

Table 5-7: Residual Risk Profile

| Source of Concern | Receptor | Pathway | Pathway Completion | Risk Description | Probability | Consequence | Risk Rating | Management Measures | Revised Pathway Completion | Revised Probability | Revised Consequence | Revised Risk Rating |
|-------------------|---------------------|------------------------------------|--------------------|---|---|-------------|-------------|--|--|---|---------------------|---------------------|
| Odour | Site Users | Fugitive Emissions | Complete | Lowered amenity due to odour | Likely | Minor | Medium | <ul style="list-style-type: none"> Operations at the landfill are expected to occur only approximately two or three times per week; Waste will be covered regularly as outlined in Section 3.3.8; Putrescible waste will be immediately covered by 300mm of cover soils; and Odour levels will be continuously monitored by Site staff, and action taken if required. | Incomplete | | | |
| | | Subsurface Migration | Partially Complete | | Possible | Minor | Medium | | Partially Complete | Rare | Slight | Low |
| Landfill Gas | Site Users | Fugitive Emissions | Incomplete | Toxicity from trace gasses, predominantly hydrogen sulphide. | Landfill gas will be unable to accumulate next to the landfill as it will oxidise and disperse. No subsurface pathways exist in the vicinity of the landfill. | | | The risk is adequately managed via the design of the landfill and minimal landfill gas generation from the small, dry waste mass. | Incomplete | Landfill gas will be unable to accumulate next to the landfill as it will oxidise and disperse. No subsurface pathways exist in the vicinity of the landfill. | | |
| | | Subsurface Migration | Incomplete | | | | | | Incomplete | | | |
| | Site Users | Fugitive Emissions | Incomplete | Asphyxiation from high carbon dioxide levels, explosion, and fire risk from methane between 5 and 15% v/v | | | | | Incomplete | | | |
| | | Subsurface Migration | Incomplete | | | | | | | | | |
| | Site Infrastructure | Subsurface Migration | Incomplete | Explosion and fire risk from methane between 5-15% v/v | | | | | Incomplete | | | |
| | Flora | Subsurface Migration | Incomplete | Root stress from carbon dioxide levels between 5-10% v/v | | | | | No pathway to vegetation is present at the Site. | | | |
| Leachate | Site Users | Migration via surface water runoff | Partially Complete | Contact with or consumption of leachate | Unlikely | Moderate | Medium | <ul style="list-style-type: none"> The landfill base will consist of a 300mm compacted layer of Site-won soils and the base of the entire WRL was constructed with a +500mm low-permeability saprolite layer to mitigate any leachate seepage into the environment; The landfill cell perimeter will be mostly bunded to contain any leachate generated; The landfill floor will be sloped away from the entrance into cell; Waste will be covered regularly as outlined in Section 3.3.8; | Partially Complete | Rare | Minor | Low |
| | Flora | | Partially Complete | | Unlikely | Minor | Medium | | Partially Complete | Rare | Minor | Low |
| | Fauna | | Partially Complete | | Unlikely | Moderate | Medium | | Partially Complete | Rare | Slight | Low |
| | Ground Water | Migration via groundwater | Partially Complete | | Unlikely | Minor | Medium | | Partially Complete | Rare | Minor | Low |

