



PROJECT CHINA STONE

Draft Environmental
Impact Statement

SUPPLEMENT

6

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MACMINES AUSTASIA



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Draft Environmental Impact Statement

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6

Volume 6

- 1 Introduction
- 2 Consultation
- 3 Overview of Submissions
- 4 Response to Submissions
- 5 Additional Information

Attachments

- A Individual Responses to Submissions
- B Responses to Non-specific Submissions
- C Responses to IESC Advice
- D Additional Information on Groundwater
- E Additional Information on Surface Water
- F Additional Information on Ecology
- G Responses to DSD SIA Advice
- H Additional Information on SIA
- I Additional Commitments
- J Redacted Biodiversity Offset Strategy (EIS Appendix H)
- K Final Landform Cross Sections

TABLE OF CONTENTS

1	Introduction	1-1
2	Consultation	2-1
	2.1 Public Exhibition of the Draft EIS	2-1
	2.2 Draft EIS Consultation	2-1
	2.3 Consultation During Preparation of the Supplement	2-3
3	Overview of Submissions	3-1
4	Response to Submissions	4-1
	4.1 Structure of the Response to Submissions	4-1
	4.2 Responses to Common Issues	4-3
	4.2.1 Project Description	4-4
	4.2.2 Groundwater Assessment	4-5
	4.2.3 Surface Water Assessment	4-6
	4.2.4 Terrestrial Ecology Assessment	4-6
	4.2.5 Social Impact Assessment	4-7
5	Additional Information	5-1
	5.1 Changes to the Project	5-1
	5.2 Additional Information	5-1
	5.3 Editorial Corrections	5-2

LIST OF TABLES

Table 2-1	Project Stakeholders Consulted on the Draft EIS
Table 2-2	Stakeholders Consulted During Preparation of the Supplement
Table 3-1	Stakeholder Submissions
Table 4-1	Guide to Responses to Submissions
Table 5-1	Draft EIS Editorial Corrections

LIST OF ATTACHMENTS

Attachment A	Individual Responses to Submissions
Attachment B	Responses to Non-specific Submissions
Attachment C	Responses to IESC Advice

Table of Contents

Attachment D	Additional Information on Groundwater
Attachment E	Additional Information on Surface Water
Attachment F	Additional Information on Ecology
Attachment G	Responses to DSD SIA Advice
Attachment H	Additional Information on SIA
Attachment I	Additional Commitments
Attachment J	Redacted Biodiversity Offset Strategy (EIS Appendix H)
Attachment K	Final Landform Cross Sections

1 INTRODUCTION

MacMines Austasia Pty Ltd (the proponent) is proposing to develop Project China Stone (the project), a large-scale coal mine on a greenfield site in Central Queensland. A draft Environmental Impact Statement (EIS) was prepared for the project and was placed on public exhibition between 25 July and 7 September 2015. During this time, stakeholders were invited to lodge a submission about the draft EIS. A total of 65 submissions were received on the draft EIS.

This supplement has been prepared in response to the submissions that were received from members of the public and advisory agencies regarding the draft EIS. It is Volume 6 of the draft EIS and supplements the draft EIS Volumes 1 – 5 that were publicly exhibited. This supplement should be read in conjunction with Volumes 1 – 5 of the draft EIS. To the extent of any inconsistencies, the information in this supplement (Volume 6) supersedes any information in any other volume of the draft EIS. The combined Volumes 1 – 6 form the revised draft EIS for the project.

This supplement was prepared by Hansen Bailey, on behalf of the proponent. Input to this supplement was provided by the proponent as well as EIS technical specialists including Hansen Bailey, Australasian Groundwater and Environmental Consultants, Cumberland Ecology, Cardno (Qld), Gordon Geotechniques, and Katestone Environmental.

This supplement is structured as follows:

- Section 2 describes the stakeholder consultation undertaken after the submission of the draft EIS, including consultation during the public exhibition of the draft EIS and during the preparation of this supplement;
- Section 3 provides an overview of the submissions that were received on the draft EIS including submissions from advisory agencies, other organisations and individuals;
- Section 4 provides an overview of proponent responses to submissions. More detailed responses are provided in the attachments to the supplement; and
- Section 5 provides an overview of the additional information provided in response to issues raised in submissions. Detailed technical information is provided in the attachments to the supplement.

2 CONSULTATION

This section describes the stakeholder consultation that has been conducted since the submission of the draft EIS on 2 July 2015. It includes a description of the public exhibition of the draft EIS, consultation conducted in relation to the draft EIS during the public exhibition period, and consultation conducted with the key regulatory agencies during the preparation of the supplement.

2.1 PUBLIC EXHIBITION OF THE DRAFT EIS

The draft EIS was publicly exhibited between 25 July and 7 September 2015. Public notices were placed in the following newspapers, inviting stakeholders to review and provide comments on the draft EIS:

- The Australian;
- Courier Mail;
- Mackay Daily Mercury; and
- Central Queensland News.

