BHP Nickel West Mt Keith Satellite Project

COMPLIANCE ASSESSMENT REPORT

ASSESSMENT No. 2122

MINISTERIAL STATEMENT No. 1087

27 March 2020



Endorsement

I have reviewed this Compliance Assessment Report, and accept that the information provided is an accurate account of the activities undertaken in the prior 12 month reporting period, with respect to *Ministerial Statement 1087, Nickel West Mt Keith Satellite Project.*

Chris Stone General Manager Northern Operations BHP Nickel West

Executive Summary

Nickel West received Ministerial Statement 1087 on 28 December 2018, approving the proposal of the Mt Keith Satellite Project. Works on the Mt Keith Satellite project commenced in February 2019, upon approval of the Mt Keith Satellite Mining Proposal. Clearing and stripping of topsoil has been completed for initial operating areas, primarily being Six Mile Well pit, a portion of the Waste Rock Landform footprint and the Mine Ore Pad.

Operation of the MKS project commenced with Stage 1 of the Six Mile Well pit, with ore mined in the second half of 2019. The construction of the project continues, with Goliath pit and the remaining waste landform not yet operational, along with other secondary supporting infrastructure requirements.

There were no non-compliances reported in the reporting period.

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1. Introduction

Nickel West proposed to develop a nickel mine as a satellite operation to the existing Mt Keith Mine (NMK). Mt Keith Satellite Project (MKS) is located approximately 20 km south of NMK, 80 km north of Leinster, and intersects the Shire of Leonora and Shire of Wiluna. The Project has been assessed (Assessment No. 2122) by the Environmental Protection Authority and a Statement that the Project may be Implemented issued by the Minister for the Environment on 27 December 2018 (Ministerial Statement No. 1087).

Mined ore is transported via haulage to Mt Keith Mine, located approximately 20 km north of the satellite operation, to be processed at the existing concentrator.

2. Purpose and Scope

This Compliance Assessment Report (CAR) has been developed to meet the requirements of Conditions 4-1 and 4-2 of Ministerial Statement No. 1087.

Ministerial Statement No. 1087 was issued on 28 December 2018, in accordance with Condition 4-6 the first compliance report has been submitted 15 months from the date of issue (being 28 March 2020).

The Mt Keith Satellite Project Compliance Assessment Plan (CAP), dated 26 September 2019 (Revision 1) was approved on 9 October 2019. This Report is prepared in accordance with the approved CAP and covers a reporting period of 28 December 2018 to 27 December 2019.

3. Project Status

Nickel West commenced construction of the Mt Keith Satellite project in February 2019, with initial clearing activities resulting in 598 hectares of native vegetation cleared at 28 February 2020.

Major milestones achieved during the reporting period include:

- Completed construction of the transport corridor from NMK to MKS
- Commenced development of the Six Mile Well pit, (Stages 1 and 2)
- Commenced development of the Goliath Pit (Stage 1)
- Constructed the Run of Mine (ROM)

The MKS operation commenced mining of the Stage 1 of the Six Mile Well pit in late 2019, achieving the first ore delivered to the NMK concentrator in January 2020. Ore supplied from MKS is now the majority feed processed at the Mt Keith operation.

Construction of the project continues, with major milestones yet to achieve including:

- Continue vegetation and topsoil stripping, as required
- Commence mining from Goliath Pit
- Construction and commissioning of supporting infrastructure

4. Statement of Compliance

Nickel West has no non-compliances, or potential non compliances, with any Ministerial Statement 1087 conditions.

A completed audit table is provided in section 4.1, outlining compliance against the Ministerial Conditions. The Statement of Compliance (PAF2-Statement of Compliance – 2018) is provided in the appendices.

AUDIT TABLE MKS Satellite Project, Statement No.1087

Phases that apply in this table = Pre-Construction, Construction, Operation, Decommissioning, Overall (several phases).
This audit table is a summary and timetable of conditions and commitments applying to this project. Refer to the Minister's Statement for full detail/precise wording of individual elements.

