Title of Proposal - Cowal Gold Operations Processing Rate Modification

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.

Evolution Mining (Cowal) Pty Limited (Evolution) owns and operates the Cowal Gold Operations (CGO), located approximately 38 kilometres (km) north-east of West Wyalong in New South Wales (NSW) (Figure 1). Mining operations at the CGO commenced in 2005, and are currently approved to continue until 31 December 2032.

The Action subject to this Referral is separate from, but related to, the existing CGO which currently operates under NSW Development Consent DA 14/98 (as modified from time-to-time). The Cowal Gold Project was referred under the Environment Protection and Biodiversity Conservation Act, 1999 (EPBC Act) in August 2001 (EPBC 2001/421). On 29 September 2001, the Commonwealth Minister for the Environment and Heritage decided that the Cowal Gold Project was not a 'controlled action', with the consequence that no approval under the EPBC Act was required.

Summary Description of the Existing CGO

The CGO involves conventional open pit mining methods. There are two types of ore mined, viz. primary ore and oxide or weathered ore which comprises the first and upper portion of the orebody.

The process of extracting gold from ore from the open cut involves broken ore from the mine which is either stockpiled or hauled to a primary crusher located near the process plant. The crushed ore is then ground to a fine slurry, floated off as a concentrate through a flotation circuit, and passed to a leaching circuit where cyanide is added to leach gold from the concentrate. The flotation circuit reduces the amount of gold ore required to be leached (and hence, greatly reduces cyanide usage). The gold extracted is recovered and poured as gold bars or doré. These bars represent the final product and are sold to a refinery for purification.

The finely ground rock residue left after the flotation and leaching processes (tailings), is then treated to destroy cyanide to prescribed limits and pumped to one of two tailings storages (Figure 2a). Storage embankments are progressively raised throughout the mine life.

Waste rock from the mine (i.e. rock mined to recover ore with no commercial quantities of gold) is placed in a waste emplacement surrounding the open pit (Figure 2a).

The CGO water management infrastructure is designed to contain potentially contaminated water (contained water) generated within the mining area, and to divert all other water around the perimeter of the site. The existing CGO water management infrastructure is comprised of:

• A lake isolation system, comprising a series of isolation embankments designed to hydrologically isolate the open pit development area from Lake Cowal during mining and post-mining.

• An Up-catchment Diversion System which conveys upper catchment surface runoff around the western edge of the CGO and into existing drainage lines to the north and south of the CGO.

• An Internal Catchment Drainage System to separate surface runoff external to the CGO from contained waters generated within the CGO disturbance area. Surface water that is collected within the Internal Catchment Drainage System is managed by a series of contained water storages, bunds and drains.

Raw water requirements for the mine are primarily met through open pit dewatering, recycling within the process plant and the tailings water decant and return system. When water demand exceeds the available supply from these sources, make-up water is pumped from an external groundwater borefield located approximately 20 km to the east-northeast of the mine site. The borefield is located within the Bland Creek palaeochannel and the Eastern Saline Borefield and is linked to the mine site via a buried pipeline that traverses Lake Cowal, an ephemeral lake (Figures 2a and 2b). Surface water from the Lachlan River is also pumped occasionally using this water supply pipeline and via the Jemalong Irrigation Scheme.

Detailed Description of the Proposed Action

Evolution has identified potential opportunities to maximize the ore processing capacity of the CGO's existing process plant. On this basis, Evolution is proposing changes to the CGO to accommodate an increase to the CGO's approved ore processing rate (i.e. the Modification), which is the subject of the proposed Action.

To accommodate the increased annual volume of tailings resulting from the increased ore processing rate, Evolution proposes to modify/expand the size of the existing tailings storage facilities within mining lease (ML) 1535 to form one tailings storage facility. The landform would also integrate with the existing mine waste rock and would be known as an 'Integrated Waste Landform'. The indicative layout of the Action and the indicative extent of additional surface development (i.e. the Action area) are shown in Figures 2a and 2b.

The Action would involve the re location of water management infrastructure (i.e. the Up Catchment Diversion System and approved location for contained water storage D10) and other ancillary infrastructure (e.g. access roads and soil stockpiles). This infrastructure is proposed to be located elsewhere within ML 1535 and/or in a new mining lease to the north west (Figure 2a).

As part of the Action, the water supply pipeline would be duplicated along its length, up to Bore 4 of the Bland Creek Palaeochannel Borefield (Figure 2b). Similar to the existing pipeline, the duplicated pipeline would be buried. Should Lake Cowal contain water at the time of construction, the pipeline would be placed on the lake bed before being buried once lake levels subside and ground conditions allow burial of the pipeline.

The Action would also involve:

• an increased annual extraction of water from the CGO's external water supply sources to account for additional requirements associated with the increase in ore processing rate;

• installation of a secondary crushing circuit within the existing process plant area;

• an increase in annual consumption of process consumables; and

• relocation of a portion of the Travelling Stock Reserve and Lake Cowal Road (Figure 2a).

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
Mine Site	1	-33.655056173399	147.35729418898
Mine Site	2	-33.614752027197	147.32467852736
Mine Site	3	-33.603457767787	147.33137332106
Mine Site	4	-33.619183547513	147.39162646437
Mine Site	5	-33.645053358076	147.40947924758
Mine Site	6	-33.655627727735	147.41016589308
Mine Site	7	-33.659914264249	147.39832125807
Mine Site	8	-33.655056173399	147.35729418898
Pipeline	1	-33.644916480991	147.40845679463
Pipeline	2	-33.593169009129	147.46785163105
Pipeline	3	-33.566854518441	147.54853247822
Pipeline	4	-33.622620275709	147.60724066914
Pipeline	5	-33.610326310136	147.49978064717
Pipeline	6	-33.655490867465	147.40983008564
Pipeline	7	-33.644916480991	147.40845679463

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 CGO is located approximately 38 km north-east of West Wyalong in NSW (Figure 1). The CGO is located on the western side of Lake Cowal, an ephemeral freshwater lake predominantly filled by runoff from Bland Creek to the south, and flood breakout from the Lachlan River to the north.

The Lachlan River is the major regional surface water system, forming part of the Murray Darling Basin. Flows in the Lachlan River are regulated by releases from Wyangala Dam. Breakout from the Lachlan River to Lake Cowal occurred in late 2010 and in the first half of 2012 and again in 2016. No breakouts occurred between the period 1998 and 2010.

Land use in the local setting surrounding the Action is characterised by a combination of agricultural land use and conservation areas (offset areas) established as part of the CGO. Grazing and opportunistic cropping within the full storage water line of Lake Cowal (outside of ML 1535) occurs when the lake has receded, and moisture and market conditions are suitable. Occasional commercial fishing operations are undertaken in Lake Cowal when the lake is inundated.

1.6 What is the size of the development footprint or work area?

372 hectares

1.7 Is the proposed action a street address or lot?

Street Address

Off Lake Cowal Road
Lake Cowal NSW 2671
Australia

1.8 Primary Jurisdiction.

New South Wales

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?

No

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

Start date 09/2018

End date 12/2032

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

An application to modify Development Consent DA 14/98 under section 75W of the NSW *Environmental Planning and Assessment Act, 1979* (EP&A Act) to increase the CGO's approved ore processing rate will be prepared for the Action. The Modification would be determined by the NSW Minister for Planning (or delegate).

Permits and consents under sections 87 and 90 of the NSW *National Parks and Wildlife Act, 1974* were obtained for the management of Aboriginal heritage at the approved CGO. These permits and consents consist of the following:

- Permit 1468 authorising certain archaeological works in the ML 1535 area, water pipeline area and borefield area.

- Consent 1467 authorising the destruction of Aboriginal objects in the ML 1535 area, water pipeline area and borefield area.

- Permit 1681 authorising certain archaeological works in the road upgrade area and the relocated Travelling Stock Route.

- Consent 1680 authorising the destruction of Aboriginal objects in the road upgrade area and the relocated Travelling Stock Route.

Activities for the existing CGO have been conducted in accordance with relevant permit and consent conditions and the *Indigenous Archaeology and Cultural Heritage Management Plan* (Barrick [Cowal] Limited [Barrick], 2003a). Evolution would apply for a new Aboriginal Heritage Impact Permit and/or apply to vary the above existing permits and consents as required for the Action.

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

A Community Environmental Monitoring and Consultative Committee (CEMCC) has been established in accordance with Condition 9.1(d) of the CGO Development Consent (DA 14/98). The CEMCC currently consists of:

- four community representatives (including one member of the Lake Cowal Landholders Association);

- one representative of the Lake Cowal Foundation (an environmental trust);

- one representative of the Wiradjuri Condobolin Corporation;

- one representative of the Bland Shire Council;

- one representative of the Forbes Shire Council;

- one representative of the Lachlan Shire Council;

- an independent chairperson; and

- two representatives of Evolution.

The CEMCC provides a mechanism for ongoing communication between Evolution and the community. The CEMCC holds quarterly meetings, and consultation regarding the Action was conducted at the June 2017 meeting as part of the Modification Environmental Assessment (EA) process. The findings of the Modification EA will be discussed at the CEMCC's March 2018 meeting. The Modification EA will also be made available to all CEMCC members following submission to the NSW Department of Planning and Environment (DP&E).

In addition to the CEMCC quarterly meetings, Evolution would provide a briefing letter to the Bland Shire Council and Forbes Shire Council outlining the scope of the Modification (incorporating the Action), approval process and environmental assessment. Evolution would also meet with representatives of the Bland Shire Council and Forbes Shire Council to discuss the Modification (incorporating the Action) where necessary.

Evolution would consult with the local community, which may include potentially affected landholders, regarding the Modification (incorporating the Action).

Evolution would consult with groundwater users potentially affected by the Action (e.g. Lachlan Valley Water).

Evolution has maintained ongoing consultation and engagement with relevant Aboriginal stakeholder groups since the acquisition of the CGO, following on from the extensive consultation undertaken by Barrick prior to the acquisition.

Consultation with Aboriginal (Indigenous) stakeholders is being conducted in accordance with the requirements of the NSW Office of Environment and Heritage (OEH) policy *Aboriginal cultural heritage consultation requirements for proponents 2010* (NSW Department of Environment, Climate Change and Water [DECCW], 2010). In this regard, relevant Indigenous stakeholders have been identified through correspondence with local authorities, government agencies and community organisations in accordance with Section 4.1.2 of the *Aboriginal cultural heritage consultation requirements for proponents 2010* (DECCW, 2010).

Written notification of the Modification (incorporating the Action) was provided to identified Indigenous stakeholders. These stakeholders were invited to register an interest in the process

of consultation for the Modification (incorporating the Action). Public notices were also placed in the following newspapers, seeking registrations of interest from any additional interested Aboriginal stakeholders:

- Condobolin Argus – Wednesday 8 March 2017.

- Daily Advertiser – Wednesday 8 March 2017.

- Daily Liberal – Wednesday 8 March 2017.

- Forbes Advocate – Tuesday 7 March 2017.

- Griffith Area News – Wednesday 8 March 2017.

- Koori Mail – Wednesday 8 March 2017.

- West Wyalong Advocate – Tuesday 7 March 2017.

In addition to Aboriginal stakeholders having the opportunity to register their interest as detailed above, all Aboriginal stakeholders involved in previous consultation activities and the management of Aboriginal heritage at the CGO are included in the list of stakeholders consulted for the Modification (incorporating the Action).

The following Aboriginal stakeholders have registered their interest in being involved in the consultation process, or have been involved in previous consultation activities at the CGO (in alphabetical order):

- Alona Apps.

- Beverley Johnson.

- Braydon Davis.

- Calara Culture & Heritage Aboriginal Corporation.

- Cindy Fuller.

- Condobolin Local Aboriginal Land Council.

- Didge Ngunawal Clan.

- Enid Clarke.

- Ernie Johnson.

- Isabelle Collins.

- Jahnayah Freeman.

- Janine Thompson.

- Jirrah Freeman.

- Judy Johnson.

- Keith Freeman.

- Krystal Ingram.

- Louise Davis.

- Marnie Freeman.

