MARY RIVER CATCHMENT COORDINATING COMMITTEE

INTEGRATED CATCHMENT MANAGEMENT

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Working towards a sustainable and productive catchment

22 December 2016

Environment Assessment Branch
Department of the Environment
GPO Box 787
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CC: Minister Frydenberg, Josh.Frydenberg.MP@aph.gov.au

Dear Delegate

Re: Request for reconsideration of the proposed Colton Mine Project as a Controlled Action (Referral Number 2010/5625)

The Mary River Catchment Coordination Committee (MRCCC) is a community based catchment management group which adopts a science based approach to the challenges of integrating multiple land uses within the Mary River catchment. We have particular expertise in water quality analysis and in assessing impacts on biodiversity and water quality associated with land use change. At the time of the initial public comment period for the proposed Colton Mine (August 2010), the MRCCC was not aware of the Referral until it was too late to make a submission and we did not make comment. However we have major concerns about the proposal and have met with Department of Environment Staff about the proposal on two occasions (February 2012 and February 2016). During these meetings we highlighted concerns about the water quality and ecological impacts on the Great Sandy Strait Ramsar Wetland and the many threatened and migratory species that use the Great Sandy Strait, as well as concerns about other EPBC listed threatened species including the vulnerable Wallum Sedgefrog (*Litoria olongburensis)*.

The 2010 Environmental Management Plan, from which much of the 2010 Referral Documentation was drawn, was considered non-compliant by the State Government department for several reasons including that it has not adequately addressed the potential impact to the Mary and Susan Rivers (and therefore to the Great Sandy Strait). The new owners of the project, New Hope Coal, submitted a revised plan in September 2011 which was not made public and which the EHP again deemed non-compliant due in part to concerns regarding uncontrolled releases to the Susan River and discharge to the Mary River. The current EMP was released in May 2014 and the Environmental Authority granted in August 2014. Given that the original Referral decision was made on the basis of documentation which the State Government considered non-compliant with regard to issues that pertain to Ramsar impacts it would seem pertinent for the Commonwealth to revisit the project on the basis that the initial information provided was insufficient to assess whether or not there would be a significant impact.

In 2016 there is substantial new information available compared to when the referral was made in August 2010. Some aspects of the project relevant to Matters of National Environmental Significance have changed and new information has been made available. The new information sources include version 3 EMP (2014), the documents associated with a recently concluded Court Case in the Queensland Land Court (2016) and the EHP Assessment Report for the project (2015).

The MRCCC gratefully acknowledges the support of
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the Australian Government Department of Environment, the Burnett Mary Regional Group, the Department of Transport and Main Roads, the Department of Science, Information Technology and Innovation
Seqwater, Unity Water, HQPlantations, Bendigo Bank Cooroy
and landholders throughout the Mary Catchment.

On the basis of the substantial new information which has come to light since the Referral and was therefore not considered by the delegate, we request a reconsideration of the proposal as a controlled action under section 78(1)(a) of the *Environment Protection and Biodiversity Conservation* Act 1999. Our request is focused on the threat of a significant impact to the Great Sandy Strait Ramsar Wetland and the threat to EPBC listed species (please refer to the map enclosed which shows key features adjacent to the mine site).

The key issues which on their own represent substantial new information are summarised in dot points below. Further detail of these and other points is provided in the Table attached to this letter. The table provides a summary of new information available in 2016 relative to what was available during the Referral process. In the table, the new information is divided into three sections – general information (5 issues), water quality and sediment (7 issues) and threatened species (4 issues). For each piece of new information we provide a comment on the potential impact. This table and the dot points below constitute the basis on which we request a reconsideration. We suggest that, taken together, all of these pieces of new information represent substantial new information other than that considered by the delegate in 2010. This new information indicates a significant increase in the potential impacts of the project to Matters of National Environmental Significance compared to the information provided to the delegate at the time of the Referral.