Code prefixes: M = Implementation conditions P = Proponent's commitment; N = Procedure.
Compliance status: C = Compliant, CLD = Completed, NC = Non-compliant, NR = Not required at this stage. Please note terms NA = Not Audited and VR = Verification Required are only for EPA use. IP = In Process may only be used by the proponent in circumstances outlined in Section 2.8 of the *Post Assessment Guideline for Preparing an Audit Table.*

Table 1: Mt Keith Satellite Operation Audit Table, completed for initial 12 months of project.

Audit Code	Subject	Requirement	How	Evidence	Phase	Timeframe	Status	Further Information
1087:M1.1	Proposal Implementation	When implementing the proposal, the proponent shall not exceed the authorised extent of the proposal as defined in Table 2 of Schedule 1, unless amendments to the proposal and the authorised extent of the proposal have been approved under the EP Act.	Implement the Project in accordance with criteria outlined in Schedule 1.	Compliance Assessment Reports.	Overall	For the life of the Proposal.	Compliant	Nickel West has not exceeded the extent of proposal as defined in Table 2 of Schedule 2. 598 ha of native vegetation within the 1259 ha development envelope has been cleared. 0.11 GL of pit dewatering has occurred within the first 12 months, below the 0.4 GL permitted per year.
1087:M2.1	Contact Details	The proponent shall notify the CEO of any change of its name, physical address or postal address for the serving of notices or other correspondence within twenty-eight (28) days of such change. Where the proponent is a corporation or an association of persons, whether incorporated or not, the postal address is that of the principal place of business or of the principal office in the State.	Notify the CEO of any change in proponent details.	Written notification to the CEO of any change in proponent details.	Overall	Within 28 days of such change.	Compliant	No changes to proponent name, physical address or postal address during reporting period.
1087:M3.1	Time Limit for Proposal Implementation	The proponent shall not commence implementation of the proposal after five (5) years from the date on this Statement, and any commencement, prior to this date, must be substantial.	Notify the CEO advising proposal has not commenced implementation.	Written notification to the CEO.	Overall	After 28 December 2023.	Completed	Project construction commenced in February 2019.
1087:M3.2	Time Limit for Proposal Implementation	Any commencement of implementation of the proposal, on or before five (5) years from the date of this Statement, must be demonstrated as substantial by providing the CEO with written evidence, on or before the expiration of five (5) years from the date of this Statement.	N/A.	Compliance Assessment Reports.	Overall	Within 5 years from the date of Statement 1087, being on or before 28 December 2023.	Completed	Project construction commenced in February 2019, significant progress completed in implementing the project. This report demonstrates substantial progress made in implementing project.
1087:M4.1	Compliance Reporting	The proponent shall prepare, and maintain a Compliance Assessment Plan which is submitted to the CEO at least six (6) months prior to the first Compliance Assessment Report required by condition 4-6, or prior to implementation of the proposal, whichever is sooner.	Submit Compliance Assessment Plan to the CEO.	Compliance Assessment Plan (this document).	Pre- construction	At least six (6) months prior to the first Compliance Assessment Report required by condition 4-6, or prior to implementation of the proposal, whichever is sooner.	Compliant	The MKS Compliance Assessment Plan (Revision 1) was submitted to the CEO on 26 September 2019, approved 9 October 2019. Nickel West continues to review the CAP.
1087:M4.2	Compliance Reporting	 The Compliance Assessment Plan shall indicate: (1) the frequency of compliance reporting; (2) the approach and timing of compliance assessments; (3) the retention of compliance assessments; (4) the method of reporting of potential non-compliances and corrective actions taken; (5) the table of contents of Compliance Assessment Reports; and (6) public availability of Compliance Assessment Reports. 	Submit Compliance Assessment Plan to the CEO.	Compliance Assessment Plan (this document).	Pre- construction	At least six (6) months prior to the first Compliance Assessment Report required by condition 4-6, or prior to implementation of the proposal, whichever is sooner.	Compliant	The Compliance Assessment Plan (Revision 1), approved on 9 October 2019, includes all components of MS1087 Condition 4.2.

