MT TODD PROJECT

Referral for Significant Variation
Requested by NT EPA

Prepared for:

Vista Gold Australia Pty Ltd
Level 1 / 43 Cavenagh St
Darwin NT 0800

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BASIS OF REPORT

This report has been prepared by SLR Consulting Australia Pty Ltd (SLR) with all reasonable skill, care and diligence, and taking account of the timescale and resources allocated to it by agreement with Vista Gold Australia Pty Ltd (the Client). Information reported herein is based on the interpretation of data collected, which has been accepted in good faith as being accurate and valid.

This report is for the exclusive use of the Client. No warranties or guarantees are expressed or should be inferred by any third parties. This report may not be relied upon by other parties without written consent from SLR.

SLR disclaims any responsibility to the Client and others in respect of any matters outside the agreed scope of the work.

DOCUMENT CONTROL

Reference	Date	Prepared	Checked	Authorised
680.30120-R03-v1.0	18 May 2023	Loren Yallop and Jill Woodworth	Brent Murdoch	Jill Woodworth
680.30120-R03-v2.0	19 Jul 2023	Loren Yallop and Jill Woodworth	Brent Murdoch	Jill Woodworth

EXECUTIVE SUMMARY

Introduction

Vista Gold Australia Pty Ltd (Vista Gold) have progressed the Mt Todd Project through its various stages of development to reach completion of a definitive feasibility study. A number of components have changed in the Tetra Tech *NI 43-101 Technical Report, Mt Todd Gold Project 50,000 tpd Feasibility Study* (2022 Feasibility Study) from the 2014 *Mt Todd Project Environmental Impact Statement* (EIS) and its supplement, approved under the previous *Environmental Assessment Act* during 2014.

This document provides supplementary information to the Referral Form submitted to the NT Environment Protection Authority (NT EPA) for the Mt Todd Project in response to the Call-in Notice under Section 53 of the *Environment Protection Act 2019* (EP Act) dated 24 November 2022. This document is intended to be read in conjunction with the Referral Form.

Scope and Impact of Project Changes

A key change is the extension of mine life, from the initial 13.5 years approved under the EIS to 17 years proposed in the 2022 Feasibility Study, becoming economically viable due to the increase in the price of gold since the initial approvals that allow mining of lower grade ore mor viable (however, it should be noted that the project remains at the same production rate of 50,000 t/day as detailed in the 2014 EIS).

The following changes from the EIS have been identified:

- Extension of mine life (from 13.5 years to 17 years)
- WRD extension (increased height and footprint area)
- RP1 resize
- Water treatment plant (increased capacity)
- Batman Pit design
- On-site camp (construction camp and permanent accommodation)
- Light vehicle access roads
- Onsite electrical power plant
- Sorter rejects
- Additional clearing

Table E.1 Project comparison

Project Component	EIS Project	Proposed Project
Construction period	2 years	2 years
Operation period	13 years	17 years
Closure period	4 years	4 years
WRD design – footprint	217 (ha)	240 (ha)

EXECUTIVE SUMMARY

Project Component	EIS Project	Proposed Project
WRD elevation	RL 470 m (415 MASL)	RL 430 m (370 MASL)
RP1	Construction of three coffer dams at Retention Pond 1 (RP1) and deepening of RP1	RP1 gradually reduced in size by ~50% and water transferred to PWP
Expansion and deepening of Batman Pit	Batman Pit will increase to approximately -400 m elevation over the LOM. The surface area of the pit will increase from approximately 40 ha to 137 ha.	Batman Pit will increase to approximately -400 m elevation over the LOM. The surface area of the pit will increase to 166 ha.
Sorter Rejects	Not included in EIS	Non-acid forming ore rejected from the new sorting process added to the processing plant will be used in construction of TSF1 and TSF2 and armouring of WRD.
Construction of a power station	The EIS (2014) proposed an on-site power plant to be built and operated by Vista. The new electric power plant (EPP) was proposed to be gas fired power station and included re-routing of the existing gas pipeline. Producing approximately 86MW via a Rolls Royce Trent 60 Wet Low Emissions single gas turbine generator and two reciprocating engines.	Vista has chosen the option of utilising a third-party power supplier. Vista is in possession of the permits necessary to construct the EPP and the third-party EPP supplier will use these permits for their EPP. The power generator can be multi fuel that can use hydrogen when it becomes available by reconfiguring the generators. Electrical power demands are estimated to be approximately 84 MW for the normal operating load and 104 MW for the peak demand.
Accommodation camp (Construction and Operation)	The construction workforce is expected to peak at about 450. The Construction Workforce will be housed in a purpose built camp. 70 workers at the construction camp. This would accommodate mainly FIFO / DIDO personnel and provide an ability to quickly increase capacity and house overflow peak period personnel to meet mining needs or maintenance shut downs. An onsite accommodation camp (i.e. the retention of a residual part of a construction camp) may be included in the long term on-site project infrastructure.	The Construction Camp will be hired for the nominal 24-month construction duration with the exception of 80 rooms which will be purchased from the outset as ongoing accommodation. Bulk earthworks and all services including power, communications, water, and sewerage will be completed prior to the arrival of the hire buildings. Permanent accommodation for plant operating staff will be in the town of Katherine at the discretion of operators. The 80 rooms retained from the construction camp will be utilised as temporary accommodation for staff, fly-in maintenance teams and shutdown personnel. The EIS did not define the camp location, the Feasibility Study has detailed the location.

EXECUTIVE SUMMARY

Project Component	EIS Project	Proposed Project
Roads	Construction of access roads, but no detail in the EIS.	The light vehicle access road will be constructed, teeing off the existing plant access road approximately 900 m south of the new plant, heading north around the eastern side of the existing heap leach pad, then east to the proposed construction camp for 1.1 km.

Conclusion

This Referral of Significant Variation was prepared to assess the potential impacts of the changes to the Proposed Project on the environment and meet the requirements of the Call-in Notice issued by the NT EPA in November 2022. As detailed in this referral report, the Proposed Project has fully considered the impacts of the project on the environment, in accordance with a referral of significant variation under the *Environment Protection Act 2019*.

Where environmental risks have been identified, administrative, environmental management and monitoring control measures have been proposed to manage risks to acceptable levels.

The social and economic impacts of the Proposed Project have also been assessed, with increased potential benefits having been identified for the local Katherine region, the NT, and Australia as a consequence of the construction and long-term operation of the Proposed Project.

Summary of Referral for Significant Variation

Change from EIS	Environmental Impact	Mitigation	Comments
Life of mine increase	Increase in Batman Pit footprint and WRD footprint. Clearance of Gouldian Finch foraging and breeding habitat	Gouldian Finch Management Plan Gouldian Finch Offset Strategy	Increased economic benefits for the Katherine community. Does not meet EPBC Act guidelines criteria for significant impact to endangered species.
Increase in WRD footprint	Clearance of Gouldian Finch foraging and breeding habitat		Does not meet EPBC Act guidelines criteria for significant impact to endangered species.
Decrease in RP1 size	None foreseen	RP1 water pumped to WTP for treatment and use in operations	Improved environmental performance reduced requirement for water from the raw water dam and reduces the potential for RP1 overtopping.

EXECUTIVE SUMMARY

Change from EIS	Environmental Impact	Mitigation	Comments
Water Treatment Plant	None foreseen	None required	Improved environmental performance
Batman Pit expansion	Clearance of Gouldian Finch breeding habitat	Gouldian Finch Management Plan Gouldian Finch Offset Strategy	Does not meet EPBC Act guidelines criteria for significant impact to endangered species.
On-Site Camp	Clearance of Gouldian Finch foraging habitat		
Access Roads	Clearance of Gouldian Finch foraging habitat Clearance of Gouldian Finch breeding habitat		
Energy Demands	Increased life of mine will result in increased fuel usage over the mine life and increased GHG emissions	Vista Gold has committed to purchasing multi-fuel generators that can be converted to hydrogen when it becomes economically viable	Improved environmental performance by using hydrogen as a fuel source.
Sorter Rejects	None foreseen.	None required.	Improved environmental performance by having rock to be used outside the TSF confirmed not to have AMD potential

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1 Introduction

Vista Gold Australia Pty Ltd (Vista Gold) purchased the mineral lease rights to the Mount Todd Project Area (MTPA) on 1 March 2006 under an Operations and Management Agreement (Agreement D92226) with the Northern Territory Government (NTG). Vista Gold has been undertaking the Care and Maintenance activities on the MTPA on behalf of the NTG under this agreement.

The MTPA is a brownfield / disturbed site that has a history of gold mining dating back more than one hundred years. Mining infrastructure such as tailing storage facility (TSF1), waste rock dump (WRD), water storage areas and the remains of processing facilities remain on site. A care and maintenance program were implemented by the Northern Territory Government from 2000, and was continued by Vista Gold after 2006, in anticipation of favourable market conditions that would provide the opportunity to return the site into production. The intention of Vista Gold is to re- establish and operate the MTPA and rehabilitate the site progressively with the final works completed as outlined in the Closure Plan.

Vista Gold have progressed the Mount Todd Project through its various stages of development to reach completion of a definitive feasibility study. The definitive feasibility study has resulted in changes to the Mt Todd Project that have been included in the Operations Mining Management Plan provided to the Department of Industry, Tourism and Trade (DITT). The Northern Territory Environment Protection Authority (NT EPA) determined that these changes have the potential to have a significant impact on the environment. Therefore, the NT EPA provided Vista Gold with a Call-In Notice dated 24 November 2022 to address the potential impacts that these changes may have on the environment.

1.1 Purpose of this report

In accordance with the Northern Territory *Environment Protection Act 2019* (EP Act) and the *Environment Protection Regulations 2020* (EP Regulations), proposals that have the potential to have a significant impact on the environment require referral to the Northern Territory Environment Protection Authority (NT EPA). Under the EP Act, a proponent has the responsibility to refer a proposal to the NT EPA if it has the potential to have a significant impact on the environment, including a variation to a proposal / action, or it meets a referral trigger. As such, it is the requirement of a proponent to undertake a self-assessment of the proposal prior to beginning any works associated with the proposal.

This referral has been prepared by SLR Consulting Australia Pty Ltd (SLR) on behalf of the proponent, Vista Gold, for the purpose of a decision being made under the Northern Territory (NT) *Environment Protection Act 2019*.

The purpose of this report is to:

- Describe the Proposed Project's expanded activities and required infrastructure.
- Identify any substantial changes to the potential environmental impacts of the Proposed Project compared to the EIS Project and the additional mitigations that may be required to manage these impacts to acceptable levels.
- Be submitted as a referral of significant variation to the existing EIS Project approval to request formal approval of the Proposed Project.
- Respond to call-in notice dated 24 November 2022.

1.2 Proponent details

Denver, Colorado-based Vista Gold Corporation (NYSE VGZ and TSX: VGZ.TO) is an international gold mining company. Vista Gold Corporation through its subsidiary Vista Gold Australia Pty. Ltd. is focused on the development of the Mt Todd Project Area (MTPA) in the NT.

Vista Gold is a wholly owned subsidiary of Vista Gold Corporation. Proponent contact details are provided in **Table 1**.

Table 1 Proponent contact details

Characteristic	Details
Company name	Vista Gold Australia Pty Ltd
Registered office	Level 1, 43 Cavenagh St Darwin NT 0800
Postal address	GPO Box 3449, Darwin NT 0801
Contact Details	Brent Murdoch General Manager and Director +61 8 8941 9105 (Darwin Office) +61 488 100 314 bmurdoch@mttodd.com.au

2 EIS Project

Vista Gold Australia Pty Ltd (Vista) submitted a Draft Environmental Impact Statement (EIS) (hereafter referred to as 'Completed EIS'), the EIS Recommendations were incorporated in the Mine Management Plan (MMP) and the Mining Authorisation was issued for the Mt Todd Gold Mine (hereafter referred to as the 'EIS Project') to the Northern Territory Environment Protection Authority (NT EPA) in June 2013.

The EIS Project comprised of the Mt Todd Gold Mine site which is a brownfield / disturbed site. Mining infrastructure such as tailing dams, waste rock dump and remains of processing facilities remain on site. Mining will be an open pit truck and shovel operation using hydraulic shovels, front end loaders and haul trucks that will transport materials to the crusher. The crushed material will be stockpiled, and the gold will be extracted using Carbon in Leach (CIL) followed by an adsorption, desorption and recovery process. The CIL tailing will be detoxified and sent to an impoundment from which plant process water will be recycled. Approximately 17.8 Mtpa of ore will be processed. The product out of the gold room will be gold doré (unrefined gold bars). Gold doré will be transported for onward secure shipment to a refinery. The Project will have a life of around 19 years inclusive of construction, operations, and closure. Construction is anticipated to take two years. The mine is scheduled to operate for an additional 13 years, and closure and rehabilitation is expected to take four years.

2.1 Environmental approvals to date

In 2011, the then Federal Minister for the Environment determined the Project to be a controlled action and assessed the proposed project under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). EPBC approval was granted in January 2018. The approval document (EPBC 2014/7260), including approval conditions, has been provided in **Attachment R1**.

In 2014, the NT EPA assessed and subsequently approved the Project under the *Environmental Assessment Act 1982*. Assessment Report 76, containing 28 recommendations, was released in June 2014.

The MTPA Care and Maintenance Mining Management Plan (MMP) approved in 2018 Authorisation 0331-04 V4.

Vista Gold received approval for an Operations MMP for the MTPA in 2016. Vista Gold has submitted an amendment that contain the changes detailed in the 2022 Feasibility Study. The MTPA Operations Mining Management Plan is currently being assessed by DITT.

3 Proposed Variation of Existing Approval

Table 2 shows the elements of the EIS Project and changes in the Operations Mining Management Plan included to meet updates of the Feasibility Study (2022) that are included in the MTPA Operations Mining Management Plan (2022) currently being assessed by DITT.

Table 2 Summary of EIS Project components

Element	Characteristics	
	EIS (Completed)	Referral (Proposed)
Project Life		
Construction period	2 years	2 years construction 0.5 years commissioning and ramp up
Operational period	13 years	17 years
Closure and rehabilitation period	4 years	4 years
TOTAL	**19 years**	**23.5 years** Additional details are provided in **Section 3.1.**
Production Estimates		
Ore mined	209.4 Mt over the mine life.	267 Mt over the mine life.
Waste mined	562.3 Mt over the mine life.	671.3 Mt waste to dumps over the mine life.
Ore processing rate	Up to 17.8 Mtpa.	Up to 17.8 Mtpa. No change to maximum ore processed per year.
Mining		
Batman Pit	Extension of the existing Batman Pit from its current depth of 114 m to 588 m, and surface area of 40 ha to 137 ha.	Extension of the existing Batman Pit from its current depth of 114m to 448 m, and surface area of 40 ha to 166 ha, an increase of 14 ha from the EIS approved pit. Additional details are provided in **Section 3.5**.
Materials handling	Conventional drill, blast, shovel and haul operation	No change.
Waste	Up to 510 Mt trucked to waste rock dump (WRD) over the mine life	Up to 671.3 Mt waste trucked to WRD over the mine life.
Operations	24 / 7, 365 days per annum	No change.

