

BHP

Nickel West Wedgetail Project Stage 1 Native Vegetation Clearing Permit Application

8 August 2023



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1. Document Purpose

This document provides supporting information to accompany an application *Form C2: Application for a clearing permit (purpose permit)*. This native vegetation clearing permit (NVCP) application is to facilitate the development of BHP Nickel West (BHP NiW) Stage 1 of the Wedgetail underground nickel mine project. It includes the suite of tenements that make up the Wedgetail Stage 1 project area, which is a subset the of Honeymoon Well suite of tenements that are BHP NiW greenfields expansion to the north of BHP NiW's Northern Operations.

This document provides information based on baseline surveys undertaken for the greenfields Wedgetail project and includes BHP NiW's assessment against the ten clearing principles.

2. Introduction

BHP NiW Northern Operations consists of open cut and underground mines surrounding ore concentrating hubs at Mount Keith and Leinster in the north-eastern Goldfields region of Western Australia. BHP NiW holds a Strategic NVCP for its Northern Operations (CPS 8877) that is ~6,000 ha. The intention is to seek similar for the Honeymoon Well suite of tenements, once the full suite of tenements is granted and negotiations with key stakeholders have reached suitable accord.

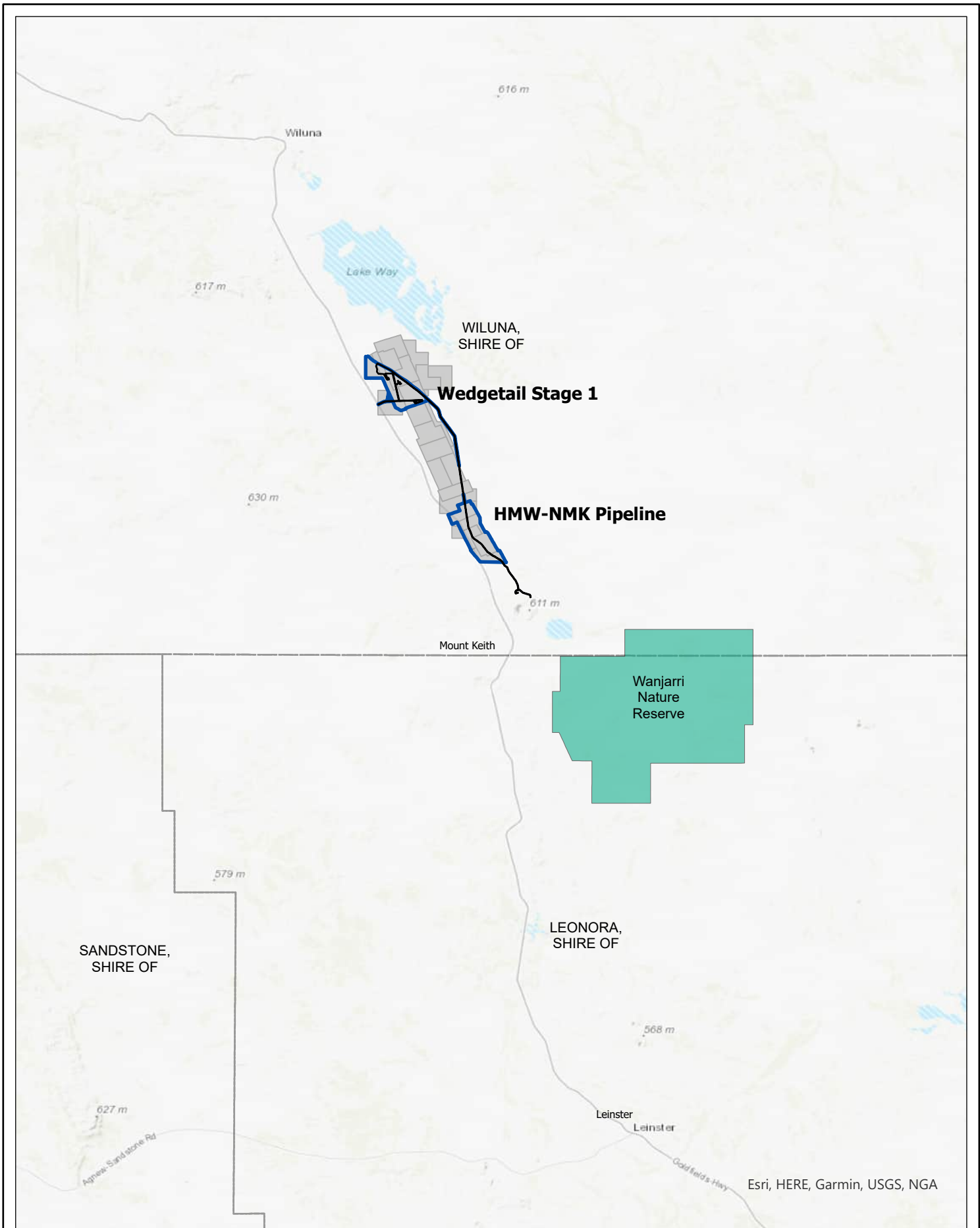
The Wedgetail project is a soon to be developed, underground mine and supporting infrastructure, north of BHP NiW Northern Operations. The location of the Project is shown in **Figure 2-1**. Wedgetail project area is within the Honeymoon Well (HMW) suite of tenements that will provide future expansion opportunities for BHP NiW's Northern Operations. All tenements are held by BHP NiW (**Appendix A**).

BHP NiW has submitted the Wedgetail Stage 1 Mining Proposal (Department of Mines, Industry Regulation and Safety (DMIRS) Reg ID 118282) seeking approval to construct twin boxcuts, the two parallel declines and associated surface infrastructure, including a 43 km surplus water pipeline between the proposed Wedgetail Mine and Mount Keith Operations (MKO).

A Project Summary for the Proposal is provided in **Table 2-1**.

Table 2-1 Wedgetail project summary

Life of project	20+ years
Type of NVCP	Purpose permit
NVCP application area	5554.5 ha
Proposed clearing area	Up to 300 ha
Tenements	M53/35, M53/36, M53/55, M53/238, M53/239, M53/240, M53/241, M53/242, , M53/949, L53/244, L53/247
Pending tenements	Mining lease M53/1114 being a partial conversion of E53/1243; miscellaneous licence L53/276 (access Rd from Lake Way Rd)
Purpose	To facilitate the development of a new mining operation and supporting infrastructure including, roads and tracks, service corridors for power telecoms and conveyance of water, bores, and other related purposes.
Project commencement	End of 2023
Permit duration	10 years
Application fee	\$7,000 (Appendix C)

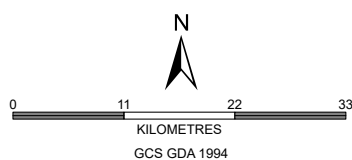


- Wedgetail Stage 1
- NVCP Application Area
- Honeymoon Well Tenements
- Nature Reserve
- Local Government Boundaries

BHP FIGURE 2-1

**WEDGETAIL
LOCATION**

GEOMATICS - NICKEL WEST



SCALE @ A3: 1:750,000 PREPARED: P.GANT
 DATE: 31/07/2023 REQUESTOR: V.CLARKE

Job No. N002

2.1 Application Area

The application area consists of all mining and miscellaneous tenements associated with the Wedgetail Stage 1 project area, as listed in **Table 2-1**. The tenements have been clipped to be within Tjiwarl Native Title determination area with two small pipeline area deviations into the Tarlka Matuwa Piarku Aboriginal Corporation (TMPAC) (**Figure 2-2**) Native Title determination area.

An ESRI shapefile of the application area is included in this submission. The coordinate extremities (MGA94 Zone51) are as follows:

North	236,709.12 mE, 7,022,260.36 mN
West	236,949.85 mE, 7,016,060.71 mN
SE	257,995.42 mE, 6,987,576.19 mN
SW	255,977.65 mE, 6,988,089.35 mN.

The application area is slightly different to the Wedgetail Stage 1 Disturbance Envelope as some tenements are already within the BHP NiW Strategic NVCP CPS8877. The areas proposed for clearing and development are the same.

2.2 Clearing area

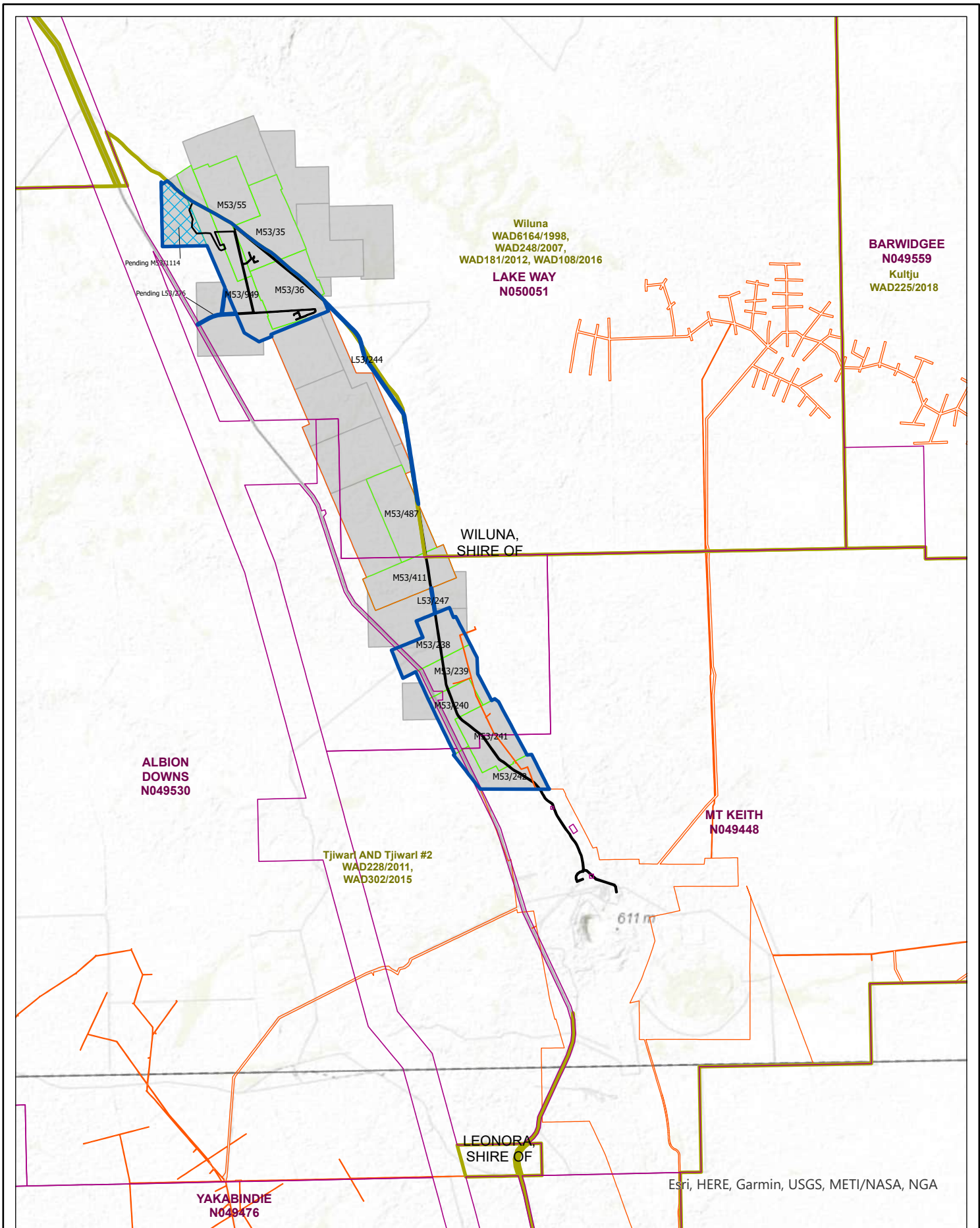
The clearing area (~300 ha) is a subset of the application area (5554.5 ha) and clearing is proposed for the development of the Wedgetail project, which includes:

- a) mining surface infrastructure area
- b) mine access road area
- c) water supply borefield area
- d) dewatering pipeline between Wedgetail and BHP NiW Mt Keith Operations
- e) other clearing to facilitate the project development, such as access tracks, laydown areas, powerlines, bores and other minor infrastructure.

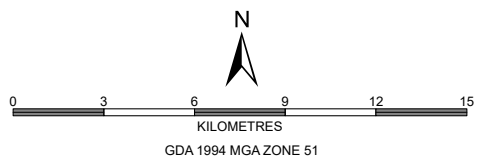
The Purpose Permit application area extends out to tenement boundaries to facilitate flexibility in future clearing for Wedgetail operations and the long-term development of the Honeymoon Well project area.

Clearing activities will be undertaken in accordance with tenement conditions and the requirements of the *Environmental Protection (Clearing of Native Vegetation) Regulations 2004*. Clearing will be consistent with secondary approvals such as the submitted Stage 1 Mining Proposal (DMIRS Reg ID 118282) and the Works Approval for the HMW-MKO dewatering pipeline.

BHP NiW also plans for and undertakes clearing only after following its NIW-HSEC-PRO-0056 Clearing Assessment Procedure (**Appendix B**) that adheres to the mitigation hierarchy of avoid, minimise, mitigate and manage applied to all native vegetation clearing.



- ▬ NVCP Application Area
- ▨ Tenements Pending
- ▬ Tenements Granted
- ▬ CPS 8877/2
- ▬ Honeymoon Well Tenements
- Wedgetail Stage 1
- Local Government Boundaries
- ▬ Pastoral Leases
- ▬ Native Title Determinations



BHP FIGURE 2-2

**WEDGETAIL
TENEMENTS &
NVCP APPLICATION AREA**
GEOMATICS - NICKEL WEST

SCALE @ A3: 1:250,000 PREPARED: P.GANT
DATE: 31/07/2023 REQUESTOR: V.CLARKE

Job No. N002

3. Environmental Legislative Framework

The Wedgetail Stage 1 project is subject to a number of regulatory approvals relevant to the environment, in addition to those of the *Environmental Protection Act 1986* (EP Act) and *Mining Act 1978* (WA) (Mining Act), as described in **Table 3-1**.

Table 3-1 Wedgetail Stage 1 environmental legislative review

Legislation	Factor	Project interaction
<i>Environment Protection and Biodiversity Conservation Act 1999</i> (Cth) (EPBC Act)	Biodiversity / Flora / Fauna / Ecosystem	BHP internal due diligence determined that this proposal does not impact upon Matters of National Environmental Significance (MNES) and is not a Controlled Action
EP Act Part IV	Biodiversity / Flora / Fauna / Ecosystem Water Resources	BHP internal Due Diligence determined that this proposal does not warrant referral under s38 of the Environmental Protection Act
EP Act Part V	Water resources Landforms (contamination or pollution)	Before the pipeline can begin pumping, a Works Approval and subsequent Prescribed Premises Licence will be required to construct and operate the following facilities: Category 6: Mine dewatering (50,000tonnes or more/yr) A subsequent Works Approval application will be made as permanent facilities are planned in the coming years.
EP Act <i>Environmental Protection (Clearing of Native Vegetation) Regulations 2004</i>	Biodiversity / Flora / Fauna / Ecosystem	An NVCP will be required for Wedgetail Stage 1 Exemptions under the Clearing Regulations may be applied to early works where appropriate
<i>Aboriginal Cultural Heritage Act 2021</i>	Aboriginal Heritage	Cultural heritage surveys are underway to support approvals. Project has been designed to minimise impact to cultural heritage A Cultural Heritage Management Plan will be prepared. Monitoring / engagement with Tjiwarl and the Tarlka Matuwa Piarku Traditional Owners on ground when conducting work
<i>Native Title Act 1993</i> (Cth)	Native Title	Native Title is recognised over the Wedgetail Stage 1 project area by the Tjiwarl and adjoining Wedgetail Stage 2 and greater extents of the HMW tenement suite by TMPAC Native Title holders; as such, Tjiwarl and Tarlka Matuwa Piarku recognised as key stakeholders
Mining Act	Water resources Land & soils Biodiversity Rehabilitation & mine closure	Mining Proposal & Mine Closure Plan submission for Wedgetail Stage 1 project; DMIRS Reg ID 118282; currently under assessment
<i>Rights in Water and Irrigation Act 1914</i>	Water resources	GWL156720 will be used for mine dewatering
<i>Dangerous Goods Safety (Storage and Handling of Non-Explosives) Regulations 2007</i>	Land, Safety	Hydrocarbon and chemicals stored and managed in accordance with a Dangerous Goods Site Licence.
<i>Dangerous Goods Safety (Explosives) Regulations 2007</i>	Landforms (contamination / pollution)	Explosives and precursors with a Dangerous Goods Site Licence
<i>Biosecurity and Agriculture Management Act 2007</i>	Introduced pest plants & animals	Management of any plants or animals declared as pests under the Act on lands managed by BHP NiW

4. Stakeholder Liaison

In line with BHP's *Our Requirements for Community and External Engagement*, BHP NiW aims to engage openly with all identified stakeholders throughout and beyond the approvals process.

During project approvals BHP NiW engages with stakeholders in a clear and timely manner to ensure that the potential aspects and benefits of a proposal and the approvals required to successfully undertake the proposal are communicated, consider the interests of and impacts on our stakeholders.

Ongoing consultation occurs throughout the life of a project with various stakeholders as required.

BHP NiW maintains an External Stakeholder Register to capture all relevant stakeholder liaison.

4.1. Native Title

The proposed Wedgetail Stage 1 mine area and mine access road is within the Tjiwarl Native Title determination area. The 43 km proposed HMW-MKO pipeline, which follows the Old Wiluna Road for most of its route, is located on Tjiwarl country except for two sections (1.5km section and another 7.1 km section) that are on the Tarlka Matuwa Piarku Aboriginal Corporation (TMPAC) Native Title determination. **Figure 2-2** displays the two Native Title determination areas.

BHP NiW and the TAC have entered into a Comprehensive Agreement and an Indigenous Land Use Agreement (ILUA) (NNTT number WI2018/014). The ILUA was registered on the Register of the Indigenous Land Use Agreements on 8 January 2019 (NNTT number WI2018/014). The Wedgetail Stage 1 Disturbance Envelope and the portion of HMW-MKO Pipeline Disturbance Envelope located on Tjiwarl country is within the 'agreed mining area' as defined within the Agreement. BHP NiW affirms that as part of carrying out Wedgetail Stage 1 construction works, it will follow the applicable notification and engagement processes set out in those agreements.

BHP NiW and TMPAC are currently negotiating a Project Agreement for BHP NiW tenements on Tarlka Matuwa Piarku country. TMPAC working in good faith, has supported cultural heritage surveys and been consulted on proposed activities to date.

4.2 Aboriginal Heritage

The majority of the Wedgetail area has been surveyed (archaeological and ethnographical) in collaboration with the relevant Tjiwarl and Tarlka Matuwa Piarku stakeholders. The outstanding areas to be surveyed are planned for August 2023. A Cultural Heritage Management Plan will be developed between BHP NiW and with both TAC and TMPAC that manages cultural heritage within their relevant Native Title determination areas.

Driven by commitments made in BHP's *Indigenous Peoples Policy Statement; Indigenous Peoples Strategy; and Reconciliation Action Plan*, BHP NiW seeks to minimise impacts on cultural heritage. At BHP NiW this means:

- Conducting archaeological and ethnographic surveys with the relevant Aboriginal communities to identify cultural heritage.
- Assisting in the identification and recording of detailed information in relation to cultural heritage.
- Integration of cultural heritage into mine planning processes to enable engineering solutions to avoid cultural heritage wherever practical.
- Consultation with Aboriginal communities regarding ways to avoid, minimise, and mitigate harm to cultural heritage, including engagement on ground when conducting works and a Cultural Heritage Management Plan
- Operating internal land disturbance approval permitting process that manages cultural heritage.

