Title of Proposal - Hellyer Mine - Tailings Storage Facility (TSF2)

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.

Hellyer Gold Mines Pty Ltd (HGM) is proposing to construct a new Tailings Storage Facility (TSF), to be called TSF 2 at its mining lease CML 103/87 in north west Tasmania.

TSF 2 will be constructed approximately 550 m downstream of the existing main Hellyer TSF dam wall.

It is proposed that TSF 2 will be constructed in two stages:
1. A starter dam will be constructed to RL 638 m to accommodate approximately 2 M t, i.e. 4 years' production of process residue tailings (PRT).
2. Downstream construction will then be used to raise the dam wall to an ultimate height of RL 646 m to contain a further 5 M t of tailings.

The final height of the new dam wall will be just below the current crest of the existing main Hellyer dam, which is RL 650 m. The downstream toe of the ultimate dam will be constrained on the western abutment by an existing power transmission line running in a north–south alignment.

The TSF 2 dam wall, borrow pits , access tracks and inundation area when combined will cover 46.5 ha. The construction of TSF 2 will result in the permanent loss of 39ha of native vegetation. Construction and operation of TSF 2 will allow the Hellyer mine to operate for an additional 9 - 10 years (from March 2018 until at least August 2027).
HGM has self-assessed the downstream impacts resulting from the operation of TSF 2 and has concluded that it will have not a significant impact on matters of national environmental significance. A summary of the rationale for this conclusion is provided in MNES Downstream Impact Assessment (Attachment 2.14_2).

The operation of the Hellyer mine until 2027 will allow for the remediation of existing environmental issues, principally relating to the production of acid and metalliferous drainage (AMD) and resulting adverse surface water impacts downstream of the site. These issues were inherited by NQ Minerals Plc (NQM) when they purchased the HGM (and the operation) in May 2017.

If TSF 2 is not approved, the current tailings retreatment operation would only be possible until

the end of 2019. The operation could close earlier than this given that significant capital is scheduled to be spent in the next six months to refurbish the existing mineral processing infrastructure and commence environmental remediation works. This would result in the loss of jobs and economic opportunities and preclude effective long-term environmental remediation of the site.

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
Proposed TSF	1	-41.573028037179	145.70300325405
Proposed TSF	2	-41.573011984466	145.70293888103
Proposed TSF	3	-41.573172511415	145.70502027523
Proposed TSF	4	-41.573172511415	145.70639356624
Proposed TSF	5	-41.573108300683	145.70693000805
Proposed TSF	6	-41.572979879028	145.70789560329
Proposed TSF	7	-41.573718300059	145.70838912975
Proposed TSF	8	-41.573798562706	145.70778831493
Proposed TSF	9	-41.573734352597	145.70643648159
Proposed TSF	10	-41.57408750741	145.70600732815
Proposed TSF	11	-41.574761706691	145.70611461651
Proposed TSF	12	-41.575179064624	145.70647939693
Proposed TSF	13	-41.575484055254	145.70813163769
Proposed TSF	14	-41.575451951045	145.70956930172
Proposed TSF	15	-41.575484055254	145.70976242077
Proposed TSF	16	-41.576591640694	145.71047052395
Proposed TSF	17	-41.577041090238	145.71079238903
Proposed TSF	18	-41.578758600753	145.71010574352
Proposed TSF	19	-41.578903062171	145.70980533611
Proposed TSF	20	-41.579175932858	145.70937618267
Proposed TSF	21	-41.579513006821	145.70916160595
Proposed TSF	22	-41.580187149469	145.70834621441
Proposed TSF	23	-41.580138996656	145.70757373821
Proposed TSF	24	-41.579994538002	145.70675834667
Proposed TSF	25	-41.579962436035	145.7059644128
Proposed TSF	26	-41.580090843807	145.70469841015
Proposed TSF	27	-41.579978487021	145.70311054241
Proposed TSF	28	-41.579705619725	145.70199474346
Proposed TSF	29	-41.579416700154	145.70143684398
Proposed TSF	30	-41.578694395574	145.70070728313
Proposed TSF	31	-41.578389420103	145.70062145244
Proposed TSF	32	-41.578309163161	145.70002063762
Proposed TSF	33	-41.578116546093	145.69946273815
Proposed TSF	34	-41.577795516369	145.69905504238

Area	Point	Latitude	Longitude
Proposed TSF	35	-41.577330020436	145.69826110851
Proposed TSF	36	-41.576704003373	145.6974242593
Proposed TSF	37	-41.575789044444	145.69712385189
Proposed TSF	38	-41.57498643822	145.69708093654
Proposed TSF	39	-41.574360398443	145.69708093654
Proposed TSF	40	-41.574023297587	145.69723114025
Proposed TSF	41	-41.573541721885	145.69729551327
Proposed TSF	42	-41.572995931749	145.69729551327
Proposed TSF	43	-41.572241449555	145.69720968258
Proposed TSF	44	-41.571583277041	145.69708093654
Proposed TSF	45	-41.570844831603	145.69708093654
Proposed TSF	46	-41.570764565286	145.69768175136
Proposed TSF	47	-41.571101683147	145.69914087307
Proposed TSF	48	-41.57140669303	145.69961294185
Proposed TSF	49	-41.572080920292	145.70066436779
Proposed TSF	50	-41.572498295547	145.701501217
Proposed TSF	51	-41.573028037179	145.70300325405

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 Hellyer Mine, which includes the main TSF, proposed TSF 2, the mineral processing mills and concentrator, and associated infrastructure, plant and equipment are located on CML 103/87. The principle mining infrastructure is approximately 4 km south of the Cradle Mountain Link Road and 4 km from the junction of the Murchison Highway and Cradle Mountain Link Road. TSF 2 is adjacent to previous underground and related surface mine workings of the Hellyer Mine.

The nearest township to Hellyer is Waratah approximately 21 kilometres to the north-west. Hellyer is approximately about 80 kilometres south of Burnie in North West Tasmania. This is within the northwest corner of the Tasmanian Central Highlands Bioregion[1], close to the Tasmanian Western Bioregion.

The Hellyer mill and tailings storages are located on the edge of the Que River plateau, approximately 700 m above sea level, with the Southwell River valley a short distance to the east.

[1] IBRA 7; Peters & Thackway 1998

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

46.5 ha

1.7 Is the proposed action a street address or lot?

Lot

1.7.2 Describe the lot number and title.CML 103/87 Property Address MURCHISON HWY GUILDFORD TAS 7321 Property ID 3391086 Authority Forestry

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?

Yes

1.10.1.0 Council contact officer details

1.10.1.1 Name of relevant council contact officer.

Barry Magnus, Waratah-Wynyard Council

1.10.1.2 E-mail

bmagnus@warwyn.tas.gov.au

1.10.1.3 Telephone Number

03) 6443 8333.

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

Start date 10/2018

End date 07/2019

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

The planning and design phase for the proposal included extensive consideration of natural values requirements in regard to the mechanisms of the State and local legislative framework.

HGM holds a Consolidated Mining Lease CML103M/87 (Attachment 1.14.1_1) over the area which in turn holds the environmental licences Permit Conditions Environmental (PCE) 7386 (tailings mining and reprocessing) and PCE 7759 (Fossey underground mine) (Attachments 1.14.1_2&3). These were issued by the Tasmanian Environmental Protection Authority on 10 October 2006 and 13 January 2010 respectively under the *Environmental Management and Pollution Control Act 1994* following land use approvals for mining activities on the lease. HGM plans to continue tailings reprocessing as authorised by PCE 7386 and to use TSF 2 to extend the operational life until 2027.

The project will be assessed and approved under the *Land Use Planning and Approvals Act 1993* (LUPAA) and the *Environmental Management and Pollution Control Act 1994 (*EMPCA*)*. The TSF 2 will be a Level 2 activity under EMPCA. The Board of the Environment Protection Authority undertakes the environmental assessment of proposed level 2 activities under EMPCA. The Board typically requires the proponent to submit a satisfactory Development Proposal and Environmental Management Plan (DPEMP) in relation to each proposal.

The Tasmanian *Threatened Species Protection Act 1995* and the Tasmanian *Nature Conservation Act* provide for the protection and management of threatened native flora and fauna and promote the conservation of priority natural values. Under the State acts, the crown can issue a 'permit to take' a threatened species or the product of a threatened species (e.g. a nest site) for the planned activity, with mitigation and offset requirements determined by the nature of the proposed impact. Similarly, the local acts include thresholds of acceptable disturbance of priority values and requirements for offsetting of unavoidable residual impacts. The purpose of the individual acts and their relationship to the protection of matters listed on the EPBC Act is expanded upon below. The EPBC Act assessment is the only Commonwealth approval that is required for the project. An agreement exists between the Commonwealth of Australia and the State of Tasmania under Section 45 of the EPBC Act 1999 relating to environmental impact assessment. The agreement provides accreditation for the Tasmanian environmental impact assessment processes in the EPBC Act 1999. Under this agreement the proponent can choose whether to seek approval under the bi-lateral agreement or to seek separate approvals from the Tasmanian Government and the Commonwealth Government.

