LADY LORETTA

13 March 2023

Department of Environment and Science
Via ftp: https://ftp.au.glencore.net/

Dear Sir/Madam,

Noranda Pacific | Lady Loretta Mine | PRCP Plan–Version 2

We refer to a decision notice received on 01 February 2023 (reference 101/0008765), relating to the submitted Progressive Rehabilitation and Closure Plan (PRCP) for EPML00982013, held by Noranda Pacific Pty Ltd.

Enclosed is the updated PRCP, which responds to the Department of Environment and Sciences' (the Department) request for further information received on 12 July 2022.

To assist, a reconciliation table is provided as **Attachment 1** that outlines where the Department's Request for Information (RfI) items have been addressed.

We are proactively planning for progress closure and look forward in continuing to work closely with all our stakeholders to contribute to sustainable post-closure land use.

We would welcome the opportunity to further discuss the Lady Loretta Mine PRCP.

Your sincerely,

Jason Jones
HSEC – Manager Environment
Glencore Zinc Assets Australia

Attachment 1: Department RfI reconciliation table

Attachment 1 Department RfI reconciliation table

Provided below is a summary of RfI items for the Lady Loretta Mine PRC Plan as received form the Department on 12 July 2022.

Item	DES RfI Requirement (12 July 2022)	Glencore Response	Where addressed
Rehabilitation Planning Part			
1	**Section : Spatial Information.** **Matter:** A spatial information submission was made on 30 June 2022 and passed initial validation on 07 July 2022. **Request:** Provide an updated Rehabilitation Planning Part that includes a reviewed spatial information document and captures all the relevant spatial information requirements including the updates and changes captured within this information request.	Updated spatial provided with submission. Optional borrow sites included in spatial data.	**Submitted**
2	**Section : 3.2 Post Mining Land Use.** **Matter:** In accordance with s126C(1)(d) of the EP Act, the PRC Plan must state the extent to which each PMLU is consistent with any strategies or plans for the land of a local government, the State or Commonwealth. To ensure the proposed PRC plan adequately addresses this requirement, further information is required. **Request:** Provide an updated PRC Plan including discussion regarding the extent to which each proposed PMLU is consistent with any strategies or plans for the land of a local government, the State or Commonwealth.	Works confirm proposed PMLU of Low Intensity Cattle Grazing and Native Habitat are consistent with government plans and policy. Additional content included in PRC Plan.	**Section 3.2.4**
3	**Section : 3.6.1 General rehabilitation practices.** **Matter:** The Rehabilitation Planning Part relies on the results and conclusions from several technical reports, which in some instances have not been provided to support the application. It is recommended that these are provided as they are necessary to justify the proposed rehabilitation and management methodologies. **Request:** Provide a copy of the following technical reports: *Waste Rock and Spoil Management Plan* (WRSMP); ATCW report referenced in section 3.6.2.1.1; RGS Environmental Consultants Pty Ltd referenced in Section 3.6.1.1; Engeny 2020 *Lady Loretta Mine – Leachate Management Dam Construction Report* referenced.	Technical reports provided as Appendix to PRCP. The exception is the WRSMP—recently revised, this site management plan is currently being certified by an RPEQ and could be provided upon completion and request.	**Appended to PRCP**
4	**Section : 3.6.1 General rehabilitation practices, Landform design and Waste characterisation.** **Matter:** Limited information is presented to demonstrate the erosion stability associated with the final landform… …To further satisfy the requirements of the PRCP Guideline and to demonstrate the land will be stable, the conclusions and assumptions of previous modelling and investigations regarding the stability of proposed slopes and the suitability of materials (including waste characterisation studies) used to construct the final landform must be provided in the Rehabilitation Planning Part. **Request:** Provide an updated PRC plan that presents the conclusions and assumptions of previous modelling and investigations regarding the stability of proposed slopes and the suitability of materials (including waste characterisation studies) used to construct the final landform.	Stability analysis and erosion modelling included in PRCP. Long term modelling of Waste Rock Emplacement (WRE) plateau and hydraulic calculations for WRE batters carried out. Assessment indicated material for cover suitable and stable conditions expected.	**Section 3.6.2** **Section 3.6.2.12** **Appendix A** **Appendix F** **Appendix G**