4.3 European Heritage

The proposed HMW-MKO pipeline route passes Cemetery Reserve 16611. The pipeline will avoid the Cemetery Reserve. And BHP NiW is aware of notification obligations under the Mining Act.

5. Existing Environment

5.1. Climate

Wedgetail is located approximately 36 km northwest of BHP NiW’s MKO and 80 km south of Wiluna, which is within the Murchison bioregion and has an arid climate with rainfall at any time of year. The average annual rainfall is approximately 210 mm and is variable throughout the region (Pringle et al 1994). Summers are hot and dry with infrequent, high intensity seasonal thunderstorms and occasional cyclonic events.

The closest Bureau of Meteorology (BoM) weather station with long term records is Wiluna station 013012. The mean annual rainfall is 253 mm with the majority falling from November to April. January is the hottest month with a mean maximum temperature of 37.2°C and minimum of 23.2°C. July is the coldest month with a mean maximum of 19°C and minimum of 6.1°C (BoM) (Figure 5-1).

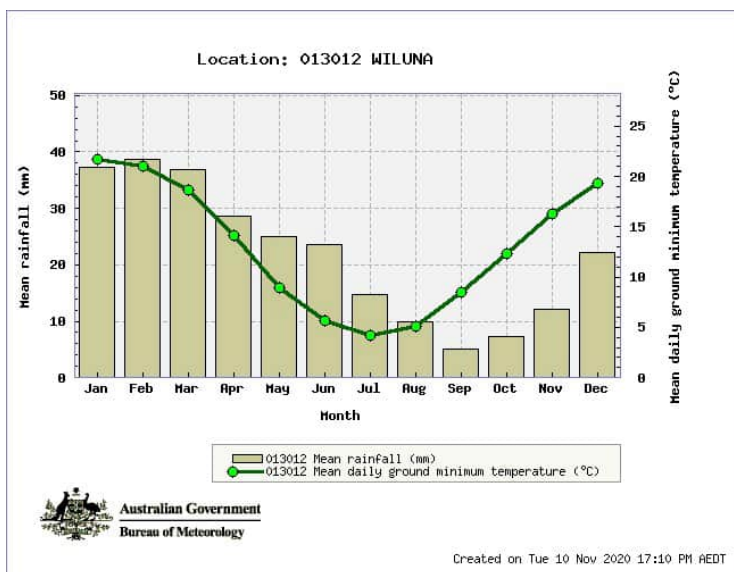


Figure 5-1 Temperature and rainfall recorded at for Wiluna weather station (BoM 2020)

Average annual wind speed and direction at Wiluna at 9am and 3pm is shown in Figure 5-2. At 9 am the wind direction is predominantly from the northeast and east while at 3pm wind direction is from the southeast and east (BoM 2022).

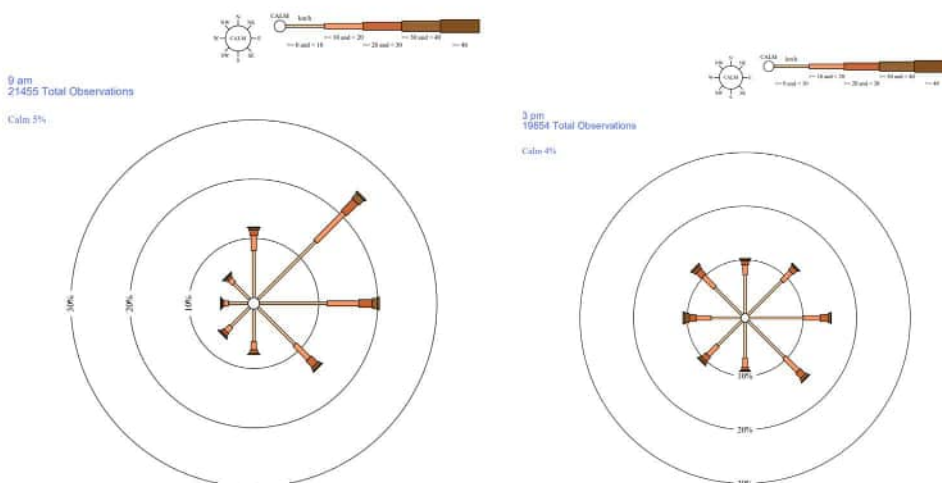


Figure 5-2 Average annual wind speed and direction Wiluna weather station (BoM 2022)

Climate change is expected to influence existing regional vegetation, run-off volumes, wind and water erosion and sediment transport, revegetation of rehabilitated landforms, design capacity of surface water features, and feasible land-use. Specifically, the climate changes forecast by Watterson et al. (2015) for the Rangelands cluster region in the vicinity of the Proposal are:

- Increase in average temperatures in all seasons (very high confidence). Projected increases for 2030 range between 0.9°C and 1.0°C, while projections for 2090 have larger variations, ranging from 1.1°C to 4.0°C
- Changes to summer rainfall are possible but unclear. Winter rainfall is projected to decrease with high confidence, ranging from -20% to +10% for 2030, and -45% to 0% for 2090
- Increased frequency and intensity of extreme rainfall events is projected
- Increased drought periods.

5.2. Landscape

Biogeographic region

Biogeographic regions are delineated on the basis of similar climate, geology, landforms, vegetation and fauna and are defined in the Interim Biogeographical Regionalisation for Australia.

The survey area is located in the East Murchison subregion (MUR01) of the Murchison bioregion. The East Murchison subregion is described as:

Characterised by its internal drainage, and extensive areas of elevated red desert sandplains with minimal dune development. Salt lake systems associated with the occluded Palaeodrainage system. Broad plains of red-brown soils and breakaway complexes as well as red sandplains. Vegetation is dominated by Mulga Woodlands often rich in ephemerals; hummock grasslands, saltbush shrublands and Halosarcia shrublands (Cowan 2001).

Land Systems

Referencing the Department of Primary Industries and Rural Development soil landscape, the Wedgetail Mine area is located within the Mindura Land System and Mitchell Land System. The HMW-NMK pipeline intersects a number of Land Systems but predominantly traverses Ararak, Bullimore, Hamilton, Laverton, Violet, Wiluna and Yanganoo Land Systems as shown in **Figure 5-3** and detailed in **Table 5-1**.

Table 5-1 Land systems mapped for the Wedgetail Stage 1 application area

Land System	Description	Area (ha)
Ararak	Broad plains with mantles of ironstone gravel supporting mulga shrublands with wanderrie grasses	2371.8
Bevon	Irregular low ironstone hills with stony lower slopes supporting mulga shrublands	3.5
Bullimore	Gently undulating sandplain with occasional linear dunes and stripped surfaces supporting spinifex grasslands with mallees and acacia shrubs	1278.3
Carnegie	Salt lakes with fringing saline alluvial plains, kopi dunes and sandy banks, supporting halophytic shrublands and acacia tall shrublands	9.2
Felix	Gently undulating plains with quartz mantles, supporting acacia-eremophila shrublands locally with wanderrie grasses	301.1
Hamilton	Hardpan plains, stony plains and incised drainage lines supporting mulga tall shrublands	148.6
Millrose	Level or very gently undulating stony plains on hardpan and granite with irregularly distributed sandy banks supporting mostly scattered mulga shrublands with minor grasses	0.2
Mindura	Low hills, ridges and outcrops of granite, gneiss and quartz above convex, quartz-strewn interfluves and lower plains supporting sparse acacia shrublands becoming more dense in drainage floors	272.4
Mitchell	Sandplains, wanderrie banks and saltflats, supporting mulga and mallee shrublands with wanderrie grasses and spinifex, chenopod shrublands on saline plains	663.4
Violet	Gently undulating gravelly plains on greenstone, laterite and hardpan, with low stony rises and minor saline plains; supporting groved mulga and bowgada shrublands and occasionally chenopod shrublands	144.9
Wiluna	Low greenstone hills with occasional lateritic breakaways and broad stony slopes, lower saline stony plains and broad drainage tracts; supporting sparse mulga and other acacia shrublands with patches of halophytic shrubs	21.4

Yanganoo	Almost flat hardpan wash plains, with or without small wanderrie banks and weak groving; supporting mulga shrublands and wanderrie grasses on banks	339.7
	Total	5554.5

Geology

Honeymoon Well is located in the Murchison geological province, which is situated on the north-western part of the Yilgarn Craton. The Murchison Province is characterised by hardpan wash plains and sandplains on granitic and greenstone rocks, with some stony plains, hills, mesas and salt lakes (Tille 2006).

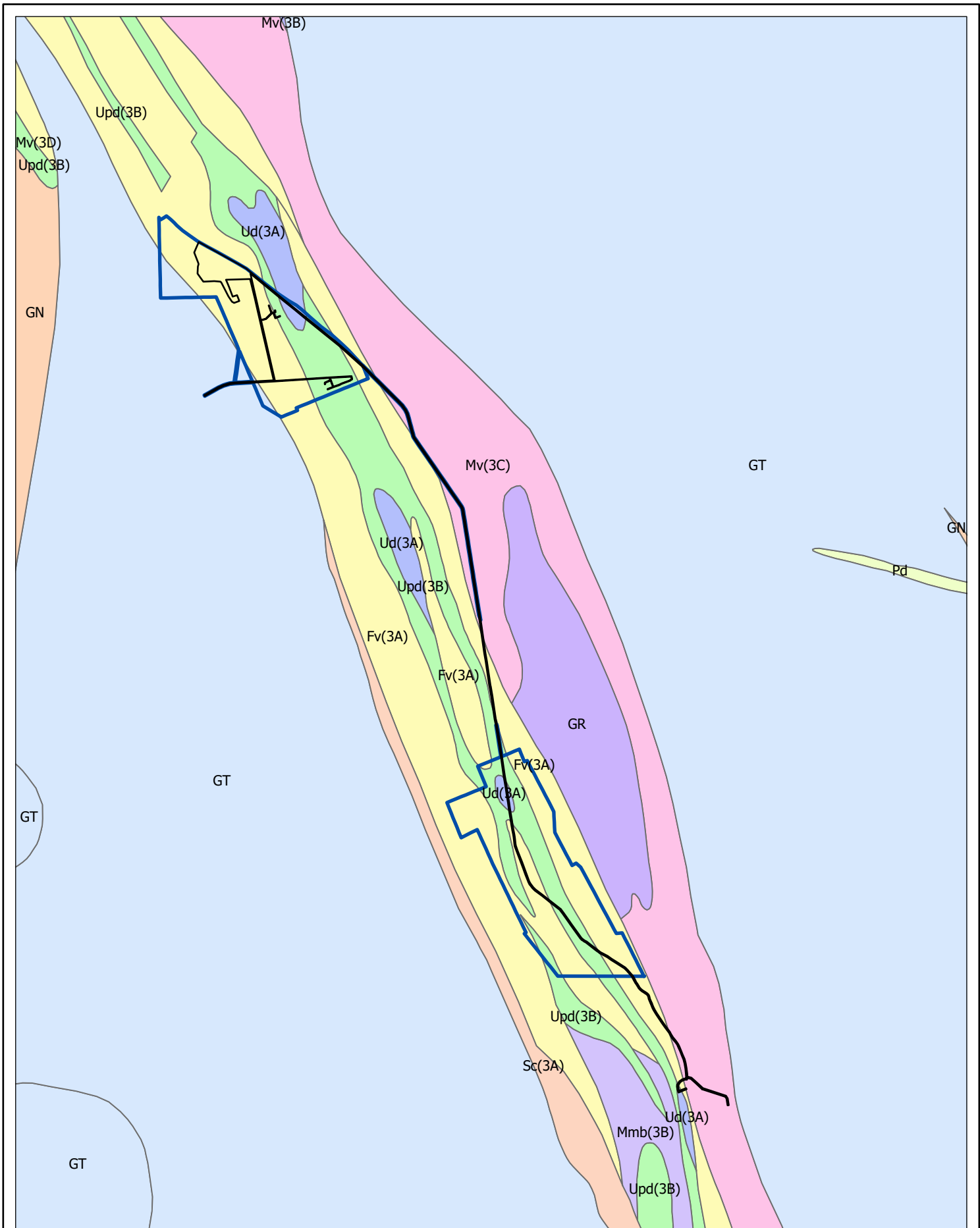
The geology of the Honeymoon Well Complex, which includes the Wedgetail deposit, is described by Gole and Woodhouse (2000). The deposit is located at the northern tip of a number of known nickel sulphide deposits within the Agnew–Wiluna greenstone belt (**Figure 5-4**). Distinctly different komatiitic rocks host the disseminated and massive sulphide deposits reflecting formation in different volcanic settings. The greenstone belt is 6–7 km wide at HMW. It consists of a regional sequence of a lower basalt/gabbro unit (including a basaltic komatiite flow), felsic to intermediate volcanic and volcanoclastic rocks, a heterogeneous komatiite sequence and a western felsic/basalt sequence.



The greenstones are highly sheared and fractured whereas local granitoids are generally massive with only local fracturing associated with greenstone contacts (Gole and Woodhouse, 2000).

Soils

The northern portion of the Study Area is dominated by sandplains while a mosaic of colluvial, fluvial and sheetwash units occur in the south, relating to a network of drainage channels and floodplains. The application area intersects three soil types (**Figure 5-5**):

1. generally undulating terrain on granites with rocky granitic hills (413 ha)
2. upland sand plains with occasional dunes and minor inclusions of associated plains units: chief soils are red earthy sands (Uc5.21) with red sands (Uc5.11) and (Uc1) on the dunes (1910 ha)
3. and the most extensive areas of the Application Area are greenstone hills and low ranges with some slate and basalt: dominant soils are shallow stony earthy loams (Um5.51) on the steep slopes while (Um5.3) and (Uc5.21) overlying red-brown hardpan occur on the stony pediments (3231 ha).



 NVCP Application Area
 Wedgetail Stage 1



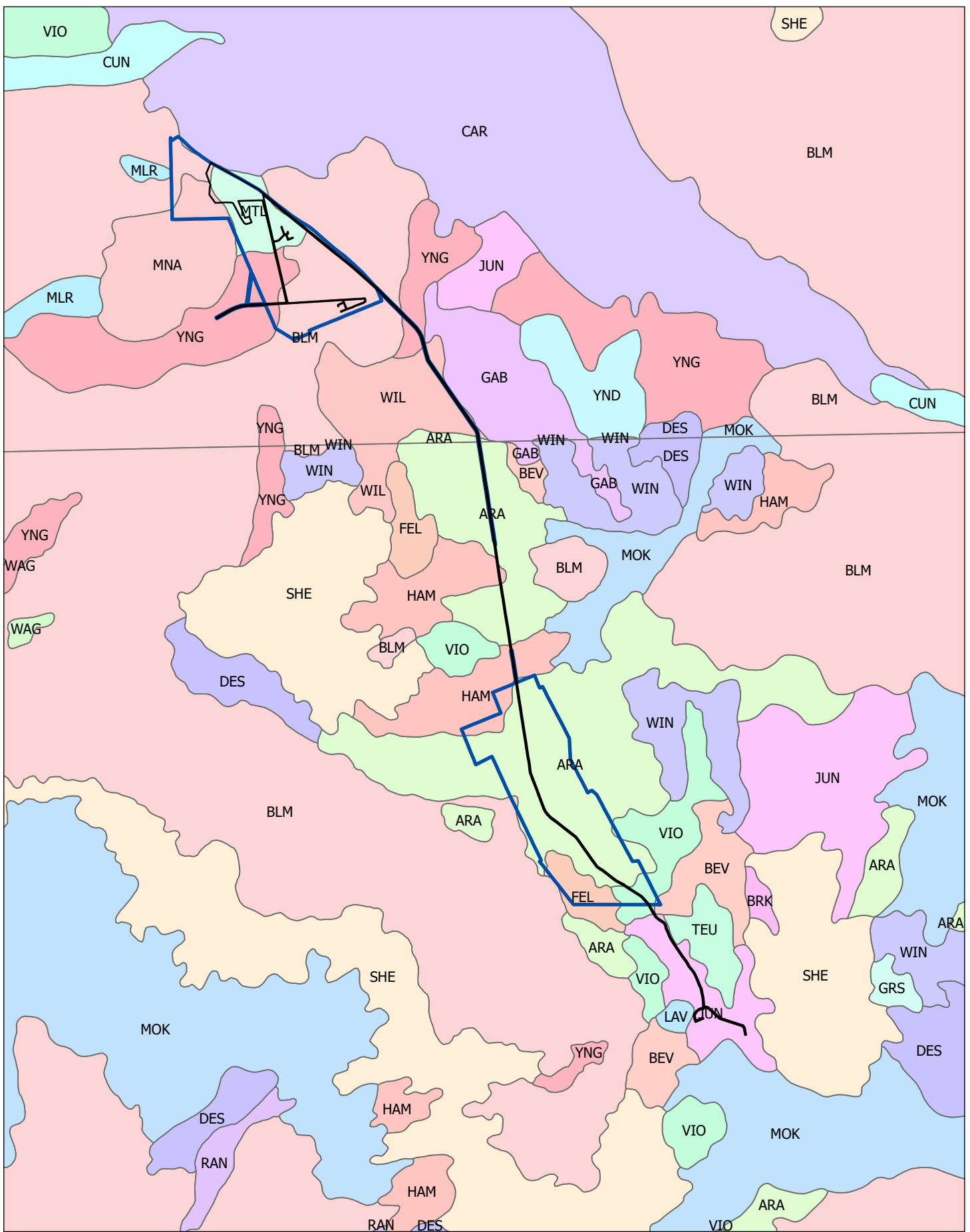
BHP FIGURE 5-4

WEDGETAIL GEOLOGY

GEOMATICS - NICKEL WEST

SCALE @ A3: 1:200,000 PREPARED: P.GANT
 DATE: 31/07/2023 REQUESTOR: V.CLARKE

Job No. N002



NVCP Application Area
 Wedgetail Stage 1



GDA 1994 MGA ZONE 51

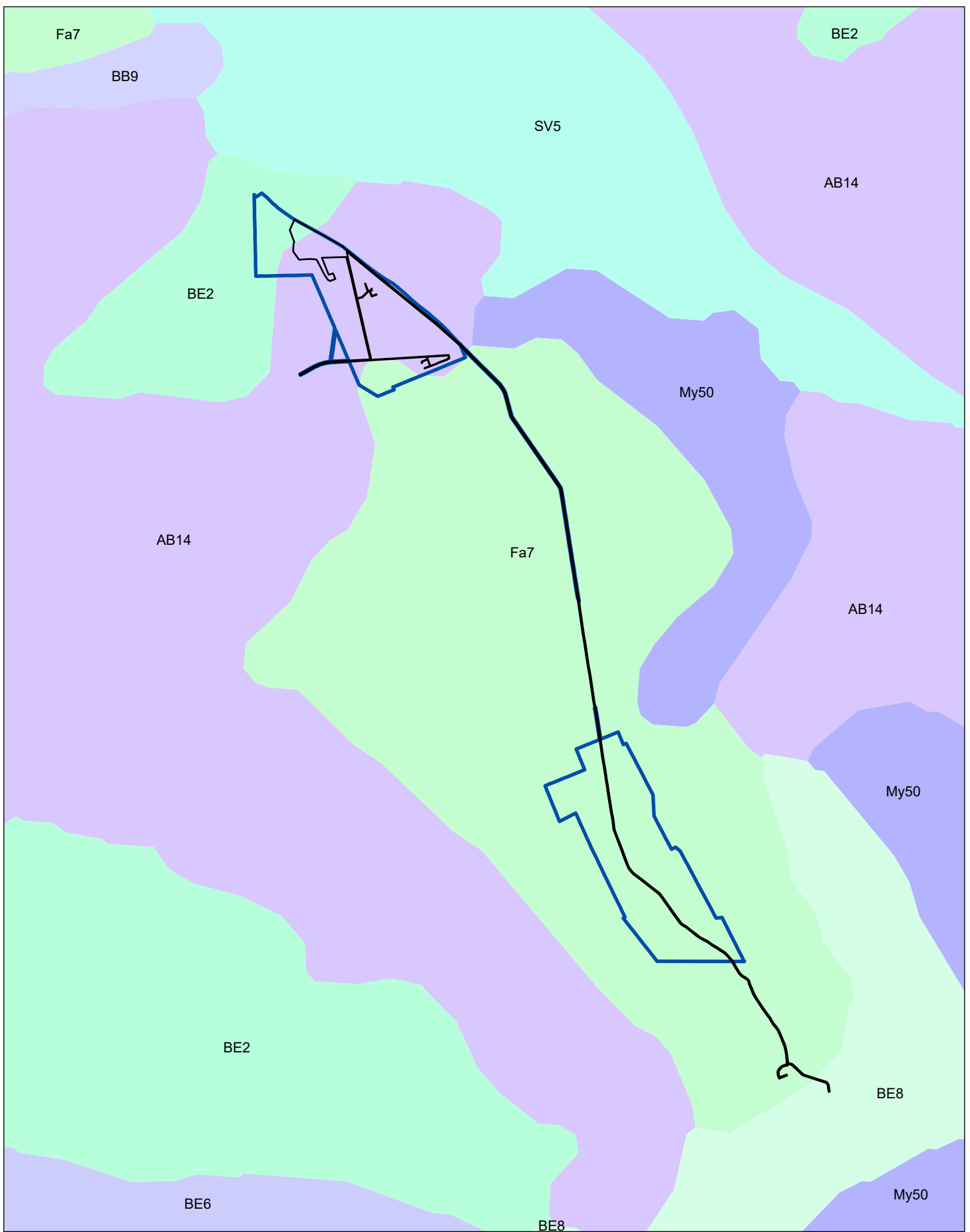
BHP FIGURE 5-5

WEDGETAIL LAND SYSTEMS

GEOMATICS - NICKEL WEST

SCALE @ A3: 1:200,000 PREPARED: P.GANT
 DATE: 31/07/2023 REQUESTOR: V.CLARKE

Job No. N002



BHP FIGURE 5-5

**WEDGETAIL
SOILS**

GEOMATICS - NICKEL WEST

SCALE @ A3: 1:200,000 PREPARED: P.GANT
DATE: 31/07/2023 REQUESTOR: V.CLARKE

Job No. N002

□ Wedgetail Stage 1
▭ NVCP Application Area



Source: CSIRO Atlas of Australian Soils (BRS 1999)

Hydrology

To inform the Wedgetail project, an assessment of both surface and groundwater hydrology baseline and potential impacts were commissioned (AQ2 Pty Ltd (AQ2) 2022a, 2022b).

