Waihi North Project

Preliminary Site Investigation (Ground Contamination)

WAI-985-000-REP-LC-0026_RevC.1
TECHNICAL REPORT
Waihi North Project - Preliminary Site Investigation - Ground Contamination
GENERAL AREA 000

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OCEANA GOLD (NEW ZEALAND) LTD

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Waihi North Expansion

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Front cover image source: Oceana Gold

Investigation Summary

Williamson Water & Land Advisory ("WWLA") has prepared this Preliminary Site Investigation ("PSI") to inform the design and planning of the Waihi North Project ("WNP" or "project") proposed by OceanaGold (New Zealand) Limited ("OGNZL"). The objective of this PSI is to identify potential ground contamination in the project footprint (which comprises multiple separate sites) and provide recommendations to support project planning, design and approval processes. As such, this PSI:

- Describes the relevant site history and likelihood of encountering ground contamination in the WNP area;
- Recommends methods to manage contamination that may be intersected by the project; and
- Identifies approval requirements under the Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011 ("NESCS").

The key findings of this PSI are summarised below.

Table 1. Summary of Preliminary Site Investigation

Land use history and potential for ground contamination [Section 3]	Various land uses listed on the Hazardous Activities and Industries List ("HAIL") with potential to cause ground contamination are present within the WNP area. Existing HAIL activities within the project footprint are generally localised and limited in magnitude and pose low potential for significant effects on human health, the environment and the overall project. The presence of 'mining industries' in parts of the WNP area (such as the Processing Plant and Water Treatment Plant area) results in an overlay of HAIL Activity E.7[1] in those established areas. • Other HAIL activities present within the existing Processing Plant and Water Treatment Plant site, rock stockpiles and Tailings Storage Facilities ("TSFs") include: - Dangerous goods, waste and hazardous materials storage. - Process chemical use. - Heavy machinery workshops. - Fuel storage and use. - Water treatment. - Tailings disposal. There is potential for dangerous goods/hazardous materials storage and use areas to contain contamination. However, the materials storage and handling practices implemented by OGNZL are modern, bunding and overflow management systems are in place, and the storage areas are well maintained. No visual or olfactory evidence of contaminant spills or poor handling practices was noted. • Within the Willows Road Property, proposed Tailings Storage Facility 3, proposed Gladstone Open Pit and proposed Northern Rock Stack areas, farming activities predominate. HAIL activities in these areas typically relate to Asbestos-Containing Material ("ACM") present in buildings, fuel storage and localised agricultural activities such as the storage of chemicals for weed spraying and livestock drenching. Offal pits may also occur. No evidence of livestock dips was noted.
Conceptual site model (CSM) [Section 6]	A Conceptual Site Model ("CSM") was developed to illustrate known and potential sources of contamination, routes of exposure (pathways), and the receptors (people or the environment) that are affected by contaminants moving along those pathways. The CSM directs the requirement for investigations to identify any remedial actions, relevant earthworks mitigation, and contamination-specific health and safety measures. The CSM prepared for this PSI shows: • The current operational areas of the site such as the Processing Plant and Water Treatment Plant use modern and well-maintained hazardous materials storage facilities and handling systems. As such, there is a 'Low' risk of significant adverse effects in a contaminant spill scenario. During upgrades in these operational areas, controls will need to be in place to ensure the integrity of the storage and containment systems for hazardous materials are maintained and any soils/water affected by hazardous materials are managed appropriately. • Outside of the current operational areas, the risk to people and the environment presented by soil disturbance and land use change associated with development of the proposed new facilities is 'Low'. Potentially

[1] "Mining industries (excluding gravel extraction) including exposure of faces or release of groundwater containing hazardous contaminants, or the storage of hazardous wastes including waste dumps or dam tailings".

	contaminated areas are highly localised and if present, contaminants are highly likely to be low in volume compared to the scale of earthworks proposed. There are however appropriate processes that need to be put in place during disturbance to prevent localised effects and to comply with industry standards (refer earthworks requirements below). • A Site Management Plan ("SMP") has been prepared to set out procedures to manage the above risks. The SMP is an indicative plan to support the resource consent application process for the WNP. It is anticipated that resource consent conditions will require a final Site Management Plan to be certified prior to the commencement of any earthworks activities (at any site).
Investigation requirements [Section 5.2]	In our view Detailed Site Investigations ("DSIs") are not required at this stage given the low risk, localised nature and time between consent approval and actual soil disturbance occurring. For most areas within the WNP footprint where HAIL activities have been (or are more likely than not to have been) undertaken, the potential for adverse effects associated with soil disturbance and land use change is 'Low'. Procedures for targeted investigation of these areas prior to bulk earthworks are specified in the SMP. These include procedures for the clearance of soil after demolition of buildings containing asbestos, removal of chemical storage areas including fuel tanks, actions for identifying offal pits and livestock dips via discussions with landowners and detailed inspection (potentially including pre-works soil testing) of current operational areas where upgrade works will be required. Once further specific information about any soil disturbance within the existing Processing Plant and Water Treatment Plant site is known, targeted soil investigations will be undertaken to inform disturbance activities where high-risk contamination may be present. The scope and methodology for undertaking these discrete soil investigations is provided in the SMP. Small changes to the SMP may result from these investigations and this will occur prior to commencement of the upgrade or expansion works. In addition, SMPs are intended to be live documents and further updates may occur throughout the works as additional investigations occur and works methods change.
Consenting requirements [Section 5.3]	• The WNP cannot comply with the permitted activity standards of NESCS Regulation 8(3). Without a DSI to facilitate a controlled or restricted activity consenting pathway, the soil disturbance associated with the WNP requires resource consent as a discretionary activity, pursuant to NESCS Regulation 11. Land use change can however be considered a permitted activity (pursuant to NESCS Regulation 8(4)) as it is highly unlikely that there will be a risk to human health or the environment if the activity is carried out. • If site remediation is necessary (unlikely, given the 'Low' soil contamination risks identified above) a resource consent will be required under Rule 5.3.4.8 of the Waikato Regional Plan ("WRP") for the remediation. While it is unlikely that remediation will be required, if it is required, then it will not be supported by a DSI and therefore the WRP permitted or controlled activity provisions cannot be met. • A SMP to support a discretionary resource consent application under the NESCS and WRP has been prepared by WWLA under separate cover.
Earthworks requirements [Section 5.4]	Without soil sampling data and given the varied site conditions across the WNP area, specific mitigation measures cannot be finalised. However, based on our experience we expect: • Some asbestos control is likely to be necessary in the vicinity of current buildings that are intended to be demolished, predominantly dwellings. We recommend that asbestos testing be completed following the demolition of buildings containing Asbestos-Containing Material ("ACM"). • Soil sampling in the vicinity of buildings with ACM and other sources of contamination such as dangerous goods stores and workshops will be required to inform other targeted remediation/ earthworks management requirements. • While asbestos-contaminated soils (if any) will require disposal to landfill, any other contamination is expected to be able to be retained onsite and diluted through mixing with overburden, tailings or uncontaminated topsoil. • Standard earthworks controls and procedures are likely to be appropriate for implementation following any remediation that may be required, with emphasis on worker hygiene and preventing discharges of sediment-laden stormwater from site. • The SMP sets out procedures for managing and disposing of contaminated soil. It includes details of post-demolition investigation or validation processes, specific soil disposal measures, procedures for managing any unexpected discovery of ground contamination and health and safety protocols. Carrying out soil disturbance activities in general accordance with the SMP will ensure that human health is protected from the effects of soil borne contamination.

Contents

Appendices:

Appendix A: Site History Information

Appendix B: Client Provided Information

1. Introduction

Williamson Water & Land Advisory ("WWLA") has prepared this Preliminary Site Investigation ("PSI") to identify the presence of, and approval requirements relating to, ground contamination within the footprint of the Waihi North Project ("WNP"). The WNP area encompasses existing OceanaGold (New Zealand) Limited ("OGNZL") Waihi-based facilities (**Figure 1**) as well as undeveloped land north of Waihi at Willows Road and in/under the Coromandel Forest Park.

Figure 1 Existing Waihi-based mining and processing areas (image source: OGNZL).

1.1 Background and project description

The WNP involves works across several discrete areas. This includes sites at and immediately around the existing OGNZL Waihi-based facilities and on largely undeveloped rural land northeast of Waihi. The locations and boundaries of the project components described above are shown on **Figure 2**. A full description of the project is available within the Project Description in the Assessment of Effects on the Environment provided to support the consent application for the proposed work[2].

Oceana Gold (New Zealand) Limited (OGNZL) owns and operates various mines and mining infrastructure in Waihi. Current mining operations are anticipated to complete production by the end of 2033. Exploration work completed between 2016 and 2020 identified opportunities to expand the existing Waihi operations to extend beyond 2040. This expansion includes the Waihi North Project which comprises:

- A new underground mine at Wharekirauponga (under Coromandel Forest Park), with associated surface infrastructure to be located on farmland (owned by OGNZL) at Willows Road, underground access to dual tunnels extending to the Wharekirauponga orebody, and a connecting tunnel from the dual tunnels to the existing Processing Plant and surface facilities area at Waihi;

[2] Mitchell Daysh Limited, Waihi North Project – Resource Consent Applications and Assessment of Environmental Effects, dated March 2025

- A new open pit, the Gladstone Open Pit (GOP), located to the west of the existing Processing Plant and surface facilities area at Waihi, with associated works to afford conversion to a tailings storage facility on completion of mining;
- A temporary rock stack at Willows Road (the Willows Rock Stack) for the Wharekirauponga Underground Mine and a Northern Rock Stack (NRS) located near the existing Tailings Storage Facilities (TSFs) and Processing Plant at Waihi;
- A new Tailings Storage Facility 3 (TSF3) located to the east of the existing tailings storage facilities, with waste rock for the construction of the TSF3 embankment to be initially sourced from material borrowed from within the TSF3 footprint and on the eastern side of the NRS;
- An upgrade of the existing Processing Plant at Waihi;
- An upgrade of the existing Water Treatment Plant (WTP) to double its current treatment capacity; and
- Reconsenting of the existing treated water discharge consents and duplication of the existing diffusers within the bed of the Ohinemuri River.

The Waihi North Project is planned to be completed over three stages:

Stage One

- Establishment of the Willows Access Tunnel decline;
- Establishment of infrastructure associated with the Willows Access Tunnel;
- Upgrades to the existing WTP; and
- Resource investigation and exploration progression at Wharekirauponga.

Stage Two

- Wider mining development and production associated activities.

Stage Three

- Mine closure and remediation activities.

The project will involve ground disturbance, ranging from minor to significant, on land where activities listed on the Ministry for Environment Hazardous Activities and Industries List (“HAIL”) have been, or are, undertaken.

Due to the existing and/or historic presence of HAIL activities within the project footprint and the proposed scale of ground disturbance and land use change associated with the WNP, resource consent is required pursuant to Regulation 11 of the Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011 (“NESCS”). As it is not feasible to complete a full Detailed Site Investigation (“DSI” - soil sampling) prior to consent lodgement, this PSI has been designed to support a discretionary consent application under the NESCS and inform the sampling plan.

1.2 Objectives and scope of this report

This PSI has been undertaken to identify the potential presence of ground contamination within the footprint of the WNP and the likely implications of contamination for project planning, design and approval processes.

The scope of this report included:

- Review of historical site data including aerial photographs, OGNZL records and Waikato Regional Council files.
- Site walkover inspection by a Contaminated Land Specialist.
- Assessment of the potential presence of contamination in the project footprint, based on an evaluation of current and historical land uses against the HAIL.

- Development of a preliminary Conceptual Site Model ("CSM") including geological and expected ground conditions to assess contaminant risks and mitigation requirements during the establishment of the new mine facilities and upgrade of existing facilities.
- Evaluation of DSI requirements, resource consenting pathways and likely ground contamination-related earthworks and construction implications for earthworks to facilitate the WNP objectives.
- This report does not assess remediation or other mine closure operations at the end of the WNP. The potential for contamination at that stage of the project is currently unknown, as there may be many variables between what is currently being proposed and what is ultimately consented and constructed. We have assumed that mine closure/remediation will be addressed through specific reporting and management plans prepared at an appropriate future date.

Note: A Plant Access Tunnel will facilitate the transport of ore from, and rock to the WUG mine/Processing Plant/WTP site. It will run beneath a range of properties but is not expected to intercept the surface at any point between Willows Road and the Processing Plant/WTP site. HAIL assessments of overlying properties have therefore not been made.

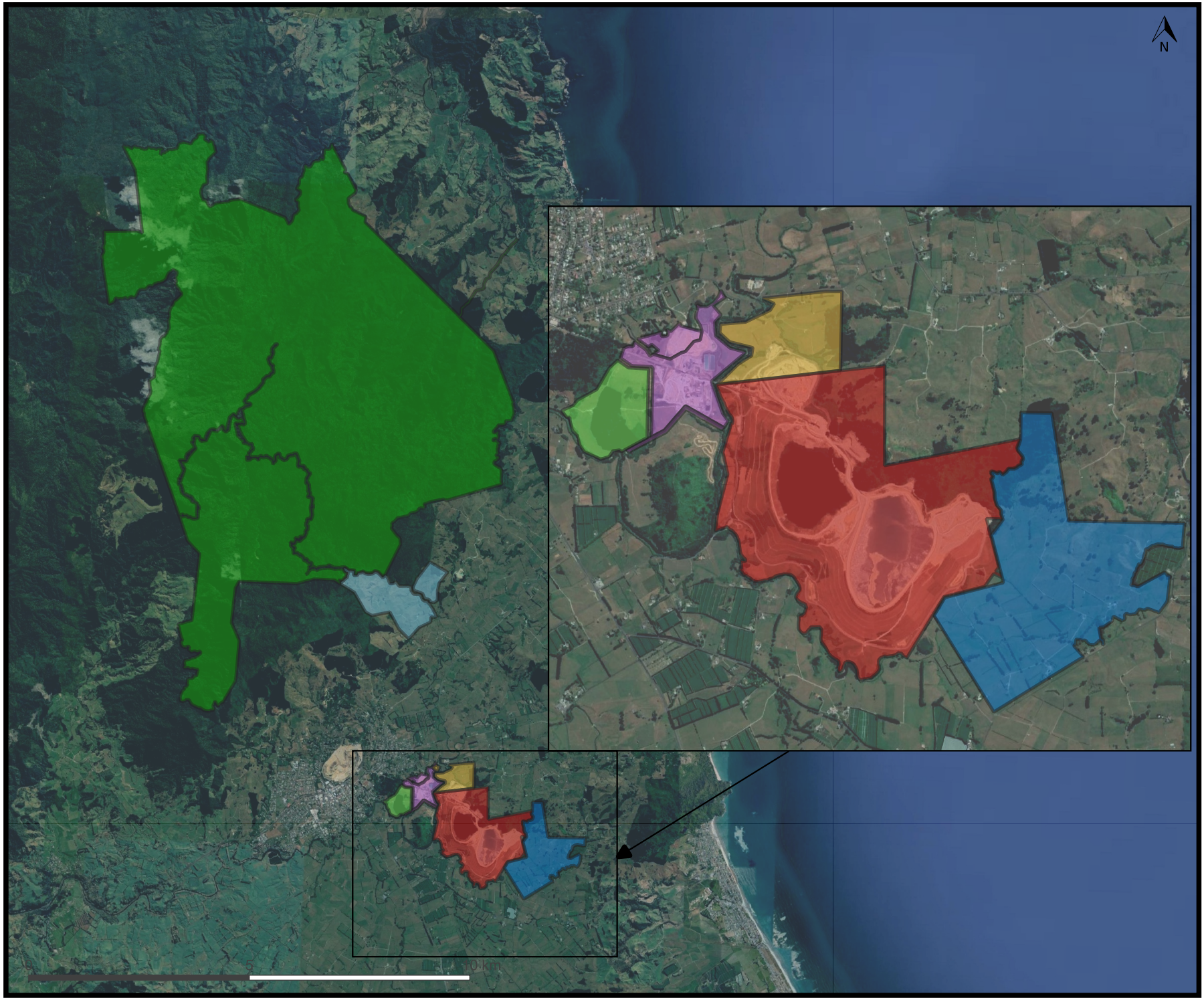
In addition, the Services Trench between the Willows Road Property and Waihi facilities will generally follow the alignments of Willows Road and the highway, before diverting south at the highway bridge to the Processing Plant/WTP via farmland. Roads are not considered a HAIL and it is highly unlikely that HAIL activities will be present in the areas of farmland that the trench will cross. The service trench alignment has therefore been excluded from this investigation, but it is expected that any contamination within this route can easily be identified and managed through implementation of the Site Management Plan (SMP) that has been prepared under separate cover.

1.3 Legislative requirements

WWLA has prepared this investigation in general accordance with published industry best practice guidance, including:

- The Ministry for the Environment's Contaminated Land Management Guideline No. 1: Reporting on Contaminated Sites in New Zealand (updated 2021);
- NESCS Users Guide (2012); and
- Health and Safety at Work (Asbestos) Regulation (2016).

This PSI has been prepared, reviewed and certified by Suitably Qualified Environmental Practitioners ("SQEP") as described in the NESCS Users Guide. Curriculum vitae confirming the SQEP status of our contaminated land specialists are available on request.



Map Title:

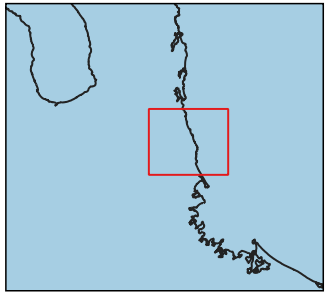
Site Boundary Overview Plan

Project:

Waihi North Project

Client:

OceanaGold



Legend

Site Boundary

- **Coromandel Forest Park**
- **Willows Road Property**
- **Gladstone Open Pit**
- **Processing Plant and WTP**
- **Northern Rock Stack**
- **Existing Tailings Storage**
- **TSF3**

Data Provenance

Aerial photograpg derived from Google

Layout & Project File

Figure 1

WWLA

Figure 2.

2. Site Description

2.1 Property identification

The project sites assessed in this PSI are located in the Waihi district along the east coast of the North Island as described in **Table 2**.

Table 2. Site identification

	Address	Legal description	Certificate of title	Figure (site and property boundaries) – Area (hectares)
Processing Plant	43 Moore Street	Lot 2 DP 411169	441733	
	52 Clarke Street	Section 246 Block XVI Ohinemuri SD	SA5A/1381	
		Section 58 Block XVI Ohinemuri SD	SA31D/452	
		Part Section 248 Block XVI Ohinemuri SD	SA5A/1381	
		Section 52 Block XVI Ohinemuri SD	SA31D/451	
	Domain Road	-	-	
Northern Rock Stack	699 Golden Valley Road	Section 39 Block XVI Ohinemuri SD	SA807/215	
		Section 54 Block XVI Ohinemuri SD	SA807/214	

Gladstone Open Pit	52 Moore Street	Section 500 Block XVI Ohinemuri SD	SA52A/934	
		Section 240 Block XVI Ohinemuri SD	SA5D/938	
		Section 326 Block XVI Ohinemuri SD	SA6D/515	
		Section 241 Block XVI Ohinemuri SD	SA5D/938	
		Section 235 Block XVI Ohinemuri SD	SA5D/938	
		Section 324 Block XVI Ohinemuri SD	SA5D/938	
		Section 325 Block XVI Ohinemuri SD	SA5D/938	
		Section 242 Block XVI Ohinemuri SD	SA5D/938	
		Section 21 Block XVI Ohinemuri SD	SA5D/938	
Existing Tailings Storage Facilities	52 Clarke Street	Section 221 Block XVI Ohinemuri SD	SA65D/777	
		Lot 4 DPS 80251	SA65D/777	
		Lot 1 DPS 16309	SA15B/287	
		Section 167 Block XVI Ohinemuri SD	SA65D/777	
		Lot 1 DPS 78591	SA65D/777	
		Section 168 Block XVI Ohinemuri SD	SA65D/777	
		Lot 2 DPS 83054	SA65D/777	
		Lot 1 DPS 91303	SA65D/777	
		Section 1 SO 56350	SA65D/777	
		Section 2 SO 56350	SA65D/777	
		Section 1 SO 56351	SA65D/777	
		Section 2 SO 56351	SA65D/777	
		Section 156 Block XVI Ohinemuri SD	SA65D/777	
		Section 157 Block XVI Ohinemuri SD	SA65D/777	
		Lot 3 DPS 80251	SA65D/777	
		Lot 1 DPS 6644	SA65D/777	
		Lot 2 DPS 91303	SA65D/777	
TSF3	95 Trig Road North	Section 47 Block XVI Ohinemuri SD	SA704/339	
		Section 164 Block XVI Ohinemuri SD	SA65D/778	
		Lot 3 DPS 83054	SA65D/778	
		Lot 4 DPS 83054	SA65D/778	
		Lot 1 DPS 91302	SA65D/778	
		Lot 2 DPS 37150	SA65D/778	
		Lot 1 DPS 81420	SA64A/999	
	Legal Road	-	-	
	Trig Road North	Lot 1 DPS 80251	SA62B/708	

				
		Lot 2 DPS 80251	SA62B/708	
		Lot 2 DPS 35024	SA62B/708	
		Lot 1 DPS 51866	SA43D/642	
Willows Road Property	132 Willows Road	Section 69 Block XII Ohinemuri SD	SA18B/585	
		Section 68 Block XII Ohinemuri SD	SA17A/488	
		Section 42 Block XII Ohinemuri SD	SA17B/1427	
		Section 75 Block XII Ohinemuri SD	SA57C/129	
		Lot 2 DPS 16668	SA15A/149	
		Lot 1 DP 352530	215360	
		Section 56 Block XII Ohinemuri SD	SA1488/11	
Coromandel Forest Park	State Highway 25	Part Ohinemuri 3 Block	-	
		Section 33 Block XII Ohinemuri SD		
		Part Ohinemuri 3 Block		
		Part Ohinemuri 20 Block		
		Part Whangamata 6 Block		
		Whangamata 6B1 Block		
		Legal Road		

2.2 Site layout

The WNP sites discussed below were inspected by a senior Contaminated Land Specialist from WWLA on 16 September 2021 and the following is a summary of site features and observations. Our specialist was accompanied by Rebecca Hillyard, OGNZL's Project Environmental Scientist.

For the purposes of the historical review and inspection, the project footprint was divided into the following areas: Processing Plant and WTP site (existing and proposed expansion areas), proposed NRS, existing TSFs, proposed TSF3 footprint, proposed GOP site and Willows Road property. No inspection was undertaken within the Coromandel Forest Park where the WUG and Dual Tunnel are proposed. The layout summary includes photographs where relevant to illustrate key features. An overview plan of the WNP areas is at **Figure 2**. Close up views of each of the above areas is illustrated on **Figures 3 - 9**.

Heavy rainfall in the Waihi area preceded the site visit, with rain also occurring during the first half of the day of the inspection. Water flow in all areas was significant, with overflow drains, streams and the Ohinemuri River being under high flow.

During the site inspections, no dwellings within the project footprint were able to be accessed. Descriptions relating to dwellings are from a distance.

2.2.1 Processing Plant and Water Treatment Plant site (Existing)

Processing facilities (existing), Figure 3:

The Processing Plant and Water Treatment Plant ("WTP") site service the Martha Pit to the north and Martha Underground Mine to the west. The Processing Plant and WTP site is accessed from the end of Baxter Road via a security-controlled access road. The Processing Plant is in the centre of the site with workshops to the south, ore and rock stockpiling areas to the west, the Martha Pit ore conveyor to the north and the WTP to the north of the conveyor. The existing facilities will be expanded but this will largely be within the existing footprint. Key features of the Processing Plant and WTP site are as follows:

- The Processing Plant (**Photograph 1**) receives ore from the Martha Pit via the existing overland conveyor (**Photographs 7, 13** and **17**) that is first stockpile south of the conveyor. Ore from the Martha Underground Mine is also stockpiled in the same area. At the time of the inspection only the Martha Underground Mine was operating (portal shown in the background of **Photograph 16**). Surplus rock is currently being stockpiled in the Polishing Pond Stockpile to the north of the WTP (**Photograph 18**).
- Gold and silver is recovered from ore through a Carbon-in-Leach ("CIL") process which involves grinding and chemical leaching (**Photograph 2**), the key constituent of which is cyanide. Cyanide is obtained in powdered form in isotainers (**Photograph 4**) and made up into liquid form on site. Purple painted liquid storage tanks (approximately 100,000 L each) are part of the cyanide process area (**Photograph 3**). All above-mentioned chemical treatment and storage areas are bunded and paved with no evidence of significant spills or leaks.
- Other chemical storage areas were observed throughout the wider Processing Plant and WTP site and included:
  - Waste oil drums are in the workshops (**Photographs 9** and **10**), with a collection area southeast of the Processing Plant (**Photographs 5 and 6**). Waste oil drums and oil-soaked debris in portable bins are stored in a timber framed corrugated iron plant building with an inbuilt oil collection tray.
  - Portable diesel storage tanks (up to 20,000 L each) (**Photographs 7** and **8**) are located adjacent to the Favona portal and the conveyor.
  - Components of explosives used within the mines are stored separately for safety purposes. Magazines are stored in the northwest of the processing area while IBCs storing ammonium nitrate are stored to the northwest of the WTP (**Photograph 18**).
  - Chemicals for water treatment processes are stored at the WTP (**Photograph 14**).
  - Several gas bullets are present around the site, one at the WTP and another near the training rooms and staff amenities building.
  - Overall, the chemical storage areas were observed to be well maintained to current standards, although we note we have not undertaken a full assessment in accordance with the HSNO Act.
- Workshops, including electrical and mechanical, are in the south of the Processing Plant and WTP site. Mines rescue also has a building in this area (**Photograph 11**). The workshops are generally corrugated iron construction although several half round steel framed canvas clad workshop areas are around the peripheries of the southern part of the process area (**Photograph 10**). Most workshops have a sealed concrete floor although some are hardfill. Grassed public reserve bounds the southern side of this area (**Photograph 16**).
- Stormwater, including discharges from the Martha Underground Mine, are collected in a series of ponds around the eastern side of the processing area. These are directed to the WTP. Ponds and drains are predominantly synthetically lined, although unlined drains and ponds also occur (**Photographs 11** and **12**).
- The WTP is immediately north of the conveyor (**Photograph 13**). It receives water from the process area, the rock stockpiles and TSF's (overflow and underdrainage systems). Water is treated via a series of chemical treatment and clarification processes in tanks before being polished in two lined open ponds to the east of the WTP (**Photograph 15**). Chemical storage and tank compounds are concreted with gravel surrounds.
- A single electrical transformer was noted adjacent to the conveyor plant (**Photograph 17**) although it is expected other similar transformers may occur in other areas, i.e., associated with the site wide electrical infrastructure.

Photograph 1. Processing plant (ball mill).

Photograph 2. Chemical treatment area (leaching tanks and processing).

Photograph 3. Liquid cyanide tanks (purple).

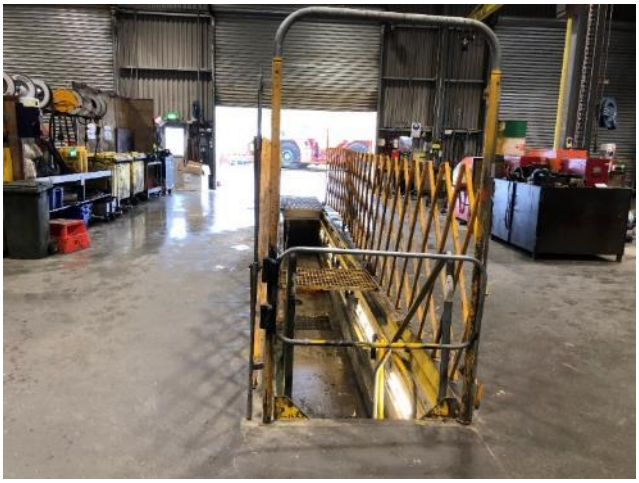
Photograph 4. Powdered cyanide adjacent to the cyanide plant.

