GARDEN GULLY PROJECT
WORKS APPROVAL APPLICATION

ATTACHMENT 7
SITING AND LOCATION

PREPARED FOR:

NEW MURCHISON GOLD LIMITED

NMG
New Murchison
Gold Limited

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[redacted]

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TABLE OF CONTENTS

1. SITING AND LOCATION

New Murchison Gold Limited (NMG) are proposing to develop the Garden Gully Project (the Project), a new gold zone at the Crown Prince deposit (Crown Prince) wholly owned by NMG. The Project is located 650 km northeast of Perth and 20 km north of Meekatharra in the Murchison region of Western Australia (Figure 1, Attachment 2).

The Project is accessed by Meekatharra-Mount Clere Road (unsealed), approximately 13 km from the Great Northern Highway. Transport of ore products from the Project will be via the mine site access roads and the Great Northern Highway to Bluebird Gold Mine (Bluebird), located approximately 15 km south southwest of Meekatharra.

The Project is located within the Shire of Meekatharra and is situated across Yoothapina Pastoral Station and Sherwood Pastoral Station (Figure 2, Attachment 2). As such consent to mine on the reserve is provided for in lease conditions. The Meekatharra Water Reserve which includes the Sherwood borefield that supplies water for the town is approximately 2 km northeast of the Project at its closest point, but about 9 km from the nearest production bore.

On 19 October 2017 (Part A WCD2017/007) and 23 April 2018 (Part B WCD2018/002), the Federal Court of Australia determined the Wajarri Yamatji (claimant) as holders of Native Title of a determination area which covers Yoothapina Pastoral Station and the Project. On 12 November 2021, NMG executed a Native Title and Heritage Agreement (ID 2021-NWA-GG-886-36) between Zeus Mining Pty Ltd, and the Wajarri Yamaji Aboriginal Corporation (WYAC) in relation to mining leases M 51/886 and M 51/889. Both licenses are owned by Zeus, a wholly owned subsidiary of Red Dragon Mines Pty Ltd. Red Dragon Mines Pty Ltd is a wholly owned subsidiary of NMG. The agreement commits to actions relating to payments, community sponsorship, employment, training, contracting, environmental protection, protection of cultural heritage protocols, compensation, access (NNTT 2021).

NMG has continued to engage with relevant Native Title Groups including the WYAC, Ngoonooru Wadjari Peoples Trust and the Wajarri Yamaji Group including proposed applications for additional tenements as well as required heritage surveys.

The Prescribed Premises boundary (Figure 3 and Figure 4, Attachment 2) is consistent with the Project's Development Envelope described in the Mining Proposal application currently under assessment by the Department of Energy, Mines, Industry Regulation and Safety (DEMIRS). The basis of design for the Development Envelope was to avoid and minimise impacts through augmenting, and resizing the Development Envelope to (where possible) 'avoid' sensitive areas.

It is noted that the discharge point of the dewatering infrastructure is within existing Prescribed Premises boundary of L4496/1988/11. To maintain consistency with the broader operational framework, the proposed pipeline corridor and containment infrastructure will adhere to the specifications outlined in the BBGO licence.

2. ENVIRONMENTAL SITING CONTEXT

2.1 CLIMATE

The Project is located in the Northern Goldfields region which experiences a non-seasonal arid climate with hot and dry summers and cool winters. No month in a given year can be considered reliably wet, and zero rainfall can be recorded in any month.

Meekatharra Airport (ID: 007045) is the closest representative Bureau of Meteorology (BoM) weather station (20 km to the southeast). The mean maximum temperatures range from 19.3 to 38.4ºC, with mean minimum temperatures ranging from 7.5 to 24.5ºC (Figure 1).

Rainfall averages 232.5 mm/year with totals influenced by the remnants of tropical cyclones and local depressions. The yearly rainfall statistics from Meekatharra Airport weather station are shown in Figure 1. The lowest recorded annual rainfall was 66.2 mm with the highest recorded at 573.2 mm. The rainfall for January and April 2024 was above average. Rainfall for June 2024 was significantly higher than the average (BoM 2024).