Threatened Species Protection Act 1995 (TSPA)

Includes the assessment of impacts on State-listed threatened flora and fauna. Covers dual listed species under the EPBCA and thus protects some MNES and includes mechanisms for preventing significant impacts to threatened flora and fauna. Permits to 'take' (impact) are issued if impacts are assessed as acceptable or capable of being offset, with the assessment made in the context of local populations and the likelihood of population persistence.

Nature Conservation Act 2002 (NCA)

Protects native species including MNES. Provides protection for products of wildlife such as nests and dens. A permit to impact a product of wildlife requires assessment on the extent of impacts in relation to local population viability and overall status. It also provides a mechanism to secure the conservation of threatened vegetation communities if required under a permit through TSPA, LUPAA or Planning schemes.

Land Use Planning and Approvals Act 1993 (LUPAA)

Ensures that development activities are in accordance with set guidelines and are in the public interest. Includes requirements to protect and maintain environmental values, which can include MNES in the form of threatened species, ecological communities and heritage values.

Local government planning schemes

Ensure that priority natural values are protected within areas nominated for biodiversity protection. MNES receive high priority ratings under these acts. Assessments and subsequent planning permit conditions ensure that proposals mitigate and offset impacts to MNES.

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

HGM has engaged Caloundra Environmental to undertake stakeholder consultation for this project. Consultation with key government departments has commenced, including:

EPA Mining Unit, EPA Assessment Unit, Waratah–Wynyard Council, Mineral Resources Tasmania, Braddon Members of State Parliament.

Other key stakeholders include Sustainable Timber Tasmania, the Tasmanian Minerals and Energy Council, the Office of the Coordinator-General, and TasRail.

Discussions on the project will be held with key stakeholders and site visits will be encouraged.

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.

Acid and Metalliferous Drainage (AMD)

Analyses are being undertaken to provide acid base accounting for the PRT which will be produced and be stored in the TSF 2 to assess the acid generating behaviour of the PRT when stored under sub aqueous conditions. These will be augmented with similar testwork on deeper tailings samples from the main TSF, western arm tailings samples and shale quarry tailings samples to develop operational and closure management plans for the TSF 2 in relation to AMD.

AMD assessments being undertaken on existing tailings will inform the necessity for closure covers over remnant tailings in the base of the current TSF once the current internal dam walls have been removed and after tailings have been dredged, reprocessed and hydraulically flushed to the base of the TSF, where some quantities, however minimal, will inevitably remain.

The geochemical studies will also inform both tailings management and water management plans.

Surface Water Quality

Aquatic Science have been engaged to evaluate the surface water impacts of operating and eventually closing TSF 2 and develop a water management plan in conjunction with the tailings and AMD management plans for the operation of TSF 2. The quality of water in the wetlands below the main TSF and in seeps emanating from the main TSF dam wall will be evaluated especially in relation to the presence of ferrous iron and its potential to oxidise at low pH in the absence of oxygen. The impact of depositing PRT in TSF 2 will be evaluated as will the return of TSF 2 supernatant water to the mineral processing mills.

Groundwater Quality

GHD will investigate groundwater in the vicinity of TSF 2 and develop a conceptual groundwater model in relation to the operation of TSF 2. This will build on studies undertaken by Golder in 1999 and 2006 to evaluate groundwater for the development of the Fossey and Hellyer underground mines on the lease. Seepage and potential links between the main TSF and TSF 2 will be evaluated. Downstream bores will be constructed to provide ongoing groundwater monitoring after construction of TSF 2.

Tailings Management

GHD have been engaged to provide a tailings management plan for TSF 2. This will link with surface water and AMD investigations and will describe the to be constructed capacity and geotechnical structural stability of TSF 2. TSF 2 will be designed and constructed to meet Australian National Committee on Large Dams (ANCOLD) 2012 *Guidelines on tailings dams* standards. Approval will be obtained for the dam under the Tasmanian *Water Management (Safety of Dams) Regulations 2015.*

Flora and Fauna

North Barker Ecosystem Services have undertaken Natural Values Assessment (Attachment 3.1.1) of a study area of 230 ha incorporating the entire footprint of proposed works with substantial buffers.

Field work for the current assessment was undertaken on foot by two ecologists between the 18th and 20th of July 2017.

A survey route was designed to capture the full range of habitat features and vegetation types determined from the existing TASVEG 3.0 mapping and aerial photography.

Full natural values assessments were made for each vegetation community encountered, involving detailed flora inventory, vegetation community classification, and fauna habitat assessment (including direct or indirect indicators of presence, *i.e.* sightings, scats, tracks, dens, *etc*.).

Natal dens of both spotted-tailed quolls and Tasmanian devils are usually well hidden and difficult to find without radio tracking animals (especially so in rainforest/wet sclerophyll forest and scrub environs, such as those found within the study area). In order to gather a picture of current activity within the area, den habitat assessment via understorey inspection and scat surveys were undertaken. Suitable den habitats were inspected where encountered. This included searching old trunks for fresh scats, evidence of inactivity (cobwebs), tracks and suitability for dens (e.g. dry/wet/sunny aspect). Due to the dense vegetation in some areas, visibility was difficult, therefore animal trails and old tracks were focused on. Evidence of tracks, where encountered, were recorded and photographed. Both spotted-tail quoll and Tasmanian devil are known to prefer using tracks/roads and this is where their scats are generally recorded.

Two representative carnivore scats were collected from the site for detailed analysis.

Observations of elements that would later be mapped, including threatened species (Tasmanian *Threatened Species Protection Act 1995* [TSPA] and/or the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* [EPBCA]) and their habitats, environmental weeds, plant pathogens (notably *Phytophthora cinnamomi - PC*) were recorded with a handheld GPS.

Two motion response cameras were set to capture wildlife along fauna tracks. This information can be used to corroborate scat identifications.

Forest identified on the wedge-tailed eagle nesting habitat model (Forest Practices Authority, 2014). with score of 6 or above within 1 km of the study area was assessed for potential suitability. This information is used to determine the need for conducting aerial nest searches.

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

Yes

1.15.1 Provide information about the larger action and details of any interdependency between the stages/components and the larger action.

The construction of TSF 2 is part of a tailings mining and reprocessing operation which commenced on site in 2007.The mining and processing of tailings currently stored in the main TSF and its eastern and western arm impoundments is authorised by existing Environmental Licences PCE 7386 and PCE 7759. The operation can run until at least May 2019 by depositing PRT into the finger pond in the existing main TSF, however unless the TSF 2 is approved, the operation is likely to close early due to impending capital expenditure on refurbishing segments of the mineral processing operation.

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

No

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
All MNES identified in the EPBC Act Protected	For justification refer to: MNES Significant

Species	Impact
Matters Report are considered here in the order presented in the report. (see Attachment 3.1.1_2 App A)	Impact Assessment - Attachment 2.14_1 Natural Values Assessment report - Attachment 3.1.1_1&2 (this includes EPBC Act Protected Matters Report (App A)and Natural values Atlas Report (App B) Downstream Impacts Assessment - Attachment 2.14_2
Threatened Ecological Community Alpine Sphagnum Bogs and Associated Fens	None. Not present. Site is on the edge of the range where the Listing Advice indicates the community “may occur” above 650m (site is 650-680m). Three very small sites support either sphagnum moss or pools or both. Natural values Assessment determines they do not qualify being too small or not supporting sufficient attributes.
Aquila audax-fleayi Tasmanian Wedge-tailed eagle endangered	None. No likelihood of breeding disturbance by action. Requires large eucalypt trees in sheltered locations for nesting, and highly sensitive to disturbance during the breeding season. There may be a risk of disturbance to nesting if activity within 1km line of site or 500m from nest (Recovery Plan pg 28 – Threatened Species Section 2006).
Botaurus poiciloptilus Australasian Bittern endangered	None. No likelihood of occurrence – no habitat on site. A resident of densely vegetated freshwater wetland habitats. In Tasmania the species is “confined to the coastal regions of the northeast” (SPRAT profile DEE). There are no observation records from the vicinity of the study area, no habitat on the property. Site not considered to occur within range boundary. (NBES 2017 Appendix B pg 67) - Attachment 3.1.1_2
Calidris ferruginea Curlew sandpiper Critically endangered	None. No likelihood of occurrence – no habitat on site. Shorebird, non breeding migrant that rarely strays inland in Tasmania, typically associated with tidal mudflats, occasionally non tidal swamps and lagoons. No records within 5km and site not considered to occur within range boundary. (NBES 2017 Appendix B pg 67) - Attachment 3.1.1_2
Ceyx azurea diemenensis Tasmanian azure kingfisher endangered	None. No likelihood of occurrence – no breeding habitat on site. Risk of adverse downstream impact low. Occurs along the forested margins of major river systems. It usually occurs in shady and often overhanging vegetation of riverine forests dominated by wet