Photograph 5. Waste oil collection area (yellow bins have oil-soaked rags and debris).

Photograph 6. Oil storage drums in the waste oil collection area.

Photograph 7. Bunded diesel tank next to the conveyor.

Photograph 8. Bunded diesel tank near the Favona portal.



Photograph 9. Inspection pit within the heavy machinery workshop.

Photograph 10. Heavy machinery washbay.

Photograph 11. Mines rescue building, drain to left is water from Favona portal with the collection pond beyond.

Photograph 12. Collection ponds for water from underground mine and site stormwater.

Photograph 13. WTP with conveyor to the left.

Photograph 14. WTP.

Photograph 15. Polishing ponds.

Photograph 16. Workshops in the south and the southern margin. Proposed GOP site is to the top left and centre with the Favona portal to the right.

Photograph 17. Transformer at the rear of the conveyor.

Photograph 18. Explosive storage northwest of the WTP. Polishing Pond Stockpile is in the background.

2.2.2 Processing Plant and Water Treatment Plant (Wider Environment)

Processing Plant and Water Treatment Plant (wider environment), Figure 3:

The proposed Processing Plant and Water Treatment Plant expansions will be within the footprint of the existing facilities. Surrounding the existing facilities, the area is covered by the Polishing Pond Stockpile **(Photographs 19** and **21**) and rock from the Martha mine, with a portion comprising farmland. Key features of the surrounding land, which would be a potential receptor for contamination (if any) mobilised during works (refer **Section 4**) include:

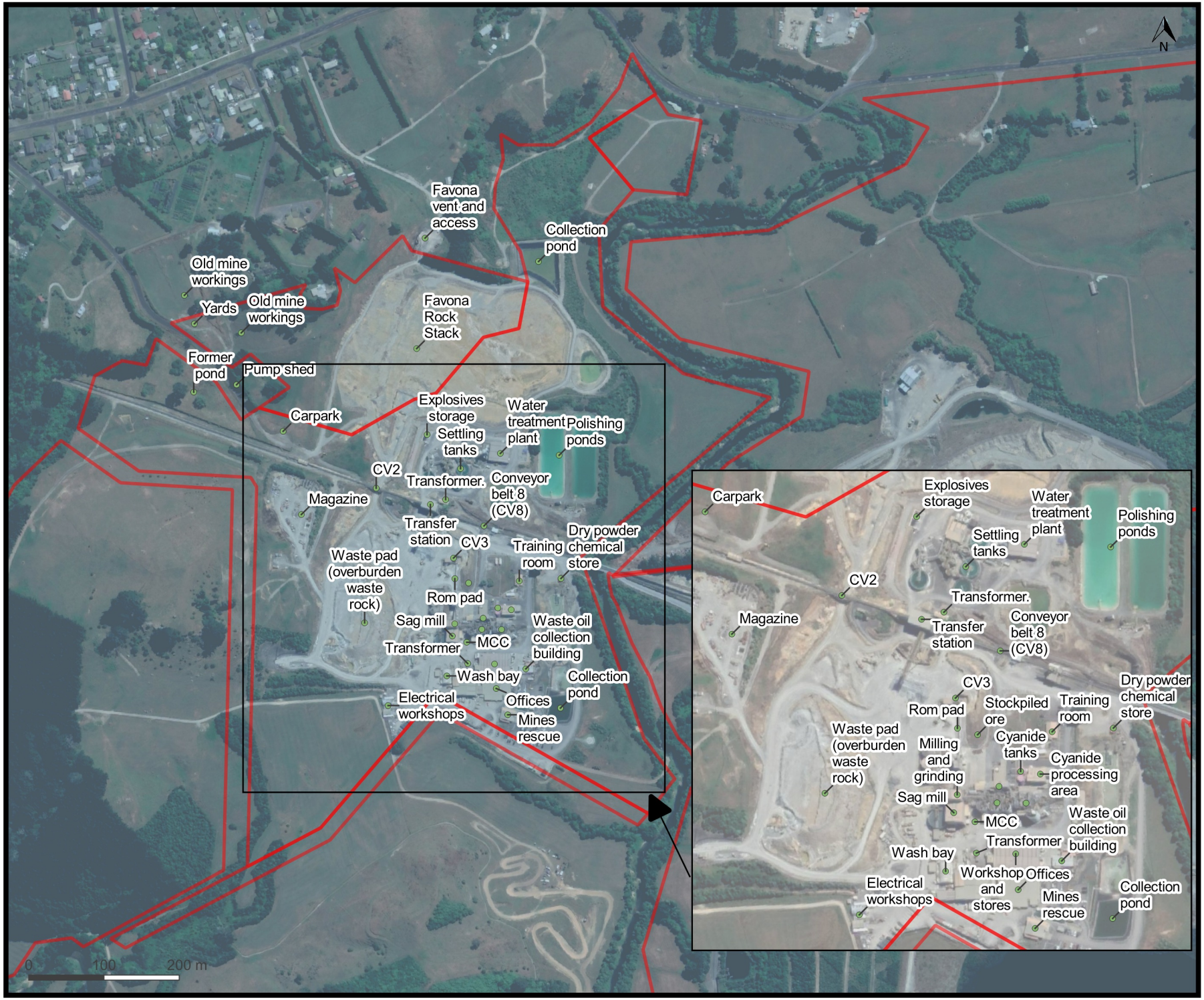
- On the north-eastern side of the stockpile are two settlement/containment ponds, fed by collector drains around the base of the stack (**Photograph 21**). These discharge to the WTP.
- A vent and emergency access portal for the underground mine are immediately northeast of the process expansion area at the top of the slope.
- The farmed areas in the north-western half of the site are accessed via Moore Street, the termination of this road being at a gated entrance to the processing area (**Photograph 20**).
- The farmed areas rise steeply up to the northeast. Old mine workings were visible on the hillslope on the eastern side of Moore Street.
- On the western side of Moore Street is remnants of a former pond/water storage reservoir (**Photograph 22**). The clay embankment has been breached and it no longer holds water. The pond and surrounds are pasture.

Photograph 19. Polishing Pond Stockpile.

Photograph 20. End of Moore Street, conveyor is to the left of image.

Photograph 21. Western side of the Polishing Pond Stockpile and water collection drains.

Photograph 22. Former water storage pond/ reservoir.



Map Title:

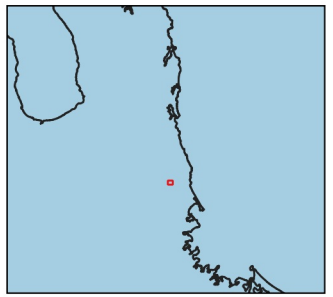
Site Features: Processing Plant and WTP

Project:

Waihi North Project

Client:

Oceana Gold



Legend

- Site Boundary
- Site Features

Data Provenance

Aerial photograph derived from Google

Layout & Project File

Site Features

WWLA

Figure 3.

2.2.3 Proposed Gladstone Open Pit

Gladstone Open Pit, Figure 4:

Gladstone Hill is accessed off Clarke Street to the southwest of the Processing Plant and WTP site (**Photographs 16** and **26**). An access road runs between Winner Hill and Gladstone Hill to the Processing Plant and WTP site. The Favona portal is located beneath Gladstone Hill. Adjacent Winner Hill is vegetated and a portion, planted in pine forest, is currently used for recreational purposes (mountain biking, running) and livestock grazing. Gladstone Hill is largely cleared. Walking tracks occur around the perimeter of Winner Hill, along the Ohinemuri River which borders the south and west of the GOP site.

A derelict dairy shed (**Photograph 23**), yards (**Photograph 25**), and an old brick wall (**Photograph 24**) are located to the west of, and outside, the GOP site, not far along the farm track accessed from the end of Clarke Street. The dairy shed is of steel and corrugated iron construction.

Photograph 23. Derelict dairy shed.

Photograph 24. Old brick wall behind the dairy shed.

Photograph 25. Stockyards behind the dairy shed and brick wall.

Photograph 26. View northwest from Gladstone Hill, the Favona portal is straight ahead under the vegetated area in the foreground.

Map Title:

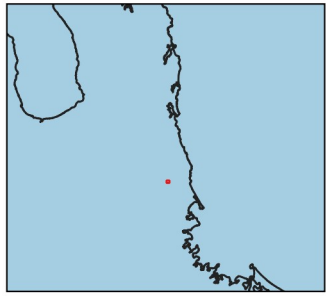
Site Features: Gladstone Open Pit

Project:

Waihi North Project

Client:

Oceana Gold



Legend

- Site Boundary
- Site features

Data Provenance

Aerial photograph derived from LINZ

Layout & Project File

Site Features

WWLA

Figure 4.

2.2.4 Existing Tailings Storage Facilities

Existing TSFs (Figure 5):

The existing TSFs are located east/ southeast of the Processing Plant. At the time of the inspection TSF1A was in use, while TSF2 (**Photograph 28**) had not been used for some time. The Northern Stockpile, fed by a conveyor stem and rock loadout facility is located north of TSF2 (**Photograph 27**). The TSFs:

- Side slopes are predominantly grazed pasture almost to the rim, with an area of native plantings evident in the northwest of TSF2 (**Photograph 29**).
- Have drains and collection ponds around the base with pumps to return water to the WTP, and spill channels that operate under very heavy rainfall (**Photographs 29** and **30**).
- An underdrainage system collects water percolating through them in a series of manholes from which water is piped to the WTP.

The Ruahorehore Stream runs to the west around the base of the TSFs to join the Ohinemuri River near Black Hill.

Photograph 27. Rock load out area to the north of TSF2.

Photograph 28. TSF2 pond.

Photograph 29. Water spilling off TSF2 embankment to the collection pond.

Photograph 30. Collection pond at the southern side of TSF1A.

Map Title:

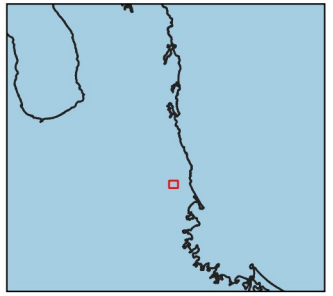
Site Features: Existing Tailings Storage Facilities

Project:

Waihi North Project

Client:

Oceana Gold



Legend

- Site Boundary
- Site features

Data Provenance

Aerial photograph derived from Google

Layout & Project File

Site Features

WWLA

Figure 5.

2.2.5 Proposed Tailings Storage Facility 3

TSF3 (proposed), Figure 6:

The proposed TSF3 is within a leased dairying property, north of Waihi Beach Road and immediately southeast of TSF1A. The property contains two dairy sheds (**Photographs 31** and **35**), two dwellings and a number of implement and hay sheds. The land is undulating with the meandering Ruahorehore Stream traversing the land from east to west, draining to the Ohinemuri River.

- The farm buildings are of corrugated iron and steel construction, mostly with earth floors (**Photographs 33, 35** and **36**). The cowsheds are concrete block and corrugated iron. An above-ground storage tank (AST) for diesel is located next to a dairy shed (**Photograph 32**).
- Both dwellings are weatherboard with evidence of cement board eaves and soffits, potentially containing asbestos.
- Used livestock and weed control sprays containers were visible in an implement shed between the two cowsheds. Several older tractors and equipment were also within the shed (**Photographs 33** and **34**).

Photograph 31. Southern most dairy shed complex with residence at rear.

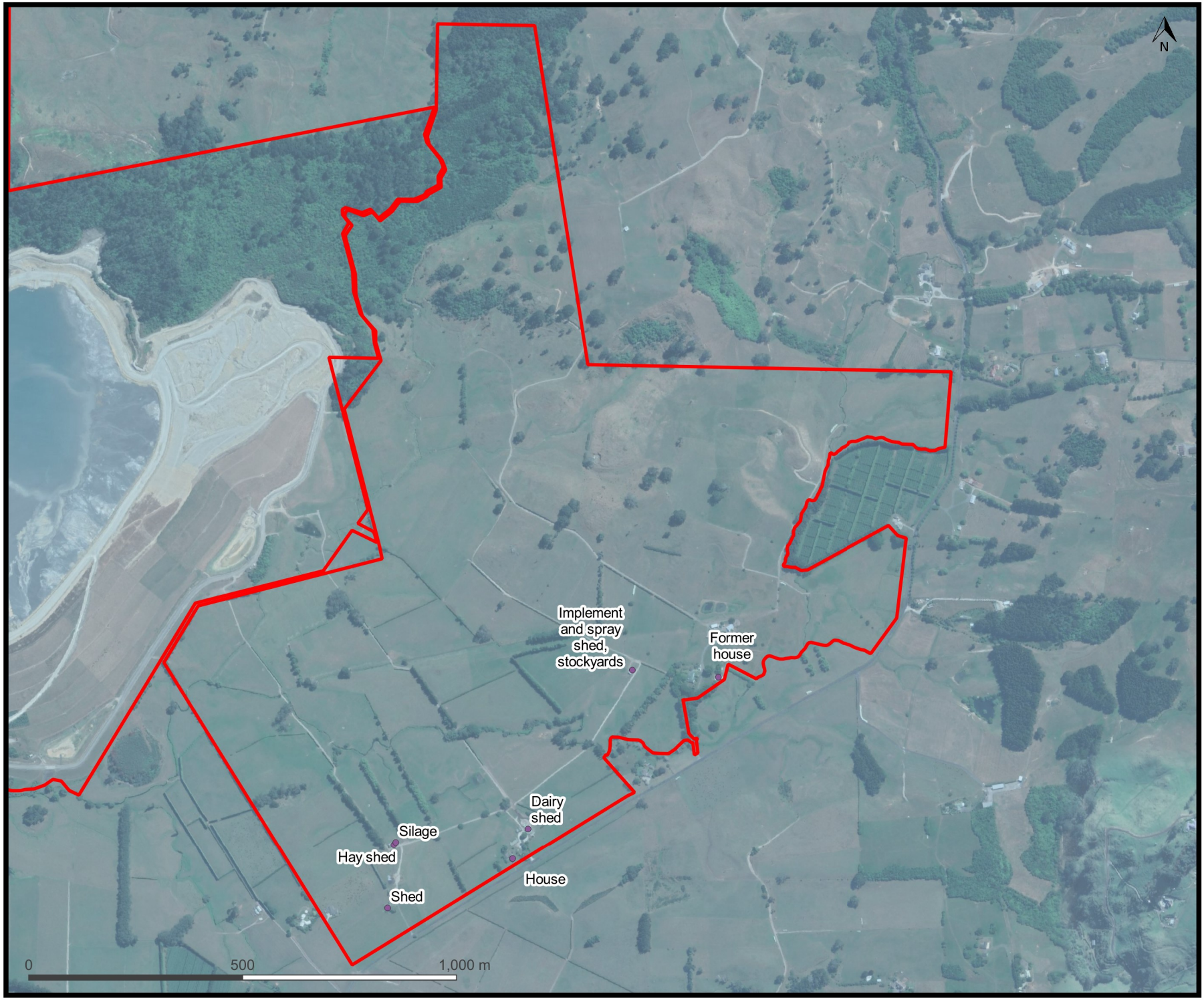
Photograph 32. AST outside the northern-most dairy shed.

Photograph 33. Implement shed.

Photograph 34. Stored chemicals and drums in the implement shed.

Photograph 35. Second diary shed complex to the northeast.

Photograph 36. Hay shed.



Map Title:

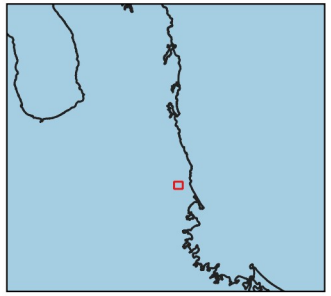
Site Features: TSF3

Project:

Waihi North Project

Client:

Oceana Gold



Legend

- Site Boundary
- Site features

Data Provenance

Aerial photograph derived from Google

Layout & Project File

Site Features

WWLA

Figure 6.

2.2.6 Proposed Northern Rock Stack

Northern Rock Stack (NRS), Figure 7:

The proposed NRS site is situated northeast of the existing Processing Plant and WTP site and immediately north of TSF2. It includes an existing workshop and hardstand area and farmland. An un-named stream (tributary of the Ohinemuri River), whose riparian margin is lined with maturing native vegetation (**Photograph 41**), traverses north south, separating the site approximately in half. A vegetated hill occurs partially within the site on the eastern boundary with other small depressions orientated east/west (**Photograph 42**).

- The workshop is on a raised platform in the central south of the site (**Photograph 38**). An access road and hardstand area occur adjacent to its eastern side. A large, modern self-bunded diesel Above-ground Storage Tank ("AST") is on the western boundary of the platform (**Photograph 37**). The workshop is a large steel framed corrugated iron clad/ roofed structure. Waste oil collection vessels/ tanks are present outside the southwestern corner of the workshop (**Photograph 38**).
- The farmed portion of the NRS site is accessed off Golden Valley Road. It is currently used for livestock grazing (calves and bulls were being reared at the time of the inspection). There are four structures within this part of the site, including a disused small dairy shed, two hay sheds and a dwelling.
  - The two sheds have earth floors and are timber framed and corrugated iron clad (**Photographs 39** and **40**).
  - The dairy shed is also of corrugated iron construction and is overgrown with vegetation.
  - A dwelling is situated east and north of the farm buildings. It is a weatherboard structure with an iron roof. Cement board cladding (eaves and soffits) may contain asbestos.

Photograph 37. Diesel AST adjacent to workshop.

Photograph 38. Waste oil tanks at the rear of the workshop.

Photograph 39. Hayshed with the derelict dairy shed to the right.

Photograph 40. Hay/calf shed.

Photograph 41. Looking south towards the existing north rock stockpile (within the footprint of proposed NRS).

Photograph 42. Gully feature orientated east – west.

Map Title:

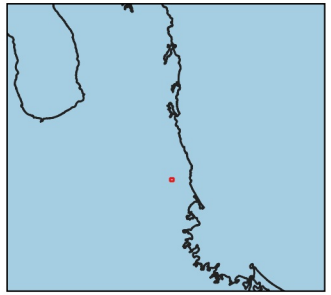
Site Features: Northern Rock Stack

Project:

Waihi North Project

Client:

Oceana Gold



Legend

- Site Boundary
- Site features

Data Provenance

Aerial photograph derived from Google

Layout & Project File

Site Features

WWLA

Figure 7.

2.2.7 Willows Road property

Willows Road property, Figure 8:

The Willows Road property is an operating dairy/dry stock unit. The portion that is part of this project is situated on the western side, and at the end, of Willows Road. The land is undulating, rising up to the west/northwest. The property contains a dwelling and woolshed adjacent to Willows Road, with an implement shed and dairy shed included in the cluster of buildings by the road. A hay shed is located beyond the end of Willows Road to the north of the aforementioned buildings. The vast majority of the Willows Road property is in developed pasture.

- The woolshed is timber framed and corrugated iron clad (**Photograph 44**) with timber sheep/ cattle pens and loading races located to the rear (**Photograph 45**). No livestock dips were noted within the sheep pen complex.
- The implement and dairy shed have concrete floors, the implement shed being a half round corrugated iron and steel framed structure (**Photograph 46**), the cowshed being concrete block, iron and timber. The facing boards are fibre cement, potentially containing asbestos (**Photograph 43**).
- An effluent system is located next to the dairy shed. It consists of an in-ground sump that collects dairy effluent for irrigation onto paddocks.
- The hayshed is of steel and corrugated iron construction with an earth floor.
- No offal pit was noted but the presence of one cannot be ruled out.

Photograph 43. Dairy shed.

Photograph 44. Woolshed.

Photograph 45. Sheep and cattle pens at the rear of woolshed.

Photograph 46. Implement shed with spray and waste oil storage.

Map Title:

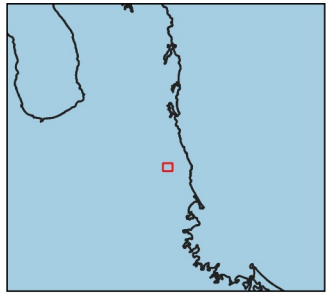
Site Features: Willow Road Property

Project:

Waihi North Project

Client:

Oceana Gold



Legend

- Site Boundary
- Site features

Data Provenance

Aerial photograph derived from Google

Layout & Project File

Site Features

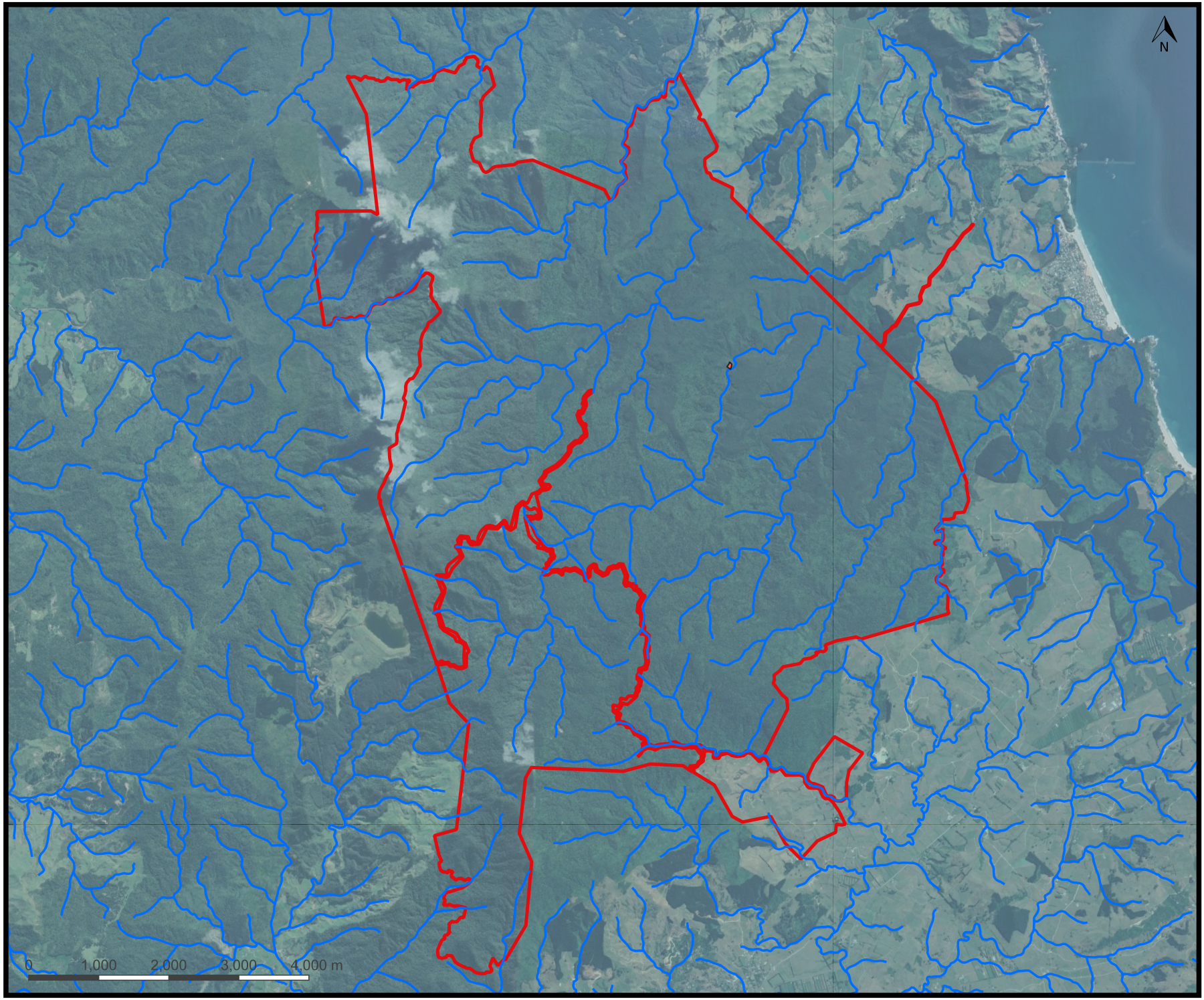
WWLA

Figure 8.

2.2.8 Coromandel Forest Park

As noted previously, the Coromandel Forest Park ("the Park") was not inspected due to its immense size and access constraints. Some 5.5 km of the Dual Tunnel and the WUG will be constructed beneath, and four ventilation raises will be constructed at ground level within, the Park. The Park is administered by the Department of Conservation[3] and is predominantly native forest. The land in the Park to the north of and adjacent to the boundary with the Willows Road property slopes steeply up to a ridge line. Old mine workings and a former stamper battery (the Royal Standard battery) are recorded in this area approximately halfway up the ridge, as indicated on **Figure 9**.

[3] Excepting unmade 'paper' roads, administered by the Hauraki District Council, within which four ventilation raises are proposed to be sited.



Map Title:

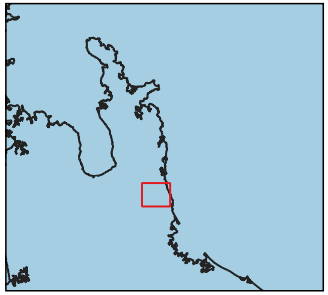
Coromandel Forest - Potential for Contamination Plan

Project:

Waihi North

Client:

Oceana Gold Ltd



Legend

Potential for contamination

Mining associated with the Royal Standard Battery (approx location)

Drawn By:

Cherise Martin

Date:

14 September 2021

Data Provenance

Aerial Imagery Data derived from Land Information New Zealand

Layout & Project File

Potentail for Contamination

WWLA

Figure 9.

2.3 Environmental setting

The environmental setting is described in **Table 3**. The features of the environmental setting are considered in the context of their potential to affect the distribution, mobility and form of contaminants (if present). These variables set the scene and inform the CSM evaluation (**Section 4**) if it is established that activities with the potential to cause ground contamination have occurred.