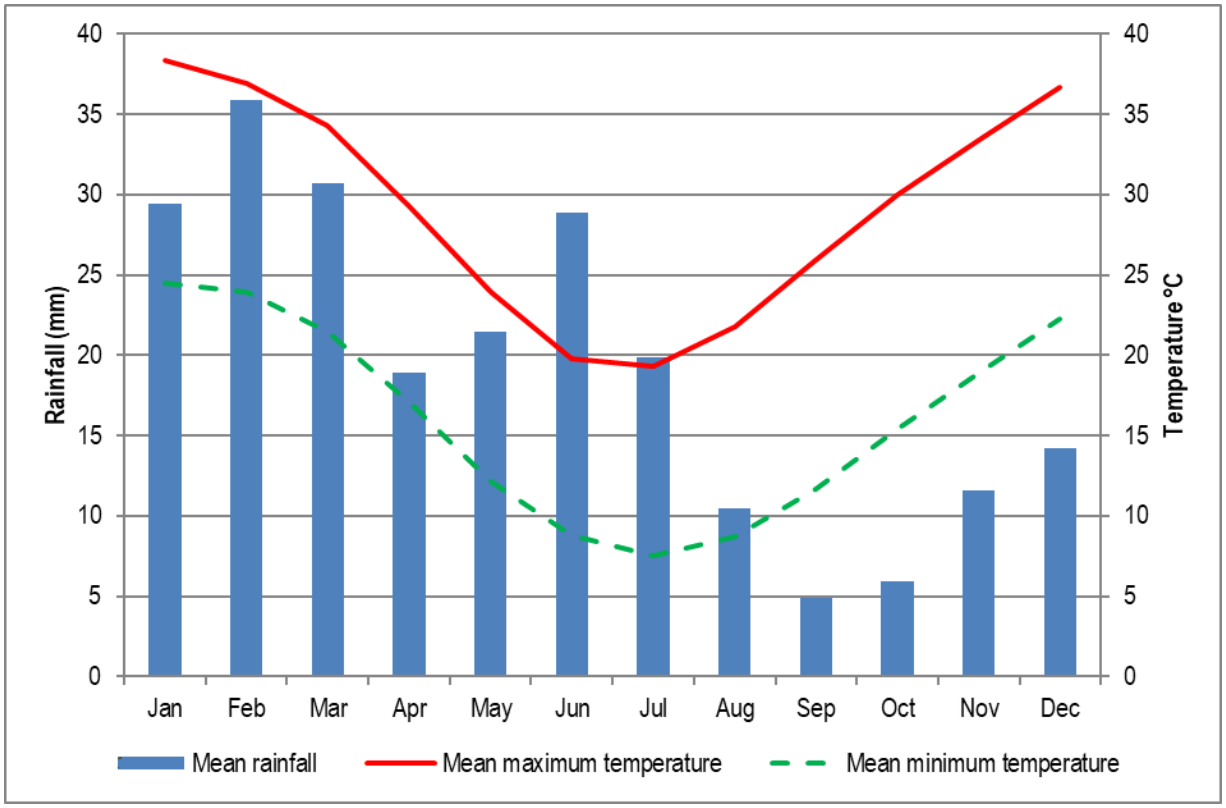

Figure 1: Climate Data for Meekatharra Airport (1950-2024) (BoM 2024)

2.2 BIOREGION AND TOPOGRAPHY

The Project lies within the Murchison bioregion which is divided into two sub-regions: the Eastern and Western Murchison.

The Eastern Murchison is characterised by internal drainages and extensive areas of elevated red desert sandplains with minimal dune development. Salt lake systems are associated with the occluded paleodrainage system.

The Western Murchison contains the headwaters of the Murchison and Wooramel Rivers which drain west to the coast.

Vegetation throughout is predominately low mulga (Acacia spp.) shrublands and mallee woodlands (*Eucalyptus spp.*). Grasslands occur on sandplains and comprise a range of species including acacia (i.e. *A. aneura*), eucalyptus (i.e. *E. gongylocarpa*), mallees (i.e. *E. kingsmilli*), bowgada (*A. ramulosa*), *Grevillea*, *Melaleuca* and *Hakea spp*. with cypress pine (*Callitris columellaris*) (Tille 2006).

Low flat areas surrounding salt lakes comprise shrublands of samphire (*Haloscarcia spp.*), saltbush, sage and *Frankenia spp*. Along floodplains and drainages there are shrublands of bluebush (*Maireana spp.*) and mulga (i.e. prickly wattle and *A. distans*) (Tille 2006).

