Queensland Government

Department of
Environment and Heritage Protection

Green Coast Resources Pty Ltd
2A Union Street
KEW VIC 3101

Email: hsimmons@greencoastresources.com.au

Attention: Hugh Simmons

Cc: Mineral Assessment Hub
Department of Natural Resources and Mines
Email: MineralHub@dnrm.qld.gov.au

Your reference: EPML02705614
Our reference: 423665; 101/0013079

Application details

I refer to the application that was received by the administering authority on 8 August 2016.

Land description: ML20611.

Decision

Your application has been approved and your environmental authority (reference EPML02705614) is attached.

Additional comments or advice

You are advised that if you are not the owner of the land to which the environmental authority relates, you have 10 business days from receipt of this environmental authority to give each owner of the land, written notice that you have been issued this environmental authority.

Should you have any further enquiries, please contact Kate Rutherford on telephone (07) 4222 5456.

Yours sincerely

Signature

19/8/16
Date

Dean Sharpe
Delegate of the administering authority
Environmental Protection Act 1994

Enclosed

Permit - environmental authority (reference EPML02705614)

Permit[1]

Environmental Protection Act 1994

Environmental authority EPML02705614

This environmental authority is issued by the administering authority under Chapter 5 of the Environmental Protection Act 1994.

Permit[1] number: EPML02705614

Environmental authority takes effect on 19 August 2016.

The anniversary date of this environmental authority is 4 September. An annual return and the payment of the annual fee will be due each year on this day.

Environmental authority holder(s)

Name	Registered address
Green Coast Resources Pty Ltd	2A Union Street KEW VIC 3101

Environmentally relevant activity and location details

Environmentally relevant activity(ies)	Location(s)
Prescribed activities (Schedule 2 ERAs) ERA 31(2a) Mineral processing – processing, in a year, 1,000 to 100,000t of mineral products, other than coke. ERA 50(1a) Bulk material handling – loading or unloading 100t or more of minerals in a day or stockpiling 50,000t or more of minerals within 5km of the highest astronomical tide or 1km of a watercourse. Resource activities (Schedule 2A ERAs) ERA 11 Mining bauxite	ML20611

[1] Permit includes licences, approvals, permits, authorisations, certificates, sanctions or equivalent/similar as required by legislation

Queensland Government

Additional information for applicants

Environmentally relevant activities

The description of any environmentally relevant activity (ERA) for which an environmental authority is issued is a restatement of the ERA as defined by legislation at the time the approval is issued. Where there is any inconsistency between that description of an ERA and the conditions stated by an environmental authority as to the scale, intensity or manner of carrying out an ERA, then the conditions prevail to the extent of the inconsistency.

An environmental authority authorises the carrying out of an ERA and does not authorise any environmental harm unless a condition stated by the authority specifically authorises environmental harm.

A person carrying out an ERA must also be a registered suitable operator under the *Environmental Protection Act 1994* (EP Act).

Contaminated land

It is a requirement of the EP Act that if an owner or occupier of land becomes aware a notifiable activity (as defined in Schedule 3 and Schedule 4) is being carried out on the land, or that the land has been, or is being, contaminated by a hazardous contaminant, the owner or occupier must, within 22 business days after becoming so aware, give written notice to the chief executive.



Signature

19/8/16

Date

Dean Sharpe
Delegate of the administering authority
Environmental Protection Act 1994

Enquiries:
PO Box 7230
CAIRNS QLD 4870
Phone: (07) 4222 5334
Fax: (07) 4222 5070

Obligations under the *Environmental Protection Act 1994*

In addition to the requirements found in the conditions of this environmental authority, the holder must also meet their obligations under the EP Act, and the regulations made under the EP Act. For example, the holder must comply with the following provisions of **the Act**:

- general environmental duty (section 319)
- duty to notify environmental harm (section 320-320G)
- offence of causing serious or material environmental harm (sections 437-439)
- offence of causing environmental nuisance (section 440)
- offence of depositing prescribed water contaminants in waters and related matters (section 440ZG)
- offence to place contaminant where environmental harm or nuisance may be caused (section 443)

Conditions of environmental authority:

Schedule A	General
Schedule B	Air
Schedule C	Waste
Schedule D	Noise
Schedule E	Groundwater
Schedule F	Water
Schedule G	Land and Rehabilitation
Schedule H	Coastal Structures
Schedule I	Definitions
Schedule J	Approved Maps and Plans

Location:

ML20611
Hey Point, Weipa

Relevant activity/ies:

Schedule 2 *Environmental Protection Regulation 2008* – Prescribed ERAs

ERA 31(2a) Mineral processing – processing, in a year, 1,000 to 100,000t of mineral products, other than coke.

ERA 50(1a) Bulk material handling – loading or unloading 100t or more of minerals in a day or stockpiling 50,000t or more of minerals within 5km of the highest astronomical tide or 1km of a watercourse.

Schedule 2A *Environmental Protection Regulation 2008* – Resource Activities

ERA 11 Mining bauxite.

The environmentally relevant activities conducted at the location as described above must be conducted in accordance with the following site specific conditions of approval.

SCHEDULE A - GENERAL

A1 This environmental authority authorises environmental harm referred to in the conditions. Where there is no condition or this environmental authority is silent on the matter, the lack of a condition or silence does not authorise the harm.

A2 In carrying out the mining activity authorised by this environmental authority, **disturbance** of **land**, as identified in Schedule J - Figure 1 (Authorised Disturbance Areas):

a) may occur in the areas marked 'A'

b) must not occur in the areas marked 'B'.

A3 Mining activities must not be undertaken at the **licensed place** during the **wet season**.

A4 The **holder** of this environmental authority must:

a) install all **measures**, plant and equipment necessary to ensure compliance with the conditions of this environmental authority

b) maintain such **measures**, plant and equipment in a proper and efficient condition

c) operate such **measures**, plant and equipment in a proper and efficient manner

d) ensure all instruments and devices used for the measurement or monitoring of any parameter under any condition of this environmental authority are properly calibrated.

Monitoring

A5 Except where specified otherwise in another condition of this environmental authority, all monitoring records required by this environmental authority must be kept for a period of not less than five years.

Financial assurance

A6 Financial assurance must be lodged with the **administering authority** in the amount, the form and within the time required by the **administering authority**.

Risk management

A7 The **holder** of this environmental authority must develop and implement a risk management system for mining activities which mirrors the content requirement of the *Standard for Risk Management (ISO31000:2009)*, or the latest edition of an Australian standard for risk management, to the extent relevant to environmental management, by 24 August 2015.

Notification of emergencies, incidents and exceptions

A8 The **holder** of this environmental authority must notify the **administering authority** by written notification within 24 hours, after becoming aware of any emergency or incident which results in the release of contaminants not in accordance with, or reasonably expected to be not in accordance with, the conditions of this environmental authority.