Wedgetail Stage 1 is located within the Lake Carey regional catchment, a south-easterly trending network of interconnected palaeochannels and playas with a total drainage basin area of 67,284 km². The poorly defined ephemeral drainage channels terminate in a series of expansive playa lakes; Lakes Way, Maitland, Miranda, Darlot, Irwin and Carey. These lakes provide large storage capacity for runoff and, while typically dry, can become inundated during occasional, intense rainfall and infrequent cyclonic events. Connectivity between the lakes is obstructed and they only become connected and transmit flow downstream on very rare occasions. Drainage from the Wedgetail area reports to Lake Way (**Figure 5-6**).

Surface Water

Natural drainage in the Goldfield region are ephemeral, responding to rainfall events. At other times the drainage channels are dry with the exception of uncommon and isolated low lying damp lands and swamps. Following significant rainfall, the main drainage channels typically carry large discharges, possibly for a few days. In the main channels, minor drainage flows may persist for a few week (Griffin 1990).

The subcatchments of Lake Way, where the Wedgetail mining area is located, has flooding regime characterised as:

- initial inundation due to rainfall and subsequent catchment inflows (in events > 10% AEP)
- during frequent, small events (i.e., 63.2% AEP and 20% AEP events) no flows are contributed from upstream catchments, with inundation due to rainfall directly onto the lake surface
- during larger events, catchment inflows occur at many locations on the periphery of the lake. This results in a gradual flooding of low-lying areas (not already inundated due to rainfall) and subsequent filling of the main body of the lake
- peak flood elevation is estimated to be 491.7 mRL for the 1% AEP event, and 491.6 mRL for the 2% AEP event.

Wedgetail Mine Stage 1 resides on slightly elevated terrain to the north of a catchment draining from the west. A smaller catchment to the northwest of the site drains to the northwest and is unlikely to impact operations by the Proposal. The Wedgetail Stage 1 is likely to intercept drainage, mainly in the form of sheet, or shallow concentrated flow (AQ2 2022a).

Groundwater

To inform the Wedgetail groundwater hydrology baseline a hydrogeological assessment was undertaken (AQ2 2022b).

The water table typically occurs at approximately 7-25 m below ground level across the Honeymoon Well area, and 10-15m bgl at Wedgetail Stage 1. Groundwater level hydrographs generated across Wedgetail do not indicate a significant rise or decline in groundwater levels over the period when regular monitoring was undertaken. No seasonal variation is observed, which implies limited seasonal recharge (AQ2 2022b).

As the monitoring records are not continuous, low rates of groundwater recharge remain to be confirmed. Some bores show a vertical (hydraulic) gradient between the shallow and deeper aquifer units. However, because of the significant water quality differences between these units and substantially higher water densities and equivalent freshwater heads in groundwater in the deeper caprock and bedrock units, it is considered that there is likely to be little or no movement of groundwater between the units under natural conditions.

Physio-chemical measurements collected from 2003 to 2021 indicate that the water chemistry is typically of near neutral pH (6 to 8.5) and high salinity across HMW, ranging from 16,000 mg/L to the south to 240,000 mg/L in Wedgetail to the north. Water quality chemistries across the aquifer units are similar, with particularly high concentrations of chloride (up to 130,000 mg/L), sulphate (up to 30,000 mg/L), potassium (up to 7,580 mg/L), magnesium (up to 8,600 mg/L) and sodium (up to 88,000 mg/L).

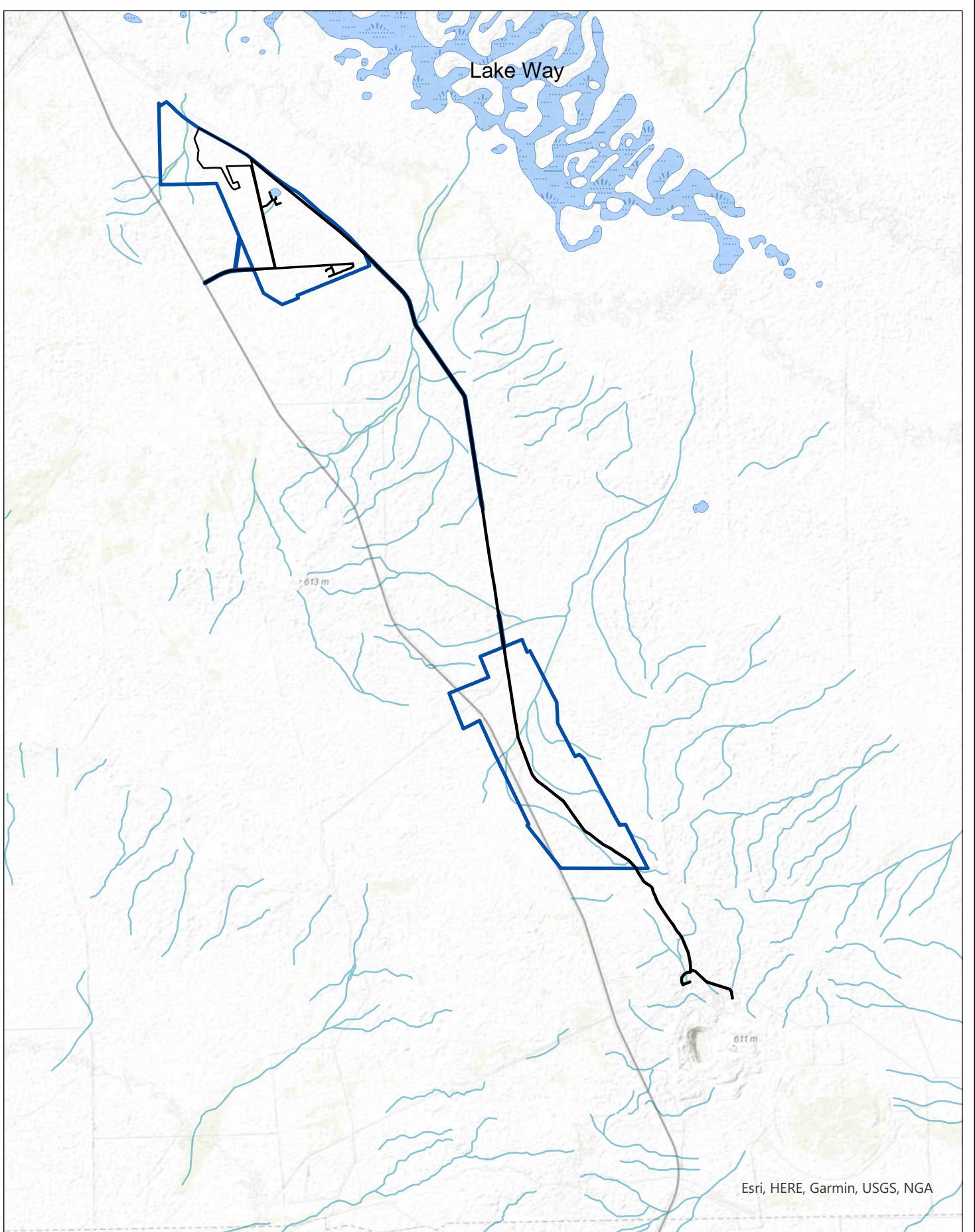
Hydrogeological characteristics of the area are summarised as (AQ2 2022b):

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- HMW region is generally a low-permeability, bedrock environment, although significant aquifers are encountered in:
 - Caprock (typically 30 m thick)
 - Weathered bedrock (variable thicknesses/depths)
 - Fresh bedrock zones (where faulting and fracturing exist in the upper part of fresh bedrock, with variable thicknesses/depths)
- low-permeability, saprolitic clay and transported clay overlies and confines the caprock and weathered / fresh bedrock aquifers. The clay is continuous over the area (except where bedrock outcrops), although in some areas contains gravel and sand beds
- groundwater levels across the deposits are estimated to be between and 7 and 25 mbgl, at elevations of between 480 mAHD and 500 mAHD
- no groundwater/surface water connection
- slight hydraulic gradient towards Lake Way with groundwater flow across the deposit area in a north-easterly direction
- groundwater quality is generally hypersaline (typically around 200,000 to 240,000 mg/L) in the weathered bedrock aquifers at Wedgetail, with neutral pH readings (pH 6.9 to 7.9)
- significant lateral heterogeneity of the caprock aquifer, which will result in areas with different dewatering requirements and drawdown responses. This will need to be considered when estimating dewatering, as an assumption of infinite extents will not be applicable for more than order of magnitude estimates.

Environmentally Sensitive Areas

The Proposal area does not intersect any mapped Environmentally Sensitive Areas (ESAs). The closest ESA is Wanjarri Nature Reserve 10 km (**Figure 2-1**) to the southeast of the southern end of the proposed HMW-MKO pipeline.



- Watercourse
- NVCP Application Area
- Wedgetail Stage 1



BHP

**WEDGETAIL
SURFACE HYDROLOGICAL FEATURES**

GEOMATICS - NICKEL WEST

SCALE @ A3: 1:200,000 PREPARED: P.GANT
DATE: 31/07/2023 REQUESTOR: V.CLARKE

Job No. N002

Land Use

Wedgetail Stage 1 is within Albion Downs and Mt Keith pastoral leases which are held by BHP NiW and Lake Way pastoral lease, held by a third party.

The Wedgetail Stage 1 project area is within the Shire of Wiluna; has enduring use by the Tjiwarl and Tarlka Matuwa Piarku Traditional Owners and is under Native Title area; and has also been utilised for minerals exploration and mining, and pastoralism over more recent history. **Figure 2-2** shows Native Title, local government, and pastoral boundaries.

Contaminated sites

The Department of Water and Environmental Regulation (DWER) maintains a Contaminated Sites Database that allows users to search for and view known contaminated sites in Western Australia (DWER 2022).

There is one record of a contaminated sites within a 100 km radius of Wedgetail on tenement M36/504 (Northern Star/Thunderbox) a remediated site with restricted use is recorded.

BHP NiW has reported to DWER possible contamination at MKO and DWER has recorded MKO as “*Possibly contaminated – investigation required.*”

5.3. Biodiversity

J.S. Beard mapped the majority of Western Australia at a broad scale according to the vegetation that would have been present prior to European disturbance and this mapping is used to inform vegetation values and diversity. The Honeymoon Well suite of tenements consists of two pre-European vegetation units predominantly low mulga woodlands (5982 ha) and the remainder is mapped as Spinifex Grassland: Shrub Steppe (1077 ha) (**Figure 5-7**).

To inform the baseline environment of the Wedgetail project area, more detailed vegetation and flora surveys were commissioned (Ecoscape Australia Pty Ltd (Ecoscape) 2022a & b) over both the proposed mining area, mine access road, and the pipeline between the proposed mining area and MKO. Short range endemic desktop review (Bennelongia 2021 & 2022) along with subterranean fauna surveys (Biota Environmental Sciences 2022) and aquatic fauna (Bennelongia 2021) have been undertaken.

Additional surveys over a wider array of Honeymoon Well tenements are being undertaken in 2023 with data and reports in preparation (Biologic Environmental Services (Biologic)) with the survey area boundary shown in **Figure 5-8**.

All biological surveys undertaken for the Honeymoon suite of tenements are summarised in **Table 5-2**.

Table 5-2 Biological surveys undertaken for HMW and Wedgetail

Year	Survey type	Report title	Consultant	IBSA reference
Vegetation and flora				
2023	Flora and vegetation survey (detailed)	TBC	Biologic	In prep.
2022	Desktop Assessment	Honeymoon Well Flora and vegetation desktop assessment	Biologic	NA
2021	Reconnaissance flora and vegetation survey and a Basic vertebrate fauna survey of the Wedgetail deposit and service corridor options	Honeymoon Well Flora, vegetation and vertebrate fauna survey	Ecoscape	IBSASUB-20230710-1FF91243
2021	Remote sensing vegetation assessment	Honeymoon Well and Mt Keith Satellite Vegetation Classification Report	Astron	NA
Short-range Endemic Fauna				
2023	Survey in wet & dry seasons; habitat assessments	Honeymoon Well Short-Range Endemic Invertebrate Fauna Survey	Biologic	TBC
2022	Desktop Assessment	Honeymoon Well	Bennelongia	NA

Year	Survey type	Report title	Consultant	IBSA reference
		Short-Range Endemic Fauna Desktop Assessment		
2021	Desktop Assessment	Honeymoon Well, Wedgetail and Lake Way Short-Range Endemic Desktop Assessment	Bennelongia	NA
Aquatic Fauna				
2021	Desktop Assessment	Honeymoon Well and Lake Way Aquatic Fauna Desktop Assessment	Bennelongia	NA
Subterranean Fauna				
		Honeymoon Well Subterranean Fauna	Biota	NA
2021	Desktop Study	Honeymoon Well Subterranean Fauna Desktop Study	Biota	NA
Vertebrate Fauna				
2023	Fauna survey	Honeymoon Well	Biologic	In prep.
2022	Desktop Assessment	Honeymoon Well Vertebrate Fauna Desktop Assessment	Biologic	NA
2022	Targeted vertebrate fauna	Honeymoon Well (Wedgetail) Targeted fauna survey	Ecoscope	IBSASUB-20230710-31A891D7
2021	Reconnaissance flora and vegetation survey and a Basic vertebrate fauna survey of the Wedgetail deposit and service corridor options	Honeymoon Well Flora, vegetation and vertebrate fauna survey	Ecoscope	IBSASUB-20230710-1FF91243

Vegetation

The flora and vegetation values of the Application Area have been assessed via desktop assessment and multiple season flora and vegetation surveys, as per **Table 5-2**. The recent surveys undertaken by Biologic are still in preparation but preliminary results include a number of Priority flora found within the wider HMW tenements but outside of the Wedgetail Stage1 Disturbance Envelope. These results will be provided during the assessment process and will be lodged through IBSA.

The results (Ecoscope 2022) are shown in **Figure 5-8** and provided as spatial data with this application and are summarised following:

Mine area

The majority of Wedgetail Stage 1 occurs within a single vegetation association, ApEsbAc (**Plate 1**). This association is described as *Acacia pteraneura* low open woodland over *Eremophila spectabilis* subsp. *brevis*, *Sida ectogama* and *E. forrestii* mid sparse shrubland over *Aristida contorta* and *Ptilotus obovatus* low sparse grassland/shrubland. The 20m x 20m flora survey quadrat HW2112 is sited within the mining area footprint and can be considered a typical representation of the proposed disturbance. HW2112 contained 29 plant species, no weeds and 95% bare ground (Ecoscope 2022a). The remainder of the mine area occurs across vegetation associations SahAc; described as *Senna artemisioides* subsp. *helmsii*, *Eremophila exilifolia* and *E. fraseri* subsp. *fraseri* mid sparse shrubland over *Aristida contorta* and *Eriachne pulchella* subsp. *pulchella* low sparse grassland.

Both vegetation associations extend more broadly beyond the proposed Wedgetail Stage 1 Disturbance Envelope (Ecoscope 2022a).

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Plate 1 Flora survey quadrat typical on the Wedgetail proposed mine area, *Acacia pteraneura* low open woodland

Mine access road and water supply (bore) corridors

The majority of the proposed mine access road also passes through ApEsbAc (*Acacia pteraneura* low open woodland, as described above), with a section of the road passing through association AaEfMP and AiArITw. AaEfMp is described as *Acacia anuera*, *Acacia mulganeura*, and *Acacia pteraneura* low woodland over *Eremophila forrestii* mid sparse shrubland over *Monachather paradoxus* and *Eragrostis eriopoda* low tussock grassland, with AiArITw described as *Acacia incurvaneura* low open woodland over *A. ramulosa* var. *linophylla* mid sparse shrubland over *Triodia basedowii* low hummock grassland (Ecoscape 2022a).

Both vegetation associations extend more broadly beyond on the proposed Disturbance Envelope and are similar to those documented by other surveys of the surrounding region (Ecoscape 2022a).



