



Preliminary Environmental Information Report

Volume III - Appendices

Appendix 10C: Contaminated Land - Environmental Risk Assessment

The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (as amended)



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10C. Contaminated Land - Environmental Risk Assessment

- 10.1.1 The review of potential contaminant linkages for the proposed development has indicated possible constraints across the Site from contamination that would typically be expected for industrial land. The contamination risks identified in the desk study are dependent upon the type of development proposed in addition to the industrial history of the area. These factors are considered and presented in Table 10C-1.
- 10.1.2 Due to the variability of made ground imported to or generated on much of the Site, and multiple phases of historical industrial development with potentially contaminative processes or transport and storage of hazardous materials, it is probable that unexpected contamination will be encountered during earthworks. Whilst this risk can be mitigated through prior ground investigation it is not practical to eliminate the risk for chance finds of buried contamination. In some cases, such as for un-decommissioned underground fuel storage tanks the risk from explosive vapours could be acute, whereas in the case of asbestos fibres the chronic risk from short term exposure could be significant. It is recommended therefore that procedures for chance finds of unexpected contamination are agreed with the Regulator. Procedures should be specific to the Contractor's safe method of working in accordance with HSE guidance (<https://www.hse.gov.uk/risk/evaluate-the-risks.htm>).

Table 10C-1: Risk Evaluation of Potential Pollutant Linkages

Industry	Substance / Class	Receptor	Risk	Mitigation Options
PCC				
Teesside Works / Redcar Iron & Steel Works	Asbestos	Ground workers	High	Specialist survey GI Avoid disturbance Management solution Provide protection
		Site users	Moderate	Specialist survey GI Cover layer Treat soil Replace soil
	pH, acids, alkalis, sulphate	Ground workers	High	Management solution Provide protection
		Infrastructure	Moderate/low	Ground investigation Management solution Provide protection

Industry	Substance / Class	Receptor	Risk	Mitigation Options
Tar Macadam Works / Redcar Iron & Steel Works	Coal tar PAH/TPH/VOC/SV OC	Ground workers	High	Geophysics (tanks) GI Pumping / excavation
		Site users	Moderate	GI Cover layer Replace soil
		Ground water & surface water	Moderate/low	GI Management solution Remove point sources
		Infrastructure / utilities	Moderate/low	GI Clean trench material Management solution Remove point sources
Infilled Land	Asbestos PAH/TPH/VOC/SV OC	Ground workers	Moderate/low	Specialist survey GI Avoid disturbance Management solution Provide protection
		Ground workers	Moderate/low	Management solution Provide protection
		Ground workers	moderate/low	Management solution Provide protection
Railway Land	PAH/TPH/VOC/SV OC	Ground workers	Moderate/low	Management solution Provide protection
Petroleum Fuel Storage (also Benzol)	TPH	Ground workers	Moderate	Geophysics (tanks) GI Pumping / excavation
		Site users	Moderate/low	GI Management solution Provide protection
		Infrastructure / utilities	Moderate/low	GI Clean trench material Management solution Remove point sources

Industry	Substance / Class	Receptor	Risk	Mitigation Options
		Surface water	Moderate/low	GI Pumping / excavation
Brackish Water	Chloride	Infrastructure	Moderate	GI Management solution Provide protection
Onshore CO₂ Export Corridor				
Infilled Land	Asbestos	Ground workers	Moderate/low	Specialist survey GI Avoid disturbance Management solution Provide protection
	PAH/TPH/VOC/SV OC	Ground workers	Moderate/low	Management solution Provide protection
Brackish Water	Chloride	Infrastructure	Moderate	GI Management solution Provide protection
Water Connections Corridor				
Teesside Works / Redcar Iron & Steel Works	Asbestos	Ground workers	High	Specialist survey GI Avoid disturbance Management solution Provide protection
		Ground water & surface water	Moderate/low	GI Management solution Remove point sources
Teesside (Coking) Works	Coal tar PAH/TPH/VOC/SV OC	Ground workers	High	Geophysics (tanks) GI Pumping / excavation
Infilled Land	Asbestos	Ground workers	Moderate/low	Specialist survey GI Avoid disturbance Management solution Provide protection
	PAH/TPH/VOC/SV OC	Ground workers	Moderate/low	Management solution Provide protection
Coking Works	Coal tar PAH/TPH/VOC/SV OC	Ground workers	High	Geophysics (tanks) GI Pumping / excavation