Table 3. Environmental setting

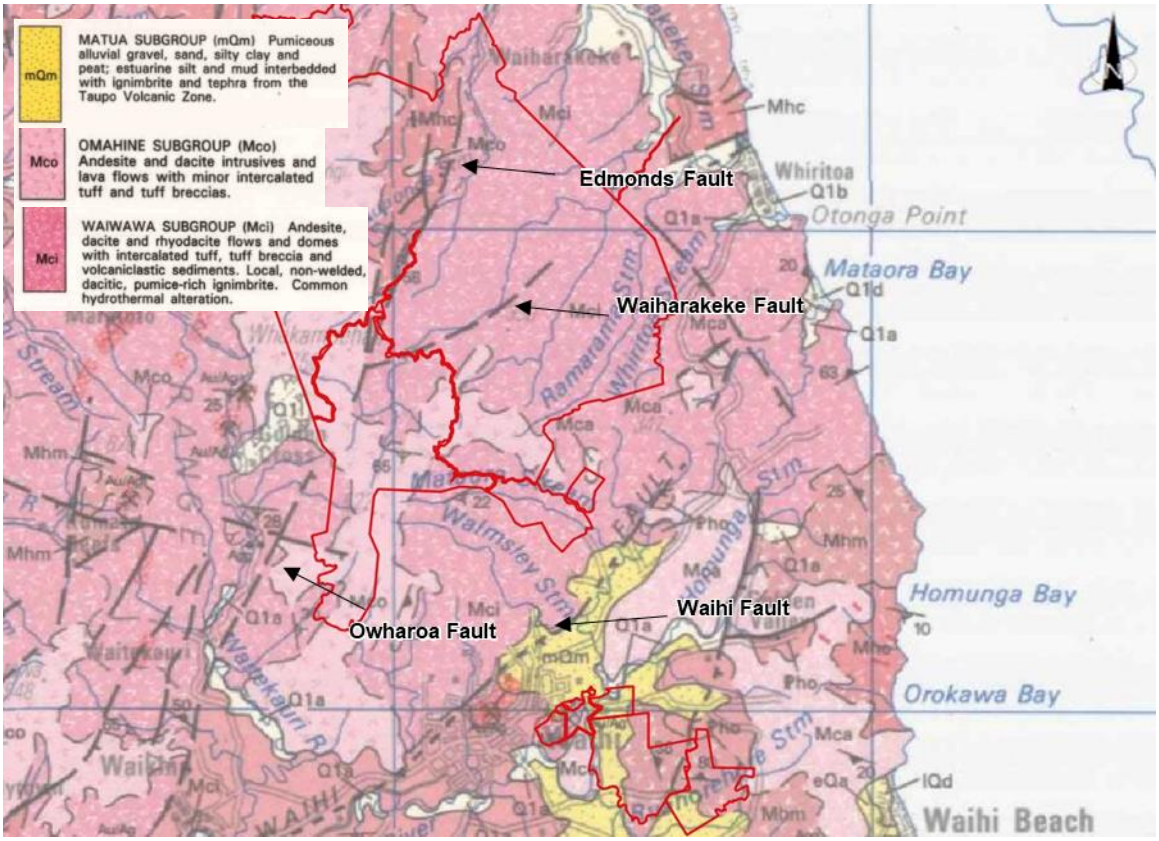
Topography	*Site topography influences where contaminants might migrate to if present.* Topography is described for each area in **Section 2.2**. Generally speaking, the existing Processing Plant and WTP site and TSFs are relatively flat, with farmland at the Willows Road property and within the Park being undulating to hilly. Cut to fill operations would have been required to form the Processing Plant and WTP site with filling associated with the TSFs and rock stacks. All developed facilities have perimeter drains that feed into a range of water collection/retention ponds/systems.
Surrounding land use	*Surrounding land may include HAIL activities that can contaminate soil or groundwater on properties nearby.* The Processing Plant and WTP site, proposed NRS, proposed GOP and TSFs (existing and proposed) are all east of Waihi. The Willows Road property and the Park project components are located north of Waihi. Land immediately bordering these sites is for the most part rural/ farmland with isolated farm buildings (or, in the case of the project area in the Park, undeveloped and heavily vegetated). There are no significant sources of contamination on immediately surrounding land holdings.
Geology	*Geological conditions are considered in the context of describing the CSM (**Section 4**) should a potential for contamination be identified by this desk study. For example, more porous soils can enable contaminants (if present) to move more quickly and potentially further than clay-rich soils that retain/bind or prevent penetration of contaminants.* The project area is within the Coromandel Volcanic Zone, a 200 km volcanic arc of Miocene-Pliocene age and containing over 50 precious and base metal deposits. The WNP sits largely in Pliocene and Upper Miocene Whitianga Group rhyolites and dacites, as well as Coromandel Group andesites and dacites. Quaternary alluvial sediments form the shallow geological units in valley floors and near streams. A significant network of faults cross the area (**Figure 10**) and strongly influence the patterns and nature of mineralisation. Hydrothermal alteration minerals have replaced almost all volcanic minerals in the host rocks with the exception of quartz.  </td>

	Figure 10 Published geology of the WNP area (Source: Edbrook, SW (compiler) 2001, GNS Geological Map 3).
Hydrogeology	*Hydrogeological conditions affect the potential risk of contaminants (if present) entering and being transported in groundwater*. Depth to groundwater will be highly variable across the project area. Groundwater is most likely to be impacted in tunnelling activities and within the Gladstone Open Pit and is highly unlikely to be intercepted by shallow ground improvement works on the remainder of the project.
Surface water bodies	*Surface water features are potential receiving environments should contaminants be present on a site.* **Processing Plant and WTP/NRS/GOP/TSFs sites:** The Ohinemuri River flows between the Processing Plant and WTP site and the NRS and TSFs, and to the south and west of the GOP site. Other key surface water features are the Waione Stream and Ruahorehore Stream to the south of the TSFs. These features are shown on **Figure 11**. **Coromandel Forest Park and Willows Road property**: Multiple streams are located within both sites. The streams on the farm and immediately adjacent DOC land are observed at low elevations and flow towards the east, draining into the Waihou River (via the Ohinemuri River) which then discharges into the Firth of Thames, approximately 50 km away. Streams in the area of the tunnels and mine within the Coromandel Forest park flow eastward, discharging to the Pacific Ocean at Whiritoa and Whangamata.  **Figure 11. Open water courses (blue) around the Processing Plant and WTP, NRS, GOP, existing TSFs and TSF3. (Source: LINZ).**
Sensitive receptors	*Sensitive environmental receptors could include aquatic or terrestrial ecosystems. This is not an ecological assessment but is instead an initial review of the surrounding environment to assess where contaminants (if present) on the site could migrate to and the specific receptors potentially affected. Sensitive human receptors could, for example, be children at a school or kindergarten on or adjacent to a site. Workers on industrial land (on or adjacent to a site) would be considered less sensitive. This people receptor interpretation informs the CSM and future guideline value selection for evaluation of soil data.* The key sensitive receptors surrounding the WNP areas are: • The residents of Waihi and surrounding farms; • Terrestrial and aquatic ecosystems such as the Ohinemuri River, Waione and Ruahorehore Streams and the Park.

3. HAIL Assessment Summary

This section provides a review of historical and current activities to determine whether any industries or activities listed on the HAIL have occurred on the various project sites. The findings of the HAIL review inform the requirement and scope for pre-works soil sampling, and provides the basis for the NESCS resource consent application.

This section describes the method for reviewing the land use history and describes the HAIL assessment findings and potential for ground contamination (if any was identified), of each area of the WNP. The location(s) and nature of HAIL activities identified across the WNP areas are provided as **Figures 12** to **18**.

3.1 Site history review methodology

The land use history of each WNP site was determined through review of historical aerial imagery dating back to the 1940s sourced from Retrolens, an online imagery database, and Google Earth. The historical imagery was then georeferenced to the various project areas in QGIS. The findings of the aerial imagery review, alongside images from key imagery dates, is provided for each area of the WNP in **Appendix A**.

WRC's Land Use Information Register ("LUIR") was searched for each of the WNP areas to identify properties known to be contaminated on the basis of chemical measurements, or potentially contaminated on the basis of past land use. The LUIR search findings are provided in **Appendix A**.

OGNZL provided records of their dangerous goods stock inventories, their fire event records, and spill event records, and files giving an overview of site operations and dangerous goods storage facilities and handling procedures. This data is also summarised in the relevant parts of **Appendix A**.

Based on the site history review and the site walkover descriptions (**Section 2.2**), a HAIL assessment has been undertaken for each WNP site. The HAIL assessment determines how likely it is for each potential source of contamination to have resulted in contamination that may be intersected by the proposed WNP works. Descriptions of the WNP works have been summarised from the Project Description, with figures and further information provided within the Project Description document.

In each table in the following sections, HAIL activities highlighted in red have the highest risk, orange has a moderate risk and green where no human health or environmental risks are expected (i.e., not a HAIL in the context of the project; HAIL activities H and I are only 'triggered' when contaminant concentrations exceed thresholds relevant to the works being proposed).

3.2 Processing Plant and Water Treatment Plant site

Site description summary	The main ore processing and ancillary facilities (workshops, process chemicals and hazardous materials storage, miners base etc) are located in the southeast of the Processing Plant and WTP site. The conveyor from the Martha Pit traverses the Processing Plant and WTP site area from west to east. The WTP is in the centre of the site, north of the conveyor, with the Polishing Pond Stockpile (rock from the underground mines) stockpiled north of the conveyor, within the southern half of the proposed facilities expansion area. Farmland is further to the north/ northwest.
Proposed developments	Expansion activities are proposed to occur to the north of the Processing Plant/WTP site where the aforementioned Polishing Pond Stockpile is located and on land that is currently pastoral. A portion of the western side of the property (<20% of the total) will be used for the WUG portal and associated platform with the remainder being relatively unchanged. Earthworks will be significant within the portal/ platform area. Minimal work is expected within the existing processing facilities as all existing infrastructure will be maintained. Where soil disturbance is required, it will largely be isolated to shallow soils to prepare foundations.
Site history summary	The proposed expansion area to the north of the existing facilities was predominantly farmland before being developed for mine processing in the early 1990s. Any dwellings that may have contained asbestos or lead paint have been removed and the ground since modified. A historic pond in the west of the site is no longer present but has also not been filled (only drained).

HAIL activities identified at the Processing Plant and WTP site are summarised in **Table 4** and shown on **Figure 12**.

Table 4. Potential for contamination: Processing Plant and WTP upgrades

Land use	Potential contaminants	Possible extent of contamination	HAIL Assessment	Areas potentially impacted
Storage of chemicals and fuel *HAIL Activity A17: Storage tanks or drums for fuel, chemicals or liquid waste*	Wide ranging including cyanide, solvents, acids, bases, cement, oils, hydrocarbons, etc	There are multiple chemical and fuel storage areas around the Processing Plant. The most significant of these is the cyanide storage and mixing areas, as well as the chemicals stored in the water treatment plant (wide range). While most are bunded and well maintained, there is high potential for low to moderate levels of contamination to exist immediately surrounding most dangerous goods stores, most likely only extending to shallow soils. (Note: this also includes storage of domestic volumes of pesticides for on-site pest control (e.g. rat bait), fuel storage, chemical storage in mechanical workshops, the WTP, etc).	HAIL Activity A17 applies to site.	The entire Processing Plant and WTP site.
Transformers *HAIL Activity B2: Electrical transformers*	Metals, hydrocarbons, PCBs (unlikely given age)	Potential for contamination from transformers is limited given their modern nature (post-dating PCBs) and high level of maintenance. However, isolated contamination in their immediate footprint cannot be ruled out, but if present would be localised and shallow.	HAIL Activity B2 applies to site.	Two transformer locations near offices in the south and WTP in the north.
Explosives storage *HAIL Activity C1: Explosives storage*	Ammonium nitrate, metals, sodium hydroxide	Explosives storage areas are very tightly controlled. While there is some potential for contamination due to the large volumes of some materials stored, the careful nature of handling, and the fact that no explosives are produced at the site, means overall potential for contamination is low.	HAIL Activity C1 applies to site.	Magazine areas in the west of the Processing Plant and ammonium nitrate storage northwest of the WTP.

Land use	Potential contaminants	Possible extent of contamination	HAIL Assessment	Areas potentially impacted
Asbestos use in buildings (historic) *HAIL Activity E1: Asbestos in a degraded condition*	Asbestos	No asbestos was observed on current buildings and given their age of construction (1990s onwards) asbestos use is unlikely. Historic buildings that may have contained asbestos have been long demolished and the ground beneath heavily modified such that there is no potential for contamination to remain.	HAIL Activity E1 does not apply to the site.	-
Mining *HAIL Activity E7: Mining industries*	Wide ranging, refer to all other activities.	Activity E7 is a 'catch all' for a range of mining activities, many of which are categorised elsewhere in this table with more specificity. Potential for contamination is limited to areas of workshops, dangerous goods storage, and water treatment, with other parts of site largely just used for ancillary activities, offices, etc.	HAIL Activity E7 applies to the site.	All processing plant areas.
Workshops *HAIL Activity F4: Engineering workshops*	Metals, hydrocarbons	A range of workshops are located around site including electrical, engineering and vehicle workshops. We have used this HAIL Activity to represent all workshops. Most have concrete floors and therefore negligible potential for contamination. However, some workshops have gravel floors meaning there is a high potential for shallow soil contamination within their footprint. Associated areas of waste oil storage may also have localised contamination if not paved or contained.	HAIL Activity F4 applies to the site.	Workshops only.
Water treatment plant *HAIL Activity G6: Wastewater treatment*	Wide ranging reflecting the range of chemicals used on site.	While much of the water collection system and ponds are lined, some are not and there is potential for sediment within unlined areas of the water treatment system to have accumulated a range of chemicals, particularly from spill events when the rate of discharge to the treatment system may not have been able to be controlled. Given the volume of water that moves through the system and therefore the degree of flushing, overall potential for contamination is relatively low, but cannot be ruled out.	HAIL Activity G6 applies to the site.	WTP
Chemical and fuel spills *HAIL Activity I: Accidental release of a contaminant in sufficient quantity to present a risk to human health or the environment*	Wide ranging but largely hydrocarbons and metals.	While there have been a number of spills over the history of the Processing Plant's operation, there are very few that have the potential to have resulted in contamination at levels that are likely to be high enough to present a risk to human health or the environment. While some surface contamination may have resulted from spills, it is sediment within the various ponds and the WTP that are most likely to have been impacted as these will be accumulation points for contaminants.	HAIL Activity I likely applies to the site.	WTP, cyanide mixing area.

Map Title:

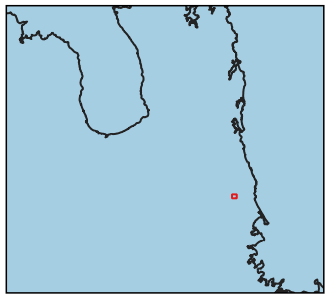
HAIL Activities: Processing Plant and WTP

Project:

Waihi North Project

Client:

OceanaGold



Legend

- **Site Boundary**

Processing plant HAIL

- **A10 Pesticide use (historic)**
- **A8 Livestock sprayrace (historic)**
- **E7 Mining**
- **E7 Mining (historic)**

Data Provenance

Aerial photograph derived from Google

Layout & Project File

HAIL Map

WWLA

Figure 12

3.3 Proposed Gladstone Open Pit

Site description summary	The proposed GOP is farmland, incorporating a small area of pine plantation. In terms of potential for contamination the only features of interest are a derelict dairy shed and hay barn with external yards, which are outside the GOP footprint. An old brick wall forming part of the stock yards is out of place and suggests perhaps a former structure occurred in this area. No asbestos-containing products were observed on the buildings and no livestock dips were evident.
Proposed developments	The GOP area will be developed as an open cut mine with minimal support activities given its proximity to the Processing Plant and WTP site immediately southeast of the GOP. Mining activities include excavation of overburden rock, creation of visual and noise bunds, relocation of the Favona portal, extraction of the ore, and eventual conversion to a tailings storage facility once mining is complete. Local support activities such as temporary amenity buildings for workers are also expected.
Site history summary	The site has been farmland for as long as records are available. A dwelling was present from the 1940s, but has been demolished. The dairy shed and haybarn were constructed circa 1960s.

We have considered all potential contaminating (HAIL) activities for the future GOP site in **Table 5** below. The location of these is shown on **Figure 13**.

Table 5. Potential for contamination: Gladstone Open Pit

Land use	Potential contaminants	Possible extent of contamination	HAIL Assessment	Areas potentially impacted
Drench use in yards *HAIL Activity A8: Livestock dip or spray race operations*	Arsenic, organochlorines	No livestock dips were noted but it is likely that pour-on drenches have been used in the cattle yards. Most modern formulations have very low residence times in soil but given that the yards have been in existence since the 1960s, it is possible that persistent chemicals have been used historically. Any contamination is likely confined to surface soils in the immediate vicinity of the yards.	HAIL Activity A8 applies to wider site.	Yards adjacent to cow and hay shed.
Asbestos use in buildings (historic) *HAIL Activity E1: Asbestos in a degraded condition*	Asbestos	No asbestos was observed on current buildings. Historic buildings that may have contained asbestos were demolished approximately 40 years ago so potential for contamination to remain is negligible.	HAIL Activity E1 does not apply to the site.	-

Map Title:

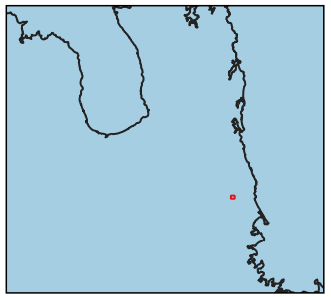
HAIL Activities: Gladstone Open Pit

Project:

Waihi North Project

Client:

OceanaGold



Legend

- **Site Boundary**
- **A8: Livestock sprayrace**

Data Provenance

Aerial photograph derived from Google

Layout & Project File

HAIL Map

WWLA

Figure 13

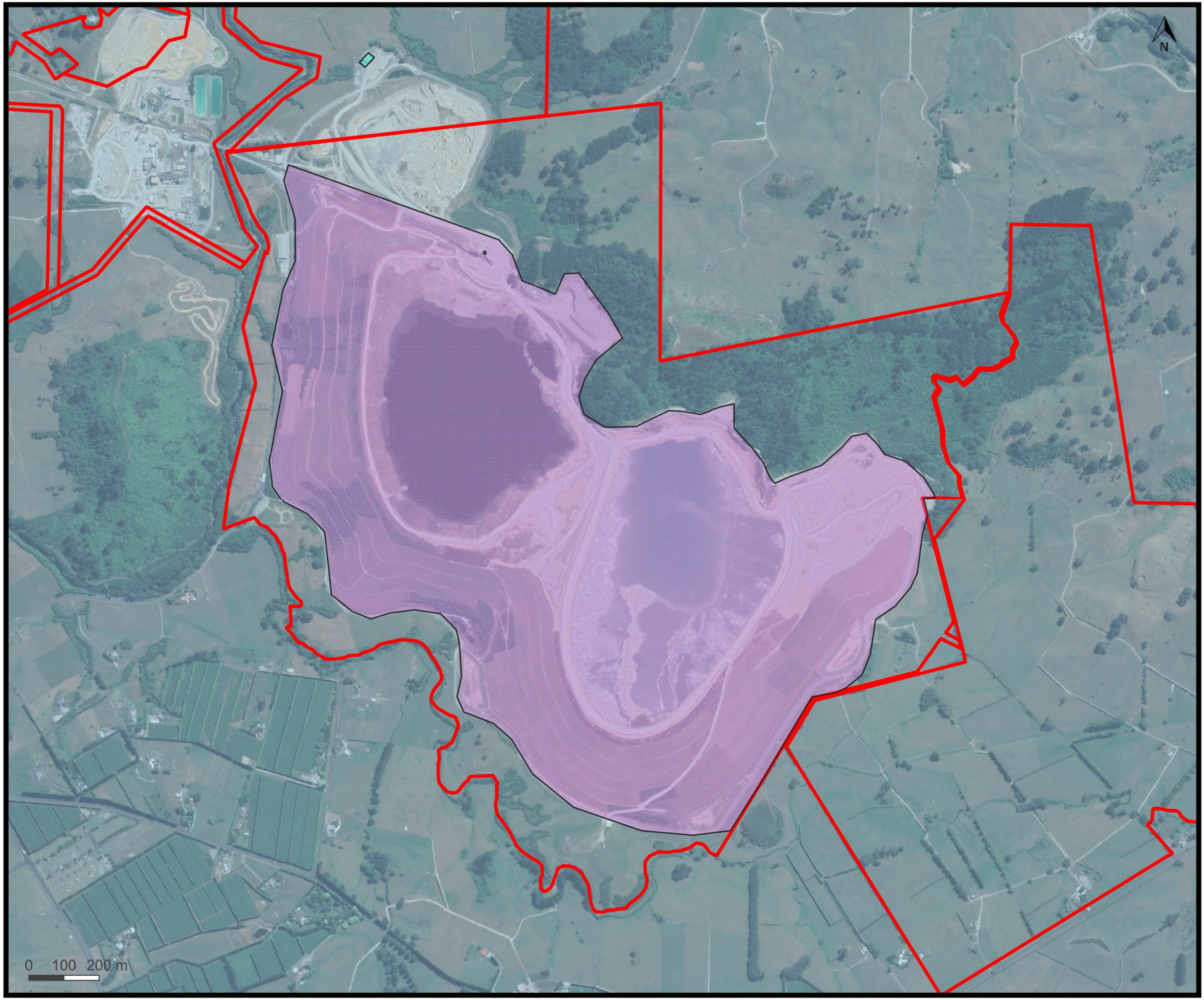
3.4 Existing Tailings Storage Facilities

Site description summary	The TSFs comprise two large tailings ponds and the Northern Stockpile. The TSFs collect tailings (surplus material from ore processing) as a slurry and allows the solids to settle out into a condensed mass at the base of each pond. TSF2 is no longer used and water quality has improved to a point where it is able to discharge to the Ohinemuri River. TSF1A is currently in use. A range of subsurface and perimeter drains capture leachate and runoff for treatment in the WTP.
Proposed developments	Minimal upgrade activities; eventually TSF1A will be retired and TSF3 commissioned (**Section 3.3**).
Site history summary	Prior to the TSFs being built, the area was farmland with isolated dwellings, farm sheds and a market garden. These have now all been removed and the site significantly reworked so that there is no evidence of their original existence.

We have considered all potential contaminating (HAIL) activities for the existing TSFs in **Table 6** below. Refer to **Figure 14.**

Table 6. Potential for Contamination: Existing TSFs

Land use	Potential contaminants	Possible extent of contamination	HAIL Assessment	Areas potentially impacted
Transformer *HAIL Activity B2: Electrical transformer*	Metals, hydrocarbons, PCBs (unlikely given age)	Potential for contamination from the transformer is limited given its modern nature (post-dating PCBs) and high level of maintenance. However, isolated contamination in the immediate footprint cannot be ruled out.	HAIL Activity B2 applies to site.	Transformers
Asbestos use in buildings (historic) *HAIL Activity E1: Asbestos in a degraded condition*	Asbestos	No asbestos was observed on current buildings. Historic buildings that may have contained asbestos were demolished approximately 40 years ago so potential for contamination to remain is negligible.	HAIL Activity E1 does not apply to the site.	-
Mining *HAIL Activity E7: Mining industries*	Wide ranging but including cyanide, acids, metals, hydrocarbons and a range of other contaminants used in processing	Tailings comprise all of the wastes associated with the ore processing activities. These are confined to the existing TSF1A and TSF2 footprints. The TSFs are constructed according to a landfilling standard with clean water diversion, basal lining and underdrainage collection and treatment. While they are themselves contaminated the affected materials are contained and managed. These are not expected to be disturbed.	HAIL Activity E7 applies to the site.	All tailings storage areas.



Map Title:

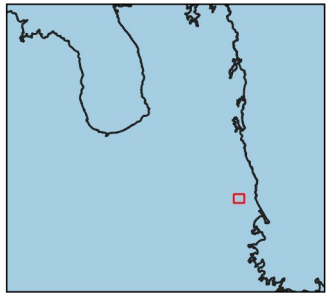
HAIL Activities: Existing Tailings Storage Facilities

Project:

Waihi North Project

Client:

Oceana Gold



Legend

- **Site Boundary**

Existing tailings HAIL

- **B2: Electrical Transformer**
- **E7: Mining**

Northern Rock Stack HAIL

- **A17: Fuel Storage, workshop**

Data Provenance

Aerial photograph derived from Google

Layout & Project File

HAIL Map

WWLA

Figure 14

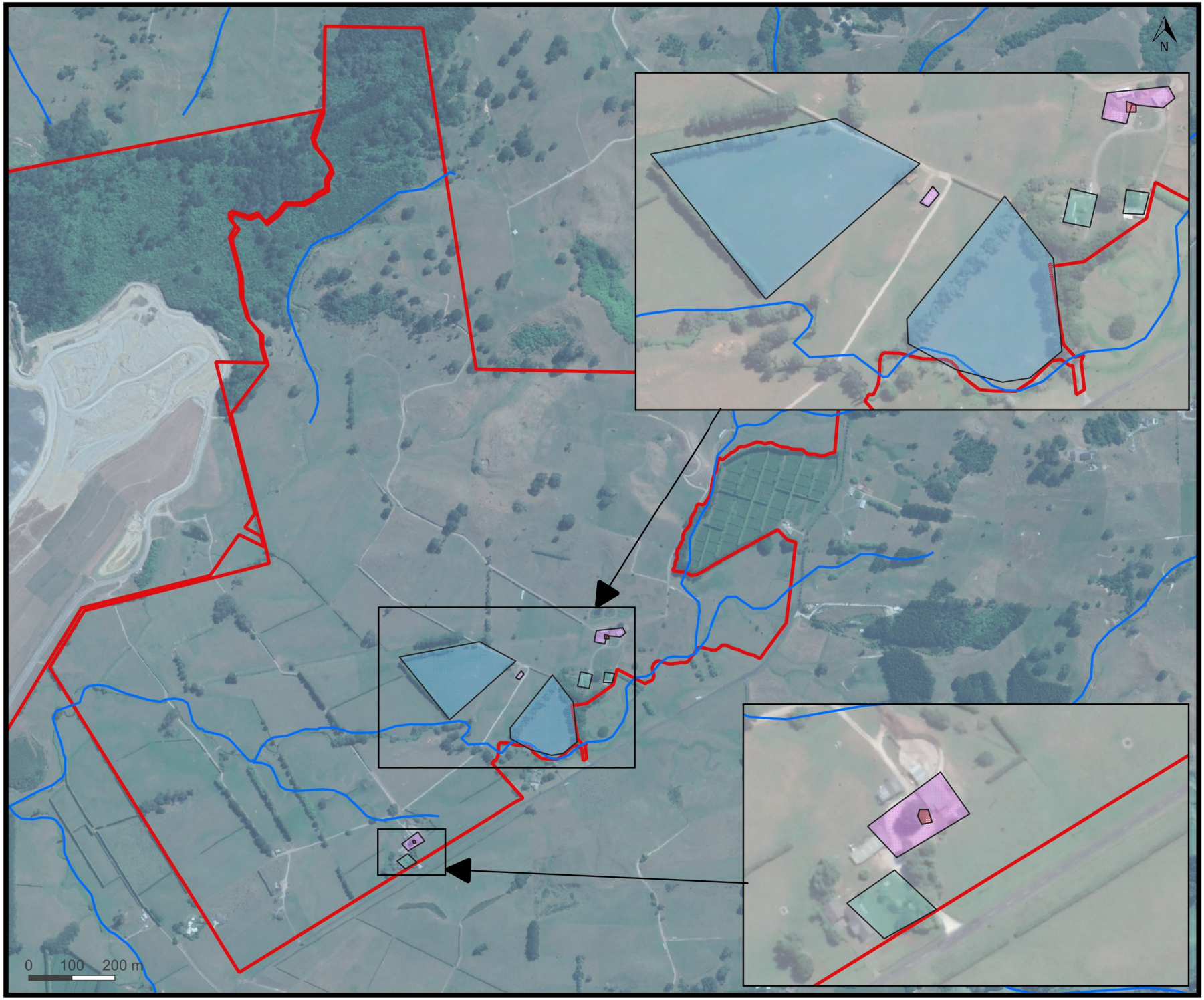
3.5 Proposed Tailings Storage Facility 3

Site description summary	The site is an operating dairy farm with two dairy sheds, two dwellings and a series of hay and implement sheds, largely clustered around the southeast boundary of the site.
Proposed developments	The land will be significantly reworked to create a new bund that rises 46 m above the existing ground level (at the downgradient end). TSF3 will have capacity for 5.7 Mm^3 of tailings. Water and leachate collection drains, and other associated facilities will also be required in this area.
Site history summary	The site has been used for dairying/ livestock grazing for much of its history, with localised market gardening occurring in the central east in the 1980s and 1990s. Some dwellings and sheds date from times when Asbestos-Containing Material (ACM) use was common although no ACM was observed on the farm buildings, but the dwellings will more likely than not contain ACM.

We have considered all potential contaminating (HAIL) activities for the future TSF3 site in **Table 7** below, with **Figure 15** illustrating their spatial distribution.