A9 The notification must include, but not be limited to, the following:

a) the environmental authority number and name of the **holder**

b) the name and telephone number of the designated contact person

c) the location of the emergency or incident

d) the date and time of the emergency or incident

e) the time the **holder** of this environmental authority became aware of the emergency or incident

f) where known

1. the estimated quantity and type of substances involved in the emergency or incident
2. the actual or potential cause of the emergency or incident
3. a description of the nature and effects of the emergency or incident including environmental risks, and any risks to public health or livestock

g) any sampling conducted or proposed, relevant to the emergency or incident

h) immediate actions taken to prevent or mitigate any further environmental harm caused by the emergency or incident

i) what notification of owners and occupiers who may be affected by the emergency or incident has occurred or is being undertaken.

A10 Within 10 business days following the initial notification of an emergency or incident, or receipt of monitoring results, whichever is the latter, further written advice must be provided to the **administering authority**, including the following:

a) results and interpretation of any samples taken and analysed

b) outcomes of actions taken at the time to prevent or **minimise** unlawful environmental harm

c) proposed actions to prevent a recurrence of the emergency or incident.

Complaints

A11 The **holder** of this environmental authority must record all environmental complaints received about the mining activities including:

a) name, address and contact number of the complainant

b) time and date of complaint

c) reasons for the complaint

d) investigations undertaken

e) conclusions formed

f) actions taken to resolve the complaint

g) any abatement **measures** implemented

h) person responsible for resolving the complaint.

A12 The **holder** of this environmental authority must, when requested by the **administering authority**, undertake relevant specified monitoring within a reasonable timeframe nominated or agreed to by the **administering authority** to investigate any complaint of environmental harm. The results of the investigation (including an analysis and interpretation of the monitoring results) and abatement **measures**, where implemented, must be provided to the **administering authority** within 10 business days of completion of the investigation, or no later than 10 business days after the end of the timeframe nominated by the **administering authority** to undertake the investigation.

Third-party reporting

A13 The **holder** of this environmental authority must:

a) by 25 May 2016, obtain from an **appropriately qualified person** a report on compliance with the conditions of this environmental authority

b) obtain further such reports at regular intervals, not exceeding three-yearly intervals, from the completion of the report referred to above

c) provide each report to the **administering authority** within 90 days of its completion.

A14 Where a condition of this environmental authority requires compliance with a standard, policy or guideline published externally to this environmental authority and the standard is amended or changed subsequent to the issue of this environmental authority, the **holder** of this environmental authority must:

a) comply with the amended or changed standard, policy or guideline within two years of the amendment or change being made, unless a different period is specified in the amended standard or relevant legislation

b) until compliance with the amended or changed standard, policy or guideline is achieved, continue to remain in compliance with the corresponding provision that was current immediately prior to the relevant amendment or change.

END OF CONDITIONS FOR SCHEDULE A

SCHEDULE B - AIR

B1 The release of dust, noxious or offensive odour or any other airborne contaminants resulting from the mining activities must not cause environmental harm at any sensitive or **commercial place**.

B2 The **holder** of this environmental authority shall ensure that all reasonable and practicable avoidance **measures** are employed so that the dust and particulate matter emissions generated by the mining activities do not cause exceedances of the following levels when measured at any sensitive or **commercial place:**

a) Dust deposition of 120 milligrams per square metre per day, averaged over one month, when monitored in accordance with the most recent version of *Australian Standard AS3580.10.1 Methods for sampling and analysis of ambient air – Determination of particulate matter – Deposited matter – Gravimetric method.*

b) A concentration of particulate matter with an aerodynamic diameter of less than 10 micrometres (PM_{10}) suspended in the atmosphere of 50 micrograms per cubic metre over a 24-hour averaging time, for no more than five exceedances recorded each year, when monitored in accordance with the most recent version of either:

1. *Australian Standard AS3580.9.6 Methods for sampling and analysis of ambient air – Determination of suspended particulate matter – PM_{10} high volume sampler with size-selective inlet – Gravimetric method*; or
2. *Australian Standard AS3580.9.9 Methods for sampling and analysis of ambient air – Determination of suspended particulate matter – PM_{10} low volume sampler – Gravimetric method.*

c) A concentration of particulate matter suspended in the atmosphere of 90 micrograms per cubic metre over a 1 year averaging time, when monitored in accordance with the most recent version of *AS/NZS3580.9.3:2003 Methods for sampling and analysis of ambient air – Determination of suspended particulate matter – Total suspended particulate matter (TSP) – High volume sampler gravimetric method.*

END OF CONDITIONS FOR SCHEDULE B

SCHEDULE C – WASTE

C1 All **general waste** and regulated waste, other than authorised under condition C3, must only be removed and transported from the **licensed place** by a person who holds a current authority to transport such wastes, and disposed of in a facility that is lawfully able to accept the waste under **the Act**.

C2 General and regulated waste generated in carrying out the environmentally relevant activities can be temporarily stored on site awaiting removal, provided it is stored to ensure there is minimal risk of causing fire or contamination to **land** or **waters**.

C3 The only waste that can be disposed at the **licensed place** is waste generated at the **licensed place**, and is limited to waste generated by the dry screening of bauxite. Waste must be disposed of within the mining pits at the **licensed place**.

C4 Unless otherwise permitted by the conditions of this environmental authority or with prior approval from the **administering authority** and in accordance with a relevant standard operating procedure, waste must not be burnt.

C5 The **holder** of this environmental authority may burn vegetation cleared in the course of carrying out extraction activities, provided the activity does not cause environmental harm at any sensitive or **commercial place**.

END OF CONDITIONS FOR SCHEDULE C

SCHEDULE D - NOISE

D1 The **holder** of this environmental authority must ensure that noise generated by the mining activities does not cause the criteria in **Table D1 – Noise limits** to be exceeded at a **sensitive place** or **commercial place**.

Table D1 – Noise limits

Sensitive place						
Noise level dB(A) measured as:	**Monday to Saturday**			**Sundays and public holidays**		
	7am to 6pm	**6pm to 10pm**	**10pm to 7am**	**9am to 6pm**	**6pm to 10pm**	**10pm to 9am**
$L_{Aeq, adj, 15 mins}$	CV = 50 AV = 5	CV = 45 AV = 5	CV = 40 AV = 0	CV = 45 AV = 5	CV = 40 AV = 5	CV = 35 AV = 0
$L_{A1, adj, 15 mins}$	CV = 55 AV = 10	CV = 50 AV = 10	CV = 45 AV = 5	CV = 50 AV = 10	CV = 45 AV = 10	CV = 40 AV = 5
Commercial place						
Noise level dB(A) measured as:	**Monday to Saturday**			**Sundays and public holidays**		
	7am to 6pm	**6pm to 10pm**	**10pm to 7am**	**7am to 6pm**	**6pm to 10pm**	**10pm to 7am**
$L_{Aeq, adj, 15 mins}$	CV = 55 AV = 10	CV = 50 AV = 10	CV = 45 AV = 5	CV = 50 AV = 10	CV = 45 AV = 10	CV = 40 AV = 5

Notes:

a. *CV = Critical Value*

b. *AV = Adjustment Value*

c. *To calculate noise limits in Table D1:*

If bg ≤ (CV – AV):

Noise limit = bg + AV

If (CV – AV) < bg ≤ CV:

Noise limit = CV

If bg > CV:

Noise limit = bg + 0

d. *In the event that measured bg ($L_{A90, adj, 15 mins}$) is less than 30 dB(A), then 30 dB(A) can be substituted for the measured background level*

e. *bg = background noise level ($L_{A90, adj, 15 mins}$) measured over 3-5 days at the nearest sensitive receptor*

f. *If the project is unable to meet the noise limits as calculated above, alternative limits may be calculated using the processes outlined in the "Planning for Noise Control" guideline.*

DS

Monitoring and reporting

D2 When requested by the **administering authority**, noise monitoring and recording must be undertaken within a timeframe nominated by the **administering authority** to investigate any complaint of environmental nuisance (considered in the opinion of an authorised officer to be neither frivolous or vexatious) at any **sensitive place** or **commercial place** and the results must be provided to the **administering authority** within fourteen days following completion of monitoring.