Audit Code	Subject	Requirement	How	Evidence	Phase	Timeframe	Status	Further Information
1087:M4.3	Compliance Reporting	After receiving notice in writing from the CEO that the Compliance Assessment Plan satisfies the requirements of condition 4-2 the proponent shall assess compliance with conditions in accordance with the Compliance Assessment Plan required by condition 4-1.	Implementation of Compliance Assessment Plan.	Notice in writing from the CEO and Compliance Assessment Reports.	Overall	Ongoing as per requirements of CAP.	Compliant	Notice in writing was received on 9 October 2019 from the CEO, that the Compliance Assessment Plan satisfies Condition 4.2. Assessment of compliance subsequently completed in preparation for Compliance Assessment Report.
1087:M4.4	Compliance Reporting	The proponent shall retain reports of all compliance assessments described in the Compliance Assessment Plan required by condition 4-1 and shall make those reports available when requested by the CEO.	Retain records in accordance with Compliance Assessment Plan.	Written response to request by CEO.	Overall	When requested by CEO.	Compliant	Compliance assessment reports will be retained by Nickel West, and made available to the CEO if requested.
1087:M4.5	Compliance Reporting	The proponent shall advise the CEO of any potential non-compliance within seven (7) days of that non-compliance being known.	Notification of the CEO via an email to <u>compliance@dwer.wa.gov.au</u> which will include any corrective actions taken to address the potential non- compliance.	Written correspondence to CEO.	Overall	Within 7 days of the potential non- compliance being known.	Compliant	No non-compliances recorded for the reporting period. Nickel West will advise the CEO of any non-compliances within 7 days.
1087:M4.6.1	Compliance Reporting	The proponent shall submit to the CEO the first Compliance Assessment Report fifteen (15) months from the date of issue of this Statement addressing the twelve (12) month period from the date of issue of this Statement and then annually from the date of submission of the first Compliance Assessment Report, or as otherwise agreed in writing by the CEO.	Submit Compliance Assessment to the CEO.	Compliance Assessment Reports.	Overall	The first report to be submitted by 28 March 2020 and from then on annual by 28 March each year.	Compliant	In compliance with Condition 4.6.1, this report has been completed and provided to the CEO within 15 months of MS1087 being issued. Nickel West will provide the next report by 28 March 2021.
1087:M4.6.2	Compliance Reporting	 The Compliance Assessment Report shall: (1) be endorsed by the proponent's Chief Executive Officer or a person delegated to sign on the Chief Executive Officer's behalf; (2) include a statement as to whether the proponent has complied with the conditions; (3) identify all potential non-compliances and describe corrective and preventative actions taken; (4) be made publicly available in accordance with the approved Compliance Assessment Plan; and (5) indicate any proposed changes to the Compliance Assessment Plan required by condition 4-1. 	Compliance Assessment Report developed in accordance with the approved Compliance Assessment Plan.	Compliance Assessment Reports.	Overall	The first report to be submitted by 28 March 2020 and from then on annual by 28 March each year.	Compliant	 (1)(2) A delegate of the Chief Executive Officer has endorsed this Compliance Assessment Report, which included is the statement of compliance. (3) No non-compliance, or potential non- compliances, were identified during the reporting period. (4) This Compliance Assessment Report will be made publicly available in accordance with the approved Compliance Assessment Plan. (5) No changes to the Compliance Assessment Plan have been proposed.
1087:M5.1	Public Availability of Data	Subject to condition 5-2, within a reasonable time period approved by the CEO of the issue of this Statement and for the remainder of the life of the proposal the proponent shall make publicly available, in a manner approved by the CEO, all validated environmental data (including sampling design, sampling methodologies, empirical data and derived information products (e.g. maps)) management plans and reports relevant to the assessment of this proposal and implementation of this Statement.	To be determined in consultation with CEO.	Written advice from CEO confirming manner approved.	Overall	To be determined in consultation with the CEO.	Compliant	Environmental data and reports relevant to the assessment of this proposal have been made available, as approved by the CEO.
1087:M5.2	Public Availability of Data	If any data referred to in condition 5-1 contains particulars of: (1) a secret formula or process; or (2) confidential commercially sensitive information; the proponent may submit a request for approval from the CEO to not make these data publicly available. In making such a request the proponent shall provide the CEO with an explanation and reasons why the data should not be made publicly available.	Proponent request to CEO to not make certain data publicly available, including explanation and reason why.	Notice in writing to CEO notifying of any information not to be made publicly available.	Overall	As required from time to time.	Not required at this stage	Not applicable.
1087:M6.1	Flora and Vegetation Management Plan	The proponent shall implement the proposal to meet the following environmental objective: (1) Avoid, where possible, and minimise indirect impacts as far as practicable to Priority flora, the Violet Range PEC and the Wanjarri Nature Reserve.	Implement the proposal in accordance with the Flora and Vegetation Environmental Management Plan (FVEMP).	MKS FVEMP. Compliance Assessment Reports.	Overall	The first report to be submitted by 28 March 2020 and from then on annual by 28 March each year.	Compliant	Nickel West has implemented the proposal to avoid impacting Priority flora, the Violet Range PEC and the Wanjarri Nature Reserve where possible.
1087:M6.2	Flora and Vegetation Management Plan	In order to meet the requirements of condition 6-1, the proponent shall implement the Flora and Vegetation Environmental Management Plan (Version 0, September 2018).	Implement the proposal in accordance with the FVEMP.	MKS FVEMP Compliance Assessment Reports.	Overall	Throughout the life of the Project. Annual compliance	Compliant	Nickel West has implemented the Flora and Vegetation Management Plan (Version 0, September 2018).