Table 7. Potential for contamination: TSF3

Land use	Potential contaminants	Possible extent of contamination	HAIL Assessment	Areas potentially impacted
Drench use in yards and storage in sheds *HAIL Activity A8: Livestock dip or sprayrace operations*	Arsenic, organochlorines	It is likely that pour-on drenches have been used in cattle yards. No livestock dips were noted. Given the more modern use, contamination is unlikely and if present, confined to surface soils in the immediate vicinity of the yards.	HAIL Activity A8 applies to site.	Yards adjacent to cow sheds, implement shed where drench is stored.
Market gardening *HAIL Activity A10: Persistent pesticide use*	Copper, organochlorine pesticides.	Market gardening activities were relatively short-lived and post-date use of arsenic and lead, although there may have been some limited use of organochlorines as these were often still in use after they were banned in the 1970s/ 1980s. Any contamination is likely to be limited to surface soils and localised.	HAIL Activity A10 applies to site.	Two areas of market gardening in the centre and centre-east of the site.
Diesel storage *HAIL Activity A17: Storage tanks or drums for fuel*	Hydrocarbons, lead	Two ASTs were observed, within each dairy shed complex. In our experience there is typically low to moderate levels of contamination beneath farm ASTs, but typically isolated to surface soils immediately beneath the ASTs.	HAIL Activity A17 applies to the site.	Immediately beneath ASTs.
Asbestos use in buildings *HAIL Activity E1: Asbestos in a degraded condition*	Asbestos	There is potential for asbestos to be present on the two dwellings and possibly ancillary buildings (garages and garden sheds). If contamination is present, it is likely confined to surface soils immediately surrounding the dwellings.	HAIL Activity E1 applies to the site.	Immediately surrounding buildings.



Map Title:

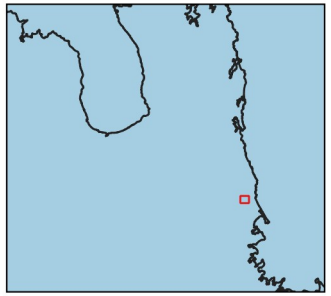
HAIL Activities: TFS3

Proiect:

Waihi North Project

Client:

Oceana Gold



Legend

- **Site Boundary**

TSF3 HAIL

- **A10: Pesticide use (historic)**
- **A8: Livestock sprayrace**
- **E1: Asbestos**
- **A17: Fuel storage**

Data Provenance

Aerial photograph derived from Google

Layout & Project File

HAIL Map

WWLA

Figure 15

3.6 Proposed Northern Rock Stack

Site description summary	The NRS site is predominantly farmland (an operating drystock unit with calf and bull rearing). There is a derelict dairy shed and two hay sheds present along with a dwelling that potentially includes ACM building materials. Part of the property is within the current operational area with a heavy equipment workshop and fuel tank present within a large hardstand area. Waste oil storage tanks occur outside the workshop. Our understanding is that the workshop is infrequently used.
Proposed developments	The NRS will have capacity to hold up to 7,000,000 m^3 of overburden rock with associated infrastructure such as water settlement ponds. The existing workshop, fuel bowser and grease storage area will need to be relocated by about 140 m.
Site history summary	The site has been pastoral for most of its recorded history, with the dwelling present constructed at a time when asbestos use was common.

We have considered all potential contaminating (HAIL) activities for the proposed NRS site in **Table 8** below and these are also shown on **Figure 16**.

Table 8. Potential for contamination: Northern Rock Stack

Land use	Potential contaminants	Possible extent of contamination	HAIL Assessment	Areas potentially impacted
Drench use in yards and storage in sheds *HAIL Activity A8: Livestock dip or spray race operations*	Arsenic, organochlorines	As indicated previously in Tables 4 and 6, no evidence of livestock dips occurs but pour-on drenches may have been used in the cattle yards. Any contamination is likely confined to surface soils in the immediate vicinity of the yards.	HAIL Activity A8 applies to site.	Cattle yards/ sheds
Diesel and waste oil storage *HAIL Activity A17: Storage tanks or drums for fuel*	Hydrocarbons, lead	A diesel AST is located next to the workshop along with waste oil storage. Contamination, if present, is likely to be localised to shallow soil immediately beneath the storage areas.	HAIL Activity A17 applies to the site.	Immediately around AST and waste oil storage area
Asbestos use in buildings *HAIL Activity E1: Asbestos in a degraded condition*	Asbestos	There is potential for asbestos to be present on the dwelling and any associated structures (garage/ garden sheds). If contamination is present, it is likely confined to surface soils immediately surrounding the buildings.	HAIL Activity E1 applies to the site.	Immediately surrounding buildings.

Map Title:

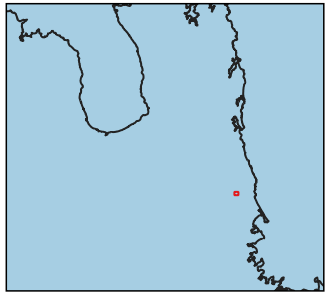
HAIL Activities: Northern Rock Stack

Project:

Waihi North Project

Client:

OceanaGold



Legend

Site Boundary

Northern Rock Stack HAIL

A17: Fuel Storage, workshop

A8: Livestock sprayrace

E1: Asbestos

Data Provenance

Aerial photograph derived from Google

Layout & Project File

HAIL Map

WWLA

Figure 16

3.7 Willows Road property

Site description summary	The site is an operating dairy/dry stock farm. As well as a dwelling there are a range of sheds including a dairy shed, woolshed, implement shed, hay barn and yards. The dairy shed and dwelling have potential ACM. Buildings are clustered in the east of the site.
Proposed developments	The site will undergo significant modification. Most of this will be confined to the southern half of the site, although largely to the north of the HAIL features discussed in Table 9 below. Willows Road Farm will eventually host the portal to the new Wharekirauponga mine, a rock stockpile and a topsoil stockpile, stormwater holding ponds, explosives storage, and surface infrastructure including amenity buildings, workshops, etc. The remainder of the farm will be unmodified.
Site history summary	The site has been used for dairying/ livestock grazing for most of its history, with progressive bush clearance occurring over the past 70 years.

We have considered all potential contaminating (HAIL) activities for the Willows Road property in **Table 9** and these are as shown on **Figure 17**.

Table 9. Potential for contamination: Willows Road Farm

Land use	Potential contaminants	Possible extent of contamination	HAIL Assessment	Areas potentially impacted
Drench use in yards and storage in sheds *HAIL Activity A8: Livestock dip or sprayrace operations*	Arsenic, organochlorines	Livestock dips are not evident but use of sprays on animals is likely. Any contamination is likely confined to surface soils in the immediate vicinity of the yards.	HAIL Activity A8 applies to site.	Cattle yards/ sheds
Asbestos use in buildings *HAIL Activity E1: Asbestos in a degraded condition*	Asbestos	There is potential for ACM to be present in the facia boards on the dairy shed. If contamination is confirmed, it is likely confined to surface soils immediately surrounding the buildings.	HAIL Activity E1 applies to the site.	Immediately surrounding the buildings.
Effluent application to land *HAIL Activity G5: Waste disposal to land*	Biological contaminants	Dairy effluent is collected in a pond and irrigated over approximately 10ha. While biological contaminants are likely present in the effluent, in our experience they are short lived and unlikely to present a risk to human health or the environment, so long as good irrigation practices are followed.	HAIL Activity G5 applies to the site.	Paddocks where irrigation occurs, the irrigation pond itself.

Map Title:

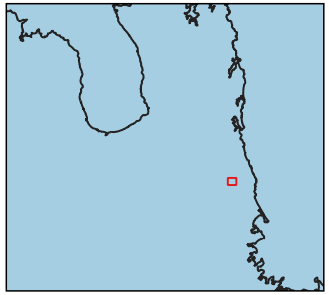
HAIL Activities: Willows Road Property

Project:

Waihi North Project

Client:

OceanaGold



Legend

Site Boundary

Willows Road Farm HAIL

A8: Livestock sprayrace and G5: effluent sump

E1: Asbestos

A17: Chemical storage for livestock

Data Provenance

Aerial photograph derived from Google

Layout & Project File

HAIL Map

WWLA

Figure 17

3.8 Coromandel Forest Park

Site description summary	The Park is forested under DOC management with no modern infrastructure present. However, former mine workings are located throughout the Park.
Proposed developments	The WUG and Dual Tunnel will be constructed underground with the only surface expression of the WNP within the Park being four proposed ventilation raises servicing the Dual Tunnel and WUG.
Site history summary	An historic gold mining battery (the Royal Standard battery) is the only potential source of contamination identified within the Park.

We have considered all potential HAIL activities for the Coromandel Forest Park site in **Table 10** below. As no HAIL activities are present, the Park is not considered a "piece of land" under the NESCS. The NESCS therefore does not apply to the works proposed in the Park.

Table 10. Potential for contamination: Coromandel Forest Park

Land use	Potential contaminants	Possible extent of contamination	HAIL Assessment	Areas potentially impacted
Historic mining operations *HAIL Activity E7: Mining industries*	Cyanide, acids, metals	There is potential for some minor contamination to remain around former mine workings in the immediate vicinity of the Royal Standard Battery, but no potential for these workings to impact on the proposed WUG due to the separation between the historic mine workings and proposed surface ventilation raises.	HAIL Activity E7 does not apply to the site	-

4. Preliminary Conceptual Site Model

A CSM indicates known and potential sources of contamination, routes of exposure ("pathways"), and receptors that may be affected by contaminants moving along those pathways (**Table 11**). Receptors may be people or environmental. This CSM is considered "preliminary" as soil sampling has not been completed, thus the identified pathways will not exist if contamination is not present.

The HAIL assessment indicates that the most likely sources of contamination across all WNP sites include:

- Mining activities including storage of dangerous goods, tailings dams and other associated activities.
- Fuel storage.
- Explosives storage.
- Other chemical storage and use such as livestock drenches.
- Transformers.
- Workshops.
- Asbestos in historic buildings.
- Accidental release of contamination through spills or fire events.
- Treatment of wastewater.

Potentially contaminated areas are highly localised and small in area and volume compared to the scale of earthworks proposed. We have undertaken the source – pathway – receptor analysis (CSM) based on this context (**Table 11** below). Potentially complete pathways can be managed through standard earthworks controls and removal or controlled mixing and placement of affected soils if necessary.

A robust SMP setting out procedures to manage the above risks is required to inform and direct contractors and support the resource consent by informing Council of these methods. WWLA has prepared an SMP to support the resource consent. This document will be updated to support construction closer to the commencement of works.

Table 11. Preliminary CSM (entire WNP area)

Source	Receptor	Pathway	Assessment
Contamination from a range of sources in current operational areas.	Site end users and construction workers during redevelopment.	Exposure via inhalation of dust potentially containing contaminants including asbestos fibres. Skin contact with soil containing contaminants. Ingestion of contamination through poor hygiene practices.	**Potential Complete Pathway:** Contaminant concentrations may exceed human health criteria in localised areas as highlighted in **Section 3**. Actual contaminant concentrations will be defined through pre-works testing. It is expected that any contamination present will be managed in isolation prior to bulk earthworks, through excavation and offsite disposal. Containment of any identified contamination beneath structures such as buildings and within the TSFs is also possible.
	Ecological receptors at the nearest surface water bodies at the site and receiving soils site (for all contaminants excluding asbestos).	Discharges of dust, sediment or surface water runoff to surface water bodies.	**Potential Complete Pathway:** As above any impacted soil is expected to be localised and thus environmental effects easily managed by materials segregation and removal/ mixing and standard earthworks controls. The wide network of stormwater drains etc, discharging to the WTP, will also assist in managing potential contamination discharges.

Contamination from a range of sources in proposed project works areas	Site end users and construction workers during redevelopment.	Exposure via inhalation of dust potentially containing contaminants including asbestos fibres. Skin contact with soil containing contaminants. Ingestion of contamination through poor hygiene practices.	**Potential Complete Pathway:** As for the existing operational areas we expect contaminant concentrations could exceed human health criteria in localised areas (refer Section 3) but will be confirmed via pre-works testing set out in the SMP. It is expected that any contamination present will be managed in isolation prior to bulk earthworks, either through excavation and offsite disposal (for asbestos contamination in particular) or mixing with overburden rock in the TSFs (for other types of contamination). Containment of any identified contamination beneath structures such as tailings dam linings or buildings is also possible.
	Ecological receptors at the nearest surface water bodies at the site and receiving soils site.	Dust or sediment and surface water runoff to surface water bodies.	**Potential Complete Pathway:** As above any impacted soil is expected to be localised and thus environmental effects easily managed by materials segregation and removal/ mixing and standard earthworks/runoff controls.

5. Development Implications

5.1 Overview

The data presented in **Sections 3** and **4** indicates there is potential for localised low to moderate levels of soil contamination to be present at all WNP sites, primarily as a result of mining processes and agricultural and horticultural activities. However, contamination is likely to be minimal in the context of the large-scale earthworks proposed in upgrade areas and will not present a significant risk to consenting and earthworks management.

The following sections set out a suggested investigation scope along with development and consenting implications for the WNP.

5.2 Investigation requirements

Localised pre-works investigations are recommended to enable any actual contamination in the identified HAIL areas (refer **Figures 12 – 17**) to be understood, and conversely eliminate uncontaminated areas.

Contamination (if present) could impact on soil management and disposal costs (i.e. low level metal or hydrocarbon contamination could be retained on site within tailings dams, whereas asbestos would require disposal to a licensed landfill such as Tirohia). However, this PSI indicates that the volume of potentially contaminated soil across the project footprint is likely to be small, particularly in the context of the volumes of earthworks expected for the overall project. Pre-works sampling will also inform health and safety requirements for construction workers and site users, particularly around whether or not asbestos controls are required.

Investigations will be targeted across the project area as in **Table 12**.

Table 12. Investigation requirements.

Area	Proposed investigation
Processing Plant and WTP site (existing)	• Target shallow soil sampling only where soil disturbance is required to facilitate the WNP works. Testing based on the source of contamination immediately adjacent to investigation area. • Sediment sampling in unlined wastewater treatment ponds/ drains if subject to disturbance.
Processing Plant and WTP site (expansion area)	• Testing of old mine workings if they are proposed to be removed/ relocated (for metals, cyanide, hydrocarbons).
GOP	• Cattle yards are unlikely to be disturbed. Targeted sampling for arsenic and organochlorine pesticides within the cattle yards, only if disturbance is required.
Existing TSFs	No investigation required.
TSF3	• Target testing for organochlorine pesticides and copper and/ or arsenic in market gardens and cattle yard areas as well as storage sheds. • Asbestos testing surrounding dwellings. • Hydrocarbon and lead testing of shallow soils immediately beneath fuel storage areas.
NRS	• Hydrocarbon and metal testing in the vicinity of the workshop, fuel storage and waste oil storage. • Asbestos testing around the dwelling. • Organochlorine and arsenic testing in shallow soils in cattle yards.
Willows Road property and SFA	Target testing only if soil disturbance is proposed in HAIL areas as follows: • Target testing for organochlorine pesticides arsenic in sheep/ cattle yard areas as well as storage sheds. • Asbestos testing surrounding dwelling and ancillary buildings and the dairy shed. • Targeted testing around the effluent sump for biological wastes.
Coromandel Forest Park	No investigation required

Given the localised and shallow nature of potential contamination (if any), soil sampling can be cost effectively undertaken via hand auger and/or trowel. We anticipate it will be staged in a manner that supports the proposed WNP works. Sampling densities as described in MfE's *Contaminated Land Management Guideline No 5: Site Investigation and Analysis of Soils (updated 2021)* and the *New Zealand Guidelines for Assessing and Managing Asbestos in Soil (2017)* will be adhered to. Results will be reported in a series of pre-works sampling reports addressing each area, or alternatively a single report if investigations are all completed at the same time.

In the case of asbestos testing, it is standard for demolition/ removal to occur prior to testing, as the demolition process itself can often be a source of asbestos contamination.

5.3 Consenting implications

5.3.1 NESCS

The NESCS sets out nationally consistent planning controls for assessing potential human health effects related to contaminants in soil. The NESCS applies to specific activities (soil disturbance and removal, subdivision, bulk soil sampling and land use change) undertaken on land where an activity included on the HAIL has occurred.

Our assessment of the proposed WNP works relative to the NESCS shows the NESCS does apply to the site because HAIL activities have occurred, and earthworks and change of land use are proposed. The only project area which the NESCS does not apply to is the Coromandel Forest Park, as it is not considered a "piece of land" to which the NESCS applies, pursuant to NESCS Regulation 7.

We have reviewed the NESCS permitted activity conditions for soil disturbance (Regulation 8(3)), as set out in **Table 13**. The earthworks will not comply with several conditions and therefore cannot be undertaken as a permitted activity. As no soil testing has been completed, the controlled activity and restricted discretionary provisions of the NESCS cannot be met. Therefore, resource consent for soil disturbance as a discretionary activity pursuant to NESCS Regulation 11 is required. The resource consent application is supported by this report and the SMP.

Table 13. Permitted activity conditions for soil disturbance, NESCS Regulation 8(3)

Rule 8(3)	Permitted activity condition	Evaluation
(a)	Implementation of controls to minimise exposure of humans to mobilised contaminants.	Can be met if SMP prepared.
(b)	The soil must be reinstated to an erosion free state within one month of completing the land disturbance	Unlikely to be met in several parts of the Project.
(c)	The volume of the disturbance of the piece of land must be no more than 25 m^3 per 500 m^2.	Highly unlikely to be met.
(d)	Soil must not be taken away unless it is for laboratory testing or, for all other purposes combined, a maximum of 5 m^3 per 500 m^2 of soil may be taken away per year.	Highly unlikely to be met.
(e)	Soil taken away must be disposed of at an appropriately licensed facility.	Can be met through guidance in the SMP.
(f)	The duration of land disturbance must be no longer than two months.	Cannot be met in several parts of the Project.
(g)	The integrity of a structure designed to contain contaminated soil or other contaminated materials must not be compromised.	Can be met through controls in the SMP.

Land use change is considered to constitute a permitted activity pursuant to NESCS Regulation 8(4) because it is highly unlikely that there will be a risk to human health if the activity (development of new mine facilities and upgrade of existing facilities) is done to the piece of land. The assessment against Regulation 8(4) is provided in **Table 14**. This PSI must be provided to Council to comply with the permitted activity conditions.

Table 14. Permitted activity conditions for land use change, NESCS Regulation 8(4)

Rule 8(4)	Permitted activity condition	Evaluation
(a)	A preliminary site investigation of the land or piece of land must exist.	This PSI fulfils this requirement.
(b)	The report on the PSI must state that it is highly unlikely that there will be a risk to human health if the activity is done to the piece of land.	This PSI fulfils this requirement. By following the procedures in the SMP, it is highly unlikely that there will be a risk to human health from development and upgrade of mining facilities at the project sites.
(c)	The report must be accompanied by a relevant site plan to which the report is referenced.	Figures 1 through 17 fulfil this requirement.
(d)	The consent authority must have the report and the plan.	Can be met if this report is provided to Council.

Of the other three activities covered by the NESCS, fuel system removal and subdivision do not apply to the proposed works. Soil sampling will take place prior to works commencing but will be undertaken in a way that meets the permitted activity provisions of Regulation 8(2).

5.3.2 Waikato Regional Plan

The Waikato Regional Plan ("WRP") regulates the disturbance of soils impacted by HAIL activities (from Rule 5.3.4.6), but only if remediation is being undertaken. Remediation is only deemed to be necessary if soil testing finds that contaminant levels exceed applicable human health or environmental criteria. While we consider it unlikely that remediation is going to be required during the project, there is some uncertainty as contamination concentrations are not yet known and remediation may be required in localised areas. We have therefore outlined the permitted activity conditions in **Table 15**. Note that we have not assessed the remediation of the mine facilities at the end of their life as it would not be possible at this stage to ascertain what the likely level of contamination will be, what the end use of the land will be, and what potential for discharges will be.

If remediation is required, the permitted activity conditions are as per **Table 15**.

Table 15. WRP permitted activity provisions.

Rule 5.3.4.6	Permitted activity condition (Sections referenced are from the current WRP at the time of writing)
(a)	Any discharge to air arising from the activity shall comply with the conditions and standards and terms in Section 6.1.8 except where the matters addressed in Section 6.1.8 are already addressed by conditions on resource consents for the site.
(b)	No contaminants from the remediation of the contaminated land shall be discharged into water or onto land unless discharged to a landfill authorised in Section 5.2.7.
(c)	The Waikato Regional Council shall be provided with the following reports prepared in compliance with Contaminated Land Management Guideline No.1: Reporting on Contaminated Sites in New Zealand (Ministry for the Environment, Wellington, NZ, updated October 2003) prior to commencement of land remediation: *i.* Detailed site investigation report *ii.* Site remedial action plan
(d)	After remediation is completed, copies of the following reports prepared in compliance with Contaminated Land Management Guideline No.1: Reporting on Contaminated Sites in New Zealand (Ministry for the Environment, Wellington, NZ, updated October 2003) must be provided to the Waikato Regional Council: *i.* Site validation report *ii.* Ongoing monitoring and management plan.
(e)	Any updates of these reports shall be provided to the Waikato Regional Council if a change in investigation, remediation and monitoring strategy occurs.

We consider that it is unlikely that the above permitted activity conditions can be met, as a Detailed Site Investigation will not be completed before consent is lodged. Controlled activity provisions (Rule 5.3.4.7) cannot be met for the same reason. Therefore, resource consent as a discretionary activity will be required under Rule 5.3.4.8 of the WRP.

5.4 Earthworks requirements

While contamination is not expected to have any significant impact on the proposed works, there may be isolated areas where contaminated soils should be managed prior to bulk earthworks commencing. This is primarily with regard to ACM, as we expect most other potential contamination types can be managed by mixing (dilution) during bulk earthworks. Carrying out soil disturbance activities in general accordance with the SMP will ensure that human health is protected from the effects of soil borne contamination. The following management methods are outlined in the SMP, along with contingency measures to be implemented if unexpected contamination is identified or contaminants are discharged to the environment:

Asbestos-in-soils	Some asbestos is likely to be present in soils, although at low levels. This may trigger "Asbestos-Related" or in a worst-case scenario "Class B" works under the NZ Asbestos Regulations. Class B works would require engagement of a licensed asbestos removalist and may require them to prepare an Asbestos Removal and Control Plan ("ARCP"; similar to those included in the SMP). We recommend asbestos remediation is carried out before bulk earthworks so that asbestos controls can be removed for the remainder of works. Validation sampling is required after asbestos remediation to confirm asbestos impacted soils have been removed.
Earthworks controls	Other than for soils containing asbestos, standard earthworks controls and procedures would apply to the project, with additional focus on protecting worker health (i.e. good worker hygiene) and preventing discharges of sediment-laden water to the environment (watercourses) or stormwater system. Testing of runoff or dewatering water would be required if disposal to municipal stormwater or wastewater was proposed.
Soil disposal	We expect that with the exception of asbestos, all soils will be retained on site (either on the specific properties where they are sourced from or incorporated into rock stacks or tailings dams). Asbestos-contaminated soils, which are expected to be minor in volume, will likely require disposal to a licensed landfill facility that accepts asbestos waste. There is also the option to have a designated encapsulation area on site, but this may not be appealing to OGNZL in the long term (it would require ongoing management and monitoring and would likely have to be in an area that was not going to have future public access).
Closure reporting	If remedial actions occur, (i.e., building footprints where ACM is present or in the area of the diesel AST), validation sampling or visual inspection will be undertaken following remediation so contamination-specific controls can then be removed and bulk earthworks proceed under standard earthworks controls, and to address expected condition of consent (i.e., confirming the site status on completion of earthworks).

6. Conclusions

This report has been prepared to support OGNZL's proposed expansion of their Waihi mining operations, referred to as the Waihi North Project or WNP. This report has also been prepared commensurate with regulatory requirements for a PSI.

This PSI has assessed the potential for contamination to be encountered within the existing operational facilities (where there are likely to be some minor upgrades/ soil disturbance) and in areas which are currently not utilised for mining operations but will have a significant role in the expansion. A number of potential sources of contamination associated with mining operations were identified within the operational parts of the site. These include the ore processing facilities (which include, for example, bulk storage and use of cyanide, acids, solvents), the WTP (which receives and treats all process and surface water in operational areas) and ancillary activities such as mechanical workshops, fuel storage, transformers, explosives storage and accidental contamination from spills or fires. Within currently undeveloped project areas, potential contamination sources are primarily related to farming activities (use of drenches, market garden chemicals and minor fuel storage) and asbestos use within dwellings and some sheds.

With the exception of the existing TSFs (which will largely remain undisturbed through this project) contamination sources are predominantly 'point sources' and if contamination is present, it is likely to be confined to surface soils in the immediate vicinity of the activity. This means that the scale of the earthworks proposed will dwarf the volumes of contaminated soil that may be present.

Soil sampling is proposed to occur in targeted areas as informed by the HAIL assessment prior to the commencement of earthworks associated with the WNP. This may be done in a staged manner to support works as required. Following soil sampling, remediation of isolated areas can be completed if necessary then contamination management methods removed (no longer apply) so that bulk earthworks can proceed under standard earthworks controls. While asbestos contaminated soils will likely require removal from site and disposal to a licensed landfill, other contamination will likely be mixed and diluted with parent rock and retained onsite (unless significant contamination is encountered, but this is considered highly unlikely).

Resource consent is required for soil disturbance as a discretionary activity under the NESCS and the WRP (assuming isolated remediation is necessary). A SMP has been prepared by WWLA under separate cover to support consent applications.

7. References

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OGNZL, Schedule of Waihi North Project Land, word document.

OGNZL, Waihi Fire Events Data, 17/08/21, xlsx spreadsheet.

OGNZL, Waihi Spill Events Data, 17/08/21, xlsx spreadsheet.

OGNZL, Waihi Stock Inventory, 17/08/21, xlsx spreadsheet.

Appendix A. Site History Information

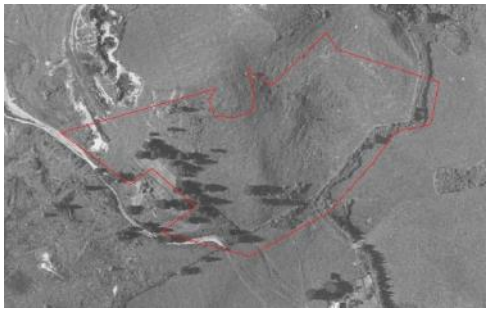
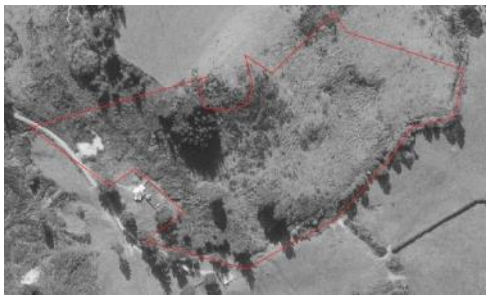
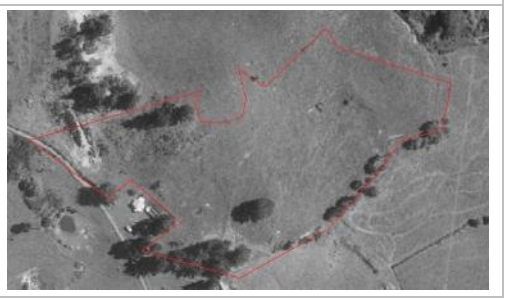
A.1 Processing Plant

Note that throughout this section some records refer to 'Newmont Waihi Gold' rather than OGNZL. Newmont Waihi Gold was the former owner of the Waihi mine and associated facilities.

A1.1 Aerial photographs

Historical aerial imagery available via online databases[4] were reviewed and are summarised, separately for each property within the Processing Plant, in **Table A.1.1 and A.1.2** below.

