



**BHP Iron Ore**

**EPBC Act Strategic Environmental Assessment  
Annual Environmental Report**

**July 2021 – June 2022**



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## Abbreviations

Term	Meaning
AER	Annual Environmental Report
AWT	Above water table
BHP	BHP Iron Ore Pty Ltd
DAWE	Department of Agriculture, Water and the Environment
DBCA	Department of Biodiversity, Conservation and Attractions
DoEE	Department of Environment and Energy (now DAWE)
DWER	Department of Water and Environmental Regulation
EPBC	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
ELOR	Environmental Legal Obligations Register
FY	Financial Year
GIS	Geographical Information Systems
ha	Hectares
MAC	Mining Area C
MAR	Managed Aquifer Recharge
MS	Ministerial Statement
ng/g	Nanogram per gram
OB	Orebody
PEAHR	Project Environmental and Aboriginal Heritage Review
SEA	Strategic Environmental Assessment
WA	Western Australian
WAIO	Western Australian Iron Ore

### Declaration of accuracy

In making this declaration, I am aware that sections 490 and 491 of the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act) make it an offence in certain circumstances to knowingly provide false or misleading information or documents. The offence is punishable on conviction by imprisonment or a fine, or both. I declare that all the information and documentation supporting this compliance report is true and correct in every particular. I am authorised to bind the approval holder to this declaration and that I have no knowledge of that authorisation being revoked at the time of making this declaration.

Signed



Full name (please print)

Chris Serginson

Position (please print)

Manager Environment - WAIO

Organisation (please print including ABN/ACN if applicable) BHP Iron Ore

Signed



Full name (please print)

Justin Williams

Position (please print)

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Organisation (please print including ABN/ACN if applicable) BHP Iron Ore

Date

28/09/2022

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Rev	Description of Amendment	Organisation	Name
Rev 0	Final Report	BHP Iron Ore Pty Ltd	Chris Serginson



# 1 Introduction

The BHP Iron Ore Pty Ltd (BHP) Pilbara Strategic Assessment Program (the Program) was endorsed by the Minister for the Environment and Energy on 11 May 2017 and an Approval Decision (the Approval) for taking actions in accordance with the Program was issued on 19 June 2017.

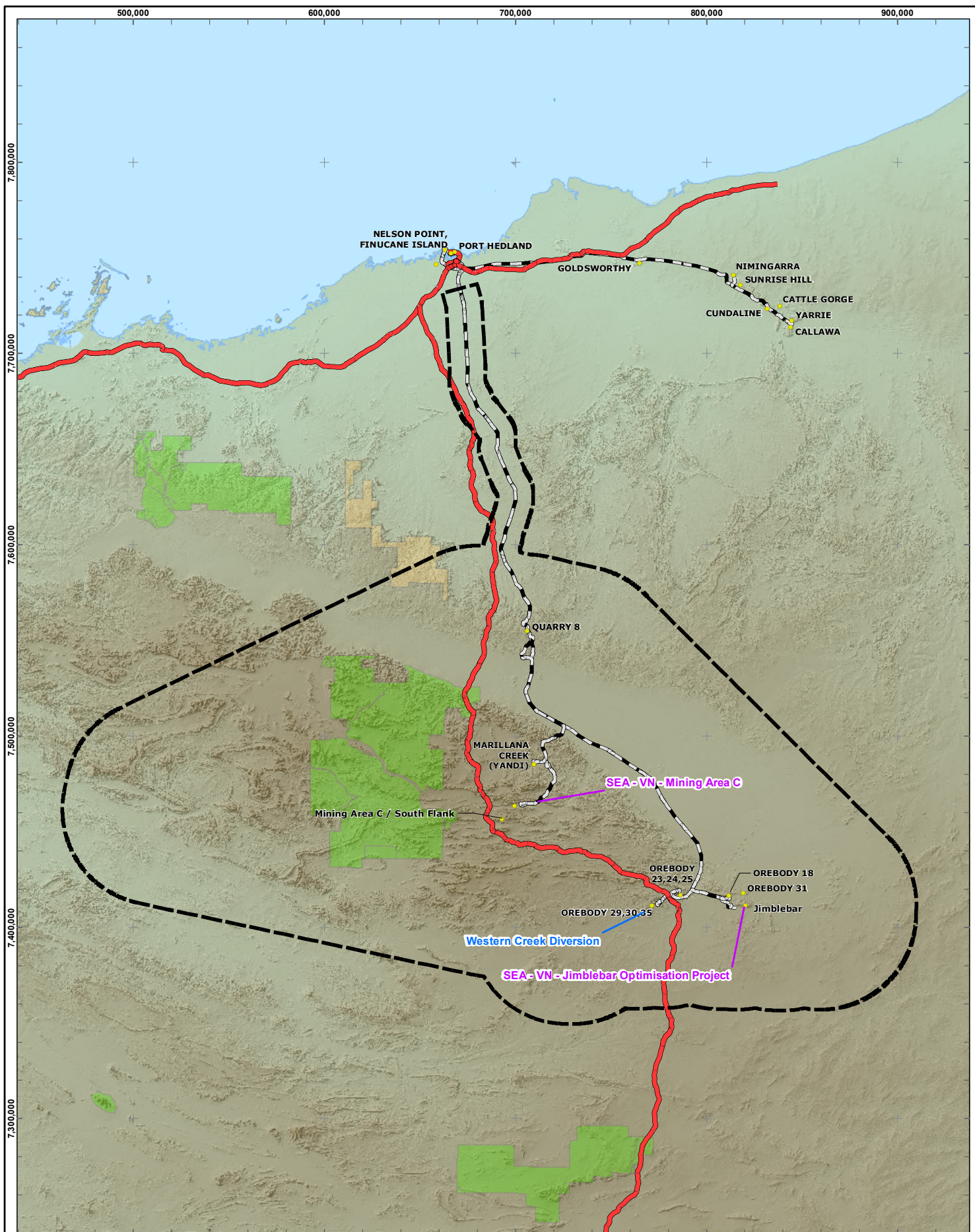
The Approval applies to the development of new iron ore mines and associated infrastructure and the expansion of existing iron ore mines and associated infrastructure within a defined Strategic Assessment Area in the Pilbara region of Western Australia (Figure 1.1). Key commitments of the Program and conditions of the Approval include preparation and Approval of an Assurance Plan and Offsets Plan, and undertaking a validation process including preparation of a Validation Notice for each Notifiable Action (Figure 1.2) and BHP internal Decision Reports for non-Notifiable Actions.

In accordance with the conditions of the approval decision relating to the Program, BHP is hereby submitting an annual report for the reporting period between 1 July 2020 and 30 June 2021. An outline of the content of the report is provided below:

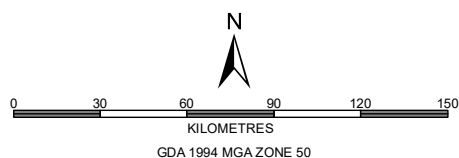
- Section 1: Introduction – Provides the Approval background and key terminology.
- Section 2: Approval Decision - Outlines compliance with the conditions of the Approval.
- Section 3: Program - Addresses the requirements of an annual report outlined in Part B, Chapter 5 of the endorsed Program.
- Section 4: Assurance Plan - Addresses the reporting requirements outlined in the Assurance Plan.
- Section 5: Offsets Plan - Addresses the reporting requirements outlined in the Offsets Plan.
- Section 6: Validation Notices - Outlines compliance with obligations within the Validation Notices.
- Section 7: Disturbance - Details the disturbance undertaken during the reporting period.

During the FY2021 to FY2022 reporting period:

- there were no validation processes completed during the reporting period (see Section 6);
- there were no non-notifiable action decisions during the reporting period (see Section 6); and
- there were no exclusions under Section 2.3 of the Program assessed during the reporting period (see Section 6).



- BHP Operations
- National Highway
- Rail
- SEA Approval
- Non-Notifiable Action
- SEA Validation Notice



**BHP**

**INTERNAL**

## SEA DISTURBANCE ACTIVITIES 2021/2022

PLANNING & STANDARDS - IRON ORE				
SCALE @ A4:	1:2,610,000	PREPARED:	P. GANT	FIGURE:
DATE:	5/09/2022	REQUESTOR:	ENV APPROVALS	NO:
		REVIEWED:	S. TRINDER	<b>1098/10A</b>

1.1

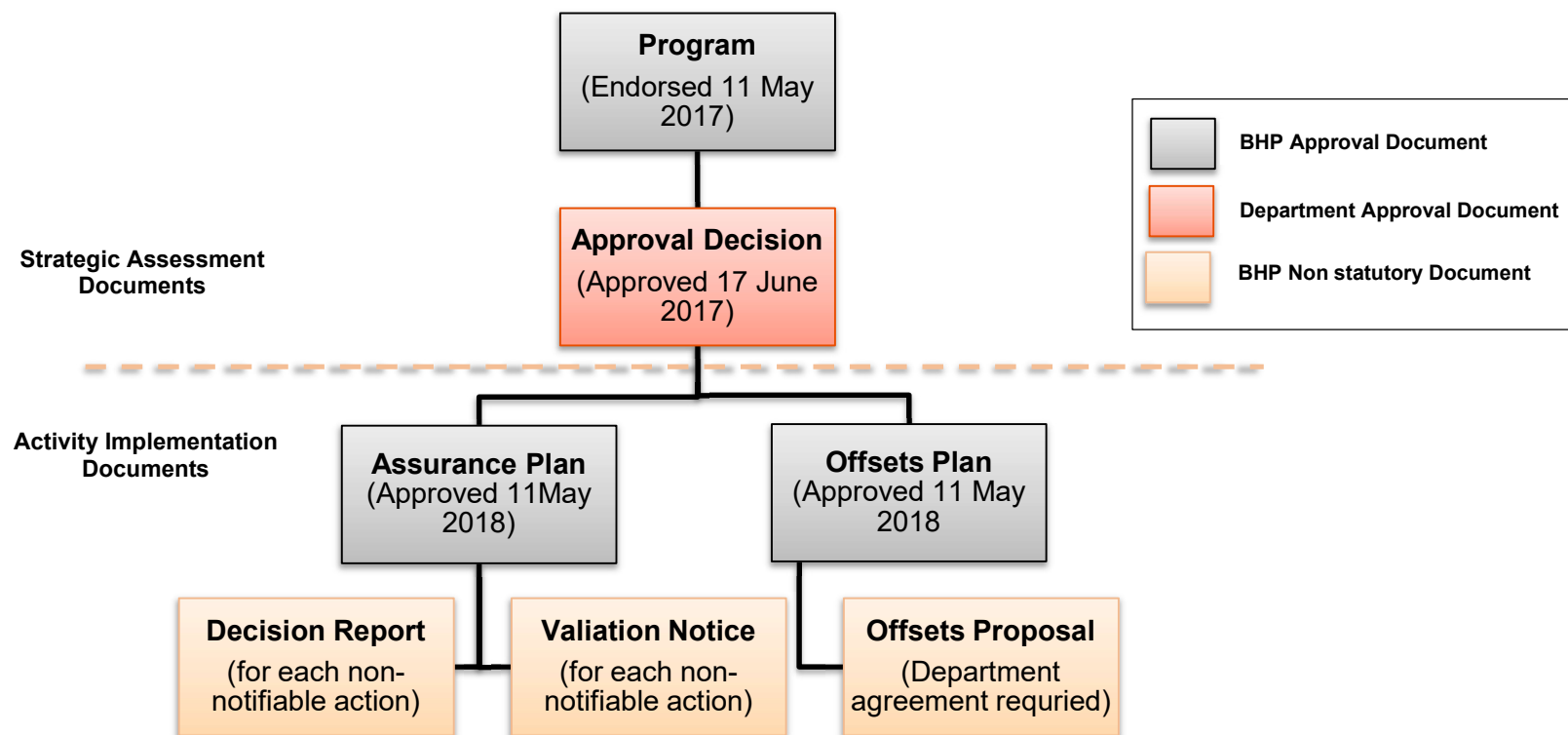


Figure 1.2: BHP Strategic Environmental Assessment – Approval Documents



## 2 EPBC SEA Approval Decision

Table 1 assesses compliance against the 10 conditions of the Approval.