5	**Section : 3.6.1.1 Soil and Capping Material Assessment.** **Matter:** This section does not provide enough information as to the inventory of borrow and topsoil materials… …There is no information regarding the quality of the material and whether ameliorants are required. To clarify rehabilitation strategies proposed by the PRC plan, it is recommended that additional information is included… **Request:** Provide an updated PRC plan that includes further information regarding: The quantity of topsoil material required to complete rehabilitation at each site; A description of what material 'General Backfill' is and where this material will be sourced from; Clarification as to which Rehabilitation Areas the topsoil and subsoil materials will be applied; Clarification regarding the depth of Rock Mulch to be applied as the NAF protection layer on the WRE Batter; Clarification regarding the depth of Rock Armour to be applied as a protection layer to the WRE.	Further detail on material balance and quality of material has been completed. Additional detail on optional borrow sites and re-design have been included in PRCP. Clarification on which rehabilitation areas growth media will be applied as well as WRE cover depths is included in PRCP. The additional works confirm rocky soil mulch with fertiliser and/or ameliorants will provide similar outcomes as growth media application.	**Section 3.6.1.1** **Section 3.6.2** **Appendix A**
6	**Section : 3.6.1 General rehabilitation practices, Soil and capping material assessment; 3.6.1.1.3 Rock Mulch.** **Matter:** Based on information provided in the Rehabilitation Planning Part and the proposed PRCP schedule, it appears that in several Rehabilitation Areas the Rock Mulch will be utilised as the growth media (without the application of topsoil). Limited information is provided to demonstrate the suitability of this material to act as a growth media... **Request:** Provide an updated PRC plan with further discussion to demonstrate the suitability of the Rock Mulch to act as a growth media for the proposed PMLUs. As above, provide a copy of the technical report by RGS Environmental Consultants Pty Ltd which is referred to in this section.	Additional works confirm rocky soil mulch with fertiliser and/or ameliorants expected to provide similar outcomes as growth media application. Technical reports provided as Appendix to PRCP. Demonstration sites of similar methodologies included in PRCP.	**Section 3.6.1.1** **Appendix A**
Landform design - WRE			
7	**Section : 3.6.2 Final Landform Design – WRE; 3.6.2.2 WRE Crest; 3.6.8.4 Application of Seed; 3.6.2.7 Sustain the PMLU of Native Habitat.** **Matter:** It is noted that much of the waste rock generated from the operations was Potentially Acid Forming (PAF) material, which is proposed to be permanently stored within the WRE. Hence the cover system is critical to minimising the potential release of contaminants from the WRE. he proposed Store and Release cover system includes the Infiltration Storage Layer which will be comprised of a 1.5m deep application of Rock Mulch intended to act as a growth medium for vegetation… … which is different to the cover design presented by the Land Outcome Document. Further justification is required as to whether the depth of rock mulch layer and the vegetation community to be established on the WRE crest will ensure the ongoing structural integrity of the cover system is not impacted by the influence of plant roots and adequately mitigates against vertical movement of moisture into the encapsulated waste rock. **Request:** Include further supporting information to justify the changes to the previously proposed cover system design in the PLMUP; Provide information regarding how the proposed cover design mitigates the impacts of all contaminants of concern; Provide permeability testing at locations that are representative of the surface of the WRD and provide modelling based on those tests; Provide a risk assessment of the cover not achieving a stable condition, a treatment plan that complies with the PRCP Guideline and suitable RMs to be used as indicators of success; Confirm whether the species provided with Table 16 of the PRCP Plan are suitable and will not impact the integrity of the proposed WRE cover system.	Multiple Accounts Analysis for the WRE and cover design has been completed with the approach/outcomes included in the PRCP. Permeability testing results waste rock and borrow material within appended technical study. Further assessment of seed mix and consideration of shrub layer, structural integrity and root depths provided in PRCP and appended technical study. WRE cover design also includes a root barrier layer specifically designed to prevent root penetration. Risk Assessment updated to address the Departments query on stable conditions.	**Section 3.6.2** **Section 3.12.4** **Section 3.13.1** **Appendix A** **Appendix C** **Appendix F**

