Title of Proposal - Rentails Project, Renison Tin Mine, Tasmania

Section 1 - Summary of your proposed action

Provide a summary of your proposed action, including any consultations undertaken.

1.1 Project Industry Type

Mining

1.2 Provide a detailed description of the proposed action, including all proposed activities.

The Renison Tin Operation (Renison) is the only major tin project in production in Australia and one of the world's largest underground tin mines. The operation is located at Renison Bell in Western Tasmania and consists of an underground mine, a mineral processing facility and tailings storage facilities (TSF), named A-B Dam, C Dam and a new D Dam currently under construction.
The Proponent proposes the construction and operation of a new tailings retreatment plant at Renison, known as the Rentails (Renison Tailings Retreatment) Project that will operate in tandem with the existing mine and processing plant. The Rentails Project site is planned to be located approximately 1 km northwest of the existing Renison processing plant and south of, and adjacent to, C Dam.
The Rentails Project will reclaim (via dredging) from A-B Dam and C Dam a total of approximately 22 million tonnes of tailings material, at approximately 0.44% tin and 0.23% copper, containing approximately 99,000 tonnes of tin and 51,000 tonnes of copper. The tailings will be concentrated and fumed to produce a high-grade tin fume product and a copper matte product which will be sold to smelters for further downstream refining.
Waste tailings from the fuming process will be deposited into D Dam which has been constructed according to Best Practice Environmental Management (BPEM) principles. Importantly, the deconstruction of A-B Dam and C Dam by the Rentails Project provides an opportunity to rectify known Acidic and Metalliferous Drainage (AMD) legacy aspects associated with these waste storage structures. This Project has the potential to deliver a net environmental benefit.
The Proponent intends to re-treat approximately 22.3M tonnes (at 0.44% tin and 0.23% copper) currently contained within two integrated TSF's (A-B Dam and C Dam). These dams have been operated over the last 50 years by various owners of the Renison tin mine and comprise earth-fill embankments. A-B Dam and C Dam proportionately contain approximately 30% and 70% of the tailings material respectively.
C Dam has been operated by the Proponent since 2008. Both the formerly named A Dam and B Dam embankments were raised in late 2015 and are currently being operated by the Proponent as a single impoundment, named A-B Dam.
D Dam is situated immediately adjacent to A-B Dam and C-Dam northern embankments and is currently under construction. Commissioning of the dam is anticipated in the second quarter of 2018 at which time shortly after tailings deposition operations at A-B Dam is proposed to switch to D Dam.

Reclamation from the tailings dams will involve dredging, sluicing and mechanical excavation using a cutting wheel floating dredge in a top down bench mining method, with the concentrator plant producing approximately 5,400 tonnes per annum of tin in a high-grade tin fume product and 2,200 tonnes per annum of copper in a high-grade copper matte. These concentrates will be combined with approximately 10,000 tonnes per annum of tin concentrate from the existing Renison concentrator to feed a proposed pyrometallurgical facility (tin smelter).

The Project will be carried out over an 11-year period at an average rate of 2 million tonnes per annum. As part of the long term strategic plan for the project, Dams A and B will be mined during the first period of operations (approximately three years). Dam C will then be mined until completion (another eight years).

In addition to tailings from the concentrator plant, wastes from the tin fumer will include solid granulated slag and scrubber effluent, to be disposed in D Dam, and off-gas (after scrubbing).

The process flowsheet comprises:

- Reclamation of tailings;
- Fine grinding;
- Production of a copper/iron sulphide concentrate suitable for use as a sulphidising agent in a fuming roast;
- Removal of sulphide minerals by flotation;
- Removal of interfering slimes by classification and gravity separation;
- Concentration of tin into a flotation product; and
- Smelting to produce a tin fume product and a copper matte by-product.

Reclaimed tailings will be thickened and ground prior to copper and sulphide flotation. Copper concentrate will be dewatered and used to provide sulphur for the tin fuming process whilst the sulphide concentrate will be discarded to final tailings. Sulphide flotation tailings will be cycloned, with the cyclone underflow fraction (fines) being treated by centrifugal gravity separators to recover fine tin minerals. Gravity separator tailings will be discarded to final tailings. Gravity concentrate and the cyclone underflow fraction (coarse fraction) from the cycloning stage will be combined for tin flotation via a further sulphide flotation stage to scavenge any remaining sulphide minerals. The sulphide scavenger concentrate will be discarded to final tailings. Tailings from the sulphide scavenger flotation stage will then report to tin flotation for recovery of a tin concentrate.

The tin fuming process will be operated batch-wise within a single furnace. In general sulphide is added to the molten bath that forms a fume of tin sulphide that rises up through the flue. The flue gases are enriched with oxygen which transforms the tin into a tin oxide powder which will be captured in a bag house.

The remaining furnace off-gases will pass through an evaporative gas cooler and heat exchanger to cool the off-gas stream. This allows the metallic elements to form into fume particulates which are then collected in the fume Baghouse. The cleaned gas stream is then passed into the gas scrubber which captures the SO2 gasses using a lime based slurry generating a creamy white precipitate of gypsum and other calcium compounds. Effluent from the scrubber will comprise a liquid and a cream/white precipitate. Arsenic in the effluent was identified as the main element requiring fixing and will be precipitated as the stable ferric arsenate by addition of ferric sulphate. Following treatment, the effluent will be disposed in the contained tailings storage facility of Dam D.