2.3 GEOLOGY AND SOILS

Murchison Province occurs over the Yilgarn Craton with underlying Archaean grained granitic rocks. These rocks are intruded by quartz veins and dolerite dykes.

Crown Prince lies within the structurally deformed Archaean Abbotts greenstone belt. It consists of a succession of mafic, ultramafic (i.e. basalt) and felsic volcaniclastic rocks. The latter material in nearby regions (i.e. Goldfields) has been found to weather rapidly when mined and reworked. The material can contain metasediments that produce large amounts of fines receptive to vegetative growth, however prone to erosion on steep slopes. Whereas the basalt is generally considered suitable for rock armouring on outer batters and use in engineered structures.

Gold mineralisation is associated with quartz veins in various rock types (i.e. sediments, volcaniclastics, mafics and ultramafics) and has a spatial association with the northeast trending Abernethy Shear Zone. This zone may represent the northern extension of a major structure which passes through the Big Bell deposit. The margins of the belt are structurally complex bounded by granites and monzogranites.

Surface geology is associated with an extensive residual lateritised plateau below footslopes with schists or quartz outcropping and rounded hills on a granitic basement. Fine textured Quaternary alluvial and eluvial surfaces dominate the region (i.e. from sheet flows and scalding) and have influenced soil development.

Denuded areas have minimal to no topsoil with some exposed subsoils and/or hardpans remaining as the land surface. Hardpans generally occur on the wash plains and sandplains (Tille 2006). These plains contain various soils from red shallow loams and earths to deep red and yellow sands.

Erosion resistant stony soils with bare rock are found on granitic hills, stony slopes and rocky ridges with lateritic breakaways. Low lying areas are associated with sand plains and drainages of Tertiary and Quaternary alluvium with hummock grasslands on red-brown hardpans (i.e. shallow loams, sandy duplexes). Calcrete platforms (i.e. calcareous loams) occur with saltbush shrublands and halosarcia low shrublands on saline alluvium.

Red or brown non-cracking clays and shallow clayey loams are also prominent (Tille 2006). These can be underlain by clayey and/or clay loamy saprolitic sediments formed from weathered rock.

Soil distribution is shown in Figure 10 of Attachment 2.

2.4 HYDROLOGY AND HYDROGEOLOGY

2.4.1 Hydrology

The Project is located within the Upper Murchison River catchment, part of the Murchison River drainage basin which has low hills and mesas separated by flat colluvium and alluvial plains. The basin is primarily an open drainage system of lakes and rivers that drain west. Drainage systems also drain inwards to inland salt lakes.

All drainages are ephemeral. Major drainages have broad flood plains incised by narrow channels with some dissected sheets of calcrete along trunk drainages. Paleodrainages are associated with saline drainages and salt lakes in the southeast. These are interlaid with gypsiferous mud flats and small parabolic banks of calcareous and gypsiferous sands.

The Garden Gully drainage line drains a moderately-large catchment with an area of 546.5 km^2 which lies to the north, east and south east of the Project. The Garden Gully drainage line flows to the southwest towards Hope River, a palaeodrainage (35 km from the Project), which is a zone of groundwater (and surface water) discharge. Three local catchments influence local surface water flows, directing runoff northwest along minor drainage lines into Garden Gully.

2.4.2 Hydrogeology

Rockwater (2024) were engaged to undertake a hydrogeological study of the Crown Prince deposit and surrounding area to gain an understanding of the hydrogeological context, provide estimates of dewatering requirements and the potential for groundwater related impacts of mining. The assessment included bore rehabilitation and survey, drilling and construction of new monitoring bores, passive seismic survey and the development of a groundwater model. Four monitoring bores (MB01 - MB04) were constructed as part of the assessment. Monitoring bores MB01-MB03 are located in the northwest corner of West Pit, MB04 is approximately 800 m west of West Pit in the Garden Valley drainage and a Main Roads bore is located approximately 1.3 km north west within a Tertiary age palaeochannel. The palaeochannel which was defined by passive-seismic survey is approximately 70 m depth.