Table A.1.1. Historical Aerial Photograph Review – 43 Moore Street.

Photograph date (source)	Activities	Aerial image
1942 Retrolens (SN229 486/32)	The site is vacant pastoral land with scattered vegetation, largely along the southern boundary. A topographical depression is seen within the eastern half of the site. Land to the south and east is predominantly farmland/ paddocks with scattered residential properties. Dwellings are observed in the north and west. A dwelling is located adjacent to the western boundary of the site.	
1963 Retrolens (SN1218 2991/44)	The site largely remains unchanged, with vegetation becoming more overgrown. Surrounding land remains largely unchanged.	
1975 Retrolens (SN3798 E/22)	The site remains largely unchanged, however the vegetation within the site boundary has been maintained, similar to the 1942 aerial photograph. Surrounding land remains largely unchanged in the south and east, while land in the north and west densifies with residential development.	

[4] Retrolens.nz and Google Earth

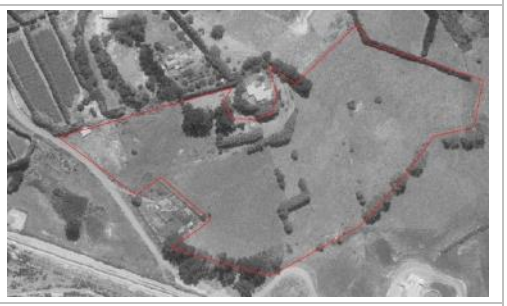
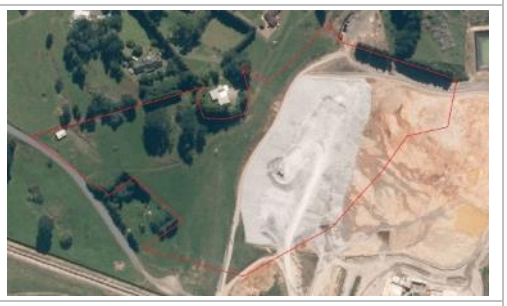
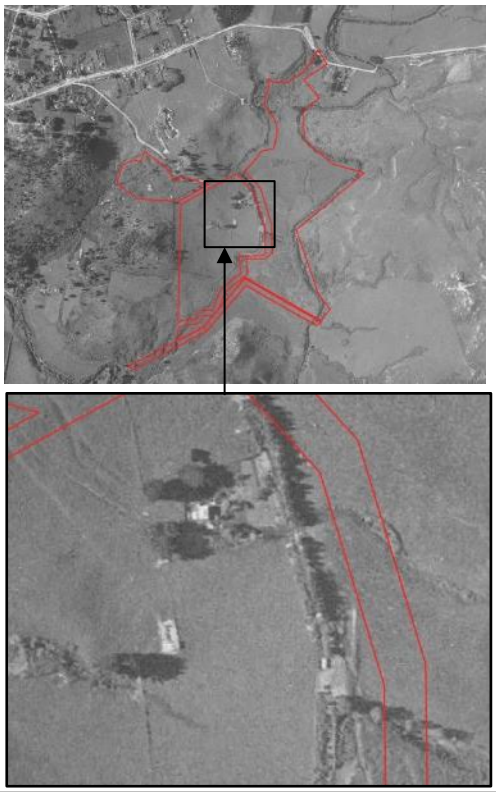
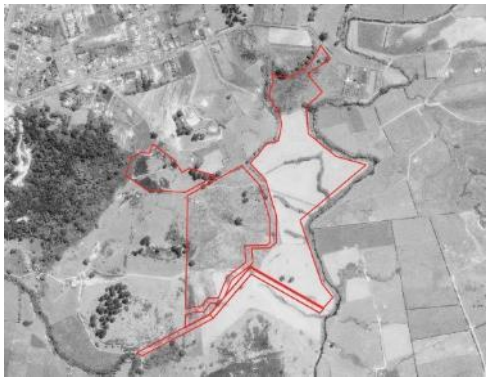
Photograph date (source)	Activities	Aerial image
1982 Retrolens (SN5944 C/6)	The site has undergone some redevelopment, largely related to a residential redevelopment to the north of the site. An access road runs from the western boundary towards the north-east, connecting the residential property to the road. A small shed is observed within the north-western corner and a tunnel greenhouse is located between the northern boundary and the access road. Potential cropping is located within the south-eastern corner Surrounding land densifies with residential redevelopment in the north and west with land in the south and east remaining largely unchanged.	
1991 Retrolens (SN9124 C/29)	The access road, tunnel house and potential cropping area are no longer evident. The Martha Open Pit is observed some distance to the north-west and the Processing Plant at 52 Clarke Street and the tailings storage is observed some distance to the south-east.	
1999 Retrolens (SN12539 B/9)	There are no significant changes observed on site. Surrounding land remains largely unchanged.	
2012 – 2013 LINZ - Waikato	An access road enters the site along the southern boundary and terminates at the northern boundary, earthworks are observed to the east of the access road. The earthworks observed are related to the expanding Processing Plant to the east. Surrounding land remains largely unchanged.	
2016 – 2019 LINZ - Waikato	There are no significant changes observed on site. There is still earthworked land on its eastern half. Surrounding land remains largely unchanged.	

Table A.1.2. Historical Aerial Photograph Review – 52 Clarke Street and Domain Road.

Photograph date (source)	Activities	Aerial image
1942 Retrolens (SN229 486/32)	The site (52 Clarke Street and Domain Road) is largely vacant pastoral land with two dwellings and one shed located in the centre of the property. A close-up of the structures is inserted below the 1942 aerial photograph. The Ohinemuri River meanders along the eastern boundary of the site. Land to the south and east is predominantly farmland/ paddocks with scattered residential properties. While residential properties are observed in the north and west. A residential property is located adjacent to the western boundary of the site.	
1963 Retrolens (SN1218 2991/44)	The only structure remaining within the centre of the site is the most northern structure. A new residential structure now occupies the western corner of the site (circled). The remainder of the property remains largely unchanged. Surrounding land remains largely unchanged.	
1975 Retrolens (SN3798 E/22)	A pond is located within the western corner of the site (circled). The remainder of the site remains largely unchanged. Surrounding land remains largely unchanged in the south and east, while land in the north and west densifies with residential properties.	

Photograph date (source)	Activities	Aerial image
1982 Retrolens (SN5944 C/6)	The site is largely unchanged. Surrounding land densifies with residential redevelopment in the north and west with land in the south and east remaining largely unchanged.	
1991 Retrolens (SN9124 C/29)	The site has been redeveloped into the Processing Plant which occupies the central portion of the site. Features observed include: • Ponds associated with the WTP. • Tanks, potentially used for water treatment, storage of diesel or other chemicals (cyanide, acids) • Ore stockpile pad • Conveyor belt Many of the remaining features are as they are today.	
1999 Retrolens (SN12539 B/9)	There are no significant changes relative to the 1991 aerial photograph. Surrounding land continues to densify with residential properties.	
2012 – 2013 LINZ - Waikato	The Processing Plant has expanded and now occupies the majority of the site's footprint. It has also expanded and encroaches onto to the property to the north. A new pond is observed in the northern corner of the site. Surrounding land remains largely unchanged.	

Photograph date (source)	Activities	Aerial image
2016 – 2019 LINZ - Waikato	The site and surrounding land remain largely unchanged.	

A.1.2 Council Contamination Records

WWLA obtained the LUIR from WRC for 43 Moore Street, 52 Clarke Street and Domain Road in August 2021. The response from WRC is summarised below:

- 43 Moore Street, 52 Clarke Street and Domain Road – Confirms all three properties are listed on the Land Use Information Register (ref: LUI07240), as indicated by the area shaded blue with a classification of 'Contaminated' due to land use HAIL activities: 'E7. Mining'; and 'C1. Explosive storage' associated with Newmont Waihi Gold.
- A number of documents are held under consent file 605902A.

Figure B.1.1. WRC LUIR map.

A.1.3 OceanaGold Records

Records held by OGNZL were provided to us for review. Records include a stock inventory, known fire events and spills. Key documents are summarised below in **Table B.1.3** – **B.1.5**, with provided documents attached in **Appendix C**. The following summarises the records relevant to the Processing Plant. Locations are provided on **Figure 3**.

Table B.1.3. OGNZL Records – Stock Inventory

Location	Product	Quantity	Unit
Carbon container	Steam processed coconut shell activated carbon	22,000	kg
Cyanide mixing plant	4-nitrobenzaldehyde (130176)	200	ml
	Ferrous sulphate 18% solution (product obsolete)	2,000	L
	Loaded electrolyte	202.5	m^3
	Sodium bisulphate (product obsolete)	20	L
	Sodium cyanide	40	T
	Sodium cyanide solution - (30% w/w)	100,000	L
	Spent electrolyte	202.5	m^3
Dangerous goods store and cabinet	Spray Paint	832	cans
Gold room	Anhydrous borax	500	Kg
	Caustic soda - liquid (46%-50%) (nz)	22,500	L
	Diphoterine ® mini and micro autonomous portable shower (nz)	3.5	L
	Hydrochloric acid > 25% (nz)	22,500	L
	Liquefied petroleum gas (lpg)	78,000	L
	Sodium carbonate (nz)	100	Kg
	Sodium nitrate (nz)	100	Kg
	Sulphamic acid (nz)	50	Kg
Hazardous goods container	Copper sulphate pentahydrate	1,500	Kg
	Sodium carbonate (nz)	125	Kg
	Sodium nitrate (nz)	200	Kg
	Sulphamic acid (nz)	250	Kg
Hydrocarbon store	Mobil Oil	416	L
Laboratory	Bromide bromate standard solution (35006) (sds discontinued)	1	L
	Calcium chloride powder 94-97%	10	Kg
	Diphoterine ® mini and micro autonomous portable shower (nz)	300	mL
	Hydrochloric acid > 25% (nz)	20	L
	Potassium chloride chem. pure, cryst., ph. eur., usp, jp 14, fcc (product obsolete)	2	L
	Potassium iodide	2	L
	Potassium permanganate	2	L
	Silver nitrate for analysis emsure acs, iso, reag. ph eur (101512)	2	L

Location	Product	Quantity	Unit
	Sodium cyanide emplura (106437)	500	g
	Sodium isobutyl xanthates	500	g
	Stablcal standard, 20 ntu (2660149)	1	L
	381-line dulux super enamel high gloss	350	g
	3m silicone lubricant	500	g
	Co contact cleaner (aerosol) (post june 2010)	2,000	g
	Cpc 400 aerosol (nz)	400	g
	Crc (nz) 2003, 2004, 2005 2.26 (aerosol)	360	g
	Dy-mark engineers layout ink los all colours	700	g
	Plasti-kote aerosol fluorescent colour range (product obsolete)	350	g
	Wd-40 aerosol	300	g
Mechanical workshop	Acetylene	30	Kg
	Automotive liquefied petroleum gas	10	Kg
	Bostik 2402 solvent based adhesive (product obsolete)	4	L
	BP diesel	50	L
	Chemlok 205	500	mL
Mill	Solutrix 11	13,000	Kg
RO plant	Caustic soda - liquid (46%-50%) (nz)	**200**	**L**
Yard - A	Solutrix 11	2,600	L
	Tmt15 (product obsolete)	1,100	L
Leaching plant	Buffer ph 10.0 colour coded blue	600	mL
	Hydrogen peroxide aseptic packaging grades	20	L
	Liquid oxygen	30,000	L
	Potassium permanganate	2	L
	Rhodamine b (c.i. 45170) for microscopy (107599)	1	L
	Silver nitrate for analysis emsure acs, iso, reag. ph eur (101512)	2	L
Lime dosing plant	high calcium hydrated lime	8,000	Kg
	High calcium quicklime	80	T
Water Treatment Plant	Carbon dioxide, liquid (nz)	20,000	L
	Copper sulphate pentahydrate	1,000	Kg
	Ferric chloride solution 40%	21,000	L
	High calcium hydrated lime	100,000	Kg
	Hyprox 600 (nz)	36,860	L
	Solutrix 11	1,300	Kg
	Tmt15 (product obsolete)	1,000	L

Other facilities such as the cleaners' room, compliance pond, electrical store, first aid room, oil store, and the cylinder yards, contained household quantities and/ or products which are not likely to impact ground conditions, including cleaning products, hydrochloric acid, pest control, lubricants, sealants, and aerosols.

The following table presents a list of fire events recorded by OGNZL since 2009. We have noted the significance of each event with regard to contamination on the right-hand side. Notes discussing significance are as follows:

1. Negligible – contamination unlikely due to fire event, or if possible, contaminant levels are highly unlikely to be at levels that would present a risk to the people or the environment development.
2. Minor – Contamination possible due to fire event. If present, contamination is likely to be above background levels, but highly unlikely to be at levels that would present a risk to people or the environment in an industrial setting.
3. Significant – contamination likely present due to fire event, with increased risk of levels exceeding applicable human health or environmental criteria.

Table A.1.4. OGNZL Records – Fire Events

Date	Location	Detail	Significance		
			N	M	S
5 May 2009	**Production Area - Waihi**	An electrical fire occurred at Newmont Waihi Gold's mill on Tuesday 5 May. The fire started at 11.32am in the Mill Motor Control Centre (MCC) switchboard and circuitry and was brought under control by on-site rescue teams and emergency services. The fire was reported extinguished at 12.13pm. All staff were accounted for and no injuries were sustained. There was, however, major damage sustained to the switchboard and circuitry for the Plant.			
19 November 2009	**Production Area - Waihi**	While flushing the RO concentrate line during a pigging operation, water was required. A line from the fire suppression system was piped over the bund wall. Water almost flooded electric motors.			
14 February 2010	**Production Area - Waihi**	Operator noticed oil on the ground while reversing out of rock box. Then noticed smoke. Shut down machine. Another operator arrived and extinguished fire.			
7 April 2010	**Production Area - Waihi**	Staff member on leaving meeting could smell burning in welding bay. He found a fire burning in a rubbish bin and used a fire extinguisher to put it out.			
9 May 2011	**Production Area - Waihi**	Capacitor in power factor correction panel burst. At approx. 4.20pm Monday 9th May a smoke alarm for Transfer Station activated on Scada and smoke was observed to be coming out of Transfer Station MCC. The fire alarm sounded at MCC. Maintenance and Electrical Supervisors inspected the MCC finding smoke but no flames. The cause was found to be a faulty power factor capacitors. The power factor correction was isolated and the MCC de-isolated.			
9 March 2012	**Production Area - Waihi**	An electrician was removing a bearing from a motor. As the bearing would not move with the hydraulic puller, heat was applied to the bearing with a gas torch and grease in the bearing caught Fire. The electrician used a fire extinguisher to put out fire.			
15 January 2014	**Production Area - Waihi**	Fitter using welder to hardface area in bottom of hopper and feeder observed cable to hydraulic power pack hot and smoking. Noticed by spotter/fire watch.			
12 March 2014	**Production Area - Waihi**	While cooking a BBQ in workshop to celebrate a certificate ceremony, the fat tray caught fire, creating smoke and activating the smoke alarm.			
4 April 2017	**Unknown**	"Contract fitter left freshly painted pipework on workbench with gas heater positioned blowing hot air to dry the paint. A canvas welding screen nearby was caught by the wind, blowing it towards the heater, eventually causing ignition. Two personnel standing nearby immediately observed the flames and extinguished small fire with dry powder extinguisher."			

Date	Location	Detail	Significance		
			N	M	S
20 November 2017	**MCC 3**	Smoke in MCC 3 set off VESDA (Early smoke/ fire detection system) which alarmed to Mill Control then shortly after second stage activated the fail safe power disconnect circuit shutting down the Mill site power .			
7 March 2018	**Electrical workshop**	A battery was being load tested in the electrical workshop using a 12volt siren/beacon assembly as the load. While being powered by the battery the beacon portion of the assembly caught fire.			
17 March 2018	**ROM pad**	"A contract digger operator had completed a pre-start on the contractors machine and was allowing machine to warm up when he noticed smoke coming from engine bay. The operator opened side door on hydraulic pump side and saw flames in the engine compartment. operator went to drivers side of the machine and isolated machine and grabbed Fire extinguisher, returned to hydraulic side door and extinguished fire. Opened engine cover to ventilate engine bay and check fire fully extinguished.			

Table A.1.5. OGNZL Records – Spill Events

Date	Location	Product	Event description	Significance		
				N	M	S
28 September 2009	Production Area - Waihi	H_2O_2	H_2O_2 delivery contractor over filled one of the two WTP storage tanks. Bund area drain reported the chemical to the conveyor belt wash settlement ponds. H_2O_2 started to decompose (producing water & oxygen) in two of the ponds before overflowing in to the WTP CP. Potentially 370 litres of product spilt. Belt wash pump stopped and WTP personnel monitoring WTP CP.			
15 March 2010	Production Area - Waihi	Not stated	Weight of inline filter and outlet fittings (which is all unsupported) broke plastic fitting on ibc Spilling 400 litres into its bund. However valve open so from there to sump pump to thickener.			
22 September 2010	Support Area - Waihi	Oil	Oil leak from generator unit. Agrekko generator malfunction estimate 100 l engine oil sprayed out from generator - covering an area up to 30m2. Location: Favona workshop.			
29 October 2010	Support Area - Waihi	Oil	Oil leak/blown hydraulic hose. While overseeing a broken hills ore delivery the hydraulic line between the first and second trailer burst causing approx 40l of fluid to be dropped.			
27 December 2010	Support Area - Waihi	CNwad	Thickener tank partially emptied into secondary containment which in turn partially discharged via flocculent shed wash down pipeline to mill area drain system. Thickener tank water feed is from the process water tanks / tsf1a decant (tsf1a cnwad concentrations over the last two months ranged between 3.1 to 8.7ppm). Initiating event: thickener standby pump isolation valve solenoid malfunctioned resulting in valve failing in open position. Slurry vol estimated to be between $2m^3$ and $10m^3$.			
10 November 2010	Production Area - Waihi	Not stated	Alarm went at 95%, truck driver came up to control room and said he had 180l to go and ask if it was okay to keep filling. The level was discussed and it should have fitted with 150l to spare. Approx 50l Spill.			
18 January 2011	Support Area - Waihi	hydraulic oil	Blown o-ring on hydraulic pump. 52 tonne excavator was loading trucks on waste stockpile when the operator smelt hydraulic oil, he			

Date	Location	Product	Event description	Significance		
				N	M	S
			shut down the machine and noticed oil leaking from underneath the excavator. He put soaker pads down to control the spilt oil (65 litres).			
7 March 2011	Production Area - Waihi	NaCN	3mm hole spraying mud outside of bunded area approximately 30 litres at 300ppm NaCN. Area drainage reports to Mill Contingency Pond.			
28 January 2013	Production Area - Waihi		WTP operator discovered ferric pump 9238 had a bad leak on intake side of pump. Lost approx. 1000 litres to inside bunded area and pumped to tails hopper via sump pump. $1820 worth of product.			
28 January 2013	Production Area - Waihi		At 1504 hrs, bunk ferric bund high level alarm was activated. Investigation revealed split in transfer pump pipe work. Approx. 800L lost to bund. $1456 worth of product.			
10 June 2013	Production Area - Waihi		At 1351hrs, site was notified (via email with pictures attached) that an empty Isotainer had leaked product onto the ground in storage yard. 3 personnel collected testing, monitoring and Spill clean up equipment and dispatched to investigate. At 1430hrs, informed that the Isotainer had already been moved to the Port of Tauranga, so NWG personnel proceeded to there.			
11 June 2014	Production Area - Waihi	oil	While a Fitter was checking the level of oil in the chain case of the Mustang - he removed the drain plug, and approximately 4 litres of oil squirted out from the chain case. Oil splashed onto operators overalls.			
15 January 2015	Production Area - Waihi	sodium cyanide solution	Mechanical seal failure on pump released approximately 900 litres of 30% sodium cyanide solution into the bund.			
9 July 2015	Wastewater treatment plant		Upon arrival at WTP at beginning of shift, operator has discovered hose off ring main has become uncoupled from stream 4 dose pump. Spill contained within bunded area of stream 4 and WTP. lost approx. 375kg @ 174.4/t			
18 October 2015	Waihi	hydraulic oil	While loading the bucket of the 770 loader, a hydraulic line has blown.			
17 August 2016	Wastewater treatment plant	Contaminated water – unknown contaminants	Manhole MH13 overflowing contaminated underdrainage water. Water flowed to S4 collection pond. Contaminated water was then pumped from S4 to WTP			
30 November 2016		Cyanide	Foam Spilled out of Bulk Cyanide Mix Tank into bund via the tank overflow pipe and level indicator hole			
20 December 2017	Waihi	Diesel	"McFalls delivery driver arrived at site to fuel Aggreko generator fuel tank. McFalls driver began fuelling as per normal procedure. After ~9000L transferred it was noticed that diesel was leaking out of the top of the tank. Immediately stopped fuelling. At this time the Aggreko technician's arrived and informed McFalls driver that the fuel tank was not operational."			
3 March 2021	Production Area - Waihi	Oil	Maintenance fitter was manoeuvring Carbon Catch Screen Feed Box around outside workshop when approx. 200L of slurry discharged from an inlet spool piece onto tarseal			

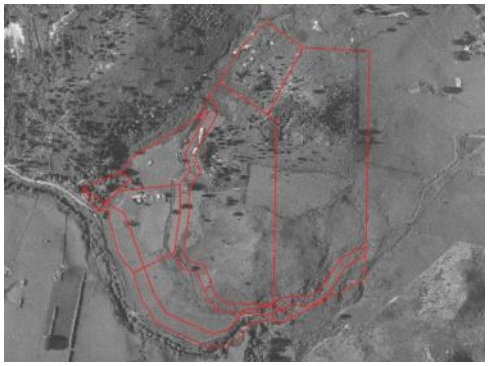
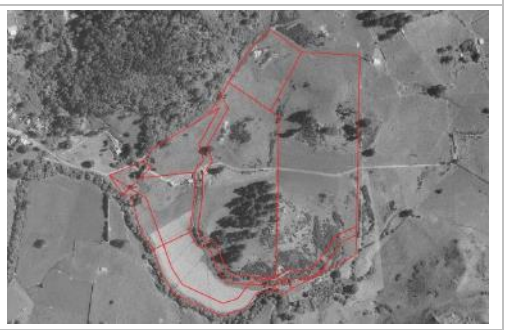
Date	Location	Product	Event description	Significance		
				N	M	S
4 December 2021			Operator discovered valve was leaking during the weekly reagent check. RO plant has not been operational since June and the last preservation was late Nov. Spill was contained within the portable bund and 98% (estimate) of product was recovered back to the IBC. Spill volume was approx. 300l total and 6 litres was lost (not returned to IBC). Cost ca. $20. Valve has been in operation for est. 6 years.			

A.2 Gladstone Open Pit

A.2.1 Aerial photographs

Historical aerial imagery available via online databases were reviewed and are summarised, separately for each site, in **Table A.2.1** below.

Table A.2.1. Historical Aerial Photograph Review – 52 Moore Street.

Photograph date (source)	Activities	Aerial image
1942 Retrolens (SN228 486/32)	The site is pastoral land, with a residential building (with associated small buildings) located in the western part of the site. The Ohinemuri River flows along the southwestern boundary of the site. An access road (Clarke Street) ends just prior to the western boundary of the site. Surrounding land is predominantly farmland/ paddocks with scattered residential houses.	
1963 Retrolens (SN1218 2291/44)	The site largely remains largely unchanged, except for the addition of farm buildings observed to the east of the existing buildings. New accessways (unpaved) are also now visible within the site, running from the centre of the western boundary into the centre of the site. Trees are now observed in the southern part of the site. Surrounding land undergoes development with a couple of residential buildings now located within the pastoral land.	
1975 Retrolens (SN3798 E/22)	The site and surrounding land remain largely unchanged. However, the central accessway now extends along the entire centre line of the site.	
1982 Retrolens (SN5944 C/6)	The site and surrounding land remain largely unchanged.	

Photograph date (source)	Activities	Aerial image
1991 Retrolens (SN9124 C/29)	The site and surrounding land remain largely unchanged although the western-most building (a house) has been demolished. Martha mine processing works are observed to the east of the site	
1999 Retrolens (SN12539 B/9)	The site and surrounding land remain largely unchanged.	
2012-2013 LINZ-Waikato	The centre of the site is now occupied by a pine tree plantation. The processing works to the east of the site have extended closer to the eastern boundary. The remaining land is unchanged.	
2016-2019 LINZ-Waikato	The site and surrounding land remain largely unchanged.	

A.2.2 Council Contamination Records

WWLA obtained the LUIR from WRC for 52 Moore Street in August 2021. The response from WRC is summarised below:

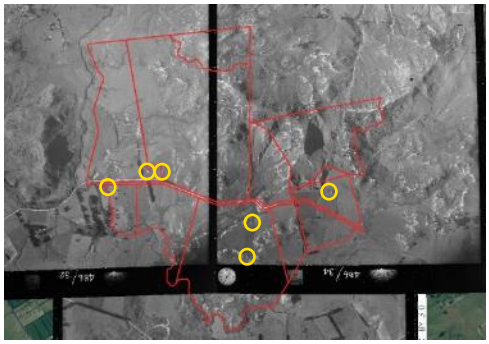
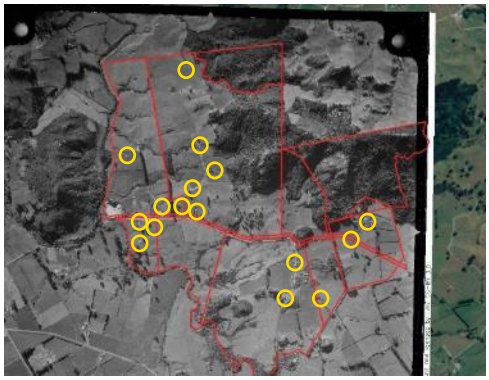
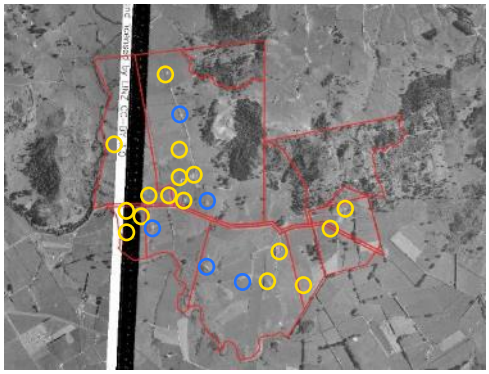
- 52 Moore Street – Confirms the property is not listed on the Land Use Information Register.

A.3 Existing Tailings Storage Facilities

A.3.1 Aerial photographs

Historical aerial imagery available via online databases were reviewed and are summarised, separately for each site, in **Table A.3.1** below.

Table A.3.1. Historical Aerial Photograph Review – 52 Clarke Street.

Photograph date (source)	Activities	Aerial image
1942 Retrolens (SN229 486/32 486/34 and 487/34)	The site is largely vacant pastoral land. Baxter Road runs through the centre of the property (west to east). Six residential houses can be identified (circled), however because of the resolution of the photograph and photographs stitched together, there could potentially be more. Land to the south and east is predominantly farmland/ paddocks with scattered residential houses.	
1963 Retrolens (SN1218 299/46)	The site has additional residential properties and associated structures, all observed structures are circled. Dense vegetation is observed along the northern/ north-eastern boundary. Surrounding land remains largely unchanged.	
1975 Retrolens (SN3798 E/24 and E/22)	The site remains largely unchanged, however some additional structures have be built. Previous structures identified in the 1964 aerial photograph are circled in yellow and new structures circle in blue. Surrounding land remains largely unchanged in the south and east, while land in the north and west densifies with residential houses.	
1982 Retrolens (SN5944 C/16	The site and surrounding land remain largely unchanged.	