**Table 1: Audit Table for the EPBC SEA Approval Decision (Approved: 19 June 2017)**

Condition/ Section	Requirement	How	Documentation	Evidence	Timeframe	Status
1	The approval holder must implement the endorsed Program.	Implement Assurance Plan, Offset Plan and Validation Notices in accordance with criteria in the Program.	Compliance reported annually in the BHP Iron Ore (BHP) Strategic Environmental Assessment (SEA) Annual Environmental Report (AER).	Activities have been implemented in accordance with the endorsed Program (see Conditions 3 and 7).	Life of Approval.	Compliant.
2	The approval holder must not make any validation decisions as outlined in Part C of the endorsed Program after 70 years from the date of the Approval.	No validation decisions to be made after 19 June 2087.	Compliance reported annually in the BHP SEA AER.	The Approval commenced on the 19 June 2017. Validation decisions were permitted during the reporting period.	From 19 June 2087.	Not required during this reporting period.
3	Within 12 months of the date of Approval, the approval holder must prepare and submit for the Minister's written Approval an Assurance Plan and an Offsets Plan in accordance with Section 3 of the endorsed Program.	Prepare and submit an Assurance Plan and Offsets Plan to the satisfaction of the Minister of the Department of Environment and Energy (DoEE) (or delegate).	Submitted Assurance Plan and Offset Plan.	An Assurance Plan (dated 10 May 2018) and Offsets Plan (dated 10 May 2018) were prepared and submitted to the Department on 1 March 2018. The Assurance Plan and Offsets Plan were approved by the Department on behalf of the Minister on 11 May 2018 (Reference Letter from G. Manning – Assistant Secretary Assessments (WA, SA, NT) and Post Approvals Branch Environment Standards Division dated 11 May 2018).	Prior to 19 June 2018.	Closed.
	The approval holder must implement the approved Assurance Plan and Offsets Plan.	Implement Validation Notices and Decisions Reports in accordance with the requirements of the approved Assurance Plan and Offsets Plan.	Compliance reported annually in the BHP SEA AER.	The Assurance Plan (dated 10 May 2018) and Offsets Plan (dated 10 May 2018) have been implemented (see Condition 7 below and Section 6).	Annually for the duration of the Approval.	Compliant.
	The approval holder must publish the approved Assurance Plan and Offsets Plan on its website within one (1) month of receiving written notice that the Assurance Plan and Offsets Plan are approved.	Publish the approved Assurance Plan and Offsets Plan on the BHP external website.	Submitted Assurance Plan and Offset Plan.	The Assurance Plan (dated 10 May 2018) and Offsets Plan (dated 10 May 2018) were published on the BHP website on 15 May 2018. Email sent to V. Cox (Senior Assessing Officer – Post Approvals) on 15 May 2018 advising the Plans were available on the website.	Within 1 month of Approval.	Complete.
4	<p>Unless otherwise agreed to in writing by the Minister, every five years from the date of Approval, the approval holder must review and revise the Assurance Plan and the Offsets Plan in accordance with Section 4.1 of the endorsed Program.</p> <p>The approval holder must submit the revised Plans for the Minister's Approval within 6 months of the five year anniversary of the date of Approval unless the Minister has agreed in writing that no revisions are necessary.</p> <p>If the approval holder does not submit the revised Plans for Approval, the approval holder may not give any further validation notices under Part C of the endorsed Program until the revised Plans have been submitted and approved.</p> <p>The Minister may, within 60 days of receipt by the Department of the revised Plans, advise the approval holder in writing that (a) the revised Plans are approved; or (b) additional revisions are required to be made to the Plans.</p> <p>If the Minister does not advise the approval holder within the 60 days, the revised Plans are taken to have been approved by the Minister and the approval holder must implement the revised Assurance Plan and Offsets Plan.</p> <p>If the Minister requires additional revisions to the Plans, the approval holder has to make the required revisions and resubmit the Plans for Approval.</p> <p>If the revised Plans are not submitted, no further validation notice may be given under Part C of the endorsed Program until the revised Plans have been submitted and approved.</p> <p>The Minister has 30 days to advise the approval holder in writing whether the revised Plans are approved. If the Minister does not advise the approval holder within the 30 days, the revised Plans</p>	Prepare and submit a review and revision of the Assurance Plan and Offsets Plan to the satisfaction of the Minister of the DoEE (or delegate).	Five-yearly review document and revised Assurance Plan and Offsets Plan.	<p>Five-yearly review document and revised Assurance Plan and Offsets Plan are not required during this reporting period.</p> <p>BHP and DAWE agreed the process and content of the five-yearly review via formal correspondence (BHP letter dated 4 March 2021 seeking agreement on timing for the five-yearly review and DAWE Response Letter Reference: SA017).</p>	First review due after 19 December 2021 but prior to 19 December 2022	Not required during this reporting period.

Condition/ Section	Requirement	How	Documentation	Evidence	Timeframe	Status
	<p>are taken to have been approved and the approval holder must implement the revised Assurance Plan and Offsets Plan.</p> <p>After receiving written notice from the Department that the revised Assurance Plan and Offsets Plan are approved, the approval holder must implement the revised Assurance Plan and Offsets Plan.</p> <p>The approval holder must publish and maintain the revised Assurance Plan and Offsets Plan on its website within one (1) month of receiving written notice from the Department that the plans have been approved.</p>					
5	<p>At any time the approval holder may choose to review and revise the Assurance Plan and/or the Offsets Plan without requiring the Minister's Approval of the revised Plans if the revision does not:</p> <p>(a) include changes to Program Matters Outcomes;</p> <p>(b) affect the achievement or monitoring of Program Matters Outcomes; or</p> <p>(c) include changes to environmental offsets for any Program Matters.</p> <p>If the approval holder makes this choice, the approval holder must notify the Department in writing that the current approved Assurance Plan and/or Offsets Plan has been revised and provide the Department with a copy of the revised Assurance Plan and/or Offsets Plan.</p> <p>The approval holder must implement the revised Assurance Plan and/or Offsets Plan from the date of the written notice to the Department.</p> <p>The approval holder must publish the revised Assurance Plan and Offsets Plan on their website within one (1) month of the written notice to the Department.</p>	Prepare and submit a review and revision of the Assurance Plan and Offsets Plan to the satisfaction of the Minister of the DoEE (or delegate).	Revised Assurance Plan and Offsets Plan.	Not required during this reporting period.	Anytime during the duration of the Approval.	Not required during this reporting period.
6	The approval holder must inform any person that they authorise, permit or request to undertake any activity of obligations under the endorsed Program and conditions attached to this Approval that restrict or regulate the undertaking of activities within the strategic assessment area.	Obligations are maintained in the legal obligations register and documented within the Project Environmental and Aboriginal Heritage Review (PEAHR) prior to undertaking activities.	Western Australian Iron Ore (WAIO) Environmental Legal Obligations Register (ELOR) and PEAHR documentation.	<p>Seventeen obligations from the Mining Area C (MAC) Validation Notice and thirteen obligations from the Jimblebar Optimisation Project Validation Notice have been incorporated into the WAIO ELOR. The Jimblebar Optimisation Project Validation Notice took effect on 8 June 2020. Obligations from MAC Validation Notice were incorporated into site specific PEAHRs for all activities related to the project. All personnel carrying out works associated with activities relating to the Validation Notice are required to comply with environmental approvals, the PEAHR requirements and conditions and any other relevant legislative requirements. Outside of the ELOR/PEAHR process, no other person was authorised, permitted or requested to take an activity under the Program.</p> <p>Obligations from Jimblebar Optimisation Project Validation Notice were included in the site specific PEAHRs for all activities related to the project see Section 7.2.1. The Greater Bilby pre-disturbance clearance surveys requirements were included in the PEAHRs.</p>	Prior to undertaking activities.	Compliant.
7	An upper disturbance limit of 110,000 hectares applies to the approval holder. All activities that result in a direct disturbance will account towards the upper disturbance limit. The approval holder may undertake activities that result in a direct disturbance up to the maximum of 110,000 hectares less any direct disturbance permitted in a section 146B approval given in relation to assets divested by the approval holder and for which a validation notice has been given.	Maintain the program disturbance tracking register.	Program disturbance tracking register.	Table 5 details the current disturbance undertaken during the reporting period against the upper disturbance limit. A total of 18,110 ha of disturbance has been allocated via Validation Notices and Non-Notifiable actions since July 2018. The current total disturbance (4,288 ha), up to 30 June 2022, has not exceeded the upper disturbance limit. No individual activities exceeded their allocated disturbance limit.	Annually for the duration of the Approval.	Compliant.
8	By the first business day in October of each year after the commencement of this Approval, the approval holder must submit a report to the Department and publish the report on its website. The report must address the requirements of an annual report outlined in Part B of the endorsed Program.	Prepare and submit annual report and publish on BHP external website	BHP SEA AER.	<p>This document forms the annual report under the Approval for the 1 July 2021 to 30 June 2022 period.</p> <p>The FY 2020 report was submitted on 1 October 2020 and was available on the BHP website from this date. (<a href="https://www.bhp.com/-/media/bhp/regulatory-information-media/iron-ore/western-australia-iron-ore/0000/western-australia-iron-ore-pilbara-strategic-assessment-commonwealth/bhp-waio-epbc-sea-aer-2019_2020-v1.pdf">https://www.bhp.com/-/media/bhp/regulatory-information-media/iron-ore/western-australia-iron-ore/0000/western-australia-iron-ore-pilbara-strategic-assessment-commonwealth/bhp-waio-epbc-sea-aer-2019_2020-v1.pdf</a>).</p>	Annually for the duration of the Approval.	Compliant.

Condition/ Section	Requirement	How	Documentation	Evidence	Timeframe	Status
				Table 2 documents the requirements of an annual report in accordance with Part B, Chapter 5 Reporting, of the Program.		
9	The approval holder must maintain accurate records substantiating all activities associated with or relevant to the conditions attached to this Approval, including measures taken to implement the endorsed Program, Assurance Plan and Offsets Plan and make them available upon request to the Department. Such records may be subject to audit by the Department or an independent auditor in accordance with section 458 of the EPBC Act, or used to verify compliance with the conditions attached to this Approval. Summaries of audits will be posted on the Department's website. The results of audits may also be publicised through the general media.	<p>Maintain the program disturbance tracking register.</p> <p>Document decisions regarding notifiable and non-notifiable actions</p> <p>Maintain the legal obligations register.</p>	<p>Program disturbance tracking register.</p> <p>Validation notices and decision reports.</p> <p>WAIO ELOR.</p>	<p>Table 5 provides an extract of the Program disturbance tracking register, which details the disturbance undertaken during the reporting period against the upper disturbance limit.</p> <p>There were no validation processes or decision reports completed during the reporting period. There were no exclusions under Section 2.3 of the Program assessed.</p> <p>BHP is utilising the WAIO ELOR database to administer and report against legal obligations. The database is up to date and there have been no new decisions made this FY.</p>	Duration of the Approval.	Compliant.
10	Upon the direction of the Minister, the approval holder must ensure that an independent audit of compliance with the conditions attached to this Approval is conducted and a report submitted to the Minister. The independent auditor must be approved by the Minister prior to the commencement of the audit. Audit criteria must be agreed to by the Minister and the audit report must address the criteria to the satisfaction of the Minister.	Appoint a Minister approved independent auditor to undertake an audit of compliance with conditions.	Independent auditors report.	Not required during this reporting period.	When requested by the Minister.	Not required during this reporting period.



### 3 EPBC SEA Program Part B

Table 2 assesses compliance against the seven requirements of the reporting section of the Program.

**Table 2: Audit Table for the EPBC SEA Program Part B**

Chapter	Condition/Section	Requirement	How	Documentation	Evidence	Timeframe	Status
<b>5 Reporting</b>	Item 1	Compliance with the Assurance Plan and Offsets Plan and Validation Notices.	Assess as part of the BHP annual reporting process.	BHP SEA AER.	No non-compliances with the Assurance Plan or the Offsets Plan were identified during the reporting period.	Annually for the duration of the Approval.	Compliant.
	Item 2	Actions determined not notifiable.	Assess activities against the Program and Assurance Plan.	Decision Report.	There were no actions determined to be not notifiable in the reporting period.	Duration of the Approval.	Compliant.
	Item 3	Activities determined to be a notifiable action.	Assess activities against the Program and Assurance Plan.	Decision Report and Validation Notice.	There were no actions determined to be notifiable in the reporting period.	Duration of the Approval.	Compliant.
	Item 4	Progress of notifiable actions, including when notifiable actions have commenced and completed.	Review progress of notifiable actions.	Program disturbance tracking register.	See Section 7: Validation Notices	Annually for the duration of the Approval.	Compliant.
	Item 5	Assets divested through the process described in Section 2.1, noting the status of environmental obligations under this Program at the time of divestment.	Review BHP divestment activities.	Asset database.	No assets, subject to the Program, were divested during the reporting period.	Annually for the duration of the Approval.	Not required during this reporting period.
	Item 6	An account of the upper disturbance limit for all activities taken within the Strategic Assessment Area. This will include any direct disturbance that has occurred in the twelve month period and as a cumulative total.	Maintain the program disturbance tracking register.	Program disturbance tracking register.	Details of disturbance undertaken during the reporting period and the cumulative disturbance is provided in Table 5.	Annually for the duration of the Approval.	Compliant.
	Item 7	Results of the five yearly review as described in Sections 4.1.1. and 4.1.2.	Prepare and submit a five early review to the satisfaction of the Minister.	Five yearly review document.	Five yearly review document and revised Assurance Plan and Offsets Plan are not required during this reporting period.  BHP and DAWE agreed on the process and content of the five-yearly reviews via formal correspondence (BHP letter dated 4 March 2021 seeking agreement on timing for the five-yearly review.	First review due after 19 December 2021 but prior to 19 December 2022.	Not required at this stage.

## 4 EPBC SEA Assurance Plan

Table 3 assesses compliance against the nine requirements of the Section 8 (Reporting) and five requirements of Section 10 (Data Management) of the Assurance Plan.