D3 Noise monitoring and recording must include the following descriptor characteristics and matters:

a) $L_{AN,T}$ (where N equals the statistical levels of 1, 10 and 90 and T = 15 mins)

b) background noise L_{A90}

c) the level and frequency of occurrence of impulsive or tonal noise and any adjustment and penalties to statistical levels

d) atmospheric conditions including temperature, relative humidity and wind speed and directions

e) effects due to any extraneous factors such as traffic noise

f) location, date and time of monitoring

g) if the complaint concerns low frequency noise, Max LpLIN,T and one third octave band measurements in dB(LIN) for centre frequencies in the 10 – 200 Hz range.

END OF CONDITIONS FOR SCHEDULE D

DS

SCHEDULE E – GROUNDWATER

E1 The **holder** of this environmental authority must not release contaminants to groundwater.

Monitoring and reporting

E2 All determinations of groundwater quality and biological monitoring must be performed by an **appropriately qualified person**.

E3 Groundwater quality and levels must be monitored at the locations, quality characteristics and frequencies defined in **Table – E1 Groundwater monitoring locations, quality characteristics and frequency** and Schedule J - Figure 2 (Groundwater Bore Monitoring Locations).

Table E1 – Groundwater monitoring locations, quality characteristics and frequency

Monitoring point	Location		Quality Characteristic	Monitoring frequency
	Northing (GDA94 – Zone 54)	Easting (GDA94 – Zone 54)		
GW1	-12.7457	141.885	Surface **RL**[1] pH Electrical Conductivity Aluminium[2]	Monthly
GW2	-12.7396	141.882		
GW3	-12.7414	141.891		
GW4	-12.7363	141.891		
GW5	-12.734	141.8878		

1. *Surface **RL** (m) must be measured to the nearest 5**cm** from the top of the bore casing.*
2. *All metals and metalloids must be measured as dissolved (filtered).*

E4 Annual groundwater monitoring reports analysing groundwater chemistry and hydro-geological status of all groundwater bores and groundwater conditions must be prepared and submitted to the **administering authority** on request.

Bore construction and maintenance and decommissioning

E5 The construction, maintenance and management of groundwater bores (including groundwater monitoring bores) must be undertaken in a manner that prevents or **minimises** impacts to the environment and ensures the integrity of the bores to obtain accurate monitoring.

END OF CONDITIONS FOR SCHEDULE E

SCHEDULE F – WATER

F1 Contaminants that will, or have the potential to cause environmental harm must not be released directly or indirectly to any **waters** as a result of the authorised mining activities, except as permitted under the conditions of this environmental authority.

F2 Unless otherwise permitted under the conditions of this environmental authority, the release of contaminants to **waters** must only occur from the release points specified in **Table F1 – Contaminant release points, sources and receiving waters**.

Table F1 – Contaminant release points, sources and receiving waters

Release point (RP)	Coordinates (decimal degree, GDA94)		Contaminant source and location	Monitoring point	Receiving waters description
	Latitude	Longitude			
RP1	-12.739479	141.890738	Surface **water** runoff and runoff from partially rehabilitated areas	Sediment basin	Overland through vegetated buffer
RP2	-12.732050	141.890708		Sediment basin	Overland through vegetated buffer
RP3	-12.731659	141.888515		Sediment basin	Overland through vegetated buffer
RP4	-12.733555	141.887471		Sediment basin	Overland through vegetated buffer
RP5	-12.734220	141.885641		Sediment basin	Overland through vegetated buffer
RP6	-12.732571	141.884884		Sediment basin	Overland through vegetated buffer
RP7	-12.729376	141.881542		Sediment basin	Overland through vegetated buffer

F3 The release of contaminants to **waters** in accordance with condition F2 must not exceed the release limits stated in **Table F2 – Contaminant release limits** when measured at the monitoring points specified in **Table F1 – Contaminant release points, sources and receiving waters** for each quality characteristic.

Table F2 – Contaminant release limits

Quality characteristic	Release limits	Monitoring frequency
pH (pH unit)	20th percentile[1,2,3] of reference[4] or 6.0[5] (minimum), whichever is higher 80th percentile[1,2,3] of reference[4] or 8.0[5] (maximum), whichever is lower	Daily during **release event** (the first sample must be taken within 2 hours of commencement of release).
Electrical Conductivity (**µS/cm**)	75th percentile[1,2,3] of reference[4] or 125[6], whichever is lower	
Turbidity (**NTU**)	80th percentile[1,2,3] of reference[4] or 15[7], whichever is lower	
Suspended Solids (**mg/L**)	80th percentile of reference or 9[8], whichever is lower	
Aluminium (**µg/L**)[9]	80th percentile[1,2,3] of reference[4] or 27[10], whichever is lower	
TPH	No visible sheen	
Dissolved Oxygen (**mg/L**)	For interpretation purposes	

1. *An interim trigger value can be derived from ≥8 but ≤17 consecutive reference site samples, derived using the Queensland Water Quality Guidelines (2009) methodology (section 4.3.3.1).*
2. *Release limits are based on the 80th percentile of at least 10 and no more than 24 consecutive reference site samples, derived using the Queensland Water Quality Guidelines (2009) methodology (section 4.3.3.1).*
3. *80th percentiles are calculated using ANZECC (2000) methodology (section 7.4.4.1).*
4. *Reference sites must:*
   (a) have a similar flow regime
   (b) be form the same bio-geographic and climatic region
   (c) have similar geology, soil types and topography
   (d) not be so close to the test sites that any disturbance at the test site also results in a change at the reference sites.
5. *ANZECC (2000), default trigger levels for aquatic ecosystems indicative of slightly disturbed tropical Australian lowland river ecosystems (Table 3.3.4).*
6. *Queensland Water Quality Guidelines (Appendix G, Table G.1 – 75th percentile) – EC percentiles for Queensland salinity zones – Cape York.*
7. *ANZECC (2000), default trigger levels indicative of slightly disturbed ecosystems in tropical Australia – Upland & lowland rivers (Table 3.3.5).*
8. *ANZECC (2000), Volume 2 - Aquatic Ecosystems – Rationale and Background Information (Chapter 8,Table 8.2.12) Suspended Solids - QLD tropical - lowland rivers (page 8.2-51).*
9. *All metals and metalloids must be measured as total (unfiltered) and dissolved (filtered). Trigger levels for metals/metalloids apply if dissolved results exceed trigger.*
10. *ANZECC (2000), Trigger values for toxicants at alternate levels of protection (freshwater - 99% of species) (Table 3.4.1).*

Notification of release event exceedance

F4 If the release limits defined in **Table F2 – Release water contaminant limits** are exceeded, the **holder** of this environmental authority must notify the **administering authority** within 24 hours of receiving the results.

