



TATA STEEL UK LIMITED

EAF Project

Remediation Strategy

Project no. 315894 R01 (01)

RSK GENERAL NOTES

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Where field investigations have been carried out, these have been restricted to a level of detail required to achieve the stated objectives of the work.

This work has been undertaken in accordance with the quality management system of RSK Environment Ltd.

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1 INTRODUCTION

1.1 Instruction

RSK Environment Limited (RSK) were commissioned by Tata Steel UK Limited (18 Grosvenor Place, London, SW1X 7HS), herein referred to as the 'Client' to prepare this Remediation Strategy for land at the Tata Steelworks, Port Talbot, SA13 2NG

The project was carried out to an agreed brief as set out in RSK's proposal email, dated 28 April 2025, which was requested by the client following planning permission being granted for the Port Talbot site. Full and Outline Planning permission was approved by Neath Port Talbot County Borough Council on 7 November 2024 for:

Full planning permission for the demolition of existing buildings and structures, partial infill of the BOS lagoon, and construction of a new electric arc furnace-based steel production facility (1 no. arc furnace, 2 no. ladle furnaces). The development includes chemical/material storage and transfer infrastructure, pipework and cabling (above and below ground), buildings, fume and dust treatment plant, water treatment facility and material handling systems, electrical control rooms and power infrastructure, offices and ancillary facilities, together with new and amended roads and rail lines, landscaping and green infrastructure, lighting, hardstanding, CCTV, drainage and associated engineering operations.

Outline planning permission (with all matters reserved except for access and landscaping) for the construction of a scrap metal handling facility and associated scrap yards, scrap processing facility, new substation, underground and overground electrical infrastructure, and new and amended roads and rail lines, landscape and green infrastructure, lighting, hardstanding, CCTV, drainage and associated engineering operations.

Condition 6 of the full planning approval and Condition 45 of the Outline planning approval stipulates that an assessment of the nature and extent of contamination affecting the application site area must be submitted and approved in writing, prior to any works commencing. RSK have previously undertaken desk based (Phase 1) and intrusive ground investigation (Phase 2) at the subject site, which include the relevant Generic Quantitative Risk Assessments (GQRA). The findings of these reports are provided in RSK's Phase 2 Geo-Environmental Site Investigation report, EAF Project, Reference: 315531 R03 (03), dated February 2025.

Condition 7 of the full planning approval and Condition 46 of the outline planning approval stipulates that, where contamination has been identified, no development is permitted until a suitable remediation method statement (scheme) is provided and approved, to ensure that no unacceptable risks to proposed sensitive receptors remain.

Preliminary recommendations in relation to contaminated land at the subject site were provided within RSK Phase 2 Geo-environmental and Geotechnical Phase 2 site Investigation report (reference: 315531 R03 (03), dated February 2025).

The information provided in this report and the opinions expressed are based on the ground conditions encountered during the recent ground investigation and on the results of tests made in the field and in the laboratory. In addition, the report is based on the Project Works Information and the findings of the Site Information provided.

This report should be read in conjunction with the Phase 2 Geo-Environmental Investigation Report (reference: 315531 R03 (03), dated 14 February 2025) prepared for the site.

This report is subject to the RSK service constraints given in **Appendix A**.

1.2 Objectives

This report has been produced in general accordance with the EA guidance on Contamination Risk Management (LRCM), as adopted by Natural Resources Wales (NRW). The purpose of this report is to set out a suitable remedial strategy, to remove any unacceptable risk to identified sensitive receptors. The report will provide:

- a summary of the site Conceptual Site Model (CSM)
- a summary of the identified risks presented by the soil at the site with regards to human health, controlled waters and ground gas generation
- a description of the remediation strategy for the site to address the necessary remedial requirements to enable the redevelopment for the proposed end use
- where necessary, detail a verification and validation plan for the proposed remedial works.

1.3 Limitations

This report should be considered in the light of any changes in legislation, statutory requirement or industry practices that may have occurred subsequent to the date of issue.

This Remediation Strategy is based upon previous investigations by RSK and designed generally to meet the objectives of a main investigation, as defined by BS10175:2011+A2:2017 Code of Practice for the Investigation of Potentially Contaminated Sites. The Remediation Strategy is therefore based on the ground conditions encountered during the investigations, the results of field and laboratory testing and interpretation between exploratory holes. The material encountered and samples obtained only represent a proportion of the materials present on-site, and therefore other conditions may be encountered during ground works, which have not been revealed by these investigations.

The Remediation Strategy contains details of the procedures to be adopted for inspection and validation of the works (Verification Plan). However, it should be noted that

responsibility for the correct implementation of the strategy lies with the Principal Contractor. RSK cannot be held responsible for any remedial works that are carried out without the agreed procedures involving either direct supervision by RSK, or inspection and verification of the works by a representative from RSK, or if suspect materials are not notified to RSK.

1.4 Background and brief to the project

The site covers an area of c. 157 hectares. It is currently occupied by an active steelworks operated by Tata Steel. The RSK Geo-Environmental assessment separated the site into two areas (Area 1 and Area 2). Area 1 is the location proposed for development and construction of the proposed Electric Arc Furnace (EAF). The associated infrastructure for the development including the widening of existing roadways, car park and lay down areas have been considered as a separate area, referenced Area 2. Area 1 is located to the east and north of the existing manmade lagoon.

In its present state, the site currently comprises multiple different uses. The centre of the site is being used as a scrapyard, the majority of it being scrap metal from old appliances, industrial equipment, cars, and other items. Immediately to the north of the scrap yard is an area used to store and screen different aggregates such as slag and concrete. The north eastern area of the site is mainly being used as steel slab storage yards. To the south of the slab yards are the HAA stockyards, which store and sort multiple types of aggregate such as slag, concrete, and other types of industrial rubble. To the west of the slab and stock yards is an area of vegetation with bushes and grass, the northern part of it is being used to store more aggregate, waste wood and other materials. The area immediately south of this area is being used to store coal and associated infrastructure to supply Morfa Coke ovens off site to the west. Directly west of the coal storage area (disused) is a cylindrical gas storage structure which is associated with the neighbouring existing coke oven. The southern end of the site is an undeveloped flat grass land area with no other current land use. The extreme northwest of the site encroaches onto the works reservoir, a water body located within the wider steelworks.

The majority of the development will take place within Area 1, which incorporates the existing areas of the HARSCO yard, Basic Oxygen Steelmaking (BOS) Plant, HRP- North Slab Yard and Continuous casting plant.

This Remediation Strategy contains the remediation requirements for the development which, with correct implementation and validation, will render the site safe for the proposed development.

1.5 Existing reports

The following reports detailing previous works at the site were made available for review:

- RSK Environment Limited. Phase 2 Geoenvironmental Assessment (Contamination and Geotechnical) dated February 2025, report reference 315531 R03 (03)

- RSK Environment Limited. EAF Meltshop Project Geotechnical Design Report: Tata Steel UK Limited, dated December 2024, reference 373217 R01 (00)
- RSK Environment Limited. EAF Project Phase 1 Desk Study: Tata Steel UK Limited, dated June 2024, reference 315531 R01 (01)
- Wardell Armstrong. EAF Project. Technical Note on Coal Mining Risk Assessment: Tata Steel UK Limited, dated 12 April 2024, reference ST20879-0001
- RSK Environment Limited. Supplementary Phase 2 Geoenvironmental Ground Investigation Report: Project Cronus, dated October 2022, reference 315075 R04
- RSK Environment Limited. Geoenvironmental Ground Investigation Report: Project Cronus, dated March 2022, reference 315075 R03
- RSK Environment Limited. Project Cronus Preliminary Risk Assessment: Project Cronus, dated February 2022, reference 315075 R01

This Remedial Strategy should be read in conjunction with the above reports. Pertinent information from these reports has been summarised in **Section 2**.