**Table 3: Audit Table for the EPBC SEA Assurance Plan**

Chapter	Condition/Section	Requirement	How	Documentation	Evidence	Timeframe	Status
<b>8 Reporting</b>	Item 1	Notifiable Actions identified under the Program during the period covered by the report.	Assess activities against the Program and Assurance Plan.	Validation Notice.	There were no actions determined to be notifiable in the reporting period.	Annually for the duration of the Approval.	Compliant.
	Item 2	Details of activities within the scope of the Program which were commenced during the period covered by the report but were determined not notifiable.	Review progress of non-notifiable actions and maintain the program disturbance tracking register.	BHP SEA AER. Program disturbance tracking register.	Details of disturbance undertaken during the reporting period are provided in Table 5, Figure 7.2 and Figure 7.8.	Annually for the duration of the Approval.	Compliant.
	Item 3	Status of implementation (planned start date, action commenced and planned completion date; and action completed) of all Notifiable Actions.	Review progress of notifiable actions and maintain the program disturbance tracking register.	BHP SEA AER. Program disturbance tracking register.	Construction of the MAC Surplus Water pipelines is complete. The disturbance for this project was included in the MAC Validation Notice.  See Section 6 and Section 7.	Annually for the duration of the Approval.	Compliant.
	Item 4	Assets divested through the process described in Section 2.1 of the Program.	Review BHP divestment activities.	Asset database.	No assets, subject to the Program, were divested during the reporting period.	Annually for the duration of the Approval.	Not required during this reporting period.
	Item 5	Status of offsets implemented for each Notifiable Action.	Review progress of offset plans for notifiable actions.	BHP SEA AER.	No offsets were implemented during the reporting period. BHP submitted the Offsets Proposal for Mining Area C, in accordance with the Offsets Plan, on 14 December 2018. The Offsets Proposal is currently under review, and consultation with the Department is ongoing.  Jimblebar Optimisation Project did not require EPBC Act Offsets.	Annually for the duration of the Approval.	Not required during this reporting period.
	Item 6	Disturbance areas associated with all actions, whether material or non-material, implemented since the Approval. Both the annual disturbance and the total disturbance (since the Approval) will be included.	Maintain the program disturbance tracking register.	Program disturbance tracking register.	Details of disturbance undertaken during the reporting period and cumulative disturbance provided in Table 5.	Annually for the duration of the Approval.	Compliant.
	Item 7	The outcomes of compliance audits undertaken during the period covered by the report will be included.	Review outcomes of compliance audits completed during the reporting period.	Compliance audit reports.	No compliance audits were completed during the reporting period.	Annually for the duration of the Approval.	Compliant.
	Item 8	Summary of any exceedances of the Program Matter Outcomes relevant to each Notifiable Action and corrective actions taken.	Review decision reports, notifiable actions and compliance audits undertaken during the reporting period.	Monitoring reports.	No exceedances of the Program Matter Outcomes for Pilbara Olive Python, Northern Quoll, Ghost Bat, Pilbara Leaf nosed Bat and Greater Bilby were identified during the reporting period.  See Section 7: Validation Notice.	Annually for the duration of the Approval.	Compliant.
	Item 9	Deviation from the Program or from information and management commitments contained in a Validation Notice for a Notifiable Action.	Review decision reports, notifiable actions and compliance audits undertaken during the reporting period.	Compliance audit reports.	No deviations from the Program or from information and management commitments contained in a Validation Notice have occurred.	Annually for the duration of the Approval.	Compliant.
<b>10 Data Management</b>	Item 1	An annual review of the site monitoring register and the guideline trigger values to ensure the Program is efficient, risk based and meets compliance requirements.	Review site monitoring registers and compliance audits.	Site monitoring register and compliance audit reports.	The Mining Area C monitoring register is up to date and includes Validation Notice monitoring requirements and target values. The Jimblebar monitoring register has been updated to include Validation Notice monitoring requirements.  See Section 7: Validation Notices.	Annually for the duration of the Approval.	Compliant.
	Item 2	Environmental monitoring and measurement equipment is to be maintained/calibrated/verified in accordance with manufacturers specifications.	Review site monitoring registers and compliance audits.	Site monitoring register and compliance audit reports.	Groundwater level monitoring was undertaken during the reporting period. Calibration of water level monitors was undertaken in accordance with the manufacturers specifications, as per the Western Australian (WA) Department of Water and Environmental Regulation (DWER) Operating Licences.	Annually for the duration of the Approval.	Compliant.
	Item 3	Verify source data integrity – determine if the data from a sampling point has been mapped against the correct data program, data type, test methods and units of measurement are accurate.	Review site monitoring registers and compliance audits.	Site monitoring register and compliance audit reports.	Verification of the groundwater level monitoring data was completed during the reporting period. Verification activities included confirming sampling locations, checking monitoring equipment and ensuring consistency with previous monitoring data.	Annually for the duration of the Approval.	Compliant.
	Item 4	Source monitoring data is analysed against trigger values, trends and outliers and in consideration of the target environmental outcomes.	Review site monitoring registers and compliance audits.	Site monitoring register and compliance audit reports.	Groundwater level monitoring data was compared against trigger values during the reporting period. No values from the Mining Area C - Validation Notice, exceeded triggers during the reporting period. See Section 7: Validation Notices.	Annually for the duration of the Approval.	Compliant.
	Item 5	An investigation is required for any values that are above triggers and thresholds.	Review site monitoring registers and compliance audits.	Site monitoring register and compliance audit reports.	No values from the Mining Area C - Validation Notice or Jimblebar Optimisation Validation Notice exceeded triggers and thresholds during the reporting period. See Section 7: Validation Notices.	Annually for the duration of the Approval.	Compliant.

## 5 EPBC SEA Offsets Plan

Table 4 assesses compliance against the nine requirements of the Section 4.5 (Annual Environmental Report) and five requirements of Section 4.6 (Offsets Reconciliation) of the Offsets Plan.

**Table 4: Audit Table for the EPBC SEA Offsets Plan**

Chapter	Condition/Section	Requirement	How	Documentation	Evidence	Timeframe	Status
<b>4.5 Annual Environmental Report</b>	Item 1	Notifiable Actions identified under the Program during the period covered by the report.	Assess activities against the Program and Assurance Plan.	Validation Notice.	There were no actions determined to be notifiable in the reporting period.	Annually for the duration of the Approval.	Compliant.
	Item 2	Details of activities within the scope of the Program which commenced during the period covered by the report but were determined to not be notifiable.	Review progress of non-notifiable actions and maintain the program disturbance tracking register.	BHP SEA AER. Program disturbance tracking register.	Details of disturbance undertaken during the reporting period are provided in Table 5, Figure 7.2 and Figure 7.8.	Annually for the duration of the Approval.	Compliant.
	Item 3	Status of implementation (planned start date, action commenced and planned completion date, and action completed) of all Notifiable Actions.	Review progress of notifiable actions and maintain the program disturbance tracking register.	BHP SEA AER. Program disturbance tracking register.	See Section 7: Validation Notices.	Annually for the duration of the Approval.	Compliant.
	Item 4	Status of offsets implemented for each Notifiable Action including monitoring and continuous improvement outcomes where applicable.	Review progress of offset plans for notifiable actions.	BHP SEA AER.	No offsets were implemented during the reporting period. BHP submitted the Offsets Proposal for Mining Area C, in accordance with the Offsets Plan, on 14 December 2018. The Offsets Proposal is currently under review, and consultation with the Department is ongoing.  Jimblebar Optimisation Project did not require EPBC Act Offsets.	Annually for the duration of the Approval.	Not required during the reporting period.
	Item 5	Assets divested through the process described in Section 2.1 of the Program	Review BHP divestment activities.	Program asset divestment register.	No assets, subject to the Program, were divested during the reporting period.	Annually for the duration of the Approval.	Not required during this reporting period.
	Item 6	Disturbance areas associated with all actions, implemented since the Approval. Both the annual disturbance and the total disturbance (since Approval) will be included.	Maintain the program disturbance tracking register.	Program disturbance tracking register.	Details of disturbance undertaken during the reporting period and cumulative disturbance provided in Table 5 and. Figure 7.2 and Figure 7.8.	Annually for the duration of the Approval.	Compliant.
	Item 7	Details and outcomes of audits undertaken during the period covered by the report.	Review outcomes of compliance audits completed during the reporting period.	Compliance audit reports.	No compliance audits were completed during the reporting period.	Annually for the duration of the Approval.	Not required during this reporting period.
	Item 8	Summary of any impacts that have prejudiced attainment of the Program Matter Outcomes relevant to each Notifiable Action and corrective actions taken.	Review decision reports, notifiable actions and compliance audits undertaken during the reporting period.	Compliance audit reports.	No exceedances of the Program Matter Outcomes for Pilbara Olive Python, Northern Quoll, Pilbara Leaf nosed Bat, Ghost Bat and Greater Bilby were identified during the reporting period.  See Section 7: Validation Notices.	Annually for the duration of the Approval.	Compliant.
	Item 9	Deviation from the Program or from key management commitments contained in a Validation Notice.	Review decision reports, notifiable actions and compliance audits undertaken during the reporting period.	Compliance audit reports.	BHP identified no non-compliances (deviations) with the Mining Area C Validation Notice or Jimblebar Optimisation Project Validation Notice during the reporting period.	Annually for the duration of the Approval.	Compliant.
<b>4.6 Offsets Reconciliation</b>	Step 1	Prior to ground disturbance an assessment of native vegetation condition, occurrence of Program Matters and/or habitat of conservation value to Program Matters is undertaken.	Review vegetation condition prior to ground disturbance.	PEAHR.	For MAC, a flora condition assessment was undertaken as part of the Flora and Vegetation Surveys (Onshore Environmental, 2011/2012) to support the assessment process and Approval of Ministerial Statement (MS) 1072. Habitat mapping was undertaken as part of Vertebrate Fauna Desktop Assessment (Biologic 2017) completed for the Approval of MS 1072. MAC utilises spatial buffers centred on Ghost Bat caves to assist in managing activities in close proximity to the caves.  For the Jimblebar Optimisation Project, the following flora and vegetation surveys were completed as part of the assessment process for the Approval of MS 1126: <ul style="list-style-type: none"> <li>East Jimblebar and Caramulla Flora and Vegetation Survey (Biologic 2019)</li> <li>Caramulla Creek Flora and Vegetation Survey (Astron Environmental Services, 2018)</li> <li>Reconnaissance Flora and Vegetation Survey Caramulla (Onshore Environmental, 2018)</li> <li>Shears West Detailed Vegetation and Flora Survey (Onshore Environmental, 2018).</li> </ul> Habitat mapping was undertaken as part of Jimblebar East and Caramulla Fauna Survey (GHD, 2019). There were not additional offsets proposed for the Jimblebar Optimisation Project.	Prior to commencing ground disturbance.	Compliant.

Chapter	Condition/ Section	Requirement	How	Documentation	Evidence	Timeframe	Status
					The PEHR process reviews proposed activities prior to disturbance to further assess the vegetation condition and occurrence of Program Matters.		
	Step 2	The vegetation and topsoil is cleared in accordance with the relevant internal ground disturbance controls.	Conduct vegetation clearing in accordance with PEHR conditions.	PEHR.	Implementation of on ground activities are managed via the PEHR process. All ground disturbance activities will meet the requirements of the PEHR. Topsoil requirements are included within the conditions of PEHR. All personnel carrying out works associated with clearing activities are required to comply with environmental approvals, the PEHR requirements and conditions and any other relevant legislative requirements.	Prior to commencing ground disturbance.	Compliant.
	Step 3	Annual recording and mapping of new disturbance is undertaken.	Maintain disturbance tracking register and annual map disturbance completed during reporting period.	Program disturbance tracking register and BHP SEA AER.	Recording of annual disturbance is undertaken using onsite surveys, with confirmation through aerial photography from the end of the reporting period. Survey and aerial photography data is processed using ArcMAP, to generate maps for specific disturbance areas. Details of disturbance undertaken during the reporting period is provided in Table 5, Figure 7.2 and Figure 7.8.	Annually for the duration of the Approval.	Compliant.
	Step 4	The total area disturbed within the scope of the Program is calculated using a geographical information system (GIS).	Review annual disturbance.	Program disturbance tracking register and BHP SEA AER.	Disturbance is calculated using onsite surveys, with confirmation through the most recent aerial photography. Survey and aerial photography data is reviewed and the final disturbance areas are calculated using ArcMAP.	Annually for the duration of the Approval.	Compliant.
	Step 5	The total number of hectares disturbed over the reporting period and a cumulative period total against the Program, for each Validation Notice.	Maintain disturbance tracking register.	Program disturbance tracking register.	Details of disturbance undertaken during the reporting period and cumulative disturbance is provided in Table 5, Figure 7.2 and Figure 7.8.	Annually for the duration of the Approval.	Compliant.

## 6 Program Decisions and Disturbance

There were no validation notice or non-notifiable action processes completed during the reporting period. Table 5 shows the decision that have been made under the Program, the disturbance allocated to each decision and the disturbance completed during the reporting period. Table 6 shows the disturbance per habitat completed for all decisions.

There were no SEA exclusion decisions made under Section 2.3 of the Program reported in FY22.

**Table 5: Program Decisions and Disturbance undertaken during the 2021/22 reporting period**

Project Name	Activity completed during reporting period	Decision Rationale	Decision Made	Date Decision Documented	Proposed disturbance (ha)	Overall cumulative program disturbance remaining (ha)	Activity disturbance June 2018 to June 2021	Activity disturbance 2021/22 (ha)	Total activity disturbance to June 2022 (ha)	Overall cumulative activity disturbance remaining (ha)
MAC/South Flank	Continued construction of Primary Crushing (PC) 1, PC2, conveyors and Ore Handling Plant. Mining Continued at Mining Area C and South Flank. South Flank achieved its first ore milestone on the 20 May 2021.	Project fulfils the triggers of the Assurance Plan for Greater Bilby ( <i>Macrotis lagotis</i> ), Northern Quoll ( <i>Dasyurus hallucatus</i> ), Pilbara Leaf-Nosed Bat ( <i>Rhinonicterus aurantia</i> ), Ghost Bat ( <i>Macroderma gigas</i> ) and Pilbara Olive Python ( <i>Liasis olivaceus barroni</i> ).	Validation Notice	May 2018	16,000	94,000	2978.78	753.37	3732.14	106,267.86
Jimblebar OSA1 Stage 1	No activity completed during the reporting period. Disturbance allocation has been completed for this Not a Notifiable Action. This Not a Notifiable Notice has now been superseded by the Jimblebar Optimisation Project Validation Notice.	Project does not meet the triggers of the Assurance Plan for the Greater Bilby, Northern Quoll, Pilbara Leaf-Nosed Bat Ghost Bat and Pilbara Olive Python	Not a Notifiable Action	Aug 2018	95	93,905	94.73	0.00	94.73	106,173.13
Western Creek Diversion	Disturbance for access and drilling	Project does not meet the triggers of the Assurance Plan for the Greater Bilby, Northern Quoll, Pilbara Leaf-Nosed Bat Ghost Bat and Pilbara Olive Python.	Not a Notifiable Action	Feb 2020	15	93,890	5.20	0.00	5.20	106,167.93
MAC Surplus Water	Reinjection bores were installed and pipeline constructed.	Area for the Project is included within the MAC/South Flank Validation Notice. No additional ground disturbance or management required to the MAC Validation Notice for this activity.	Not a Notifiable Action	Apr 2020	0	93,890	0.00	0.00	0.00	106,167.93
Jimblebar Optimisation Project	Clearing of mine infrastructure and exploration drilling areas.	Project fulfils the triggers of the Assurance Plan for the Greater Bilby ( <i>Macrotis lagotis</i> ), Northern Quoll ( <i>Dasyurus hallucatus</i> ), Pilbara Leaf-Nosed Bat ( <i>Rhinonicterus aurantia</i> ), Ghost Bat ( <i>Macroderma gigas</i> ) and Pilbara Olive Python ( <i>Liasis olivaceus barroni</i> ).	Validation Notice	Jun 2020	2,000	91,890	219.82	235.71	455.53	105,712.40
OB30 Creek Diversion	Creek diversion to allow mining at OB30	Meets the requirements of previous approved under Section 2.3 of the Program. NVCP's and State Agreements were all predate the SEA Approval Notice of 19 June 2017	SEA Exclusion	April 2021	40 (not included in SEA)	NA	NA	NA	NA	NA



**Table 6: Total Clearing by Habitat Type**

	Total clearing from July 2018 to June 2021	Total clearing for this FY July 2021 to June 2022	Total clearing for the SEA from July 2018 to June 2022
Habitat Type	(ha)	(ha)	(ha)
Cleared - Disturbed	32552.51	0.00	32552.51
Drainage Area and Floodplain	205.91	113.04	318.95
Gorge and Gully	68.46	21.01	89.47
Hardpan Plain	6.18	0.00	6.18
Hillcrest and Hillslope	2269.51	495.75	2765.26
Major Drainage Line	0.74	3.06	3.81
Minor Drainage Line	364.30	56.91	421.21
Mulga Woodland	77.53	32.43	109.96
Sand Plain	145.65	99.14	244.79
Stony Plain	149.27	176.22	325.49
Unmapped	0.00	0.00	1.95
<b>TOTAL</b>	<b>35840.06</b>	<b>997.56</b>	<b>36839.58</b>

## 7 Validation Notices

### 7.1 Mining Area C

Mining Area C is located approximately 100 kilometres northwest of the town of Newman in the Pilbara region of Western Australia. The mine is situated within Mineral Lease 281SA (ML281SA) and Mineral Lease 249SA (ML249SA) and is operated by BHP in accordance with the *Iron Ore (Mount Goldsworthy) Agreement Act 1964*.