- Murie Elders Aboriginal Corporation.

- Neville Williams.

- Norma Freeman.

- Peter Peckham.

- Sharon Williams.

- Shawn Williams.

- Stuart Cutmore.

- Wayne Williams.

- West Wyalong Local Aboriginal Land Council.

- Wiradjuri Condobolin Corporation.

- Wiradjuri Interim Working Party.

All Aboriginal stakeholders were provided with a Proposed Methodology (i.e. draft assessment methodology) for the Aboriginal Cultural Heritage Assessment for their review and comment. All Indigenous stakeholders were also invited to attend an information session regarding the Modification (incorporating the Action) to discuss the Proposed Methodology and the broader consultation process. Representatives from Aboriginal stakeholder groups will also be participating in the field surveys for the area associated with the Action. Field surveys are being undertaken in the Action area and surrounds, and are anticipated to occur over the next few months.

The next steps in the consultation programme (following completion of the field surveys) include the Aboriginal stakeholders being provided with the opportunity to review and provide comment on the draft Aboriginal Cultural Heritage Assessment (including the provision of any comments regarding the cultural significance of any Aboriginal object[s] and/or place[s] in the Action area), and the facilitation of a meeting and site inspection with Indigenous stakeholders.

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.

An EA will be prepared to support the application to modify the Development Consent 14/98 pursuant to section 75W of the EP&A Act. Evolution has formally requested Secretary's Environmental Assessment Requirements from the DP&E for the Modification EA.

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 Action is not part of a split Referral. The Action is separate from, but related to, the existing CGO which currently operates under Development Consent DA 14/98 (as modified from time-to-time). The Commonwealth Minister for the Environment and Heritage decided on 29 September 2001 that the Cowal Gold Project was not a 'controlled action', and no approval under the EPBC Act was required (EPBC 2001/421).

The Action is required to optimise the ore processing capacity of the CGO's existing process plant.

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

Yes

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

The Action is not part of a split Referral. The Action is separate from, but related to, the existing CGO which currently operates under Development Consent DA 14/98 (as modified from time-to-time). The Commonwealth Minister for the Environment and Heritage decided on 29 September 2001 that the Cowal Gold Project was not a 'controlled action', and no approval under the EPBC Act was required.

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 impact on the values of any World Heritage properties?

No

2.2 Is the proposed action likely to impact on the values of any National Heritage places?

No

2.3 Is the proposed action likely to impact on the ecological character of a Ramsar wetland?

No

2.4 Is the proposed action likely to impact on the members of any listed threatened species (except a conservation dependent species) or any threatened ecological community, or their habitat?

Yes

2.4.1 Impact table

Species	Impact
A spear-grass (Austrostipa wakoolica): A large	This species has not been recorded during field

Species	Impact
number of flora surveys have been conducted at the CGO and surrounds (Section 3.1). The Action area provides some potential habitat for this species on the eastern side of the Action area.	surveys at the CGO, despite targeted surveys undertaken within parts of the Action area and in the immediate surrounds. However, a record for this species exists within the eastern part of the Action area, on the southern side of Websters Road (Figure 3b) (OEH, 2017a). The existing water supply pipeline is located on the northern side of Websters Road. The pipeline duplication associated with the Action would be located immediately adjacent to the existing water supply pipeline on the northern side of Websters Road. Therefore, no disturbance would be required on the southern side of the road, and the known record of Austrostipa wakoolica would be avoided. Although some potential habitat for this species may be disturbed by the pipeline duplication associated with the Action, the area to be disturbed is not considered material nor crucial to the viability of the local population of this species. The potential habitat within the Action area is minimal, highly modified and fragmented. Given the low occurrence of records of this species within the Action area and surrounds, and the abundance of more suitable habitat in the wider locality, there would be no significant impacts to this species as a result of the Action.
Waterbirds: • Australian Painted Snipe (Rostratula australis). • Australiasian Bittern (Botaurus poiciloptilus). • Curlew Sandpiper (Calidris ferruginea). A large number of fauna surveys have been conducted at the CGO (Section 3.1). Long-term waterbird monitoring on Lake has been undertaken from 1989 to present. The Action area provides some very marginal potential habitat for threatened waterbirds, such as mature trees (potentially used by some waterbirds) and areas that have the potential to become inundated following heavy rainfall. Waterbirds are unlikely to visit or nest within the Action area unless on-going wet conditions are present, but even then, the resources are temporary and Lake Cowal is likely to provide more desirable habitat under those conditions, including for some species the ability to support the complete lifecycle. When	- Australian Painted Snipe (Rostratula australis): The Australian Painted Snipe has not been recorded within the CGO. A database record from 1997 for this species exists within 100 metres (m) of the eastern part of the Action area within Lake Cowal (Figure 3b) (OEH, 2017a). This species was also recorded within the north-eastern portion of Lake Cowal during field surveys undertaken by Vestjens (1977). - Australiasian Bittern (Botaurus poiciloptilus): The Australian Bittern has not been recorded within the CGO. A database record from 1997 for this species exists within 100 m of the eastern part of the Action area within Lake Cowal (Figure 3b) (OEH, 2017a). This species was also recorded within Lake Cowal during Lake Cowal bird monitoring in January 1994, approximately 4 km north of the Action area (Australian Museum Business Services, 2013).

Species	Impact
inundated, Lake Cowal provides potential breeding habitat for the Australasian Bittern and Australian Painted Snipe, however, neither of these species have been recorded nesting at the waterbird survey locations utilised at Lake Cowal. The Curlew Sandpiper does not breed within Australia (Department of the Environment and Energy [DoEE], 2017a). A range of other (non-threatened) waterbird species have been recorded breeding at Lake Cowal (e.g. Cormorants, Spoonbills and Ibis) (after Australian Museum Business Services, 2013). The records show that the main waterbird breeding areas occur in treed, wooded and vegetated parts in the northern sections of the lake. To date there have been no detectable adverse impacts on bird breeding attributed to the CGO based on long-term wetland bird monitoring (Australian Museum Business Services, 2013; Gell and Peake, 2012, 2013 and 2014a-e; Gell. 2015a-c and 2016a-c), and behavioural observations (by Professor Peter Gell, University of Ballarat) (Gell, 2005). Due to the proximity of the Action to Lake Cowal, it is possible that these waterbird species could pass through ML 1535 or interact with components of the Action (e.g. tailings storage facilities and/or water storages). However, since operation began in 2005, none of these bird species have been adversely impacted or died as a result of interactions with the tailings storage facilities (Barrick 2005b; Donato 2006, 2007, 2008a-c, 2009, 2010a-b, 2011a-b, 2012a-b, 2013; Gursansky, 2013a-b, 2014a-b, 2015a-b, 2016a-b, 2017).	- Curlew Sandpiper (Calidris ferruginea): This species was recorded within the CGO during Lake Cowal bird monitoring on a single occasion, with 12 individuals being recorded during October 2001 (Figure 3a) (Australian Museum Business Services, 2013). In addition, a database record from 1997 for this species exists within 100 m of the eastern part of the Action area within Lake Cowal (Figure 3b) (OEH, 2017a). This species was also recorded during waterbird monitoring surveys for Lake Cowal (Australian Museum Business Services, 2013). - Assessment: During operations to date, the CGO has resulted in a number of positive outcomes for local biodiversity through habitat enhancement programs on former grazing land. For example, the riparian vegetation along the western foreshore of Lake Cowal (waterbird habitat) has been managed to enhance ecological values, resulting in natural regeneration of native vegetation. Potential impacts from the Action on waterbirds may result from land clearance activities and/or interaction with the tailings storage facilities. Noting, however, that the Curlew Sandpiper is the only one of these waterbirds to have been recorded within ML 1535 since commencement of the CGO. Although some potential habitat for the above listed species may be disturbed by the Action, the area to be disturbed is not considered material nor crucial to the viability of the local populations of these species. The potential habitat within the Action area would be temporary, is highly fragmented and located immediately adjacent to existing/approved mining activities. The Action is unlikely to significantly adversely impact the lifecycle of these waterbird species given: • The Action area provides some very marginal potential habitat for threatened waterbirds. • Threatened waterbirds are unlikely to nest within the Action area due to the lack of breeding records of these species, and the more suitable breeding locations in the north of Lake Cowal. • The Action is unlikely to adversely impact on Lake Cowal habitats or waterbird breeding success. •

Species	Impact
	On-site water quality management (e.g. Internal Catchment Diversion System, Up-catchment Diversion System, sediment control measures and revegetation of soil stockpiles) prevents the degradation of water quality in Lake Cowal and elsewhere on-site, thereby reducing a potential adverse impact. • The Vegetation Clearance Protocol would continue to be implemented for the Action and therefore the potential for land clearing activities to adversely impact threatened waterbirds, in the unlikely event that some were present, would be minimal. • The potential risks to threatened waterbirds interacting with the tailings storage facilities would not significantly increase. • The pipeline duplication to take place within Lake Cowal would not have adverse implications for these species. Should Lake Cowal contain water at the time of construction, the pipeline would be placed on the lake bed before being buried once lake levels subside and ground conditions allow burial of the pipeline.
Woodland Birds: • Painted Honeyeater (Grantiella picta). • Swift Parrot (Lathamus discolor). • Superb Parrot (Polytelis swainsonii). A large number of fauna surveys have been conducted at the CGO (Section 3.1). The Action area contains marginal potential woodland habitat for the Painted Honeyeater, Swift Parrot and Superb Parrot. The potential habitat for Painted Honeyeater, Swift Parrot and Superb Parrot within the Action area is mostly foraging habitat. There are also potential breeding resources for the Painted Honeyeater and Superb Parrot, but neither of these species have been observed breeding within the Action area. The Superb Parrot nests in tree hollows and the Painted Honeyeater builds nests in trees and/or shrubs (DoEE, 2017a). There is no evidence of these woodland birds nesting in the Action area or in the immediate surrounds from the extensive monitoring and field surveys which have been undertaken at the CGO (Section 3.1). The Swift Parrot does not breed in mainland Australia (DoEE, 2017a).	- Painted Honeyeater (Grantiella picta): This species has not been recorded during field surveys at the CGO, despite targeted surveys undertaken within parts of the Action area and in the immediate surrounds. However, a database records for this species exist within Lake Cowal, including one from 1997 within 100 m of the eastern part of the Action area (Figures 3a and 3b) (OEH, 2017a). - Swift Parrot (Lathamus discolor): This species has not been recorded during field surveys at the CGO, despite targeted surveys undertaken within parts of the Action area and in the immediate surrounds. However, a database record from 1997 for this species exists within the eastern part of the Action area within Lake Cowal (Figure 3b) (OEH, 2017a). - Superb Parrot (Polytelis swainsonii): This species was detected by AMBS Ecology & Heritage (AMBS) during preliminary surveys undertaken in 2016 in the immediate surrounds of the Action area (Figure 3a) (AMBS, pers. comm.). A group of Superb Parrots were observed flying over-head during the pre clearance surveys in 2005

Species	Impact
	(Barrick, 2005a) and again in 2008 foraging on mistletoe within ML 1535 (Barrick, 2008b) within the Action area. A flock of 12 to 15 birds was sighted in 2012 from the trees that have been planted around ML 1535 (Kerle, 2013a). There are also OEH (2017) database records from 1995 which are sourced from the NSW Bird Atlassers and Illawarra Bird Observers Club as reported in Gunninah Consultants (1995). - Assessment: During operations to date, the CGO has resulted in a number of positive outcomes for local biodiversity through habitat enhancement programs on former grazing land. For example, areas of remnant vegetation in the vicinity of the CGO containing potential woodland bird habitat have been managed to enhance ecological values, resulting in natural regeneration of native vegetation. Although some potential habitat for the above listed species may be disturbed by the Action, the area to be disturbed is not considered material nor crucial to the viability of the local populations of these species. The Action is unlikely to significantly adversely impact the lifecycle of these woodland bird species given: • The nature of the extant woodland vegetation in the Action area is considered to contain sub-optimal habitat resources for these species compared to more suitable habitat resources located outside of Action area. • The potential habitat in the Action area is disconnected from other surrounding woodland habitat in the landscape and is located adjacent to the existing mine infrastructure. • The CGO Vegetation Clearance Protocol would continue to be implemented for the Action and therefore the potential for land clearing activities to adversely impact threatened woodland birds would likely be minimal.
Corben's Long-eared Bat (Nyctophilus corbeni): Corben’s Long-eared Bat roosts in tree hollows, under loose bark and/or in tree crevices (DoEE, 2017a). The Action area provides a very small area of potential breeding habitat for this species. Conservatively, the entire Action area provides potential foraging	Nyctophilus sp./spp. have been recorded within the CGO at the tailing storage facilities but not within the Action area (Donato, 2006, 2007, 2008b, 2008c, 2009, 2010a, 2010b, 2011a, 2012a, 2012b, 2013). A database record for this species exists within 100 m of the eastern part of the Action area within Lake Cowal (Figure

