

Notice

Environmental Protection Act 1994

Information request

This information request is issued by the administering authority under section 140 of the Environmental Protection Act 1994 to request further information needed to assess an application for a proposed PRC plan.

To: Straits Gold Pty Ltd
Endeavour Corporate, Suite 8, 7 The Esplanade
MOUNT PLEASANT WA 6153

ATTN: Tom Cooney
Email: tcooney@gbmex.com.au

Your reference: EPML00771913 / 101/0008149

Our reference: C-EATPRCP-100176010

Further information is required to assess an application for a PRCP schedule

1. Application details

The application for a proposed PRC plan was received by the administering authority on 28 March 2022.

The application reference is: C-EATPRCP-100176010

Land description: Mining lease (ML) 1095 and ML1096

2. Information request

The administering authority has considered the abovementioned application and is writing to inform you that further information is required to assess the application (an information request).

The information requested is specified in Attachment 1 to this notice.

3. Actions

The abovementioned application will lapse unless you respond by giving the administering authority -

- (a) all of the information requested; or
- (b) part of the information requested together with a written notice asking the authority to proceed with the assessment of the application; or
- (c) a written notice –
 - i. stating that you do not intend to supply any of the information requested; and

- ii. asking the administering authority to proceed with the assessment of the application.

A response to the information requested must be provided by **30 November 2022** (the information response period). If you wish to extend the information response period, a request to extend the period must be made at least 10 business days before the last day of the information response period.

The response to this information request or a request to extend the information response period can be submitted to the administering authority by email to ESCairns@des.qld.gov.au.

If the information provided in response to this information request is still not adequate for the administering authority to make a decision, your application may be refused as a result of section 176 of the *Environmental Protection Act 1994*, where the administering authority must have regard to any response given for an information request.

4. Human rights

A human rights assessment was carried out in relation to this decision, and it was determined that the decision is compatible with human rights.

If you require more information, please contact Hazel Hughes on the telephone number listed below.



Signature

27/05/2022

Date

Chris Wake

Department of Environment and Science
Delegate of the administering authority
Environmental Protection Act 1994

Enquiries:

Minerals Business Centre
PO Box 7230, Cairns QLD 4870
Phone: (07) 4222 5352
Email: ESCairns@des.qld.gov.au

Attachments

Attachment 1: Additional information requested for proposed PRC Plan – Straits Gold Pty Ltd – Yandan Gold Project

Attachment 1: Additional information requested for proposed PRC Plan – Straits Gold Pty Ltd – Yandan Gold Project

Item	Relevant section (Proposed PRC Plan and/or PRCP Guideline)	Matter	Information Request
Rehabilitation Planning Part			
1	Proposed PRC Plan: 3.1.7 Land and Soil	Table 6 of the PRC Plan identifies the presence of vertosol soils which are prone to erosion and collapsing. Such soils are difficult to manage, and minimising disturbance in this type of soils is desirable.	Table 6 of the PRC Plan identifies the presence of vertosol soils which may provide management challenges. Further information is sought regarding the likelihood of disturbance or use and if specific management measures are considered for these soils.
2	Proposed PRC Plan: 3.2 Community consultation	Section 3.2 of the rehabilitation planning part references extensive stakeholder engagement that was completed prior to the implementation of the PRCP framework in 2019. While a community consultation register table has been provided as part of the Yandan Stakeholder Engagement Plan in Appendix E, details of how community consultation has been considered in developing the PRC plan has not been included.	Provide a discussion of how the community consultation has informed the PRC Plan or carry out community consultation as per section 3.5 of the PRCP Guideline (ESR/2019/4964) and update the Rehabilitation planning part to reflect the outcomes of the consultation process. Provide an updated Rehabilitation Planning Part that includes a community consultation register which includes the commitments made by the applicant.
3	Proposed PRC plan: 3.3.4 Proposed post-mining land use and PRCP Schedule	Table 11 and Table 13 show the maximum surface area for each disturbance type as approved in the EA. However, the total area of the rehabilitation areas and improvement areas (388.5ha) in the PRCP Schedule exceeds the maximum surface area authorised under the EA (295.6ha).	Provide an updated Rehabilitation Planning Part and PRCP Schedule that reflects the authorised disturbance in the EA or provide additional information to demonstrate that the PMLU and Non-Use Management Area (NUMA) areas in the proposed PRC Plan are consistent with the