Species	Impact
	sclerophyll and mixed forest supporting mainly eucalypt species (SPRAT profile DEE). Suitable breeding habitat consists of slow moving water, typical of larger rivers, and banks composed of sediments for nesting in. Habitat exists downstream in lower reaches of Pieman River. Downstream Assessment (Kent & North 2017 – Attachment 2.14_2) concludes the action of low risk and potential to improve water quality. There are no observation records from the vicinity of the study area, no habitat on the property. Site not considered to occur within range boundary. (NBES 2017 Appendix B pg 67) - Attachment 3.1.1_2
Lathamus discolor swift parrot endangered	None. Low likelihood of occurrence, no likelihood of breeding. Summer migrant that breeds predominantly in eastern Tasmania with localised sites in NW Tasmania. Non-breeding birds and/or post-breeding birds disperse throughout Tasmania and are recorded foraging in flowering plants, including E. delegatensis, which is present at this site. These habitat elements are however not considered to be critical to the persistence of the species, nor limited in extent. Critical habitat for these species includes tree hollows for nesting in proximity (< 10 km) to flowering stands of blue gum (E. globulus) and black gum (E. ovata). No records of this species have been recorded within 5 km of the study area on the NVA. The survey area is not considered suitable breeding habitat, but may on occasion be visited by migrating and non-breeding dispersing birds.
Numenius madagascariensisNone eastern curlew Critically endangered	None. No likelihood of occurrence – no habitat on site Shorebird, non breeding migrant that within Australia, has a primarily coastal distribution feeding primarily on mudflats and roosting on sandy spits (Conservation Advice, DEE). There are no observation records from the vicinity of the study area, no habitat on the property. Site not considered to occur within range boundary. (NBES 2017 Appendix B pg 67) - Attachment 3.1.1_2
Pterodroma leucoptera leucoptera Gould’s petrel Endangered	None. No likelihood of occurrence – no habitat on site Breeds on just a few offshore islands, NSW. Non breeding it ranges across the

Species	Impact
	Tasman Sea where it is a true pelagic species (Recovery Plan, Department of Environment and Conservation (NSW) (2006)) There are no observation records from the vicinity of the study area, no habitat on the property. Site not considered to occur within range boundary. (NBES 2017 Appendix B pg 67) - Attachment 3.1.1_2
Tyto novaehollandiae castanops Tasmanian masked owl Vulnerable	None. Site not within range of Important Population. Preferred habitat is lowland dry forest and woodland, with nesting occurring in old growth eucalypts with large main stem hollows. The study area is within the core range for this species which is dry forest with mature trees, particularly that below 600 m. Significant habitat is limited to large eucalypts within dry eucalypt forest in the core range (Forest Practices Authority 2017). The wet vegetation types within the study area are considered to be sub-optimal habitat, despite mature large hollow bearing trees being present. No known nest sites or observation records occur within 5 km of the study area.
Galaxiella pusilla Dwarf galaxias vulnerable	None. No likelihood of occurrence – no habitat on site or downstream. Site not within range of Important Population. In Tasmania, it is restricted to lowland areas in the far northwest and far northeast of the State, as well as on Flinders Island. Distribution of populations is generally disjunct and patchy, due to the nature of its lowland, shallow, swampy habitat. Habitat is slow flowing and still, shallow, permanent and temporary freshwater habitats such as swamps, drains and the backwaters of streams and creeks, often (but not always) containing dense aquatic macrophytes and emergent plants. Study area is beyond the potential range of this species, with the nearest known records over 100 km away. Downstream Impact Assessment (Kent & North 2017 – Attachment 2.14_2, concludes the action is of no risk. There are no observation records from the vicinity of the study area, no habitat on the property. Site not considered to occur within range boundary. (NBES 2017 Appendix B pg 67) - Attachment 3.1.1_2

Species	Impact
Prototroctes maraena Australian grayling Vulnerable	None. No likelihood of occurrence – no habitat on site or downstream. Site not within range of Important Population. Inhabits the middle and lower reaches of rivers and streams that open to the sea. There are no creeks of any size on site. The fast-flowing constructed perimeter drains are considered unlikely to provide habitat. These all flow into the Pieman River dam and so are isolated from the sea. Downstream Impact Assessment (Kent & North 2017 – Attachment 2.14_2, concludes the action is of no risk. There are no observation records from the vicinity of the study area, no habitat on the property. Site not considered to occur within range boundary. (NBES 2017 Appendix B pg 67) - Attachment 3.1.1_2
Oreixenica ptunarra ptunarra brown butterfly Endangered	None. No suitable habitat occurs within the study area. No likelihood of occurrence – no habitat on site or downstream. Is found in highland tussock grassland habitats dominated by Poa spp. and where trees are absent or form a very open woodland. Nearest records are around 3.5 km away around Romney Marsh and Murrays Plain. There are 3 observation records from the vicinity of the study area. (NBES 2017 Appendix B pg 67) - Attachment 3.1.1_2
Dasyurus maculatus spotted-tail quoll (Tasmanian population) vulnerable	Possible. Site not within range of Important Population. Deemed not Significant. Refer Significant Impact Assessment Table 2 Attachment 2.14_1 A “forest dependent species that occupies a large range of habitats. The species habitat is characterized by high annual rainfall and predictable rain patterns” (SPRAT, DEE). It forages and hunts on farmland and pasture, travelling up to 20 km at night, and shelters in logs, rocks or thick vegetation. Important Populations have been identified. (SPRAT). 3 records within 5km. (NBES 2017 Appendix B pg 67) - Attachment 3.1.1_2 and evidence of scats recorded during survey. The study area is highly likely to be within the home range of resident spotted-tailed quolls; however, the location is outside the core range. Scats were observed in the study area and one confirmed from hair analysis.

Species	Impact
Dasyurus viverrinus eastern quoll endangered	None. Outside core range, unlikely to be impacted. This species was previously widespread in mainland south-eastern Australia, but is now restricted to Tasmania. Records from the Tasmanian Natural Values Atlas indicate that the eastern quoll occurs in most parts of Tasmania, but is recorded infrequently in the wetter western third of the state; the Hellyer site being located around 15 km west of the boundary between relatively high and relatively low density of eastern quoll observations – i.e. is 15 km within the low density third. The species' distribution is positively associated with areas of low rainfall and cold winter minimum temperatures. Within this distribution, it is found in a range of vegetation types including open grassland (including farmland), tussock grassland, grassy woodland, dry eucalypt forest, coastal scrub and alpine heathland, but is typically absent from large tracts of wet eucalypt forest and rainforest. Although this species could occur at low density in the Hellyer area, the habitat on site and the general environmental conditions do not make it highly suitable. Thus, it is considered unlikely that the proposal would have a meaningful impact on the species should it occur in the area. There are no observation records from the vicinity of the study area, no habitat on the property. Site not considered to occur within range boundary. (NBES 2017 Appendix B pg 67) - Attachment 3.1.1_2 This species was previously widespread in mainland south-eastern Australia, but is now restricted to Tasmania. Records from the Tasmanian Natural Values Atlas indicate that the eastern quoll occurs in most parts of Tasmania, but is recorded infrequently in the wetter western third of the state; the Hellyer site being located around 15 km west of the boundary between relatively high and relatively low density of eastern quoll observations – i.e. is 15 km within the low density third. The species' distribution is positively associated with areas of low rainfall and cold winter minimum temperatures. Within

Species	Impact
	this distribution, it is found in a range of vegetation types including open grassland (including farmland), tussock grassland, grassy woodland, dry eucalypt forest, coastal scrub and alpine heathland, but is typically absent from large tracts of wet eucalypt forest and rainforest.
Perameles gunnii Eastern Barred bandicoot Vulnerable	None. Important Population not defined by DEE Outside core range, unlikely to be impacted. Inhabits grassy woodlands, native grasslands, and mosaics of pasture and shrubby ground cover favouring open grassy areas for foraging with thick vegetation cover for shelter and nesting (Cons Advice, DEE) The range does not extend to this area. Nearest confirmed record is 18 km away, with current core populations around the major cities of Launceston and Hobart. There are no observation records from the vicinity of the study area, no habitat on the property. Site not considered to occur within range boundary. (NBES 2017 Appendix B pg 67) - Attachment 3.1.1_2
Sarcophilus harrisii Tasmanian devil endangered	Possible. Deemed not Significant Scale of impact not likely to trigger significant impact guidelines. Refer Significant Impact Assessment Table 2 - Attachment 2.14_1 Inhabits a range of habitat types, with the protection of den sites currently seen as more important than other habitat values. No den sites were observed within the study area. Some parts of the site are not suitable for denning, but others are sub-optimal. The study area is highly likely to be within the home range of resident devils and several carnivore scats and latrine sites were found during surveys. One sampled scat was confirmed from hair analysis. An additional twenty-five records of this species have been reported from within 5 km of the study area according to the Natural Values Atlas.(NBES 2017 Appendix B pg 67) - Attachment 3.1.1_2
Barbarea australis native wintercress endangered	None. No likelihood of occurrence, no known downstream populations. A riparian plant species found near river margins, creek beds and along flood channels. It has not been found