Species	Impact
habitat for this species, (depending on the prey), noting that this includes the exotic and native grassland habitats (with scattered trees). It is possible that this species could fly over ML 1535 or interact with components of the Action (e.g. tailings storage facilities and/or water storages). Nyctophilus sp./spp. have been recorded within the CGO at the tailing storage facilities, however, since operation began in 2005, no bat species have been adversely impacted or died as a result of interactions with the tailings storage facilities (Barrick 2005b; Donato 2006, 2007, 2008a-c, 2009, 2010a-b, 2011a-b, 2012a-b, 2013; Gursansky, 2013a-b, 2014a-b, 2015a-b, 2016a-b, 2017).	3b) (OEH, 2017a). However, it is uncertain whether or not this species occurs in the surrounds since Nyctophilus spp. calls are unable to be identified at the species level using current AnabatTM technology. The records are indeterminate as to what species may or may not be present. Hence a conservative position has been adopted and the Corben's Long-eared Bat is assessed as being present, even though this may not be the case. - Assessment: During operations to date, the CGO has resulted in a number of positive outcomes for local biodiversity through habitat enhancement programs on former grazing land. For example, areas of remnant vegetation in the vicinity of the CGO containing potential bat habitat have been managed to enhance ecological values, resulting in natural regeneration of native vegetation. Although some potential habitat for this species may be disturbed by the Action, the area to be disturbed is not considered material nor crucial to the viability of the local population of this species. The Action is unlikely to significantly adversely impact the lifecycle of this bat species given: • The available habitat within the Action area is relatively common in the immediate surrounds of the CGO and across the wider Lake Cowal landscape, thereby providing alternate habitat resources for these bat species. • The wide-ranging feeding behaviour of the species. • The CGO Vegetation Clearance Protocol would continue to be implemented for the Action. This is likely to minimise impacts to this species during the breeding season, enable some bats to be located and released in appropriate habitats away from the Action area, enable any located injured bats to be placed in care, and enable most bats still located within fallen trees to relocate after dark. • The potential risks to threatened bats interacting with the tailings storage facilities would not significantly increase.
Inland Grey Box EEC	Previous vegetation mapping prepared by Australian Museum Business Services (2012), and preliminary results from AMBS (pers.

Species	Impact
	comm.) indicate that approximately 14.5 ha of Grey Box (Eucalyptus microcarpa) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia Endangered Ecological Community (Inland Grey Box EEC) may occur within the Action area (Figure 3a). The occurrences of this community within the Action area comprise the derived native grassland component of the EEC (portions of Spear Grass - Windmill Grass Grassland) (14.5 ha)(Figure 3a). Despite this, the reduction of these patches of Inland Grey Box EEC derived native grassland would not significantly adversely impact the overall occurrence of the Inland Grey Box EEC in the local area, and a significant impact on the Inland Grey Box EEC is unlikely, given: • The occurrences of Inland Grey Box EEC within the Action area are degraded, and relatively small (approximately 14.5 ha), adjacent to the approved mining area and isolated from other occurrences of the community. • Much larger areas of Inland Grey Box EEC occur to the south of ML 1535 (Australian Museum Business Services, 2013; AMBS, pers. comm.).
Weeping Myall EEC	This community has not been mapped within within the Action area, however, previous vegetation mapping prepared by Australian Museum Business Services (2012), and preliminary results from AMBS (pers. comm.) indicate that patches of Weeping Myall Woodland EEC (Weeping Myall EEC) may occur within the immediate surrounds of the Action area (i.e. Weeping Myall - Belah - Poplar Box Shrubland and Woodland) (Figure 3a). The Weeping Myall - Belah - Poplar Box Shrubland and Woodland - Derived Native Grassland does not meet the criteria for this EEC. A significant impact on the Weeping Myall EEC is unlikely, given results to date indicate this community would not be disturbed as a result of the Action.

2.4.2 Do you consider this impact to be significant?

No

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

Yes

2.5.1 Impact table

Species	Impact
Migratory Wetland Birds: • Pacific Golden Plover (Pluvialis fulva). • Double-banded Plover (Charadrius bicinctus). • Latham's Snipe (Galliinago hardwickii). • Little Curlew (Numenius minutus). • Marsh Sandpiper (Tringa stagnatilis). • Pectoral Sandpiper (Calidris melanotos). • Red-necked Stint (Calidris ruficollis). • Sharp-tailed Sandpiper (Calidris acuminate). • Curlew Sandpiper (Calidris ferruginea). • Common Sandpiper (Actitis hypoleucos). • Black-tailed Godwit (Limosa limosa). • Common Greenshank (Tringa nebularia). A large number of fauna surveys have been conducted at the CGO (Section 3.1). Long-term waterbird monitoring on Lake has been undertaken from 1989 to present (summarised in Australian Museum Business Services [2013]). The Action area provides some very marginal potential habitat for migratory wetland birds, such as mature trees (potentially used by some migratory wetland birds) and areas that have the potential to become inundated following heavy rainfall. Migratory wetland birds are unlikely to visit or nest within the Action area unless on-going wet conditions are present, but even then, the resources are temporary and the northern parts of Lake Cowal are likely to provide more desirable habitat under those conditions. Breeding habitat for these species would not be impacted by the Action, as none of these species breed within Australia (DoEE, 2017a). Due to the proximity of the Action to Lake Cowal, it is possible that these waterbird species could pass through ML 1535 or interact with components of the Action (e.g. tailings storage facilities and/or water storages).	- Pacific Golden Plover (Pluvialis fulva): This species has not been recorded within the Action area. However, this species has been recorded in the surrounds of the Action area during Lake Cowal bird monitoring on a single occasion with one individual being recorded in 1997 (Australian Museum Business Services, 2013). - Double-banded Plover (Charadrius bicinctus): This species has not been recorded within the Action area. However, this species has been recorded in the surrounds of the Action area during Lake Cowal bird monitoring, on two occasions. Six individuals were recorded in 1997 and eight individuals were recorded in 2001 (Australian Museum Business Services, 2013). - Latham's Snipe (Galliinago hardwickii): This species has not been recorded within the Action area. However, this species has been recorded in the surrounds of the Action area during Lake Cowal bird monitoring, on a number of occasions. The most recent recording of this species was in 2016 (Australian Museum Business Services, 2013; Gell and Peake, 2014a; Gell, 2016a). - Little Curlew (Numenius minutus): This species has not been recorded within the Action area. However, this species has been recorded in the surrounds of the Action area during Lake Cowal bird monitoring on a single occasion with one individual being recorded in 1997 (Australian Museum Business Services, 2013). - Marsh Sandpiper (Tringa stagnatilis): This species has not been recorded within the Action area. However, this species has been recorded in the surrounds of the Action area during Lake Cowal bird monitoring, on a number of occasions. The most recent recording of this species was in

Species	Impact
	2001 (Australian Museum Business Services, 2013). - Pectoral Sandpiper (Calidris melanotos): This species has not been recorded within the Action area. However, this species has been recorded in the surrounds of the Action area during Lake Cowal bird monitoring, on one occasion in 1992 when two individuals were recorded (Australian Museum Business Services, 2013). - Red-necked Stint (Calidris ruficollis): This species has not been recorded within the Action area. However, this species has been recorded in the surrounds of the Action area during Lake Cowal bird monitoring, on three occasions. The most recent recording of this species was in 2001 (Australian Museum Business Services, 2013). - Sharp-tailed Sandpiper (Calidris acuminata): This species has not been recorded within the Action area. However, this species has been recorded in the surrounds of the Action area during Lake Cowal bird monitoring, on a number of occasions. The most recent recording of this species was in 2014 (Australian Museum Business Services, 2013; Gell and Peake, 2014a-b). A database record from 1997 for this species also exists within 100 m of the eastern part of the Action area within Lake Cowal (Figure 3b) (OEH, 2017a). - Curlew Sandpiper (Calidris ferruginea): This species has not been recorded within the Action area. However, this species was recorded in the surrounds of the Action area during Lake Cowal bird monitoring on a single occasion, with 12 individuals being recorded during October 2001 (Figure 3a) (Australian Museum Business Services, 2013). In addition, a database record from 1997 for this species exists within 100 m of the eastern part of the Action area within Lake Cowal (Figure 3b) (OEH, 2017a). - Common Sandpiper (Actitis hypoleucos): This species was detected by AMBS during preliminary surveys undertaken in 2016 within the Action area (Figure 3a) (AMBS, pers. comm.). This species has not been recorded previously within the Action area or surrounds. - Black-tailed Godwit (Limosa limosa): This

Species	Impact
	species has not been recorded during field surveys at the CGO or within Lake Cowal, despite targeted surveys undertaken within parts of the Action area and in the immediate surrounds. However, a database record for this species exists within 100 m of the eastern part of the Action area within Lake Cowal (Figure 3b) (OEH, 2017a). - Common Greenshank (Tringa nebularia): This species has not been recorded within the Action area. However, this species has been recorded in the surrounds of the Action area during Lake Cowal bird monitoring, on a number of occasions. The most recent recording of this species was in 2003 (Australian Museum Business Services, 2013). A database record for this species exists from 1997 within 100 m of the eastern part of the Action area within Lake Cowal (Figure 3b) (OEH, 2017a). - Assessment: During operations to date, the CGO has resulted in a number of positive outcomes for local biodiversity through habitat enhancement programs on former grazing land. For example, the riparian vegetation along the western foreshore of Lake Cowal (migratory bird habitat) has been managed to enhance ecological values, resulting in natural regeneration of native vegetation. Potential impacts from the Action on migratory wetland birds may result from land clearance activities and/or interaction with the tailings storage facilities. Noting, however, that the Common Sandpiper is the only one of these waterbirds to have been recorded within ML 1535 since commencement of the CGO. Although some potential habitat for the above listed species may be disturbed by the Action, the area to be disturbed is not considered material nor crucial to the viability of the local populations of these species. The potential habitat within the Action area would be temporary, is highly fragmented and located immediately adjacent to existing/approved mining activities. The Action is unlikely to significantly adversely impact the lifecycle of these migratory wetland species given: • Lake Cowal is an ephemeral lake and would only

Species	Impact
	provide habitat for migratory species when inundated. • To date there have been no detectable adverse impacts on Lake Cowal from the CGO based on the long-term wetland bird monitoring and other fauna surveys. • There would be no change to the design objectives of the existing CGO water management system, with all runoff from disturbed mining areas continuing to be captured on-site. • There would be no change to the CGO lake isolation system (i.e. no change to the existing intrusion of the CGO into Lake Cowal). • The pipeline duplication to take place within Lake Cowal would not have adverse implications for these species. Should Lake Cowal contain water at the time of construction, the pipeline would be placed on the lake bed before being buried once lake levels subside and ground conditions allow burial of the pipeline. The works to be undertaken within the Action area are not likely to have a significant impact on these migratory wetland bird species, given they would not: • substantially modify, destroy or isolate an area of important habitat for these species; • result in an invasive species that is harmful to the migratory species becoming established in an area of important habitat for the these species; or • seriously disrupt the lifecycle of an ecologically significant proportion of the populations of these species.
Migratory Marine Birds: • Cattle Egret (Ardea ibis). • Glossy Ibis (Plegadis falcinellus). • Caspian Tern (Hydroprogne caspia). • White-winged Tern (Chlidonias leucopterus). • Fork-tailed Swift (Apus pacificus). A large number of fauna surveys have been conducted at the CGO (Section 3.1). Long-term bird monitoring on Lake has been undertaken from 1989 to present (Australian Museum Business Services, 2013; Gell and Peake, 2012, 2013 and 2014a-e; Gell. 2015a-c and 2016a-c). The Action area provides some very marginal potential foraging resources for the Cattle Egret in the form of grasslands and cultivated land. Marginal potential foraging and breeding habitat for the	- Cattle Egret (Ardea ibis): This species has not been recorded within the Action area. However, this species has been recorded in the surrounds of the Action area during Lake Cowal bird monitoring, on two occasions in 1989 and 2011 (Australian Museum Business Services, 2013). In addition, database records for this species exist in the surrounds of the Action area, with one record from 1997 located within 100 m of the eastern part of the Action area within Lake Cowal (Figure 3b) and another record located within the CGO existing/approved mining area (Figure 3a) (OEH, 2017a). This species was also recorded flying overhead in cleared agricultural land