Plate 2 Flora survey quadrat typical of part of the mine access road, described as *Acacia anuera*, *A. mulganeura* and *A. pteraneura* low woodland

HMW-MKO pipeline corridor

The Disturbance Envelope (and proposed Prescribed Premises boundary) for the 43 km long HMW-MKO pipeline passes through 11 vegetation associations (**Figure 5-8**):

- AaEfMP - *Acacia aneura*, *A. mulganeura* and *A. pteraneura* low woodland over *Eremophila forrestii* mid sparse shrubland over *Monachather paradoxus* and *Eragrostis eriopoda* low tussock grassland
- AiArITw - *Acacia incurvaneura* low open woodland over *A. ramulosa* var. *linophylla* mid sparse shrubland over *Triodia basedowii* low hummock grassland
- GsEffPo - *Grevillea striata* low open woodland over *Eremophila fraseri* subsp. *fraseri* and *Sida ectogama* mid sparse shrubland over *Ptilotus obovatus* low sparse shrubland
- AaEIIPr - *Acacia aptaneura* and *A. aneura* low woodland over *Eremophila latrobei* subsp. *latrobei* and *E. forrestii* mid sparse shrubland over *Perotis rara*, *Digitaria brownii* and **Bidens bipinnata* low grassland/herbland
- AiPs - *Acacia incurvaneura* low open woodland over *Ptilotus schwartzii* and *Eremophila spectabilis* subsp. *brevis* low sparse shrubland
- AiTLEm - *Acacia incurvaneura* low open woodland over *Thryptomene* sp. Leinster (B.J. Lepschi & L.A. Craven 4362) mid sparse shrubland over *Eriachne mucronata* and *Eremophila* sp. indet low isolated tussock grasses/shrubs
- EffEm - *Eremophila fraseri* subsp. *fraseri* mid sparse shrubland over *Eriachne mucronata*, *Aristida contorta* and *Monachather paradoxus* low open tussock grassland
- ApEfEe - *Acacia pteraneura* low woodland over *Eremophila forrestii* mid sparse shrubland over *Eragrostis eriopoda* and *Aristida contorta* low sparse tussock grassland
- ApEc - *Acacia pteraneura* and *A. aneura* low open woodland over *Enneapogon caeruleus* low open tussock grassland
- AbEc - *Acacia burkittii* tall shrubland over *Enneapogon caeruleus* and *Aristida contorta* low tussock grassland
- AiEffPo - *Acacia incurvaneura* low open woodland over *Eremophila fraseri* subsp. *fraseri* mid sparse shrubland over *Ptilotus obovatus* and *P. schwartzii* low sparse shrubland
- ApAtEe - *Acacia pteraneura* and *A. caesaneura* low open woodland over *A. tetragonophylla* mid sparse shrubland over *Eragrostis eriopoda* low isolated tussock grasses
- ApEsbAc - *Acacia pteraneura* low open woodland over *Eremophila spectabilis* subsp. *brevis*, *Sida ectogama* and *E. forrestii* mid sparse shrubland over *Aristida contorta* and *Ptilotus obovatus* low sparse grassland/shrubland.

These vegetation associations all extend beyond on the proposed Disturbance Envelope (Ecoscape 2022a). Broadly, these vegetation associations are similar to those documented by other surveys of the surrounding region and are not restricted to the Wedgetail Project area.

The HMW-MKO pipeline will be placed within a 20 m easement following existing roads on currently undisturbed vegetation. Where possible vegetation clearing will be minimised and avoided.

Threatened and Priority Ecological Communities

No Commonwealth EPBC Act or Western Australian Threatened Ecological Communities (TECs) are in the vicinity of the Proposal area.

In the vicinity of Honeymoon Well there are 13 Priority Ecological Communities (PECs) all of which are calcrete groundwater assemblages (Ecoscape 2022a). The closest PEC is the Hinkler Well calcrete groundwater assemblage type. This occurs in the vicinity of Camel Creek to the north of the Proposal area and will not be affected by surface works associated with the Proposal. PEC locations are shown in **Figure 5-9**.

Flora

Two hundred and forty-six vascular flora species recorded from 29 floristic quadrats and opportunistic observations were recorded during baseline surveys (Ecoscape 2022 a).

BHP**Conservation significant flora**

No Threatened Flora species listed under the Commonwealth EPBC Act or Western Australian *Biodiversity Conservation Act 2016* were recorded within the Disturbance Envelope of the Proposal (Ecoscape 2022).

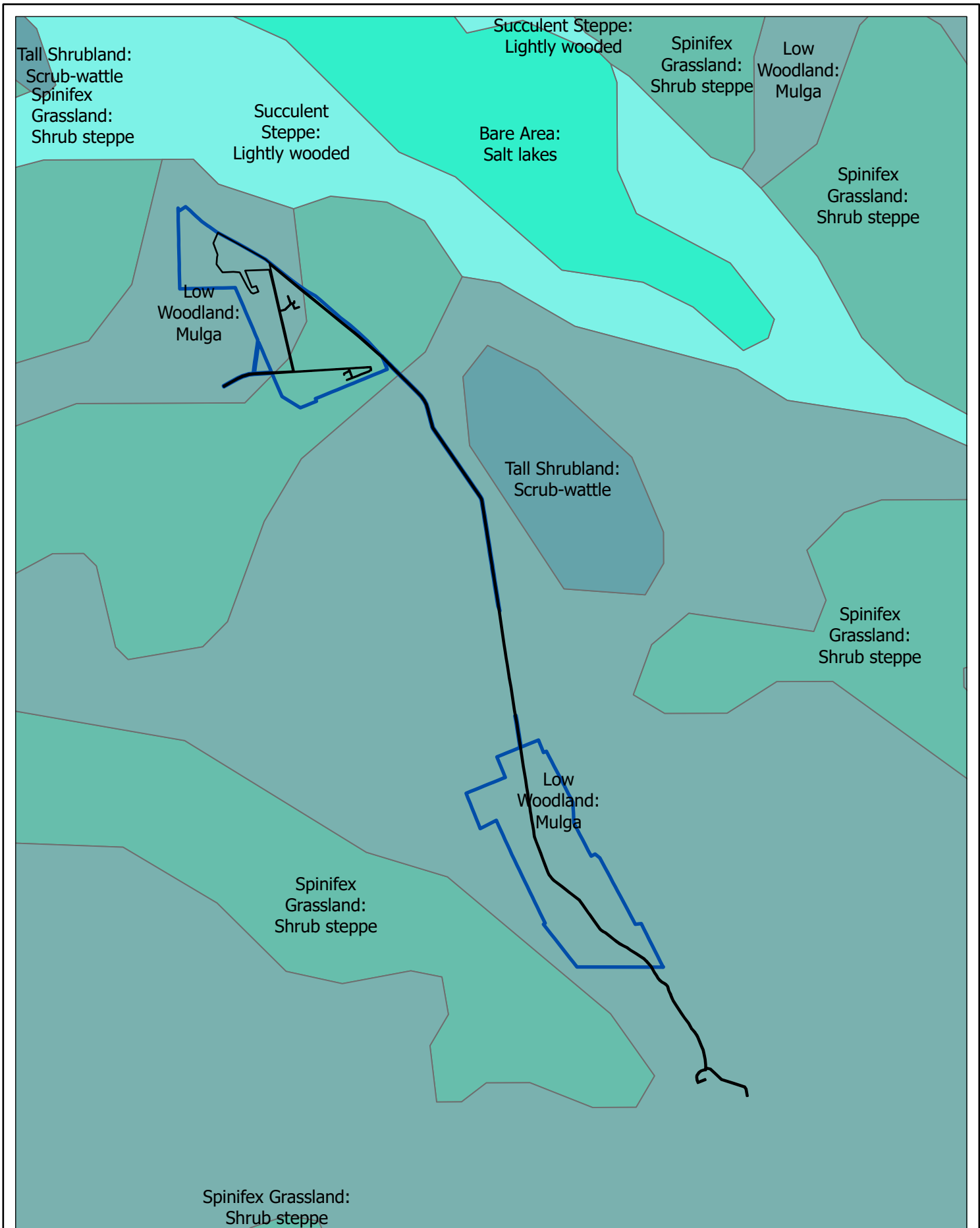
One Priority 4 species, *Eremophila pungens*, is located approximately 50 m outside of the southern end of the proposed HMW-MKO pipeline route, within 2 km of the existing MKO Disturbance Boundary. The three plants recorded at this location will be avoided if possible when the proposed pipeline is installed.

Weeds

The Wedgetail project area is largely weed free. Three introduced flora species were recorded in the vicinity of the Disturbance Envelope (Ecoscape 2022 a and b):

- **Bidens bipinnata*
- **Cenchrus ciliaris*
- **Citrullus amarus*.

These species are not considered to be new for the bioregion and are not Weeds of National Significance or Declared Pests under Section 22 of the *Biosecurity and Agriculture Management Act 2007*.



Wedgetail Stage 1
 NVCP Application Area



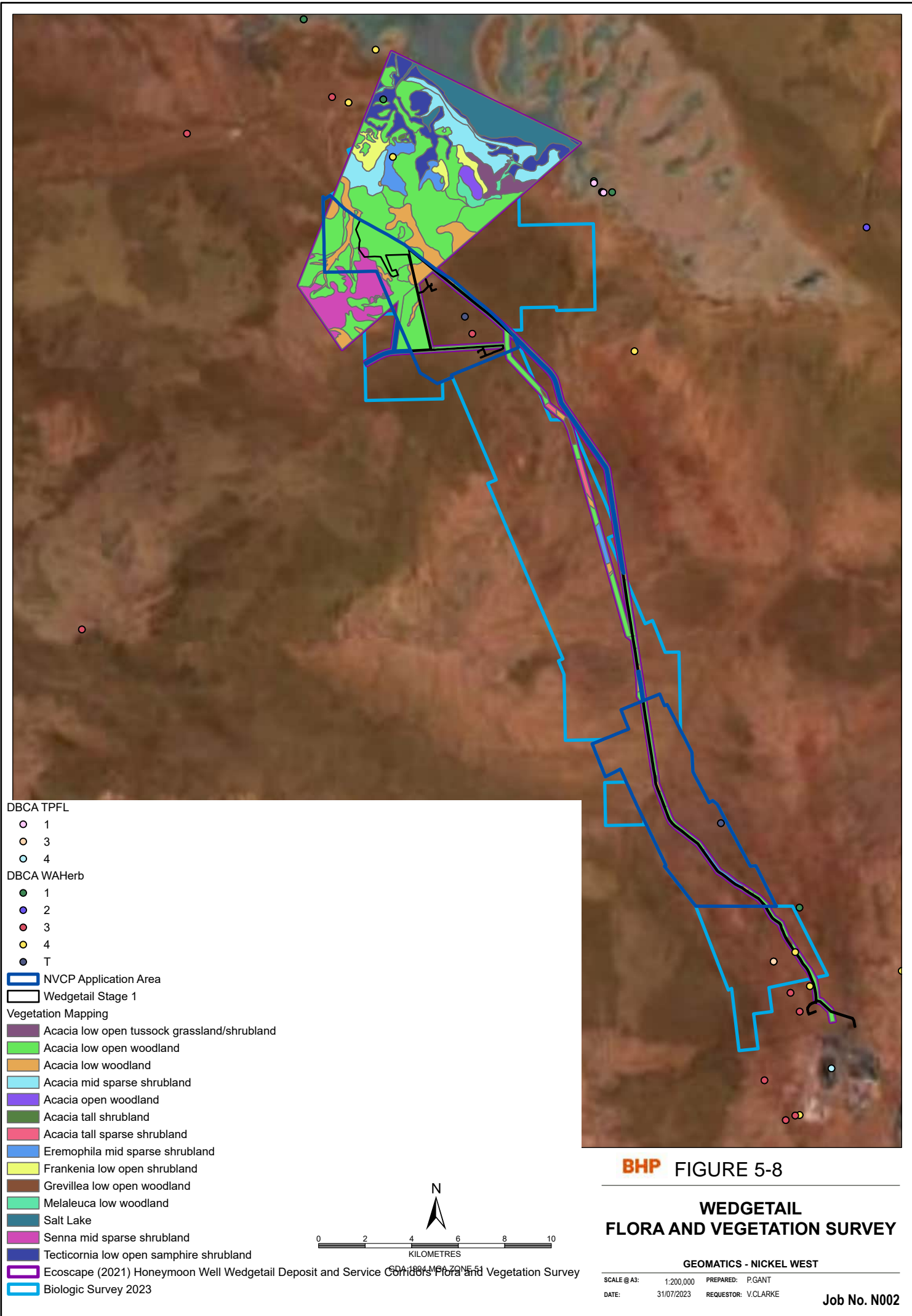
BHP FIGURE 5-7

WEDGETAIL PRE-EUROPEAN VEGETATION

GEOMATICS - NICKEL WEST

SCALE @ A3: 1:200,000 PREPARED: P.GANT
 DATE: 31/07/2023 REQUESTOR: V.CLARKE

Job No. N002



BHP FIGURE 5-8

**WEDGETAIL
FLORA AND VEGETATION SURVEY**

GEOMATICS - NICKEL WEST



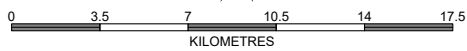
DBCA TPFL

- 1
- 3
- 4
- T

DBCA WAHerb

- 1
- 2
- 3
- 4
- T

- NVCP Application Area
- TEC PEC Areas



GDA 1994 MGA ZONE 51

BHP FIGURE 5-9

**WEDGETAIL
FLORA AND ECOLOGICAL COMMUNITIES**

GEOMATICS - NICKEL WEST

SCALE @ A3: 1:300,000 PREPARED: P.GANT
DATE: 31/07/2023 REQUESTOR: V.CLARKE

Job No. N002

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Fauna Habitat

To inform the baseline environmental values of the Proposal area, Ecoscape undertook a Basic and a Targeted vertebrate fauna survey (Ecoscape 2022b). Five fauna habitat types were recorded within the proposed Wedgetail Stage 1 Disturbance Envelope, including the mine access road route and HMW-MKO pipeline route (**Figure 5-10**):

- Mulga shrubland on stony plains
- Dense mulga
- Scattered mulga over spinifex sandplain
- Shrubland on stony rise
- Mulga on rocky rise.

The five habitat types further described in Ecoscape (2022a) are common and well represented in the local region.

Additional fauna survey has been undertaken in 2023 (Biologic; refer **Table 5-2**) to extend survey information to tenement boundaries; these reports are in preparation and will be submitted through the IBSA platform in due course.

Fauna

Fauna habitat representation noted in Ecoscape (2022b) includes four broad habitat types that include: Hillcrest and Hillslopes (30 ha); sand plain (145.7 ha); Mulga Woodland (279 ha); and the dominant habitat type was Stony Plains (1423.6 ha) (**Figure 5-10**).

Conservation significant fauna

No conservation significant fauna species were recorded from within the Disturbance Envelope (Ecoscape 2022b).

The *Scattered Mulga over Spinifex Sandplain* fauna habitat was identified as providing suitable habitat for the conservation-listed Brush-tailed Mulgara (*Dasycercus blythi*) (Priority 4). The Brush-tailed Mulgara is a burrowing species and requires a suitable substrate to construct their burrows which are usually constructed beneath spinifex (*Triodia* species.) in sand substrate. Targeted searches for this species in suitable habitat did not record any evidence of this species (Ecoscape 2022b).

Striated Grasswren (*Amytornis striatus striatus*) (Priority 4) may also utilise the *Scattered Mulga over Spinifex Sandplain* habitat. Targeted searches for this species in suitable habitat did not record any evidence of this species (Ecoscape 2022b).

Although neither species has been recorded from within the Disturbance Envelope or immediate surrounds, Ecoscape assessed the likelihood of these species occurring in the area as high (due to suitable habitat occurring, and the species being known from the local area) (Ecoscape, 2022b). While both species have some potential to occur, neither would be reliant on the habitats in the Application Area exclusively for their habitat requirements.

Subterranean fauna

Recent desktop assessment and field sampling for Honeymoon Well and Wedgetail were commissioned to understand the values of the project area (Biota 2021; 2022; **Table 5-2**). The results are summarised following:

Stygofauna

Stygofauna sampling was conducted in two phases, with sampling conducted on 76 occasions across 64 drillholes. In total, 44 sites were sampled within the modelled aquifer drawdown extent and 20 beyond it. The specimens collected represent a minimum of 18 putative species from nine taxonomic orders; Amphipoda, Bathynellacea, Cyclopoida, Harpacticoida, Coleoptera, Trombidiformes, Tubificata and two indeterminate platyhelminth and nematode orders. Survey results demonstrated that the HMW stygofauna assemblage is more diverse than previously documented.

Based on currently known distributions, most of the stygofauna species or lineages recorded during the survey appear spatially isolated, indicating that there is little biological connectivity within the study area, with barriers to gene flow evident. However, in some cases, records of the same species or lineages were separated by tens of kilometres, suggesting at least partial connectivity between the Hinkler Well Priority Ecological Community (PEC) and the rest of the study area. Such connectivity is likely to occur via the Carey paleodrainage channel which

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encompasses the Hinkler Well PEC and extends southeast towards the Lake Way playa (encompassing additional calcrete deposits), and further afield.

Troglofauna

A single phase of troglofauna sampling was conducted, with 18 drillholes sampled within the modelled aquifer drawdown extent and a further five outside. Twelve potentially troglobitic specimens were recorded, representing four potential taxa. Sequence data indicated that only one has the potential to be troglobitic.

This low diversity of troglofauna collected during the study is atypical for the region (Biota 2021). This result is likely to be, in part, due to lack of suitable and accessible drillholes sampled from prospective habitat within the study area. However, the shallow water table of the study area may limit the availability of superficial troglofauna habitat, due to a lack of available habitat space and/or susceptibility to daily heat flux and drying. This hypothesis is supported by survey outcomes in adjacent areas (Outback Ecology 2011).

Short-range endemic fauna

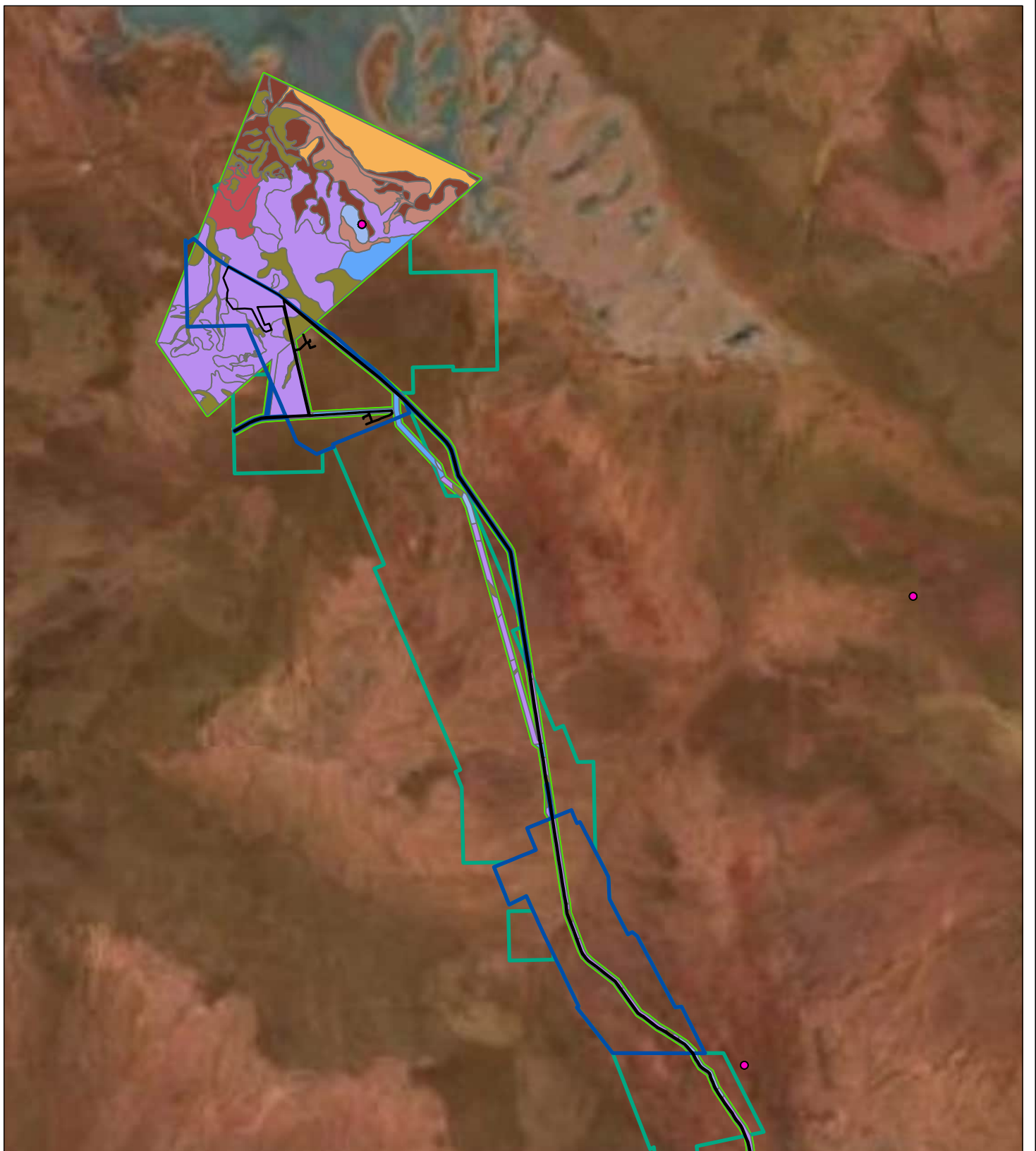
Short-range endemic invertebrates (SREs) are species with patchy distribution within an overall range of less than 10,000 km². Two desktop assessments were commissioned for the project area (Bennelongia 2021 & 2022) due to prospective habitats for SRE species in acacia woodland on rocky slopes and in drainage channels, granite outcrops, shrubland on claypans and open hummock grassland. The project area has prospective habitat for SREs and therefore a two-season SRE survey was undertaken (Biologic 2023) in 2022 over ~ 18,390 ha. Habitat assessments were carried out at 106 sites across the Study Area. From these, a total of six SRE invertebrate fauna habitat types were recorded and mapped across the Study Area. Sandy/ Stony Plain was the dominant habitat type and together with the other low significance habitat type, Drainage Area/ Floodplain, covered over half of the Study Area (65%). Of the six habitat types mapped across the Study Area, the two more restricted habitat types, Granite Outcrops/ Domes and Boulders/ Rockpiles, are considered of high significance for SRE invertebrate fauna due to their high protection from exposure, high complexity, and high isolation within the landscape. However, these habitat types covered only 0.04% of the Study Area. Two habitat types, Mulga Woodlands and Saline Flats and Marsh were considered of moderate significance for SRE invertebrate fauna and covered ~34% of the Study Area.