Tin fume collected in the baghouse will be removed and conveyed by screw conveyors to the fume washing/leaching area for arsenic removal. Tin fume will be leached in water to remove some of the arsenic from the tin oxide fume. The leached fume will be filtered and then weighed

and packaged by a proprietary packaging machine. The leach liquor (filtrate from the tin fume filter) will be combined with the scrubber effluent stream for arsenic stabilisation prior to disposal in tailings storage facility Dam D.

1.3 What is the extent and location of your proposed action? Use the polygon tool on the map below to mark the location of your proposed action.

Area	Point	Latitude	Longitude
Rentails Project Area	1	-41.784302436913	145.43213807008
Rentails Project Area	2	-41.784310436961	145.43212734125
Rentails Project Area	3	-41.783806431974	145.43938003442
Rentails Project Area	4	-41.787798362886	145.43738447092
Rentails Project Area	5	-41.789278274117	145.43441258333
Rentails Project Area	6	-41.787542374775	145.43178401849
Rentails Project Area	7	-41.784302436913	145.43213807008

1.5 Provide a brief physical description of the property on which the proposed action will take place and the location of the proposed action (e.g. proximity to major towns, or for off-shore actions, shortest distance to mainland).

The Renison Bell tin mine and processing plant is located in Western Tasmania on Crown Land within the 4,662-hectare consolidated BMTJV Mining Lease 12M/1995. It is adjacent to the sealed Murchison Highway which provides vehicle access connecting the site to Burnie, 136 kilometres to the north. TasRail's Emu Bay Railway passes next to the mine and connects Zeehan with Burnie where export shipping facilities are established. Other notable mining operations in the vicinity are at Rosebery, approximately 10 kilometres to the northeast, and Queenstown, approximately 55 kilometres to the southeast.
The Rentails Project site is located within rugged terrain approximately 195 metres above sea level, adjacent to the existing C-Dam, approximately 1km north of the existing processing plant and 1km south of Lake Pieman hydroelectrical impoundment.

The physical environment in the general Project area has been highly disturbed through its long history of mining and associated processing operations, with disturbance including:
• Surface operational areas;
• Borrow pits;
• Historic surface mining works;
• Access and exploration tracks; and
• Tailing storage facilities.
The 15-hectare site for the new plant and infrastructure is to the northwest of the Renison mine

and to the south of the existing TSFs, within a relatively flat area comprising re-growth button grass moorland and Ti-tree shrubland dissected by vehicle access tracks and areas of cleared land.

Previous environmental impact assessment studies were conducted within 1 km of the proposed plant site by the Proponent (GHD, 2015) as part of the Development Proposal Environmental Management Plan (DPEMP) for the TSF D-Dam Project. The proposed site is within 200m of TSF Dam C which has also been subject to various impact assessment studies. According to GHD (2015), the key environmental values identified in the area of the plant site include:

• The surface waters of Lake Pieman and Ring River (flooded arm of Lake Pieman);
• The native vegetation communities within the Rentails Processing Plant footprint;
• Potential habitat for a range of native fauna species;
• Presence of threatened species: Spotted-tailed quoll, Tasmanian devil, azure kingfisher and wedge-tailed eagle, and potential presence of grey goshawk, Tasmanian masked owl and white–bellied sea eagle;
• Presence of shallow groundwater aquifers not used for water extraction; and
• Potential examples of the Central Highlands Cainozoic Glacial Area geo-conservation site.

A large part of the Renison Bell mining lease (including the proposed Rentails Project footprint) is subject to a Regional Reserve under the Nature Conservation Act 2002 with no management plan in effect.
The proposed plant site is comprised of disturbed button-grass shrubland immediately adjacent to the shoreline of C Dam TSF. The area has been historically disturbed by mining and borrow material extraction. It includes several gravel access roads and a former explosives magazine and laydown area. The area presents relatively low value fauna habitat due to the type of vegetation present, its condition and the level of disturbance. A number of introduced species have been detected on the Rentails Project area, including declared weeds (Gorse and Broom) and Feral dogs and cats. The pathogen Phytophthora cinnamomii has also been detected on the site.
Fauna surveys conducted for the D Dam Project, situated approximately 1km to the north were carried out in relatively higher value fauna habitats (rainforest, riparian and wet sclerophyll vegetation communities) and detected the following listed (Tasmania Threatened Species Protection Act 1995 (TSP Act), and/or Commonwealth EPBC Act) fauna species:
• Tasmanian devil - Sarcophilus harrisii;
• Wedge-tailed eagle - Aquila audax subsp. fleayi;
• Azure kingfisher - Ceyx azureus subsp. diemenensis; and
• Spotted-tailed quoll - Dasyurus maculatus subsp. maculatus (likely present, scats recorded only).
The following listed species were also considered possibly present within the D-Dam footprint due to the presence of suitable habitat or conditions:
• Grey goshawk - Accipter novaehollandiae;
• Latham’s snipe - Gallinago hardwickii;
• White-belied sea-eagle - Haliaeetus leucogaster;
• White-throated needletail - Hirundapus caudacutus;
• Satin flycatcher - Myiagra cyanoleuca; and

• Masked owl (Tasmanian) - Tyto novaehollandiae subsp. castanops.
A number of non-threatened native fauna were also recorded during D Dam fauna surveys.

