator should be managing water at the Mine other than by storing it in dams or ponds, including by using desalination plants, purification procedures or any other means

50. I am not a technical expert in mine water treatment however I am aware that the treatment of contaminated water at metalliferous mines can be challenging due to the water properties such as very low pH, high sulphate and high dissolved metals content. While each mine site is different, the treatment of contaminated water for potential release may well be a useful strategy for mine operators to adopt in appropriate circumstances.
51. Water management at Century mine should focus on minimising the volume of contaminated water generated and stored on site therefore reducing the risk of discharge. This can involve separation of clean and contaminated water, minimising areas of contamination/disturbance and progressive closure of these areas.
52. Additionally the mine should explore opportunities to treat and recycle contaminated water including for example reuse of contaminated water through the mining operation.

If treatment and recycling does not reduce contaminated water sufficiently then the mine should look to:

- a. the release of contaminated water during flow events;
- b. the treatment of contaminated water (if possible) and release; and
- c. evaporation during the dry season.

Item 11: An explanation of that which is involved in managing water at the Mine other than by storing it in dams or ponds, including by using desalination plants, purification procedures or any other means

53. DERM officers have advised me that water management at the Century mine currently incorporates;

- a. the segregation of clean and contaminated waters;
- b. the transfer of contaminated water using pumping and transfer systems;
- c. the evaporation of contaminated water from storages;
- d. reuse of contaminated waters in mining activities eg: dust suppression; and
- e. minimising contaminated water generation through progressive closure of areas that produce contaminated water, such as waste rock dumps.

54. I understand that the Century mine currently do not utilise purification procedures or desalination plants for contaminated water management.

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

Signed

Robert Anthony Lawrence

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

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