			conditions of the EA.
4	Proposed PRC Plan: 3.1.2 Existing rehabilitation and 3.5.1 Rehabilitation Objectives	Section 3.1.2 of the PRC Plan provides some information on the rehabilitation activities that have been carried out and findings from rehabilitation monitoring. Details of the rehabilitation works that have been carried out and the success criteria of the rehabilitated areas is required to determine whether a rehabilitation or management milestone is achieved for all areas where rehabilitation has been conducted. Also, the Plan states that Cell A is trending towards an open woodland community whereas the PRCP Schedule identifies this area as having a PMLU of grazing. Section 3.5.1 refers to activities that need to be carried out for continued progress towards rehabilitation completion criteria for example: • Cell A – re-development of water shedding landform profile (limited to small central zone only), • Village Infrastructure area – removal of some remaining concrete footings, • Water storage structures to be retained by the landholder will be cleaned and made safe prior to surrender.	Include a description of all rehabilitation works previously carried out and when the rehabilitation works commenced and were completed. Provide information regarding the level of revegetation achieved with % foliage cover, plant heights, seedling, woody stems and other pertinent measures to demonstrate the PMLU has been met. Comparison to analogue sites should be carried out and justification given as to why rehabilitation is considered to have been achieved for the area. Where demonstration has not been provided of the specific milestone being met, milestone criteria must be included for each rehabilitation or improvement area to determine whether a rehabilitation or management milestone is achieved.
5	Proposed PRC Plan: 3.5.5 Milestone criteria and completion criteria	The PRC Plan refers to reference sites for comparison of milestone criteria for the areas to be rehabilitated to grazing land. No detail has been provided for the location of the	Clearly identify where the reference/analogue sites are located and provide justification for their selection as being suitably representative sites for monitoring rehabilitation success.

		reference sites or their suitability as representative sites for the rehabilitation areas.	
6	Proposed PRC Plan: 3.5.9 Flooding	Preliminary flood modelling has identified that some mining domains including the pit and heap leach pad will be inundated or in contact with floodwaters under 1% AEP and PMF events. However, information detailing how flood flow may interact with the final landform has not been included. An understanding of flood depth and velocity across the final landform is required and how this may influence the achievement and maintenance of a safe, stable and sustainable PMLU.	Demonstrate how all final landforms will achieve and maintain a stable condition under 1% AEP and PMF events. This includes investigating the effect that flood depth and velocity may have on the final landform.
7	Proposed PRC Plan: 3.5.1.12 Final land design	A slope angle of 30% is proposed for the tailings storage dam (TSF) and 25% for the heap leach pad (HLP). Total groundcover (rock and/or vegetation) (C-value from RUSLE equation) used to calculate the erosion rates on both TSF and HLP embankment slopes is 65% to achieve 9.60 and 8.37 t/ha/yr respectively. These erosion rates are elevated and do not appear to apply a sufficient level of contingency planning in the event a 65% groundcover value is not achieved and maintained. It is noted that a reduction in targeted slope angle would have a significant influence on predicted erosion rates and may help to support the PMLU of low intensity grazing. Furthermore, final landforms need to be conducive to the PMLU and the PMLU for the heap leach pad and TSF have been identified as grazing. The slopes on the HLP and TSF pose potential challenges to the safe, stable and sustainable achievement of a grazing PMLU.	Further information is sought regarding justification for the slope angles and how this meets the PMLU as well as how it will achieve geotechnical and erosional stability.