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Audit Code	Subject	Requirement	How	Evidence	Phase	Timeframe	Status	Further Information
				Written notice from CEO confirming the		assessment reporting commencing 28 March 2020. Throughout the life of the Project.		
1087:M6.3	Flora and Vegetation Management Plan	The proponent shall implement the most recent version of the Flora and Vegetation Environmental Management Plan which the CEO has confirmed by notice in writing, addresses the requirements of condition 6-1, on advice of the Department of Biodiversity, Conservation and Attractions.	Implement the current and most recent version of the FVEMP.	FVEMP addresses condition 6-1, on advice from DBCA. Compliance Assessment Reports	Overall	Annual compliance assessment reporting commencing 28 March 2020.	Compliant	Nickel West has implemented the Flora and Vegetation Management Plan (Version 0, September 2018).
1087:M6.4	Flora and Vegetation Management Plan	The proponent shall continue to implement the Flora and Vegetation Environmental Management Plan (Version 0, September 2018), or any subsequent revisions as approved by the CEO in condition 6-3, until the CEO has confirmed by notice in writing that the plan meets the objective specified in condition 6-1.	Implement the current and most recent version of the FVEMP.	Compliance Assessment Reports. Written notice from CEO confirming that the objective specified in condition 6-1 has been met.	Overall	Throughout the life of the Project until CEO confirms in writing that the objective specified in condition 6-1 has been met. Annual compliance assessment reporting commencing 28 March 2020.	Compliant	Nickel West has implemented the Flora and Vegetation Management Plan (Version 0, September 2018).
1087:M7.1	Aboriginal Heritage	Prior to the commencement of ground-disturbing activities, the proponent shall consult with the Tjiwarl Native Title Claim Group and ensure that the proponent has complied with its obligations under the <i>Aboriginal Heritage Act 1972</i> .	Consult with the Tjiwarl Native Title Claim Group and comply with obligations under the <i>Aboriginal Heritage Act 1972.</i>	Compliance Assessment Report.	Pre- construction	Prior to commencement of ground-disturbing activities.	Compliant	Prior to the commencement of ground- disturbance, Nickel West consulted with the Tjwarl Native Title Claim Group. Regular consultation continues to occur in the form of scheduled meetings and additional informal consultation as required on an ongoing basis. Nickel West has complied with all obligations under the <i>Aboriginal Heritage</i> <i>Act 1972.</i>
1087:M8.1	Greenhouse Gas Reporting	The proponent shall publicly report the greenhouse gas emissions from the proposal on an annual basis, in a manner approved by the CEO.	To be determined in consultation with CEO.	Written notice form CEO approving manner of reporting.	Overall	Throughout the life of the Project. Annual reporting in accordance with the National Greenhouse and Energy Reporting Scheme (NGERS).	Compliant	Nickel West reports greenhouse gas emissions in accordance with the National Greenhouse and Energy Reporting Scheme.

