

Scarcewater Tip - Conceptual Site Model, Environmental Setting and Site Design Report

Version 3, 15/09/2021

Report context

The owner and operator of Scarcewater Tip, part of Melbur Pit is IMERYS Minerals Limited. This report has been compiled by Dr Paul Gibbs (PAG Consultancy Ltd) on behalf of IMERYS Minerals Limited with assistance from Sean Simpson (Technically Qualified Manager for land restoration projects within IMERYS Minerals Ltd)

As detailed in the Waste Recovery Plan, attached as part of this permit application, the proposed activity is for the importation of appropriate waste materials for use in creating topsoil and subsoil horizons in order to facilitate the restoration of Scarcewater Tip, as part of agreed planning requirements agreed with Cornwall County Council, and in line with restoration of neighbouring China Clay tips e.g. Dubbers Restoration Area (EA Permit Ref: CB3237WJ/V003).

Site details

Scarcewater Tip part of Melbur China Clay Works, St Stephen, Truro, Cornwall TR2 4EY is centred on National Grid Reference SW 92181 54862 with vehicular access via a gated and manned access road from a minor road c. 1000m south of the A30(T) at Kingsley Village Scarcewater Tip's location and site boundary is illustrated in Diagram "Scarcewater Tip ESSD1 Site Location". The tip is part of Melbur China Clay Works which has an active permission under the Quarry Regulations 1999 to deposit sand/mica from china clay workings and a requirement/permission from Cornwall Council for progressive restoration using the importation of 'waste' which is to be completed before 31st July 2024, under Reference PA18/06494, dated 20th December 2018 - see "Decision Notice PA18/06494 Scarcewater Tip Dec 2018".

The location of the Scarcewater Tip in relation to local environmental receptors, residential properties, waterways, water bodies, nature protection zones, surrounding agricultural fields and urban areas are illustrated in "Scarcewater Tip ESSD2 Environmental Site Setting"

Site development

Historical development

The historical use of the land has been as a China Clay Works and waste tip for deposit of sand and mica, the operation of both the Melbur Works and deposit of China Clay waste have been through the granting of conditional planning permission notices issued by the Local Planning Authority - Cornwall Council. There has been no waste activity which does not have relevant permission or permit.

Proposed development

To include details relating to:

The proposed waste types including details relating to volumes, quantities and chemical characteristics are detailed in the accompanying waste recovery plan and ecological benefit statement.

There is no requirement to consider EPR 2010, schedule 23 (i.e. hydrogeological risk screening) as part of permit for restoration of Scarcewater Tip. The final landform and after-use (amenity/agricultural, namely heathland, pasture, woodland and grass/scrub) are covered within the conditional planning permission issued by Cornwall Council under Decision Notice PA18/06494, dated 20th December 2018.

Geology

The impacts of local and regional geology relate to the permission issued by the Local Planning Authority to IMERYYS Minerals Ltd for China Clay extraction and has no relevance to the restoration of Scarcewater Tip.

Hydrology

There are no water courses which may influence and/or interact with Scarcewater Tip restoration area, There are no water courses that may be affected by discharges from the restoration site N.B. any surface water or drainage waters leaving Scarcewater Tip are managed by water discharge controls in place as part of the mining operations associated with Melbur Pit i.e. water discharging from the Melbur Pit area is monitored, managed and controlled by IMERYYS Minerals Ltd as part of their mining operations.

There is no risk of flooding, and the site is significantly elevated above any flood plain areas.

The location of Scarcewater Tip in relation to any points of ecological importance for watercourses and the presence of any natural heritage and/ or nature protection zones (site of special scientific interest within the meaning of section 52 of the Wildlife and Countryside Act 1981(a) or a European site within the meaning of regulation 10(1) of the Conservation (Natural Habitats, &c.) Regulations 1994(b)) are illustrated in " Scarcewater Tip ESSD3 Cultural and Natural Heritage"

Hydrogeology

Aquifer Characteristics

The location of the Scarcewater Tip in relation to Aquifer Characteristics is not believed to be relevant considering its location within an approved mineral extraction area and conditional planning permission issued by the local planning authority i.e. any water discharges, which could influence the aquifer, are monitored and controlled within agreed planning permissions issued to IMERYYS Mineral Ltd by the local planning authority.

Groundwater Flow

To include details relating to:

The location of the Scarcewater Tip in relation to Groundwater Flow is not believed to be relevant considering its location within an approved mineral extraction area and conditional planning permission issued by the local planning authority i.e. any water discharges, which could influence groundwater flows, are monitored and controlled within agreed planning permissions issued to IMERYYS Mineral Ltd by the local planning authority.

Groundwater Quality

The location of the Scarcewater Tip in relation to Groundwater Quality is not believed to be relevant considering its location within an approved mineral extraction area and conditional planning permission issued by the local planning authority i.e. any water discharges, which could influence groundwater quality, are monitored and controlled within agreed planning permissions issued to IMERYYS Mineral Ltd by the local planning authority.

Man-made subsurface pathways

There are no man-made pathways such as field drains, buried services, mine workings, boreholes etc. which could influence subsurface pathways. Any water movement through and off of Scarcewater Tip will be controlled by the water management required as part of the agreed mining operations and discharges from the Melbur Pit area.

Receptors and compliance points

To include details relating to the specific receptors and compliance points that you will need to consider within your risk assessments.