F5 The **holder** of this environmental authority must, within 28 days of a release that is not compliant with the conditions of this environmental authority, provide a report to the **administering authority** detailing:

a) the reason for the release

b) the location of the release

c) all **water quality** monitoring results (including all laboratory analyses)

d) identification of any environmental harm as a result of the non-compliance

e) all calculations

f) any other matters pertinent to the **water release event**.

Receiving environment monitoring and contaminant trigger levels

F6 The quality of the receiving **water** must be monitored at the locations specified in **Table F4 – Receiving water and reference monitoring points** for each quality characteristic and at the monitoring frequency stated in **Table F3 – Receiving waters contaminant trigger levels**.

Table F3 – Receiving waters contaminant trigger levels

Quality characteristic	Trigger level		Trigger type	Monitoring frequency
pH (pH unit)	20th percentile[1,2,3] of reference[4] or 6.0[5] (minimum), whichever is higher 80th percentile[1,2,3] of reference[4] or 8.0[5] (maximum), whichever is lower		Range	Monthly, or daily during **release events**. In addition, reference monitoring points must be monitored once per each flow event.
Electrical Conductivity (**µS/cm**)	75th percentile[1,2,3] of reference[4] or 125[6], whichever is lower		Maximum	
Turbidity (**NTU**)	80th percentile[1,2,3] of reference[4] or 15[7], whichever is lower		Maximum	
Sulphate (**mg/L**)	80th percentile[1,2,3] of reference[4]		Maximum	
Suspended Solids (**mg/L**)	80th percentile of reference or 9[8], whichever is lower		Maximum	
Aluminium (**µg/L**)[9]	pH <6.5	80th percentile[1,2,3] of reference[4] or 0.8[10], whichever is lower	Maximum	
	pH >6.5	80th percentile[1,2,3] of reference[4] or 27[11], whichever is lower		

Temperature (°C)	For interpretation purposes	
Dissolved Oxygen (mg/L)		
Turbidity (NTU)		

1. *An interim trigger value can be derived from ≥8 but ≤17 consecutive reference site samples, derived using the Queensland Water Quality Guidelines (2009) methodology (section 4.3.3.1).*
2. *Release limits are based on the 80th percentile of at least 10 and no more than 24 consecutive reference site samples, derived using the Queensland Water Quality Guidelines (2009) methodology (section 4.3.3.1).*
3. *80th percentiles are calculated using ANZECC (2000) methodology (section 7.4.4.1).*
4. *Reference sites must:*
   (e) have a similar flow regime
   (f) be form the same bio-geographic and climatic region
   (g) have similar geology, soil types and topography
   (h) not be so close to the test sites that any disturbance at the test site also results in a change at the reference sites.
5. *ANZECC (2000), default trigger levels for aquatic ecosystems indicative of slightly disturbed tropical Australian lowland river ecosystems (Table 3.3.4).*
6. *Queensland Water Quality Guidelines (Appendix G, Table G.1 – 75th percentile) – EC percentiles for Queensland salinity zones – Cape York.*
7. *ANZECC (2000), default trigger levels indicative of slightly disturbed ecosystems in tropical Australia – Upland & lowland rivers (Table 3.3.5).*
8. *ANZECC (2000), Volume 2 - Aquatic Ecosystems – Rationale and Background Information (Chapter 8,Table 8.2.12) Suspended Solids - QLD tropical - lowland rivers (page 8.2-51).*
9. *All metals and metalloids must be measured as total (unfiltered) and dissolved (filtered). Trigger levels for metals/metalloids apply if dissolved results exceed trigger.*
10. *ANZECC (2000), Volume 2 – Aquatic Ecosystems – Rationale and Background Information (Chapter 8, section 8.3.7) Low reliability trigger value at pH <6.5 (page 8.3-104).*
11. *ANZECC (2000), Trigger values for toxicants at alternate levels of protection (freshwater - 99% of species) (Table 3.4.1).*

Table F4 – Receiving water and reference monitoring points

Monitoring point[1]	Receiving waters location description	Coordinates (decimal degree, GDA94)	
		Latitude	Longitude
Reference monitoring points			
Monitoring point **1**	TBD[1]	TBD[1]	TBD[1]
Monitoring point **2**	TBD[1]	TBD[1]	TBD[1]
Monitoring point **3**	TBD[1]	TBD[1]	TBD[1]

Compliance monitoring points			
Monitoring point 4	Creek 1 (North)	-12.7272	141.882
Monitoring point 5	Creek 2 (North)	-12.7281	141.883
Monitoring point 6	Creek 3 (North)	-12.7286	141.885
Monitoring point 7	Spring-fed wetland	-12.7299	141.887
Monitoring point 8	Spring-fed creek	-12.7305	141.886

1. *To be determined and provided to the **administering authority** by 23 November 2015.*

F7 If quality characteristics of the receiving **water** at the compliance monitoring points specified in **Table F4 – Receiving water and reference monitoring points** exceed any of the trigger levels specified in **Table F3 – Receiving waters contaminant trigger levels** during a **release event**, the **holder** of this environmental authority must compare the compliance point results to the reference point results in the **receiving waters** and:

a) where the compliance point result is the same or a lower value than the reference point value for the quality characteristic then no action is to be taken, or

b) where the compliance point results exceed the reference point results complete an investigation into the potential for environmental harm and provide a written report to the **administering authority** in the next annual return, outlining

1. details of the investigations carried out

2. actions taken to prevent environmental harm.

Note: Where an exceedance of a trigger level has occurred and is being investigated, in accordance with (b) of this condition, no further reporting is required for subsequent trigger events for that quality characteristic.

F8 All determinations of **water quality** and biological monitoring must be performed by an appropriately qualified person.

Receiving Environment Monitoring Program (REMP)

F9 The **holder** of this environmental authority must develop and implement a Receiving Environment Monitoring Plan (REMP) to monitor, identify and describe any adverse impacts to surface **water** environmental values, quality and flows due to the authorised mining activity. This must include monitoring the effects of the mine on the **receiving environment** periodically (under **natural flow** conditions) and while contaminants are being discharged from the site. For the purposes of the REMP, the **receiving environment** is the **waters** of the spring-fed wetland, spring-fed creek and the Embley River and connected or surrounding waterways within 1km downstream of the release. The REMP should encompass any sensitive **receiving waters** or environmental values downstream of the authorised mining activity that will potentially be directly affected by an authorised release of contaminants.

F10 A REMP Design Document that addresses the requirements of the REMP must be prepared and made available to the **administering authority** upon request.