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5. Proposed changes to the CAP

Nickel West proposes no change to the CAP dated 26 September 2019 (Revision 1) and approved 9 October 2019. On an annual basis Nickel West is to complete an assessment of compliance with all conditions of Statement No. 1087, as outlined in the Audit Table provided in Section 2.5 of the approved CAP.

6. Appendices

6.1 BHP Nickel West Statement of Compliance

Statement of Compliance

1. Proposal and Proponent Details

Proposal Title	MT KEITH SATELLITE PROJECT
Statement Number	Statement No. 1087
Proponent Name	BHP Billiton Nickel West Pty Ltd
Proponent's Australian Company Number (where relevant)	Australian Company Number 004 184 598

2. Statement of Compliance Details

Reporting Period	28/12/18 to 27/12/19

Implementation phase(s) during reporting period (please tick ✓ relevant phase(s))							
Pre-construction		Construction	\checkmark	Operation	\checkmark	Decommissioning	

Audit Table for Statement addressed in this Statement of	2
Compliance is provided at Attachment:	2

An audit table for the Statement addressed in this Statement of Compliance must be provided as Attachment 2 to this Statement of Compliance. The audit table must be prepared and maintained in accordance with the Department of Water and Environmental Regulation (DWER) *Post Assessment Guideline for Preparing an Audit Table*, as amended from time to time. The 'Status Column' of the audit table must accurately describe the compliance status of each implementation condition and/or procedure for the reporting period of this Statement of Compliance. The terms that may be used by the proponent in the 'Status Column' of the audit table are limited to the Compliance Status Terms listed and defined in Table 1 of Attachment 1.

Were all implementation conditions and/or procedures of the Statement complied with within the reporting period? (please tick \checkmark the appropriate box)						
No (please proceed to Section 3)	Yes (please proceed to Section	4)				

Each page (including Attachment 2) must be initialed by the person who signs Section 4 of this Statement of Compliance. INITIALS: CS



3. Details of Non-compliance(s) and/or Potential Non-compliance(s)

The information required Section 3 must be provided for each non-compliance or potential non-compliance identified during the reporting period covered by this Statement of Compliance.

Non-compliance/potential non-compliance 3-1

Which implementation condition or procedure was non-compliant or potentially non-compliant?
Was the implementation condition or procedure non-compliant or potentially non-compliant?
On what date(s) did the non-compliance or potential non-compliance occur (if applicable)?

Was this non-compliance or potential non-compliance reported to the Chief Executive Officer,	
DWER?	

Yes

Reported to DWER verbally
 Reported to DWER in writing

Date _____ Date _____

🗆 No

What are the details of the non-compliance or potential non-compliance and where relevant, the extent of and impacts associated with the non-compliance or potential non-compliance?

What is the precise location where the non-compliance or potential non-compliance occurred (if applicable)? (please provide this information as a map or GIS co-ordinates)

What was the cause(s) of the non-compliance or potential non-compliance?