Element	Characteristics	
	EIS (Completed)	Referral (Proposed)
Infrastructure and facilities		
WRD	Expansion of the existing WRD from 24 m to 350 m (RL 470 m) in height and a footprint of 70 ha to 217 ha to provide capacity of up to 510 Mt.	Expansion of the existing WRD from 24 m to 310 m (RL 430 m) in height and a footprint of 70 ha to 240 ha to provide capacity of up to 670 Mt. Additional details are provided in **Section 3.2**.
RP1	Maximum storage capacity 1,226,548 m^3. Containment pond of WRD AMD runoff. Construction of three coffer dams and deepening of RP1. The WRD will extend into the northern portions of RP1. To maintain the storage capacity of RP1 the depth of RP1 will be increased. RP1 waters will be treated prior to discharging during mining.	The footprint of the WRD will extend over part of RP1. Water from RP1 will be pumped to Process Water Pond at 443 m^3/hr for use in processing. The storage capacity of RP1 does not need to be increased due to the removal of water for treatment and processing. No water from RP1 will be discharged to the environment during mining. The location of RP1 will not change. Additional details are provided in **Section 3.3**.
TSF1	Raising the existing facility (TSF1) from 16m to approximately 34m.	No change.
TSF2	Construction of a new facility (TSF2) 300ha in area and up to 60m high.	No change.
Low Grade Ore Stockpile 1	Processing and / or reclamation of the existing stockpile (LGO1).	No change.
Low Grade Ore Stockpile 2	Construction and processing of a new stockpile (LGO2) with a footprint of 47ha.	No change.
Anaerobic treatment wetlands	Approximately 10 ha in area.	No change.
Water Treatment Plant	Treatment of 500 m^3 /h to provide potable supply (1%), on-site use (1.7 m^3 /h) and to meet discharge criteria to the Edith River.	Treatment of 600 m^3/hr to provide water for processing and dust suppression. The current water balance shows that the discharge of treated water to the Edith River during operations is unlikely, however, the ability to discharge to the environment will be maintained to allow for options to manage excess water due to rain events or plant shutdowns. Additional details are provided in **Section 3.4**.
Sewage	Modular treatment plant.	No change.
Explosives depot	Explosives stored in ammonium nitrate / fuel oil storage bins, powder magazine and cap magazine.	No change.
Clay borrow area	From on-site clay borrow areas or from an off-site source.	No change.

Element	Characteristics	
	EIS (Completed)	Referral (Proposed)
Camp	Located within 25 km of the mine site and subject to separate approval	On-site Construction Camp sized for approximately 468 construction workers. Approximately 5 ha. Additional details are provided in **Section 3.6**.
Camp access road	Not addressed in EIS	Development of an unsealed access road, teeing off from the realigned access road near TSF1, approximately 900m south of the new plant, to the construction camp near the raw water dam. (new road will be approx. 1.1 km in length by 22 m wide resulting in an approximate footprint of 2.4 ha.) Additional details are provided in **Section 3.7**.
Power	Gas fired power station located on-site. Approximately 86MW produced via a Rolls Royce Trent 60 Wet Low Emissions single gas turbine generator and two reciprocating engines. 8.9 PJ of gas will be used per annum.	Electrical power demands are estimated to be approximately 84 MW for the normal operating load and 104 MW for the peak demand. Power Generation for the project will be conducted by a third-party and will be by natural gas reciprocating engines located in the Power Station around 8 km to the south-west of the process plant (off the ML). The power generated will be transmitted to the process plant by dedicated 132 kV overhead power lines. Additional details are provided in **Section 3.8**.
Sorter Rejects	Not addressed in EIS	Vista Gold will be sorting reject ore to provide greater reuse options (i.e. Non-acid forming ore rejected from the new sorting process added to the processing plant will be used in construction of TSF1 and TSF2 and armouring of WRD). This is a change from the sorting process described in the EIS and will benefit all aspects of mine operations. Additional details are provided in **Section 3.9.**
Closure and Rehabilitation		
WRD	Progressive rehabilitation of external batters using non-acid forming (NAF) waste rock with store and release cover installed.	No change.
Tailings Storage Facilities	Rehabilitation with NAF rock, low permeability material (LPM) and plant growth medium (PGM).	No change.
Low Grade Ore Stockpile 2	Rehabilitation with NAF rock, LPM and PGM	No change.

Element	Characteristics	
	EIS (Completed)	Referral (Proposed)
Plant site	Infrastructure and facilities removed, and site graded and rehabilitated.	No change.
Water treatment	Wastewater treated in the water treatment plant until acid and metalliferous drainage (AMD) flow and water quality is conducive to passive / semi-passive water treatment. Construction of three passive / semi-passive water treatment systems to provide long term treatment of water from TSF1, TSF2, WRD and reclaimed heap leach pad (HLP).	No change.
Batman Pit	Will remain as a void with a pit lake developing.	No change.
Workforce		
Construction	450 peak	468 peak
Operations	350 peak	525 peak
Decommissioning	40 peak	40 peak

3.1 Extension of mine life

The extension of mine life by an additional 4 years has resulted due to the operation becoming economically viable as a result of the increased price of gold allowing the mining of lower grade ore. It should be noted that the project remains at the same production rate of 50,000 t/day as detailed in the 2014 EIS.

3.1.1 Potential impacts

- Potential environmental impacts from the increased life of mine are discussed in each section below.
- Increased volume of WRD and enlarging Batman Pit increases the life of the mine by four years, extending benefits to the workforce and wider communities and economy.
- Employment opportunities as a result of the ongoing mining is anticipated to enhance the economy and welfare of the surrounding communities and businesses.

3.1.2 Mitigation

Mitigation for each change to the Mt Todd project are discussed in each section below.

3.2 WRD

The WRD proposed in the 2022 Feasibility Study varies in both area and elevation from the WRD assessed under the 2014 EIS. The revised WRD design encapsulates a total capacity of 670 Mt of waste rock. This increase is associated with the extension mine life, from the initial 13.5 years approved under the EIS to 17.5 years proposed in the 2022 Feasibility Study, becoming economically viable due to the increase in the price of gold allowing the mining of lower grade ore. It should be noted that the project remains at the same production rate of 50,000 t/day as detailed in the 2014 EIS.

The changes to the design of the WRD relate to the footprint and elevation **only**, all other design parameters (slope angles, construction method, encapsulation, cover layers, drainage design and ramp grades) remain unchanged to those in the 2014 EIS.

The elevation at the top of the proposed WRD is 40 m lower than the WRD design in the assessed 2014 EIS. The footprint of the proposed WRD is 23 ha larger than the WRD assessed in the 2014 EIS (**Figure 1**). The revised design is a more traditional shape with a flatter top, as suggested in Recommendation 4 the EIS ("…*For the high PAF waste rock proportion expected at Mt Todd this will necessitate a relatively low level WRD covering a large area, rather than the high pyramid shape proposed*.").

Table 3 Comparison of 2014 EIS and 2022 FS WRD design

Aspect	2014 EIS	Proposed	Change	Change (%)
Footprint (ha)	217	240	+23	~10.7 (equivalent to less than 0.02% of SOCS30)
Elevation at top of WRD (RL)	470	430	-40	-8.5
Effective Angle (°)*	29	30	+1	3.3
Inter-bench Angle(°)	34	34	0	0
* Angle varies depending on the existing topography and toe elevation.				

The WRD will be constructed with NAF material being placed to the outside of the WRD and PAF along with unknown material would be placed on the inside of the WRD so that this material can be encapsulated in the ultimate dump. The WRD design is shown in **Figure 1**. This waste dump is designed to cover the current waste dump on the site.

The location of the WRD is constrained by West Creek and the distance between Batman Pit and the WRD toe. Alternative areas considered for the WRD location were dismissed due being culturally significant and being located closer to the Yinberrie Hills (and therefore potentially additional impacts on the Gouldian Finch).

3.2.1 Potential impacts

The increased size of the WRD will eventually require the clearing of approximately 5.5 ha Gouldian Finch breeding habitat and approximately 5.2 ha of Gouldian Finch wet season foraging habitat as the WRD extends over RP1. All seepage from the WRD will be captured by RP1. The differences are shown in **Figure 2**.

3.2.2 Mitigation

All activities relating to the WRD will be conducted according to the requirements in the approved Waste Rock and AMD Management Plan (**Attachment R3** Section 4), Erosion and Sediment Control Plan (**Attachment R4** Section 4) and the Stormwater Management Plan (**Attachment R5** Section 8-9).

The clearance of the Gouldian Finch habitat will be mitigated and managed according to the requirements of the approved Draft Gouldian Finch Management Plan (**Attachment R6** Section 7-11) and the Draft Gouldian Finch Offsets Strategy (**Attachment R7** Section 4-9) all developed in accordance with the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) *Environmental Offsets Policy 2012* (DSEWPaC, 2012a). All these plans were developed under the guidance of the Gouldian Finch Technical Advisory Committee (TAC) and other stakeholders. It should be noted that both of these documents remain in draft form and will be reviewed and updated, in consultation with a re-convened TAC, prior to the Project commencing.

3.3 RP1 resize

The WRD footprint is unchanged on the west side and continues to avoid placing material in the West Creek drainage. The WRD extends a further 180 m to the south than that assessed in the EIS, this now has the toe ~1.2 km from the Edith River (**Figure 2**). The footprint of the WRD will extend over part of RP1 reducing the water storage capacity of RP1. Water from RP1 will be pumped to Process Water Pond at 443 m^3/hr for use in processing. No water from RP1 will be discharged to the environment during mining. The current depth of RP1 will be maintained as reduced storage will be required due to RP1 water being treated and used in processing.

3.3.1 Potential impacts

The incorporation of pumping infrastructure to pump water from RP1 to the WTP at 443 m^3/hr for treatment and use in operations will reduce the risk of untreated water from RP1 entering the environment and reduce the requirement for water from the raw water dam.

3.3.2 Mitigation

Management of RP1 water will be implemented according to the approved Water Management Plan (**Attachment R8** Section 6-7) and discharge of treated water to the environment from the WTP will be managed under a WDL.

3.4 Water Treatment Plant (WTP)

The WTP is proposed to be upgraded from 500 m^3/hr to enable the treatment of 600 m^3/hr to provide water for processing and to supplement dust suppression.

The current water balance shows that the discharge of treated water to the Edith River is unlikely, as all water will be required for ore processing and dust suppression. However, the ability to discharge treated water to the environment (Edith River) will be maintained to allow for options to manage excess water due to rain events or plant shutdowns. Any discharge will be managed under a WDL.

3.4.1 Potential impacts

As discussed above, all treated water will be used in mining activities. In instances when the site is to be inundated with water and water needs to be released to the environment to increase free board in the water storage facilities, water will be pumped to the WTP for treatment prior to discharge to the Edith River via Batman Creek and managed under a WDL.

3.4.2 Mitigation

The increase in WTP treatment capacity will allow the discharge of treated water to the environment if required. Treated water quality will meet the 95% species protection Guidelines (ANZG 2018). Vista Gold does not intend to treat the water to meet 99% species protection level guidelines. Further information is provided in the Water Treatment Plant Report (**Attachment R9** Section 2-4).

3.5 Batman Pit Expansion

Changes to the Batman Pit design (depth and footprint) are due to the extension of mine life, from the initial 13.5 years approved under the EIS to 17.5 years proposed in the 2022 Feasibility Study, becoming economically viable due to the increase in the price of gold since the initial approvals. It should be noted that the project remains at the same production rate of 50,000 t/day as detailed in the 2014 EIS.

Detailed pit designs were completed as part of the Feasibility Study and these include an ultimate pit and three cut-backs (internal pits). The ultimate pit has been designed to allow mining economic resources identified by Whittle pit optimisation, while providing safe access for people and equipment. Internal pits or phases within the ultimate pits were designed to enhance the project by providing higher-value material to the processing plant earlier in the mine life.

The size of the Batman Pit will be increased from its current size during mining. It will increase to approximately -448 m elevation over the LOM. The EIS approved surface area of the pit (137 ha) will increase to 166 ha, an increase of 29 ha (**Figure 3**).

The 2014 PFS slope parameters were based on geotechnical studies by Golder Associates and Ken Rippere (Golder, September 13, 2011). These were reviewed by R. Barkley of Call & Nicholas, and the slope parameters were modified based on his recommendations.

Table 4 Batman Pit slope parameters

Zone	Sector	Slope Angle (°)	Adjusted Angle (°)
1	North-east	36	33
2	East	40	36
3	South	55	50
4	South-west	55	55
5	North-west	51	51
6	North-east & East Weathered	33	33
7	South & South-west Weathered	45	45
8	North-west Weathered	45	45

The final ultimate pit design uses switchbacks to maintain the ramp system on the eastern side of the pit. This allows for better traffic flow between pit phases and allows the west side of the pit to best follow the dip of the deposit. In all, there are seven switchbacks in the ultimate pit design.

The footprint of the Batman Pit extension considered the following:

- Additional drilling results identified ore to the north of the existing Batman Pit. As such, Vista did not want to cover this area with infrastructure if it will be mined in the future.
- The eastern side of Batman Pit is the Hanging Wall side of the ore body. Appropriate pit design avoids locating infrastructure over this area.
- The pit is constrained by road on one side.
- The extension of the Pit is towards the plant, an area that is already disturbed.

3.5.1 Potential impacts

The increased size of the Batman Pit footprint will eventually require the clearing of approximately 14 ha Gouldian Finch breeding habitat as the Batman Pit is mined due to the mine life extension.

3.5.2 Mitigation

The clearance of the Gouldian Finch habitat will be mitigated and managed according to the requirements of the Draft Gouldian Finch Management Plan (**Attachment R6** Section 7-11) and the Draft Gouldian Finch Offsets Strategy (**Attachment R7** Section 4-9) all developed in accordance with the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) *Environmental Offsets Policy 2012* (DSEWPaC, 2012a). All these plans were developed under the guidance of the Gouldian Finch TAC and other stakeholders. It should be noted that both of these documents remain in draft form and will be reviewed and updated, in consultation with a re-convened TAC, prior to the Project commencing.

Stormwater management will be conducted according to the Stormwater Management Plan (**Attachment R5** Section 8-9). Batman Pit closure will be managed under the Predictive Geochemical Modelling (**Attachment R18**) and the Post Closure Pit Lake Water Quality Report (**Attachment R19**).