SRE invertebrate sampling was conducted at 60 of the 106 sites assessed across the two surveys from microhabitats in leaf litter, topsoil, under rocks, tree bark and woody debris. A total of 129 invertebrates from known SRE groups were collected. These specimens were morphologically identified, and 41 representative specimens were sequenced for DNA barcoding and compared to available regional sequences. In total, 36 taxa from SRE groups were represented from the combination of morphological and molecular identification, including eight taxa with indeterminate species designation. The taxa comprised 10 mygalomorph spiders, one wolf spider, 11 pseudoscorpions, five scorpions, four soil centipedes, one snail and four isopods. Of these 36 taxa, 28 taxa are considered Potential SRE while the remaining eight taxa are considered widespread.

Though potential SRE taxa were collected in the study area, the habitats in which they occurred are widespread. These habitats are contiguous with adjacent areas and extend well beyond the study area into the greater Murchison region, indicating that any of the SRE taxa recorded are unlikely to be restricted to the study area. However, those taxa recorded from the restricted habitat types, especially the Granite Outcrops/ Domes site, may represent unique species to the region (Biologic 2023). These areas are very restricted within the application area and not within the Disturbance Envelope of Wedgetail Stage 1.

Introduced and pest fauna

Rabbits, cats, foxes, dogs, cattle, goats, camels and donkeys have all been noted as occur in the region with cattle being the dominant continued impact to rangeland condition. Feral cats are known to be the dominant disrupter to the frequency and abundance of small to mid-range fauna.



DBCA WA STATUS

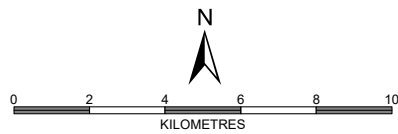
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- P4

- ▭ Wedgetail Stage 1
- ▭ NVCP Application Area

Habitat Type

- ▭ Drainage Area/ Floodplain
- ▭ Granite Outcrops/ Domes
- ▭ Hillcrest/ Hillslope
- ▭ Mulga Woodland
- ▭ Saline Flats and Marsh
- ▭ Sand Dune
- ▭ Sand Plain
- ▭ Stony Plain
- ▭ Wetland

- ▭ Ecoscape (2021) Honeymoon Well Wedgetail Deposit and Service Corridors Vertebrate Fauna Survey
- ▭ Biologic Survey 2023



GDA 1994 MGA ZONE 51

BHP FIGURE 5-10

**WEDGETAIL
FAUNA SURVEY**

GEOMATICS - NICKEL WEST

SCALE @ A3: 1:200,000 PREPARED: P.GANT
DATE: 31/07/2023 REQUESTOR: V.CLARKE

Job No. N002

6. Assessment Against the Ten Clearing Principles

An assessment of the application area is based on current desktop information, and on biological survey information as detailed in **Section Biodiversity**. It considers the values present in 5554.5 ha tenement application area with a focus on the proposed 300 ha of clearing required for Wedgetail Stage 1.

In summary, the proposed clearing is at variance to Principle F and is not likely to be at variance to the remaining Principles.

PRINCIPLE A Native vegetation should not be cleared if it comprises a high level of biological diversity

The proposed clearing is not likely to be at variance to this Principle.

The Murchison Biogeographic Region is not a recognised biodiversity hotspot and the vegetation types and land systems mapped for the proposed Project area are found extensively outside of the proposed Project area. No significant residual impacts from the proposed clearing are expected.

Thirteen vegetation associations are mapped across the proposed Project area (Section 7.5) with low mulga woodlands typifying the vegetation across most of the area. The area is not a recognised biodiversity hotspot or known for its high levels of species richness. Only one Priority flora species has been identified in the Project Disturbance Envelope, (*Eremophila pungens* P4). Clearing Priority flora will be avoided wherever possible, and limited impacts to this species will not affect its conservation status given its distribution and numbers outside of the application area.

There are no TECs mapped within the area. There are PECs mapped within the vicinity but these are all calcrete subterranean PECs and the limited clearing of terrestrial vegetation is not likely to have an impact given the almost 100% remaining native vegetation extent in the local and regional area.

Five fauna habitat types were mapped across the proposed Project area. No conservation listed species were recorded, however the post-survey analysis found suitable habitat for the conservation-listed Brush-tailed Mulgara (*Dasyercus blythi* P4), and the Striated Grasswren (*Amytornis striatus striatus* P4). While both species have some potential to occur, neither would be reliant on the habitats in the application area exclusively for their habitat requirements.

Given the above, the proposed clearing of up to 300 ha within a ~5,500 ha area over the next 10 years, is not likely to have an impact to local or regional biodiversity values, habitat connectivity nor impacts to any area of known high biodiversity value.

PRINCIPLE B Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna indigenous to Western Australia

The proposed clearing is not likely to be at variance to this Principle.

Five fauna habitat types were mapped across the proposed Project area. No conservation listed species were recorded within the survey area, however the post-survey analysis found suitable habitat for the conservation-listed Brush-tailed Mulgara (*Dasyercus blythi*) (Priority 4), and the Striated Grasswren (*Amytornis striatus striatus*) (P4). While both species have some potential to occur, neither would be reliant on the habitats in the Disturbance Envelope exclusively for their habitat requirements.

In addition to terrestrial vertebrate fauna, short-range endemic invertebrate fauna both terrestrial and subterranean were review along with additional subterranean fauna to understand the suite of fauna habitat and occurrence values.

Though potential SRE taxa were collected in the study area, the habitats in which they occurred are widespread. These habitats are contiguous with adjacent areas and extend well beyond the study area into the greater Murchison region, indicating that any of the SRE taxa recorded are unlikely to be restricted to the study area. However, those taxa recorded from the restricted habitat types, especially the Granite Outcrops/ Domes site, may represent unique species to the region (Biologic 2023). These areas are very restricted within the application area and not within the Disturbance Envelope of Wedgetail Stage 1.

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Given that the proposed clearing (300 ha) within a larger ~5,500 ha application area, over a period of incremental clearing for the next 10 years is not likely to have a significant impact on the availability of habitat locally or regionally of the dispersal and use of similar habitats in the area.

PRINCIPLE C Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, rare flora

This proposed clearing is not likely to be at variance to this Principle.

No threatened flora listed under the Federal EPBC Act, nor gazetted as Threatened under the State Biodiversity Conservation Act 2016 is known from, or recorded in the application area. There is none in the local vicinity and therefore clearing as proposed will not affect known threatened flora or its known habitat.

PRINCIPLE D Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of a threatened ecological community.

The proposed clearing is not at variance to this Principle.

No TECs are known from within or adjacent to the application area. Therefore the vegetation within the applied area neither comprises nor is necessary for the maintenance of a TEC.

PRINCIPLE E Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared

The proposed clearing is not at variance to this Principle.

The habitats and vegetation within the application area are well represented in the land systems and mapped pre-European vegetation types of the region. The application area is within a highly vegetated context that retains ~99% remnant vegetation. The application area is neither within an extensively cleared region nor will the proposed application area (and the proposed clearing area within) contribute to a significantly decreased representation of local or regional vegetation types.

PRINCIPLE F Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland

The proposed clearing is at variance to this Principle.

The application area includes natural ephemeral drainage lines that carry surface water during significant rainfall events. The vegetation surrounding these smaller drainage lines is not riparian or restricted to these superficial drainage areas as the local area is typified by sheet flow through mulga woodlands following larger rainfall events.

As the application area (and clearing area) includes a ~43 km pipeline it is inevitable that it crosses several small, ephemeral drainage lines and associated dry mulga flood plains. These are not likely to have vegetation restricted to the drainage lines but clearing within and adjacent to these areas is proposed.

The movement of surface flows will be managed to minimise impedance and structures will be placed outside of the incised drainage lines to minimise erosive effects.

Lake Way, the closest named lake is an ephemeral salt lake and is more than 20 km to the east. Smaller un-named surface water depressions will be avoided and have been the subject of heritage surveys.

Given that some clearing will be undertaken within ephemeral drainage lines, the proposed clearing is at variance to this Principle. Project infrastructure, in particular the HMW-MKO pipeline will be cleared and constructed to minimise impacts to surface water flows, and surface water drainage in incised ephemeral creek lines, and in consultation with Traditional Owners.

BHP

PRINCIPLE G Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation

The proposed clearing is not likely to be at variance to this Principle.

Land degradation may include impacts such as erosion, changes to pH, water logging, salinisation or spread of weeds. The clearing application area is within an almost completely vegetated area with no significant land development constraints (ASS, flooding, sensitive receptors, etc.).

The proposed clearing will be staged, clearing areas minimised and managed in accordance with mine planning, which includes surface water management to minimise surface water impacts. Temporarily cleared areas will be progressively revegetated and management measures for dust suppression are standard operational activities. Dust suppression is a routine operational control and dust and erosive activities will be managed during to ensure no appreciable land degradation results.

All topsoil will be stockpiled and reused for landscaping/rehabilitation where practical. Clearing and topsoil to be managed in accordance with BHP NiW NIW-HSEC-PRO-0035 Topsoil Stripping and Handling Procedure (**Appendix B**).

Given the above, the proposed clearing will be managed to ensure that no appreciable land degradation results from the staged and managed clearing and therefore the proposed clearing is not likely to be at variance to this Principle.

PRINCIPLE H Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area

The proposed clearing is not likely to be at variance to this Principle.

The nearest conservation area, Wanjarri Nature Reserve, is more than 10 km south from the southernmost end of the pipeline corridor. Between the proposed clearing and Wanjarri in extensive stands of remnant vegetation to the Mt Keith Mining Operations.

The limited, staged clearing is not likely to impact the catchment of impact the values of Wanjarri Nature Reserve and is therefore no likely to be at variance to the Principle.

PRINCIPLE I Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water

The proposed clearing is may be at variance to this Principle.

The proposed staged clearing of up to 300 ha within an ~5,500 ha application area is in an area that remains almost entirely vegetated and with no significant natural drainage lines. Locally there are sensitive receptors that include PECs with groundwater sensitive invertebrate fauna and the catchment includes a number of ephemeral salt lakes. There is no clearing proposed within salt lakes and there is almost 1005 native vegetation extent remaining that will act as a buffer to the limited clearing proposed (300 within a 7,000 application area).

Clearing will be undertaken according to BHP NiW's Vegetation Clearing Assessment Procedure (**Appendix B**) and minimised to the extent possible. Surface water impacts will be managed to prevent water starvation of mulga woodland and to maintain surface water movement following significant rainfall events. BHP NiW has commissioned surface and groundwater studies (AQ2 2022 a and b) to understand the local and regional catchment, and to construct Wedgetail Stage 1 with sensitivity to managing surface water flows.

However, the clearing within the catchment context is limited, staged and does not clear within or in close proximity to sensitive hydrological receptors. Therefore, the proposed clearing may be at variance to this Principle but will be managed by BHP NiW to minimise impacts to surface and groundwater.

PRINCIPLE J Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding

The proposed clearing is not likely to be at variance to this Principle.

Surface water runoff and localised flooding occurs following intense rainfall events, usually as a result of summer thunderstorm following cyclonic events off the northwest coast of WA. The incidence or intensity of flooding is not

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likely to be significantly influenced by the proposed staged and managed vegetation clearing within a highly vegetated context.

It is highly improbable that surface runoff generated from the cleared area, which is not a significantly large area within the regional context, could create sufficient concentrated water volumes to cause even a localised flood event. Therefore, the proposed clearing is not likely to be at variance to this Principle.

Planning and other matters

The application area is within the Shire of Wiluna and planning approval is not required for development of mines and mining infrastructure on Mining Act tenure. BHP NiW maintain proactive liaison with all our stakeholders as detailed in **Section 4**.

7. References

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Appendices

Appendix A Tenement Information



ASIC

Australian Securities & Investments Commission

Current Company Extract

Name: BHP NICKEL WEST PTY LTD

ACN: 004 184 598

Date/Time: 28 April 2022 AEST 12:45:42 PM

This extract contains information derived from the Australian Securities and Investments Commission's (ASIC) database under section 1274A of the Corporations Act 2001.

Please advise ASIC of any error or omission which you may identify.

EXTRACT

Organisation Details	Document Number
Current Organisation Details	
Name: BHP NICKEL WEST PTY LTD	7EBG97872
ACN: 004 184 598	
ABN: 76004184598	
Registered in: Victoria	
Registration date: 02/03/1933	
Next review date: 01/04/2023	
Name start date: 30/04/2021	
Previous state number: C0017575N	
Status: Registered	
Company type: Australian Proprietary Company	
Class: Limited By Shares	
Subclass: Proprietary Company	
DISCLOSING ENTITY	

Address Details	Document Number
Current	
Registered address: Level 15, 171 Collins Street, MELBOURNE VIC 3000	7E9000648
Start date: 04/05/2017	
Principal Place Of Business address: 'City Square Brookfield Place' Level 42, 125-137 St Georges Terrace, PERTH WA 6000	7E4533591
Start date: 18/06/2012	

Contact Address
Section 146A of the Corporations Act 2001 states 'A contact address is the address to which communications and notices are sent from ASIC to the company'.
Current
Address: Level 12, 171 Collins Street, MELBOURNE VIC 3000
Start date: 06/03/2017

Officeholders and Other Roles	Document Number
Director	
Name: RIAAN CLOETE	0EBG32563
Address: 8 Southport Loop, BURNS BEACH WA 6028	
Born: 28/04/1973, KLERKSDORP, SOUTH AFRICA	
Appointment date: 30/06/2018	
Name: GARY LLEWELLYN FRAMPTON	0EYX76471
Address: 18 Fourth Avenue, ROSSMOYNE WA 6148	
Born: 07/04/1963, JOHANNESBURG, SOUTH AFRICA	
Appointment date: 18/11/2019	
Name: JESSICA FARRELL	2EMB69839
Address: 33 Taronga Way, CITY BEACH WA 6015	
Born: 14/09/1983, SUBIACO, WA	
Appointment date: 20/08/2021	
Secretary	

Name:	ANGELI GAYFER	7E9011165
Address:	34 Milne Road, PARK ORCHARDS VIC 3114	
Born:	07/03/1963, HENDON, UNITED KINGDOM	
Appointment date:	30/04/2017	
Ultimate Holding Company		
Name:	BHP GROUP LIMITED	1E1042614
ACN:	004 028 077	
ABN:	49004028077	

Share Information**Share Structure**

Class	Description	Number issued	Total amount paid	Total amount unpaid	Document number
ORD	ORDINARY SHARES	2816828 744	3241456099.94	0.00	1M0034082

Members

Note: For each class of shares issued by a proprietary company, ASIC records the details of the top twenty members of the class (based on shareholdings). The details of any other members holding the same number of shares as the twentieth ranked member will also be recorded by ASIC on the database. Where available, historical records show that a member has ceased to be ranked amongst the top twenty members. This may, but does not necessarily mean, that they have ceased to be a member of the company.

Name: BHP LONSDALE INVESTMENTS PTY LTD
ACN: 004 346 972
Address: Level 15, 171 Collins Street, MELBOURNE VIC 3000

Class	Number held	Beneficially held	Paid	Document number
ORD	2816828744	yes	FULLY	7E9823726

Documents

Note: Where no Date Processed is shown, the document in question has not been processed. In these instances care should be taken in using information that may be updated by the document when it is processed. Where the Date Processed is shown but there is a zero under No Pages, the document has been processed but a copy is not yet available.

Date received	Form type	Date processed	Number of pages	Effective date	Document number
26/11/2019	315A Notice Of Resignation Or Removal Of Auditor Resignation Of Auditor	27/11/2019	1	15/11/2019	030769246
05/12/2019	484E Change To Company Details Appointment Or Cessation Of A Company Officeholder	05/12/2019	2	05/12/2019	0EYX76471
20/01/2020	492 Request For Correction	22/01/2020	2	20/01/2020	7EAT05011

21/01/2020	484O Change To Company Details Changes To Share Structure	21/01/2020	2	21/01/2020	1M0034082
28/02/2020	488B Application To Change Review Date Of A Company Or Scheme - Syn. By Office Holder (1-9 Coys/schemes) - Fee Applies	26/03/2020	4	28/02/2020	030799194
30/04/2021	205A Notification Of Resolution Changing Company Name	30/04/2021	2	27/04/2021	7EBG97872
26/08/2021	484E Change To Company Details Appointment Or Cessation Of A Company Officeholder	26/08/2021	2	26/08/2021	2EMB6983 9
26/08/2021	484E Change To Company Details Appointment Or Cessation Of A Company Officeholder	26/08/2021	2	26/08/2021	7EBK76461
17/09/2021	484E Change To Company Details Appointment Or Cessation Of A Company Officeholder	17/09/2021	2	17/09/2021	2ENJ92746

End of Extract of 3 Pages



MINING TENEMENT SUMMARY REPORT

MINING LEASE 53/55

Status: Live

TENEMENT SUMMARY

Area: 961.35000 HA	Death Reason :
Mark Out : 16/12/1986 14:13:00	Death Date :
Received : 22/12/1986 14:30:00	Commence : 08/10/1987
Term Granted : 21 Years (Renewed)	

CURRENT HOLDER DETAILS

Name and Address

BHP NICKEL WEST PTY LTD
BHP NICKEL WEST PTY LTD, C/- LAND & TENURE, PO BOX 8301, PERTH BUSINESS CENTRE, WA, 6849,
xxxxxxxxxxxxx@bhp.com

DESCRIPTION

Locality: 35KM SE OF WILUNA
Datum: DATUM IS SITUATED IN THE NORTH WEST CORNER OF THE GROUND APPLIED FOR. (PLEASE REFER TO APPLICATION)
Boundary: BEING IDENTICAL TO EXTERNAL BOUNDARIES OF OLD SURVEYED MINERAL LEASES 53/62, 53/65, 53/66 & 53/69 AND OLD SURVEYED MINERAL CLAIMS 53/3462, 53/3464, 53/3465 & 53/5695 AND THE AREA INCLUDES OLD SURVEYED MINERAL CLAIM 53/5696. THE WHOLE AREA APPLIED FOR BEING CONDITIONALLY SURRENDERED PART OF EXPLORATION LICENCE 53/08.