Species	Impact
	on steeper sections of rivers, and tends to favour slower reaches. It occurs in shallow alluvial silt deposited on rock slabs or rocky ledges, or between large cobbles on sites frequently disturbed by fluvial processes. It is endemic to Tasmania, known from about 10 river systems extending from northern Tasmania to rivers flowing south from the Central Highlands. The nearest observation record is 46 km to the north of the study area. Habitat within the study area is deemed unsuitable because the rivers are not large enough or suitably slow flowing. Adult plants are unlikely to be overlooked at any time of the year. No records within 5km of property. (NBES 2017 Appendix B pg 61) - Attachment 3.1.1_2
Colobanthus curtisiae Curtis' colobanth/ grassland cupflower vulnerable	None. Extremely low likelihood of occurrence – limited suitable habitat on site A small perennial herb of grassland to grassy woodland, often found on rocky knolls, and can be found in areas subject to a wide variety of environmental conditions. The species responds to some disturbance. This species flowers from November to February with most herbarium specimens collected from November to January. While flowers are necessary to confirm the identity of the species, it can be detected throughout the year and is unlikely to be overlooked where habitat is suitable, because of the bare ground and open conditions. The site has only small areas of marginally suitable habitat for this species, all of which are more disturbed and more inundation prone than in our experience the species can tolerate. The nearest known record for the species is around 19 km away to the east, on the edge of the Cradle Mountain - Lake St Clair National Park, with this occurrence being an outlier from the main population core a further 85 km away on the eastern Central Plateau. No records within 5km of property. (NBES 2017 Appendix B pg 61) - Attachment 3.1.1_2 Very low likelihood of occurrence.
Eucalyptus gunnii subsp. divaricata Miena cider gum endangered	None. A highly distinctive tree species that has been well studied and thus has a well mapped distribution, with a core population around the

Species	Impact
	eastern Central Plateau. While some of the habitat on site is suitable within the forest ecotones on the edge of poorly drained depressions, the species would not have been overlooked. The nearest known occurrence is around 70 km away, with most occurrences > 80 km distant. No records within 5km of property. (NBES 2017 Appendix B pg 61) - Attachment 3.1.1_2
Glycine latrobeana Clover glycine vulnerable	None. Site not within range of Important Population. Habitat not suitable and no records from vicinity. A species of grassland and grassy woodland. Five 'important populations identified for Tasmania (SPRAT DEE), the nearest at Remarkable Rock more than 90 km to the southeast. In Tasmania, it occurs in dry sclerophyll forest, native grassland and woodland, usually on flat sites with loose, sandy soil. It can be identified from leaves all year round. No suitable habitat occurs within the study area and the nearest known record is around 18 km north at Rabbit Plain. No records within 5km of property. (NBES 2017 Appendix B pg 61) - Attachment 3.1.1_2
Leucochrysum albicans var. tricolor grassland paper daisy endangered	None. No likelihood of occurrence, no suitable habitat. In Tasmania, Leucochrysum albicans var. tricolor occurs in the west and on the Central Plateau and the Midlands, mostly on basalt soils. This species would have originally occupied Eucalyptus pauciflora (cabbage gum) woodland and tussock grassland, though most of this habitat is now converted to improved pasture or cropland and some occurrences are in relatively modified habitat. No suitable habitat occurs within the study area and the nearest known record is around 10 km northwest at Mt Pearse, with the nearest major population around 18 km east at Daisy Hill on the Vale of Belvoir. No records within 5km of property. (NBES 2017 Appendix B pg 61) - Attachment 3.1.1_2
Prasophyllum crebriflorum crowded leek orchid endangered	None. No likelihood of occurrence. No suitable habitat. This species has a disjunct distribution, with a northwest population centred around the Surrey Hills, north of Hellyer Mine, where it has been recorded from several grassland plains.

Species	Impact
	The second population assemblage is in the eastern Central Plateau area, although there is some contention that all the records from that area may be misattributions of the more widespread and non-threatened P. sphacelatum. Nonetheless, it is the north-western population that is closest to the Hellyer Mine site, with records from this population known from within 5 km of the proposed TSF (Appendix B). In north-western Tasmania, Prasophyllum crebriflorum occurs in montane tussock grassland dominated by Poa labillardierei, with scattered patches of the woody shrub Hakea microcarpa. Purported observations from the Central Plateau are from basalt outcrops with highland native grassland dominated by Poa gunnii, and grassy woodland with a sparse canopy of Eucalyptus gunnii. The Hellyer Mine lease area does not support any grassland or grassy woodland habitat, with non-forest patches being dominated by buttongrass or other non-suitable habitat. The vegetation within the Hellyer mine TSF is thus unsuitable for this species. One record within 5km of property. (NBES 2017 Appendix B pg 61) - Attachment 3.1.1_2
Calidris acuminata sharp-tailed sandpiper Migratory Species	None. No likelihood of occurrence – no habitat on site. All shorebird waders and non breeding migrant that within Australia, have a primarily coastal distribution
Calidris ferruginea curlew sandpiper Migratory Species	None. No likelihood of occurrence – no habitat on site. All shorebird waders and non breeding migrant that within Australia, have a primarily coastal distribution
Calidris melanotos pectoral sandpiper Migratory Species	None. No likelihood of occurrence – no habitat on site All shorebird waders and non breeding migrant that within Australia, have a primarily coastal distribution
Numenius madagascariensis eastern curlew Migratory Species	None No likelihood of occurrence – no habitat on site. All shorebird waders and non breeding migrant that within Australia, have a primarily coastal distribution
Apus pacificus fork-tailed swift Migratory Species	None. There are no significant threats to the species in Australia and it is unlikely to be impacted by terrestrial habitat changes. Most Tasmanian records of the fork-tailed swift are

Species	Impact
	from Bass Strait islands, with fewer on mainland northern Tasmania and very few in the south. It has a ppredominantly coastal distribution in Tasmania. The species is almost exclusively aerial, flying from less than 1 m to at least 300 m above ground. Because of this behaviour, and the fact that it is a non-breeding visitor to Australia, there are no significant threats to the species in Australia and it is unlikely to be impacted by terrestrial habitat changes. No records of this species have been recorded on the NVA within 5km of the study area.
Hirundapus caudacutus white-throated needletail Migratory Species	None. No conceivable impact to birds flying across area. This species occurs throughout Tasmania for a brief period at the southern-most point of its annual migration during the non-breeding season, with most records between February and March. It is an entirely aerial species during this time and thus is unlikely to be impacted by terrestrial habitat alteration. It could fly over the site occasionally, however, no impact is anticipated if this occurs. No records of this species have been recorded on the NVA within 5 km of the study area. NBES 2017 Appendix B pg 63) - Attachment 3.1.1_2
Myiagra cyanoleuca satin flycatcher Migratory Species	None. Very unlikely chance of occurrence. Suitable wet forest habitat occurs along creeks and rivers; however, it is only a very occasional visitor to western Tasmania. Unlikely to occur in study area. No records of this species have been recorded within 5 km of the study area. NBES 2017 Appendix B pg 63) - Attachment 3.1.1_2
Gallinago hardwickii Latham’s snipe Migratory Species	None. Unlikely chance of occurrence, if disturbed individual bird can relocate. Potential habitat loss is insignificant in the context of the extent of habitat in the area This is a non-breeding migrant to southern Australia and Tasmania. It occupies a variety of habitats, including swamps, wet grasslands and freshwater or brackish wetlands, and is widespread across the State. Limited suitable habitat occurs within the study area. No records of this species have been recorded within 5 km

Species	Impact
	of the study area. NBES 2017 Appendix B pg 63) - Attachment 3.1.1_2
Haliaeetus leucogaster white-bellied sea-eagle Migratory Species	None No foraging habitat. No likelihood for nesting. This species nests and forages mainly near the coast, but will also live near large rivers and inland lakes or dams, often moving on a seasonal basis. Lake Mackintosh, approximately 10 km to the south of the study area is potential habitat for this species. No records of this species have been recorded within 5 km of the study area. NBES 2017 Appendix B pg 63) - Attachment 3.1.1_2 The existing tailings dam does not support any fish prey. The absence of other large fresh water bodies within the vicinity of study area means that it is considered very unlikely to be used for foraging or breeding.

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.

Refer Natural Values Assessment, NBES 2017 (Attachment 3.11_1-3)

Fauna within proposal area and surrounds

The study area contains a range of fauna habitats including rainforest, eucalypt forest, buttongrass moorland, bogs, wetlands and scrub. The diversity of habitats, as well as their complex structure, provides suitable habitat for a range of bush birds and mammals.