Results of the study indicate:

- The groundwater level across the area studied is at about 475 m AHD (approximately 10 mbgl). The proposed pit depth is approximately 150 m and therefore, mine dewatering will be required to facilitate mining.
- Groundwater quality at the Project is fresh to brackish, with total dissolved solids (TDS) concentrations of 1,620 mg/L to 1,800 mg/L and slightly alkaline with a pH of 7.8 to 8.2. Metal concentrations were generally low or below reference levels, although arsenic was slightly elevated (0.128 mg/L), possibly due to arsenopyrite mineralisation associated with gold mineralisation and typical for the Gascoyne region. Nutrients were low – Total nitrogen 2.1 mg/L, and total phosphorus 0.04 mg/L.
- Groundwater modelling results have determined that dewatering flow rates could average up to 3,680 m3/d (low estimate 1,870 m3/d; high estimate 5,540 m3/d), peaking in months five to twelve of mining at West Pit while dewatering rates for East Pit are anticipated to be much lower.
- Model-calculated groundwater-level drawdowns suggest that the largest drawdowns will occur at the end of mining of the deep West Pit at the end of year two. The Crown Prince deposit is within an old water reserve, No. 10633 that is very unlikely to be needed for public water supply. Drawdowns could extend to three pastoral bores and wells (if the bores/wells still exist, and are in the positions recorded), and possibly as far as the corner of the Sherwood borefield Water Reserve boundary, but not as far as the nearest bore in that borefield.
- Pit dewatering would result in groundwater-level drawdowns beneath the Garden Gully creek, with the potential to impact vegetation. Rockwater (2024) in alignment with Botanica (2024) determined that vegetation within the creek is more likely to be supported by soil moisture rather than groundwater. Results from pumping tests also indicated poor connectivity between the fractured rock aquifer and the overlying clays and alluvium of the creek.

3. ENVIRONMENTALLY SENSITIVE RECEPTORS

The environmentally sensitive receptors identified for the Project are summarised in the sections below.

3.1 ECOLOGICAL COMMUNITIES, FLORA AND FAUNA

Two flora and vegetation survey have been conducted over the project area, including one survey over the extent of M 51/886 and M 51/889, a total area of 394 ha (Botanica 2024) and the other as part of the Sabbath Mining Project (Westgold 2019) which was undertaken by Native Vegetation Solutions (NVS) over proposed lease L 51/138. These surveys concluded the following:

- There are no Department of Biodiversity Conservation and Attractions (DBCA) managed lands or other conservation areas within proximity to the Purpose Permit Area with the nearest being the being the Lakeside Conservation Park (R54420), approximately 130 km southwest of the Project (Botanica, 2024).
- No Threatened flora pursuant to the *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act) or *Biodiversity Conservation Act 2016* (BC Act) were identified in the field surveys conducted by Botanica (2024) or Westgold (2019).
- One Priority flora species was observed within the Botanica (2024) survey area of M 51/886, *Grevillea inconspicua* (P4). Approximately 30 plants were seen growing in a minor dry drainage line within the proposed Purpose Permit Area.
- Botanica (2024) and Westgold (2019) surveys did not record other Priority flora on M 51/886, M 51/889 or the miscellaneous licence application to Sabbath pit (L 51/138). There are no known threatened or priority flora records within the proposed lease to Five Mile Well pit (L 51/139) with the nearest records being *Indigofera rotul*a (P3), over 200 m southwest, *Menkea draboides* (P3) over 3 km southwest of L 51/139 and *Calytrix verruculosa* (P3) over 6 km north of L 51/139.
- No Threatened, Priority or otherwise significant ecological communities were identified. In addition, the desktop assessment determined that the nearest potential Priority Ecological Community (PEC) is over 7.5 km to the west of the Purpose Permit Area (Botanica 2024).
- A total of four broad-scale vegetation communities were identified within the survey area. These vegetation communities are considered to be of low biological diversity and are well represented outside the survey area.

One reconnaissance fauna and habitat survey of tenements M 51/886 and M 51/889 including a total area of 394 ha during June 2024 (Botanica 2024) concluded the following:

- No Threatened fauna pursuant to the EPBC Act or the BC Act was recorded in the reconnaissance survey. However, the following species of conservation significance can be regarded as possibly utilising the survey area for some purpose at times, these being:
  - Grey Falcon (*Falco hypoleucos*) - Vulnerable (EPBC Act and BC Act):
  - Peregrine Falcon (*Falco peregrinus*) - OS (DBCA)

Impacts on flora and fauna values are being assessed by the DEMIRS as part of a Native Vegetation Clearing Permit (NVCP) application being submitted concurrently with this application.