New information regarding impacts on the Ramsar site

In the referral three justifications were given to suggest that the impact on the Ramsar site from the mine would be "nil". They were:

- The design of the Mine Water Management Dam, which gives consideration to maximizing sediment retention in order to minimize any deposition of sediments during any extreme weather event;
- The proposed discharge to the Mary River (average of 946 ML/yr) is considered to account for less than 0.01% of the total annual flow of the Mary River at the discharge location;
- The discharge location is a significant distance (8 – 12.5 km) from the entrance to the Great Sandy Strait.

There are two possible means by which the Mine could have an impact on the Ramsar site and there is new information relating to each of these for the purpose of a reconsideration:

1) impact of controlled releases into the Mary River;
2) Impact of uncontrolled releases into the Susan River due to a failure to contain or dam break scenario.

The key new information with regard to each is as follows (please refer to the table below for more detail):

Key new information related to releases to the Mary River

1. The Referral stated that the discharges to the river would equal only 0.01% of the total annual flow of the river. In the 2014 EMP this has increased to up to 5.8% of the daily flow. This represents a very substantial increase in the proportion of the flow that will be polluted mine wastewater.
2. This wastewater exceeds the guidelines for Heavy Metals for High Environmental Values waters of the Great Sandy Strait for Aluminium, Arsenic, Boron, Cadmium, Chromium, Cobalt, Copper, Lead, Manganese, Nickel and Zinc. When dilution with the River is taken into account the proponents own modeling shows that the wastewater releases would increase concentrations of cadmium, cobalt, manganese, selenium and silver above existing background concentrations and cadmium, cobalt and manganese concentrations would exceed HEV guideline values.
3. The HEV/Ramsar waters are 8 km downstream of the discharge point rather than the 12.5 km stated in the referral document. Analysis performed for the Land Court Case found this section of the estuary to be "well-mixed" (McGowan 2015) which would imply it is not reasonable to assume that concentrations between the release point and the Ramsar site will change significantly given there are no significant tributaries entering the river in this stretch.
4. Monitoring of sediments in the Mary River was proposed in 2010 in the EPBC Matters report submitted with the Referral. This has changed in the 2014 EMP and now no monitoring of receiving water sediments will occur during operation of the mine.

Key new information related to the impact to the Susan River

The Referral stated that there would be no impact on the Susan River, however the EMP 2010 stated that:

- *Given the presence of the Great Sandy Marine Park and HEV Zone in the estuarine reaches of the Susan River approximately 10km downstream of the site,* ***there would be potential for harm to a significant environmental value in the event of a failure to contain scenario****. (Colton EMP 2010 pp198)*

1. In the 2014 EMP, the design criteria for the dams containing heavy metal polluted water (the Mine Water Dam from which releases to the Mary River occur and uncontrolled to the Susan could occur and the Worked Water Dam, from which uncontrolled releases to the Susan could occur) have been changed so that they have less stringent design criteria.
   - In the documents provided in association with the Referral, both of these dams were rated as High Hazard in the Dam Hazard Assessment (see Colton Mine Water Management Plan 2010 pgs 14-20). According to the Queensland Department of Environment and Heritage Protection Code of environmental compliance for Environmental Authorities for High Hazard Dams Containing Hazardous Waste" which was used in the 2010 EMP and ANCOLD 1999 guidelines referenced in this Code, a high hazard dam containing polluting liquors shall be designed so that "no liquor… is released for less than a 1 in 100 AEP storm and that for larger storms to spill it shall be demonstrated that there is sufficient dilution to prevent downstream environmental damage"[1].