Photograph date (source)	Activities	Aerial image
1991 Retrolens (SN9124 C/31)	The structures within the western half of the site have been removed and a tailings storage pond for the Waihi (Martha) mine now occupy this area. Earthworks related to the tailings storage pond extend off the property in the north. Again, the majority of the structures have been removed from the eastern half of the site, with only the circled ones remaining. Martha mine pit and the processing plant are observed some distance to the northwest.	
1999 Retrolens (SN9124 C/31)	All structures have been removed from the site with the tailings storage identified in the 1991 aerial photograph relatively unchanged. Surrounding land remains largely unchanged.	
2012-2013 LINZ-Waikato	An additional tailing storage ponding and associated earthworks are observed within the eastern half of the site. Surrounding land remains largely unchanged.	
2016-2019 LINZ-Waikato	The site and surrounding land remain largely unchanged.	

A.3.2 Council Contamination Records

WWLA obtained the LUIR from WRC for 52 Clarke Street in August 2021. The response from WRC is summarised below:

- 52 Clarke Street – Confirms the property is listed on the Land Use Information Register (ref: LUI05625), as indicated by the area shaded blue with a classification of 'Contaminated' due to land use HAIL activities: 'E7. Mining'; 'F4. Motor vehicle workshops'; and 'A17. Storage tanks or drums for fuel, chemicals or liquid waste' associated with Newmont Waihi Gold. We note that these appear to relate to the process plant rather than the tailings storage facility.
- A number of documents are held under consent file 605902E.

A.3.3 OceanaGold Records

Records held by OGNZL were provided to us for review. The stock inventory (dangerous goods register), known fire events and known spills are presented in **Tables B.3.2** to **3.3.4** below.

Table A.3.3. OGNZL Records – Stock Inventory

Location	Product	Quantity	Unit
General	BP diesel	38,000	L
Soils Laboratory	Hydrochloric acid fuming 37% emprove essential ph eur, bp, jp, nf (100314)	200	mL
	Potassium chloride chem. pure, cryst., ph. eur., usp, jp 14, fcc (product obsolete)	200	g
	Sodium carbonate anhydrous, reagent grade, acs, iso, reag. ph eur	500	g

Table A.3.2: OGNZL Records – Fire Events

Date	Location	Event description	Significance		
			N	M	S
15 December 2017	Development site	While operators were burning 5 cyanide boxes, the wind went from nothing to blowing quite hard from the NE and the heat / flames ignited the vegetation outside the designated burn area. Water to Fire suppression hose was isolated and it look longer to extinguish than expected.			

Table A.3.4. OGNZL Records – Spill Events

Date	Location	Product	Event description	Significance		
				N	M	S
6 October 2010	Development site – Support area	Hydraulic oil	992 loader loading out NAF dirt onto 777 dump truck off TSF2 blew tilt hose as machine was bogging into stockpile to load next bucket. 70 litres of hydraulic oil lost. Internally worn hose failed. Shut down machine, contained oil Spill & informed supervisor cleaned up contaminated area, transported soil to tsf1a and treated then buried as per site requirements.			
12 February 2016		Oil	Dump truck 773 was carting waste from North Stockpile to Area 3 along B Haul Road stopped when operator hoped out to check truck, he noticed a transmission oil leak and called his supervisor who came out and coned off the area as well as lay absorbent and soaker pads for the spill.			

4. Notes:
5. Negligible – contamination unlikely due to spill event, or if possible, contaminant levels are highly unlikely to be at levels that would present a risk to the people or the environment development.
6. Minor – Contamination possible due to spill event, if present, contamination is likely to be above background levels, but highly unlikely to be at levels that would present a risk to people or the environment in an industrial.

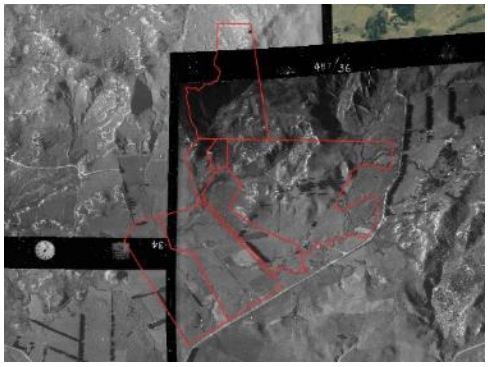
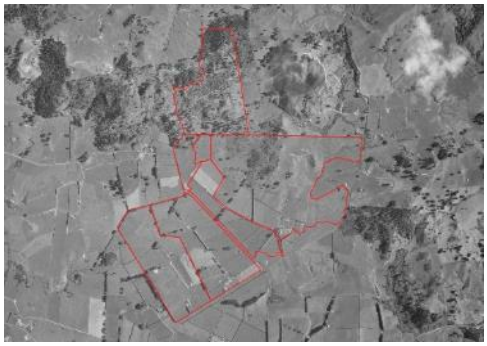
7. Significant – contamination likely present due to spill event, with increased risk of levels exceeding applicable human health or environmental criteria.

A.4 TSF3

A.4.1 Aerial photographs

Historical aerial imagery available via online databases were reviewed and are summarised in **Table A.4.1**.

Table B.4.1. Historical Aerial Photograph Review.

Photograph date (source)	Activities	Aerial image
1942 Retrolens (SN229/36, 487/34, 486/34)	The site is vacant pastoral land with three dwellings in the southern point (within 95 Trig Road North) and an additional dwelling along the eastern border. The access roads within the site relate to connecting the dwellings to Trig Road North, which runs along the eastern border. Scattered trees are present in the northern part of the site. Surrounding land is predominantly farmland/ paddocks with scattered dwellings.	
1964 Retrolens (SN1629 C/8)	There are two new dwellings located at the southern end of the ‘’Trig Road North” area of the site. The remainder of the site and surrounding land remain largely unchanged.	
1975 **Retrolens** (SN3798 E/24)	The site and surrounding land remain largely unchanged. There is now an accessway running northeast in the vegetated northern part of the “Trig Road North” area of the site.	
1982 **Retrolens** (SN3798 E/24)	Small areas of market gardening are occurring in the centre and southeast of the site. The remainder of the site and surrounding land are largely unchanged.	

Photograph date (source)	Activities	Aerial image
1991 **Retrolens** (SN3798 E/24)	The edge of Martha mine tailings storage facilities (TSFs) is now visible to the west of the site. The site and remainder of the surrounding area remain unchanged with the exception of some additional market gardening in the centre-north of the site.	
1999 **Retrolens** (SN3798 E/24)	More exposed ground is now visible in association with the TSFs to the west of the site. Market garden areas remain.	
2012-2013 **LINZ-Waikato**	The TSFs to the west of the site have now enlarged and extended towards the western boundary. The site remains largely unchanged although no market gardens can be seen.	
2016-2019 **LINZ -Waikato**	The site and surrounding area remain largely unchanged.	

A.4.2 Council Contamination Records

WWLA obtained the LUIR from WRC for 95 Trig Road North, Trig Road and Legal Road in August 2021. The response from WRC is summarised below:

- 95 Trig Road North, Trig Road and Legal Road – Confirms all three properties are not listed on the Land Use Information Register.

A.4.2 Council Property Files

Property files were received for 95 Trig Road North on 27 September 2021. Key files are:

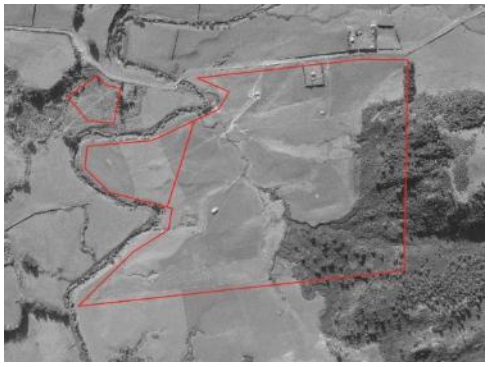
- A 1972 consent application for a garage specifies fibrolite cladding. Given the age of the garage, it is highly likely that the fibrolite contains asbestos.
- A dwelling was consented in 1980; it was proposed to be constructed from timber with a corrugated iron roof. There is no mention of potential asbestos-containing products within it.
- Files confirm consenting of a new dairy shed in 1998, a hay barn in 1999 and a garage in 2000. A relocatable dwelling was moved onto the site in 2003 and extensions made to an existing dwelling in 2008. None of these are likely to have resulted in ground contamination at the property.

A.5 Northern Rock Stack

A.5.1 Aerial photographs

Historical aerial imagery available via online databases were reviewed and are summarised in **Table A.5.1**.

Table A.5.1. Historical Aerial Photograph Review – 699 Golden Valley Road.

Photograph date (source)	Activities	Aerial image
1963 Retrolens (SN1218 2991/45)	The site is pastoral land with a meandering stream (Ohinemuri River) running along the western boundary, it appears a small stream branches off the Ohinemuri River and cuts through the site, starting in the northwest and extending down to the southeast. There is a residential dwelling located within a fenced area along the northern boundary of the site. Three other buildings/structures are observed. Dense vegetation covers the land in the south-eastern corner. Surrounding land is predominantly farmland/ paddocks with scattered dwellings.	
1975 Retrolens (SN3798 E/22)	An additional building with its own accessway is now found to the west of the main building on the northern boundary, The remainder of the site largely remains unchanged with the exception of some vegetation clearance in the southeast. Surrounding land remains largely unchanged.	
1982 Retrolens (SN5944 C/16)	The site remains largely unchanged except for further vegetation clearance in the southeast. There are now large clearings in the surrounding land to the west and north of the site. The land between the top parcel of the site and the main area has undergone development (possibly horticultural) with vertical lines now evident. The vegetation in the southern corner has been reduced in size.	
1991 Retrolens (SN9124 B/31)	The site has exposed earth and associated access roads evident in the southern part of the site relating to the Martha mine TSFs. The remainder of the site remains largely unchanged. Surrounding land to the west has undergone development in association with the mine's Processing Plant.	

Photograph date (source)	Activities	Aerial image
1999 **Retrolens** (SN12539 B/8)	The site and surrounding land remain largely unchanged.	
2012-2013 LINZ- Waikato	Further exposed land is evident in relation to the mine TSF2. The Processing Plant to the west of the site has expanded. The remainder of the site remains unchanged.	
2016-2019 LINZ-Waikato	The site and surrounding land remain largely unchanged	

A.5.2 Council Contamination Records

WWLA obtained the LUIR from WRC for 699 Golden Valley Road in August 2021. The response from WRC is summarised below:

- 699 Golden Valley Road – Confirms the property is listed on the Land Use Information Register (ref: LUI05625), as indicated by the area shaded blue with a classification of 'Contaminated' due to land use HAIL activities: 'E7. Mining'; 'F4. Motor vehicle workshops'; and 'A17. Storage tanks or drums for fuel, chemicals or liquid waste' associated with Newmont Waihi Gold.
- A number of documents are held under consent file 605902E (these were not provided for review)

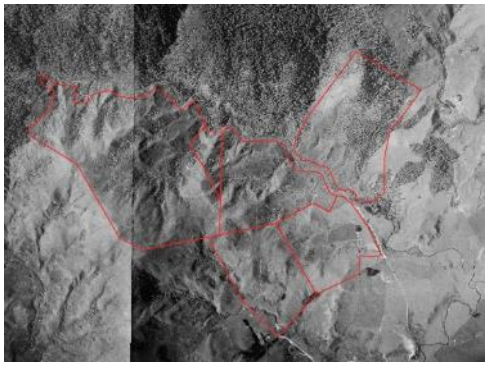
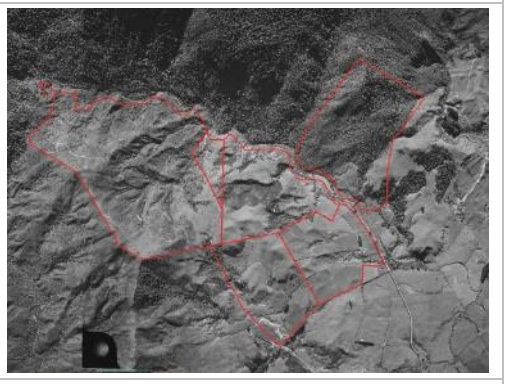
Figure A.5.1. WRC LUIR map.

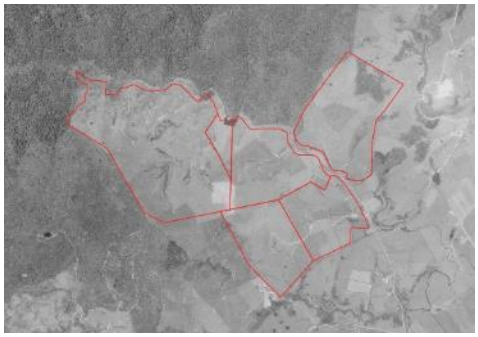
A.6. Willows Road property

A.6.1 Aerial photographs

Historical aerial imagery available via online databases were reviewed and are summarised in **Table A.6.1**.

Table A.6.1. Willows Road property – Historical Aerial Photograph Review

Photograph date (source)	Activities	Aerial image
1942 Retrolens (SN229, SN484 33/34)	The site is a mix of vacant pastoral land and forest/bush. The south-eastern area of the site has a paddock, with a single dwelling visible. Surrounding land is predominantly farmland/ paddocks with isolated dwellings.	
1963 Retrolens (SN1218, SN2989 44/45)	The site largely remains unchanged, with the exception of an additional building to the west of the original dwelling, with two other small building structures to its north. Surrounding land remains largely unchanged.	
1975 Retrolens (SN3798 C/20)	The site and surrounding land remain largely unchanged.	
1982 Retrolens (SN5944 B/16)	A significant amount of bush in the north of the site has been cleared and converted to pasture. Two main access roads are visible; one in the southern part of the site extending from the original dwelling out to the west; the other further north, running parallel with Willows Road. The surrounding area remains largely unchanged.	

Photograph date (source)	Activities	Aerial image
1999 Retrolens (SN12539 A/9)	There is a further reduction in the amount of vegetation in the northern part of the site (bush conversion to pasture). The surrounding area remain largely unchanged.	
2012-2013 LINZ-Waikato	The site and surrounding land remain largely unchanged.	
2016-2019 LINZ-Waikato	The site and surrounding land remain largely unchanged.	

A.6.2 Council Contamination Records

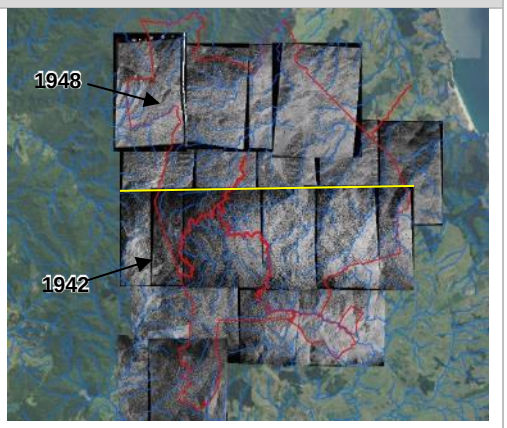
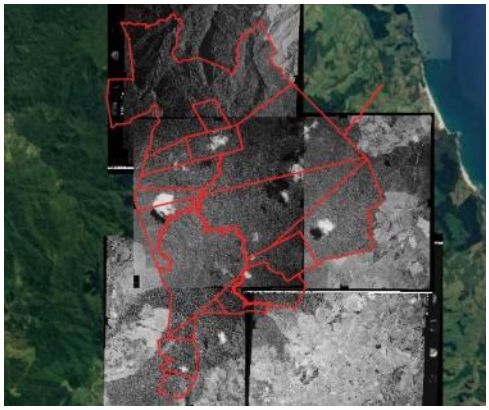
WWLA obtained the LUIR from WRC for Willows Farm Road in August 2021. The response from WRC confirms the property is not listed on the Land Use Information Register.

A.7 Coromandel Forest Park

A.7.1 Aerial photographs

Historical aerial imagery available via online databases were reviewed and are summarised on **Table A.7.1**.

Table A.7.1. Historical Aerial Photograph Review – Coromandel Forest.

Photograph date (source)	Activities	Aerial image
1942 Retrolens (SN229 4/ 83 /25 – 27/ 29/ 31/ 32 and 484/ 28/ 29/ 31/ 33/ 34 and 485/ 27/ 28. **1948** Retrolens (SN229. 481/ 33/ 35/ 37/ 39 and 482/ 42/ 44/ 46/ 48/ 50)	1942 aerial photographs were only available for the southern half of the site, with 1948 aerial photographs available for the northern half. For both years, the site is undeveloped forest land with surrounding land very much the same.	
1982 Retrolens (SN5944. A/ 14/ 16 and B/ 14/ 16 and SN8163. V/ 18)	The site remains largely unchanged, with no structures observed on site. No significant changes are observed on the surrounding land.	
2012-2019 LINZ-Waikato Photograph used 2012 - 2013	The site remains largely unchanged, with no structures observed. No significant changes are observed on the surrounding land, with the exception of a small dam adjacent to the western boundary of the Park observed in 2012 - 2013.	

A.7.2 Council Contamination Records

WWLA obtained the LUIR from WRC for Coromandel Forest Park in August 2021. The response from WRC is summarised below:

- State Highway 25 – Confirms the property is listed on the Land Use Information Register (ref: LUI05772), with a classification of 'Contaminated' due to land use HAIL activities: 'E7. Mining' associated with the Royal Standard Battery.

A.7.4 OceanaGold information

OGNZL directed us to information from http://www.ohinemuri.org.nz/ to clarify the history of the former Royal Standard Battery site and other mining features within the Park.

The Coromandel Forest Park has numerous old mining features within it, many dating from the 1800s and early 1900s. These were typically small in scale but several of them would have utilised heavy metals, cyanide, mercury and acids as part of the gold and silver extraction process. The most signfiicant contamination sites are generally well documented, although very few have been remediated.

The Royal Standard mines (a collection of small prospects) were mined only very briefly although signficant infrastructure (for the time) was installed to attempt to extract ore. However, the quality of the ore was relatively low and mining was therefore short lived.

Appendix B. Client provided information

B.1 Inventory - Stock

B.2 Inventory - Spills

B.3 Inventory - Fire events

LOCATION_LV1	LOCATION_LV2	LOCATION_LV3	PRODUCT_NAME	MANUFACTURER	NUMBER_OF_CONTAINERS	CONTAINER_SIZE	CONTAINER_QUANTITY	UNIT	LAST_INSPECTION	NEXT_INSPECTION
WAIHI GOLD MINE	DEVELOPMENT SITE	CONTAINER - WHITEHOUSE	3.36 AEROSOL	CRC INDUSTRIES (AUST) PTY LIMITED	2	1	2	Cans	11-Feb-20	11-Feb-21
WAIHI GOLD MINE	DEVELOPMENT SITE	CONTAINER - WHITEHOUSE	DY-MARK MINE MARKING STD ALL COLOURS	DY-MARK AUSTRALIA	12	1	12	Cans	11-Feb-20	11-Feb-21
WAIHI GOLD MINE	DEVELOPMENT SITE	GENERAL	BP DIESEL	BP OIL NEW ZEALAND LTD	1	38000	38000	L	11-Feb-20	2-Mar-21
WAIHI GOLD MINE	DEVELOPMENT SITE	SOILS LAB	APMD WINDSCREEN WASHER ADDITIVE - CONCENTRATE	APMD	1	375	375	mL	11-Feb-20	2-Mar-21
WAIHI GOLD MINE	DEVELOPMENT SITE	SOILS LAB	DRY MOLY SPRAY (UK)	ROCOL LIMITED (UK)	1	500	500	mL	11-Feb-20	2-Mar-21
WAIHI GOLD MINE	DEVELOPMENT SITE	SOILS LAB	DY-MARK MINE MARKING N/F FLURO ALL COLOURS	DY-MARK AUSTRALIA	5	1	5	Cans	11-Feb-20	2-Mar-21
WAIHI GOLD MINE	DEVELOPMENT SITE	SOILS LAB	HYDROCHLORIC ACID FUMING 37% EMPROVE ESSENTIAL PH EUR, BP, JP, NF (100314)	SIGMA-ALDRICH PTY. LTD.	1	200	200	mL	11-Feb-20	2-Mar-21
WAIHI GOLD MINE	DEVELOPMENT SITE	SOILS LAB	POTASSIUM CHLORIDE CHEM. PURE, CRYST., PH. EUR., USP, JP 14, FCC (PRODUCT OBSOLETE)	MERCK PTY LIMITED	1	200	200	g	11-Feb-20	2-Mar-21
WAIHI GOLD MINE	DEVELOPMENT SITE	SOILS LAB	SODIUM CARBONATE ANHYDROUS, REAGENT GRADE, ACS, ISO, REAG. PH EUR	CHEM-SUPPLY PTY LTD	1	500	500	g	11-Feb-20	2-Mar-21
WAIHI GOLD MINE	DEVELOPMENT SITE	SOILS LAB	WD-40 AEROSOL	WD-40 COMPANY (AUST) PTY LTD	1	1	1	Cans	11-Feb-20	2-Mar-21