3.1.1 Vegetation

As part of Botanica (2024) four broad-scale vegetation communities were identified and these largely aligned with the vegetation associations described in Table 1. Vegetation types were identified within two landform types (plains and drainage depressions) and comprised of three major vegetation groups, dominated by Acacia and Eremophila species. These vegetation communities are considered to be of low biological diversity and are well represented

outside the survey area (Botanica 2024). Vegetation condition was categorised as 'Good' for 369 ha, with cleared areas (25 ha) considered "Completely Degraded".

As part of the Sabbath Mining Project on L 51/98 and M 51/322 (Westgold 2019), NVS mapped three broadscale vegetation communities, two of which intersect the Project's dewatering infrastructure to Sabbath Pit (L 51/138). Similar to Botanica (2024) findings, vegetation communities were considered to be of low biological diversity, ranging from "Good" to "Degraded" condition, and are well represented outside the survey area (Westgold 2019).

Whilst no flora and vegetation surveys have been undertaken over the proposed Miscellaneous Licence application area to Five Mile Well Pit (L 51/139), given the close proximity to the above surveys and 40 km desktop survey area undertaken by Botanica (2024), vegetation communities are expected to be largely similar and of equally low biodiversity and condition.

Vegetation communities that intersect the Prescribed Premises Area and their surveyed/mapped extents are described in Table 1 and shown in Figure 5 and Figure 6 of Attachment 2.

Table 1: Mapped Vegetation Communities

Vegetation Group	Vegetation Community/Code	Description	Surveyed/Mapped Extent (ha)	Source
Acacia open woodlands (MVG 13)	RP-AOW1	Mid woodland of *Acacia pruinocarpa* and *Acacia incurvaneura* over mid open shrubland of *Acacia grasbyi, Eremophila galeata* and *Senna* sp. Meekatharra over low sparse shrubland of *Maireana triptera* and *Enchylaena tomentosa* on rocky plain.	175.45	Botanica (2024)
	CLP-AOW1	Mid woodland of *Acacia incurvaneura* over mid shrubland of *Eremophila compacta* over low sparse shrubland of *Solanum lasiophyllum* and *Aristida contorta* on clay loam plain.	114.68	Botanica (2024)
Acacia forests and woodlands (MVG 6)	DD-AFW1	Mid open forest of *Acacia incurvaneura* over mid open shrubland of *Acacia tetragonophylla, Eremophila galeata and Senna* sp. Meekatharra over low sparse shrubland of *Ptilotus obovatus* and *Solanum lasiophyllum* in drainage depression.	63.28	Botanica (2024)
Eucalypt woodlands (MVG 5)	DD-EFW1	Mid open forest of *Eucalyptus camaldulensis* over mid open shrubland of *Acacia tetragonophylla, Eremophila galeata and Senna* sp. Meekatharra over low sparse shrubland of *Ptilotus obovatus* and *Solanum lasiophyllum* in drainage depression.	15.97	Botanica (2024)
Cleared	Cleared	Land cleared of native vegetation	84.49	Botanica (2024) and Landgate aerial imagery (2024)
Open Acacia Shrubland	OAC-NVS	Open Acacia shrubland. Dominant species were *Acacia aneura, Acacia grasbyi, Acacia prainii* and *Eremophila galeata*	25.90	Westgold (2019)
Mulga Creekline Vegetation	MCV_NVS	Dominant species were *Acacia aneura, Acacia craspedocarpa, Acacia pteraneura, Grevillea deflexa, Ptilotus obovatus* and *Exocarpos aphyllus*	0.85	Westgold (2019)
Upper Murchison Vegetation Association 18*	UP 18	Low woodland, open low woodland or sparse woodland of Mulga (*Acacia aneura*) and associated species.	44.86	DPIRD (2023)
Upper Murchison Vegetation Association 29*	UP 29	Low woodland, open low woodland or sparse woodland of Mulga (*Acacia aneura*) and associated species.	36.83	DPIRD (2023)
		Total	**562.32**	

3.1.2 Flora

The Botanica (2024) survey of M 51/886 and M 51/889 identified 80 vascular flora taxa, representing 44 genera across 26 families. The most diverse families were Fabaceae (17 species), Chenopodiaceae (ten species) and Scrophulariaceae (nine species), with Acacia (12 species) and Eremophila (nine species) as the most dominant genera. Twenty annual species were observed during the survey. Six introduced flora (weeds) species were observed. These were located in disturbed areas and along tracks. None of these species are listed as a Declared Pest on the Western Australian Organism List (WAOL) under the *Biosecurity and Agriculture Management Act 2007* (BAM Act) or as a Weed of National Significance.