Thirteen native vegetation communities and four other modified, agricultural, urban and/or exotic communities were identified within the D Dam Project footprint. One community (the wetland community Freshwater aquatic sedge land and rush land, (ASF)) is listed as threatened under the Tasmanian Nature Conservation Act 2002 (NCA).

The climate of the West Coast of Tasmania is generally cool and wet and is strongly influenced by maritime weather systems from the Southern Ocean. The closest automated meteorological stations are located at Waratah (approximately 30km north of Renison Operations), Mount Read (approximately 10 km south east) and Strahan (approximately 40km southwest). Data is available from 1957, 1996 and 1976 respectively, accessed via the Bureau of Meteorology (BOM) website. Although Mt Read and Waratah are closer to the Rentails Project site they are situated 1000m and 600m above sea level respectively, whilst Strahan is further away but at 10m above sea level.
The Proponent operates a manual rainfall monitoring station on the lease on behalf of the Bureau of Meteorology (BOM). For the period 1911 to 2006 annual rainfall ranged from a minimum of 1,661mm to a maximum of 2,939mm. The average rainfall is 2,221mm. April to October is the wettest period, although high precipitation (rain and snow) may occur throughout the year. Evaporation often exceeds rainfall between November and March. The average annual evaporation is 837mm.
There are no close permanent human receptors to the Rentails site other than the following:
• Renison Bell Tin Mine (300ppl, 1km south),
• residential dwelling (4ppl, 4km east),
• township of Rosebery (population 1000ppl, 10km east), and
• township of Zeehan (population 1000ppl, 20km west).

1.6 What is the size of the proposed action area development footprint (or work area) including disturbance footprint and avoidance footprint (if relevant)?

15

1.7 Is the proposed action a street address or lot?

Lot

1.7.2 Describe the lot number and title. Mining Lease 12M/1995

1.8 Primary Jurisdiction.

Tasmania

1.9 Has the person proposing to take the action received any Australian Government grant funding to undertake this project?

No

1.10 Is the proposed action subject to local government planning approval?

Yes

1.10.1 Is there a local government area and council contact for the proposal?

No

1.11 Provide an estimated start and estimated end date for the proposed action.

Start date 01/2019

End date 12/2031

1.12 Provide details of the context, planning framework and State and/or Local government requirements.

Land use and environmental permitting for a development project is initiated by applying for a land use permit from the local Council under the Land Use Planning and Approvals Act, 1993 (LUPAA).

The application for a land use permit needs to provide sufficient information for the Council to determine whether it is a Level 1 or Level 2 activity. If it is a Level 2 project, it will be referred to the Board of the Tasmanian Environment Protection Authority (EPA) who will conduct an environmental impact assessment under the Environmental Management and Pollution Control Act, 1994 (EMPCA).

If determined to be a Level 2 activity, a Notice of Intent (NOI) must be submitted to the EPA. The NOI provides an overview of the Proponent, the proposed project, project location and potential environmental impacts that may be caused by the development. Further, the NOI enables the level of assessment to be determined by the Board of the EPA. The NOI also provides information for developing the guidelines for the Development Proposal and Environmental Management Plan (DPEMP) document that needs to be produced by the Proponent.

Standard guidelines for the preparation of a DPEMP have been developed by the EPA. These are modified, as required, on the basis of the NOI and in consultation with the Proponent. The draft DPEMP is submitted to the EPA for assessment and development of the final document for submission to Council as supporting information for the Proponents land use application. Council will place the DPEMP on public display and public submissions on the development may be lodged with the Council. The Council submits the DPEMP with Public submissions to the Board of the EPA who assess the application and submissions and develop the environmental conditions that must be included in any permit granted by Council. Once the land use permit (and associated environmental conditions) has been granted by Council, parties who had previously lodged submissions may appeal in writing within 14 days.

The Commonwealth Government may also have a role in the environmental assessment and approval of the project. Under the Environment Protection and Biodiversity Conservation (EPBC) Act, 1999, Commonwealth approval is required on matters of environmental significance. An EPBC Act referral may be made to the Department of the Environment and Energy to ascertain whether or not the Commonwealth has an interest in the project.

1.13 Describe any public consultation that has been, is being or will be undertaken, including with Indigenous stakeholders.

The Proponent has commenced the preliminary stages of the stakeholder consultation process by meeting with the following organisations and representatives:
• Tasmanian Department of State Growth (DSG) and State Treasury on 22 June 2017;
• Major Projects Facilitation Agency on 21 June 2017; and
• Senator David Bushby (Liberal Senator for Tasmania) in July 2017.
The Proponent is currently developing a detailed consultation strategy, where this involves identifying stakeholder groups, their interests and information needs, and the mechanics of the consultation process. The strategy will be based upon maintaining a positive relationship with key stakeholders and the wider community, and will involve processes such as further briefings to state agencies and local government, establishment of a community information phone number/email address, and briefings to the current Renison workforce so that they can inform interested community members of developments concerning the Rentails Project.

1.14 Describe any environmental impact assessments that have been or will be carried out under Commonwealth, State or Territory legislation including relevant impacts of the project.