During the public exhibition period, the draft EIS was available for stakeholders to review at the following locations:

- Charters Towers Excelsior Library;
- Clermont Library;
- Moranbah Library;
- State Library of Queensland;
- National Library of Australia;
- Proponent's website;
- Hansen Bailey's website; and
- Office of the Coordinator-General's website.

Copies of the draft EIS were also distributed to stakeholders upon request.

2.2 DRAFT EIS CONSULTATION

Consultation was conducted during the public exhibition of the draft EIS. This included a series of meetings with key stakeholders to discuss the project, and to present and explain the key technical findings of the draft EIS. The objective of this consultation was to assist stakeholders in understanding the results of the specialist studies including proposed mitigation and management measures.

Stakeholders were targeted for consultation based on their previous interest in the project or their potential to be impacted by the project. This included sending a total of 84 letters to all stakeholders previously involved in consultation for the project, notifying them of the public exhibition of the draft EIS and offering a meeting to discuss the draft EIS. Meetings were held during the draft EIS public exhibition period with the stakeholders listed in Table 2-1.

Table 2-1 Project Stakeholders Consulted on the Draft EIS

KEY STAKEHOLDER GROUP	STAKEHOLDER NAME
Councils	Charters Towers Regional Council
	Isaac Regional Council
	Mackay Regional Council
Landowners within and adjacent to the project site	Matt and Nicole Stevenson (“Moonoomoo”)
	Brian and Lorraine Corbett (“Hyde Park”)
	Adani Mining Pty Ltd (owner of “Moray Downs” and proponent for the adjacent Carmichael Mine Project)
Government Agencies	Federal Department of the Environment and Energy
	Office of the Coordinator General
	Queensland Police Service
	Department of Transport and Main Roads
	Department of State Development
	Department of Agriculture and Fisheries
	Department of Infrastructure, Local Government and Planning
	Department of Natural Resources and Mines
	Department of Environment and Heritage Protection
	Department of Energy and Water
	Department of Justice
	Department of Housing and Public Works
	Department of Communities, Child Safety and Disability Services
	Public Safety Business Agency
Department of Education and Training	
Regional environmental and industry groups	Charters Towers Chamber of Commerce and Mines
	Townsville Enterprise Limited
	Regional Development Australia – Mackay Isaac and Whitsunday, and Wide Bay Burnett
	North Queensland Dry Tropics

It is noted that some key stakeholders declined the proponent’s offer of a meeting to discuss the draft EIS. This included the legal representatives of the Traditional Owners and two of the landholders within the project site.

2.3 CONSULTATION DURING PREPARATION OF THE SUPPLEMENT

Consultation was also conducted with the key government agencies during the preparation of the supplement. This consultation included a series of meetings to discuss the agency's submissions and the proponent's proposed response to key submission issues. The meetings were conducted with the objective of resolving key issues raised in the agency's submissions. The key regulatory agencies consulted during the preparation of the supplement are listed in Table 2-2.

Table 2-2 Stakeholders Consulted During Preparation of the Supplement

KEY STAKEHOLDER GROUP	STAKEHOLDER NAME	MEETING DATE
Federal Government Agencies	Department of the Environment and Energy	21 December 2015 29 November 2016 21 June 2017
	Office of Water Sciences	29 November 2016
Queensland Government Agencies	Office of the Coordinator General	16 December 2015 21 December 2015 20 January 2016 10 November 2016 29 November 2016 21 June 2017
	Department of State Development	20 January 2016
	Department of Transport and Main Roads	16 December 2015
	Department of Natural Resources and Mines	10 November 2016 29 November 2016 21 June 2017
	Department of Environment and Heritage Protection	10 November 2016 29 November 2016

3 OVERVIEW OF SUBMISSIONS

A total of 65 submissions were received on the draft EIS. These included 60 submissions received during the public exhibition period, plus an additional 5 submissions that were received after the public exhibition closing date. All 65 submissions have been considered by the proponent and responses are included within this supplement. Stakeholders who lodged submissions are listed in Table 3-1.

Table 3-1 Stakeholder Submissions

KEY STAKEHOLDER GROUP	STAKEHOLDER NAME
Federal Government	Department of the Environment and Energy
State Government	Department of Aboriginal and Torres Strait Islander Partnerships
	Department of Agriculture and Fisheries
	Department of Communities, Child Safety and Disability Services
	Department of Education and Training - Training and Skills
	Department of Environment and Heritage Protection
	Department of Energy and Water Supply
	Queensland Fire & Emergency Services
	Queensland Health - Mackay Public Health Unit
	Department of Housing and Public Works – Government Employee Housing
	Department of Housing and Public Works –Housing Services
	Department of Natural Resources and Mines
	Public Safety Business Agency
	Queensland Police Service (Townsville, Charters Towers and Mackay Districts)
	Department of State Development – Business Solutions and Partnerships
	Department of State Development – Major Projects Office
	Department of State Development – Regional Services, Mackay Isaac Whitsunday Regional Office
	Department of Transport and Main Roads
Queensland Treasury – Hazardous Industries and Chemicals Branch Office of Industrial Relations	
Department of Tourism, Major Events, Small Business and the Commonwealth Games	