F11 A report outlining the findings of the REMP, including all monitoring results and interpretations must be prepared annually and made available on request to the **administering authority**. This must include an assessment of **background** reference **water quality**, the condition of downstream **water quality** compared against **water quality** objectives, and the suitability of current discharge limits to protect downstream environmental values.

Water monitoring reporting

F12 The following information must be recorded in relation to all **water** monitoring required under the conditions of this environmental authority and submitted to the **administering authority** in the specified format upon request:

a) the date on which the sample was taken

b) the time at which the sample was taken

c) the monitoring point at which the sample was taken

d) the results of all monitoring and details of any exceedances of the conditions of this environmental authority

Water Management Plan

F13 A Water Management Plan must be developed by an **appropriately qualified person** and implemented by 23 November 2015.

Stormwater and water sediment controls

F14 An Erosion and Sediment Control Plan must be developed by an **appropriately qualified person** and implemented for all stages of the mining activities on the site to **minimise** erosion and the release of sediment to **receiving waters** and contamination of stormwater.

F15 Stormwater that has not come into contact with contaminants is permitted to be released to **waters** from:

a) erosion and sediment control structures that are installed and operated in accordance with the Erosion and Sediment Control Plan required by condition F14.

b) **water** management infrastructure that is installed and operated, in accordance with a Water Management Plan that complies with condition F13, for the purpose of ensuring **water** does not become contaminated.

END OF CONDITIONS FOR SCHEDULE F

SCHEDULE G – LAND AND REHABILITATION

General

G1 Contaminants that will or may cause environmental harm must not be directly or indirectly released to **land** except as permitted under this environmental authority.

G2 All explosives, hazardous **chemicals**, corrosive substances, toxic substances, gases, dangerous goods, flammable or combustible liquids must be stored and handled in accordance with the current, relevant Australian Standard where such is available.

G3 Any spillage of wastes, contaminants or other materials must be cleaned up promptly. Such spillages must be cleaned up using methods that **minimise** the release of wastes, contaminants or materials to **land**.

Disturbance to land

G4 When carrying out mining activities the **holder** of this environmental authority must:

a) avoid, **minimise** or mitigate (in order of preference) any impacts or areas of sensitive vegetation or other areas of ecological value

b) **minimise** the risk of injury, harm, or entrapment to wildlife and stock

c) **minimise disturbance** to **land** that may otherwise result in **land** degradation

d) prior to carrying out any **disturbance** activities, make all relevant staff, contractors or agents carrying out those activities, aware of the relevant requirements of this environmental authority

e) if significant **disturbance** to **land** is unavoidable, clear vegetation in a way which **minimises** fragmentation

f) manage cleared vegetation so that it is stockpiled in a manner that facilitates salvage, respreading or burning and does not impede vehicle, stock or wildlife movements.

G5 The **holder** of this environmental authority must ensure that mining activities are not conducted within 100**m** of any natural wetland or spring.

G6 **Land** disturbed by mining must be rehabilitated in accordance with **Table G1 – Rehabilitation requirements**.

Table G1 – Rehabilitation requirements

Mine domain	Mine feature name	Rehabilitation goal	Rehabilitation objective	Indicators	Completion criteria
Mining panels	Mined panel	Safe	(A) Landscape safe for humans and wildlife into the foreseeable future.	a) slope b) height	(A1) All artificial slopes within the **rehabilitation** area will have a slope that is <5m tall and <30°.
		Stable	(B) Stable landscape with natural rates of erosion.	a) vegetation cover	(B1) No active rill, gully or sheet erosion is to be visible within the **rehabilitation** area. (B2) No patches of exposed, bare soil (<5% cover of vegetation or organic litter) should exceed 25m^2 in area.
		Self-sustaining	(C) Community similar to that which occurred on-site previously, and which blends visually with the surrounding landscape.	a) species richness b) density	(C1) Greater than 50% of the woody biomass of **rehabilitation** sites (as assessed by basal area*) should comprise the dominant trees *Eucalyptus tetrodonta*, *Corymbia nesophila* and/or *Erythrophleum chlorostachys*. Where the ground level has been lowered potentially inhibiting growth of the above mentioned species, alternative dominant species will comprise of *Melaleuca quinquenervia*, *Melaleuca saligna*, *Melaleuca viridiflora* and *Melaleuca leucadendra*.

					(C2) Canopy cover within **rehabilitation** sites should exceed the 10th percentile among un-mined areas with the same vegetation communities as the rehabilitated area (C3) Stem densities within **rehabilitation** sites should exceed the 10th percentile among un-mined areas with the same communities as the rehabilitated area.
		Self-sustaining	(D) Functional native vegetation communities with the ability to be **self-sustaining**.	a) species richness b) density	(D1) Within a 100 m x 10 m belt transect, there should be seedlings or suckers (<2 m in height) of *Eucalyptus tetrodonta*, *Corymbia nesophila* and/or *Erythrophleum chlorostachys*. Where the ground level has been lowered, potentially inhibiting growth of the above mentioned species, alternative dominant species will comprise of *Melaleuca quinquenervia*, *Melaleuca saligna*, *Melaleuca viridiflora* and *Melaleuca leucadendra*. (D2) The organic litter cover and depth in **rehabilitation** sites

					should exceed the 10th percentile among reference sites. (D3) Native local species richness within a 10 m x 50 m area within each **rehabilitation** site should exceed the 10th percentile among un-mined areas with the same vegetation communities as the rehabilitated area. (D4) The site should be free of Class 1 and 2 declared weeds defined under the *Land Protection (Pest and Stock Route Management) Act 2002*.
		Cultural heritage	(E) The project will create habitats that support recolonisation by flora and fauna culturally important to Traditional Owners.	a) species richness	(E1) The understorey of **rehabilitation** sites should be dominated (as assessed by percentage cover) by local native grasses, which are the primary food source of Agile Wallabies. (E2) *Dioscorea spp.* should be present in **rehabilitation** sites, not significantly less than extent in un-mined areas with the same communities as the rehabilitated area.
		Self-sustaining	(F) Ecosystems that resemble	a) sustained growth	(F1) The vegetation community at **rehabilitation** sites must

			neighbouring unmined forests in their ability to respond to fire, droughts and cyclones.		persist over multiple wet seasons. (F2) The vegetation community must fulfil all other completion criteria after having experienced a fire within the previous five years.
		Non-polluting	(G) Minimal post-mining impacts to surface catchments, **water quality** and volume.	a) surface **water** and groundwater monitoring	(G1) The project will meet its surface water discharge criteria. (G2) Surface **water** and groundwater quality will be consistent with pre-mining **water quality** results.
Ancillary **infrastructure** areas	Conveyor corridor; Roads; Stockpiles; and **Infrastructure** areas.	Safe	(A) Landscape safe for humans and wildlife into the foreseeable future.	a) slope b) height	(A1) All artificial slopes will have a slope that is <5 m tall and <30°.
		Stable	(B) Stable landscape with natural rates of erosion.	a) vegetation cover	(B1) No active rill, gully or sheet erosion is to be visible within the **rehabilitation** area. (B2) No patches of exposed, bare soil (<5% cover of vegetation or organic litter) should exceed 25 m^2 in area.
		Stable	(C) Community similar to that which occurred on-site previously, and which blends	a) species richness b) density	(C1) Greater than 50% of the woody biomass of **rehabilitation** sites (as assessed by basal area*)