Figure 1 WRD design

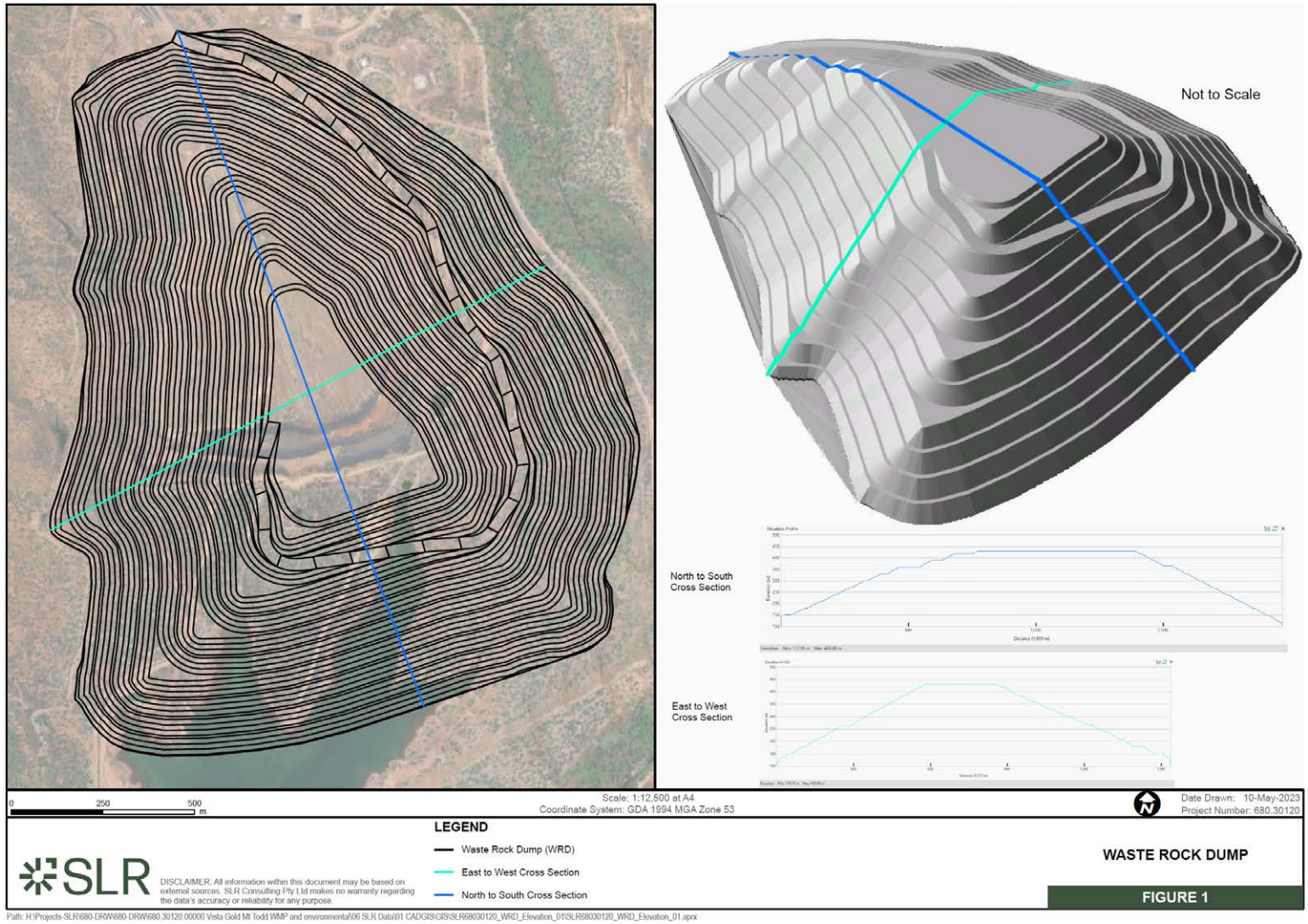


Figure 2 Proposed changes to WRD footprint

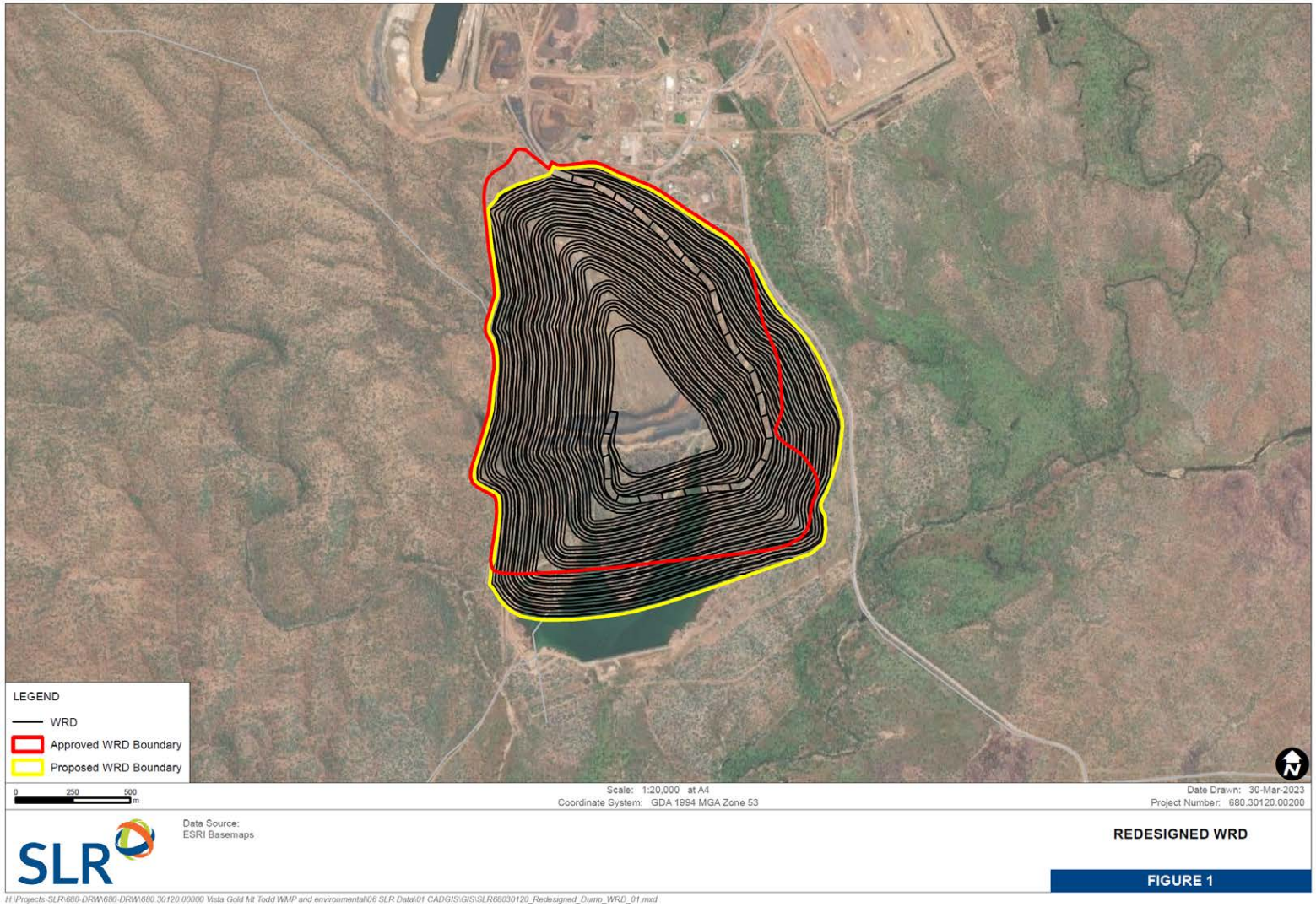
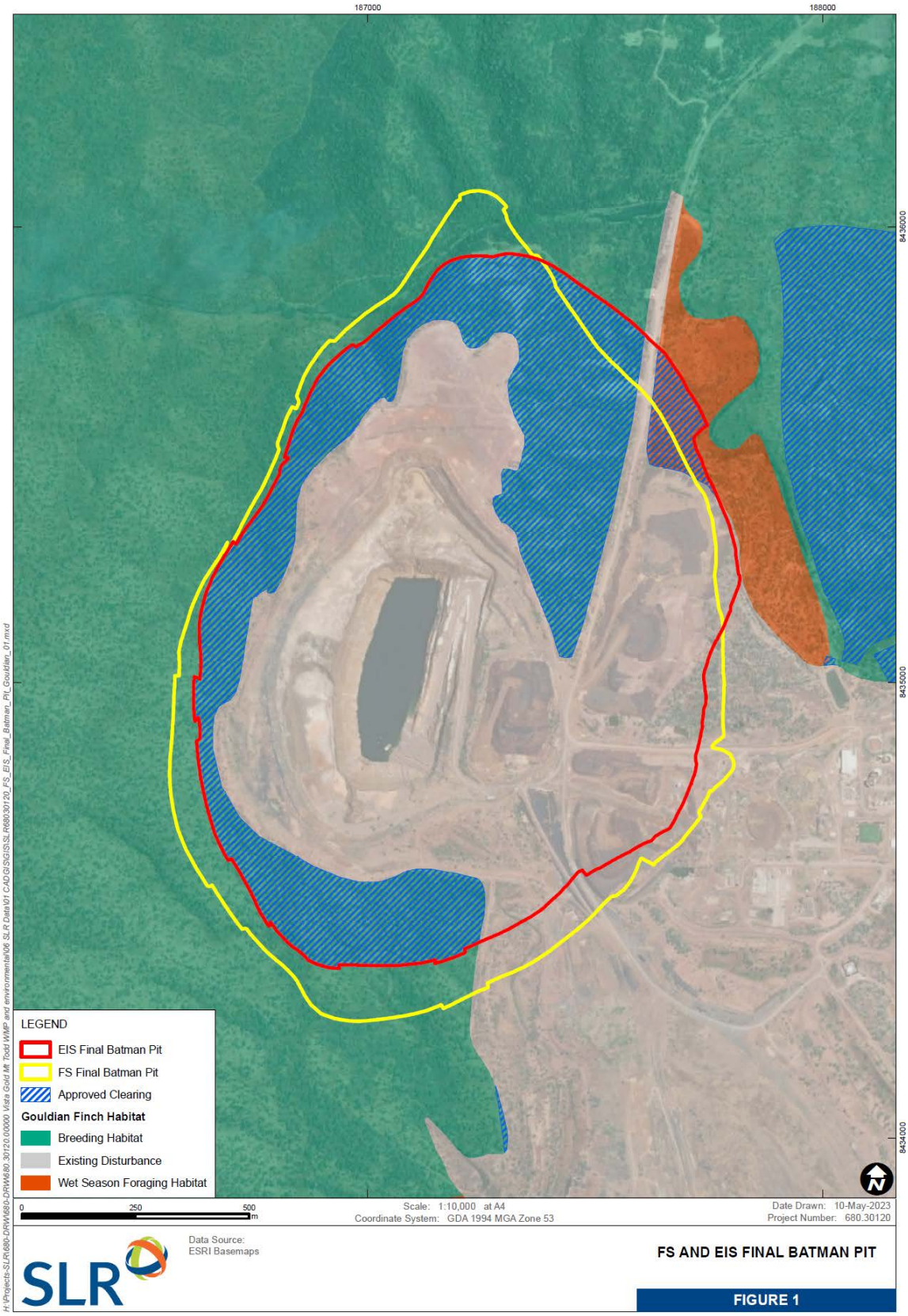


Figure 3 Proposed changes to Batman Pit design



3.6 On-site Camp

3.6.1 Construction Camp

The Construction Camp will be hired for the nominal 24-month construction duration with the exception of 80 rooms which will be purchased from the outset. Bulk earthworks and all services including power, communications, water, and sewerage will be completed prior to the arrival of the hire buildings.

The accommodation village will consist of the following building and services:

- 468 rooms certified in accordance with the Building Code of Australia
- First Aid
- Laundry Buildings
- Male/Female Ablutions
- Dry Mess including Kitchen/Dining/Crib Facilities
- Wet Mess
- Ice Rooms
- Administration Building
- Covered Outdoor Area
- Gymnasium Building
- Power Supply and Distribution
- Communications Nodes and Distribution
- Potable Water and Reticulation
- Fire Services
- Putrescible Waste Dump
- Wastewater Treatment Plant
- LV Parking Area and Bus Drop Off/Pick Up and
- Unsealed Access Road.

Accommodation will be demountable units that typically comprise four rooms to each 15 m by 3.5 m unit. All units will have potable water reticulation, an en-suite bathroom and will be plumbed into a centralised modular sewage system. Each room will be fitted with air-conditioning, satellite TV, broadband internet and telephone.

The accommodation village will be landscaped and provided with a network of paths to enable easy access. Facilities such as a laundry block and a central kitchen and dining room will form part of the accommodation village. The kitchen drains will incorporate grease traps for the collection and removal of grease prior to delivery to the sewage treatment facility.

An appropriately sized Biomax Wastewater Treatment Plant with an associated spray field will also be installed at the construction camp which will be connected to the camp's sewer reticulation system. A smaller system will be installed near the gate house to service that along with the administration and emergency services buildings.

A new light vehicle access road will be constructed, teeing off the existing plant access road approximately 900 m south of the new plant, heading north around the eastern side of the existing heap leach pad, then east to the proposed construction camp.

3.6.1.1 Location

The Construction Camp will be located east of the existing TSF1, north of the proposed TSF2 and due south of the raw water reservoir (**Figure 4**). **Figure 5** shows the construction camp layout.

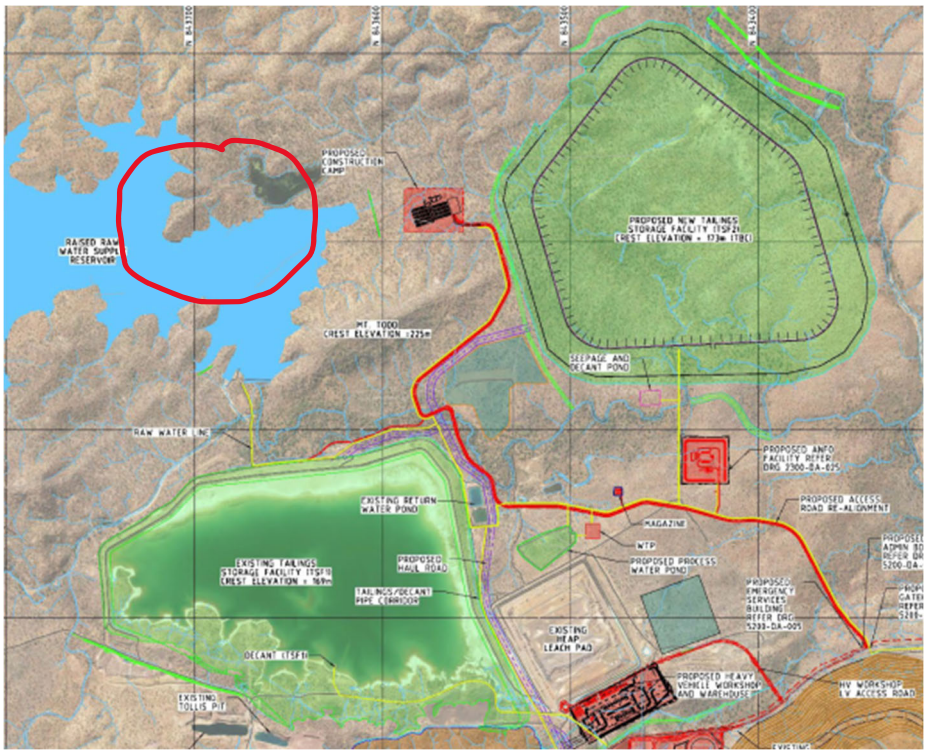


Figure 4 Location of Camp (Tetra Tech 2022)

3.6.2 Potential impacts

The development of the construction camp on-site will require the clearing of approximately 5 ha Gouldian Finch foraging habitat.