The Botanica (2024) desktop assessment identified one Threatened flora species and 15 priority flora species as occurring within a 40 km radius of their survey area. These taxa were assessed for distribution and known habitat to determine their likelihood of occurrence within the survey area. Only three species identified in the desktop assessment were considered possible to occur (*Indigofero rotula* (P3), *Menkea draboides* (P3), and *Calytrix verruculosa* (P3), with one species (*Grevillea inconspicua*) found to be present within the survey area.

The Priority flora species *Grevillea inconspicua* (P4) was observed within tenement M 51/886, with approximately 30 plants seen growing in a minor dry drainage line within the Prescribed Premise boundary. Whilst this population is not directly impacted, given the close proximity to infrastructure and likely changes to this drainage line, indirect impacts are considered likely. *Grevillea inconspicua* is known from more than 62 populations on Florabase and is known to occur in two IBRA subregions, the Eastern Murchison and Western Murchison. There are seven populations within approximately 100 km of the survey area (DBCA 2024), and according to Florabase the species covers a range of more than 50,000 km². Within the 40 km desktop survey search area there are over 10 recorded populations, the closest of which is approximately 600 m southwest of L 51/139.

Botanica (2024) and Westgold (2019) surveys did not record other Priority flora on M 51/886, M 51/889 or the miscellaneous licence application to Sabbath pit (L 51/138). There are no known threatened or priority flora records within the proposed lease to Five Mile Well pit (L 51/139) with the nearest records being *Indigofera rotula* (P3), over 200 m southwest, *Menkea draboides* (P3) over 3 km southwest of L 51/139 and *Calytrix verruculosa* (P3) over 6 km north of L 51/139.

No Threatened flora pursuant to the EPBC Act or BC Act were identified in the field surveys conducted by Botanica (2024) or Westgold (2019). In addition, based on known species records and habitat requirements described by Botanica (2024), the *Pityrodia augustensis* (Vulnerable) species is considered unlikely to occur in the Purpose Permit Area with the nearest known population over 300 km to the northwest.

Priority Flora locations are shown in Figure 7 of Attachment 2.

3.1.3 Fauna and Habitat

Botanica (2024) undertook a basic fauna assessment of tenements M 51/886 and M 51/889 including a total area of 394 ha during June 2024. As part of the study, Botanica (2024) undertook a desktop assessment for a 40 km buffer area including a literature review of previous fauna assessments, database search requests for significant fauna records, as well as numerous publicly available database searches relevant to other biodiversity matters of conservation significance.

Based on vegetation and associated landforms identified in the flora and vegetation assessment, Botanica (2024) identified two broad scale terrestrial fauna habitats being acacia open woodlands, and acacia/eucalypt woodlands in drainage lines. Given similar vegetation assemblages across the remainder of the Project area, fauna habitats were inferred from vegetation mapping into one of the two vegetation fauna habitats described by Botanica (2024) as shown in Table 2.

Table 2: Mapped Fauna Habitats

Habitat Type	Description	Surveyed/Mapped Extent (ha)
Cleared	Land cleared of native vegetation	84.49
Acacia open woodland on rocky or clay-loam plain*.	• Open Acacia woodland over Eremophila shrubland. • Ground not particularly suited to burrowing species. • Low diversity vegetation strata supporting a reduced avifauna assemblage. • Low vegetation density and low leaf litter supporting some small reptiles.	397.73
Acacia and/or Eucalypt woodland in drainage line**.	• Closed Acacia and/or Eucalypt woodland over mixed Acacia and Eremophila shrubland • Ground moderately suited to burrowing species in some areas. • Moderate diversity vegetation strata supporting a good avifauna assemblage. • Moderate vegetation density and moderate leaf litter supporting small reptiles.	80.11
	Total	**562.32**

**Vegetation groups RP-AOW1, CLP-AOW1, open acacia woodland (Westgold 2019), Murchison 18 and Murchison 29 combined*

***DD-AFW1, DD-EFW1 and Mulga Creekline vegetation (Westgold 2019) combined*

Database searches (Dandjoo and Atlas of Living Australia) identified a total of 204 terrestrial vertebrate fauna taxa within 40 km of the survey area, consisting of 154 bird, 10 mammal, 38 reptile and two amphibian taxa. The basic fauna assessment identified twelve fauna species from opportunistic observations. No evidence of conservation significant fauna species was observed during the survey.