   - In the current design their hazard has been downgraded to Significant (2014 EMP pg 210-212). As a consequence the dams are now designed for a 1 in 20 year critical wet season and for a 1 in 10 year storm (see Department of Environment and Heritage Protection's (EHP) Manual for Assessing Hazard Consequence and Hydraulic Performance of Structures (version 4, EHP, 2013 https://www.ehp.qld.gov.au/land/mining/guidelines.html) If the dams had been rated as High Hazard they would have been designed for a 1 in 100 year critical wet season and a 1 in 100 year storm according to these guidelines. According to the 2013 guideline used in the 2014 EMP, a dam that threatens a MNES, MSES or HEV should be given a High Hazard and sized accordingly to reduce the chance of uncontrolled discharges. Instead the less stringent criteria for a Significant Hazard dam have been used.

2. The current plan for the mine relies on the mine pit holding excess water to avoid uncontrolled overflow of the dams. When this occurs the mine will have to stop production.
   - Avoiding overflows into the Susan River requires adherence to a complicated water management system and stopping production to allow for the Mine Pit to hold the excess water.
   - The modeling of site water balances which are used to design storages and ensure that there is sufficient capacity on site to prevent uncontrolled discharges do not make allowance for an increase in groundwater inflow to the mine site during wet seasons.
   - Downgrading the dam design presents an increased risk of overflows and dam failure which would directly impact on the Susan River ecosystem and the Ramsar site. The proponent underestimates this risk and has not conducted the analysis needed to prove that their claims of negligible impact are justifiable. They assume dilution will be sufficient to mitigate impacts of wastewater in the smaller Susan River catchment, despite the same wastewater exceeding guidelines in the much larger Mary River.

3. The potential for dam break in which one of the dam walls fail is not considered anywhere in the EMP assessment process. This is despite WRM Consultants recommending it (See EMP 2014 Appendix L pg 24) for the Mine Water Dam: "A failure impact assessment will need to be completed for this dam. Given its proximity to the mine pit, it is possible it will be assigned a High Consequence category for the dam break scenario." No such impact assessment has been provided.

4. There has been no analysis performed by the proponent of potential impacts of the heavy metal contaminated water referred to above on the relatively pristine Susan River system and no ongoing monitoring proposed in the draft Environmental Authority conditions.
   - An assumption has been made that impacts of any unanticipated overflow would be mitigated by dilution despite the fact that the Susan River stream flow is significantly less than the Mary River. The impact on this

[1] ANCOLD 1999 Guidelines on tailings dam design construction and operation, http://www.infomine.com/library/publications/docs/ANCOLD1999.pdf, pag.e 31

important fish habitat and surrounding swamps and wallum vegetation, including acid frog habitat could be significant. Furthermore any flows would be discharged into a small catchment (7 km2) with small ephemeral flows and mean annual runoff estimated at 216mm/a or 48L/s (EMP 2010 Surface Water Management Report). As mentioned above, the mine wastewater exceeds guideline values of eleven heavy metals for High Environmental Value waters. The water is also turbid, saline and acidic.

- Due to the topography of the area, during a high flow event the discharge would spread out over the landscape before being captured in the stream channels that flow into the Ramsar site and the Fish Habitat downstream. The saline nature of the water would have an impact on these watercourses as they are fresh in the vicinity of the mine site and do not experience a tidal influence until about 6 km downstream.
- The lack of ongoing monitoring proposed for the Susan River sediments or water quality (or required in the Environmental Authority) means that the impact of any uncontrolled discharges would go unnoticed by the mining company and regulators.

Please refer to the attached table for further analysis of the new information regarding the proposed Colton Coal project.

Please contact the MRCCC for copies of any of the documents referenced in the request and to discuss in further detail any aspect of this proposal. Our contacts are included on the first page of this correspondence.

We look forward to hearing from you in the near future. In the meantime we wish you and your family a Merry Christmas.