1.6 Contaminated land investigation and remediation process

The assessment and development of “brownfield” sites follows a phased approach to managing the risks associated with land contamination. The following stages are defined in the Land Contamination Risk Management (LCRM) guidance (Environment Agency (EA), 2023), as adopted by Natural Resources Wales (NRW).

1.6.1 Risk assessment

Risk assessment comprises three tiers: a preliminary risk assessment (desk study and desk-based research); generic quantitative risk assessment (based on staged investigations) and detailed quantitative risk assessment. The risk assessment tiers identify potential sources of contamination, potential pathways for migration and potential receptors of concern, and then estimates or quantifies the risks associated with the identified by pollutant linkages to determine if there are unacceptable risks requiring further action.

1.6.2 Implementation of the remediation strategy

There are three main stages in the implementation process: the preparation of the implementation plan; the design, implementation and verification of remediation; and (if required) long-term monitoring and maintenance.

1.7 Definitions

The following parties have a direct interest or involvement in the works described herein.

Land Owner	- Tata Steel UK Limited
Local Authority	- Neath Port Talbot County Borough Council
Pollution Control and Waste Regulatory Authority	- Natural Resources Wales (NRW)
Environmental Consultant	- RSK Environment Ltd
Principal Contractor	- TBA

2 THE SITE

2.1 Site location and description

The site covers an area of c. 157 hectares. It is currently occupied by an active steelworks operated by Tata Steel. The site boundary and current site layout are shown on **Figure 2**.

The site is located in Port Talbot, within a predominantly commercial and industrial setting. Immediate surrounding land uses are described in Table 1. The nearest residential receptor to the site is located circa 900 m east.

Table 1 Surrounding land uses

North	Industrial steelworks, River Afan and harbour (located approximately 2km to the north) with residential and commercial area further north.
East	Industrial steelworks, residential area, open fields and hills. A reservoir is also present approximately 360m to the southeast
South	Open fields and moorland, reservoir to the southeast owned by Tata Steel UK Limited
West	Coke ovens related to steelworks with beach and Bristol Channel further west

As previously set out, for the purpose of the site strategy, the site has been separated into two key areas. Area 1 is the location proposed for development and construction of the Electric Arc Furnace (EAF). The associated infrastructure for the development including the widening of existing roadways, car park and lay down areas have been considered as a separate area, referenced Area 2.

Area 1

The HARSCO yard is located north of the lagoon and responsible for the processing of slag and comprises several large stockpiles. There is a central roadway for plant movement which is raised several metres above the surrounding land. During a walkover carried out by RSK evidence of surface oil spillages were noted in some locations in the HARSCO yard and regeneration yards, predominantly in areas of soft standing / compacted stone. The HARSCO yard comprises c. 10 hectares of the proposed development area.

The BOS plant is in an approximately rectangular building with railway lines leading in from the north. The area runs north to south adjacent to the HARSCO Yard. It is used for the production of steel from raw materials. The BOS Plant and rail lines in the proximity cover c. 5.60 hectares.

The HRP-North Slab Yard is the storage yard for the steel slab postproduction and is located on the north eastern boundary of the development site. This comprises surface road stone and rough vegetation and some above ground utility pipes and covers c. 4.5 hectares.

Area 2

There are multiple roads running through the site and a several rail lines generally running north-south in the eastern part of the site. These connect the coal storage, slab and stock yards to the Paddington to Swansea main line railway to the northeast.

The area surrounding the site is predominately part of the steelworks. Directly west of the site is the Morfa Coke Ovens and associated infrastructure, where coal is blended and heated to form coke for iron production. Approximately 600m west is the Bristol Channel. South of the works reservoir and adjacent to the site boundary is a steel service centre. North of the works reservoir is the BOS plant and the Concast plant, where steel is made, treated and processed to ultimately form steel slabs. North of the BOS and Concast plants are various stock storage yards that also appear to contain aggregates such as slag, and two gas holders for the BOS plant and blast furnace. Further north of this is the Sinter plant and raw materials stock yards where iron ore, limestone, coal and coke are stored. To the east of the sinter plant are the blast furnaces and power plant where iron is produced from coke, iron ore and sinter as well as other materials.

The area directly east of the site and situated in the southeast of the wider steelworks is the Hot Mill where hot rolled products such as Hot Rolled Coils are produced from steel slabs. Again, throughout the steelworks are access roads and rail to transport products and raw materials.

Beyond the steelworks itself are residential and commercial areas to the north, residential and open fields hills to the east, a reservoir is present approximately 360 m to the southeast, moorland to the south with Morfa beach and the Bristol channel to the west.

2.2 Development proposals

In accordance with the agreed planning application (reference: P2024/0711), the proposed development will incorporate the demolition of existing structures, partial infill of the BOS lagoon and construction of a new electric blast furnace-based steel production facility. The development will incorporate 1 new electric arc furnace and 2 no. ladle furnaces with associated structures, chemical and material storage areas, transfer infrastructure, pipework, electrical substation and associated cabling, fume and dust treatment plant, water treatment facility offices, ancillary facilities and upgraded and amended roads and rail lines along with areas of soft green landscaping and areas of hardstanding. Details of the proposed ground levels have been provided by the Client and are shown below in Table 2.

Proposed site plans for the site's redevelopment are presented in **Appendix B**.

Table 2 Proposed developments with corresponding ground levels

Description	Proposed GL (mm AOD)
Canopy Hood	8200
Consteel Conveyor	8200
Fume Treatment Plant	8200
Shredded Scrap Yard	-
Hot Briquetted Iron Dolo & Lime Bunker	8200
Ferro Alloys Bunker	8200
Fire Water Pump House	8200
Primary Pump House	8100
Secondary Pump House	7500
Main Power Centre	7000
Power Compensation Building	7000
National Grid Compound	7000
Melt Shop Power Distribution Building	7000
Incoming Scrap Yard Electrical Building	6000
Melt Shop WTP Electrical Building	8200
Melt Shop FEP Electrical Building	8200
Compressor House	8200
Scrap Storage & Processing Yard	7000
Overflow Scrapyard	7000
Non Ferrous Processing Area	6000
Scanning Facilities	5000
Railway Weigh Bridge	5000
Car Parking Area	7200
Changing & Office Block Building	7300
Emergency Tank	8200
Lagoon Water Pump House	8200
Green Walkway Extension	7300
HBI & Pig Iron Storage Area	5500
Active Carbon Injection Silos	8200

Based upon the available information provided for the southern section of the site from topographical drawings, there appears to be relatively little change between current and proposed development site levels (c.1m).

2.3 Existing ground conditions

The following section is designed to provide a summary of the key site information, relevant to the sites conceptual site model (CSM), as well as identified source, pathway,

receptors with potential complete linkages, following the collation of all site investigation data obtained to date.

Full details of the information provided in this section can be sought from the relevant reports as detailed in **Section 1.5**.

2.3.1 Geology

Information published by the British Geological Survey indicated the following sequence to be anticipated beneath the site, refer to Table 3:

Table 3 Site geology – Majority of site

Strata	Description	Estimated thickness
Anticipated Made Ground	Clay, silt, sand and gravel with low to high cobble content. Made up of reworked natural and anthropogenic material such as slag, brick, and concrete with occasional scraps of metal and other anthropogenic materials	Variable. Up to 6.00 m
Tidal Flat Deposits	Tidal Flat Deposits, including mud flat and sand flat deposits, are deposited on extensive nearly horizontal marshy land in the intertidal zone that is alternately covered and uncovered by the rise and fall of the tide. They consist of unconsolidated sediment, mainly mud and/or sand. They may form the top surface of a deltaic deposit. Normally a consolidated soft silty clay, with layers of sand, gravel and peat	Approximately 15.00 m
Glacial Deposits (Boulder Clay)	Gravelly clay with cobbles	Approximately 13.00 m
Undifferentiated South Wales Coal Measures Formation	Coal-bearing mudstones/siltstones, and sandstones	Up to 300 m

2.3.2 Hydrology

A summary of the hydrology within the site area is summarised in Table 4.