LOCATION_LV1	LOCATION_LV2	LOCATION_LV3	LOCATION_LV4	PRODUCT_NAME	MANUFACTURER	NUMBER_OF_CONTAINERS	CONTAINER_SIZE	CONTAINER_QUANTITY	UNIT	LAST_INSPECTION	NEXT_INSPECTION	INVENTORY_NOTE
WAIHI GOLD MINE	HEALTH & SAFETY - BAXTER ROAD			AJAX SPRAY N WIPE ANTIBACTERIAL ALL PURPOSE CLEANER SPRAY APPLE BLOSSOM AND CITRUS	COLGATE-PALMOLIVE PTY LTD	1	500	500	mL	10-Feb-20	10-Feb-21	Spic and span cleaner however can vary what is actually being used and household items not required.
WAIHI GOLD MINE	HEALTH & SAFETY - BAXTER ROAD			CLEANER BLEACH JANOLA 1.25L LITRE	OFFICEMAX NEW ZEALAND LIMITED	2	1	2	L	10-Feb-20	10-Feb-21	
WAIHI GOLD MINE	HEALTH & SAFETY - BAXTER ROAD			FINISH - REGULAR POWDER	RB (HYGIENE HOME) AUSTRALIA PTY LTD	1	630	630	g	10-Feb-20	10-Feb-21	
WAIHI GOLD MINE	HEALTH & SAFETY - BAXTER ROAD			NATURAL BATHROOM CLEANER	GREENEARTH SOLUTIONS LTD	1	500	500	mL	10-Feb-20	10-Feb-21	
WAIHI GOLD MINE	HEALTH & SAFETY - BAXTER ROAD			PALMOLIVE REGULAR DISHWASHING LIQUID ORIGINAL	COLGATE-PALMOLIVE PTY LTD	1	500	500	mL	10-Feb-20	10-Feb-21	
WAIHI GOLD MINE	HEALTH & SAFETY - BAXTER ROAD			RAID FAST KILL/LOW IRRITANT (PRODUCT OBSOLETE)	DIVERSEY NEW ZEALAND LTD	4	320	1280	g	10-Feb-20	10-Feb-21	
WAIHI GOLD MINE	HEALTH & SAFETY - BAXTER ROAD			STOKO GEL INSTANT HAND SANITIZER (PRODUCT OBSOLETE)	PRYME AUSTRALIA PTY LTD	1	60	60	mL	10-Feb-20	10-Feb-21	
WAIHI GOLD MINE	HEALTH & SAFETY - BAXTER ROAD	First Aid Room		DIPHOTERINE ® MINI AND MICRO AUTONOMOUS PORTABLE SHOWER (NZ)	AMARE SAFETY PTY LTD (NZ)	1	3.5	3.5	L	28-Mar-18	28-Mar-19	
WAIHI GOLD MINE	MAINTENANCE			POOLSTAR CHLORTABS	CLARK PRODUCTS LTD	1	5	5	Kg	30-Apr-21	30-Apr-22	
WAIHI GOLD MINE	MAINTENANCE	CONVEYOR BELT	Workshop DG Cabinet	CONTI SECUR BFA	CONTITECH AUSTRALIA	18	800	14400	mL	18-May-18	2-Apr-19	
WAIHI GOLD MINE	MAINTENANCE	CONVEYOR BELT	Workshop DG Cabinet	VERSTARKER RE	CONTITECH AUSTRALIA	21	40	840	g	18-May-18	2-Apr-19	
WAIHI GOLD MINE	MAINTENANCE	ELECTRICAL		CARBOGUARD 696 HBE PART A (NZ) [DELETED]	ALTEX COATINGS LTD. NZ	4	10	40	L	30-Apr-21	30-Apr-22	
WAIHI GOLD MINE	MAINTENANCE	ELECTRICAL		CARBOGUARD 696 PART B	RESENE PAINTS (AUSTRALIA) LIMITED (T/A ALTEX COATINGS)	4	5	20	L	30-Apr-21	30-Apr-22	
WAIHI GOLD MINE	MAINTENANCE	ELECTRICAL		PESTOFF (PRODUCT OBSOLETE)	ANIMAL CONTROL PRODUCTS LTD	5	2.5	12.5	Kg	30-Apr-21	30-Apr-22	
WAIHI GOLD MINE	MAINTENANCE	ELECTRICAL		RACUMIN RAT AND MOUSE BLOCKS	BAYER CROPSCIENCE PTY LTD	5	2.5	12.5	Kg	30-Apr-21	30-Apr-22	
WAIHI GOLD MINE	MAINTENANCE	ELECTRICAL		RACUMIN RAT AND MOUSE PASTE	BAYER CROPSCIENCE PTY LTD	5	2.5	12.5	Kg	30-Apr-21	30-Apr-22	
WAIHI GOLD MINE	MAINTENANCE	Flammable Storage		TRACING	VANGUARD GROUP	96	1	96	Cans	30-Apr-21	30-Apr-22	Approved for use on site 25/10/2018 by HSE Mgr
WAIHI GOLD MINE	MAINTENANCE	Flammable Storage		WATTYL SOLAGARD GLOSS WHITE BASE	VALSPAR PAINT (AUSTRALIA) PTY LTD	1	10	10	None	30-Apr-21	30-Apr-22	
WAIHI GOLD MINE	MAINTENANCE	MECHANICAL WORKSHOP		2.26 AEROSOL	CRC INDUSTRIES (AUST) PTY LIMITED	20	300	6000	g	30-Apr-21	30-Apr-22	
WAIHI GOLD MINE	MAINTENANCE	MECHANICAL WORKSHOP		381-LINE DULUX SUPER ENAMEL HIGH GLOSS	DULUX GROUP (AUSTRALIA) PTY LTD	1	1	1	L	30-Apr-21	30-Apr-22	
WAIHI GOLD MINE	MAINTENANCE	MECHANICAL WORKSHOP		ACETYLENE	LINDE GAS NORTH AMERICA LLC	1	30	30	Kg	30-Apr-21	30-Apr-22	
WAIHI GOLD MINE	MAINTENANCE	MECHANICAL WORKSHOP		ADOS 4104, 4106, 4140, 4150, 4170 EPOXY ALL PURPOSE RESIN (NZ)	CRC INDUSTRIES (NEW ZEALAND)	1	1	1	500ML	30-Apr-21	30-Apr-22	
WAIHI GOLD MINE	MAINTENANCE	MECHANICAL WORKSHOP		AUTOMOTIVE LIQUEFIED PETROLEUM GAS	AMPOL AUSTRALIA PETROLEUM PTY LTD (FORMERLY CALTEX AUSTRALIA)	1	10	10	Kg	30-Apr-21	30-Apr-22	
WAIHI GOLD MINE	MAINTENANCE	MECHANICAL WORKSHOP		BAR'S BUGS	BAR'S LEAKS (AUSTRALIA) PTY LTD	1	2	2	L	30-Apr-21	30-Apr-22	
WAIHI GOLD MINE	MAINTENANCE	MECHANICAL WORKSHOP		BELTGRIP (AEROSOL)	CRC INDUSTRIES (AUST) PTY LIMITED	1	1000	1000	mL	30-Apr-21	30-Apr-22	
WAIHI GOLD MINE	MAINTENANCE	MECHANICAL WORKSHOP		BOSTIK 2402 SOLVENT BASED ADHESIVE (PRODUCT OBSOLETE)	BOSTIK AUSTRALIA PTY LTD	4	1	4	L	30-Apr-21	30-Apr-22	
WAIHI GOLD MINE	MAINTENANCE	MECHANICAL WORKSHOP		BP DIESEL	BP OIL NEW ZEALAND LTD	1	50	50	L	30-Apr-21	30-Apr-22	
WAIHI GOLD MINE	MAINTENANCE	MECHANICAL WORKSHOP		CHEMLOK 205	CONNELL BROS COMPANY AUSTRALASIA PTY LTD (NZ)	1	500	500	mL	30-Apr-21	30-Apr-22	
WAIHI GOLD MINE	MAINTENANCE	MECHANICAL WORKSHOP		CPC 400 AEROSOL (NZ)	CRC INDUSTRIES (NEW ZEALAND)	2	400	800	g	30-Apr-21	30-Apr-22	
WAIHI GOLD MINE	MAINTENANCE	MECHANICAL WORKSHOP		CRC (NZ) 2015, 2016 CO CONTACT CLEANER (AEROSOL)	CRC INDUSTRIES (NEW ZEALAND)	35	500	17500	mL	30-Apr-21	30-Apr-22	
WAIHI GOLD MINE	MAINTENANCE	MECHANICAL WORKSHOP		CRC (NZ) 2017 NF CONTACT CLEANER (AEROSOL)	CRC INDUSTRIES (NEW ZEALAND)	1	1.2	1.2	Kg	30-Apr-21	30-Apr-22	
WAIHI GOLD MINE	MAINTENANCE	MECHANICAL WORKSHOP		CRC CLEAR URETHANE	CRC INDUSTRIES (AUST) PTY LIMITED	1	1	1	Kg	30-Apr-21	30-Apr-22	
WAIHI GOLD MINE	MAINTENANCE	MECHANICAL WORKSHOP		DIPHOTERINE ® MINI AND MICRO AUTONOMOUS PORTABLE SHOWER (NZ)	AMARE SAFETY PTY LTD (NZ)	1	3.5	3.5	L	30-Apr-21	30-Apr-22	
WAIHI GOLD MINE	MAINTENANCE	MECHANICAL WORKSHOP		INDUSTRIAL METHYLATED SPIRIT (IMS) (PRODUCT OBSOLETE)	NUPLEX INDUSTRIES (AUST) PTY LTD	5	1	5	L	30-Apr-21	30-Apr-22	
WAIHI GOLD MINE	MAINTENANCE	MECHANICAL WORKSHOP		LOCTITE 262 HIGH STRENGTH THREAD LOCKER KNOWN AS LOCTITE 262 THREADLOCKER/FIJ	HENKEL AUSTRALIA PTY LTD	1	60	60	mL	30-Apr-21	30-Apr-22	
WAIHI GOLD MINE	MAINTENANCE	MECHANICAL WORKSHOP		LOCTITE 406	HENKEL AUSTRALIA PTY LTD	1	60	60	mL	30-Apr-21	30-Apr-22	
WAIHI GOLD MINE	MAINTENANCE	MECHANICAL WORKSHOP		LOCTITE 518 GASKET ELIMINATOR FLANGE SEALANT (PRODUCT OBSOLETE)	HENKEL AUSTRALIA PTY LTD	1	250	250	mL	30-Apr-21	30-Apr-22	
WAIHI GOLD MINE	MAINTENANCE	MECHANICAL WORKSHOP		LOCTITE 567 THREAD SEALANT	HENKEL AUSTRALIA PTY LTD	1	500	500	mL	30-Apr-21	30-Apr-22	
WAIHI GOLD MINE	MAINTENANCE	MECHANICAL WORKSHOP		NO ANTS LIQUID ANT BAIT (PRODUCT OBSOLETE)	KIWICARE CORPORATION LIMITED	1	1	1	L	30-Apr-21	30-Apr-22	
WAIHI GOLD MINE	MAINTENANCE	MECHANICAL WORKSHOP		NO ANTS READY TO USE	KIWICARE CORPORATION LIMITED	1	1	1	Kg	30-Apr-21	30-Apr-22	
WAIHI GOLD MINE	MAINTENANCE	MECHANICAL WORKSHOP		PROTECTIVE PAINTS CORROLESS S1 PRIMER	PROTECTIVE PAINTS CO	1	4	4	L	30-Apr-21	30-Apr-22	
WAIHI GOLD MINE	MAINTENANCE	MECHANICAL WORKSHOP		ROCOL FLAW FINDER VW SPRAY NO.2	ITW POLYMERS & FLUIDS PTY LTD	2	250	500	g	30-Apr-21	30-Apr-22	
WAIHI GOLD MINE	MAINTENANCE	MECHANICAL WORKSHOP		SELLEYS SPACE INVADER (AEROSOL)	SELLEYS, A DIVISION OF DULUXGROUP (AUSTRALIA) PTY LTD	14	300	4200	g	30-Apr-21	30-Apr-22	
WAIHI GOLD MINE	MAINTENANCE	MECHANICAL WORKSHOP		TYPE N BLUE SOLVENT CEMENT	RLA POLYMERS PTY LTD	1	200	200	mL	30-Apr-21	30-Apr-22	
WAIHI GOLD MINE	MAINTENANCE	MECHANICAL WORKSHOP		UNISAFE LENS CLEANER AEROSOL	SCOTT SAFETY (PREVIOUSLY KNOWN AS PROTECTOR SAFETY)	1	100	100	mL	30-Apr-21	30-Apr-22	
WAIHI GOLD MINE	MAINTENANCE	MECHANICAL WORKSHOP		WATTYL KILLRUST FISHOILENE AEROSOL (PRODUCT OBSOLETE)	VALSPAR PAINT (AUSTRALIA) PTY LTD	1	4	4	L	30-Apr-21	30-Apr-22	
WAIHI GOLD MINE	MAINTENANCE	MECHANICAL WORKSHOP		WD-40 AEROSOL	WD-40 COMPANY (AUST) PTY LTD	25	300	7500	g	30-Apr-21	30-Apr-22	
WAIHI GOLD MINE	MAINTENANCE	MECHANICAL WORKSHOP		WELD-ON 711 LOW VOC PVC PLASTIC PIPE CEMENTS	PACIFIC INDUSTRIAL ACCESS PTY LTD	1	1	1	L	30-Apr-21	30-Apr-22	
WAIHI GOLD MINE	MAINTENANCE	MECHANICAL WORKSHOP		WELD-ON P-68 LOW VOC PRIMER FOR PVC AND CPVC PLASTIC PIPE	IPS CORPORATION	1	200	200	mL	30-Apr-21	30-Apr-22	
WAIHI GOLD MINE	MAINTENANCE	OIL STORE		ARMSTRONG BUTANE REFILL	RUSHMORE DISTRIBUTORS	10	200	2000	mL	30-Apr-21	30-Apr-22	
WAIHI GOLD MINE	MAINTENANCE	OIL STORE		NC-123 EXTRA	NCH AUSTRALIA PTY LTD (FORMERLY CHEMSEARCH)	2	300	600	g	30-Apr-21	30-Apr-22	
WAIHI GOLD MINE	MAINTENANCE	OIL STORE		ROCOL SILICONE LUBRICANT (S.L.) SPRAY	ITW POLYMERS & FLUIDS PTY LTD	28	250	7000	g	30-Apr-21	30-Apr-22	
WAIHI GOLD MINE	MAINTENANCE	STORES		CORROLESS S2	CORROLESS CORROSION CONTROL (UK)	1	8	8	L	30-Apr-21	30-Apr-22	
WAIHI GOLD MINE	MAINTENANCE	STORES		FAULDING BARRIER CREAM	SANOFI CONSUMER HEALTHCARE PTY LTD	1	100	100	mL	30-Apr-21	30-Apr-22	
WAIHI GOLD MINE	MAINTENANCE	STORES		HDC HANDCLEANER	CLARK PRODUCTS LTD	1	20	20	Kg	30-Apr-21	30-Apr-22	
WAIHI GOLD MINE	MAINTENANCE	STORES		LOCTITE LB 8008 C5-A KNOWN AS C5-A COPPER BASED ANTI-SEIZE (51147)	HENKEL CORPORATION (CT)	5	200	1000	mL	30-Apr-21	30-Apr-22	
WAIHI GOLD MINE	MAINTENANCE	STORES		LOCTITE SF 7452 AEROSOL	HENKEL AUSTRALIA PTY LTD	1	600	600	mL	30-Apr-21	30-Apr-22	
WAIHI GOLD MINE	MAINTENANCE	STORES		PROTECTIVE PAINTS CORROLESS RF15 CLEAR BASE	PROTECTIVE PAINTS CO	1	4	4	L	30-Apr-21	30-Apr-22	
WAIHI GOLD MINE	MAINTENANCE	STORES		RONSON LIGHTER REFILL	AEROSOL LTD	2	250	500	Bottle (2.5lt)	30-Apr-21	30-Apr-22	
WAIHI GOLD MINE	MINES RESCUE SHED			CRC (NZ) 2015, 2016 CO CONTACT CLEANER (AEROSOL)	CRC INDUSTRIES (NEW ZEALAND)	1	1	1	Cans	19-Feb-19	20-Mar-20	
WAIHI GOLD MINE	MINES RESCUE SHED			DIPHOTERINE ® MINI AND MICRO AUTONOMOUS PORTABLE SHOWER (NZ)	AMARE SAFETY PTY LTD (NZ)	3	2.5	7.5	mL	19-Feb-19	20-Mar-20	
WAIHI GOLD MINE	MINES RESCUE SHED			DRAEGER SAFETY WASH	DRAEGER SAFETY PACIFIC PTY LTD	1	5	5	L	19-Feb-19	20-Mar-20	
WAIHI GOLD MINE	MINES RESCUE SHED			DRAGERSORB 400	DRAEGER SAFETY PACIFIC PTY LTD	1	180	180	Kg	19-Feb-19	20-Mar-20	
WAIHI GOLD MINE	MINES RESCUE SHED			METHYLATED SPIRIT 95% F3	ACE CHEMICAL COMPANY	1	1	1	L	19-Feb-19	20-Mar-20	
WAIHI GOLD MINE	MINES RESCUE SHED			OASIS COMPAC NEUTRAL DISINFECTANT	ECOLAB NEW ZEALAND	1	10	10	L	19-Feb-19	20-Mar-20	
WAIHI GOLD MINE	MINES RESCUE SHED			RE-HEALING FOAM RF 6	PERIMETER SOLUTIONS SOLBERG ASIA PACIFIC PTY LIMITED	15	20	300	L	19-Feb-19	20-Mar-20	
WAIHI GOLD MINE	MINES RESCUE SHED			RELY+ON VIRKON	MED-CON PTY LTD	1	5	5	Kg	19-Feb-19	20-Mar-20	
WAIHI GOLD MINE	MINES RESCUE SHED			SUPERIOR SMOKE GENERATOR	SUPERIOR SIGNAL COMPANY INC. USA	2	1	2	Each	19-Feb-19	20-Mar-20	

WAIHI GOLD MINE	MINES RESCUE SHED			VIVA ENERGY UNLEADED PETROL	VIVA ENERGY AUSTRALIA LTD	1	5	5	L	19-Feb-19	20-Mar-20	
WAIHI GOLD MINE	MINES RESCUE SHED			WD-40 AEROSOL	WD-40 COMPANY (AUST) PTY LTD	3	1	3	Cans	19-Feb-19	20-Mar-20	
WAIHI GOLD MINE	SITE SERVICES	CLEANERS (TOTAL ACROSS SITE)		AJAX POWDER CLEANSER LEMON	COLGATE-PALMOLIVE PTY LTD	1	1	1	Kg	10-Aug-16	11-Apr-17	
WAIHI GOLD MINE	SITE SERVICES	CLEANERS (TOTAL ACROSS SITE)		JANOLA PREMIUM BLEACH	PENTAL PRODUCTS PTY LTD (NZ)	7	1	7	L	10-Aug-16	11-Apr-17	
WAIHI GOLD MINE	SITE SERVICES	CLEANERS (TOTAL ACROSS SITE)		KILDET	JASOL NEW ZEALAND	1	6	6	L	10-Aug-16	11-Apr-17	
WAIHI GOLD MINE	SITE SERVICES	CLEANERS (TOTAL ACROSS SITE)		NATURAL ALL PURPOSE CLEANER	GREENEARTH SOLUTIONS LTD	5	1	5	L	10-Aug-16	11-Apr-17	
WAIHI GOLD MINE	SITE SERVICES	CLEANERS (TOTAL ACROSS SITE)		NATURAL BATHROOM CLEANER	GREENEARTH SOLUTIONS LTD	1	1	1	L	10-Aug-16	11-Apr-17	
WAIHI GOLD MINE	SITE SERVICES	CLEANERS (TOTAL ACROSS SITE)		NATURAL GLASS CLEANER	GREENEARTH SOLUTIONS LTD	2	1	2	L	10-Aug-16	11-Apr-17	
WAIHI GOLD MINE	SITE SERVICES	CLEANERS (TOTAL ACROSS SITE)		NATURAL TOILET BOWL CLEANER	GREENEARTH SOLUTIONS LTD	11	1	11	L	10-Aug-16	11-Apr-17	
WAIHI GOLD MINE	SITE SERVICES	CLEANERS (TOTAL ACROSS SITE)		TORK PREMIUM SOAP LIQUID HAIR AND BODY S1	ASALEO CARE AUSTRALIA PTY LTD	5	1	5	L	10-Aug-16	11-Apr-17	
WAIHI GOLD MINE	STORES			BORAX ANHYDROUS	JASOL NEW ZEALAND	20	1	20	25KG	10-Feb-20	10-Feb-21	
WAIHI GOLD MINE	STORES			BUFFER PH 10.0 COLOUR CODED BLUE	THERMO FISHER SCIENTIFIC AUSTRALIA PTY LTD	12	1	12	L	10-Feb-20	10-Feb-21	
WAIHI GOLD MINE	STORES			HDC HANDCLEANER	CLARK PRODUCTS LTD	12	3.5	42	Kg	10-Feb-20	10-Feb-21	
WAIHI GOLD MINE	STORES			LOCTITE 567 THREAD SEALANT	HENKEL AUSTRALIA PTY LTD	6	250	1500	mL	10-Feb-20	10-Feb-21	
WAIHI GOLD MINE	STORES			SELLEYS ARALDITE 5 MINUTE EPOXY ADHESIVE - PART B	SELLEYS, A DIVISION OF DULUXGROUP (AUSTRALIA) PTY LTD	4	75	300	g	10-Feb-20	10-Feb-21	
WAIHI GOLD MINE	STORES			SILVER NITRATE FOR ANALYSIS EMSURE ACS, ISO, REAG. PH EUR (101512)	SIGMA-ALDRICH PTY. LTD.	2	25	50	Kg	10-Feb-20	10-Feb-21	
WAIHI GOLD MINE	STORES	CARBON CONTAINER		STEAM PROCESSED COCONUT SHELL ACTIVATED CARBON	HAYCARB HOLDINGS	44	500	22000	Kg	10-Feb-20	10-Feb-21	
WAIHI GOLD MINE	STORES	CONTRACTOR - TEMP		ALTEX E~LINE 379 PART A (MCR)	ALTEX COATINGS LTD. NZ	1	4.5	4.5	L		17-Aug-21	To be used to signwrite the LPG tanks, unlikely any of site once painitng complted
WAIHI GOLD MINE	STORES	CONTRACTOR - TEMP		ALTEX E~LINE 379 PART B	ALTEX COATINGS LTD. NZ	1	4.5	4.5	L		17-Aug-21	To be used to signwrite the LPG tanks, unlikely any of site once painitng complted
WAIHI GOLD MINE	STORES	DANGEROUS GOODS CONTAINER		BELTGRIP (AEROSOL)	CRC INDUSTRIES (AUST) PTY LIMITED	3	400	1200	g	10-Feb-20	10-Feb-21	
WAIHI GOLD MINE	STORES	DANGEROUS GOODS CONTAINER		CRC (NZ) 2015, 2016 CO CONTACT CLEANER (AEROSOL)	CRC INDUSTRIES (NEW ZEALAND)	36	400	14400	g	10-Feb-20	10-Feb-21	
WAIHI GOLD MINE	STORES	DANGEROUS GOODS CONTAINER		DY-MARK MINE MARKING STD ALL COLOURS	DY-MARK AUSTRALIA	320	1	320	Cans	10-Feb-20	10-Feb-21	
WAIHI GOLD MINE	STORES	DANGEROUS GOODS CONTAINER		DY-MARK MINE MARKING STD ALL COLOURS	DY-MARK AUSTRALIA	72	1	72	Cans	10-Feb-20	10-Feb-21	
WAIHI GOLD MINE	STORES	DANGEROUS GOODS CONTAINER		DY-MARK MINE MARKING STD ALL COLOURS	DY-MARK AUSTRALIA	120	1	120	Cans	10-Feb-20	10-Feb-21	
WAIHI GOLD MINE	STORES	DANGEROUS GOODS CONTAINER		DY-MARK MINE MARKING STD ALL COLOURS	DY-MARK AUSTRALIA	320	1	320	Cans	10-Feb-20	10-Feb-21	
WAIHI GOLD MINE	STORES	DANGEROUS GOODS CONTAINER		RED URETHANE SEAL COAT	CRC INDUSTRIES (AUST) PTY LIMITED	1	400	400	g	10-Feb-20	10-Feb-21	
WAIHI GOLD MINE	STORES	DANGEROUS GOODS CONTAINER		SIKA BOOM FR	SIKA AUSTRALIA PTY LTD	96	1	96	Cans	10-Feb-20	10-Feb-21	
WAIHI GOLD MINE	STORES	DANGEROUS GOODS CONTAINER		SIKA BOOM-G (PRODUCT OBSOLETE)	SIKA AUSTRALIA PTY LTD	96	1	96	Cans	10-Feb-20	10-Feb-21	
WAIHI GOLD MINE	STORES	DANGEROUS GOODS CONTAINER		WD-40 BULK LIQUID (2018) (PRODUCT OBSOLETE)	WD-40 COMPANY (AUST) PTY LTD	18	400	7200	g	10-Feb-20	10-Feb-21	
WAIHI GOLD MINE	STORES	DG CABINET		BP DIESEL	BP OIL NEW ZEALAND LTD	1	106000	106000	L	27-Feb-19	27-Feb-20	
WAIHI GOLD MINE	STORES	DG CABINET		INDUSTRIAL METHYLATED SPIRIT (IMS) (PRODUCT OBSOLETE)	NUPLEX INDUSTRIES (AUST) PTY LTD	5	1	5	L	27-Feb-19	27-Feb-20	
WAIHI GOLD MINE	STORES	DG CABINET		MINERAL TURPENTINE (NZ) (PRODUCT OBSOLETE)	SHELL NEW ZEALAND	2	1	2	L	27-Feb-19	27-Feb-20	
WAIHI GOLD MINE	STORES	DG CABINET		PROTECTIVE CORROLESS THINNERS NO 3	PROTECTIVE PAINTS CO	2	4	8	L	27-Feb-19	27-Feb-20	
WAIHI GOLD MINE	STORES	DG CABINET		PROTECTIVE PAINTS CORROLESS S1 PRIMER	PROTECTIVE PAINTS CO	16	4	64	L	27-Feb-19	27-Feb-20	
WAIHI GOLD MINE	STORES	HAZ CONTAINER		COPPER SULPHATE PENTAHYDRATE	REDOX PTY LTD	60	25	1500	Kg	10-Feb-20	10-Feb-21	
WAIHI GOLD MINE	STORES	HAZ CONTAINER		SODIUM CARBONATE (NZ)	IXOM OPERATIONS PTY LTD (NZ)	5	25	125	Kg	10-Feb-20	10-Feb-21	
WAIHI GOLD MINE	STORES	HAZ CONTAINER		SODIUM NITRATE (NZ)	IXOM OPERATIONS PTY LTD (NZ)	8	25	200	Kg	10-Feb-20	10-Feb-21	
WAIHI GOLD MINE	STORES	HAZ CONTAINER		SULPHAMIC ACID (NZ)	IXOM OPERATIONS PTY LTD (NZ)	10	25	250	Kg	10-Feb-20	10-Feb-21	
WAIHI GOLD MINE	STORES	HYDROCARBONS		MOBILGEAR 600 XP 220 (NZ)	ALLIED PETROLEUM LIMITED	1	416	416	L	10-Feb-20	10-Feb-21	
WAIHI GOLD MINE	STORES	YARD - A		SOLUTRIX 11	BASF AUSTRALIA LIMITED	1	2600	2600	L	10-Feb-20	10-Feb-21	
WAIHI GOLD MINE	STORES	YARD - A		TMT15 (PRODUCT OBSOLETE)	CHEMIPLAS NZ LIMITED	1	1100	1100	L	10-Feb-20	10-Feb-21	
WAIHI GOLD MINE	STORES	YARD - CYLINDERS		ACETYLENE	BOC LIMITED (AUSTRALIA)	2	1	2	D gas cylinder	10-Feb-20	10-Feb-21	
WAIHI GOLD MINE	STORES	YARD - CYLINDERS		ACETYLENE (NZ)	BOC LIMITED (NEW ZEALAND)	2	1	2	G gas cylinder	10-Feb-20	10-Feb-21	
WAIHI GOLD MINE	STORES	YARD - CYLINDERS		ARGON, COMPRESSED (NZ)	BOC LIMITED (NEW ZEALAND)	2	1	2	F gas cylinder	10-Feb-20	10-Feb-21	
WAIHI GOLD MINE	STORES	YARD - CYLINDERS		NITROGEN, COMPRESSED (NZ)	BOC LIMITED (NEW ZEALAND)	2	1	2	G gas cylinder	10-Feb-20	10-Feb-21	
WAIHI GOLD MINE	STORES	YARD - CYLINDERS		NITROGEN, COMPRESSED (NZ)	BOC LIMITED (NEW ZEALAND)	2	1	2	D gas cylinder	10-Feb-20	10-Feb-21	
WAIHI GOLD MINE	STORES	YARD - CYLINDERS		OXYGEN, COMPRESSED (NZ)	BOC LIMITED (NEW ZEALAND)	10	1	10	D gas cylinder	10-Feb-20	10-Feb-21	
WAIHI GOLD MINE	STORES	YARD - CYLINDERS		OXYGEN, COMPRESSED (NZ)	BOC LIMITED (NEW ZEALAND)	10	1	10	G-Cylinder	10-Feb-20	10-Feb-21	
WAIHI GOLD MINE	TREATMENT PLANT			COOLSAN	JASOL NEW ZEALAND	15	1	15	L	4-May-21	8-Mar-22	
WAIHI GOLD MINE	TREATMENT PLANT	COMPLIANCE POND 1		HYDROCHLORIC ACID >10-25% (NZ)	IXOM OPERATIONS PTY LTD (NZ)	1	1	1	L	4-May-21	8-Mar-22	
WAIHI GOLD MINE	TREATMENT PLANT	CYANIDE MIXING		4-NITROBENZALDEHYDE (130176)	SIGMA-ALDRICH PTY. LTD.	2	100	200	mL	4-May-21	8-Mar-22	
WAIHI GOLD MINE	TREATMENT PLANT	CYANIDE MIXING		FERROUS SULPHATE 18% SOLUTION (PRODUCT OBSOLETE)	CHEMIPLAS NZ LIMITED	2	1000	2000	L	4-May-21	8-Mar-22	
WAIHI GOLD MINE	TREATMENT PLANT	CYANIDE MIXING		LOADED ELECTROLYTE	WAIHI GOLD MINE	1	202.5	202.5	m^3	4-May-21	8-Mar-22	
WAIHI GOLD MINE	TREATMENT PLANT	CYANIDE MIXING		SODIUM BISULPHATE (PRODUCT OBSOLETE)	NUPLEX INDUSTRIES (AUST) PTY LTD	1	20	20	L	4-May-21	8-Mar-22	
WAIHI GOLD MINE	TREATMENT PLANT	CYANIDE MIXING		SODIUM CYANIDE	ORICA NEW ZEALAND LTD	1	40	40	T	4-May-21	8-Mar-22	20% of 40T at present
WAIHI GOLD MINE	TREATMENT PLANT	CYANIDE MIXING		SODIUM CYANIDE SOLUTION - (30% W/W)	ORICA NEW ZEALAND LTD	1	100000	100000	L	4-May-21	8-Mar-22	Empty tank @ May 2020
WAIHI GOLD MINE	TREATMENT PLANT	CYANIDE MIXING		SPENT ELECTROLYTE	WAIHI GOLD MINE	1	202.5	202.5	m^3	4-May-21	8-Mar-22	
WAIHI GOLD MINE	TREATMENT PLANT	GOLD ROOM		ANHYDROUS BORAX	REDOX PTY LTD	20	25	500	Kg	4-May-21	8-Mar-22	
WAIHI GOLD MINE	TREATMENT PLANT	GOLD ROOM		CAUSTIC SODA - LIQUID (46%-50%) (NZ)	IXOM OPERATIONS PTY LTD (NZ)	1	22500	22500	L	4-May-21	8-Mar-22	
WAIHI GOLD MINE	TREATMENT PLANT	GOLD ROOM		DIPHOTERINE ® MINI AND MICRO AUTONOMOUS PORTABLE SHOWER (NZ)	AMARE SAFETY PTY LTD (NZ)	1	3.5	3.5	L	4-May-21	8-Mar-22	
WAIHI GOLD MINE	TREATMENT PLANT	GOLD ROOM		HYDROCHLORIC ACID > 25% (NZ)	IXOM OPERATIONS PTY LTD (NZ)	1	22500	22500	L	4-May-21	8-Mar-22	
WAIHI GOLD MINE	TREATMENT PLANT	GOLD ROOM		INDUSTRIAL METHYLATED SPIRIT (IMS) (PRODUCT OBSOLETE)	NUPLEX INDUSTRIES (AUST) PTY LTD	1	1	1	L	4-May-21	8-Mar-22	
WAIHI GOLD MINE	TREATMENT PLANT	GOLD ROOM		LIQUEFIED PETROLEUM GAS (LPG)	CONTACT ENERGY LIMITED	2	39000	78000	L	4-May-21	8-Mar-22	
WAIHI GOLD MINE	TREATMENT PLANT	GOLD ROOM		SODIUM CARBONATE (NZ)	IXOM OPERATIONS PTY LTD (NZ)	4	25	100	Kg	4-May-21	8-Mar-22	
WAIHI GOLD MINE	TREATMENT PLANT	GOLD ROOM		SODIUM NITRATE (NZ)	IXOM OPERATIONS PTY LTD (NZ)	4	25	100	Kg	4-May-21	8-Mar-22	
WAIHI GOLD MINE	TREATMENT PLANT	GOLD ROOM		SULPHAMIC ACID (NZ)	IXOM OPERATIONS PTY LTD (NZ)	2	25	50	Kg	4-May-21	8-Mar-22	