KEY STAKEHOLDER GROUP	STAKEHOLDER NAME
Local Government	Isaac Regional Council
	Mackay Regional Council
Landowners within and adjacent to the project site	Private submitter
	Private submitter
	Adani Mining Pty Ltd
Other regional landowners	Private submitter
	Private submitter
Aboriginal Group	Wangan and Jagalingou Traditional Owners Family Representative Council
Environmental Groups	Black-Throated Finch Recovery Team
	North Queensland Conservation Council
	Lock the Gate Alliance
	Correct Planning and Consultation for Mayfield group
	Mackay Conservation Group
	Protect the Bush Alliance
	Queensland Conservation Council
	Australian Marine Conservation Society
	Greenpeace Australia Pacific
	Land Services of Coast and Country
	Rural Services of Coast and Country
	Environmental Justice Australia – Australian Youth Climate Coalition
	BirdLife Australia
	BirdLife Southern Queensland
Other Stakeholders	Aurizon
	SunWater
	Other private citizens (21 submissions)

In addition to these formal submissions, the Federal Department of Environment and Energy and the Queensland Office of the Coordinator-General lodged a joint request for advice to the Independent Expert Scientific Committee (IESC) on 24 August 2015 (IESC 2015-070). The IESC provided their advice on 9 October 2015. This supplement also provides the proponent's response to this advice.

The Department of State Development (DSD) also provided advice regarding the project's Social Impact Assessment (SIA) on 15 October 2015. Although this was not a formal submission, this supplement also provides the proponent's response to this advice.

4 RESPONSE TO SUBMISSIONS

4.1 STRUCTURE OF THE RESPONSE TO SUBMISSIONS

This section provides an overview of the way the submissions have been responded to in the supplement. Table 4-1 provides a list of each submitter, their submitter number (assigned by the Office of the Coordinator-General (OCG)) and a cross reference to the location of the response to the submission within the supplement.

In summary, responses to submissions received on the draft EIS have been provided in the following ways:

- Many submitters raised similar issues regarding the project or a particular aspect of the draft EIS. For these common issues, responses have been provided in Section 4.2.
- Individual responses to submissions that raised specific issues about the project or the draft EIS are provided in Attachment A. Submissions were deemed to require an individual response if they raised specific issues about the project or referred to specific sections of the draft EIS. The OCG conducted a detailed review of the submissions and provided instructions to the proponent as to which submission issues required a response. Attachment A – Individual Responses to Submissions includes a replication of the submission issues determined by the OCG to require a response, and the proponent’s response to each.
- Responses to non-specific submissions are provided in Attachment B. Submissions were considered to be non-specific if they did not raise any specific issues directly related to the draft EIS or if they were deemed to be a pro-forma submission. Pro-forma submissions typically raised similar issues using similar text and often discussed the personal opinions of the stakeholder who was often philosophically opposed to coal mining in general.
- A detailed response to the Independent Expert Scientific Committee (IESC) Advice is provided in Attachment C. This advice was not received as a formal submission; however the proponent has considered the advice during the preparation of the supplement. Attachment C – Response to IESC Advice includes a replication of the IESC advice and a response to each specific issue raised.
- A response to the Department of State Development (DSD) Advice on social impact assessment is provided in Attachment G. This advice was not received as a formal submission; however the proponent has considered the advice during the preparation of the supplement. Attachment G – Response to DSD SIA Advice includes a replication of the DSD issues and a response to each issue raised.

Table 4-1 Guide to Responses to Submissions

STAKEHOLDER GROUP	SUBMITTER	SUBMITTER NUMBER	SUPPLEMENT CROSS REFERENCE
Federal Government	Federal Department of the Environment and Energy	42	Attachment A – 42
Queensland Government	Department of Environment and Heritage Protection	24	Attachment A – 24
	Department of Natural Resources and Mines	41	Attachment A – 41
	Department of Transport and Main Roads	23	Attachment A – 23
	Department of State Development – Regional Services, Mackay Isaac Whitsunday Regional Office	3c	Attachment A – 3

STAKEHOLDER GROUP	SUBMITTER	SUBMITTER NUMBER	SUPPLEMENT CROSS REFERENCE
Queensland Government (continued)	Department of Agriculture and Fisheries	11	Attachment A – 11
	Queensland Treasury – Hazardous Industries and Chemicals Branch Office of Industrial Relations	8	Attachment A – 8
	Public Safety Business Agency	16a	Attachment A – 16
	Queensland Fire & Emergency Services	16b	Attachment A – 16
	Queensland Police Service (Townsville, Charters Towers and Mackay Districts)	16c	Attachment A – 16
	Queensland Health - Mackay Public Health Unit	25	Attachment A – 25
	Department of Aboriginal and Torres Strait Islander Partnerships	63	Attachment A – 63
	Department of Communities, Child Safety and Disability Services	65	Attachment A – 65
	Department of Education and Training - Training and Skills	30	Attachment B
	Department of Energy and Water Supply	62	Attachment B
	Department of Housing and Public Works – Government Employee Housing	5	Attachment B
	Department of Housing and Public Works –Housing Services	15	Attachment B
	Department of State Development – Business Solutions and Partnerships	3a	Attachment B
	Department of State Development – Major Projects Office	3b	Attachment B
	Department of Tourism, Major Events, Small Business and the Commonwealth Games	10	Attachment B
Local Government	Isaac Regional Council	27	Attachment A – 27
	Mackay Regional Council	26	Attachment B
Landholders within and adjacent to the project site	Private submitter	38	Attachment A – 38
	Private submitter	39	Attachment A – 39
	Adani Mining Pty Ltd	40	Attachment A – 40
Other regional landholders	Private submitter	18 & 20	Attachment A – 18
	Private submitter	64	Attachment A – 64
Aboriginal Group	Wangan and Jagalingou Traditional Owners Family Representative Council	45	Attachment A – 45
Environmental Groups	Black-Throated Finch Recovery Team	12	Attachment A – 12
	BirdLife Australia	37	Attachment A – 12