Mining Area C - Northern Flank Operations commenced in August 2003 under Ministerial Statement 491, issued 24 December 1998. In February 2018, Ministerial Statement 491 was superseded by Ministerial Statement 1072, which covers the existing Northern Flank Operations and the new Southern Flank development. In July 2018, the Mining Area C – South Flank Validation Notice became effective.

In March 2019, BHP submitted a section 45C application to amend MS1072 to allow the disposal of surplus water into a new MAR bore field at South Flank Valley and discharge to a drainage line that leads to Pebble Mouse Creek. This submission was approved on 15 January 2020. An EPBC non notifiable action Decision Report was finalised for the same project in May 2020. All ground disturbance for the project is included in the Mining Area C Validation Notice mentioned above.

Campaign mining continues through conventional open cut mining methods; including drilling, blasting and categorisation of blasted material into iron ore or waste rock. Fixed and mobile ore crushing facilities are utilised through the operation. Ore is blended into stockpiles onsite and railed to BHP's shipping facilities at Port Hedland where it is shipped to overseas customers.

Mine dewatering occurs at North Flank. Managed Aquifer Recharge (MAR) continues to be the main method of mine surplus water discharge. The A Deposit MAR ceased to operate in April 2019 to allow for mine expansion. The Juna Downs MAR became operational in May 2019.

The South Flank Valley MAR concluded commissioning on 30th April 2022 and the commissioning report submitted on 7th June 2022.

#### 7.1.1 Validation Notice Deviations

No non-compliances (deviations) with the Mining Area C Validation Notice were identified during the reporting period.

#### 7.1.2 Program Matter Monitoring and Outcomes for FY2022

The monitoring required to be completed during the reporting period is outline in Table 7. Monitoring results are discussed in the following sections.

**Table 7: VN Program Matter Monitoring Required in FY 2022 Reporting Period**

Species	Monitoring	Due Date	Performance Targets	Applicable Program Matter Outcome
<b>Ghost Bat</b>	Land disturbance reconciliation	Annually (See Section 7.1.3 )	No land disturbance within 50 m of 'to be retained High value ghost bat caves' or 'artificial ghost bat roosts'.	NA
			No disturbance to any of the 'to be retained High value ghost bat caves' or 'artificial ghost bat roosts'.	
			No disturbance to any 'to be retained ghost bat cave' that renders it unsuitable ghost bat habitat.	
	Population monitoring	July 2023 - Every 5 years during operations.  BHP has implemented the annual Ghost Bat monitoring program (See Section 7.1.4)	Signs of ghost bat use in the 'to be retained' ghost bat caves or artificial roosts (if applicable) within the activity area, within 5 years of cessation of operations.	No loss of Ghost Bat population/s as a result of Program activities.
<b>Pilbara Olive Python</b>	Land disturbance reconciliation	Annually (See Section 7.1.3)	No unauthorised disturbance beyond the activity area	Program activities do not physically disturb, or result in adverse changes to the hydrological regimes and/or water quality of the following waterholes: Weeli Wolli Spring, Ben's Oasis;
	Population monitoring	July 2023	Presence of species consistent with baseline data.	No loss of Pilbara Olive Pythons population/s as a result of Program activities.
	Hydrogeological monitoring	Annually (See Section 7.1.5)	Monitoring commenced 2 years prior to commencement of dewatering of the eastern deposits.	Program activities do not physically disturb, or result in adverse changes to the hydrological regimes and/or water quality of the following waterholes: Weeli Wolli Spring, Ben's Oasis.
<b>Greater Bilby</b>	Land disturbance reconciliation	Annually (See Section 7.1.3 )	No unauthorised disturbance beyond the activity area	NA
	Population Monitoring	July 2028	NA	NA
<b>Pilbara Leaf-nosed Bat</b>	Land disturbance reconciliation	Annually (See Section 7.1.3)	No unauthorised disturbance beyond the activity area	NA
	Population Monitoring	July 2028	NA	NA
<b>Northern Quoll</b>	Land disturbance reconciliation	Annually (See Section 7.1.3)	No unauthorised disturbance beyond the activity area	No loss of Northern Quoll habitat that supports a high density population as a result of Program activities

Species	Monitoring	Due Date	Performance Targets	Applicable Program Matter Outcome
	Population Monitoring	July 2028	NA	NA

### 7.1.3 Land Disturbance Reconciliation

Disturbance undertaken during the reporting period under the Mining Area C Validation Notice is detailed in Table 5. The disturbance of habitats for all the Program Matters is shown in Table 8, Figure 7.1 and Figure 7.2.

No disturbance has been undertaken at Weeli Wolli Spring or Ben's Oasis by BHP. Based on the disturbance undertaken during the FY2022 reporting period, BHP consider that the following Program Matter Outcome has been achieved during the FY2022 reporting period:

*Program activities do not physically disturb, or result in adverse changes to the hydrological regimes and/or water quality of the following waterholes: Weeli Wolli Spring, Ben's Oasis;*

The gorge and gully habitats do not support a high density population of Northern Quolls. BHP consider that the following Program Matter Outcome has been achieved during the FY2022 reporting period:

*No loss of Northern Quoll habitat that supports a high density population as a result of Program activities;*

No land disturbance has occurred within 50 m of the retained high value ghost bat caves or artificial Ghost Bat roosts during the reporting period (Figure 7.3). BHP considers that the following performance targets in the Mining Area C Validation Notice have been achieved for the FY2022 reporting period:

*No land disturbance within 50 m of 'to be retained High value ghost bat caves' or 'artificial ghost bat roosts'.*

*No disturbance to any of the 'to be retained High value ghost bat caves' or 'artificial ghost bat roosts'.*

*No disturbance to any 'to be retained ghost bat cave' that renders it unsuitable ghost bat habitat.*

No land disturbance has occurred outside of the activity area (Figure 7.2) and disturbance to habitats for each Program Matter remains below the impacts described in the Mining Area C Validation Notice (Table 8). BHP considers that the following performance target in the Mining Area C Validation Notice for the Greater Bilby, Pilbara Olive Python and Northern Quoll in have been achieved for the FY2021 reporting period:

*No unauthorised disturbance beyond the activity area.*

All disturbance to habitats for each Program Matter remain below the impacts predicted during the Validation Process (Table 8).

**Table 8: Mining Area C VN Disturbance**

Habitat	Activity disturbance July 2021 to June 2022 (ha)	Total Disturbance from July 2018 to June 2022 (ha)	Mining Area C Predicted Disturbance (ha)
<b>Ghost Bat</b>			
Foraging Habitat	746.87	7019.04	14,502
Ghost Bat Caves	0	2 (2019 – SF22, 2020 – SF15)	36 roosts (impact)
<b>Pilbara Olive Python</b>			
Gorge And Gully	21.01	89.47	1,123
Major drainage	0	0.53	2
Pools	0	0	4 pools
<b>Greater Bilby</b>			
Sand Plain	1.29	92.06	236
Mulga Woodland	12.39	29.80	637
Stony Plain	169.94	310.90	982
<b>Pilbara Leaf-nosed Bat</b>			
Gorge and Gully	21.01	89.47	1,123
Pools	0	0	4 pools
<b>Northern Quoll</b>			
Gorge and Gully	21.01	89.47	1,123

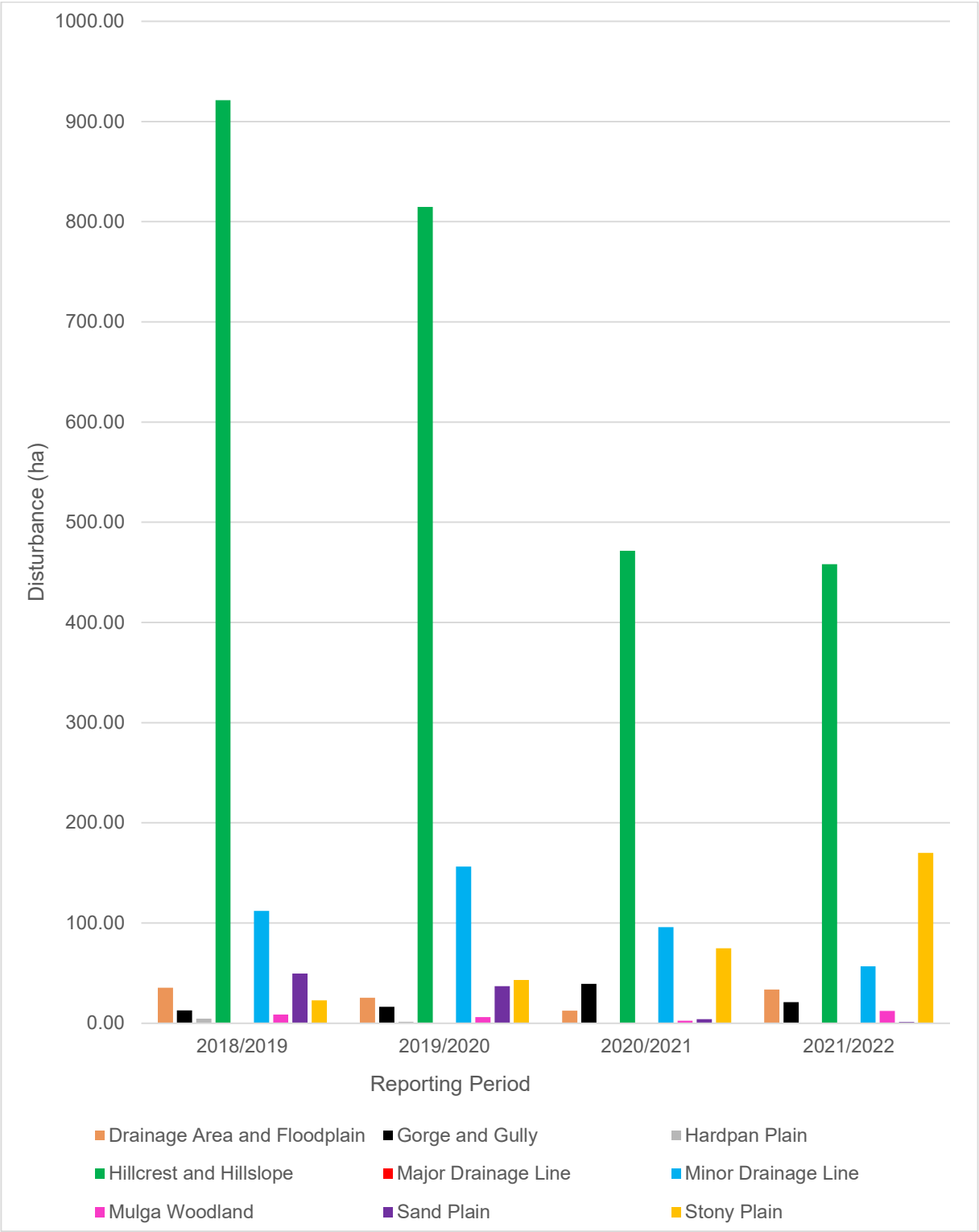
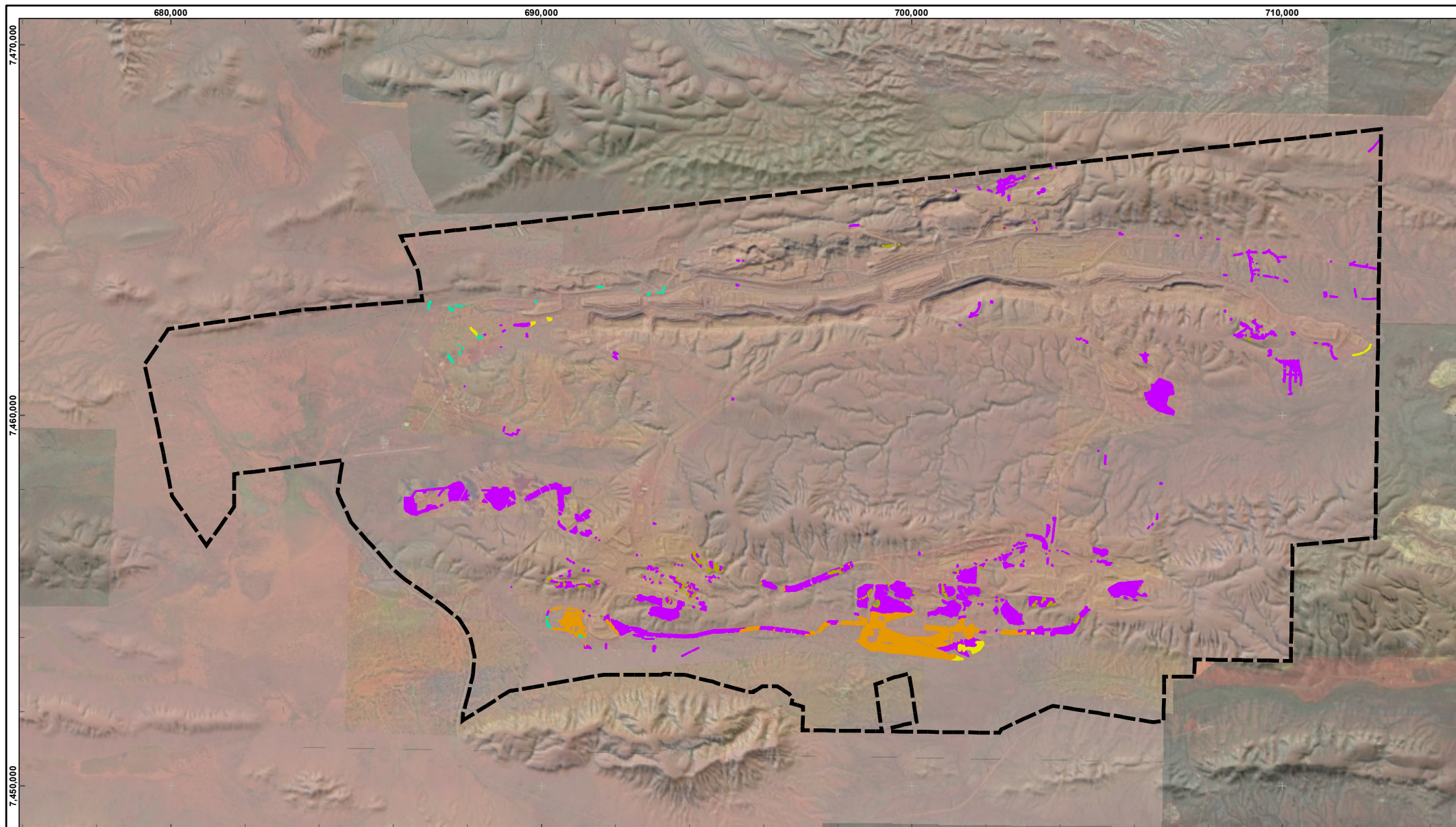