WAIHI GOLD MINE	TREATMENT PLANT	LABORATORY		BROMIDE BROMATE STANDARD SOLUTION (35006) (SDS DISCONTINUED)	SIGMA-ALDRICH PTY. LTD.	1	1	1	L	4-May-21	8-Mar-22	
WAIHI GOLD MINE	TREATMENT PLANT	LABORATORY		CALCIUM CHLORIDE POWDER 94-97%	NEWPARK DRILLING FLUIDS (AUSTRALIA) LTD	2	5	10	Kg	4-May-21	8-Mar-22	
WAIHI GOLD MINE	TREATMENT PLANT	LABORATORY		CYCLONE PREMIUM BLEACH	DIVERSEY NEW ZEALAND LTD	1	5	5	L	4-May-21	8-Mar-22	
WAIHI GOLD MINE	TREATMENT PLANT	LABORATORY		DIPHOTERINE * MINI AND MICRO AUTONOMOUS PORTABLE SHOWER (NZ)	AMARE SAFETY PTY LTD (NZ)	1	300	300	mL	4-May-21	8-Mar-22	1x 200ml spray and 2x 50ml eyewash
WAIHI GOLD MINE	TREATMENT PLANT	LABORATORY		HYDROCHLORIC ACID > 25% (NZ)	IXOM OPERATIONS PTY LTD (NZ)	1	20	20	L	4-May-21	8-Mar-22	
WAIHI GOLD MINE	TREATMENT PLANT	LABORATORY		POTASSIUM CHLORIDE CHEM. PURE, CRYST., PH. EUR., USP, JP 14, FCC (PRODUCT OBSOLETE)	MERCK PTY LIMITED	1	2	2	L	4-May-21	8-Mar-22	
WAIHI GOLD MINE	TREATMENT PLANT	LABORATORY		POTASSIUM IODIDE	CHEM-SUPPLY PTY LTD	2	1	2	L	4-May-21	8-Mar-22	
WAIHI GOLD MINE	TREATMENT PLANT	LABORATORY		POTASSIUM PERMANGANATE	THERMO FISHER SCIENTIFIC AUSTRALIA PTY LTD	1	2	2	L	4-May-21	8-Mar-22	
WAIHI GOLD MINE	TREATMENT PLANT	LABORATORY		SILVER NITRATE FOR ANALYSIS EMSURE ACS, ISO, REAG. PH EUR (101512)	SIGMA-ALDRICH PTY. LTD.	1	2	2	L	4-May-21	8-Mar-22	
WAIHI GOLD MINE	TREATMENT PLANT	LABORATORY		SODIUM CYANIDE EMPLURA (106437)	SIGMA-ALDRICH PTY. LTD.	2	250	500	g	4-May-21	8-Mar-22	
WAIHI GOLD MINE	TREATMENT PLANT	LABORATORY		SODIUM ISOBUTYL XANTHATES	INTERCHEM AGENCIES LIMITED	1	500	500	g	4-May-21	8-Mar-22	Pellets Laboratory froth flotation test
WAIHI GOLD MINE	TREATMENT PLANT	LABORATORY		STABLCAL STANDARD, 20 NTU (2660149)	HACH PACIFIC	1	1	1	L	4-May-21	8-Mar-22	
WAIHI GOLD MINE	TREATMENT PLANT	LABORATORY	Flammable Gas Storage	381-LINE DULUX SUPER ENAMEL HIGH GLOSS	DULUX GROUP (AUSTRALIA) PTY LTD	1	350	350	g	4-May-21	8-Mar-22	
WAIHI GOLD MINE	TREATMENT PLANT	LABORATORY	Flammable Gas Storage	3M SILICONE LUBRICANT	3M CENTER. USA	2	250	500	g	4-May-21	8-Mar-22	
WAIHI GOLD MINE	TREATMENT PLANT	LABORATORY	Flammable Gas Storage	CO CONTACT CLEANER (AEROSOL) (POST JUNE 2010)	CRC INDUSTRIES (AUST) PTY LIMITED	4	500	2000	g	4-May-21	8-Mar-22	
WAIHI GOLD MINE	TREATMENT PLANT	LABORATORY	Flammable Gas Storage	CPC 400 AEROSOL (NZ)	CRC INDUSTRIES (NEW ZEALAND)	1	400	400	g	4-May-21	8-Mar-22	
WAIHI GOLD MINE	TREATMENT PLANT	LABORATORY	Flammable Gas Storage	CRC (NZ) 2003, 2004, 2005 2.26 (AEROSOL)	CRC INDUSTRIES (NEW ZEALAND)	1	360	360	g	4-May-21	8-Mar-22	
WAIHI GOLD MINE	TREATMENT PLANT	LABORATORY	Flammable Gas Storage	DY-MARK ENGINEERS LAYOUT INK LOS ALL COLOURS	DY-MARK AUSTRALIA	2	350	700	g	4-May-21	8-Mar-22	
WAIHI GOLD MINE	TREATMENT PLANT	LABORATORY	Flammable Gas Storage	PLASTI-KOTE AEROSOL FLUORESCENT COLOUR RANGE (PRODUCT OBSOLETE)	VALSPAR PAINT (AUSTRALIA) PTY LTD	1	350	350	g	4-May-21	8-Mar-22	
WAIHI GOLD MINE	TREATMENT PLANT	LABORATORY	Flammable Gas Storage	WD-40 AEROSOL	WD-40 COMPANY (AUST) PTY LTD	1	300	300	g	4-May-21	8-Mar-22	
WAIHI GOLD MINE	TREATMENT PLANT	LEACHING		BUFFER PH 10.0 COLOUR CODED BLUE	THERMO FISHER SCIENTIFIC AUSTRALIA PTY LTD	2	300	600	mL	4-May-21	8-Mar-22	
WAIHI GOLD MINE	TREATMENT PLANT	LEACHING		HYDROGEN PEROXIDE ASEPTIC PACKAGING GRADES	SOLVAY INTEROX PTY LTD	1	20	20	L	4-May-21	8-Mar-22	
WAIHI GOLD MINE	TREATMENT PLANT	LEACHING		LIQUID OXYGEN	BOC LIMITED (AUSTRALIA)	1	30000	30000	L	4-May-21	8-Mar-22	Empty tank @ May 2020
WAIHI GOLD MINE	TREATMENT PLANT	LEACHING		POTASSIUM PERMANGANATE	THERMO FISHER SCIENTIFIC AUSTRALIA PTY LTD	1	2	2	L	4-May-21	8-Mar-22	
WAIHI GOLD MINE	TREATMENT PLANT	LEACHING		RHODAMINE B (C.I. 45170) FOR MICROSCOPY (107599)	SIGMA-ALDRICH PTY. LTD.	1	1	1	L	4-May-21	8-Mar-22	
WAIHI GOLD MINE	TREATMENT PLANT	LEACHING		SILVER NITRATE FOR ANALYSIS EMSURE ACS, ISO, REAG. PH EUR (101512)	SIGMA-ALDRICH PTY. LTD.	1	2	2	L	4-May-21	8-Mar-22	
WAIHI GOLD MINE	TREATMENT PLANT	LIME DOSING PLANT		HIGH CALCIUM HYDRATED LIME	GRAYMONT (NZ)	320	25	8000	Kg	4-May-21	8-Mar-22	
WAIHI GOLD MINE	TREATMENT PLANT	LIME DOSING PLANT		HIGH CALCIUM QUICKLIME	GRAYMONT	1	80	80	T	4-May-21	8-Mar-22	Empty tank @ May 2020
WAIHI GOLD MINE	TREATMENT PLANT	MILL		30 SECONDS - ONE STEP SPRAY & WALK AWAY CONCENTRATE	TRADEWARE	1	100	100	L	4-May-21	8-Mar-22	
WAIHI GOLD MINE	TREATMENT PLANT	MILL		SOLUTRIX 11	BASF AUSTRALIA LIMITED	10	1300	13000	Kg	4-May-21	8-Mar-22	
WAIHI GOLD MINE	TREATMENT PLANT	MILL THICKENER		HYDROCHLORIC ACID >10-25% (NZ)	IXOM OPERATIONS PTY LTD (NZ)	1	1	1	L	4-May-21	8-Mar-22	
WAIHI GOLD MINE	TREATMENT PLANT	RO PLANT		CAUSTIC SODA - LIQUID (46%-50%) (NZ)	IXOM OPERATIONS PTY LTD (NZ)	1	200	200	L	4-May-21	8-Mar-22	
WAIHI GOLD MINE	TREATMENT PLANT	SAG Commission		GETRIEBEPRUFLACK	KLUBER LUBRICATION AUSTRALIA PTY LTD	1	1	1	L		20-May-22	
WAIHI GOLD MINE	TREATMENT PLANT	SAG Commission		KLUBERFLUID B-F 1 ULTRA	KLUBER LUBRICATION AUSTRALIA PTY LTD	1	5	5	L		20-May-22	
WAIHI GOLD MINE	TREATMENT PLANT	STORES	GOLD ROOM	DEHYBOR ANHYDROUS BORAX (NZ)	IXOM OPERATIONS PTY LTD (NZ)	20	25	500	Kg	4-May-21	8-Mar-22	
WAIHI GOLD MINE	TREATMENT PLANT	STORES	MILL	SOLUTRIX 11	BASF AUSTRALIA LIMITED	6	1300	7800	Kg	4-May-21	1-Mar-22	
WAIHI GOLD MINE	TREATMENT PLANT	WATER TREATMENT		CARBON DIOXIDE, LIQUID (NZ)	BOC LIMITED (NEW ZEALAND)	1	20000	20000	L	4-May-21	8-Mar-22	
WAIHI GOLD MINE	TREATMENT PLANT	WATER TREATMENT		COPPER SULPHATE PENTAHYDRATE	REDOX PTY LTD	1	1000	1000	Kg	4-May-21	8-Mar-22	
WAIHI GOLD MINE	TREATMENT PLANT	WATER TREATMENT		DIPHOTERINE * MINI AND MICRO AUTONOMOUS PORTABLE SHOWER (NZ)	AMARE SAFETY PTY LTD (NZ)	1	3.5	3.5	L	4-May-21	8-Mar-22	
WAIHI GOLD MINE	TREATMENT PLANT	WATER TREATMENT		FERRIC CHLORIDE SOLUTION 40%	CHEMTREX LIMITED	1	21000	21000	L	4-May-21	8-Mar-22	
WAIHI GOLD MINE	TREATMENT PLANT	WATER TREATMENT		HIGH CALCIUM HYDRATED LIME	GRAYMONT (NZ)	2	50000	100000	Kg	4-May-21	8-Mar-22	
WAIHI GOLD MINE	TREATMENT PLANT	WATER TREATMENT		HYPROX 600 (NZ)	EVONIK INDUSTRIES (NZ)	1	36860	36860	L	4-May-21	8-Mar-22	
WAIHI GOLD MINE	TREATMENT PLANT	WATER TREATMENT		SOLUTRIX 11	BASF AUSTRALIA LIMITED	1	1300	1300	Kg	4-May-21	8-Mar-22	
WAIHI GOLD MINE	TREATMENT PLANT	WATER TREATMENT		TMT15 (PRODUCT OBSOLETE)	CHEMIPLAS NZ LIMITED	1	1000	1000	L	4-May-21	8-Mar-22	

Reference	Event Date	Event Type	Event Sub Type	Location:	Short Observation	Detailed Observation	Immediate Actions Taken:	Workgroup
AI-4722	06/10/2010 12:00 AM	Process Loss	Environmental	Support Area - Waihi	Dev Site Hydraulic Oil Spill	992 loader loading out naf dirt onto 777 dump truck off tsf2 blew tilt hose as machine was bogging into stockpile to load next bucket. 70 litres of hydraulic oil lost. Internally worn hose failed. Shut down machine, contained oil Spill & informed supervisor cleaned up contaminated area, transported soil to tsf1a and treated then buried as per site requirements.	EAMM# 25229 Legacy Data	12.3.1.5.1 Support Services Environment
120479	17/02/2016 9:15 AM	Process Loss	Environmental		773 Carting waste along haul road broke down due to drive shaft & transmission failure - Est 35L transmission oil leak	Dump truck 773 was carting waste from North Stockpile to Area 3 along B Haul Road stopped when operator hoped out to check truck, he noticed a transmission oil leak and called his Supervisor who came out and coned off the area as well as lay absorbent and soaker pads for the Spill.	Call supervisor and other road users. Restrict the area, chock the truck. Put absorbent and soaker pads over oil Spill Supervisor called excavator to make bund wall around truck this also separated the area from other road users.	12.2.1.2.1 Mining Surface Operations

Reference	Event Date	Event Type	Event Sub Type	Location:	Short Observation	Detailed Observation	Immediate Actions Taken:	Workgroup	
AI-4360	28/09/2009 12:00 AM	Process Loss	Environmental	Production Area - Waihi	Delivery Of Hydrogen Peroxide Spill.	H2o2 delivery contractor over filled one of the two WTP storage tanks. Bund area drain reported the chemical to the conveyor belt wash settlement ponds. H2o2 started to decompose (producing water & oxygen) in two of the ponds before overflowing in to the WTP CP. Potentially 370 litres of product spilt. Belt wash pump stopped and WTP personnel monitoring WTP CP.	EAMM# 17219 Legacy Data	12.2.3.1.1 Processing	
AI-4501	15/03/2010 12:00 AM	Process Loss	Process Loss	Production Area - Waihi	Dispex 11 Spill From Ibc	Weight of inline filter and outlet fittings (which is all unsupported) broke plastic fitting on ibc Spilling 400 litres into its bund. However valve open so from there to sump pump to thickener.	EAMM# 20213 Legacy Data	12.2.3.1.1 Processing	
AI-4713	22/09/2010 12:00 AM	Process Loss	Environmental	Support Area - Waihi	Hydraulic Oil Spill - Process Plant	Oil leak from generator unit. Agrekko generator malfunction estimate 100 l engine oil sprayed out from generator - covering an area up to 30m2. Location: Favona workshop.	EAMM# 24966 Legacy Data	12.3.1.5.1 Support Services Environment	
AI-4756	29/10/2010 12:00 AM	Process Loss	Environmental	Support Area - Waihi	Hydrocarbon Spill - Favona Stockpile (40l)	Oil leak/blown hydraulic hose. While overseeing a broken hills ore delivery the hydraulic line between the first and second trailer burst causing approx 40l of fluid to be dropped.	Emergency medical assistance and transportation to hospital. Investigation commenced with scene examination. Department of Labour notification and release of scene. Forklift mechanical inspection. Video made/recorded of the scat kibble bin unloading proce	12.3.1.5.1 Support Services Environment	
AI-4818	27/12/2010 12:00 AM	Process Loss	Environmental	Support Area - Waihi	Thickener Tank Slurry Spill	Thickener tank partially emptied into secondary containment which in turn partially discharged via flocculent shed wash down pipe line to mill area drain system. Thickener tank water feed is from the process water tanks / tsf1a decant (tsf1a cnwad concentrations over the last two months ranged between 3.1 to 8.7ppm). Initiating event: thickener standby pump isolation valve solenoid malfunctioned resulting in valve failing in open position. Slurry vol estimated to be between 2m3 and 10m3.	EAMM# 27272 Legacy Data	12.3.1.5.1 Support Services Environment	
AI-4762	10/11/2010 12:00 AM	Process Loss	Environmental	Production Area - Waihi	Overfill Sulphuric Acid Tank	Alarm went at 95%, truck driver came up to control room and said he had 180l to go and ask if it was okay to keep filling. The level was discussed and it should have fitted with 150l to spare. Approx 50l Spill.	EAMM# 25949 Legacy Data	12.2.3.1.1 Processing	
AI-4848	18/01/2011 12:00 AM	Process Loss	Environmental	Support Area - Waihi	Hydrocarbon Spill - Martha Rom	Blown o-ring on hydraulic pump. 52 tonne excavator was loading trucks on waste stockpile when the operator smelt hydraulic oil, he shut down the machine and noticed oil leaking from underneath the excavator. He put soaker pads down to control the spilt oil (65 litres).	EAMM# 27780 Legacy Data	12.3.1.5.1 Support Services Environment	
AI-1165	07/03/2011 12:00 AM	Process Loss	Environmental	Production Area - Waihi	Hole in Discharge Pipe EDR Unit	3mm hole spraying mud outside of bunded area approximately 30 litres at 300ppm NaCN. Area drainage reports to Mill Contingency Pond.	Shut down and isolated system, cleaned up Spill immediately and generated a work order to have repaired.	12.2.3.1.1 Processing	
AI-29196	28/01/2013 12:00 AM	Process Loss	Environmental	Production Area - Waihi	Ferric loss from dosing system	WTP operator discovered ferric pump 9238 had a bad leak on intake side of pump. Lost approx. 1000 litres to inside bunded area and pumped to tails hopper via sump pump. $1820 worth of product.	Isolate pump to stop leak, and reported to leading hand.	12.2.3.1.1 Processing	
AI-29197	28/01/2013 12:00 AM	Process Loss	Process Loss	Production Area - Waihi	Ferric loss from bulk transfer station	At 1504 hrs, bunk ferric bund high level alarm was activated. Investigation revealed split in transfer pump pipe work. Approx. 800L lost to bund. $1456 worth of product.	Reported to on-call supervisor and fitter & isolated and repaired leak straight away.	12.2.3.1.1 Processing	
AI-31991	10/06/2013 12:00 AM	Process Loss	Environmental	Production Area - Waihi	Notification of Chemical leakage from empty Isotainer in Yard in Mount Maunganui	At 1351hrs, site was notified (via email with pictures attached) that an empty Isotainer had leaked product onto the ground in storage yard. 3 personnel collected testing, monitoring and Spill clean up equipment and dispatched to investigate. At 1430hrs, informed that the Isotainer had already been moved to the Port of Tauranga, so NWG personnel proceeded to there.	Requested Isotainer to be isolated and barricaded for inspection by NWG personnel	12.2.3.1.1 Processing	
AI-40243	11/06/2014 12:00 AM	Process Loss	Environmental	Production Area - Waihi	Oil Spill from Mustang (Bob Cat)	While a Fitter was checking the level of oil in the chain case of the Mustang - he removed the drain plug, and approximately 4 litres of oil squirted out from the chain case. Oil splashed onto operators overalls.	Reported to Supervisor. Area taped off. Oil Spill cleaned up.	12.2.3.3.1 Processing Maintenance	
AI-57027	15/01/2015 12:00 AM	Process Loss	Environmental	Production Area - Waihi	Cyanide Spill into Bunded Area	Mechanical seal failure on pump released approximately 900 litres of 30% sodium cyanide solution into the bund.	Pump was isolated. Spill contained and pumped to CIL tanks. Cleaned up area.	12.2.3.1.1 Processing	
105137	09/07/2015 7:50 PM	Process Loss	Process Loss		Lime Spill at WTP	Upon arrival at WTP at beginning of shift, operator has discovered hose off ring main has become uncoupled from stream 4 dose pump. Spill contained within bunded area of stream 4 and WTP. lost approx. 375kg @ 174.4/t	Shutdown lime system and reinstated hose. Rang on-call supervisor	12.2.3.1.1 Processing	
109554	18/10/2015 4:40 AM	Process Loss	Environmental	Waihi	Blown hydraulic line on 770 mill loader	While loading the bucket of the 770 loader, a hydraulic line has blown.	Backed away from working face. Shut machine down. Placed absorbent pads down. Coned off Spill and loader. Cleaned up.	12.2.3.2.1 Processing Operations	
140944	17/08/2016 12:00 PM	Process Loss	Environmental		Contaminated water Spill due to manhole overflowing	Manhole MH13 overflowing contaminated underdrainage water. Water flowed to S4 collection pond. Contaminated water was then pumped from S4 to WTP	Issue raised by site services (Chris Whittingham). Contacted Environment and Mill. Mill sent out electrician immediately and restarted the pump stopping the overflow.	12.2.3.2.1 Processing Operations	
156822	30/11/2016 12:00 AM	Process Loss	Process Loss		Foam Spilled out of Reagent mix tank into bund	Foam Spilled out of Bulk Cyanide Mix Tank into bund via the tank overflow pipe and level indicator hole	Informed immediate supervisors	12.2.3.2.1 Processing Operations	
274296	20/12/2017 1:00 PM	Process Loss	Environmental	Waihi	Diesel Spillage during fueling of temporary Aggreko generator diesel tank	McFalls delivery driver arrived at site to fuel Aggreko generator fuel tank. McFalls driver began fueling as per normal procedure. After ~9000L transfered it was noticed that diesel was leaking out of the top of the tank. Immediately stopped fueling. At this time the Aggreko technician's arrived and informed McFalls driver that the fuel tank was not operational.	Refueling stopped Diesel tank pressure relieved Diesel Spill contained and cleaned up	Waihi Processing Production	
458087	03/05/2021 12:00 AM	Environment Event	Tailings Management		Slurry Spill outside workshop	Maintenance fitter was manouvering Carbon Catch Screen Feed Box around outside workshop when approx. 200L of slurry discharged from an inlet spool piece onto tarseal		Waihi Processing Maintenance Mechanical	
AI-27994	04/12/2012 12:00 AM	Process Loss	Process Loss	Production Area - Waihi	Bisulphite valve seal failure	Operator discovered valve was leaking during the weekly reagent check. RO plant has not been operational since June and the last preservation was late Nov. Spill was contained within the portable bund and 98% (estimate) of product was recovered back to the IBC. Spill volume was approx. 300l total and 6 litres was lost (not returned to IBC). Cost ca. $20. Valve has been in operation for est. 6 years.	Isolate at IBC outlet	12.3.3.10.1 Support Services Site Services	WTP

Reference	Event Date	Event Type	Location:	Short Observation	Detailed Observation	Immediate Actions Taken:	Workgroup
273739	15/12/2017 1:00 PM	Incident Report	Development Site	Wind change causing vegetation to catch alight while burning cyanide boxes	While operators were burning 5 cyanide boxes, the wind went from nothing to blowing quite hard from the NE and the heat / flames ignited the vegetation outside the designated burn area. Water to Fire suppression hose was isolated and it look longer to extinguish than expected.	Reinstated water supply to hoses and extinguished the vegetation with water from Fire suppression hoses	Waihi Processing Production

Reference	Event Date	Event Type	Location:	Short Observation	Detailed Observation	Immediate Actions Taken:	Workgroup
AI-4210	05/05/2009 12:00 AM	Incident Report	Production Area - Waihi	Electrical Fire In Mcc03	An electrical Fire occurred at Newmont Waihi Gold's mill on Tuesday 5 May. The Fire started at 11.32am in the Mill Motor Control Centre (MCC) switchboard and circuitry and was brought under control by on-site rescue teams and emergency services. The Fire was reported extinguished at 12.13pm. All staff were accounted for and no injuries were sustained. There is, however, major damage sustained to the switchboard and circuitry for the Treatment Plant.	Emergency services alerted. Power board alerted to isolate power to site. Fire put out by local Fire brigade and site Mines Rescue Team. Area cordoned off to secure area for investigation. Power restored to underground, water treatment plant, and deve	12.2.3.1.1 Processing
AI-4411	19/11/2009 12:00 AM	Incident Report	Production Area - Waihi	Ro Bund Flooded	While flushing the RO concentrate line during a pigging operation water was required. A line from the Fire suppression system was piped over the bund wall. Water almost flooded electric motors.	EAMM# 18021 Legacy Data	12.2.3.1.1 Processing
AI-4472	14/02/2010 12:00 AM	Incident Report	Production Area - Waihi	DI 400 Caught On Fire	Operator noticed oil on the ground while reversing out of rock box. Then noticed smoke. Shut down machine. Another operator arrived and extinguished Fire.	EAMM# 19588 Legacy Data	12.2.3.1.1 Processing
AI-4532	07/04/2010 12:00 AM	Incident Report	Production Area - Waihi	Fire In Rubbish Bin	Staff member on leaving meeting could smell burning in welding bay. He found a Fire burning in a rubbish bin and used a Fire extinguisher to put it out.	EAMM# 20787 Legacy Data	12.2.3.3.1 Processing Maintenance
AI-2359	09/05/2011 12:00 AM	Incident Report	Production Area - Waihi	Burst capacitor at MCC Transfer Staton	Capacitor in power factor correction panel burst. At approx 4.20pm Monday 9th May a Smoke alarm for Transfer station activated on Scada and smoke was observed to be coming out of Transfer Station MCC. The Fire alarm sounded at MCC. Maintenance and Electrical Supervisors inspected the MCC finding smoke but no flames. The cause was found to be a faulty power factor capacitors. The power factor correction was isolated and the MCC de-isolated.	Isolated power on main MCC. Called security to call Fire brigade. The power factor unit at waste load out was also isolated.	12.2.3.3.1 Processing Maintenance
AI-9549	09/03/2012 12:00 AM	Incident Report	Production Area - Waihi	Small Fire (grease in bearing) in NWG maintenance workshop	An electrician was removing a bearing from a motor. As the bearing would not move with the hydraulic puller, heat was applied to the bearing with a gas torch and grease in the bearing caught Fire. The electrician used a Fire extinguisher to put out Fire.	Fire extinguisher was used to put out Fire immediately after discovered. Reported to Supervisor. Photos taken. - No damage resulted.	12.2.3.3.1 Processing Maintenance
AI-36214	15/01/2014 12:00 AM	Incident Report	Production Area - Waihi	Power Pack Cable Melted	Fitter using welder to hardface area in bottom of hopper and feeder observed cable to hydraulic power pack hot and smoking. Noticed by spotter/Fire watch.	Stopped welding, contacted electricians. Investigated.	12.2.3.3.1 Processing Maintenance
AI-37226	12/03/2014 12:00 AM	Incident Report	Production Area - Waihi	Activation of Smoke Alarm in Newmont Maintenance Workshop	While cooking a BBQ in workshop to celebrate a certificate ceremony, the fat tray caught Fire, creating smoke and activating the smoke alarm.	Let Fire burn out.	12.2.3.1.1 Processing
195506	04/04/2017 12:45 PM	Incident Report		Extinguished canvas welding screen Fire in process workshop hot work bay	Contract fitter left freshly painted pipework on workbench with gas heater positioned blowing hot air to dry the paint. A canvas welding screen nearby was caught by the wind, blowing it towards the heater, eventually causing ignition. Two personnel standing nearby immediately observed the flames and extinguished small Fire with dry powder extinguisher.	Mill manager notified Area ventilated Area barricaded GM notified Investigation Commenced Collected contract fitters stop n think for task	12.2.3.3.1 Processing Maintenance
269244	20/11/2017 3:01 AM	Incident Report		Smoke in MCC 3 set off VESDA alarm	Smoke in MCC 3 set off VESDA (Early smoke/ Fire detection system) which alarmed to Mill Control then shortly after second stage activated the fail safe power disconnect circuit shutting down the Mill site power .	Called out Fire Brigade and Site Mines Rescue	Waihi Processing Maintenance Electrical
288353	07/03/2018 1:35 PM	Incident Report		A battery was being load tested in the electrical workshop using a 12volt siren/beacon assembly as the load. While being powered by the battery the beacon portion of the assembly caught Fire.	A battery was being load tested in the electrical workshop using a 12volt siren/beacon assembly as the load. While being powered by the battery the beacon portion of the assembly caught Fire.	Fire extinguished, scene secured, photo's taken, statements obtained and Worksafe notified.	Waihi Processing Maintenance Electrical
289844	17/03/2018 8:00 AM	Incident Report	ROM pad	Starter motor Fire on 20 tonne digger	A contract digger operator had completed a pre-start on the contractors machine and was allowing machine to warm up when he noticed smoke coming from engine bay. The operator opened side door on hydraulic pump side and saw flames in the engine compartment. operator went to drivers side of the machine and isolated machine and grabbed Fire extinguisher, returned to hydraulic side door and extinguished Fire. Opened engine cover to ventilate engine bay and check Fire fully extinguished. Shift supervisor notified & scene secured.	Fire extinguished Shift supervisor notified Scene secured On call area supervisor notified WorkSafe notified	Waihi Processing Production Shift A