	Proposed PRC Plan: 3.5.5 Milestone criteria and completion criteria	The PRCP Schedule milestone criteria for Dams in RM4 requires a geotechnical assessment where landforms incorporate slopes greater than 17%, however the PRC Plan and supporting information do not identify areas in the dam landforms that would have a slope greater than 17%.	Further information is sought regarding the slope angles for the dams and justification for the proposed slope angles and how the PMLU is met as well as how it will achieve geotechnical and erosional stability for these landforms.
8	Proposed PRC Plan: 3.1.6 Groundwater and 3.5.8 Hydrogeology	Section 3.1.6 of the PRC Plan provides some information on groundwater levels and salinity. No detail has been provided on the interactions of the pit, tailings dam and heap leach pad with groundwater. Criteria that demonstrate these structures will be non-polluting has also not been included. Figures 27 and 28 do not provide context on orientation of the pit and river nor depths of strata and pit depth. The Suttor River alluvium mentioned in section 3.1.6 of the PRC Plan is also not represented. Increasing trends in arsenic have been identified in groundwater in the PRC plan and interactions of tailings and heap leach seepage with groundwater may be occurring. The prediction of water quality impacts from mining activities is necessary to determine appropriate measures for the containment and management of contaminants and the potential impacts on environmental values should they be released.	Provide an assessment of the hydrogeology of the site including all landforms and connected strata in accordance with 3.6.1 of the PRCP Guideline. An assessment of the interactions of the tailings and heap leach pad with groundwater must also be included in the PRC Plan. Provide detailed information regarding water quality and how it varies between depths and bores. Provide milestone criteria for groundwater quality to demonstrate all final landforms will be non-polluting.
9		The PRC Plan and EA require that the pit lake level is to remain above 160mAHD. The Plan also considers that the pit will act as a groundwater sink. Figure 32 in the SBE 2022 report indicates that the groundwater levels in the bore SH3 fluctuate above 160mAHD.	Provide a hydrogeological assessment that encompasses all landforms on the project area. Include supporting evidence that demonstrates how the pit will act as a sink.

		Figure 26 of the PRC Plan includes an indicative map of the potentiometric surface of the groundwater however the potentiometric surface does not extend to the pit area.	
10	Proposed PRC Plan: 3.5.10 Soil and capping material assessment	Table 22 and Figure 32 show the available rehabilitation material on the project, however, does not provide a materials balance of resources required in the rehabilitation of each area. Several material sources are identified such as the dam embankment material as an available source of material; however, it is unclear if these materials are intended to be use in the rehabilitation given that these structures are proposed to remain in the existing landform. Furthermore, it is unclear where some of the available material volume shown in Table 22 has been obtained from and it does not appear that quality assessment has not been completed for all the available material identified in Table 22. <i>2022 SLISA soil survey (AARC 2022a)</i> recommends mitigation measures for topsoil management, the development of a Topsoil Management Plan and topsoil amelioration, however topsoil placement and management has not been addressed in the PRC Plan. The 2022 SLISA soil survey (AARC 2022a) identifies the increased risk of erosion associated with the Sandy soil management unit (SMU). Given the Sandy SMU encompasses a significant area of the project, robust monitoring and mitigation strategies should be included in the rehabilitation planning part to demonstrate the achievement of the stable PMLU. Section 6.2 of the <i>2022 SLISA soil survey (AARC 2022a)</i> recommends mitigation measures to reduce the risk and impacts of erosion,	Provide an assessment of the quality and suitability of all soil and capping material and for all the material that is proposed to be used in rehabilitation. Provide a materials balance that specifies material available, and materials required for rehabilitation for each of the structures. Provide an assessment on how the quality of all the materials available for use in rehabilitation activities are adequate in supporting the proposed PMLU. Include in the PRCP Schedule milestone criteria that relate to the management of erosion and topsoil to meet the PMLU and include supporting information in the PRC Plan. Refer to Appendix 2 of the PRCP Guideline for examples.