The presence of eucalypt trees of up to 45 m suggests there is likely to be nesting and roosting habitat for a range of arboreal fauna, including those that utilise hollows. Evidence of hollows is apparent in the canopy tree species.

Rainforest areas containing logs and hollowed bases in mature myrtle are potential habitat for mammals, particularly quolls and devils. Deep litter is prevalent on the ground, which is favourable for invertebrates. Burrowing crayfish soil chimneys (either *Engaeus* spp. or *Parastacoides* spp.) are relatively common in the lower-lying, wet areas. This group has undergone taxonomic revision and several threatened species are known from different parts of Tasmania, although none are listed from the northwest region.

Evidence of two threatened fauna species were recorded from the proposed impact area during the ecological assessment. Scats were confirmed of the tasmanian devil and the spotted tail quoll.

No other treatened species or migratory species are considered likely to use the proposal area although it contains elements of suitable habitat and/or is within the potential range of some other threatened or migratory fauna species.

Flora within proposal area

102 species of native vascular plants were recorded during the ecological assessment. Twenty-six of these species are endemic to Tasmania. The surveyed vascular plants did not include any species listed under the schedules of either the TPSA or EPBCA.

An additional 13 species were recorded in 2006 in a survey conducted of adjoing land, the subject of a previous dam propsal. This included three species of summer flowering orchids, all of which could potentially occur within the newly proposed TSF footprint. However, none of these are listed as threatened.

The proposal however is not considered likely to impact any habitat elements utilised by threatened species, either because the only potential habitat present is very marginal and has no evidence of supporting the species (and in some cases in on the edge of the potential ecological range of the species), or because potential habitat is absent despite the site being within the potential range of the species.

No State or Commonwealth listed threatened plant species are considered likely to occur or to have suitable habitat in the footprint of the Hellyer Mine TSF or the balance of the survey area.

The latest version of the site HGM EMP approved by the Tasmanian EPA on 17 October 2017 provides detail on existing management plans that are designed to raise awareness of MNES species and require mitigation measures to reduce impact on MNES species. Section 6.2.5 provides mitigation measures designed to improve surface water quality which could improve downstream habitat for the Azure Kingfisher an Australian Grayling and Galaxiella pusilla. Section 6.5.2.3 describes avoidance and mitigation measures to protect biodiversity and natural values on the lease; Section 6.5.3 describes protocols to reduce impacts on MNES species by requiring the implementation of measures to minimise habitat loss, reduce roadkill, manage site interactions with devils and quolls and require pre-clearance surveys for vegetation clearance where vegetation areas greater than 1 ha need clearing, such as for track construction.

It is envisaged that these management measures will be expanded to incorporate all aspects of the TSF 2 construction. For vegetation clearance to construct TSF 2 the 1 Ha limit will be removed and pre-clearance surveys of areas and all listed mitigation measures will apply.

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

Refer Notice of Intent, Caloundra Environmental 2017 (Attachment 1.14.1_6).

The TSF 2 will be in the headwaters of the Que river system. The regional drainage pattern, including catchment boundaries and flow gauging stations, is shown in attachment s.2.

The Que River flows from the mining lease in a south-westerly direction where it joins the Huskisson River before flowing into the Pieman River.

Que River Catchment (refer Attachment 3.2.1_1)

This catchment contains the Hellyer concentrator site, existing main TSF, access roads and the closed Que River mine to the south.

The tributaries of the Que River dissect the Que River plateau, and flow in a generally south-westerly direction. Some areas of the Que River catchment have been substantially disturbed. To the west and north of the catchment are the Murchison Highway and the Cradle Mountain Link Road. To the north of the Cradle Mountain Link Road are eucalypt plantations on freehold land. Major TasNetworks high voltage transmission line corridors trisect the area. In the east, the native forests have been logged. The southern portion contains the Que River Mine.

TSF 2 will be contained entirely within the Que River catchment.

Que River flows have been monitored at the Murchison Highway. Flow data from the Hydro Tasmania gauging station are summarised below.

Que River flow data

Location: Que River at Murchison Highway

Year span: 1987–1998

Average monthly peak flows (m3/s): 3.20

Average monthly flow (m3/s): 1.07

Location: Que below Bulgobac Creek

Year span: 1987–1995

Average monthly peak flows (m3/s): 22.56

Average monthly flow (m3/s): 6.03

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

Refer Attachment 3.2.1_2 for geology map

The geology of the site is encompassed within the West Coast mineral belt and is dominated by Cambrian sediments. The soils are mostly well drained, comprising silt, sand and gravels, although there are localised areas subject to impeded drainage and with peat development.

The footprint of the TSF 2 includes the following geology:

Cambrian age “Pyritic shale, mudstone, siltstone, sandstone” – Cdsqr - predominant

Cambrian age "Amygdaloidal basalt lava, pillow lava and breccia” – Cdbqh

Cambrian age “dolerite” - Cddm

The lower fertility soils (associated with the Cdsqr) support buttongrass and eucalypt forest. The more fertile soils derived from basalt (Cdbqh) or dolerite (Cddm) support rainforest with or without emergent *Eucalyptus delegatensis.*

According to provisional mapping presented on the Tasmanian Natural Values Atlas (Appendix B in Natural Valaues Assessment - Attachment xx), there is nil likelihood of the proposal area containing potential acid sulphate soils (PASS). There is a low probability chance (6-70%) of acid sulphate soils occurring 800 m to the west of the site.

Vegetation

The vegetation on site has a history of disturbance from previous mining activities and other infrastructure works.

Our field results suggest that although basic elements and vegetation boundaries are consistent with that represented in TASVEG v3.0 mapping, community classification requires significant amendments.

TASVEG 3 classifies all forest areas on site as supporting rainforest, mostly RMT, with some RMS in the southeast. Although rainforest is prominent on site, large areas of forest are dominated by eucalypts (*E. nitida* and *E. delegatensis*), albeit often, though not always, overtopping a rainforest canopy.

The areas on TASVEG mapped as undifferentiated buttongrass have been classified as ‘pure buttongrass’ (MBP), with a subset having emergent *Eucalyptus nitida* (MBP-En).

Much of the mapped FUM covering cleared areas has been more appropriately classified as FPE (permanent easement) beneath the transmission line, and FRG (regenerating cleared land) within the constructed wetlands.

The survey area that extends well beyond the footprint of the development has been mapped The following list sumarises the extent of each community within the dam footprint:

FRG -Regenerating cleared land - 3.5 ha

FUM-Cleared areas, built infrastructure, bare ground associated with development - 3.7 ha

MBP-Pure buttongrass moorland -1.7 ha

MBP-EN-Pure buttongrass moorland with emergent *E. nitida*-1.0ha

RMS-*Nothofagus - Phyllocladus* rainforest - 4.5 ha

RMT-*Nothofagus - Atherosperma* rainforest - 7.7 ha

SLL-*Leptospermum lanigerum* scrub -0.3 ha

WDR-*Eucalyptus delegatensis* forest over rainforest - 20.6 ha

WNL-*Eucalyptus nitida* forest over *Leptospermum* - 0.3 ha

WNR-*Eucalyptus nitida* forest over rainforest - 3.2ha

None of the communities observed on site correspond to communities listed as threatened under the Tasmanian *Nature Conservation Act 2002* (NCA) or the EPBCA.

Refer Natural Values Assessment (Attachment 3.1.1_1)

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

According to provisional mapping presented on the Tasmanian Natural Values Atlas the western side of the TSF 2 dam footprint includes a small patch of Western Tasmania Blanket Bog described as being of global geoconservation significance as “the most extensive organosol

terrain in Australia and the southern Hemisphere". This mapping is largely derived from TASVEG mapping of Buttongrass moorland vegetation which is present on the ground.

No other sites of regional, sub-regional, State, national or global geoconservation significance are found within 1000 m of the proposal area.

The proposal area is not within 1000 m of any nature reserves (other than informal reserves to the southwest that protect forest from timber harvesting.

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

None of the vegetation communities recorded on site are listed as threatened on Schedule 3A of the Tasmanian Nature Conservation Act 2002 (NCA). Neither does TASVEG3 identify any threatened vegetation communities in the vicinity.
The EPBC Protected Matters Report makes reference to the potential for the endangered ecological community Alpine sphagnum bogs and associated fens as being 'known to occur in the area'.
Alpine sphagnum bogs and associated fens ecological community occurs across four states and territories occupying alpine and subalpine environments. In Tasmania, these are most typically above 800 m but as the 'indicative map' indicates the community may occur in Tasmania as low as 600 m (this site is located at 650-680 m asl). Habitat includes waterlogged sites subject to impeded drainage allowing the formation of organic peat soils allowing the development of sphagnum moss. The community includes not only the bogs generally dominated by sphagnum (typically S. cristatum) but the associated fens, shallow open pools with emergent vegetation typically dominated by sedges. The Listing Advice includes a suite of typical vascular plant species associated with these environments that include species of the Restionaceae, buttongrass (Gymnoschoenus sphaerocephalus) plus shrubs, herbs and ferns associated with poorly drained sites at higher elevations in Tasmania. Many of these species do occur in various combinations at the boggy sites within the study area.
Three boggy sites were investigated as part of the natural values assessment (North Barker 2017 Attachment 3.1.1_1) and determined to not qualify as this community

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

The area is essentially a gently sloping valley that descends immediately downstream of the dam wall of the existing TSF from an altitude of 680 m AHD to 650 m AHD.