The development of a site-specific conceptual site model (CSM) for the Rentails Project has identified the following key issues that will require further assessment as part of the Development Proposal Environmental Management Plan (DPEMP) process:
• Airborne emission impacts,
• Flora and fauna impacts,
• Solid and liquid waste impacts,
• Water and stormwater impacts,
• Socio-economic impacts,
• Mine closure planning impacts, and
• Aboriginal and European Heritage impacts.

Airborne Emissions Study

There are two main sources of potential airborne emissions at the site: fugitive dust and furnace off-gas. During the construction phase, there are a range of activities, such as earthmoving and plant construction, which will generate dust at higher levels than during the operational stage. The main ongoing impact to air quality however will be from the furnace stack exhaust

generated by the smelting and fuming process.
The objectives of the gas emissions assessment study will be to:
• Collect baseline air quality and meteorological data within the Project area and downwind sensitive receptors;
• Model the material gas emissions from the stack associated with the tin fuming process; and
• Determine the potential effects of the Project's stack emissions.
Specific tasks include (but not limited to):
• Developing an air quality baseline study to;
o characterise the current state of the substances in the atmosphere,
o assess both the incremental and the cumulative influences of the project on air quality, climate, and hydrology.
• Developing desktop air quality model for the furnace stack exhaust air emissions incorporating all relevant climate and meteorological data, simulated dispersion rates, expected mass emission rates and an assessment against all relevant State and Federal air quality guidelines and standards.

Flora and Fauna Study

The construction of the proposed plant will cause the permanent loss of (previously disturbed) native habitat. Extraction of tailings may also cause habitat loss or disturbance. Operational impacts include noise, airborne emissions, and the deposition of particulates and wastes (including heat) in terrestrial and aquatic ecosystems.
The objective of the flora and fauna study will be to determine whether the Rentails Project area contains any flora and fauna species or other features of conservation significance, ascertain specific management requirements, and provide a basis for impact assessment.
The flora and fauna survey will, as a minimum, comply with the requirements of the document Guidelines for Natural Values Assessments published by the Department of Primary Industries, Parks, Water and Environment (DPIPWE 2015), as well as all relevant EPBC Act policy statements. The methodology for surveys will be developed in consultation with DPIPWE and the Commonwealth and will also draw on the extensive work that has already been carried out for Dam C and Dam D.
Specific tasks include (but not limited to):
• Flora, vegetation communities and habitat, with particular reference to rare and threatened species, communities and habitats, including those listed under the relevant Schedules of the Commonwealth EPBC Act and the Tasmanian Threatened Species Protection Act 1995;
• Fauna, including species, communities and habitats, with particular reference to rare and threatened species, migratory species, communities and habitats, including those listed under the relevant Schedules of the Commonwealth EPBC Act and the Tasmanian Threatened Species Protection Act 1995;
• Freshwater ecosystems of high conservation management priority using the Conservation of Freshwater Ecosystem Values (CFEV) database. The scope of investigation should encompass the vicinity of the proposed development where there is likelihood of alteration to the existing environment. The specific CFEV information used for DPEMPs should be Conservation Management Priority Potential which is appropriate for Development Proposals;
• Areas or habitats of conservation significance, including designated conservation areas, areas

relating to the requirements of international treaties (e.g. Japan-Australia, China-Australia, and Republic of Korea-Australia Migratory Bird Agreements (JAMBA/CAMBA/ROKAMBA) and Ramsar (wetlands) Convention), or wetlands listed in A Directory of Important Wetlands in Australia;
• Existing formal or informal conservation reserves which may be affected by the proposal, with reference to the management objectives of the reserve(s) and the reserve management plan(s) (if any);
• Any high-quality wilderness areas identified in the Tasmanian Regional Forest Agreement (Tasmanian RFA) that may be affected by the proposal;
• Any other species, sites or areas of landscape, aesthetic, wilderness, scientific, geodiversity or otherwise special conservation significance;

• Any species or ecological communities of special conservation significance, including any impact on the comprehensive, adequate and representative reserve system identified as part of the Tasmanian RFA, on wildlife habitat strips under the Tasmanian Forest Practices Code 1995 and on non-forest bioregional forest communities; and
• The potential for migration and/or introduction of pests, weeds and plant and animal diseases as a result of the proposal.

Solid and Liquid Waste Study

The objective of the solid and liquid waste management study will be to determine appropriate solid and liquid waste management requirements so as to minimise adverse impacts.
Specific tasks include (but not limited to):
• Characterise material hazardous and non-hazardous liquid and solid wastes associated with the project;
• Describe proposed treatment processes for material waste streams;
• Address the overall impacts of the project with respect to these wastes, taking into account relevant pre-emption or mitigation and control measures.

Water and Stormwater Study

The most significant issue with respect to aqueous emissions from the existing and proposed mining operations is the formation of acid drainage. In this regard, a catchment-based approach for acid drainage management in accordance with contemporary best practice will be adopted for this project. The overall objective of water quality management for the Rentails Project will be to ensure that its discharges do not compromise the protected environmental values of receiving waters during construction and operations, and upon mine closure.
The objective of the water and stormwater management study will be to determine appropriate water and storm water management requirements so as to minimise adverse impacts.
Specific tasks include (but not limited to):
• Describe local drainage patterns, hydrology and water quality;
• Describe material water requirements and discharges from the project;

• Review relevant information obtained from the Renison operation and other appropriate sources.
• Determine the impacts of the project in terms of Tasmanian regulatory requirements for wastewater emissions and ambient water quality, taking into account management and mitigation measures.
• Report preparation.