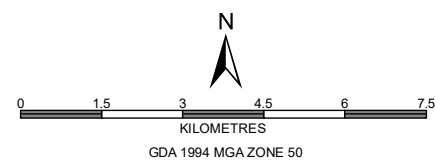


Figure 7.1: SEA Mining Area C Clearing by Habitat July 2018 to June 2022





-  Ministerial Statement 1072
- MAC Validation Notice Disturbance
-  Hillcrest/ Hillslope (FY 22 - 460.1 ha)
  -  Gorge/ Gully (FY 22 - 21.0 ha)
  -  Mulga Woodland (FY 22 - 12.4 ha)
  -  Sand Plain (FY 22 - 1.3 ha)
  -  Stony Plain (FY 22 - 170.0 ha)



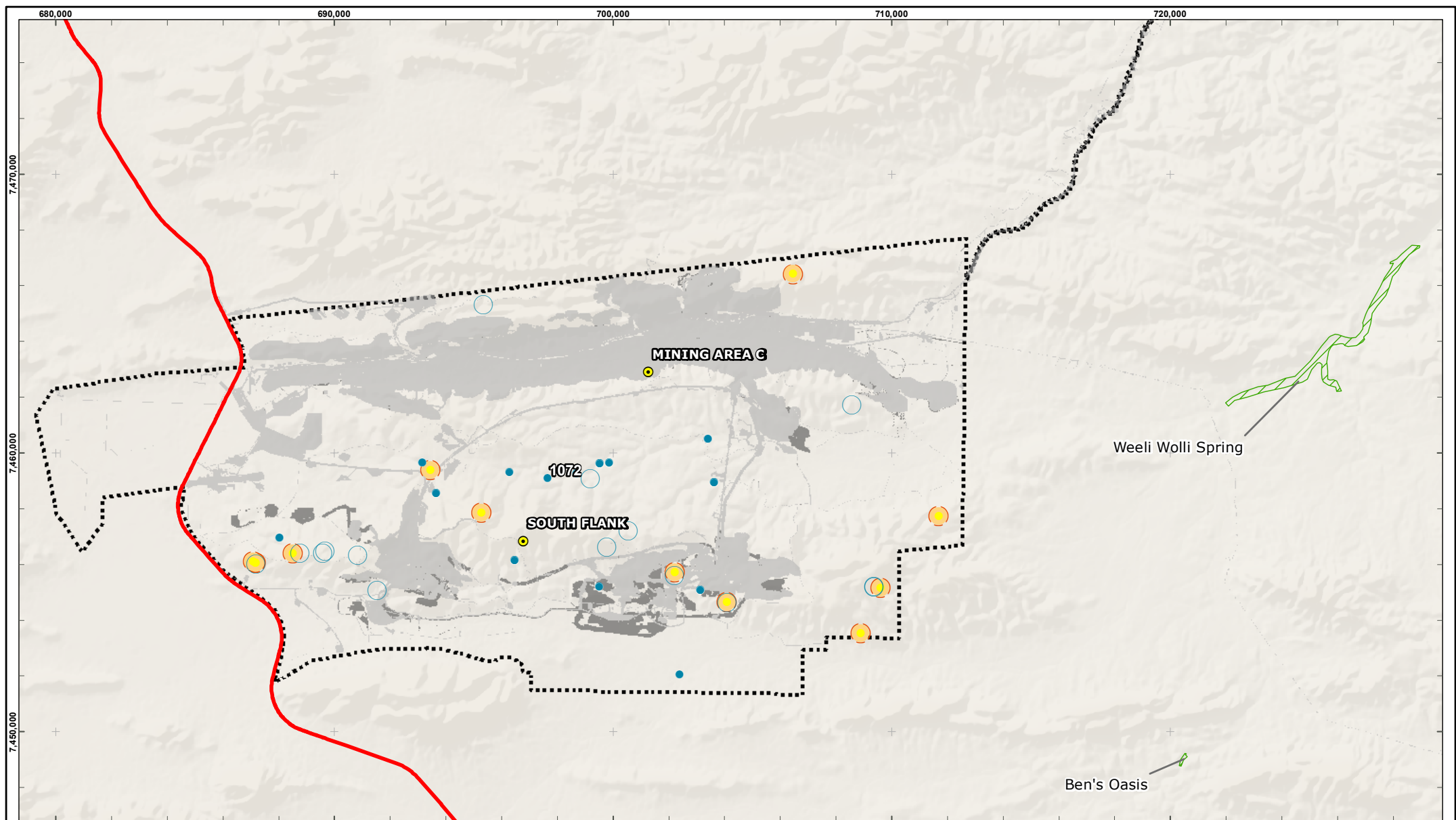
**BHP**

**INTERNAL**

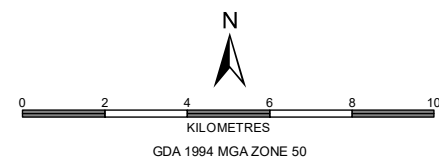
**MINING AREA C - VALIDATION NOTICE  
DISTURBANCE 2021/2022  
REPORTING PERIOD**

**PLANNING & STANDARDS - IRON ORE**

SCALE @ A4:	1:140,000	PREPARED:	P. GANT	FIGURE:	<b>7.2</b>
DATE:	2/09/2022	REQUESTOR:	ENV APPROVALS	NO:	<b>1098/6A</b>
		REVIEWED:	S. TRINDER		



- Waterhole
- BHP operations
- National highway
- Mining area/ South Flank activity
- PECBoundaries
- Low value Ghost Bat Cave Locations to be retained
- Ghost Bat Cave Threshold Areas
- Ghost Bat Cave Trigger Areas
- Ghost Bat Cave Early Indicator Areas
- Previously disturbed footprint
- VN disturbance FY22



**BHP**

**INTERNAL**

## MINING AREA C - VALIDATION NOTICE SOUTH FLANK GHOST BAT TRIGGER

**PLANNING & STANDARDS - IRON ORE**

SCALE @ A4:	1:183,818	PREPARED:	P. GANT	FIGURE:	<b>7.3</b>
DATE:	2/09/2022	REQUESTOR:	ENV APPROVALS	NO:	<b>1098/5A</b>
		REVIEWED:	S. TRINDER		



#### 7.1.4 Population Monitoring

Monitoring of Greater Bilby, Pilbara Olive Python, Pilbara Leaf-Nosed Bat and Northern Quoll populations was not required during the reporting period as per the Validation Notice.

In respect of the Ghost Bat, based on the results of monitoring conducted during the FY2022 reporting period, BHP considers that the following Program Matter Outcome has been achieved for the FY2022 reporting period:

*No loss of Ghost Bat population/s as a result of program activities*

Based on the continued presence of Ghost Bats at Mining Area C during the reporting period, BHP considers that the following performance target in the Mining Area C Validation Notice has been achieved for the FY2022 reporting period:

*Signs of ghost bat use in the 'to be retained' ghost bat caves or artificial roosts (if applicable) within the activity area*

Ghost Bat monitoring results are discussed in the following section.

##### 7.1.4.1 Ghost Bat Monitoring

###### **Sampling**

In FY2022, four field trips were undertaken as part of the scat collection monitoring program to determine presence/absence of Ghost Bats from scat deposits (refer to Table 9). Targeted caves included:

- 18 high value caves (AC13, AC14, AC17, AC18, SF04, SF05, SF08, SF14, SF18, SF26, SF27, AC01, AC02, AC05, AC06, AC08, AC09, SF06);
- the Mining Area C artificial roost (AGBC);
- reference sites at Tandanya and Mt Truchanas (RTIO tenure); and
- four additional Caves (SF03, SF09, SF28, SF30).

Individual field trip summaries are provided below.

###### July 2021

A total of 22 caves were visited (i.e. accessible but may or may not be able to be entered) across two trips; 15 high value caves, 5 reference sites., one additional cave and the artificial roost. The caves AC18 and AC6 were not able to be accessed so were not surveyed.

A total of 261 scats were collected and no Ghost Bat individuals directly observed. SF08 was observed to have had consistent Ghost Bat presence since FY21. SF14 (which sits close to the conveyor near the main South Flank infrastructure) had scats present, which is the first time in a few years.

###### September 2021

A total of 56 caves were visited (i.e. accessible, but may or may not be able to be entered) across two trips; 15 high value caves, 4 reference sites, the artificial roost, 32 caves as part of the 3 yearly scat monitoring and four additional caves were surveyed. Caves which could not be surveyed included:

- AC1, AC9, SF7 & SF25 - due to cultural sensitivities;
- AC3, AC4 & AC34 - due to proximity to the pit;
- AC6 - due to a working at heights risk;
- AC14 and AC18 - due to a lack of access caused by road bunding by Blast team<sup>1</sup>;
- AC19, AC20, AC31 and AC32 - due to steep terrain and the pathways being blocked;

<sup>1</sup> Access road was bunded due to safety concerns of access to blast areas. This plans on being rectified through removal of the bunds when consultants require periodic access for monitoring of caves AC14 and AC18.

- SF11- due to visible fracturing to the side wall at the base of the slope (under the cave); and
- SF23 - due to the entry of the cave being too small.

Twelve of the 56 caves visited contained scats (Table 9). Over 13,000 scats in total were observed, with 51 collected for genetic testing. Ghost Bat individuals were observed in two of the visited caves, SF08 and AC17. Out of the 56 caves that were visited, 36 of them were mapped using laser scanning technology.

#### January 2022

A total of 22 caves were visited (i.e. accessible, but may or may not be able to be entered); 14 high value caves, 3 reference sites, 4 additional sites and the artificial roost were surveyed. Caves which could not be surveyed included:

- AC14 and AC18 - due to a lack of access caused by road bunding by Blast team;
- AC6 - no safe access point was available;
- ACW10 - due to due to impassable access caused by recent rainfall;
- SF08 – due to the observation of one Ghost Bat individual and fear of flushing; and
- Mt Truchanas reference sites – access was not granted by RTIO.

Over two hundred scats in total were observed, with 81 collected for genetic testing. Microclimate loggers were installed in 16 caves (AC01, AC02, AC05, AC08, AC09, AC13, AC17, SF04, SF05, SF06, SF08, SF14, SF18, SF26, SF27 and the Artificial Roost).

#### March 2022

A total of 33 caves were visited (i.e. accessible, but may or may not be able to be entered); 14 high value caves, 4 additional caves, 11 reference caves, 3 caves as part of the 3 yearly scat monitoring and the artificial roost. Caves which could not be surveyed included:

- AC14 and AC18 - due to a lack of access caused by road bunding by Blast team;
- AC6 - no safe access point was available;
- AC1 and AC9 - due to heritage sensitivities;
- SF27 – due to Ghost Bat presence (to prevent possible flushing);
- Reference caves ACW07 – due to a beehive obstructing the cave entrance; and
- Reference caves ACW15 and ACW31 - were determined to be unsuitable as roosts for Ghost Bats.

A total of 608 scats were observed with 69 scats collected for genetic testing. An additional 9 scats were observed in the artificial roost AGBC, but the identity of the scats couldn't be confirmed due to their unusual location. The 9 unidentified scats were collected for genetic testing.

#### May 2022

A total of 25 caves were visited (i.e. accessible, but may or may not be able to be entered); 14 high value caves 3 reference caves, 4 caves as part of the 3 yearly scat monitoring, 3 additional caves and the artificial roost. Caves which could not be surveyed included:

- AC14 and AC18 - due to a lack of access caused by road bunding by Blast team;
- AC1 and AC9 - due to cultural sensitivities;
- AC6 - due to a working at heights risk;
- SF28 – due to the entrance of the cave being too small;
- ACW08 and ACW10 - due to bogging concerns as the access track was wet from recent weather events; and
- SF1, SF3 and SF8 – due to Ghost Bat presence (to prevent possible flushing).

AC17 and SF17 contained scats, with a total of 550 scats being observed between the two caves, and 40 scats were collected for genetic testing.

### **Genotype Analysis**

In 2020, scat samples were analysed by the DBCA for genotyping. Samples were genotyped at 44 single nucleotide polymorphism (SNP) loci using a new high-throughput SNP genotyping method. A total of 15 unique genotypes (individuals) were identified from the 119 successfully genotyped scat samples collected from six caves over 61 visitations, substantially lower than the previous monitoring survey in 2019.