Groundwater

The quality of the soil profile created, and any potential pollutant loading, will be controlled through appropriate waste acceptance procedures and management of topsoil/subsoil manufacture. The IMERYYS soil specification for the restoration of Scarcewater tip match those of the publicly available standards for topsoil (BS3882:2015) and subsoil (BS8601:2013), *i.e.* any potential pollutant loading will match that for non-waste topsoil/subsoil which otherwise would be imported to undertake the restoration and therefore the risk of any pollutants leaching out of the created topsoil/subsoil horizons and onwards through significant deposits of china clay waste, within the tip, with subsequent release to underlying groundwater is negligible. Any water discharging from the Melbur Pit mining complex are closely monitored and controlled by water discharge consents managed and reported by IMERYYS Minerals Limited.

Surface Water

All spreading/incorporation of waste operations will be a minimum of 10m from any surface water on site. The quality of the soil profile created and any potential pollutant loading, will be controlled through appropriate waste acceptance procedures and management of topsoil/subsoil manufacture. The IMERYYS soil specification for the restoration of Scarcewater tip match those of the publicly available standards for topsoil (BS3882:2015) and subsoil (BS8601:2013), *i.e.* any potential pollutant loading will match that for non-waste topsoil/subsoil which otherwise would be imported to undertake the restoration. Any surface water leaving the Scarcewater Tip Restoration Area will be captured by site drains at the perimeter of the Melbur Pit working area and directed to monitoring and discharge points associated with the mining operation *i.e.* no polluted/contaminated water will be discharged off-site to surface waters.

Amenity (Nuisance and Health Issues)

Sensitive human receptors

The nearest potential human receptors are residents in cottages/houses c.125m to the south west of the site boundary at Sunbury Farm (Grid Reference SW 91770 54470) and 133m to the west of the site boundary on Seaview Terrace (Grid Reference SW 91492 55380), resulting in possible sensitive receptors to odour from spreading operations, aerosol drift and noise through proximity of spreading operations. However, any risks will be minimised by following established emission management procedures within the site IMERYYS Mineral Environmental Management System developed under previous restoration activities at neighbouring tip sites.

A public highway (B road) runs along the western boundary of the site, resulting in possible sensitive receptors to odour from spreading operations, aerosol drift and proximity of spreading operations, if passing during operational activities, however any risks to potential highway users are minimal.

Sensitive environmental receptors

There are no identified environmental receptors within 500m of the site boundary requiring assessment for impacts from the proposed restoration activities.

Pollution Control Measures

Site Engineering

Basal and side slope engineering

Not relevant to Scarcewater Tip restoration activity because it sits on top/within the clay mining activities of IMERYYS Minerals Ltd at Melbur China Clay Works. All operations, under Permit Application EPR/KB3209HV/A001, are taking place inside the boundary, and part of a mining activity, with overarching Mining Directive Planning and Compliance requirements. Therefore, basal and side slope engineering have already been assessed, agreed and are covered under the permitted Mining Activities, and for this reason the documents requested are not applicable to this permit application, and have not been submitted. If the Environment Agency wish to view already agreed assessments, with respect to the wider mining activities, these can be made available.

Capping

Not relevant to Scarcewater Tip restoration activity, because it sits on top/within the clay mining activities of IMERYYS Minerals Ltd at Melbur China Clay Works. All operations, under Permit Application EPR/KB3209HV/A001, are taking place inside the boundary, and part of a mining activity, with overarching Mining Directive Planning and Compliance requirements. Therefore, tip capping have already been assessed, agreed and are covered under the permitted Mining Activities, and for this reason the documents requested are not applicable to this permit application, and have not been submitted. If the Environment Agency wish to view already agreed assessments, with respect to the wider mining activities, these can be made available.

Restoration

The planned restoration scheme for Scarcewater Tip is detailed in the accompanying Waste Recovery Plan and Ecological Benefit Statement which is designed to conform the conditional planning permission issued to IMERYYS Minerals Ltd by the Local Planning Authority.

Surface water management

All operations, under Permit Application EPR/KB3209HV/A001, are taking place inside the boundary, and part of a mining activity, with overarching Mining Directive Planning and Compliance requirements. Any surface water leaving Scarcewater Tip is collected in a leat as part of the management of the water leaving the Melbur Pit site. The contents and quality of the water within the leat is monitored to ensure it meets site discharge consents.

Post closure controls (Aftercare)

In order to comply with the conditional planning permission issued by the Local Planning Authority Scarcewater Tip is to be restored to amenity/agricultural use, namely heathland, pasture, woodland and grass/scrub, with post-restoration management plans designed to manage the land accordingly. Permit surrender will be agreed between IMERYYS Minerals Ltd and the Environment Agency at a point in time when it is established the created topsoil/subsoil across the restored areas of Scarcewater Tip have 'settled' chemically/physically/biologically and vegetation *i.e.* grass/shrub/woodland has appropriately established. |

Monitoring

Weather

An on-site weather station will be used to monitor local weather conditions (*i.e.* wind direction, wind speed, rainfall and temperature)

Gas Monitoring Infrastructure

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Site Condition Report

Not relevant to Scarcewater Tip restoration activity. All areas of the tip restoration, within the permitted area, will be restored and undergo ecological improvement *i.e.* no areas of the tip will be left without addition/deposit of imported waste and therefore it is impossible to demonstrate no change in the condition of the site pre and post restoration and return of areas to pre-restoration conditions on surrender of the permit.