Area :	Type	Dealing No	Start Date	Area
	Surveyed		02/12/1994	961.35000 HA
	Granted		08/10/1987	955.00000 HA
	Applied For		16/12/1986	955.00000 HA

SHIRE DETAILS

Shire	Shire No	Start	End	Area
WILUNA SHIRE	9250	16/12/1986		961.35000 HA



MINING TENEMENT SUMMARY REPORT

MISCELLANEOUS LICENCE 53/244

Status: Live

TENEMENT SUMMARY

Area: 57.44003 HA	Death Reason :
Mark Out : N/A	Death Date :
Received : 14/07/2021 16:20:45	Commence : 08/12/2021
Term Granted : 21 Years	

CURRENT HOLDER DETAILS

Name and Address

BHP NICKEL WEST PTY LTD
BHP NICKEL WEST PTY LTD, C/- LAND & TENURE, PO BOX 8301, PERTH BUSINESS CENTRE, WA, 6849,
xxxxxxxxxxxxx@bhp.com

DESCRIPTION

Locality: Honeymoon Well
Datum: 7007063.287 mN 248030.914 mE
Boundary: 7007248.67 mN 247951.659 mE 7007452.204 mN
247920.176 mE 7007682.333 mN 247883.143 mE
7008737.55 mN 247714.726 mE 7008908.937 mN
247691.757 mE 7009416.08 mN 247610.612 mE
7010692.712 mN 247412.172 mE 7011458.473 mN
247290.602 mE 7011547.332 mN 247270.291 mE
7011619.808 mN 247234.053 mE 7012326.128 mN
246746.890 mE 7012696.539 mN 246491.571 mE
7013562.389 mN 245893.613 mE 7014218.613 mN
245441.135 mE 7014386.943 mN 245326.329 mE
7014449.199 mN 245302.497 mE 7014537.129 mN
245281.498 mE 7014660.326 mN 245244.423 mE
7015163.870 mN 245112.260 mE 7015355.687 mN
245053.540 mE 7015497.669 mN 244979.968 mE
7015670.73 mN 244857.654 mE 7015804.024 mN
244730.847 mE 7016397.129 mN 244132.628 mE
7016807.007 mN 243721.066 mE 7016883.403 mN
243649.763 mE 7017191.272 mN 243340.932 mE
7017307.099 mN 243295.151 mE 7016918.496 mN
243685.382 mE 7016841.457 mN 243757.307 mE
7016432.597 mN 244167.871 mE 7015839.273 mN
244766.310 mE 7015703.875 mN 244895.133 mE
7015525.125 mN 245021.790 mE 7015373.725 mN
245100.273 mE 7015178.023 mN 245160.217 mE
7014673.452 mN 245292.672 mE 7014549.448 mN
245329.962 mE 7014462.390 mN 245350.752 mE
7014411.100 mN 245370.291 mE 7014246.898 mN
245482.366 mE 7013590.786 mN 245934.765 mE
7012724.934 mN 246532.726 mE 7012354.511 mN
246788.054 mE 7011645.058 mN 247277.280 mE
7011564.379 mN 247317.486 mE 7011468.794 mN

247339.532 mE 7010700.472 mN 247461.566 mE
 7009423.87 mN 247660.002 mE 7008916.512 mN
 247741.181 mE 7008757.083 mN 247762.405 mE
 7007690.245 mN 247932.513 mE 7007459.998 mN
 247969.564 mE 7007063.287 mN 248030.914 mE Back
 to Datum

Area :	Type	Dealing No	Start Date	Area
	Granted		08/12/2021	57.44003 HA
	Applied For		14/07/2021	57.44000 HA

SHIRE DETAILS

Shire	Shire No	Start	End	Area
WILUNA SHIRE	9250	14/07/2021		57.44003 HA



MINING TENEMENT SUMMARY REPORT

MISCELLANEOUS LICENCE 53/247

Status: Live

TENEMENT SUMMARY

Area: 6.40150 HA	Death Reason :
Mark Out : N/A	Death Date :
Received : 14/07/2021 16:20:45	Commence : 04/11/2021
Term Granted : 21 Years	

CURRENT HOLDER DETAILS

Name and Address

BHP NICKEL WEST PTY LTD
BHP NICKEL WEST PTY LTD, C/- LAND & TENURE, PO BOX 8301, PERTH BUSINESS CENTRE, WA, 6849,
xxxxxxxxxxxxx@bhp.com

DESCRIPTION

Locality: Honeymoon Well
Datum: 7002847.73 mN 248635.061 mE
Boundary: 7002866.916 mN 248682.544 mE 7002506.649 mN
248745.428 mE 7001594.319 mN 248885.282 mE
7001575.303 mN 248838.588 mE 7002499.794 mN
248695.868 mE 7002847.73 mN 248635.061 mE Back to
Datum

Area :	Type	Dealing No	Start Date	Area
	Granted		04/11/2021	6.40150 HA
	Applied For		14/07/2021	6.40000 HA

SHIRE DETAILS

Shire	Shire No	Start	End	Area
WILUNA SHIRE	9250	14/07/2021		6.40150 HA



MINING TENEMENT SUMMARY REPORT

MINING LEASE 53/35

Status: Live

TENEMENT SUMMARY

Area: 963.60000 HA	Death Reason :
Mark Out : 22/11/1985 11:09:00	Death Date :
Received : 28/11/1985 13:00:00	Commence : 29/04/1986
Term Granted : 21 Years (Renewed)	

CURRENT HOLDER DETAILS

Name and Address

BHP NICKEL WEST PTY LTD
BHP NICKEL WEST PTY LTD, C/- LAND & TENURE, PO BOX 8301, PERTH BUSINESS CENTRE, WA, 6849,
xxxxxxxxxxxxx@bhp.com

DESCRIPTION

Locality: 35KMS SE OF WILUNA
Datum: DATUM PEG SITUATED IN THE SOUTHERNMOST CORNER OF THE GROUND APPLIED FOR.
Boundary: THENCE: BOUNDARIES BEING IDENTICAL TO EXTERNAL BOUNDARIES OF OLD SURVEYED MINERAL LEASES 53/67-68 AND 53/70 TO 53/75 INCLUSIVE, AND OLD SURVEYED MINERAL CLAIM 53/4575, AND BEING CONDITIONALLY SURRENDERED PART OF E 53/8.

Area :	Type	Dealing No	Start Date	Area
	Surveyed		02/12/1994	963.60000 HA
	Granted		29/04/1986	964.00000 HA
	Applied For		22/11/1985	964.00000 HA

SHIRE DETAILS

Shire	Shire No	Start	End	Area
WILUNA SHIRE	9250	22/11/1985		963.60000 HA



MINING TENEMENT SUMMARY REPORT

MINING LEASE 53/36

Status: Live

TENEMENT SUMMARY

Area: 962.95000 HA	Death Reason :
Mark Out : 22/11/1985 11:10:00	Death Date :
Received : 28/11/1985 13:00:00	Commence : 29/04/1986
Term Granted : 21 Years (Renewed)	

CURRENT HOLDER DETAILS

Name and Address

BHP NICKEL WEST PTY LTD
BHP NICKEL WEST PTY LTD, C/- LAND & TENURE, PO BOX 8301, PERTH BUSINESS CENTRE, WA, 6849,
xxxxxxxxxxxxx@bhp.com

DESCRIPTION

Locality: 35 KMS SE OF WILUNA
Datum: DATUM PEG SITUATED IN THE NORTH WEST CORNER OF THE GROUND APPLIED FOR
Boundary: THENCE: BEING IDENTICAL TO EXTERNAL BOUNDARIES OF OLD SURVEYED MINERAL LEASES 53/76-81 INCLUSIVE, 53/85-86 AND BEING CONDITIONALLY SURRENDERED PART OF E 53/8

Area :	Type	Dealing No	Start Date	Area
	Surveyed		02/12/1994	962.95000 HA
	Granted		29/04/1986	959.00000 HA
	Applied For		22/11/1985	959.00000 HA

SHIRE DETAILS

Shire	Shire No	Start	End	Area
WILUNA SHIRE	9250	22/11/1985		962.95000 HA



MINING TENEMENT SUMMARY REPORT

MINING LEASE 53/238

Status: Live

TENEMENT SUMMARY

Area: 673.15000 HA	Death Reason :
Mark Out : 28/03/1992 11:10:00	Death Date :
Received : 31/03/1992 08:31:00	Commence : 08/07/1992
Term Granted : 21 Years (Renewed)	

CURRENT HOLDER DETAILS

Name and Address

BHP NICKEL WEST PTY LTD
BHP NICKEL WEST PTY LTD, C/- LAND & TENURE, PO BOX 8301, PERTH BUSINESS CENTRE, WA, 6849,
xxxxxxxxxxxxx@bhp.com

DESCRIPTION

Locality: 11 KM NW of Mt Keith Trig Stn
Datum: Datum situated at the South West corner of late surveyed MC121J
Boundary: Thence 647.34 metres (AMG) bearing 63 degrees 1 minute 12 seconds (AMG GRID) (North boundary late surveyed MC170J) Thence 725.58 metres (AMG) bearing 63 degrees 2 minutes 12 seconds (AMG GRID) (North boundary late surveyed MC104J) Thence 7.55 metres (AMG) bearing 152 degrees 43 minutes 12 seconds (AMG GRID) (a boundary of late surveyed MC183J) Thence 811.34 metres (AMG) bearing 63 degrees 2 minutes 12 seconds (AMG GRID) (South boundary late surveyed MC183J) Thence 7.55 metres (AMG) bearing 332 degrees 59 minutes 12 seconds (AMG GRID) (along east boundary late surveyed MC183J) Thence 1604.72 metres (AMG) bearing 63 degrees 2 minutes 12 seconds (AMG GRID) (South boundaries late surveyed MC138J and MC160J) Thence 1514.39 metres (AMG) bearing 152 degrees 50 minutes 59 seconds (AMG GRID) (West boundary late surveyed MC345J) Thence 800.34 metres (AMG) bearing 62 degrees 49 minutes 37 seconds (AMG GRID) (South boundary late surveyed MC345J) Thence 1512.64 metres (AMG) bearing 332 degrees 49 minutes 59 seconds (AMG GRID) (East boundary late surveyed MC345J) Thence 1490.74 metres (AMG) bearing 329 degrees 55 minutes 7 seconds (AMG GRID) (East boundary late surveyed MC344J) Thence 784.25 metres (AMG) bearing 248 degrees 36 minutes 34 seconds (AMG GRID) (North boundary late surveyed MC344J) Thence 41.91 metres (AMG) bearing 247 degrees 38 minutes 34 seconds (AMG GRID) (along South boundary late surveyed MC161J) Thence 541.42 metres (AMG) bearing 337 degrees 51 minutes 47 seconds (AMG

GRID) (along East boundary E53/26) Thence 1800.53 metres (AMG) bearing 247 degrees 51 minutes 44 seconds (AMG GRID) (North boundary E53/26) Thence 891.48 metres (AMG) bearing 157 degrees 51 minutes 36 seconds (AMG GRID) (along West boundary E53/26) Thence 1735.45 metres (AMG) bearing 247 degrees 55 minutes 33 seconds (AMG GRID) (North boundary E53/201) Thence 1525.76 metres (AMG) bearing 158 degrees 3 minutes 26 seconds (AMG GRID) (West boundary late surveyed MC121J) back to datum (This application is pursuant to sections 49 and 67 of the Mining Act 1978 as amended) (And being identical to P53/614, P53/615 and portions of P53/617 E53/26 and E53/201)

Area :	Type	Dealing No	Start Date	Area
	Surveyed		03/06/2008	673.15000 HA
	Dealing	Partial Surrender - Voluntary 1015H/990	14/12/1999	674.13000 HA
	Surveyed		06/12/1992	911.00000 HA
	Granted		08/07/1992	910.82000 HA
	Applied For		28/03/1992	910.82000 HA

SHIRE DETAILS

Shire	Shire No	Start	End	Area
WILUNA SHIRE	9250	28/03/1992		673.15000 HA



MINING TENEMENT SUMMARY REPORT

MINING LEASE 53/239

Status: Live

TENEMENT SUMMARY

Area: 529.15000 HA	Death Reason :
Mark Out : 28/03/1992 11:34:00	Death Date :
Received : 31/03/1992 08:31:00	Commence : 08/07/1992
Term Granted : 21 Years (Renewed)	

CURRENT HOLDER DETAILS

Name and Address

BHP NICKEL WEST PTY LTD
BHP NICKEL WEST PTY LTD, C/- LAND & TENURE, PO BOX 8301, PERTH BUSINESS CENTRE, WA, 6849,
xxxxxxxxxxxxx@bhp.com

DESCRIPTION

Locality: 9.5km NW of Mt Keith Trig Stn
Datum: Datum situated at the South West corner of late surveyed MC170J
Boundary: Thence external boundaries are identical to late surveyed MC's 170J, 104J, 105J, 139J, 159J, 158J, and 346J (and being identical to late surveyed MC 170J, 104J, 105J, 139J, 159J, 158J and 346J) (and also being identical to P53/616 and to portions of P53/617, E53/26 and E53/201) (This application is made pursuant of Sections 49 and 67 of the Mining Act 1978- As Amended)

Area :	Type	Dealing No	Start Date	Area
	Surveyed		03/06/2008	529.15000 HA
	Dealing	Partial Surrender - Voluntary 1016H/990	14/12/1999	529.39000 HA
	Granted		08/07/1992	815.90000 HA
	Applied For		28/03/1992	815.90000 HA

SHIRE DETAILS

Shire	Shire No	Start	End	Area
WILUNA SHIRE	9250	28/03/1992		529.15000 HA



MINING TENEMENT SUMMARY REPORT

MINING LEASE 53/240

Status: Live

TENEMENT SUMMARY

Area: 470.45000 HA	Death Reason :
Mark Out : 28/03/1992 11:37:00	Death Date :
Received : 31/03/1992 08:31:00	Commence : 08/07/1992
Term Granted : 21 Years (Renewed)	

CURRENT HOLDER DETAILS

Name and Address

BHP NICKEL WEST PTY LTD
BHP NICKEL WEST PTY LTD, C/- LAND & TENURE, PO BOX 8301, PERTH BUSINESS CENTRE, WA, 6849,
xxxxxxxxxxxxx@bhp.com

DESCRIPTION

Locality: 8KM NW of Mt Keith Trig Stn
Datum: Datum situated at the South West corner of late surveyed MC170J
Boundary: Thence external boundaries are identical to late surveyed MC's 171J, 102J, 103J, 140J, 1626J, 172J and 58J (and being identical to late surveyed MC's 171J, 102J, 103J, 140J, 1626J, 172J and 58J and also being identical to portions of E53/26 and E53/201) (This application is made pursuant to Section 67 of the Mining Act 1978- As Amended)

Area :	Type	Dealing No	Start Date	Area
	Surveyed		05/07/2007	470.45000 HA
	Dealing	Partial Surrender - Voluntary 1017H/990	14/12/1999	483.23000 HA
	Granted		08/07/1992	746.80000 HA
	Applied For		28/03/1992	746.80000 HA

SHIRE DETAILS

Shire	Shire No	Start	End	Area
WILUNA SHIRE	9250	28/03/1992		470.45000 HA



MINING TENEMENT SUMMARY REPORT

MINING LEASE 53/241

Status: Live

TENEMENT SUMMARY

Area: 757.05000 HA	Death Reason :
Mark Out : 28/03/1992 14:00:00	Death Date :
Received : 31/03/1992 08:31:00	Commence : 08/07/1992
Term Granted : 21 Years (Renewed)	

CURRENT HOLDER DETAILS

Name and Address

BHP NICKEL WEST PTY LTD
BHP NICKEL WEST PTY LTD, C/- LAND & TENURE, PO BOX 8301, PERTH BUSINESS CENTRE, WA, 6849,
xxxxxxxxxxxxx@bhp.com

DESCRIPTION

Locality: 6KM NW of Mt Keith Trig Stn
Datum: Datum situated at the South West corner of late surveyed MC55J
Boundary: Thence external boundaries are identical to late surveyed MC's 55J, 56J, 184J, 1501J, 54J, 52J and 51J (and being identical to late surveyed MC's 51J to 56J, 184J and 1501J and also being identical to portions of P 53/618, E 53/26 and E 53/201) (This application is made pursuant to Sections 49 and 67 of the Mining Act 1978 as amended)

Area :	Type	Dealing No	Start Date	Area
	Surveyed		05/07/2007	757.05000 HA
	Granted		08/07/1992	757.15000 HA
	Applied For		28/03/1992	757.15000 HA

SHIRE DETAILS

Shire	Shire No	Start	End	Area
WILUNA SHIRE	9250	28/03/1992		757.05000 HA



MINING TENEMENT SUMMARY REPORT

MINING LEASE 53/242

Status: Live

TENEMENT SUMMARY

Area: 519.85000 HA	Death Reason :
Mark Out : 28/03/1992 10:35:00	Death Date :
Received : 31/03/1992 08:31:00	Commence : 08/07/1992
Term Granted : 21 Years (Renewed)	

CURRENT HOLDER DETAILS

Name and Address

BHP NICKEL WEST PTY LTD
BHP NICKEL WEST PTY LTD, C/- LAND & TENURE, PO BOX 8301, PERTH BUSINESS CENTRE, WA, 6849,
xxxxxxxxxxxxx@bhp.com

DESCRIPTION

Locality: 4KM WNW of Mt Keith Trig Stn
Datum: Datum situated at the south west corner of late surveyed MC172J
Boundary: Thence 1348.25 metres (AMG) bearing 157 degrees 39 minutes 9 seconds (AMG GRID) (to meet AMG 6992.600 metres Northing) Thence 5789.41 metres (AMG) bearing 90 degrees zero minutes zero seconds (AMG GRID) (to East boundary late surveyed MC356J) Thence 1258.94 metres (AMG) bearing 332 degrees 24 minutes 23 seconds (AMG GRID) (along East boundary late surveyed MC356J) Thence 1514.17 metres (AMG) bearing 331 degrees 53 minutes 51 seconds (AMG GRID) (East boundary late surveyed MC357J) Thence 800.35 metres (AMG) bearing 241 degrees 44 minutes 51 seconds (AMG GRID) (North boundary late surveyed MC357J) Thence 403.95 metres (AMG) bearing 151 degrees 35 minutes 13 seconds (AMG GRID) (along East boundary late surveyed MC52J) Thence 793.89 metres (AMG) bearing 242 degrees 43 minutes 47 seconds (AMG GRID) (North boundary late surveyed MC50J) Thence 67.84 metres (AMG) bearing 152 degrees 24 minutes 14 seconds (AMG GRID) (along East boundary late surveyed MC51J) Thence 841.88 metres (AMG) bearing 242 degrees 16 minutes 54 seconds (AMG GRID) (North boundary late surveyed MC49J) Thence 297.99 metres (AMG) bearing 332 degrees 41 minutes 8 seconds (AMG GRID) (along East boundary late surveyed MC57J) Thence 769.24 metres (AMG) bearing 243 degrees 9 minutes 49 seconds (AMG GRID) (North boundary late surveyed MC57J) Thence 1507.62 metres (AMG) bearing 332 degrees 43 minutes 7 seconds (AMG GRID) (East boundary late surveyed MC26J) Thence 803.65 metres (AMG) bearing 239 degrees 42 minutes

33 seconds (AMG GRID) (North boundary late surveyed MC26J) Thence 1002.81 metres (AMG) bearing 239 degrees 38 minutes 13 seconds (AMG GRID) (South boundary late surveyed MC172J) back to datum (This application is pursuant to sections 49 and 67 of the Mining Act 1978-as amended) (and being identical to portions of P53/618, E53/26 and E53/201)

Area :	Type	Dealing No	Start Date	Area
	Surveyed		05/07/2007	519.85000 HA
	Vol. Part. Surrender	Partial Surrender - Voluntary 1018H/990	14/12/1999	521.57000 HA
	Surveyed		10/07/1994	887.20000 HA
	Granted		08/07/1992	887.63000 HA
	Applied For		28/03/1992	887.63000 HA

SHIRE DETAILS

Shire	Shire No	Start	End	Area
WILUNA SHIRE	9250	28/03/1992		519.85000 HA



MINING TENEMENT SUMMARY REPORT

MINING LEASE 53/949

Status: Live

TENEMENT SUMMARY

Area: 945.00000 HA	Death Reason :
Mark Out : 04/08/2001 12:30:00	Death Date :
Received : 06/08/2001 08:30:00	Commence : 18/02/2004
Term Granted : 21 Years	

CURRENT HOLDER DETAILS

Name and Address

BHP NICKEL WEST PTY LTD
BHP NICKEL WEST PTY LTD, C/- LAND & TENURE, PO BOX 8301, PERTH BUSINESS CENTRE, WA, 6849,
xxxxxxxxxxxxx@bhp.com

DESCRIPTION

Locality: HONEYMOON WELL EAST
Datum: GDA ZONE 51 CO-ORDINATE 243,281E 7016674N
Boundary: THENCE APPROXIMATELY: 2866 METRES BEARING 249 DEGREES, 112 METRES BEARING 158 DEGREES, 700 METRES BEARING 249 DEGREES, 867 METRES BEARING 302 DEGREES 48 MINUTES, 8586 METRES BEARING 338 DEGREES, 868 METRES BEARING 56 DEGREES, 6276 METRES BEARING 159 DEGREES 20 MINUTES, 755 METRES BEARING 69 DEGREES 20 MINUTES, 1328 METRES BEARING 160 DEGREES 58 METRES BEARING 71 DEGREES 18 MINUTES, 850 METRES BEARING 159 DEGREES 25 MINUTES, 54 METRES BEARING 249 DEGREES 27 MINUTES, 697 METRES BEARING 159 DEGREES 36 MINUTES, 2712 METRES BEARING 73 DEGREES 28 MINUTES, BACK TO DATUM.