Yours sincerely,

Ian Mackay
Chair
MRCCC

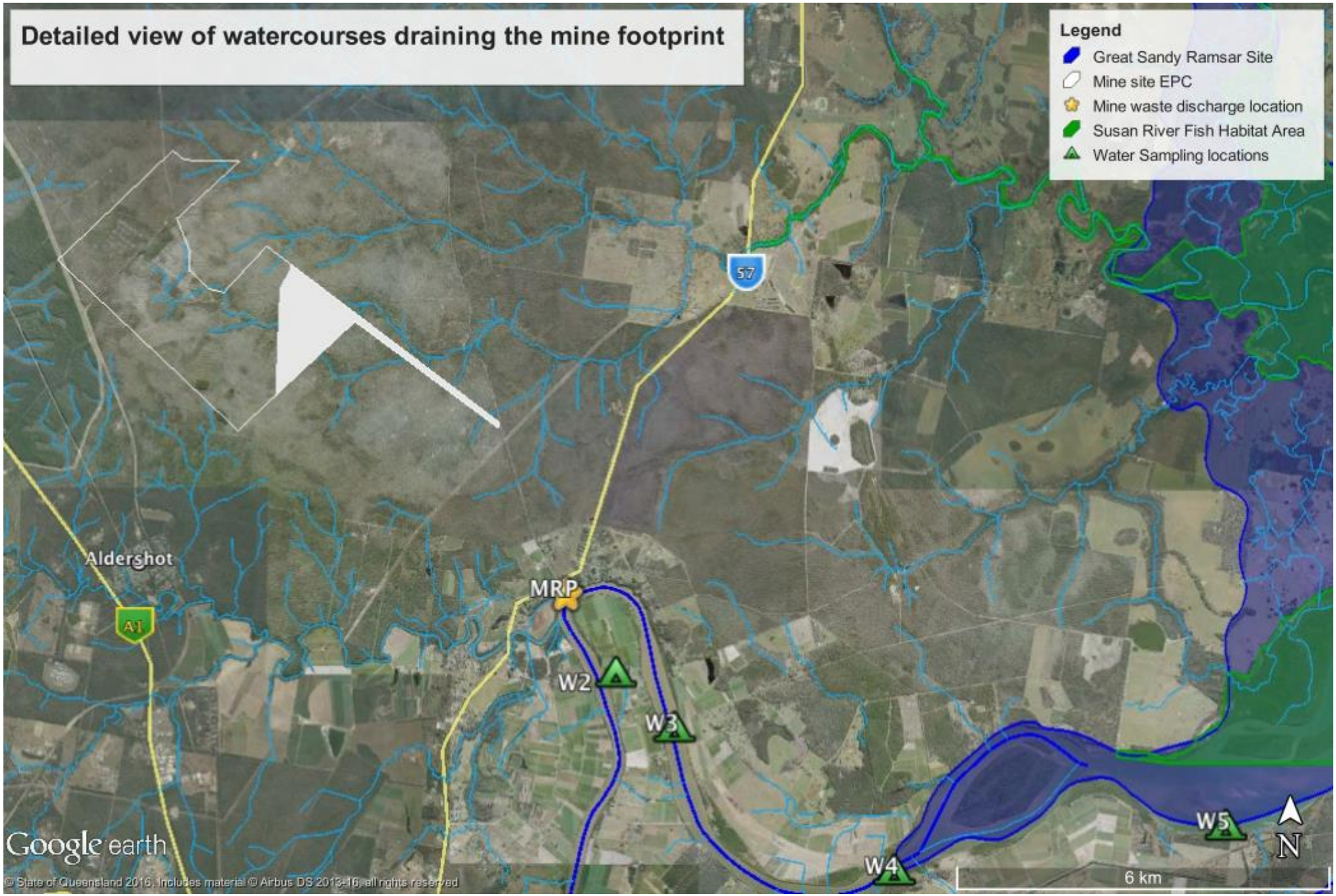

Figure 1 Map of mine showing waterway network, Ramsar site and discharge point

Table 1: Comparison of Information available at time of the Referral (August 2010) with new information available and as at December 2016 and potential consequences of the new information