Table 4 Summary of hydrology in site area

Condition	Description
Surface watercourses/features	A number of surface water features are present across the wider site. Most notably is the tidal zone running north-west to southeast approximately 50.00 m from the site. On site there is a man-made body water body (lagoon) located in centre/north of the site under assessment in this report along with number of drainage ditches located along field boundaries to the south of the development area. Lower Mother Ditch runs south to north through the site area via unmapped culverts.
Surface water abstractions	The environmental database report indicates that there is 1 current licensed surface water abstraction within a 1km radius of the site, located on site and utilised for process water.
Site drainage	Surface drainage from the site appears to be discharged into Lower Mother Ditch which runs across the site from south to north although this is not confirmed.
Preliminary flood risk assessment	The indicative floodplain map for the area, shows the risk of flooding each year has been assessed by NRW as moderate –i.e. 1.3% (1 in 75) or less, but greater than 0.5% (1 in 200). A flood risk assessment (FRA) is outside the scope of this report.

2.3.3 Hydrogeology

A summary of the hydrogeological setting of the site, with respect to the anticipated geological sequence set out in Section 3.4 is presented below in Table 5.

Table 5 Summary of hydrogeological setting

Condition	Description
Aquifer characteristics	The site is underlain by a secondary aquifer relating to the South Wales Lower Coal Measures. The superficial Tidal Flat Deposits across the majority of the site are classified as Secondary (undifferentiated). The north-eastern corner of the site is classified as Secondary A aquifer relating to the 'Blown Sand' deposits. The presence of low permeability clay at relatively shallow depths beneath the site, while restricting downwards migration, may increase the potential for lateral migration of shallow groundwater (and therefore mobile contamination, if present). Groundwater quality beneath the site may be affected by saline intrusion.
Depth to groundwater and flow	Groundwater in the site area is anticipated to flow in a westerly direction, i.e. towards and in the direction of flow of the Bristol Channel. It is also likely that shallow water may be present in any Made Ground deposits present on-site.
Rising groundwater levels	The site is located in a former coal mining area and may be associated with rebounding groundwater levels following the end of mining and associated dewatering

Condition	Description
Groundwater recharge/attenuation	Large areas of the wider site are currently covered with buildings and hardstanding and therefore this will limit infiltration to ground and groundwater recharge, except where SUDS are present (details of which are unknown). The site under assessment in this report is large covered by soft standing or stone surfacing.
Historical implications for hydrogeology	A partially culverted stream known as the Lower Mother Ditch runs approximately north to south along the eastern edge of the site
Licensed groundwater abstractions	The environmental database report indicates that there are 2 current licensed groundwater abstractions within a 1km radius of the wider site, these are located c. 396 m and 441 m southeast of the assessment area considered in this report and are operated by the site for cooling water.
Source protection zones	Information available in the Groundsure report indicates that the site does not lie within a currently designated groundwater Source Protection Zone (SPZ).

2.3.4 Summary of Identified Ground Conditions

The ground conditions encountered across the proposed development, during previous investigations, have been presented for each of the two defined areas (Area 1 and Area 2).

Area 1

Investigations across Area 1 identified a variable thickness of Made Ground over superficial deposits with the South Wales Coal Measures encountered at depth. Made Ground was encountered predominantly from ground level at all locations (with the exception of boreholes in the lagoon) up to a maximum thickness of 10.50 m below ground level (m bgl). Made Ground frequently contained gravel/cobbles of slag and varying amounts of other anthropogenic materials such as rubber, plastic, brick, ash, metal, clinker, tarmac and concrete. Boreholes drilled within the lagoon encountered a thick layer of sediment at the bottom of the lagoon between 3.50 and 4.50 m below the water level. It was described as a black sandy silt with a strong hydrocarbon/sulphurous odour and sheen. This stratum is likely to have been deposited during the lifespan of the lagoon from the on site dust in the air from historical and on-going activities.

A layer of fine to medium/coarse sand (Blown Sand) was often encountered directly beneath the Made Ground, up to a maximum thickness of 10.00 m.

Superficial deposits were identified as either Tidal Flat Deposits or Glaciofluvial Deposits. Tidal Flat Deposits were recorded across the site and described as interbedded layers of dark organic silt, clay, peat and sand of varying strengths and densities to a maximum thickness of 20.70 m. Glaciofluvial deposits were encountered beneath the Tidal Flat Deposits, at depths of between 15.00 m bgl and 18.70 m bgl and predominantly contained gravels and boulders.

The underlying bedrock geology has been identified as being consistent with the South Wales Coal Measures and were encountered as mudstone and coal at depths of between 27.00 m bgl and 37.50 m bgl. Coal was present in BH304 (at varying depths) and BH328, between 37.50 m bgl and 39.38 m bgl, however, the base was not proven.

Area 2

Ground conditions identified across Area 2 showed a variable thickness of Made Ground over several types of superficial deposits (blown sands, tidal flats and glaciofluvial) with South Wales Coal Measures encountered at depth. Made Ground was encountered from ground level at all locations up to a maximum thickness of 6.50 m and was described as frequently containing gravel/cobbles of slag and varying amounts of other anthropogenic materials such as ash, slag, brick, ash, metal, clinker, tarmac and concrete.

As with Area 1, A layer of fine to medium/coarse sand (Blown Sand) was often encountered directly beneath the Made Ground, up to a maximum thickness of 4.40 m bgl.

Superficial deposits were identified as either Tidal Flat Deposits or Glaciofluvial Deposits. Tidal Flat Deposits were recorded as interbedded layers of dark organic silt, clay, peat and sand of varying strengths and densities to a maximum thickness of 13.50 m. Glaciofluvial deposits were encountered beneath the Tidal Flat Deposits, at depths of between 9.50 m bgl and 16.50 m bgl and predominantly contained gravels and boulders.

The underlying bedrock geology has been identified as being consistent with the South Wales Coal Measures and were encountered as mudstone and coal at depths of between 15.5 m bgl and 25.70 m bgl. Coal bands were frequently recorded at depth across the boreholes, the base of which was not proven.

2.3.5 Visual/olfactory evidence of contamination

During the most recent investigation works visual and/or olfactory evidence for soil contamination (sheens and strong hydrocarbon odours, as well as creosote odour in BH315) were encountered predominantly in the Made Ground in the storage area to the south (BH315) of the existing BOS plant/lagoon car park and in the soil beneath the lagoon (BH327). BH315 is situated in the southeast of Area 1 and BH327 in the central part of Area 1. Slight hydrocarbon odours were also noted in BH303 and BH308 to the north of the lagoon in Area 1 and BH316 in Area 2 in the vicinity of the proposed workshop. From the trial pit logs, visual and olfactory signs of contamination (hydrocarbon/asphalt odours) were predominately observed in the DLS Regeneration Yard area, with the worst impact observed in made ground in TP397, where strong hydrocarbon/asphalt odours were noted as well as sand coated in oil to a depth of 0.60 m bgl.

During the previous Project Cronus works visual and/or olfactory evidence for soil / groundwater contamination was predominately observed in the vicinity of BH202, BH204, TP207, TP208, TP210 and TP397 in the DLS Regeneration Yard, where former coke ovens were previously located. In this area, strong hydrocarbon odours and sheens were

recorded on water seepages/strikes as well as the highest PID reading to date (1200ppm BH202 at 12.00 m bgl). In BH202, visual and olfactory signs of contamination were observed predominantly in the natural deposits (peat, silts and sand), with no signs of contamination observed below 15.20 m bgl at which point PID readings also reduced to 0.5ppm. Visual and olfactory signs of contamination were locally observed in other areas across the site, during Project Cronus but to a lesser extent.

Visual asbestos was not encountered in any of the exploratory holes completed during this phase of works, but ACM cement fragments were observed in made ground during Project Cronus in TP04 at 1.35 m to 1.40 m bgl.