Area :	Type	Dealing No	Start Date	Area
	Surveyed		11/10/2005	945.00000 HA
	Granted		18/02/2004	943.00000 HA
	Applied For		04/08/2001	943.00000 HA

SHIRE DETAILS

Shire	Shire No	Start	End	Area
WILUNA SHIRE	9250	04/08/2001		945.00000 HA

Appendix B BHP NiW EMS Document



Nickel West – Controlled Document
PROCEDURE

Criticality
Assessment

NON CRITICAL

VEGETATION CLEARING ASSESSMENT

Document Information

Document Number	NIW-HSEC-PRO-0056	Site	Nickel West - NIW
Version	1.0	Department	HSEC - Health, Safety, Environment & Community
Material Risk	NA	Next Review Date	24 November 2032

Document Approval Record

Approver	Role	Approval Date
Renelle Thorpe	Manager Environment	24/11/2022
Author	Role	Date
Vanessa Clarke	Principal Environment Approvals	3 Nov 2022
Reviewer	Role	Endorsement Date
Georgia Manning	SI Environment Approvals	10 November 2022

Document Revision and Amendment Record

Rev	Author	Role	Change	Date

Related documents

BHP DOCUMENTS
BHP Our Charter (bhp.com)
BHP Our strategy and priorities (bhp.com)
BHP Our Code (bhp.com)
BHP Target Environmental Outcomes Guidance Note (bhp.com)
BHP Social Value Guidance Note (bhp.com)
Environment and Climate Change Our Requirements (bhp.com)
Health, Safety, Environment and Community Reporting (bhp.com)
Our Requirements Identifying Environment-related Risks Guidance Note (bhp.com)


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		Version:	1.0
		Issue Date:	28/11/2022

BHP DOCUMENTS	
Document Number	Document Title
NIW-HSEC-POL-0001	Environmental Policy
NIW-HSEC-PRO-0018	Environment and Heritage Impact Approval Process
NIW-ENV-FRM-0004	Environmental Approval Due Diligence
NIW-HSEC-FRM-0022	Environment and Heritage Impact Approval Form
NIW-HSEC-PLN-001	Environmental Management Plan
NIW-HSEC-PLN-0014	Land and Biodiversity Environmental Management Plan
NIW-HSEC-FRM-0009	Environmental Approvals Handover Checklist
NIW-FIN-PRO-0008	Nickel West Risk Management Procedure
NIW-ENV-PRO-004	Compliance Management Procedure
NKW-HSEC-STD-0003	Environmental Management Review
NIW-MGT- PRO-0001	Nickel West Document Control Procedure

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1.0 PURPOSE

The purpose of this Vegetation Clearing Assessment Procedure is to detail the process that occurs prior to undertaking any clearing of vegetation. This process is documented to ensure that any proposed clearing is thoroughly assessed according to the mitigation hierarchy of avoid, minimise, mitigate and manage.

1.1 Our Requirements

BHP commits to a number of Our Requirements (ORs), including Environment and Climate Change, and Health, Safety, Environment and Community Reporting and also provides a Guidance Note on Social Value. All of these values and intentions support the premises of minimising negative impacts to the environment and being accountable for our actions and outcomes. Clearing of vegetation is intrinsically linked to BHP's ORs.

Recently BHP announced its commitment to reduce greenhouses gas emissions and is developing a Pathway to Nature Positive that intends to increase the preservation of lands under our management for biodiversity and social outcomes. BHP Nickel West is committed to minimising clearing of vegetation, which supports our corporate intent.

1.1.1 Environmental Management System

BHP Nickel West has an Environmental Management System (EMS) that aims to achieve effective environmental management across its operations through the implementation of its EMS framework; ensuring our activities meet applicable legislative and other obligations and are conducted in a manner consistent with the intent of Our Purpose and Charter, Our Approach, Our Requirements (ORs) and consistent with ISO14001:2015.

2.0 SCOPE

This document is applicable to all BHP Nickel West activities within the Area of Influence, which is defined in the Environmental Management Plan (EMP) (for each site).

All vegetation proposed to be cleared on BHP Nickel West tenure or off-tenure for a BHP Nickel West Project or activity, is in scope.

The differentiation between planted, native, and conservation significant trees and vegetation is determined by a subject matter expert and is part of the process to determine the types of assessment and approval required to determine if, and how, vegetation clearing can proceed.

Vegetation may be planted or endemic flora and vegetation (refer Section 9 Definitions). Vegetation may include individual trees and shrubs and no vegetation clearing should occur without regards to due diligence and our internal NIW-HSEC-PRO-0018 Environment and Heritage Impact Approval (EHIA) process.

Planted vegetation that may or may not be 'native' or 'endemic' flora or vegetation can still be significant; for example, pine trees providing foraging habitat for endangered species of black cockatoos.

3.0 ROLES AND RESPONSIBILITIES

Role	Responsibility	Accountable To
Site or Project Manager/SI	Identifies the requirement to remove any form or type of vegetation	Relevant Manager (Mining, Processing, Engineering, Project)
SI Environmental Approvals	Supports the assessment of the area or type of vegetation proposed for clearing	Environment Manager

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Role	Responsibility	Accountable To
	May engage external specialist consultant to assess vegetation proposed for clearing	
Environmental Specialist/Principal	Reviews and responds to EHIA	SI Environment Execution
Site &/or Project Personnel	Ensure clearing approval & controls are in place prior to clearing	Relevant Manager (Mining, Processing, Engineering, Project)
Contractor	Undertakes selective tree removal or clearing of an area	Project Manager/Mine Manager

3.1 Legal Obligations & Responsibilities

BHP Nickel West's activities operate under Western Australian State and Australian Commonwealth legislation, associated regulations, and policies. Legislation relating to vegetation may include the protection of co-occurring listed species and ecosystems and include but are not limited to:

- *Biodiversity Conservation Act 2020 (WA)*
- *Environment Protection and Biodiversity Conservation Act 1999 (Cwth)*
- *Environmental Protection Act 1986 (WA)*
- *Environmental Protection (Clearing of Native Vegetation) Regulations 2004 (WA)*
- *Mining Act 1978 (WA)*
- *Planning and Development Act 2005 (WA)*
- *Rights in Water and Irrigation Act 1914 (WA)*
- *Country Areas Water Supply Act 1947 (WA).*

Other guidance relevant to this Procedure includes:

- Native Vegetation Policy for Western Australia 2022
- WA Environmental Offsets Policy
- Environment Protection and Biodiversity Conservation Act 1999 Environmental Offsets Policy October 2012
- International Union for Conservation of Nature (IUCN) Red List 2022
- BHP Nickel West Comprehensive Agreement (Heritage Protocol; Tjiwarl - Nickel West Comprehensive Agreement) and an Indigenous Land Use Agreement
- BHP Nickel West Policies
- BHP Our Requirements
- Commitments associated with BHP Nickel West Native Vegetation Clearing Permits and other regulatory submissions that contain commitments to vegetation retention and management.

3.2 Communication of Obligations, Commitments and responsibilities

BHP Nickel West NKW-HSEC-PLN-0001 Environmental Management Plan (EMP) defines the key communication activities and these are outlined in **Table 1**. These phases and activities guide the engagement of Environment and Approvals advice and mechanisms.

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Table 1 EMP Communication matrix

Phase	Activity	Internal/External Engagement	Communication Method	Lead Function
Study	Due Diligence	Internal	NIW-ENV-FRM-0004	Environment Approvals
Study/Execution	Environmental Approval	Internal/External	Regulatory Submission/Approval checklist	Environment Approvals
Study/Execution	Approvals Handover	Internal	NiW-HSEC-FRM-0009	Environment Approvals
Study/Execution	Land Assist and/or eDoc Update	Internal	Land Assist	Land Access & Approvals
Execution	EHIA	Internal	EHIA	HSE Execution
Execution	Compliance Assessment and Reporting	Internal/External	NiW-ENV-PRO-004	HSE Execution
Execution	Management Review	Internal	Quarterly Management Presentation Meeting	HSE Execution
Execution/Study	Change in Risk/Activity	Internal	NiW-ENV-MGT-PRO-0001	HSE Execution

BHP Nickel West LandAssist and eDOCS are the key repositories for all environmental regulatory approvals and related documents. Stakeholder interactions are recorded in the Approvals External Engagement Register managed by the Environment Approvals team.

Central to our EMS/EMP, risk registers and risk assessments form part of Projects and Operational activities including environment-related risk. BHP Nickel West has a NIW-FIN-PRO-0008 Risk Management Procedure and Operational sites maintain a Risk Register (for example NIW-HSE-REG-0001 Northern Operations Environmental Risk Register).

The transfer of legal obligations from the Environment Approvals team to the BHP Nickel West Operations Environment team is undertaken in accordance with NIW-HSEC-FRM-0009 Environmental Approvals Handover Checklist, risk registers and associated risk assessment processes.

4.0 MITIGATION HIERARCHY FOR CLEARING VEGETATION

The mitigation hierarchy is a set of guidelines, established through the International Finance Corporation's (IFC) Performance Standard 6, meant to help development projects prepare for impacts and aim to achieve no net loss of biodiversity. The IFC Performance Standards are an international benchmark for identifying and managing environmental and social risk and has been adopted by many organizations as a key component of their environmental and social risk management and has been adopted globally, particularly the mitigation hierarchy:

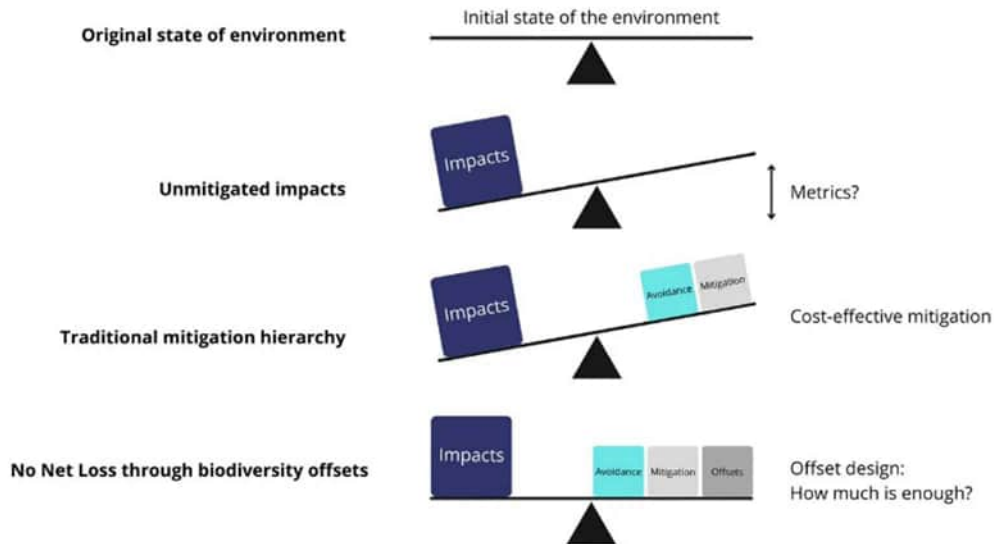
1. **Avoid** measures taken to avoid creating impacts from the outset, such as careful spatial placement of infrastructure, or timing construction sensitively to avoid or disturbance. Examples include the placement of roads outside of rare habitats or key species' breeding grounds, or timing of seismic operations when aggregations of whales are not present. Avoidance is often

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the easiest, cheapest and most effective way of reducing potential negative impacts, but it requires biodiversity to be considered in the early stages of a project.

2. **Minimise** measures taken to reduce the duration, intensity and/or extent of impacts that cannot be completely avoided. Effective minimisation can eliminate some negative impacts, such as measures to reduce noise and pollution, designing powerlines to reduce the likelihood of bird electrocutions, or building wildlife crossings on roads

3. **Mitigate** measure to offset, manage and/or remediate (restoration, revegetation, etc.) that aim to ameliorate the impact of the clearing impacts where avoidance has not been possible.



(Source: The Biodiversity Consultancy, 2022).

BHP OR Environment and Climate Change (25 March 2022) provides an overview of the mitigation hierarchy process (Appendix A). The following Section (Section 5 Detailed Procedure) provides a more detailed explanation of the steps in the application of the BHP Nickel West vegetation clearing mitigation hierarchy with Appendix B providing a diagrammatic representation of the process.

5.0 DETAILED PROCEDURE

All proposed clearing of vegetation (including individual trees) is to follow this procedure as outlined below and illustrated in the Clearing Process Diagram (Appendix A).

5.1 Assessment of Vegetation Proposed To Be Cleared

5.1.1 Project or Site Identify Presence of Vegetation

The following BHP Nickel West processes will identify if vegetation is present within a proposed clearing/activity area:

- Project engages with Approvals or Environment teams for advice; this may be through a Due Diligence, request for advice, EHIA, or Project specific mechanism
- Area of interest is reviewed by Environment Specialist for existing biological survey data; if none is held biological surveys may be commissioned to understand the vegetation values

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5.1.2 Environment Team Initiate Biological Assessment

An Environmental Specialist will engage the relevant contractor/subject matter expert (SME) to conduct the appropriate level and type(s) of assessment. Assessment may include a range or multiple survey and assessment depending on the values present and include types of survey such as botanical survey over multiple seasons, black cockatoo habitat assessment, and threatened ecological community survey.

The timing, duration, intensity and types of assessments will be based on advice from Environment and from SMEs.

The outcome of an assessment is typically a report detailing the values present, mapping and spatial data to display those values, and can include advice on application of the mitigation hierarchy if requested.

5.1.3 Advice Provided

The Environment Specialist will provide advice:

1. to the Project or Site in accordance with the known values determines from the assessment
2. how to apply the mitigation hierarchy to the planned activity or project to minimise impacts to vegetation
3. the requirement to consult with and gain approvals from State or Commonwealth regulators
4. the potential to have to develop an Offset Proposal, and the timeframes that may be required to gain approval for the clearing

The vegetation assessment, report and data, along with written advice is provided by the Environment Specialist to the Project or Site team.

5.1.4 Vegetation Clearing May Be Requested

Following the biological assessment and written advice, a Project or Site may determine that some or all clearing cannot be avoided and a request to clear may be submitted via:

- EHIA, where the proposed clearing is within an area within appropriate and existing approvals in place; or
- other process (Native Vegetation Clearing Permit application, Programme of Work, clearing exemption, or referral under the EP Act or EPBC Act) where clearing is not within an already approved activity or clearing area.

Should the proposed clearing be in an area without an existing clearing permit (or related activity approval) Nickel West Environment will provide advice on required approvals and likely timeframes.

Note that some vegetation is of elevated significance and approval to clear may not be granted, or may have constraints on the timing of clearing (for example, outside of breeding season). BHP Nickel West may also determine that the clearing does not meet BHP social value pillars and advise against proceeding.

5.1.5 Clearing is Authorised

Should clearing be authorised, our internal EHIA process will identify clearing controls and responsibilities to ensure no over or unauthorised clearing occurs.

Compliance reporting on the clearing area is captured in spatial and corporate databases and forms part of our annual compliance reporting.

5.1.6 Enact Offset

Where an approved offset is required so that the clearing can proceed, this must be undertaken prior to clearing, or in accordance with EHIA conditions.

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5.1.7 Review

A Field Leadership review of the Project or operational clearing process will enable improved performance and environmental and social outcomes. The reflection will include whether outcomes intended were achieved; unintended impacts are considered; and continuous improvement management is incorporated.


Areas of improvement will be incorporated into this NIW-HSEC-PRO-0056 Vegetation Clearing Assessment Procedure.

Document control is managed in accordance with the Nickel West NIW-MGT- PRO-0001 Controlled Document Procedure.

6.0 TRAINING

BHP Nickel West Supervisors, Principals and their one and two up leaders should understand and be familiar with (where applicable to role), internal process and procedures to initiate Environmental or Approvals advice. A minimum would be attendance of:

- NW Environmental Approval 101 CLASSROOM ITM867107 through BHP LMS

	Qualifications/Licenses Required:
	<ul style="list-style-type: none"> SME hold relevant qualifications in environmental science (biological, zoological, botanical, or appropriate discipline) Environmental Specialist typically hold Bachelor Science in a related discipline Biodiversity Specialist, Principals hold qualifications equivalent to an SME

7.0 REFERENCES

Cross Sector Biodiversity Initiative 2022, *A cross-sector guide for implementing the mitigation hierarchy*.

Prepared by The Biodiversity Consultancy. Accessed: [Mitigation Hierarchy Guide – CSBI](#)

Department of Sustainability, Environment, Water, Population and Communities 2014, *Environment Protection and Biodiversity Conservation Act 1999 Environmental Offsets Policy October 2012*.

Commonwealth of Australia, Canberra. Accessed: [Environment Protection and Biodiversity Conservation Act 1999 Environmental Offsets Policy \(dcceew.gov.au\)](#)

Department of Water and Environmental Regulation (DWER) 2022, *Native vegetation policy for Western Australia May 2022*. Government of Western Australia, Perth.

