



PROJECT CHINA STONE

Attachment E Additional Information on Surface Water

PROJECT CHINA STONE

ADDITIONAL INFORMATION ON SURFACE WATER

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PROJECT CHINA STONE ADDITIONAL INFORMATION ON SURFACE WATER

for MacMines Austasia Pty Ltd

1 INTRODUCTION

This document has been prepared by Hansen Bailey, on behalf of MacMines Austasia Pty Ltd, in response to submissions made on the Project China Stone (the project) Draft Environmental Impact Statement (draft EIS).

1.1 BACKGROUND

During extended rainfall events the open cut pit will collect significant volumes of rainfall runoff. Following such events, it will be necessary to dewater the open cut pits to allow continuing production. The accumulated pit water will be dewatered to mine water storage dams where dam storage capacity is available. The mine water management system has been designed with sufficient storage capacity to contain mine-affected water without the need for uncontrolled release of mine-affected water. Excess mine-affected water will be discharged from the mine water management system under controlled conditions that are designed to prevent any adverse impacts on downstream environmental values.

Attachment 24-4 of the draft EIS provides proposed Environmental Authority (EA) release conditions for the controlled release of mine-affected water to the receiving water of the Belyando River. These EA conditions include release limits, investigation triggers and compliance monitoring requirements for mine-affected water released from the project.

The principal of releasing mine-affected water into ephemeral or high-catchment drainage features based upon flow rates in a larger, downstream receiving water is consistent with approved mine discharge strategies for other Galilee Basin coal mining projects including the Alpha Coal Project and the Galilee Coal Project. This approach also underpins the release strategies adopted for numerous operating Bowen Basin coal mines under the Fitzroy Basin Pilot Scheme.

A number of submissions on the draft EIS have requested that the proponent reconsider the proposed use of the Belyando River as the receiving water for the project. A submission provided by the Department of Environment and Heritage Protection (EHP) has specifically requested that the proponent nominate North Creek as the receiving water for the controlled release of mine-affected water from the project. These submissions also indicate that the release conditions and compliance monitoring locations presented in Attachment 24-4 of the draft EIS should also be reconsidered to better reflect the receiving waters and provide

greater protection to potential environmental values of North Creek, including any potential ecological values and water users downstream of the proposed release point.

Separately, several submissions requested clarification on the baseline monitoring data, the specific criteria presented within the proposed EA release conditions, the Receiving Environment Monitoring Program (REMP) and drainage from the conceptual final landform of the Tailings Storage Facility (TSF). These submission issues are also addressed in this report to ensure a consolidated response to surface water issues.

1.2 PURPOSE AND SCOPE OF REPORT

This document provides additional information on surface water in response to submissions provided by the EHP, the Department of Natural Resources and Mines (DNRM) and the Independent Expert Scientific Committee on Coal Seam Gas and Large Coal Mining Development (the IESC).

The EHP submission requested that discharge flows for mine-affected water releases are based on the flows in North Creek rather than the Belyando River, as proposed in the draft EIS. The proponent has agreed to this alternative approach.

The project site is remote and experiences highly ephemeral, short duration, surface water flows due to its location at the head of the catchment. These factors severely limit the ability for any regular sampling of surface water flows from the project site, hence there is currently insufficient receiving water quality and flow data to enable the detailed calculation of flows triggers and water quality release limits associated with this change in accordance with the EHP model mining conditions.

Consequently the proponent is proposing to implement a baseline water quality and flow monitoring program in order to determine the following aspects of the program in accordance with the EHP model mining conditions:

- Water quality objectives can be calculated for North Creek in accordance with the Queensland Water Quality Guidelines;
- Flow conditions can be established for the receiving waters; and
- Flow criteria for discharge, maximum release rates, and release limits can be calculated.

This work will be undertaken prior to the commencement of the project and will also be used to inform the REMF.

This report provides:

- Details of the proposed baseline water quality and flow monitoring program (Section 2);
- Details of the proposed amended EA mine mine-affected water release conditions and the proposed compliance monitoring program for of mine-affected water releases (Section 3);
- Details of the proposed REMP (Section 4); and
- A revised conceptual TSF final landform drainage design (Section 5).

This report is an attachment to the Supplement to the draft EIS for the project. The Supplement of the draft EIS is Volume 6 and should be read in conjunction with the draft EIS Volumes 1 – 5 that were publicly exhibited. Together, Volumes 1 - 6 form the revised draft EIS for the project.