		however it does not appear that these are included in the PRC Plan and PRC Schedule including the areas where each of these methods will be implemented.	
11	Proposed PRC Plan: 3.5.11 Tailings and processing facilities	Section 3.5.11 of the PRC Plan (Tailings and processing facilities) includes characterisation of tailings from Cell B only of the TSF. The PRC Plan supporting information in the RGS (2015) report identify that “Since placement, the sulfide minerals have undergone substantial or complete oxidation. This means that in the tailings, to at least 600 mm depth, essentially no residual sulfide minerals are present.” It is not clear what the likely future speciation and mobility of the constituent elements of the tailings beneath the 600mm upper layer would be. Additionally, the RGS (2015) report recommends in-situ core sampling of the tailings through the tailings profile in the deepest area of the TSF.	Detail in the PRC Plan how the characterisation of Cell B tailings relates to the characteristics of the tailings in Cell A, otherwise include details of characterisation studies carried out on Cell A. Include an assessment of the characteristics of the tailings material below the 600mm sample depth and how the material may interact with infiltration of rainfall to ensure the structure is non-polluting.
12	Proposed PRC Plan: 3.5.12.3 Residual voids	The final landform design section of the rehabilitation planning part provides detail surrounding each of the residual voids that will remain as NUMAs on the project. This section of the planning part identifies further investigations that are yet to be completed and are required to inform management area milestone criteria. Main Pit • A geotechnical assessment has not yet conducted on void batter angles, therefore residual void angle requirements are unknown. • The rehabilitation planning part identifies that	Provide further information to demonstrate that both the Main Pit and East Hill Pit will achieve a safe and stable condition as per section 3.6.3 of the PRCP guideline including, but not limited to, a geotechnical assessment and proposed final slope angles. Include all required milestone criteria in the PRCP Schedule to ensure the management of the NUMA's to safe, stable, non-polluting landforms.

		additional monitoring data (3-5 years) required to improve water balance to then determine a long-term bund use. The expectation is that bunding will be retained within the final landform subject to appropriate assessments (i.e. geotechnical investigations). However, such assessments are incomplete at time of submission. East Hill Pit The rehabilitation planning part identifies that the East Hill Pit has a potential to be flooded under a PMF scenario. Given that water quality analysis from within the pit has determined it is of poor quality, this presents a significant environmental contamination risk. The rehabilitation planning part mentions that a small, permanent landform bund will be constructed around the north of the pit, however a design has not been considered in the rehabilitation planning part or supporting technical studies. Nor has this action been included in the PRC Schedule.	
13	Proposed PRC Plan: 3.5.12.4 Built Infrastructure	This section identifies that concrete pads will be removed and disposed of on-site, however the EA does not include any conditions relating to the disposal of concrete on site.	Provide additional information to demonstrate that the disposal of concrete material is consistent with the EA and will not impact negatively on the ability of the land to meet stable condition or sufficient improvement.
14	Proposed PRC Plan: 3.6 Risk Assessment	Various potential risk factors have not been considered in the risk assessment. The following example do not constitute an exhaustive list, but have been provided for reference:	Please update the risk assessment to include a broader consideration of potential risk factors and their associated mitigation measures to ensure the safe, stable and sustainable PMLU or managed NUMA is achieved. Please

		• A consideration of how various events may impact the completion time of rehabilitation stages (including potential compliance action as a consequence). • A consideration of risks associated with potential issues arising yet remaining unidentified between monitoring events, with specific links to the monitoring program to justify the selection of specific monitoring frequencies. • A consideration of climatic influence specific to the pit, for example, the impact that drought conditions may have on maintaining the water cover within the Main pit.	refer to section 3.7 of the PRCP guideline for further information.
15	Proposed PRC Plan: Section 3.7 Monitoring and maintenance – Contingency Measures	Table 39 identifies the proposed monitoring and maintenance measure that will be carried out to demonstrate a milestone and milestone criteria have been achieved. Details such as the scheduling of the measures and contingency strategies have not been included In additional, no management measures have been proposed for when water levels in the Main Pit falls below 160 mAHD.	Please review section 3.8 of the PRCP guideline and provide a monitoring and maintenance program that identifies and describes the monitoring systems that will be carried out to demonstrate a rehabilitation milestone and the associated milestone criteria have been achieved. The program should intrinsically link to the risk assessment and mitigation strategies and ultimately inform the schedule and milestone criteria.
PRCP Schedule			
16	Milestone Criteria: Table 18	The PRCP Schedule includes a milestone criterion stating, “Written agreement obtained from the land owner/holder and administering authority that rehabilitation is successful”. The <i>Environmental Protection Act 1994 (EP Act)</i> includes requirements for holders of a PRCP Schedule to state	Update the PRCP Schedule milestone criteria so as EP Act 1994 obligations are not duplicated.