3.6.3 Mitigation

The clearance of the Gouldian Finch habitat will be mitigated and managed according to the requirements of the approved Draft Gouldian Finch Management Plan (**Attachment R6** Section 7-11) and the Draft Gouldian Finch Offsets Strategy (**Attachment R7** Section 4-9) all developed in accordance with the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) *Environmental Offsets Policy 2012* (DSEWPaC, 2012a). All these plans were developed under the guidance of the Gouldian Finch TAC and other stakeholders. It should be noted that both of these documents remain in draft form and will be reviewed and updated, in consultation with a re-convened TAC, prior to the Project commencing.

3.6.4 Permanent Accommodation

Permanent accommodation for plant operating staff will be in the town of Katherine at the discretion of operators. A portion of the construction camp will remain after the construction period for temporary accommodation for staff, fly-in maintenance teams and shutdown personnel.

A bus transit area consisting of three bus shelters will be constructed in the town of Katherine for transport of operators to and from site. This is to ensure staff will not be driving from the Mt Todd mine site to Katherine after 12-hour shifts.

3.7 Light vehicle access roads

Two new light vehicle access roads will be constructed, one teeing off the existing plant access road approximately 900 m south of the new plant, heading north around the eastern side of the existing heap leach pad, then east to the proposed construction camp. This road is estimated to be 1.1 km in length with a width of 22 m resulting in a footprint of approximately 2.4 ha.

The second road tees off the existing access road approximately 300 m south of the plant to access the new Heavy Vehicle workshop. This road will utilise a floodway to cross Batman Creek.

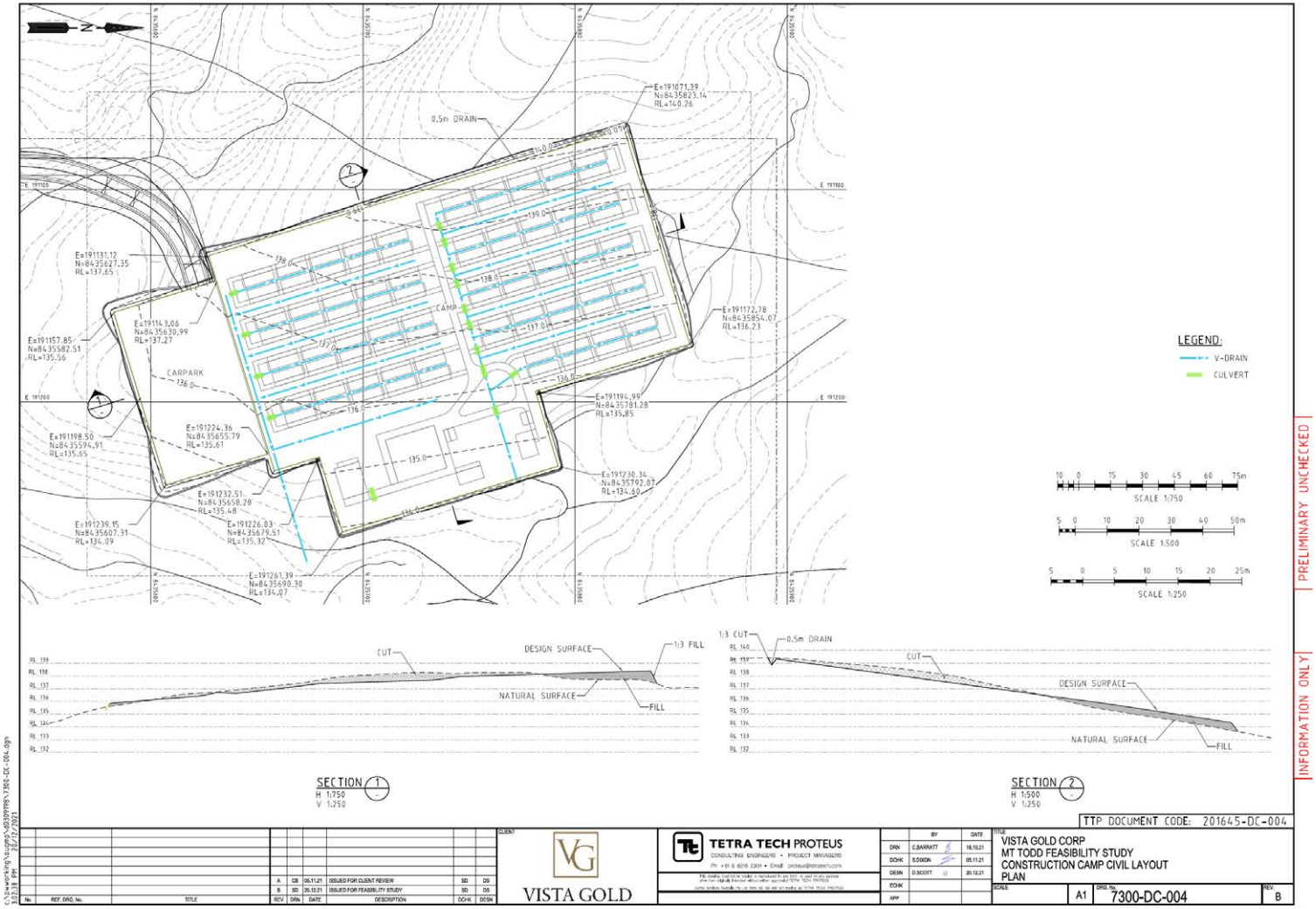
3.7.1 Potential impacts

The access road to the construction camp will require the clearing of approximately 1.2 ha Gouldian Finch breeding habitat and approximately 1.2 ha of Gouldian Finch wet season foraging habitat.

3.7.2 Mitigation

The clearance of the Gouldian Finch habitat will be mitigated and managed according to the requirements of the approved Draft Gouldian Finch Management Plan (**Attachment R6** Section 7-11) and the Draft Gouldian Finch Offsets Strategy (**Attachment R7** Section 4-9) all developed in accordance with the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) Environmental Offsets Policy 2012 (DSEWPaC, 2012a). All these plans were developed under the guidance of the Gouldian Finch TAC and other stakeholders. It should be noted that both of these documents remain in draft form and will be reviewed and updated, in consultation with a re-convened TAC, prior to the Project commencing.

Figure 5 Construction Camp Layout



3.8 Energy Demand

Vista Gold requires electrical energy to drive process and infrastructure equipment. The EIS (2014) proposed an on-site electrical power plant (EPP) to be built and operated by Vista. However, Vista have now chosen the option of utilising a third-party power supplier.

The mine's electrical power demands are estimated to be approximately 84 MW for the normal operating load and 104 MW for the peak demand (i.e to start up of plant) based upon the load list developed as part of the Feasibility Study. Also, as part of the Feasibility Study, trade-off studies were completed examining purchasing power from the grid, third-party power suppliers, and building and operating the EPP.

The results of the trade-off studies were:

- Examination of the local electric grid quickly showed that the local grid can neither meet the project demands nor is reliable enough to pursue this direction.
- Two, highly reputable third-party electric power generating companies responded to the Request For Proposal for supplying the project with electric power. Both of these companies operate EPPs in Australia, as well as elsewhere in the world, and in particular supply electricity to other mining operations.
- There was no longer a need for Vista to pursue an owner/operator EPP as part of the project based on the third-party proposals due to the competitive pricing proposals.

Vista is in possession of the permits necessary to construct the EPP and the third-party EPP supplier will use these permits for their EPP. The third-party supplier will be responsible for the EPP and the high-tension power line needed to operate the project. The connection point will be the sub-station at the plant site.

The third-party supplier will be responsible for the EPP and the high-tension power line needed to operate the project. The connection point will be the sub-station at the plant site.

The power station will include:

- Main 33kV switchroom
- Buried cables
- 132kV overhead power lines (stepped down to 33kV to feed the Main 33kV Switchroom)

Power Generation for the project will be by natural gas reciprocating engines located in the Power Station around 8km to the south-west of the process plant. The power generated will be transmitted to the process plant by dedicated 132kV overhead power lines. At the process plant, the 132kV is stepped down to 33kV to feed the Main 33kV Switchroom. The Main 33kV Switchroom then distributes 33kV to other switch rooms across the process plant areas. Electrical power from the third-party power supplier is supplied via 132kV overhead power lines, and step down to 33kV at the process plant.

The existing Power and Water Corporation's 22 kV grid will no longer supply the process plant, however existing services which will remain will continue to be fed from the 22kV grid such as construction power, the RP1 pump station and associated MCC.

Table 5 Onsite EPP specifications

Input	Specifications
Generator Manufacturer	Wartsila
Mode	20V31SG
Plant Required Net Output (MW)	88.9
Estimated Fuel Demand (GJ/yr)	7,045,654

Figure 6 shows the proposed location of the EPP at the junction of the Amadeus gas pipeline and the Transmission line.

3.8.1 Potential impacts

Increased life of mine will result in increased cumulative fuel demands and resulting greenhouse gas emissions over a longer time frame.

3.8.2 Mitigation

Vista Gold has committed to purchase power generators that are able to be converted to multi-fuel, including hydrogen, for conversion when new environmentally friendly fuels become economically viable.

Figure 6 Power station location (Vista Gold 2023)

3.9 Sorter Rejects

Vista Gold will be sorting ore to enable less ore to be sent to the grinding and leaching part of the process flow. This will provide greater reuse options, thus reducing the capacity needed in the Tailings Dams This is a change from the EIS assessed as no sorting process was included in the EIS. The sorting process described in the Feasibility Study will benefit all aspects of mine operations. Characteristic of rejects utilising this method is that they are non-acid forming (NAF) and can therefore be allocated to construction activities (i.e. tailings dam construction and/or covers, armouring of WRD etc.). Therefore, this material is removed from the volume required to be stored in the Tailings Dam.

Further, there is a potential opportunity for Jawoyn business to be established selling a portion of these rejects to the construction industry (aggregate/road sub-base etc.).

The sorting process is broken down into stages:

STAGE 1 – X-ray transmission (XRT) – stage 1 of sorting identifies and retains ore with pyrites (beneficiation).

STAGE 2 – Rejects – laser sorted to retain ore that has quartz (scavenge).

Stage 1 and 2 combined for grinding with both these ores bring classified as NAF.

This NAF mine waste will be used for construction and final reclamation cover for the mine in particular the WRD. The construction material will be used for tailings dam construction at the tailings storage facilities (TSF 1 and TSF 2). Other NAF material will be used for reclamation purposes covering tailings and other facilities at the end of the mine life. Sorter tailings will be generated from the process plant sorter and hauled to a temporary stockpile near the sorter. This material is considered NAF. While sorter rejects are shown to be re-handled at the end of the mine life as part of the reclamation material, some of these rejects will be used along with other mined NAF waste material to construct the outer rings of the waste dump where appropriate. This allows for the encapsulation of PAF material in the centre of the WRD as described in Section 16.4—WRD Construction of the Feasibility Study (Tetra tech 2022).

20% of the total feed into the process plant is sorted and 50% of that is rejected, therefore 10% of the total feed is rejected. This equates to an average of 5,500 T per day that has been tested and identified as NAF which can be used for construction, capping, lining drainage infrastructure etc.

3.9.1 Potential impacts

No adverse environmental impacts predicted.

3.9.2 Mitigation

No mitigation required.

3.10 Clearing

The additional clearing required for the proposed changes as listed in **Section 3** for the increased size of the WRD and Batman Pit, clearing for the access road to the construction camp and clearing required for the construction camp is shown in **Table 6**. An additional ~47 ha of designated Gouldian Finch wet season foraging and breeding habitat will be required as shown in **Table 6**. The required clearing will result in an additional clearance of approximately 0.045% of the Yinberrie Hills Sites of Conservation Significance (SOCS) which consist of approximately 102,500 ha (Woinarski 2013). (See **Attachment R2** for more details).

Areas calculated for clearing are likely to have an error margin of +20% to -5% and are therefore not absolute. Best estimates have been used to calculate these areas, but it should be recognised that the assumptions result in a range of values.

Table 6 Gouldian Finch habitat clearing

Aspect	Breeding	Foraging	Change	Breeding	Foraging
				Change as % of Approval	
EPBC approved clearance (ha)	158	458			
Batman Pit (ha)	~29	Nil	~+29	~18.4	-
WRD Footprint (ha)	~5.5	~5.2	~+10.7	~3.5	~1.1
Camp access road (ha)	~1.2	~1.2	~+2.4	~0.76	~0.26
Construction camp (ha)	Nil	~5	~+5	-	~1.1
Total	~194	~469.4	~47.1	~22.7%	~2.5%

Table 7 SOCS Disturbance

	Wet season foraging (ha)	Breeding habitat (ha)	Total (ha)	% of SOCS
SOCS	~20,500	~82,000	~102,500	100*
EPBC Approved clearance	458	158	616	0.60
Additional clearance				
Batman Pit	-	~29	~29	~0.028
WRD footprint	~5.2	~5.5	~10.7	~0.010
Camp access road	~1.2	~1.2	~2.4	~0.0023
Construction camp	~5.0	-	~5.0	~0.0049
Total	~11.4	~35.7	~47.1	~0.045
Total EPBC Approved and additional clearance				~0.65
** Note the Yinberrie Hills SOCS also contains areas of existing disturbance i.e. roads, existing MTPA etc. that are not captured in this sum.*				

Table 7 shows the approximate area of Gouldian Finch wet season foraging and breeding habitat in the SOCS and that will be disturbed by mining activities. The additional clearing required by the expansion of Batman Pit, extension of the WRD, construction camp and access road results in an additional (approximately) 47 ha to be cleared (~11.4 ha foraging and ~35.7 ha breeding habitat), this area equates to ~0.045% of the SOCS.

3.10.1 Potential impacts

An additional clearance of approximately 0.045% of the Yinberrie Hills SOCS which includes designated wet season foraging habitat and breeding habitat may reduce Gouldian Finch habitat availability at the edge of RP1, Batman Pit and at the construction site camp. A study to ground truth the importance of these sites as Gouldian Finch habitat was conducted in May 2023 and the results are located in **Attachment R2**. This study was considered important as the areas, particularly around the base of the WRD adjacent to RP1, were identified to consist of mainly previously disturbed (revegetated) areas, some undisturbed woodland and some disturbed areas (tracks).