No.	Referral statement (2010)	New Information available in 2016	Likely impact/consequences
1	Mine will have Run of Mine (ROM) production of 1.0 MT tonne. Reserve was estimated at 5.9 million tonnes of coking coal (p2)	The 2014 EMP identifies an increase in ROM production by 0.2 MT/annum but no increase in the coal production – still at 0.5 Mtpa. Reserve has now doubled and is now estimated at 12million tonnes.	The increased size of the reserve increases the chance that the mine will be expanded and bring with it increased impact on the terrestrial ecosystem and water quality of the Susan River and Great Sandy Strait. (see related point No 2 below)
2	There will be no cumulative impact. This Project is a standalone project. NEC will continue to explore for additional economic coal reserves within its surrounding exploration tenements. At the time of this application no plans to develop additional coal resources existed. (p3)	However, since the time of submission of the Referral the size of the reserve has more than doubled and the ROM production has increased by 20% (from 1.0MT/annum to 1.2 MT/annum) and yet the proposed level of production has not changed and remains at 0.5 million tonnes per annum, the limit above which an Environmental Impact Statement would have been required by the Queensland Government. According to the EHP Assessment Report New Hope had publicly signaled that there were interested in applying for a much larger project in the same area if this project were to be approved.	Given the discovery of a much larger reserve it seems highly probable that New Hope would pursue an expansion, especially given they publically expressed the potential for this. Cumulative impacts are therefore of concern. Waiting for an expanded proposal to trigger a controlled action when the proposed mine is already underway would represent a missed opportunity to protect the Ramsar site from much greater impact.
3	Effects on the Great Sandy Strait are expected to be nil. This is a result of: (several points including) • The discharge location is significant distance (8 – 12.5 km) from the entrance to the Great Sandy Strait.	The distance to the Ramsar site is what is of significance for the Referral. It is 8km.	This speaks to the credibility of the material provided in the original referral.
4	The EM Plan has been finalised and was submitted to Maryborough DERM on the 13th of August 2010.	EMP has been revised on two occasions (September 2011 and May 2014) in response to the Queensland Department of Environment telling the company (NEC in the first instance and New Hope in the second instance) that the EMP was non compliant and needed to be revised. Concerns regarding impacts on the Mary River and Susan River (relevant to the Ramsar site) were central to the non-compliance.	This issue speaks to the credibility of the information provided to the Commonwealth as part of the 2010 Referral.

5	The project and its entire associated infrastructure is not located on adjacent to any World Heritage properties. (p4)	The proposal is adjacent to a proposed World Heritage area. The wastewater from the Mine will flow into the proposed Great Sandy World Heritage area which is on the UNESCO World Heritage tentative list. The boundary for this area is the boundary of the Ramsar site 8km downstream from the discharge point. The nomination was submitted in January 2010 and was therefore active at the time of the Referral.	Progress of the mine may jeopardise the proposed listing due to the impact on the values for which the area would be listed.
WATER QUALITY & SEDIMENT IN THE MARY AND SUSAN RIVERS			
6	The Project is anticipated to have no impact on water quality of the Mary River or Great Sandy Strait based on: . the large volume of water passing the discharge point relative to the proposed discharge (<0.01%); (p23)	Actual discharge is up to 5.8% of the daily flow. The maximum 5.8% equates to a 1 in 17.4 dilution. (pg 200, 2014 EMP) Each time the river flow meets the release trigger the proportion discharged will be 5.8%.	This volume of water is 580 times greater than indicated in the Referral. Such a significant increase in the volume of untreated wastewater being discharged represents potential for a much greater impact that would have been considered during the 2010 Referral assessment process.
7	The Project is anticipated to have no impact on water quality of the Mary River or Great Sandy Strait based on: . Calculations of predicted water quality data of the project; . The current water quality data of the Mary River. (p23)	To quote from the 2014 EMP: In the case of cadmium, cobalt, manganese, selenium and silver, the proposed mine discharge concentrations exceed the background concentrations in the Mary River. For the remaining compounds, the maximum modelled concentrations are the same as the background concentrations. (EMP 2014 pg 224) The behaviour of the estuary is complex due to the effect of tide and the influence of the channel geometry, which will affect the concentrations of mine water throughout the estuary. The time series of modelled releases was used in the Mary River Dispersion Study (DHI) to undertake statistical analysis of the potential impact of the release throughout the estuary, including the High Environmental Zone. Based on the results of Receiving Water Mixing Study (CSIRO, 2014) and the Mary River Dispersion Study (DHI, 2014),	It is clear from this analysis that the mine will increase concentrations of five different heavy metals in the river above background levels and that for three of these they will exceed the HEV guidelines. Therefore the statement made in the Referral that the project will have no impact on water quality is incorrect. The implications of these elevated levels of heavy metals for the estuarine ecosystem has not been considered. Instead the company argues that elevating these levels is not an issue because other parameters are already high. They also rely on precipitation to predict levels without providing details about assumption made and the potential for precipitated metals to be resuspended in the right conditions. The total load of metals is also important for the health the ecosystem, not only the concentration. Metals of course do not break down but change their form and can move between the water and sediment depending on