To the extent of any inconsistencies, the information in this attachment supersedes any information in any other volume of the draft EIS.

2 BASELINE SURFACE WATER MONITORING PROGRAM

This section describes the baseline water quality and flow monitoring program that will be implemented for North Creek and downstream surface waters.

Baseline water quality and flow data collected as part of this monitoring program will also be used to establish locally relevant water quality objectives for North Creek in accordance with the *Queensland Water Quality Guidelines* (QWQG) (EHP, 2013). The water quality objectives will be used in the development of site-specific EA conditions for the controlled release of mine-affected water to North Creek in accordance with the EHP model mining conditions. EA conditions for the controlled release of mine-affected water are discussed in Section 3.

The baseline water quality data (and derived water quality objectives) will also inform the REMP baseline and objectives. The REMP is described in Section 4.

2.1 BASELINE WATER QUALITY MONITORING PROGRAM

The surface water quality monitoring program will comprise a total of ten monitoring sites. Five monitoring sites will be located in the headwaters and main channel of North Creek. The remaining five monitoring sites will be located on the Belyando River and tributaries of North Creek. The distribution of these baseline monitoring sites is shown on Figure 1.

Monitoring sites have been located to provide data from representative reaches of North Creek and its headwaters, the Belyando River and associated wetland environs downstream of the proposed release point. The rationale behind the selection of each representative monitoring site is explained in Table 1.

Table 1
Baseline Surface Water Quality Monitoring Program Design

Site ID	Surface Water Feature	Rationale
Downstream Monitoring Points on North Creek		
BLMP1	North Creek	<u>Location: 21°50'11.12"S, 146°15'18.96"E</u> This site is located in the ephemeral headwaters of the upper North Creek catchment and upstream of the confluence with Laguna Creek and several minor drainage features. This site does not receive any input from significant tributaries and provides baseline water quality data for the ephemeral headwaters of North Creek.
BLMP2	North Creek	<u>Location: 21°50'46.68"S, 146°16'56.67"E</u> This site is located in the ephemeral headwaters of the upper North Creek catchment and upstream of the confluence with Laguna Creek and several minor drainage features. This site does not receive any input from significant tributaries and provides baseline water quality data for the ephemeral headwaters of North Creek.
BLMP2A	N/A	<u>Location: 21°49'31.87"S, 146°17'27.81"E</u> This site is located within a potential wetland environment. This site and potential wetland are not located on the direct downstream flowpath of the mine water release point (RP1). This site provides baseline water quality data for the potential wetland environment.
BLMP3	North Creek	<u>Location: 21°57'58.00"S, 146°28'12.30"E</u> This site is located on the upper reach of North Creek. This site is located downstream of Laguna Creek and several minor drainage features, and upstream of the confluence with Eight Mile Creek which traverses the Carmichael Coal Mine site. This site provides baseline water quality data for North Creek downstream of the project site and upstream of any input from significant tributaries and adjacent mining activities.
BLMP4	North Creek	<u>Location: 21°54'50.07"S, 146°38'10.32"E</u> This site is located on the lower reach of North Creek adjacent to potential lacustrine and palustrine wetland environments of the Belyando River floodplain. This site is located downstream of the confluence with Eight Mile Creek and upstream of the confluence with the Belyando River anabranch. This site provides baseline water quality data for North Creek flows entering the Belyando River system.

Site ID	Surface Water Feature	Rationale
Monitoring Points on Eight Mile Creek and Belyando River		
BLMP5	Eight Mile Creek	<u>Location: 21°58'10.08"S, 146°28'8.38"E</u> This site is located on the lower reach of Eight Mile Creek, upstream of the confluence with North Creek and downstream of an existing farm dam. This site provides baseline water quality data for Eight Mile Creek flows entering the North Creek system.
BLMP6	Belyando River Anabranh	<u>Location: 21°57'34.06"S, 146°39'24.55"E</u> This site is located on the Belyando River anabranh upstream of the confluence with North Creek. This site corresponds to MP2 as shown in Figure 13-2 of the draft EIS. This site provides baseline water quality data for the receiving waters of the Belyando River upstream of inputs from the North Creek catchment.
BLMP7	Belyando River Anabranh	<u>Location: 21°52'21.73"S, 146°42'18.82"E</u> This site is located on the Belyando River anabranh channel downstream of the confluence with North Creek and upstream of the confluence with the Belyando River main channel. This site is also located adjacent to potential lacustrine and palustrine wetland environments of the Belyando River floodplain. This site provides baseline water quality data for Belyando River anabranh including any drainage from the North Creek catchment.
BLMP8	Belyando River Main Channel	<u>Location: 21°52'26.57"S, 146°42'37.75"E</u> This site is located on the Belyando River main channel upstream of the confluence with the Belyando River anabranh. This site receives drainage from the upper Belyando River catchment including the Carmichael River catchment. This site does not receive drainage from the North Creek catchment. This site provides baseline water quality data for the Belyando River upstream of drainage from the North Creek catchment.
BLMP9	Belyando River Main Channel	<u>Location: 21°47'46.01"S, 146°45'23.18"E</u> This site is located on the Belyando River main channel downstream of the confluence with the Belyando River anabranh. This site provides baseline water quality data for the Belyando River downstream of inputs from the North Creek and upper Belyando River catchments, but upstream of Tomahawk Creek.