		whether any rehabilitation milestones or management milestones to be completed under the PRCP schedule during the year have been met, and also requirements for an audit report for a PRCP schedule to include a statement about whether the holder has complied with the schedule during the audit period. As such, there is no requirement for a milestone criterion to duplicate the obligations under the <i>EP Act 1994</i> in relation to the administering authority.	
17		A number of rehabilitation milestone criteria use references such as 'comparable', 'not significantly different', and 'evidence of'. Criteria needs to meet the SMART principles. 'Evidence of' must include measurable commitments. Please note that Section 6 and 7 of the SLSA outlines several details that could be translated directly into SMART milestone criteria or monitoring, maintenance and mitigation strategies including: • Topsoil thickness • Deep ripping depth • Organic and fertiliser amelioration rates specific to various soil types • High density seeding rates for the achievement of rapid stabilisation • Hay mulching at specific rates until target groundcover achieved to reduce the risk and impacts of erosion	All milestones must be written in a manner that delivers on SMART principles as per section 4.1 of the PRCP Guideline.
18		The schedule refers to reference/analogue sites. Reference/analogue sites need to be identified in the	Provide specific reference sites that will be used in comparison to the rehabilitated areas for determining success of milestone criteria.

		planning part and justifications as to their representativeness and suitability given.	
19		Rehabilitation Area (RA) 5 of the PRCP Schedule indicates that existing rehabilitation of the South Pit, TSF Cell A, and Village infrastructure has occurred. However, no details on the rehabilitation works has been provided to support the completion of the rehabilitation milestones.	In accordance with section 126C(1)(j) of the <i>EP Act 1994</i>, update the PRC Plan to Include the following details about any existing rehabilitation already completed at the time of submission of the proposed PRC Plan: • a description of the rehabilitation works previously carried out • when the rehabilitation works commenced and were completed • whether the rehabilitation has been applied for or approved as progressively certified under the EP Act.
20	Milestone Completion Dates	Some of the milestone completion dates in the PRCP Schedule do not align with the PRC Plan. For example, RA5 in the PRCP Schedule would indicate that 54.4 hectares of area currently meets the definition of available for rehabilitation and has been nominated that RM8 has been completed prior to 2022. However, the next milestone date (RM9) for the area is not due for completion until 2040, in approximately 18 years. The PRC Plan indicates that this milestone has a typical timeframe of 10 years to achieve RM9.	Align milestone completion dates with the justification for the milestone completion dates proposed in the PRC Plan.
21		When determining when land becomes available for rehabilitation, future activities that have not been currently authorised in the EA cannot be taken into account. The PRC Plan indicates that Infrastructure areas are nominated to be	Review and update the timing of milestone criteria completion to align with the definition of available for rehabilitation as per section 126D(5) of the EP Act 1994, considering that only activities currently approved or