3.10.2 Mitigation

The clearing required for the increased WRD and Batman Pit footprint, the accommodation camp and access roads will be managed under the following plans, developed with the assistance of the TAC:

- Vista Gold's Draft Gouldian Finch Management Plan (GFMP) includes management triggers that will enable actual or potential adverse impacts to the Gouldian Finch to be avoided, mitigated or minimised in a timely manner (**Attachment R6**).
- A Draft Gouldian Finch Offset Strategy (GFOS) has been prepared to provide a framework for how the potential residual significant impacts to the Gouldian Finch will be offset (**Attachment R7**).
- The Draft Gouldian Finch Monitoring Methodology (**Attachment R10**) will be implemented prior to activities commencing at the site.

It should be noted that both of these documents remain in draft form and will be reviewed and updated, in consultation with a re-convened TAC, prior to the Project commencing.

Vista Gold will undertake the following measures, in addition to those listed in **Table 8**, to prevent and address residual impact/s:

Avoid

- Only clearing the practical minimum footprint necessary for the portion of the Project to be implemented.
- Clearly mark limits of clearing.
- Make use of already disturbed areas where possible.
- Avoid land clearing during the December to March portion of the wet season.
- Avoid clearing of mapped Gouldian Finch Breeding Habitat during breeding periods.

Minimise and Mitigate

- A maximum extent of clearing will be flagged (which is just what is necessary) so that the likelihood of over clearing is minimised.
- Adherence to Ground Disturbance Procedures.

- Implement erosion and sediment controls in accordance with an approved ESCP.
- Have a trained fauna spotter on site during clearing operations.

4 Assessment of Environmental Factors

Table 8 shows the assessment of impacts to environmental factors following the self-assessment process (NT EPA 2021b) as conducted by SLR.

Table 8 Environmental factors, objectives and indicative environmental values and sensitivities potentially relevant to the proposed significant variation

Theme	Environmental factor and objective	Indicative environment values and sensitivities	Background information	Does the variation have the potential to significantly impact on environmental values or sensitivities?	Justification/Mitigation
Land	**1) Landforms** Objective: Conserve the variety and integrity of distinctive physical landforms so that environmental values are protected.	• distinctive features in the landscape, either geological or anthropogenic • subterranean karstic terrain and faults • craters, gorges, ranges, caves, massifs, escarpments, plateaus • monuments • culturally important features • tourism related to landforms	• The natural topographical feature named Mt Todd is within the mineral lease. • An existing WRD created from mining activities in the 1990's until 2006 is present on the site. The 2014 EIS approved expansion of this WRD to an increased footprint of 217 ha and an elevation of RL 470 m (415 m above sea level (MASL)). The 2022 Feasibility Study has proposed an increase in the size of the footprint to 240 ha and decrease to the height of the final WRD to RL 430 m (370 MASL) (as detailed in **Section 3.2**). • The changes to the design of the WRD relate to the footprint and elevation only (**Section 3.2**) all other design parameters (slope angles, construction method, encapsulation, cover layers and ramp grades) remain unchanged to those in the 2014 EIS. • The WRD will act as a permanent final landform during operations and post closure. Closure plans for the WRD exist and seepage modelling has been conducted. • During construction of the WRD, the part of RP1 will be covered by the WRD footprint. • Vista Gold has an approved Waste Rock and AMD Management Plan (**Attachment R3**) for methods of control and management of waste rock at the MTPA. This includes the structural integrity of the existing constructed WRD, as well as the construction and closure of the proposed WRD.	☐ Yes ☒ No ☐ Uncertain ☐ Not Applicable	• The newly proposed WRD is lower and has a flatter top than the WRD approved in the 2014 EIS (as was recommended by the NT EPA) (**Figure 1**). • Hills are common within the local landscape. • The WRD has been engineered by experienced professionals and the design has been peer reviewed. • An approved Waste Rock and AMD Management Plan is in place for construction and closure (**Attachment R3, Attachment R15, Attachment R16** and **Attachment R17**).
	2) Terrestrial Environmental Quality Objective: Protect the quality and integrity of land and soils so that environmental values are supported and maintained.	• characteristics of soils, including chemical, physical, biological and aesthetic qualities	• The Mt Todd Project Area (MTPA) has been heavily modified and disturbed by mining activities dating back more than one hundred years. • The changes to the design of the WRD relate to the footprint and elevation only (**Section 3.2**), all other design parameters (slop angles, construction method, encapsulation, cover layers and ramp grades) remain unchanged to those in the 2014 EIS. • The proposed action increases the footprint of the WRD by ~23 ha. Of this the area of currently undisturbed land to be covered by the WRD will increase by approximately ~10.7 ha (~ 5.5 ha of Gouldian Finch breeding habitat and ~5.2 ha of Gouldian Finch foraging habitat). • Additional areas proposed to be cleared for the WDR include some previously disturbed (and revegetated) areas. • Vista Gold has an approved Waste Rock and AMD Management Plan (**Attachment R3**) for methods of control and management of waste rock at the MTPA. This includes the structural integrity of the existing constructed WRD, as well as the construction and closure of the proposed WRD. • Construction camp disturbance ~5 ha of Gouldian Finch foraging habitat. • Camp access road disturbance ~2.4 ha of Gouldian Finch foraging habitat and breeding habitat.	☐ Yes ☒ No ☐ Uncertain ☐ Not Applicable	• An approved Waste Rock and AMD Management Plan is in place for construction and closure (**Attachment R3, Attachment R15, Attachment R16** and **Attachment R17**). • The WRD has been engineered by experienced professionals and the design has been peer reviewed (**Figure 1**).

Theme	Environmental factor and objective	Indicative environment values and sensitivities	Background information	Does the variation have the potential to significantly impact on environmental values or sensitivities?	Justification/Mitigation
	3) Terrestrial Ecosystems Objective: Protect the NT's flora and fauna so that environmental values including biological diversity and ecological integrity are maintained.	• 'sensitive or significant' vegetation • vegetation that provides an important ecological function • listed threatened species and their habitat (NT and Commonwealth) • listed migratory species and their habitat (Commonwealth) • locally endemic species or species with restricted habitat • 'iconic' or culturally important animals, plants and vegetation	• The proposed changes to the Project increases the footprint of the WRD by 23 ha (which includes approximately 10.7 ha of clearing of 'wet season foraging habitat' (~5.2 ha) and 'breeding habitat' (~5.5 ha) as mapped under EPBC Approval 2014/7260) • The construction camp site and associated access road will require the clearance of ~7.4 ha of designated Gouldian Finch foraging and breeding habitat. • SLR conducted a study to ground truth the areas designated foraging and breeding habitat within the proposed WRD extension area and proposed accommodation camp area (**Attachment R2**). • There are no protected areas or reserves that will be impacted on by the proposed action. • Vista obtained EPBC Approval 2011/5967 on 19 January 2018 (**Attachment R1**) which includes multiple conditions related to the Gouldian Finch and other threatened fauna species (Northern Quoll and Crested Shrike-tit (Northern)). • The mine site is located within the Yinberrie Hills Site of Conservation Significance (SOCS30). The Yinberrie Hills is an area which is recognised as an important site at Territory, National and International levels based on the Gouldian Finch population. The Gouldian Finch is listed as Endangered under the Commonwealth *Environment Protection Biodiversity and Conservation Act 1999* (EPBC Act) and Vulnerable under the *Territory Parks and Wildlife Conservation Act 1976* (TPWC Act). SOCS30 comprises approximately 102,500 ha of Gouldian Finch breeding and foraging habitat (Woinarski 2013). • Gouldian Finches occupy different regions of the landscape on an annual cycle driven by the availability of native grass seed, water and suitable breeding tree hollows. Wet season foraging habitat requires suitable wet season grass species (Cockatoo Grass (*Alloteropsis semialata*), Golden Beard Grass (*Chrysopogon fallax*), Curly Spinifex (*Triodia bitextura*) and Giant Speargrass (*Heteropogon triticeus*)). Rocky wooded hills containing *Eucalyptus tintinnans* with suitable tree hollows for nesting classify breeding habitat. • It should be noted that while Gouldian Finch foraging and breeding habitat has been mapped under the Approval, the real (ground-truthed) quantity and quality of habitat is considerably less due to disturbed areas (tracks and previous earthworks) and previously disturbed (revegetated) areas being included in this sum. **Attachment R2** contains a report on the ground-truthing study conducted at the footprints of the WRD and construction camp. • The Department of Climate Change, Energy the Environment and Water (DCCEEW) will be notified of the changes to clearing required prior to disturbance being undertaken.	☐ Yes ☒ No ☐ Uncertain ☐ Not Applicable	• Additional clearing for the Batman Pit enlargement, WRD resize and construction camp makes up an (~45.7 ha equivalent to 0.045%) of the wider Yinberrie Hills (SOCS30). Site inspection identified this area includes some undisturbed woodland, some previously disturbed (revegetated) areas and some disturbed areas (tracks). • The Gouldian Finch Management Plan (GFMP) (Draft) has been prepared (**Attachment R6**). The plan includes management measures that will be updated and implemented during construction and operation of the Project to minimise impacts to the Gouldian Finch. • A comprehensive environmental monitoring program will be implemented for the Mt Todd Gold Mine for the construction phase which will then be modified and rolled over into the operational phase which will also include a specific GFMM Program. • Clearing of mapped Gouldian Finch habitat will occur in line with a site-specific vegetation clearing plan prior to clearing. Before clearing is undertaken the areas directly impacted will be checked as part of the site clearing process and appropriate actions will implemented. Clearing of mapped breeding habitat (including *Eucalyptus tintinnans* woodlands) will only occur outside of the breeding season, i.e. September through to February. Clearing of mapped wet season foraging habitat will occur during the breeding season, i.e. undertaken from March to August. • Additional surveys to be conducted for threatened species (Northern Quoll and Crested Shrike-tit (Northern)) immediately prior to clearing. • A quantitative analysis of significant impact to the Gouldian Finch was undertaken for the areas designated foraging and breeding habitat within the proposed WRD extension area and proposed accommodation camp area. The assessment demonstrated that no significant impact is expected (**Attachment R2** Section 4)

Theme	Environmental factor and objective	Indicative environment values and sensitivities	Background information	Does the variation have the potential to significantly impact on environmental values or sensitivities?	Justification/Mitigation
			• Vista Gold's Draft Gouldian Finch Management Plan (GFMP) (**Attachment R6**) includes management triggers that will enable actual or potential adverse impacts to the Gouldian Finch to be avoided, mitigated or minimised in a timely manner. The Draft GFMP has been developed and reviewed by the TAC. Changes recommended by the TAC members will be reviewed and incorporated into the GFMP. The GFMP will be re-submitted to the TAC for a final review prior to the document being submitted to the Department of Climate Change, Energy, the Environment and Water (DCCEEW). The GFMP will be submitted to DITT and the NT EPA following finalisation and acceptance of the plans by DCCEEW. • A Draft Gouldian Finch Offset Strategy (GFOS) (**Attachment R7**) for the Project in accordance with the EPBC Act Environmental Offsets Policy 2012 (DSEWPaC, 2012a), and the conditions attached to the EPBC Act Approval issued 19 January 2018. The GFOS has been prepared to provide a framework for how the potential residual significant impacts to the Gouldian Finch will be offset. It should be noted that the Draft GFOS has been reviewed by the TAC and changes recommended by the TAC members will be reviewed and incorporated into the GFOS. The GFOS will be re-submitted to the TAC for a final review prior to the document being submitted to DCCEEW. • The Northern Quoll, Crested Shrike-tit (Northern) and Bare-rumped Sheathtail Bat were identified by the NT EPA as threatened species potentially occurring within the project area. Crested shrike-tit and Northern Quoll habitat surveys were conducted in 2018 for the areas likely to be cleared with no den sites, nest sites or individuals identified. In accordance with EPBC Approval 2011/5967, a pre-clearance survey to identify potential den sites for Northern Quoll or nest sites of the Crested Shrike-tit (northern) will be undertaken for the areas directly impacted immediately prior to clearing and appropriate actions will be implemented if required. • Vista Gold has an approved Weed Management Plan (**Attachment R11**) to manage weeds on site throughout the life of mine (construction and operation). • The approved Flora and Fauna Management Plan (**Attachment R12**) provides a framework for environmental management of flora (excluding weeds) and fauna (including both native and non-native animals). • There are a number of migratory species that the NT EPA considered may have individuals occurring on site on occasions, however the numbers would not be considered to represent an ecologically significant proportion and it is unlikely that the mining footprint would contain important habitat. The NT EPA noted that the Project may result in the occasional mortality or injury to individuals of the above species, however these impacts are not considered likely to have population-level effects. The proposed changes to the WRD will not increase the risk of impact to these migratory species. • A pre-clearance survey will be conducted prior to clearing to avoid creating areas for weed infiltration.		