Site ID	Surface Water Feature	Rationale
Upstream Monitoring Points on North Creek		
BLMP10	Laguna Creek headwaters	<u>Location: 21°51'51.79"S, 146°14'30.35"E</u> This site is located in the ephemeral headwaters of the upper North Creek catchment, upstream of the proposed mining area and mine water release point (RP1). This site does not receive any input from significant tributaries and provides baseline water quality data for the ephemeral headwaters of North Creek upstream of any drainage from the proposed mining areas.

The baseline monitoring program will include monthly field testing and sample collection at each of the monitoring points. The proposed monitoring program includes field testing and laboratory analysis for a broad range of toxicants and physico-chemical parameters. Parameters to be monitored include electrical conductivity, total dissolved solids, major ions (i.e. Na, Ca, Mg, K, Cl, SO₄, HCO₃, fluoride), hardness, alkalinity, pH, turbidity, total suspended solids, dissolved oxygen, nutrients (i.e. ammonia, oxidised nitrogen, total nitrogen, total phosphorus, free reactive phosphorus), chlorophyll a, total and dissolved metals and metalloids (including iron) and total petroleum hydrocarbons.

A pre-mining baseline dataset spanning at least 12 months and a complete seasonal cycle (wet-dry-wet season) will be collected prior to commencement of the project.

Water quality sampling and monitoring will be undertaken in accordance with the QWQG and the *Monitoring and Sampling Manual* (EHP, 2009). All metals and metalloids will be measured as total (unfiltered) and dissolved (filtered). In addition, a 0.2 µm filter will be used to remove colloidal particles from samples to be tested for aluminium.

Water quality objectives will be calculated in accordance with the QWQG. The potential for water hardness to reduce the toxicity of certain metals (i.e. Cd, Cr (III), Cu, Pb, Ni and Zn) will be considered in the calculation of water quality objectives. An adjustment for hardness will be applied using the algorithms presented in the *Australian and New Zealand Guidelines for Fresh and Marine Water Quality* (ANZECC, 2000), as necessary.

The proponent is not currently aware of any agricultural surface water abstractions from North Creek. In the event that this is identified during the baseline monitoring program or REMP, water quality objectives for this environmental value will be calculated, as necessary.

2.2 BASELINE FLOW MONITORING PROGRAM

Surface water flow monitoring will be undertaken at the following locations:

- BLMP6 on the Belyando River upstream of the confluence with North Creek (at the same location as EIS monitoring location MP2); and
- BLMP1 on the upper reach of North Creek.

Flow measurements will be undertaken in accordance with *Australian Standard 3778 – Measurement of water flow in open channels* and the QWQG. Flow data will be used to inform the REMP and the development of flow based release conditions.

3 EA CONDITIONS FOR MINE-AFFECTED WATER RELEASE AND COMPLIANCE MONITORING

The mine water management system for the project has been amended to allow for the controlled release of stored pit water from Release Point 1 (RP1) at the Mine Water Dam to the North Creek catchment (Figure 1), based on the flows in North Creek rather than the Belyando River, as proposed in the draft EIS.

The project site is remote and is located at the head of the catchment. It has highly ephemeral, short duration, surface water flows. These factors severely limit the ability for any regular sampling of surface water flows from the project site hence there is currently insufficient receiving water quality and flow data for North Creek to enable the detailed calculation of flow triggers and water quality release limits associated with this change in accordance with the EHP model mining conditions.