			visually with the surrounding landscape.		should comprise the dominant trees *Eucalyptus tetrodonta*, *Corymbia nesophila* and/or *Erythrophleum chlorostachys*. Where the ground level has been lowered, potentially inhibiting growth of the above mentioned species, alternative dominant species will comprise of *Melaleuca quinquenervia*, *Melaleuca saligna*, *Melaleuca viridiflora* and *Melaleuca leucadendra*. (C2) Canopy cover within **rehabilitation** sites should exceed the 10th percentile of un-mined areas with the same vegetation communities as the rehabilitated area. (C3) Stem densities within **rehabilitation** sites should exceed the 10th percentile among un-mined areas with the same communities as the rehabilitated area.
		Self-sustaining	(D) Functional native vegetation communities with the ability to be **self-sustaining**.	a) species richness b) density	(D1) Within a 100 m x 10 m belt transect, there should be seedlings or suckers (<2 m in height) of *Eucalyptus tetrodonta, Corymbia nesophila* and/or *Erythrophleum chlorostachys*.

					(D2) The organic litter cover and depth in **rehabilitation** sites should exceed the 10th percentile of un-mined areas with the same communities as the rehabilitated area. (D3) Native local species richness within a 10 m x 50 m area within each **rehabilitation** site should exceed the 10th percentile among un-mined areas with the same vegetation communities as the rehabilitated area. (D4) The site should be free of Class 1 and 2 declared weeds defined under the *Land Protection (Pest and Stock Route Management) Act 2002*.
		Cultural heritage	(E) The Project will create habitats that support recolonisation by flora and fauna culturally important to Traditional Owners.	a) species richness	(E1) The understorey of **rehabilitation** sites should be dominated (as assessed by percentage cover) by local native grasses, which are the primary food source of Agile Wallabies. (E2) *Dioscorea spp.* should be present in **rehabilitation** sites, not significantly less than extent in un-mined areas with the same vegetation

					communities as the rehabilitated area.
		Self-sustaining	(F) Ecosystems that resemble neighbouring unmined forests in their ability to respond to fire, droughts and cyclones.	a) sustained growth	(F1) The vegetation community at **rehabilitation** sites must persist over multiple wet seasons. (F2) The vegetation community must fulfil all other completion criteria after having experienced a fire within the previous five years.
		Non-polluting	(G) Minimal post-mining impacts to surface catchments, **water quality** and volume.	a) surface **water** and groundwater monitoring	(G1) The Project will meet its surface **water** discharge criteria. (G2) Surface **water** and groundwater quality will be consistent with pre mining **water quality** results.

G7 **Rehabilitation** must commence progressively in accordance with the plan of operations.

Contaminated land

G8 Before applying for surrender of a mining lease, the **holder** of this environmental authority must (if applicable) provide to the **administering authority** a site investigation report under **the Act**, in relation to any part of the mining lease which has been used for notifiable activities or which the **holder** of this environmental authority is aware is likely to be contaminated **land**, and also carry out any further work that is required as a result of that report to ensure that the **land** is suitable for its final **land use**.

G9 Before applying for progressive **rehabilitation** certification for an area, the **holder** of this environmental authority must (if applicable) provide to the **administering authority** a site investigation report under **the Act**, in relation to any part of the area the subject of the application which has been used for notifiable activities or which the **holder** is aware is likely to be contaminated **land**, and also carry out any further work that is required as a result of that report to ensure that the **land** is suitable for its final **land use** under condition G6.

Topsoil

G10 Topsoil and subsoils must be stripped separately and placed directly in an area awaiting **rehabilitation** or else be stockpiled and subsequently used in **rehabilitation**.

Infrastructure

G11 All **infrastructure** and mining equipment erected and/or used for the mining activities must be removed from the **licensed place** prior to surrender, except where agreed in writing by the **administering authority** and the landowner.

END OF CONDITIONS FOR SCHEDULE G

SCHEDULE H – COASTAL STRUCTURES

H1 Transfer of bauxite to vehicles and between vehicles must be carried out in a manner that prevents the release of bauxite to **land**, the atmosphere or **waters** unless permitted in accordance with this environmental authority.

H2 The **holder** of this environmental authority must ensure that vehicles used for transporting bulk materials from the mining lease leave the mining lease with appropriate load preparation to **minimise** the spillage and/or loss of particulate matter and/or windblown dust during transport.

H3 The installation and relocation of coastal structures must be undertaken in a way that prevents impacts to coastal processes.

H4 The development must be carried out in accordance with Schedule J – Figure 3 (Location and Layout of Coastal Structures), entitled *Spud Addition Layout, Drawing Number 3069.1.2(3)*.

H5 Erosion and sediment control measures are to be installed and maintained to prevent the release of sediment to **waters.**

H6 Any potential or actual acid sulphate soils must be treated and managed in accordance with the current *Queensland Acid Sulfate Soil Technical Manual: Soil management guidelines*, prepared by the Department of Science, Information Technology, Innovation and the Arts, 2014.

H7 In the event of erosion or tidal inundation, infrastructure must be easily relocatable to facilitate removal.

H8 Should infrastructure become damaged as a result of erosion, flooding or storm tide inundation, the **holder** of this environmental authority shall be responsible for the removal of all debris at their own expense.

H9 Within three months of completion of mining activities, all anchor points and spuds are to be removed from tidal water.

H10 Fuel must only be transferred to site using refuelling trucks, accessing site via existing access roads and not within 100m of highest astronomical tide (HAT).

END OF CONDITIONS FOR SCHEDULE H

SCHEDULE I – DEFINITIONS

Key terms and/or phrases used in this document are defined in this section and **bolded** throughout this document. Applicants should note that where a term is not defined, the definition in the *Environmental Protection Act 1994*, its regulations or environmental protection policies must be used. If a word remains undefined it has its ordinary meaning.

'**administering authority**' is the agency that administers the environmental authority provisions under the Environmental Protection Act 1994.

'**appropriately qualified person**' means a person who has professional qualifications, training, skills or experience relevant to the nominated subject matter and can give authoritative assessment, advice and analysis on performance relating to the subject matter using the relevant protocols, standards, methods or literature.

'**background**' with reference to the water schedule means the average of samples taken prior to the commencement of mining from the same waterway that the current sample has been taken.