The number of individuals recorded from each cave, including reference sites ranged from one to seven (Table 10). The highest abundance of individuals was recorded at caves AC09 ( $n = 7$ ) followed by SF08 ( $n = 4$ ). One to two individuals were detected at all remaining caves. Of the 15 individuals identified, four were recorded in the previous 3-5 years within the same cave/s. The highest number of individuals recorded within caves occurred in October 2020 when ten individuals were detected in six caves (Table 10). In comparison, six individuals were detected in February 2021 at AC09 and seven individuals were detected in May 2021 at four caves.

Of the 15 individuals detected during the survey, seven individuals were detected during a single sampling period and only one individual was detected from a single sampling period at M01 (individual #817 in October 2020). Additionally, all four individuals detected at SF08 were detected on one occasion, suggesting that the cave was used by transient individuals.

Monitoring caves exhibited lower levels of genetic diversity (i.e. heterozygosity) to regional estimates for the eastern Hamersley population.

Whilst no maternity group was observed, genetic analysis indicated that there was likely a family group (four pairs of bats that showed high genetic relatedness (parent-offspring or full-sibling pedigree relationship)) present within AC09, which has previously been recognised as a maternity cave.

**Table 9: Scat collection monitoring.**

Cave	Location	Jul - 21		Sep - 21		Jan - 22		Mar-22		May-22	
		No. of Scats present	No. of Bats Present	No. of Scats present	No. of Bats Present	No. of Scats present	No. of Bats Present	No. of Scats present	No. of Bats Present	No. of Scats present	No. of Bats Present
MS1072 Sites											
AC1	Northern Flank	0	0	NE	NE	0	0	NE	NE	NE	NE
AC2	Northern Flank	0	0	0	0	0	0	0	0	0	0
AC5	Northern Flank	0	0	0	0	0	0	0	0	0	0
AC6	Northern Flank	UA	UA	UA	UA	UA	UA	UA	UA	UA	UA
AC8	Northern Flank	0	0	0	0	0	0	0	0	0	0
AC9	Northern Flank	40	0	NE	NE	10	0	NE	NE	NE	NE
AC13	Northern Flank	0	0	3	0	0	0	0	0	0	0
AC14	Southern Flank	0	0	0	0	UA	UA	UA	UA	UA	UA
AC17	Southern Flank	0	0	150	1	0	0	6	0	0	0
AC18	Southern Flank	UA	UA	UA	UA	UA	UA	UA	UA	UA	UA
SF4	Southern Flank	0	0	0	0	0	0	0	0	0	0
SF5	Southern Flank	200	0	20	0	2	0	2	0	0	0
SF6	Southern Flank	0	0	0	0	0	0	0	0	0	0
SF8	Southern Flank	NE	NE	2000	1	NE	1	400	0	0	1
SF14	Southern Flank	4	0	0	0	0	0	0	0	0	0
SF26	Southern Flank	0	0	0	0	0	0	0	0	0	0
SF27	Southern Flank	0	0	0	0	0	0	NE	1	500	0
AGBC	Northern Flank	0	0	0	0	0	0	9*	0	0	0
Reference Sites											
ACW01	Tandanya	0	0	-	-	0	0	0	0	-	-
ACW06	Tandanya	5	0	0	0	0	0	0	0	0	0
ACW07	Tandanya					-	-	UA	UA	-	-
ACW08	Tandanya	12	0	9	0	30	0	0	0	UA	UA

Cave	Location	Jul - 21		Sep - 21		Jan - 22		Mar-22		May-22	
		No. of Scats present	No. of Bats Present	No. of Scats present	No. of Bats Present	No. of Scats present	No. of Bats Present	No. of Scats present	No. of Bats Present	No. of Scats present	No. of Bats Present
ACW10	Tandanya	-	-	12	0	UA	UA	0	0	UA	UA
ACW11	Tandanya	-	-	-	-	-	-	0	0	-	-
ACW13	Tandanya	-	-	-	-	-	-	0	0	-	-
ACW15	Tandanya	-	-	-	-	-	-	0	0	-	-
ACW31	Tandanya	-	-	-	-	-	-	100	0	-	-
CATH09	Newman	-	-	-	-	-	-	-	-	-	-
M1	Mudlark	0	0	0	0	-	-	0	0	0	0
M2	Mudlark	-	-	-	-	-	-	3000*	0	0	0
OB35-02	Newman	0	0	-	-	-	-	-	-	-	-
CPIN07	Tandanya	-	-	-	-	-	-	0	0	-	-
<b>Additional Sites</b>											
SF03	Southern Flank	0	0	0	0	0	0	70	0	0	1
SF09	Southern Flank	-	-	0	0	0	0	30	0	0	0
SF28	Southern Flank	-	-	6000	0	40	0	0	0	UA	UA
SF30	Southern Flank	-	-	5000	0	0	0	0	0	0	0
<b>3 yearly Sites -</b>											
AC3	Northern Flank	-	-	UA	UA			-	-	-	-
AC4	Northern Flank	-	-	UA	UA			-	-	-	-
AC7	Northern Flank	-	-	0	0			-	-	0	0
AC9	Northern Flank	-	-	0	0			-	-	-	-
AC11	Northern Flank	-	-	0	0			-	-	-	-
AC12	Northern Flank	-	-	0	0			-	-	-	-
AC15	Northern Flank	-	-	0	0			-	-	-	-
AC16	Northern Flank	-	-	0	0			-	-	-	-
AC19	Northern Flank	-	-	UA	UA			-	-	-	-
AC20	Northern Flank	-	-	UA	UA			-	-	-	-
AC25	Southern Flank	-	-	0	0			-	-	-	-
AC26	Southern Flank	-	-	0	0			-	-	-	-
AC27	Southern Flank	-	-	0	0			-	-	-	-
AC28	Northern Flank	-	-	0	0			-	-	-	-
AC29	Northern Flank	-	-	0	0			-	-	-	-
AC30	Northern Flank	-	-	0	0			-	-	-	-
AC31	Northern Flank	-	-	UA	UA			-	-	-	-
AC32	Northern Flank	-	-	UA	UA			-	-	-	-
AC34	Northern Flank	-	-	UA	UA			-	-	-	-
AC37	Southern Flank	-	-	0	0			-	-	-	-
AC38	Northern Flank	-	-	6	0			-	-	-	-
SF1	Southern Flank	-	-	0	0			0	0	0	1
SF2	Southern Flank	-	-	0	0			0	0	0	0
SF7	Southern Flank	-	-	NE	NE			-	-	-	-
SF10	Southern Flank	-	-	20	0			-	-	-	-



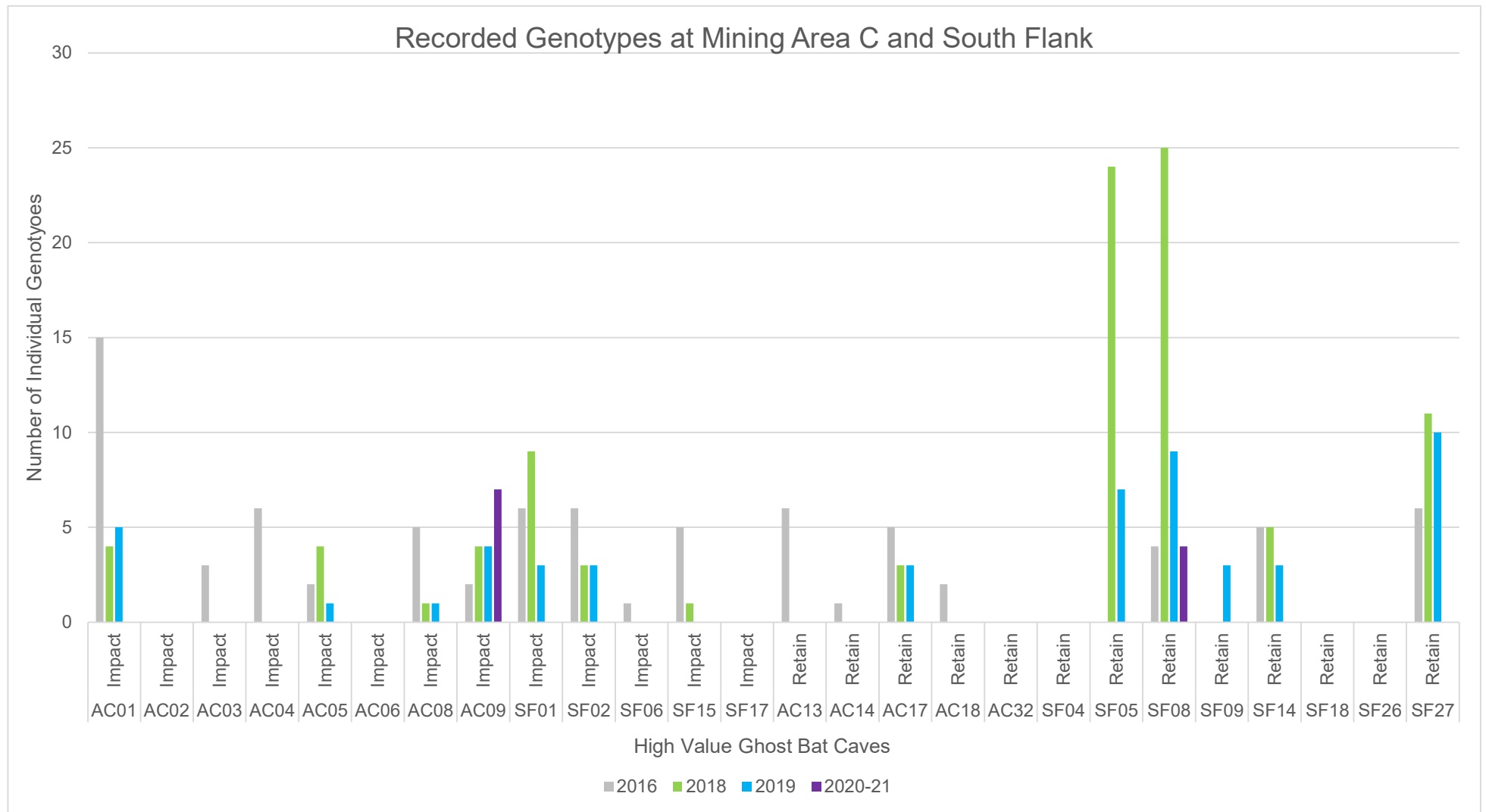
Cave	Location	Jul - 21		Sep - 21		Jan - 22		Mar-22		May-22	
		No. of Scats present	No. of Bats Present	No. of Scats present	No. of Bats Present	No. of Scats present	No. of Bats Present	No. of Scats present	No. of Bats Present	No. of Scats present	No. of Bats Present
SF11	Southern Flank	-	-	UA	UA			-	-	-	-
SF12	Southern Flank	-	-	0	0			-	-	-	-
SF13	Southern Flank	-	-	0	0			-	-	-	-
SF16	Southern Flank	-	-	0	0			-	-	-	-
SF17	Southern Flank	-	-	0	0			-	-	-	-
SF19	Southern Flank	-	-	0	0			-	-	-	-
SF20	Southern Flank	-	-	0	0			-	-	-	-
SF21	Southern Flank	-	-	0	0			-	-	-	-
SF23	Southern Flank	-	-	NE	NE			-	-	-	-
SF24	Southern Flank	-	-	2	0			0	0	0	0
SF25	Southern Flank	-	-	NE	NE			-	-	-	-
SF29	Southern Flank	-	-	0	0			-	-	-	-
SF31	Southern Flank	-	-	0	0			-	-	-	-
SF32	Southern Flank	-	-	1	0			-	-	-	-
SF33	Southern Flank	-	-	0	0			-	-	-	-

Note: NE = Not Entered; UA = Not entered due to Unsafe Access or conditions; '—' Not sampled; \*Scats collected off sheet

**Table 10: Number of genotyped individuals detected by cave during each monitoring trip (2021-2022)**

Cave	Number of genotyped Individuals detected from each monitoring trip			Total individuals	Individual genotype number
	Oct 20	Feb 21	May 21		
MS1072 Sites					
SF08	4*			4	346, 527, 815, 818
AC09	2	6	4	7	812, 814, 819, 820, 821, 822, 823
Reference Sites					
ACW01	1		1	1	437
ACW08	1		1	2	447, 813
ACW10	1		1	1	813
M01	1			1	817

Note: \* Genotypes obtained from scats collected off sheet (age of these scats cannot be guaranteed);



**Figure 7.4: Individual genotypes recorded in genetic analyses from high value caves at Mining Area C sampled in 2016 to 2021.**

### Hormone Analysis

Scats collected between October 2020 and May 2021, and July 2021 and May 2022 were analysed by the University of Queensland for faecal metabolites (hormones) to determine the occurrence of pregnant individuals within caves. Hormone concentrations were expressed as nanograms of hormone metabolites per gram of faeces (ng/g). Progesterone levels were considered to be elevated (i.e. progesterone levels indicating pregnancy of individual) for results of 970 ng/g or greater.

Of the 237 scat samples collected between October 2020 and May 2021 from six caves, 15 percent contained elevated progesterone levels indicating the presence of pregnant females. The highest proportion of scats containing elevated progesterone (70 percent of scats analysed in May 2021) were recorded at ACW08.

Owing to the timing of surveys in 2020, collections made in February and May of 2021 included scats that would have been deposited during the 2020 breeding season. Five caves contained scats with elevated progesterone levels in 2020, one cave contained scats with elevated progesterone levels in February 2021 and two caves contained scats with elevated progesterone levels in May 2021.

Thirty-five samples from the six caves showed intermediate levels of progesterone (i.e. progesterone levels ranging from 700–950 ng/g), suggesting that the hormone was either decaying due to the age of the scat, or the individual may have recently been pregnant or in early stages of pregnancy.

Of the 325 scat samples collected between July 2021 and May 2022 from 13 caves, 29.8 percent contained elevated progesterone levels indicating the presence of pregnant females. The highest proportion of scats containing elevated progesterone (22 scats analysed in September 2021) were recorded at AC17. SF05 and ACW08 were most consistently used by pregnant individuals as three surveys returned scats with elevated progesterone.

Collections made in September 2021 and January 2022 included the collection of scats that would have been deposited during the 2021 breeding season. Fourteen samples from nine caves contained scats with intermediate levels of progesterone (i.e. progesterone levels ranging from 700–950 ng/g), suggesting that the hormone was either decaying due to the age of the scat, or the individual may have recently been pregnant or in early stages of pregnancy.