Item	DES RfI Requirement (12 July 2022)	Glencore Response	Where addressed
Risk Assessment			
8	**Section : 3.7 Risk assessment – General.** **Matter:** For most identified risks, limited information has been provided regarding the selection of the relevant treatment options and limited information has been provided regarding the resourcing requirements (both internally and externally) necessary for completing the nominated treatment action/s. **Request:** Provide additional justification regarding the reasoning for selection of the relevant treatment options. Provide additional information regarding any resourcing requirements (both internally and externally) necessary for completing the nominated treatment action/s.	Risk Assessment section of PRCP updated and information on treatment options and resourcing requirements	**Section 3.13**
9	**Section : 3.7 Risk assessment.** **Matter:** The provided risk assessment in Table 17 does not appear to consider risks associated with failure of rehabilitation due to natural events such as drought, floods, storms, fire etc. **Request:** Ensure the risk assessment includes relevant factors that may impact on the success of rehabilitation. Note that the Monitoring Management Plan will also require updating accordingly to the additional identified risks.	Additional risks considered for rehabilitation failure due to natural events included in PRCP—Risk Assessment section including consideration of monitoring and maintenance requirements.	**Section 3.13** **Section 3.14**
10	**Section : 3.7 Risk assessment.** **Matter:** The risk assessment acknowledges a risk that the cover system may not perform as required, however additional information is required to better understand the proposed controls and relevant treatment options that would be implemented to address the potential for the WRE cover to fail or in the event that it does not perform adequately. **Request:** Provide additional information regarding remedial measures in the risk treatment plan with regards to the potential for the WRE cover to fail.	Additional risk and proposed actions for WRE included in PRCP —with specific emphasis on items related to erosion and water flux entering waste.	**Section 3.13**
Monitoring and Maintenance			
11	**Section : 3.8 Monitoring and maintenance** **Matter:** The Monitoring and Maintenance Plan provided is general in nature and does not directly correlate to the RMs included in the proposed PRCP schedule. **Request:** Provide additional information to explain the relationships between Table 18 and the monitoring and maintenance activities. For example, a comparison of monitoring activities and how they directly relate to the RMs and criteria could be included in the proposed PRC plan.	Monitoring and Maintenance Plan linkage with milestones provided in PRCPP.	**Section 3.14**
PRCP Schedule—4.2 - Rehabilitation Areas (RA)			
12	**Section : RA8 – Exploration, Roads and Tracks Native Habitat PMLU (15.7ha); RA9 – Exploration, Roads, tracks and Haul Road Grazing PMLU (24.7ha).** **Matter:** Confirm if the entirety of RA8 and RA9 (as indicated by Figure 017 Lady Loretta Rehabilitation Areas) will be disturbed… **Request:** Provide an updated PRC plan (including the PRCP Schedule) that - Confirms if the entirety of RA8 and RA9 as presented by the Rehabilitation Area map will be disturbed and require rehabilitation. - Assigns the relevant Rehabilitation Milestone and criteria against RA8 and RA9 to demonstrate rehabilitation of areas disturbed by exploration.	Mapping and PRCP Schedule updated. Rehabilitation Map and areas nominated against Rehabilitation Milestones reflect areas of disturbance.	**Section 4** **Appendix J**
13	**Section : RA10 – Underground Openings – Shafts, decline, portal.** **Matter:** It is acknowledged that RA10 only involves a small area of disturbance (0.6Ha). RM12 applies to this Rehabilitation Area and includes several criteria relevant to vegetation and erosion characteristics. Confirm if any revegetation activities are necessary for RA10 to ensure achievement of RM12 and update the PRCP schedule accordingly **Request:** Provide an updated PRC plan (including the PRCP Schedule) to confirm if revegetation activities are necessary within RA10 to ensure achievement of RM12.	Confirmed revegetation activities are necessary within RA10 to ensure achievement of RM12. PRCP Schedule updated.	**Section 3.10.1** **Appendix J**
PRCP Schedule— 4.4 Criterion Rehabilitation Milestones (RM)			
14	**Section : Rehabilitation Milestone Criteria – General.** **Matter:** The intent of milestone criteria is that they provide measurable parameters to demonstrate achievement of the relevant Rehabilitation Milestone… **Request:** Consider the matter raised and provide an updated PRC plan (including the PRCP Schedule) where revisions have been made to Rehabilitation Milestone Criteria.	Additional milestone criteria included for WRE. PRCP Schedule RM2 and RM12 updated including PRCP monitoring and maintenance program. PRCP Schedule for RM4 remains unchanged due to conceptual nature of the geotechnical study.	**Section 4.4** **Section 3.14** **Section 3.10.1** **Appendix J**
15	**Section : RM5.** **Matter:** Criterion RM5 relates to the decommissioning of Regulated Structures and Erosion and Sediment Control facilities. **Request:** Provide an amended PRC Schedule and consider additional criteria to demonstrate that the potential for land and water contamination during the decommissioning of the regulated structures will be appropriately managed.	Additional milestone criteria included for erosion and sediment control systems. PRCP Schedule RM5 updated.	**Appendix J**
16	**Section : RM6.** **Matter:** Criterion RM6 d) proposes the placement of "maximum thickness of 100 mm of growth media at ROM, Paste Plant and Batch Plant Area (RA7), subject to recommendations by suitably qualified person". Justify how this value has been chosen and how it is suitable for the establishment of the PMLU or consider updating criterion RM6 accordingly. **Request:** Provide an updated PRC Plan that demonstrates that a growth media less 100mm would be suitable for revegetation planned and minimising erosion or amend relevant criterion in the PRC Schedule.	PRC Plan updates for matters relating to stockpiled soils. Minimum 150 mm thickness of growth media proposed for RA7 and borrow sites within RA9. Glencore also note that 150 mm is consistent with the *Departments Estimated Rehabilitation Cost Guidelines*.	**Section 3.6.1.1** **Section 4.4** **Appendix J**
17	**Section : RM7.** **Matter:** As proposed, criterion RM7a) does not appear to reflect the intended areas of disturbance (i.e., all areas excluding the WRE). **Request:** Provide an updated PRCP Schedule to ensure criterion RM7 a) correctly refers to the relevant areas of disturbance.	Updates to PRCP Schedule made.	**Section 4.4** **Appendix J**