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| | | | | | | | | <ul style="list-style-type: none"> Putrescible waste will be immediately covered by 300mm of cover soils; Separation from groundwater is significant at 10m below ground level and will increase as WRL operations continue; Following the completion of waste disposal, the landfill cell will be capped by a compacted 300mm low-permeability layer of Site-won soils. | | | | |
| Dust | Site Users | Dust blown in the wind | Complete | Reduced visual amenity | Likely | Minor | Medium | <ul style="list-style-type: none"> Use of water cart (as required); Operations will cease during periods of high winds and cyclonic events. Vehicles will be restricted to a maximum speed of 30km/hr, or as per the Site's Traffic Management Plan; and All waste loads are to be covered during transport. | Partially Complete | Rare | Minor | Low |
| Exposed Waste | Site Users | Direct contact with exposed waste | Partially Complete | Coming into contact with waste | Possible | Moderate | Medium | <ul style="list-style-type: none"> Waste will be covered as per the requirements listed in Section 3.3.8; The landfill will be rehabilitated as per the overall Mine Closure Plan, preventing physical contact with the waste; and Fencing and signage around the site will prevent access from unauthorised personnel and fauna. | Incomplete | | | |
| | Fauna | | Partially Complete | Consumption of the waste | Unlikely | Moderate | Medium | | Incomplete | | | |
| Litter | Site Users | Litter Blown in the Wind | Complete | Reduced visual amenity | Almost Certain | Slight | Medium | <ul style="list-style-type: none"> All waste will be unloaded as close to the ground as possible, and will be covered the day of deposition; All waste loads entering the Site will be covered to prevent uncontrolled release of litter; A boundary fence will be installed to prevent any litter escaping; The boundary fence will be inspected regularly, and any maintenance works scheduled accordingly; | Incomplete | | | |
| | Fauna | | Partially Complete | Consumption of the litter | Unlikely | Moderate | Medium | | Incomplete | | | |

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| | | | | | | | | <ul style="list-style-type: none"> Any litter generated around the Site and along the fence lines will be collected on a regular basis as part of routine procedures; Wind-blown litter will be collected as soon as practicable; and The landfill will be rehabilitated as per the overall Mine Closure Plan, preventing physical contact with the waste; | | | | |
| Physical Aspects | Site Users | Surface irregularities and unstable surfaces | Partially Complete | Trip hazard | Possible | Moderate | Medium | <ul style="list-style-type: none"> Fencing and signage around the site will prevent access from unauthorised personnel A low putrescible waste fraction and overall low volume of waste material; Waste bench heights of a maximum 2m; Waste compaction during deposition; Variation in cell location, so no cells are immediately located on top of each other; and Significant soil surcharge of minimum 1m at Site closure. | Partially Complete | Rare | Minor | Low |
| | | | Partially Complete | Erosion & landfill slope failures | Unlikely | Major | Medium | | Partially Complete | Rare | Minor | Low |
| Noise | Site Users | Noise travels through the air | Complete | Reduced Amenity and long-term exposure health risks | Likely | Moderate | High | <ul style="list-style-type: none"> No sensitive receptors will be constructed any closer than 500m to the Site; Vehicles will be restricted to a maximum speed of 30km per hour (km/hr) unless otherwise signed; Noise reducing workplace procedures will be adopted such as slow unloading of materials from the lowest height possible; All materials handling will be confined to the designated areas; All equipment and machinery will be maintained in good working condition; and Staff and visitors will be provided with appropriate personal protective clothing (PPE) to mitigate any noise impacts associated with the site activities. | Partially Complete | Possible | Slight | Low |
| | Sensitive Receptors | | Partially Complete | Reduced Amenity | Possible | Minor | Medium | | Partially Complete | Rare | Slight | Low |

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| Traffic | Site Users | Collisions with vehicles | Partially Complete | Human health risks | Unlikely | Severe | High | <ul style="list-style-type: none"> The small volumes of waste generated at the Site will result in minimal operational waste movements, estimated to average two to three times per week; and Newcrest's Traffic Management Plan (Doc. Ref. No. 702-8000-SA-PLA-004) will be implemented. | Partially Complete | Rare | Minor | Low |
| | Site Infrastructure | | Partially Complete | Damage to infrastructure | Possible | Minor | Medium | | Partially Complete | Rare | Minor | Low |
| Vermin and Fauna | Site Users | Animals attracted to the waste mass | Partially Complete | Amenity and human health risk | Likely | Minor | Medium | <ul style="list-style-type: none"> The generation of odour and litter will be minimised through the implementation of appropriate management measures (see Sections 4.1 and Section 4.8); Regular litter collections will be undertaken onsite; All waste loads will be covered during transport; Waste will be covered daily, and putrescible waste will be covered as soon as practicable following deposition with a greater cover soils requirement. A perimeter fence will be installed, monitored and maintained on a regular basis; A feral cat control program will be implemented in line with broader Project management measures; Any suspected and/or known shelters or breeding grounds for vermin on the site will be eliminated; and Should any vermin issues be experienced, professional services will be utilised to eradicate vermin at the site. | Partially Complete | Unlikely | Slight | Low |
| | Sensitive Receptors | | Partially Complete | Amenity and human health risk | Unlikely | Minor | Medium | | Partially Complete | Rare | Slight | Low |
| Fire | Site Users | Contact with fire | Partially Complete | Human health risk or fatality from fire | Rare | Severe | High | <ul style="list-style-type: none"> A 3m firebreak to allow access for firefighting; Small landfill cell size and dispersed cell location to minimise the risk of fire spreading; Cover soils stockpile near the active tip face that can be used to smother a fire; and Security fence around the perimeter of the Site. | Partially Complete | Rare | Minor | Low |
| | Site Infrastructure | | Partially Complete | Damage to infrastructure from fire | Rare | Moderate | Medium | | Partially Complete | Rare | Minor | Low |