What remedial and/or corrective action(s), if any, were taken or are proposed to be taken in response to the non-compliance or potential non-compliance?

What measures, if any, were in place to prevent the non-compliance or potential non-compliance before it occurred? What, if any, amendments have been made to those measures to prevent re-occurrence?

Please provide information/documentation collected and recorded in relation to this implementation condition or procedure:

- in the reporting period addressed in this Statement of Compliance; and
- as outlined in the approved Compliance Assessment Plan for the Statement addressed in this Statement of Compliance.

(the above information may be provided as an attachment to this Statement of Compliance)

For additional non-compliance or potential non-compliance, please duplicate this page as required.

Each page (including Attachment 2) must be initialed by the person who signs Section 4 of this Statement of Compliance. INITIALS: CS

4. Proponent Declaration

I, Christopher Stone, (full name and position title)

declare that I am authorised on behalf of BHP Nickel West Asset President,

(being the person responsible for the proposal) to submit this form and that the information contained in this form is true and not misleading.

Date: 27/03/2020

Please note that:

Signature:

- it is an offence under section 112 of the *Environmental Protection Act 1986* for a person to give or cause to be given information that to his knowledge is false or misleading in a material particular; and
- the Chief Executive Officer of the DWER has powers under section 47(2) of the *Environmental Protection Act 1986* to require reports and information about implementation of the proposal to which the statement relates and compliance with the implementation conditions.

5. Submission of Statement of Compliance

One hard copy and one electronic copy (preferably PDF on CD or thumb drive) of the Statement of Compliance are required to be submitted to the Chief Executive Officer, DWER, marked to the attention of Manager, Compliance (Ministerial Statements).

Please note, the DWER has adopted a procedure of providing written acknowledgment of receipt of all Statements of Compliance submitted by the proponent, however, the DWER does not approve Statements of Compliance.

6. Contact Information

Queries regarding Statements of Compliance, or other issues of compliance relevant to a Statement may be directed to Compliance (Ministerial Statements), DWER:

Manager, Compliance (Ministerial Statements)

Department of Water and Environmental Regulation

Postal Address:Locked Bag 10
Joondalup DC
WA 6919Phone:(08) 6364 7000Email:compliance@dwer.wa.gov.au

7. Post Assessment Guidelines and Forms

Post assessment documents can be found at www.epa.wa.gov.au

ATTACHMENT 1

Table 1 Compliance Status Terms

Compliance Status Terms	Abbrev	Definition	Notes
Compliant	С	Implementation of the proposal has been carried out in accordance with the requirements of the audit element.	 This term applies to audit elements with: ongoing requirements that have been met during the reporting period; and requirements with a finite period of application that have been met during the reporting period, but whose status has not yet been classified as 'completed'.
Completed	CLD	A requirement with a finite period of application has been satisfactorily completed.	 This term may only be used where: audit elements have a finite period of application (e.g. construction activities, development of a document); the action has been satisfactorily completed; and the DWER has provided written acceptance of 'completed' status for the audit element.
Not required at this stage	NR	The requirements of the audit element were not triggered during the reporting period.	This should be consistent with the 'Phase' column of the audit table.
Potentially Non-compliant	PNC	Possible or likely failure to meet the requirements of the audit element.	This term may apply where during the reporting period the proponent has identified a potential non-compliance and has not yet finalized its investigations to determine whether non-compliance has occurred.
Non-compliant	NC	Implementation of the proposal has not been carried out in accordance with the requirements of the audit element.	This term applies where the requirements of the audit element are not "complete" have not been met during the reporting period.
In Process	IP	Where an audit element requires a management or monitoring plan be submitted to the DWER or another government agency for approval, that submission has been made and no further information or changes have been requested by the DWER or the other government agency and assessment by the DWER or other government agency for approval is still pending.	The term 'In Process' may not be used for any purpose other than that stated in the Definition Column. The term 'In Process' may not be used to describe the compliance status of an implementation condition and/or procedure that requires implementation throughout the life of the project (e.g. implementation of a management plan).