		under these conditions, the release would see increases in concentrations of cadmium, cobalt, manganese, selenium and silver above existing background concentrations. Of these, only cadmium, cobalt and manganese concentrations would exceed HEV guideline values. (Appendix L – Colton Site Water Management Assessment (April 2014) pg 4) (Please note: In the 2014 EMP 80th percentile figures for the background concentrations in the River have been reported. This may lead to exaggerated interpretations of ambient conditions. A median (50% percentile) figure should be provided for a more representative comparison.)	conditions including salinity and pH. Ultimately they may end up in the food web through ingestion at low levels of the food chain. Heavy metals released from the mine will accumulate in the Ramsar wetland over the life of the mine. (see Jezierska and Witeska, 2006[2] for an explanation of heavy metal accumulation in fish and Nieto et al 2007[3] for an example of the complexity of heavy metal dynamics and bioaccumulation in an estuary). Fraser Island is directly opposite the mouth of the Mary River and it makes the Great Sandy Strait a body of water with a high residence time reliant primarily on tidal action and river flow for water movement. The low movement of water in the Strait and Hervey Bay just to north is demonstrated by the fact that Hervey Bay and the Strait becomes hypersaline at times[4]. Relying on dilution to solve a pollution problem in this kind of system is inappropriate. Sediment flow patterns indicate that sediment from the Mary ends up on the western edge of Fraser Island – which is World Heritage listed[5]. We suggest that due to the international and national significance of the Great Sandy Strait Ramsar site and the legislative requirement to adhere to HEV guidelines, the aim must be to improve water quality in this ecosystem, not knowingly allow it to further deteriorate.

[2] Jezierska, B. & Witeska, M. (2006) "The metal uptake and accumulation in fish living in polluted waters" *Soil and Water Pollution Monitoring, Protection and Remediation, 3 107-114*
[3] Nieto, J. M., Sarmiento, A. M., Olias, M., Canovas, C. R., Riba, I., Kalman, J. & Delvalls, T. A. (2007) "Acid mine drainage pollution in the Tinto and Odiel rivers (Iberian Pyrite Belt, SW Spain) and bioavailability of the transported metals to the Huelva Estuary" *Environment International, 33 445-455*

[4] Gräwe, U., Wolff, J. O. & Ribbe, J. (2010) "Impact of climate variability on an east Australian bay" *Estuarine, Coastal and Shelf Science, 86 247-257 and* Ribbe, J. (2006) "A study into the export of saline water from Hervey Bay, Australia" *Estuarine, Coastal and Shelf Science, 66 550-558*
[5] Piorewicz, D. J. (1997). Hervey Bay Beaches - Present Situation and Recommendations for Beach Protection *In:* Central Queensland University, Department of Civil Engineering and Building.