No visual/olfactory evidence of contamination in groundwater was noted during well development, monitoring and sampling. During the sampling of the boreholes in the area of the former Coke ovens a sheen was noted, most notable from samples obtained from BH202 and BH207.

2.3.6 Potential sources of contamination

Potential sources of soil and groundwater contamination identified during RSK's Geoenvironmental assessment report (reference: 315531 R03 (03), based on current activities and the history of the site and surrounding area are presented in Table 6.

Table 6 Potential sources of soil and groundwater contamination

Potential sources	Contaminants of concern
On-site	
S1 Made Ground (i.e. fill material)	Unknown fill material but potentially including brick, ash and clinker and containing toxic and phytotoxic metals, inorganics, polycyclic aromatic hydrocarbons (PAHs), asbestos
S2 Areas of former Coke Ovens, BOS plant and coal yards.	Unknown material but potentially including ash and clinker and containing toxic and phytotoxic metals, inorganics, PAHs, hydrocarbons, benzene, toluene, ethylbenzene and xylenes (BTEX) and asbestos
S3 Storage of oils/chemicals on-site	Lube oil, diesel, kerosene
S4 Warehouse/ engineering works	Petroleum hydrocarbons, toxic and phytotoxic metals, asbestos
S5 Underground/ above ground storage tank and associated pipework	Petroleum hydrocarbons (petrol/diesel)
S6 Scrap Yard	Unknown material but potentially including ash and clinker and containing toxic and phytotoxic metals, inorganics, PAHs, hydrocarbon, BTEX and asbestos
S7- Railway lines/sidings	Petroleum hydrocarbons, toxic, phytotoxic metals, inorganics, PAHs and asbestos

Potential sources	Contaminants of concern
Off-site	
S8 - Railway bounds the site to the east	Petroleum hydrocarbons, toxic, phytotoxic metals, inorganics, PAHs and asbestos
S9 Industrial process associated within the wider steelwork to the north and Morfa Coke Ovens to the west	Unknown material but potentially including ash and clinker and containing toxic and phytotoxic metals, inorganics, PAHs, hydrocarbon, BTEX

2.3.7 Nature and distribution of identified contamination

Contaminant concentrations have been obtained from laboratory analysis of the Natural and Made Ground strata, as well as ground water beneath the site. Laboratory analysis results from across phases of ground investigation completed by RSK as part of the EAF Project and Project Cronus investigations have been compared against relevant generic assessment criteria (GAC) for soils with a commercial land use, based on 1% soil organic matter, for Human Health and RSKs groundwater assessment criteria (GrAC) for waters.

Exceedances in soil GACs from both the EAF Project site investigation and Project Cronus site investigation are presented in Table 7 to 9.

Table 7 EAF Project GAC exceedances - Made Ground

Determinand	GAC (mg/kg)	No of exceedances	Maximum concentration (mg/kg)	
			Value	Location - depth (m bgl)
Aromatic >C10-C12	16000	1	150000	TP397- 0.00*
Benzene	27	1	43	TP397- 0.00*
Benzo anthracene	170	1	310	TP397- 0.00*
Benzo(a)pyrene	77	1	180	TP397- 0.00*
Dibenz(a,h)anthracene	3.5	2	47	TP397- 0.00* (2nd exceedance TP309 at 0.4m bgl (3.9mg/kg))
*The near surface soils were heavily stained and had a strong hydrocarbon odour				

No exceedances were noted in the natural soils during this investigation.

It is noted that the tier 1 values were also exceeded for naphthalene, fluorene, as well as aliphatic and aromatics in the range > C10-C16 in a number of locations during the EAF Project site investigation. Given that the relevant contamination pathway here is migration

to indoor air and none of these locations are situated near to the proposed warehouse or office building, these tier 1 exceedances are not considered to be of concern.

Measured concentrations within the groundwater, during this phase of works, were found to be within the GrAC criteria.

Table 8 Project Cronus GAC exceedances – Made Ground

Determinand	GAC (mg/kg)	No of exceedances	Maximum concentration (mg/kg)	
			Value	Location - depth (m bgl)
Lead	2300	1	10600	TP19 – 0.2
Aromatic >C10-C12	16000	2	290000	TP208 - 0.2
Aromatic >C16-C21	28000	1	28200	TP208 - 0.2
Benzo(a)anthracene	170	1	866	TP208 - 0.2
Benzo(a)pyrene	77	1	464	TP208 - 0.2
Benzo(b)fluoranthene	44	4	953	TP208 - 0.2
Chrysene	350	1	1170	TP208 - 0.2
Dibenzo(ah)anthracene	3.5	5	118	TP208 - 0.2
Naphthalene	1800	2	51300	TP208 - 0.2

Table 9 Project Cronus GAC exceedances – Natural Ground

Determinand	GAC (mg/kg)	No of exceedances	Maximum concentration (mg/kg)	
			Value	Location - depth (m bgl)
Aromatic >C10-C12	16000	3	80800	BH202 - 9.00
Aromatic >C12-C16	36000	3	151000	BH202 - 9.00
Benzene*	27	3	269	BH202 - 9.00
Benzene**	27	2	51.6	BH202 – 7.50
Naphthalene	1800	4	19400	BH202 – 9.00
*Benzene identified by testing through TPH CWG.				
**Benzene identified by testing VOCs.				

During the Project Cronus investigation, the tier 1 values (soil saturation limits) were also exceeded, however, the relevant contaminant pathway relates to indoor air migration and since none of these locations were located in the vicinity of the proposed warehouse and office building footprints the exceedances are not of concern

2.3.8 Inhalation exposure to asbestos

The most recent site investigation (EAF Project site investigation) screened 87 samples for asbestos, with three testing positive; BH304 at 0.50 m (amosite and chrysotile at 0.002% quantifiable volume), TP375 at 1.60 m bgl (chrysotile <0.001% quantifiable volume) and BH319 at 0.50 m (chrysotile at 0.004% quantifiable volume) as free fibres.

The previous Project Cronus site investigation, within areas relevant to the EAF site area, identified cement bonded ACM within TP04. In addition seven samples when screened in the laboratory were found to have asbestos present as free fibres (TP28, TP30, TP53, TP55, TP208, TP211, TP224 (0.50 m bgl and 1.10 m bgl). Of these, four samples were then further analysed and quantified with between <0.001 and 0.009% by weight recorded. In all cases the asbestos was found to be present as free fibres with the maximum (0.009%) recorded in TP53.

To date, asbestos has not been recorded within samples obtained from natural soils

2.3.9 Ground gas assessment

Ground gas monitoring, undertaken within installed monitoring wells, as part of both the EAF Project and Project Cronus site investigations has been completed within periods of atmospheric pressure of 986 – 1032 mbar. Measurement rounds included periods of falling atmospheric pressures and falling tides. Pathways and receptors for ground gas have been identified as:

- building foundations, piled foundations and vibro-stone columns
- construction joints and cracks within building structure
- utility routes and service penetrations into buildings.

A summary of the gas monitoring carried out to date has identified elevated CH₄ within BH's 311 and 317 with CO₂ and flow rates generally relatively low. The origin of the elevated CH₄ is considered likely to be pockets of peat encountered within the Tidal Flat Deposits which have been oxidised as a consequence of the drilling and subsequent installation of monitoring wells. The assessment discussion continued setting out that, a majority of the response zones in the boreholes appear to have been flooded as a consequence of shallow groundwater and hence the results should be treated with caution and potentially discounted.

2.3.10 Controlled waters

The primary controlled waters receptor has been identified as the Bristol Channel. As a result the analytical results for groundwater samples have been assessed against Environmental Quality Standards (EQS) for coastal waters for conservatism.

The assessment of the groundwater undertaken as part of both the EAF Project and Project Cronus investigations, along with visual and olfactory evidence of contamination

observed during intrusive works, suggests that there has been an adverse impact in the soils and groundwater, particularly in the vicinity of the former coke ovens. However, the visual, olfactory and groundwater data, particularly for BH202, are indicative of the presence of NAPL locally in this area of the site and residual NAPL may also be locally present in wider vicinity of the former coke ovens / DLS Regeneration Yard. As a result further qualitative assessment was undertaken in accordance with a 'lines of evidence' approach. Full details of which are provided in RSK report 315531 R03 (03).