Industry	Substance / Class	Receptor	Risk	Mitigation Options
Railways Land	PAH/TPH/VOC/SV OC	Ground workers	Moderate/low	Management solution Provide protection
Brackish Water	Chloride	Infrastructure	Moderate	GI Management solution Provide protection
CO₂ Gathering Network and Gas Connection Corridor				
ICI Synthetic Ammonia Works / Anhydrite Process Plant, Haverton Hill	Asbestos	Ground workers	Moderate	Specialist survey Avoid disturbance Management solution Provide protection
	PAH/TPH/VOCs/S VOCs	Groundworkers	Moderate	GI Avoid disturbance Management solution Provide protection
	Metals/metalloids	Ground workers	Moderate/low	Management solution Provide protection
	pH, acids, alkalis,	Ground workers	Moderate/low	Management solution Provide protection
	Ammonium, sulphates, nitrates	Infrastructure	Moderate	GI Management solution Provide protection
Petroleum Refineries / Tank Farms	Asbestos	Ground workers (adjacent site)	Moderate/low	Specialist survey Avoid disturbance Management solution Provide protection
Infilled Land	Asbestos	Ground workers	Moderate/low	Specialist survey GI Avoid disturbance Management solution Provide protection
	PAH/TPH/VOC/SV OC	Ground workers	Moderate/low	Management solution Provide protection
Railways Land	PAH/TPH/VOC/SV OC	Ground workers	Moderate/low	Management solution Provide protection
	PRO/DRO	Ground workers	Moderate	GI Management solution Excavation Pumping

Industry	Substance / Class	Receptor	Risk	Mitigation Options
Wilton International chemical works	Asbestos	Ground workers	High	Specialist survey Avoid disturbance Management solution Provide protection
		Site users	Moderate/low	Specialist survey Management solution Provide protection
	PAH/TPH	Ground workers	Moderate	GI management solution provide protection
		Infrastructure / utilities	Moderate/low	GI Management solution
Saltholme Brine Works	Metals/metalloids	Ground workers	Moderate/low	Management solution Provide protections
	Chloride, sulphate	Infrastructure	Moderate	GI Management solution
Off-site specialised chemical industry (Seal Sands)	VOCs/SVOCs	Groundworkers	Moderate/low	GI Management solution
Electrical Connection Corridor				
Teesside Works (Redcar)	asbestos	Ground workers	High	Specialist survey Ground investigation Avoid disturbance Management solution Provide protection
		Site users	Moderate	Specialist survey GI Cover layer Treat soil Replace soil
Petroleum Refineries & Tank farms	Asbestos	Ground workers (adjacent site)	Moderate/low	Specialist survey Avoid disturbance Management solution Provide protection
	PRO/DRO	Ground workers	Moderate	GI Management solution Excavation Pumping
Infilled Land	Asbestos	Ground workers	Moderate/low	Specialist survey GI Avoid disturbance

Industry	Substance / Class	Receptor	Risk	Mitigation Options
				Management solution Provide protection
	PAH/TPH/VOC/SV OC	Ground workers	Moderate/low	Management solution provide protection
Railways Land	PAH/TPH/VOC/SV OC	Ground workers	Moderate/low	Management solution Provide protection
Wilton International chemical works	Asbestos	Ground workers	High	Specialist survey Avoid disturbance Management solution Provide protection
		Site users	Moderate/Low	Specialist survey
	PAH/TPH	Ground workers	Moderate	GI Management solution Provide protection
		Infrastructure / utilities	Moderate/low	GI Management solution