		retained for processing the material from other projects following the cessation of mining activities at Yandan.	currently in application for an EA amendment can be considered in the PRCP Schedule.
22	Improvement area Milestone criteria	MM1 for the pit areas states that "Final void high walls comply with maximum safe and stable slope angles as nominated in geotechnical stability assessment" however no milestone criteria has been included to undertake the geotechnical stability assessment for the pit areas.	Include all milestone criteria relevant to achieve the final PMLU.
23	Improvement area Milestone criteria	The PRC Plan indicates that the Main Pit is expected to be inundated with flood waters and pass floodwater in to and out of the pit via spillways at certain river heights/flood levels to the Suttor River.	Discuss how the objectives for the Main Pit achieve best practice management of the area and minimises risks to the environment from the passage of flood waters in to and out of the pit. Consideration should be given to the stability of the spillways to achieve the purpose of passing floodwater in to and out of the pit. Completion criteria for water quality must reflect releases from the main pit not causing environmental harm to land, surface waters or any recognised groundwater aquifer, other than the environmental harm constituted by the existence of the residual void itself.
24		Figures 9 and 10 of the SBE 2022 Report as part of the PRC Plan indicate spikes in Electrical Conductivity (EC) during flow events with an explanation provided as "...with the exception of short-term higher salinity experienced during the major regional flooding event in 2011. Comparison of upstream & downstream salinity would suggest an additional salt load entered the river during this significant event, similar to occurrences across the Queensland region for this event."	Provide commentary on the timing of releases from main pit and how they correlate or not with the peaks in EC in the Suttor River

25	Main Pit	The PRC Plan states that “For final closure, the existing permanent water cover and flushing pit design will be maintained using bunds.” The risk assessment also states that geotechnical assessment will be required for the main pit bund.	Include detail in the PRC Plan to support the functionality of this flushing pit design. Include details of the bund structures, how they will be maintained and include completion criteria for the bunds that ensures these structures will meet the objectives of safe, stable and non-polluting.
26	Main Pit	The PRC Plan states that “Additional monitoring infrastructure (monitoring bores around the Main Pit and a pit water level gauge) will be installed to obtain groundwater information and assist water balance modelling.”	Include the installation of the additional monitoring infrastructure and the water balance modelling as completion criteria including appropriate timeframes for completion.
27		The PRC Plan states that “ <i>minimal mixing is required with site or river water to meet receiving environment requirements.</i> ” However, no detail is included on what dilution is required to meet the receiving environment requirements or at what flow volumes the minimal mixing will occur.	Provide detail on the minimum mixing requirement to ensure no environment harm will be caused from releases of pit water to the receiving environment
28	East Hill Pit	MM3 identifies that the long-term pit water depth in the East Hill Pit will remain above the sandstone unit within the pit for the prevention of potential groundwater contamination, however the PRC Plan does not include details to support and justify the milestone.	Update the PRC Plan to provide information to support and justify the development of the proposed PRCP schedule.
29	East Hill Pit	Section 3.5.13 of the PRC Plan includes details of construction of a small (approximately 3 m) permanent landform bund to ensure that floodwaters do not enter the pit from the north during an extreme flood event (PMF event). No Improvement Area Rehabilitation Milestone has been included to consider this.	Include the construction of the bund completion criteria including appropriate timeframes for completion.

30	RM8 Revegetation	The milestone criteria for RM8 of the PRCP Schedule refers to “Seeding of target key species completed at a sowing rate of 6 kg/ha drawn from Table 23 Recommended species for revegetation (Yandan Gold Mine Transitional PRCP)”. Table 23 of the PRC Plan refers to <i>Standard ABA Classification Criteria typically used for material classification</i> .	Update milestone criteria to reflect correct referencing. It is recommended where possible to include the specifics for each Milestone Criteria instead of referring to tables and plans.
31		The PRCP Schedule includes milestone criteria for: • Standard barbed wire fencing erected around the perimeter of the residual void to prevent access by humans and fauna. • Safety bund constructed around perimeter of the residual void. The Main Pit is expected to be inundated with floodwaters periodically.	Provide detail in the PRC Plan as to how this infrastructure will remain stable in the flooding conditions expected in proximity to the Main Pit.
General			
32	Supporting information	The PRC Plan refers to several reports such as R&D Environmental 1999; Chapman & Dwyer 1999; SRK Consulting 1999a; SRK Consulting 1999b, HLA EnviroSciences 2001, Forbes 1988, Ross Mining N.L 1992, Scott 2000 and RLA 2019 however these reports have not been provided in Appendix G.	Provide all technical studies and reports relied upon in the development of the PRC Plan.