Theme	Environmental factor and objective	Indicative environment values and sensitivities	Background information	Does the variation have the potential to significantly impact on environmental values or sensitivities?	Justification/Mitigation
Water	**1) Hydrological Processes** Objective: Protect the hydrological regimes of groundwater and surface water so that environmental values are maintained.	• the supply and quantity of water in surface water features including rivers, lakes, wetlands, swamps, creeks, billabongs, intermittent streams, floodplains, mangroves and drainage lines • the supply and quantity of water in groundwater features including aquifers, aquitards and water tables • declared beneficial uses • present and future uses, and users of water • current or potential water supplies, including regional scale aquifers • culturally important water features	• The changes to the Project will not require additional supply or quantity of water from surface or groundwater features. • There is no increase in discharge of water offsite proposed by the action. Any water that is required to be discharged off-site will be treated water from the WTP. • No declared beneficial uses will be impacted by the proposed action. • No culturally important water features will be affected by the proposed action. • The proposed increase in the footprint of the WRD will result in the covering part of RP1. Water collected from the WRD in RP1 pit will be pumped directly to the Water Treatment Plant (WTP) before being reused on site (within the process plant or for dust suppression). Vista Gold will install increased pumping infrastructure and larger diameter pipes to cover some of the additional water storage volume required. • Drainage channels in the final WRD landform will allow stormwater to drain without contacting any PAF material (**Attachment R3** Section 4.7).	☐ Yes ☒ No ☐ Uncertain ☐ Not Applicable	• No significant environmental values or sensitivities relating to hydrological processes have been identified. • The management of the resized RP1 will result in a benefit to the environment as RP1 water will be pumped to the WTP for reuse in operations, thus reducing the potential for unexpected release into the environment. • The Water Management Plan will provide management and mitigation of impacts of mine water on the environment (**Attachment R8**). • Any water that is required to be discharged from site to the environment will be treated to the appropriate quality at the WTP prior to discharge, to meet 95% species protection level guidelines at the Edith River compliance point (**Attachment R9**). • Any water discharged from site will be treated and managed under a WDL.
	2) Inland Water Environmental Quality Objective: Protect the quality of groundwater and surface water so that environmental values including ecological health, land uses and the welfare and amenity of people are maintained.	• the quality of water in surface water features including rivers, lakes, wetlands, swamps, creeks, billabongs, intermittent streams, floodplains, mangroves and drainage lines • the quality of water in groundwater features including aquifers and water tables • declared beneficial uses • present and future uses and users of water • current or potential water supplies, including regional scale aquifers • culturally important water features • RAMSAR wetlands	• The closure plan for the WRD exists and seepage modelling has been conducted. • There is no increase in discharge of water offsite proposed by the action. Any water that is required to be discharge off-site will be treated water from the WTP. • Water collected from the WRD will be transported directly to the Water Treatment Plant (WTP) before being reused on site. • WDMB01 and MB6 (Deep and Shallow) will remain in place adjacent to the WRD and will be valuable in monitoring for any potential impacts to groundwater (**Attachment R8**). • Surface water and groundwater are routinely monitored according to the approved Water Management Plan (**Attachment R8**). • The proposed increase in the footprint of the WRD will result in covering an additional ~20% of RP1. The volume in RP1 will be reduced and water will continue to be pumped to the WTP for treatment and reuse on site (within the process plant). Vista Gold will install increased pumping infrastructure and larger diameter pipes to cover some of the additional water storage volume required. • The Edith River is located approximately 1.2 km south of the toe of the proposed WRD. • Drainage channels in the final WRD landform will allow stormwater to drain without contacting any PAF material (**Attachment R3**).	☐ Yes ☒ No ☐ Uncertain ☐ Not Applicable	• The Water Management Plan provides management and mitigation of impacts of mine water on the environment (**Attachment R8**). • Any water discharged from site will be treated and managed under a WDL. • The WTP is proposed to be upgraded from 500 m^3/hr to enable the treatment of 600 m^3/hr to provide water for processing and dust suppression. • Vista Gold will install increased pumping infrastructure and larger diameter pipes to cover some of the additional water storage volume required.

Theme	Environmental factor and objective	Indicative environment values and sensitivities	Background information	Does the variation have the potential to significantly impact on environmental values or sensitivities?	Justification/Mitigation
	3) Aquatic Ecosystems Objective: Protect aquatic habitats and flora and fauna to maintain environmental values including biological diversity of flora and fauna and ecological functions they perform.	• the health of the biota in inland waterways • the habitats that support the lifecycle of aquatic biota • groundwater dependent ecosystems	• There are no threatened aquatic species that will be impacted by the changes to the Project. Any water that needs to be discharged to the environment will be treated by the WTP to meet environmental requirements (e.g. WDL). • There is no increase in discharge of water offsite proposed by the action. As above, any wastewater will be treated prior to discharge and managed under a WDL. • No groundwater dependent ecosystems (GDEs) are present in the area of impact or MTPA. • There are no RAMSAR wetlands in the vicinity of the area of impact or MTPA. • The proposed action does not require diversion of any streams or creeks. There will be no impact to habitats that support the lifecycle of aquatic biota. • The southern edge of the RP1 footprint remains the same.	☐ Yes ☒ No ☐ Uncertain ☐ Not Applicable	N/A
Sea	**1) Coastal Processes** Objective: Protect the geophysical and hydrological processes that shape coastal morphology so that the environmental values of the coast are maintained.	• processes that support coastal benthic communities and habitats such as coral reefs, mangroves, salt marshes, seagrass meadows and sponge gardens • conservation significant low lying areas including tidal creeks, deltas and river mouths • unique coastal landforms • significant cultural and aesthetic values • active or passive recreation	• The MTPA is located inland and is not influenced by coastal processes or tidal flows. • The Edith River is located approximately 1.2 km south of the toe of the proposed WRD and the Mt Todd site is located over 200 km from the NT coastline. The Edith River is situated within the Daly River catchment	☐ Yes ☐ No ☐ Uncertain ☒ Not Applicable	N/A
	2) Marine Environmental Quality Objective: Protect the quality and productivity of water, sediment and biota so that environmental values are maintained.	• quality of the water, sediment and biota • ecosystem health condition • fishing and aquaculture • recreation and aesthetics • industrial water supply • cultural and spiritual values		☐ Yes ☐ No ☐ Uncertain ☒ Not Applicable	N/A
	3) Marine Ecosystems Objective: Protect marine habitats and flora and fauna so that biological and functional diversity and ecological integrity are maintained.	• conservation significant marine and coastal fauna and critical habitat such as nesting, breeding or foraging habitat • conservation significant marine and coastal flora and vegetation • groups of species (species richness and assemblages of species)		☐ Yes ☐ No ☐ Uncertain ☒ Not Applicable	

Theme	Environmental factor and objective	Indicative environment values and sensitivities	Background information	Does the variation have the potential to significantly impact on environmental values or sensitivities?	Justification/Mitigation
		• ecological functions and processes • species of social, cultural and/or economic significance. • integrity of marine ecosystems and the ecological services they supply • biological diversity • functional diversity • provision of refuge • food supply			
Air	**1) Air Quality** Objective: Protect air quality and minimise emissions and their impact so that environmental values are maintained.	• the chemical, physical and biological characteristics of air • the biological processes that depend on the air quality	• Approximately ~45.7 ha of additional vegetation associated with the changes to the Project will be cleared. • Standard clear strip and grub clearing techniques will be used with diesel operated machinery. • Vista Gold has an approved Air Quality and Dust Management Plan (**Attachment R13**) which will ensure that appropriate mitigation of fugitive dust emissions is implemented during the re-opening and operation of the mine to minimise any potential impacts on the Gouldian Finch population. • Vista Gold have committed to purchase multi fuel power generators which can be converted to use hydrogen as a fuel source as required.	☐ Yes ☒ No ☐ Uncertain ☐ Not Applicable	• No environmental values or sensitivities relating to air theme factors and objective have been identified. • Greenhouse gas (GHG) emissions will increase associated with the extension of mine life. • Haulage and earthmoving machinery improvements will result in a reduction in GHG emissions from those identified in the EIS. • Vista Gold will implement the approved Air Quality and Dust Management Plan (**Attachment R13**). • Haulage and earthmoving machinery to be used in the construction of the WRD has improved in efficiency from what was approved under the EIS in 2014. This will result in a reduction of emissions from equipment during construction.
	2) Atmospheric Processes Objective: Minimise greenhouse gas emissions so as to contribute to the NT Government's aspirational target of achieving net zero greenhouse gas emissions by 2050, and adapt to a changing climate to protect ecological integrity and maintain the welfare and amenity of people.	• a contribution to the NT's greenhouse gas emissions • adaptation to a changing climate		☐ Yes ☒ No ☐ Uncertain ☐ Not Applicable	
People	**1) Society and Economy** Objective: Maintain or enhance the social and economic values for current and future generations of Territorians.	• communities, towns, private properties and dwellings where people reside • aesthetics and recreation • resources including water supply and food sources • jobs and businesses • agriculture, fisheries and industry	• The MTPA is located midway between the townships of Pine Creek to the North and Katherine to the South and sits within the Katherine local government area (LGA). The mine will have an impact regionally through the supply of goods and services and employment. • The closest community is the Werenbun community, 6.5 km to the south-east, consisting of 10 houses and an open area community school used by the Northern Territory School of the Air. Additional communities within the area include Barunga, Wagalarr (Beswick), and Kybrook farm. These communities were consulted during 2014 EIS approvals process. Vista Gold conduct ongoing consultation (both scheduled and ad hoc) with the Jawoyn Association • Key primary industries in the Katherine region include pastoral activity (predominantly cattle), horticulture, and dryland farming. Residential and non-residential construction activity, tourism and mining are also key industries in the region.	☐ Yes ☒ No ☐ Uncertain ☐ Not Applicable	• No environmental values or sensitivities relating to people theme factors and objective have been identified. • Employment opportunities as a result of the ongoing mining is anticipated to enhance the economy and welfare of the surrounding communities and businesses. • Increased volume of WRD increases the life of the mine by four years, extending benefits to the workforce and wider communities and economy.

Theme	Environmental factor and objective	Indicative environment values and sensitivities	Background information	Does the variation have the potential to significantly impact on environmental values or sensitivities?	Justification/Mitigation
			• Due to increased gold prices, the mine life has increased from 13.5 years as approved in the 2014 EIS to 17.5 years. It should be noted that the project remains at the same production rate of 50,000 t/day as detailed in the 2014 EIS. • The construction workforce is expected to peak at around 450 and will be accommodated in an onsite camp at the Mine site. The operational workforce, including operations, maintenance, engineering, geological and support personnel, will peak at around 350 in production years 5 to 7. • The Mt Todd Project offers short to medium term employment and business opportunities. • There is no access or use by the public and/or Traditional Owners to the area of impact (or mineral lease areas). • No use of the area of impact for economic or community value.		
	2) Culture and Heritage Objective: Protect the rich cultural and heritage values of the Northern Territory. • cultural heritage items and places • sacred sites	• bush foods • totemic flora and fauna • important or significant country	• The MTPA is located on the traditional lands of the Jawoyn people. Vista Gold holds scheduled meetings with the Jawoyn Association (the body that represents the Jawoyn) approximately every six months and other informal discussions and visits throughout the year as required. • Multiple archaeological surveys have been undertaken across the MTPA. • AAPA certificate RA2019/119 (June 2021) is current for the Mt Todd exploration and mining leases. AAPA certificate RA2019/119 identifies recorded sacred sites and a burial site in the vicinity of the WRD. No disturbance to these records or any restricted work areas is proposed. • There is no access or use by the public and/or Traditional Owners to the area of impact (or mineral lease areas). • 31 non-indigenous cultural heritage features have been identified within the MTPA. None of these identified sites will be impacted on by the proposed action. Vista Gold will implement its Cultural and Heritage Management Plan (**Attachment R14**) to manage any chance finds. • There are no world heritage sites within the MTPA.	☐ Yes ☒ No ☐ Uncertain ☐ Not Applicable	• No identified culture and/or heritage sites will be impacted by the proposed disturbance. • Vista Gold are aware of the locations of the cultural and heritage areas and are committed to their protection. • Vista Gold will manage culture and heritage aspects under the approved Cultural Heritage Management Plan (**Attachment R14**).
	3) Human Health Objective: Ensure that the risks to human health are identified, understood and adequately avoided and/or mitigated.	• drinking water • recreational water • air quality • bush tucker • radiological limits	• Disturbances will only occur on the existing mineral lease areas. • No access by the public to the area of impact (or mineral lease areas). • The closest community is the Werenbun community, 6.5 km to the south-east. The closest townships are Pine Creek, approximately 55 km to the north, and Katherine, approximately 50 km to the south. • The risk of vegetation clearing impacting on bush tucker sources for the Jawoyn was assessed by Vista Gold's cultural heritage consultant as being very low. • Food sources health and availability will not be impacted by the action. • Drinking and recreational water will not be impacted by the action. • The proposed action will not cause additional negative impacts to air quality.	☐ Yes ☒ No ☐ Uncertain ☐ Not Applicable	• No environmental values or sensitivities relating to human health have been identified.

5 Potential Environmental Impacts

5.1 Referral self-assessment

A self-assessment of the proposed action was undertaken using the NR EPA pre-referral checklist as shown in **Table 8**. No environmental factors were identified by SLR as having the potential to be significantly impacted by the proposed actions.

5.2 NT EPA Call-in Notice

Vista Gold received a Call-in Notice from the NT EPA on 24 November 2022 (EPA Ref EN2011/0048-171) as alterations to the Mt Todd Gold Project were perceived to have potential to have a significant impact on the environment or will result in new or additional areas being subject to a potential significant impact on the environment. **Table 9** shows information required in the Call-in Notice and Vista Gold's responses.

Table 9 Response to NT EPA Call-in Notice

Environmental Factor	Context	Information Required	Proponent Response
Description of proposed action	Alterations to the Mt Todd Gold Project proposed since the project was authorised under the *Mining Management Act 2001* (MM Act).	1. Detail the proposed action for which the proponent is seeking a variation to its authorisation under the MM Act, including elements of the Mt Todd Gold Project that are proposed to be altered beyond the authorised extent or that change the significance of potential environmental impacts from that previously assessed.	**Table 2** lists all changes to the Mt Todd project that have occurred between the 2014 approval of the EIS and the 2022 MMP currently being assessed by DITT. Changes include: • Extension of mine life • WRD extension • RP1 resize • Increase in capacity of water treatment plant • Batman Pit design • On-site camp (construction camp and permanent accommodation) • Light vehicle access roads • Offsite electrical power plant • Sorter rejects • Additional clearing
		2. Outline the potential environmental impacts of the alterations and proposed mitigation of those impacts, and provide detail on impacts and their mitigation where there may be substantial differences from the impacts previously assessed.	Potential environmental impacts are discussed in the following sections: Extension of mine life: **Section 3.1.1** WRD: **Section 3.2.1** RP1 Resize: **Section 3.3.1** Water Treatment Plant: **Section 3.4.1** Batman Pit Expansion: **Section 3.5.1** On-site camp: **Section 3.6.2** Roads: **Section 3.7.1**

Environmental Factor	Context	Information Required	Proponent Response
			Energy demand: **Section 3.8.1** Sorter rejects: **Section 3.9.2** Clearing: **Section 3.10.1** Mitigations for any potential environmental impacts are discussed in the following sections: Extension of mine life: **Section 3.1.2** WRD: **Section 3.2.2** RP1 Resize: **Section 3.3.2** Water Treatment Plant: **Section 3.4.2** Batman Pit Expansion: **Section 3.5.2** On-site camp: **Section 3.6.3** Roads: **Section 3.7.2** Energy demand: **Section 3.8.2** Sorter rejects: **Section 3.9.3** Clearing: **Section 3.10.2**
		3. Provide information on how the altered design of the mine components improves environmental outcomes in consideration of the environmental decision-making and waste management hierarchies.	The increase in capacity of the WTP will improve water management on the site and allow the reuse of on-site water. If discharge of on-site water is required, the water will be treated to meet the ANZG (2018) 95% species protection water quality guidelines at the Edith River compliance point under a WDL. Information on the WTP process and proposed quality is found in **Attachment R9 Section 2**.

