



HAZARDOUS POLLUTANTS TO SURFACE WATER MANAGEMENT PLAN

Fixed Soil Treatment Facility, Wheal Jane

DOCUMENT CONTROL SHEET

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Author: Tom Child

(signature):



Project Manager/Director

(signature):



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Appendices

[Appendix A – E1831WJ.005.2 - UKRL surface drainage plan](#)

[Appendix B – Independent Flood Risk Assessment EDS – J-833](#)

1. Introduction

This document represents the management system deployed at the UK Remediation Ltd (UKRL) Wheal Jane Fixed Soil Treatment Facility (FSTF) addressing risks of hazardous pollutants reaching surface waters. This document sets out the ways UKRL will systematically identify risks to surface water, assess the conceptual model of pathways from sources to receptors and the measures to be employed to prevent, and where unavoidable, reduce the impact of potential contamination releases.

The FSTF will consist of an expansive hard cover area, on which the stockpiles will be stored. This creates the opportunity for surface runoff which could ultimately enter the natural water system surrounding the site. Due to the contaminated nature of the materials brought onto site to be treated, there is an associated risk that some harmful concentrations could enter the surface water.

The UKRL facility is located within the wider Wheal Jane restoration site, adjacent to existing tailings dam (see Part B2 Q5a – Site Location Plan). The presence of the surrounding extensive restoration site limits the potential proximity of sensitive surface water receptors, with the closest being the Carnon River approximately 1km to the south.

This is because pumped mine water within the tailings dams is subject to a large-scale regulated treatment and testing operation, undertaken by others. Controlled discharges from the FSTF area will be via UKRL's water treatment system and discharge testing point, discharging into the adjacent tailings dam. The main site treatment system will therefore act as a secondary system with respect to the UKRL operations.

2. Mitigation

Notwithstanding the relatively low risks of surface water impacts from the Wheal Jane FSTF and the presence of existing discharge treatment and control measures at the site, UKRL's site design is such that high standards of release control will be maintained.

The hard standing will be graded towards the drainage channel, preventing the uncontrolled escaped of surface waters beyond the impermeable, controlled drainage area. A drainage plan is included as Appendix A. An independent flood risk assessment (FRA) for the site was undertaken in February 2019 (see appendix B) identified that the facility is located in Flood Zone 1 area (low risk) and can withstand a 1 in 1,000-year type flood event. No impacts on other areas were identified from the development of the FSTF.

The impermeable slab is to be laid to falls of approximately 1:500, leading to a central drainage channel which in turn runs to a submerged settlement and treatment tank, containing baffle plates and an oil-water separator weir. This contains all surface flow and directs this to the fixed treatment plant, which removes potential contaminants prior to release to the tailings dam to the south of the site. UKRL will maintain discharge monitoring as detailed in EMS14.01 of the Environmental Management System (see part B2 Q3d).

The Surface water monitoring regime will be confirmed with the incumbent water treatment operator at the Wheal Jane site – Veolia. The permit and parameters can be viewed in Part B3 Q3a. The discharge suite of testing to be undertaken will include pH, heavy metals and TPH. The secondary water treatment will predominantly be concerned with the TPH fraction (the water treatment plant is designed for the treatment of heavy metals) hence to key specification (see non technical summary and technical /BAT description) has been put on TPH 150mg/l.

Spill kits will be available at several locations to quickly address oil spills from plant, and at the separately bunded refuelling station. Any spills that do occur will be reported immediately, and records maintained of the incident.

If the waste material brought in is highly impacted with soluble contaminants and heavy rain is predicted the stockpiles will be sheeted over to minimise the potential for contamination entering the surface water.

3. Continuous Review

Throughout the course of the site's operation, review of the pollutant to surface water management system will be continuous, with actions for improvement should any shortcomings be identified. The site will also be subject to periodic audit by certified bodies such as the Environment Agency will be carried out periodically to allow improvements to be made from an outside source.