**Table 11: Caves containing scat samples with elevated (> 970 ng/g) progesterone**

Cave	Oct 20	Feb 21	May 21	Jul 21	Sep 21	Jan 22	Mar 22	May 22	Total percentage of scats with elevated progesterone
<b>MS1072 Sites</b>									
SF01		-	-		-	-	-	-	0
SF02	-	-	-		-	-	-	-	0
SF03	-		-	-	-	-	Y	-	32
SF04**						-	-	-	0
SF05**	-	-	-	Y	Y	N	Y	-	42
SF06**	-	-	-		-	-	-	-	0
SF08**	Y	-	-	#	Y	-	Y	#	#
SF09					-	-	Y	-	5
SF14**	-	-	-	Y	-	-	-	-	50
SF18**		-		-	-	-	-	-	0
SF24		-		-	N	-	-	-	0
SF26**		-	-	-	-	-	-	-	0
SF27**	-	-	-	-	-	-	#	Y	#
SF28					Y	Y	-		19
SF30					Y	-	-	-	25
AC01**	-	-	-	-		-			0
AC02**	-	-	-	-	-	-	-	-	0
AC05**	-	-	-	-	-	-	-	-	0
AC08**	-	-	-	-	-	-	-	-	0
AC09**	N	Y	N	Y		Y			8
AC10	-	-	-			-	-	-	0
AC13**		-		-	N	-	-	-	0
AC14**		-	-	-	-				0
AC17**	-	-		-	Y	-	N	N	46
AC18**		-							0
<b>Reference Sites</b>									
ACW01	Y		N	-		-	-		8
ACW06	-			Y	-	-	-	-	20

Cave	Oct 20	Feb 21	May 21	Jul 21	Sep 21	Jan 22	Mar 22	May 22	Total percentage of scats with elevated progesterone
ACW08	Y		Y	Y	Y	Y	-		44
ACW10	Y		Y		Y		-		21
M01	Y		-	-	-		-	-	10
<b>Total</b>	<b>13</b>	<b>3</b>	<b>26</b>	<b>35</b>	<b>44</b>	<b>30</b>	<b>17</b>	<b>8</b>	<b>24</b>

‘-’ Denotes no scat(s) present during survey

\*\* FMP High Value Retained caves (including retain for 5 years)

# Scats were not collected due to presence of Ghost Bat individuals

(Blank) Means the cave was not visited during that monitoring round

#### 7.1.4.2 Pilbara Olive Python Opportunistic Sighting

Scheduled targeted monitoring was not required during the reporting period. One Pilbara Olive Python was observed as roadkill on Great Northern Highway within the activity area during the FY2022 reporting period. This roadkill was not attributable to BHP activities.

#### 7.1.5 Hydrological Regimes

Based on the monitoring undertaken during the FY2022 reporting period, BHP consider that the Program Matter Outcome:

*Program activities do not physically disturb, or result in adverse changes to the hydrological regimes and/or water quality of the following waterholes: Weeli Wolli Spring, Ben's Oasis;*

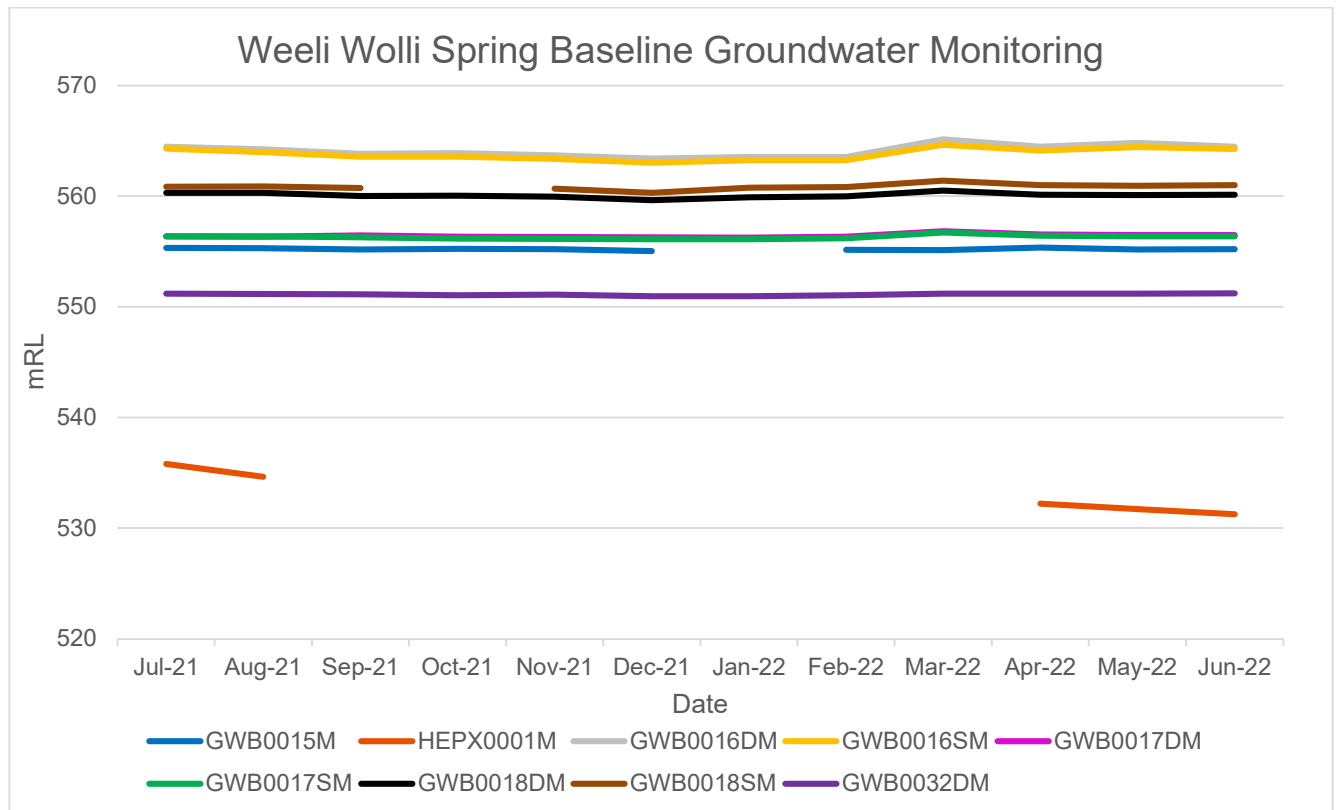
has been achieved during the reporting period.

Dewatering of R Deposit and South Flank deposits is not scheduled to commence within the next two years. Baseline groundwater level monitoring continued during the reporting period at the pathway and receptor bores for Weeli Wolli Spring (Table 12 and Figure 7.5) and Ben's Oasis (Table 13 and Figure 7.6).

**Table 12: Groundwater levels for baseline understanding – Weeli Wolli Spring**

Sample Point ID	Weeli Wolli Spring											
	FY22 (mRL)											
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
<b>Early Warning</b>												
GWB0015M	555.33	555.3	555.18	555.23	555.21	555.05		555.15	555.1	555.35	555.16	555.2
HEPX0001M	535.82	534.63				532.58				532.21	531.71	531.28
<b>At Receptor</b>												
GWB0016DM	564.45	564.21	563.82	563.88	563.66	563.4	563.54	563.52	565.12	564.44	564.8	564.46
GWB0016SM	564.27	563.96	563.57	563.57	563.36	563.01	563.23	563.24	564.64	564.1	564.43	564.24
GWB0017DM	556.36	556.34	556.43	556.33	556.29	556.27	556.26	556.32	556.83	556.52	556.46	556.47
GWB0017SM	556.37	556.35	556.27	556.16	556.13	556.11	556.11	556.17	556.73	556.41	556.35	556.37
GWB0018DM	560.28	560.28	560	560.02	559.93	559.65	559.88	559.96	560.5	560.13	560.1	560.13
GWB0018SM	560.85	560.86	560.72	-	560.68	560.3	560.74	560.81	561.41	560.98	560.94	560.97
GWB0032DM	551.17	551.16	551.11	551.05	551.08	550.96	550.95	551.03	551.17	551.18	551.18	551.21

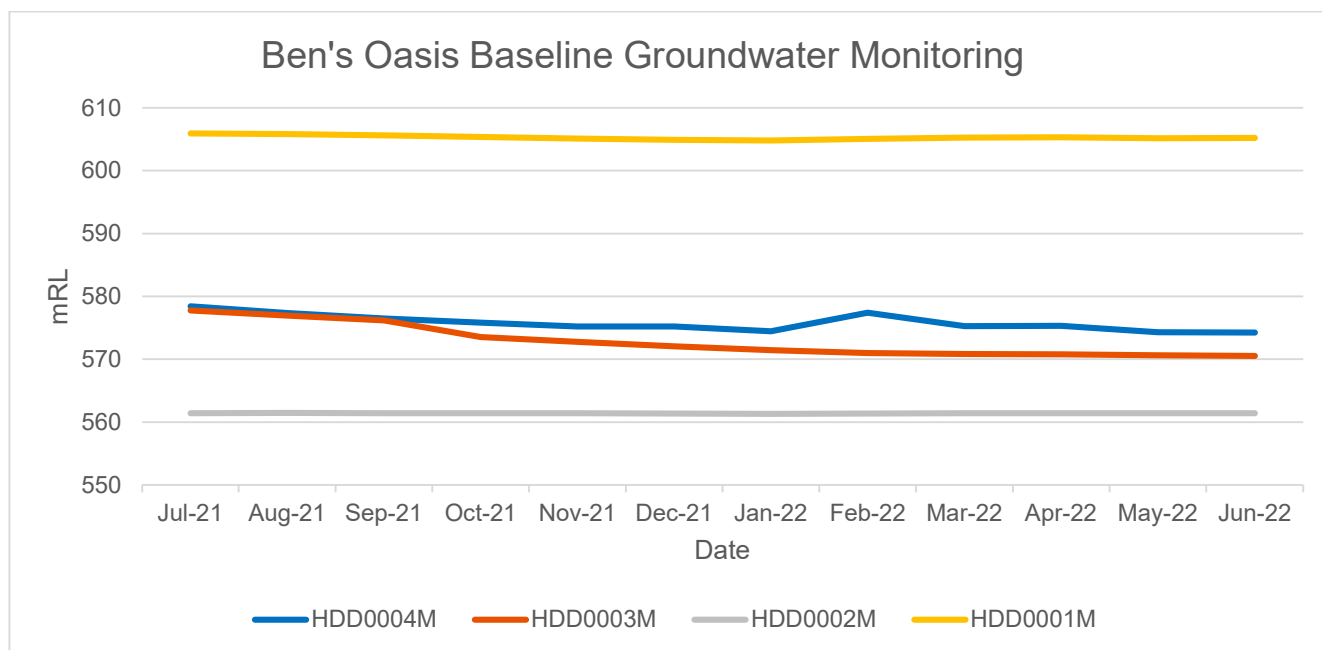
- Denotes that no reading was taken.



### Figure 7.5: Weeli Wolli Spring Groundwater Levels

**Table 13: Groundwater levels for baseline understanding – Ben’s Oasis**

Sample Point ID	Ben's Oasis											
	FY22 (mRL)											
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
Early Warning												
HDD0004M	578.44	577.33	576.48	575.81	575.18	575.19	574.45	577.37	575.25	575.29	574.27	574.24
HDD0003M	577.76	576.92	576.15	573.52	572.75	572.06	571.42	571	570.8	570.76	570.6	570.54
At Receptor												
HDD0002M	561.41	561.43	561.4	561.39	561.38	561.35	561.31	561.33	561.41	561.45	561.42	561.41
HDD0001M	605.96	605.8	605.59	605.34	605.12	604.88	604.82	605.06	605.26	605.32	605.17	605.18



**Figure 7.6: Ben's Oasis Groundwater Monitoring**

### 7.1.6 Management Commitments

No barbed wire fencing (within 50 km of the activity area) was removed or replaced during the reporting period. Metal bat deflectors were installed on security fences where barbed wire is a statutory design requirement, including the South Flank Security Storage Ammonium Nitrate (SSAN) and the 33kV substation. Barbed wire fencing surrounding the Mining Area C Communication Tower was removed during FY2022. Planning and stakeholder identification is ongoing to identify areas of barbed wire fencing, which are located on third party-owned assets, that can be removed or replaced.

### 7.1.7 Offsets

The MAC Offsets Proposal was submitted 14 December 2018 and is currently under assessment. Consultation with the Department regarding the Proposal is ongoing.

## 7.2 Jimblebar Optimisation Project

Mining operations at Jimblebar are located approximately 40 kilometres east of the town of Newman.

Existing mining operations include above and below water table mining of open iron ore pits, overburden storage areas and the operation of associated mine, processing and rail infrastructure. Groundwater is abstracted for water supply and to dewater the orebodies. Surplus water management includes transfer to Ophthalmia Dam, controlled creek discharge and MAR. New overburden storage areas to the south of the existing operation and additional water management options in the Caramulla area include MAR and Caramulla Creek discharge.

The Jimblebar Optimisation Project Validation Notice came into effect on the 8 June 2020.

### 7.2.1 Validation Notice Deviations

No non-compliances (deviations) with the Jimblebar Optimisation Validation Notice were identified during the reporting period.

### 7.2.2 Program Matter Monitoring and Outcomes for FY22

Ghost Bat monitoring was required for the reporting period under the Validation Notice (refer to Table 14). Populations of the Greater Bilby, Pilbara Olive Python, Pilbara Leaf-Nosed Bat and Northern Quoll were not required for the reporting period under the Validation Notice.

**Table 14: VN Program Matter Monitoring Required in FY 2022 Reporting Period**

Monitoring	Parameters	Performance Targets	Timing	Program Matter Outcome
Monitoring Ghost Bat presence and usage of the activity area.	Presence/absence of Ghost Bat.	Presence or evidence of presence of Ghost Bat at all seven Ghost Bat caves during one monitoring event.	Six monthly monitoring.	No loss of Ghost Bat population/s as a result of Program Activities.

### 7.2.3 Population Monitoring

Based on the Ghost Bat monitoring conducted during the FY2022 reporting period, BHP considers that the following Program Matter Outcome has been achieved for the FY2022 reporting period:

*No loss of Ghost Bat population/s as a result of Program activities*

Ghost Bat monitoring results are discussed in the following section.