Based on the lines of evidence assessed, although a potentially complete pollutant linkage has been identified, in relation to contaminants of concern in groundwater - migrating laterally to the Bristol Channel, the risk that concentrations shall reach the Bristol Channel at sufficient concentrations to pose an unacceptable risk is considered low.

2.3.11 Summary of potentially significant contaminant linkages

The most recent site investigation assessment (reference: 315531 R03 (03)) has identified a potentially complete contaminant linkage between made ground soils with elevated contaminant concentrations, as set out above. Therefore, a suitable remedial strategy will be required to mitigate the risk.

A potential contaminant linkage for asbestos has been confirmed, which could present an unacceptable risk to future end workers and construction workers if not mitigated. RSK Report 315531 R03 (03) concludes that in formal areas of soft landscaping around the occupied structures, a cover system will be required using chemically and physically suitable material in order to mitigate the risk of inhalation exposure from asbestos fibres.

Where shallow asbestos is present, or found to be present in the course of construction across the wider site area, a cover system or non-soft finish (e.g. concrete, tarmac, compacted granular material) will need to be locally installed across the impacted area.

Limitations in the data from the monitoring programmes suggest that due to the shallow nature of the groundwater beneath the site many of the monitoring well response zones were noted to be flooded, 'true' readings may not have been recorded as part of this monitoring programme. Based upon the unflooded response zones locations a characteristic situation 1 (CS1) is indicated, except when considering the worst-case Qhg check across all data, where CS2 is indicated for both methane and carbon dioxide. There remains uncertainty around the characterisation of the ground gas regime at the site given the elevated groundwater table. Given this, it has been agreed between Tata and NPT that ground gas protection measures appropriate for CS2 are implemented in the proposed occupied buildings with CS1 utilised in the remainder.

A potential complete contaminant linkage in relation to contaminants of concern in groundwater has been identified. However, the assessment undertaken to date considered that it is unlikely that significant concentrations will reach the Bristol Channel to present a substantial risk. Careful consideration will however need to be given to any dewatering and disposal of contaminated groundwater as part of the construction of the proposed EAF facility from the area of the former coke ovens.

3 REMEDIATION STRATEGY

The following strategy is proposed in order to mitigate against the plausible contaminant linkages identified, with respect to human health of future site users and controlled waters.

Development of the conceptual site model and risk assessment has demonstrated that the site in its current condition presents an unacceptable risk to the human health of the site's future occupants through direct contact with site soils. A potentially unacceptable risk to occupants of site neighbours has also been identified with respect to contaminants including asbestos in soil via fugitive dust.

The Remediation Strategy has been designed to minimise risks to human health by reducing the risk of contact with potentially contaminated soils, considered harmful to human health.

3.1 Assumptions

RSK have made the following assumptions that should be confirmed as the project proceeds:

- the site levels of the proposed structures will remain as set out in **Table 2**
- topsoil and sub-soil for use in areas of formal soft landscaping and localised cover systems across the wider site as required will be validated and considered suitable for use
- the regulators have agreed to Tata's proposed materials management/reuse exemption scheme.

3.2 Implementation of the remedial strategy

3.2.1 Cover system

Made ground containing elevated concentrations of chemical concentrations, in exceedance of the GAC criteria have been identified in discrete locations across the development site.

The main contaminant of concern is asbestos fibres and therefore in areas of formal soft landscaping, a cover system will be installed to limit the risk to human health of any future site users. The proposed cover system is 300mm of chemically and physically suitable material that is either site won or imported should not enough be present on site.

Where shallow asbestos is present, or found to be present in the course of construction across the wider site area, a cover system or non-soft finish (e.g. concrete, tarmac,

compacted granular material) will need to be locally installed across the impacted area. Where a non-soft finish is installed, it will not require 300mm of clean material beneath it.

In addition, the Made Ground, is described as having physical properties that are unlikely to be acceptable in the upper profile of areas of soft landscaping. Formal soft landscaping is only associated with the office building and where recreational access by future site users is most likely. Other landscaping associated with the project does not benefit from a topsoil cover system as the proposed sub-soils and made ground produce better Open Urban Mosaic habitat designed to support important indigenous species. The cover system for areas of formal soft landscaping around the office should comprise at least 300mm of chemically validated subsoil (150mm) and topsoil (150mm) above a geotextile membrane (separation layer) to act as a no dig warning and prevent mixing of soils.

The geotextile should be brightly coloured (not white or black). Soils for the cover system can be obtained from the wider area of site as long as there is sufficient chemical analysis and asbestos identification data is obtained to show that they meet the soil contamination criteria given in **Appendix C**.

Further to the above and for the protection of human health, it is recommended that the following criteria for asbestos in reused material shall also apply:

- within cover system materials: None present -imported materials/suitable site won
- below cover system materials/marker layer (0.3m to 1.0 m bgl): No visually identifiable asbestos containing material and between <0.001% and 0.1% by weight.

If there is insufficient site derived topsoil and subsoil, considered suitable for reuse, it may be necessary to import material to make up levels in areas of soft landscaping. Any imported topsoil/subsoil used shall comply with the soil contamination criteria given in **Appendix C**. Soils to be re-used **in the cover system** or imported on to the site shall be sampled and tested at a minimum of 1 sample every 250m³ and, at least three samples from each source (i.e. topsoil and subsoil) shall be tested for the suite of determinants given in **Appendix C** unless an external supplier can provide adequate documentation to show suitability for use. Ideally the Contractor shall provide details of the provenance of any imported soil to the Environmental Consultant whose written approval will be needed before use of the material on the site.

A validation exercise as described in **Section 4** will be undertaken to show compliance with this strategy.

All waste transfer or consignment notes must be retained by the Contractor and made available to the Environmental Consultant for inclusion within the Verification Report.

Given the presence of both ACM and asbestos fibres, any excavation in the Made Ground should be supervised by a competent and suitably trained contractor who can advise on appropriate licencing, control measures and working practices under the Control of Asbestos Regulations 2012 (CAR:2012).

A strict material management strategy should be in place for the duration of the works, recording the location of stockpiled materials to ensure that cross contamination of stockpiles on site does not occur.

3.2.2 Ground gas protection measures

Based on the measured ground gas monitoring data and the uncertainty the data as a result of the high groundwater levels, the site has been characterised as CS2, this is using a worst case scenario of highest methane concentration multiplied by highest flow. Most buildings as part of the project are only partially occupied or equipment/plant. Based on discussions between Tata and NPT (meeting, 3rd April 2025) it is proposed that CS1 can be assigned to areas of plant and CS2 is associated with occupied buildings; **Figure 7** illustrates the monitored wells compared to the building layout.

Consequently, in CS2 areas passive ground gas protection measures will need to be incorporated into the proposed occupied structures. BS8485 recommends a combination of membranes, structural barriers and ventilation systems. Protective measures against methane and carbon dioxide that have been properly designed, installed and verified in accordance with this standard are protective against most other permanent gases.

Where occupied/office buildings are proposed on site, with smaller rooms, these can be considered representative of Type C within BS 8485:2015+A1-2019, which are defined as:

‘commercial building with central building management control of any alterations to the building or its uses and central building management control of the maintenance of the building, including the gas protection measures. Single occupancy of ground floor and basement areas. Small to large size rooms with active ventilation or good passive ventilation of all rooms and other internal spaces throughout ground floor and basement areas. Probably civil engineering construction. Examples include offices, some retail premises, and parts of some public buildings (such as schools, hospitals, leisure centres and parts of hotels).

The required gas protection points under an CS2 scenario will be **2.5 gas protection points for Type C buildings**. A combination of at least two or more of the following three types of protection measures should be used to achieve that score:

- the structural barrier of the floor slab
- ventilation measures
- gas resistant membrane.