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| Security | Site Infrastructure | Trespassers and unauthorised entrants | Partially complete | Damage from vandalism or misuse of Site | Unlikely | Minor | Medium | <ul style="list-style-type: none"> The fence will be installed and relocated for all landfill cells; and The entrance gate will be locked securely outside of operational hours. | Partially Complete | Rare | Slight | Low |

6 Conclusion

Newcrest wishes to establish a new, short-term, Category 89 landfill to meet its waste management needs over the remainder of the Project's Stage 1 operations, estimated to last until Q1 2024. The landfill will exist within the existing Stage 1 Waste Rock Landform and will consist of a number of banded cells located within the WRL to assist with operations.

The key potential environmental impacts associated with the construction and operation of the CRC that were considered include:

- Odour;
- Noise;
- Dust;
- Stormwater;
- Groundwater;
- Leachate;
- Landfill Gas;
- Litter;
- Traffic;
- Vermin and Fauna;
- Fire;
- Security; and
- Stability.

The design of the landfill has been developed to ensure all these environmental and social impacts are managed appropriately, and that the design and operations comply with the WA Rural Landfill Regulations. Based on the design, proposed engineering and environmental management measures and low residual risk, Newcrest believes that the construction and operation of the landfill can be achieved in a manner that ensures that these potential impacts can be minimised and managed appropriately.

FIGURES

Figure 1: Locality Plan

Figure 2: Site Layout and Topography

Figure 3: Sensitive Receptors

Figure 4: Flora and Fauna

Figure 5: Hydrology Flood Areas

Figure 6A: Hydrogeology

Figure 6B: Groundwater Bores



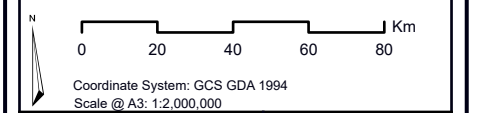
LEGEND

- Indigenous Communities
 - Development Envelope
 - Conservation
 - IBRA7 Regions
- Pipelines**
- Gas
- Rail Network**
- Railway Stations
 - Railway Lines
- Current Roads**
- Freeway / Highway
 - Main Road
 - Minor Road
- Water Courses**
- Major River
 - Minor River

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LOCALITY PLAN
Haveron Mine Site
Landfill Report