Socio-Economic Study

The objectives of the socio-economic study will be to:

• Describe local socio-economic characteristics; and
• Determine the impacts of the project including matters such as changes to the local economy and stresses on community services, facilities and infrastructure, taking into account relevant pre-emption or mitigation and control measures.
Specific tasks include (but may not be limited to):
• Collate and review relevant databases and information;
• Provide an assessment of the existing social conditions and economic base of the region;
• Identify and describe relevant historical and current influences in the region;
• Describe existing community infrastructure and services;
• Determine potential interactions between the project and the surrounding socio-economic environment, and how identified impacts be properly managed.

Mine Closure Planning Study

The objective of the mine closure planning study will be to describe an overall concept for site closure of the TSF complex, including consideration of planned and unexpected closure scenarios;
Specific tasks include (but may not be limited to):
• Reviewing the overall site closure plan for Renison;
• Determining a progressive rehabilitation schedule and strategy consistent with tailings extraction operations;
• Determining potential constraints and risks to closure; and
• Determining suitable closure objectives for the TSF complex.

Aboriginal and European Heritage Study

The objective of the Aboriginal and European heritage study will be to build further upon the previous studies undertaken and determine whether the project area contains any sites of cultural significance, ascertain specific management requirements, and provide a basis for impact assessment.

Specific tasks include (but may not be limited to):
• Reviewing the existing information;
• Completing an updated site survey;
• Describing Indigenous and non-Indigenous places of historic or cultural heritage significance;
• Identifying potential impacts, mitigation and management measures, residual impacts, and proposed monitoring.

1.15 Is this action part of a staged development (or a component of a larger project)?

No

1.16 Is the proposed action related to other actions or proposals in the region?

Yes

1.16.1 Identify the nature/scope and location of the related action (Including under the relevant legislation).

The Rentails plant is proposed to be constructed on the existing mining lease ML12/1995 and once construction is complete, the plant will form part of the existing Renison Mine Site operation. There is an significant road transport arrangement in place already, and the Rentails plant will make use of available capacity in the existing arrangement.

Section 2 - Matters of National Environmental Significance

Describe the affected area and the likely impacts of the proposal, emphasising the relevant matters protected by the EPBC Act. Refer to relevant maps as appropriate. The interactive map tool can help determine whether matters of national environmental significance or other matters protected by the EPBC Act are likely to occur in your area of interest. Consideration of likely impacts should include both direct and indirect impacts.

Your assessment of likely impacts should consider whether a bioregional plan is relevant to your proposal. The following resources can assist you in your assessment of likely impacts:

• Profiles of relevant species/communities (where available), that will assist in the identification of whether there is likely to be a significant impact on them if the proposal proceeds;

• Significant Impact Guidelines 1.1 – Matters of National Environmental Significance;

• Significant Impact Guideline 1.2 – Actions on, or impacting upon, Commonwealth land and Actions by Commonwealth Agencies.

2.1 Is the proposed action likely to have ANY direct or indirect impact on the values of any World Heritage properties?

No

2.2 Is the proposed action likely to have ANY direct or indirect impact on the values of any National Heritage places?

No

2.3 Is the proposed action likely to have ANY direct or indirect impact on the ecological character of a Ramsar wetland?

No

2.4 Is the proposed action likely to have ANY direct or indirect impact on the members of any listed species or any threatened ecological community, or their habitat?

Yes

2.4.1 Impact table

Species	Impact
Spotted-tailed quoll (Dasyurus maculatus	Potential loss of denning and foraging habitat.

Species	Impact
subsp. maculatus)	
Tasmanian devil (Sarcophilus harrisii)	Potential loss of denning and foraging habitat.
Wedge-tailed eagle (Aquila audax subsp. fleayi)	Potential loss of foraging habitat.
Masked owl (Tyto novaehollandiae subsp. castanops)	Potential loss of foraging habitat.

2.4.2 Do you consider this impact to be significant?

No

2.5 Is the proposed action likely to have ANY direct or indirect impact on the members of any listed migratory species, or their habitat?

No

2.6 Is the proposed action to be undertaken in a marine environment (outside Commonwealth marine areas)?

No

2.7 Is the proposed action to be taken on or near Commonwealth land?

No

2.8 Is the proposed action taking place in the Great Barrier Reef Marine Park?

No

2.9 Is the proposed action likely to have ANY direct or indirect impact on a water resource related to coal/gas/mining?

No

2.10 Is the proposed action a nuclear action?

No

2.11 Is the proposed action to be taken by the Commonwealth agency?

No

2.12 Is the proposed action to be undertaken in a Commonwealth Heritage Place Overseas?

No

2.13 Is the proposed action likely to have ANY direct or indirect impact on a water resource related to coal/gas/mining?

No

Section 3 - Description of the project area

Provide a description of the project area and the affected area, including information about the following features (where relevant to the project area and/or affected area, and to the extent not otherwise addressed in Section 2).

3.1 Describe the flora and fauna relevant to the project area.

A large part of the Renison Bell mining lease (including the proposed Rentails Project footprint) is subject to a Regional Reserve under the Nature Conservation Act 2002 with no management plan in effect.