Environmental Factor	Context	Information Required	Proponent Response
			Water from RP1 will be pumped to the WTP for reuse in site operations, this will reduce the risk of overtopping and the possibility of poor quality water entering the environment. Even with the reduction in size of RP1, pumping 443 m^3/hr will enable the management of water volume in RP1 to minimise the risk of over topping and allowing reuse of poor quality water on site, and reducing the requirement for process water from the raw water dam. The change to the sorting process will benefit all aspects of mine operations. Characteristics of rejects utilising this method is that they are non-acid forming (NAF) and can be allocated to construction activities (i.e. tailings dam construction and/or covers, armouring of WRD etc.). Therefore, this material is removed from the volume required to be stored in the Tailings Dam.
		4. Explain how implementing the proposed alterations in accordance with the relevant conditions of the MM Act authorisation will prevent environmental harm.	All activities proposed in the Vista Gold MMP (2022) will be conducted according to the requirements in the MMP and associated Environmental Management Plan documents. All the conditions in the MMP approvals and conditions in the MTPA EIS approval have been addressed in subsequent approved MMPs and associated approved environmental management plans. **Water quality**: discussed above (**Attachment R8** and **Attachment R9**). **Stormwater runoff from WRD**: addressed in the Waste rock and AMD Management Plan (**Attachment R3),** Stormwater Management Plan **(Attachment R5**), Water Management Plan (**Attachment R8**), Erosion and Sediment Control Plan (**Attachment R4**), WRD Closure Assessment (**Attachment R16**), WRD Cover Design Trials (**Attachment R17**).

Environmental Factor	Context	Information Required	Proponent Response
			Gouldian Finch Habitat Clearance: Gouldian Finch Management Plan (**Attachment R6**), Gouldian Finch Monitoring Method (**Attachment R10**), Gouldian Finch Offset Strategy (**Attachment R7**). **Cultural heritage:** Cultural Heritage Management Plan (**Attachment R14**). **Changes to GHG:** Air Quality and Dust Management Plan (**Attachment R13**). **Mine closure:** Mine Closure Management Plan (**Attachment R15**), Post Closure Pit Lake Water Quality (**Attachment R19**), Mt Todd Cover Trials Design (**Attachment R17**), WRD Closure Assessment Report (**Attachment R16**).
Terrestrial ecosystems	Gouldian Finch	5. Quantify the proposed increase in extent of the waste rock dump, open pit and retention pond footprints, and any other areas of the mine that may be altered (with maps/aerial images comparing the proposed and authorised footprint changes) that will require Gouldian finch habitat to be disturbed or cleared beyond the assessed and authorised extent.	Areas for clearance are provided in **Table 6** Figures are located: WRD: **Figure 1 and Figure 2** Batman Pit: **Figure 3** Camp and access road: **Figure 4** **Figure 4 Location of Camp (Tetra Tech 2022)**

Environmental Factor	Context	Information Required	Proponent Response
		6. The removal or disturbance of Gouldian finch nesting and foraging habitat must be considered in the context of cumulative impacts to the Gouldian finch population in the Yinberrie Hills Site of Conservation Significance (SOCS). Include quantification of the extent of Gouldian finch 'wet season foraging habitat' and 'breeding habitat' that would be lost or disturbed due to the alterations, and calculate the extent of each habitat type as a proportion of the overall known suitable habitat of each type remaining and undisturbed by the mine in the SOCS.	**Table 7** shows the habitat type clearance and its relation to the SOCS. Additional clearing required above the approved clearance: Total within SOCS: 0.045% SOCS Breeding habitat: 0.035% SOCS Foraging habitat: 0.011%
		7. Demonstrate through quantitative analysis against the EPBC Act significant impact guidelines criteria, that the clearing or disturbance as a result of the variation will not have a significant impact on Gouldian Finch habitat in the SOCS.	Not significant. Quantitative analysis provided in **Attachment R2** Section 4.
Inland water environmental quality	Expanded mine components/landforms in relation to water management	8. Detail the revised water balance modelling and water management strategy for expansion of key mine components such as the waste rock dump and pit, and in particular: a). New or expanded water retention or treatment ponds required, including proposed location, dimensions, design standards and design life, and construction methods. b). Alterations to water transfer and treatment proposed including methods and new infrastructure required.	8a. No new water treatment ponds 8b. All changes to the water transfer and treatment process are located in the Water Treatment Plant Report (**Attachment R9**). 8c. Sediments from RP1 that may need to be removed will be relocated to TSF1. 8d. See response for 9 below.

Environmental Factor	Context	Information Required	Proponent Response
		c). Management of sediments in retention pond (RP) 1 prior to dumping of waste rock within the RP1 footprint to minimise contaminated seepage from the dump d). Mine-affected water discharges required or likely to occur to the downstream environment as a result of changes to the water management strategy, and the predicted quality of that water. e). Requirements for post-mining management, rehabilitation and closure of altered mine-affected water storages at the end of mining	8e. Information regarding mine closure are located in the Mine Closure Plan (**Attachment R15**), WRD Closure Assessment Report (**Attachment R16**), Mt Todd Cover Trials Design Procedure (**Attachment R17**), Batman Pit Predictive Geochemical Modelling (**Attachment R18**), Post Closure Pit Lake Water Quality (**Attachment R19**) and the Reclamation Plan (**Attachment R20**).
		9. Demonstrate that the water management strategy to mitigate and manage offsite discharge of mine-affected water from the altered landforms can be implemented such that the quality of any water discharged (passively or actively) from the site would meet 95% species protection in immediate receiving waters or 99% species protection at the Edith River compliance point (noting active discharge would require a waste discharge licence).	During operations all onsite surface water runoff will be directed to the process water pond (PWP) which will provide the ore processing plant with process water after treatment. Excess surface water runoff that is not required for mine operations during the wet season will be treated by the water treatment plant and discharged to the Edith River via Stow Creek. Any treated water discharged from site will be of sufficient quality to meet WDL requirements at SW4 at 95% species protection level. Vista Gold has never committed to meet the 99% species protection at the compliance point. The treatment occurring within the WTP has been designed to meet 95% species protection level guidelines.

Environmental Factor	Context	Information Required	Proponent Response
Hydrological processes	Expanded/altered landforms	10. Detail any works that may be required to manage altered stormwater flows resulting from the proposal to construct mine components beyond the approved extent. Demonstrate that the works will not increase the potential impacts and risks to mine landform integrity from stormwater flows or flooding, or to the downstream environment from discharge of mine-affected water.	There are no changes to stormwater management that have not already been addressed in the relevant management plans (**Attachment R5**). Water to be pumped from RP1 to the PWP at 443 m^3/hr (**Attachment R9**) Waste Rock and AMD Management Plan (**Attachment R3**) Erosion and Sediment Control Management Plan (**Attachment R4**) Water Management Plan (**Attachment R8**)

5.3 Consultation

This section summarises the community and stakeholder engagement conducted during the preparation of this Proposed Project Referral. This consultation built on extensive consultations undertaken by Vista Gold for the EIS Project. Vista Gold has been conducting community and stakeholder engagement and this is managed through their Community Engagement Plan (**Attachment R21**).

5.3.1 Objectives

Vista's consultation approach fulfills the following objectives:

- To identify and manage expectations by ensuring that key stakeholders and impacted communities fully understand the nature of the MTPA, and the likely impacts and benefits derived from MTPA operations.
- To promote community confidence by ensuring open and transparent discussion of MTPA development processes, technical studies, impacts and risk management processes.
- To ensure sustainable MTPA design and decision making by incorporating local community knowledge, views and concerns.
- To enable Vista Gold to recognise and address community concerns early.
- To meet regulatory requirements and expectations.

5.3.2 Methodology

During 2022 Vista conducted a range of Community Engagement and consultation activities (**Table 10**).

Table 10 Summary of 2022 Stakeholder Consultation

Date	Activity	Feedback
9 February 2022	www.mttodd.com.au website update, water inventory table and water quality data updates	New graph on "Home Page" with rainfall and dam levels. Added Oct-Dec 2022 water quality data to the website.
24 February 2022	Vista announces 2021 Financial Results and Files Feasibility Study for the Mt Todd Gold Project	Technical report to contains the details of a larger project and highlights the changes since the EIS
23 March 2022	Jawoyn Leaders Forum, providing an update on the projects on ground and development activities	Outline the changes from the PFS (closely aligned with the EIS) and the recently published Feasibility Study.
23 March 2022	Regional Executive Big Rivers, Department of the Chief Minister and Cabinet – Project overview and update	Outline the changes from the PFS (closely aligned with the EIS) and the recently published Feasibility Study.
24 March 2022	Meeting with the Chief Minister, Minister Manison and Minister Lawler, Project overview and update	Outline the changes from the PFS (closely aligned with the EIS) and the recently published Feasibility Study.
25 March 2022	Meeting with Minister Uibo, Project overview and update	Outline the changes from the PFS (closely aligned with the EIS) and the recently published Feasibility Study.

Date	Activity	Feedback
4 & 6 April 2022	AGES XXXII Annual Scientific Meeting 2022, present a full project update detailing what has been learnt from our geological endeavours	Present a full project update detailing what has been learnt from our geological endeavours in a session of around 150 people.
4 & 5 May 2022	Katherine & Barkly Region Major Projects Conference 2022, present a full project update	A highlight of all the major changes from the previous 2019 (closely aligned with the EIS) PFS and the recently published Feasibility Study. There were a lot of good questions and interactions with around 150 at the session.
9 May 2022	www.mttodd.com.au Website update adding Open Day details and a registration page form those attending	29 people registered to attend the Open Day. The website got 1,632 visits for the month of May-22
11 May 2022	Katherine Times ½ page project update and Open Day Invitation	¼ page for Open Day details and ¼ page project status, development activities and the Feasibility Study.
14 May 2022	NT News ½ page project update and Open Day Invitation	¼ page for Open Day details and ¼ page project status, development activities and the Feasibility Study.
19 & 20 May 2022	Mt Todd Open Day for Schools to travel to site and lean about mining and what is at Mt Todd.	Around 140 children attended over the two days. Buses provided.
21 May 2022	Mt Todd Open Day for public. We put on buses from Katherine to the mine and provided an update on activities and the project's development.	Around 25 people attended this year.
22 May 2022	ABC Radio interview (Country Hour), Project overview and update	10-minute interview with Mett Bran discussing the project timeline, lower environmental risks associated with less water inventory, the change in the project life and the Open Day at Mt Todd.
3 June 2022	Women in Resources Gala Dinner, sponsor and host the CDU Students table	Host 20 students at the event and provide introductions to mining companies that may be looking to employ graduates.
8 June 2022	www.mttodd.com.au website update, photos of community engagement from 2021/22	Add 15 photos to provide a summary of the community engagement activities specifically related to visits to Mt Todd of the 2021 & 2022 years.
13 June 2022	Vista Gold Corp. Exploration Drilling Program at Mt Todd Outlines Multiple Resource Expansion Targets	Details of the 18-month project development drilling program near mine.
12 July 2022	NT Recreational Fishing Advisory Committee Development Plan Workshop	Participate in the community feedback on the proposed update the development plan and its impact on people.
15 & 16 July 2022	Katherine Show Booth for Information.	Estimated 200 people stopped in to get an update on Vista's activities.
11 August 2022	Jawoyn Leaders Forum, providing an update on the projects on ground and development activities.	Highlight the changes to the project and how they will help the development process due to better economics.

Date	Activity	Feedback
19 August 2022	www.mttodd.com.au website update, water inventory table and water quality data updates	Added Jan-Jun 2022 water quality data to the website.
24 & 25 August 2022	Mining the Territory Conference - NT Resources Week, present a full project update	A highlight of all the major changes from the previous 2019 (closely aligned with the EIS) PFS and the recently published Feasibility Study. There were a lot of good questions and interactions with around 150 at the session
7 September 2022	NT Schools Careers Day, Katherine Industry Forum, Katherine High School	Around 100 children attend a session to learn about the different jobs in the mining industry as a potential career path.
8 September 2022	Casuarina Street Primary School geology presentation	Around 40 children attend a session to learn about geologist as a potential career path.
13 September 2022	ABC Radio interview (Country Hour), Project overview and update	10-minute interview with Mett Bran discussing the project timeline, lower environmental risks associated with less water inventory and the change in the project life
18 October 2022	Northern Territory Major Projects Conference	Attend the conference to answer question about the Feasibility Study and the project changes and current development philosophy.
7 November 2022	Biodiversity Offsets Policy workshop with DEPAWS & MCA	Highlight the changes (development and approval of the “Plan”) to the projects offsets commitment since the EIS, as a case study for context.
8 December 2022	www.mttodd.com.au website update, water inventory table and water quality data updates	Add a drone flyover of the whole Mt Todd site from December 2023 showing the water levels and general site condition. Added Jul-Oct 2022 water quality data to the website.

5.3.3 Summary of Feedback

Table 10 details the extensive consultation that Vista Gold has conducted with various stakeholders regarding the changes to the Project that have occurred with the publishing of the Pre-feasibility Study (PFS) and the Feasibility Study. Vista Gold presented the Project to NT Government Ministers, NT Government Departments, the Katherine community, Jawoyn Leaders Forum, NT general public, NT mining organisations and fishing organisations. The feedback from the consultation indicated that all parties consulted had no objections to the changes identified in the Feasibility Study and all fully supported the Project.

5.3.4 Future Consultation

Business community Territory Resources Services Association (TRSA) held in Katherine

Town Hall Meetings – public information session

NGO’s (Environment Centre etc.)

Jawoyn – Regular consultations via the established “Leaders Forum” held ever 3 months.

5.3.5 Community benefits

Vista Gold has worked closely with community and territory leaders in designing a community-based project, as opposed to the more traditional fly-in, fly-out (FIFO) operations commonly seen in Australia. Unlike many mining operations in the country, Mt Todd is easily accessible (approximately 250 km from Darwin) and conveniently located near well-established population centres. Mt Todd is approximately 30 minutes from Katherine and 45 minutes from Pine Creek. Katherine is a regional commerce centre and home to approximately 14,000 people in the community and surrounding area. The commencement of mining will result in improved community vitality in Katherine due to increase in population and spending with economic benefits for skilled workers, local businesses, and the broader region as a result of employment and procurement opportunities.

The NT government strongly promotes job creation in the territory for Territorians. A key focus is creating revenue that stays in the territory. The Katherine town council has expressed concerns about the influx of construction workers and requested that the construction camp be located north of the Katherine River. Vista Gold has accommodated this request and selected a site at the project for the construction camp. They have also worked with the NT Department of Infrastructure, Planning and Logisitics to ensure that Crown Land will be made available for additional housing development in Katherine.

Vista Gold is committed to hiring locally and will implement training programs, supported by both State and Federal Governments, to develop the skills needed to gain employment at the mine. They do not have a quota with regard to local or aboriginal workers, but expect these numbers to be an important part of their total employment. Vista Gold is aware of a significant number of Territorians who are employed at other mines in Australia on a FIFO basis. They believe a number of them will find the benefits of employment that allows them to be home every night to be very attractive.

Of the approximately 525 full-time employees at the peak, approximately 410 will be required in the early years of the project. Vista Gold expects that ~40% will come from the local community and will participate in training programs to develop skills needed for employment. They anticipate that another ~20% will be experienced workers who reside in the territory, but presently work a FIFO roster elsewhere. Vista Gold anticipates they will need to recruit and incentivize another 20-30% to move to the territory. They recognize that to fill certain key technical and management positions, they may have a small percentage of the workforce that works on some form of FIFO roster or resides in Darwin and lives in the scaled-down camp during the week.