The desktop review (DBCA 2024; DCCEEW 2024) identified nine terrestrial vertebrate species and one invertebrate species of conservation significance as previously being recorded in the regional area, consisting of eight threatened and one otherwise specially protected species. In addition, several migratory wading/shorebird species were assessed collectively due to their similar habitat requirements. Habitat and distribution data was used to determine the likelihood of occurrence within the survey area and based on this assessment two significant fauna species were identified as possibly occurring with all other species assessed as "unlikely" or "would not occur". Both species considered as possibly occurring are highly mobile avian species with large home ranges, their potential use of the Prescribed Premise boundary is described below:

- Grey Falcon (*Falco hypoleucos*): This species is sparsely recorded throughout inland Australia. Suitable habitat may be present but is unlikely to represent critical habitat.
- Peregrine Falcon (*Falco peregrinus*): This species is sparsely recorded throughout inland Australia. Suitable habitat may be present but is unlikely to represent critical habitat.

In addition, no evidence of threatened or priority fauna species was observed by Botanica (2024) during site surveys.

3.2 PUBLIC WATER SOURCES AND WATER BODIES

One Major (Garden Gully Creek) and several minor ephemeral drainage lines intersect M 51/889 and M 51/886. Garden Gully Creek drains west into Yalgar River, a tributary of the Murchison River.

A portion of the Project (M 51/889 and portions of M 51/886 and L 51/138 is located over an old water reserve No. 10633. In 2020 DEMIRS referred mining lease applications for M 51/886 and M 51/889 to vested parties including DPLH and the Shire of Meekatharra, and approval was given. Consent to Mine on Recreation Reserve 10633 Reserve" was a condition imposed on both tenements (WAA Attachment 5). The Meekatharra Water Reserve which includes the Sherwood borefield that supplies water for the town is approximately 2 km northeast of the Project at its closest point, but about 9 km from the nearest production bore. It is possible that groundwater drawdown could extend as far as the edge of the reserve, but not as far as the nearest bore (Rockwater 2024). The water reserve is considered very unlikely to be needed for public water supply (Rockwater 2024) (Figure 8, Attachment 2). Mining tenement M 51/886 is gently sloping to the northwest and elevated above major drainage lines.

The Project is not located within a proclaimed Surface Water Area under the *Rights in Water and Irrigation Act 1991* (RIWI Act). There are no RAMSAR, wetlands of National Significance, or public drinking water source areas within the Prescribed Premises boundary.

There are no permanent rivers, lakes or oceans that occur within the Prescribed Premises boundary and no permanent or semi-permanent wetlands, seeps, springs or partially saturated playas have been identified.

3.3 ABORIGINAL AND OTHER HERITAGE SITES

A search of the Aboriginal Cultural Heritage Inquiry System (ACHIS) was done to determine the presence of items or sites of State, National or Aboriginal Heritage (DLPH 2021).

No registered Aboriginal sites were identified within the Project area.

Several registered Aboriginal sites were identified in the area surrounding the Project (Table 3). The proposed development will not impact on these sites.

Table 3: Registered Aboriginal Heritage Sites

Registered Site ID and Name	Description	Location
Site 875 Deafy Bore 1	Artefacts / Scatter; Traditional Structure.	~4.8 km south of M 51/886.
Site 876 Deafy Bore 2	Artefacts / Scatter; Traditional Structure.	
Site 10042 Meekatharra Cave A	Painting	~12.3 km south of M 51/886.
Site 6149 Meekatharra Complex	Burial; Artefacts / Scatter; Ritual / Ceremonial; Creation / Dreaming Narrative; Traditional Structure.	
Site 11836 Yoothapina 1	Camp / Water Source.	~17.0 km north west of M 51/886.
Site 7444 Mt Obal Scatter	Artefacts / Scatter.	~18.5 km west of M 51/886.