Species	Impact
Glossy Ibis is present in areas immediately adjacent to Lake Cowal. Marginal potential foraging habitat for the Glossy Ibis, Caspian Tern and White-winged Tern is present in Lake Cowal (when inundated) and in areas that have the potential to become inundated following heavy rainfall. The Fork-tailed Swift is almost exclusively aerial and does not breed within Australia (DoEE, 2017a). It is unlikely that it would utilise any habitat within the Action area. Migratory marine birds are unlikely to visit or nest within the Action area, as the surrounding vegetation and northern parts of Lake Cowal are likely to provide more desirable habitat under those conditions, including for some species the ability to support the complete lifecycle. When inundated, Lake Cowal provides potential breeding habitat for the Glossy Ibis. To date there have been no detectable adverse impacts on bird breeding attributed to the CGO based on long term wetland bird monitoring (after Australian Museum Business Services, 2013), and behavioural observations (by Professor Peter Gell, University of Ballarat) (Gell, 2005). The Cattle Egret typically breeds in the central east coast area from Newcastle to Bundaberg (DoEE, 2017a). It is unlikely that this species would use parts of the Action area or Lake Cowal for breeding. The White-winged Tern does not breed within Australia (DoEE, 2017a). Due to the proximity of the Action to Lake Cowal, it is possible that these migratory marine species could pass through ML 1535 or interact with components of the Action (e.g. tailings storage facilities and/or water storages).	during previous field surveys (Western Research Institute, 2008). - Glossy Ibis (Plegadis falcinellus): This species was detected by AMBS during preliminary surveys undertaken in 2016 within the Action area (Figure 3b) (AMBS, pers. comm.). This species has also been recorded during monitoring surveys at Lake Cowal, with the most recent record being in 2016 (Australian Museum Business Services, 2013; Gell and Peake, 2012, 2013a-b, 2014b-d; Gell, 2016a). - Caspian Tern (Hydroprogne caspia): This species has not been recorded within the Action area. However, this species has been recorded in the surrounds of the Action area during Lake Cowal bird monitoring, on a number of occasions, with the most recent record being in 2010 (Australian Museum Business Services, 2013). - White-winged Tern (Chlidonias leucopterus): This species has not been recorded within the Action area. However, this species has been recorded in the surrounds of the Action area during Lake Cowal bird monitoring, on four occasions, with the most recent record being in 2001 (Australian Museum Business Services, 2013). - Fork-tailed Swift (Apus pacificus): This species has not been recorded during field surveys at the CGO or within Lake Cowal, despite targeted surveys undertaken within parts of the Action area and in the immediate surrounds. However, a database record for this species from 1997 exists within 100 m of the eastern part of the Action area within Lake Cowal (Figure 3b) (OEH, 2017a). - Assessment: During operations to date, the CGO has resulted in a number of positive outcomes for local biodiversity through habitat enhancement programs on former grazing land. For example, the riparian vegetation along the western foreshore of Lake Cowal (migratory bird habitat) has been managed to enhance ecological values, resulting in natural regeneration of native vegetation. The Action is unlikely to significantly adversely impact the lifecycle of the Cattle Egret given: • The small area of clearance of

Species	Impact
	potential habitat and the larger areas of proximal habitat for this species surrounding the Action area. • The highly mobile nature and large range of this species. • The lack of preferred breeding habitat within the Action area and surrounds. The Action is unlikely to significantly adversely impact the lifecycle of the Glossy Ibis, Caspian Tern, White-winged Tern and Fork-tailed Swift given: • Lake Cowal is an ephemeral lake and would only provide habitat for migratory species when inundated. • To date there have been no detectable adverse impacts on Lake Cowal from the CGO based on the long-term wetland bird monitoring and other fauna surveys. • There would be no change to the design objectives of the existing CGO water management system, with all runoff from disturbed mining areas continuing to be captured on-site. • There would be no change to the CGO lake isolation system (i.e. no change to the existing intrusion of the CGO into Lake Cowal). • The pipeline duplication to take place within Lake Cowal would not have adverse implications for these species. Should Lake Cowal contain water at the time of construction, the pipeline would be placed on the lake bed before being buried once lake levels subside and ground conditions allow burial of the pipeline. The works to be undertaken within the Action area are not likely to have a significant impact on these migratory marine bird species, given they would not: • substantially modify, destroy or isolate an area of important habitat for these species; • result in an invasive species that is harmful to the migratory species becoming established in an area of important habitat for the these species; or • seriously disrupt the lifecycle of an ecologically significant proportion of the populations of these species.
Migratory Terrestrial Birds: • White-bellied Sea-Eagle (Haliaeetus leucogaster). • Eastern Osprey (Pandion cristatus). • White-throated Needletail (Hirundapus caudacutus). • Rufous Fantail (Rhipidura rufifrons). • Satin Flycatcher (Myiagra cyanoleuca). A large number of fauna	- White-bellied Sea-Eagle (Haliaeetus leucogaster): This species was detected by AMBS during preliminary surveys undertaken in 2016 within the Action area (AMBS, pers. comm.). This species has also been opportunistically recorded in 2002 (Figure 3b)

Species	Impact
surveys have been conducted at the CGO (Section 3.1). Long-term bird monitoring on Lake has been undertaken from 1989 to present (summarised in Australian Museum Business Services [2013]). The Action area provides some very marginal potential habitat for the White-bellied Sea-eagle in the form of grasslands and River Red Gum Woodlands, marginal potential habitat for the Rufous Fantail and Satin Flycatcher, and very marginal potential habitat for the Eastern Osprey when Lake Cowal is inundated. The Fork-tailed Swift is almost exclusively aerial and does not breed within Australia (DoEE, 2017a). It is unlikely that it would utilise any habitat within the Action area. Migratory birds are unlikely to visit or nest within the Action area, as the surrounding vegetation and northern parts of Lake Cowal are likely to provide more desirable habitat under those conditions, including for some species the ability to support the complete lifecycle. To date there have been no detectable adverse impacts on bird breeding attributed to the CGO based on long term bird bird monitoring (after Australian Museum Business Services, 2013), and behavioural observations (by Professor Peter Gell, University of Ballarat) (Gell, 2005). Due to the proximity of the Action to Lake Cowal, it is possible that these migratory terrestrial species could pass through ML 1535 or interact with components of the Action (e.g. tailings storage facilities and/or water storages).	(Australian Museum Business Services, 2013). - Eastern Osprey (Pandion cristatus): This species has not been recorded during field surveys at the CGO, despite targeted surveys undertaken within parts of the Action area and in the immediate surrounds. However, a database record from 1997 for this species exists within the eastern part of the Action area within Lake Cowal (Figure 3b) (OEH, 2017a). - White-throated Needletail (Hirundapus caudacutus): This species has not been recorded during field surveys at the CGO or within Lake Cowal, despite targeted surveys undertaken within parts of the Action area and in the immediate surrounds. However, a database record for this species from 1997 exists within 100 m of the eastern part of the Action area within Lake Cowal (Figure 3b) (OEH, 2017a). - Rufous Fantail (Rhipidura rufifrons): This species has not been recorded during field surveys at the CGO or within Lake Cowal, despite targeted surveys undertaken within parts of the Action area and in the immediate surrounds. However, a database record for this species from 1995 exists approximately 1 km south of the Action area (OEH, 2017a). - Satin Flycatcher (Myiagra cyanoleuca): This species has not been recorded during field surveys at the CGO or within Lake Cowal, despite targeted surveys undertaken within parts of the Action area and in the immediate surrounds. However, a database record for this species from 1976 exists approximately 7 km north-east of the Action area in the northern parts of Lake Cowal (OEH, 2017a). - Assessment: During operations to date, the CGO has resulted in a number of positive outcomes for local biodiversity through habitat enhancement programs on former grazing land. For example, areas of remnant vegetation in the vicinity of the CGO, including the riparian vegetation along the western foreshore of Lake Cowal (waterbird habitat), have been managed to enhance ecological values, resulting in natural regeneration of native vegetation. The Action is unlikely to

Species	Impact
	significantly adversely impact the lifecycle of the White-bellied Sea-Eagle given: • The small area of clearance of potential habitat and the larger areas of proximal habitat for these species surrounding the Action area. • The highly mobile nature and large range of this species. The Action is unlikely to significantly adversely impact the lifecycle of the Eastern Osprey given: • The highly mobile nature and large range of this species. • Lake Cowal is an ephemeral lake and would only provide habitat for this species when inundated. • To date there have been no detectable adverse impacts on Lake Cowal from the CGO based on the long-term wetland bird monitoring and other fauna surveys. • There would be no change to the design objectives of the existing CGO water management system, with all runoff from disturbed mining areas continuing to be captured on-site. • There would be no change to the CGO lake isolation system (i.e. no change to the existing intrusion of the CGO into Lake Cowal). • The pipeline duplication to take place within Lake Cowal would not have adverse implications for this species. Should Lake Cowal contain water at the time of construction, the pipeline would be placed on the lake bed before being buried once lake levels subside and ground conditions allow burial of the pipeline. The Action is unlikely to significantly adversely impact the lifecycle of the White-throated Needletail, Rufous Fantail and Satin Flycatcher given: • The small area of clearance of potential habitat and the larger areas of proximal habitat for these species surrounding the Action area. • The highly mobile nature these species. • The lack of field survey records of these species. The works to be undertaken within the Action area are not likely to have a significant impact on these migratory terrestrial bird species, given they would not: • substantially modify, destroy or isolate an area of important habitat for these species; • result in an invasive species that is harmful to the migratory species becoming established in an area of important habitat for

Species	Impact
	the these species; or • seriously disrupt the lifecycle of an ecologically significant proportion of the populations of these species.

2.5.2 Do you consider this impact to be significant?

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 likely to impact on any part of the environment in the Commonwealth land?

No

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

No

2.9 Will there be any 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 impact on any part of the environment in the Commonwealth marine area?

No

Section 3 - Description of the project area

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

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

A number of flora and fauna surveys have been undertaken in the surrounds of the Action area, including:

Studies undertaken in ML 1535 before operations:

- Vestjens (1977);

- Young (1979);

- Anne Clements and Associates (1995);

- Gunninah Consultants Pty Ltd (1995);

- Pease and Grinberg (1995);

- Scribner and Kathuria (1996);

- Bower (1997; 1998a-b; 2003a-b);

- Charles Sturt University (1997);

- Mount King Ecological Surveys (1997); and

- Greg Richards and Associates Pty Ltd (1997a-b).

Waterbird monitoring undertaken from 1989 to present:

- Australian Museum Business Services (2013);

- Gell and Peake (2012, 2013, 2014a-e); and

- Gell (2015a-c, 2016a-c)

Studies undertaken to inform the *Implementation of the Threatened Species Management Protocol* (Barrick, 2003b):

- Barrick (2003b-c); and

- Country Energy (2004).

Studies undertaken for the *Cowal Gold Mine E42 Modification Environmental Assessment* (Barrick, 2008a):

- FloraSearch (2008); and

- Western Research Institute (2008).