The foundation appraisal for the site, prepared by RSK (reference: 373217 R01 (00) dated: December 2024) has assessed both a shallow and deep (piled) foundation options. Construction of the majority of the structures will likely comprise a piled solution. To score sufficient gas protection points Table 10 provides measures that will need to be implemented for each option.

Table 10: Gas protection measure options

Foundation Option	Type C Structure
Shallow Foundations	as a minimum, incorporation of a passive sub-floor dispersal layer with appropriate cross ventilation such as a clear void or appropriate void former blanket designed to meet at least “good performance” (1.5 points); and installation of a proprietary ground gas resistant membrane within the building fabric (not a DPM product) (2.0 points) #
Piled Foundations	installation of a proprietary ground gas resistant membrane within the building fabric (not a DPM product) (2.0 points) #; and as a minimum incorporation of a passive sub-floor dispersal layer with appropriate cross ventilation such as a clear void or appropriate void former blanket designed to meet at least “good performance” (1.5 points); or Cast in situ reinforces suspended floor slab with minimal penetrations (1.5 points) *
* To achieve a score of 1.5 the raft or suspended slab should be well reinforced to control cracking and have minimal penetrations cast in. # Must be installed by a NVQ Level 2 specialist Contractor with all joints and penetrations sealed, who will provide a certificate of conformity; and Concrete screed floor to be cast within 48 hours following the independent verification testing to protect the membrane	

The ground gas protective system should be periodically visually inspected by a suitably experienced independently Environmental Consultant to ensure compliance with recommendations.

The allocated gas protection points following the above recommendations are as follows:

- Type C Structure - 2.5 points – pass.

Tier 1 values were exceeded for naphthalene, fluorene, as well as aliphatic and aromatics in the range > C10-C16 at soil saturation limits in investigation locations BH312, TP302, TP399, TP397, TP375, TP374 and TP341. However, none of these locations are situated near to proposed structures. Should ground conditions beneath proposed structures be atypical to that identified to date, with a potential for elevated hydrocarbons to be present, then further assessment should be undertaken. In this scenario, the Environmental Consultant should be contacted to determine an appropriate course of action to identify any risk and, if necessary, determine a suitable remedial strategy.

In line with BS 8485:2015+A1-2019, a detailed design report shall be prepared, providing a detailed design and specification of ground gas protection measures based on the findings of the risk assessment and this remediation scheme. It will also state the requirements for subsequent verification works particular to the design.

3.2.2.1 Unexpected damage

Any unexpected damage to the gas resistant membrane is to be reported to the site management team immediately upon occurrence or discovery. Damage repair and the re-verification is only to be carried out by the chosen specialists for the project.

Any occurrence of damage is to also be notified to the Environmental Consultant who will attend site for the remedial works, which will also form part of the reporting verification procedures.

3.3 Unexpected contamination

Whilst ground investigations have previously been undertaken on the site, it remains possible that unexpected soil conditions may be encountered during the process of breaking out and earthworks. Examples may include localised areas of free-phase product; or further unexpected gross occurrences of asbestos containing materials (ACM's) within the Made Ground.

Should previously unidentified visual or olfactory residues, asbestos, fuel storage tanks or any other unexpected hazards be discovered during site works, the Contractor should contact an experienced Environmental Consultant for advice. Work should be postponed in the immediate area of the discovery and the area cordoned off.

The Environmental Consultant shall attend the site to record the location, extent and nature of the discovery and implement an appropriate sampling and analysis regime, taking due account of the type and nature of the discovery, known and probable land uses in that area of the site.

Once the laboratory analysis of the material is available, following an appropriate investigation, an assessment should be undertaken to determine whether or not remedial work/intervention is required. In accordance with the conditions set out in the planning approval, the required action will be agreed with the local authority prior to implementation.

Depending on the nature of any such impact it may be necessary to undertake validation testing with the provision of an associated Verification Report.

A record will be produced and held on site (with copies provided to the Environmental Consultant), detailing the discovery, assessment works undertaken, findings thereof, confirmation either of no action required or detailing the remedial action taken and validation thereof.

3.4 Long term monitoring

No requirement for long term monitoring has been identified.

4 VERIFICATION PLAN

All remedial works carried out on site will need to be validated and reported as highlighted below. The works will be verified in following guidance set down in LCRM (2023) and other relevant industry good practice guidance.

The purpose of the Verification Plan is to set out what data is required to demonstrate that the work has been carried out in accordance with this remedial scheme and to allow the preparation of a Verification Report.

4.1 Cover system verification

The cover system will be implemented where formal areas of soft landscaping around occupied structures or where ACM/fibres are present. The cover system will comprise a suitable thickness of topsoil/subsoil (subject to confirmation of suitability) and placed above a coloured geotextile membrane.

Where a non-soft finish (e.g. concrete, tarmac, compacted granular material) has been utilised, no further verification is considered necessary.

Any topsoil/subsoil used as part of the cover system shall comply with the soil contamination criteria given in **Appendix C**, these are derived from RSK's GAC for a commercial end use which are included as **Appendix D**.

The Contractor shall provide details of the provenance of site derived soil with associated chemical certificates to the Environmental Consultant whose written approval will be needed before use of the material on the site. Alternatively, the contractor may take responsibility for confirming suitability of the soils albeit this will still be subject to formal verification by a suitable consultant prior to discharge of the planning condition(s). Dependent upon the quantity of chemical data for site derived soils to be used in the cover system, it may be necessary to undertake further testing in order to be confident that soils are suitable for their proposed use.

Soils won from site material and intended for reuse will be stockpiled and tested at a rate of one sample per 250m³, for both subsoil and topsoil, with a minimum of three samples per source. Laboratory analysis of the samples will be compared against soil contamination criteria as provided in **Appendix C**.

Soils imported to site for use in the cover system can be validated in one of two ways:

- through receipt of suitable chemical certificates from the supplier of the soil confirming it to be clean, or
- through sampling and analysis of soil at a rate of 1 sample every 250m³ and as a minimum three samples from each source of topsoil and subsoil. Samples will be tested for the suite of determinants given in **Appendix C**.

If there is insufficient soil or other suitable materials from the wider development site then soils will need to be imported. Should this be the case then verification must follow the process described above.

A validation exercise will be undertaken by an Environmental Consultant that comprises a review of available chemical certificates and the excavation of test holes in the completed areas to prove thickness of topsoil/subsoil and if required to take soil samples for chemical testing. The presence of a geotextile membrane (applicable to areas of formal soft landscaping only) can be recorded at the same time. The geotextile membrane shall comprise a high visibility (not black or white) layer that is suitable “to stop the intermixing of dissimilar soil layers” (Made Ground and cover system soils). The type of geotextile used along with its specification shall be provided to the Environmental Consultant to allow validation of the suitability of the material in the proposed application.

A log and photographic account of the validation exercise will be recorded within the Verification Report along with chemical laboratory certificates.

Materials without a suitability for use or certainty for use will be disposed off-site. Waste soils for disposal will be segregated and sampled in accordance with the guidance on the classification and assessment of waste technical note WM3 and the agreement and guidance received from the facility accepting the waste.

4.2 Verification of ground gas protection measures

On completion of the mitigation works, the Environmental Consultant shall produce a Verification Report for the site to document the work carried out. A detailed design report will set out verification requirements for the design. In turn the verification data will be presented within a Verification Report which will include, but not be limited to, the following elements:

- extent of the works that have been carried out
- details of ground gas protection measures incorporated into the structures. This includes a compliance check with the as built verses the architects design for any substructure ventilation. It will incorporate confirmation for the presence of all cross ventilation points and external vents
- copies of certificates of conformity issued by a suitably qualified installer
- supporting information from the Environmental Consultant, who will undertake periodic visual inspections during the installation of the membranes, in a series of appendices such as photographic records.