8	Discharge criteria and comprehensive monitoring program have been proposed to ensure no impact on receiving waters of the Mary River on the listed threatened species which possible inhabit it. (pg 25) In the 2010 EMP the discharge rules were based on three considerations: the flow in the river, the water quality in the river and the level of pollutants in the wastewater. (EHP Assessment Report pg 63)	The discharge criteria have been changed so that only one factor – the flow rate in the river is considered. The EMP 2014 says that the rules are now based on discharge during events. However the median daily flow rate at the discharge point is 685 ML/d. The term event typically refers to higher than median flow. And yet discharge can commence at a river flow rate of 150ML/d. The allowed discharge rate at this level is 100L/s which at 150ML/d is equal to 5.8% of the river flow. Once river flow reaches 300 ML/d the discharge of polluted wastewater can be increased to 200L/s which is 5.8% of the flow.	The modelling of wastewater quality and its behaviour in the estuary once released is a very complicated and uncertain process and many assumptions have been made. Now that there is no operational requirement to consider the actual water quality of the wastewater when determining release rates there is less protection of water quality from controlled releases than there was in the 2010 referral. The monitoring program cannot prevent the impact and may not even detect it until it is well advanced due to the complexity of the estuarine ecosystem. Furthermore there is no monitoring proposed of any threatened species in the estuary which would enable an impact on them to be ascertained. All of these factors point to the potential for a significant impact to occur as a result of cumulative effects over time that are not monitored.
9	The Mine Water Dam and Worked Water Dam are assessed to be High Hazard dams	Both dams are considered Significant Hazard which brings with it much less stringent design criteria. The details regarding this change were discussed at length above.	Reducing the stringency of the dam designs increases the likelihood of failure of the dam and of controlled overflow. The fact that the rating for the Mine Water Dam provided in the EMP is lower than recommended by the consultant in the relevant Appendix L is concerning.
10	A Mine Water Management Dam will be constructed to capture runoff water from the operational areas around the mining pit and groundwater pumped from mine dewatering bores. Approximately 946 ML of excess water is proposed for discharge from the Mine Water Management Dam each year. This water will be comprised of approximately 27% groundwater and 73% surface water runoff. Suspended sediments will be allowed to settle and when the dam reaches a certain level it is proposed that excess water will be pumped to the Mary River for controlled discharge. The dam will not contain potentially contaminated water from the Plant	In the 2014 design, all dams will have water from them transferred into the Mine Water Dam (refer to Water Management Schematic on pg 206 of the 2014 EMP) and therefore any pollutants in these dam can reach the Mary River. Therefore the following statements made in 2010 are no longer the case: . the Mine Water Dam would “not contain potentially contaminated water from the Plant Infrastructure area” . the Worked Water Dam will not discharge into the environment	This means that hydrocarbon pollutants could be present in the Mine Water Dam because in the event of a spill these pollutants would be washed into one of the other dams which feed into the Mine Water Dam as required. These pollutants could therefore occur in wastewater discharged into the Mary River. This has not been considered at all in assessing the impacts of the project. The discussion above about the potential for dam failure and uncontrolled releases to the Susan River is also pertinent.