Biodiversity Monitoring undertaken from 2008:

- Donato Environmental Services (2006, 2007, 2008a-c, 2009, 2010a-b, 2011a-b, 2012a-b, 2013);

- Barrick (2005a-c, 2006, 2007, 2008a-b, 2009, 2010, 2011, 2012);

- DnA Environmental (2008, 2010, 2011a-c, 2012a-c, 2013a-c, 2014a-c, 2015a-d, 2016a-b, 2017a-c); and

- Gursansky (2013a-b, 2014a-b, 2015a-b, 2016a-b, 2017).

Studies undertaken for the *Cowal Gold Mine Extension Modification Environmental Assessment* (Barrick, 2013a):

- Australian Museum Business Services (2012); and

- Kerle (2013a-b).

Additional field surveys undertaken within ML 1535 and immediate surrounds:

- Cenwest Environmental Services (2011); and

- frc environmental (2011; 2012).

Existing vegetation mapping for the CGO is shown on Figures 3a and 3b. The Action area is largely dominated by derived grasslands with some scattered trees. The extant vegetation is a result of past land clearing for pastoral purposes, and historical prolonged grazing by livestock. The fauna habitat within ML 1535 is now very different from that existing prior to the CGO, and therefore provides limited habitat opportunities for native fauna.

The EPBC Act Protected Matters Search tool identified a number of introduced species that could potentially occur within the Action area and the area surrounding the Action. These included, but were not limited to, the Cat (*Felis catus*), Rabbit (*Oryctolagus cuniculus*), Pig (*Sus scrofa*) and Red Fox (*Vulpes vulpes*) (DoEE, 2017b). These introduced species have been observed at the CGO.

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

No natural rivers, streams and their floodplains, wetlands or water courses are present within the CGO. The CGO is located within the Bland Creek catchment which falls steadily from west to east and drains into Lake Cowal, an ephemeral freshwater lake.

The CGO is located on the western side of Lake Cowal and parts of the Action area traverse the lake (i.e. the proposed pipeline duplication). The existing water supply pipeline would be duplicated along its length, up to Bore 4 of the Bland Creek Palaeochannel Borefield (Figure 2b). Similar to the existing pipeline, the duplicated pipeline would be buried. Should Lake Cowal contain water at the time of construction, the pipeline would be placed on the lake bed before being buried once lake levels subside and ground conditions allow burial of the pipeline.

Lake Cowal is located in the alluvial fan of the Lachlan River known as the Jemalong Plains, part of the Riverina landform. It is the largest inland lake in NSW, covering approximately 13,000 ha. When full, the lake measures approximately 21 km north-south and 9.5 km east-west. Lake Cowal is filled predominantly by Bland Creek from the south, however it is also fed by the Lachlan River during flooding. Another lake, Nerang Cowal, lies to the immediate north and fills less frequently from overflow of Lake Cowal. Historically, Lake Cowal contains at least some water around 50% of the time, however prolonged dry periods of up to 30 years have occurred since the early 20th century.

In more recent years, Lake Cowal has experienced a prolonged dry period. The lake was completely dry from 2001 to 2010, and again in December 2014. Lake Cowal partially filled in July to December 2015, until rainfall across the region in June, July and September 2016 saw its capacity reach and exceed 100% later in 2016.

Land on the eastern and western sides of Lake Cowal are drained by ephemeral drainage lines into the Lake itself.

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

Soil

eSPADE Regional Australian Soil Classification mapping indicates the Action area is likely to contain Vertosols, Chromosols and Kandosols (OEH, 2017b).

The Action area includes the following soil landscapes identified in the *Soil Landscapes of the Forbes 1:250,000 Sheet* (King, 1998):

- Reefton.

- Euglo.

- Marsden.

- Barmedman Creek.

- Boxalls.

- Lake Cowal.

- Scrubby Plans.

- Rusby Swamp.

Vegetation

Previous vegetation mapping prepared by Australian Museum Business Services (2012), and preliminary results from AMBS (pers. comm.) indicate the following native vegetation types occur within the Action area (Figures 3a and 3b):

- Spear Grass - Windmill Grass Grassland.

- Inland Grey Box - Belah - Poplar Box Woodland.

- River Red Gum Woodland and Forest.

- Sedgeland/Herbfield.

- Weeping Myall - Belah - Poplar Box Shrubland and Woodland.

- Weeping Myall - Belah - Poplar Box Shrubland and Woodland - Derived Native Grassland.

Vegetation mapping within the Action area would be verified as part of the assessment for the Modification EA.

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

There are no outstanding natural features or other unique values within the Action area.

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

Vegetation mapped within the Action area is listed in Section 3.3 and shown on Figures 3a and 3b.

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

Ground elevations at the CGO range from around 225 m Australian Height Datum (AHD) on the western boundary of ML 1535 to approximately 200 m AHD at the eastern lease boundary at Lake Cowal.

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

Historically, the Action area would have supported a mosaic of woodland communities reflecting local soil and drainage patterns. Extensive clearing, primarily for the purposes of agriculture, has created a landscape now characterised by disturbed derived grasslands (used mainly for grazing and cropping) with scattered individual trees and woodlands remnants. Grazing and opportunistic cropping within the full storage water line of Lake Cowal (outside of ML 1535) occurs when the lake has receded, and moisture and market conditions are suitable.

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

There are no Commonwealth Heritage Places or other places recognised as having values within the Action area. The closest Commonwealth Heritage Place to the Action is the Forbes Post Office, it is located over 40 km north-east of the Action area and would not be impacted by the Action.

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

Wiradjuri is one of the largest language groups in NSW, however most sources suggest that people generally lived in smaller groups, some of whom spoke different dialects of their main language (Pardoe, 2011). Pearson (1984) undertook extensive research into a range of historical Wiradjuri sources which led him to the conclusion that each family group or clan would generally be based on a particular waterway or drainage catchment area with its river flats and open land where resources are plentiful and houses easy to construct.

Due to the large number of archaeological surveys and studies undertaken in the Lake Cowal region, it is possible to differentiate between unique sites and those sites and isolated finds that represent a component of the regional background distribution (Pardoe, 2011). The background distribution evident at Lake Cowal consists mainly of lithic items found across the land at low densities. Sites generally consist of areas with both larger numbers and greater density of lithic items (Pardoe, 2009a?b).

The density of lithic items (consisting mainly of flakes and cores with a large amount of debitage) appears to be greatest between drainage lines. There are low-density areas apparent throughout the Back Plains, a cluster of higher density areas on the western side of ML 1535 and a slight trend to higher density toward the north of ML 1535 (Pardoe, 2009a-b). Stone tools and debitage are distributed across the land, with a background distribution that is higher than seen in many other areas (Pardoe, 2009a-b).

An Aboriginal Cultural Heritage Assessment would be prepared for the Modification (incorporating the Action), as a component of the broader EA. The assessment would include the development of surface disturbance protocols (consistent with existing heritage management practices undertaken at the CGO), including salvage or demarcation of sites where applicable.

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

The majority of the Action area is located within the CGO mining lease (ML 1535). The properties on which the Action is proposed are owned by Evolution, local government and private landholders.

Evolution holds agreements with private landholders in respect of the existing water supply pipeline, and would amend these agreements (or seek new agreements) for the pipeline duplication associated with the Action as necessary.

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

The western portion of the Action area (at the CGO mine site) is mostly within the current CGO mining lease (ML 1535), and additional sections outside of the mining lease comprising the proposed subsoil and topsoil stockpiles. The portions within ML 1535 are currently not grazed as they are on the margins of the mining operation. The portion outside of ML 1535 has historically been used for grazing and/or cropping, however the current land use is restricted to light grazing.

The eastern portion of the Action area runs through Lake Cowal and continues east to Bore 4 of the Bland Creek Palaeochannel Borefield. At times when Lake Cowal is dry, the area is often used for cropping or grazing. The portion on the eastern side of Lake Cowal is, for most of its length, adjacent to road corridors, including Lake Road, Lows Road and Websters Road. A section of approximately 1.4 km heading east from the edge of Lake Cowal cuts through a cropped paddock adjacent to a narrow canal. In this section of the Action area, the lake edge associated with the woodland fringe is currently grazed by cattle.

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.

Potential impacts to threatened species and other Matters of National Environmental Significance (MNES) will be minimised and managed in accordance with the CGO existing *Flora and Fauna Management Plan* (FFMP) (Evolution, 2015).

Threatened Flora

No disturbance would be required on the southern side of Websters Road for the pipeline duplication associated with the Action, and the known record of *Austrostipa wakoolica* in this location (Figure 3b) would be avoided.

Threatened Ecological Communities

The occurrences of Weeping Myall EEC listed under the EPBC Act which have currently been mapped within ML 1535 by Australian Museum Business Services (2012) and AMBS (pers. comm.) would be avoided by the Action (Figure 3a).

Threatened Fauna

Vegetation Clearance Protocol

A Vegetation Clearance Protocol currently exists for the CGO and would continue to be implemented for the Action. Therefore, the potential for land clearing activities to adversely impact MNES, in the unlikely event that some were present within the Action area, would be minimal. The Vegetation Clearance Protocol involves (Barrick, 2003b):

- Restriction of clearance activities.

- Pre-clearance surveys (including capture and removal of animal[s] to alternative suitable habitat)

- Placement of nesting boxes in suitable habitat for birds and arboreal mammals.

Threatened Species Management Protocol

The CGO Threatened Species Management Protocol was developed to minimise potential impacts of the approved CGO on threatened flora and fauna species known and/or considered possible occurrences in the disturbance area and/or immediate surrounds (Barrick, 2003b). The Threatened Species Management Protocol includes provisions for targeted searches prior to construction and proposed mitigation measures where threatened flora or fauna species are found (Barrick, 2003b). The Threatened Species Management Protocol also includes threatened species management strategies prepared for threatened species which have been recorded in the course of targeted surveys or for which habitat resources typically associated with the lifecycle components of a threatened species have been identified (Barrick, 2003b).

Water Management

On-site water quality management (e.g. Internal Catchment Diversion System, Up-catchment Diversion System, sediment control measures and revegetation of soil stockpiles) prevents the degradation of water quality in Lake Cowal and elsewhere on-site, thereby reducing a potential adverse impact on waterbirds and other fauna which utilise Lake Cowal.

Measures have been developed for the approved CGO for the management and monitoring of surface water quality and quantity within and around the mine site (Barrick, 2013b). Management strategies to prevent the degradation of the quality of water in Lake Cowal during the mine operation phase include a variety of erosion, sediment and salinity control measures.

Interactions with Tailings Storage Facilities

Mechanisms have been developed to keep threatened waterbirds away from the approved CGO tailings storage facilities and include (Evolution, 2015):

- Minimising the area of open water in the tailings storage facilities - to reduce the attractiveness of the tailings storage facilities to threatened waterbirds, the area of open water in the tailings storage facilities will be minimised by maximising the dry density of tailings and maximising the re-use of water from the tailings storage facilities in the process plant (North Limited, 1998).

- Making the area non-conducive to the establishment of wildlife habitats - rehabilitation of the tailings storage facility area during operations will be such that minimal habitat opportunities will be created for threatened waterbirds. Rehabilitation of the tailings storage facility batters will achieve soil stabilisation yet will not create desirable habitat.

Avifauna deterrence mechanisms are also utilised at the tailings storage facilities (e.g. audio and visual stimuli to scare/repel birds).

Cyanide Destruction

The tailings slurry is passed through a cyanide destruction process before being discharged to the tailings storage facilities.

The CGO Development Consent (DA 14/98) details the approved cyanide concentrations in the aqueous component of the tailings slurry stream at the process plant (measured via an automated sampler), which are:

- 20 mg/L CNWAD (90th percentile over 6 months); and

- 30 mg/L CNWAD (maximum permissible limit at any time).

CNWAD levels in the aqueous component of the tailings slurry stream are monitored twice daily. To date, there has been no exceedance of the approved cyanide concentrations detailed in the CGO Development Consent (DA 14/98).