'**chemical**' means:

a) an agricultural chemical product or veterinary chemical product within the meaning of the *Agricultural and Veterinary Chemicals Code Act 1994* (Commonwealth), or

b) a dangerous good under the Australian Code for the Transport of Dangerous Goods by Road and Rail approved by the Australian Transport Council, or

c) a lead hazardous substance within the meaning of the Workplace Health and Safety Regulation 1997, or

d) a drug or poison in the Standard for the Uniform Scheduling of Drugs and Poisons prepared by the Australian Health Minister's Advisory Council and published by the Commonwealth, or

e) and substance use as, or intended for use as:

   (i) a pesticide, insecticide, fungicide, herbicide, rodenticide, nematocide, miticide, fumigant or related product, or

   (ii) a surface active agent, including, for example, soap or related detergent, or

   (iii) a paint solvent, pigment, dye, printing ink, industrial polish, adhesive, sealant, food additive, bleach, sanitiser, disinfectant, or biocide, or

   (iv) a fertiliser for agricultural, horticultural or garden use, or

   (v) a substance used for, or intended for use for mineral processing or treatment of metal, pulp and paper, textile, timber, water or wastewater, or

   (vi) manufacture of plastic or synthetic rubber.

'**cm**' means centimetres.

'**commercial place**' means a workplace used as an office or for business or commercial purposes, which is not part of the mining activity and does not include employees' accommodation or public roads.

'**disturbance**' of land includes:

a) compacting, removing, covering, exposing or stockpiling of earth

b) removal or destruction of vegetation or topsoil or both to an extent where the land has been made susceptible to erosion

c) carrying out mining within a watercourse, waterway, wetland or lake

d) the submersion of areas by tailings or hazardous contaminant storage and dam/structure walls

e) temporary infrastructure, including any infrastructure (roads, tracks, bridges, culverts, dam/structures, bores, buildings, fixed machinery, hardstand areas, airstrips, helipads etc.) which is to be removed after the mining activity has ceased

f) releasing of contaminants into the soil, or underlying geological strata.

However, the following areas are not included when calculating areas of 'disturbance':

a) areas off lease (e.g. roads or tracks which provide access to the mining lease)

b) areas previously disturbed which have achieved the rehabilitation outcomes

c) by agreement with the administering authority, areas previously disturbed which have not achieved the rehabilitation objective(s) due to circumstances beyond the control of the mine operator (such as climatic conditions)

d) areas under permanent infrastructure. Permanent infrastructure includes any infrastructure (roads, tracks, bridges, culverts, dam/structures, bores, buildings, fixed machinery, hardstand areas, airstrips, helipads etc.) which is to be left by agreement with the landowner

e) disturbance that pre-existed the grant of the tenure.

'**general waste**' means waste other than regulated waste.

'**holder**' for a mining tenement, means a holder of the tenement under the *Mineral Resources Act 1989*, and the holder of the associated environmental authority under the *Environmental Protection Act 1994*.

'**Hz**' means hertz.

'**infrastructure**' means water storage dams, levees, roads and tracks, buildings and other structures built for the purposes of the mining activity.

'**land**' in the land schedule of this document means land excluding waters and the atmosphere, that is, the term has a different meaning from the term in the *Environmental Protection Act 1994*. For the purposes of the *Acts Interpretation Act 1954*, it is expressly noted that the term 'land' in this environmental authority relates to physical land and not to interests in land.

'**land use**' means the selected post mining use of the land, which is planned to occur after the cessation of mining operations.

'**licensed place**' means the mining activities carried out at the mining tenements detailed on page 1 of this environmental authority.

'**m**' means metres.

'**measures**' includes any measures to prevent or minimise environmental impacts of the mining activity such as bunds, silt fences, diversion drains, capping and containment systems.

'**µg/L**' means micrograms per litre.

'**mg/L**' means milligrams per litre.

'**minimise**' means to reduce to the smallest possible amount or degree.

'**natural flow**' means the flow of water through waters caused by nature.

'**non-polluting**' means having no adverse impacts upon the receiving environment.

'**NTU**' means Nephelometric Turbidity Unit.

'**protected area**' means – a protected area under the *Nature Conservation Act 1992*, or

a) a marine park under the *Marine Parks Act 1992*, or

b) a World Heritage Area.

'**receiving environment**' in relation to an activity that causes or may cause environmental harm, means the part of the environment to which the harm is, or may be, caused. The receiving environment includes (but is not limited to):

a) a watercourse

b) groundwater

c) an area of land marked 'B' in Schedule J - Figure 1 of this environmental authority.

The term does not include land that is marked 'A' in Schedule J – Figure 1 of this environmental authority.

'**receiving waters**' means the waters into which this environmental authority authorises releases of mine affected water.

'**rehabilitation**' means the process of shaping and revegetating land to restore it to a stable landform.

'**release event**' means a surface water discharge from mine affected water storages or contaminated areas on the licensed place.

'**revegetation**' is the re-establishment of vegetation of a species and density of cover similar to surrounding undisturbed areas or the landform that existed before mining activities on soil surfaces associated with the construction or rehabilitation of a watercourse diversion.

'**RL**' means reduced level, relative to mean sea level as distinct from depths to water.

'**self-sustaining**' means not requiring ongoing intervention and maintenance to maintain functional riverine processes and characteristics.

'**sensitive place**' means:

a) a dwelling, residential allotment, mobile home or caravan park, residential marina or other residential premises, or

b) a motel, hotel or hostel, or

c) an educational institution, or

d) a medical centre or hospital, or

e) a protected area under the *Nature Conservation Act 1992*, the *Marine Parks Act 1992* or a World Heritage Area, or

f) a public park or gardens.

'**the Act**' means the *Environmental Protection Act 1994*.

'**TPH**' means Total Petroleum Hydrocarbons.

'**µS/cm**' means micro Siemens per centimetre.

'**water**' is defined under Schedule 4 of the *Water Act 2000*.

'**watercourse**' has the same meaning given in the *Water Act 2000*.

'**water quality**' means the chemical, physical and biological condition of water.

'**waters**' includes river, stream, lake, lagoon, pond, swamp, wetland, unconfined surface water, unconfined natural or artificial watercourse. bed and bank of any waters, dams, non-tidal or tidal waters (including the sea), storm water channel, storm water drain, and groundwater and any part thereof.

'**wet season**' means the time of year, covering one or more months, when most of the average annual rainfall in a region occurs. For the purposes of condition A3 of this environmental authority, this time of year is deemed to extend from 15 December in one year to 15 May in the following year inclusive.