A search of the Heritage Council Inherit Database (HCWA 2021) for sites of historical significance within the Shire of Meekatharra identified one local European heritage site within the Project area (Table 4). NMG consulted with the Meekatharra Shire regarding the Project, including Site 25188. The Shire confirmed the Garden Gully site was largely absent and raised no objections to the Project. In addition, no mining is proposed within the Meekatharra Town site. NMG will install signage around the town site as agreed by the Shire in order to help attract tourists.

Table 4: Registered Heritage Places

Registered Site ID and Name	Statement of Significance	Location
Site 25188 Garden Gully	Garden Gully is significant for the cultural events that have taken place over the years, as a site of gold discovery and the establishment of a battery in 1894, followed by a settlement and	Within M 51/886.

Registered Site ID and Name	Statement of Significance	Location
	hotel, and wells and pumping stations that supplied water to Meekatharra.	

3.4 ENVIRONMENTALLY SENSITIVE AREAS

The Prescribed Premises boundary is not associated with any conservation lands and not located within a DBCA managed Conservation Reserve. The closest legislated reserve is the Lakeside Conservation Park (R54420), approximately 130 km southwest of the Project (Botanica 2024).

There are no Environmentally Sensitive Areas (ESA) as listed under the EP Act intersecting or within a 40 km radius of the Project (Botanica 2024).

3.5 ACID SULFATE SOILS

No acid sulfate soils were identified to occur within the M 51/889 and M 51/886 tenements, with the majority of soils able to be stripped, harvested, stockpiled and re-used as required (MBS 2024).

3.6 OTHER ENVIRONMENTAL RECEPTORS

The nearest receptors that have the potential to be impacted by project activities is the town of Meekatharra, located approximately 7 km southwest of the Five Mile Well pit, or approximately 14 km southwest of the Mining leases and the Buttah Windee Aboriginal Community, located 11 km southwest of Sabbath pit (Figure 9, Attachment 2).

4. REFERENCES

Botanica Consulting (Botanica). 2024. *Crown Prince Project - Reconnaissance Flora and Basic Fauna Assessment*. Unpublished report for Ora Gold Ltd. August 2024.

Bureau of Meteorology (BoM). 2024. Climate Data Online. Australian Government, Bureau of Meteorology. Available from (http://www.bom.gov.au/climate/averages/tables/cw_007045_All.shtml). Accessed October 2024.

Department of Biodiversity, Conservation & Attractions (DBCA). 2024. *Threatened and Priority flora database search (Ref: 62-0824FL).* Department of Biodiversity, Conservation and Attractions, WA.

Department of Climate Change, Energy, the Environment and Water (DCCEEW). 2024. *Protected Matters Search Tool*. *Environment Protection and Biodiversity Conservation Act 1999*, Department of Climate Change, Energy, the Environment and Water, Australian Government.

Department of Planning, Lands and Heritage (DPLH). 2021. *Aboriginal Cultural Heritage Inquiry System*. Aboriginal Cultural Heritage Search tool. Accessed July 2024.

Heritage Council of Western Australia (HCWA). 2021. *Inherit Database. Available at* http://inherit.stateheritage.wa.gov.au/public Accessed 17 September 2024.

MBS Environmental (MBS). 2024. Crown Prince Gold Project - Soil and Landform Assessment. Unpublished report prepared for Ora Gold Limited.

National Native Title Tribunal (NNTT). 2021. *Native Title Determination Register and Application.* Available from http://www.nntt.gov.au/SearchRegApps/NativeTitleClaims/Pages/Determination_details.aspx?NNTT_Fileno=WCD2017/007. Accessed 14 September 2021.

Rockwater. 2024. *Garden Gully Project - Hydrological and Hydrogeological Assessment*. Report for Ora Gold Pty Ltd. March 2024.

Tille, Peter. 2006. *Soil-landscapes of Western Australia's Rangelands and Arid Interior*. Department of Agriculture and Food. Perth Western Australia.

Westgold Resources Limited (Westgold). 2019. *Reg ID 80513: Sabbath Mining Project on L 51/98 and M 51/322 - Meekatharra Gold Operations (MGO) - Paddy's Flat Project Area*. June 2019.