Rehabilitation

Surface development areas associated with the CGO are progressively rehabilitated and revegetated with species characteristic of native species endemic to the local area. Landforms are revegetated with selected species of native and/or endemic vegetation that are both suitable to the physiographic and hydrological features of each landform, and which expand the areas of remnant endemic vegetation that currently exist in the immediate region (Barrick, 2013a).

Biodiversity Offsets

Four Enhancement Areas have been established in accordance with the CGO Remnant Vegetation Enhancement Program to improve the quality of habitat available to flora and fauna, expand the extent of remnant vegetation, increase the diversity and/or abundance of native flora and fauna within the enhancement areas, and significantly contribute to the conservation of regional biodiversity.

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.

The following environmental outcomes, relevant to MNES, would be achieved as a result of the works undertaken within the Action area:

- No impacts to the World Heritage values of a declared World Heritage property.

- No impacts to the National Heritage values of a National Heritage Place.

- No impacts to the ecological character of a declared Ramsar wetland.

- No significant impacts to listed threatened species or ecological communities.

- No significant impacts to listed migratory species.

- No impacts to the environment in a Commonwealth marine area.

- No impacts to the environment on Commonwealth land.

- No impacts to the Great Barrier Reef Marine Park.

- No impacts to a water resource, in relation to a large coal mining development.

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.

On the basis of the reasons provided in Section 2, the Action is not considered to be a controlled action as it is not likely to have a significant impact on:

- the World Heritage values of a declared World Heritage property;

- the National Heritage values of a National Heritage Place;

- the ecological character of a wetlands of international importance;

- a listed threatened species, community, or their habitat;a listed migratory species;

- the environment in a Commonwealth marine area;

- the environment on Commonwealth land;

- the environment from nuclear action;

- the Great Barrier Reef Marine Park; or

- a water resource, in relation to coal seam gas development and large coal mining development.

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.

The CGO's compliance with its legislative environmental requirements is independently monitored, and a report produced annually by the Cowal Gold Operations Independent Monitoring Panel (CGO IMP). The CGO IMP's latest report (October 2016) conducted an assessment of compliance at the CGO, and concluded the following:

The Cowal Gold Operations have been developed generally in accordance with the environmental assessments prepared for the project and the audit findings confirm an overall high standard of compliance with the Development Consent Conditions, Environmental Protection Licence and requirements of the environmental conditions attached to the Mining Lease 1535.

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.

The person proposing to take the action the subject of this referral is Evolution Mining (Cowal) Pty Limited, which is a local subsidiary of Evolution Mining Limited. The CGO was purchased by Evolution Mining Limited from Barrick Gold Corporation in May 2015. As part of the purchase, the entity now known as Evolution Mining (Cowal) Pty Limited was acquired by Evolution Mining Limited.

The entity now known as Evolution Mining (Cowal) Pty Limited was formerly known by a number of different names, including:

- Barrick (Cowal) Limited (from 8 May 2009 to 24 July 2015, on which date the entity became known as Evolution Mining (Cowal) Pty Limited);

- Barrick Australia Limited (from 10 August 2002 to 8 May 2009);

- Homestake Australia Limited (from 5 October 2000 to 10 August 2002); and

- Homestake Australia Ltd (from 1 November 1999 to 5 October 2000).

No proceedings relating to environmental protection and conservation matters have been brought against Evolution Mining (Cowal) Pty Ltd since it was acquired by Evolution Mining Limited from Barrick Gold Corporation in May 2015.

There were, however, a number of proceedings relating to CGO which were brought by an Aboriginal man, Mr Neville Williams, against the entity now known as Evolution Mining (Cowal) Pty Ltd during the period CGO was under the ownership of Barrick Gold Corporation or Homestake Gold. Those proceedings, which were brought in the Land and Environment Court of NSW and Federal Court of Australia, are listed below:

1) *Williams v Minister for Planning and Barrick (Cowal) Ltd* (No 2) [2011] NSW Land and Environment Court (NSWLEC) 62 – in this case, Mr Williams brought judicial review proceedings challenging the validity of a modification made to the CGO development consent by the NSW Minister for Planning under the EP&A Act – the proceedings were dismissed by Pain J.

2) *Williams v Minister for Planning and Barrick (Cowal) Ltd (No 3)* [2010] NSWLEC 204 – in this case, Mr Williams brought judicial review proceedings challenging the validity of a modification made to the CGO development consent by the NSW Minister for Planning under the EP&A Act – the proceedings resulted in Biscoe J declaring that the modification made to the CGO development consent was partially invalid.

3) *Williams v Minister for Planning and Barrick Australia Limited* [2009] NSWLEC 5 – in this case, Mr Williams brought proceedings contending that a request made by Barrick Australia Limited to modify the CGO development consent under the EP&A Act was not a request within the meaning of s 75W – the proceedings resulted in Biscoe J making the declaration sought by Mr Williams.

4) The decision of Biscoe J in this case was ultimately overturned on appeal by the NSW Court of Appeal: see *Barrick Australia Ltd v Williams* [2009] NSWCA 275.

5) *Williams v Pardoe and Ors* [2005] NSWLEC 119 – in this case, Barrick Australia Limited was one of the respondents. It was contended that Barrick Australia Limited committed consequential breaches of ss 87 and 90 of the NPW Act, which generally concern Aboriginal cultural heritage. The proceedings were dismissed by Bignold J.

6) *Williams v Barrick Australia Ltd* [2003] NSWLEC 218 – in this case, Mr Williams claimed declaratory and injunctive relief against Barrick Australia Ltd, amongst other respondents, in respect of works carried out by it for CGO which, he contended, were in breach of s 90 of the NPW Act concerning Aboriginal cultural heritage. The proceedings were dismissed by Bignold J.

7) *Williams v Minister for the Environment and Heritage* [2003] FCA 535 – in this case, Mr Williams challenged the decision of the Minister for refusing an application for an interim protection declaration to be made in respect of Aboriginal artefacts said to be located within the

CGO development area. Wilcox J upheld the challenge, and declared that the Minister's decision to refuse the application was invalid and made a further order restraining Barrick Australia Ltd from undertaking any work on the land pending further determination by the Minister or order by the Court.

8) On the same day after delivering this judgment, Wilcox J revoked the order restraining Barrick from undertaking work on the land. Mr Williams appealed Wilcox J's decision in this respect and sought urgent relief from the Federal Court by way of notice of motion. Lindgren J found that the appeal did not have any prospects of success and dismissed the motion for urgent relief with costs: see *Williams v Minister for the Environment and Heritage and Anor* [2003] FCA 627.

9) *Williams v Homestake Australia Ltd* [2002] NSWLEC 43 – in this case, Mr Williams sought an interlocutory injunction to restrain exploration activity being carried out at CGO on the basis of possible irreparable damage being done to Aboriginal relics unless the injunction was granted. The injunction was granted by Bignold J.

6.3 Will the action be taken in accordance with the corporation's environmental policy and planning 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.

Evolution is committed to attaining an outstanding level of environmental performance in all of their workplaces.

Their environmental care and culture is formed on the basis of:

- Commitment to their Environment and Sustainability Policy, with supportive funding and a belief that the majority of environmental incidents are preventable and controllable with foresight, relevant training, purposeful attitude and appropriate equipment.

- Accountability of Management with the support of all Personnel to ensure that the Workplace and the practices comply with statutory and license conditions.

- Evolution will strive to implement leading industry practices and environmental management systems at all levels including exploration, development, operations, decommissioning, closure and rehabilitation.

- Regular assessment of the environmental performance of Evolution’s activities will be undertaken to comply with Evolution’s commitments and conditions and to report findings to stakeholders, the community and regulatory authorities.

- Continually striving to identify opportunities to effectively manage energy and water whilst

minimising waste and reducing their environmental footprint.

- Increasing awareness of Personnel on the potential environment impacts of activities in which we are involved and how those impacts can be minimised.

- Evolution to maintain appropriate emergency and response programs and to notify the relevant authority in the event of any reportable environmental incident.

- Contribute to conservation of biodiversity and integrated approaches to land use.

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

Yes

6.4.1 EPBC Act No and/or Name of Proposal.

Homestake Gold of Australia Limited referred the Cowal Gold Project in 2001 (EPBC 2001/421). The Commonwealth Minister for the Environment and Heritage decided on 29 September 2001 that the Cowal Gold Project was not a ‘controlled action’, and no EPBC Act approval was required.

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
Anne Clements and Associates (1995) Terrestrial Flora Report: Lake Cowal District. Appendix F of NSR Environmental Consultants (1995) Lake Cowal Gold Project Environmental Impact Statement.	Reliable. Specialist report prepared for the CGO.	N/A.
Australian Museum Business Services (2012) Cowal Gold Mine and Surrounds Flora Survey. Report prepared for Barrick (Australia Pacific) Limited.	Reliable. Specialist report for the CGO.	N/A.
Australian Museum Business Services (2013) Lake Cowal Waterbird Monitoring (1989 to 2012) Compilation Report. Report prepared for Barrick (Australia Pacific) Limited.	Reliable. Specialist report for the CGO.	N/A.
Barrick Australia Limited (2005a) Cowal Gold Project – Vegetation Clearance Protocol Report – Soil Stockpile 2. September 2005. VCP-R007-B.	Reliable. Vegetation Clearance Protocol undertaken at the CGO.	N/A.
Barrick Australia Limited (2005b) Cowal Gold Mine Implementation Plan to Protect Fauna from Interactions with the Tailings Storage Facilities.	Reliable. Implementation plan prepared for the CGO.	N/A.
Barrick Australia Limited (2005c) Cowal Gold Project 2003-2004 Annual Environmental Management Report.	Reliable. Management report prepared for the CGO.	N/A.
Barrick Australia Limited (2006)	Reliable. Management report	N/A.

Reference Source	Reliability	Uncertainties
Cowal Gold Project 2004-2005 Annual Environmental Management Report.	prepared for the CGO.	
Barrick Australia Limited (2007) Cowal Gold Project 2005-2006 Annual Environmental Management Report.	Reliable. Management report prepared for the CGO.	N/A.
Barrick Australia Limited (2008a) Cowal Gold Mine E42 Modification Environmental Assessment.	Reliable. Environmental assessment prepared for the CGO.	N/A.
Barrick Australia Limited (2008b) Cowal Gold Project 2006-2007 Annual Environmental Management Report.	Reliable. Management report prepared for the CGO.	N/A.
Barrick Australia Limited (2013a) Cowal Gold Mine Extension Modification Environmental Assessment.	Relevant. Environmental Assessment prepared for the CGO.	N/A.
Barrick (Cowal) Limited (2003a) Indigenous Archaeology and Cultural Heritage Management Plan.	Reliable. Management plan prepared by Evolution for the CGO.	N/A.
Barrick (Cowal) Limited (2003b) Cowal Gold Project Implementation of the Threatened Species Management Protocol.	Reliable. Implementation plan prepared for the CGO.	N/A.
Barrick (Cowal) Limited (2003c) Cowal Gold Project Access Road Implementation of the Threatened Species Management Protocol.	Reliable. Implementation plan prepared for the CGO.	N/A.
Barrick (Cowal) Limited (2009) Cowal Gold Project 2007-2008 Annual Environmental Management Report.	Reliable. Management report prepared for the CGO.	N/A.
Barrick (Cowal) Limited (2010) Cowal Gold Project 2008-2009 Annual Environmental Management Report.	Reliable. Management report prepared for the CGO.	N/A.
Barrick (Cowal) Limited (2011) Cowal Gold Project 2010-2011 Annual Environmental Management Report.	Reliable. Management report prepared for the CGO.	N/A.