END OF DEFINITIONS FOR SCHEDULE I

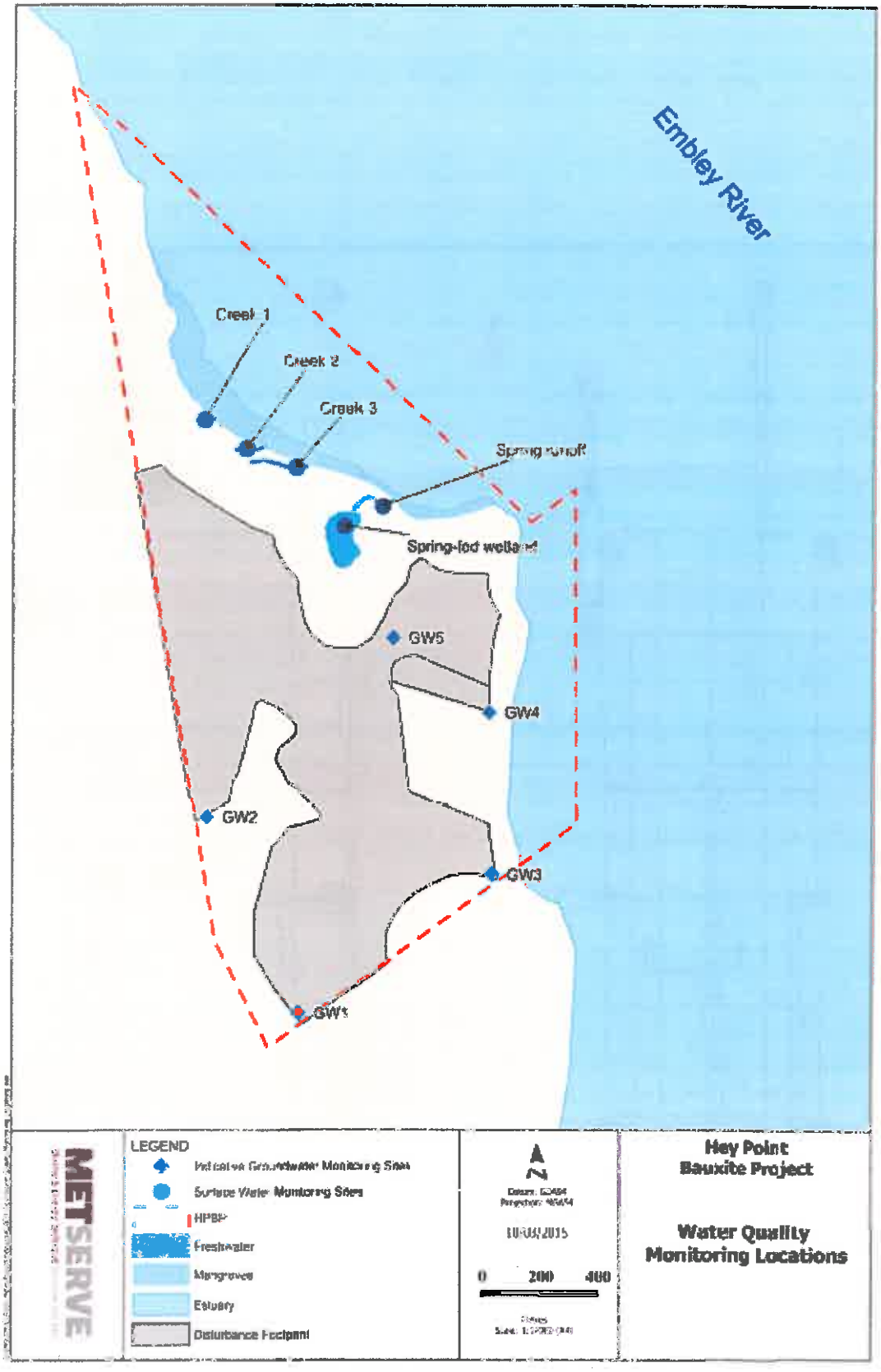
SCHEDULE J – APPROVED MAPS AND PLANS

Figure 1 – Authorised Disturbance Areas



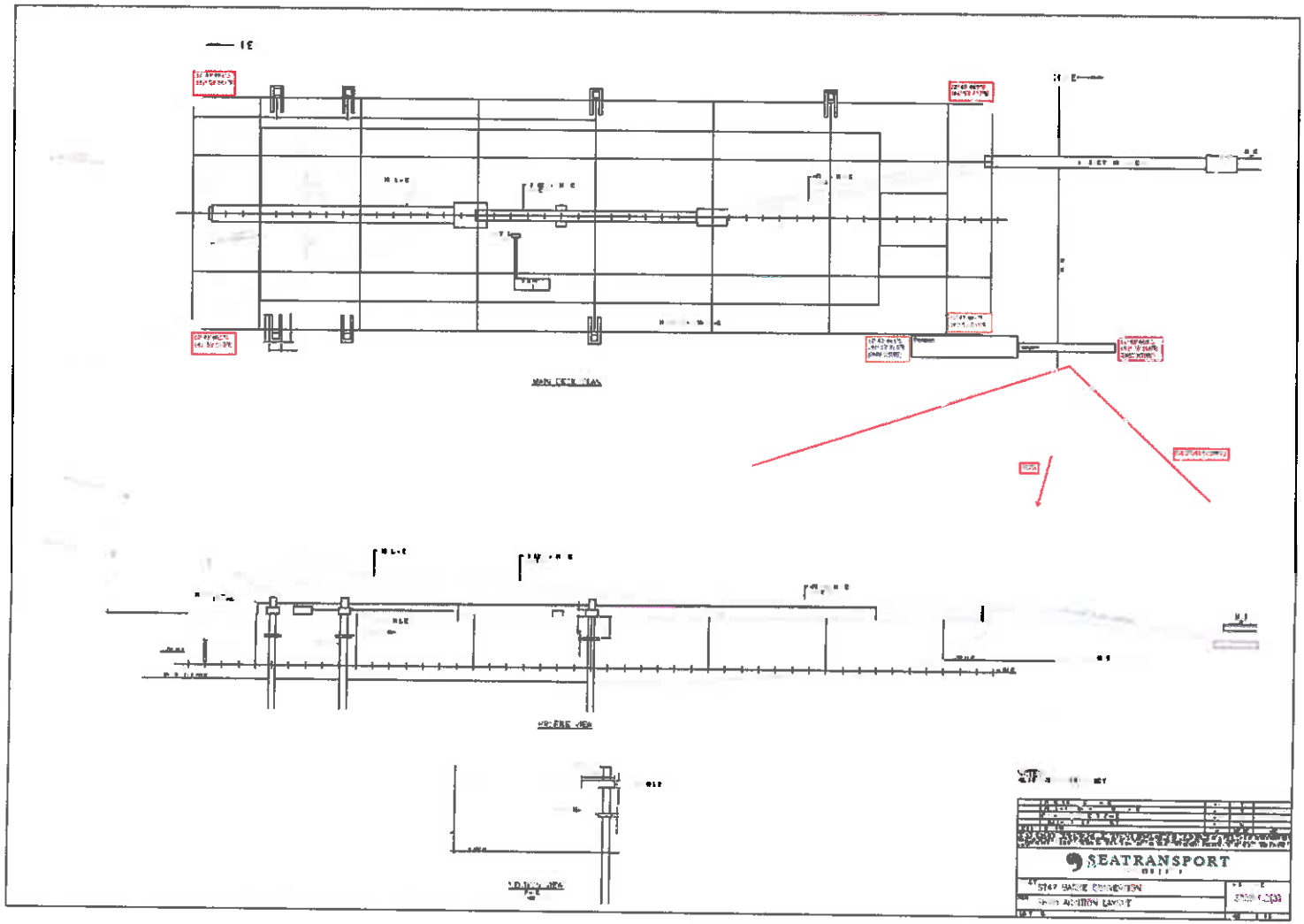
Queensland Government

Figure 2 – Groundwater Bore Monitoring Locations



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Figure 3 – Location and Layout of Coastal Structures



END OF MAPS AND PLANS FOR SCHEDULE J

END OF PERMIT