FOUNTAIN HEAD GOLD PROJECT

WASTE ROCK MANAGEMENT PLAN

01238D_9_V1

NOVEMBER 2021

ERIAS

VALUE. INTEGRITY. RESULTS.

PNX Metals

Fountian Head Gold Project

Waste Rock Management Plan

01238D_9_v1

ERIAS

13–25 Church Street
Hawthorn, Victoria, 3124
Australia
P +61 3 9208 6700
E info@eriasgroup.com
W eriasgroup.com

Client Contact:	Craig Wilson Craig.wilson@pnxmetals.com.au

ERIAS Contact:	David Browne David.browne@eriasgoup.com
ERIAS Alternative Contact:	Kate Sinai Kate.sinai@eriasgroup.com

Document	Date	Compiled by	Checked by	Authorised by
01238D_9_v1	16/11/2021	D. Browne	K. Sinai	D. Browne

1. Introduction

Following from the geochemical test work undertaken as part of the Fountain Head feasibility studies this plan has been prepared to provide further detail on the measures to be implemented during operations so that waste rock is managed to ensure that the Project impacts are consistent with the environmental impact assessment.

1.1 Purpose

This Waste Rock Management Plan (WRMP) is to be the primary guiding document used by PNX Metals (PNX) to manage waste rock generated from the Fountain Head open pit. The main objectives of the plan are to ensure that :

- Testing of waste rock is undertaken in accordance with proposed specifications.
- Results of testing are used to determine where waste rock is placed.
- Results are periodically reviewed and where required improvements in this plan are implemented.

1.2 Scope

This WRMP details the required testing and identification of potentially acid forming materials and outlines the measures to be implemented to handle this material to ensure that over the long term environmental impacts are minimised.

1.3 Key Personnel and Responsibilities

Responsibility for management of waste rock is outlined in Table 1.

Table 1 – Management Responsibilities

Position	Company	Responsibility
Operations Manager	PNX	• Overall responsibility for operation of the Fountain Head Gold Project
Geology Manager	PNX	• Undertaking Total S analysis, determining category of waste rock, marking out each category and monitoring that waste is placed according to classification. • Updating Total S block model with laboratory results
Mine Manager	Mining Contractor	• Waste rock is placed in locations according to its classification and any management measures implemented
HSE Manager	PNX	• Auditing that this WRMP is being implemented

2. Waste Rock Management

2.1 Waste Rock Characterisation

The Fountain Head Gold Project involves a cutback of the existing Fountain Head / Tally Ho pit to produce 15 Mt of waste rock and 3 Mt of ore over an approximate 3.5 year mine life. Waste rock will be placed in the existing waste rock stockpile which will be expanded to accommodate the additional volume. Results of geochemical testing identified the following:

- No immediately available acidity and low salinity when samples contacted with water, indicating that freshly mined rock is unlikely to provide low pH or saline drainage.
- Total S analysis showed a broad range of up to 3% with 90% being less than 0.5%.
- Acid Neutralising Capacity (ANC) was low ranging up to 33 kg H_2SO_4/t indicating a lack of buffering capacity.
- Most samples were Net Acid Producing Potential (NAPP) negative, with the majority having an ANC/MPA ratio of 2 or more indicating a high factor of safety.
- 70% of NAGpH values were 4.5 or greater indicating most samples are likely to be NAF.
- CRS measurements showed that greater than 90% of Total S is contained in sulphide minerals, indicating that Total S measurements can be used as a suitable guide to the sulphide (pyrite) content of these materials.
- 80% of samples tested were classified as NAF, 15% PAC-LC and 5% PAF.

Total S was identified as being suitable for routine classification of waste rock with the results indicating:

- NAF samples can be differentiated from PAF/PAF-LC by applying a Total S cut-off of 0.2% S.
- 95% of samples classified as NAF have a Total S value of 0.2% or less. All PAF samples and 60% of PAF-LC samples have a Total S value of greater than 0.2% S.
- Using a <0.2% S criteria for NAF waste rock includes 40% of PAF-LC material, these have low acid potential and operational blending with NAF materials is expected to account for any minor acidity generated.

The above classification was based on an initial 111 samples with Total S assay values. A further 32 drill holes were selected for analysis. Samples were selected approximately 10 m apart through the oxide/transition zones and approximately 5 m apart in fresh rock. A total of 551 samples were assayed. As a result of the additional testing the classification of waste rock was confirmed as outlined in Table 2.1.

Table 2.1 – Classification of Waste Rock

Total S	ARD Classification	Management	
		During Mining	Post Mining
<=0.2%	NAF	Segregate and place in Integrated Waste Landform	No further management measures required
≥0.2 - <=0.4%	PAF-LC	Segregate and mix with NAF in Integrated Waste Landform	No further management measures required

>0.4%	PAF	Segregate and store within pit	Any PAF material placed within the pit which will not be permanently covered by a minimum of 2 m of water will be relocated following the completion of mining to achieve the minimum water cover

2.2 Waste Rock Characterisation Procedures

PNX have developed a Total S block model incorporating all Total S analysis undertaken to date. Of the 511 Total S samples analysed 99.4% of material classified as PAF-LC or PAF was fresh rock. To further improve the confidence in the Total S block model the following testing regime will be undertaken:

- Testing of Total S will focus on fresh rock.
- Within blocks identified as fresh rock a composite sample will be collected from each blast hole for testing of Total S to segregate NAF, PAF-LC and PAF waste rock.

2.3 Disposal of Waste Rock (PAF)

All PAF waste rock will be retained within the expanded Fountain Head open pit. A number of in-pit stockpile locations have been identified with a total capacity greater than the estimated volume of PAF expected to be mined. If PAF waste rock stored within the pit will not be covered by a minimum of 2 m of water permanently this material will be relocated upon the completion of mining to lower levels within the pit.

2.4 Disposal of Waste Rock (PAC-LC)

PAF-LC waste rock can be placed either within in-pit dumps or blended if less than 0.4% Total S with NAF waste rock within the Integrated Waste Landform (IWL). PAF-LC should be placed with NAF at a ratio of 1 PAF-LC to 9 NAF by paddock dumping and maintaining a 20 m buffer of PAF-LC from the outer wall of the IWL.

2.5 Disposal of Waste Rock (NAF)

NAF waste rock will be placed within the IWL.

3. Monitoring and Auditing

As mining will occur over a short period of less than three years, a monitoring and audit program involving quarterly audit and random testing of waste rock within the IWL is proposed. The high frequency of auditing will be reviewed after one year following a review of all results to determine if sufficient confidence in the waste rock characterisation procedure warrants changes to the auditing program.

ERIAS

VALUE. INTEGRITY. RESULTS.