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

Much of the proposed TSF 2 footprint is vegetated, although significant portions are regrowth.

Previously cleared, naturally revegetated areas include a constructed wetland, which is part of a filtration/ water purification system that is over 100 m wide across the full length of the valley. There are two constructed perimeter drains approximately 2 m deep and 5 m across that run through the proposed TSF 2 footprint. Immediately downstream of the existing dam wall is a transmission line easement.

Vegetation outside the boundaries of the disturbance areas is in good condition. The extensive tracts of native forest are bisected by exploration tracks but the footprint of disturbance of these is localised to the immediate line of clearance.

Only two introduced species were observed within the study area. These are not considered significant and were limited to disturbed areas.

Symptomatic evidence of the cinnamon root rot fungus *Phytophthora cinnamomi* (PC) was observed at one location close to the shore of the existing TSF.

Some parts of the study area are considered to be susceptible to PC both in terms of conducive conditions and vegetation susceptibility. This is particularly the case with vegetation communities that contain heathy vegetation such as from the genera: *Banksia, Epacris, Hakea, Hibbertia, Leptospermum, Melaleuca, Monotoca, Pultenaea, Richea, Sprengelia* and *Xanthorrhoea*. Within the study area, communities containing large amounts of these genera are *Eucalyptus niti*da forest over *Leptospermum* (WNL) and buttongrass moorland (MBP and MBP-En), although the most likely areas the pathogen will take hold are disturbed areas supporting host species.

A significant part of study area supporting wet forest and rainforest contain far fewer susceptible genera and the dense canopy generally keeps soil temperature too low; consequently, they are considered to be much less susceptible to PC.

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

No values of Commonwealth, State or local heritage places have been identified on site or within the vicinity.

The Hellyer Mine is relatively modern in terms of West Coast mines; it had a short life of less than twenty years and had no town site or main highway associated with it. These factors tend to limit the heritage values of the site and as a consequence most old workings were removed during the original rehabilitation process. In terms of mining heritage, the discovery and development of the original project marked the use of techniques that are now commonplace and did not warrant registration on the Tasmanian Heritage Register at the time of the 2000 closure.

Kostoglou (1999) conducted an archaeological survey of the Hellyer Mine in 1999 for Mineral Resources Tasmania. He noted that the concrete adit portal itself is the only feature at this site that was deemed to be of any nominal heritage-related significance.

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

Miedecke (1987) reported that a study of the Hellyer Mine site area was carried out in April and May 1987. This included a literature search. The field study was carried out in May 1987 and involved systematic survey of the then proposed tailings dam site, the concentrator site and the haulage road between the portal and the mill. The survey was carried out over two days with no Aboriginal sites detected.

McCullough Robertson undertook a due diligence on the potential Hellyer acquisition for NQM in March 2017. They requested a desktop assessment of the area of CML 103M/87 to confirm whether any Aboriginal relics have been recorded. Aboriginal Heritage Tasmania (AHT) advised that there are no Aboriginal relics recorded within the project area. Further, AHT, referring to Miedecke's report, advised that an archaeological survey was undertaken at the Hellyer Mine site in 1987, and no relics were identified at that time. As a result, AHT is of the opinion that the area has a low probability of Aboriginal relics being present.

AHT has advised that it has no objection to the project proceeding.

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

HGM owns CML 103M/87 in which the Hellyer Mine operates and in which the proposed TSF 2 will be situated. The proposed TSF 2 sits within the boundary of an area of Permanent Timber

Production Zone Land, hence the underlying land managers are Sustainable Timber Tasmania (formerly Forestry Tasmania). HGM owns the infrastructure and facilities at Hellyer, while Bass Metals Ltd (BSM) owns the Que River Mine lease (68 M/1984) which sits immediately south of the Hellyer mine.

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

The principal existing use of the TSF 2 project area is for water treatment. Within the TSF 2 area, artificial wetlands have been constructed to attempt to settle metals out of solution and a water clarifier was installed by Aberfolye to settle colloidal Pb out of solution. These cover approximately 5 ha. This runs down the centre of the proposed dam inundation area. A further 2.7 ha is covered by other existing disturbance such as tracks, clearing or drainage lines, leaving approximately 39 ha of existing native vegetation that will need to be cleared as a result of the proposed action.

The long term proposed use of TSF 2 is to store PRT under a deep water cover in perpetuity.

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.

Project planning and design

The proponent commissioned a comprehensive natural values assessment to quantify impacts of the project and inform mitigation strategies. The outcomes of the ecological assessment has identified a number of actions to minimise impacts.

Native vegetation loss.

The impacts of vegetation clearance are difficult to mitigate; however, the risk of unnecessary and indirect impacts on vegetation outside the ‘footprint’ of the development will be minimised by clearly defining the extent of clearance required for the project. Any additional , unforseen clerance will be formally assessed.

The works area will be marked and all works, vehicles and materials will be confined to the works area.

Threatened fauna

A devil and quoll management plan has been implemented on site to mitigate the risks of adverse impacts on MNES species and will be expanded to cover the proposed action. Pre-clearance surveys and potential den management protocols will be implemented in line with State Guidelines. These are described in Section 6.5.3 of the EMP (Attachment 1.14.1_4). The latter will be the most important form of mitigation for these species and prevent the disturbance of an active natal den. Additional matters covered in the plan include measures to manage road kill, such as monitoring, collection of carcasses, modifying road surfacing, utilising deterrents, *etc.* In addition "Virtual fences" will be installed at offset 25M intervals along the mine accesss road from the Cradle link road to the site offices. Virtual Fencing is an active electronic

protection system that reduces road kill at night. The Virtual Fencing device is activated by approaching headlights, which causes it to emit sound and light stimuli which alert, repel and prevent animals from entering the road.

Weeds and plant pathogens

A hygiene plan been implemented on the site as part of its environmental management responsibilities. These are described in Section 6.5.2.3.2 Weed hygiene measures of HGM's EMP (Attachment 1.14.1_4).

The spread of myrtle wilt will be mitigated by minimising damage to adjacent myrtle beech trees when felling trees. Felling will be carried out so that trees fall away from the retained trees and are removed from site. Measures that minimise the risk of spread of the native chalara fungus (which causes myrtle wilt) will also be introduced. Vehicle wash down hygiene protocols should be sufficient to reduce this risk.

Data from the flora and fauna surveys will be uploaded into the Tasmanian Natural Values Atlas and can thus be used to inform any future developments or conservation assessments in the area.

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.

Outcome 1: There may be individuals of Tasmanian devil that could have their breeding cycle interrupted by constructionof the TSF2.

Outcome 2: Impacts to Tasmanian devil foraging and breeding will be negligible in terms of overall site location, the quality off the habitat and landscape context.

Outcome 3: There may be individuals of spotted-tail quoll that could have their breeding cycle interrupted by construction of the TSF2.

Outcome 4: Impacts to spotted-tail quoll foraging and breeding will be negligible in terms of overall site location, the quality off the habitat and landscape context.

Outcome 5: There will not be a decline in breeding habitat availability for wedge-tailed eagles.

Outcome 6: There will not be a decline in breeding habitat availability for any other MNES potentially within the area, particularly with regard to critical habitat elements such as nests or dens.

Outcome 7: No other threatened flora or threatened ecological communities will be significantly

impacted by construction of the TSF2.

Outcome 8: There will be no significant detrimental impacts on MNES as a result of the construction or operation of the TSF2.

Outcome 9: The TSF2 will ensure improved managment of acid runoff resulting in improved water quality downstream

Outcome 10: There will be improved biodiversity data sets for the local area as a result of the natural values assessments undertaken.

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.

Refer Attachment 2.14-1 MNES Significant Impact Assessment.

The key reasons why the proposed action is not likely to have a significant impact on MNES are:

1). There are only three MNES which utilise habitat within the proposal area.

2). There is low likelihood of Tasmanian devil maternal dens. The loss of foraging habitat is insignificant in the context of habit availability in the area.

3). There is low likelihood of spotted tailed quoll maternal dens. The loss of foraging habitat is insignificant in the context of habit availability in the area.

4). There is no breeding habitat for Tasmanian wedge-tailed eagle. The loss of vegetation within its extensive territory is insignificant.