Consequently, the baseline water quality and flow monitoring program described in Section 2 will be implemented so that that receiving water flow criteria for discharge, maximum release rates, Electrical Conductivity (EC) and turbidity release limits can be calculated for North Creek, in accordance with the EHP model mining conditions.

The proposed EA conditions for release and monitoring of mine-affected water are presented in Tables A1 to A6 of Appendix A. Table 2 provides a summary of the key changes to these EA conditions in response to submissions.

Table 2
Summary of Changes to Draft EA Conditions for Mine-Affected Water

EA Discharge Conditions Table	Key Changes to Draft EIS
Table A1 – Mine-affected Water Release Points, Sources and Receiving Waters	Receiving waters changed from the Belyando River to North Creek
Table A2 – Mine-affected Water Release Limits	EC release limit to be advised based upon baseline water quality and flow monitoring data. pH limit revised to align with QWQG in response to issue 24.023. Turbidity release limit to be advised based upon baseline water quality and flow monitoring data in response to issue 24.019. All release limits to be finalised based upon baseline water quality and flow monitoring data.
Table A3 – Release Contaminant Trigger Levels, Potential Contaminants:	In response to issue 24.023, the EHP <i>Guideline: Model Mining Conditions</i> trigger levels have been amended to reflect the guideline values (nutrients and physicochemical) for the protection of slightly to moderately disturbed upland streams presented in Table 3.2.1a of the QWQG. All trigger levels to be finalised based upon baseline water quality and flow monitoring data.
Table A4 – Mine-affected Release During Flow Events	Flow based release limits to be advised based upon baseline water quality and flow monitoring data. Flow monitoring locations revised in response to issue 24.019.
Table A5 – Receiving Water Upstream Background Sites and Downstream Monitoring Points	Amended compliance monitoring locations to align with baseline monitoring program. All compliance monitoring locations to be finalised based upon baseline water quality and flow monitoring data.
Table A6 – Receiving Waters Contaminant Trigger Levels	Receiving environment trigger levels to be advised based upon baseline water quality and flow monitoring data in response to issue 24.019. All trigger levels to be finalised based upon baseline water quality and flow monitoring data.

Any controlled releases of mine-affected water will be monitored in accordance with the EHP's model mining conditions relating to the release of mine-affected water. These conditions require monitoring of the water released from the site, as well as the receiving waters.

Parameters to be included in the monitoring program include pH and EC and annual monitoring of a comprehensive suite of water quality parameters, including metals and metalloids.

This section describes the site-specific monitoring requirements for controlled releases, in accordance with the EHP model mining conditions.

The quality of the receiving waters will be monitored at the locations specified in Table A5 of Appendix A for each quality characteristic and at the monitoring frequency stated in Table A6 of Appendix A.

If quality characteristics of the receiving water at the downstream monitoring points exceed any of the trigger levels specified in Table A6 of Appendix A during a release event an investigation will be undertaken to compare the downstream results to the upstream results in the receiving waters.

If the investigation shows that the downstream results exceed the upstream results a further investigation into the potential for environmental harm will be undertaken and the findings reported to the EHP.

4 RECEIVING ENVIRONMENT MONITORING PROGRAM

In accordance with the EHP Guideline *Model Mining Conditions*, the proponent will prepare a REMP Design Document that addresses the requirements of the REMP. The REMP Design Document will be developed in accordance with EHP's *Receiving Environment Monitoring Program guideline* (EHP, 2014). The REMP Design Document will describe the aims, objectives and methodology of the REMP and will identify:

- Environmental values for receiving waters;
- Measurable indicators and associated water quality objectives for each of the environmental values;
- Monitoring sites within the downstream receiving waters;
- Control sites representative of background or reference conditions;
- An assessment methodology for determining potential impacts to downstream environmental values based upon the water quality objectives and representative control site data; and
- A quality control / quality assurance method to be adopted for the REMP.

The proponent will provide the REMP Design Document to the regulatory authority for approval prior to commencement of the REMP.