STAKEHOLDER GROUP	SUBMITTER	SUBMITTER NUMBER	SUPPLEMENT CROSS REFERENCE
	Environmental Justice Australia – Australian Youth Climate Coalition	44	Attachment A – 44
	Lock the Gate Alliance	17	Attachment A – 17
	Mackay Conservation Group	28	Attachment A – 28
	Protect the Bush Alliance	29	Attachment A – 29
	Land Services of Coast and Country	35	Attachment A – 35
	Rural Services of Coast and Country	36	Attachment A – 35
	North Queensland Conservation Council	21	Attachment B
	Correct Planning and Consultation for Mayfield group	22	Attachment B
	Queensland Conservation Council	31	Attachment B
	Australian Marine Conservation Society	32	Attachment B
	Greenpeace Australia Pacific	33	Attachment B
	BirdLife Southern Queensland	46	Attachment B
Other stakeholders	Aurizon	9	Attachment A – 9
	Private submitter	7	Attachment A – 7
	Private submitter	43	Attachment A – 43
	Private submitter	2	Attachment A – 2
	SunWater	34	Attachment B
	Other private citizens	1, 4, 6, 19, 53, 55, 56, 57, 13, 14, 47, 48, 49, 50, 51, 52, 54, 58, 60, 61	Attachment B

4.2 RESPONSES TO COMMON ISSUES

A number of common issues were raised by multiple stakeholders including issues relating to:

- The project description;
- The draft EIS groundwater assessment;
- The draft EIS surface water assessment;
- The draft EIS terrestrial ecology assessment; and
- The draft EIS social impact assessment.

The specific issues relating to these aspects of the draft EIS are discussed in the following sections. The proponent's response to each of these common issues is also provided.

4.2.1 Project Description

A number of submitters raised issues relating to the assessment of impacts from off-lease infrastructure, the interaction of the project with the neighbouring Carmichael Coal Mine Project, and the assessment of impacts on the workforce accommodation village. The proponent's response to these issues is described in the following sections.

Assessment of Impacts Relating to Off-lease Infrastructure

A number of submitters raised issues relating to the absence of an assessment of impacts resulting from off-lease infrastructure required for the project (i.e. port capacity, rail connection to port, mine site access road connection and raw water supply). As stated in Section 4.13 of the draft EIS, the scope of the draft EIS was limited to assessing the impacts from the mine. This was because the off-lease infrastructure components will be subject to separate environmental impact assessments and approvals. Many of these off-lease infrastructure components will also be developed by other proponents and require further assessment before a final preferred option can be selected. Section 4.13 of the draft EIS includes a description of the current preferred option and status of each off-lease infrastructure component.

Interactions with the Carmichael Coal Mine Project

A number of submitters raised issues relating to the project timing and relationship with and/or reliance on the Carmichael Coal Mine and Rail Project (CCM&RP). The potential interactions with the CCM&RP are discussed in Section 4.13.5 of the draft EIS.

The CCM&RP is some years ahead of Project China Stone in terms of gaining the necessary approvals to enable the commencement of construction. For the purposes of the assessment of potential cumulative impacts, the draft EIS has, therefore, assumed the CCM&RP would be operating at the same time as Project China Stone. The draft EIS has recognised the commitments of the CCM&RP proponent in the discussion of management of environmental impacts that are common to both projects. The draft EIS outlines the proponent's own commitments that have been developed with consideration of those proposed for the CCM&RP, where relevant.

The proponent recognises that there are significant external factors that create uncertainty for the timing of the development of both projects. In the unlikely event the project proceeds in the absence of the CCM&RP, the proponent will continue to implement the commitments made in the draft EIS and would be solely responsible for the delivery of mitigation and management measures to address the environmental impacts of the project that are identified in the draft EIS.