5). A devil and quoll management plan can limit the chance of disturbance to a natal dens and minimise the risk of roadkill.

These reasons mean that the proposal will not significantly impact any EPBCA listed species or ecological communities. Overall impacts to EPBCA listed fauna can be limited to minor amounts of potential foraging habitat loss, with no potential significant impacts in relation to breeding activities or population viabilities.

There will be a residual impact with the permanent loss of 39 ha of native vegetation.

Section 5.2 *Assessment Stage* of the EPBC Offsets Policy (Commonwealth of Australia 2012) indicates that residual impact following the implementation of mitigation measures should be assessed to determine whether or not they are still likely to result in a significant impact to MNES. The three MNES identified above are reviewed below in light of the mitigation measures proposed.

Tasmanian devil (Sarcophilus harrisii)

Lead to a long-term decrease in the size of a population.

No. The impact is to relatively minor extent of habitat in an area with low population density. Loss of this amount of habitat within the total habitat of the region is minimal although the species is considered to occupy all of mainland Tasmania. Even where DFTD was first recorded it has not lead to local extinctions.
Reduce the area of occupancy of the species

No. The wide-ranging habit of the species limits opportunity to quantify occupancy (pg 5 Cons Advice) and however measured it varies from year to year. Action impact to suboptimal foraging habitat will not affect area of occupancy.
Fragment an existing population into two or more populations

No. The species is wide ranging, travelling around 8km in a night and up to 50km. They are capable of diverting round the obstacle created by the dam footprint.
Adversely affect habitat critical to the survival of a species

No. The Recovery Plan states that “all disease free areas within mainland Tasmania with suitable devil habitat” are considered to be “habitat critical to the survival of the Tasmanian devil” However this may not constitute ‘critical habitat’ under the EPBCA and is not included on the EPBC Register of Critical Habitat.
Disrupt the breeding cycle of a population

No. Although there is the potential, albeit low, for breeding of an individual (should disturbance to occupied natal den leading to abandonment take place) this does not have an impact at the population level. The clearing of 39 ha of habitat that supports low quality devil den habitat may have impact to the breeding cycle if mitigation options are not implemented.
Modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline

No. There is no available evidence to confirm whether or not it is habitat availability that regulates population decline but 39 ha of clearing will not lead to decline of the species.
Result in invasive species that are harmful to a critically endangered or endangered species becoming established in the endangered or critically endangered species’ habitat.

No. The only invasive species likely to impact on the Tasmanian devil is the European fox. Western Tasmania is not within their core fox habitat range and foxes would only establish in this region once they were at carrying capacity within their core habitat range of eastern, northern and central Tasmania
Introduce disease that may cause the species to decline.

No. The construction phase for TSF 2 will not introduce any changes to the environment that would increase the risk of DFTD entering the area, nor would they facilitate the intermixing of devil populations.. It is very unlikely that TSF 2 could facilitate the risk of introduction of DFTD. The only conceivable way in which this could occur was if diseased or dead individuals, or equipment that has come in contact with diseased individuals, was brought into the site. The likelihood of this occurrence is remote. DFTD is spread between devils. There is a potential risk from roadkill that can aggregate animals resulting in fighting and disease exchange. However, this project does not bring any risk of roadkill or focus food for scavenging. Protocols require roadkill to be collected and safely disposed of.
Interfere with the recovery of the species. No. The recovery of the Tasmanian devil is based around the work being undertaken by the Save The Tasmanian Devil Program. The Actions identified in the Recovery Plan will in no way be disrupted or interfered by the TSF 2

<u>Tasmanian spotted-tail quoll (Dasyurus maculatus maculatus)</u>

Lead to a long-term decrease in the size of an important population

No. Not Important Population. Notwithstanding, the loss of 39ha of potential habitat is not significant in the context of what occurs in the vicinity and would not affect population size in the long term as habitat is not saturated.
Reduce the area of occupancy of the species

No. Given the extensive availability of habitat this loss would not reduce area of occupancy
Fragment an existing important population into two or more populations

No. Not Important Population. Action does not fragment known populations as dam will adjoin an existing dam which does not form a barrier as animals can deviate around in their wide-ranging habit.
Adversely affect habitat critical to the survival of a species

No. Critical habitat not defined, and considered to not constitute ‘significant habitat’ based on exiting definitions (FPA2017).
Disrupt the breeding cycle of an important population

No. Not Important Population. Although there is the potential, albeit low, for breeding of an individual (should disturbance to occupied natal den leading to abandonment take place) this does not have an impact at the population level.
Modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent

that the species is likely to decline

No. Loss of habitat resulting from action is relatively insignificant and will not result in species decline.
Result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat

No. Action is within area where mining activity already is taking place so not introducing novel activities or consequences. Invasive species likely to impact on the spotted-tailed quoll is the European fox and feral cat . Western Tasmania is not within their core fox habitat range and foxes would only establish in this region once they were at carrying capacity within their core habitat range of eastern, northern and central Tasmania.
Introduce disease that may cause the species to decline.

No. Action is within area where mining activity already is taking place so it is not introducing novel activities or consequences
Interfere with the recovery of the species.

No. The construction phase for TSF 2 will have negligible impact to the recovery of this species and is not within a key or important population.

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.

HGM has no convictions recorded against it relating to poor environmental management. HGM is currently undertaking an AMD audit of the site and developing a clean-up plan for submission to the EPA. This will commence the remediation of pollution legacies left on site by previous site owners and operators.

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.

None.

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.

The proposal will be undertaken in accordance with EPA approved Environmental Management Plans and a Construction Management Plan prepared by the proponents planning and engineering consultants. This framework will: identify and prevent harm at each construction location; establish control measures to prevent pollution e.g. sediment fencing; ensure contractors respond rapidly and effectively to incidents; require daily monitoring of the environmental conditions at each construction location; document daily environmental audits during each stage; guide remedial works as necessary.

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?

No

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
Caloundra Environmental Pty Ltd (2017). Hellyer Gold Mines Notice of Internet. Construction and Operation of a Tailings Storage Facility. Attachment 1.14.1_6	High	nil
North Barker Ecosystem Services (2017). Hellyer Mine TSF. Natural Values Assessment. Attachment 3.1.1_1-3	High	nil
DEE (2017). EPBCA Protected Matters Report. search tool – 12/07/2017. Appendix A of NBES (2017) Attachment 3.1.1_2	Moderately high	Type II errors (false negatives, where species or values are present but not identified by the search tool) are very unlikely with this resource as it uses broad scale habitat factors and past observations for predictions. Type I errors (false positives, where species or values are predicted to occur but do not) are possible due to old data and/or the broad mapping factors.
DPIPWE (2017). Tasmanian Natural Values Atlas Report (NVA) – CAL008 Hellyer 12 July 2017. Appendix B of NBES (2017) Attachment 3.1.1_2	Moderate	Data verified by State government branch, but some data is questionable and may represent misidentifications or imprecise co-ordinates.
Hellyer Gold Mines Pty Ltd, Environmental Management Plan, Tailings Reprocessing PCE 7386 8 October 2017.	High	nil
Miedecke & Partners Pty Ltd, 1987. Hellyer project	High	nil

Reference Source	Reliability	Uncertainties
environmental management plan. Aberfoyle Resources Limited. Miedecke & Partners Pty Ltd.		
Kostoglou, P., 1999. An archaeological inspection of the Hellyer Mine. Report prepared for Mineral Resources Tasmania, January 1999/07	High	nil
Pemberton, D.,1990. Social organisation and behaviour of the Tasmanian devil, Sarcophilus harrisii. PhD thesis, University of Tasmania	High	Few. David Pemberton manages the Tasmanian Devil Program and is highly recognised in his field.
North Barker Ecosystem Services (2006). Hellyer metals project. Botanical Survey and fauna habitat Assessment. Unpublished report to Worley Parsons obo INTEC Hellyer Metals Pty Ltd. (Attachment 3.1.1_4))	High	nil
Forest Practices Authority, 2014. Wedge-tailed eagle nesting habitat model, Fauna Technical Note No. 6, Forest Practices Authority, Hobart, Tasmania	Moderate-high	Type I errors (false positives, where habitat is predicted to occur but do not) are possible due to data limitations.
Forest Practices Authority (2017). Threatened Fauna Species Range boundaries and habitat descriptions. Version 1.40 July 2017. Forest Practices Authority, Hobart, Tasmania.	Moderate-high	Type I errors (false positives, where habitat is predicted to occur but do not) are possible due to data limitations.
Caloundra Environmental Pty Ltd (2017). Hellyer Gold Mines Environmental Management Plan Tailings Reprocessing PCE 7836 . Attachment 1.14.1_4	High	nil

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.

8.0 Provide a description of the feasible alternative?

Alternatives to TSF 2 are to operate for a shorter time frame or to develop alternative, long-term options for tailings storage.