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18	**Section : RM11 Section 7, Appendix B Flood Assessment; (WRM Flood Assessment report).** **Matter:** The WRM Flood Assessment report models peak velocities along the proposed final landform drain west of the WRE of up to 2.7 m/s, and velocities in the steep drain into the former sediment dam at CDB of up to 3 m/s. Considering the velocities predicted and the runoff potential from the outer slopes of the WRE, consider reviewing the wording of milestone criteria RM11, specifically "No rill/gully erosion > 500 mm", to ensure the erosion trends from-long term monitoring are an input into assessing whether the final landform will meet the design objectives of negligible erosion (Section 3.6.2.1) **Request:** Provide an updated PRC plan and the PRCP Schedule with a criterion RM11 that ensures that the erosion onsite is negligible.	No rill/gully erosion > 500mm is considered appropriate based on proposed concept cover design and depth to underlying liner. Glencore also notes the LOD states '>1m deep'. Long term erosion modelling undertaken and presented.	**Section 3.6.2** **Section 4.4** **Appendix F**
19	**Section : RM12 and RM13 Proposed PRC plan, Section 3 Rehabilitation Planning PRCP Guideline, Section 4.1 Steps for developing a PRCP schedule, Step 5 Develop.** **Matter:** Thresholds for the various Ecological Function Analysis (EFA) indices are proposed as milestone criteria (e.g., "Vegetation Dynamics >40% of reference"). The Rehabilitation Planning Part does not currently justify the choice of thresholds. It is necessary to justify how the milestone criteria will demonstrate achievement of the relevant Rehabilitation Milestone which in turn achieves the required outcome of land in a stable condition. Both RM12 and RM13 propose the following criterion – "Contaminated land assessment completed by suitably qualified person". Throughout the Rehabilitation Planning Part there are references to instances where contaminated. **Request:** Provide an updated PRC plan (including the PRCP Schedule) that: Justifies the choice of thresholds for EFA indices as sufficient to achieve the final outcome of land in a stable condition and discuss why these thresholds were chosen; Considers the matter raised regarding earlier demonstration that contaminated land activities are completed and updates the Rehabilitation Planning Part and Schedule where necessary; Provides a definition for Low Intensity Grazing, sufficient to measure achievement of criterions RM13a)	PRC Plan includes further rationale and justification for EFA thresholds—with consideration to site and regional climatic conditions. The approach within the PRCP adopts averaged scores for representative reference, noting that arid environments may experience periods of regression. Contaminated land remediation milestone has been updated based on suitability for PMLU. Glencore note that surrender of the EA will require demonstration of compliance with the EA and completion of contaminated lands assessment works. Definition for 'Low intensity grazing', and a framework against which this can be measured, included in PRCP and appended technical study.	**Section 3.14** **Section 4.4** **Section 3.2.3** **Appendix C** **Appendix J**
20	**Section : RM12 Groundwater Criteria.** **Matter:** Criterion RM12 f) describes the "Assessment and validation by suitably qualified person that the long-term risks presented byground water contamination do not preclude the PMLU". As proposed, this milestone criterion is unclear and inconsistent with the other proposed criterion RM13)h). **Request:** Provide an updated PRCP Schedule that includes clear contaminant limits applicable to the WRE, such as "Groundwater quality to meet contaminant limits defined in the current EA##".	Groundwater success criteria, consistent with requirements of the EP Act, has been proposed. While monitoring in accordance with the EA is appropriate for collecting a dataset and identifying rehabilitation performance during the post closure period prior to relinquishment, the architecture of this monitoring regime, specifically the contaminant limits, are inappropriate for use as success criteria.	**Section 3.6.2** **Section 3.14.14.2** **Section 4.4** **Appendix J**