Each page (including Attachment 2) must be initialed by the person who signs Section 4 of this Statement of Compliance. INITIALS: CS

6.2 Flora and Vegetation Environment Management Plan

The Flora and Vegetation Environmental Management Plan (FVEMP) was implemented during the reporting period, key components include:

- Priority flora individuals and populations identified for the ongoing monitoring of potential impacts, as summarised in Table 2.
- Representative vegetation condition monitoring quadrats identified, in total 34 sites have been installed including 8 within Wanjarri Nature Reserve.

Table 2: Summary of priority flo	ora species identified for monitoring
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Taxon & Conservation Status	# Loci Close to Mine Development	# Loci as Controls	# Tagged Plants Close to Mine Development	# Tagged Plants as Controls
		1		
Hibbertia sp. Sherwood Breakaways		Within Wanjarri		
(RJ Cranfield 6771) Priority 2	2	Nature Reserve	50	25
		1		
Verticordia jamiesonii		Within Wanjarri		
Priority 3	1	Nature Reserve	25	22
Hybanthus floribundus subsp.				
chloroxanthus				
Priority 3	2	1	28	12
Eremophila sp. long pedicels (G.				~ 100* in the
Cockerton 1975) Priority 2	0	1	0	population

In 2017 a large rainfall event occurred in March, with additional winter and spring rain experienced throughout the remainder of the year. Since 2017 poor seasonal conditions were experienced until a large event occurred in January 2020, as observed in Figure 1. This has resulted in predominantly healthy flora condition observed in 2018, prior to the project commencing in February 2019, as summarised in Table 3.

Table 3: Seasonal conditions experienced for the flora monitoring rounds completed.

Monitoring Period	Seasonal Conditions Observed	
	Some winter and spring rainfall received, plants healthy and some individuals flowering, however, seasonal conditions	
Dec-18	dry rapidly and no viable seed is set on any plants monitored	
	Very dry seasonal conditions, no effective rainfall received in prior 3 months, plants demonstrating normal over-	
Mar-19	summering response.	
	Very dry seasonal conditions, no effective rainfall received in prior 3 months, plants demonstrating normal over-	
Jul-19	summering response.	
	Very dry seasonal conditions, no effective rainfall received in prior 3 months, plants demonstrating normal over-	
Nov-19	summering response.	



*Leinster Aero Weather station data used for region long term average rainfall as no data available from Mt Keith weather station.

Figure 1: Long term annual rainfall received (mm) for the region.

Monitoring year 2018 and 2019 were both below the long term average for meteorological data recorded from Leinster Aero station.