The proposed plant site is comprised of disturbed button-grass shrubland immediately adjacent to the shoreline of C Dam TSF. The area has been historically disturbed by mining and borrow material extraction. It includes several gravel access roads and a former explosives magazine and laydown area. The area presents relatively low value fauna habitat due to the type of vegetation present, its condition and the level of disturbance. A number of introduced species have been detected on the Rentails Project area, including declared weeds (Gorse and Broom) and Feral dogs and cats. The pathogen *Phytophthora cinnamomii* has also been detected on the site.

Fauna surveys conducted for the D Dam Project, situated approximately 1km to the north were carried out in relatively higher value fauna habitats (rainforest, riparian and wet sclerophyll vegetation communities) and detected the following listed (Tasmania Threatened Species Protection Act 1995 (TSP Act), and/or Commonwealth EPBC Act) fauna species:

Tasmanian devil - Sarcophilus harrisii;Wedge-tailed eagle - Aquila audax subsp. fleayi;Azure kingfisher - Ceyx azureus subsp. diemenensis; andSpotted-tailed quoll - Dasyurus maculatus subsp. maculatus (likely present, scats recorded only).

The following listed species were also considered possibly present within the D-Dam footprint due to the presence of suitable habitat or conditions:

Grey goshawk - Accipter novaehollandiae;Latham’s snipe - Gallinago hardwickii;White-belied sea-eagle - Haliaeetus leucogaster;White-throated needletail - Hirundapus caudacutus;Satin flycatcher - Myiagra cyanoleuca; andMasked owl (Tasmanian) - Tyto novaehollandiae subsp. castanops.

A number of non-threatened native fauna were also recorded during D Dam fauna surveys.

3.2 Describe the hydrology relevant to the project area (including water flows).

The main surface water courses potentially affected by the Project and are:

Ring River (flooded arm of Lake Pieman); andLake Pieman.

The hydrology in the area is dominated by Lake Pieman which was created by the flooding of the Pieman River valley behind the Reece Dam. Water flows through the lake are intermittent and controlled and hence it has intermittent, irregular flows at low velocities. Similarly, the sections of Ring River into which discharges from the existing and proposed TSFs discharge are also flooded, essentially as extensions of Lake Pieman.

Surface and ground water immediately adjacent to the Project site is already impacted by legacy and contemporary mining activity. The Proponent currently manages water discharge adjacent to the Project site via lime neutralisation and settlement prior to discharge to the Ring River and Lake Pieman. Discharges are regulated by the site environmental permit EPN 7092/2.

3.3 Describe the soil and vegetation characteristics relevant to the project area.

Renison Tin Operation is the largest of three major, stratabound, carbonate-replacement, pyrrhotite-cassiterite deposits found in western Tasmania (BMTJV, 2009). The site geology comprises steeply dipping, weakly metamorphosed sedimentary rocks, mostly comprising alternating beds of greywacke and argillite of Cambrian age (Coffey, 1990). These are overlain by Fluvioglacial Pleistocene age sediments and recent deposits of gravel, colluvium, alluvium and peat which have been deposited where surface water features have eroded Pleistocene deposits.

The lithologies are described below:

Recent deposits include lag gravels, colluvium, alluvium and peat. (Coffey 1990).
Pleistocene deposits include fluvioglacial gravels and sands, and lacustrine silts and clays.
Cambrian – Argillite and greywacke, can be extremely weathered and altered argillite.

Structural components in the area include bedding, sheared and / or crushed zones, joints, faults, and decomposed zones (Coffey, 1990).

The major structural feature is the bedding in both the argillite and the greywacke, which typically strikes north – south. Bedding dips 50 to 80 degrees to the east. Bedding partings exist; with the frequency of partings increasing in more weathered rock.

Faults typically trend northeast to southwest, and minor sets trend east – west (Coffey, 1990). Lateral continuity off these faults is unknown. Potentially significant faults exist in Snake Gully (Coffey, 1990).

Joints are generally tight, planar and smooth or rough with limonite staining. No preferred orientation was identified in Coffey 1990 site investigations.

3.4 Describe any outstanding natural features and/or any other important or unique values relevant to the project area.

The proposed site lies within the Renison Bell Regional Reserve within the rugged west of Tasmania, an area known for natural values.

3.5 Describe the status of native vegetation relevant to the project area.

The site for the new plant and infrastructure is to the northwest of the Renison mine and to the south of the existing TSFs, within a relatively flat area comprising re-growth button grass moorland and Ti-tree shrubland dissected by vehicle access tracks and areas of cleared land.

3.6 Describe the gradient (or depth range if action is to be taken in a marine area) relevant to the project area.

As above, the plant site is within a relatively flat area.

3.7 Describe the current condition of the environment relevant to the project area.

The physical environment in the general Project area has been highly disturbed through its long history of mining and associated processing operations, with disturbance including:
• Surface operational areas;
• Borrow pits;
• Historic surface mining works;
• Access and exploration tracks; and
• Tailing storage facilities.

3.8 Describe any Commonwealth Heritage Places or other places recognised as having heritage values relevant to the project area.

None identified.