In outline, the REMP will be designed to:

- Encompass the extent of North Creek downstream of RP1 (including any relevant lacustrine and palustrine habitats associated with North Creek) and the proximal reaches of the Belyando River. These extents will be informed by the baseline water quality monitoring program which incorporates monitoring locations on North Creek and its headwaters and the Belyando River system, including several potential wetland areas.
- Include surface water monitoring for all toxicants and physico-chemical indicators of concern including but not limited to electrical conductivity, total dissolved solids, major ions (i.e. Na, Ca, Mg, K, Cl, SO₄ and HCO₃), hardness, alkalinity, pH, turbidity, total suspended solids, dissolved oxygen, nutrients (i.e. ammonia, oxidised nitrogen, total nitrogen, total phosphorus and free reactive phosphorus) and chlorophyll a. The REMP monitoring parameters will be informed by the results of the baseline water quality monitoring program described in Section 2 to be completed prior to commencement of the project or the REMP.
- The REMP will include monitoring of flow rates in the receiving waters.
- The REMP will include monitoring of the receiving waters for any change in ecological condition arising from the release of mine-affected water from the project. The monitoring will address riparian vegetation, emergent macrophytes, aquatic macroinvertebrates and fish, as necessary based upon the characteristics of any mine-affected water released.
- Monitoring of physico-chemical and ecological parameters in accordance with the REMP will be undertaken periodically under natural flow conditions and during and after the release of mine-affected water over the life of the mine.
- The REMP will provide sufficient information to allow for the identification of significant impacts to of the Belyando River and North Creek as a result of the project or cumulatively with upstream water users.

In accordance with the EHP Guideline: *Model Mining Conditions*, the proponent will also prepare a report outlining the findings of the REMP, including all monitoring results and interpretations. The report will be prepared annually and made available to the administering authority, upon request. This report will include an assessment of background reference water quality, the condition of downstream water quality compared against water quality objectives, and the suitability of approved EA release limits to protect downstream environmental values.

5 TSF CONCEPTUAL FINAL LANDFORM DRAINAGE

The conceptual TSF and Power Station Waste Storage Facility (PSWSF) final landform and drainage design has been revised to address the potential for erosion and instability in the long term post mining. The revised conceptual design is shown on Figure 2.

The key features of the revised conceptual design include:

- A PSWSF landform that it is integrated with the TSF final landform so that the plateau area of the PSWSF is at the same level and contiguous with the TSF plateau;
- The final surface of the TSF/PSWSF plateau area will be internally draining and will include drains to convey runoff from the plateau area to natural ground at the northern end of the TSF; and
- The use of mine overburden to extend the TSF landform to the north-west and enable the TSF plateau to tie into the natural ground level with a gentle gradient.

The proposed drain will have a maximum gradient of less than 1% that is suitable to ensure the long term stability of the TSF capping layer. The drain will have sufficient capacity to convey runoff from the PMP (Probable Maximum Precipitation) event to natural ground at the northern end of the TSF.

Flow velocities will be less than 1 m/s during the 1% Annual Exceedance Probability (AEP) (i.e. 1 in 100) flow event and are well within the applicable hydraulic design criteria. Based upon these design specifications the drains will be stable in the long term.

6 REFERENCES

Australian and New Zealand Environment and Conservation Council and Agriculture and Resource Management Council of Australia and New Zealand (ANZECC and ARMCANZ). (2000). *Australian and New Zealand Guidelines for Fresh and Marine Water Quality*.

Department of Environment and Heritage Protection (2013) *Queensland Water Quality Guidelines*.

Department of Environment and Heritage Protection (2009) *Monitoring and Sampling Manual* (Version 2 September 2010, July 2013 format edits).

Department of Environment and Heritage Protection (2014) *Receiving Environment Monitoring Program guideline - For use with Environmental Relevant Activities under the Environmental Protection Act 1994*.

Standards Australia (1990) Australian Standard 3778: *Measurement of water flow in open channels.*