	Infrastructure area. Runoff from the plant infrastructure area will be captured by the Worked Water Dam where it will be used for coal washing. This dam will not discharge to the environment (excluding significant rainfall events greater than the design criteria). (p19)		
11	A detailed water quality monitoring program has been proposed and will be implemented throughout the life of the Project. Contaminant triggers and limits have been proposed to ensure the Project has no impact on receiving waters. Water treatment measures may be implemented prior to discharge if required. (p25 of the Referral) Sites in the Susan River catchment would be monitored and trigger levels developed for them (EPBC Matters Report, Pg 20) The 2010 EMP contained Receiving Stream Sediment Contaminant and Triggers levels (pg 242)	The Receiving Environment Monitoring plan in the 2014 EMP includes no monitoring of the Susan River or unnamed tributaries to which dams on the mine site would overflow. As mentioned in point 8 above, the water quality of the river and of the wastewater are no longer being taken into account when deciding whether to discharge wastewater into the river. In contrast the 2014 EMP requires no monitoring of receiving stream sediment either in the Mary River or Susan River and there are no contaminant and trigger levels for sediment.	Lack of ongoing monitoring of the Susan River and of sediment in the Mary River means that two of the main mechanisms via which this project could impact on the Great Sandy Ramsar site are not being measured and therefore there is limited scope for detecting an impact. This has major implications for being able to avert a significant impact on the Great Sandy Strait from the project.
12	Based on the above, the project will therefore have no identifiable impact on the flow regime or water quality of the Great Sandy Strait or its associated ecosystems. (p4)	In addition to the comments made about water quality in the Mary River, the EMP 2014 identifies that the mine infrastructure will reduce flowrates in the Susan River by 4%.	Impacts of this reduction of freshwater flow on levels of salinity in the Susan River and associated implications for fish breeding in this important fish habitat and Ramsar site has not been taken into account.
TERRESTRIAL AND ESTUARINE THREATENED SPECIES			
13	A combined total of 45 vertebrate fauna species were identified on the Project Site during the seasonal surveys, comprising one amphibian, five reptiles, 11 mammals, and 28 birds. (p6)	The amphibian recorded in the first survey was the cane toad. Subsequent surveys found 8 native frog species which were missed in the original survey (pg 51 of the EMP 2014). In addition 7 reptiles, 30 birds, 9 mammals including three feral animals.	The failure to detect any species other than the cane toad in the original survey brings into question the quality of the survey conducted. This survey was the basis of documents provided in the Referral. Essential habitat of the *Crinia tinnula* occurs on the site. This frog is one of four frogs considered in the Wallum Frogs Recovery Plan. The only mitigation action proposed is an education

			program for staff working at the mine.
14	Wallum Sedge Frog (*Litoria olongburensis*) - unlikely to occur and unlikely to be impacted (pg 10)	As mentioned in point 13, a survey conducted after the Referral found wallum froglet (*Crinia tinnula*) which shares some habitat with the Wallum Sedge Frog. The vegetation type which they share with the Wallum Froglet (RE 12.3.5 - *Melaleuca quinquenervia* Riparian Woodland) is on the mine site.	It is unclear on what basis the presence of the Wallum Sedge Frog was ruled out. It is inappropriate to assume they are unlikely to occur and unlikely to be impacted. Instead, new information available suggests they may occur, and if present they will certainly be impacted.
15	Impact on Pineapple Zamia listed as unlikely (p7)	Pineapple macrozamia were found within the footprint during subsequent surveys.	This highlights another EPBC matter which was not considered in the original referral.
16	Indo Pacific Humpback dolphin – species or species habitat may occur. No migratory species associated with the Great Sandy Strait are predicted to be impacted on by the project, although two species (*Orcaella brevirostir* – Irrawaddy Dolphin and *Sousa chinensis* – Indo Pacific Humpback Dolphin have been known to migrate to the area potentially affected by the discharge. The potential for the project to impact on the Great Sandy Strait is nil… as a result no impact on the Irrawaddy Dolphin or the Pacific Humpback Dolphin is anticipated (Pg 15 of the Referral)	Please refer to points 7 and 11 above which show that the project will increase both concentrations of three heavy metals in the estuary and total loads of 14 heavy metals and that there has been no monitoring of sediment to assess impact on benthic organisms that form the basis of the food web on which the dolphin depends. There is also no monitoring of the sediment proposed if the mine commences operation. These dolphins are estuarine dwelling species that are high up the food chain and therefore at risk of bioaccumulation of metals and the impacts of direct toxicity and bioaccumulation on their food source.	As mentioned there is no proposed testing or monitoring of these estuarine species or benthic organisms and ecosystems. Therefore impacts of the project on this ecosystem could go unnoticed until they reach such a magnitude that the community notices significant changes in the environment. This situation is not consistent with the intent of the EPBC Act.