3.9 Describe any Indigenous heritage values relevant to the project area.

Former site owners, Renison Bell Ltd, commissioned an audit of compliance with the Aboriginal Relics Act 1975 in 1999. This audit (Sim and Moore, 1999) recommended that although no Aboriginal sites were identified on the TASI database, a site survey of the lease area should be undertaken prior to any further ground-disturbing activity.
In 2000, Becker and Sainty undertook an archaeological survey of parts of the former Renison Bell Ltd site (now owned by Bluestone Mines Tasmania).

GHD (2015) did not identify any Aboriginal sites within the vicinity of the D-Dam Project. It is considered highly unlikely that any sites would exist within the Rentails Project area.

3.10 Describe the tenure of the action area (e.g. freehold, leasehold) relevant to the project area.

Crown land covered by mine lease 12M/1995.

3.11 Describe any existing or any proposed uses relevant to the project area.

The land in question is within a current mining lease.

Section 4 - Measures to avoid or reduce impacts

Provide a description of measures that will be implemented to avoid, reduce, manage or offset any relevant impacts of the action. Include, if appropriate, any relevant reports or technical advice relating to the feasibility and effectiveness of the proposed measures.

Examples of relevant measures to avoid or reduce impacts may include the timing of works, avoidance of important habitat, specific design measures, or adoption of specific work practices.

4.1 Describe the measures you will undertake to avoid or reduce impact from your proposed action.

The following mitigation measures are proposed to minimise potential impact to ecological values of the study area, in particular EPBCA listed fauna species:

Minimise any clearance of native vegetation to the area absolutely necessary for the purposes of the proposed works and flag/fence off the native vegetation surrounding the site to protect these areas from potential impacts associated with the project works;
Avoid the storage of materials and/or machinery in native vegetation. Utilise the existing tracks and cleared areas to minimise impacts on site;
Continued use and enforcement of existing site wash down facilities to minimise spread of weeds and pathogens;
Protect local waterways from runoff during clearance works by employing appropriate sediment control techniques, such as silt fencing; and
To minimise impacts to threatened denning species that may occur on site (Tasmanian devil and spotted-tailed quoll), install one-way gates at all dens recorded on site prior to vegetation clearance to help prevent the dens being occupied when vegetation clearance occurs. One way gates are not to be installed during the breeding season
(when juveniles may be in the dens) and relevant approvals will be sought prior to gate installation.

Any additional mitigation measures to protect general environmental values identified during detailed studies will be outlined in the environmental assessment documentation to be prepared for the State approval process.

4.2 For matters protected by the EPBC Act that may be affected by the proposed action, describe the proposed environmental outcomes to be achieved.

Any den sites identified within the proposed plant footprint will be gated per the above process to enable relocation of threatened species prior to commencement of construction works.

Section 5 – Conclusion on the likelihood of significant impacts

A checkbox tick identifies each of the matters of National Environmental Significance you identified in section 2 of this application as likely to be a significant impact.

Review the matters you have identified below. If a matter ticked below has been incorrectly identified you will need to return to Section 2 to edit.

5.1.1 World Heritage Properties

No

5.1.2 National Heritage Places

No

5.1.3 Wetlands of International Importance (declared Ramsar Wetlands)

No

5.1.4 Listed threatened species or any threatened ecological community

No

5.1.5 Listed migratory species

No

5.1.6 Commonwealth marine environment

No

5.1.7 Protection of the environment from actions involving Commonwealth land

No

5.1.8 Great Barrier Reef Marine Park

No

5.1.9 A water resource, in relation to coal/gas/mining

No

5.1.10 Protection of the environment from nuclear actions

No

5.1.11 Protection of the environment from Commonwealth actions

No

5.1.12 Commonwealth Heritage places overseas

No

5.2 If no significant matters are identified, provide the key reasons why you think the proposed action is not likely to have a significant impact on a matter protected under the EPBC Act and therefore not a controlled action.

Given that the footprint of the proposed plant site has been subject to significant historical disturbance and is adjacent to an operating tailings storage facility, it is considered unlikely that any threatened species habitats will be identified during the investigation phase.

Section 6 – Environmental record of the person proposing to take the action

Provide details of any proceedings under Commonwealth, State or Territory law against the person proposing to take the action that pertain to the protection of the environment or the conservation and sustainable use of natural resources.

6.1 Does the person taking the action have a satisfactory record of responsible environmental management? Please explain in further detail.

Bluestone has operated the Renison mine since 2004. The site has a significant legacy of historic mining, and existing acid mine drainage. Bluestone remains committed to sound environmental management practices and continuous improvement, and as part of ongoing rehabilitation work, is addressing a number of these legacy issues. The company maintains open working relationships with regulatory officers in the state of Tasmania and continues to work towards sustainable operation in an environmentally significant location.

6.2 Provide details of any past or present proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources against either (a) the person proposing to take the action or, (b) if a permit has been applied for in relation to the action – the person making the application.

While the company has been subject to no formal legal proceedings, three Environmental Infringement Notices were served on the company in February 2015 following an investigation into waste rock management at the Renison site. The company implemented appropriate corrective actions to ensure that the immediate issue was addressed and to bolster the robustness of its management systems to ensure that such issues will not occur in the future.

6.3 If it is a corporation undertaking the action will the action be taken in accordance with the corporation's environmental policy and framework?

Yes

6.3.1 If the person taking the action is a corporation, please provide details of the corporation's environmental policy and planning framework.