DWER 2011, *WA Environmental Offsets Policy*. Accessed: [WA Offsets Policy \(epa.wa.gov.au\)](#)

DWER 2019, *A guide to the exemptions and regulations for clearing native vegetation Under Part V of the Environmental Protection Act 1986*. Government of Western Australia. Accessed: [A guide to the exemptions and regulations for clearing native vegetation \(der.wa.gov.au\)](#)

Environmental Protection Authority (EPA) 2014, *WA Environmental Offsets Guidelines August 2014*. Accessed: [WA Environmental Offsets Guidelines \(epa.wa.gov.au\)](#)

IUCN 2022, The IUCN Red List of Threatened Species. Version 2022-1. Accessed: <https://www.iucnredlist.org>

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The Biodiversity Consultancy 2022, *Mitigation Hierarchy*. Accessed: [Mitigation hierarchy - The Biodiversity Consultancy](#)

8.0 DEFINITIONS

Definition	Description
Area of Influence	As required by Our Requirements, Environment and Climate Change, an Area of Influence is the boundary that takes into account BHP Nickel West business activities, and their potential direct, indirect and/or cumulative impacts on the environment. Interchangeable with the scope of the EMS
Clearing	Clearing, as defined under the EP Act Clearing Regulations (DWER 2019), means (a) the killing or destruction of; (b) the removal of; (c) the severing or ringbarking of trunks or stems of; or (d) the doing of any other substantial damage to, some or all of the native vegetation in an area; and includes the draining or flooding of land, the burning of vegetation, the grazing of stock, or any other act or activity that causes (e) the killing or destruction of; (f) the severing of trunks or stems of; or (g) any other substantial damage to, some or all of the native vegetation in the area
EHIA	Environment and Heritage Impact Approval
Environment-related risk	<p>BHP OR Environment & Climate Change defines this as:</p> <ul style="list-style-type: none"> • An actual, proven or perceived long-term or permanent loss or increase of biodiversity and/or ecosystem function • A partial or full loss or measured improvement of native or endemic landscapes • A positive or negative change in water quality or quantity • A degradation of or improvement in air quality <p>where these result from BHP's operational activities, executed directly or through third parties, causing adverse or positive impacts on the physical environment as a receptor, on community wellbeing or on other facets that can affect BHP's business/strategy</p>
IFC	International Finance Corporation
ISO 14001	Australian/New Zealand Standard (AS:NZS) ISO14001:2015
Listed species and ecosystems	Flora, fauna, fauna habitat and/or ecological communities that are listed on State, Federal or IUNC Red List or under legislation (<i>Biodiversity Conservation Act 2020/ EPBC Act 1999</i>)
Native vegetation	Native vegetation, as defined under the EP Act Clearing Regulations (DWER 2019), means indigenous aquatic or terrestrial vegetation but does not include vegetation that was intentionally sown, planted or propagated unless (a) that vegetation was sown, planted or propagated as required under this Act or another written law; or (b) that vegetation is of a class declared by regulation to be included in this definition, and includes dead vegetation unless that dead vegetation is of a class declared by regulation to be excluded. Note that this definition includes non-vascular plants (e.g. mosses, fungi, algae) and marine plants (seagrass, macroalgae / seaweed)
Vegetation	Planted or naturally occurring plants that may be native or introduced and includes all life forms (herbs, grasses, shrubs, trees)

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Offset	An environmental offset is an off-site action or actions to address significant residual environmental impacts of a development or activity (refer WA Environmental Offsets Policy (EPA 2014; EPBC Act Offsets Policy 2012)
ORs	(BHP) Our Requirements
SME	Subject matter expert

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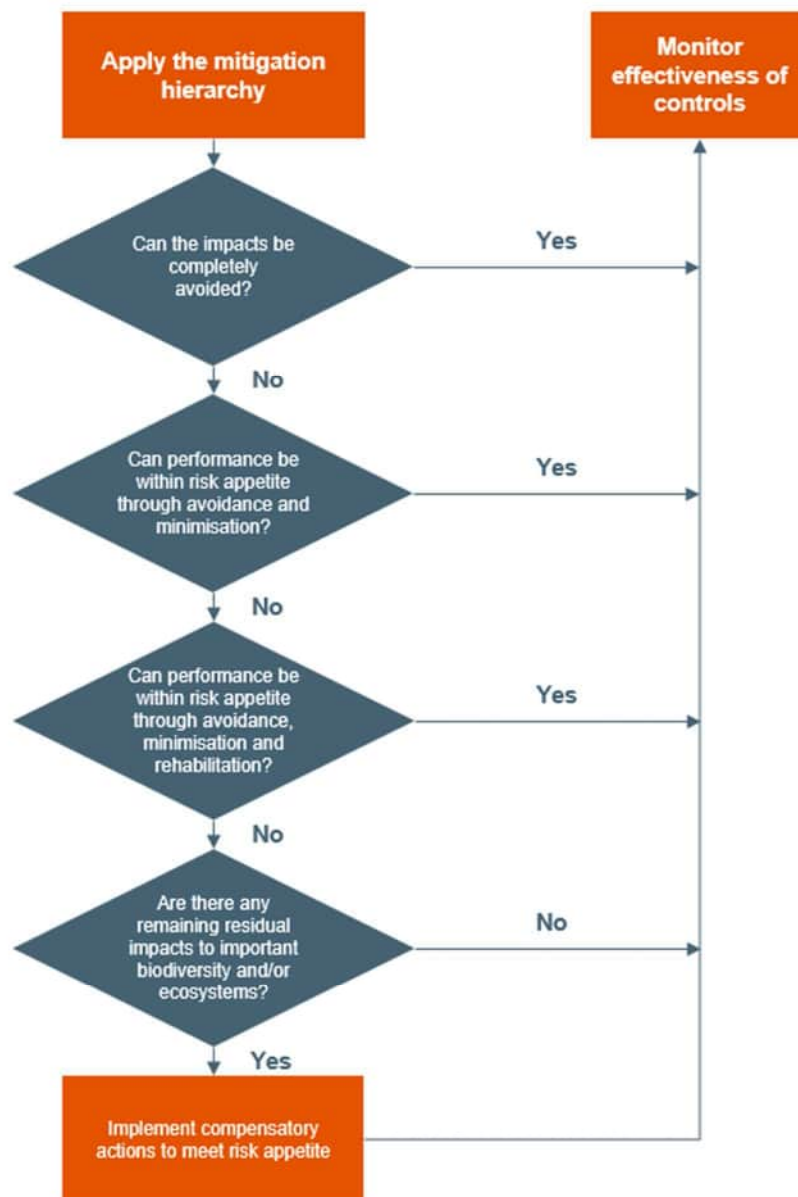
9.0 APPENDICES

APPENDIX A BHP OR ENVIRONMENT & CLIMATE CHANGE MITIGATION HIERARCHY PROCESS OVERVIEW

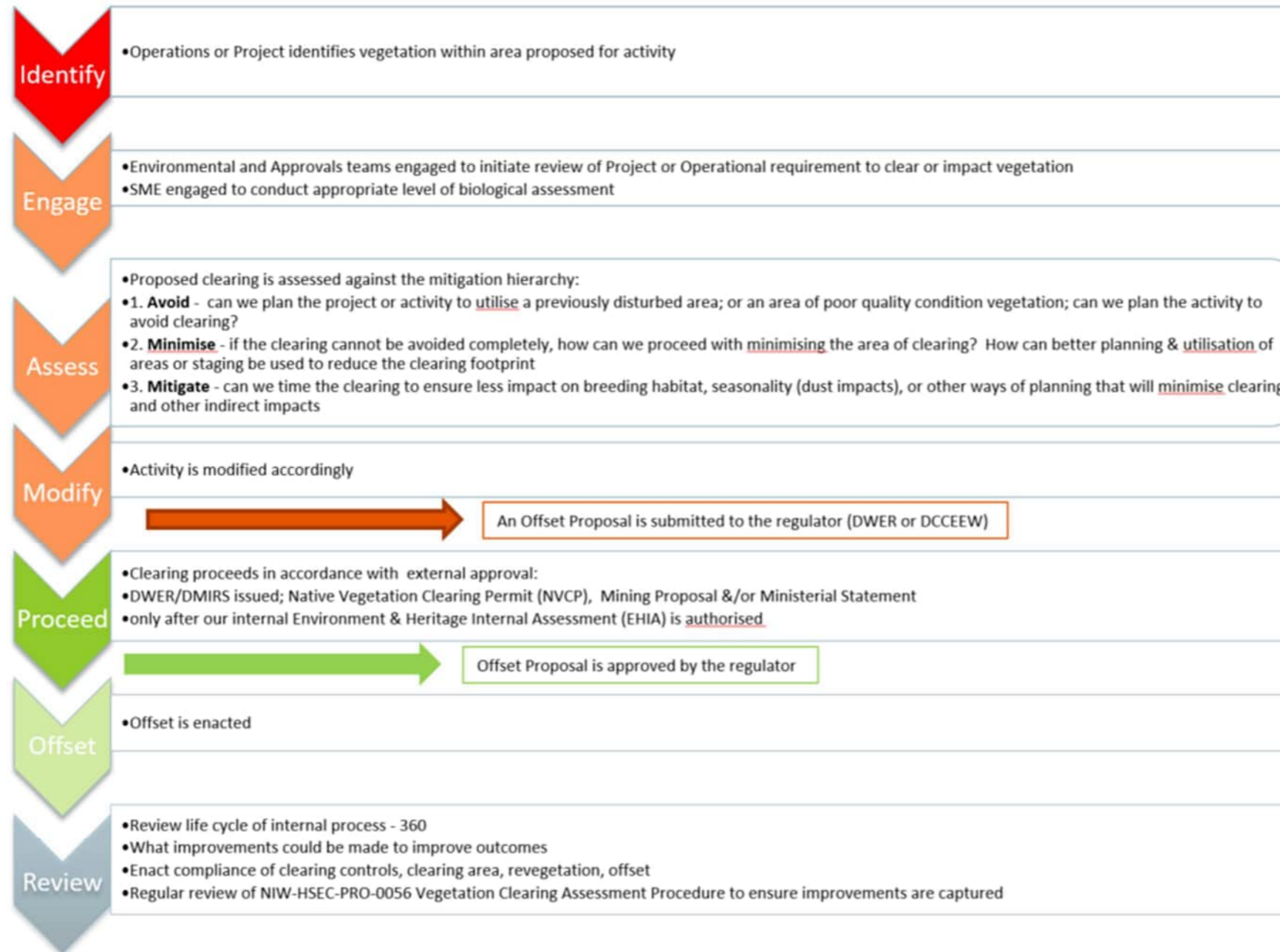
BHP

Environment and Climate Change
(printed copies are uncontrolled)
Version 6.7 (25 March 2022)
Internal

Mitigation hierarchy process overview



APPENDIX B VEGETATION CLEARING PROCESS





Nickel West – Controlled Document
PROCEDURE

Criticality
Assessment
MEDIUM

TOPSOIL STRIPPING & HANDLING

Document Information

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Description	Details the standard for all topsoil stripping and handling on Nickel West tenements.
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Electronic Approval Record

Owner Role	Name	Approval Date
Northern Operations Environment Specialist	James Rogerson	01/12/2017
Author Role	Name	Endorsement Date
Northern Operations Environment Specialist	James Rogerson	01/12/2017
Endorsers	Name	Endorsement Date
Northern Operations HSE Superintendent	Aaron Gleeson	22/12/2017
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Document Amendment Record

Version	Page No/s	Change	Date of Change
1.1	3	Addition of operational dust suppression activities	04/07/2019
1.2	Cover Page	Next Review Date updated to reflect 10 year timeline on non-critical document review cycle.	02/11/2022

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1.0 PURPOSE

This document is to be used as the standard for all topsoil stripping and handling on Nickel West (NiW) tenements. It covers the preliminary topsoil removal planning, and method of stripping and stockpiling.

Correct soil management is vital for the success of rehabilitation efforts. Topsoil to a depth of 150mm, and to a lesser extent growth media (excluding caprock or highly weathered material) to a depth of 300mm, is the most biologically active zone of the soil profile and is the main medium used for the re-establishment of vegetation in previously cleared areas. The method used to remove, store and reintroduce topsoil is extremely important to the overall success of a rehabilitation program.

The standard is aimed at maximising topsoil recovery while retaining soil viability and productivity to maximise future success in rehabilitation programs.

2.0 SCOPE

This procedure applies to all clearing activities associated with all NiW controlled activities, employees and contractors. It also applies to other companies undertaking work on NiW tenements.

3.0 SAFETY

This procedure has been developed and shall be used to assist in providing a safe working environment. This procedure may be used in conjunction with other work instructions or a THA. Any deviation from this procedure must be communicated to your Supervisor for approval and an alternative method devised. All personnel intending to work in this field must have a good understanding of this procedure.

Work is not to be carried out by any person, or using any equipment/machinery which has not met all NiW safety and competency requirements.

4.0 OBLIGATIONS

All activities at NiW must comply with the following environmental requirements:

- Conditions outlined in the *Environmental Protection Act 1986* relevant Licences, issued by the Department of Water and Environment Regulation (previously known as Department of Environmental Regulation).
- Tenement conditions of granted mining leases and Mining Proposals issued by the Department of Mines, Industry Regulation and Safety (DMIRS).
- BHP GLD - Environment and Climate Change.

Breaches of any conditions may result in non-compliance and must be reported internally via Event Management (EM) and to the relevant government agency.

Details of these conditions can be found in the LandAssist database or by contacting the Environmental Specialist.

4.1 Aspects and Obligations

This information can be found in the relevant site Environment Risk Register, which is located in eDOCS. Contact the site Environment Specialist for further details.

5.0 DETAILS

5.1 Preliminary Topsoil Stripping Planning

Prior to any stripping activity, an Environment Heritage Impact Approval (EHIA) form is to be submitted outlining the reason to clear vegetation and stockpile topsoil. The purpose of this is to ensure NiW has the required licence to clear vegetation, and to allow for stockpiles to be suitably managed in order to avoid unnecessary disturbance or rehandling of stockpiled topsoil.

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5.2 Clearing & Topsoil Stripping

Vegetation and top soil can be stripped in one action and stockpiled as one product to reduce and limit the damage to the vegetation and soil structure. Mining proposal and tenement conditions must be reviewed to confirm that separate vegetation and topsoil stockpiling is not required. This review will occur as part of the EHIA process, and will include assessing the amount of vegetation and rehabilitation requirements.

The approved EHIA will have conditions providing stripping requirements and topsoil stockpile locations, this must be accepted and adhered to by the project owner and communicated clearly to plant operators. Once conditions are agreed to by the project owner, vegetation clearing and topsoil stripping may be completed by an authorised and competent dozer operator. Failure to follow the conditions set in the EHIA may result in a non-compliance, the site Environment Specialist must be informed of any deviations and the reason for which they occurred.

Topsoil is not to be stripped when saturated (or where a very high moisture content) as this will damage the structure of the soil. If watering is required to reduce dust hazard, only potable or sub-potable water is to be used. The salinity of this water is to be no greater than 2,000mg/L TDS.

5.2.1 Topsoil Records

Survey pick-ups of topsoil are to be done once each stockpile is completed. All survey data is sent to the site Environment Specialist where records are kept on file. If topsoil was unable to be stockpiled in the area outlined by the EHIA then the location must be communicated to the Environment Specialist to update. All stockpile locations must be saved into GIS coverage under disturbances.

5.3 Topsoil Stockpiling

Stockpiles must be no higher than 2m and be placed in a free draining pre-cleared area, minimising the risk of erosion and seed loss. Topsoil stockpiled next to active mining areas, where dust suppression water will be applied, is to be situated at minimum 2m back from running track where possible. All reasonable measure to be taken to reduce risk of topsoil impacts, including but not limited windrowing off stockpiling areas to minimise road water runoff into area. Tipping road base or other non-growth material in the vicinity of topsoil stockpiles is to be completed with a spotter, ensuring no mixing or contamination of topsoil stockpiles occurs.

Details about stockpile locations (GPS co-ordinates), month/year stockpiled and volume must be recorded by the project owner, and forwarded to the site Environment Specialist.

All stockpiles to be rehabilitated according to site procedure NIW-ENV-PLN-001 Land Management.

5.4 Dust Suppression in Topsoil Stockpiling Vicinity

Where practicable water carts completing dust suppression activities are to minimise water applied to areas adjacent topsoil stockpiles, reducing the risk of runoff impacts to soil viability. For water carts capable of controlling individual sprayers, when operating in close proximity to stockpiling areas sprays closest to stockpiled topsoil are to be shut off.

If water overspray on topsoil, or excessive dust suppression water runoff is observed, all reasonable measures to be taken to mitigate issue and reduce further impacts to topsoil.

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6.0 ROLES AND RESPONSIBILITIES

Role	Responsibilities
Environment Specialist	<ul style="list-style-type: none"> Ensure all site tenement and licence conditions are met. EHIA management and approval.
Project Owner	<ul style="list-style-type: none"> Establish, administer and supervise the topsoil stripping programme. Direct contractor and ensure legal obligations are met.

7.0 DEFINITIONS

Definition	Description
DMIRS	Department of Mines, Industry Regulation and Safety (previously Department of Mines and Petroleum)
DWER	Department of Water and Environmental Control (previously Department of Environmental Regulation)
EHIA	Environment and Heritage Impact Assessment
EM	The BHP Event Management system, where all HSEC hazards and events are recorded.
OR	BHP Our Requirements outlining business standards
NiW	Nickel West Operations

8.0 REFERENCES AND RELATED DOCUMENTS

Reference	Title
Group Level Document	Environment and Climate Change
NIW-ENV-PLN-001	Land Management

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9.0 CRITICALITY ASSESSMENT

This document is assessed as Medium.

The following information is required if this document is assessed as Critical.

Critical Control ID	XX
Critical Control Description	XX

10.0 APPENDICES

Appendix C Fee Calculation



Clearing application fee calculator

The purpose of this calculator is to assist calculation of fees for clearing permit applications submitted to the Department of Water and Environmental Regulation (DWER) or the Department of Mines, Industry Regulation and Safety (DMIRS), as applicable.

Step 1 Indicate the type of permit:

i **Area permit** has the meaning given by section 51E(7) of the *Environmental Protection Act 1986*.
Purpose permit has the meaning given by section 51E(8) of the *Environmental Protection Act 1986*.

Step 2 Does any part of the application area falls within the intensive land-use zone?

? Need help?
Select the Local Government Area of the application area to determine if it falls within the intensive land-use zone:

i **Intensive land-use zone** means the intensive land-use zone as defined in Shepherd, D.P., Beeston, G.R. and Hopkins, A.J.M. "Native Vegetation in Western Australia, Resource Management Technical Report 249" (2001) published by the Department of Agriculture, Perth.

Step 3 Indicate the application area:

i **Application area**, in relation to an application for an area permit or purpose permit, means the area that is proposed to be cleared in the application.

Fee payable **\$7,000**

i The clearing application fees are as in **Table 1**.
The application fees are based on the type of clearing permit, the area applied to be cleared and its location (extensive or intensive land-use zone), identified in **Map 1** below.

Table 1. Clearing application fees

Area/purpose permit application area (hectares)	Intensive land-use zone	Extensive land-use zone	Purpose permit component fee
Not more than 1 ha	\$400	\$400	\$2,000
More than 1 ha but not more than 5 ha	\$600	\$600	
More than 5 ha but not more than 10 ha	\$1,500	\$750	
More than 10 ha but not more than 50 ha	\$2,000	\$1,000	
More than 50 ha but not more than 100 ha	\$3,000	\$1,500	
More than 100 ha but not more than 500 ha	\$4,000	\$2,000	
More than 500 ha but not more than 1000 ha	\$5,000	\$2,500	
More than 1000 ha	\$10,000	\$5,000	