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for
HANSEN BAILEY

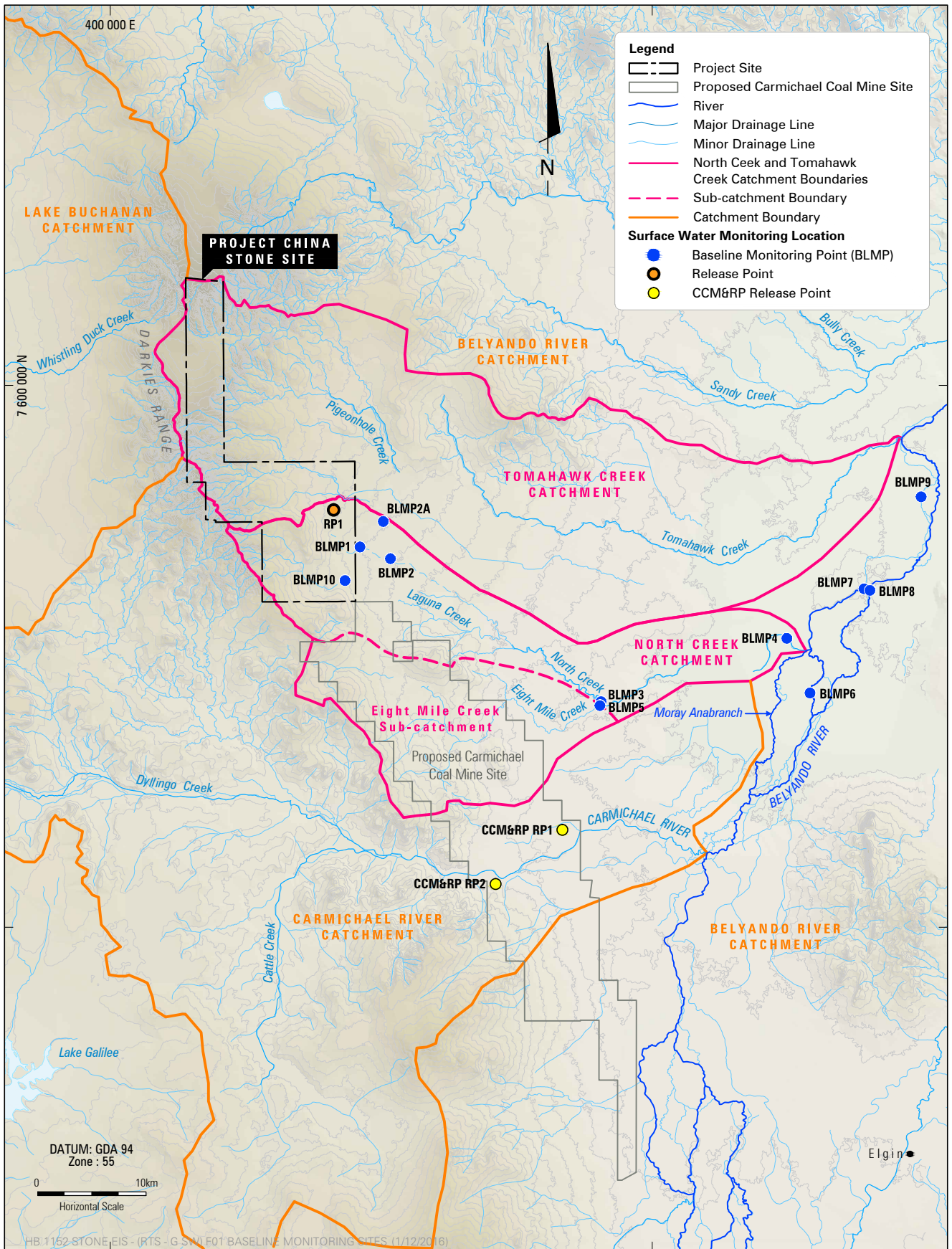


Ross Edwards
Senior Environmental Consultant

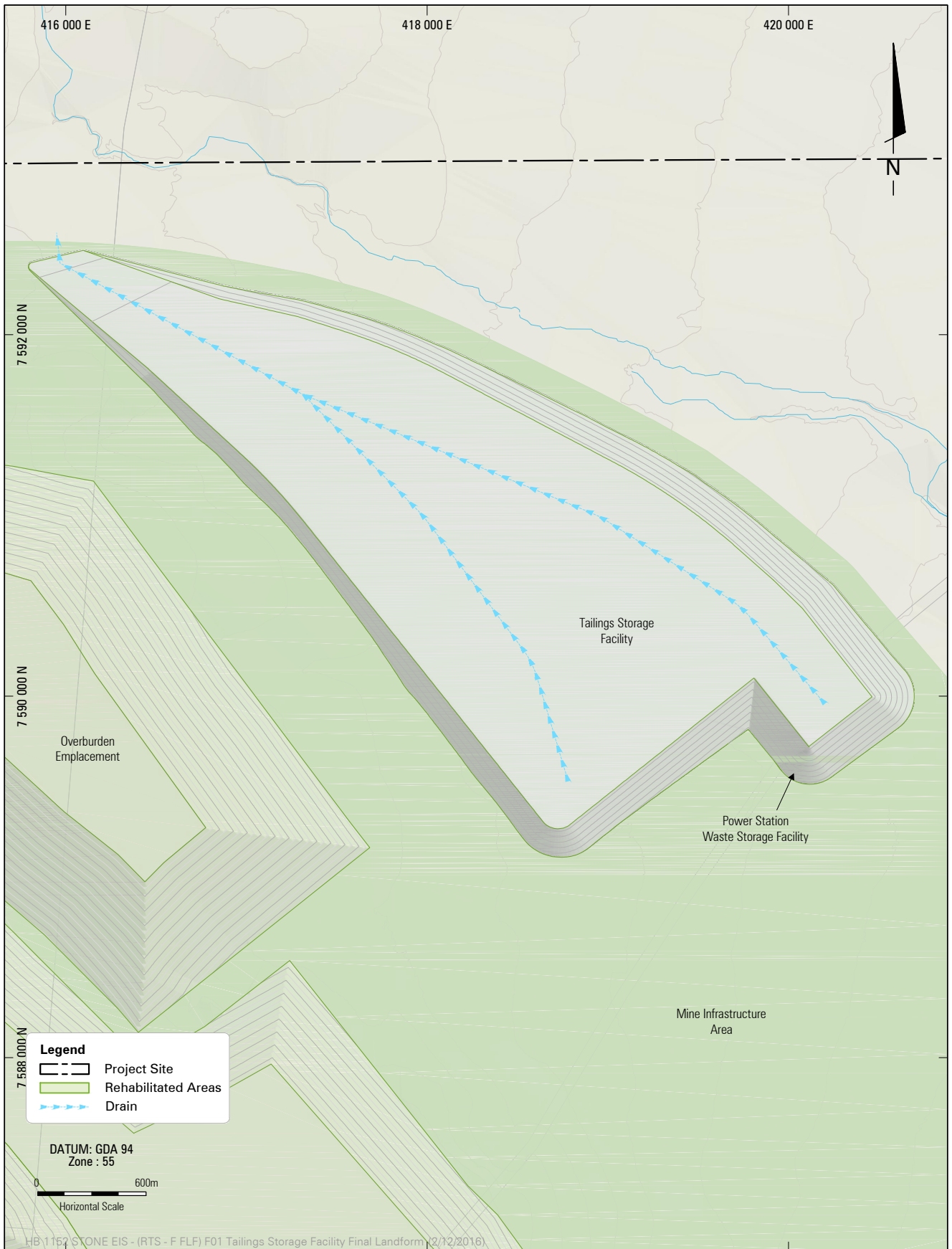


Peter Hansen
Director

FIGURES



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Conceptual Tailings Storage Facility and Power Station
Waste Storage Facility Final Landform Drainage Design

FIGURE 2

APPENDIX A

Draft EA Conditions for Mine-affected Water Release

Table A1
Mine-affected Water Release Points, Sources and Receiving Waters

Release Point	Easting (GDA94)	Northing (GDA94)	Mine-affected Water Source and Location	Monitoring Point	Receiving Waters
RP 1	420441.25	7588525.72	Mine Water Dam piped release point	Mine Water Dam discharge point	North Creek headwaters

Table A2
Mine-affected Water Release Limits

Quality characteristic	Release Limits	Monitoring frequency
Electrical Conductivity ($\mu\text{S}/\text{cm}$)	TBA	Daily during release (the first sample must be taken within 2 hours of commencement of release)
pH (pH Unit)	6.5 (minimum) 7.5 (maximum)	
Turbidity (NTU)	TBA	

* To be advised based upon outcomes of baseline monitoring program

Table A3
Release Contaminant Trigger Investigation Levels, Potential Contaminants

Quality characteristic	Trigger Levels ($\mu\text{g}/\text{L}$) *	Comment on Trigger Level	Monitoring Frequency
Aluminium	55	Model Conditions	Daily during release (the first sample must be taken within 2 hours of commencement of release)
Arsenic	13	Model Conditions	
Cadmium	0.2	Model Conditions	
Chromium	1	Model Conditions	
Copper	2	Model Conditions	
Iron	300	Model Conditions	
Lead	4	Model Conditions	
Mercury	0.2	Model Conditions	
Nickel	11	Model Conditions	
Zinc	8	Model Conditions	
Boron	370	Model Conditions	
Cobalt	90	Model Conditions	
Manganese	1,900	Model Conditions	
Molybdenum	34	Model Conditions	
Selenium	10	Model Conditions	
Silver	1	Model Conditions	
Uranium	1	Model Conditions	
Vanadium	10	Model Conditions	