Impacts on the Accommodation Village

A number of submitters were concerned about the potential impacts on the health and wellbeing of workers housed in the accommodation village, due to the proximity of the accommodation village to the airstrip, the open cut mine and mining infrastructure. In accordance with the Department of Environment and Heritage Protection (EHP) model mining conditions, the on-site accommodation village is not considered to be a sensitive receptor in the draft EIS and has, therefore, not been included in the assessment of residential amenity impacts (such as noise) described in the draft EIS. However, the health and wellbeing of workers staying at the accommodation village during their block shift has been considered in Section 22 of the draft EIS. Specifically, the accommodation village will primarily be used for workers to rest and sleep between work shifts. At the end of their block shift, workers will return home to their normal place of residence. The accommodation village will therefore be mostly used for sleeping, eating and relaxation activities predominantly within air conditioned rooms with closed windows. The air conditioned nature of the accommodation village facilities will prevent any impacts on the health and wellbeing of the village occupants due to dust and noise from the mining operations. In particular, the installation of air-conditioning is a well-established and effective means of mitigating noise impacts inside buildings due to external industrial noise levels. The detailed design process for the accommodation village will consider the need for acoustic insulation and it will be included in the design of accommodation units, if necessary.

4.2.2 Groundwater Assessment

A number of submitters raised issues relating to the groundwater assessment, in particular the parameterisation of the groundwater model and the need for a peer review of the groundwater model to be included in the draft EIS. The specific issues raised and the proponent's response is described in the following sections. Detailed responses are also provided in the relevant sections of Appendix A – Individual Responses to Submissions. Technical clarifications relating to the groundwater assessment has also been provided in Attachment D – Additional Information on Groundwater.

Groundwater Model Parameterisation

The draft EIS included a numerical groundwater model (Appendix B of Appendix I – Groundwater Report). The groundwater model parameters were derived from analysis of geology and groundwater data compiled from site investigations at the project site, other Galilee Basin mining projects and landholder bores. The groundwater dataset specifically incorporated all relevant geological and groundwater information collected as part of the proposed CCM&RP groundwater studies. The draft EIS groundwater study therefore presents the most comprehensive groundwater dataset compiled in this part of the Galilee Basin.

A number of submissions on the draft EIS raised issues in relation to model parameters. The submissions indicated that the model parameterisation would benefit from either more data or further analysis of existing data. The submissions highlighted groundwater levels and flow directions, recharge rates and hydraulic conductivity as key model parameters.

An additional 23 months of 6-hourly groundwater level data has been collected from dataloggers installed at the project site. This additional data is presented in Attachment D – Additional Information on Groundwater. The total baseline groundwater monitoring covers a period of 37 months from December 2012 to January 2016. The additional groundwater monitoring data is consistent with the data presented in the draft EIS Groundwater Report (Appendix I), and therefore provides further support to the groundwater levels in the numerical groundwater model presented in the draft EIS.

Recharge rates in the draft EIS were inferred from the groundwater data. The additional monitoring data shows that, despite several significant rainfall events with the potential to generate recharge, groundwater levels remain relatively uniform with no significant seasonal recharge response. This data therefore provides supporting evidence for the low recharge rate conceptualised within the draft EIS groundwater assessment. The modelled recharge rates are also consistent with previously reported groundwater studies in the Galilee Basin.

The modelled hydraulic conductivity values were based on 154 rising/falling head and packer tests conducted at the project site and the Carmichael Coal Mine site. Additional justification of the modelled coal seam hydraulic conductivity data has been provided based on publicly available data from coal seam gas wells within the wider Galilee Basin. This data demonstrates that coal seam permeability is extremely low at depth and confirms the model parameterisation of low coal seam conductivity at depth. The modelled hydraulic conductivity of the Clematis Sandstone was also considered and found to be appropriate given the range of measured values and within the context of the local geological setting.

More detailed responses regarding specific groundwater issues are provided in Attachment A – Individual Responses to Submissions. Technical information relating to the groundwater assessment has been provided in Attachment D – Additional Information on Groundwater.

Groundwater Peer Review

A number of submitters queried if a peer review of the groundwater model was required. There is no requirement for a peer review of the groundwater model in the EIS Terms of Reference (TOR) nor is it standard practice for mining EISs. The draft TOR for the project prepared by the OCG did not include a requirement for a groundwater model peer review. The draft TOR were publicly exhibited and EHP, the Department of Natural Resources and Mines (DNRM) and the Department of the Environment and Energy (DoEE) were provided an opportunity to comment on the draft TOR prior to its finalisation. EHP, DNRM and DoEE's submissions on the draft TOR did not request a peer review of the groundwater model for the project. In addition, all specific submission issues that

were raised in relation to the draft EIS groundwater model have been responded to in the supplement. No issues have been raised in the submissions that indicate any material deficiencies in the groundwater model or justify the need for a peer review. The proponent considers that it is therefore not reasonable to require a peer review of the groundwater model at this stage, given that it is not a requirement of the TOR, the groundwater study has addressed the project's TOR and all specific groundwater issues that were raised by regulatory agencies have been addressed, in consultation with the agencies.

4.2.3 Surface Water Assessment

Attachment 24-4 of the draft EIS proposed draft Environmental Authority (EA) release conditions for the controlled release of mine-affected water to the receiving water of the Belyando River. A number of submitters raised issues relating to the proposed conditions and requested that the proposed use of the Belyando River as the receiving water for the project be reconsidered to provide greater protection to potential environmental values of North Creek, including any potential ecological values and water users downstream of the proposed release point.