Copy of BMTJV Environmental Policy is attached for further information.

6.4 Has the person taking the action previously referred an action under the EPBC Act, or been responsible for undertaking an action referred under the EPBC Act?

Yes

6.4.1 EPBC Act No and/or Name of Proposal.

EPBC2012/6448 - Bluestone Mines Tasmania Joint Venture Tailings Storage Facility D Dam

Section 7 – Information sources

You are required to provide the references used in preparing the referral including the reliability of the source.

7.1 List references used in preparing the referral (please provide the reference source reliability and any uncertainties of source).

Reference Source	Reliability	Uncertainties
BMTJV Environmental Management Plan - Renison Operations - November 2016	Covers mining and processing operations as they currently exist	No consideration of proposed Rentails operation when current management plan was drafted
GHD Pty Ltd (2011) Report for Dam D Tailings Storage Facility Botanical Survey and Fauna Habitat Assessment	Good	Area of focus was north of planned Rentails plant site
GR Engineering Services - Rentails Project Detailed Feasibility Study July 2009	Good	Possible new technology is under investigation for some aspects of the proposed plant

Section 8 – Proposed alternatives

You are required to complete this section if you have any feasible alternatives to taking the proposed action (including not taking the action) that were considered but not proposed.

8.1 Select the relevant alternatives related to your proposed action.

8.27 Do you have another alternative?

No

Section 9 – Contacts, signatures and declarations

Where applicable, you must provide the contact details of each of the following entities: Person Proposing the Action; Proposed Designated Proponent and; Person Preparing the Referral. You will also be required to provide signed declarations from each of the identified entities.

9.0 Is the person proposing to take the action an Organisation or an Individual?

Organisation

9.2 Organisation

9.2.1 Job Title

General Manager

9.2.2 First Name

Mark

9.2.3 Last Name

Recklies

9.2.4 E-mail

mark.recklies@bluestonetin.com.au

9.2.5 Postal Address

PO Box 20
Zeehan TAS 7469
Australia

9.2.6 ABN/ACN

ACN

141265974 - Bluestone Mines Tasmania Joint Venture Pty Ltd

9.2.7 Organisation Telephone

0364732732

9.2.8 Organisation E-mail

enquiries@bluestonetin.com.au

9.2.9 I qualify for exemption from fees under section 520(4C)(e)(v) of the EPBC Act because I am:

Not applicable

Small Business Declaration

I have read the Department of the Environment and Energy's guidance in the online form concerning the definition of a small a business entity and confirm that I qualify for a small business exemption.

Signature:..... Date: .....

9.2.9.2 I would like to apply for a waiver of full or partial fees under Schedule 1, 5.21A of the EPBC Regulations

No

9.2.9.3 Under sub regulation 5.21A(5), you must include information about the applicant (if not you) the grounds on which the waiver is sought and the reasons why it should be made

Person proposing the action - Declaration

I, Mark Recklies, declare that to the best of my knowledge the information I have given on, or attached to the EPBC Act Referral is complete, current and correct. I understand that giving false or misleading information is a serious offence. I declare that I am not taking the action on behalf of or for the benefit of any other person or entity.

Signature:..... Date: 5/10/17

I, Mark Recklies, the person proposing the action, consent to the designation of _____ as the proponent of the purposes of the action describe in this EPBC Act Referral.

Signature:..... Date: .....

9.3 Is the Proposed Designated Proponent an Organisation or Individual?

Organisation

9.5 Organisation

9.5.1 Job Title

General Manager

9.5.2 First Name

Mark

9.5.3 Last Name

Recklies

9.5.4 E-mail

mark.recklies@bluestonetin.com.au

9.5.5 Postal Address

PO Box 20
Zeehan TAS 7469
Australia

9.5.6 ABN/ACN

ACN

141265974 - Bluestone Mines Tasmania Joint Venture Pty Ltd

9.5.7 Organisation Telephone

0364732732

9.5.8 Organisation E-mail

enquiries@bluestonetin.com.au

Proposed designated proponent - Declaration

I, M. Recklies MARK RECKLIES, the proposed designated proponent, consent to the designation of myself as the proponent for the purposes of the action described in this EPBC Act Referral.

Signature:..... Date: 29/9/17

9.6 Is the Referring Party an Organisation or Individual?

Organisation

9.8 Organisation

9.8.1 Job Title

HSE Manager

9.8.2 First Name

Darren

9.8.3 Last Name

French

9.8.4 E-mail

darren.french@bluestonetin.com.au

9.8.5 Postal Address

PO Box 20
Zeehan TAS 7469
Australia

9.8.6 ABN/ACN

ACN

141265974 - Bluestone Mines Tasmania Joint Venture Pty Ltd

9.8.7 Organisation Telephone

0364732732

9.8.8 Organisation E-mail

enquiries@bluestonetin.com.au

Referring Party - Declaration

I, DARREN FRENCH, I declare that to the best of my knowledge the information I have given on, or attached to this EPBC Act Referral is complete, current and correct. I understand that giving false or misleading information is a serious offence.

Signature:..... Date: 29/9/2017

Appendix A - Attachments

The following attachments have been supplied with this EPBC Act Referral:

1. environmental_policy_final.pdf
2. overall_site_plan.pdf
3. plant_location_map.pdf
4. plant_site_detail.pdf