Reference Source	Reliability	Uncertainties
Barrick (Cowal) Limited (2012) Cowal Gold Project 2011-2012 Annual Environmental Management Report.	Reliable. Management report prepared for the CGO.	N/A.
Barrick (Cowal) Limited (2013b) Cowal Gold Mine Site Water Management Plan.	Reliable. Management plan prepared for the CGO.	N/A.
Bower, C.C. (1997) Cowal Gold Project: Flora – Threatened Species Assessment. Report prepared for North Limited.	Reliable. Specialist report prepared for the CGO.	N/A.
Bower, C.C. (1998a) Survey of the Cowal Project Area and surrounds for the Austral Pillwort (Pilularia novae-hollandiae). Unpublished report by Orchid Research to North Limited. 14 pp.	Reliable. Specialist report prepared for the CGO.	N/A.
Bower, C.C. (1998b) Survey for the Endangered Peppercress, Lepidium Hyssopifolium Desv. (Brassicaceae), on the Proposed Cowal Gold Project Site and the Route of the Borefield Pipeline. Orchid Research.	Reliable. Specialist report prepared for the CGO.	N/A.
Bower, C.C. (2003a) Vegetation Community Mapping along the Pipeline/Borefield Route.	Reliable. Specialist report prepared for the CGO.	N/A.
Bower, C.C. (2003b) Vegetation Community Mapping along the Access Road.	Reliable. Specialist report prepared for the CGO.	N/A.
Cenwest Environmental Services (2011) Cowal Augmentation Project Amphibian Survey.	Reliable. Specialist report prepared for the CGO.	N/A.
Charles Sturt University (1997) Cowal Gold Project Area Botanical Survey. Report prepared for North Limited.	Reliable. Specialist report prepared for the CGO.	N/A.
Country Energy (2004) Temora to Cowal Electricity Transmission Line – Implementation of the Threatened Species Management Protocol.	Reliable. Specialist report prepared for the CGO.	N/A.

Reference Source	Reliability	Uncertainties
Cowal Gold Operations Independent Monitoring Panel (2016) Twelfth Annual Report of the Independent Monitoring Panel for the Cowal Gold Project – October 2016.	Reliable. An environmental audit of the CGO undertaken by an independent party.	N/A.
Department of Environment, Climate Change and Water (2010) Aboriginal cultural heritage consultation requirements for proponents 2010.	Reliable. Document prepared by the NSW Department of Environment, Climate Change and Water.	N/A.
Department of the Environment and Energy (2017a) Species Profiles and Threats Database. Website: http://www.environment.gov.au/cgi bin/sprat/public/sprat.pl Accessed: June 2017.	Reliable. Website of the Commonwealth Department of Environment and Energy.	N/A.
Department of the Environment and Energy (2017b) Protected Matters Search within the following search area: 33.449288 147.102742,-33.441267 147.735829,-33.825448 147.746815,-33.843699 147.101368,-33.449288 147.102742,-33.425222 147.089009,-33.449288 147.102742. Data Received: 24 May 2017.	Reliable. Website of the Commonwealth Department of Environment and Energy, suggested by the Department to identify potentially occurring MNES.	N/A.
DnA Environmental (2008) Remnant Vegetation Enhancement Program: 2008 Monitoring Results. Report to Barrick (Australia Pacific) Limited.	Reliable. Specialist report prepared for the CGO.	N/A.
DnA Environmental (2010) Remnant Vegetation Enhancement Program: 2009 Monitoring Results. Report to Barrick (Australia Pacific) Limited.	Reliable. Specialist report prepared for the CGO.	N/A.
DnA Environmental (2011a) Remnant Vegetation	Reliable. Specialist report prepared for the CGO.	N/A.

Reference Source	Reliability	Uncertainties
Enhancement Program: 2010 Monitoring Results. Report to Barrick (Australia Pacific) Limited.		
DnA Environmental (2011b) 2010 Compensatory Wetland Regeneration Monitoring Results for Cowal Gold Mine.	Reliable. Specialist report prepared for the CGO.	N/A.
DnA Environmental (2011c) 2010 Rehabilitation Monitoring Report for Cowal Gold Mine.	Reliable. Specialist report prepared for the CGO.	N/A.
DnA Environmental (2012a) Remnant Vegetation Enhancement Program: 2011 Monitoring Results. Report to Barrick (Australia Pacific) Limited.	Reliable. Specialist report prepared for the CGO.	N/A.
DnA Environmental (2012b) 2011 Compensatory Wetland Regeneration Monitoring Results for Cowal Gold Mine.	Reliable. Specialist report prepared for the CGO.	N/A.
DnA Environmental (2012c) 2011 Rehabilitation Monitoring Report for Cowal Gold Mine.	Reliable. Specialist report prepared for the CGO.	N/A.
DnA Environmental (2013a) Remnant Vegetation Enhancement Program: 2012 Monitoring Results. Report to Barrick (Australia Pacific) Limited.	Reliable. Specialist report prepared for the CGO.	N/A.
DnA Environmental (2013b) 2012 Compensatory Wetland Regeneration Monitoring Results for Cowal Gold Mine.	Reliable. Specialist report prepared for the CGO.	N/A.
DnA Environmental (2013c) 2012 Rehabilitation Monitoring Report for Cowal Gold Mine.	Reliable. Specialist report prepared for the CGO.	N/A.
DnA Environmental (2014a) 2013 Compensatory Wetland Regeneration Monitoring Results. Report Prepared for Barrick (Cowal) Limited.	Reliable. Specialist report prepared for the CGO.	N/A.
DnA Environmental (2014b) 2013 Rehabilitation Monitoring Report. Report prepared for Barrick (Cowal) Limited.	Reliable. Specialist report prepared for the CGO.	N/A.

Reference Source	Reliability	Uncertainties
DnA Environmental (2014c) 2013 Remnant Vegetation Enhancement Program Monitoring Report. Report prepared for Barrick (Cowal) Limited.	Reliable. Specialist report prepared for the CGO.	N/A.
DnA Environmental (2015a) 2014 Remnant Vegetation Enhancement Program Monitoring Report. Report prepared for Barrick (Cowal) Limited.	Reliable. Specialist report prepared for the CGO.	N/A.
DnA Environmental (2015b) 2014 Rehabilitation Monitoring Report. Report Prepared for Barrick (Cowal) Limited.	Reliable. Specialist report prepared for the CGO.	N/A.
DnA Environmental (2015c) 2014 Compensatory Wetland Monitoring Report. Report Prepared for Barrick (Cowal) Limited.	Reliable. Specialist report prepared for the CGO.	N/A.
DnA Environmental (2015d) 2015 Compensatory Wetland Monitoring Report. Report Prepared for Evolution (Cowal) Limited.	Reliable. Specialist report prepared for the CGO.	N/A.
DnA Environmental (2016a) 2015 Rehabilitation Monitoring Report. Report Prepared for Evolution (Cowal) Limited.	Reliable. Specialist report prepared for the CGO.	N/A.
DnA Environmental (2016b) 2015 Rehabilitation Monitoring Report. Report Prepared for Evolution Mining Limited.	Reliable. Specialist report prepared for the CGO.	N/A.
DnA Environmental (2017a) 2016 Remnant Vegetation Enhancement Program Monitoring Report. Report Prepared for Cowal Gold Corporation.	Reliable. Specialist report prepared for the CGO.	N/A.
DnA Environmental (2017b) 2016 Rehabilitation Monitoring Report. Report Prepared for Evolution Mining Limited.	Reliable. Specialist report prepared for the CGO.	N/A.
DnA Environmental (2017c) 2016 Rehabilitation Monitoring	Reliable. Specialist report prepared for the CGO.	N/A.

Reference Source	Reliability	Uncertainties
Report. Report Prepared for Evolution (Cowal) Limited.		
Donato Environmental Services (2006) Seasonal Wildlife Use Patterns of the Cowal Gold Mine Tailings Facility.	Reliable. Specialist report prepared for the CGO.	N/A.
Donato Environmental Services (2007) Seasonal Wildlife Use Patterns of the Cowal Gold Mine Tailings Facility: October 2006 to March 2007.	Reliable. Specialist report prepared for the CGO.	N/A.
Donato Environmental Services (2008a) Seasonal Wildlife Use Patterns of the Cowal Gold Mine Tailings Facility: April 2007 to September 2008.	Reliable. Specialist report prepared for the CGO.	N/A.
Donato Environmental Services (2008b) Seasonal Wildlife Use Patterns of the Cowal Gold Mine Tailings Facility: October 2007 to March 2008.	Reliable. Specialist report prepared for the CGO.	N/A.
Donato Environmental Services (2008c) Seasonal Wildlife Use Patterns of the Cowal Gold Mine Tailings Facility: April to September 2007.	Reliable. Specialist report prepared for the CGO.	N/A.
Donato Environmental Services (2009) Seasonal Wildlife Use Patterns of the Cowal Gold Project tailings storage facility: 1 October 2008 to 30 March 2009.	Reliable. Specialist report prepared for the CGO.	N/A.
Donato Environmental Services (2010a) Seasonal Wildlife Use Patterns of the Cowal Gold Mine tailings storage facility: 1 April 2009 to 30 September 2009.	Reliable. Specialist report prepared for the CGO.	N/A.
Donato Environmental Services (2010b) Seasonal Wildlife Use Patterns of the Cowal Gold Mine tailings storage facility: 1 October 2009 to 31 March 2010.	Reliable. Specialist report prepared for the CGO.	N/A.
Donato Environmental Services (2011a) Seasonal Wildlife Use	Reliable. Specialist report prepared for the CGO.	N/A.

Reference Source	Reliability	Uncertainties
Patterns of the Cowal Gold Mine tailings storage facility: 1 April to 30 September 2010.		
Donato Environmental Services (2011b) Seasonal Wildlife Use Patterns of the Cowal Gold Mine tailings storage facility: 1 October 2010 to 31 March 2011.	Reliable. Specialist report prepared for the CGO.	N/A.
Donato Environmental Services (2012a) Seasonal Wildlife Use Patterns of the Cowal Gold Mine tailings storage facility: 1 April 2011 to 30 September 2011.	Reliable. Specialist report prepared for the CGO.	N/A.
Donato Environmental Services (2012b) Seasonal Wildlife Use Patterns of the Cowal Gold Mine tailings storage facility: 1 October 2011 to 31 March 2012.	Reliable. Specialist report prepared for the CGO.	N/A.
Donato Environmental Services (2013) Seasonal Wildlife Use Patterns of the Cowal Gold Mine tailings storage facility: 1 April to 30 September 2012.	Reliable. Specialist report prepared for the CGO.	N/A.
Evolution Mining (2015) Cowal Gold Operations Flora and Fauna Management Plan.	Reliable. Specialist report prepared for the CGO.	N/A.
FloraSearch (2008) Cowal Gold Mine E42 Modification Flora Assessment. Report to Barrick Australia Ltd.	Reliable. Specialist report prepared for the CGO.	N/A.
frc Environmental (2011) Cowal Gold Mine Compensatory Wetland Habitat and Fish Investigation.	Reliable. Specialist report prepared for the CGO.	N/A.
frc Environmental (2012) Cowal Gold Mine Compensatory Wetland Habitat and Fish Investigation 2012.	Reliable. Specialist report prepared for the CGO.	N/A.
Gell, P.A. (2005) Lake Cowal Blasting Monitoring Final Report. Report prepared for Barrick Australia.	Reliable. Specialist report prepared for the CGO.	N/A.
Gell, P. (2015a) Lake Cowal	Reliable. Specialist report	N/A.

Reference Source	Reliability	Uncertainties
Waterbird Monitoring Survey Progress Report January 2015. Federation University Australia, Centre for Environmental Management. Report Prepared for Cowal Gold Corporation.	prepared for the CGO.	
Gell, P. (2015b) Lake Cowal Waterbird Monitoring Survey Progress Report August 2015. Federation University Australia, Water Research Network. Report Prepared for Cowal Gold Corporation.	Reliable. Specialist report prepared for the CGO.	N/A.
Gell, P. (2015c) Lake Cowal Waterbird Monitoring Survey Progress Report October 2015. Federation University Australia, Water Research Network. Report Prepared for Evolution Mining Limited.	Reliable. Specialist report prepared for the CGO.	N/A.
Gell, P. (2016a) Lake Cowal Waterbird Monitoring Survey Progress Report November 2016. Federation University Australia, Water Research Network. Report Prepared for Evolution Mining Limited.	Reliable. Specialist report prepared for the CGO.	N/A.
Gell, P. (2016b) Lake Cowal Waterbird Monitoring Survey Progress Report January 2016. Federation University Australia, Water Research Network. Report Prepared for Evolution Mining Limited.	Reliable. Specialist report prepared for the CGO.	N/A.
Gell, P. (2016c) Lake Cowal Waterbird Monitoring Survey Progress Report August 2016. Federation University Australia, Water Research Network. Report Prepared for Evolution Mining Limited.	Reliable. Specialist report prepared for the CGO.	N/A.
Gell, P.A. and Peake, P. (2012) Lake Cowal Waterbird Monitoring Survey Progress Report October 2012.	Reliable. Specialist report prepared for Lake Cowal.	N/A.
Gell, P.A. and Peake, P. (2013)	Reliable. Specialist report	N/A.