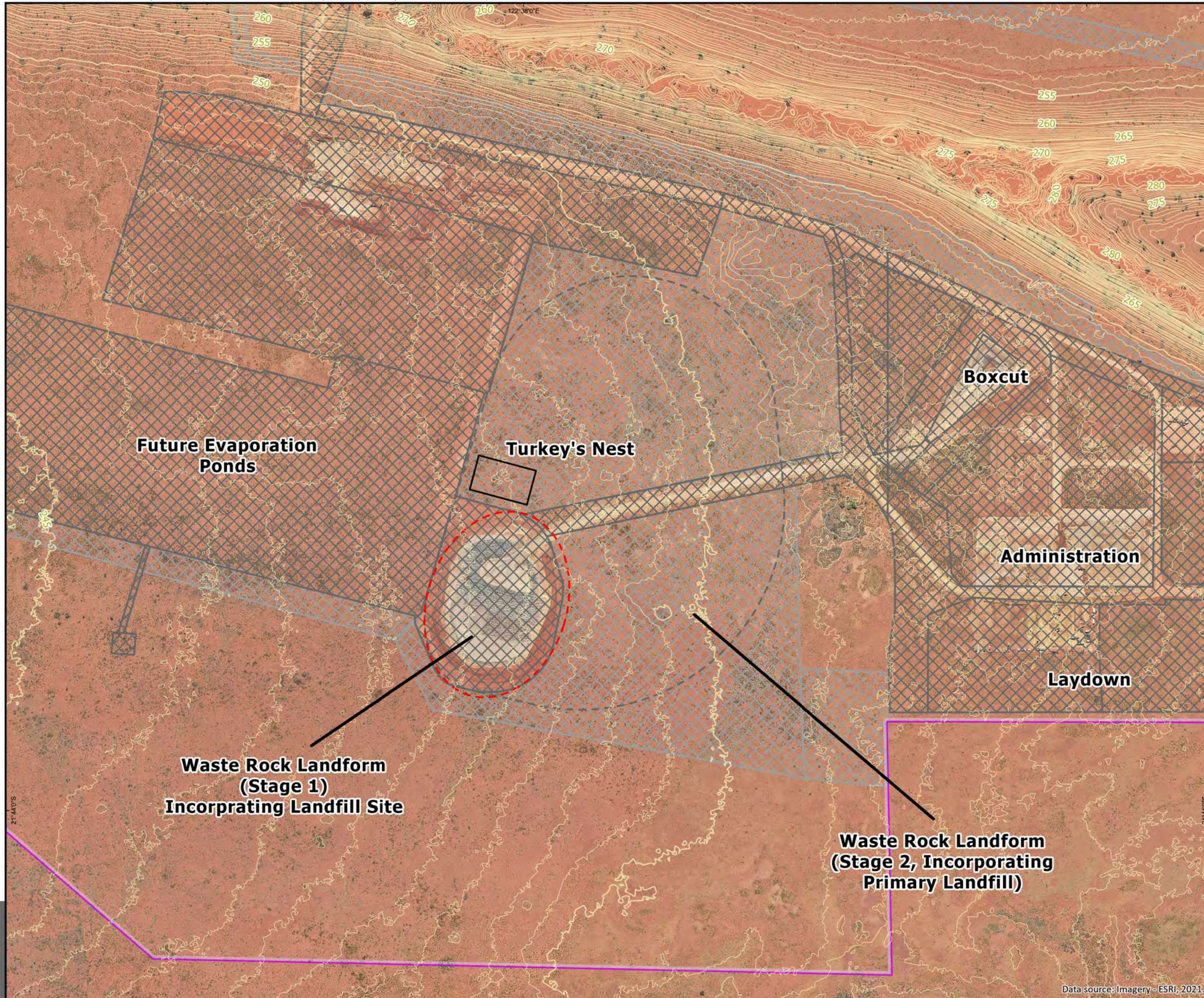


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| Prepared: N Johnston | Date: 20/12/2021 |
| Reviewed: M Hobley | Revision: A |
| Project: TW21118 | |

NEWCREST
MINING LIMITED

Figure 1

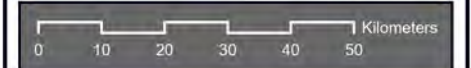
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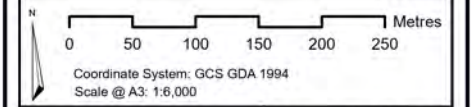
LEGEND

- Site Boundary
- Development Envelope
- Indicative Footprint (Stage 1)
- Indicative Footprint (Stage 2)
- Contours

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SITE LAYOUT and TOPOGRAPHY
Haveron Mine Site
Landfill Report



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|----------------------|------------------|
| Prepared: N Johnston | Date: 20/12/2021 |
| Reviewed: M Hobley | Revision: A |
| Project: TW21118 | |

The logos for Talis Consultants and Newcrest Mining Limited are displayed. The Newcrest Mining Limited logo features a stylized 'M' symbol.

Figure 2

Data source: Imagery - ESRI, 2021.