HGM has evaluated alternative tailings storage options to provide PRT storage capacity past 2019, including:

1. Utilising the eastern arm and the finger pond for tailings storage in perpetuity.
2. Raising the shale quarry dam wall to increase capacity in that dam.
3. Investigating whether an additional raise to the existing TSF dam wall can be constructed.
4. Evaluating the potential for a small dam on Mill Creek above the current eastern arm.
5. Evaluating other options such as producing paste and or low sulfide tailings.

1. Utilising the eastern arm and the finger pond for tailings storage in perpetuity
This area contains remnant tailings from earlier operations, most of these are stored sub aerially and consequently produce AMD. The use of TSF 2 allows HGM to move these tailings to the new TSF and store them sub aqueously. The main factors which mitigate against using this area for permanent storage of PRT are:

- Insufficient current volume to cope with the projected PRT production.
- Increasing the volume would compromise the existing clean water diversion drains around the main TSF which would in turn compromise both the residence time of water in the dam and the ability to manage surface water levels and provide an effective closure plan.
- Expansion would also mean removing native vegetation around the eastern end of the Main TSF.

2. Raising the shale quarry dam wall
GHD was commissioned by Polymetals Hellyer Pty Ltd (Polymetals) in 2006 to prepare a Tailings Management Plan for the Hellyer Mine Tailings Reprocessing project. As part of this assessment, GHD evaluated whether tailings could be stored in the shale quarry and to what capacity it was feasible. GHD found that it was feasible to provide a TSF with a crest level of up to RL 690 m would be possible by building a dam around the western perimeter of the quarry. However the volume of earthworks required to construct a dam increases significantly as the proposed crest height increases from RL 675 m towards RL 690 m. Beyond RL690 m an embankment would need to be built around the entire perimeter of the quarry. This is unlikely to be viable due to the relatively large amount of earthworks required. Also there is infrastructure adjacent to the eastern side of the quarry (transmission power lines, a mine shaft and a building) that would add further complication to any notion of extending the crest height beyond RL 690 m.

The current shale quarry dam was constructed to RL 682 m by the Polymetals Hellyer Pty Ltd (Polymetals) to increase the storage capacity of the shale quarry in 2006. Raising the dam wall to RL 690 m would provide an additional 470,000 M3 of storage and would require 250,000 M3 of earthworks. At a settled density of 1.3 t/M3, this equates to storage for 611,000 t of PRT, or 17 months capacity. Not only is this capacity insufficient and costly, the shale quarry has a direct hydraulic connection with the Hellyer underground void. In addition, utilising the shale quarry would sterilise these tailings as a resource.

3. An additional raise to the existing TSF dam wall

The existing main dam embankment comprises a rockfill embankment with an upstream clay core. The main embankment has an assigned Hazard Category of “Significant”. Under the Australian National Committee of Large Dams (ANCOLD) “Guidelines on Assessment of the Consequence of Dam Failure, 2000”. Although the dam was constructed to ANCOLD standards, at the time of construction, it lacks filters to reduce piping risks as would be required to meet current ANCOLD standards. Consequently developing additional storage capacity in the current dam is not feasible.

4. A small dam on Mill Creek above the current eastern arm

HGM commissioned GHD to prepare a high-level concept for an alternate TSF option located upstream on Mill Creek. GHD concluded that a Mill Creek TSF provided a high risk for seepage to the Hellyer underground void and to the Southwell River due to its proximity to Hellyer void, historical drill holes, vent rises and subsidence zones. Potential stability risks may also be present for the saddle dam and lined storage area due to the proximity of the subsidence zone. In the case of catastrophic failure, the Mill Creek TSF increases the consequences of overtopping failure on the main TSF Dam and could also result in tailings release to the Southwell catchment should the saddle dam fail.

5. Other alternatives

Other alternatives would be to passivate the highly sulfidic tailings and construct a lime-dosed paste tailing, which will remain geochemically and geotechnically stable in the long term. There are significant risks associated with this alternative, in terms of capital and operational cost and geochemical feasibility.

In 1999 Golder Associates Pty Ltd (Golder) was commissioned by Western Metals Resources Limited to evaluate the feasibility of retreating tailing and using paste technology to manage the retreated tailings. Golder found that with regards to paste rheology of the reground tailings:

- The paste does not readily bleed water and remains in a paste condition for a long period of time.
- The final regrind tailings should make a suitable paste for pumping at 77% to 79% solids.
- Regrind tailings with 79.2% solids by weight would have a dry density of 2.0 t/m3 and a 175 mm slump.
- Regrind tailings with 77.5% solids by weight would have a dry density of 1.9 t/m3 and a 250 mm slump.
- Golder suggest a beach angle of the reground tailings of 3% to 5% for subaerial deposition and probably steeper for subaqueous.
- Golder did not evaluate the removal of sulphides which would be necessary for sub aerial

deposition.

Assuming that floatation could remove more than 99% of Sulfide S from the PRT, new equipment would be needed to replace the tailings management equipment downstream of the existing milling circuit: cyclones, thickeners, tailings pumps and pipelines would need upgrading to manage a thickened or paste tailing.
This would make the project uneconomic. The evaluation time to assess and develop the sulfide removal and paste circuits would also render the project uneconomic.

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

Director

9.2.2 First Name

Mike

9.2.3 Last Name

Barden

9.2.4 E-mail

mike.barden@nqminerals.com

9.2.5 Postal Address

c/- Hellyer Gold Mines

Cradle Mountain Link Road
Waratah TAS 7321
Australia

9.2.6 ABN/ACN

ACN

125516636 - HELLYER GOLD MINES PTY LTD

9.2.7 Organisation Telephone

+44 7900690609

9.2.8 Organisation E-mail

mike.barden@nqminerals.com

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, Mike Barden_____, 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: 15/02/2018……

I, Mike Barden_____, the person proposing the action, consent to the designation of Stephen Kent_____ as the proponent of the purposes of the action describe in this EPBC Act Referral.

Signature:……. Date: 15/02/2018……

9.3 Is the Proposed Designated Proponent an Organisation or Individual?

Organisation

9.5 Organisation

9.5.1 Job Title

Director

9.5.2 First Name

Stephen

9.5.3 Last Name

Kent

9.5.4 E-mail

stephen@caloundraenv.com.au

9.5.5 Postal Address

PO Box 242
Golden Beach QLD 4551
Australia

9.5.6 ABN/ACN

ACN

112629571 - Caloundra Environmental Pty Ltd

9.5.7 Organisation Telephone

0417574799

9.5.8 Organisation E-mail

stephen@caloundraenv.com.au

Proposed designated proponent - Declaration

I, Stephen Kent, 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: 15February 2018 ……

9.6 Is the Referring Party an Organisation or Individual?

Organisation

9.8 Organisation

9.8.1 Job Title

partner

9.8.2 First Name

Andrew

9.8.3 Last Name

North

9.8.4 E-mail

anorth@northbarker.com.au

9.8.5 Postal Address

163 Campbell Street
Hobart TAS 7000
Australia

9.8.6 ABN/ACN

ABN

79897900835 - NORTH BARKER ECOSYSTEM SERVICES

9.8.7 Organisation Telephone

03 62319788

9.8.8 Organisation E-mail

anorth@northbarker.com.au

Referring Party - Declaration

I, ___Andrew James North_____, I declare that to the best of my knowledge theinformation 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: ……15/02/2018……

Appendix A - Attachments

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

1. 1.4_attachment_1_tsf2_footrpint.jpg
2. 1.4_attachment_2_tsf2_footprint_spatiallayers.zip
3. 1.14.1_attachment_1_mining_lease_cml103m_1987.pdf
4. 1.14.1_attachment_2_mining_operation_permit_pce_7759_sgn.pdf
5. 1.14.1_attachment_3_tailings_reprocessing_permit_7386.pdf
6. 1.14.1_attachment_4_tailings_reprocessing_emp.pdf
7. 1.14.1_attachment_5_epa_approval_of_emp_under_permit_7386_17-10-2017.pdf
8. 1.14.1_attachment_6_hgm_tsf2_noi.pdf
9. 1.14.1_attachment_7_dpemp_project_specific_guidelines_natural_values.pdf
10. 2.14_attachment_1_mnes_significant_impact_assessment.pdf
11. 2.14_attachment_2_mnes_downstream_impact_assessment.pdf
12. 3.1.1_attachment_1_hellyerminetsf_naturalvaluesassmt_report_20171030.pdf
13. 3.1.1_attachment_2_hellyerminetsf_naturalvaluesassmt_appa-e_20171030.pdf
14. 3.1.1_attachment_3_hellyerminetsf_naturalvaluesassmt_appf_20171030.pdf
15. 3.1.1_attachment_4_botanicalsurveyfaunahabitatassessment_2006.pdf
16. 3.2.1_attachment_1_querivercatchment.jpg
17. 3.2.1_attachment_2_geologymap.jpg