Reference Source	Reliability	Uncertainties
Lake Cowal Waterbird Monitoring Survey Progress Report January 2013.	prepared for Lake Cowal.	
Gell, P and Peake, P. (2014a) Lake Cowal Waterbird Monitoring Survey Progress Report August 2014. Federation University Australia, Centre for Environmental Management. Report Prepared for Barrick Gold Corporation.	Reliable. Specialist report prepared for Lake Cowal.	N/A.
Gell, P and Peake, P. (2014b) Lake Cowal Waterbird Monitoring Survey Progress Report January 2014. Federation University Australia, Centre for Environmental Management. Report Prepared for Barrick Gold Corporation.	Reliable. Specialist report prepared for Lake Cowal.	N/A.
Gell, P and Peake, P. (2014c) Lake Cowal Waterbird Monitoring Survey Progress Report October 2014. Federation University Australia, Centre for Environmental Management. Report Prepared for Barrick Gold Corporation.	Reliable. Specialist report prepared for Lake Cowal.	N/A.
Gell, P and Peake, P. (2014d) Lake Cowal Waterbird Monitoring Survey Progress Report August 2013. Federation University Australia, Centre for Environmental Management. Report Prepared for Barrick Gold Corporation.	Reliable. Specialist report prepared for Lake Cowal.	N/A.
Gell, P and Peake, P. (2014e) Lake Cowal Waterbird Monitoring Survey Progress Report October 2013. Federation University Australia, Centre for Environmental Management. Report Prepared for Barrick Gold Corporation.	Reliable. Specialist report prepared for Lake Cowal.	N/A.
Greg Richards and Associates Pty Ltd (1997a) Results of a Bat Fauna Survey to Target	Reliable. Specialist report prepared for the CGO.	N/A.

Reference Source	Reliability	Uncertainties
Threatened Species.		
Greg Richards and Associates Pty Ltd (1997b) Cowal Gold Project Significance of Operations on Threatened Bat Species.	Reliable. Specialist report prepared for the CGO.	N/A.
Gunninah Consultants Pty Ltd (1995) Fauna Impact Statement.	Reliable. Specialist report prepared for the CGO.	N/A.
Gursansky, W. (2013a) Seasonal wildlife use patterns of the Cowal Gold Mine tailings storage facility: 1 October 2012 to 31 March 2013, Draft report, Donato Environmental Services, Darwin. Report Prepared for Barrick Gold Corporation.	Reliable. Specialist report prepared for the CGO.	N/A.
Gursansky, W. (2013b) Seasonal wildlife use patterns of the Cowal Gold Mine tailings storage facility: 1 April to 30 June 2013. Draft Report, Donato Environmental Services, Darwin. Report Prepared for Barrick Gold Corporation.	Reliable. Specialist report prepared for the CGO.	N/A.
Gursansky, W. (2014a) Seasonal wildlife use patterns of the Cowal Gold Mine tailings storage facility: 1 July to 31 December 2013, Donato Environmental Services, Darwin. Report Prepared for Barrick Gold Corporation.	Reliable. Specialist report prepared for the CGO.	N/A.
Gursansky, W. (2014b) Seasonal wildlife use patterns of the Cowal Gold Mine tailings storage facility: 1 January to 30 June 2014. Donato Environmental Services, Darwin. Report Prepared for Barrick Gold Corporation.	Reliable. Specialist report prepared for the CGO.	N/A.
Gursansky, W. (2015a) Seasonal wildlife use patterns of the Cowal Gold Mine tailings	Reliable. Specialist report prepared for the CGO.	N/A.

Reference Source	Reliability	Uncertainties
storage facility: 1 July to 31 December 2014. Donato Environmental Services, Darwin. Report Prepared for Barrick Gold Corporation.		
Gursansky, W. (2015b) Seasonal wildlife use patterns of the Cowal Gold Mine tailings storage facility: 1 Jan to 30 June 2015. V2. Donato Environmental Services, Darwin. Report Prepared for Evolution Mining Limited.	Reliable. Specialist report prepared for the CGO.	N/A.
Gursansky, W. (2016a) Seasonal wildlife use patterns of the Cowal Gold Mine tailings storage facility: 1 July to 31 December 2015. V2. Donato Environmental Services, Darwin. Report Prepared for Evolution Mining Limited.	Reliable. Specialist report prepared for the CGO.	N/A.
Gursansky, W. (2016b) Seasonal wildlife use patterns of the Cowal Gold Operations tailings storage facility: 1 January to 30 June 2016. V2. Donato Environmental Services, Darwin. Report Prepared for Evolution Mining Limited.	Reliable. Specialist report prepared for the CGO.	N/A.
Gursansky, W. (2017) Seasonal wildlife use patterns of the Cowal Gold Operations tailings storage facility: 1 July to 31 December 2016. V1. Donato Environmental Services, Darwin. Report Prepared for Evolution Mining Limited.	Reliable. Specialist report prepared for the CGO.	N/A.
Kerle, A. (2013a) Cowal Gold Mine and Surrounds Fauna Report.	Reliable. Specialist report prepared for the CGO.	N/A.
Kerle, A. (2013b) Proposed Pump Station – Cowal Gold Mine Extension Modification Potential Fauna Habitat.	Reliable. Specialist report prepared for the CGO.	N/A.
King, D.P. (1998) Soil	Reliable. Mapping publication	N/A.

Reference Source	Reliability	Uncertainties
Landscapes of the Forbes 1:250,000 Sheet. NSW Department of Land and Water Conservation, Sydney.	regarding the soil landscapes of the CGO and surrounds.	
Mount King Ecological Surveys (1997) Fauna Report - Temora to Cowal Gold Project Electricity Transmission Line Fauna Assessment.	Reliable. Environmental assessment prepared for the CGO.	N/A.
North Limited (1998) Cowal Gold Project Environmental Impact Statement.	Reliable. Environmental assessment prepared for the CGO.	N/A.
Office of Environment and Heritage (2017a) BioNet Atlas of NSW Wildlife. Website: www.environment.nsw.gov.au/atlaspublic app/UI_Modules/ATLAS_/AtlasSearch.aspx Accessed: May 2017.	Reliable. Website of the NSW Office of Environment and Heritage.	N/A.
Office of Environment and Heritage (2017b) eSPADE v 2.0. Website: www.environment.nsw.gov.au/eSPADEwebapp Accessed: June 2017.	Reliable. Website of the NSW Office of Environment and Heritage.	N/A.
Pardoe, C. (2009a) Archaeological Investigations at Lake Cowal. Report to Barrick Gold of Australia Limited.	Reliable. Specialist report prepared for the CGO.	N/A.
Pardoe, C (2009b) Archaeological Excavations at Lake Cowal. Report to Barrick Gold of Australia Limited.	Reliable. Specialist report prepared for the CGO.	N/A.
Pardoe, C (2011) Cowal Gold Mine Extension Modification Aboriginal Cultural Heritage Assessment. Report to Barrick Cowal Limited.	Reliable. Specialist report prepared for the CGO.	N/A.
Pearson, M. (1984) Bathurst Plains and Beyond; European Colonisation and Aboriginal Resistance. Aboriginal History 8; 63-79.	Reliable. Specialist report prepared for the region.	N/A.
Pease, B.C. and Grinberg, A. (1995) New South Wales Commercial Fisheries Statistics 1940 to 1992. New South	Reliable. Specialist report prepared for New South Wales.	N/A.

Reference Source	Reliability	Uncertainties
Wales Fisheries Research Institute.		
Scribner, E.A. and Kathuria, A. (1996) New South Wales Commercial Fisheries Statistics 1992/93. New South Wales Fisheries Research Institute.	Reliable. Specialist report prepared for New South Wales.	N/A.
Vestjens, W.J.M. (1977) Status, habitats and food of vertebrates at Lake Cowal, NSW. Division of Wildlife Research Technical Memorandum No. 12 Commonwealth Scientific and Industrial Research Organisation, Canberra.	Reliable. Specialist report prepared for Lake Cowal.	N/A.
Western Research Institute (2008) Appendix E Cowal Gold Mine E42 Modification Fauna Assessment.	Reliable. Specialist report prepared for the CGO.	N/A.
Young, C.J. (1979) Examination of the Aquatic Fauna of Lake Cowal, NSW. Unpublished Report. Inland Fisheries Research Station, Narrandera, New South Wales.	Reliable. Specialist report prepared for Lake Cowal.	N/A.

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 the Action have not been considered. As the Action relates to a mining project the location of the Action area is determined by the location of the resource. Components of the Action relating to maximising the ore processing capacity of CGO's existing process plant are proposed as a result of ongoing mine plan optimisations.

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

Approval Manager

9.2.2 First Name

Bronwyn

9.2.3 Last Name

Flynn

9.2.4 E-mail

Bronwyn.Flynn@evolutionmining.com.au

9.2.5 Postal Address

PO Box 210
West Wyalong NSW 2671
Australia

9.2.6 ABN/ACN

ABN

75007857598 - EVOLUTION MINING (COWAL) PTY LIMITED

9.2.7 Organisation Telephone

0269754700

9.2.8 Organisation E-mail

Bronwyn.Flynn@evolutionmining.com.au

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

Not applicable

Small Business Declaration

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

Signature:…… Date: ……

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

No

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

Person proposing the action - Declaration

I, Bronwyn Flynn, 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: 11/07/17

I, Bronwyn Flynn, the person proposing the action, consent to the designation of EVOLUTION MINING (COWAL) PTY LTD as the proponent of the purposes of the action describe in this EPBC Act Referral.

Signature:…… …… Date: 11/07/17

9.3 Is the Proposed Designated Proponent an Organisation or Individual?

Organisation

9.5 Organisation

9.5.1 Job Title

Approval Manager

9.5.2 First Name

Bronwyn

9.5.3 Last Name

Flynn

9.5.4 E-mail

Bronwyn.Flynn@evolutionmining.com.au

9.5.5 Postal Address

PO Box 210
West Wyalong NSW 2671
Australia

9.5.6 ABN/ACN

ABN

75007857598 - EVOLUTION MINING (COWAL) PTY LIMITED

9.5.7 Organisation Telephone

0269754700

9.5.8 Organisation E-mail

Bronwyn.Flynn@evolutionmining.com.au

Proposed designated proponent - Declaration

I, Bronwyn Flynn, 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: ……11/07/17……

9.6 Is the Referring Party an Organisation or Individual?

Organisation

9.8 Organisation

9.8.1 Job Title

Approval Manager

9.8.2 First Name

Bronwyn

9.8.3 Last Name

Flynn

9.8.4 E-mail

Bronwyn.Flynn@evolutionmining.com.au

9.8.5 Postal Address

PO Box 210
West Wyalong NSW 2671
Australia

9.8.6 ABN/ACN

ABN

75007857598 - EVOLUTION MINING (COWAL) PTY LIMITED

9.8.7 Organisation Telephone

0269754700

9.8.8 Organisation E-mail

Bronwyn.Flynn@evolutionmining.com.au

Referring Party - Declaration

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

Signature:…… …… Date: ……11/07/17……

Appendix A - Attachments

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

1. cowal_actionarea.zip
2. hal-16-41_mod14_epbc_ref_figure_1.pdf
3. hal-16-41_mod14_epbc_ref_figure_2a.pdf
4. hal-16-41_mod14_epbc_ref_figure_2b.pdf
5. hal-16-41_mod14_epbc_ref_figure_3a.pdf
6. hal-16-41_mod14_epbc_ref_figure_3b.pdf