Quality characteristic	Trigger Levels (µg/L) *	Comment on Trigger Level	Monitoring Frequency
Ammonia	10	QWQG Table 3.2.1a	
Oxidised Nitrogen	15	QWQG Table 3.2.1a	
Organic Nitrogen	225	QWQG Table 3.2.1a	
Total Nitrogen	250	QWQG Table 3.2.1a	
Filtered Phosphorus	15	QWQG Table 3.2.1a	
Total Phosphorus	30	QWQG Table 3.2.1a	
Dissolved Oxygen	90 – 110 % saturation	QWQG Table 3.2.1a	
Turbidity	TBA	TBA	
Petroleum Hydrocarbons (C6-9)	20	Model Conditions	
Petroleum Hydrocarbons (C10-36)	100	Model Conditions	
Fluoride (total)	2,000	Model Conditions	
Sodium	TBA	TBA	
Suspended Solids	TBA	TBA	
Sulphate (SO ₄) (mg/L)	TBA	TBA	

* To be revised based upon outcomes of baseline monitoring program

Table A4
Mine-affected Release During Flow Events

Receiving Waters	Release Point	Gauging Station	Easting (GDA94)	Northing (GDA94)	Flow recording Frequency	Receiving Water Flow Criteria (m ³ /s)	Max. Release Rate (m ³ /s)	Electrical Conductivity Release Limits (µS/cm)
North Creek headwaters	RP 1	GS1 – Belyando River Anabranche Upstream of North Creek	21°57'34.06"S	146°39'24.55"E	Continuous (Hourly)	Low Flow: <TBA* m3/s for a period of 28 days after natural flow events	TBA*	TBA*
						Medium Flow: > TBA*	TBA*	TBA*
						High Flow: > TBA*	TBA*	TBA*
North Creek headwaters	RP 1	GS2 – North Creek headwaters	21°50'11.12"S	146°15'18.96"E	Continuous (Hourly)	Low Flow: <TBA* m3/s for a period of 28 days after natural flow events	TBA*	TBA*
						Medium Flow: > TBA*	TBA*	TBA*
						High Flow: > TBA*	TBA*	TBA*

* To be advised based upon outcomes of baseline monitoring program

Table A5
Receiving Water Upstream Background Sites and Downstream Monitoring Points

Monitoring point	Receiving Water Location Description	Latitude	Longitude
Downstream Monitoring Points on North Creek			
Monitoring Point 1 (BLMP1)	North Creek headwaters	21°50'11.12"S	146°15'18.96"E
Monitoring Point 2 (BLMP2)	North Creek headwaters	21°50'46.68"S	146°16'56.67"E
Monitoring Point 3 (BLMP3)	North Creek headwaters	21°57'58.00"S	146°28'12.30"E
Monitoring Point 4 (BLMP4)	North Creek at Belyando River	21°54'50.07"S	146°38'10.32"E
Downstream Monitoring Points on Belyando River and Eight Mile Creek			
Monitoring Point 5 (BLMP5)	Eight Mile Creek	21°58'10.08"S	146°28'8.38"E
Monitoring Point 6 (BLMP6)	Belyando River Anabranh Upstream of North Creek	21°57'34.06"S	146°39'24.55"E
Monitoring Point 7 (BLMP7)	Belyando River Anabranh Downstream of North Creek	21°52'21.73"S	146°42'18.82"E
Monitoring Point 8 (BLMP8)	Belyando River Upstream of Anabranh	21°52'26.57"S	146°42'37.75"E
Monitoring Point 9 (BLMP9)	Belyando River Downstream of Anabranh	21°47'46.01"S	146°45'23.18"E
Upstream Monitoring Points on North Creek			
Monitoring Point 10 (BLMP10)	Laguna Creek headwaters	21°51'51.79"S	146°14'30.35"E

Table A6
Receiving Waters Contaminant Trigger Levels

Quality Characteristic	Trigger Level *	Source *	Monitoring Frequency
pH	TBA	TBA	Daily during release
Electrical Conductivity (µS/cm)	TBA	TBA	
Turbidity	TBA	TBA	
Sulphate (SO ₄) (mg/L)	TBA	TBA	

* To be advised based upon outcomes of baseline monitoring program