4.3 Verification report

A post remediation verification report will be produced in line with relevant LCRM and NRW guidance. The report will contain all site data including analysis results, approvals, licences and drawings to set out the effectiveness of the remediation.

The Verification Report will include the following information:

- development and site background
- description of the remedial methods used
- plans showing the positions and extents of any remediated areas
- details of site visits undertaken
- site photographs
- details of cover material used including the specifications of proprietary materials
- the results of soil validation sampling and analysis
- certificates of gas membrane installation and results of independent verification
- details of consultations with regulatory authorities, if any.

The Verification Report will be submitted to the Planning Officer, Natural Resources Wales and local Contaminated Land Officer.

5 ENVIRONMENTAL CONTROLS

5.1 General

5.1.1 Reuse of material

Materials may be re-used on their site of origin, subject to limitations, in the construction of the proposed development providing they are demonstrated to be geotechnically and chemically (as per the reuse criteria in **Appendix C**) suitable for the intended use and there is a defined need for their re-use, and in line with a recognised exemption strategy or materials reuse strategy principles as agreed between Tata and NPT.

Further to the above and for the protection of human health, it is recommended that the following criteria for asbestos in reused material shall also apply:

- within cover system materials: None present -imported materials/suitable site won
- below cover system materials/marker layer (0.3m to 1.0 m bgl): No visually identifiable asbestos containing material and between <0.001% and 0.1% by weight.

5.1.2 General

The targets perceived to be potentially most at risk from pollution during the remediation of the site are workers on-site, neighbouring properties and residents (through fugitive dust emissions).

All contractors on site should adopt environmental good practice as set out in CIRIA publication C650 (2005), pollution prevention for businesses (DEFRA 2019), Environment Agency Pollution Prevention Guidelines (EAPPG). and National Planning Policy Framework (NPPF). It should be noted that whilst the EAPPG has since been withdrawn it provides useful background information.

5.1.3 Airborne pollution (dust, etc.)

Care shall be taken by the contractor to minimise the amount of dust generated on-site during excavation, backfilling and trafficking. In the event that dry weather leads to excessive dust generation, exposed soils shall be damped down, but not flooded, with clean water. These measures are further details in the Construction Environmental Management Plan and Air Quality Management Plan

When working within areas impacted with asbestos, consideration of control measures appropriate to the licencing status as per CAR:2012 should be utilised.

5.1.4 Re-contamination

The programme of works and any subsequent modifications shall be designed to avoid the potential re-contamination of areas already worked, i.e. site traffic shall be routed to avoid passing from contaminated to clean areas and contaminated soils shall not be stockpiled on clean areas.

5.2 Health and safety of site personnel

It is the responsibility of the main contractor and any appointed sub-contractors to enforce an appropriate health and safety regime for all site personnel. Full details regarding the proposed working practices in connection with the remediation works shall be agreed in advance of the commencement of the works with the Planning Supervisor and if appropriate with the Environmental Health Officer.

Measures will be necessary to protect the health and safety of site workers during the site works. The contractors will be under a statutory obligation to take reasonable care to protect the health and safety of their employees. The following measures are suggested to provide a minimum level of protection:

- all ground workers on-site should be issued with protective clothing, dust masks, footwear and gloves as applicable. These should not be removed from site, and advice should be given on when and how they are to be used
- care should be taken to minimise the amount of dust and mud generated on-site
- good practices relating to personal hygiene should be adhered to on-site, i.e. food and drink should only be consumed within designated areas on the site and smoking should be prohibited in all working areas.

Reference should also be made to the Health and Safety Executive (HSE) document "Protection of Workers and the General Public during the Development of Contaminated Land". Whilst this document is no longer current It is cited in building regulation guidance.

Specialist advice should be sought from an appropriately qualified and competent contractor as to the licencing requirements for the works under the Control of Asbestos Regulations 2012 (CAR:2012). As a minimum all future groundworkers will need to have Asbestos Awareness training.

5.3 Waste disposal

All excavated impacted material deemed unsuitable for re-use should be collected and removed off-site to a suitably licensed waste management facility

Any materials to be removed off-site for disposal will require classification into inert, non-hazardous or hazardous waste. The contractor shall agree any additional testing and waste classification in advance with the landfill operator(s), as appropriate. All

documentation including consignment and waste transfer notes should be supplied to the Environmental Consultant for inclusion in the validation report.

5.4 Documentation

All contaminated materials removed off-site shall be transported by an appropriately licensed waste carrier to an approved licensed waste facility for final disposal. The Contractor shall provide a full documentary record of this operation in accordance with the Duty of Care. Copies of the waste consignment documentation shall be provided to the Environmental Consultant for inclusion in the verification report.

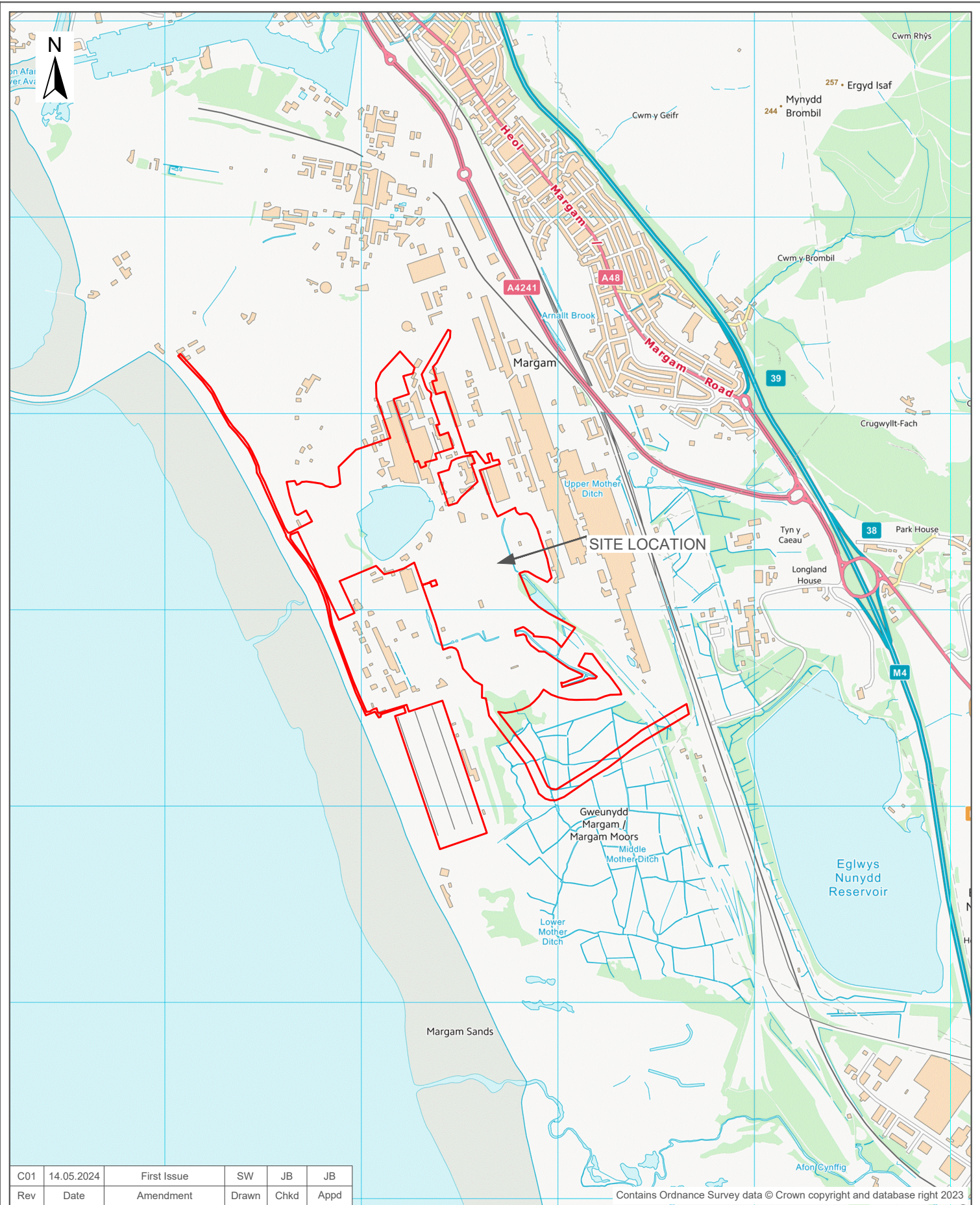
The contractor shall be responsible for providing levelling data for the site during remedial works and be responsible for the provision of suitable drawings for incorporation into the verification report.