In response to the submissions, and in consultation with the regulatory agencies, the receiving waters for the controlled release of mine-affected water has been changed to North Creek rather than the Belyando River, as proposed in the draft EIS. However, there is currently insufficient receiving water quality and flow data to enable the detailed calculation of flow triggers and water quality release limits for North Creek, in accordance with the EHP model mining conditions. Consequently the proponent is proposing to implement a baseline water quality and flow monitoring program for North Creek. The data collected from this monitoring program will enable the calculation of water quality objectives for the receiving water, flow conditions, and criteria for the release of mine-affected water in accordance with the EHP model mining conditions, prior to the commencement of the project. The details of the proposed amended mine affected water EA conditions and the proposed baseline monitoring program are described in Attachment E – Additional Information on Surface Water

The release of mine-affected water based on flows in North Creek and the strict application of the EHP model mine conditions will ensure that sufficient flushing flows occur in North Creek following any discharge events and that there are no adverse impacts on downstream environmental values in North Creek, including aquatic ecosystems.

4.2.4 Terrestrial Ecology Assessment

A number of submitters raised issues relating to the terrestrial ecology assessment, in particular the assessment of the Black-throated Finch (BTF), an endangered species that was recorded on the project site during field surveys, and adequacy of the Biodiversity Offsets Strategy. The issues raised and the proponent's response is described in the following sections. Detailed responses are also provided in the relevant sections of Appendix A – Individual Responses to Submissions.

Black-throated Finch Habitat Modelling

The draft EIS included a definition of BTF habitat based on information contained in conservation advice for the species, particularly the Black-throated Finch Recovery Plan and the SPRAT profile (Appendix G of Appendix F – Terrestrial Ecology Report). The definition accounted for vegetation communities listed in the Black-throated Finch Recovery Plan located within 3 km of permanent water.

A number of submissions on the draft EIS raised issues in relation to the BTF habitat modelling. The submissions indicated that the habitat definition was too restrictive because it relied on the presence of permanent water and hence did not account for seasonally available habitat in times of good rainfall. The submissions highlighted specific areas of the project site (i.e. southern and central areas) that were not mapped as habitat and indicated that these areas should be considered to be habitat, particularly given that there are records of the species from these areas.

The habitat mapping has been revised in response to the issues raised in the submission. Although the definition used in the draft EIS captured the most significant areas of habitat, a broader, more conservative definition has

been adopted for the supplement. The revision of BTF habitat modelling was undertaken in consultation with the Federal DoEE and the Queensland EHP.

The revised habitat model includes ephemeral drainage lines and there is a good correlation between the revised BTF habitat and records of the species (including records obtained during field surveys for the proposed CCM&RP). The revised habitat model and associated potential offset requirements are described in Attachment F - Additional Information on Ecology.

It is noted that the revised BTF habitat model has increased the area of BTF habitat within the project site and also increased the amount of BTF habitat that will potentially be impacted by the project. However, although the area of impact has increased, the key findings of the draft EIS Terrestrial Ecology Report (Appendix F) have not changed. The impact assessment continues to conclude the project would give rise to the permanent loss of habitat within the project site which has the potential to have a significant, residual impact on the species. As such, offsets for the species continue to be proposed to address these potential project impacts.

Biodiversity Offsets Strategy

A number of submitters raised concerns about the fact that the draft EIS Biodiversity Offset Strategy (Appendix H) was not publicly exhibited. The purpose of the Biodiversity Offset Strategy was to demonstrate that there are suitable properties available that could satisfy the project's offset requirements. As such, it included an assessment of several properties with potential to fulfil the biodiversity offset requirements for the project. As the proponent does not currently own any land and does not currently have any agreements with any landowners regarding offset properties, information about these properties is commercially sensitive and is unsuitable to be released publicly. However, the Biodiversity Offset Strategy was provided to the relevant government agencies that are responsible for determining the offset requirements for the project. In addition, any specific issues that were raised by the government agencies responsible for the regulation of offsets have been responded to as part of the supplement. In response to concerns from submitters, a redacted version of the Biodiversity Offset Strategy has been provided in Attachment J.

4.2.5 Social Impact Assessment

A number of submitters were concerned that the income from the sale of coal adopted in the draft EIS economic impact assessment (Appendix A of the draft EIS Socio-Economic Impact Assessment (Appendix N)) did not reflect the thermal coal price at the time the draft EIS was publicly exhibited. These submitters implied that the economic assessment was flawed due to the change in the coal prices.