Table 4: Summary of monitoring of priority flora

Monitoring date	Condition of Populations at distance from Infrastructure (Control sites)	Condition of populations close to Infrastructure	Summary conditions related to proximity to mine infrastructure Nov 2019 to Nov 2020				
Eremophila sp	remophila sp. long pedicels (G. Cockerton 1975) (P2)						
Dec-18	<i>Eremophila</i> sp. long pedicels plants holding live green foliage, many plants with flowers and immature seeds. Abundant older seed on ground at base of plants.	One plant within MKS haul road alignment (approved to be taken in MKS development) holding live green foliage, with flowers and immature seeds. Abundant older seed on ground at base of plant.	No direct or indirect impacts to <i>Eremophila</i> sp. long pedicels outside approved MKS				
Mar-Nov 2019	<i>Eremophila</i> sp. long pedicels plants demonstrating drought response appropriate for dry seasonal conditions.	No extant <i>Eremophila</i> sp. long pedicels population remains in close proximity to the MKS development envelope and haul road. Former small population in this area died prior to MKS being developed, directly related to pastoral and mining (Mt Keith Operation) road infrastructure and extended drought conditions. No impacts directly related to MKS project or haul road development.	development envelope.				
Hibbertia sp. S	Hibbertia sp. Sherwood Breakaways (R.J., Cranfield 6771) (P2)						
Dec-18	Plants with dark green foliage, few with open flowers, no mature seeds seen.	Plants with dark green foliage, few with open flowers, no mature fruits developing viable seeds.	During haul road construction, <i>Hibbertia</i> sp. Sherwood breakaways plants in close				
Mar-Nov 2019	Plants demonstrating over-summering response with reduced foliage, red-green leaves, now flowers or fruits.	Plants demonstrating over-summering response with reduced foliage, red-green leaves, no flowers or fruits. Plants on western side and within 50m of haul road clearly showing dust on foliage. Plants in close proximity to haul road on western side demonstrating slightly elevated leaf fall interpreted as moisture stress. Plants on eastern side of haul road demonstrating lesser dust loads and otherwise normal leaves for dry seasonal conditions.	proximity and on western side of haul road demonstrating very high dust loads on foliage, some demonstrating accelerated leaf fall and elevated drought impact compared to Control population. No deaths of plants observed due to indirect impacts from dust.				
Hybanthus floribundus subsp. chloroxanthus (P3)							
Dec-18	Plants bright green, holding flowers though no mature fruits set.	Plants bright green, holding flowers though no mature fruits set.	During MKS project development, all plants of <i>Hybanthus floribundus</i> subsp. <i>chloroxanthus</i> demonstrating normal seasonal response to dry conditions with reduced, yellowish foliage, no effective seed set. While dust was clearly				

Monitoring date	Condition of Populations at distance from Infrastructure (Control sites)	Condition of populations close to Infrastructure	Summary conditions related to proximity to mine infrastructure Nov 2019 to Nov 2020	
Mar-Nov 2019	Mar. 2019 to Nov. 2019: Plants with yellowed leaves, only holding dried flowers, no seeds set.	Plants with yellowed leaves, only holding dried flowers, no seeds set. One plant (tag #75) down slope of the six mile development area had recently died, but this could not be directly attributed to any mining related activities. Other plants in the population healthy.	visible on foliage of all plants, no significant impacts to the species attributable to MKS development. One plant on bank of tributary to Jones Creek died, however, not directly attributable to MKS development as adjacent plants all healthy but showing over- summering response.	
Verticordia ja	miesonii (P3)			
Dec-18	Plants with dark green foliage, some with few dried flowers though none with fruits and viable endosperm.	Plants with dark green foliage, some with few dried flowers though none with fruits and viable endosperm.	No direct or indirect impacts to <i>Verticordia</i> j <i>amiesonii</i> plants outside approved MKS	
Mar-Nov 2019	Plants reddish-green to dark green, no flowers or fruits produced.	Plants reddish-green to dark green, no flowers or fruits produced.	development envelope.	

6.3 Hydrological Processes Environmental Management Plan

The Hydrological Processes Environmental Management Plan (HPEMP) was implemented during the reporting period, key components include:

- Weather data.
- Jones Creek peak flow water level.
- Monitoring of groundwater bores.
- No sediment or water pool sampling was conducted during the period.

Mt Keith Weather Station has been utilised for data over the first 12 month period, due to a weather station not yet being installed at Mt Keith Satellite Project.



*Leinster Aero Weather station data used for region long term average rainfall as no data available from Mt Keith weather station.

Figure 2: Mt Keith Weather from January 2019 to February 2020.

Monitoring bores overall show minor impacts as a result of dewatering activities. Groundwater drawdown observed from monitoring data is aligned with modelling submitted for project assessment.

Minor localised groundwater drawdown is observed in the monitoring bores within close proximity to the Six Mile Well shaft, as predicted from modelling completed prior to project implementation.



Figure 3: monitoring bores indicating groundwater drawdown from dewatering Six Mile Well Pit, standing water level shown as metres below ground level



Figure 4: monitoring bores indicating groundwater drawdown from dewatering Goliath Pit, standing water level shown as metres below ground level