Where the Contractor encounters unexpected ground conditions or potentially suspect materials, they shall immediately inform the Environmental Consultant who shall then carry out an inspection as soon as is reasonably practical. If previously unidentified contamination is found this should be reported to the Local Planning Authority in writing.

A copy of the report shall be forwarded to the Local Authority for approval of the remedial strategy.

FIGURES

FIGURE 1 – SITE LOCATION PLAN



C01	14.05.2024	First Issue	SW	JB	JB
Rev	Date	Amendment	Drawn	Chkd	Appd

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Client		Tata Steel					
Project Name		EAF Project					
Description		Site Location Plan					
Dimension	Size	Scale	Geolocation	Project ID	Drawing no.	Rev	File name
m	A4	1:25,000	278154,186921	315531	11101	C01	315531-BL-111-XX-D-G-11101-C01

FIGURE 2 – SITE LAYOUT PLAN



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LEGEND

— Site boundary

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Rev	Date	Amendment	Drawn	Chkd	Appd



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Client		
Tata Steel		
Project Name		
EAF Project		
Description		
Site Layout Plan		
Project ID	Drawing no.	Revision
315531	11201	C01
File name		
315531-BL-112-XX-D-G-11201-C01		
Dimensions	Scale	Size
m	1:5000	A1
		

FIGURE 3 – EXPLORATORY HOLE LOCATION PLANS (BOREHOLES ONLY)



DO NOT SCALE FROM THIS DRAWING

LEGEND

- Site boundary
- Borehole location

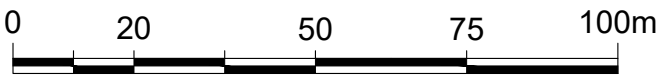
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C01	21.08.24	First Issue	LS	JB	JB
Rev	Date	Amendment	Drawn	Chkd	Appd



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Client Tata Steel		
Project Name EAF Project		
Description Exploratory Hole Location Plan - West Boreholes		
Project ID 315531	Drawing no. 22213	Revision C01
File name 315531-BL-222-XX-D-G-22213-C01		
Dimensions m	Scale 1:1250	Size A1
		



DO NOT SCALE FROM THIS DRAWING



LEGEND

- Site boundary
- Borehole location

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C01	21.08.24	First Issue	LS	JB	JB
Rev	Date	Amendment	Drawn	Chkd	Appd



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Client		
Tata Steel		
Project Name		
EAF Project		
Description		
Exploratory Hole Location Plan - North Boreholes		
Project ID	Drawing no.	Revision
315531	22210	C01
File name		
315531-BL-222-XX-D-G-22210-C01		
Dimensions	Scale	Size
m	1:1250	A1





DO NOT SCALE FROM THIS DRAWING

LEGEND

- Site boundary
- Borehole location

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Rev	Date	Amendment	Drawn	Chkd	Appd



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Client		
Tata Steel		
Project Name		
EAF Project		
Description		
Exploratory Hole Location Plan - East Boreholes		
Project ID	Drawing no.	Revision
315531	22211	C01
File name		
315531-BL-222-XX-D-G-22211-C01		
Dimensions	Scale	Size
m	1:1250	A1





DO NOT SCALE FROM THIS DRAWING

LEGEND

- Site boundary
- Borehole location

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C01	21.08.24	First Issue	LS	JB	JB
Rev	Date	Amendment	Drawn	Chkd	Appd



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Project Name		
EAF Project		
Description		
Exploratory Hole Location Plan - South Boreholes		
Project ID	Drawing no.	Revision
315531	22212	C01
File name		
315531-BL-222-XX-D-G-22212-C01		
Dimensions	Scale	Size
m	1:1250	A1
		

FIGURE 4 – EXPLORATORY HOLE LOCATION PLANS (TRIAL PITS)



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LEGEND

- Site boundary
- Trial pit location

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Client		
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Project Name		
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Description		
Exploratory Hole Location Plan - North Trial Pits		
Project ID	Drawing no.	Revision
315531	22206	C01
File name		
315531-BL-222-XX-D-G-22206-C01		
Dimensions	Scale	Size
m	1:1250	A1
		



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LEGEND

- Site boundary
- Trial pit location

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Client Tata Steel		
Project Name EAF Project		
Description Exploratory Hole Location Plan - East Trial Pits		
Project ID 315531	Drawing no. 22207	Revision C01
File name 315531-BL-222-XX-D-G-22207-C01		
Dimensions m	Scale 1:1250	Size A1
		



DO NOT SCALE FROM THIS DRAWING

LEGEND

- Site boundary
- Trial pit location

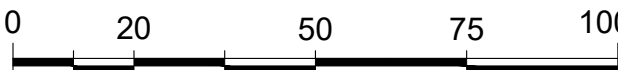
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Project Name		
EAF Project		
Description		
Exploratory Hole Location Plan - South Trial Pits		
Project ID	Drawing no.	Revision
315531	22208	C01
File name		
315531-BL-222-XX-D-G-22208-C01		
Dimensions	Scale	Size
m	1:1250	A1
		



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LEGEND

- Site boundary
- Trial pit location

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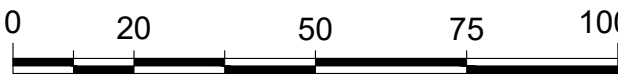
Client		
Tata Steel		
Project Name		
EAF Project		
Description		
Exploratory Hole Location Plan - West Trial Pits		
Project ID	Drawing no.	Revision
315531	22209	C01
File name		
315531-BL-222-XX-D-G-22209-C01		
Dimensions	Scale	Size
m	1:1250	A1
		

FIGURE 5 – EXPLORATORY HOLE LOCATION PLAN (PROJECT CRONUS)



LEGEND

▣ Trial Pit Location

● Borehole Location

01	03.03.2022	Positions updated	MW	JB	-
00	26.01.2022	-	MW	JB	-
Rev.	Date	Amendment	Drawn	Chkd.	Appd.



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Client	Tata Steel				
Project Title	Project Cronus				
Drawing Title	Exploratory Hole Location Plan				
Drawn	Date	Checked	Date	Approved	Date
MW	26.01.22	JB	26.01.22	-	-
Dimensions	m		Scale	1:6000	
Project Number	315075		Drawing Number	Figure 3	
Drawing File	315075 - Fig 3 - rev 01 - EHLP			Rev	01

0 100 200 300m



FIGURE 6 – EXPLORATORY HOLE LOCATION PLAN (HUMAN HEALTH GAC EXCEEDANCES - SOILS)



DO NOT SCALE FROM THIS DRAWING

LEGEND

- Site boundary
- Trial pit location
- Borehole location
- Exceedance - Asbestos
- Exceedance - TPH
- Exceedance - PAH
- Exceedance - Metals

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C02	03.02.25	Second Issue	LS	JB	JB
C01	21.01.25	First Issue	LS	JB	JB
Rev	Date	Amendment	Drawn	Chkd	Appd



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Client Tata Steel		
Project Name EAF Project		
Description Exploratory Hole location Plan - Exceedances in Human Health GACs (Soils)		
Project ID 315531	Drawing no. 22215	Revision C02
File name 315531-BL-222-XX-D-G-22215-C02		
Dimensions m	Scale 1:5000	Size A1
		

FIGURE 7 – GAS MONITORING WELLS / BUILDING LAYOUT OVERLAY