It should be noted that there are a wide range of complex factors that can influence the global coal market, which make accurate long term forecasting of pricing (and demand) difficult. The draft EIS assumed a value for the income from the sale of coal that was considered to be representative of the fluctuations in the coal price that would be expected to occur over the 50 year life of the mine. As such, the assumed value was not necessarily comparable to the price of coal in the year the economic modelling was conducted, nor was it comparable to the value of coal at the time the draft EIS was publicly exhibited. It should be noted that, over the past 5 years, the monthly thermal coal spot price has varied from AUD\$126 (per metric ton) in October 2011 to AUD\$131 in October 2016, with a low of AUD\$71 in April 2016 (IndexMundi, 2016). This variation and the recent return to prices above AUD\$100 per ton, confirms that comparison between the coal price at the time of the public exhibition of the draft EIS and the assumed coal price in the draft EIS is not valid.

5 ADDITIONAL INFORMATION

This section presents the additional information that has been provided in response to specific issues raised in submissions on the draft EIS. To the extent of any inconsistencies, the information in this section supersedes any information in Volumes 1 – 5 of the draft EIS. This section confirms the changes to the project description that have been made since the draft EIS was publicly exhibited (Section 5.1) and provides an overview of the additional information that has been provided in response to specific issues raised in submissions (Section 5.2). This section also describes the editorial corrections that have been made to Volumes 1 - 5 of the draft EIS (Section 5.3).

5.1 CHANGES TO THE PROJECT

There are no changes to the project description presented in Section 4 of the draft EIS other than an amendment to the conceptual final landform of the Tailings Storage Facility (Refer Attachment E).

5.2 ADDITIONAL INFORMATION

Additional information has been provided in support of the responses to issues raised in submissions and associated stakeholder consultation. The additional information is predominantly related to clarifying particular aspects of the draft EIS or additional details about the draft EIS technical studies. The additional information has not resulted in any material changes to the conclusions of the draft EIS. The additional information is as follows:

- Attachment D - Additional Information on Groundwater, provides:
 - Additional figures that clarify:
 - Baseline groundwater levels;
 - The conceptualisation of Lake Buchanan as a groundwater discharge zone;
 - The sensitivity analysis scenarios provided in the draft EIS, as well as an additional sensitivity analyses of the effects of increasing the hydraulic conductivity values in the coal seams and a more conservative representation of the change in hydraulic conductivity of the coal seams with depth; and
 - An example of the modelled factors applied in the draft EIS to account for the effects of subsidence on vertical hydraulic conductivity.
 - Clarification of how the changes in coal seam conductivity with depth were represented in the EIS groundwater model.
- Attachment E - Additional Information on Surface Water, provides information on the proposed baseline surface water monitoring program, the revised mine-affected water EA release conditions, the compliance monitoring program of mine-affected water releases and the proposed Receiving Environment Monitoring Program (REMP). It also provides details of the revised conceptual drainage design of the Tailings Storage Facility and Power Station Waste Storage Facility final landform.
- Attachment F - Additional Information on Ecology, provides revised habitat modelling for two threatened fauna species (namely the Black-throated Finch and the Squatter Pigeon) and provides preliminary habitat modelling for the Yakka Skink. It also provides further information on biodiversity offsets, including additional information about the most prospective offset property.

- Attachment H - Additional Information on Social Impact Assessment, provides a content guide for the SIA management plans proposed to be developed for the project, as well as a Community Consultation and Engagement Strategy for all phases of the project.
- Attachment I - Additional Commitments, lists the additional environmental management commitments that are detailed throughout the supplement. The source of the additional management commitments within the response to submissions are found are also referenced. The additional commitments are provided in addition to the commitments provided in the draft EIS Attachment 24-2 Project Commitments List.
- Attachment J – A redacted version of the draft EIS Biodiversity Offset Strategy (Appendix H) is provided.
- Attachment K – Final Landform Cross Sections, provides a conceptual decommissioned final landform layout plan and two cross sections of the final landform. These were requested by EHP during consultation on the draft EIS.

5.3 EDITORIAL CORRECTIONS

Table 5-1 includes a list of minor editorial corrections and/or clarifications that have been made in response to submissions.

Table 5-1 Draft EIS Editorial Corrections

EIS SECTION	EDITORIAL CORRECTION AND EXPLANATION
Any applicable sections of the draft EIS	Reference to the Federal Department of Environment (DotE) in the draft EIS should be read as the Federal Department of Environment and Energy (DoEE) due to a change in department name during preparation of the supplement.
Section 2 - Regulatory Framework Attachment 2-1 Other Commonwealth and Queensland Legislation	Text relating to the VM Act is appended to include: <i><u>The project is not subject to assessment under the VM Act as clearing of remnant vegetation for the project is exempt from approval under Part 1, Schedule 24 of the Sustainable Planning Regulation 2009.</u></i>
Section 3 – Consultation	To clarify, Mackay Regional Council <u>was</u> consulted as part of issue scoping consultation completed for the project.
Section 4 – Project Description, Figure 4-28	Flue gas desulfurization is not proposed and is deleted from the conceptual layout figure.
Section 5 – Land Use Subsection 5.4.4	To clarify, the proposed consultation in regard to the stock route <i><u>will occur prior to the commencement of construction.</u></i>
Section 9 - Terrestrial Ecology	Text relating to the VM Act not applying to the project is deleted and replaced with the following: <i><u>The project is not subject to assessment under the VM Act as clearing of remnant vegetation for the project is exempt from approval under Part 1, Schedule 24 of the Sustainable Planning Regulation 2009.</u></i>
Section 11 – Matters of National Environmental Significance Appendix F – Terrestrial Ecology Report	On 30 June 2015, the list of migratory species under section 209 of the EPBC Act was amended to remove the Australian Painted Snipe (<i>Rostratula australis</i> , formerly known as <i>Rostratula benghalensis</i>) as a migratory species. References to the species being migratory are deleted. However, potential for impacts on the species are still considered in the draft EIS under its threatened species listing.