5.4 Assumptions

The key assumptions made in assessing potential impacts are:

- The changes to the design of the WRD relate to the footprint and elevation **only**, all other design parameters (slope angles, construction method, encapsulation, cover layers and ramp grades) and surface water runoff remain unchanged to those in the 2014 EIS.
- Areas calculated for clearing are likely to have an error margin of +20% to -5% and are therefore not absolute. Best estimates have been used to calculate these areas, but it should be recognised that the assumptions result in a range of values.
- Rehabilitation of the mine site will occur to make the site safe and stable; however, it has been assumed that habitat values will not fully return to the area due to the long-term presence of the mining landforms.

- Management and monitoring actions will be undertaken in accordance with relevant management plans (as appended to the Referral).
- Whilst the Gouldian Finch Management Plan (**Attachment R6**), Gouldian Finch Offset Strategy (**Attachment R7**) and Gouldian Finch Monitoring Methodology (**Attachment R10**) were prepared under the guidance of the Gouldian Finch TAC and other stakeholders, these documents remain in draft form and will be reviewed and updated, in consultation with a re-convened TAC, prior to the Project commencing.

5.5 Cumulative impacts

The meaning of impact within Section 10 of the EP Act includes "*an event or circumstance that is an indirect consequence of the action and the action is a substantial cause of that event or circumstance*" and "*an impact may be a cumulative impact and may occur over time*" (p. 9). In the assessment of impacts from the Project the NT EPA must consider the likelihood and consequence of significant change to the environment including any potential cumulative impacts associated with other actions that are occurring or proposed to occur in or near the area of the Project.

It is noted that when considering impacts to environmental factors and assigned management measures separately requirements may be meet but when considered cumulatively with other projects or activities and between factors the impacts may be more consequential. Vista Gold acknowledges the interrelationships between environmental factors require consideration and management to achieve positive environmental outcomes.

The location of the MTPA is isolated from other major operational mining projects. The closest activities to the Project are:

- Maud Creek mine, currently in Care and Maintenance, located approximately 50 km to the south-east of the MTPA.
- Union Reefs Underground, Mount Porter, Frances Creek, Spring Hill, Hayes Creek, Fountain Head, Cosmo and Brocks Creek mines, all currently in Care and Maintenance, are located in the Pine Creek area approximately 55-100 km to the north-east of the MTPA.
- Primary industries including pastoral activity (predominantly cattle), horticulture, and dryland farming.
- Nitmiluk National Park, containing Leliyn (Edith Falls), is located to the south-east of the mineral leases, and provides hiking, swimming and camping facilities. This national park is jointly managed by the Jawoyn traditional owners with the Parks and Wildlife Commission of the NT.

Given the absence of operational mining projects and/or activities with environmental impacts within the area, the changes to the Project proposed in this Referral, when compared to the EIS for the project that was approved in 2014, will not result in any significant additional impacts to the environment. Several of the changes proposed have the potential to improve the environmental performance of the site.

The draft GFMP (**Attachment R6**) and Gouldian Finch Monitoring Methodology (**Attachment R10**) contain mitigation measures, monitoring requirements and management triggers that will enable actual or potential adverse impacts to the Gouldian Finch to be avoided, mitigated or minimised in a timely manner. Before construction of the Project commences, these documents will be reviewed and updated prior to being re-submitted to the TAC for a final review prior to the document being submitted to the Department of Climate Change, Energy, the Environment and Water (DCCEEW). These documents will be submitted to DITT and the NT EPA following finalisation and acceptance of the plans by DCCEEW.

5.6 Ecologically sustainable development

The components of this Referral have been considered against the principles of Ecologically Sustainable Development (ESD) as set out in Part 1 Division 1 of the EP Act. The principles of ESD have been considered in the planning and design of Project changes covered in this Referral.

Vista Gold is committed to maintaining environmental integrity and ensuring development is sustainable and with mitigated impact on ecological health and diversity.

A description of how the Project, specifically the changes to the Project covered in this Referral for Significant Variation, are aligned with the principles is provided in **Table 11**.

Table 11 Guiding Principles of Ecologically Sustainable Development Addressed

EDS Principle	Demonstration of Alignment
Decision-making principle	*(1) Decision-making processes should effectively integrate both long-term and short-term environmental and equitable considerations.* *(2) Decision-making processes should provide for community involvement in relation to decisions and actions that affect the community* Decision making has been informed by a number of key assessments including the EIS, pre-feasibility study, and Feasibility Study. These assessments integrated long and short-term economic, environmental, social and equity considerations, considering both negative and positive impacts. The outcomes of these assessments have informed the Project decisions on multiple levels, including design and operational decisions, as well as decisions for mitigation, monitoring and environmental management. In the short-term the Project aims to stabilise historic mining impacted landforms and ensure the site does not pose a risk to the surrounding environment, while at the same time accessing valuable gold resources which result in economic benefits at all spatial scales throughout the Northern Territory. In the long-term the objective of mine completion is to prevent or minimise adverse environmental, physical, social and economic impacts, and to create a stable landforms. The local community, neighbouring stakeholders and Traditional Owners have been involved in the planning. assessment for the Project with opportunities provided for engagement and involvement with the Project for many years. Vista Gold have consulted with relevant stakeholders on the Project changes covered in this Referral. Details are provided in **Section 5.3**.

EDS Principle	Demonstration of Alignment
	The Jawoyn people, with whom Vista Gold has a good relationship with, have strong involvement in the planning of the Project. Areas of aboriginal significance have been designated, and the mine plan has avoided development in these restricted works areas. Vista modernised its agreement with the Jawoyn Association Aboriginal Corporation (JAAC) in November 2020 and works closely with the JAAC and its representatives in many social and economic matters.
Precautionary principle	*(1) If there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.* *(2) Decision-making should be guided by:* *(a) A careful evaluation to avoid serious or irreversible damage to the environment wherever practicable; and* *(b) An assessment of the risk-weighted consequences of various options* Vista Gold's commitment to environmental protection and management is demonstrable at each phase of Project development and implementation. Measures have been taken to avoid, minimise and mitigate impacts on the environment through site selection, engineering and operational design, and through development of appropriate environmental management strategies. Assessment of project risks has been undertaken as part of the EIS, pre-feasibility study, Feasibility Study and the MMP. These assessments have identified and evaluated environmental risks associated with the Project. As expected, risks vary across Project phases (i.e. the risk of impacts from vegetation clearing are highest during the construction stage). Impacts, mitigation measures and residual risk have been considered with information collected in site-specific scientific studies. Vista Gold have engaged independent parties to undertake peer reviews for various design and management reports (i.e. review of proposed cover design and review of Hydrogeological Report). At the completion of operation, the mine site will be decommissioned, closed and rehabilitated under an approved Mine Closure Plan (which will be prepared in consultation with stakeholders), however, it has been assumed that habitat values will not fully return to the area due to the long-term presence of the mining landforms. Alternatives assessments have been undertaken to assess various Project related options for social, economic and environmental advantages and disadvantages. Alternatives have been considered as part of the Feasibility Study which has resulted in the changes outlined in this Referral (i.e. constraints surrounding the WRD footprint and Third-party provider of electrical power).
Inter- and intra-generational equity	*The present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of present and future generations.*

EDS Principle	Demonstration of Alignment
	Vista Gold is committed to ensuring the Project will not adversely impact on future generations and instead maintain a productive environment and provide opportunities for future generations. The mine will be operational for approximately 17 years. At the completion of operation, the mine site will be decommissioned, closed and rehabilitated under an approved Mine Closure Plan (which will be prepared in consultation with stakeholders). Vista Gold is committed to the future growth and sustained economy of the NT. The Project will improve community vitality in Katherine due to an increase in population and spending which will contribute to the development of a strong and growing economy with economic benefits expected at both local and regional levels. Economic benefits for skilled workers, local businesses, and the broader region as a result of employment and procurement opportunities are expected. The project has the potential to underpin other economically and socially beneficial investments in the broader region, leading to improved outcomes for local residents. Benefits may include new and expanded prospects for local businesses, a range of employment opportunities, training and education opportunities. The mine site will be reshaped, rehabilitated and revegetated, infrastructure removed from site and the pit left to form a pit lake. A monitoring programme will be implemented as part of the Mine Closure Plan ensuring adequate environmental rehabilitation is achieved. The implementation of the management measures and actions in the Mine Closure Plan will ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations. Vista Gold has committed to purchase power generators that are able to be converted to multi-fuel, including hydrogen, for conversion when new environmentally friendly fuels become economically viable. This will result in improved environmental performance. It should be noted that the gold resource in the area will be permanently decreased.
Conservation of biological diversity and ecological integrity	*Biological diversity and ecological integrity should be conserved and maintained.* To protect biological diversity and maintain ecological integrity, measures have been taken to avoid, minimise and mitigate impacts on the environment through site selection, engineering and operational design, and through development of appropriate environmental management strategies. The Project is located on historically disturbed land and the environmental impact assessment has considered areas of conservation significance in the region. Following completion of the project the site will be rehabilitated to a state that is significantly improved on the current status of the site (currently in care and maintenance). The objective of mine completion is to prevent or minimise adverse environmental, physical, social and economic impacts, and to create a stable landforms.

EDS Principle	Demonstration of Alignment
	Vista Gold is committed to avoid the disturbance of threatened species where possible by minimising the extent of the project footprint and will undertake management and mitigation measures as outlined in the various sections of this Referral as well as the MMP, the suite of environmental management plans and the Gouldian Finch Offset Strategy (**Attachment R7**)

5.7 Residual impact

Vista Gold's commitment to environmental protection and management is demonstrable at each phase of Project development and implementation. Measures have been taken to avoid, minimise and mitigate impacts on the environment through site selection, engineering and operational design, and through development of appropriate environmental management strategies.

Any potential impacts on Terrestrial Ecosystems are manageable by implementing the controls, management, mitigation and monitoring measures outlined in the Projects suite of environmental management plans, particularly those documents that are relevant to the Gouldian Finch (GFMP- **Attachment R6**, Gouldian Finch Monitoring Methodology (**Attachment R10**) ,and GFOS- **Attachment R7**).

Any residual risks are as low as reasonably practicable (ALARP) through application of the environmental decision-making hierarchy (to avoid or mitigate potentially significant environmental impacts) and implementation of an adaptive management approach in accordance with current NT EPA guidelines and industry standards (e.g. AS/ISO 31000 risk management series).

6 Conclusions

Table 12 lists the changes currently proposed for Vista Gold's Mt Todd site that are different from those assessed in the 2013 EIS which was approved in 2014. **Table 12** also lists the potential environmental impact and mitigation proposed.

Table 12 Summary of referral

Change from EIS	Environmental Impact	Mitigation	Comments
Life of mine increase	Increase in Batman Pit footprint and WRD footprint. Clearance of Gouldian Finch foraging and breeding habitat	Gouldian Finch Management Plan Gouldian Finch Offset Strategy	Increased economic benefits for the Katherine community. Does not meet EPBC Act guidelines criteria for significant impact to endangered species.
Increase in WRD footprint	Clearance of Gouldian Finch foraging and breeding habitat		Does not meet EPBC Act guidelines criteria for significant impact to endangered species.
Decrease in RP1 size	None foreseen	RP1 water pumped to WTP for treatment and use in operations	Improved environmental performance reduced requirement for water from the raw water dam and reduces the potential for RP1 overtopping.
Water Treatment Plant	None foreseen	None required	Improved environmental performance
Batman Pit expansion	Clearance of Gouldian Finch breeding habitat	Gouldian Finch Management Plan Gouldian Finch Offset Strategy	Does not meet EPBC Act guidelines criteria for significant impact to endangered species.
On-Site Camp	Clearance of Gouldian Finch foraging habitat		
Access Roads	Clearance of Gouldian Finch foraging habitat Clearance of Gouldian Finch breeding habitat		
Energy Demands	Increased life of mine will result in increased fuel usage over the mine life and increased GHG emissions	Vista Gold has committed to purchasing multi-fuel generators that can be converted to hydrogen when it becomes economically viable	Improved environmental performance by using hydrogen as a fuel source.

Change from EIS	Environmental Impact	Mitigation	Comments
Sorter Rejects	None foreseen.	None required.	Improved environmental performance by having rock to be used outside the TSF confirmed not to have AMD potential

7 References

Department of the Environment and Energy (19 January 2018) Mt Todd Gold Mine Project EPBC Approval 2011/5967

GHD (2013). Mt Todd Gold Project Draft Environmental Impact Statement

NT EPA (2014). Assessment Report 76, Mt Todd Gold Project Vista Gold Australia Pty Ltd

NT EPA (2015). Referring a significant variation to the NT EPA, Environmental impact assessment guidance for proponents

NT EPA (2021). Referring a Proposal to the NT EPA. Environmental Impact assessment, Guideline for Proponents

NT EPA (2021b). Environmental Factors and Objectives, Environmental impact Assessment General technical guidance

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Vista Gold Australia Pty Ltd (2022). *Mt Todd Project Area Mining Management Plan 2023-2027.*

Woinarski J. (2013). Independent assessment of issues relating to the Gouldian Finch in the Draft Environmental Impact Statement Mt Todd Gold Project. https://ntepa.nt.gov.au/__data/assets/pdf_file/0005/289463/mt_todd_gold_assessment_report_appendix_c.pdf

Attachment R1:
EPBC APPROVAL (2011/5967)

Attachment R2:
GOULDIAN FINCH LITERATURE REVIEW AND HABITAT ASSESSMENT

Attachment R3:
WASTE ROCK AND AMD MANAGEMENT PLAN

Attachment R4:
EROSION AND SEDIMENT CONTROL MANAGEMENT PLAN

Attachment R5:
STORMWATER MANAGEMENT PLAN

Attachment R6:
GOULDIAN FINCH MANAGEMENT PLAN

Attachment R7:
GOULDIAN FINCH OFFSET STRATEGY

Attachment R8:
WATER MANAGEMENT PLAN

Attachment R9:
WATER TREATMENT PLANT REPORT

Attachment R10:
GOULDIAN FINCH MONITORING METHODOLOGY

Attachment R11:
WEED MANAGEMENT PLAN

Attachment R12:
FLORA AND FAUNA MANAGEMENT PLAN

Attachment R13:
DUST MONITORING MANAGEMENT PLAN

Attachment R14:
CULTURAL AND HERITAGE MANAGEMENT PLAN

Attachment R15:
MINE CLOSURE PLAN

Attachment R16:
WRD CLOSURE ASSESSMENT

Attachment R17:
COVER DESIGN TRIALS

Attachment R18:
BATMAN PIT PREDICTIVE GEOCHEM MODELLING

Attachment R19:
POST CLOSURE PIT LAKE WATER QUALITY REPORT

Attachment R20:
RECLAMATION PLAN

Attachment R21:
COMMUNITY ENGAGEMENT PLAN

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