#### 7.2.3.1 Ghost Bat Monitoring

##### Sampling

In FY2022, three field trips were undertaken to determine presence/absence of Ghost Bats from scat deposits in caves within or adjacent to the activity (refer to Table 15). Additional assessment for presence/absence of Ghost Bats was also undertaken using ultrasonic devices. Ghost Bat presence was found during all three field trips as outlined below.

##### September 2021

Twelve caves were surveyed and approximately 1000 scats and one Ghost Bat individual were recorded in cave SC-02, showing evidence of Ghost Bat presence. Three caves (JBW-02, CAV-04 and CAV-20) were not able to be accessed due to heritage restrictions.

##### February 2022

Fifteen caves were surveyed with no Ghost Bat scats recorded. Analysis of the ultrasonic data found calls at JBW-31 cave, suggested foraging and roosting within the cave and presence of Ghost Bats

##### June 2022

Fifteen caves were surveyed, with 35 Ghost Bat scats recorded at CAV-05, two scats recorded at CAV-15 and five scats recorded at JBW-31. Further investigation of ultrasonic data for JBW-31 found continuous roosting of

up to 5 bats. As part of a broader monitoring program, scat genetic analysis and hormone analysis will be undertaken when additional scat has been collected.

### Discussion

During the FY22 monitoring, a minimum of 12 caves were monitored during three surveys. While the performance target for the Ghost Bat was not met, BHP considers that the following Program Matter Outcome has been achieved for the FY2022 reporting period due to:

- The baseline information provided in the Jimblebar Optimisation VN identified seven (7) potential Ghost Bat caves. Of these caves, four had recorded use by Ghost Bats (one with recently deposited scats and three with old scats). The remaining three caves did not have evidence of use, however were assessed as potential day roosts, based on the structure and features of the caves and their suitability to support Ghost Bats. Based on this information there is an error in the performance target as Ghost Bats have not occupied the same seven caves at Jimblebar during the baseline surveying. The data for this reporting period suggests that the use and occupancy of the Ghost bats at the caves monitored is consistent with the baseline data. Based on the baseline and monitoring data, BHP intends to amend the Jimblebar Validation Notice performance target.
- In accordance with the management responses included in the Jimblebar Validation Notice, BHP reviewed other Ghost Bat monitoring programs. Monitoring data sourced from Ghost Bat caves at Mining Area C and South Flank show that Ghost Bat individuals tend to move between multiple caves and the larger region. The Jimblebar monitoring data shows similar patterns with Ghosts Bats moving through the landscape and limited evidence of consistent long-term use of a single cave.

**Table 15: Jimblebar caves monitored**

CAVE ID	SEPTEMBER 2021	FEBRUARY 2022	JUNE 2022
JBW-02*	-	✓	✓
JBW-31**	✓	✓	✓
CAV-04	-	✓	✓
CAV-05	✓	✓	✓
CAV-06	✓	✓	✓
CAV-07	✓	✓	✓
CAV-08	✓	✓	✓
CAV-09	✓	✓	✓
CAV-14	✓	✓	✓
CAV-15	✓	✓	✓
CAV-17	✓	✓	✓
CAV-18	✓	✓	✓
CAV-20	-	✓	✓
SC-01	✓	✓	✓
SC-02	✓	✓	✓

Note: \*JBW-02 is 5.2km from the activity area and \*\*JBW-31 is 5.1km from the activity area

### 7.2.4 Land Disturbance Reconciliation

Disturbance undertaken during the reporting period under the Jimblebar Optimisation Validation Notice is detailed in Table 7. Disturbance to habitats for each Program Matter remains below the impacts described in the Jimblebar



Optimisation Project Validation Notice (Table 16). The disturbance of habitats for all the Program Matters is shown in Table 16, Figure 7.7 and Figure 7.8.

**Table 16: Jimblebar Optimisation VN Disturbance**

Habitat	Activity disturbance 2020/21 (ha)	Total Disturbance up to June 2022 (ha)	Jimblebar Predicted Disturbance (ha)
<b>Ghost Bat</b>			
Gorge and Gully	0	0	1
Major drainage line	3.06	3.46	33
<b>Pilbara Olive Python</b>			
Gorge and Gully	0	0.00	1
Major drainage line	0	3.46	33
Pools	0	0	0
<b>Greater Bilby</b>			
Sandplain	97.85	152.73	261
Mulga Woodland	20.03	67.26	447
<b>Pilbara Leaf-nosed bat</b>			
Gorge and Gully	0	0.00	1
Major drainage line	0	3.46	33
Pools	0	0	0
<b>Northern Quoll</b>			
Gorge and Gully	0	0	1
Major drainage line	0	3.46	33

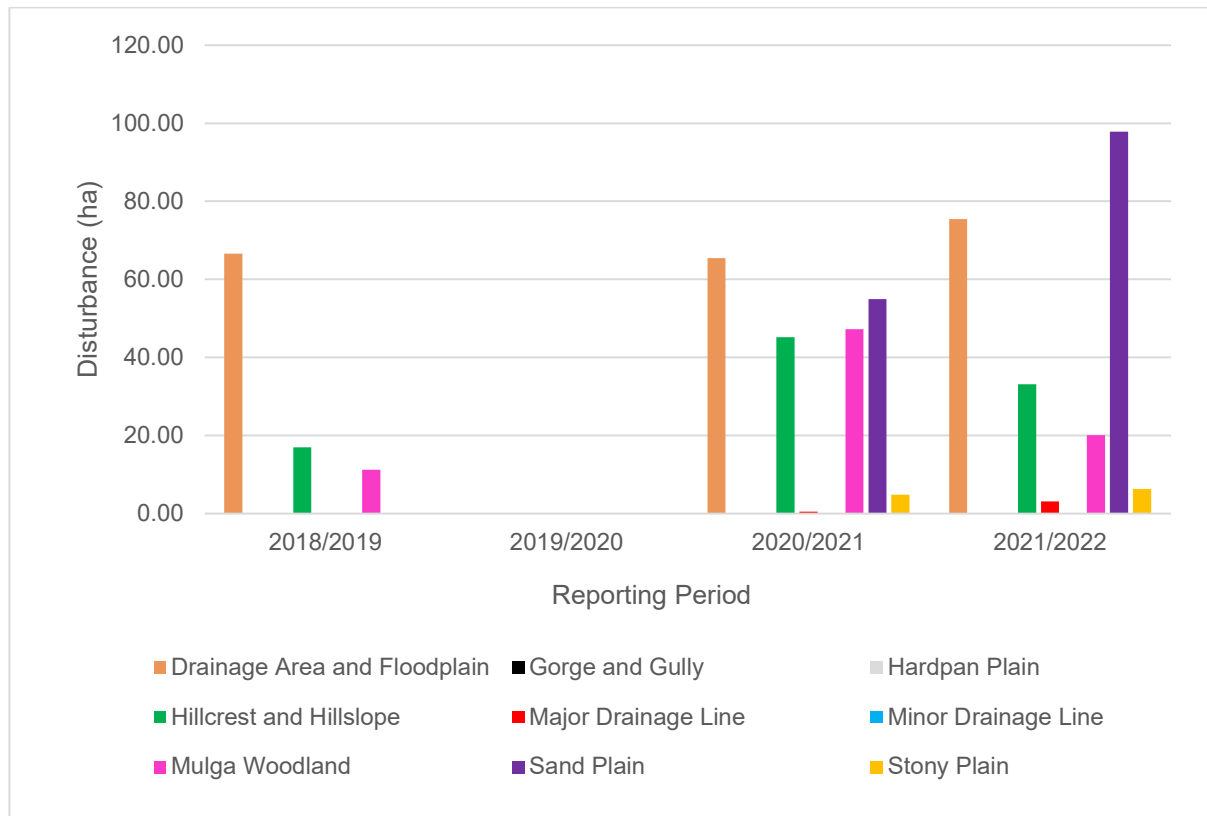


Figure 7.7: SEA Jimblebar Optimisation VN Clearing by Habitat July 2018 to June 2022

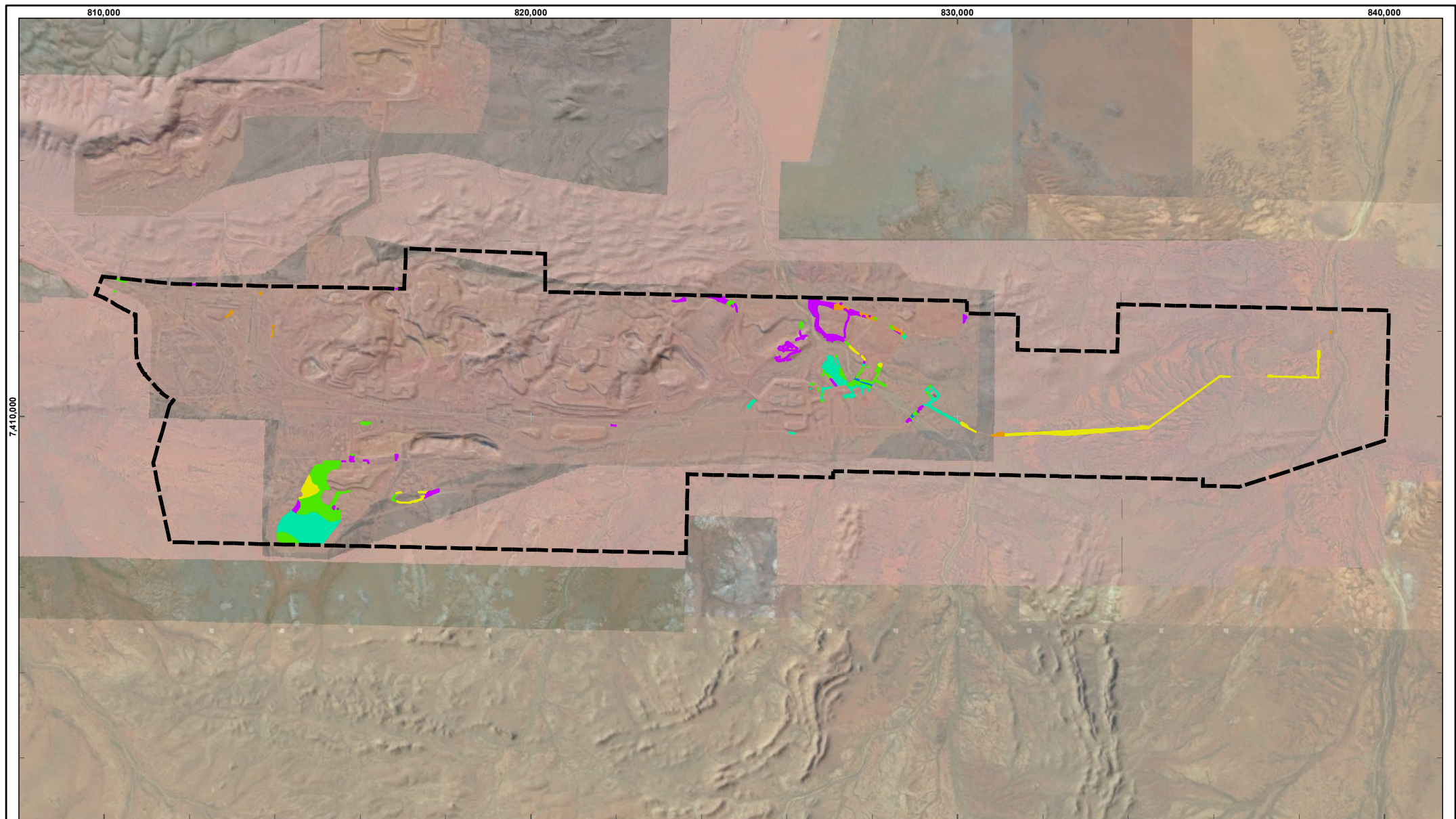
### 7.2.5 Management Commitments

Pre-clearance surveys were undertaken for Greater Bilby's to determine if individuals were present within the proposed clearing area. Surveys were carried out by a minimum of two personnel who walked approximately 20 to 30 m apart and parallel to each other to provide adequate on-ground coverage to identify any Bilbies or active burrows. During the traverses, all evidence observed was recorded including burrows, footprints, foraging signs and scats. Approximately 98 hectares of sandplain and 20 hectares of mulga habitat were cleared this reporting period with pre-clearing surveys being completed. During the FY2022 reporting period, no evidence of any individuals/populations or active burrows of Greater Bilby were identified within the activity area surveyed (Table 17).

Table 17: Bilby pre-ground disturbance surveys completed in FY2022

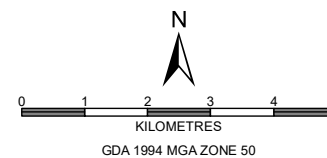
Survey date	Survey location	Evidence of Bilby?
01/11/2021	Hashimoto	No
02/05/2022	Hashimoto	No
06/05/2022	South Jimblebar	No
12/05/2022	South Jimblebar	No
16/05/2022	South Jimblebar	No
20/05/2022	South Jimblebar	No
21/05/2022	South Jimblebar	No
22/05/2022	South Jimblebar	No
23/05/2022	Hashimoto	No
01/06/2022	South Jimblebar	No

Survey date	Survey location	Evidence of Bilby?
02/06/2022	South Jimblebar	No
03/06/2022	South Jimblebar	No
05/06/2022	South Jimblebar	No



# Ministerial Statement 1126 Jimblebar Optimisation Validation Notice Disturbance

- Major Drainage Line (FY 22 - 3.1 ha)
- Drainage Area/ Floodplain (FY 22 - 75.5 ha)
- Hillcrest/ Hillslope (FY 22 - 33.1 ha)
- Mulga Woodland (FY 22 - 20.0 ha)
- Sand Plain (FY 22 - 97.8 ha)
- Stony Plain (FY 22 - 6.3 ha)



**BHP**

**INTERNAL**

## JIMBLEBAR - VALIDATION NOTICE DISTURBANCE 2021/2022 REPORTING PERIOD

PLANNING & STANDARDS - IRON ORE

SCALE @ A4:	1:120,000	PREPARED:	P. GANT	FIGURE:	7.8
DATE:	2/09/2022	REQUESTOR:	ENV APPROVALS	NO:	1098/7A
		REVIEWED:	S. TRINDER		