EIS SECTION	EDITORIAL CORRECTION AND EXPLANATION
Section 11 – Matters of National Environmental Significance Appendix F – Terrestrial Ecology Report	On 9 June 2016, the list of migratory species under section 209 of the EPBC Act was amended to remove the Rainbow Bee Eater, the Cattle Egret and the Great Egret as migratory species. References to these species being migratory are deleted.
Section 12 – Groundwater, Subsection 12.3.3	Insertion of the following additional text to clarify that, the relatively deep localised water table in the vicinity of Darkies Range, <u>together with the low permeability and lack of groundwater discharge</u> , are indicative of a low rate of recharge in this area.
Section 12 – Groundwater, Subsection 12.4.11 Appendix I – Groundwater Report, Subsection 8.6	To clarify, where the project is predicted to contribute to cumulative water supply bore impacts, the proponent will liaise with Adani to negotiate make good agreements, proportionate to the predicted project contribution to any impacts. To clarify, potential options for alternative landholder water supplies may include modifying or deepening existing bores or the installation of new bores.
Section 15 – Air Quality, Subsection 15.9.2	To clarify, the proponent will implement the GHG initiatives listed in this section.
Section 19 – Traffic and Transport, Subsection 19.2.5	To clarify, the heavy vehicle factor of 30% was adopted for the SIDRA assessment.
Section 19 – Traffic and Transport, Subsection 19.2.5	To clarify, the predominant turns at the Gregory Developmental Road/Elgin Moray Road intersection are right in and left out.
Section 22 – Hazard and Risk, Figure 21-1	NA 29 Petroleum Product or Oil Storage is deleted from the raw coal stockpile area and the product coal stockpile area.
Section 22 – Hazard and Risk, Table 22-1	<u>Disaster Management Act 2003</u> should be inserted into this table.
Section 22 – Hazard and Risk, Subsection 22.6 and Table 22-5 Preliminary Hazard Analysis	To clarify, the risk of spontaneous combustion of coal relates to <u>any stage during mining, handling, processing or transporting coal</u> and is not limited to stockpiling. The risk of outbreak of fires due to spontaneous combustion of coal is considered a key hazard for the project.
Section 25 - References	An additional reference has been added: <u>IndexMundi 2016. Coal, Australian thermal coal Monthly Price - Australian Dollar per Metric Ton, accessed online November 2016 at: http://www.indexmundi.com/commodities/?commodity=coal-australian&months=60&currency=aud</u>
Appendix F – Terrestrial Ecology Report, Appendix L	To clarify, re-establishing habitat for threatened fauna species as part of mine rehabilitation was not a material consideration of the impact assessment.
Appendix G – Aquatic Ecology and Stygofauna Report, Subsection 3.2.4 and 3.2.6	To clarify, the sampling was consistent with the AusRivAS methodology (NRM 2001) and reference to Turak and Waddell 2002 is deleted.

EIS SECTION	EDITORIAL CORRECTION AND EXPLANATION
Appendix I – Groundwater Report, Subsection 7.3.3	The following should be inserted: <u><i>Representing Lake Buchanan as a discharge zone in the groundwater model provides a conservative basis for the assessment of potential impacts on Lake Buchanan due to groundwater drawdown.</i></u>
Appendix I – Groundwater Report, Appendix B Subsection B1.2	To clarify, in relation to the description of recharge: <ul style="list-style-type: none"> ■ Figure B3 of the Groundwater Report shows the variation in modelled recharge rates applied in the groundwater model. The figure legend has been amended to correct errors in the mapped recharge rates. The amended figure is provided in Attachment D. ■ Table B2 has been amended to align with Figure B3 and correctly reflect the applied recharge rates in mm per year. ■ The description of the recharge calculation method presented in Section B1.2 has been clarified.
Appendix N – Socio-Economic Impact Assessment	Reference to the Queensland Department of Education and Training (DET) relating to the employment role should read as Queensland Treasury due to a change in department.
Appendix N – Socio-Economic Impact Assessment, Subsection 7.3.1	To clarify, mental health and isolation adjustment support will be provided <u><i>for employee families, as well as</i></u> employees for the first year of employment.
Appendix N – Socio-Economic Impact Assessment, Subsection 7.2.2	An Indigenous Participation Strategy will be prepared, instead of an Indigenous Participation Plan.
Appendix O – Road Impact Assessment	Any references to Mirtna Road in text or on figures should be read as Yarromere Road.

Underlined, italicised text indicates additional text inserted